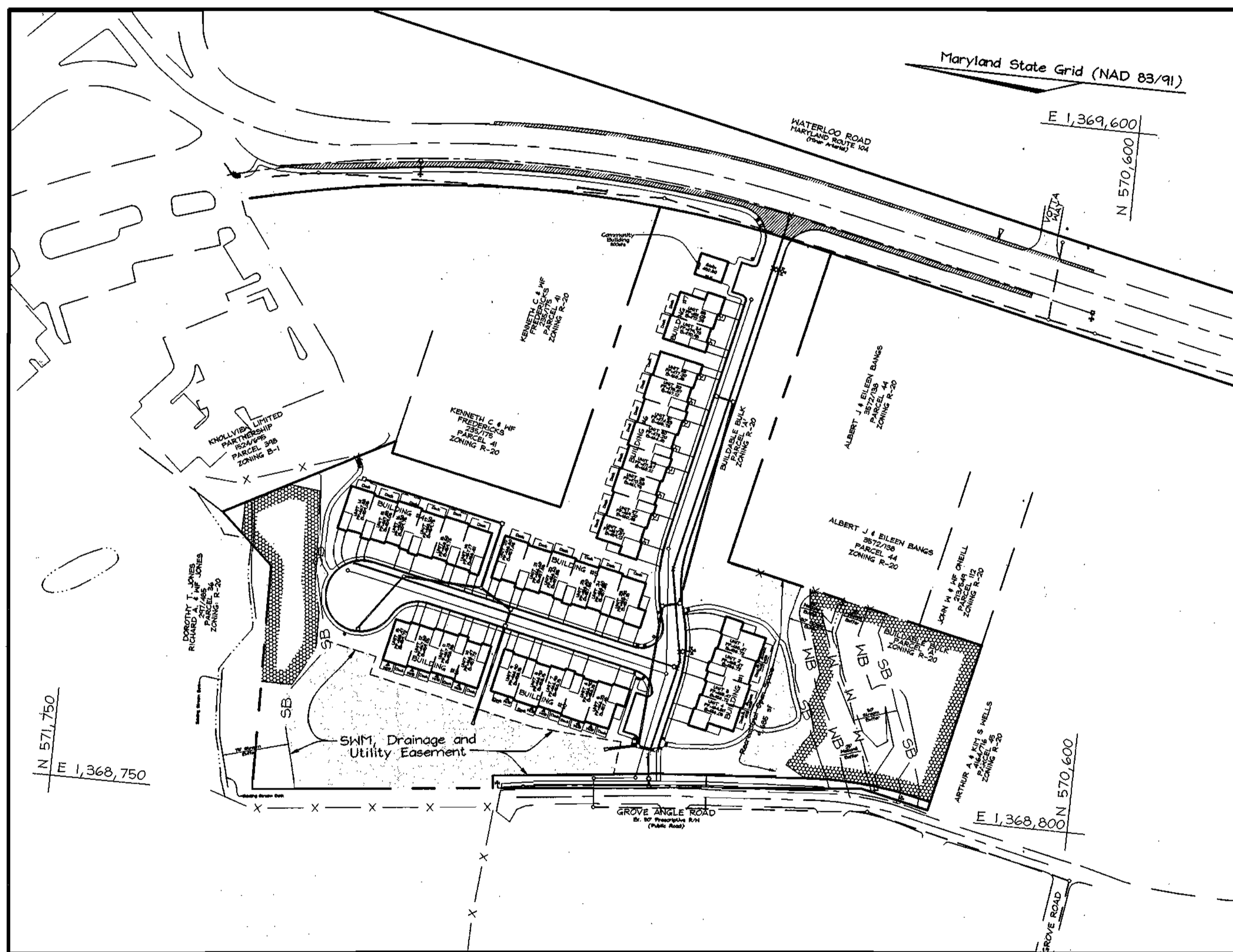


GENERAL NOTES

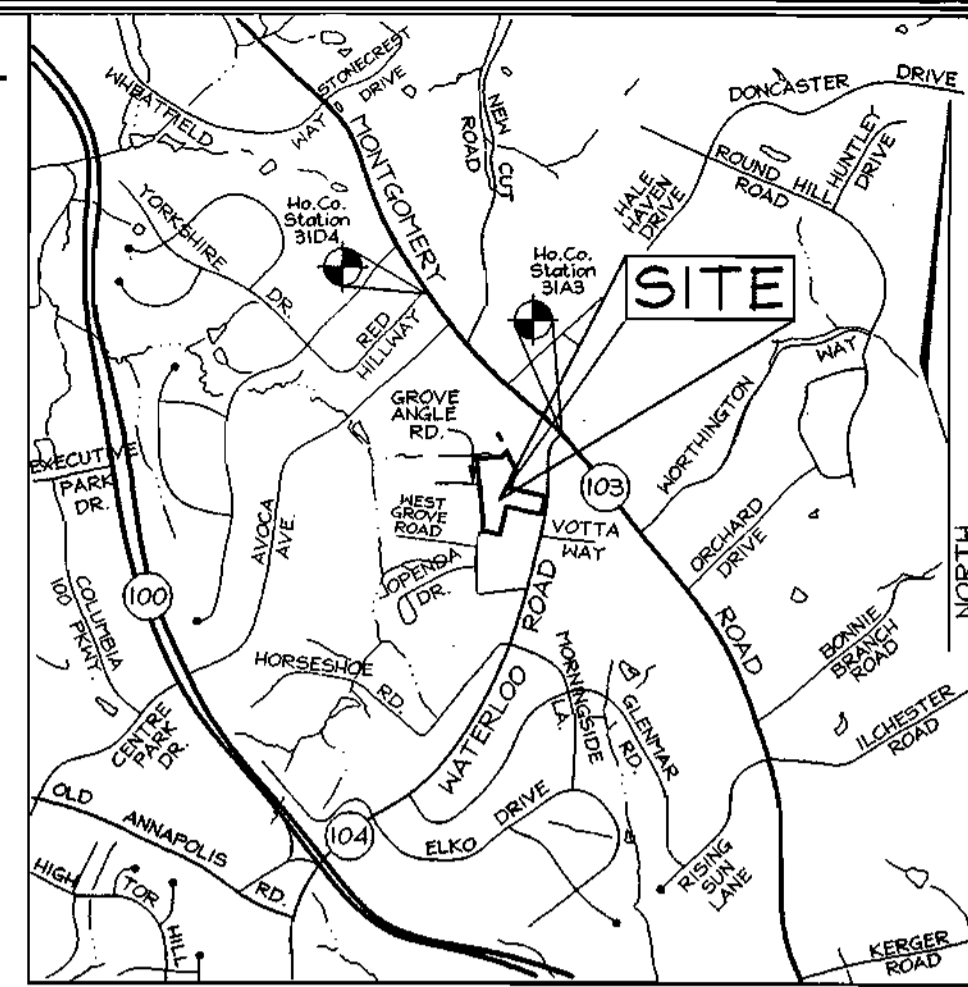
- Property is within the Metropolitan District.
- Public water and Public sewer will be used within this site.
- The Contractor shall notify the following utility companies or agencies at least five(5) working days before starting work shown on these plans:
 - State Highway Administration 410.531.5533
 - BGE(Contractor Services) 410.850.4620
 - BGE(Underground Damage Control) 410.787.9068
 - Miss Utility 1.800.251.7777
 - Colonial Pipeline Company 410.745.1340
 - Howard County, Dept. of Public Works, Bureau of Utilities 410.313.4400
 - Howard County Health Department 410.313.2640
- The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- 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.
- The lots shown hereon comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
- Topography and Boundary for Doyle Property is based on a field run survey prepared by C.B. Miller and Associates, Inc. in January 2001. Boundary for Fairmont Real Estate Services, Inc. prepared by DFM. Topography for Fairmont Real Estate Services, Inc. prepared by C.B. Miller and Associates Inc. in December, 2001.
- There are no floodplains, steep slopes, historic structures or cemeteries on-site.
- The project is in conformance with the latest Howard County Standards unless waivers have been approved.
- 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 31A3 and 31D4 were used for this project.
- No clearing, grading or construction is permitted within wetlands, streams or their required buffers.
- This plan has been prepared in accordance with the provisions of section 16.124 of the Howard County Code and Landscape manual. Financial surety for the required landscaping shall be posted as part of the Developer's Agreement in the amount of \$70,200.00 (152 shade trees @ \$300.00 each, 24 ornamental trees @ \$150.00 each, 132 evergreen trees @ \$150.00 each and 40 shrubs @ \$30.00 each).
- All curb and gutter to be Howard County Standard R-3.01 Modified Curb and Gutter unless otherwise noted.
- All proposed spot elevations along curb and gutter are to the flow line unless otherwise noted.
- This project complies with the requirements of section 16.1200 of the Howard County code for forest conservation. The total required obligation is 1.08 acres (0.8 acres retention and 0.28 acres afforestation) with a total forest conservation surety amount of \$11,848.10. Forest Conservation Easements totaling 1.11 acres have been provided for under F-03-52.
- All exterior light fixtures shall be oriented to direct light inwards and downwards on-site away from all adjoining residential properties and public roads in accordance with Section 134 of the Howard County Zoning Regulations. See Street Light Table this sheet.
- Garages shall be used for required parking purposes only and are not permitted to be converted to other uses in accordance with Section 133.D.2 of the Howard County Zoning Regulations.
- This project is subject to the Fifth Edition of the Subdivision and Land Development Regulations.
- Declaration of covenants and restrictions recorded in the Howard County Land Records on May 5, 2003, receipt no. 87192 (contains restriction for adult housing).
- Section 128 A.I.c. of the Howard County Zoning Regulations allows porches or decks, open or enclosed to project not more than 10 feet into the required front or rear setback area or into a required setback from a project boundary or different zoning districts.
- All HDPE pipe specification and installation shall meet AASHTO M-252 Type S, M-294 Type S and ASTM D2321, respectively.
- All pathways and sidewalks to conform to Howard County Standard Detail R.3.05. Sidewalks adjacent to curb and gutter to be concrete. Pathways to be asphalt.
- Soil compaction specifications, requirements, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer. Geotechnical Engineer to confirm acceptability of proposed paving section, based on soil test, prior to construction.
- All traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- 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.
- For bearings and distances of Forest Conservation Easements and Wetland Limits see Record Plat # 15999-15111 (F-03-52) recorded in the Land Records of Howard County.
- There will be no community trash dumpsters for this project.
- Contractor to provide one "Stop" sign (RI-1) and one Street Name sign at both the intersection of Maryland Route 104/Water Grove Lane and Water Grove Lane/Evening Sky Court.
- The proposed SHM Surface Sand Filter Facility will be privately owned and maintained.
- SHM requirements have been provided as follows:
 - Recharge - Provided through the Grass Channel and Sheetflow to Buffer Credits.
 - Water Quality - Provided through the Grass Channel and Sheetflow to Buffer Credits and the Surface Sand Filter.
 - Channel Protection - Provided through extended detention of the one (1) year storm. Over bank flood protection (10 yr) and Extreme flood protection (100 yr) are not required for this site. SHM pond is privately owned.
- Under BA case no. 01-47-C and pursuant to section 131.N.1 of the Zoning regulations the Howard County Board of appeals approved this project for 35 adult age restricted single family villa units. A community building containing approximately 800 sq. ft. (about 65% of the site) is in open space which contain pathways, seating areas, a croquet green and a putting green. Access to the property is provided via a private road with appropriate acceleration and deceleration lanes along MD. RT. 104. On June 25, 2002 the Board of Appeals ordered that the petition is granted subject to the following conditions:
 - The conditional use shall apply only to the proposed age restricted adult housing development described in the petition and as depicted on the revised Conditional Use plan dated January 8, 2002 for the Courtyards of Ellicott Mills and submitted to the Board as petitioners exhibit #3, and not to any other activities, uses, or structures on the property.
 - The petition shall comply with all applicable Federal, State and County laws and regulations.
- On September 19, 2002 the planning Director approved waiver petition NP-03-15 from Section 16.134(a)(1) of the subdivision and land development regulations to eliminate the sidewalk on one side of Water Grove Lane directly opposite units 26 thru 35. The waiver request from section 16.134(a)(1) requesting not to construct sidewalks along MD. Rt. 104 and Grove Angle Road was denied.
- A.P.F.O. Traffic Study approved on September 10, 2002.
- The minor structures and use setback restriction lines shown and established on F-03-52 and this SDP are in accordance with the bulk regulation requirements of Section 131.N.1 (Age Restricted Adult Housing) of the Zoning Regulations and Section 16.120 (b)(4)(iii)c. of the Subdivision and Land Development Regulations.
- The 4' Asphalt Pathway shown along Grove Angle Road is temporary and will be replaced with a concrete sidewalk when road improvements are initiated.
- Section 131.N.1.d.(3) of the Zoning Regulations states: Minimum structure setback from interior roadway or driveway for units with garages is 20 feet. This regulation has been interpreted by the Division of Public Service and Zoning, Administration, Department of Planning as: The setback is to be measured from the front of the garage to the interior roadway to allow enough room for a parked car. The 20 foot setback should not apply to any other side of the unit.

SITE DEVELOPMENT PLAN THE COURTYARDS OF ELLICOTT MILLS UNITS 1 THRU 35 AND COMMUNITY BUILDING HOWARD COUNTY, MARYLAND



LEGEND

- Existing Contour: --- -302
- Proposed Contour: --- -302.5
- Existing Spot Elevation: +82.53
- Proposed Spot Elevation: +82.53
- Direction of Flow: [Arrow]
- Existing Trees to Remain: [Tree Symbol]
- Wetlands: [Wavy Line]
- Wetlands Buffer: -WB-
- Stream Buffer: -SB-
- Gabion Check Dams (see detail sheet 5 of 15): CDH
- Proposed Sitting Areas: [Square]
- Building Restriction and Use Restriction Line: BRL & URL
- Light Poles: [Circle]
- Forest Conservation Easement: [Hatched Area]



VICINITY MAP
SCALE: 1"=2000'

BENCHMARKS

Sta. 31A3	N 174,717.1586	E 417,089.6736	EI: 148,6334 (meters)
	N 573,217.8777	E 1,368,237.662	EI: 487.641 (feet)
Sta. 31D4	N 174,254.7095	E 417,456.8234	EI: 150.9304 (meters)
	N 571,700.6591	E 1,369,606.281	EI: 495.179 (feet)

ADDRESS CHART

UNIT	STREET
1	4933 Water Grove Lane
2	4935 Water Grove Lane
3	4937 Water Grove Lane
4	4939 Water Grove Lane
5	4903 Evening Sky Court
6	4905 Evening Sky Court
7	4907 Evening Sky Court
8	4909 Evening Sky Court
9	4911 Evening Sky Court
10	4913 Evening Sky Court
11	4917 Evening Sky Court
12	4919 Evening Sky Court
13	4921 Evening Sky Court
14	4923 Evening Sky Court
15	4924 Evening Sky Court
16	4922 Evening Sky Court
17	4920 Evening Sky Court
18	4918 Evening Sky Court
19	4916 Evening Sky Court
20	4912 Evening Sky Court
21	4910 Evening Sky Court
22	4908 Evening Sky Court
23	4906 Evening Sky Court
24	4904 Evening Sky Court
25	4902 Evening Sky Court
26	4930 Water Grove Lane
27	4928 Water Grove Lane
28	4926 Water Grove Lane
29	4924 Water Grove Lane
30	4922 Water Grove Lane
31	4920 Water Grove Lane
32	4918 Water Grove Lane
33	4916 Water Grove Lane
34	4912 Water Grove Lane
35	4910 Water Grove Lane
Com. Bldg.	4900 Water Grove Lane

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT
C1	150.00'	45.40'	172.00°	N46°30'24"W	45.42'	22.70'
C2	148.28'	75.16'	80.00°	N67°28'24"E	77.27'	40.00'
C3	148.28'	75.16'	80.00°	S67°30'24"W	77.27'	40.00'
C4	100.00'	76.70'	48°54'44"	N03°42'58"W	74.63'	40.35'

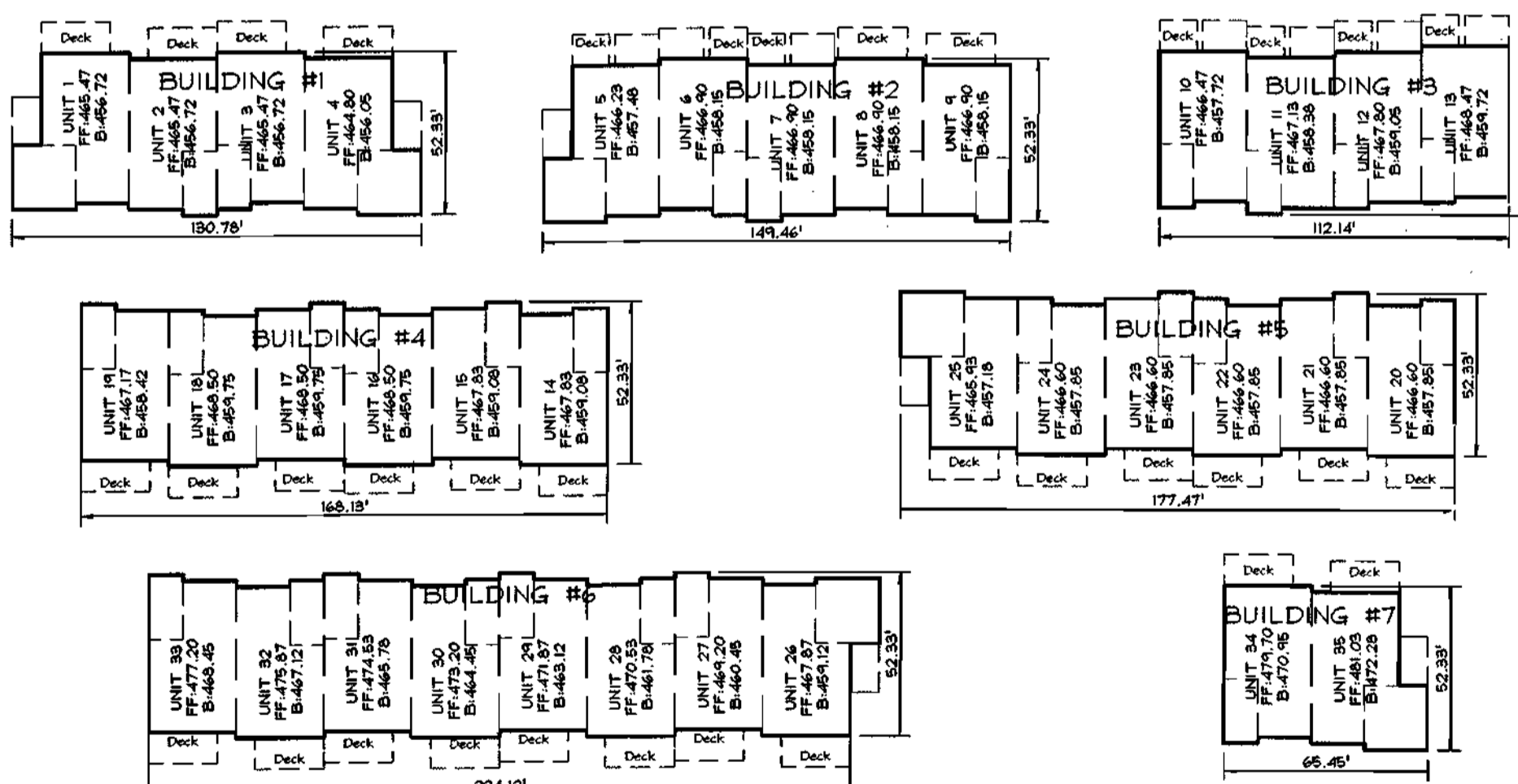
STREET LIGHT TABLE

FIXTURE TYPE	POLE TYPE	LOCATION
100 watt HPS vapor pendant mount, full cutoff, post top, colonial	14' bronze fiberglass ornamental	6 Sta. +87.02 24.07' left
100 watt HPS vapor pendant mount, full cutoff, post top, colonial	14' bronze fiberglass ornamental	6 Sta. +27.48 20.42' left
100 watt HPS vapor pendant mount, full cutoff, post top, colonial	14' bronze fiberglass ornamental	6 Sta. +57.436.2 E 1,364,942.0

Note: Light pole location given at center of base

SHEET INDEX

DESCRIPTION	SHEET No.
Cover Sheet	1 of 16
Road Plan and Profile	2 of 16
Road Plan and Profile	3 of 16
Site Development and Grading Plan	4 of 16
Site Development, Grading and Maryland Route 104 Improvement Plan	5 of 16
Sediment and Erosion Control Plan	6 of 16
Sediment and Erosion Control Plan	7 of 16
Sediment and Erosion Control Details	8 of 16
Miscellaneous Details	9 of 16
Storm Drain Profiles, Striping and Traffic Maintenance Plan	10 of 16
Storm Drain Drainage Area Map	11 of 16
Landscape Plan	12 of 16
Stormwater Management Notes and Details	13 of 16
Stormwater Management Profiles	14 of 16
Final Forest Conservation Plan	15 of 16
Final Forest Conservation Plan	16 of 16



NOTE: For unit dimensions see house templates this sheet.

BUILDING TEMPLATES

REVISED COVER SHEET

THE COURTYARDS OF ELLICOTT MILLS
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
BUILDABLE BULK PARCEL 'A'
TAX MAP 31 GRID 07 PARCEL 42 AND 43
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
The Courtyards of Ellicott Mills, LLC
c/o Mr. Donald Reuser Jr.
8000 Main Street
Ellicott City, Maryland 21043
410-480-9105

PERMIT INFORMATION CHART

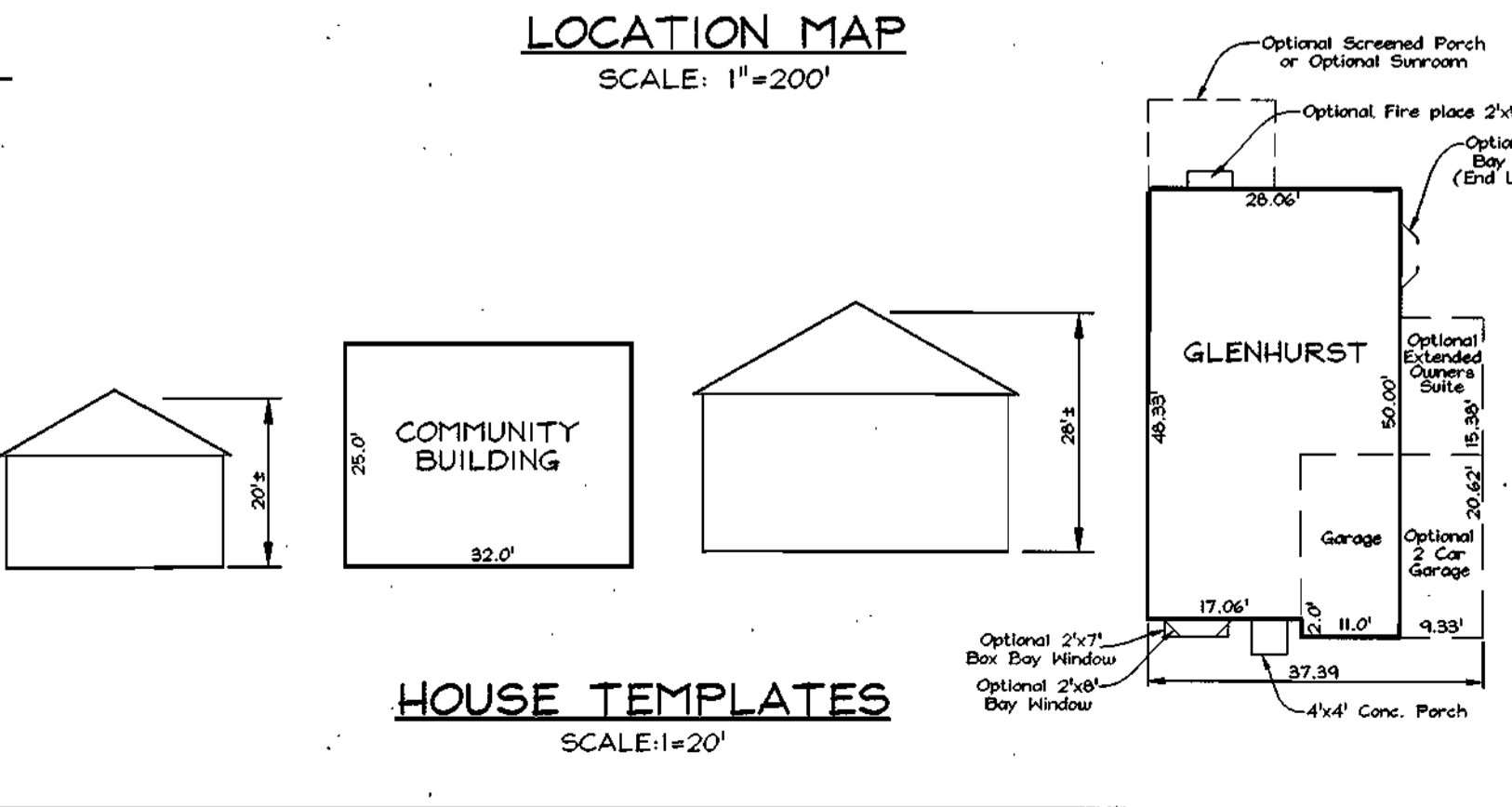
Subdivision Name	Section/Area	Lot/Parcel No. Buildable Bulk Parcel 'A'
Courtyards of Ellicott Mills	N/A	
Plat Number	Grid	Zoning
15404-15411	07	R-20
Tax Map No.	Elect. District	Census Tract
31	2nd	6023.02
Water Code	Sewer Code	
G01	5750677	

FSH Associates
Engineers Planners Surveyors
3118 Forest Street Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

DESIGN BY: PS
DRAWN BY: PS
CHECKED BY: ZYF
SCALE: As Shown
DATE: Sept. 24, 2003
I.C. No.: 3188
SHEET No. 1 OF 16

SITE ANALYSIS DATA CHART

- Total project area: 7,044ac.
- Area of plan submission: 7,605ac.
- Limit of disturbed area: 6,04ac.
- Present zoning: R-20 per 10/18/93 Comprehensive Zoning Plan.
- Proposed uses for site & structures: Age Restricted Adult Housing.
- Floor space on each level of building(s) per use: 1st floor: 1378sf 2nd floor: 740sf
- Total number of units allowed: 35 per B.A. Case # 01-47C;
- Total number of units proposed: 35.
- Number of parking spaces required: 70 (2 per unit)
- Total number of parking spaces provided: 94 (2.7 parking spaces provided per unit)
- Number of parking spaces provided with one-car garage units: 58
- Number of parking spaces provided with two-car garage units: 18
- Number of head-in parking spaces provided: 8
- Number of parallel parking spaces provided: 10
- Open Space/Area required: 2,470sf or 35% of Gross area
- Open Space/Area provided: 4,564sf or 65% of Gross area
- Recreational Open Space/Area required: 400sf per unit or 35 units x 400sf = 14,000sf
- Recreational Open Space/Area provided:
 - 6231sf of Paved Pathway (3sf of Rec. Area per 1sf of path) = 3,115sf credit
 - 6 Benches (200sf of Rec. Area per bench) = 1,200sf credit
 - 9,685sf
 - Total = 14,000sf
- Building coverage of site: 41,764 sf or 13.6%
- DPZ file references: BA 01-47C; SP-01-04; NP-03-15; F-03-52; Cont.#24-4094-D.
- Required Moderate income housing units (at least 10% of total): 4 units
- Provided Moderate income housing units: 4 units
- (The MIHU agreement and covenants were recorded with F-03-52 on 4-25-03)



HOUSE TEMPLATES

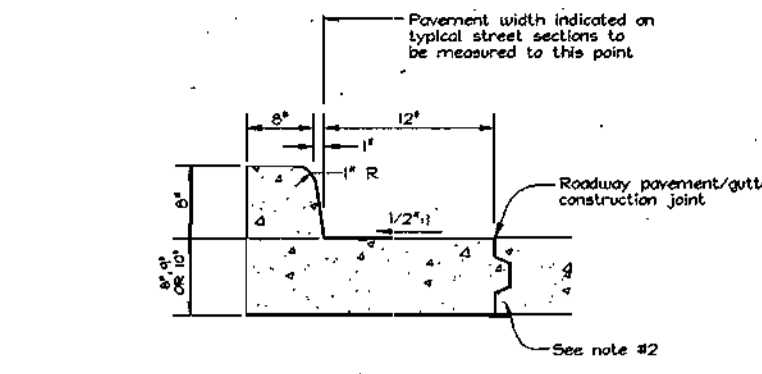
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

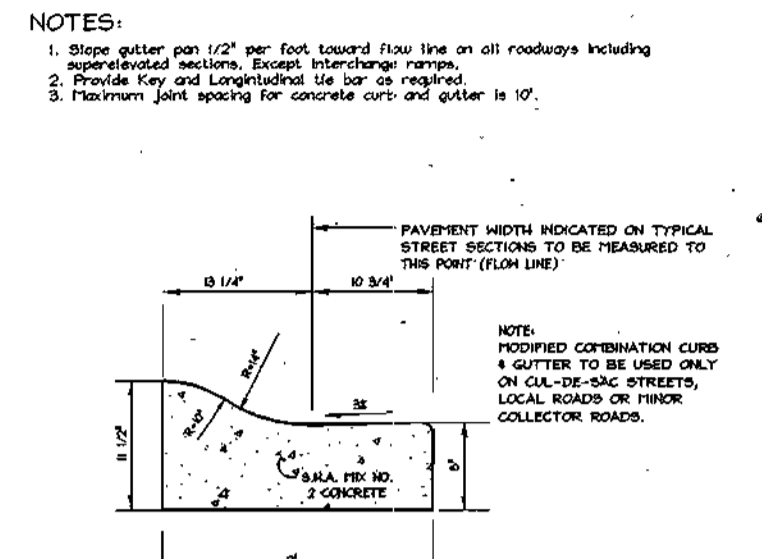
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CHIEF, DEVELOPMENT ENGINEERING DIVISION, MD DATE

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CHIEF, DIVISION OF LAND DEVELOPMENT DATE

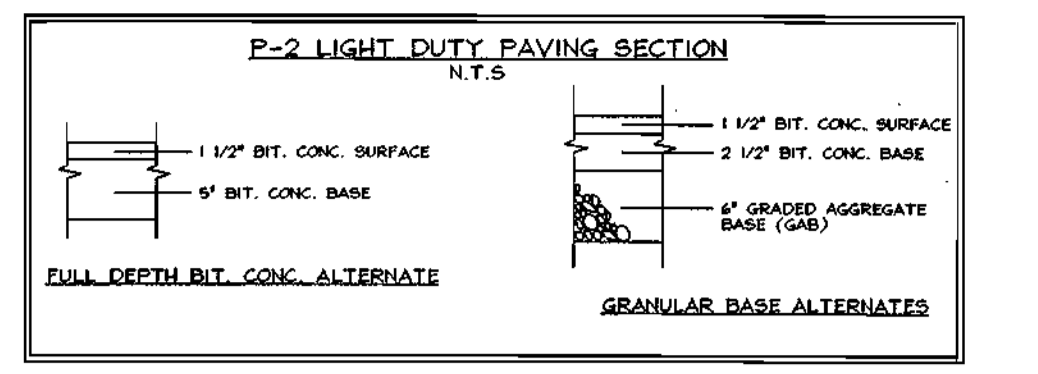
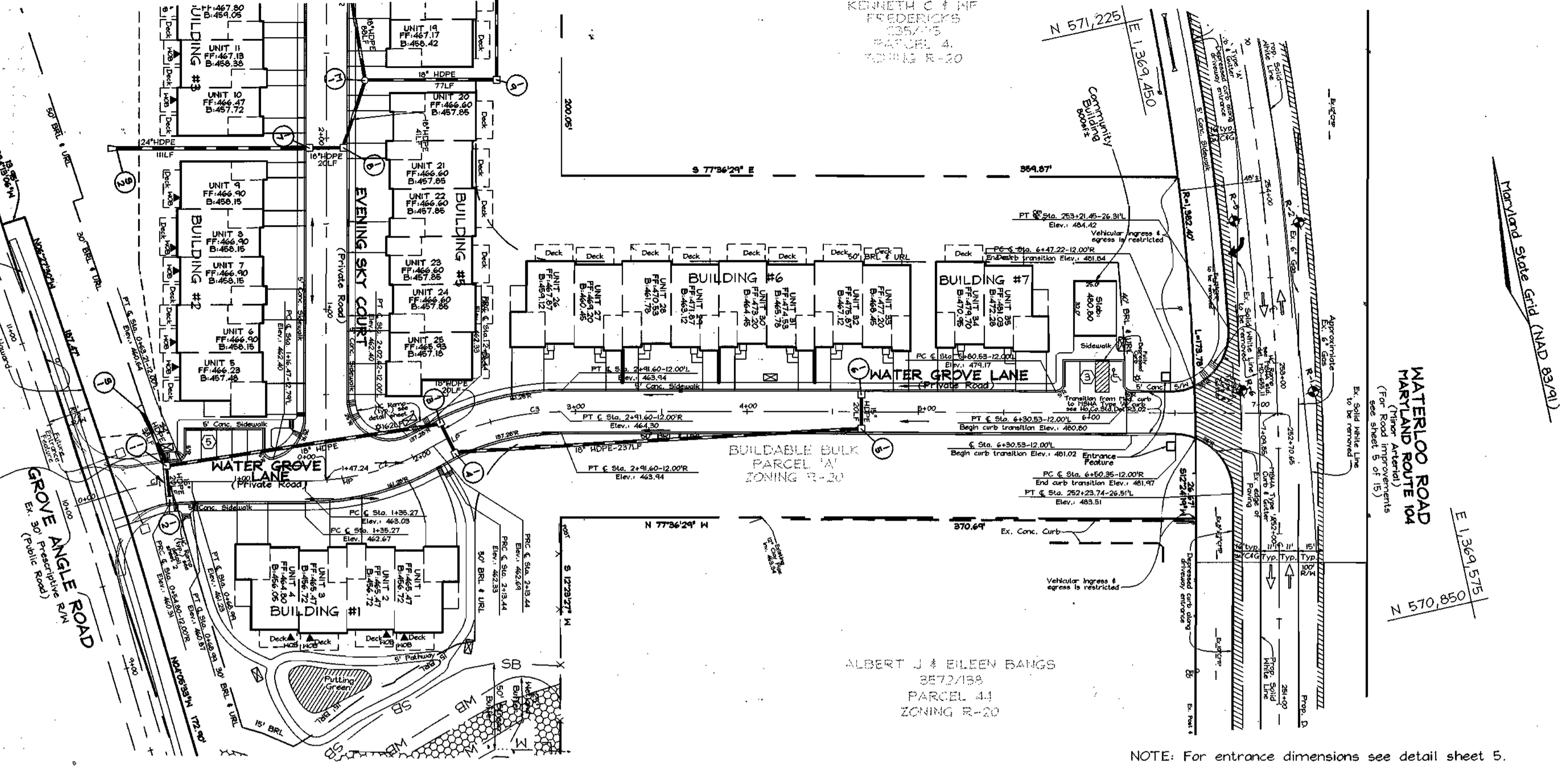
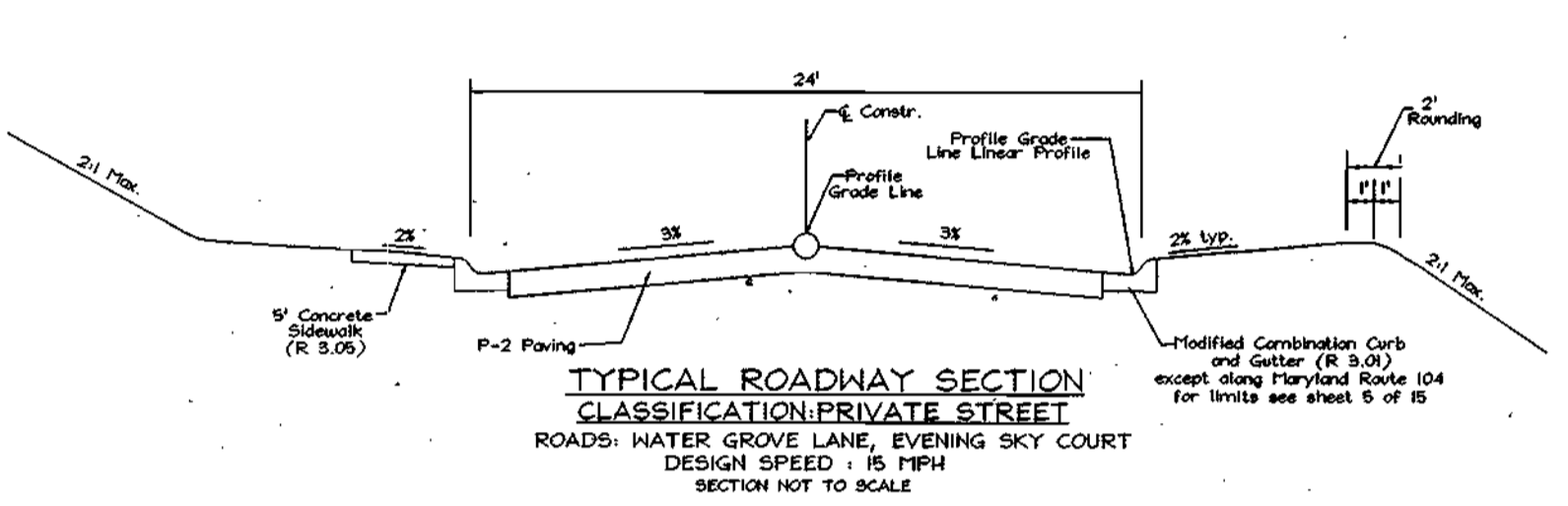
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DIRECTOR DATE



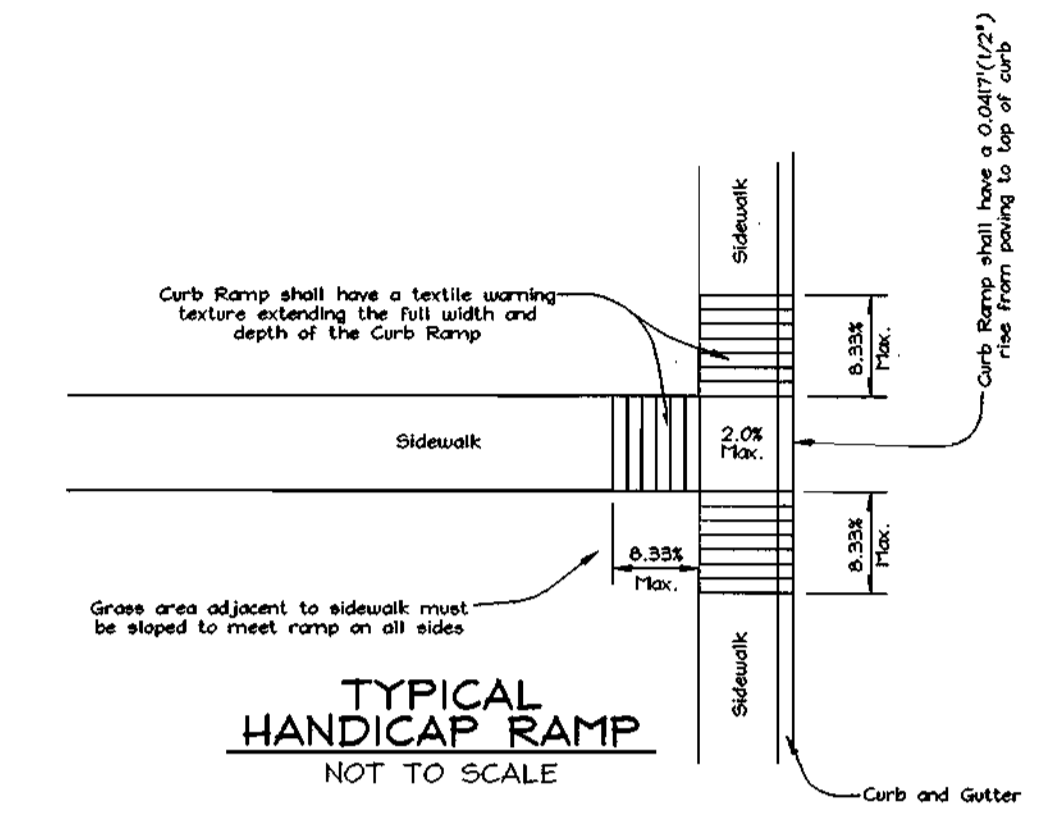
NOTES:
1. Show gutter on 1/2" per foot toward flow line on all roadways including interchanges. Except interchanges, show gutter on 1/2" per foot toward flow line on all roadways.
2. Provide key and longitudinal tie for all curbs.
3. Maximum joint spacing for concrete curb and gutter is 10'.



NOTES:
1. Modified combination curb and gutter (R3.01) to be used only on 10'-0" wide roads with 2' concrete curb and gutter.
2. Local boards of fire or collector roads.



NOTE: Bearing capacity test results of subsoils may require modifications of the standard paving section.



REVISED ROAD PLAN AND PROFILE
THE COURTYARDS OF ELLICOTT MILLS
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
BUILDABLE BULK PARCEL 'A'
TAX MAP 31 GRID 07 PARCEL 42 AND 43
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

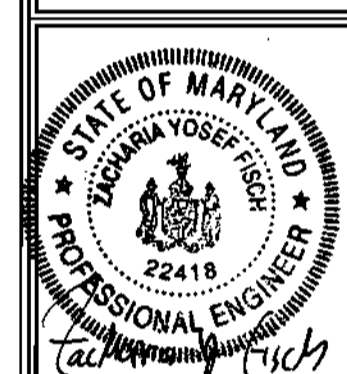
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CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

[Signature] 1/8/04
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

[Signature] 1/14/04
DIRECTOR
DATE

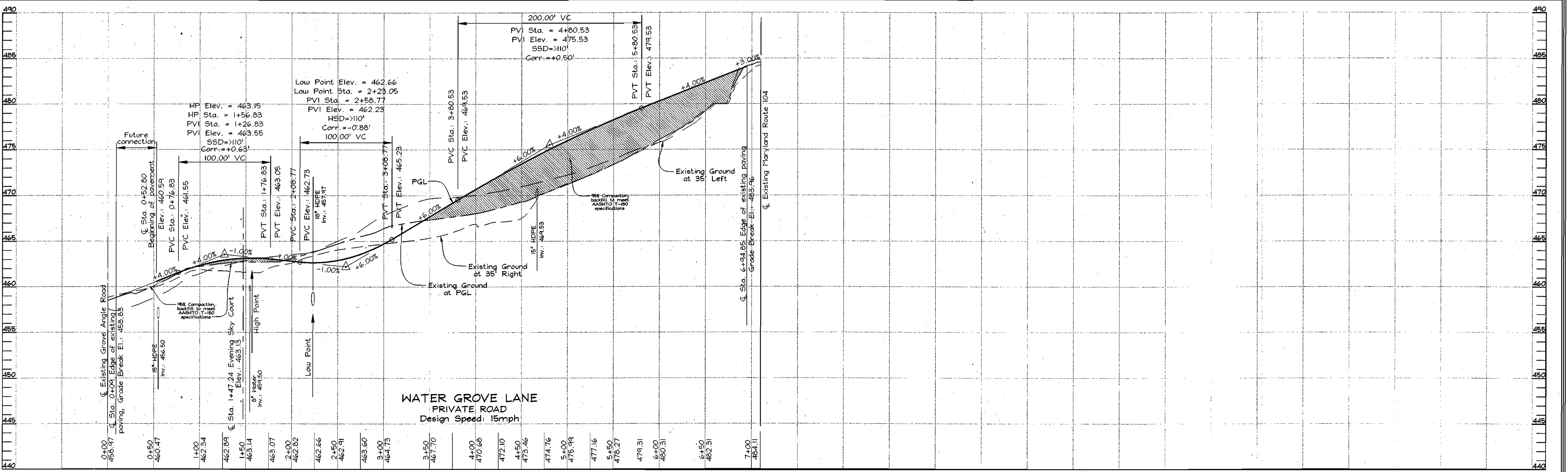
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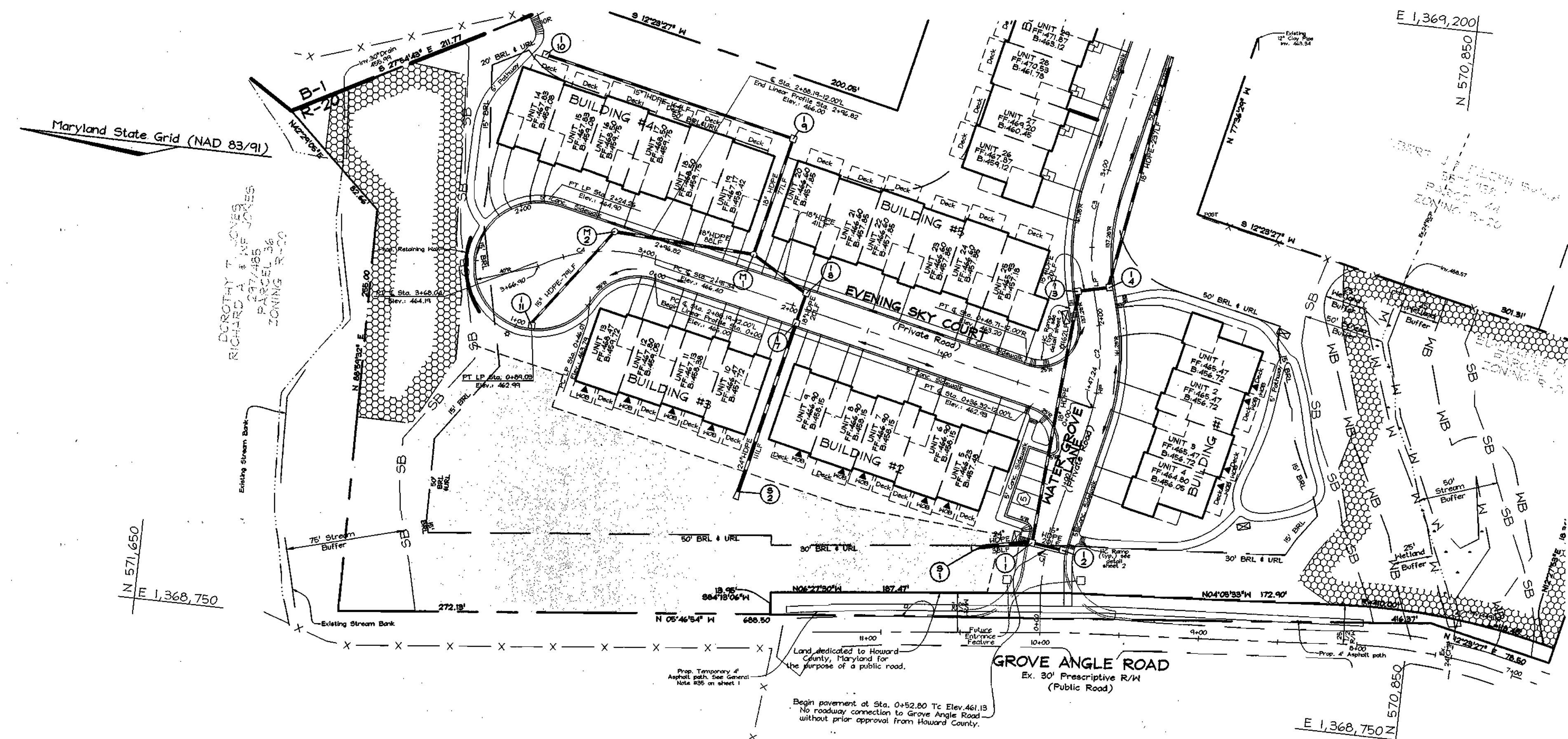
OWNER/DEVELOPER
The Courtyards of Ellicott Mills, LLC
c/o Mr. Donald Reuver Jr.
8000 Main Street
Ellicott City, Maryland 21043
410-480-9105



FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

DESIGN BY: PS
DRAWN BY: PS
CHECKED BY: ZYF
SCALE: As Shown
DATE: Sept. 24, 2003
W.O. No.: 3188
SHEET No. 2 OF 16



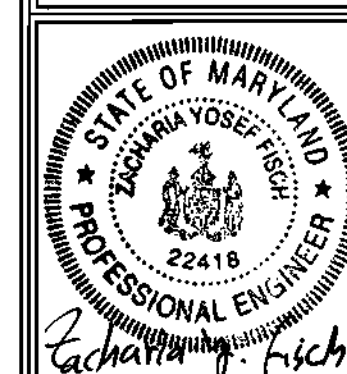


REVISED ROAD PLAN AND PROFILE
THE COURTYARDS OF ELLICOTT MILLS
 AGE RESTRICTED ADULT HOUSING
 UNITS 1 THRU 35 AND COMMUNITY BUILDING
 BUILDABLE BULK PARCEL 'A'
 TAX MAP 31 GRID 07 PARCEL 42 AND 43
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 1/5/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 1/5/04
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 1/6/04
 DIRECTOR

REVISION NOTE:
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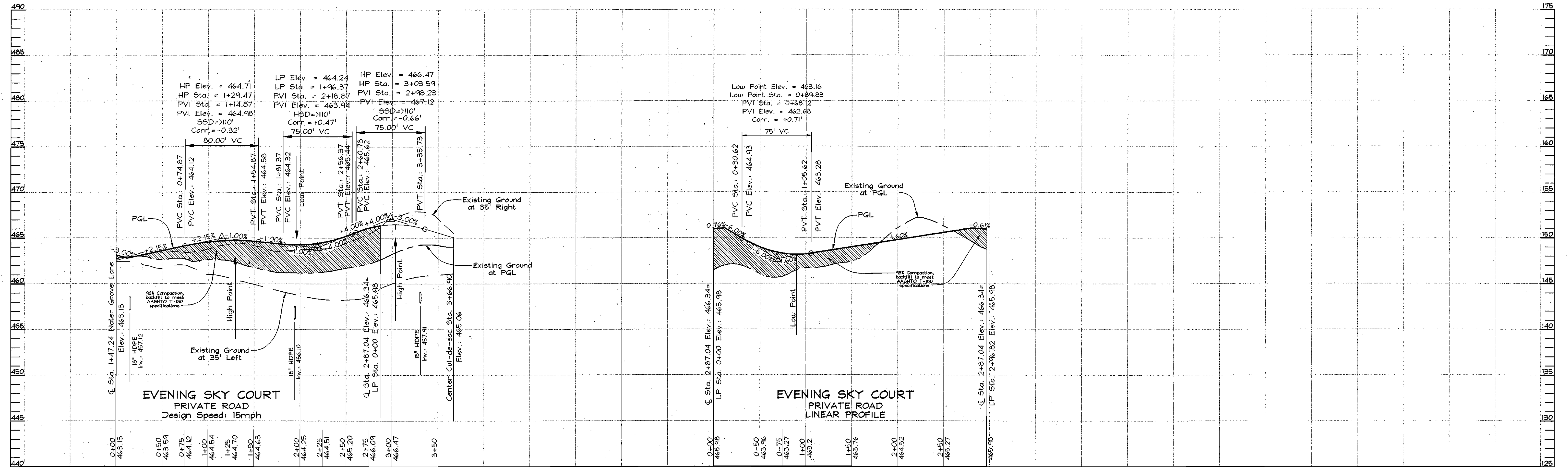
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 8000 Main Street
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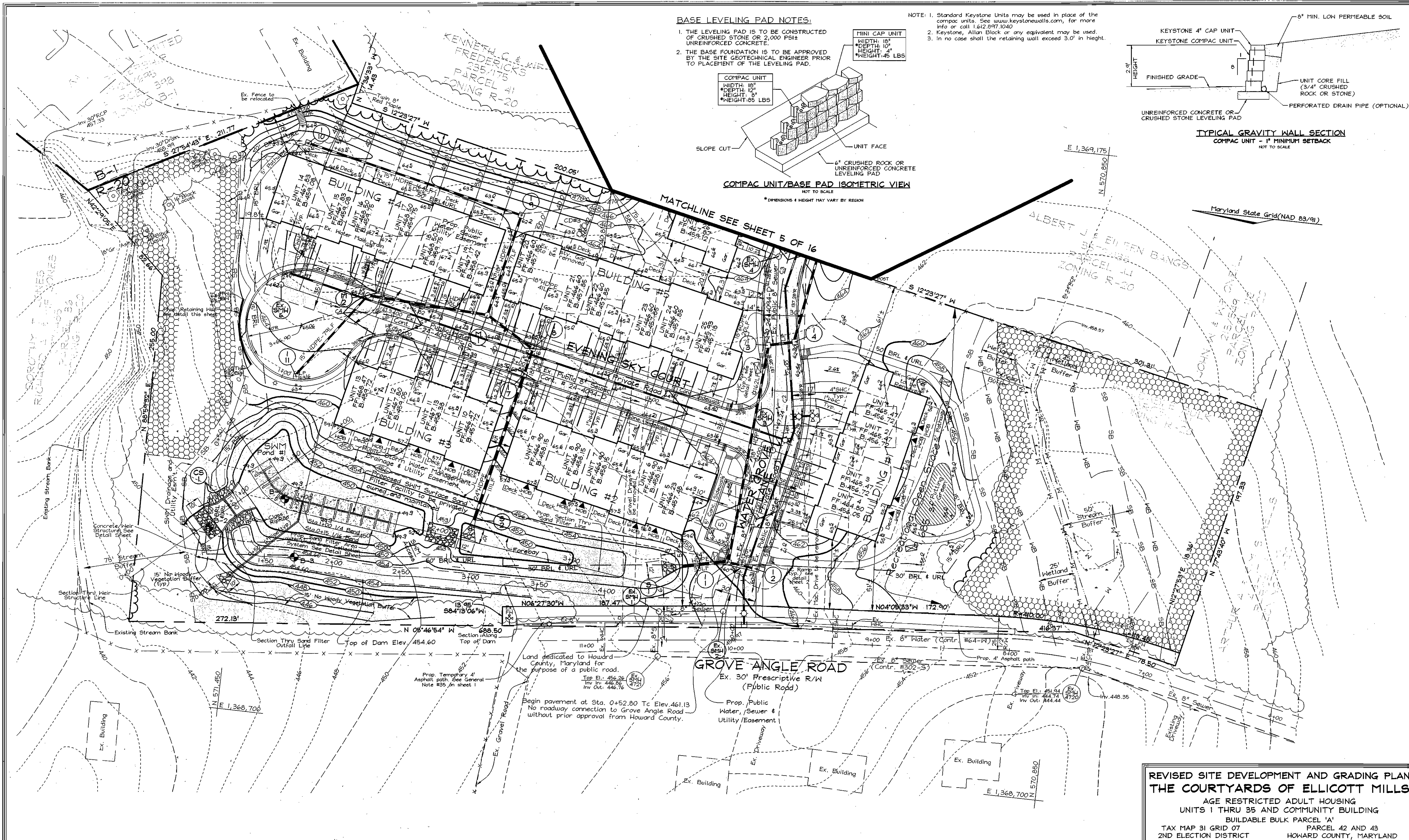
FSH Associates
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 8318 Forrest Street Ellicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: FSHAssociates@cs.com

DESIGN BY: PS
 DRAWN BY: PS
 CHECKED BY: ZYF
 SCALE: As Shown
 DATE: Sept. 24, 2003
 P.O. No.: 3188
 SHEET No. 3 OF 16

ROAD PLAN
 SCALE: 1"=50'



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

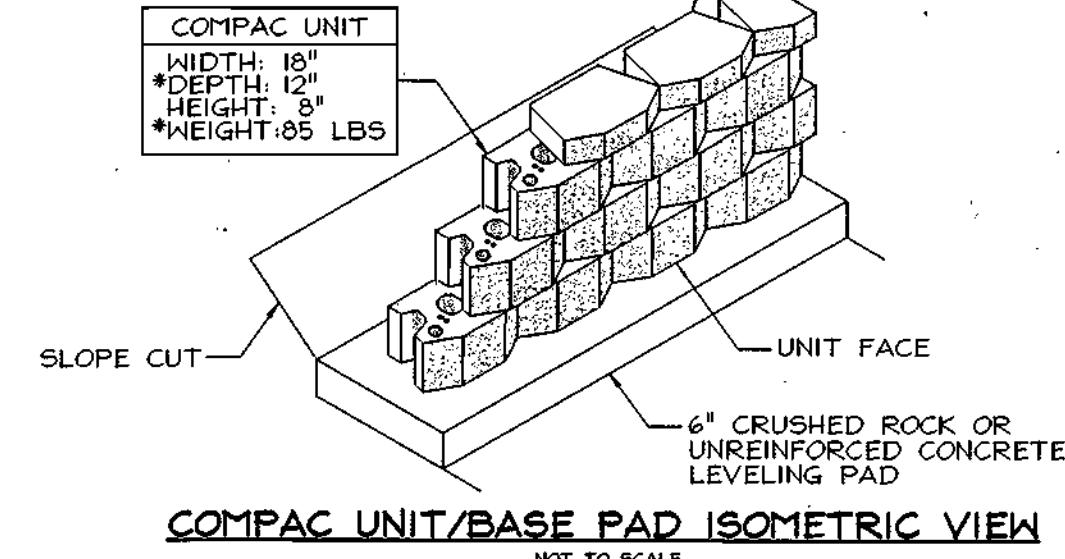


BASE LEVELING PAD NOTES:

1. THE LEVELING PAD IS TO BE CONSTRUCTED OF CRUSHED STONE OR 2,000 PSII UNREINFORCED CONCRETE.
2. THE BASE FOUNDATION IS TO BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.

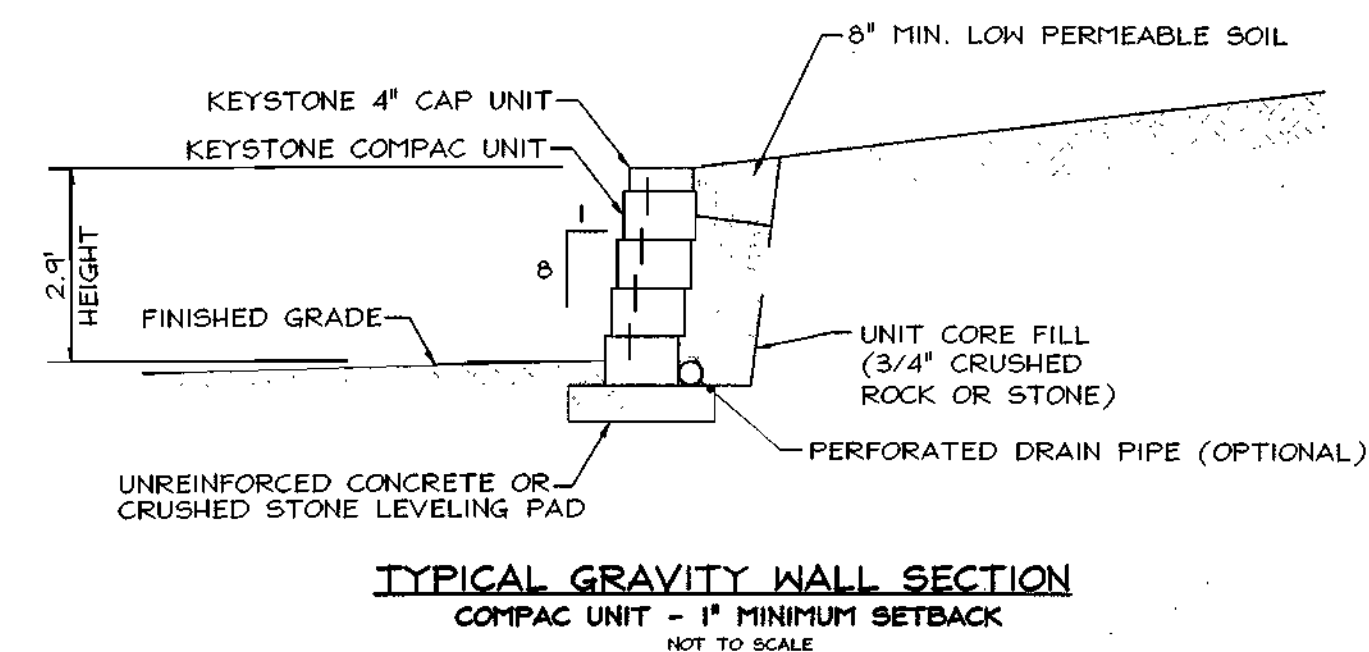
MINI CAP UNIT
 WIDTH: 18"
 DEPTH: 10"
 HEIGHT: 4"
 WEIGHT: 45 LBS

COMPAC UNIT
 WIDTH: 18"
 DEPTH: 12"
 HEIGHT: 8"
 WEIGHT: 85 LBS



COMPAC UNIT/BASE PAD ISOMETRIC VIEW
 NOT TO SCALE
 * DIMENSIONS & HEIGHT MAY VARY BY REGION

- NOTE: 1. Standard Keystone Units may be used in place of the compac units. See www.keystonewalls.com, for more info or call 1.612.897.1040
2. Keystone, Allan Block or any equivalent may be used.
 3. In no case shall the retaining wall exceed 3.0' in height.



TYPICAL GRAVITY WALL SECTION
 COMPAC UNIT - 1" MINIMUM SETBACK
 NOT TO SCALE

MATCHLINE SEE SHEET 5 OF 16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

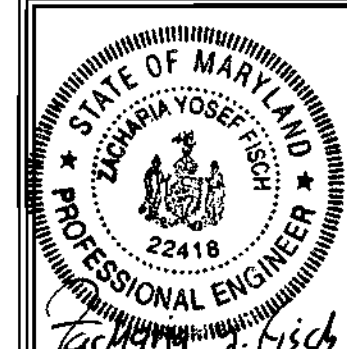
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 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

[Signature] 11/4/04
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

[Signature] 11/11/04
 DIRECTOR
 DATE

REVISION NOTE:
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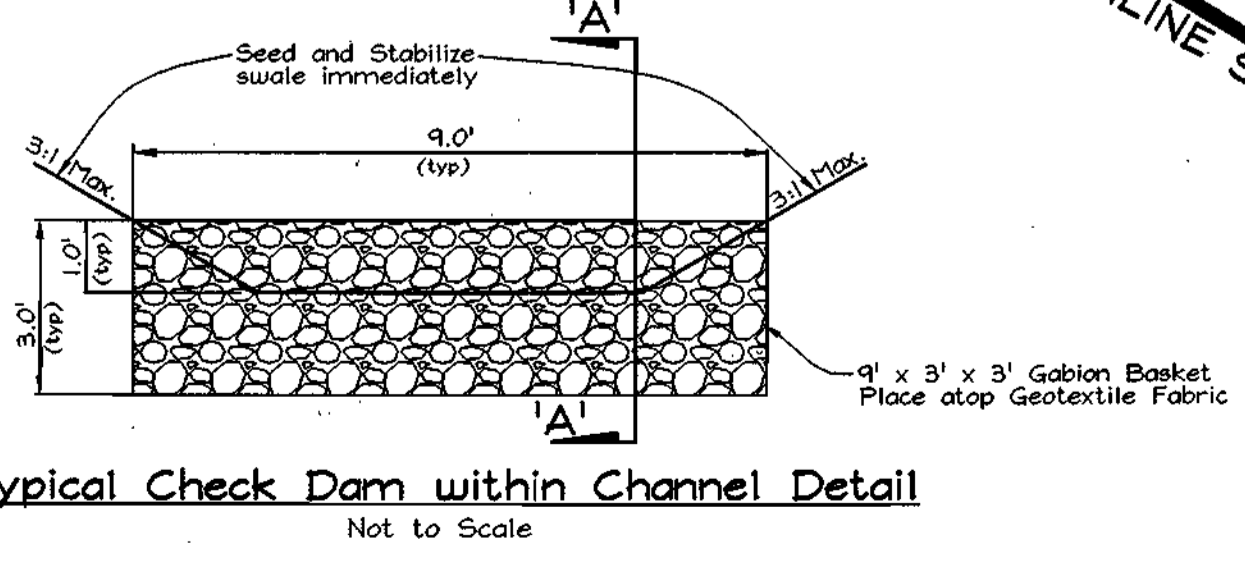
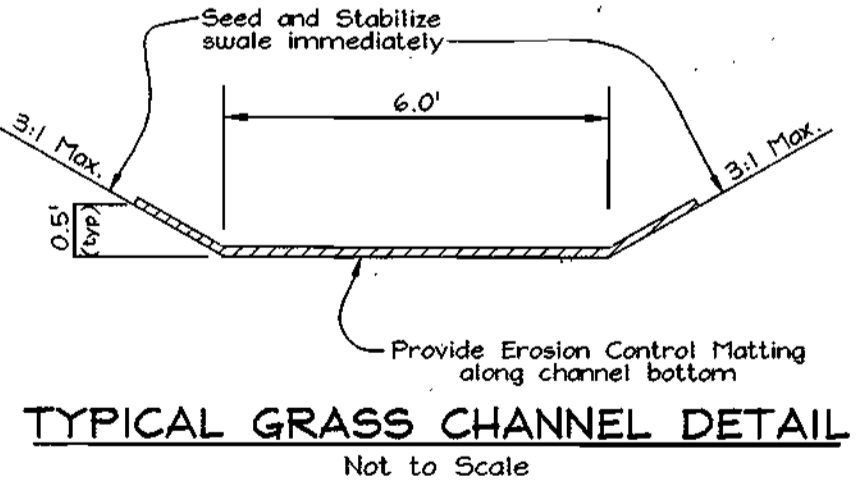
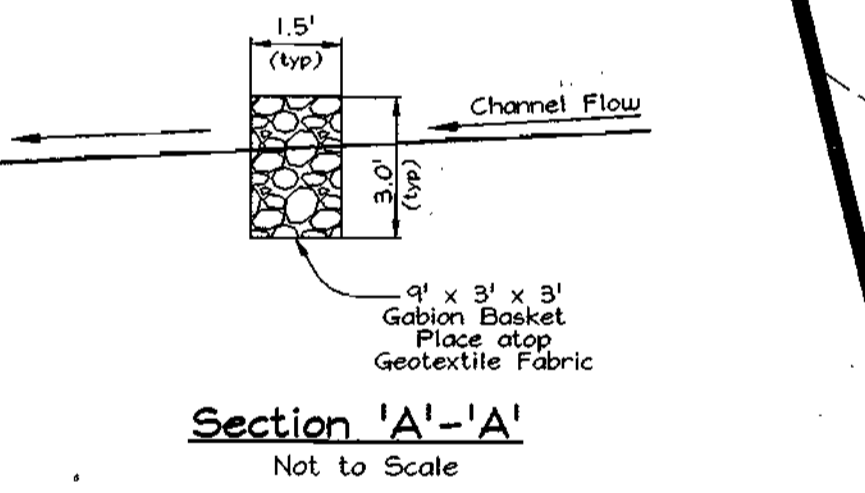
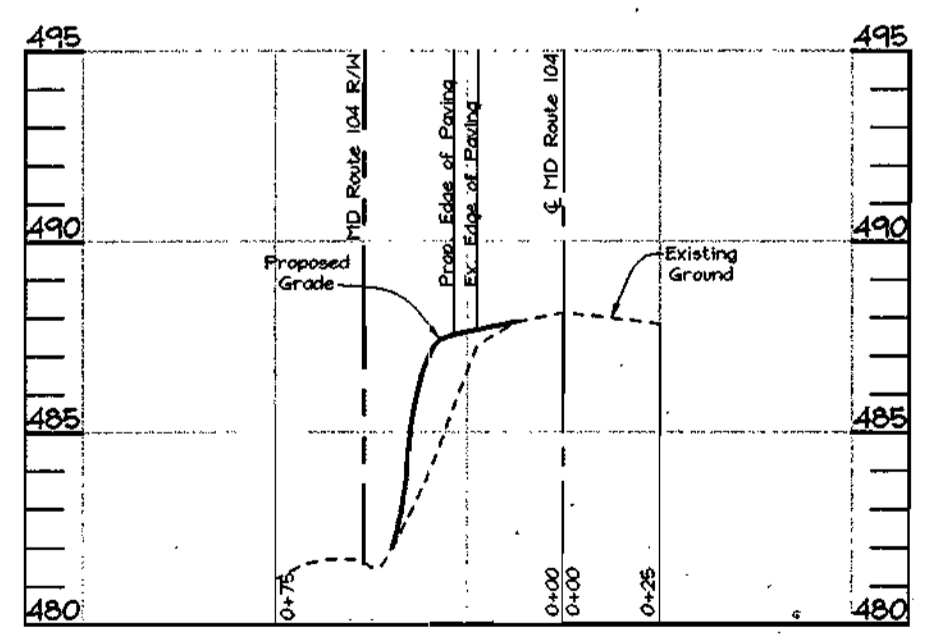
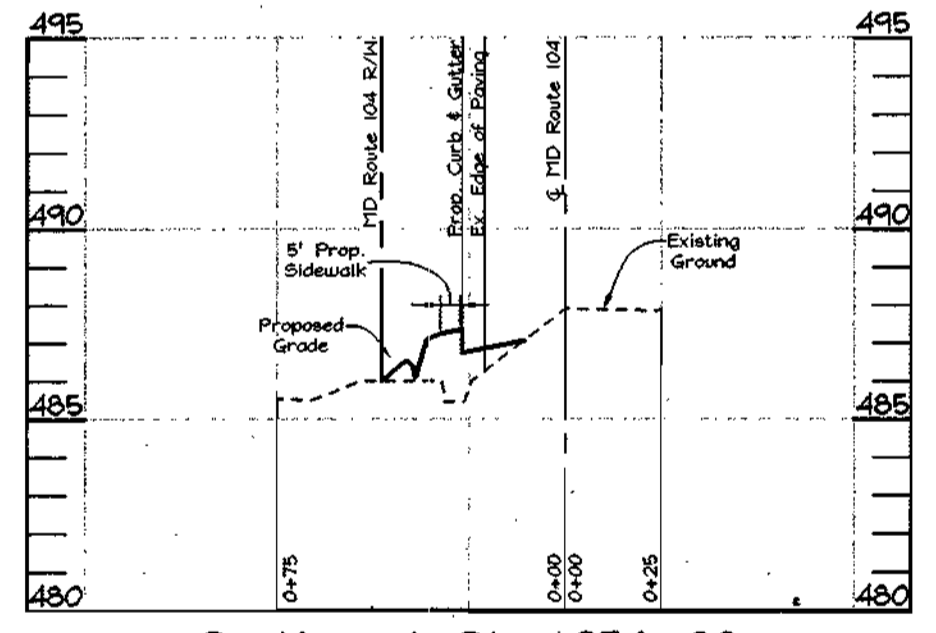
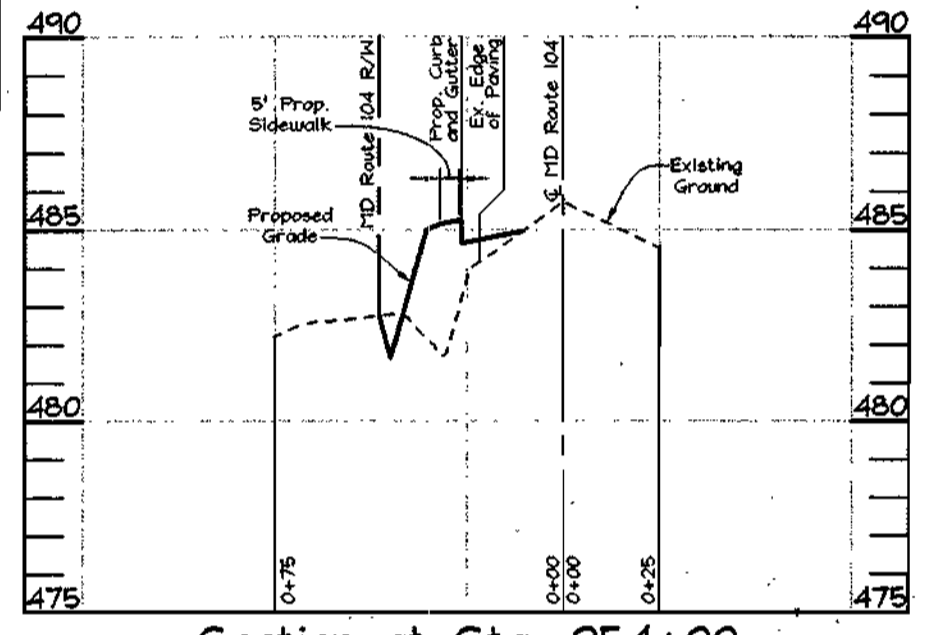
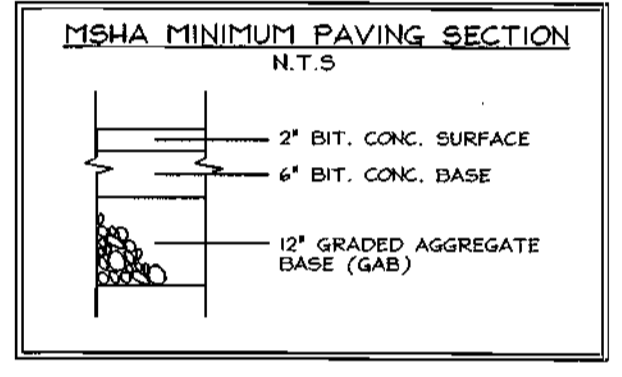
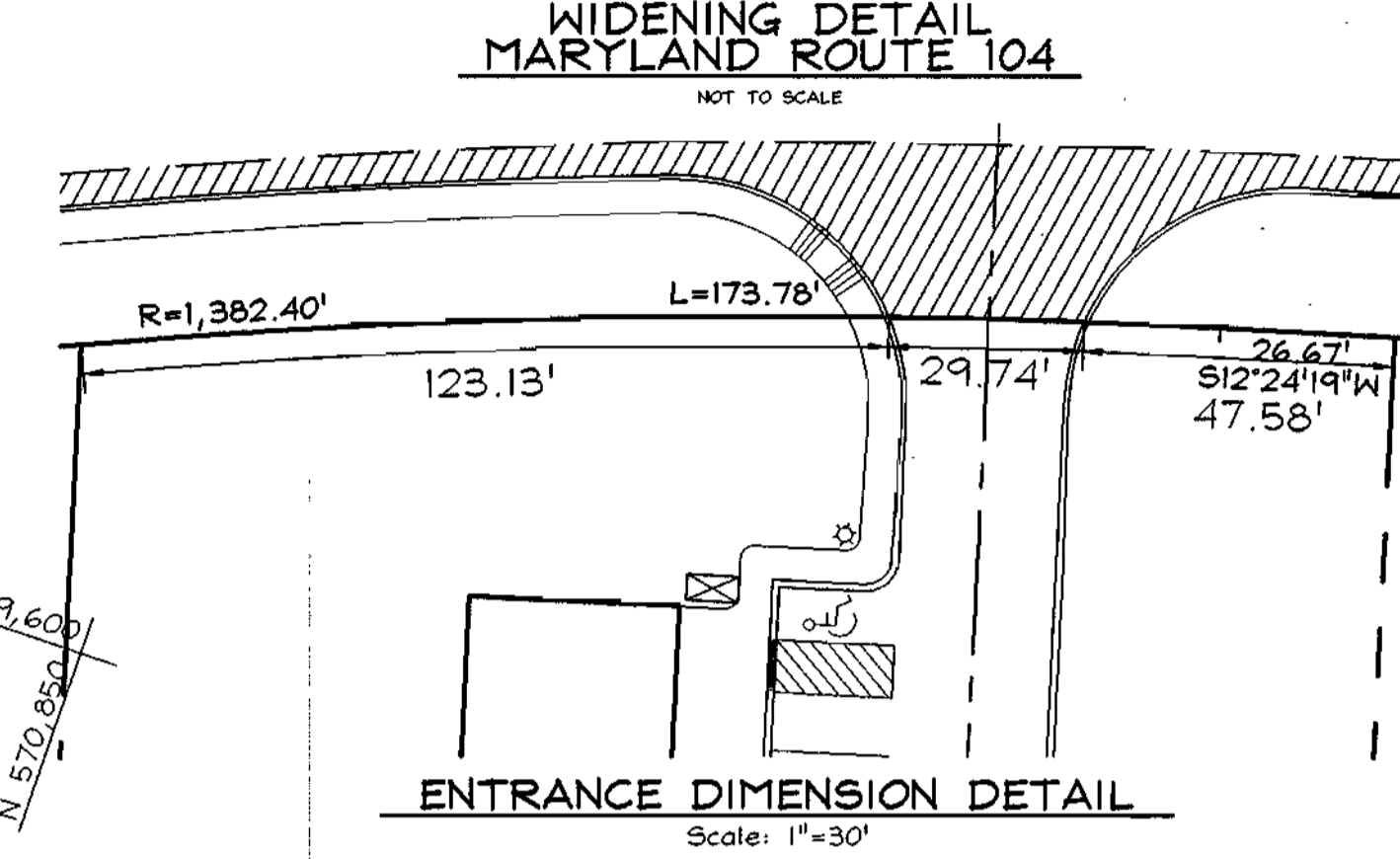
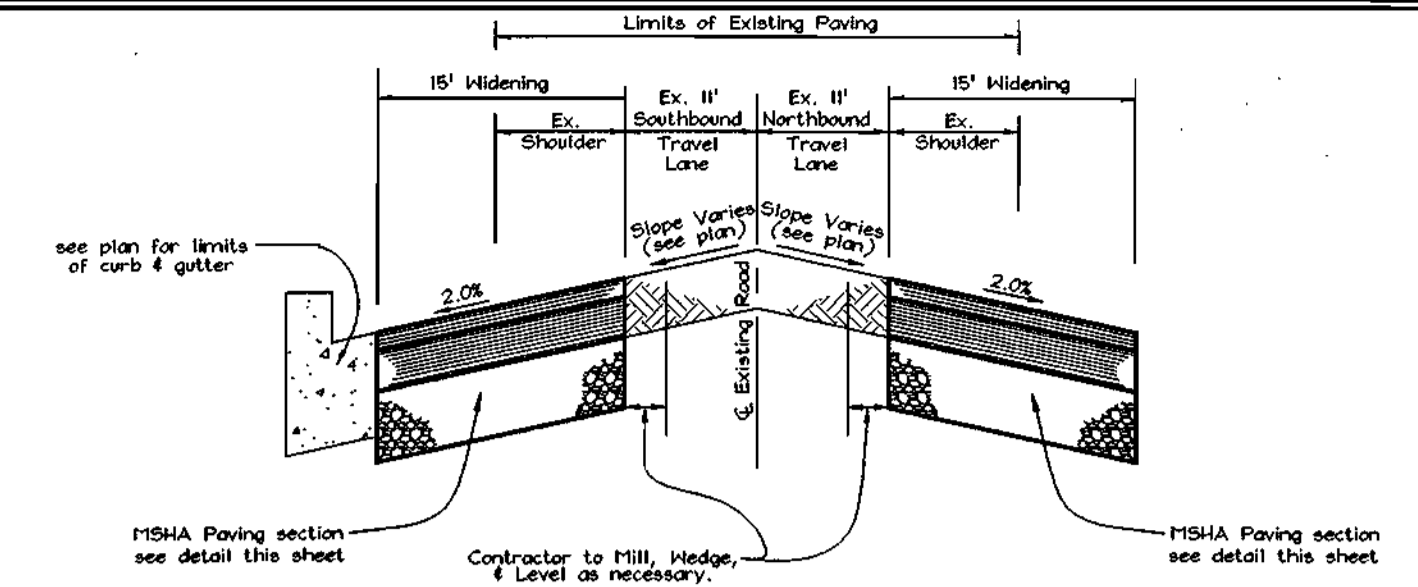
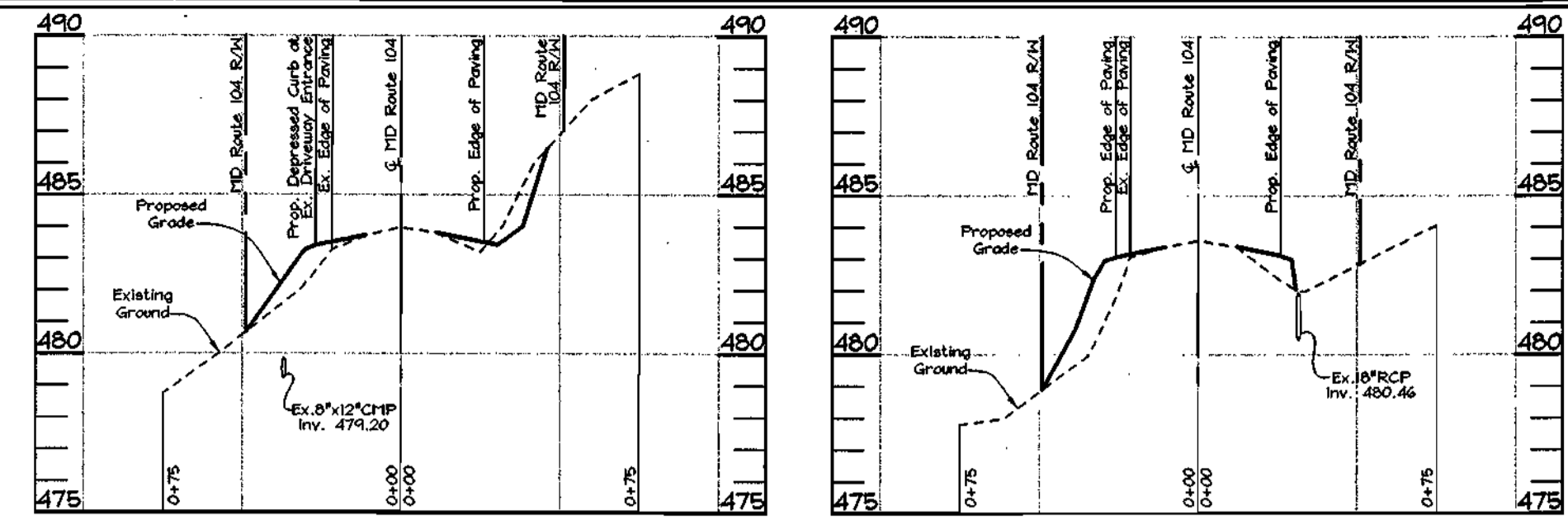
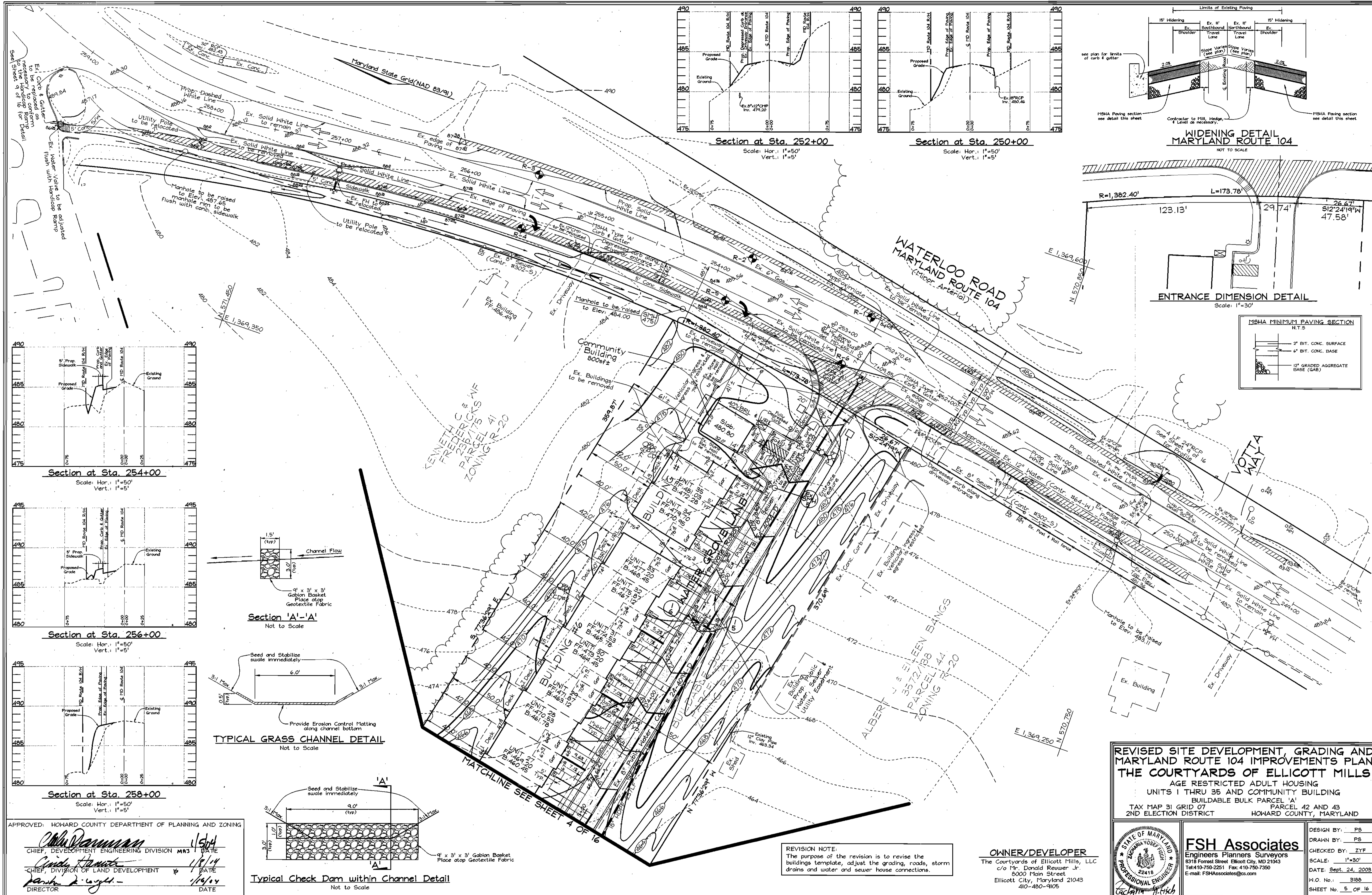
OWNER/DEVELOPER
 The Courtyards of Ellicott Mills, LLC
 c/o Mr. Donald Reuser Jr.
 8000 Main Street
 Ellicott City, Maryland 21043
 410-480-9105



FSH Associates
 Engineers Planners Surveyors
 8316 Forrest Street Ellicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-751-7350
 E-mail: FSHAssociates@cs.com

DESIGN BY: PS
 DRAWN BY: PS
 CHECKED BY: ZYF
 SCALE: 1"=30'
 DATE: Sept. 24, 2003
 W.O. No.: 3188
 SHEET No. 4 OF 16

REVISED SITE DEVELOPMENT AND GRADING PLAN
THE COURTYARDS OF ELlicOTT MILLS
 AGE RESTRICTED ADULT HOUSING
 UNITS 1 THRU 35 AND COMMUNITY BUILDING
 BUILDABLE BULK PARCEL 'A'
 TAX MAP 31 GRID 07 PARCEL 42 AND 43
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Rasmussen 1/5/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MRS DATE

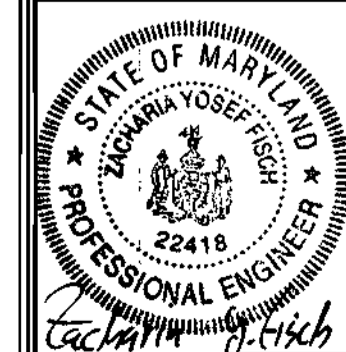
Cindy Hammett 1/8/04
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Barbara D. Loyd 1/8/04
 DIRECTOR DATE

REVISION NOTE:
 The purpose of the revision is to revise the buildings template, adjust the grading, roads, storm drains and water and sewer house connections.

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 c/o Mr. Donald Reuser, Jr.
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REVISED SITE DEVELOPMENT, GRADING AND MARYLAND ROUTE 104 IMPROVEMENTS PLAN
THE COURTYARDS OF ELlicOTT MILLS
 AGE RESTRICTED ADULT HOUSING
 UNITS 1 THRU 35 AND COMMUNITY BUILDING
 BUILDABLE BULK PARCEL 'A'
 TAX MAP 31 GRID 07 PARCEL 42 AND 43
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

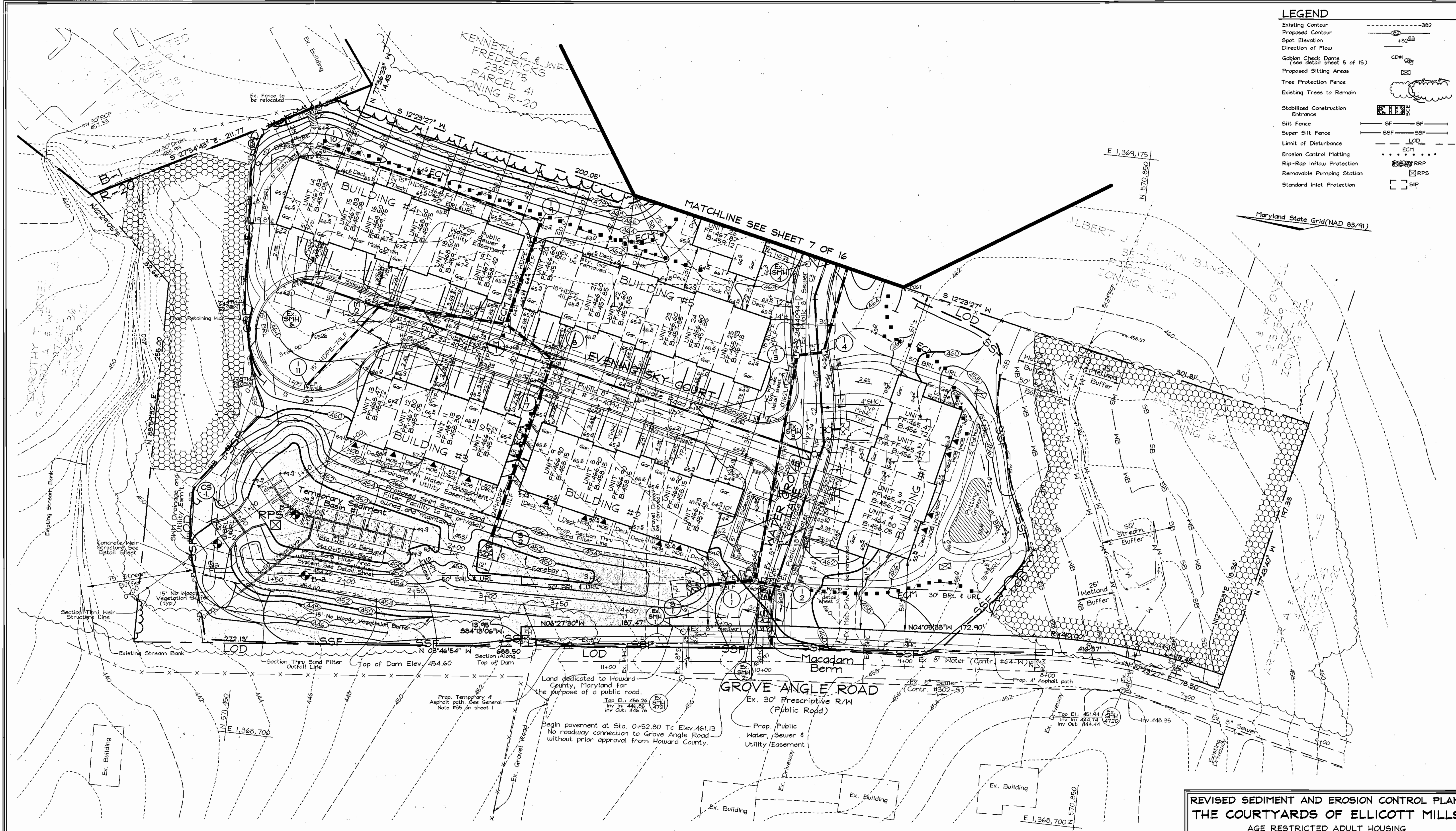


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 P.L.O. No.: 3188
 SHEET No. 5 OF 16

LEGEND

Existing Contour	-----	-382
Proposed Contour	-----	+85.5
Spot Elevation	▲	
Direction of Flow	→	
Gabion Check Dam (see detail sheet 5 of 15)	▣	
Proposed Sitting Area	▣	
Tree Protection Fence	▣	
Existing Trees to Remain	▣	
Stabilized Construction Entrance	▣	
Silt Fence	— SF — SF	
Super Silt Fence	— SSF — SSF	
Limit of Disturbance	— LOD —	
Erosion Control Matting	•••••	ECM
Rip-Rap Inflow Protection	▣	RRP
Removable Pumping Station	▣	RPS
Standard Inlet Protection	▣	SIP



REVISION NOTE:
The purpose of the revision is to revise the buildings template, adjust the grading, roads, storm drains and water and sewer house connections.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Richard Hamilton 1/6/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION MJD DATE

David Hamilton 1/6/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Paul D. Gough 1/6/04
DIRECTOR DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Meyer 12-30-03
USDA NATURAL RESOURCES CONSERVATION SERVICE DATE

John K. Robertson 12-30-03
HOWARD SCD DATE

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."

Zacharia Y. Fisch 12/17/03
SIGNATURE OF ENGINEER DATE
ZACHARIA Y. FISCH

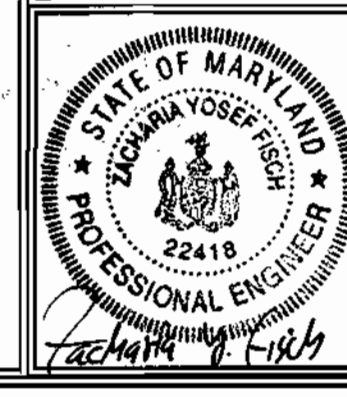
DEVELOPER'S CERTIFICATE

"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] 12/18/03
SIGNATURE OF DEVELOPER DATE

OWNER/DEVELOPER
The Courtyards of Ellcott Mills, LLC
c/o Mr. Donald Reuser Jr.
8000 Main Street
Ellicott City, Maryland 21043
410-480-9105

**REVISED SEDIMENT AND EROSION CONTROL PLAN
THE COURTYARDS OF ELLCOTT MILLS**
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
BUILDABLE BULK PARCEL 'A'
TAX MAP 31 GRID 07 PARCEL 42 AND 43
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



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W.O. No.: 3188
SHEET No. 6 OF 16

ROUTE 104 WIDENING CORE BORING DATA

Boring Number	Hot Mix Asphalt Thickness (in.)	Crushed Stone Base Thickness (in.)	Soil Subgrade SPT Value	Soil Subgrade Description
R-1	6	3	29	Reddish brown moist CLAY & SILT, and of sand, some gravel
R-2	12	6	29	Dark gray-brown moist Clayey SILT, and of sand, trace gravel
R-3	8	6	28	Brown, red-brown and gray moist SILT & CLAY, and sand, little gravel
R-4	24	-	33	Brown-gray moist of SAND, some clayey silt, some gravel/rock fragments
R-5	18	-	29	Gray-brown moist of SAND, some clayey silt, some gravel/rock fragments
R-6	6	4	26	Gray-brown moist of SAND, some silt & clay, little gravel



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: *[Signature]* DATE: 12/19/03

ENGINEER'S 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: *Zacharia Y. Fisch* DATE: 12/17/03

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Signature: *Jim Morris* DATE: 12-30-03

USDA NATURAL RESOURCES CONSERVATION SERVICE

Signature: *John R. Robertson* DATE: 12-30-03

HOWARD SCD

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature: *[Signature]* DATE: 1/5/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION M&Z

Signature: *[Signature]* DATE: 1/14

CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: *[Signature]* DATE: 1/14/04

DIRECTOR

REVISION NOTE:
The purpose of the revision is to revise the building's template, adjust the grading, roads, storm drains and water and sewer house connections.

REVISED SEDIMENT AND EROSION CONTROL PLAN
THE COURTYARDS OF ELICOTT MILLS
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
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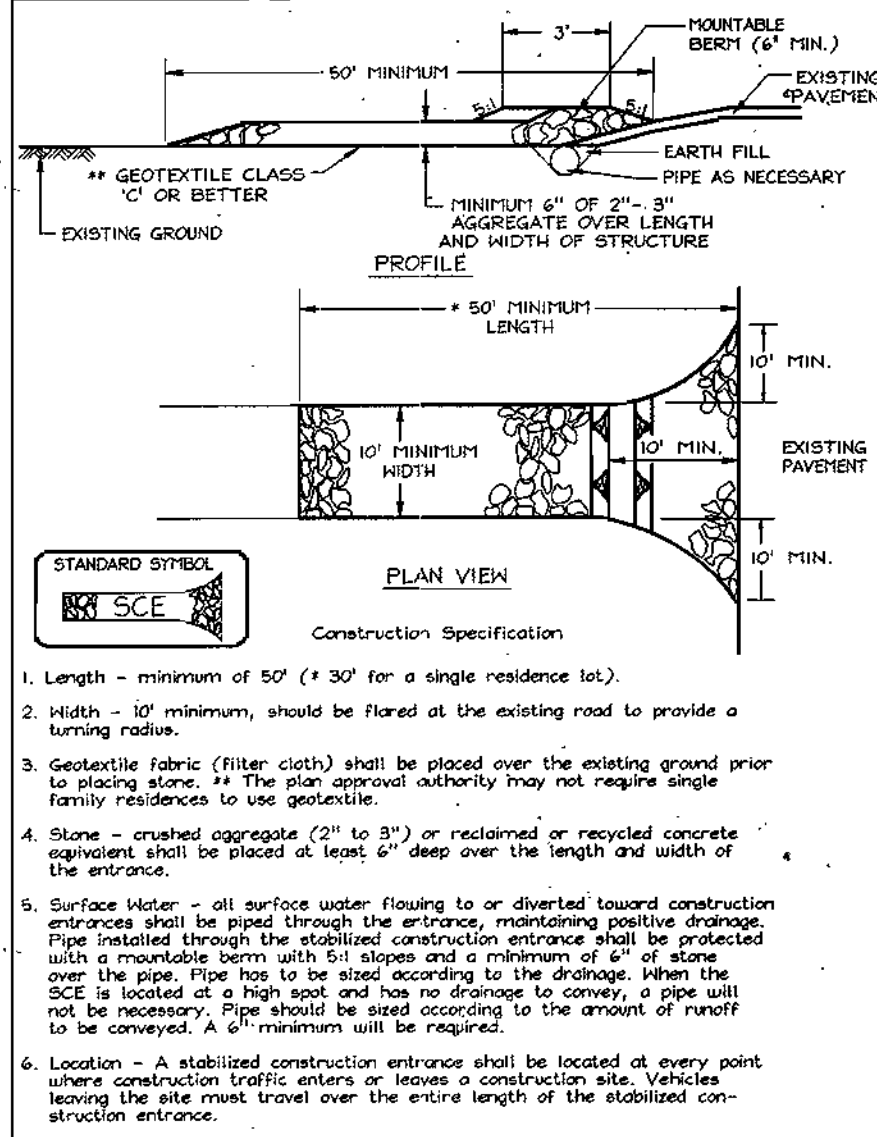
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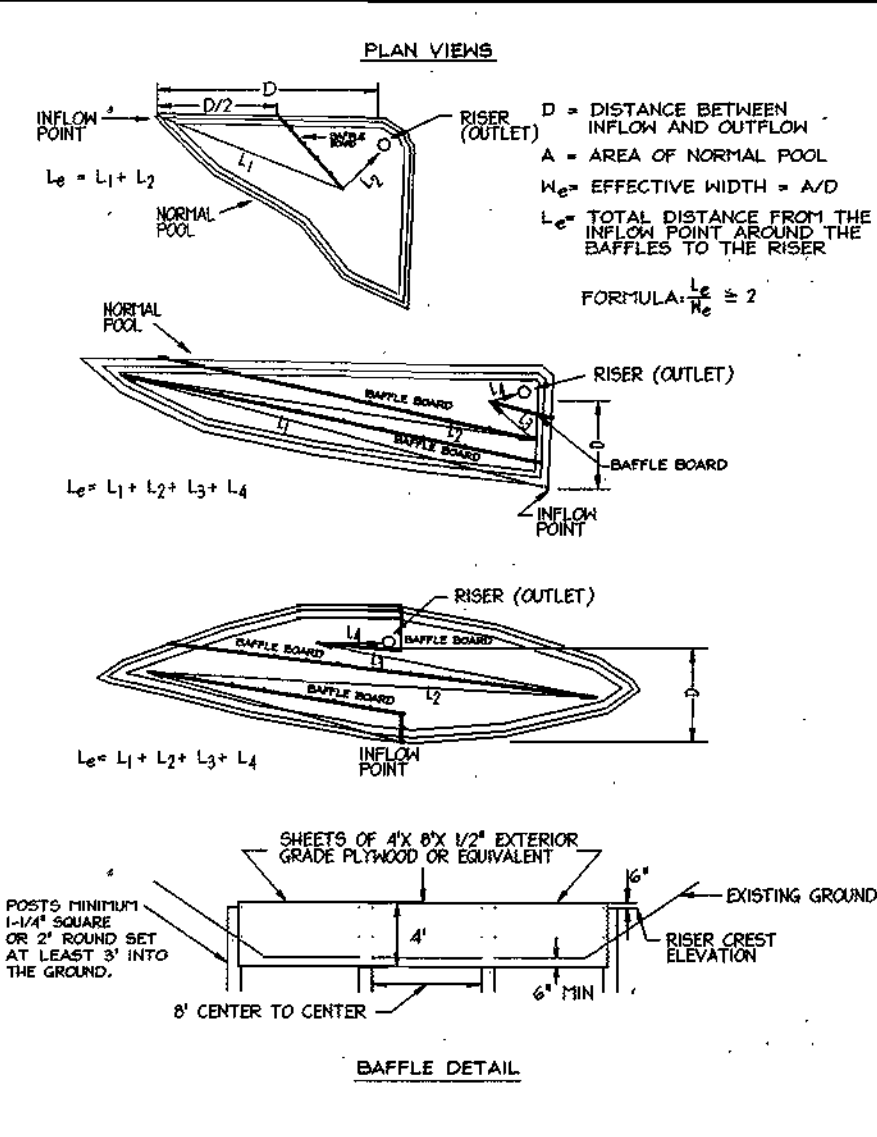
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H.O. No.: 3188
SHEET No. 7 OF 16

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



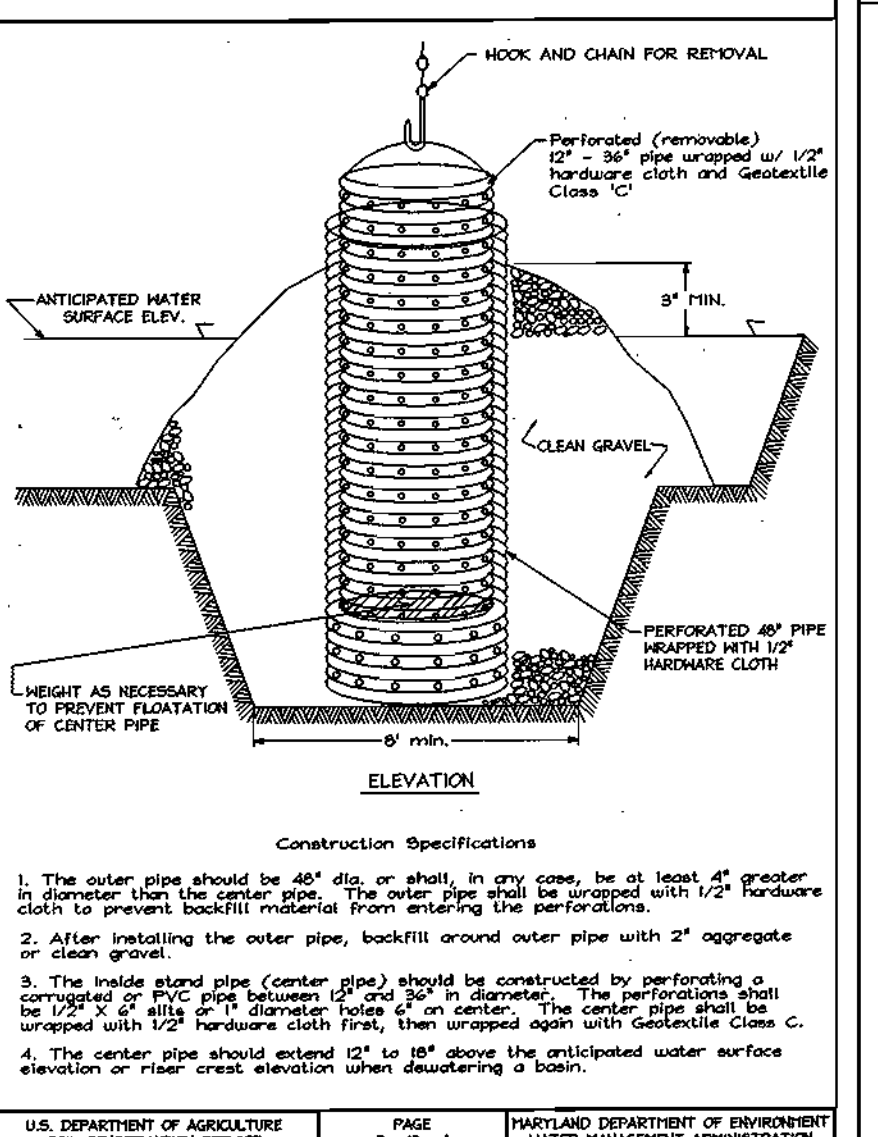
Construction Specifications
1. Length - minimum of 50' (30' for a single residence lot)...

DETAIL 18 - SEDIMENT BASIN Baffles



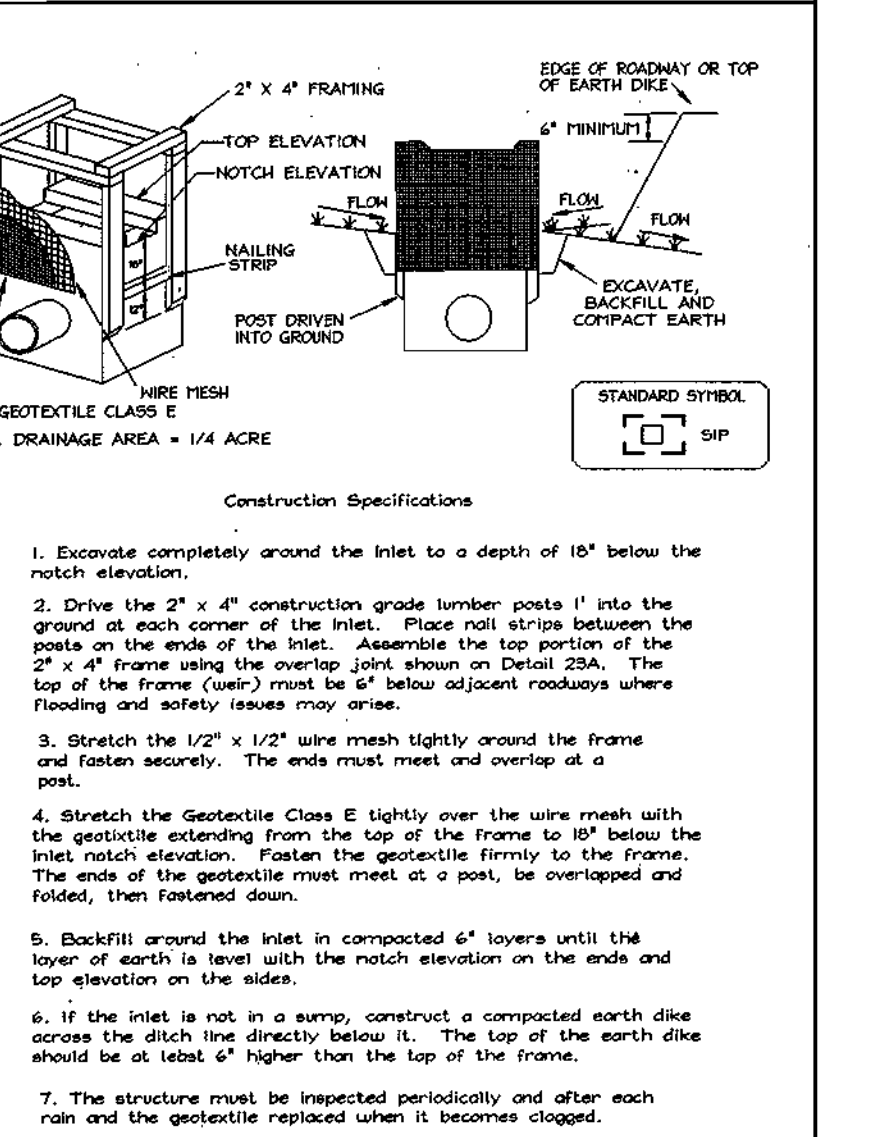
Construction Specifications
1. The outer pipe should be 40' dia. or shall, in any case, be at least 4' greater...

DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications
1. The outer pipe should be 40' dia. or shall, in any case, be at least 4' greater...

DETAIL 23A - STANDARD INLET PROTECTION



Construction Specifications
1. Excavate completely around the inlet to a depth of 15' below the notch elevation...

2.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition
Purpose
Conditions Where Practice Applies
II. For the purpose of these Standards and Specifications...

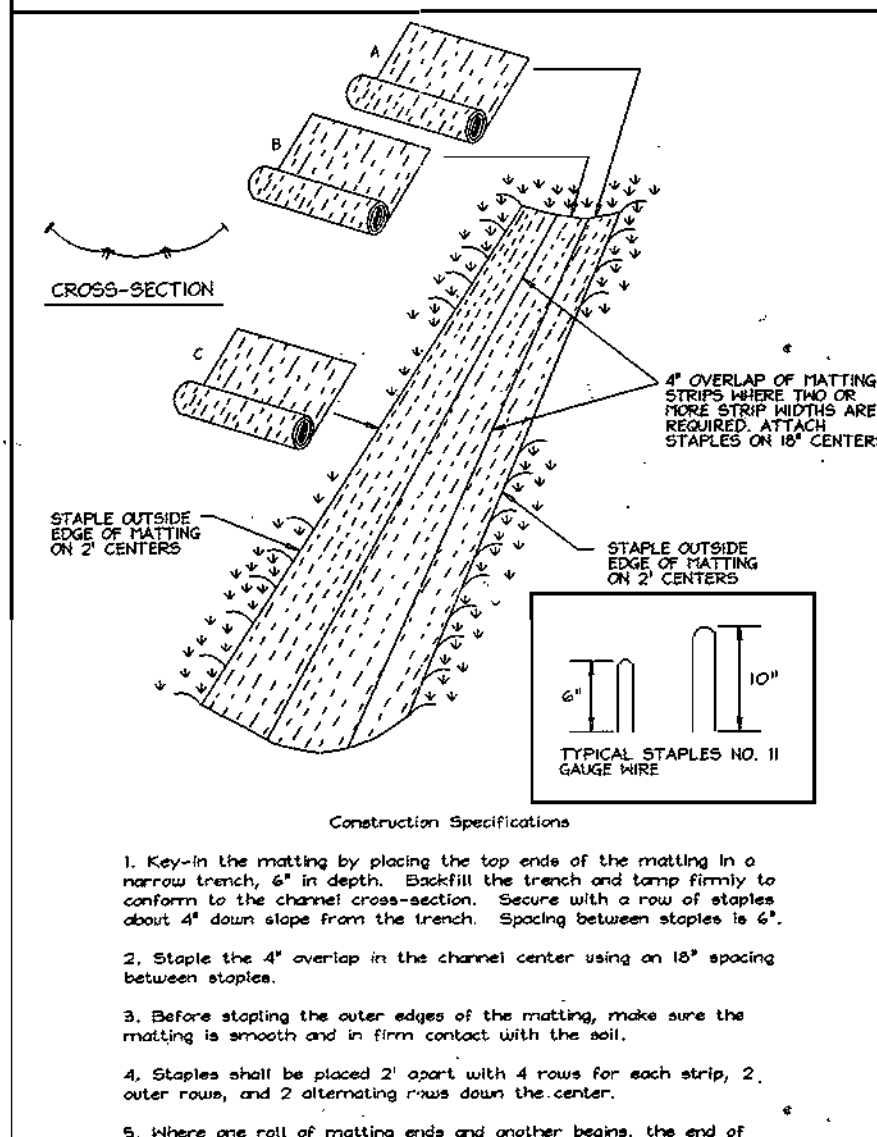
PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FLOODING... SOIL AMENDMENTS...

SEDIMENT CONTROL NOTES

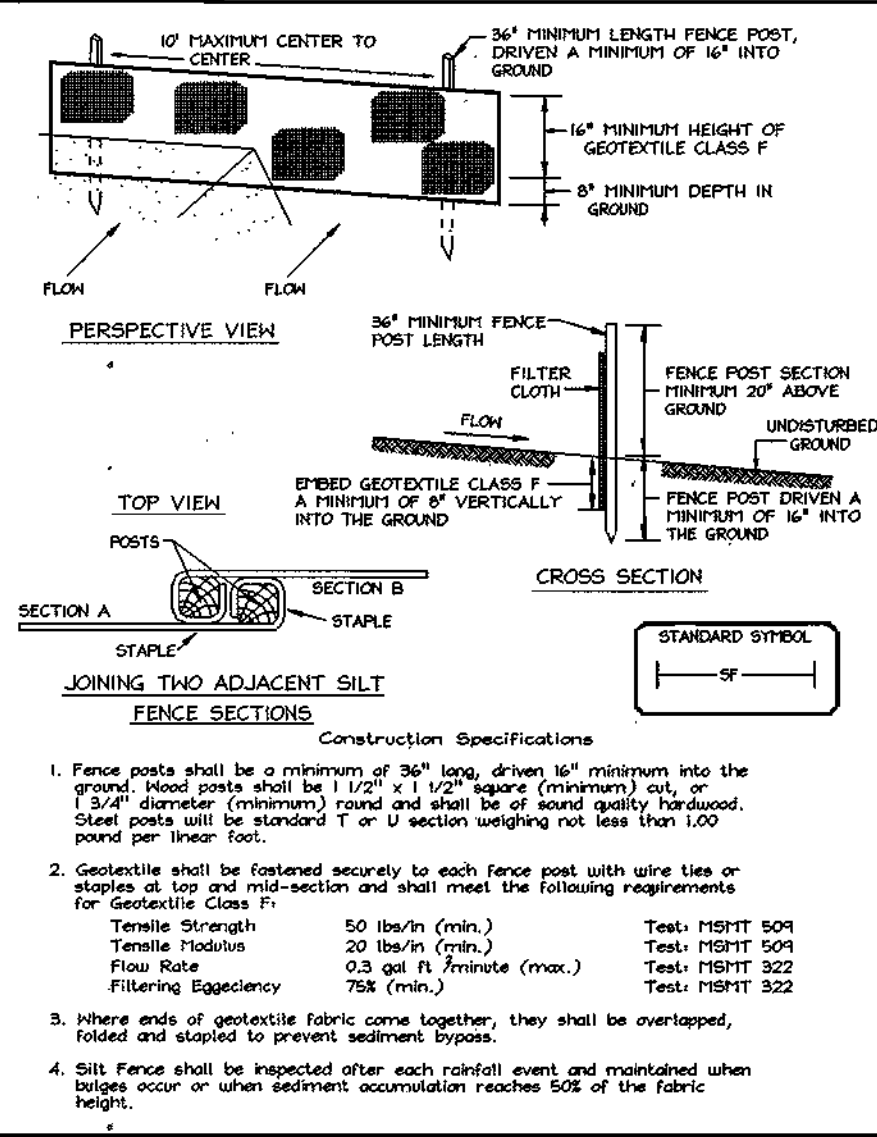
1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits...

DETAIL 30 - EROSION CONTROL MATTING



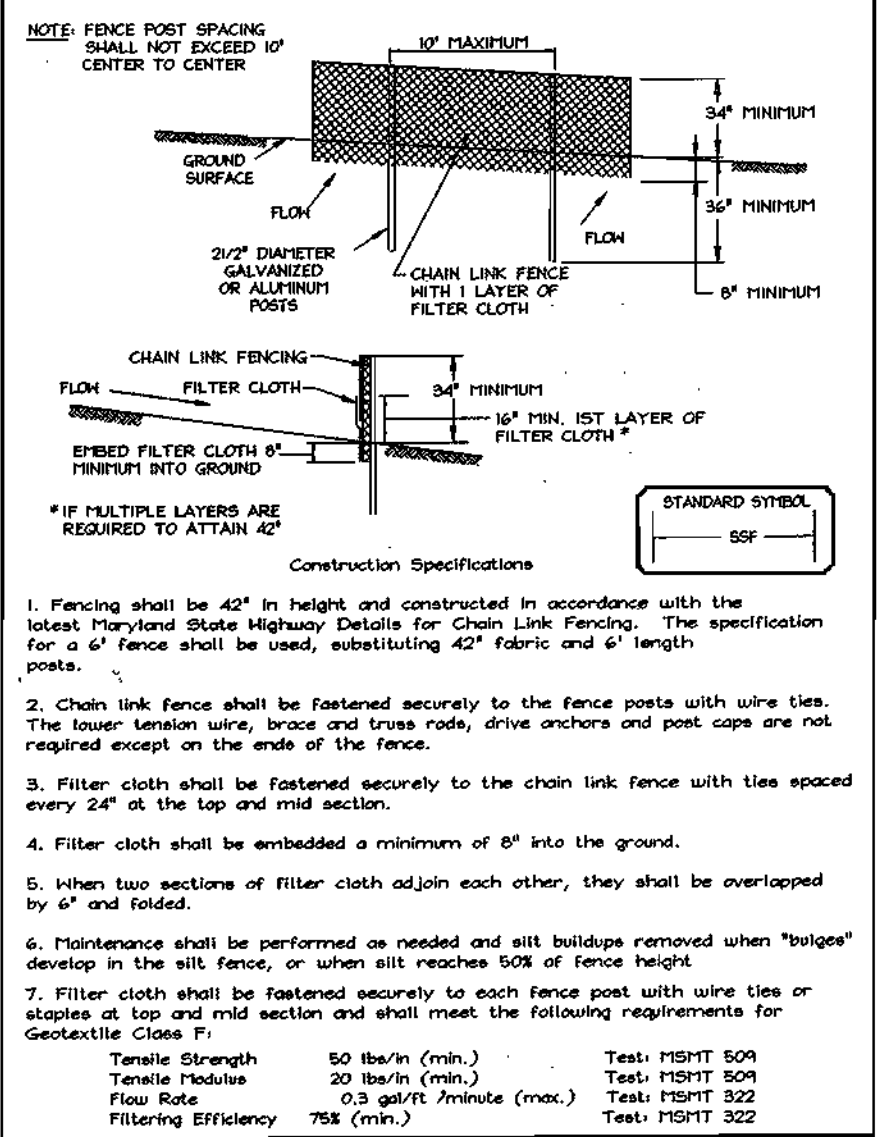
Construction Specifications
1. Key-in the matting by placing the top edge of the matting in a narrow trench...

DETAIL 22 - SILT FENCE



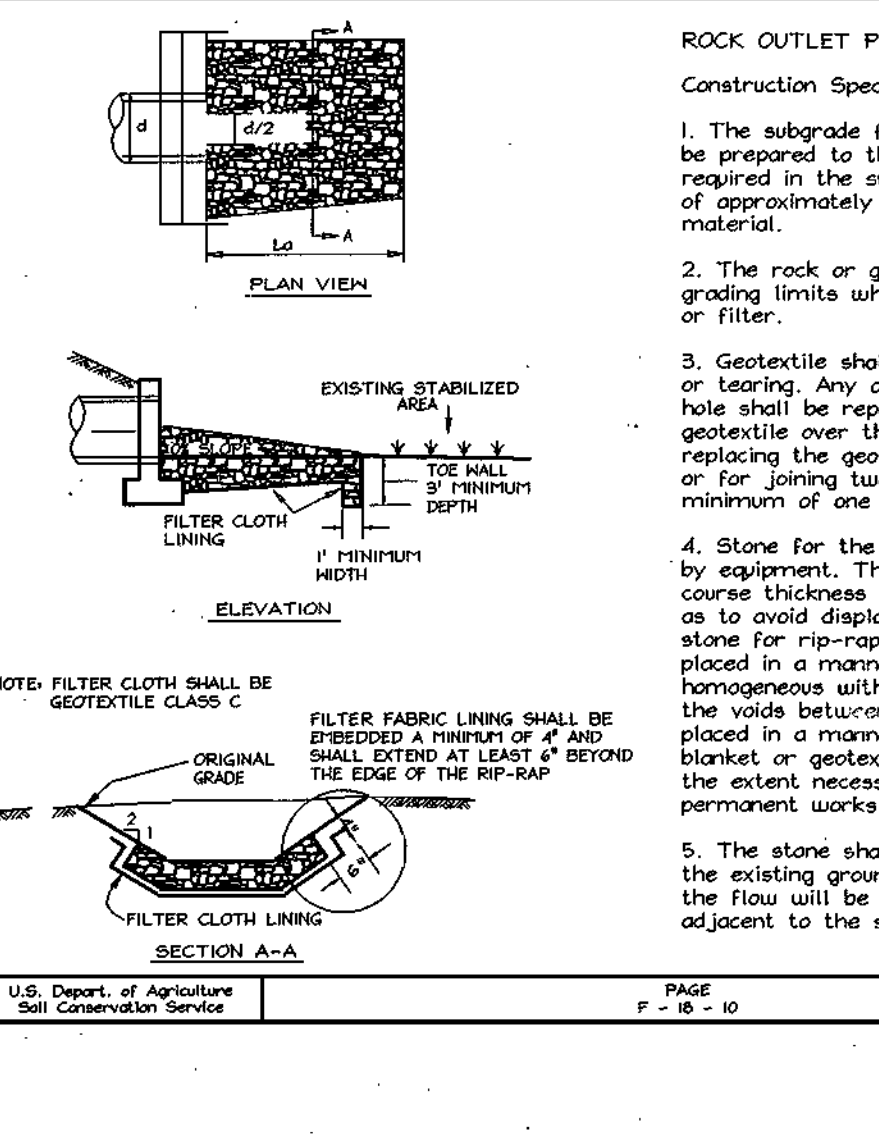
Construction Specifications
1. Fence posts shall be 40' in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing...

DETAIL 33 - SUPER SILT FENCE



Construction Specifications
1. Fencing shall be 40' in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing...

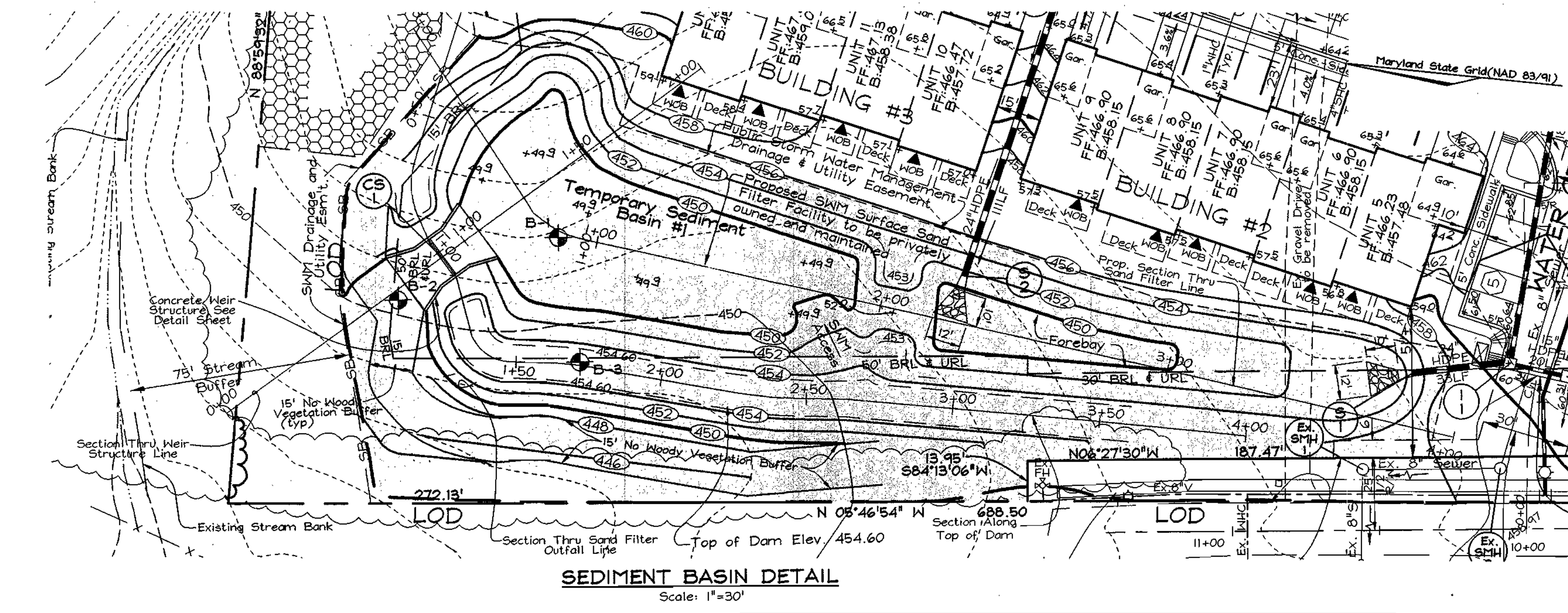
DETAIL 27 - ROCK OUTLET PROTECTION III



Construction Specifications
1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades...

SEQUENCE OF CONSTRUCTION

- 1. Obtain Grading permit.
2. Notify Howard County Department of Inspections, License and Permits at (410) 313-1800 at least 24 hours before starting any work...
14. Upon stabilization of all disturbed areas and with the permission of the sediment control inspector...



REVISION NOTE:
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REVISED SEDIMENT AND EROSION CONTROL DETAILS
THE COURTYARDS OF ELLICOTT MILLS
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING

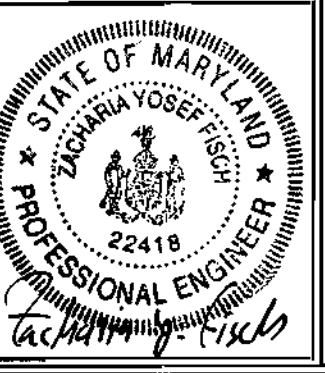
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division
Date: 1/16/03

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
USDA/NATURAL RESOURCES CONSERVATION SERVICE
Date: 12-30-03

ENGINEERS CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND FEASIBLE PLAN...
Signature: Zacharia Y. Fisch
Date: 12-30-03

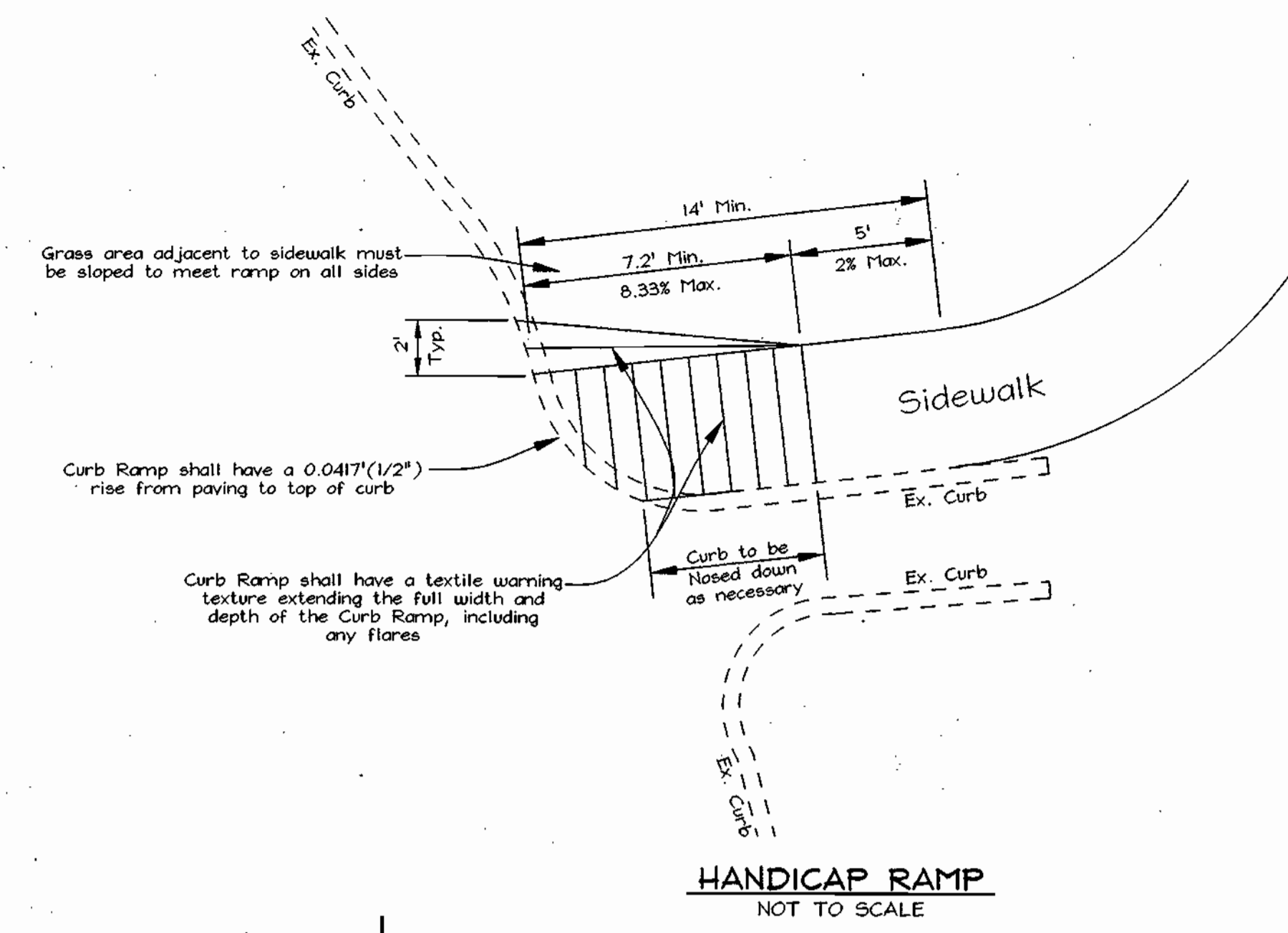
DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL...
Signature: [Blank]
Date: 12/18/03

OWNER/DEVELOPER
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Ellicott City, Maryland 21043
748-4105

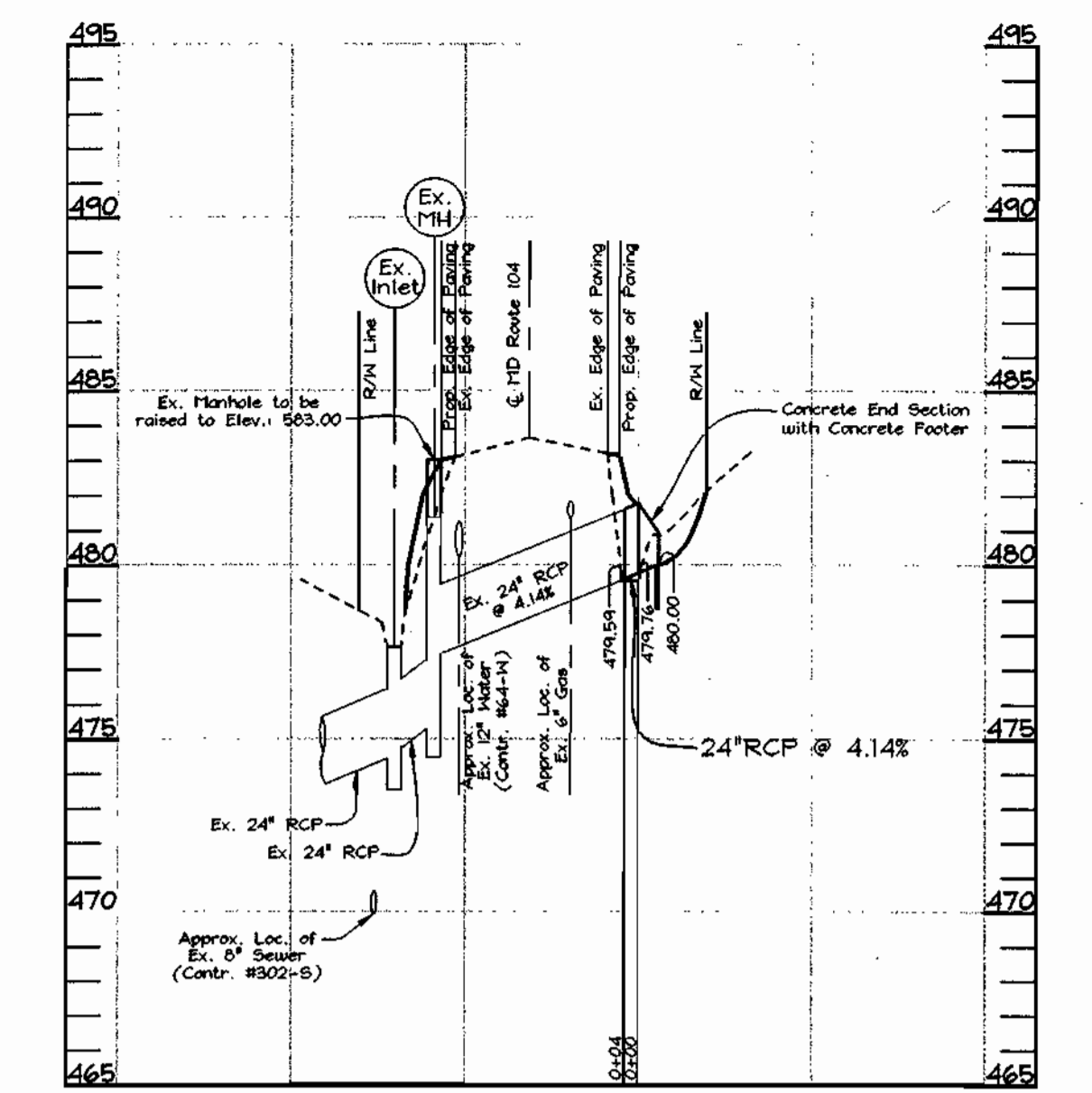


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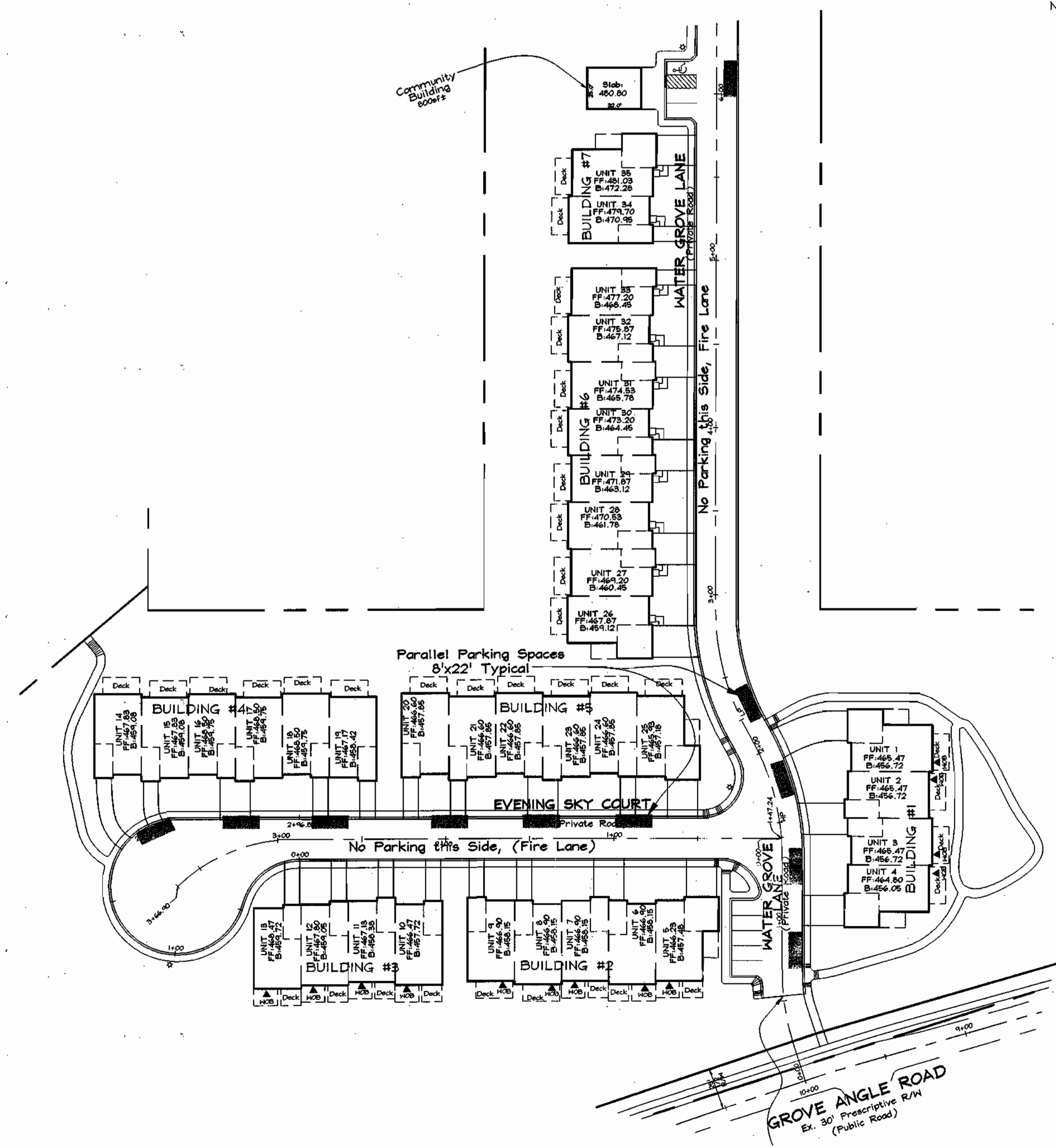
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SCALE: As Shown
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SHEET No. 8 of 16



HANDICAP RAMP
NOT TO SCALE



SECTION AT STA. 250+36.57
Scale: Horizontal: 1"=50'
Vertical: 1"=5'



PARALLEL PARKING PLAN
Scale: 1"=50'

SEWER HOUSE CONNECTION CHART				
Unit #	Inv. @ Main	Inv. @ Easement	Inv. 5' from house	Min. Cellar El.
1	450.73	451.31	451.85	455.45
2	450.34	450.95	451.26	454.86
3	450.25	450.75	451.07	454.67
4	449.73	450.23	450.49	454.09
5	450.65	450.95	451.19	454.79
6	450.92	451.22	451.50	455.10
7	451.20	451.50	451.74	455.34
8	451.47	451.77	452.05	455.65
9	451.85	452.15	452.35	455.95
10	452.17	452.47	452.75	456.35
11	452.45	452.75	452.99	456.59
12	452.72	453.02	453.30	456.90
13	453.10	453.58	453.72	457.32
14	453.85	454.36	454.65	458.25
15	453.71	454.21	454.45	458.05
16	453.39	453.89	454.17	457.77
17	453.12	453.62	453.86	457.46
18	452.84	453.34	453.62	457.22
19	452.57	453.07	453.31	456.91
20	452.14	452.64	452.92	456.52
21	451.87	452.37	452.61	456.21
22	451.59	452.09	452.37	455.97
23	451.32	451.82	452.06	455.66
24	451.04	451.54	451.82	455.42
25	450.76	451.26	451.50	455.10
26	452.57	452.83	453.12	456.72
27	453.87	454.13	454.38	457.98
28	455.37	455.63	455.92	459.52
29	456.62	456.88	457.13	460.73
30	458.13	458.39	458.68	462.28
31	459.37	459.63	459.88	463.48
32	460.47	460.73	461.02	464.62
33	462.27	462.53	462.78	466.38
34	464.32	464.58	464.87	468.46
35	465.62	465.88	466.13	469.73
Com. Build.	472.00	472.26	472.68	476.28

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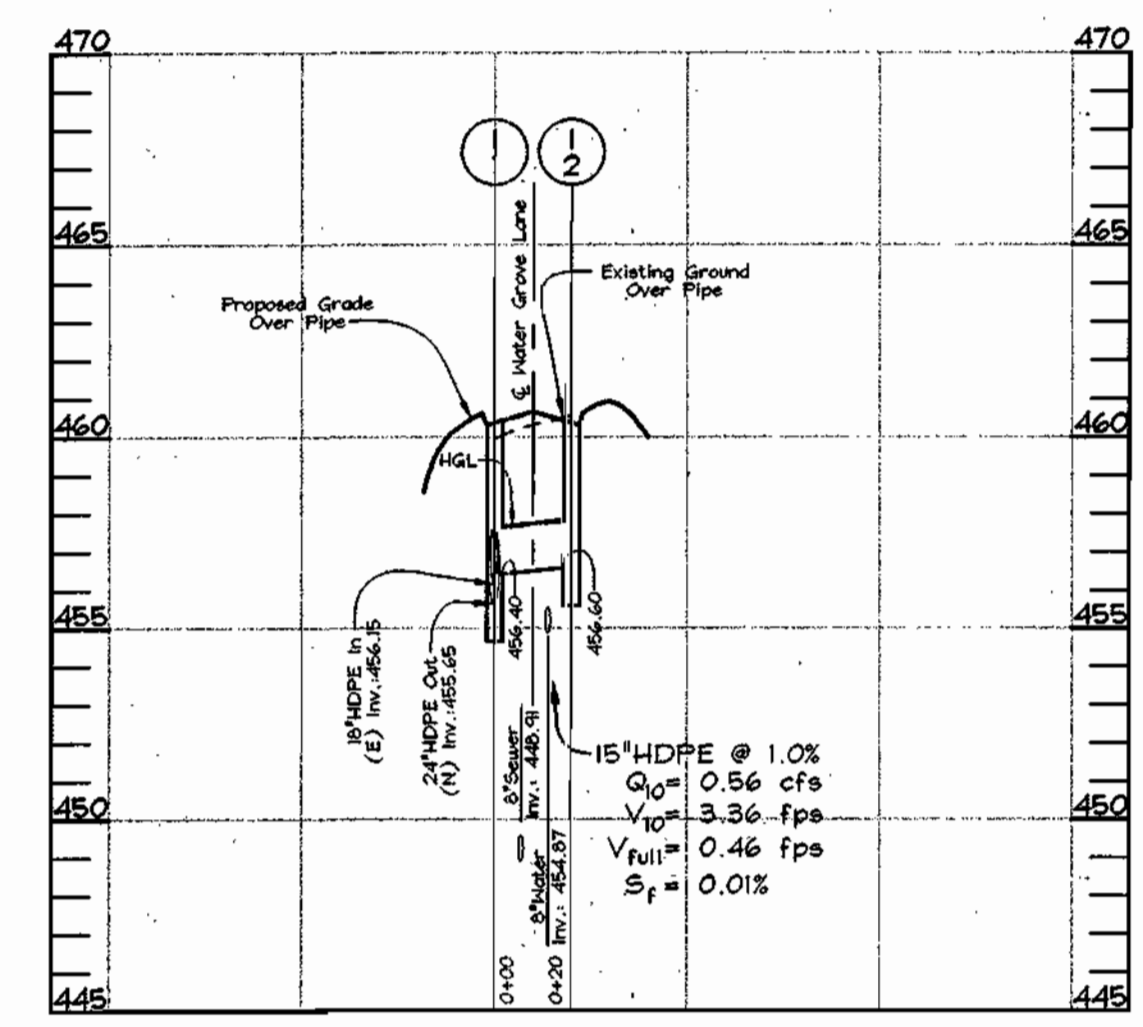
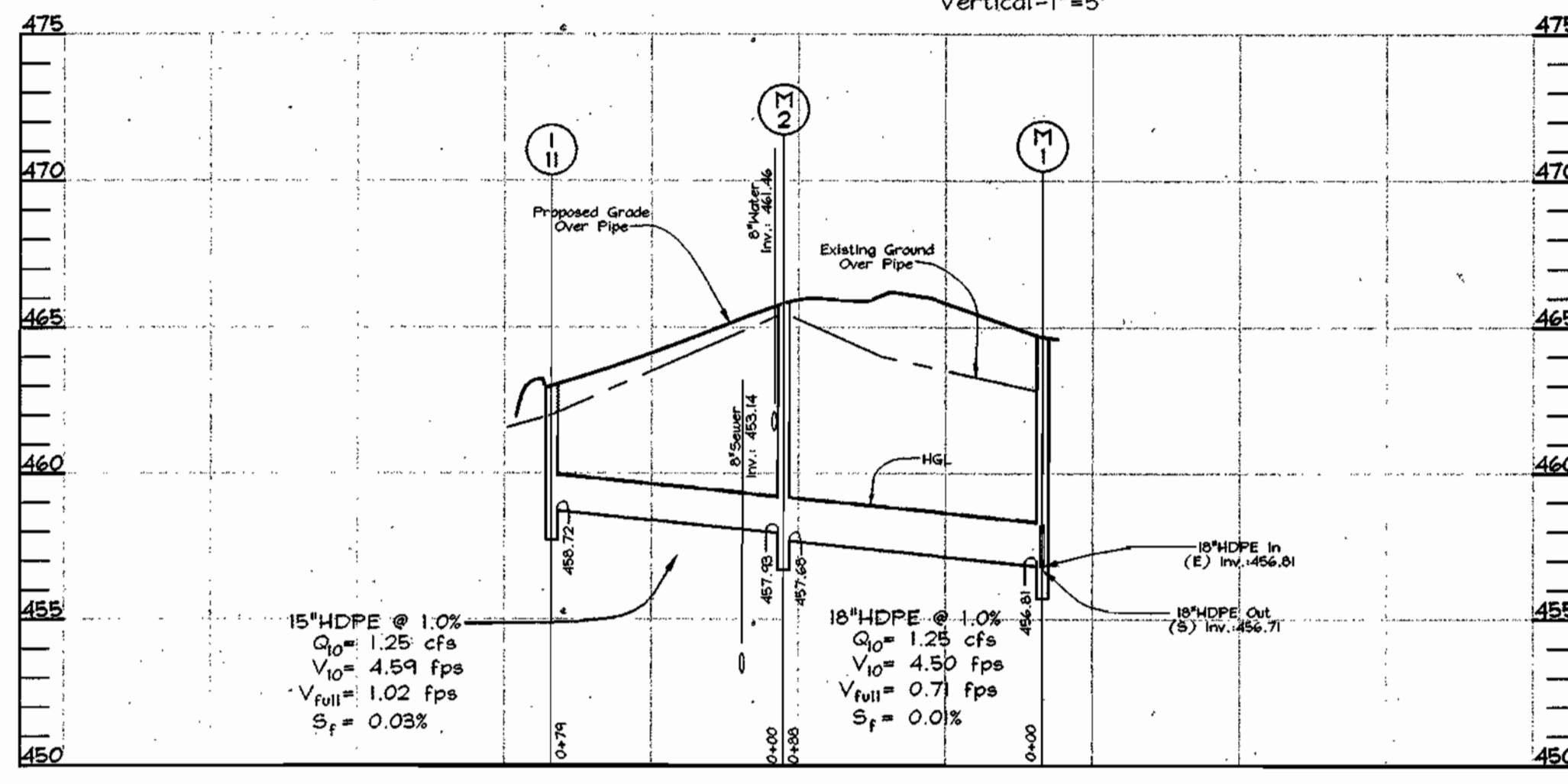
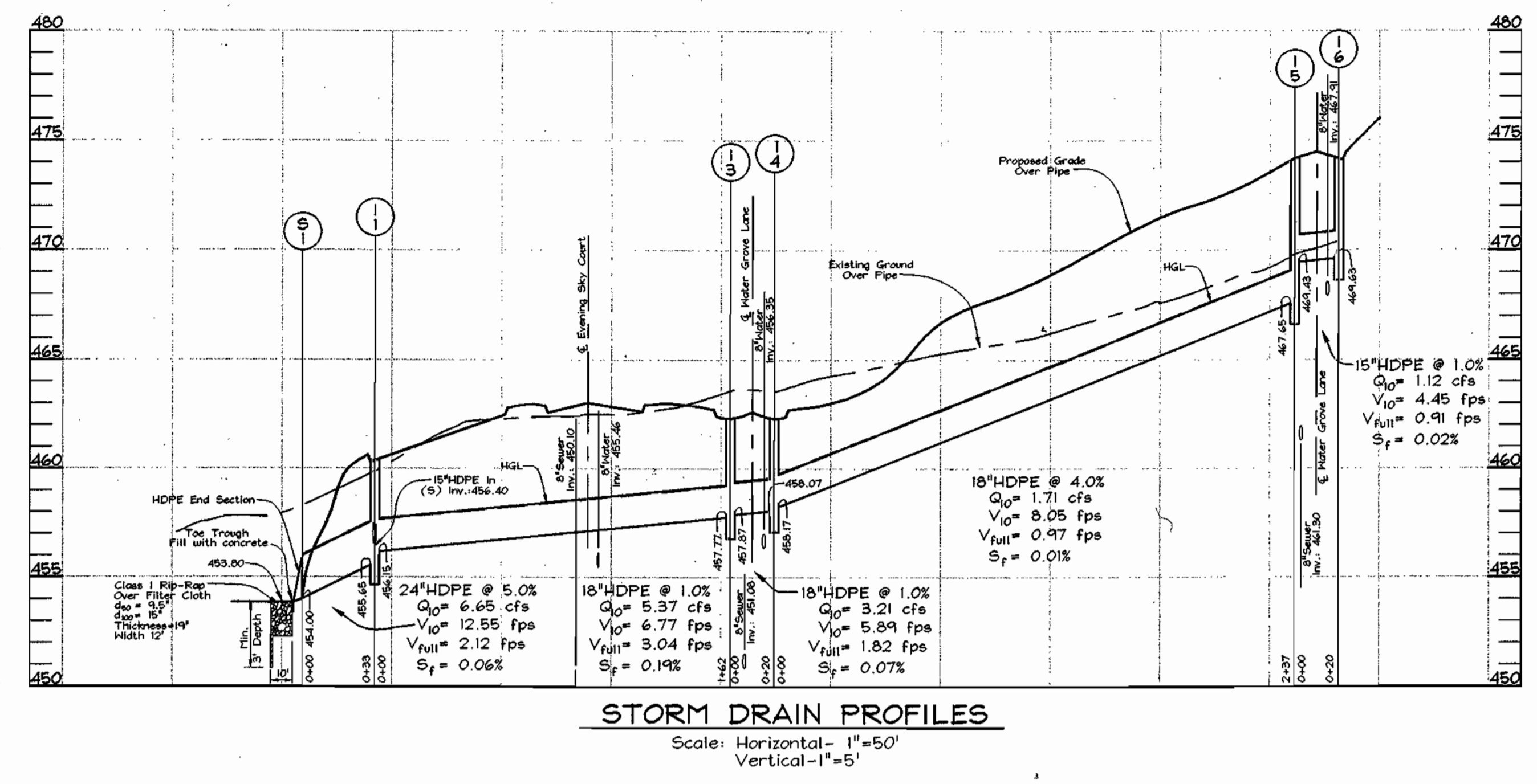
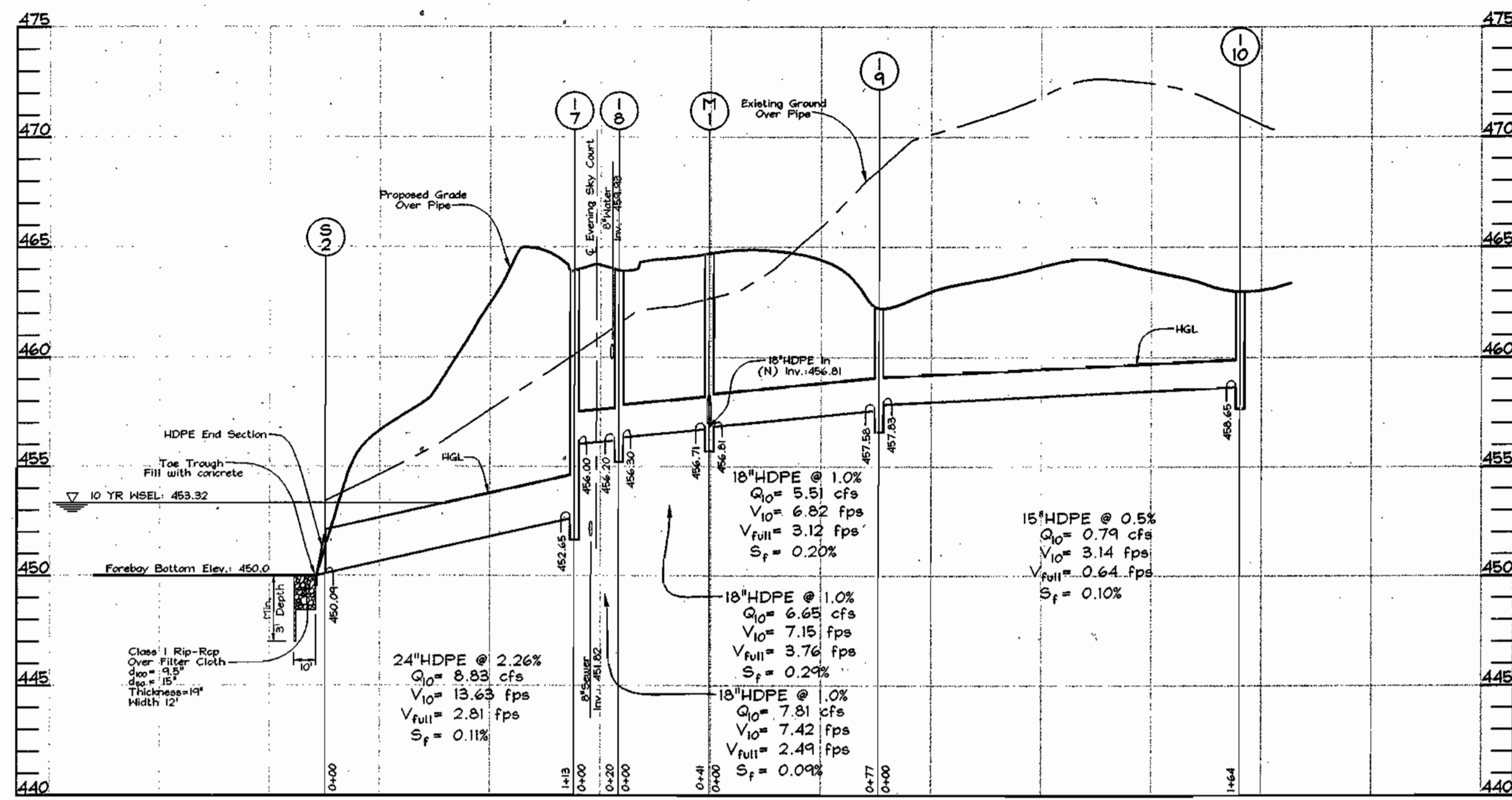
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Howard Hamilton 1/5/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MRS DATE
Richard Hamilton 1/8/04
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Marsha M. Loyel 1/26/04
 DIRECTOR DATE

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REVISED MISCELLANEOUS DETAILS
THE COURTYARDS OF ELlicOTT MILLS
 AGE RESTRICTED ADULT HOUSING
 UNITS 1 THRU 35 AND COMMUNITY BUILDING
 BUILDABLE BULK PARCEL 'A'
 TAX MAP 31 GRID 07 PARCEL 42 AND 43
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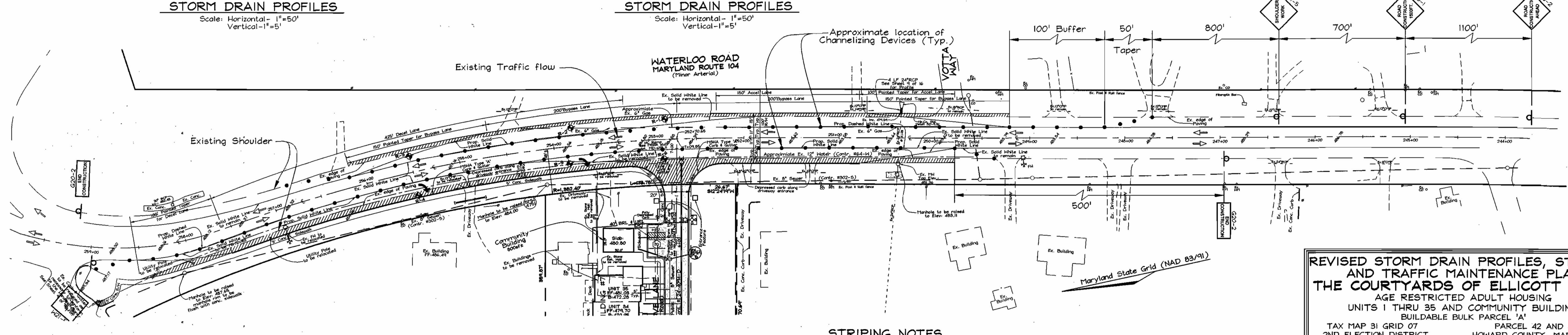
STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
I-1	Type 'S' Inlet	Sta. 0+54.8-10' left	460.31	456.40	455.65	SD 4.22
I-2	Type 'S' Inlet	Sta. 0+54.8-10' right	460.31	-	456.60	SD 4.22
I-3	Type 'S' Inlet	Sta. 223.05-10' left	462.30	457.87	457.77	SD 4.22
I-4	Type 'S' Inlet	Sta. 223.05-10' right	462.30	458.17	458.07	SD 4.22
I-5	Type 'S' Inlet	Sta. 4+72.78-10' left	474.18	469.43	467.65	SD 4.22
I-6	Type 'S' Inlet	Sta. 4+72.78-10' right	474.18	-	469.63	SD 4.22
I-7	Type 'S' Inlet	Sta. 1+94.39-10' left	463.88	456.10	452.75	SD 4.22
I-8	Type 'S' Inlet	Sta. 1+94.39-10' right	463.88	456.40	456.30	SD 4.22
I-9	Type 'S' Inlet	N 571,270.4 E 1,369,084.0	462.20	457.83	457.58	SD 4.22
I-10	Type 'S' Inlet	N 571,431.0 E 1,369,119.3	463.00	-	458.65	SD 4.22
I-11	Type 'S' Inlet	N 571,420.5 E 1,368,948.6	463.16	-	458.72	SD 4.22
M-1	Standard Precast Manhole (4')	Sta. 2+33.85-22.33' right	464.50	456.81	456.71	G 5.12
M-2	Standard Precast Manhole (4')	Sta. 3+18.04-12.33' right	466.00	457.93	457.68	G 5.12
S-1	24" HDPE End Section	N 571,124.6 E 1,368,841.0	456.00	454.00	453.80	Hanger or equivalent
S-2	24" HDPE End Section	N 571,278.8 E 1,368,862.4	452.09	450.09	450.00	Hanger or equivalent

PIPE SCHEDULE

SIZE	TYPE	LENGTH
15"	HDPE	283 LF
18"	HDPE	643 LF
24"	HDPE	148 LF

NOTES: 1. Top elevations for Type 'S' Inlets along curb and gutters are to the center, edge of grate at the flow line. Top elevations for Type 'S' Inlets in grass areas are to the center top of grate.
2. Top elevations for Precast Manholes are to the center top of manhole cover.
3. Top slope of structures to conform to slope of paving

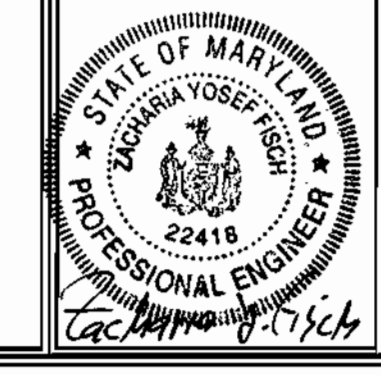


STRIPING NOTES

- All pavement stripes shall conform to US Department of Transportation, Federal Highway Administration MUTCD 2000 Edition Manual.
- All stripes shall be 5" in width and shall be placed using points or field inspector approved equivalent.
- All damages to existing markings shall be repaired by the contractor in field.

OWNER/DEVELOPER
The Courtyards of Ellicott Mills, LLC
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REVISED STORM DRAIN PROFILES, STRIPING AND TRAFFIC MAINTENANCE PLAN THE COURTYARDS OF ELLICOTT MILLS
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
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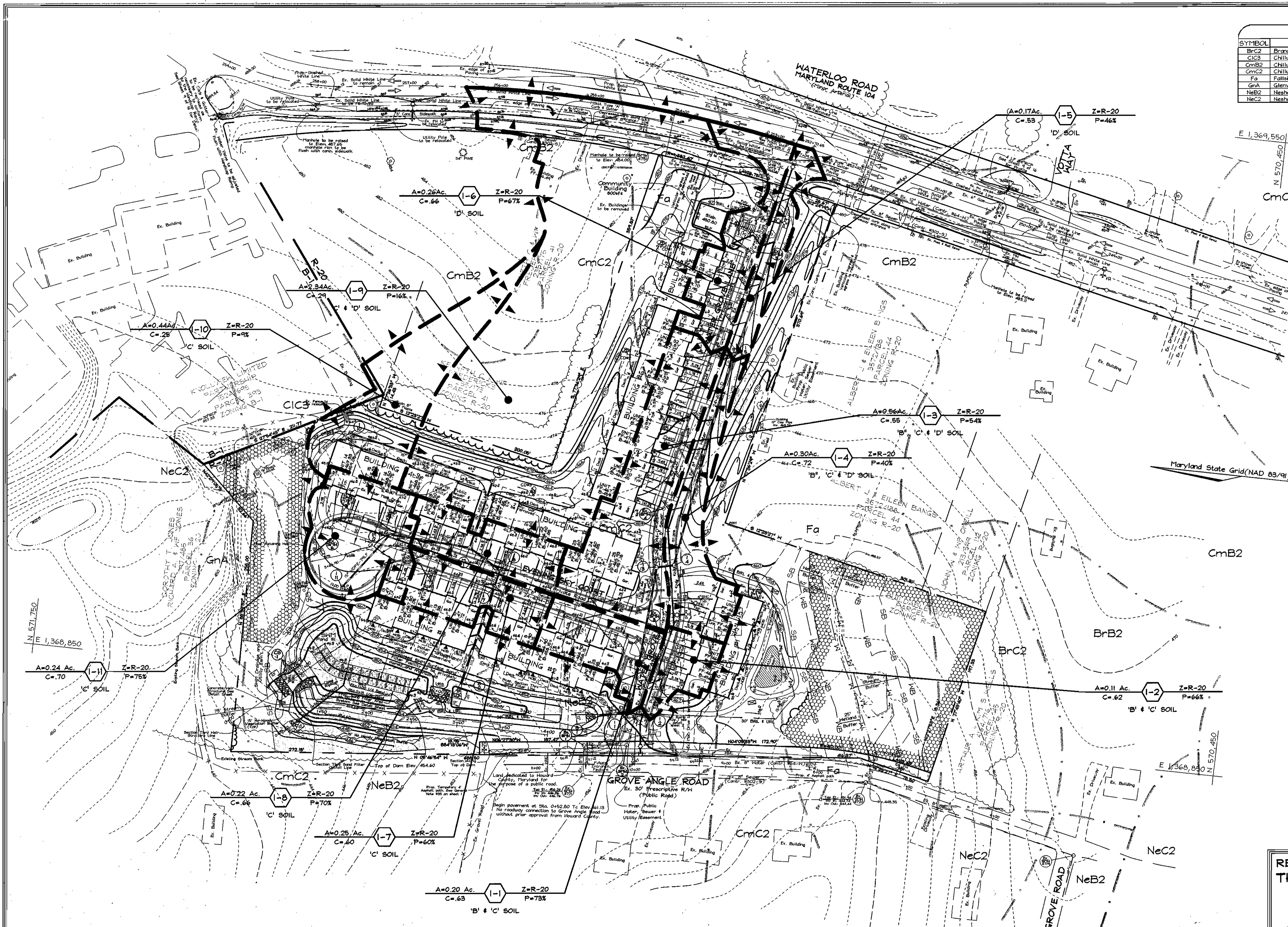
John D. ... 11/5/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION MNS DATE

Chris Hamstra 1/8/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark ... 1/16/09
DIRECTOR DATE

REVISION NOTE.
The purpose of the revision is to revise the buildings template, adjust the grading, roads, storm drains and water and sewer house connections.

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
BrC2	Brandywine loam, 8 to 15 percent slopes, moderately eroded	C
CIC3	Chillum gravelly loam, 5 to 10 percent slopes, severely eroded	C
CmB2	Chillum silt loam, 1 to 5 percent slopes, moderately eroded	C
CmC2	Chillum silt loam, 5 to 10 percent slopes, moderately eroded	C
Fa	Fallingston loam	D
GnA	Glenville silt loam, 0 to 3 percent slopes	C
NeB2	Neshominy silt loam, 3 to 8 percent slopes, moderately eroded	B
NeC2	Neshominy silt loam, 8 to 15 percent slopes, moderately eroded	B

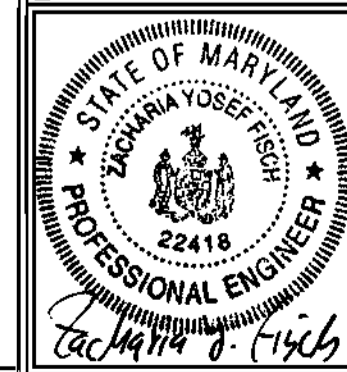


**REVISED STORM DRAIN DRAINAGE AREA MAP
THE COURTYARDS OF ELLICOTT MILLS**
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
BUILDABLE BULK PARCEL 'A'
TAX MAP 31 GRID 07 PARCEL 42 AND 43
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Howard County
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MMJ 1/5/04 DATE
Chris Hume
 CHIEF, DIVISION OF LAND DEVELOPMENT 1/5/04 DATE
David A. Coyle
 DIRECTOR 1/24/04 DATE

REVISION NOTE:
 The purpose of the revision is to revise the buildings template, adjust the grading, roads, storm drains and water and sewer house connections.

OWNER/DEVELOPER
 The Courtyards of Ellicott Mills, LLC
 c/o Mr. Donald Reuser Jr.
 8000 Main Street
 Ellicott City, Maryland 21043
 410-480-9105

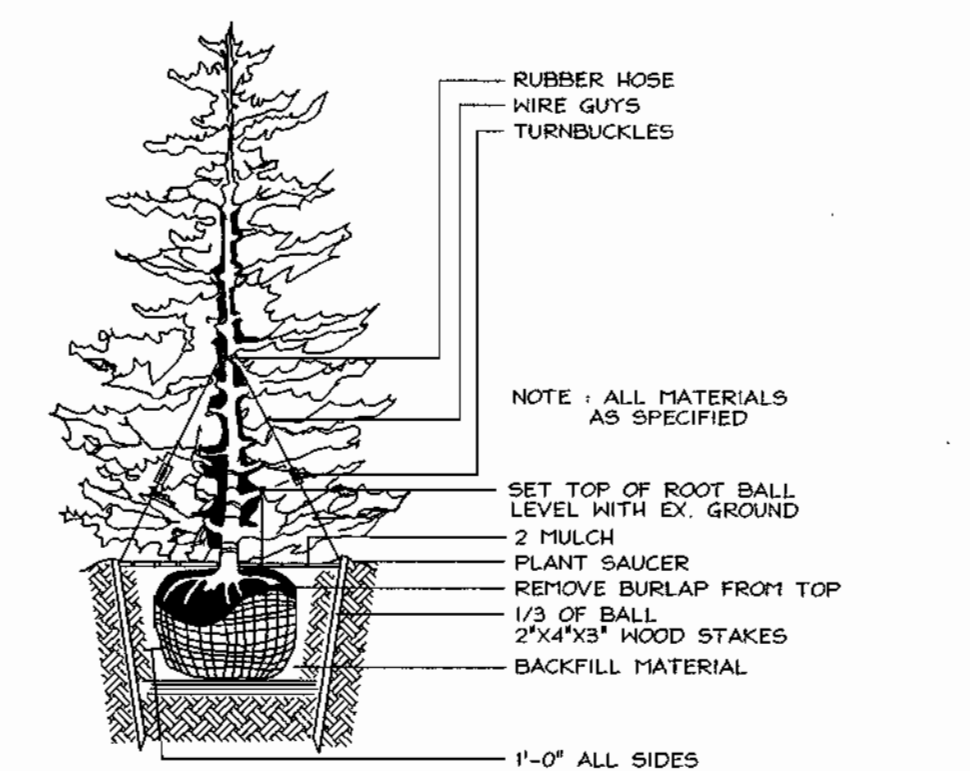
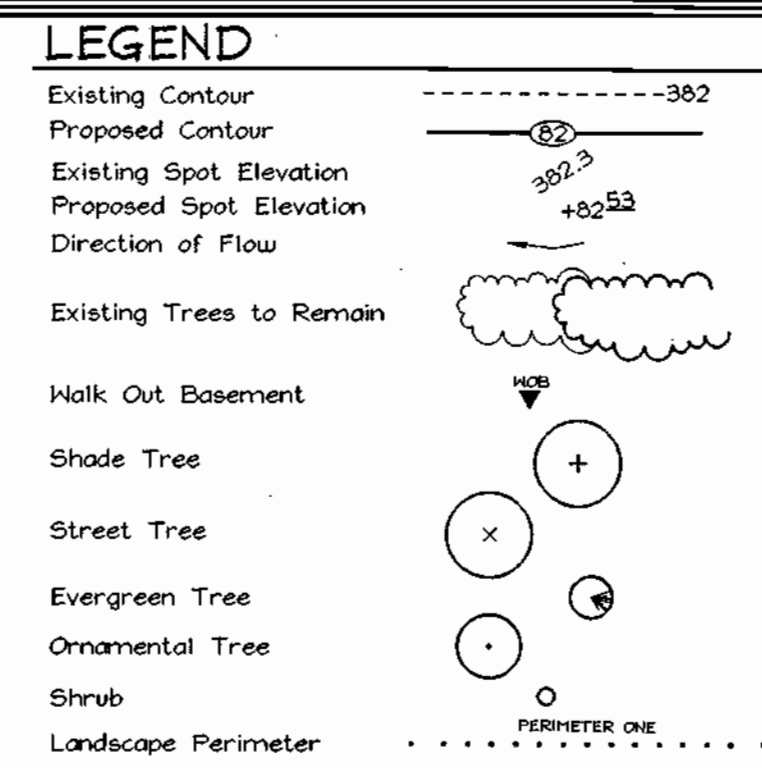


FSH Associates
 Engineers Planners Surveyors
 8316 Forest Street Ellicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: FSHAssociates@a.com

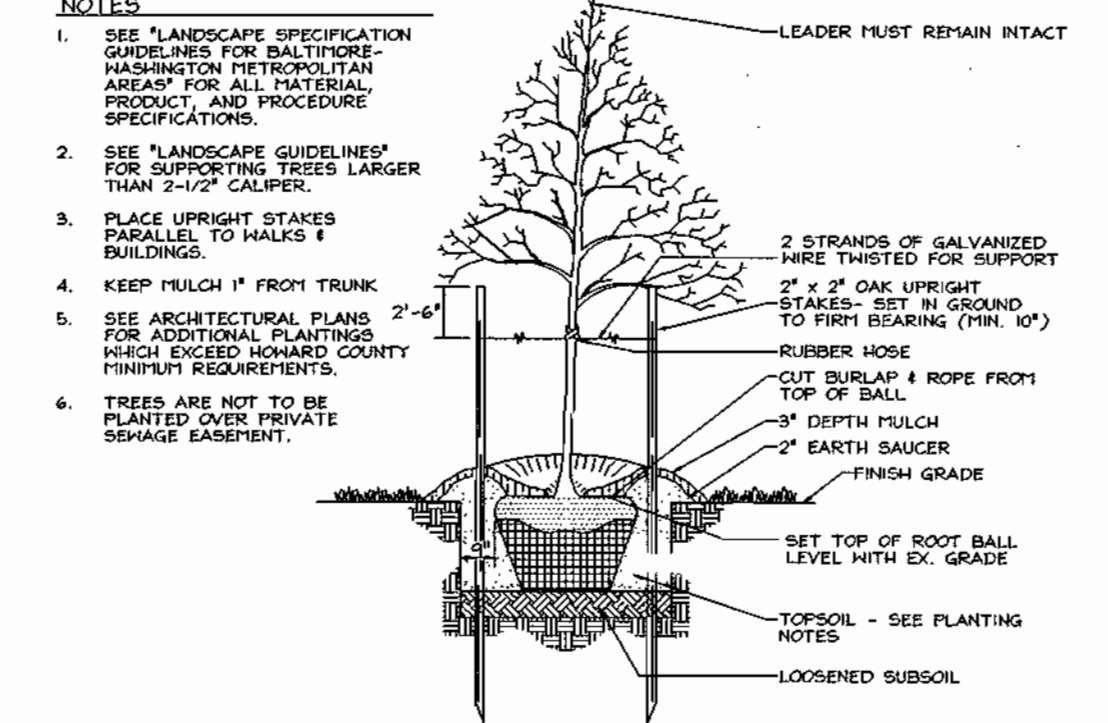
DESIGN BY: PS
 DRAWN BY: PS
 CHECKED BY: ZYF
 SCALE: 1"=50'
 DATE: Sept. 24, 2003
 W.O. No.: 3188
 SHEET No. 11 OF 16



KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
AR	30	Acer Rubrum October Glory Red Maple	2 1/2"-3" Cal.	B # B
QP	23	Quercus palustris 'Sovereign' Sovereign Pin Oak	2 1/2"-3" Cal.	B # B
QR	27	Quercus rubra Red Oak	2 1/2"-3" Cal.	B # B
CY	72	Cladonia lutea Yellowwood	2 1/2"-3" Cal.	B # B
AC	24	Amelanchier canadensis Shadblow Serviceberry	8'-10' Ht.	B # B
AH	24	Ilex Opaca American Holly	6'-8' Ht.	B # B
PS	69	Pinus Strobus Eastern White Pine	6'-8' Ht.	B # B
CL	39	Comptosyopsis leylandi Leyland Cypress	6'-8' Ht.	B # B
MP	40	Myrica pennsylvanica Northern Bayberry	2'-2 1/2' Ht.	



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



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

- NOTES
- SEE LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE AND WASHINGTON METROPOLITAN AREAS FOR ALL MATERIAL PRODUCT AND PROCEDURE SPECIFICATIONS.
 - SEE 'LANDSCAPE GUIDELINES' FOR SUPPORTING TREES LARGER THAN 2 1/2" CALIPER.
 - PLACE UPRIGHT STAKES PARALLEL TO TRUNK & BUILDING.
 - KEEP MULCH 1" FROM TRUNK.
 - SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTING WHICH EXCEED HOWARD COUNTY FINISH REQUIREMENTS.
 - TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWER EASEMENT.

CATEGORY	PERIMETER LANDSCAPE EDGE				ADJACENT TO PERIMETER PROPERTIES				TOTAL
	1	2	3	4	1	2	3	4	
Perimeter/Frontage Designation	C	C	C	C	C	C	C	C	
Linear Feet of Roadway	770	200	338	212	200	360	371	301	197
Ecological Credit for Existing Vegetation (Tree No. Linear Feet)	17	0	202	127	0	0	17	107	0
Remaining Perimeter Length Credit for Holly, Fence or Berm (Yes, No, Linear Feet)	0	0	0	0	0	0	0	0	0
Number of Plants Required	140	140	140	140	140	140	140	140	140
Shade Trees	120	120	120	120	120	120	120	120	120
Evergreen Trees	20	20	20	20	20	20	20	20	20
Number of Plants Provided	15	5	1	5	9	6	3	0	0
Evergreen Trees	30	10	1	10	10	37	5	0	0
Other Trees (2:1 Substitution)	0	0	0	0	0	0	0	0	0
Shrubs (10:1 Substitution)	0	0	0	0	0	0	0	0	0
Other Trees (2:1 Substitution)	0	0	0	0	0	0	0	0	0
Shrubs (10:1 Substitution)	0	0	0	0	0	0	0	0	0

* Existing Floods to Remain
** Perimeter 7 is proposed as a 'D' buffer in accordance with BOA Code 90-47C.

RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
Number of Dwelling Units	35
Number of Trees Required (1:1 DU SFA; 1:3 DU Apts.)	35
Number of trees provided	23
Shade Trees	24
Other Trees (2:1 Substitution)	0
Shrubs (10:1 Substitution)	0

GENERAL NOTES

- At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans and certificates.
- Financial surety for the required landscaping must be posted as part of the Developer's Agreement in the amount of \$70,200.00 (152 shade trees @ \$300.00 each, 24 ornamental trees @ \$150.00 each, 132 evergreen trees @ \$150.00 each and 40 shrubs @ \$30.00 each).
- Using the Alternative Compliance option outlined in the Howard County Landscaping Manual we are providing additional buffering (40 Northern Bayberry) along Units 5 and 35 to account for the shorter than 15 foot distance to the adjacent parking area.

STREET TREE CHART			
STREET NAME	LF REQUIRED	REQUIRED	PROVIDED
Water Grove Lane	1,420'	36	#35
Evening Sky Court	736'	18	18
Maryland Route 104	201'	5	5
Grove Angle Road	495'	12	12

* One Internal Landscape Tree to count towards Street Tree obligation

SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING	
Linear Feet of Perimeter	9741f Type 'B' buffer
Credit for Existing Vegetation (No, Yes and Linear Feet)	No
Credit for other Landscaping (No, Yes and %)	Yes, P=1 400', P=2 160' 4:1:1f remaining
Number of Trees Required	8 Shade Trees 10 Evergreen Trees
Number of Trees Provided	8 Shade Trees 10 Evergreen Trees 0 Other Trees (2:1 Substitution)

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
Number of parking spaces	8
Number of trees required	1
Number of trees provided	1
Shade Trees	1
Other Trees (2:1 Substitution)	0

* One tree to count towards Street Tree obligation.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John P. ... 1/15/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION MRS DATE

... 1/18/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 1/18/04
DIRECTOR DATE

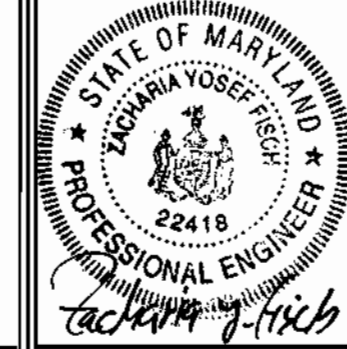
DEVELOPER'S BUILDER'S CERTIFICATE

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.

... 12/18/03
SIGNATURE OF DEVELOPER DATE

REVISION NOTE:
The purpose of the revision is to revise the buildings template, adjust the grading, roads, storm drains and water and sewer house connections.

OWNER/DEVELOPER
The Courtyards of Ellcott Mills, LLC
c/o Mr. Donald Reuser Jr.
8000 Main Street
Ellicott City, Maryland 21043
410-480-9105



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

DESIGN BY: PS
DRAWN BY: PS
CHECKED BY: ZYF
SCALE: 1"=50'
DATE: Sept. 24, 2003
W.O. No.: 3188
SHEET No. 12 OF 16

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-1, F-4, AND F-5)

- The stormwater wetland facility shall be inspected annually and after major storm. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The top and side slopes of the embankment shall be mowed a minimum of once per year, when vegetation reaches 18" in height or as needed.
- Filters that have a grass cover shall be mowed a minimum of three (3) times per growing season to maintain a maximum grass height of less than 12 inches.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the facility shall be repaired as soon as it is noticed.
- Remove silt when it exceeds four (4) inches deep in the forebay.
- When water ponds on the surface of the filter bed for more than 72 hours, the top few inches of discolored material shall be replaced with fresh material. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- A log book shall be maintained to determine the rate at which the facility drains.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the infiltration system have been verified, the mowing schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

POND SUMMARY	1 YEAR			10 YEAR			100 YEAR			W.Q.			Recharge Obligation
	FLOW INTO POND	10.25 c.f.s.	29.23 c.f.s.	44.67 c.f.s.	Area A	Area B	Area C	Rev Required: 1,819 CF					
FLOW OUT OF POND	0.17 c.f.s.	24.06 c.f.s.	37.88 c.f.s.	WQV Req'd	0.010 ac. ft.	0.082 ac. ft.	0.197 ac. ft.	Rev Provided: N/A*					
W.S. ELEVATION	452.70	453.32	453.56	N/A (Sheet Flow to Buffer Credit)	N/A (Grass Channel Credit)	0.197 ac. ft.	Rea Required: 0.51 Ac±						
STORAGE VOLUME	0.437 AcF±	0.202 AcF±	0.287 AcF±	WQV Prov'd			Rea Prov'd: 1.14 Ac±						

OPERATION MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (FD-376). THE POND OWNER(S) AND ANY OTHER SUCCESSORS OR ASSIGNEES SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

MARYLAND 378 STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice FD-376. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation
Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated. The reservoir shall be approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be provided.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill
Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 4", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification CC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Material used in the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not encroached into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be covered by no less than one track load of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber lined or vibratory roller. Fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +/-2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and as to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Practice).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure minimum permeability.

Embankment Care - The care shall be parallel to the centerline of the embankment as shown on the plans. The top width of the care shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The care shall be compacted with construction equipment.

Structure Backfill
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material used in the backfill shall be placed under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure Backfill may be floatable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The floatable fill shall have a minimum unit weight of 100-200 pcf, 20 day unconfined compressive strength. The floatable fill shall have a minimum pH of 4.0 and a maximum resistivity of 5,000 ohm-cm. Material shall be placed such that minimum of 6" (measured perpendicular to the outside of the pipe) of floatable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure floatability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using floatable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the floatable fill area. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill (floatable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits
All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:
1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymer coating shall have a minimum coating thickness of 0.01 inch (10 mils) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-245 & H-246 with underlight coating bands or flanges.
Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-274 with underlight coating bands or flanges. Aluminum Coated Steel Pipe, when used with floatable fill or when soil erode under conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification H-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.
Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-190 or H-274 with underlight coating bands or flanges. Aluminum Pipe, when used with floatable fill or when soil erode under conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification H-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.
2. Coating, bands, anti-seep collars, and sections, etc., must be composed of the same material and coatings on the pipe. Details must be installed from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be sealed all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Drimite bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the backfill. The following type connections are acceptable for pipes less than 24 inches diameter: Flanges on both ends of the pipe with a circular 3/8 inch thick closed cell circular neoprene gasket, and a 12-inch wide rubber type band having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band with a minimum of 4 (four) rods and logs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe of the following criteria shall apply for reinforced concrete pipe:
1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.
2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. The bedding/cradle shall consist of high slump concrete placed under the pipe and on the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, floatable fill may be used as described in the "Structure Backfill" section of the standard. Gravel bedding is not permitted.
3. Laying pipe - Bell and spigot pipe shall be placed with the bell and spigot. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.
4. Backfilling shall conform to "Structure Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

Plastic Pipe The following criteria shall apply for plastic pipe:
1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1705 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, covering all fittings shall conform to the following: 1) 12" and 18" inch pipe shall meet the requirements of AASHTO H252 Type 5, and 12" through 24" inch shall meet the requirements of AASHTO H251 Type 5.
2. Joints and connections to anti-seep collars shall be completely watertight.
3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. Backfilling shall conform to "Structure Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Part No. 3.

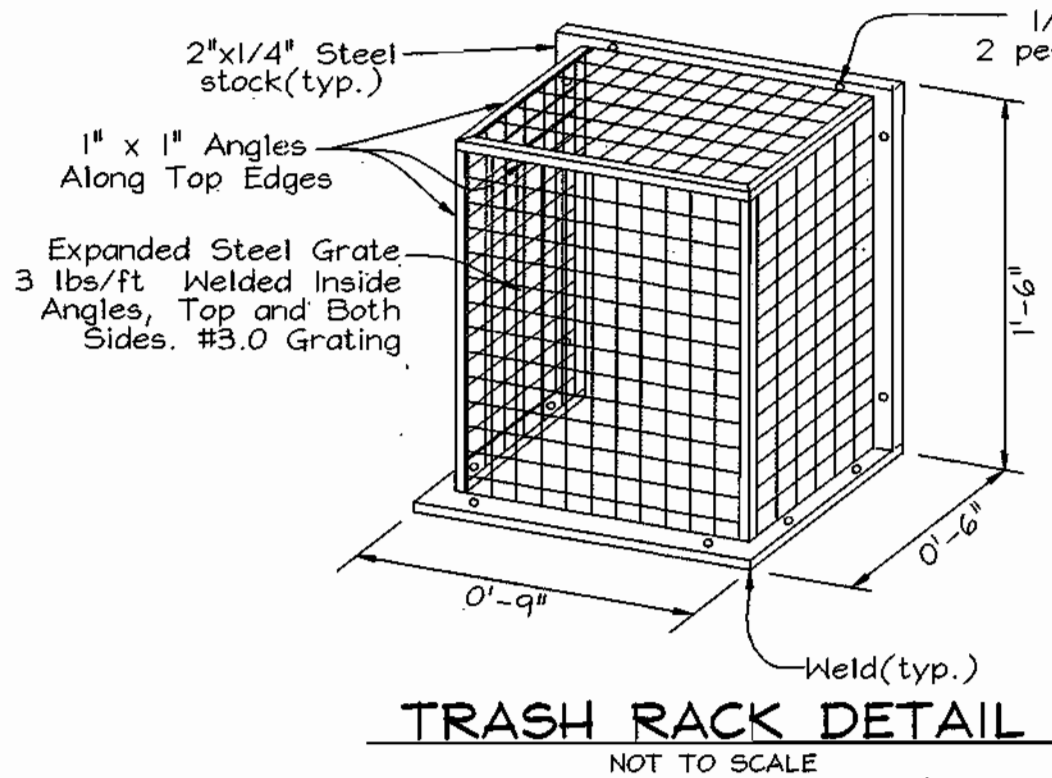
Road Riprap
Road riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 421.04, Class C.

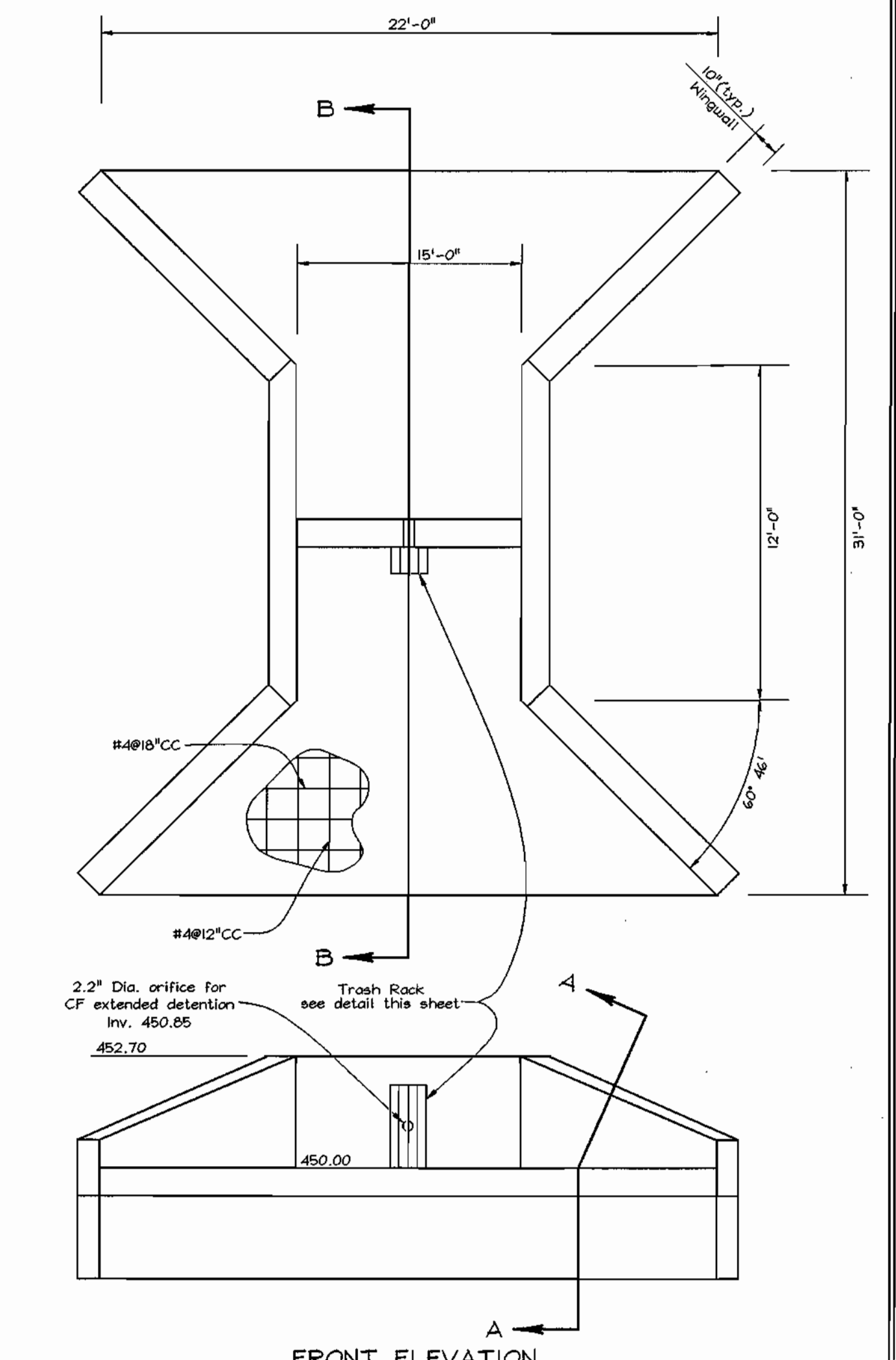
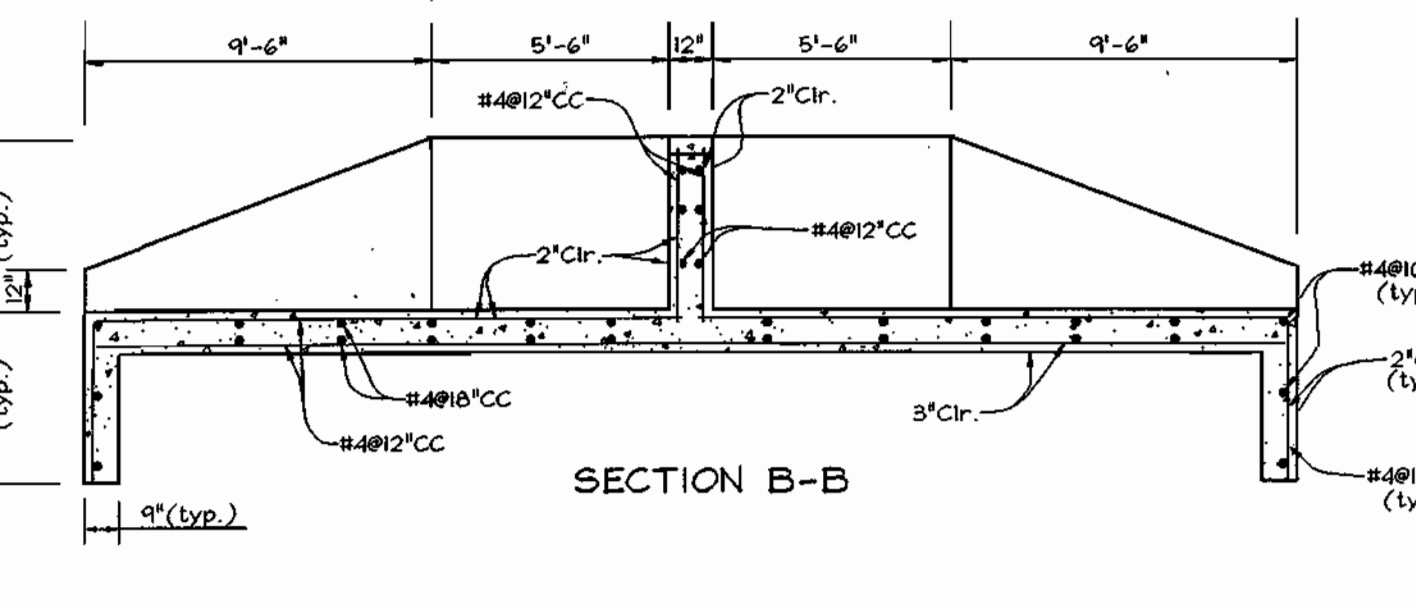
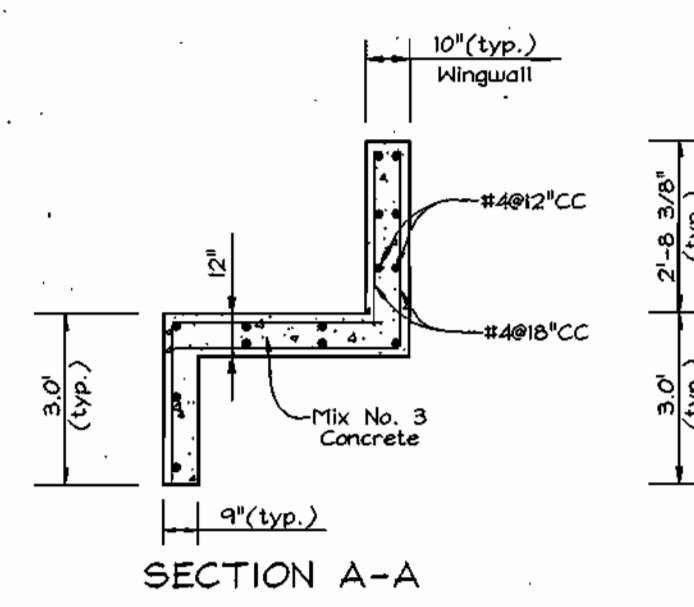
Care of Water during Construction
All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment for removal of water from work areas. The work for maintaining the excavations, foundation and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and borrow shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the National Resources Conservation Service Standards and Specifications for Critical Area Planting (FD-342) or as shown on the accompanying drawings.

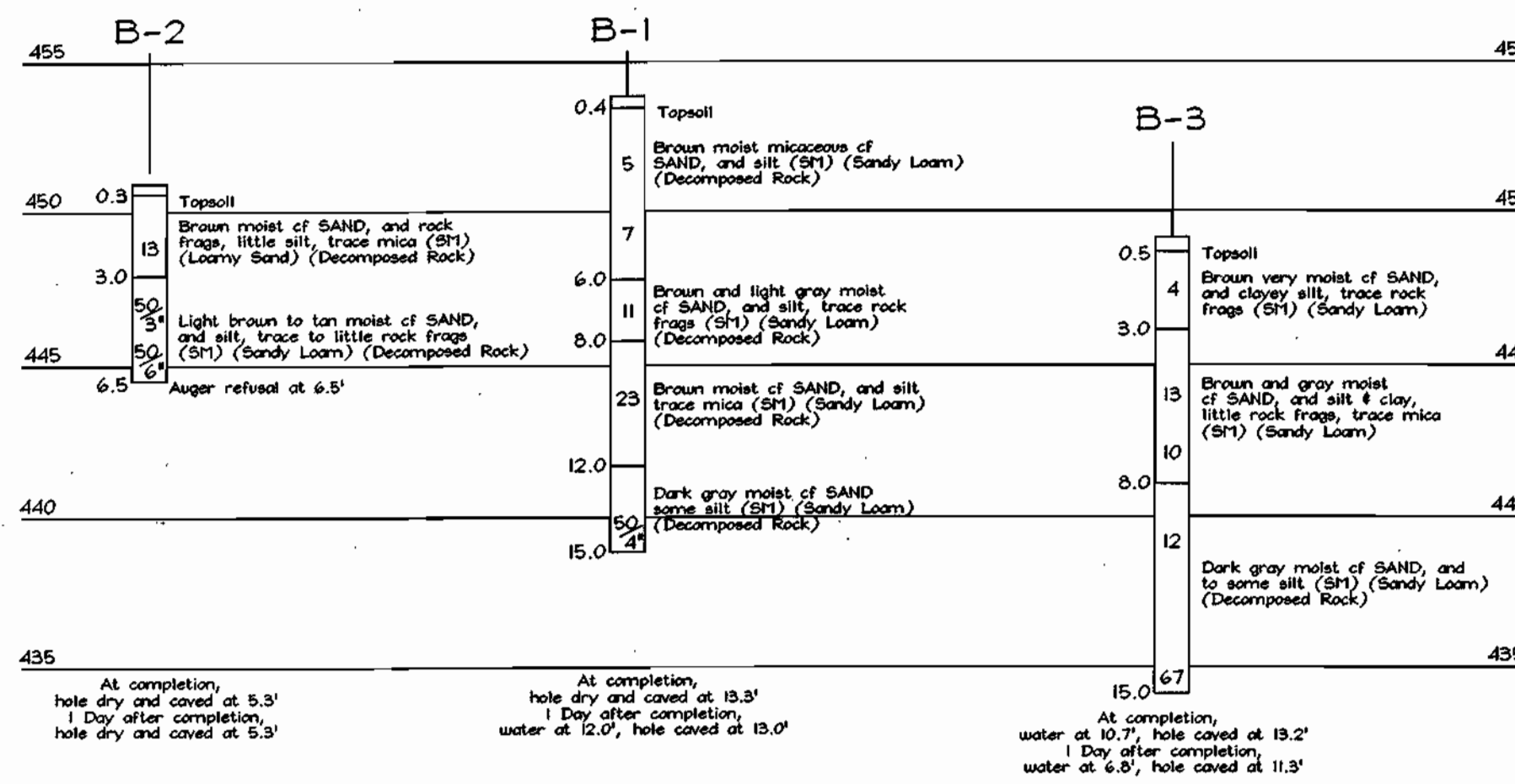
Erosion and Sediment Control
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.



- NOTES:**
- Steel to conform to ASTM A-36.
 - All surfaces to be coated with ZRC cold galvanizing compound after welding.
 - Trash rack to be fastened to the concrete with 1/2" masonry anchors. Trash rack to be removable.



- NOTES:**
- All exposed edges to have a 3/4" x 3/4" chamfer or as directed.
 - Concrete shall be SHA mix #3 (f=3500 psi @ 28 days).
 - Reinforcing steel shall be ASTM A-615 grade 60.



S.W.M. BORING PROFILES
NOT TO SCALE

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 RESPONSIBILITY 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: [Signature] DATE: 4/09/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Director: [Signature] DATE: 5/12/03
Chief, Division of Land Development: [Signature] DATE: 5/12/03
Chief, Development Engineering Division: [Signature] DATE: 4/9/03

ENGINEER'S 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: [Signature] DATE: 4/9/03
Signature of Engineer: ZACHARIA Y. FISCH DATE: 4/22/03

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

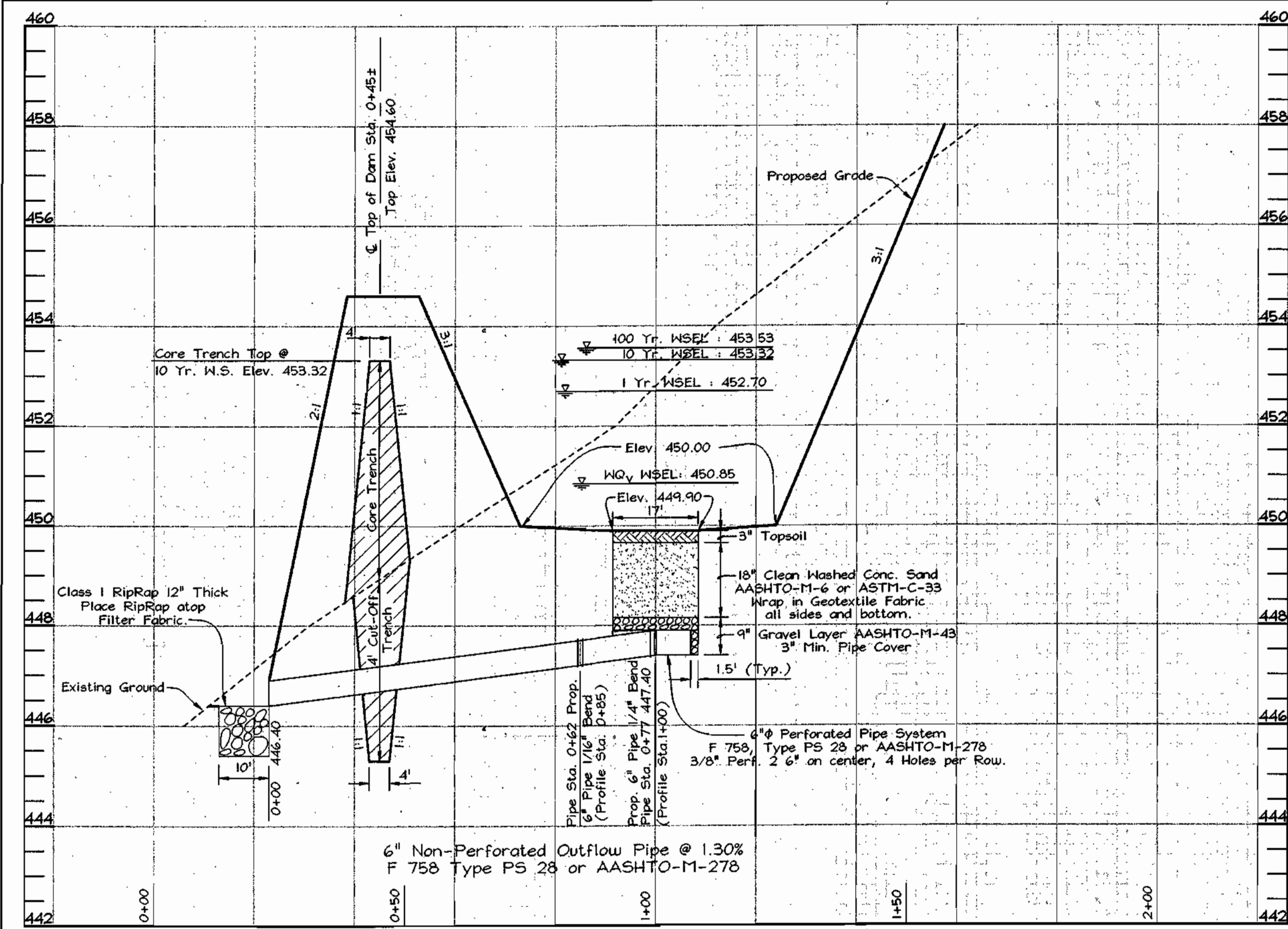
Signature: [Signature] DATE: 4/22/03
Signature: [Signature] DATE: 4/22/03
HOWARD SOIL CONSERVATION DISTRICT

STORMWATER MANAGEMENT NOTES AND DETAILS
THE COURTYARDS OF ELLICOTT MILLS
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
BUILDABLE BULK PARCEL 'A'
TAX MAP 31 GRID 07 PARCEL 42 AND 43
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

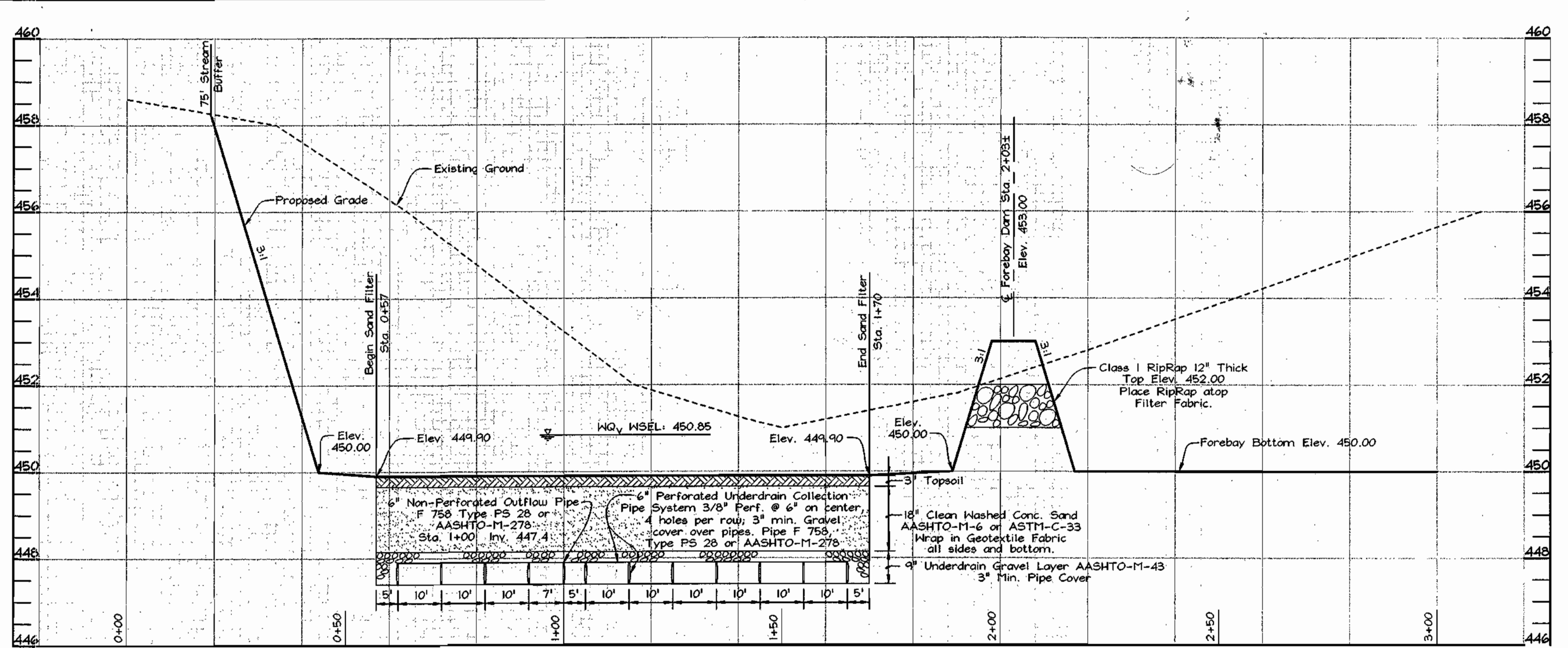
OWNER/DEVELOPER
The Courtyards of Ellcott Mills, LLC
c/o Mr. Donald Reuser Jr.
8000 Main Street
Ellicott City, Maryland 21043
410-480-9105

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street, Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

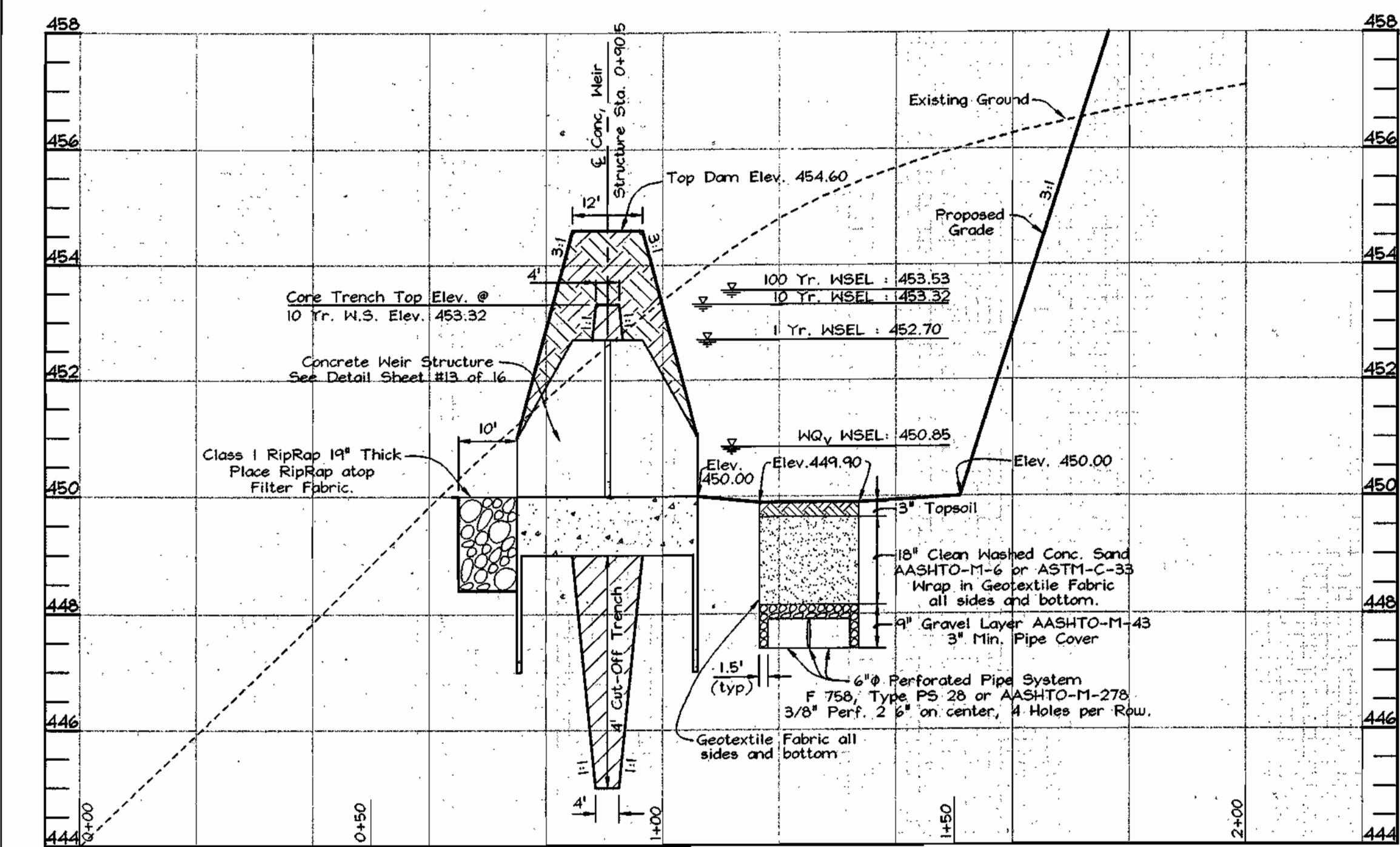
DESIGN BY: MT
DRAWN BY: MTRM
CHECKED BY: ZYF
SCALE: As Shown
DATE: April 9, 2003
W.O. No.: 3038
SHEET No. 13 OF 16



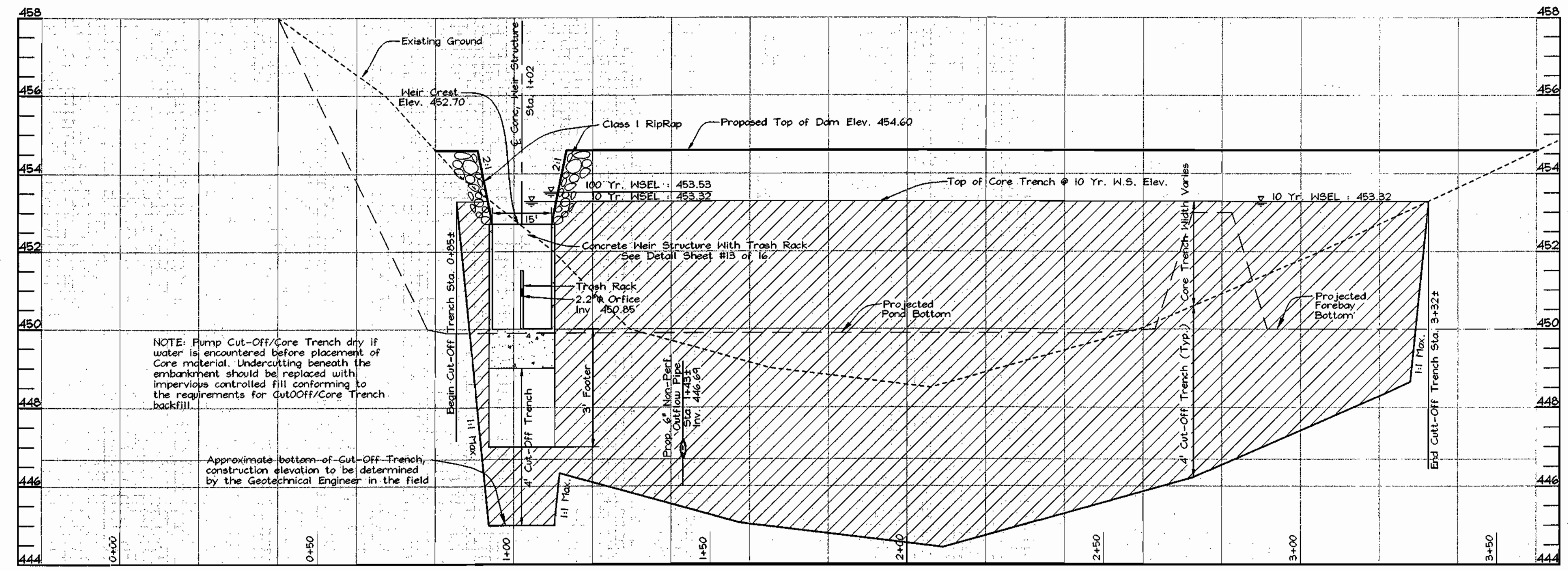
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Vertical-1"=2'



SECTION THROUGH SURFACE SAND FILTER
Scale: Horizontal-1"=20'
Vertical-1"=2'



SECTION THROUGH SWM WEIR STRUCTURE
Scale: Horizontal-1"=20'
Vertical-1"=2'



SECTION THROUGH EMBANKMENT
Scale: Horizontal-1"=20'
Vertical-1"=2'

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 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: [Signature] DATE: 4/9/03

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Director: [Signature] DATE: 5/18/03
Chief, Division of Land Development
[Signature] DATE: 7/16/03
Chief, Development Engineering Division

ENGINEER'S 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: Zacharia Y. Fisch DATE: 4/9/03
ZACHARIA Y. FISCH

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
Signature: [Signature] DATE: 4/20/03
Signature: [Signature] DATE: 4/20/03
HOWARD SOIL CONSERVATION DISTRICT

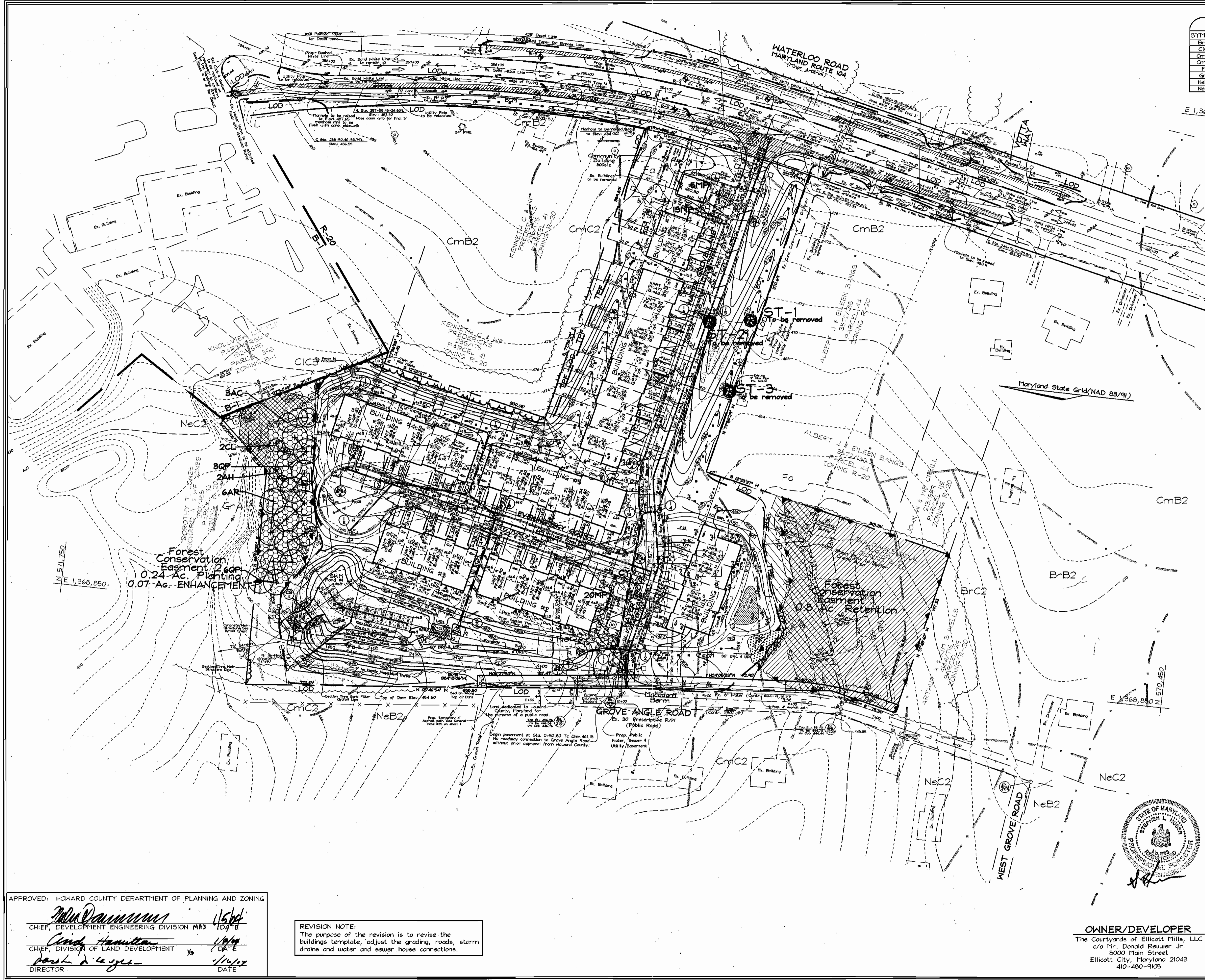
OWNER/DEVELOPER
The Courtyards of Ellicott Mills, LLC
c/o Mr. Donald Reuver, Jr.
8000 Main Street
Ellicott City, Maryland 21043
410-480-9105

STORMWATER MANAGEMENT PROFILES
THE COURTYARDS OF ELLICOTT MILLS
AGE RESTRICTED ADULT HOUSING
UNITS 1 THRU 35 AND COMMUNITY BUILDING
BUILDABLE BULK PARCEL 'A'
TAX MAP 31 GRID 07 PARCEL 42 AND 43
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



FSH Associates
Engineers Planners Surveyors
8318 Forrest Street, Ellicott City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

DESIGN BY: MT
DRAWN BY: MRM
CHECKED BY: ZYF
SCALE: As Shown
DATE: April 9, 2003
W.O. No.: 3038
SHEET No. 14 OF 16



SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
BrC2	Brandywine loam, 8 to 15 percent slopes, moderately eroded	C
CiC3	Chillum gravelly loam, 5 to 10 percent slopes, severely eroded	C
CmB2	Chillum silt loam, 1 to 5 percent slopes, moderately eroded	C
CmC2	Chillum silt loam, 5 to 10 percent slopes, moderately eroded	C
Fa	Fallsington loam	D
GnA	Glenville silt loam, 0 to 3 percent slopes	C
NeB2	Neshominy silt loam, 3 to 8 percent slopes, moderately eroded	B
NeC2	Neshominy silt loam, 8 to 15 percent slopes, moderately eroded	B

LEGEND	
Existing Contour	--- 362
Proposed Contour	--- 362.5
Existing Spot Elevation	362.5
Proposed Spot Elevation	+0252
Direction of Flow	→
Existing Trees to Remain	(Tree symbol)
Retention area	(Hatched pattern)
Planting area	(Cross-hatched pattern)
Enhancement area	(Dotted pattern)
Clearing area	(Diagonal lines)
Forest conservation easement	(Wavy line)
Forest retention/reforestation sign	(Triangle symbol)
Tree protection fence	TPF
Specimen tree	ST-1
Wetland limit	W
Existing stream	SB
Stream buffer	WB
Wetland buffer	WB
Soils division line	(Dashed line)

FOREST CONSERVATION WORKSHEET		
Net Tract Area		Acres
A. Total Tract Area		7.04
B. Area Within 100 Year Floodplain		--
C. Other deductions		--
D. Net Tract Area		7.04
Zoning Use Category: RESIDENTIAL-SUBURBAN		
Land Use Category		
E. Afforestation Minimum (15 % x D)		1.06
F. Conservation Threshold (20 % x D)		1.41
Existing Forest Cover		
G. Existing Forest on Net Tract Area		0.82
H. Forest Area Above Conservation Threshold		0
Breakeven Point		
I. Forest Retention Above Threshold with no Mitigation		1.41
J. Clearing Permitted without Mitigation		0
Proposed Forest Clearing		
K. Forest Areas to be Cleared		0.02
L. Forest Areas to be Retained		0.80
Planting Requirements		
M. Reforestation for Clearing Above Threshold		0
N. Reforestation for Clearing Below the Threshold		0.04
P. Credit for Retention Above Conservation Threshold		0
Q. Total Reforestation Required		0.04
R. Total Afforestation Required		0.24
S. Total Reforestation and Afforestation Requirement		0.28



REVISED FINAL FOREST CONSERVATION PLAN
THE COURTYARDS OF ELICOTT MILLS
 AGE RESTRICTED ADULT HOUSING
 UNITS 1 THRU 35 AND COMMUNITY BUILDING
 BUILDABLE BULK PARCEL 'A'
 TAX MAP 31 GRID 07 PARCEL 42 AND 43
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
 The Courtyards of Elicott Mills, LLC
 c/o Mr. Donald Reuser Jr.
 8000 Main Street
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 410-480-9105

FSH Associates
 Engineers Planners Surveyors
 8316 Forest Street Elicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: FSHAssociates@cs.com

DESIGN BY: DSH
 DRAWN BY: DSH
 CHECKED BY: SLH
 SCALE: 1"=50'
 DATE: Sept. 24, 2003
 W.O. No.: 3188
 SHEET No. 15 OF 16

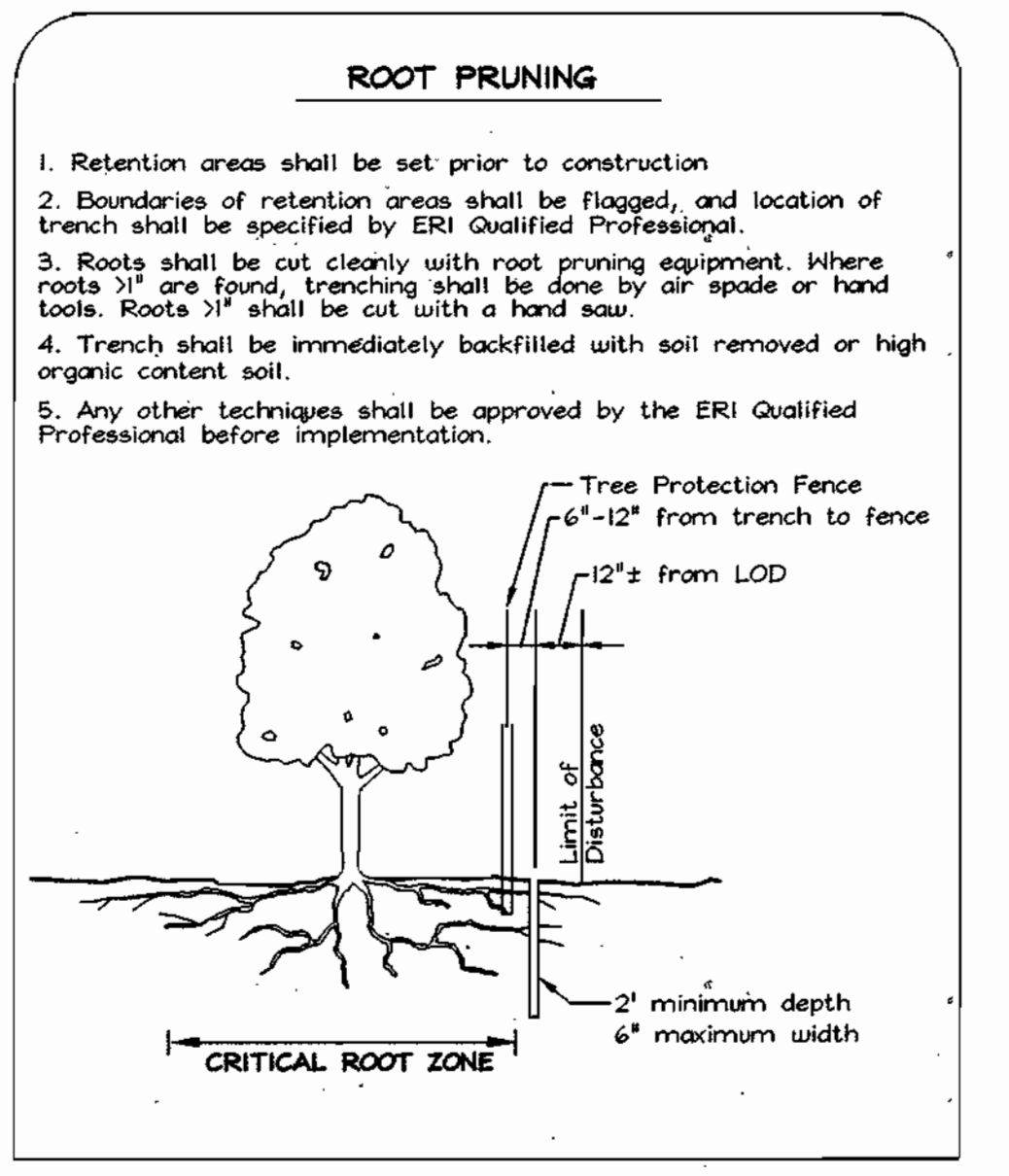
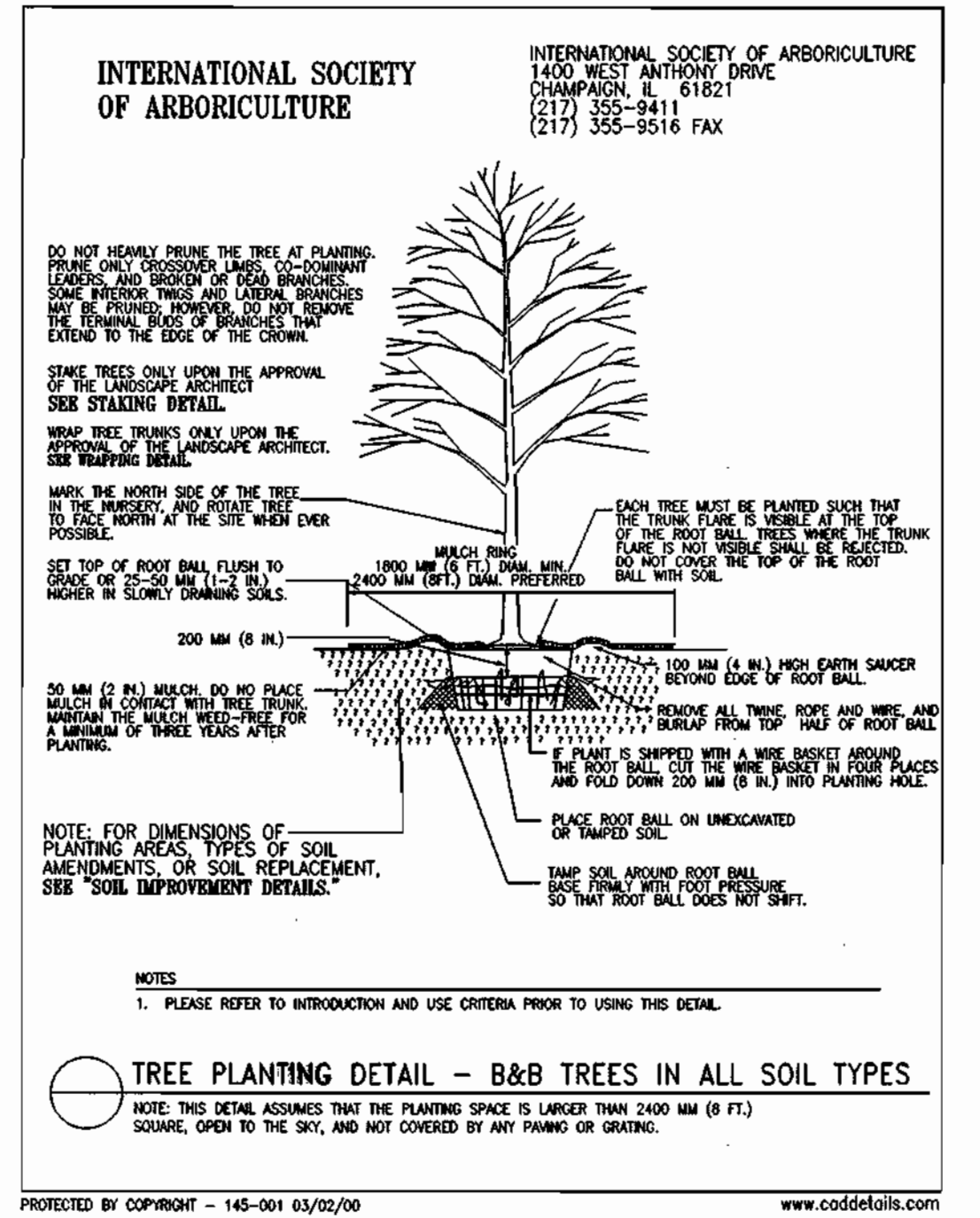
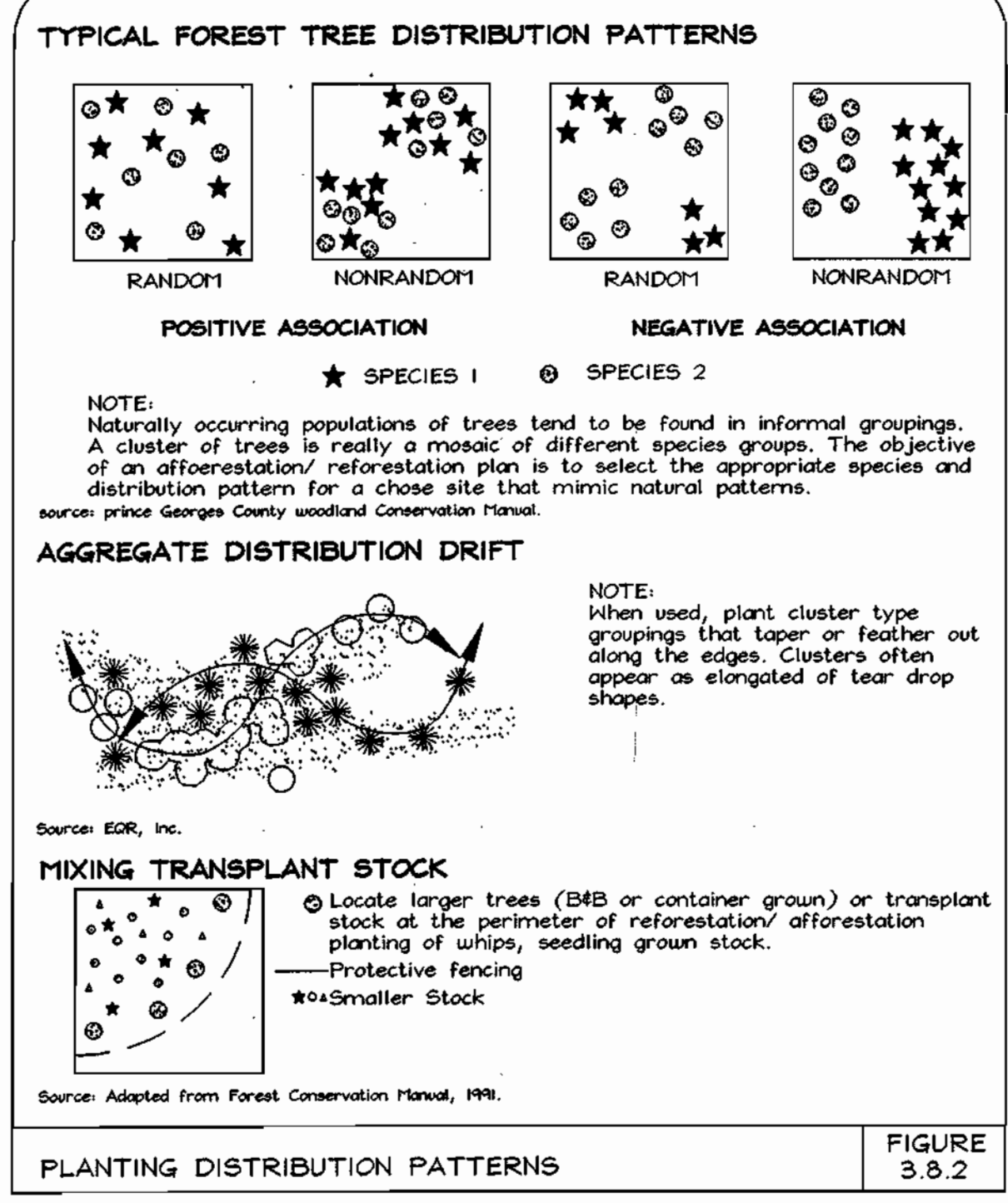
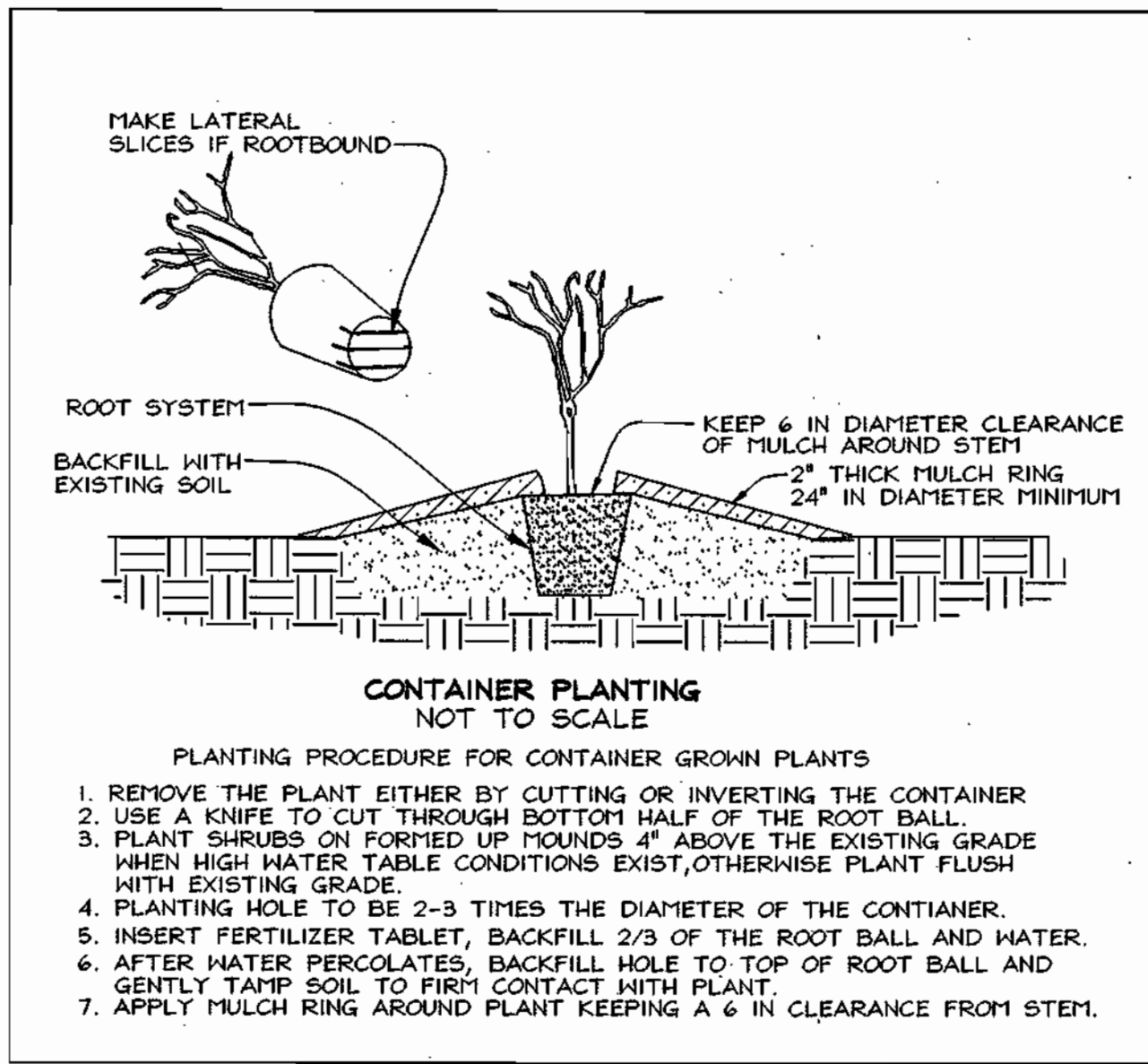
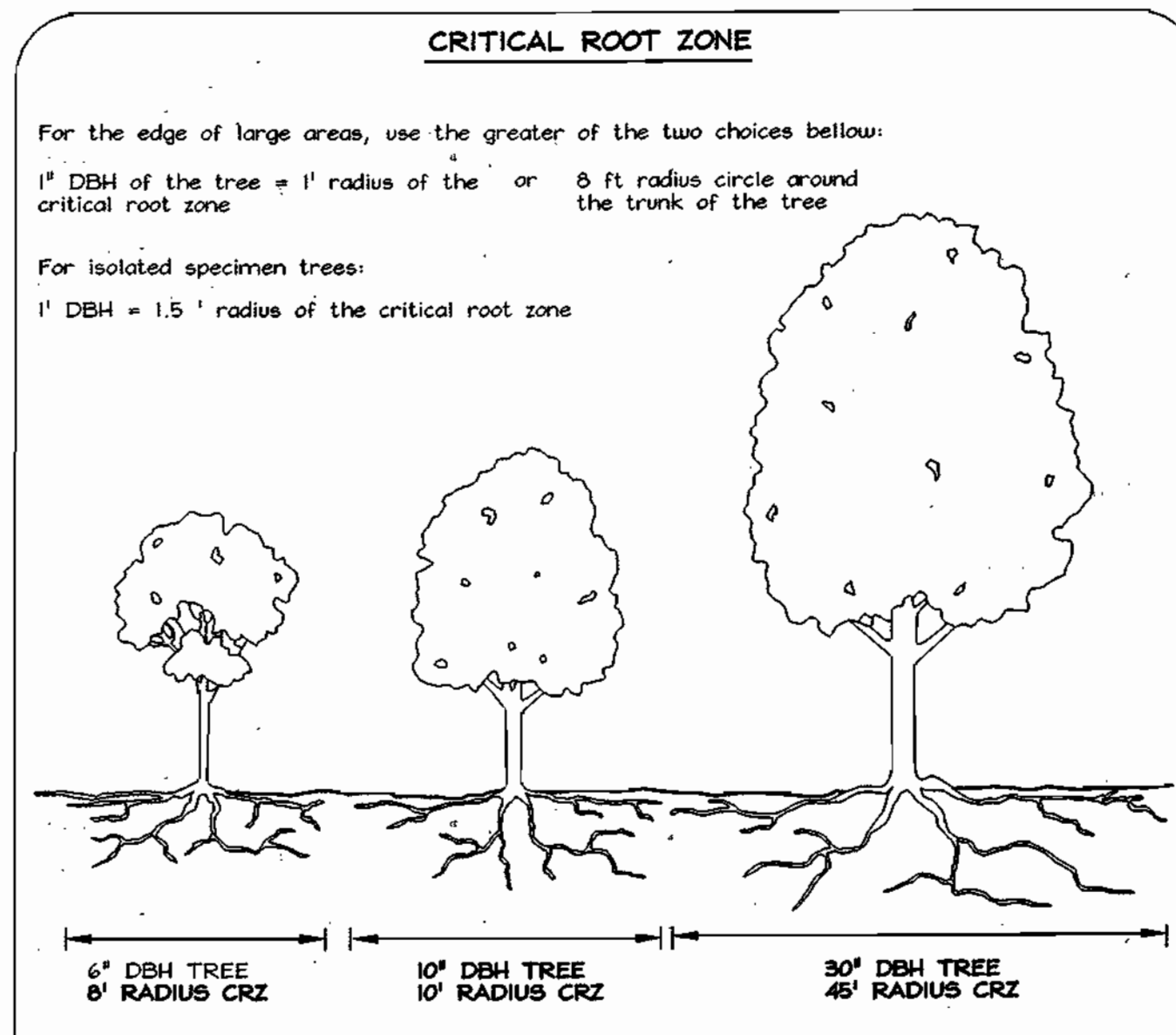
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Michael J. Hamilton 11/5/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MRJ DATE

David Hamilton 11/10/03
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Paul L. Leiper 11/10/03
 DIRECTOR DATE

REVISION NOTE:
 The purpose of the revision is to revise the buildings template, adjust the grading, roads, storm drains and water and sewer house connections.



AFFORESTATION AREA : 10,455 Sq. ft.

4,622 Sq. ft. (350 TPA) 2'-3' Whip planting
 5,833 Sq. ft. (Approx. 170 TPA) B&B 2 1/2" - 3" cal shade trees & 5'-6' Ornamental or Evergreen Species

Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
4	<i>Acer rubrum</i>	Red Maple	WHIP 2-3'	11' o.c.	1-3 Gallon Container
6	<i>Fraxinus pennsylvanica</i>	Green Ash	NHIP 2-3'	11' o.c.	
7	<i>Liquidambar styraciflua</i>	Sweet gum	NHIP 2-3'	11' o.c.	Container
7	<i>Amelanchier canadensis</i>	Service berry	NHIP 2-3'	11' o.c.	
7	<i>Cercis canadensis</i>	Red bud	NHIP 2-3'	11' o.c.	Container
6	<i>Quercus phellos</i>	Willow oak	NHIP 2-3'	11' o.c.	
6	<i>Acer Rubrum</i>	October Glory Red Maple	2 1/2"-3" Cal.	Locations Specified	B & B Landscape Planting
9	<i>Quercus palustris 'Sovereign'</i>	Sovereign Pin Oak	2 1/2"-3" Cal.		
3	<i>Amelanchier canadensis</i>	Shadblow Serviceberry	8'-10' Ht.	Locations Specified	Landscape Planting
2	<i>Ilex Opaca</i>	American Holly	6'-8' Ht.		
2	<i>Cupressocyparis leylandii</i>	Leyland Cypress	6'-8' Ht.		

ENHANCEMENT AREA : 3049 Sq. ft. *

Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
2	<i>Amelanchier canadensis</i>	Service berry	WHIP 2-3'	11' o.c.	1-3 Gallon Container
2	<i>Cercis canadensis</i>	Red bud	NHIP 2-3'	11' o.c.	
3	<i>Lindera bezion</i>	Spice bush	NHIP 2-3'	11' o.c.	Container

* This area will be selectively cleared of undesirable plants and spot treated with whip stock to enhance the understory forest characteristics of the area. Enhancement planting will be at a rate of 100 TPA.

Soil Protection Zone Notes

1. The Soil Protection Zone shall include all areas contained inside the Limit of Disturbance.
2. Where possible, the Soil Protection Zone shall extend to the drip line of specimen trees. For other groups of trees, the zone shall be the drip line or 40% of the height of the tree, whichever is greater.
3. No construction activity is permitted within the Soil Protection Zone.
4. If soil has been compacted or grading has taken place in the vicinity of the Soil Protection Zone, root pruning shall be implemented per Root Pruning detail, shown on this plan.
5. Root pruning shall occur prior to the beginning of construction.
6. Where the Soil Protection Zone must encroach inside the Critical Root Zone of a tree, soil disturbance shall be mitigated with vertical mulching, radial trenching, or another method approved by the ERI Forest Conservation Professional.
7. Prior to construction, the Limits of Disturbance shall be marked and the ERI Professional shall determine which trees will need preventative treatment or removal.
8. Tree maintenance and removal shall be undertaken by a qualified MD Tree Expert to ensure damage to surrounding trees is minimized.
9. Brush and limbs removed for construction shall be chipped and spread at the edge of the Soil Protection Zone to a depth to exceed 6 inches. This shall occur outside the Soil Protection Zone where compaction could impact otherwise unprotected Critical Root Zone.

Forest Tree Protection and Management Notes

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

Afforestation Area Monitoring Notes

1. 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.
2. 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.
3. Survival will be determined by a stratified random sample of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled.
4. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement planting if required at that time.

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 warrant.
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 Hollis, 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 watering should allow for watering during installation to completely saturate the root ball.
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 augering is preferred with scarification of the sides of each hole.

FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (ACRES)
1	RETENTION	0.8
2	AFFORESTATION	.24
	ENHANCEMENT	.07
TOTAL		1.11

FOREST CONSERVATION NARRATIVE

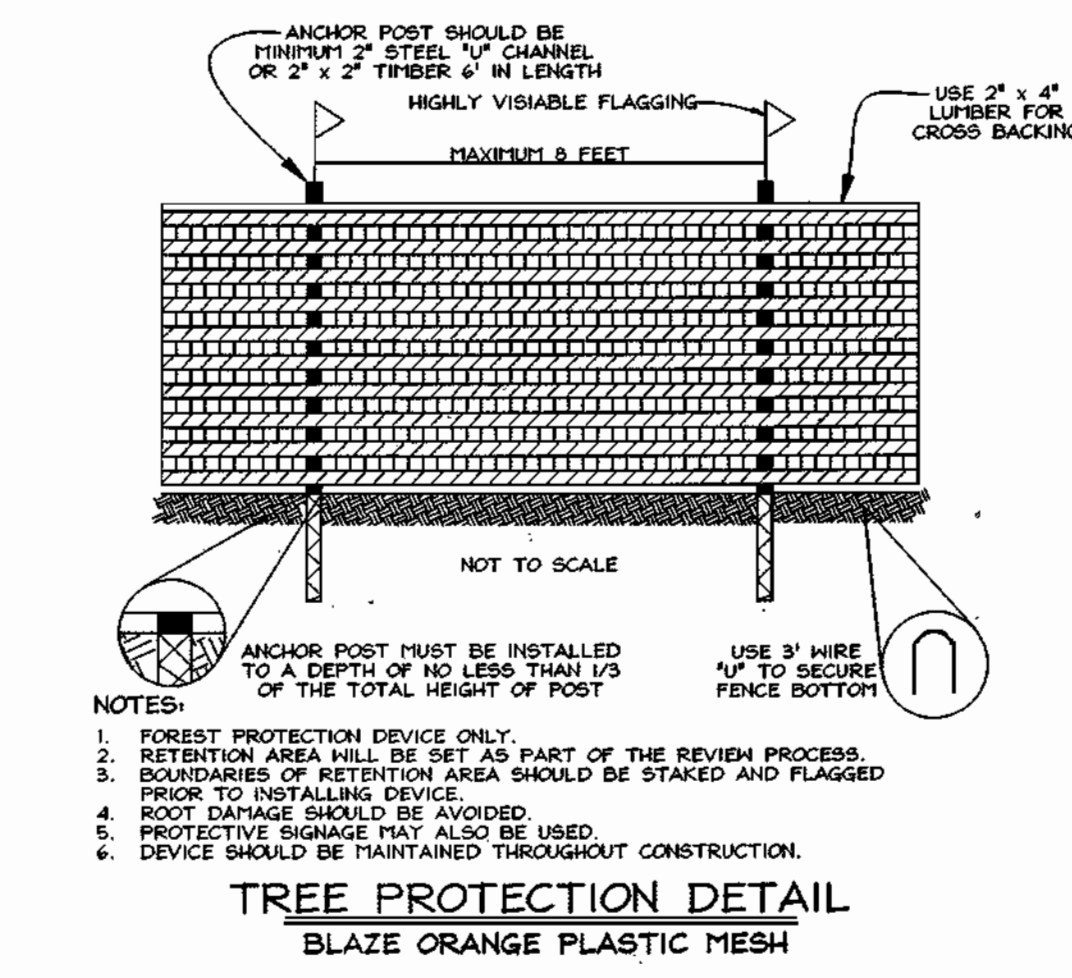
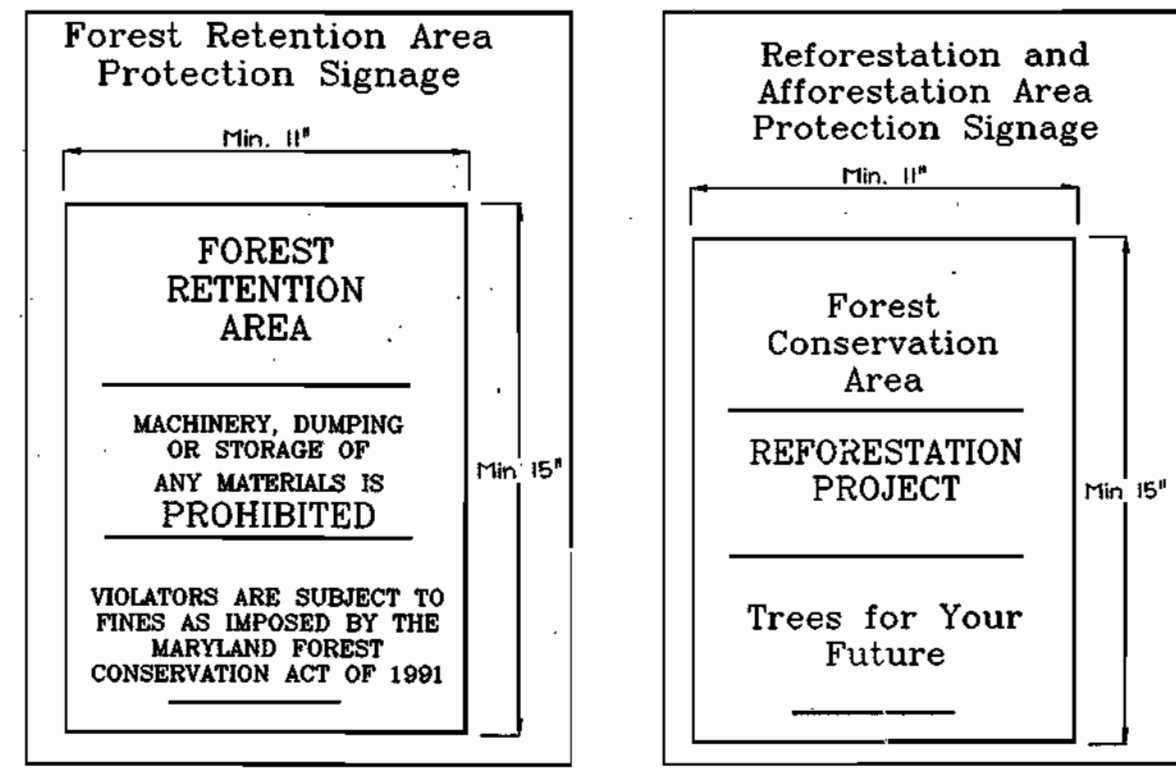
This Forest Conservation Plan has been developed in accordance with the Howard County Forest Conservation Manual and the Forest Conservation Act of 1981.

The net tract area of the site consists of 7.04 acres. The site contains 0.82 acres of existing forest associated with .46 acres of wetlands, streams and buffers. The forest area surrounding these sensitive areas have been preserved to the greatest extent possible, resulting in 0.80 acres of forest retention, to be in Forest Conservation Easement I. Due to existing forest cover below the afforestation minimum and 0.02 acres of forest clearing, 0.28 acres of planting is required.

The .24 acre afforestation area, .04 acre reforestation area, landscape plantings and enhancement plantings will be placed within Forest Conservation Easement 2. The total Forest Conservation Easement area is 0.31 acres.

Planting to address perimeter landscape obligations will fulfill 7575 sq. ft. (0.17 ac) of the required afforestation planting area. Landscape plantings will include 15 shade trees (2 1/2" - 3" caliper) and 7 ornamental or evergreen trees (6-8' height) within the afforestation area and are planted at a rate of approximately 170 TPA. Planting of containerized 2-3' whips will be planted at a rate of 350 trees per acre to fulfill an additional 0.11 acres of required planting. To fulfill the remaining afforestation requirement on site, selective clearing and enhancement planting will be utilized to bring tree stands within the 75 foot stream buffer up to the standards for forest, by planting understory species. The total enhancement area will include .07 acres.

The total forest conservation obligation for the site is 1.08 acres, with a total forest conservation surety amount of \$1,848,100. (retention: .80 acres or \$4,848 sq. ft. X \$ 20 = \$9,696.00 and afforestation/reforestation is .28 acres or 12,197 - 2440 sq. ft. landscape surety credit(20%) = 9757 sq. ft. X \$ 50 = \$4,878.50). For the purpose of the surety, 20% of the afforestation/reforestation surety has been fulfilled with landscape surety credit.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

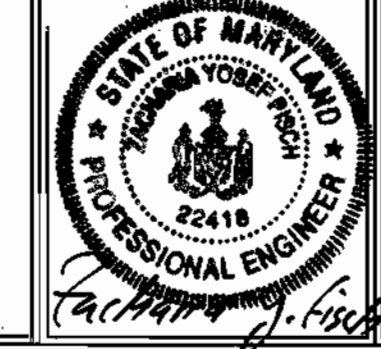
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 5/1/10

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 5/12/10

DIRECTOR: *[Signature]* DATE: 5/12/10



OWNER/DEVELOPER
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 E-mail: FSHAssociates@cs.com

DESIGN BY: DSH
 DRAWN BY: DSH
 CHECKED BY: SLH
 SCALE: As shown
 DATE: April 9, 2009
 W.O. No.: 3038
 SHEET No. 16 OF 16

FINAL FOREST CONSERVATION PLAN

THE COURTYARDS OF ELLICOTT MILLS

AGE RESTRICTED ADULT HOUSING
 UNITS 1 THRU 35 AND COMMUNITY BUILDING
 BUILDABLE BULK PARCEL 'A'
 TAX MAP 31 GRID 07 PARCEL 42 AND 43
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



EXPLORATION RESEARCH, INC.
 ENVIRONMENTAL CONSULTANTS
 5514 FOREST STREET
 ELLICOTT CITY, MARYLAND 21043
 TEL: (410) 760-1150 FAX: (410) 760-1150