FINAL ROAD CONSTRUCTION PLAN

METZLERS GARDEN

LOTS 1-6, 8-10, 12-14, OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

HOWARD COUNTY, MARYLAND

GENERAL NOTES

1. Subject property zoned "R-20" per 02/02/04 Comprehensive Zoning Plan.
2. This site is located within the Metropolitan District.
3. Public water and sewer to be utilized.
4. Soils map no. 24.
5. Gross area of site: 6.655 ac.±
6. Area of proposed public R/W: 0.778 ac.±
7. Number of proposed buildable lots: 12
   Area of proposed buildable lots: 4.421 ac.±
8. Number of proposed open space lots: 4
   Area of proposed open space lots: 1.417 ac.± (Credited Area = 1.366 ac.±)
9. Number of Bulk Parcels: 1
   Area of Bulk Parcel 'A' = 0.039 ac.±
10. Open Space requirements:
    a.) Open Space required (20%-16,000sf minimum lot size):
    6.655 ac.± x 0.20=1.331 ac.±
    b.) Recreational Open Space required:
    12 lots x 200 sf=2,400 sf±
    c.) Recreational Open Space provided:
    6,434 sf± in Open Space Lot 11
11. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 321A and 31BB were used for this project.
12. The lots shown hereon comply with the minimum ownership width and lot area as required by the Maryland State Department of the Environment.
13. The contractor shall notify the following utility companies or agencies at least five(5) working days before starting work shown on these plans:

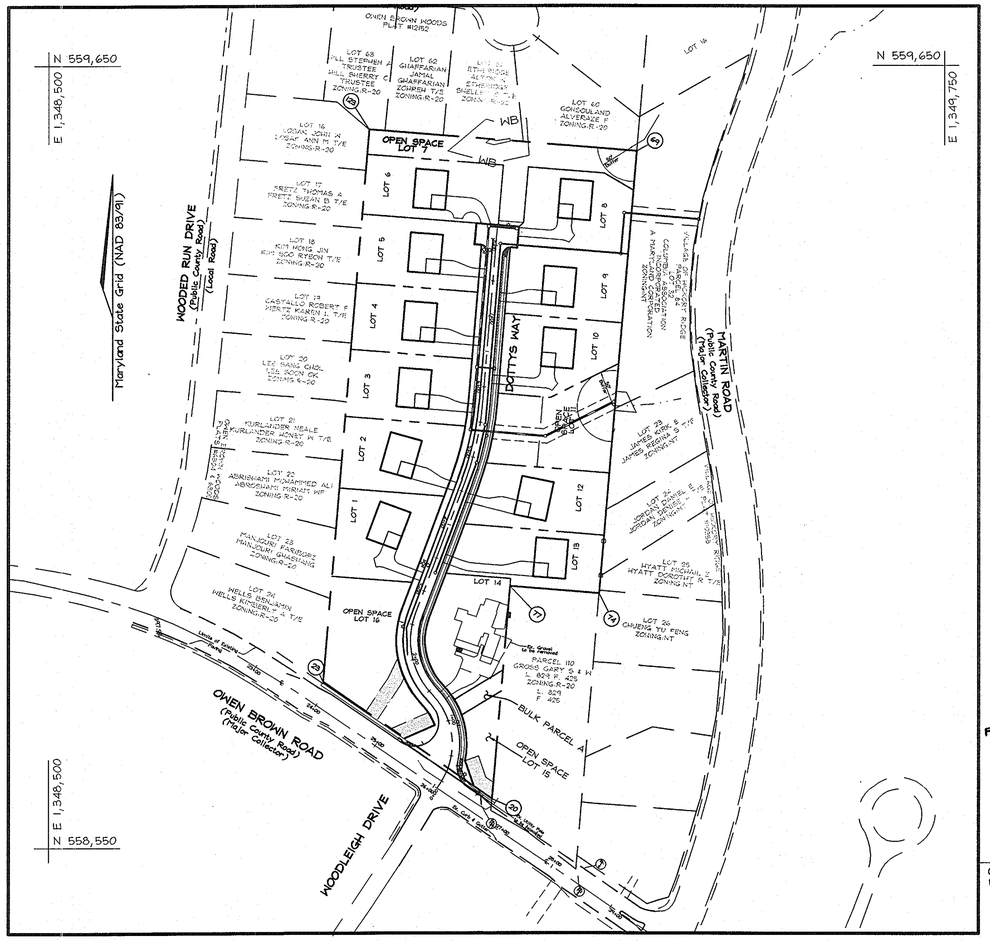
State Highway Administration	410.531.5533
BGE(contractor services)	410.850.4620
BGE(underground damage control)	410.787.9068
Miss Utility	1.800.257.7777
Colonial Pipeline Company	410.795.1390
Howard County, Dept. of Public Works, Bureau of Utilities	410.313.4900
Howard County Health Department	410.313.2640

14. The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
15. The contractor shall notify the Department of Public Works/Bureau of Engineering Construction Inspection Division at (410) 313-1880 at least five (5) working days prior the start of work.
16. All fills for public road surfaces require 95% compaction (AASHTO-T-180).
17. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
18. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
19. Two foot contours, topography and boundary for Metzlers Garden is based on a field run survey prepared by C.B. Miller and Associates, Inc. in March 2004. Five foot contours and topography outside of the boundary is based on Howard County 1993 Aerial Topographic Surveys.
20. Stormwater Management is provided in accordance with the 2000 Stormwater Management Manual Redevelopment guidelines. CPv, WQv, REv is achieved by reduction of existing impervious surfaces by more than 50% from 80% of existing impervious surfaces to approximately 35-40% of proposed impervious surfaces.
21. A.P.F.O. Traffic Study prepared by Street Traffic Studies and approved under S-04-06.
22. Wetlands Delineation and report prepared by Exploration research, Inc. and approved under S-04-06.
23. Forest Stand Delineation and report prepared by Exploration Research, Inc. and approved under S-04-06.
24. There are no historic structures or cemeteries on-site.
25. There is no 100-Year Floodplain on the property.
26. Previous county file numbers: SDP 82-19, SDP 85-107, SDP-75-59, SDP 87-14, BA-81-20, BA-84-22E, BA-86-07E, BA-87-14V, BA-95-11E, BA-96-39E, S-04-06, P-04-15.
27. No clearing, grading or construction is permitted within wetlands, streams or their required buffers, unless approved by the Department of Planning and Zoning.
28. All Existing Buildings, Structures, and Fencelines on site to be removed except the existing house shown on proposed lot 14.
29. Overflow Parking Requirements:
    a.) Number of parking spaces required: 6 (0.5 per unit x 12 units)
    b.) Parking spaces provided along roadway and on private driveway pads
30. This subdivision is subject to the Amended Fifth Edition of the Howard County Subdivision and Land Development Regulations. Development or construction on these lots/parcels must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition, or building/grading permit application.
31. All open space lots will be dedicated to the Homeowners Association.
32. This subdivision complies with the forest conservation requirements of Section 16.1200 of the Howard County Code with a 1.00 acre afforestation obligation. Surety in the amount of $18,433.50 was posted with the DPW, Developer's Agreement, based on afforestation planting of 44,876 sq.ft. less 8,000 sq.ft. for 20 trees bonded under landscape.
33. See street lights and signs locations on the plan and street light tabulation on this sheet.
34. The disturbance within the 50 foot stream buffer for the construction of the storm drain pipe and S-1 outfall was found to be essential by both Soil Conservation District in a letter dated 7/2/04, and the Division of Land Development .This determination is in accordance with section 16.116(c) of the subdivision and Land Development Regulations.
35. Financial surety for the required landscaping must be posted as part of the Developer's Agreement in the amount of $12,900.00 based on 41 shade trees @ $300.00 each, 4 evergreen trees @ $150.00 each.
36. Contractor is responsible to construct all handicap ramps and handicap access in accordance with current ADA requirements. Handicap Ramps to conform to Howard County Standard Detail R.4.03 or Detail Sheet 2 (See plan for type).
37. Any damage to public right-of ways, paving or existing utilities will be corrected at the contractor's expense.
38. All proposed spot elevations along curb and gutter are to the flowline unless otherwise noted.
39. All construction shall be in accordance with the latest standards and specifications of Howard County in addition to MSHA standards and specifications if applicable.
40. All reinforced concrete for storm drain structures shall have a minimum of twenty-eight (28) days strength at 3,500 psi. Any RCP Storm Drain pipe bedding shall be Class 'C'.
41. All HDPE pipe specification and installation shall meet AASHTO M-252 Type S, M-294 Type S and ASTM D2321, respectively.
42. All sign post used for traffic control signs installed in the County Right-of-Way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post.
43. Existing septic tanks to be properly abandoned during road construction phase.

STREET LIGHT TABLE

FIXTURE TYPE	POLE TYPE	LOCATION
150 watt premier post top:	14' bronze fiberglass ornamental	℄ Sta. 0+32.00 25.00' right
100 watt premier post top:	14' bronze fiberglass ornamental	℄ Sta. 0+95.00 12.00' right
100 watt premier post top:	14' bronze fiberglass ornamental	℄ Sta. 2+45.00 12.00' left
100 watt premier post top:	14' bronze fiberglass ornamental	℄ Sta. 5+33.00 12.00' right
100 watt premier post top:	14' bronze fiberglass ornamental	℄ Sta. 8+30.00 15.00' right

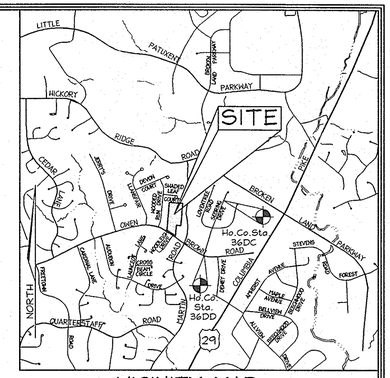
Note: Light pole location given at center of base



LOCATION MAP
SCALE: 1"=100'

LEGEND

- Existing contours ——552
- Existing Spot Elevation 382.3
- Existing Trees to Remain
- 25' Wetlands Buffer —— WB ——
- Stream Bank Buffer —— SB ——
- Wetland —— W ——
- Stream
- Utility Pole Ø
- Specimen Tree ST-2
- Proposed Dwelling



VICINITY MAP
SCALE:1"=2000'

BENCHMARKS

Howard County monuments:

Sta. 36DC N 170,563.5470 E 411,613.1201 El.: 116.1313 (meters)
N 559,590.570 E 1,350,440.606 El.: 381.007 (feet)
(Concrete Monument on the west side of Sebring Drive 2' from the western edge of Sebring Drive, 10' south of existing driveway, 42' from a fire hydrant on the east side of Sebring Drive.)

Sta. 36DD N 170,095.9837 E 411,448.0004 El.: 119.8332 (meters)
N 558,056.573 E 1,349,892.314 El.: 393.153 (feet)
(Concrete Monument 2' from edge of eastbound lane of Owen Brown Road, 47.5' from a fire hydrant, 63' from G#E pole# 243772.)

SHEET INDEX

LINE TABLE

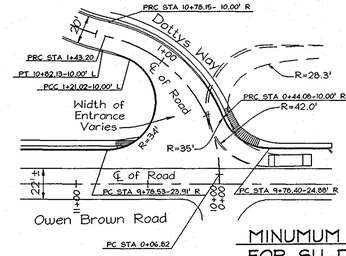
LINE	LENGTH	BEARING
L1	6.82	N84°21'18"E
L2	199.06	N20°27'21"E
L3	253.25	N04°42'25"E

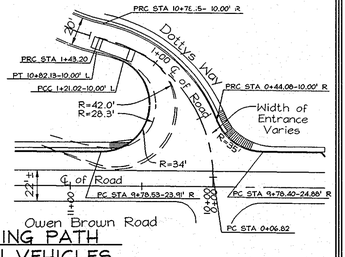
CENTERLINE ROAD CURVE DATA

CURVE #	STATIONS	RADIUS	ARC LENGTH	DELTA	TANGENT	CHORD
C1	PC-0+06.82, PT-1+43.20	100.00'	136.38'	78°08'31"	81.18	N04°42'58"W 126.06'
C2	PC-1+43.20, PT-2+66.54	110.00'	123.34'	64°14'34"	69.06	N11°39'56"W 116.98'
C3	PC-4+65.54, PT-5+75.54	400.00'	109.95'	15°44'56"	55.32	N12°34'53"E 109.60'

ROAD CLASSIFICATION

ROAD NAME	CLASSIFICATION	R/W
Dottys Way	Public Access Place	40'





MINUMUM TURNING PATH FOR SU DESIGN VEHICLES
Scale:1"=50'

AS-BUILT
FOR ROADS, STORMDRAINS AND EROSION & SEDIMENT CONTROLS

STATE OF MARYLAND — CLIVE BROOKE MILLER — PROPERTY LINE SURVEYOR — 735

C. BROOKE MILLER
PROP. L.S. #135
6-8-2007
DATE

STATE OF MARYLAND — ZACHARIA YOUSEF FISCH — 22418 — PROFESSIONAL ENGINEER

ZACHARIA Y. FISCH
P.E. # 22418
6/11/07
DATE

OWNER
METZLER JOHN W
METZLER DOROTHY WF T/C
10358 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044-3834

DEVELOPER
CONTRACT PURCHASER
WILLIAMSBURG GROUP LLC
5485 HARPERS FARM RD #200
COLUMBIA, MARYLAND 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4388

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hanneston 5/23/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

5/26/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

5-25-05
CHIEF, BUREAU OF HIGHWAYS DATE

COVER SHEET
METZLERS GARDEN
LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 — PARCEL 152
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOUSEF FISCH — 22418 — PROFESSIONAL ENGINEER

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: MY
CHECKED BY: ZYF
SCALE: As Shown
DATE: May 24, 2005
W.O. No.: 3214
SHEET No.: 1 OF 9

F-05-90

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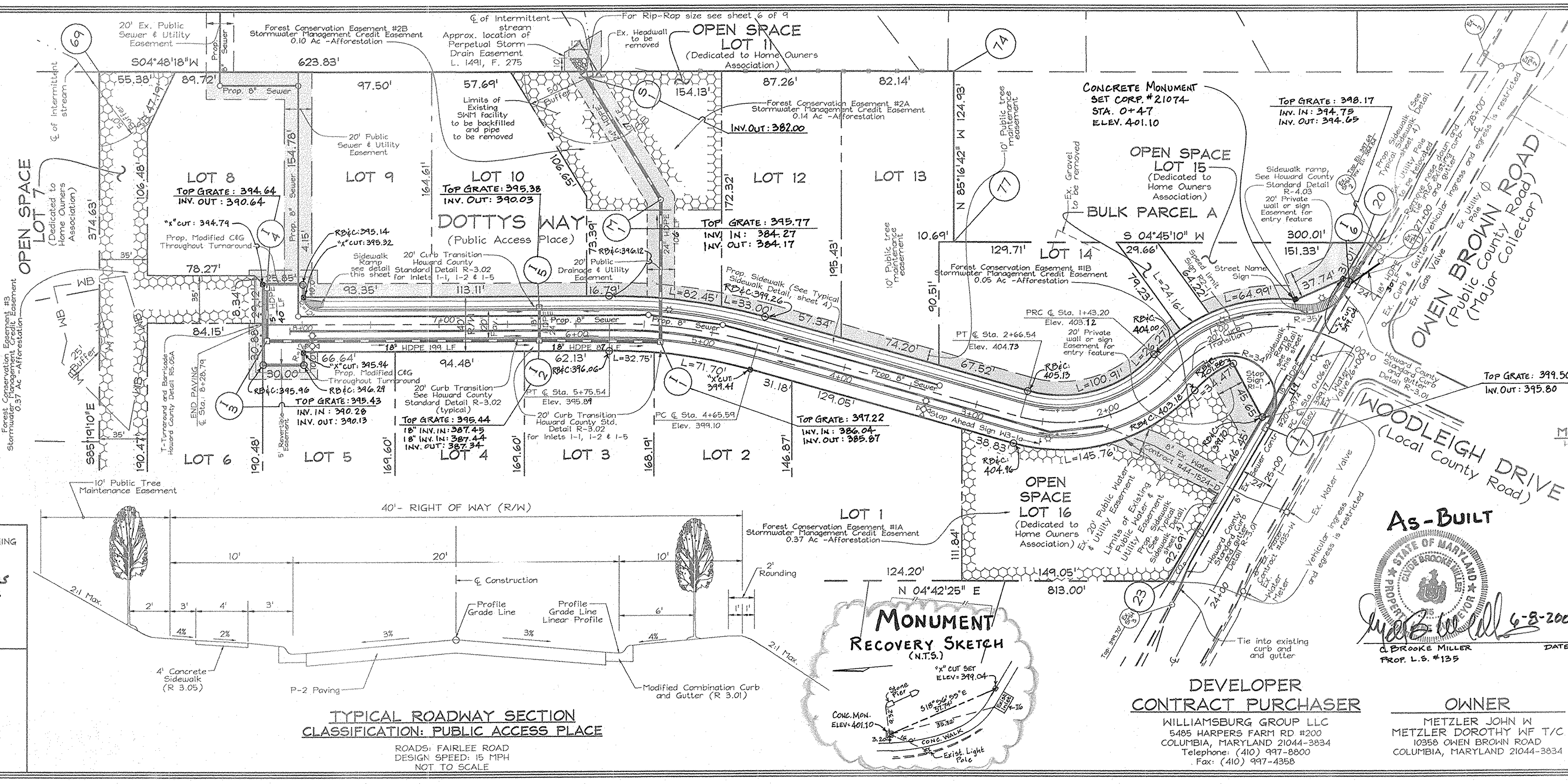
Maryland State Grid (NAD 83/91)



TYPICAL ROADWAY SECTION
CLASSIFICATION: PUBLIC ACCESS PLACE

ROADS: FAIRLEE ROAD
DESIGN SPEED: 15 MPH
NOT TO SCALE

NOTES:

1. For Existing Conditions Plan see sheet 9 of 9.
2. Existing inlet I-2, and existing Manholes MH-1 & MH-2 are proposed per Capital Project T-7076

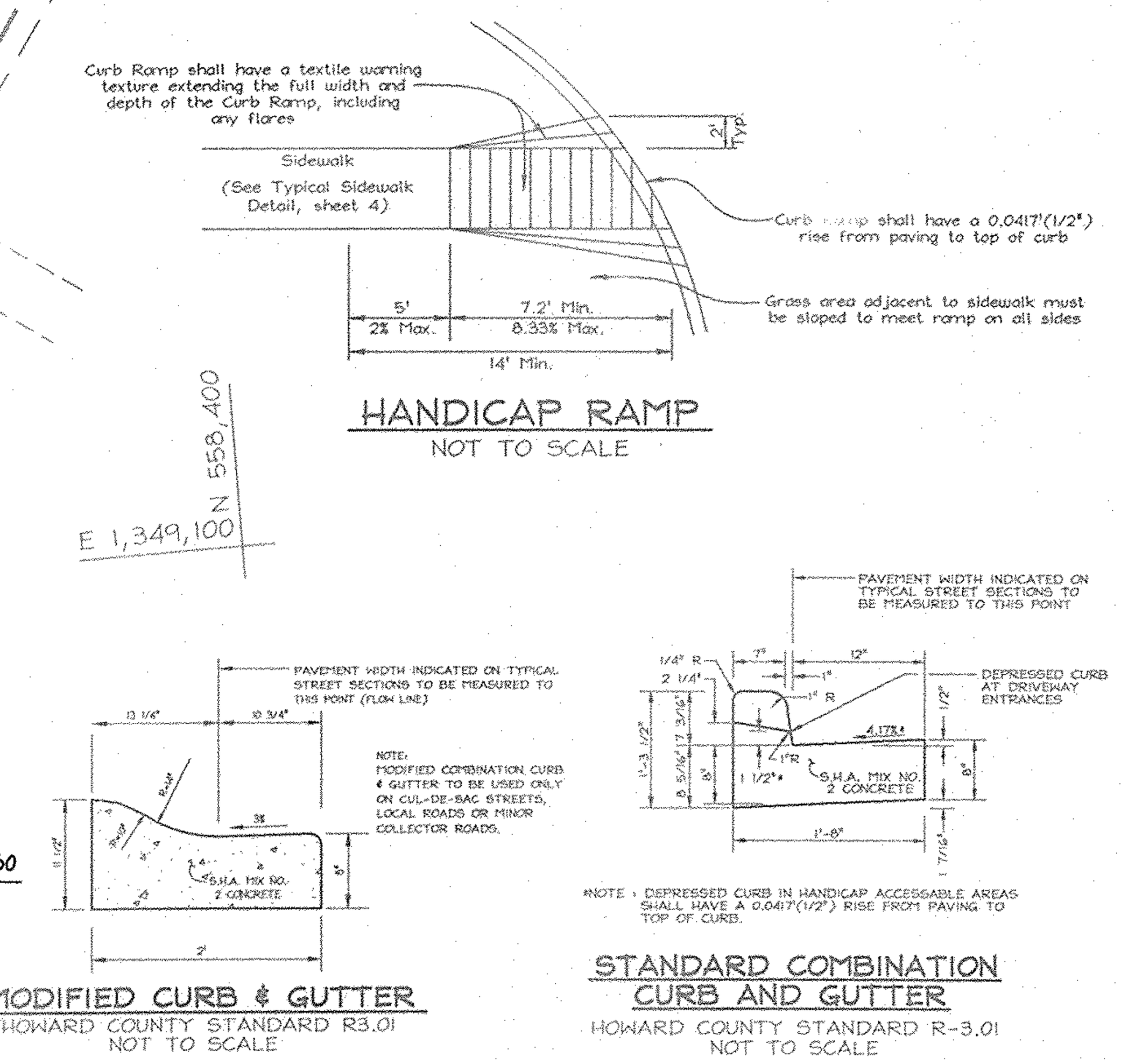
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[signature] 5/23/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[signature] 5/26/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[signature] 5-25-05
CHIEF, BUREAU OF HIGHWAYS DATE



As-Built

C. BROOKE MILLER
PROF. L.S. #135
6-8-2007
DATE

DEVELOPER
CONTRACT PURCHASER

WILLIAMSBURG GROUP LLC
5485 HARPERS FARM RD #200
COLUMBIA, MARYLAND 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4358

OWNER

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ROAD PLAN AND PROFILE
DOTTYS WAY
METZLERS GARDEN

LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

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DESIGN BY:	PS
DRAWN BY:	MY
CHECKED BY:	ZYF
SCALE:	1"=50'
DATE:	May 24, 2005
W.O. No.:	3214
SHEET No.:	2 OF 9

ROAD PROFILE

SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

F-05-90

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LEGEND

- Existing Contour — 382
- Proposed Contour — 382
- Spot Elevation — +82.53
- Direction of Flow
- Stabilized Construction Entrance — SCE
- Silt Fence — SF — SF
- Super Silt Fence — SSF — SSF
- Earth Dike — ED A-1
- Limit of Disturbance — LOD
- Erosion Control Matting — ECM
- Curb Inlet Protection — CIP

SEDIMENT TRAP #1 (ST-11)

Existing Drainage Area: 3.19ac±
Proposed Drainage Area: 3.1ac±
Wet Storage required: 9,000.0cf
Wet Storage provided: 9,000.0cf
Dry Storage required: 9,000.0cf
Dry Storage provided: 12,278.8cf
Weir Length: 20.0'
Storage Depth below outlet: 3.5'
Cleanout Elevation: 384.29
Embankment Height: 4.0'
Trap Bottom: 383.50
Trap Dimensions: 101'x50'
Wet Storage Elevation: 385.08
Crest Elevation: 387.00

NOTE: See sheet 9 of 9 for existing structures and utilities on-site.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER — DATE 5/24/05
WILLIAMSBURG GROUP LLC

ENGINEERS CERTIFICATE

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

SIGNATURE OF ENGINEER — DATE 5/24/05
ZACHARIA Y. FISCH

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 5/24/05

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/24/05

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 5-25-05

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/27/05

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/24/05

OWNER

METZLER JOHN W
METZLER DOROTHY WF T/C
10358 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044-3834

DEVELOPER
CONTRACT PURCHASER

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5485 HARPERS FARM RD #200
COLUMBIA, MARYLAND 21044-3834
Telephone: (410) 997-8800
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SEDIMENT AND EROSION CONTROL AND GRADING PLAN METZLERS GARDEN

LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 — PARCEL 152
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

FSH Associates
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DESIGN BY:	FS
DRAWN BY:	MY
CHECKED BY:	ZYF
SCALE:	1"=50'
DATE:	May 24, 2005
W.O. No.:	3214
SHEET No.:	3 OF 9

F-05-90

21.0 STANDARDS 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 vegetable 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 a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger that 1 and 1/2" 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 content 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.
d. No sod or seed shall be placed on soil soil which has been treated with soil sterilants 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 ammendments 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, Slope 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 place 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.

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, discing 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 acre dolomitic limestone (92 lbs/100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq.ft.)

2) Acceptable-Apply 2 tons per acre dolomatic limestone (92 lbs/1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10- fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc 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 Turf Type Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Turf Type 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 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 application 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 seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing 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 periods March 1 thru April 30 and from August 15 thru November 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 1 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 small grain straw immediately after seeding. Anchor mulch immediately after application 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.

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

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (313-1855).
2. All vegetation 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 redisturbance, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, 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 seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall 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	6.66 Acres
Area Disturbed	5.57 Acres
Area to be roofed or paved	0.56 Acres
Area to be vegetatively stabilized	5.01 Acres
Total Cut	6,739 CY **
Total Fill	4,395 CY **
Offsite waste/borrow area location	*

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.

* To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit

**Total cut and fill quantities are for permit purposes only. Contractor to verify earthwork quantities.

DUST CONTROL NOTES

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to area subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

Temporary Methods

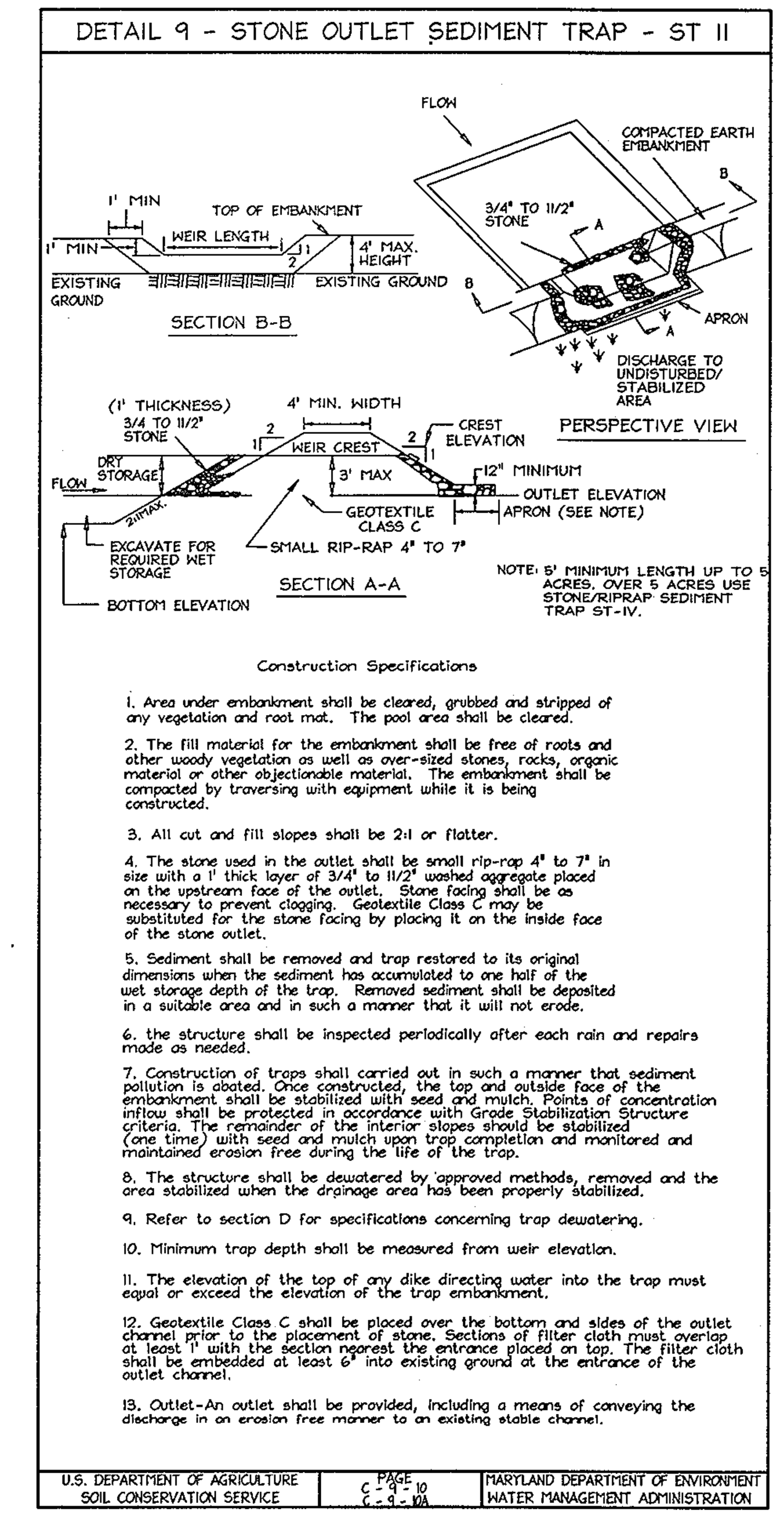
1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.
2. Vegetative Cover - See standards for temporary vegetative cover.
3. Tillage - To roughen surface and bring clods to the surface. This is an an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12" 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 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 that runoff begins to flow.
5. Barriers - Soild board fences, silt 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 effective in controlling soil blowing.
6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

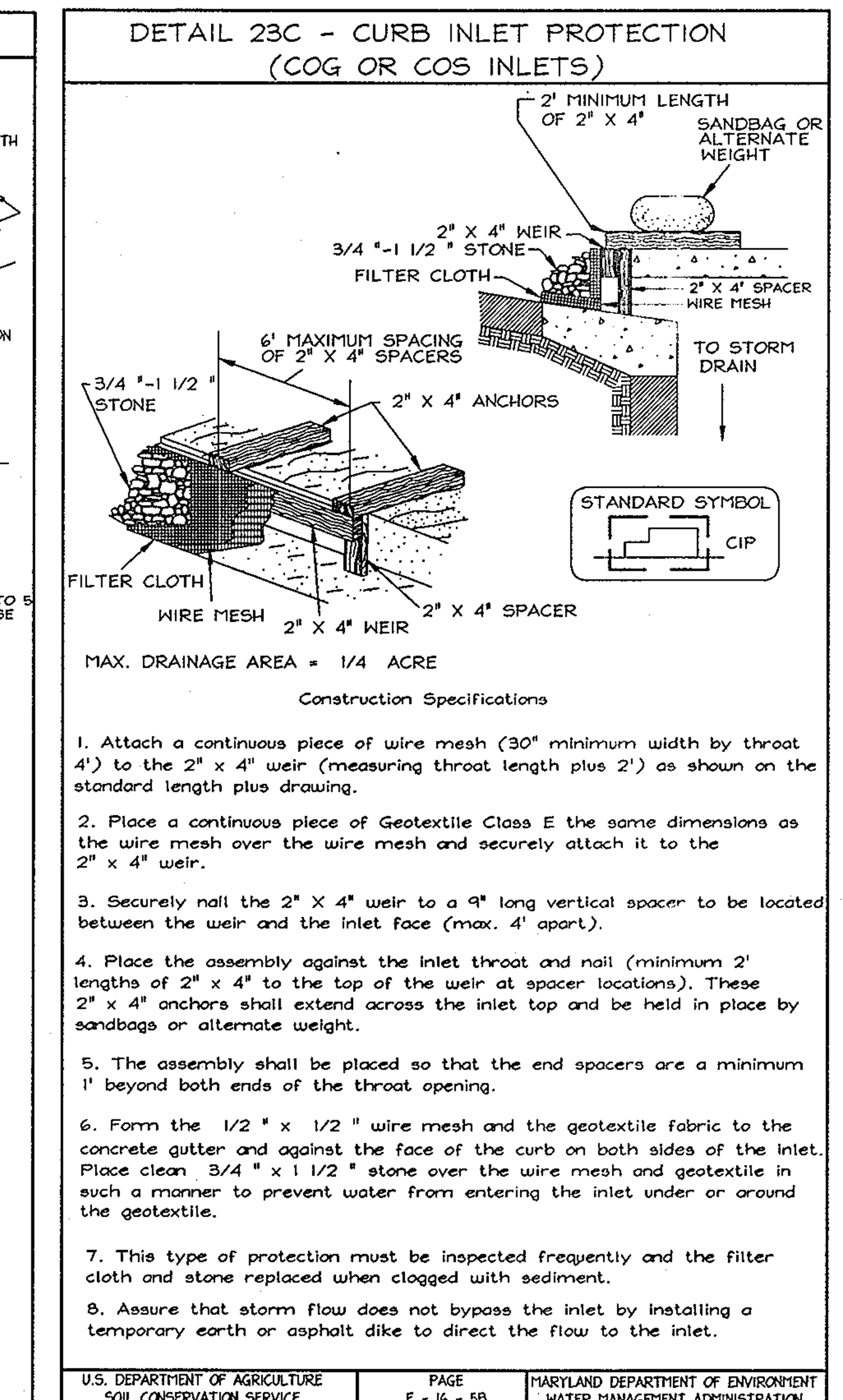
Permanent Methods

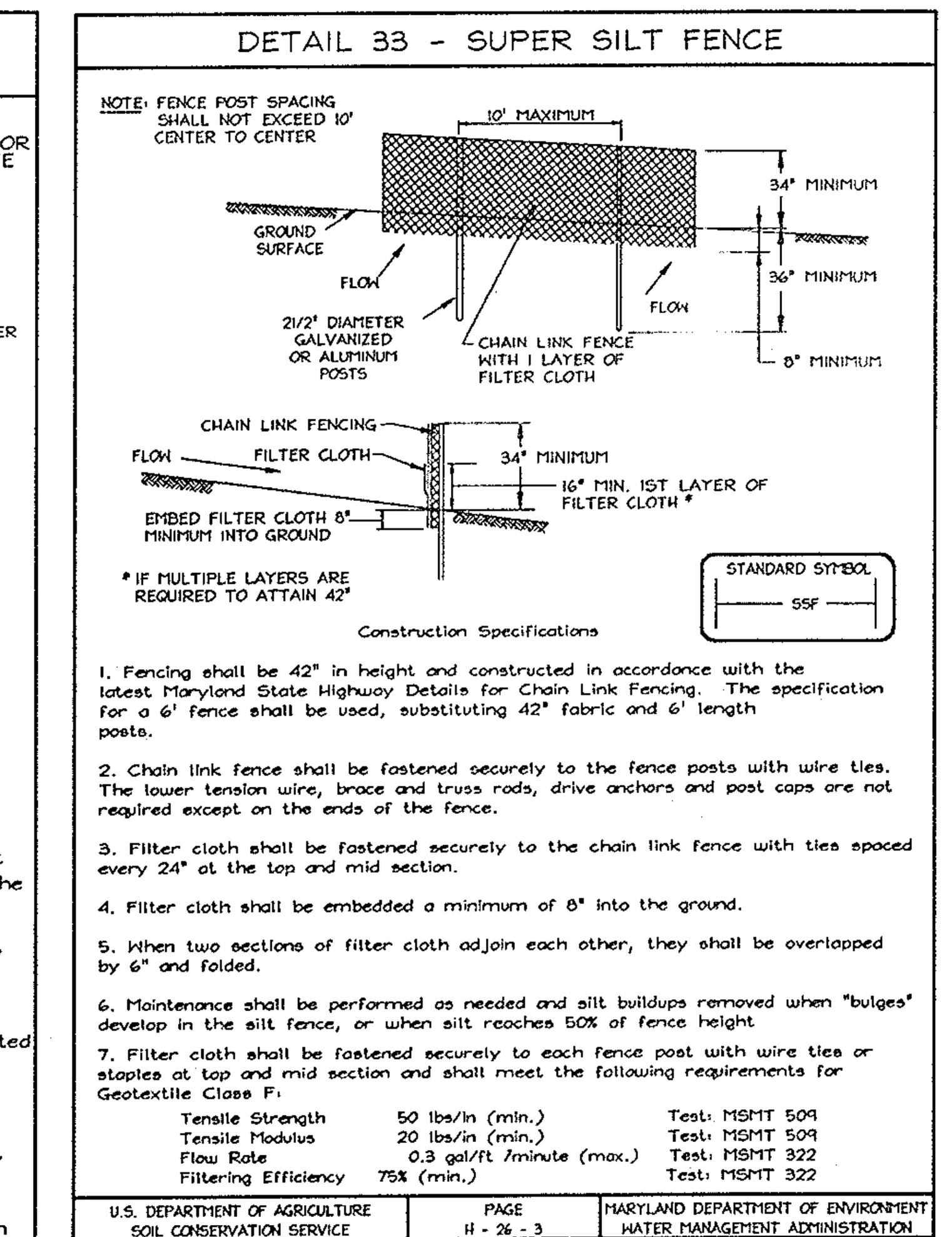
1. Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
2. Topsoiling - Covering with less erosive soil materials. See standards for topsoiling.
3. Stone - Cover surface with crushed stone or coarse gravel.

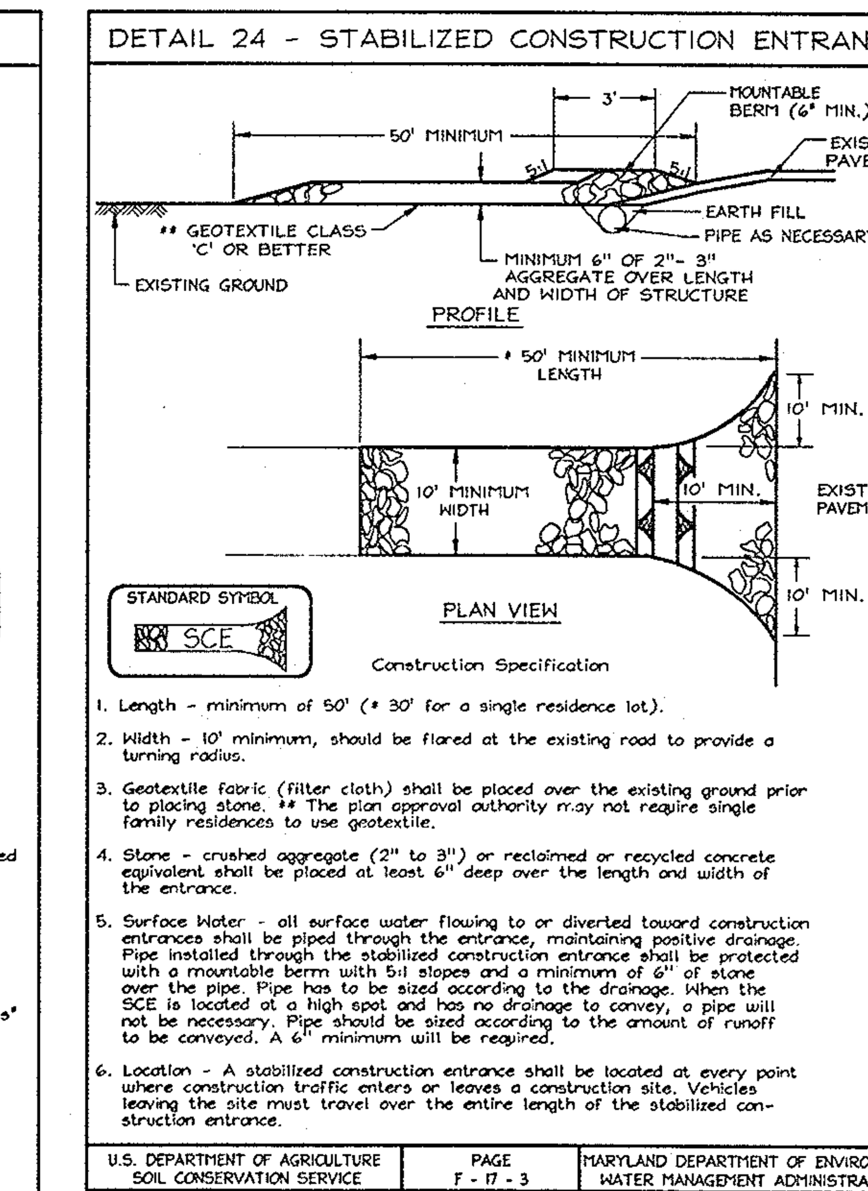
References

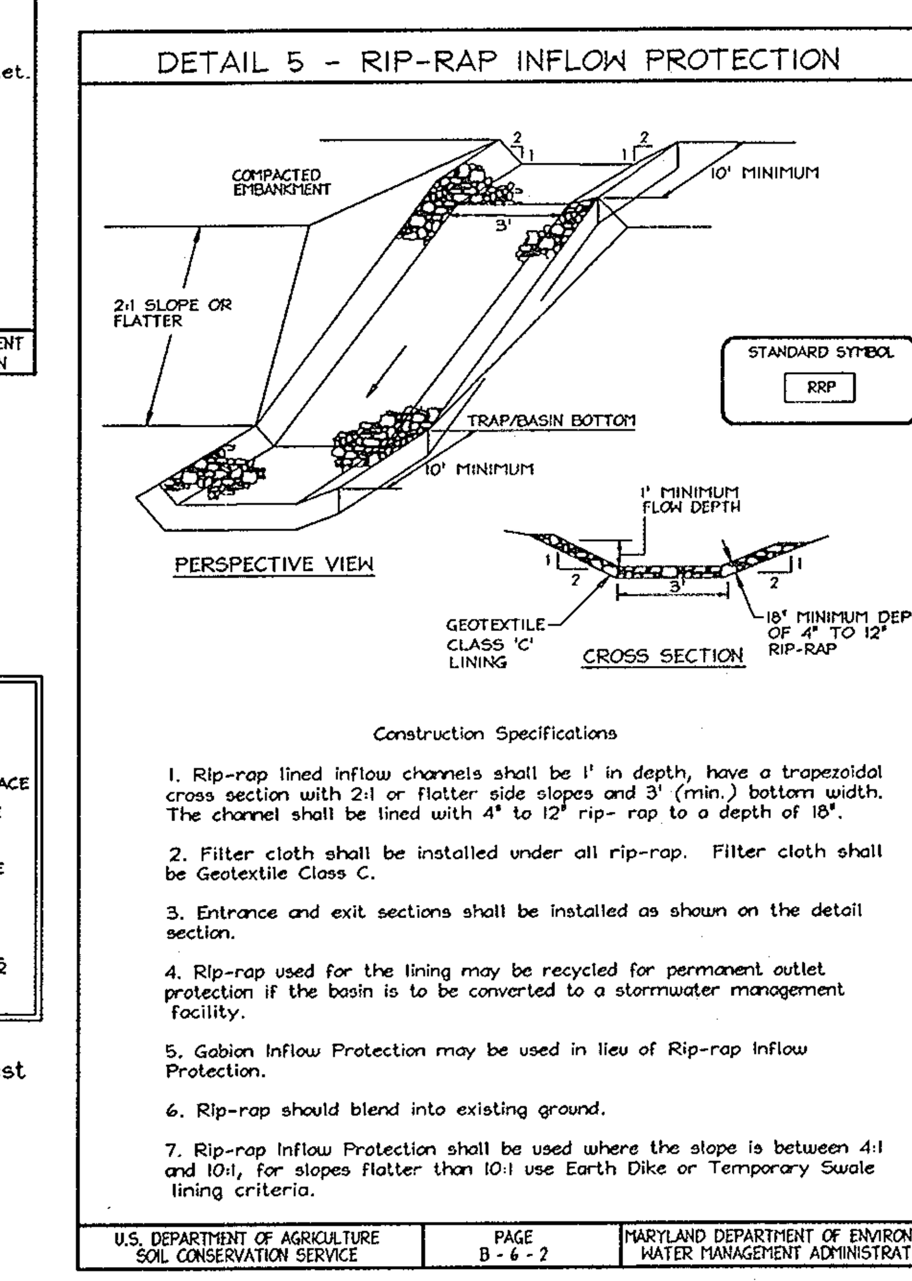
1. Agricultural Handbook 346. Wind Erosion Forces in the United State and Their Use in Predicting Soil Loss.
2. Agricultural Information Bulletin 354. How to Control Wind Erosion, USDA-ARS. (H-30-1)

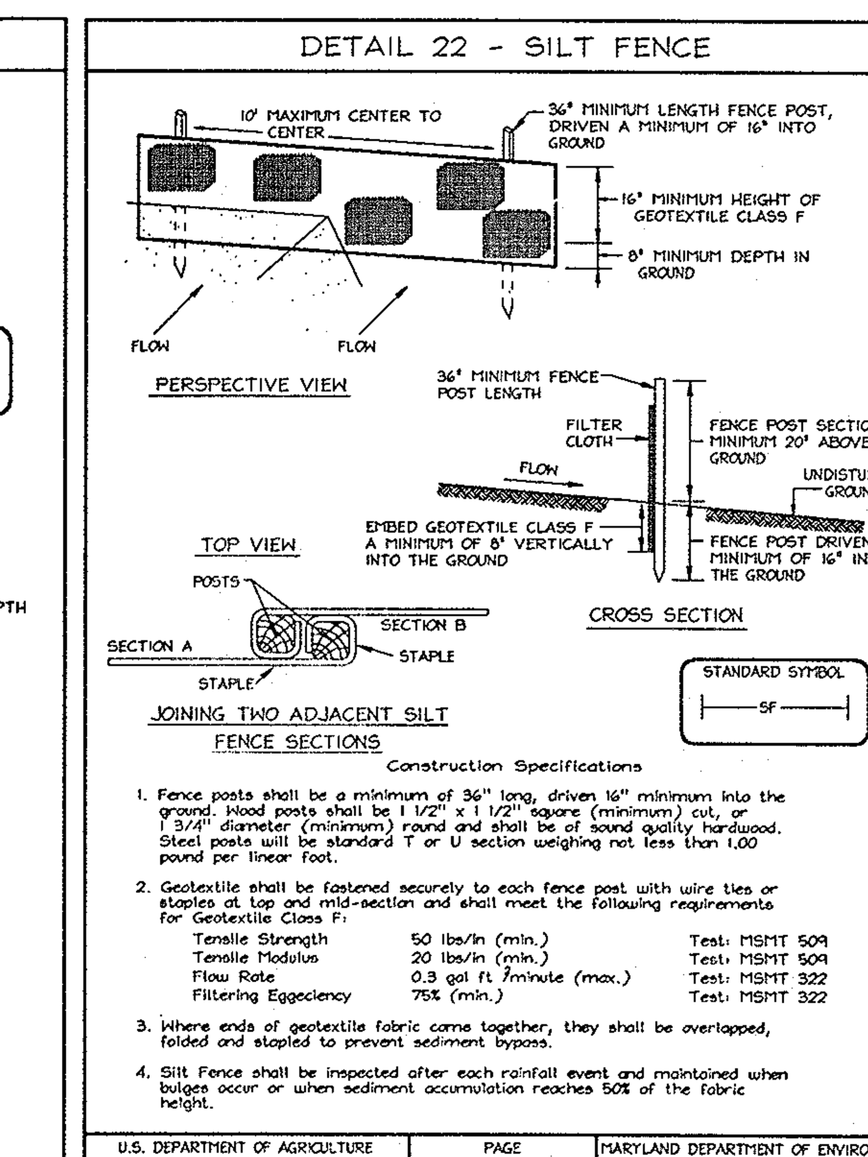


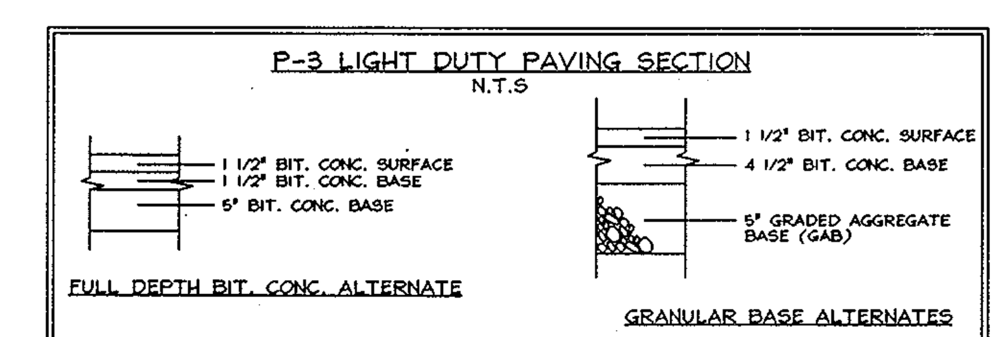




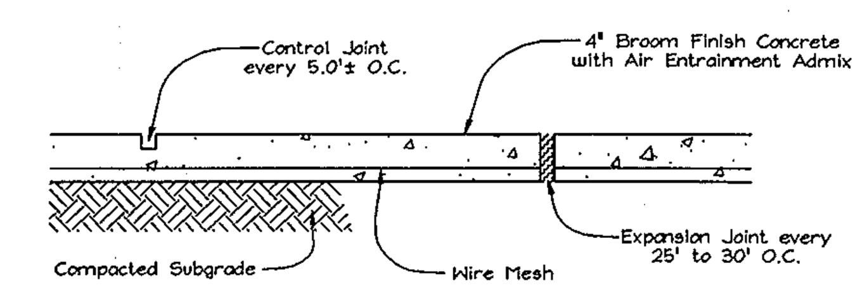






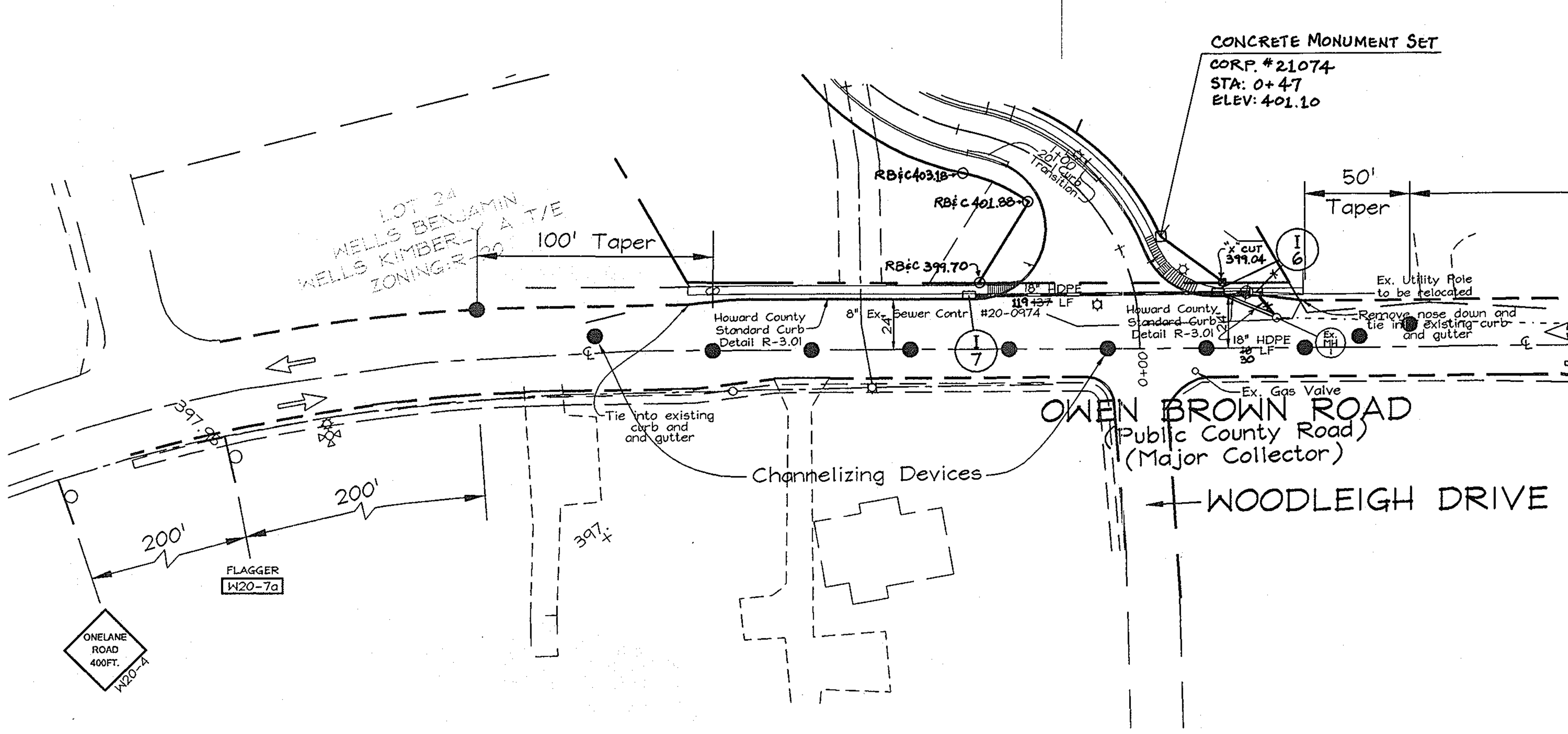


Note:
Paving sections shown relates to a CBR value of 7. Actual CBR test results may cause modification of these paving sections.
All paving to be P-1 unless otherwise noted. See plan for limits.



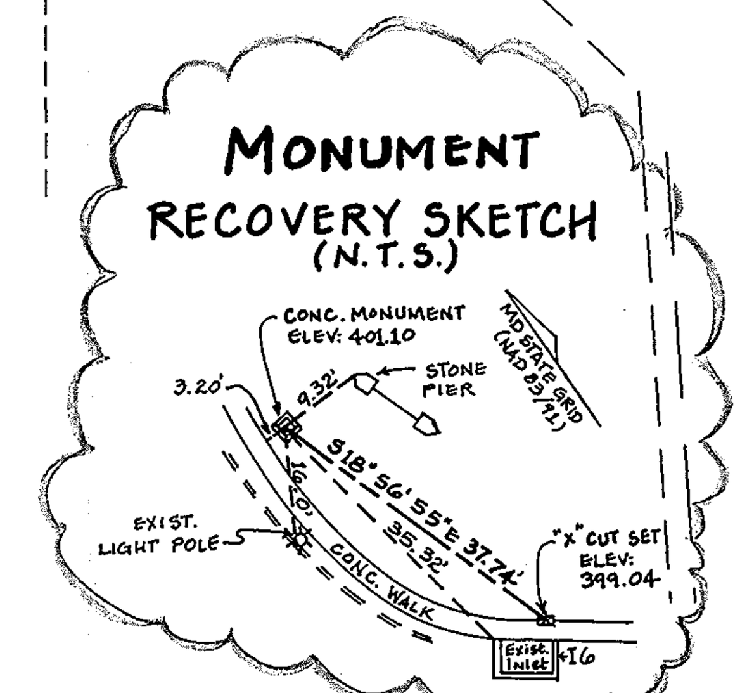
TYPICAL SIDEWALK DETAIL

NOT TO SCALE



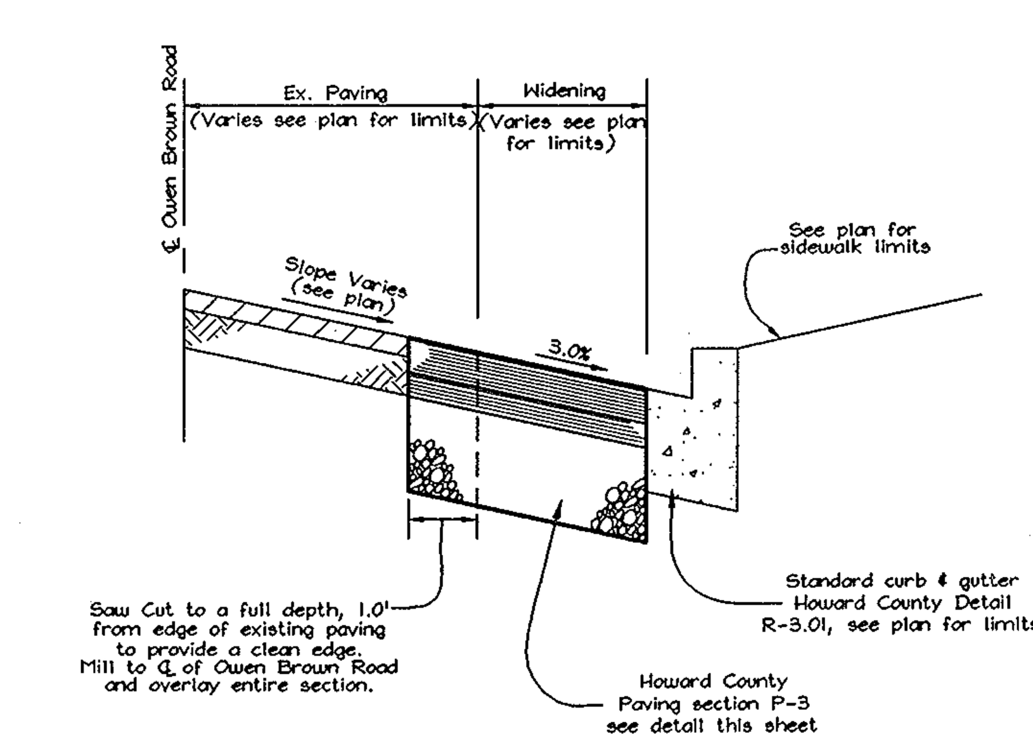
TRAFFIC CONTROL PLAN

SCALE: 1"=50'



AS-BUILT

C.BROOKE MILLER 6-8-2007
PROP. L.S. #135 DATE



WIDENING DETAIL
OWEN BROWN ROAD

NOT TO SCALE

SEQUENCE OF CONSTRUCTION

1. Obtain grading permit.
2. Notify Howard County Department of Inspections, License and Permits at (410) 313-1880 at least 24 hours before starting any work.
3. Install Stabilized Constructon Entrance, Earth dike, Sediment trap and Silt fence. (2 weeks)
4. Rough grade site. (2 weeks)
5. Construct storm drain system and road. Do not construct S-1 or storm drain pipe from M-1 to S-1. Construct temporary pipe from M-1 to sediment trap. Construct curb inlet protection for I-6 and I-7. (8 weeks)
6. Fine grade site. (2 weeks)
7. Flush storm drain system.
8. Remove sediment trap and temporary pipe. Construct S-1 and storm drain pipe from S-1 to M-1. (2 weeks)
9. During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the sediment control measures on this plan.
10. Following initial soil disturbance or any redisturbances, permanent or temporary stabilization shall be completed within:
a. 7 calendar days for all perimeter sediment control structures, dikes, swales and all slopes greater than 3:1.
b. 14 calendar days for all other disturbed areas.
11. Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed area. (1 week)

OWNER

METZLER JOHN W
METZLER DOROTHY WF T/C
10358 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044-3834

DEVELOPER CONTRACT PURCHASER

WILLIAMSBURG GROUP LLC
5485 HARPERS FARM RD #200
COLUMBIA, MARYLAND 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4358

TRAFFIC CONTROL PLAN, SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
METZLERS GARDEN

LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 — PARCEL 152
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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

DESIGN BY: PS
DRAWN BY: MY
CHECKED BY: ZYF
SCALE: As Shown
DATE: May 24, 2005
W.O. No.: 3214
SHEET No.: 4 of 9

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — 5/27/05 — DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 5/26/05 — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — 5-25-05 — DATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE 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 — 5/24/05 — DATE
WILLIAMSBURG GROUP LLC

ENGINEERS CERTIFICATE

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

SIGNATURE OF ENGINEER — 5/24/05 — DATE
ZACHARIA Y. FISCH

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — 5/24/05 — DATE

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 5/24/05 — DATE

F-05-90

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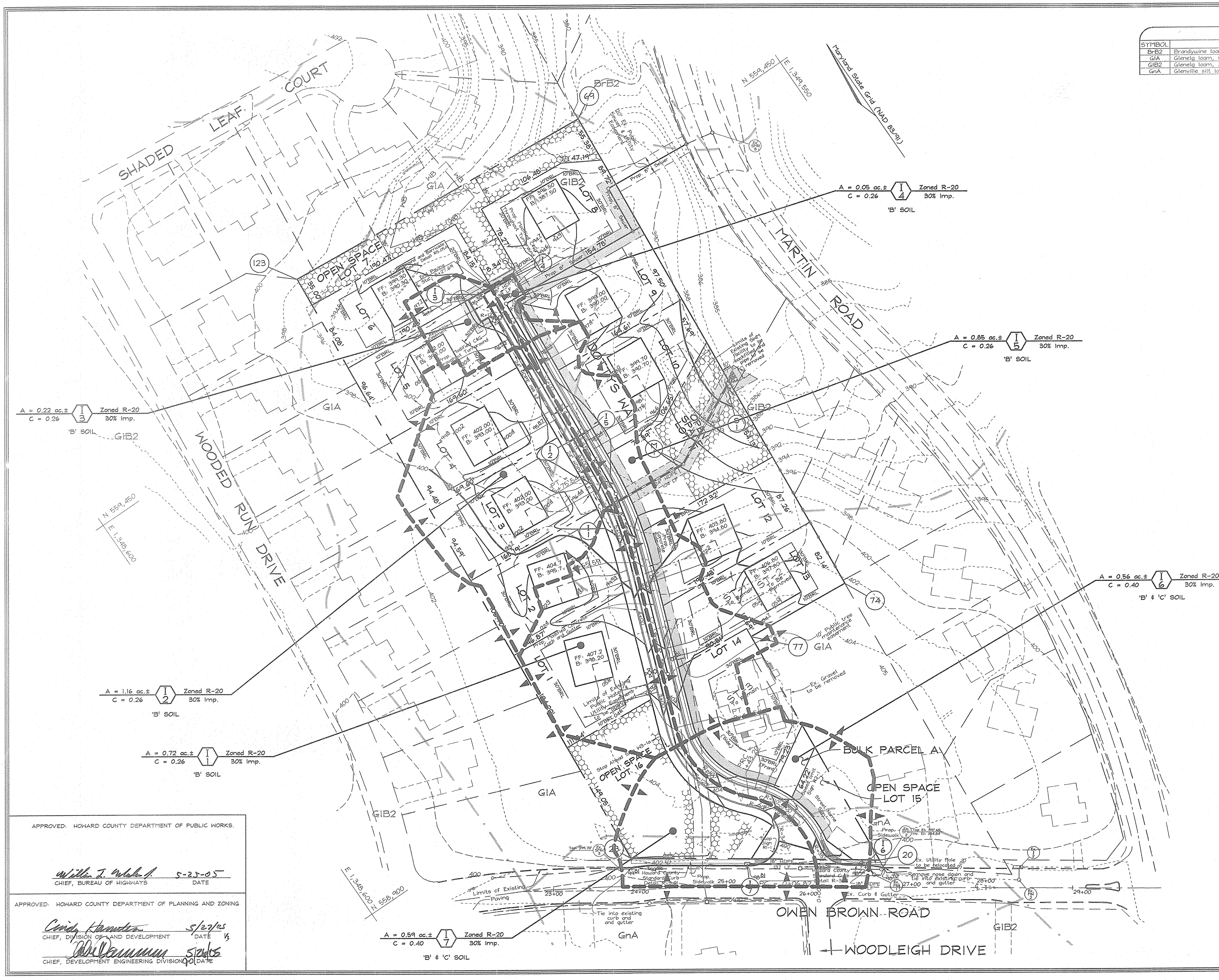
SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
BrB2	Brandywine loam, 3 to 8 percent slopes, moderately eroded	C
GIA	Glenelg loam, 0 to 3 percent slopes	B
GIB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GnA	Glenville silt loam, 0 to 3 percent slopes	C



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 5-25-05

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/27/05

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/26/05

OWNER

METZLER JOHN W
METZLER DOROTHY WF T/C
10358 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044-3834

DEVELOPER CONTRACT PURCHASER

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5485 HARPERS FARM RD #200
COLUMBIA, MARYLAND 21044-3834
Telephone: (410) 997-8800
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STORMDRAIN DRAINAGE AREA MAP
METZLERS GARDEN

LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 — PARCEL 152
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22416 — PROFESSIONAL ENGINEER

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: Ming
CHECKED BY: ZYF
SCALE: 1"=50'
DATE: May 24, 2005
W.O. No.: 3214
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F-05-90

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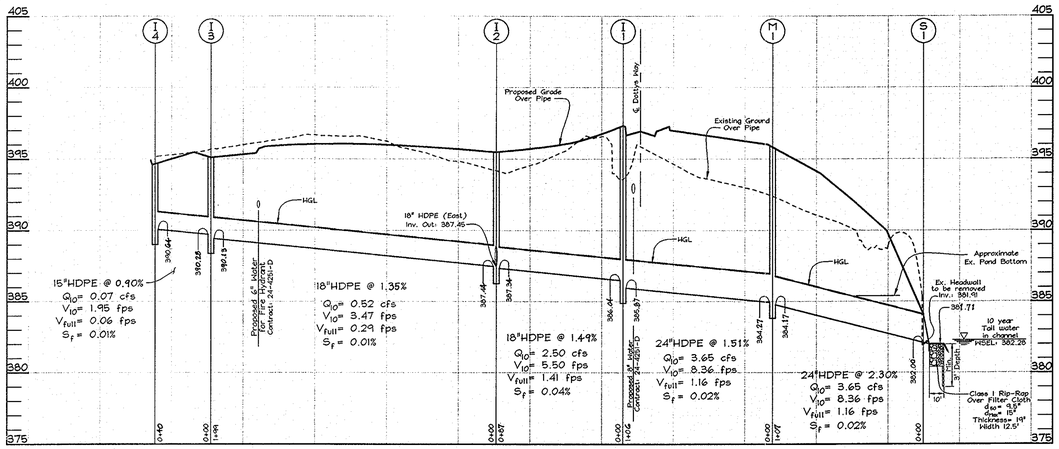
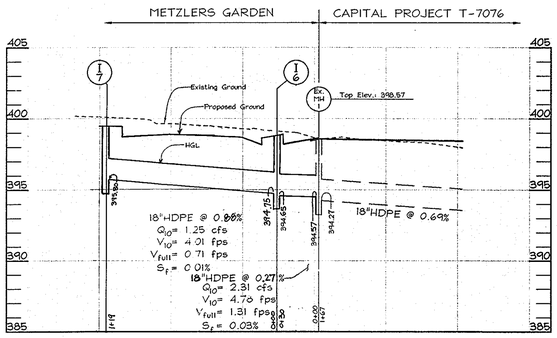


STORM DRAIN PROFILES

Scale: Horizontal-1"=50'
Vertical-1"=5'



STORM DRAIN PROFILES

Scale: Horizontal-1"=50'
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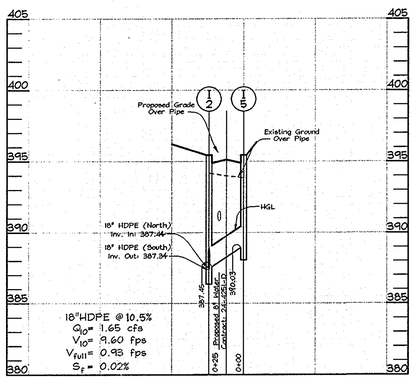
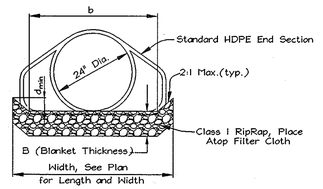


STORM DRAIN PROFILES

Scale: Horizontal-1"=50'
Vertical-1"=5'

PIPE SCHEDULE

SIZE	TYPE	LENGTH
15"	HDPE	39 LF
18"	HDPE	464 LF
24"	HDPE	209 LF



TYP. OUTFALL DETAIL

Not to Scale

Structure	Q(c.f.s.)	S	n	b	d_{min}	d_{max}	d_{50}	B (Blanket Thickness)
S-1	3.65	0%	0.06	4.96'	0.28'	15"	9.5"	19"

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV IN	INV OUT	REMARKS
I-1	Type 'A-5' Inlet	℄ Sta. 5+37.17-10' left	397.22	386.04	385.87	SD 4.01
I-2	Type 'A-5' Inlet	℄ Sta. 6+26.80-10' left	395.44	18" 387.64 18" 387.34	387.34	SD 4.01
I-3	Type 'S' Inlet	℄ Sta. 8+27.69-12' left	395.43	390.28	390.13	SD 4.22
I-4	Type 'S' Inlet	℄ Sta. 8+27.69-27' right	394.64	-	390.64	SD 4.22
I-5	Type 'A-5' Inlet	℄ Sta. 6+26.80-10' right	395.38	-	390.03	SD 4.01
I-6	Type 'A-5' Inlet	℄ Sta. 26+61.06-24.90' left	398.17	394.75	394.65	SD 4.01
I-7	Type 'A-5' Inlet	℄ Sta. 25+23.86-23.91' left	398.74	-	395.80	SD 4.01
M-1	Standard Precast Manhole (4')	N 559,127.9 E 1,349,192.8	395.77	384.27	384.17	G 5.12
S-1	24" HDPE End Section	N 559,175.0 E 1,349,286.5	-	382.00	381.71	Hancor or equivalent

NOTES : 1. Top elevations for Type 'S' Inlet's along curb and gutter are to the center, edge of grate at the flow line.
2. Top elevations for A-5 inlets are to center of inlet, top of curb.
3. Top elevations for Precast Manholes are to the center top of manhole cover.
4. Top slope of structures to conform to slope of paving

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton 5/27/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

5/26/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

William E. Mahoney Jr. 5-25-05
CHIEF, BUREAU OF HIGHWAYS DATE

As-Built

STATE OF MARYLAND C. BROOKE MILLER 735 PROFESSIONAL LAND SURVEYOR

6-8-2007
C. BROOKE MILLER PROF. L.S. #735 DATE

OWNER
METZLER JOHN W
METZLER DOROTHY WF T/C
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COLUMBIA, MARYLAND 21044-3834

DEVELOPER
CONTRACT PURCHASER
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Telephone: (410) 997-8800
Fax: (410) 997-4358

STORM DRAIN PROFILE
METZLERS GARDEN
LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 PARCEL 152
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STATE OF MARYLAND MICHAEL JOSEPH FISH 22418 PROFESSIONAL ENGINEER

FSH Associates
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F-05-90

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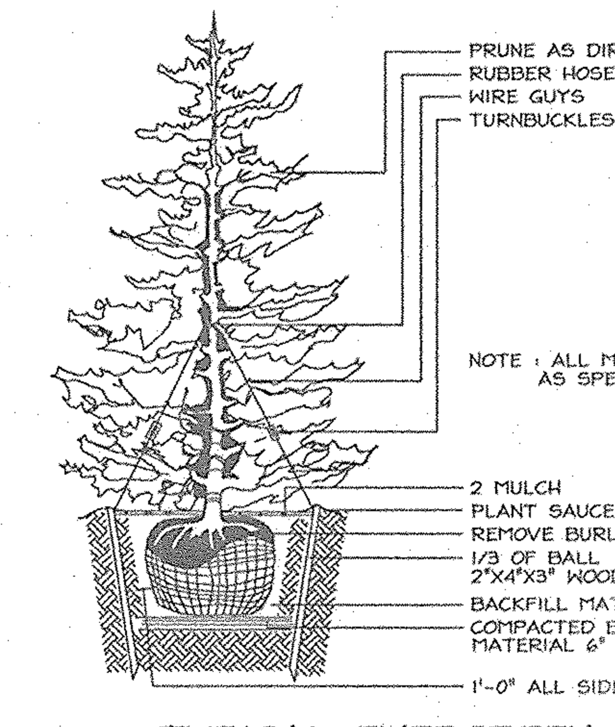
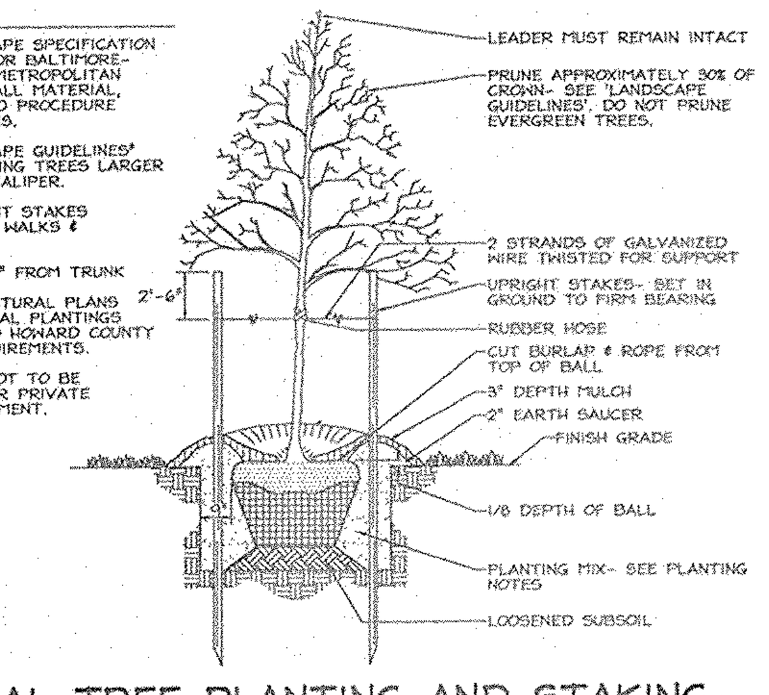


TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

NOTES

1. SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
2. SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
3. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
4. KEEP MULCH 1" FROM TRUNK
5. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
6. TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



TYPICAL TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER — NOT TO SCALE

LEGEND

Existing Contour	- - - - - 382
Proposed Contour	82
Existing Spot Elevation	382.3
Proposed Spot Elevation	+82.53
Direction of Flow	←
Existing Trees to Remain	
Light Poles	
Street Tree	
Evergreen Tree	
Landscape Perimeter	PERIMETER ONE
Shade Tree	

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS			ADJACENT TO PERIMETER PROPERTIES			
Perimeter/Frontage Designation Landscape Type	4 B			1 A	2 A	3 A	
Linear Feet of Roadway Frontage/Perimeter	140			782	375	1,051	
Credit for Existing Vegetation (Yes, No, Linear Feet) Remaining Perimeter Length	No			No	No	No	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) Remaining Perimeter Length	No			No	No	No	
Number of Plants Required Shade Trees Evergreen Trees Shrubs	 1:50 3 1:40 4 –			 1:60 13 – –	 1:60 7 – –	 1:60 18 – –	
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 Substitution) Shrubs (10:1 Substitution) (Describe Plant Substitution Credits Below if needed)	 3 4 – –			 13 – – –	 7 – – –	 18 – – –	

STREET TREE SCHEDULE

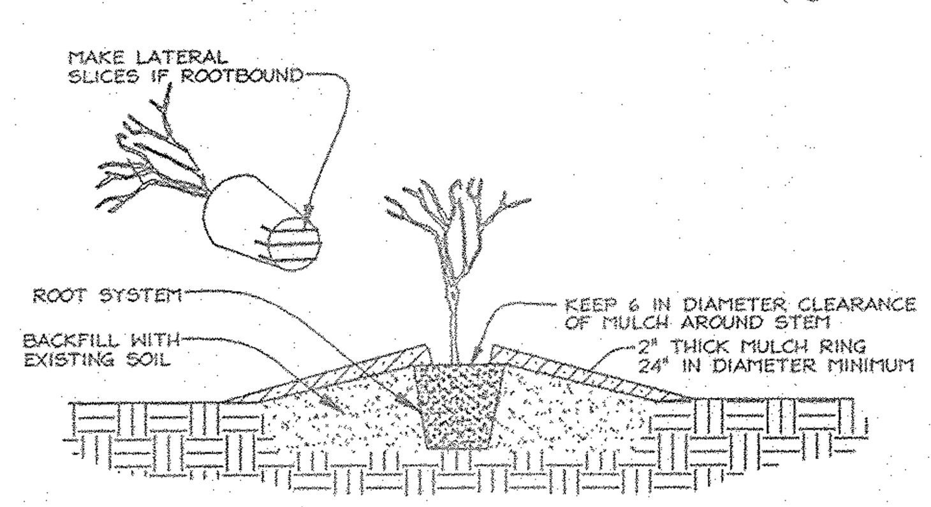
STREET NAME	LF REQUIRED	TREES REQUIRED	TREES PROVIDED
Dottys Way	1658	42	42

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
⊙	42	Acer Rubrum(Street Trees) October Glory Red Maple	2 1/2"-3" Cal.	B & B
(+)	21	Acer Rubrum October Glory Red Maple	2 1/2"-3" Cal.	B & B
(×)	20	Quercus rubra 'Red Oak'	2 1/2"-3" Cal.	B & B
	4	Thuja occidentalis 'Eastern Arborvitae'	5'-6' Ht.	B & B

LANDSCAPE NOTES

1. At the time of installment, 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.
2. 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.
3. Financial surety for the required landscaping must be posted as part of the Developer's Agreement in the amount of $12,900.00 based on 41 shade trees @ $300.00 each, 4 evergreen trees @ $150.00 each at Site Development Plan Stage.
4. Perimeter landscaping other than in the Forest Conservation Easement shall be planted at the Site Development plan stage.
5. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.
6. All street trees to be kept a minimum of 20' from all street lights.



PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS

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

TYPICAL CONTAINER PLANTING DETAIL
NOT TO SCALE

DEVELOPER'S BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER — DATE 5/24/05

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 5-25-05

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/27/05

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/26/05

OWNER

METZLER JOHN W
METZLER DOROTHY WF T/C
10358 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044-3834

DEVELOPER
CONTRACT PURCHASER

WILLIAMSBURG GROUP LLC
5485 HARPERS FARM RD #200
COLUMBIA, MARYLAND 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4358

LANDSCAPE PLAN, NOTES AND DETAILS
METZLERS GARDEN

LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 — PARCEL 152
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

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: MY
CHECKED BY: ZYF
SCALE: 1"=50'
DATE: May 24, 2005
W.O. No.: 3214
SHEET No.: 7 OF 9

F-05-90

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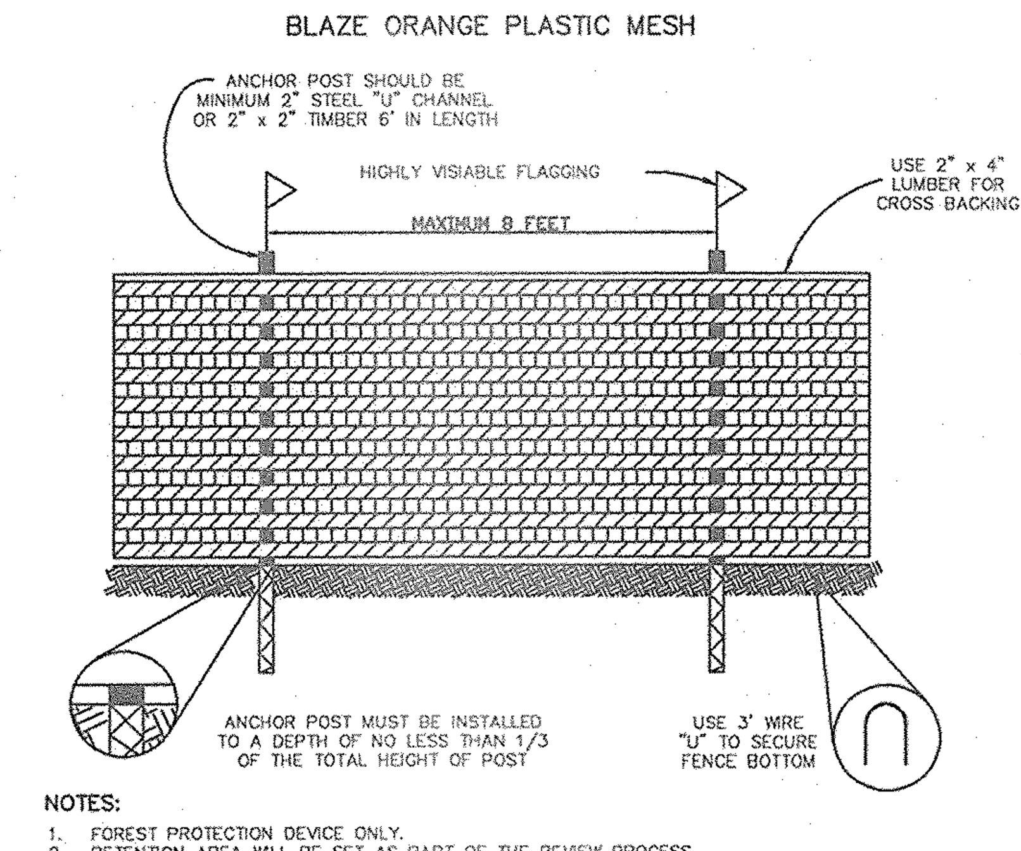

NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT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

TREE PROTECTION DETAIL
NOT TO SCALE

Planting Area Monitoring Notes

1. Initial planting inspection and certification required. Planting contractor to notify ERI qualified professional 24 hous in advance of planting.
2. 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.
3. 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 on 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.
4. Survival will be determined by a stratified random sampling 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.
5. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement plantings if required at that time.
6. A final inspection and certification by the ERI qualified professional is required after the second growing season.

Reforestation and Afforestation Area Protection Signage

Min. 11"

Forest Conservation Area

REFORESTATION PROJECT

Trees for Your Future

Min 15"

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.

Afforestation Area Planting Notes

1. Initial planting inspection and certification required. Planting contractor to notify ERI qualified professional 24 hours in advance of planting.
2. Afforestation 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 warrants.
3. 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 Works, P.O. Box 310 Hollins, N.Y. 11423 or approved equal.
4. Plant materials shall be planted in accordance with the planting diagram, planting details and planting schedule.
5. 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.
6. 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.
7. 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.
8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol.
9. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angering is preferred with scarification of the sides of each hole.
10. All nursery stock to be sprayed with deer repellent containing Bitrex such as Repellex All nursery stock to be grown with deer repellent tablets in growing medium, such as Repellex Tablets.

LEGEND

Existing contours	——552
Existing Spot Elevation	382.3
Existing Trees to Remain	
25' Wetlands Buffer	— WB —
Stream Bank Buffer	— SB —
Wetland	— W —
Stream	— · · —
Gas Electric Utility Pole	Ø
Specimen Tree	ST-2
Proposed 2 1/2" cal. tree	+ ×
Forest Conservation Easement Sign	△
Tree Protection Fence	— TPF —

FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (ACRES)
1a 1b	Afforestation Afforestation	0.37 0.05 Total 0.42
2a 2b	Afforestation Afforestation	0.14 0.10 Total 0.24
3	Afforestation	0.37
TOTAL		1.03

FOREST CONSERVATION WORKSHEET

	Acres
Net Tract Area	
A. Total Tract Area	6.66
B. Area Within 100 Year Floodplain	--
C. Other deductions	--
D. Net Tract Area	6.66
Zoning Use Category: RESIDENTIAL-SUBURBAN	
Land Use Category	
E. Afforestation Minimum (15 % x D)	1.00
F. Conservation Threshold (20 % x D)	1.33
Existing Forest Cover	
G. Existing Forest on Net Tract Area	0
H. Forest Area Above Conservation Threshold	0
Breakeven Point	
I. Forest Retention Above Threshold with no Mitigation	N/A
J. Clearing Permitted without Mitigation	N/A
Proposed Forest Clearing	
K. Forest Areas to be Cleared	0
L. Forest Areas to be Retained	0
Planting Requirements	
M. Reforestation for Clearing Above Threshold	0
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	0
Q. Total Reforestation Required	0
R. Total Afforestation Required	1.00
S. Total Reforestation and Afforestation Requirement	1.00

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 6.66 Ac. There is no existing forest on site. There are several specimen trees around the existing home. Afforestation requirements will be met entirely on site in three easements. The three easements will enhance existing contiguous wooded and forest areas on surrounding properties to enhance forest diversity and wildlife habitat corridors.

The 0.42 Ac. planting area will be planted with a mix of large and small stock due to its location. In conjunction with perimeter buffering requirements, 2.5" cal. stock shall be planted around the edges and container grown stock shall in-fill at 350 trees/acre with tree shelters.

The 0.24 Ac. and 0.37 Ac planting areas will be planted primarily with small stock In conjunction with perimeter buffering requirements, 2.5" cal stock shall be planted at the property line and container grown stock shall be used to in-fill at 350 trees/acre with tree shelters for the remainder of the area.

The total forest conservation obligation met on this site is 1.00 acres, with a total forest conservation surety amount of $18,433.50 (afforestation planting of 44,867 square feet less 8000 s.f. for 20 trees bonded under landscape = 36,867 s.f. X $ 0.50).

The forest conservation easements established on this plat fulfill the requirements of Section 16.1200 of the Howard County Code and the Forest Conservation Manual. No clearing, grading or construction is permitted within the forest conservation easements, however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.

Easement 1: : 0.42 Ac. (1A=78-whips, 16-2.5" cal. / 1B=6-2.5" cal.)

	Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
	18	Acer rubrum	Red Maple	WHIP 2-3'	11' o.c.	1-3 Gallon Container Grown or Bare Root with 5' tree shelters
	19	Quercus alba	White Oak	WHIP 2-3'	11' o.c.	
	19	Quercus rubra	Red oak	WHIP 2-3'	11' o.c.	
	19	Amelanchier canadensis	Service berry	WHIP 2-3'	11' o.c.	
	19	Prunus serrotina	Black Cherry	WHIP 2-3'	11' o.c.	
	19	Juniperus virginiana	Redcedar	WHIP 2-3'	11' o.c.	
*	11	Acer rubrum	Red Maple	2.5" cal.	20' o.c.	B&B
**	11	Quercus rubra	Red oak	2.5" cal.	20' o.c.	

Easement 2: 0.24 Ac. (2A=39-whips, 3-2.5" cal. / 2B=29-whips, 2-2.5" cal.)

	Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
	12	Acer rubrum	Red Maple	WHIP 2-3'	11' o.c.	1-3 Gallon Container Grown or Bare Root with 5' tree shelters
	12	Quercus alba	White Oak	WHIP 2-3'	11' o.c.	
	11	Quercus rubra	Red oak	WHIP 2-3'	11' o.c.	
	11	Amelanchier canadensis	Service berry	WHIP 2-3'	11' o.c.	
	11	Prunus serrotina	Black Cherry	WHIP 2-3'	11' o.c.	
	11	Juniperus virginiana	Redcedar	WHIP 2-3'	11' o.c.	
***	2	Acer rubrum	Red Maple	2.5" cal.	20' o.c.	B&B
***	3	Quercus rubra	Red oak	2.5" cal.	20' o.c.	

Easement 3: 0.37 Ac. (98-whips, 10-2.5" cal.)

	Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
	16	Acer rubrum	Red Maple	WHIP 2-3'	11' o.c.	1-3 Gallon Container Grown or Bare Root with 5' tree shelters
	16	Quercus alba	White Oak	WHIP 2-3'	11' o.c.	
	16	Quercus rubra	Red oak	WHIP 2-3'	11' o.c.	
	16	Amelanchier canadensis	Service berry	WHIP 2-3'	11' o.c.	
	16	Prunus serrotina	Black Cherry	WHIP 2-3'	11' o.c.	
	18	Juniperus virginiana	Redcedar	WHIP 2-3'	11' o.c.	
***	5	Acer rubrum	Red Maple	2.5" cal.	20' o.c.	B&B
***	5	Quercus rubra	Red oak	2.5" cal.	20' o.c.	

* Two of the trees are being planted in conjunction with landscape buffer requirements
** Three of the trees are being planted in conjunction with landscape buffer requirements
*** All of the trees are being planted in conjunction with landscape buffer requirements

NOTES: 1. See Sheet 7 of 9 for Planting Details
2. See the record plat for F-05-90 for the bearing and distance information for the recorded forest conservation easement shown on this plan.

SPECIMEN TREES

NO.	DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION
ST-1	33"	Black oak	Quercus velutina	Good
ST-2	31"	Black oak	Quercus velutina	Good
ST-3	31"	Red maple	Acer rubrum	Fair

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[signature] 5/26/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[signature] 5/27/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

~~DIRECTOR~~ ~~DATE~~

STATE OF MARYLAND STEPHEN L. HUBER REGISTERED No. 383 PROFESSIONAL FORESTER

OWNER
METZLER JOHN W
METZLER DOROTHY WF T/C
10358 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044-3834

DEVELOPER
CONTRACT PURCHASER
WILLIAMSBURG GROUP LLC
5485 HARPERS FARM RD #200
COLUMBIA, MARYLAND 21044-3834
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FOREST CONSERVATION PLAN
METZLERS GARDEN

LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 — PARCEL 152
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
8316 FORREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX:(410) 750-7350
EMAIL: EXPLORATIONRES@CS.COM

STATE OF MARYLAND ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER

FSH Associates
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8318 Forrest Street Ellicott City, MD 21043
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DESIGN BY: PS
DRAWN BY: MY
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SCALE: 1"=50'
DATE: May 24, 2005
W.O. No.: 3214
SHEET No.: 8 OF 9

F-05-90

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LEGEND

Existing contours	552
Existing Spot Elevation	382.3
Existing Trees to Remain	
25' Wetlands Buffer	WB
Stream Bank Buffer	SB
Wetland	W
Stream	
Gas Electric Utility Pole	Ø
Specimen Tree	ST-2

OWNER

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METZLER DOROTHY WF T/C
10358 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044-3834

DEVELOPER CONTRACT PURCHASER

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COLUMBIA, MARYLAND 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4358

EXISTING CONDITIONS PLAN
METZLERS GARDEN

LOTS 1-6, 8-10, 12-14,
OPEN SPACE LOTS 7,11,15,16 AND BULK PARCEL 'A'

TAX MAP 36 GRID 7 — PARCEL 152
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

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DESIGN BY: PS
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SCALE: 1"=50'
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SHEET No.: 9 OF 9

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 5-25-05

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