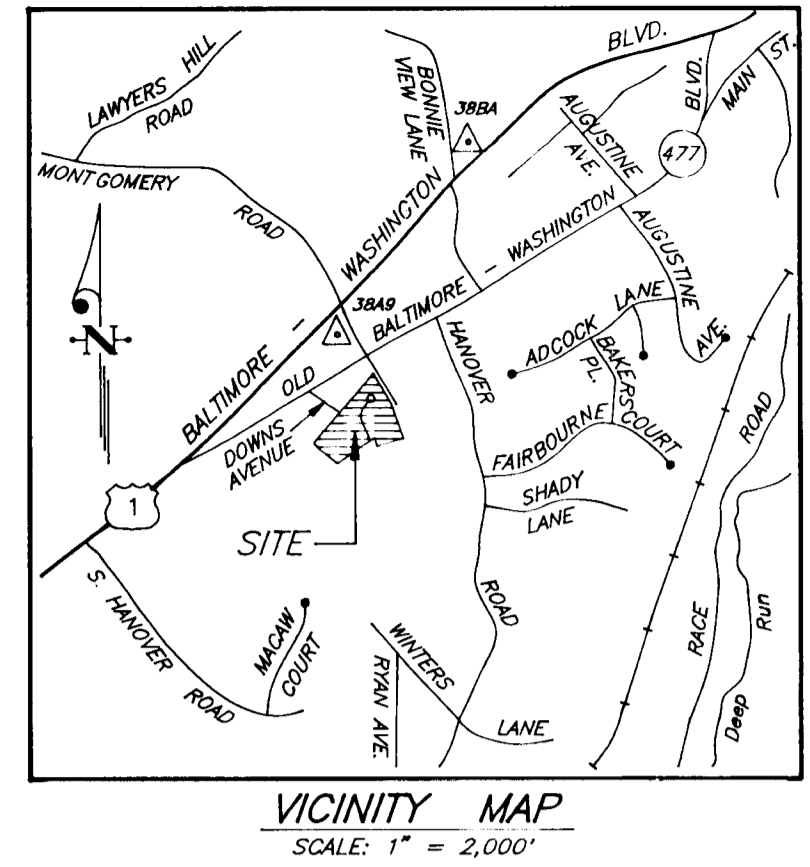
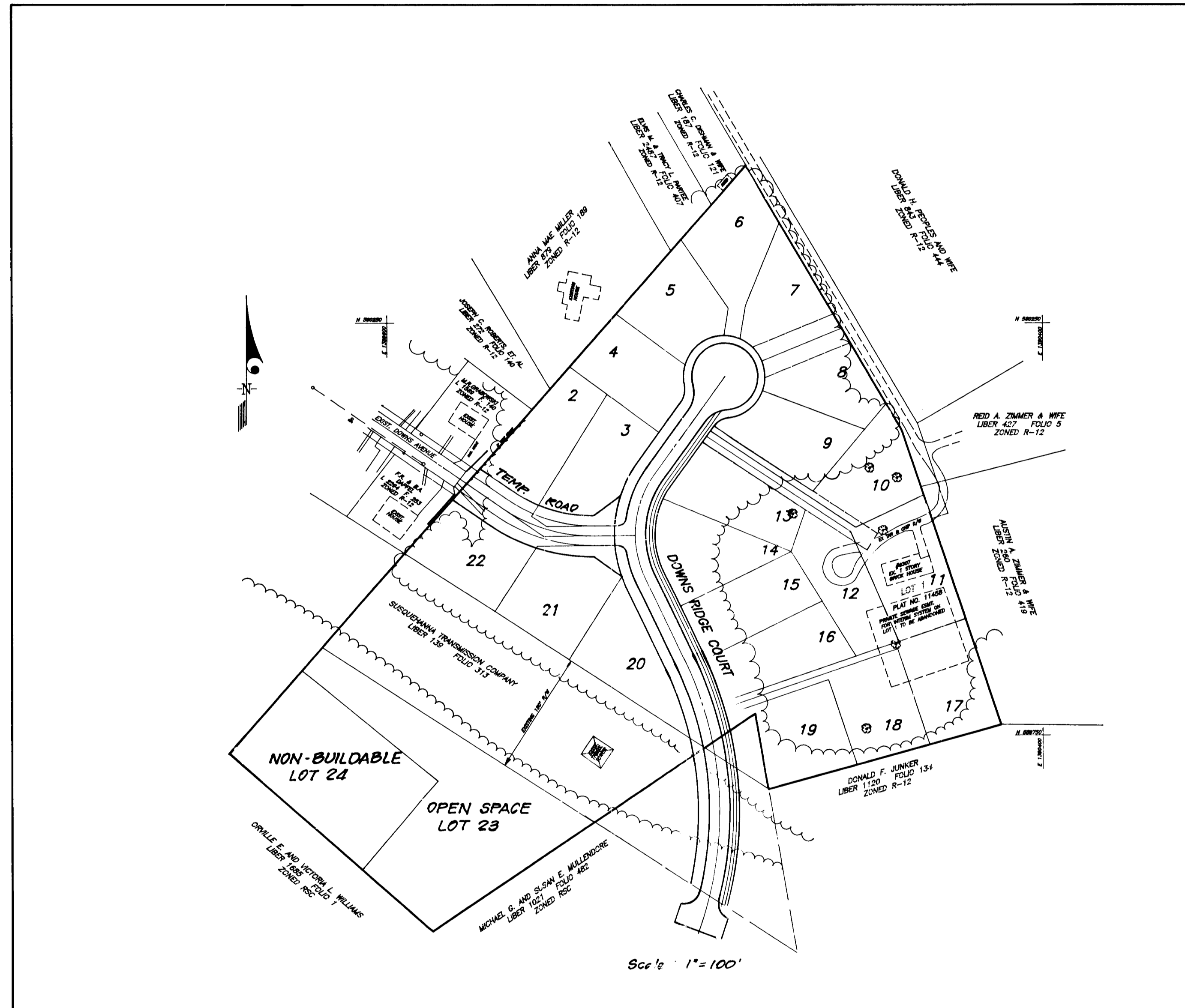


ROAD CONSTRUCTION PLANS DOWNS RIDGE FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND



GENERAL NOTES:

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
2. The contractor shall notify the Department of Public Works/Bureau of Engineering, Construction Inspection Division @ (410) 313-1880 at least five (5) working days prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
4. Project Background:
Zoning R-12
Total Tract Area: 0.5783 Acres ±
Number of Proposed lots: 22 (21 buildable)
Design Speed: As shown
5. Date Preliminary Plan approved and DPZ Reference File#: 11/9/95, P-06-20
6. Topography was field run by Land Design Engineering on August 1994 and supplemented by C.F.S. August 1995.
7. Public water and sewer is to be utilized Contract# 14-95200 Patapsco.
8. All utilities shown were compiled from available records and field survey.
9. Street trees in accordance with Subdivision and Land Development Regulations, Section 16.124 on the Road Construction Plans.
10. Sag and Crest Vertical Curves were designed in accordance with Howard County Design Manual Vol. III.
11. Trench compaction of storm drains within the road or street rights of way limits shall be in accordance with Howard County Design Manual Vol. IV, Std. No. G-2.01.
12. Permanent Stormwater Management for this site to be provided in the Williams Knoll Subdivision Quantity and Quality Control
13. See previous county files S-94-21, F95-21, F95-29.
14. Geotechnical report by Hillis Carnes, Inc. on 2/1/96.
15. Coordinates based on NAD 83, MD Coordinate System as projected by Howard County Geodetic Control Stations 388A Elev. 166.22 and 389A Elev. 222.67.
16. Boundary Survey by Land Design Engineering August 1994, verified by C.F.S.
17. Traffic Study by Lee Cunningham & Associates December 30, 1993 Approval 4/8/94.
18. Existing private sewerage disposal system on Lot 1 to be abandoned in conformance with requirements of Howard County Health Department.
19. Traffic Control Devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
20. There is no 100 year floodplain on this site.
21. No wetlands exist on site.
22. Street Light placement and the types of fixture and pole shall be in accordance with the Ho. Co. Design Manual Volume III and as modified by Guidelines for Street Lights in Residential Developments (June 1993). A minimum of 20' shall be maintained between any street light and street tree.
23. Interim Stormwater Management to be provided in sediment traps. If permanent stormwater management is not constructed in the Williams Knoll Subdivision then the developer will have to construct permanent stormwater management on the Downs Ridge site.



Note Regarding Dedication of Public Roads

The dedication of the future public roads shown here on, is dependent upon the dedication of a connecting public road from one of the neighboring properties. Until such connection is made, the developer is responsible for the maintenance of the future public roads and temporary road.

If the planned road systems in the "Williams Knoll Subdivision" is delayed so that dedication of public roads in Downs Ridge is significantly delayed, the following process would be allowed by the Director of Public Works.

1. Resubdivide Lots 2,3,21 and 22 to show a dedicated road for the Temporary Road.
2. Dedicate the Temporary Road along with the rests of the public road system.
3. Upon dedication of any connecting road the temporary road would be abandoned and recombined with Lots 2,3,21 and 22. This step would be required at the developer's expense and must be in accordance with road closure procedures in the Howard County Code.

The developer is responsible for the construction, maintenance and liability of temporary road, located within the 50' temp. ingress/egress easement on Lots 2,3,21 and 22. This easement is to remain in effect and this road is to be maintained, by the developer until such time as this subdivision is connected with a public road extension through an adjacent subdivision at that time, this subdivision shall discontinue use of the private access road and the developer is responsible for removing the road pavement, regrading, and reseeding the affected area.

NOTE: The 50' temporary ingress/egress easement within is to remain in effect and be privately maintained until Downs Ridge Court is connected with a road extension thru an adjacent subdivision. At that time, this subdivision shall discontinue use of the private access road and the developer is responsible for removing the road pavement, regrading and reseeding the affected area.

Driveway Requirements:

1. Driveway(s) shall be provided to residential occupancy to insure safe access for fire & emergency vehicles per the following minimum requirements:
 - a. Width- 12 ft. (16 ft serving more than one residence)
 - b. Surface- 6 in. of compacted crusher run base with tar chip coating.
 - c. Geometry- max. 15 grade, max. 10% grade change & min. of 45 foot turning radius.
 - d. Structures- (culvert/bridge)- capable of supporting 25 gross tons (H25 loading).
 - e. Drainage elements- capable of safely passing a 100 year flood with no more than one foot depth over driveway surface.
 - f. Structure clearance- minimum 2 feet.
 - g. Maintenance- sufficient to insure all weather

NOTE: If road is dedicated, a 4' sidewalk will be constructed or a waiver request filed to delete walk.

COVER SHEET	
No.	DESCRIPTION
1	COVER SHEET
2	GRADE ESTABLISHMENT PLAN
3	PAVING DETAILS
4	STORM DRAIN PROFILES AND DETAILS
5	DRAINAGE AREA MAP, SEE CONTROL PLAN
6	SEDIMENT AND EROSION CONTROL DETAILS
7	EXISTING CONDITION'S DRAINAGE AREA MAP
8	DEVELOPED CONDITION'S DRAINAGE AREA MAP
9	STREET TREE LANDSCAPING & FOREST CONSERVATION PLAN

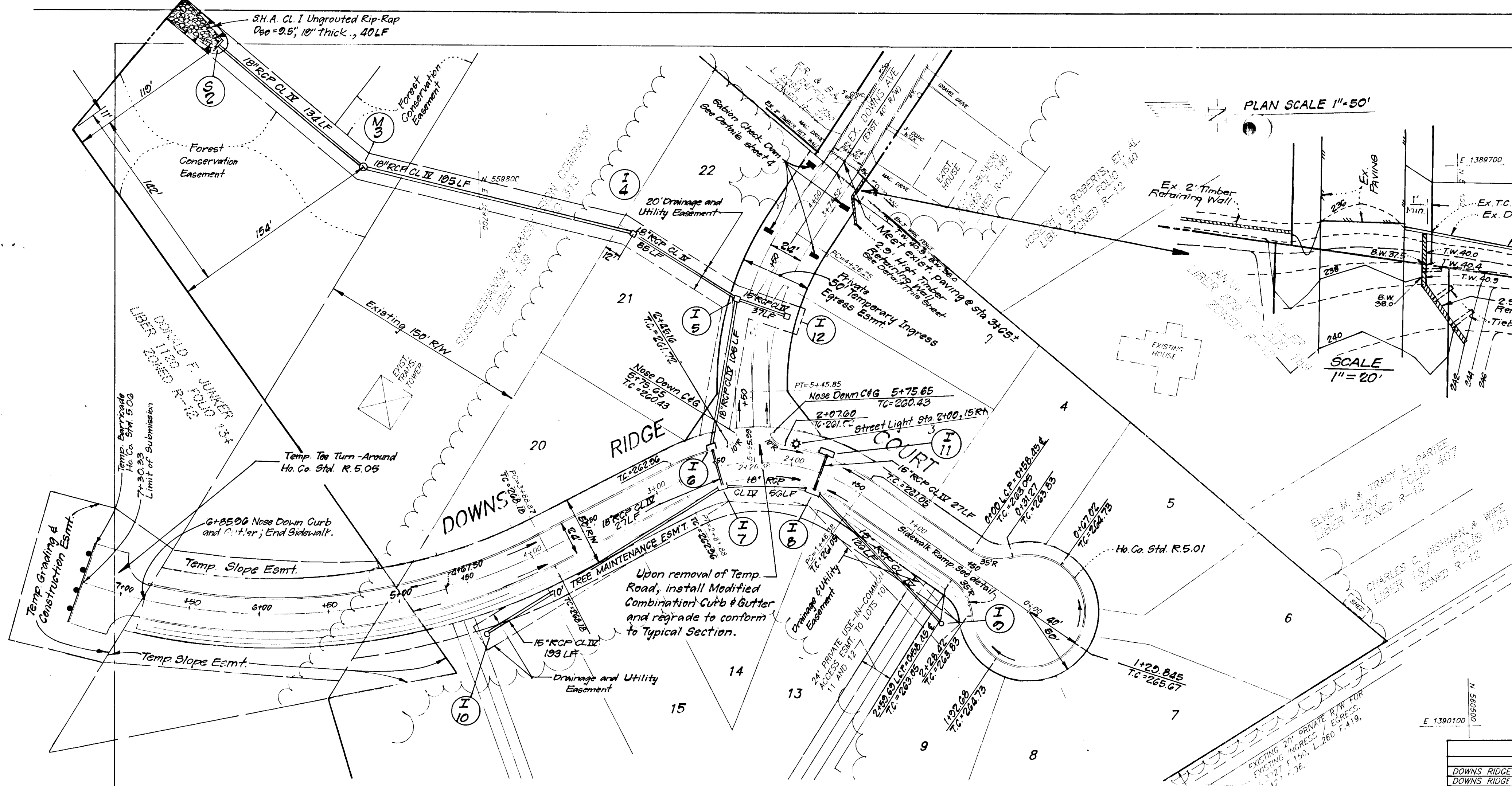
APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Sackett 1-7-97
 Chief, Bureau of Highways MS Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 1/2/97
 Chief, Division of Land Development and Research MS Date

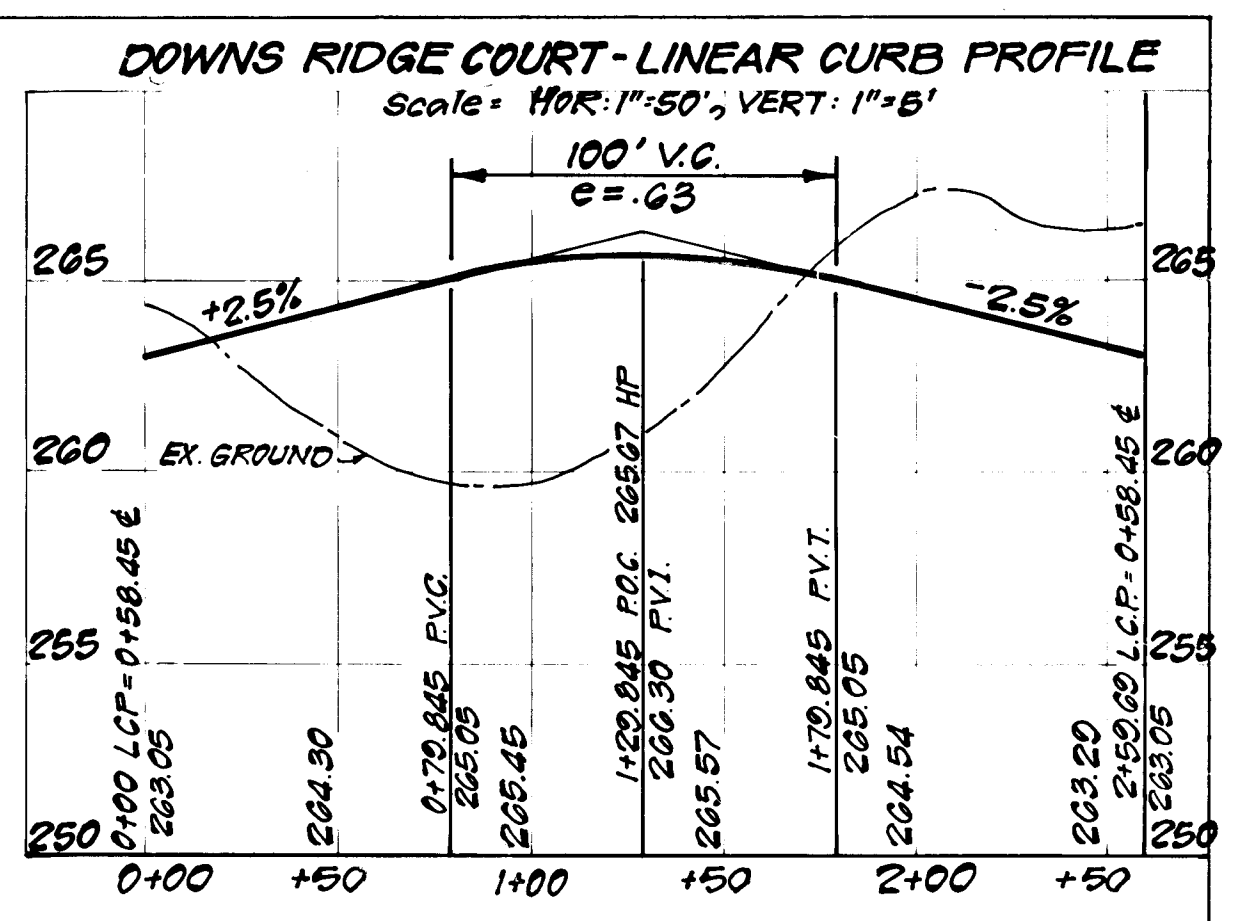
John J. Sackett 1/10/97
 Chief, Development Engineering Division MS Date

CLARK • FINEFROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS		SCALE 1" = 100'
7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (410) 981-7500 - BALTO. • (301) 621-8100 - WASH.		DRAWING 1 of 9
COVER SHEET DOWNS RIDGE		JOB NO. 95-226
FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND		FILE NO. 95-226 D
DESIGNED J.L.S.	CHECKED A.S.	DATE 9-16-96
FOR: BRANTLY DEVELOPMENT CORPORATION 8835-P COLUMBIA 100 PARKWAY COLUMBIA, MARYLAND 21045		PHONE: (410) 730-0810

F96120



NO	REVISION	Date
1	Extend storm drain 5' between I-7 & I-10	6-5-97
2	Adjust street grade to meet plans for Williams Knoll, Section 1 P-97-10	10-7-97



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Danke 1-7-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Richard Blood 1/21/97
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

William J. Johnson 1/10/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

STREET LIGHT SCHEDULE

100 Watt "Traditionaire" HPS Vapor Fast top fixture on a 14' black fiberglass pole.

NOTE: Provide 150 Watt Vapor Pendant fixture (cut off) mounted on an existing 60' x 6' pole using a 20' arm on Old Baltimore Washington Blvd @ Cowne Avenue.

CENTERLINE CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
DOWN'S RIDGE CT	144.39	135.48	75.24	128.91	S04°58'38"W	25°20'11"
DOWN'S RIDGE CT	111.74	74.30	44.78	84.14	S30°22'18"E	14°03'54"
DOWN'S AVE. EXTENDED	44.26	26.45	11.91	26.45	S78°04'07"E	35°09'22"

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ENGINEERS • PLANNERS • SURVEYORS

7135 MINISTRELL WAY • COLUMBIA, MD 21045 • (301) 381-7000 • BALTO • WASH DC • WASH

DESIGNED: J.L.S. SCALE: As Shown

DRAWN: Z.A.H. DRAWING: 2 of 9

CHECKED: J.B.S. JOB NO: 95-226

DATE: 9-12-96 FILE NO: 95-226-D

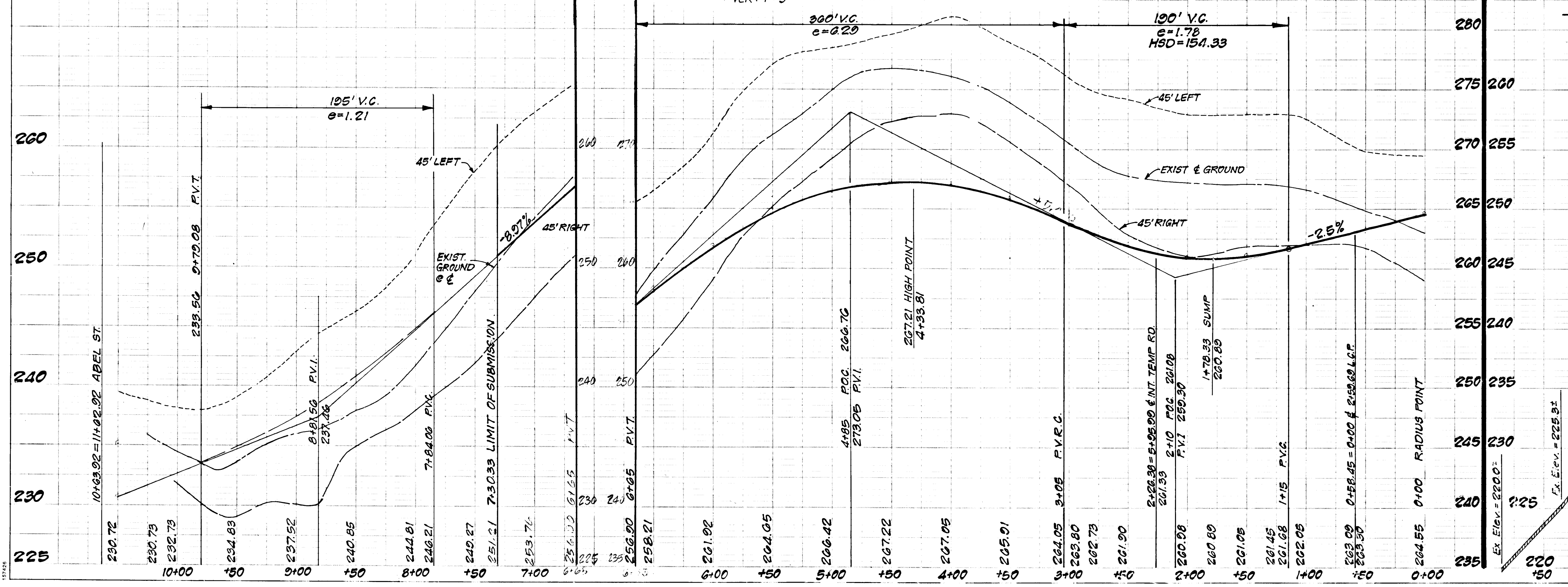
ROAD CONSTRUCTION PLAN
DOWN'S RIDGE COURT AND TEMP ROAD
DOWN'S RIDGE

FIRST (1st) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

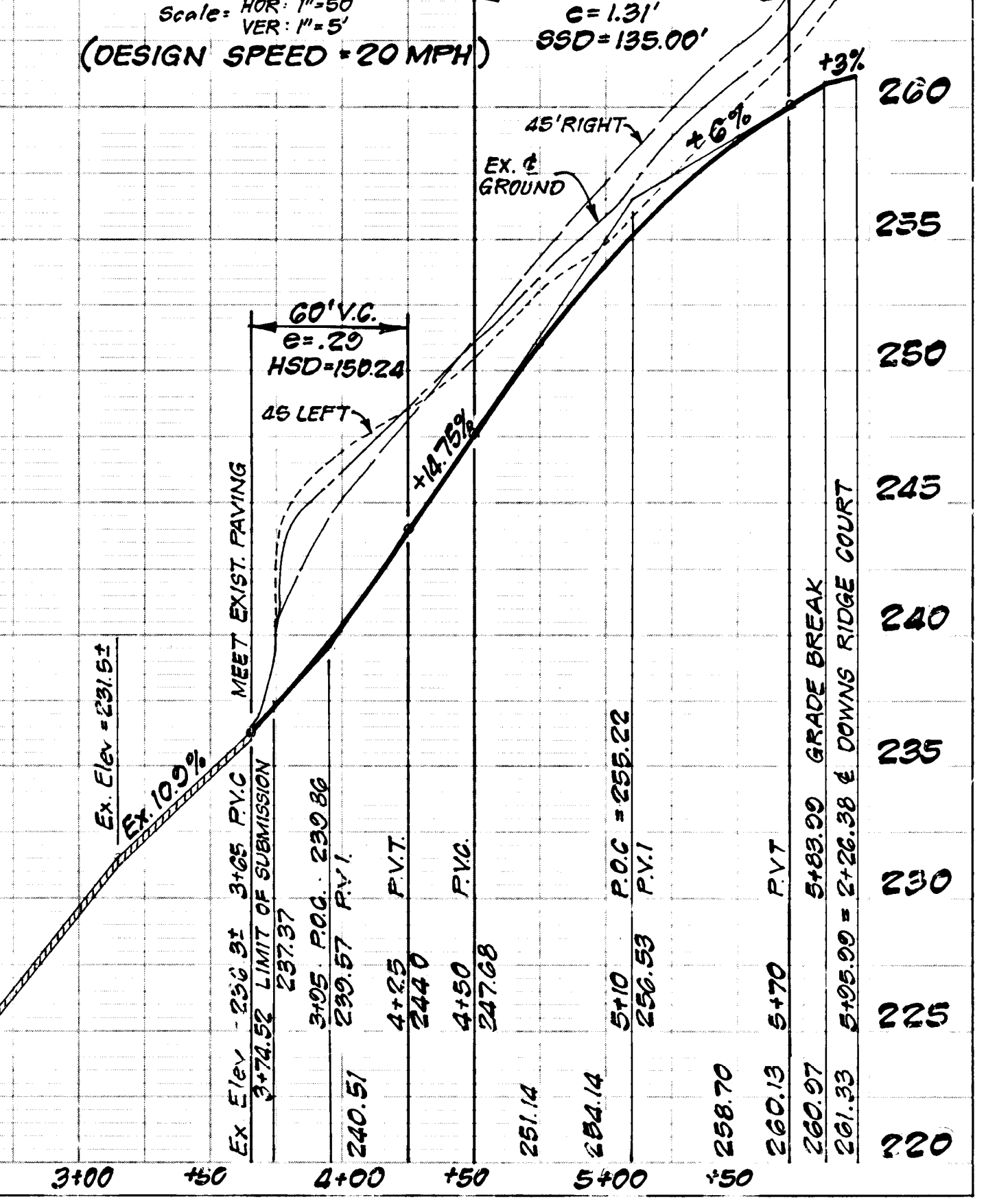
FOR: BRANTLY DEVELOPMENT CORPORATION (410) 730-0810
8835-P COLUMBIA 100 PARKWAY
COLUMBIA, MARYLAND 21045

1846

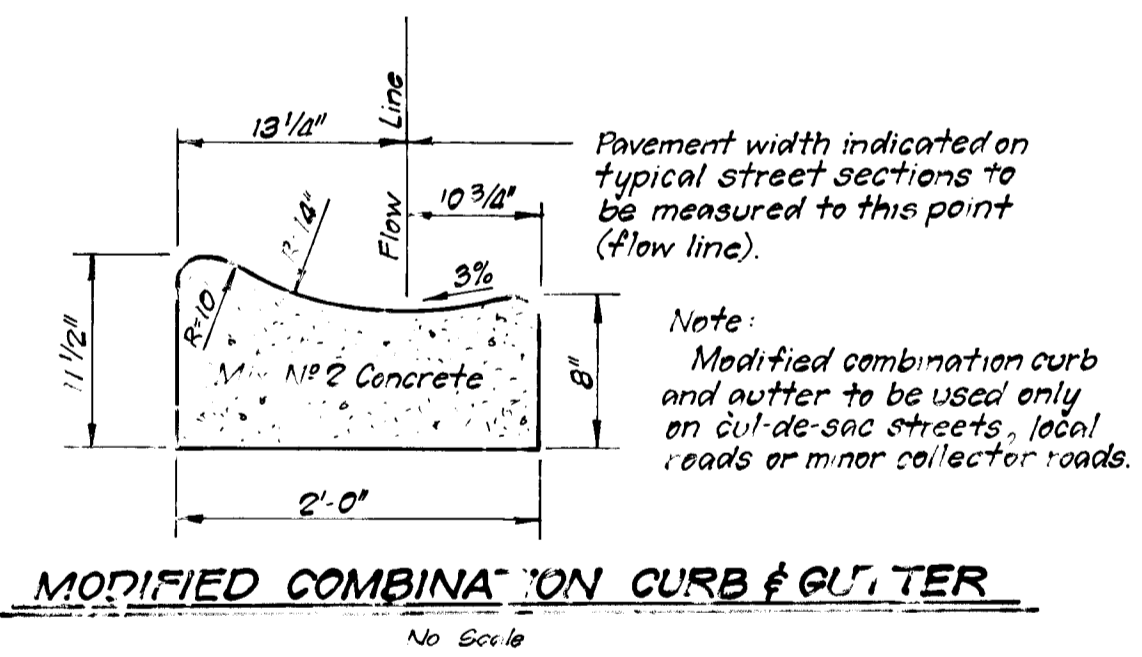
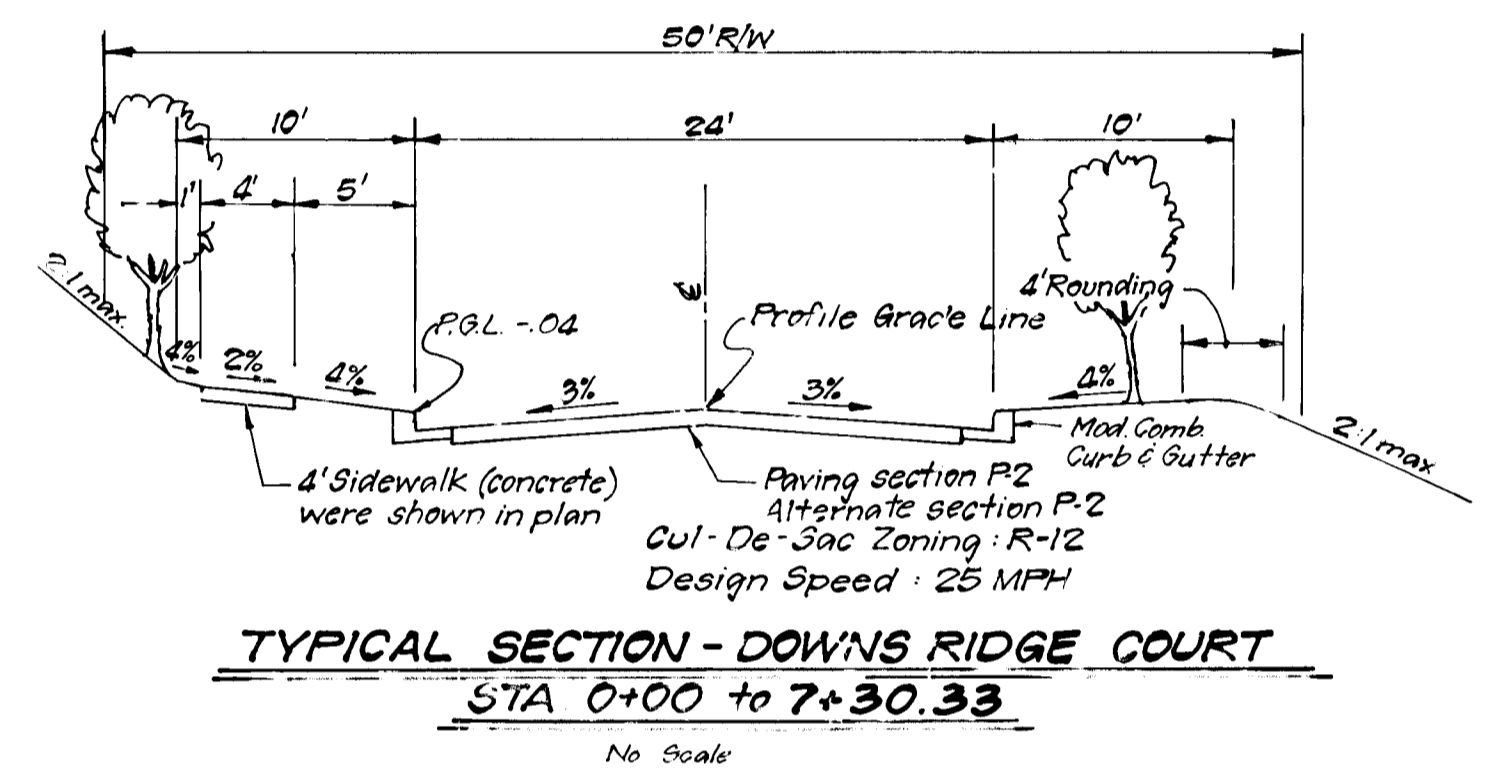
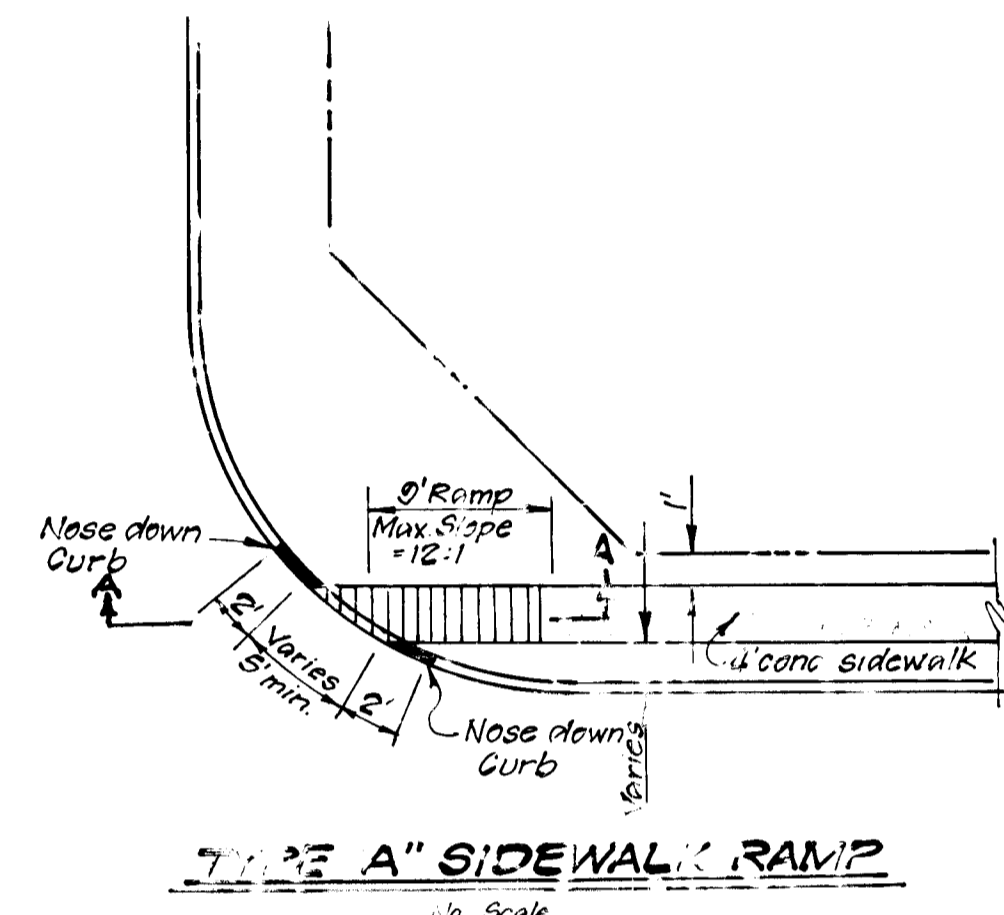
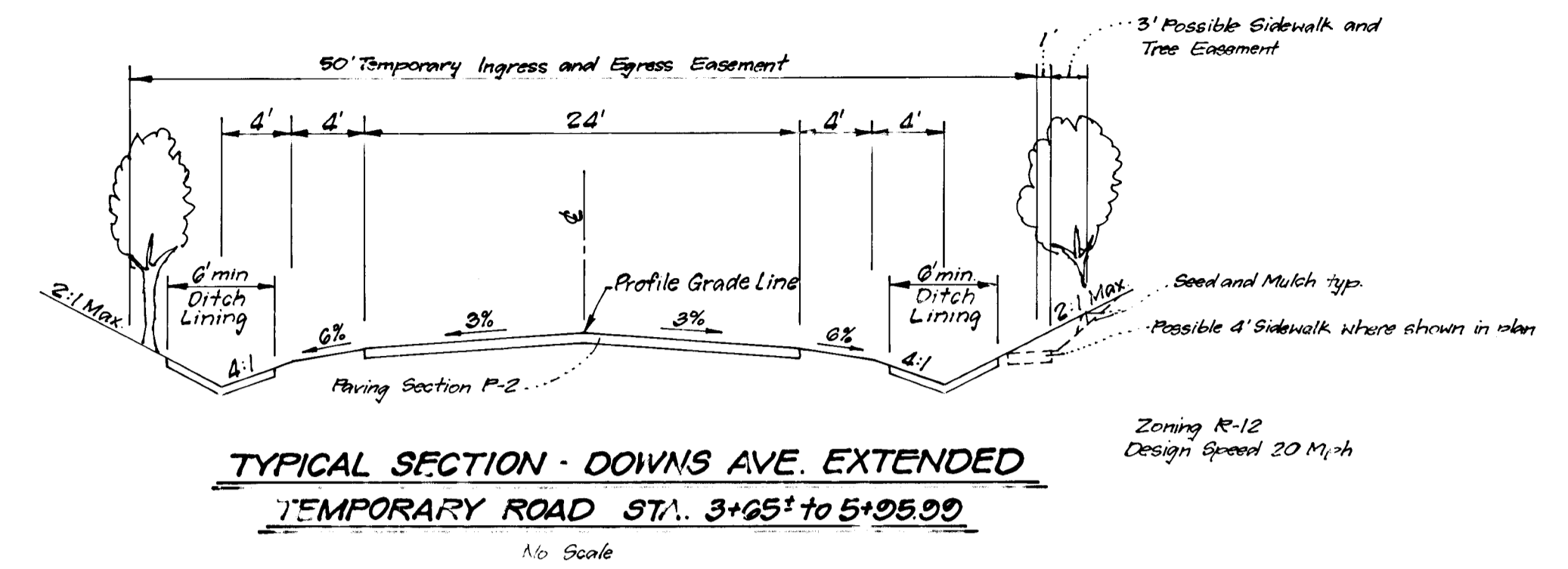
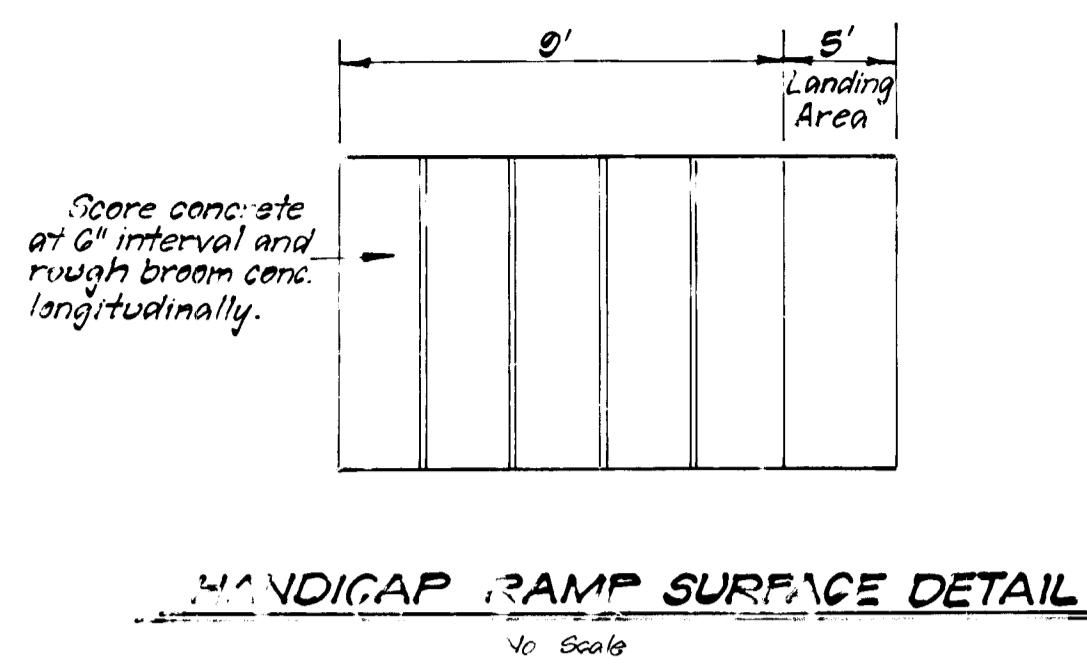
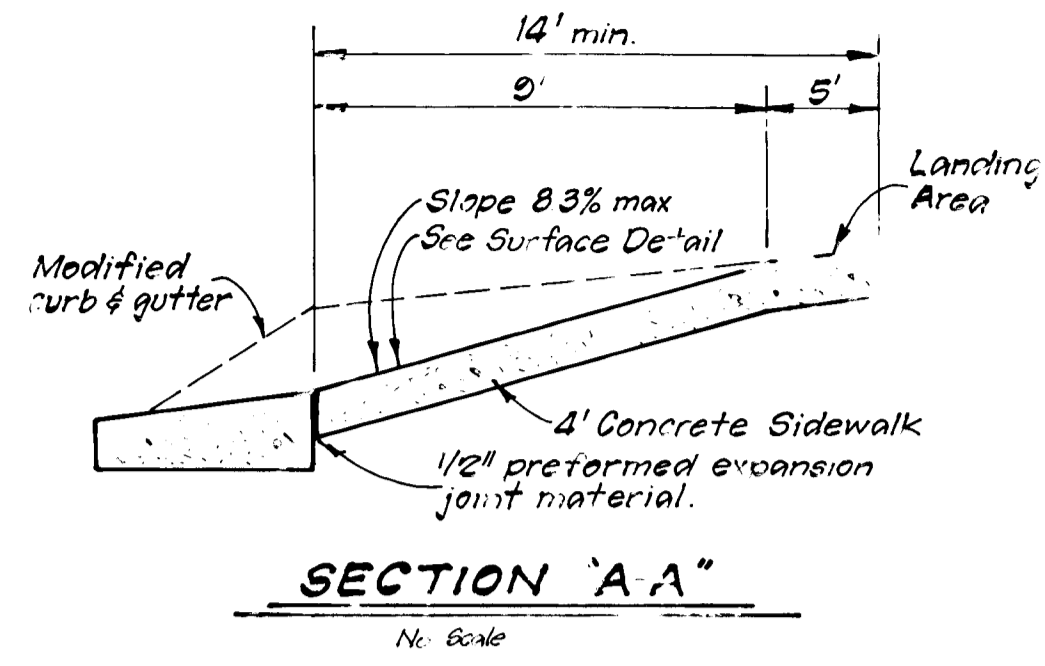
DOWN'S RIDGE COURT (DESIGN SPEED = 25 MPH)
Scale: HOR: 1"=50', VERT: 1"=5'



DOWN'S AVENUE EXTENDED (TEMP ROAD)
Scale: HOR: 1"=50', VERT: 1"=5'



NOTE:
 If Downs Avenue Extended is Dedicated as a Public Road, a waiver to the Subdivision Regulations will be required to abate sidewalk or a 4' sidewalk will have to be provided on one side of the road and easements for its construction will be obtained by the Developer.



Bituminous Conc. Surface	1 1/2"
Bituminous Conc. Base	2 1/2"
Frame - 8" Crusher Run Base Course (2 Courses) or 6" Dense graded (2) bitized aggregate base course	6" or 8"

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew MacDonnell 1-7-97
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 1/22/97
 Chief, Division of Land Development and Research

Clark 1/10/97
 Chief, Development Engineering Division

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (410) 381-7500 - BALTO. • (301) 621-8100 - WASH.

DESIGNED: J.L.S.
 DRAWN: Z.A.H.
 CHECKED: J.S.
 DATE: 8-9-96

TYPICAL PAVING SECTIONS AND DETAILS
DOWNS RIDGE
 FIRST (1st) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

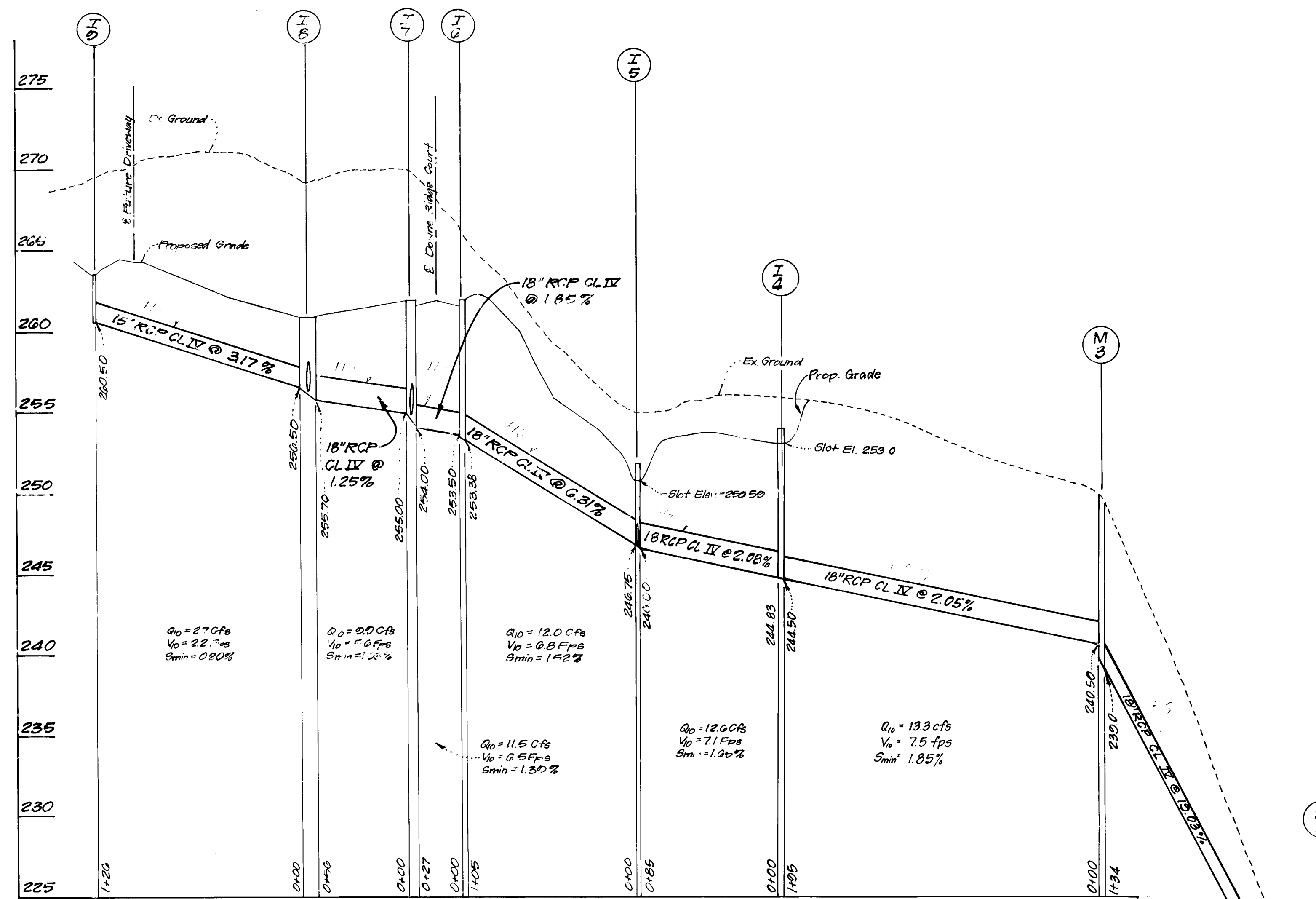
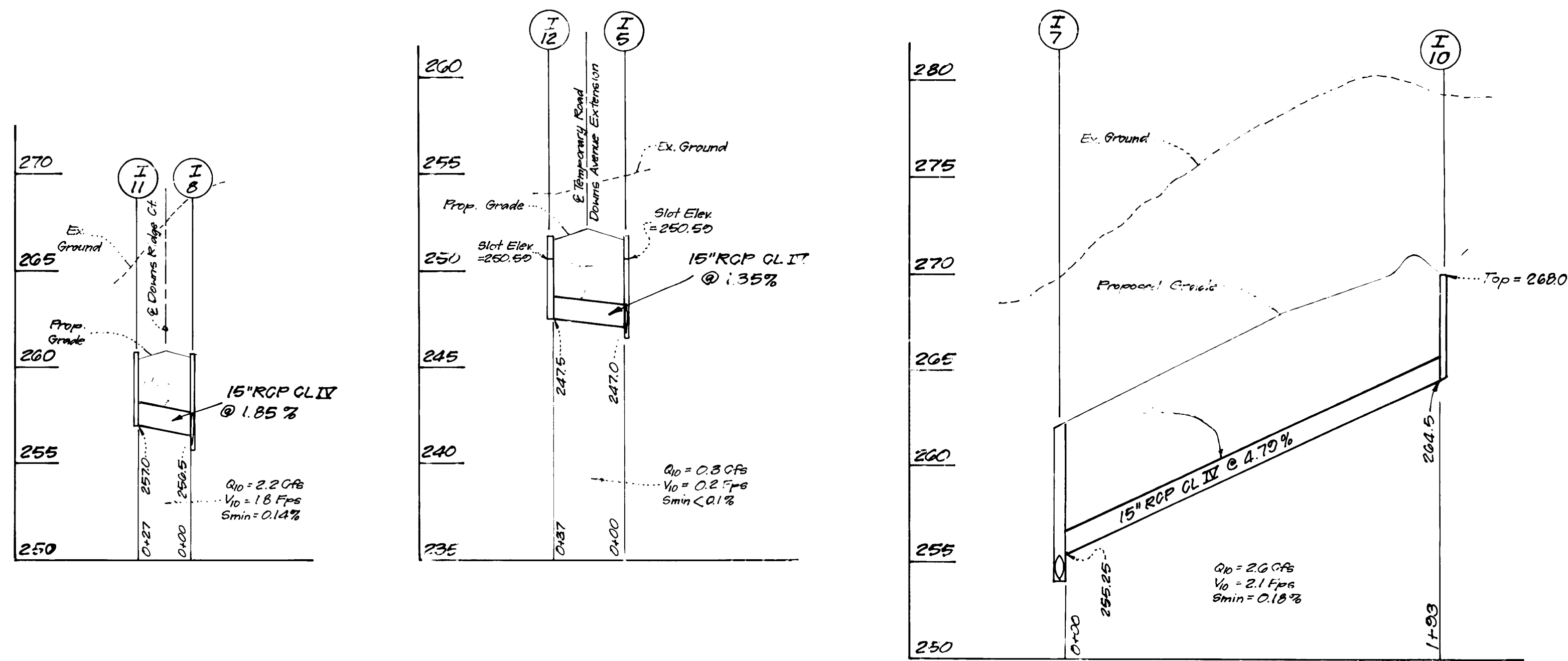
FOR: BRANTLY DEVELOPMENT CORP.
 8835-P COLUMBIA 100 PARKWAY
 COLUMBIA, MARYLAND 21045

PHONE: (410) 730-0810

SCALE: NO SCALE
 DRAWING: 30-9
 JOB NO.: 95-226
 FILE NO.: 95-226D

Jeffrey S. Schick
 2/21/97

f: 96120

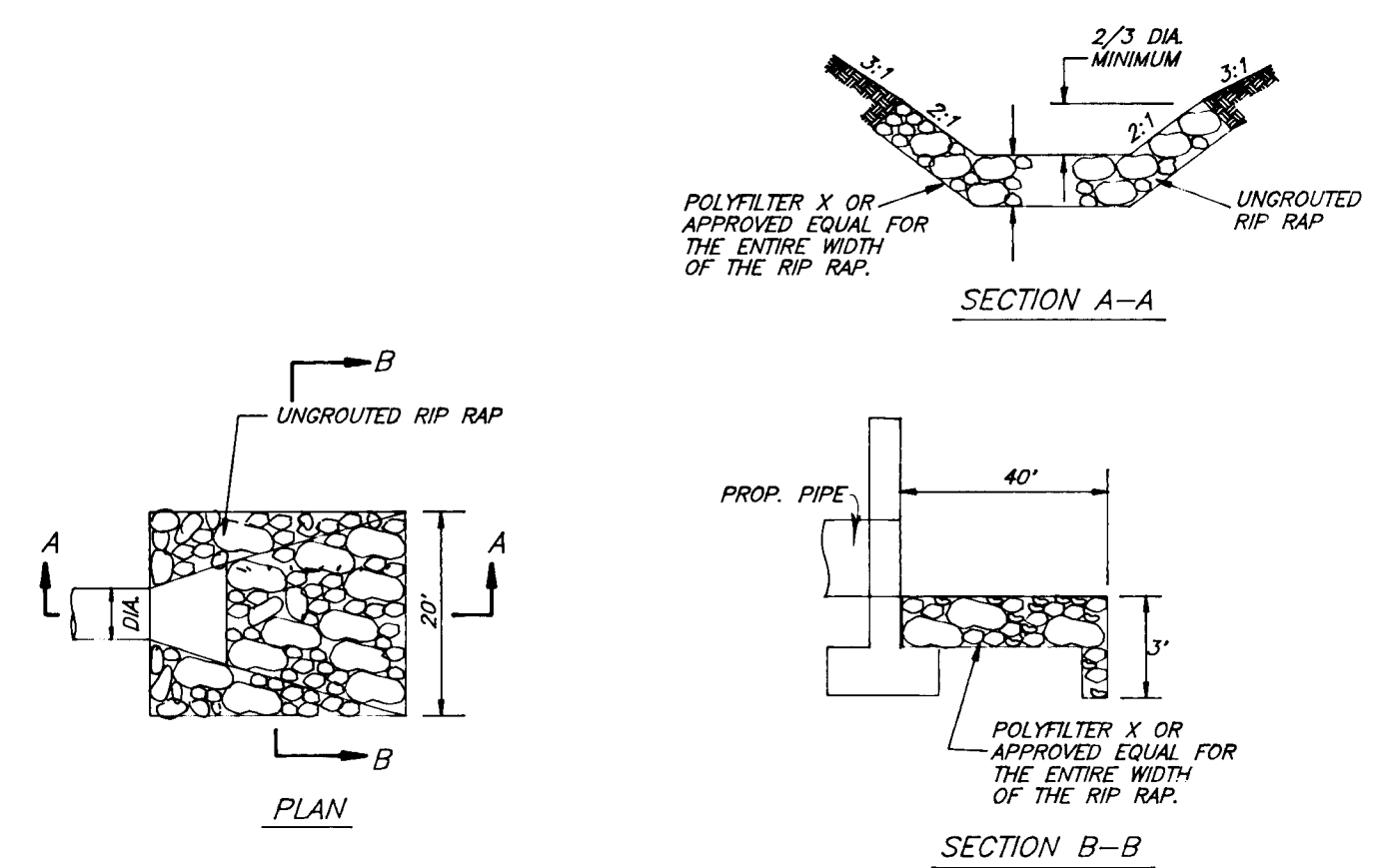


PROFILE SCALE
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

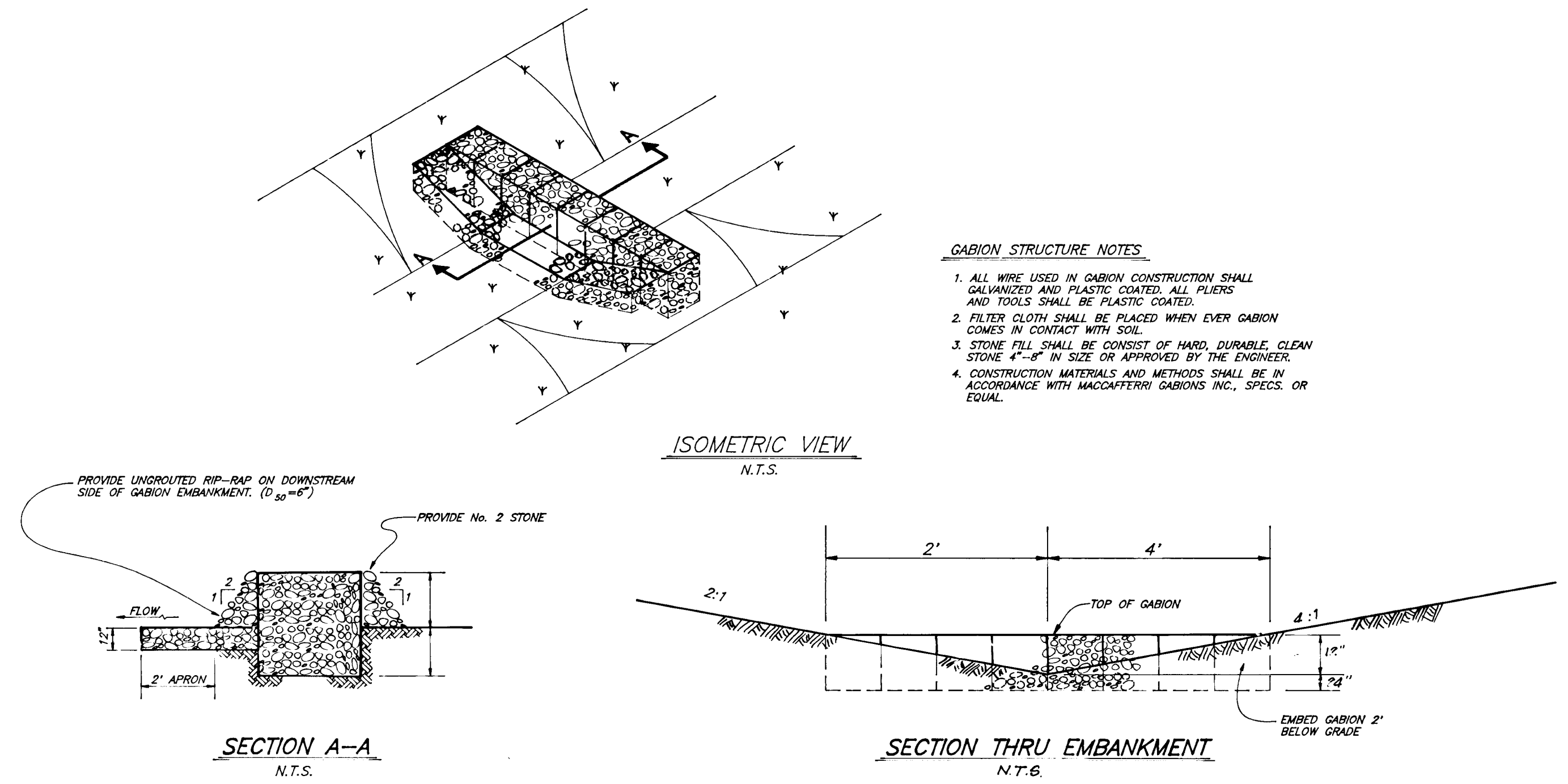
STRUCTURE SCHEDULE Δ						
No.	TYPE	INVERT		TOP ELEVATION		REMARKS
		IN	OUT	UPPER	LOWER	
I-12	Type "K" Inlet	3' sq.	247.50	251.84		Ho. Co. Std. S.D. 4.12
I-11	Type "A-10" Inlet	w=2'6"	257.00	260.85		Ho. Co. Std. S.D. 4.02
I-10	Yard Inlet	2' Dia.	264.50	268.0		Ho. Co. Std. S.D. 4.14
I-9	Yard Inlet	2' Dia.	265.50	263.50		Ho. Co. Std. S.D. 4.14
I-8	Type "A-10" Inlet	w=2'6"	254.50	255.70	260.85	Ho. Co. Std. S.D. 4.02
I-7	Type "A-10" Inlet	w=2'6"	255.25	254.0	262.14	Ho. Co. Std. S.D. 4.02
I-6	Type "A-5" Inlet	w=2'6"	253.5	253.38	262.06	Ho. Co. Std. S.D. 4.01
I-5	Type "K" Inlet	3' sq.	244.78	246.60	251.84	Ho. Co. Std. S.D. 4.12
I-4	O-Inlet	w=2'6"	244.83	244.50	253.83	Ho. Co. Std. S.D. 4.11
M-3	Precast Manhole	48" Rd.	240.5	239.0	250.0	See Plan
S-2	C-Endwall	Dia=18" *	219.50	219.50	-	Ho. Co. Std. S.D. 5.21

Δ All inverts to be fully developed
* Increase "H" dimensions 1'-0" to allow for rip-rap construction.

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15"	RCP CL IV	383 LF
18"	RCP CL IV	602 LF



UNGROUTED RIP RAP DETAILS
AT STRUCTURE S-2
N.T.S.



- GABION STRUCTURE NOTES:**
- ALL WIRE USED IN GABION CONSTRUCTION SHALL GALVANIZED AND PLASTIC COATED. ALL PLIERS AND TOOLS SHALL BE PLASTIC COATED.
 - FILTER CLOTH SHALL BE PLACED WHEN EVER GABION COMES IN CONTACT WITH SOIL.
 - STONE FILL SHALL BE CONSIST OF HARD, DURABLE, CLEAN STONE 4"-8" IN SIZE OR APPROVED BY THE ENGINEER.
 - CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH MACCAFERRI GABIONS INC. SPECS. OR EQUAL.

CHECK DAM DETAIL
N.T.S.

DEVELOPER'S/BUILDER'S CERTIFICATE
I/We certify that all development and construction will be done according to this plan of development and 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 or their authorized agents, as are deemed necessary.

NAME: *[Signature]* DATE: 3/1/96

ENGINEER'S CERTIFICATE
I hereby 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.

NAME: *[Signature]* DATE: 2/15/96

REVISIONS		
No.	Description	Date
2	Adjust S.D. between str. I-7 to I-10 due to roadway lowering	10-7-97
1	Rev profile G.D. Str. I-7 to I-10 & Slot El. @ I-4	6-5-97
	Rev. Str. pipe schedule	

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ENGINEERS • PLANNERS • SURVEYORS
7135 MINTREL WAY • COLUMBIA, MD. 21045 • (410) 381-7500 - BALTO. • (301) 621-8100 - WASH.

DESIGNED: J.L.S.
DRAWN: P.S.
CHECKED: *[Signature]*
DATE: 9-12-96

SCALE: AS SHOWN
DRAWING: 4 of 9
JOB NO.: 95-226
FILE NO.: 95-226D

STORM DRAIN PROFILES
DOWN'S RIDGE
FIRST (1st) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FOR: BRANTLY DEVELOPMENT CORP.
8815-P COLUMBIA 100 PARKWAY
COLUMBIA, MARYLAND 21045
PHONE: (410) 730-0810

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 1-7-97
Chief, Bureau of Highways AS Date

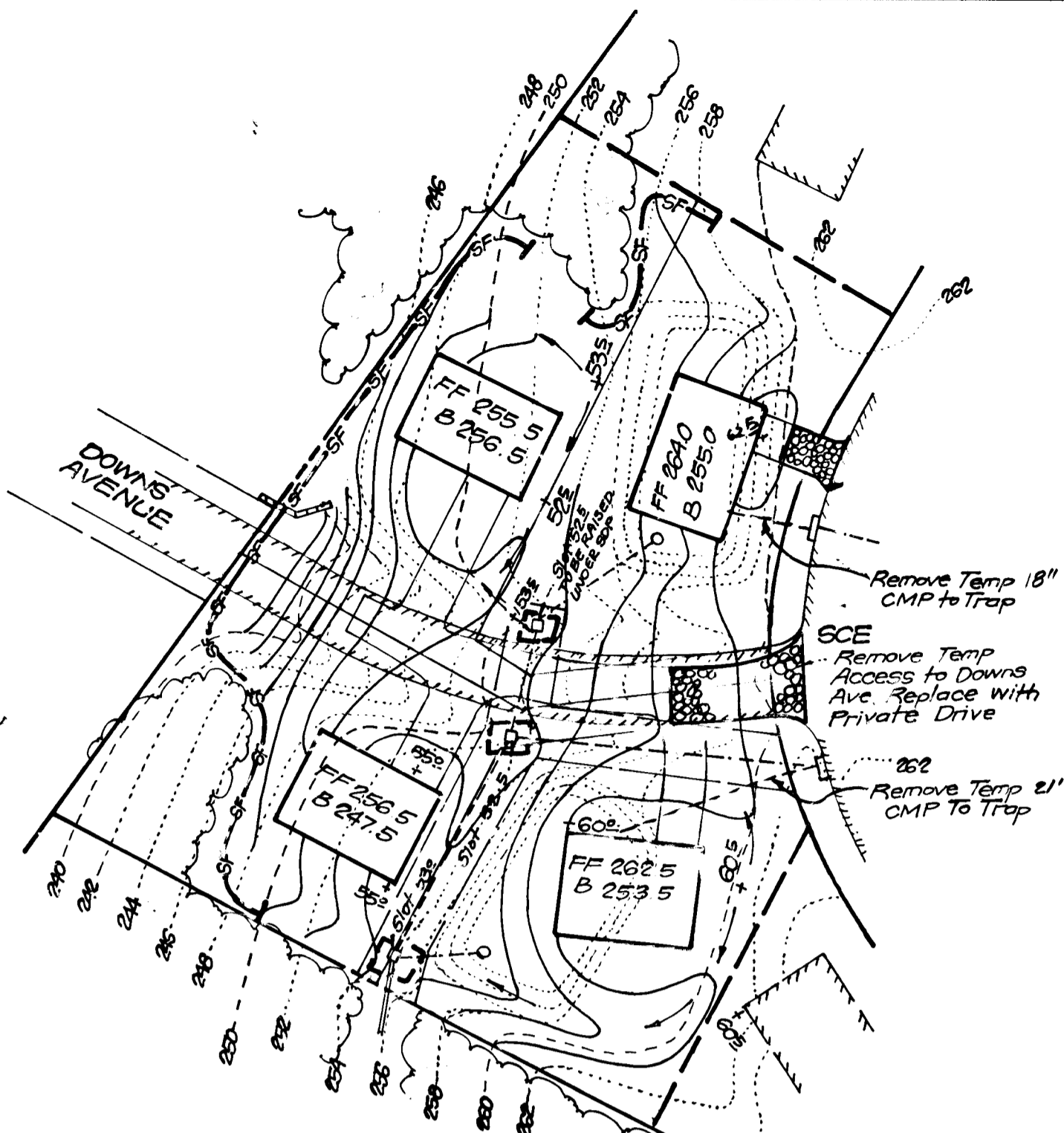
APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 1/21/97
Chief, Division of Land Development and Research Date

[Signature] 1/10/97
Chief, Development Engineering Division Date

Reviewed for HOWARD S.C.D. and meets Technical Requirements
Signature: *[Signature]* Date: *[Date]*
U.S. Natural Resources Conservation Service

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

Approved: *[Signature]* DATE: 3/1/96



SEDIMENT TRAP #2 P.O.S.T. ST-1
 DA = 1.9 Ac
 Storage Req'd = 6840 CF
 Storage Prov'd = 9215 CF
 Riser Crest = 255.16
 Top of Embankment = 256.16
 Bottom Elev. = 252.0
 Depth = 3.16'
 Wet Storage Elev. = 253.4
 Bottom Dimension = 80' x 27'
 2:1 side slopes

NOTE
 EARTH DIKE IS TO BE REPLACED BY A MACADAM BERM AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

PHASE 2 SEDIMENT & EROSION CONTROL TO BE COMPLETED UPON REMOVAL OF TRAPS #1 and 2

SEDIMENT TRAP #1 P.O.S.T. ST-1
 DA = 1.95 Ac
 Storage Req'd = 1.95 x 3600 = 7020 CF
 Storage Prov'd = 9267 CF
 Riser Crest = 255.0
 Top of Embankment = 256.0
 Bottom Elev. = 252.0
 Wet Storage Elev. = 253.4
 Bottom Dimension = 65' x 37'
 2:1 Side Slopes
 Depth = 3

NOTE
 SEE SHEET 09 OF 09 FOR SIGNAGE FOR FOREST CONSERVATION EASEMENT

Reviewed for: HOWARD S.C.D.
 and meets Technical Requirements
 Signature: [Signature] Date: 11-12-97
 U.S. Natural Resources Conservation Service

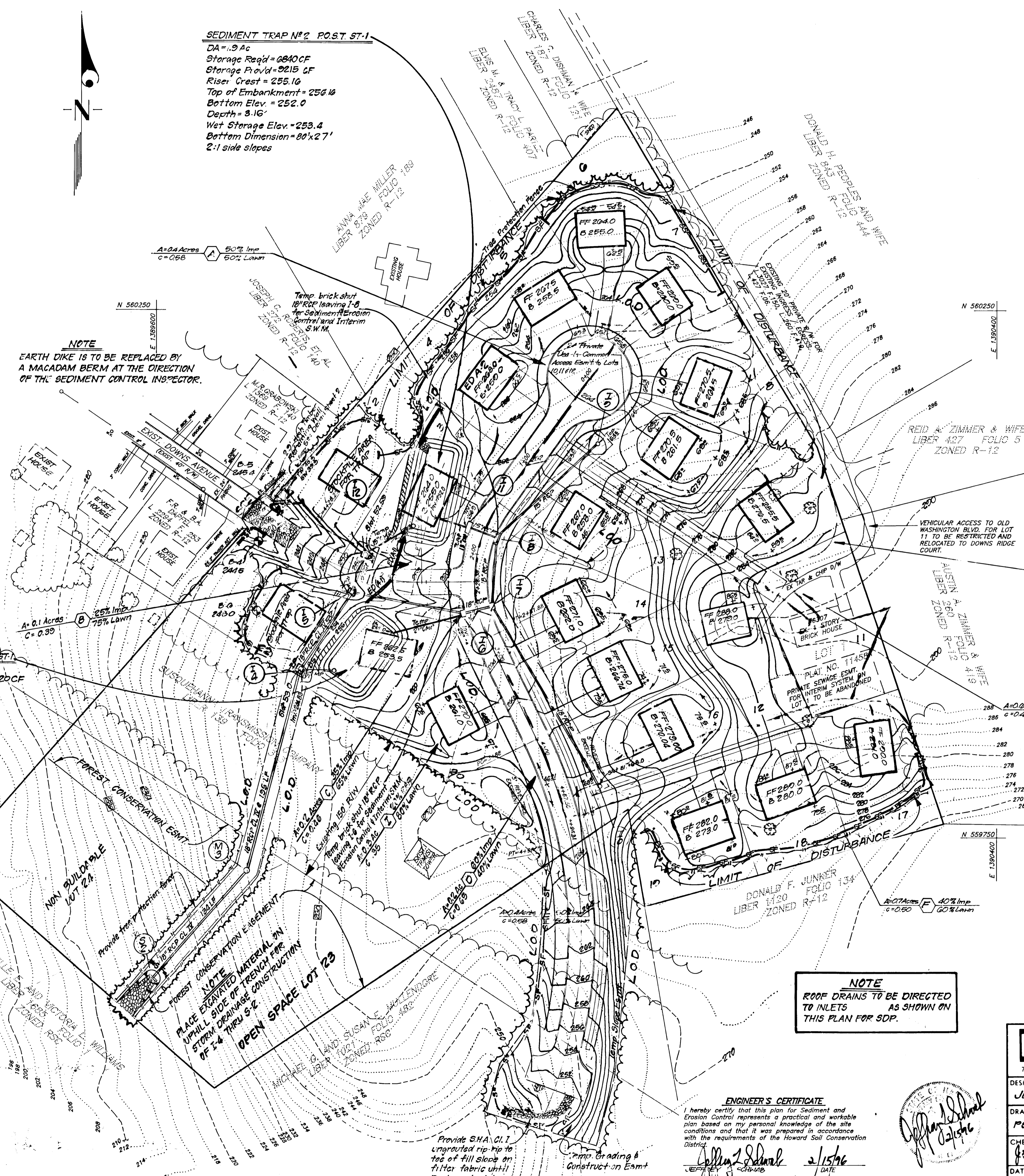
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Approved: [Signature] 11/21/97

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 1-7-97
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 1/21/97
 Chief, Division of Land Development and Research

[Signature] 1/10/97
 Chief, Development Engineering Division



LEGEND

Contour Interval	2ft
Existing Contour
Proposed Contour	-----
Future Proposed Contour	-----
Stabilized Construction Entrance	[Symbol]
Earth Dike	[Symbol]
Silt Fence	[Symbol]
Limit of Disturbance	[Symbol]
Tree Protection Fence	[Symbol]
Trees to Remain	[Symbol]
Inlet Protection	[Symbol]

NO.	REVISIONS	Date
1	Rev contours to include lot grading, adjust limit of disturbed area and increased trap size to include the additional disturbed area. Added silt fence	6-3-97
2	Rev grading sta 3+05 - 7+30.93 due to the lowering of street to meet plans prepared for Williams Knoll F-97-110.	10-7-97

- CONDITIONS**
- Construction traffic may not use either Downs Ave or the Zimmer Driveway for access to/from the site
 - Approval by the Dept of Planning & Zoning of this proposed grading in roadway reflects an endorsement of the forthcoming SDPs.

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and 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 or their authorized agents, as are deemed necessary."

NAME: [Signature] DATE: 3/1/96

NOTE
 ROOF DRAINS TO BE DIRECTED TO INLETS AS SHOWN ON THIS PLAN FOR SDP.

ENGINEER'S CERTIFICATE
 I hereby 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] 2/15/96
 DATE

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (410) 381-7500 - BALTO. • (301) 621-8100 - WASH.

DESIGNED JLS	DRAINAGE AREA 1.027, GRADING AND SEDIMENT AND EROSION CONTROL PLAN	SCALE 1" = 50'
DRAWN FS		DRAWING 6 of 9
CHECKED JLS	FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 9E-226
DATE 9-12-96		FOR GRANTLY DEVELOPMENT CORP 8835 Columbia 100 Parkway Columbia, Maryland 21046

1846

PERMANENT SEEDING NOTES

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

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

1. Preferred—Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 sq.ft.).
2. Acceptable—Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. per acre of weeping lovegrass (0.7 lbs./1000 sq.ft.). For the period October 16 thru February 28, protect site by applying 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use seed with 60 lbs./acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 6 feet or higher, use 348 gallons per acre (9 gal/1000 sq.ft.) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseeding.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.).

SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (3.2 lbs./1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.7 lbs./1000 sq.ft.). For the period November 1 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 6 feet or higher, use 348 gallons per acre (9 gal/1000 sq.ft.) for anchoring.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEDIMENT AND EROSION CONTROL NOTES

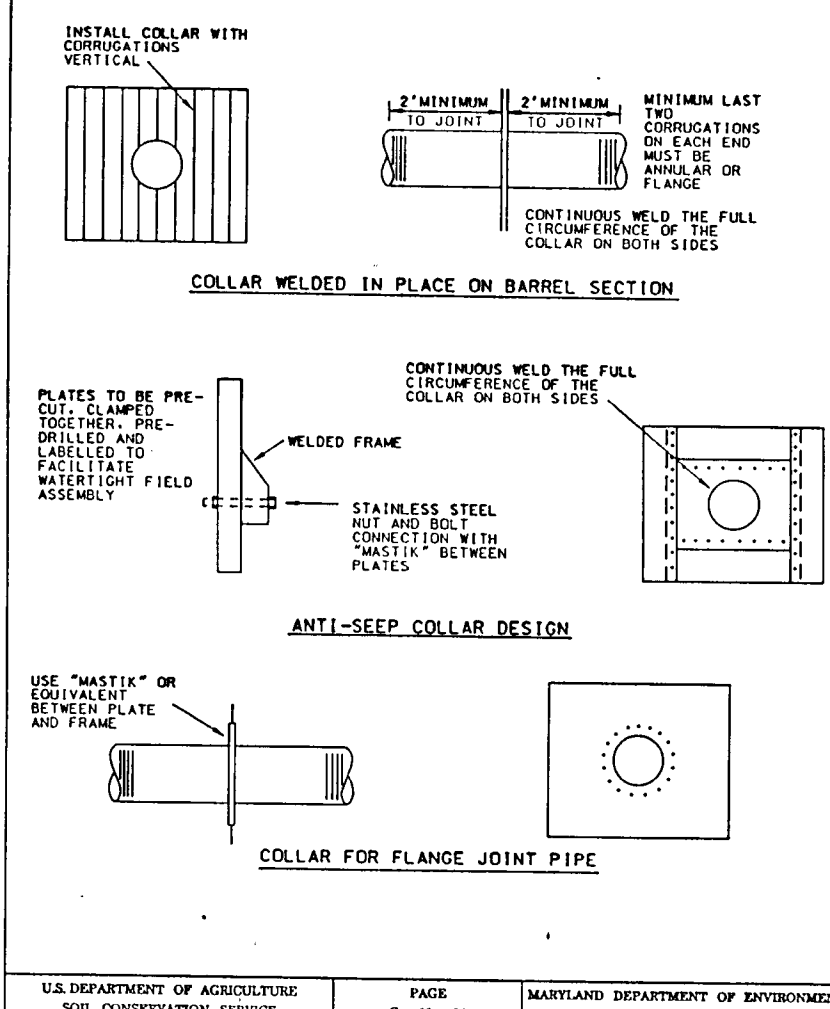
1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the 1983 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL.
3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within:
 - a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1
 - b) 14 days for all other disturbed or graded areas on the project site.
4. All sediment traps/basins must be fenced and warning signs posted around their perimeters in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above, in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings, soil, temporary seedings and mulching (See 6-2011 Rev. 4-25-93). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. SITE ANALYSIS:

Total Area of Site:	6.723
Area Disturbed:	6.723
Area to be roofed or paved:	1.6 AC
Area to be vegetatively stabilized:	5.123 AC
Total Fill:	1300 cu ft
Offsite Waste/Borrow Area Location:	
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. The total amount of silt fence = 850 LF
Total amount of 6' High Silt Fence = 225 LF

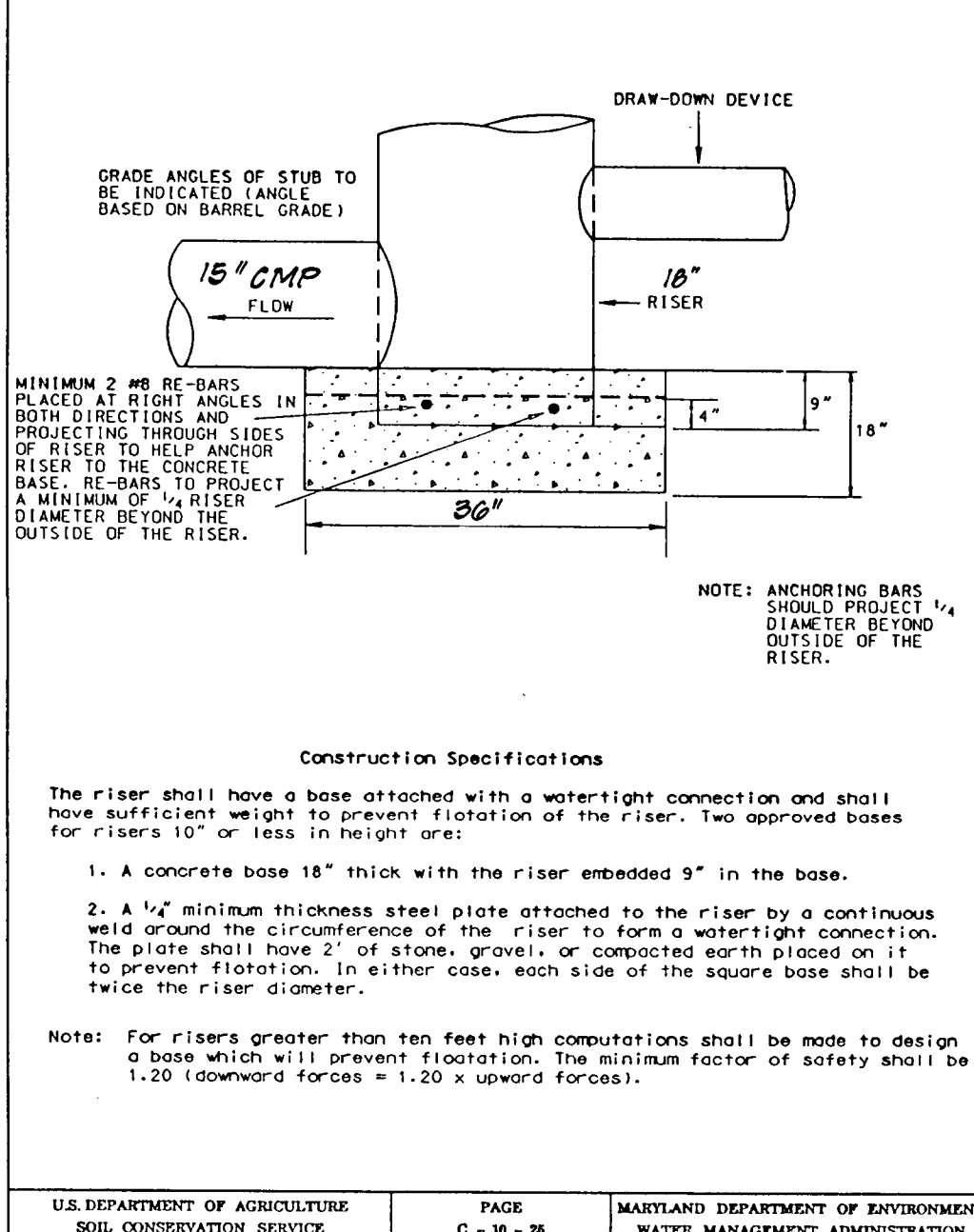
1. Obtain Grading Permit.
2. Clear and grade site to install SCE, silt fence at Downs Ave and storm drainage S-8 thru I-12.
3. Install SCE and silt fence at Downs Ave.
4. Install silt fence and construct storm drainage S-2 thru I-12.
5. Construct Traps #1 and #2 and ED and install remaining Silt Fence.
6. Clear and grub remainder of site within L.O.D.
7. Rough grade site.
8. Temp. brick silt pipes leaving I-6 and I-8.
9. Construct utilities.
10. Fine grade and construct paving.
11. Fine grade and stabilize all disturbed areas onsite in accordance with standards and specs.
12. Upon approval of the sediment control Inspector, remove sediment and erosion control measures and stabilize.
13. Upon removal of traps #1 and #2 Final grade lots 2, 3, 21 & 22 as shown on phase II inset plan on Sheet 5.
14. Upon approval of the sediment control Inspector, remove sediment & erosion control measures and stabilize.

NOTE: Traps #1 and #2 are to remain in place until permanent BMPs are installed in Williams Road. IS constructed and storm drainage has been piped to pond.

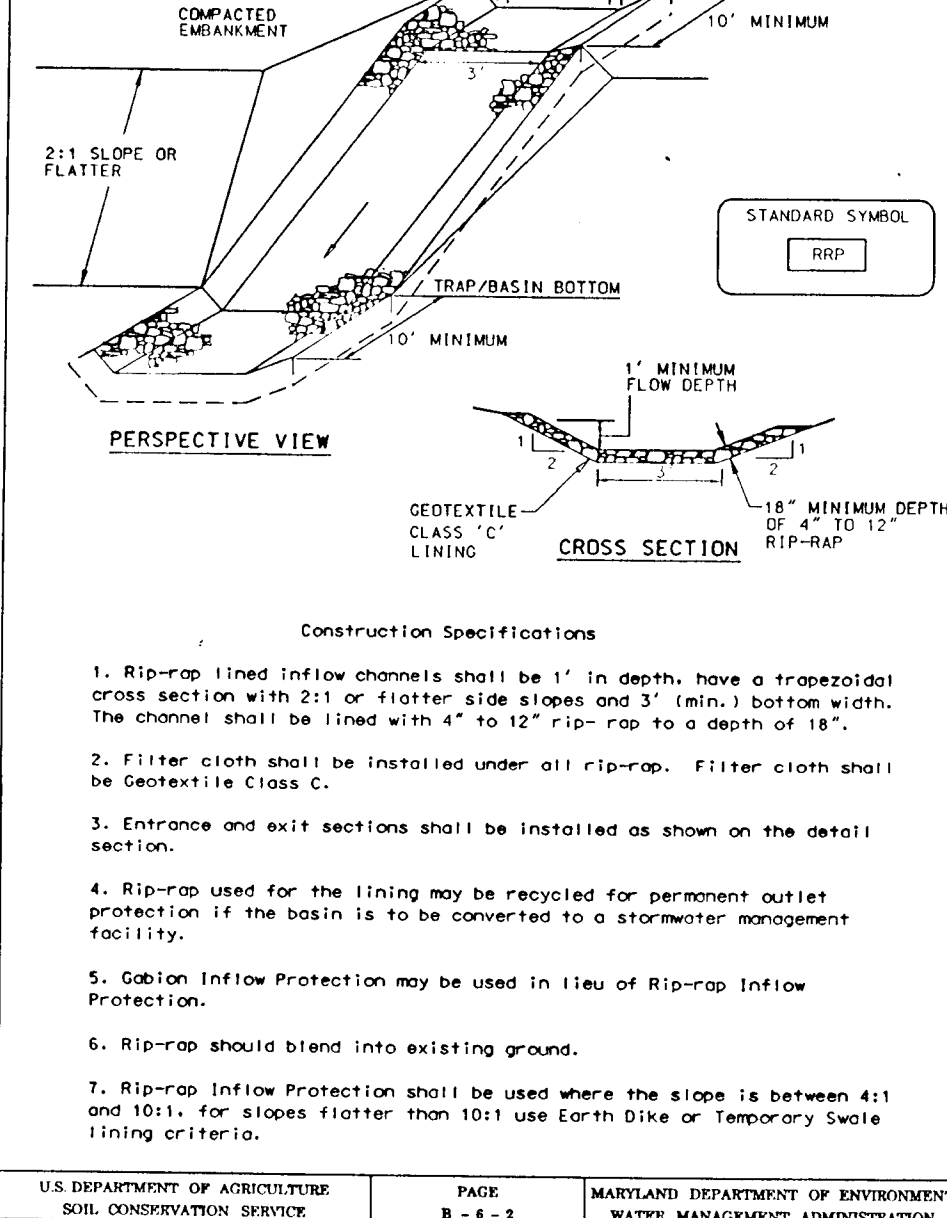
DETAIL 14 - TYPICAL ANTI-SEEP COLLARS



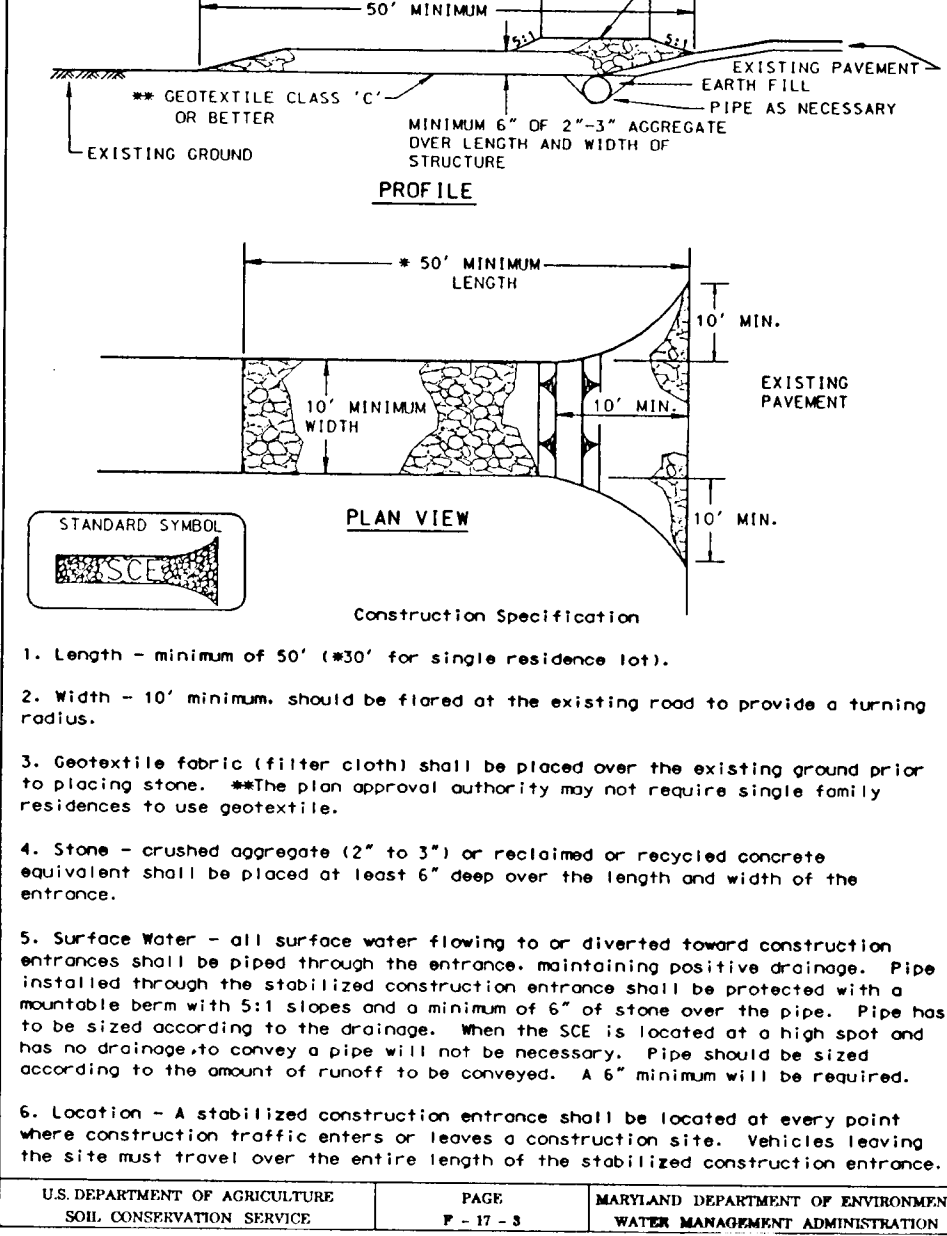
DETAIL 15 - RISER BASE DETAIL



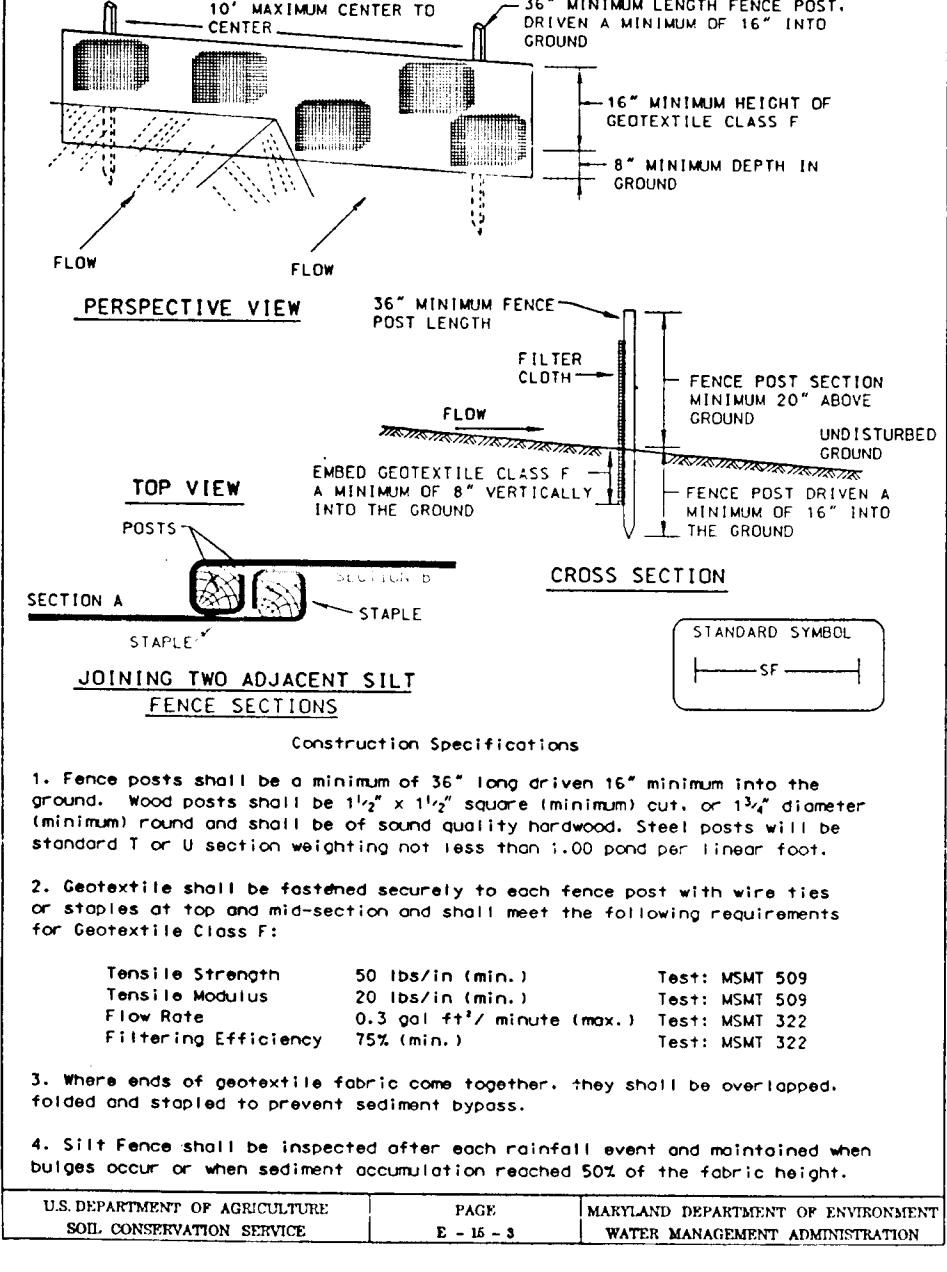
DETAIL 5 - RIP-RAP INFLOW PROTECTION



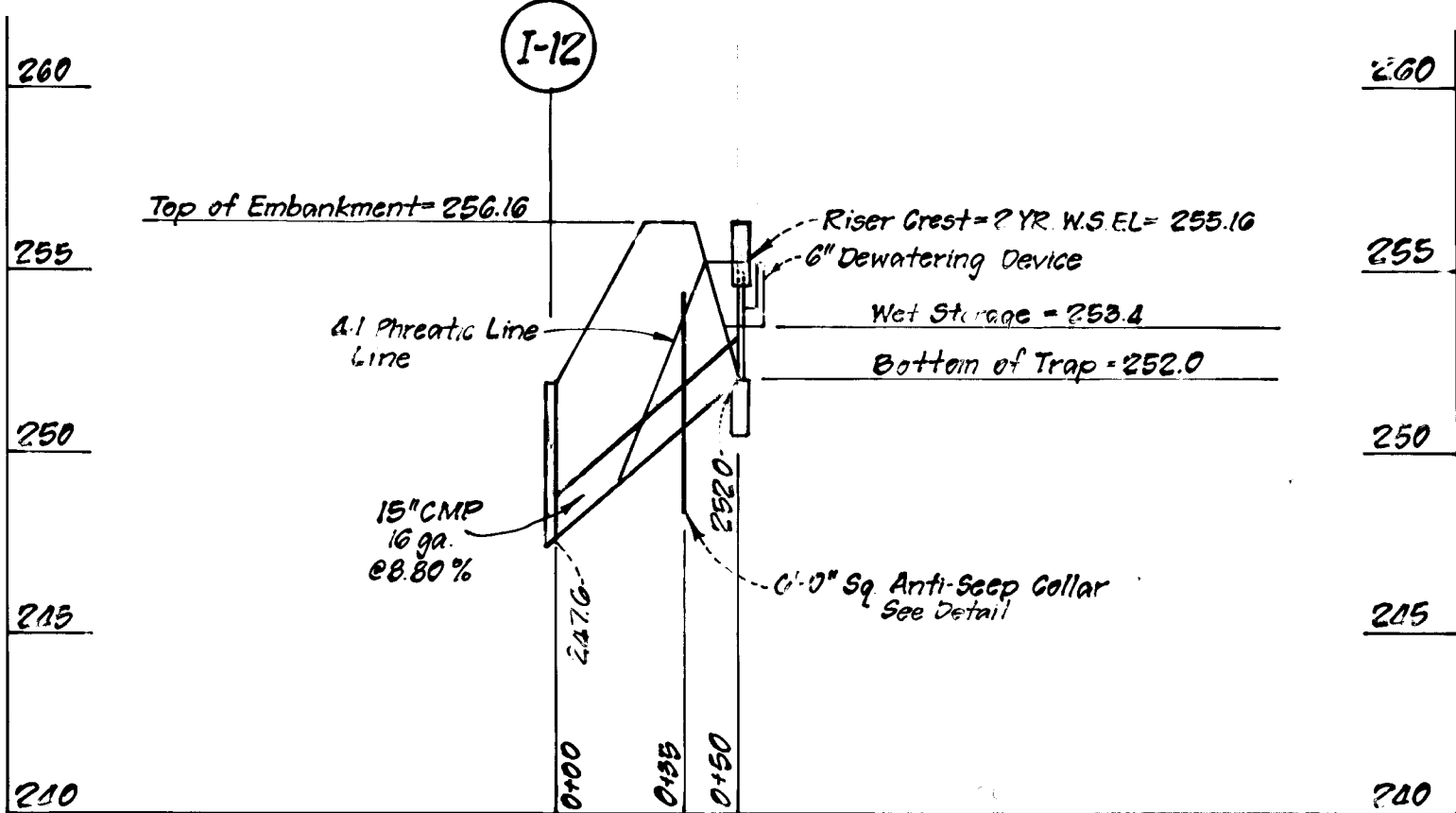
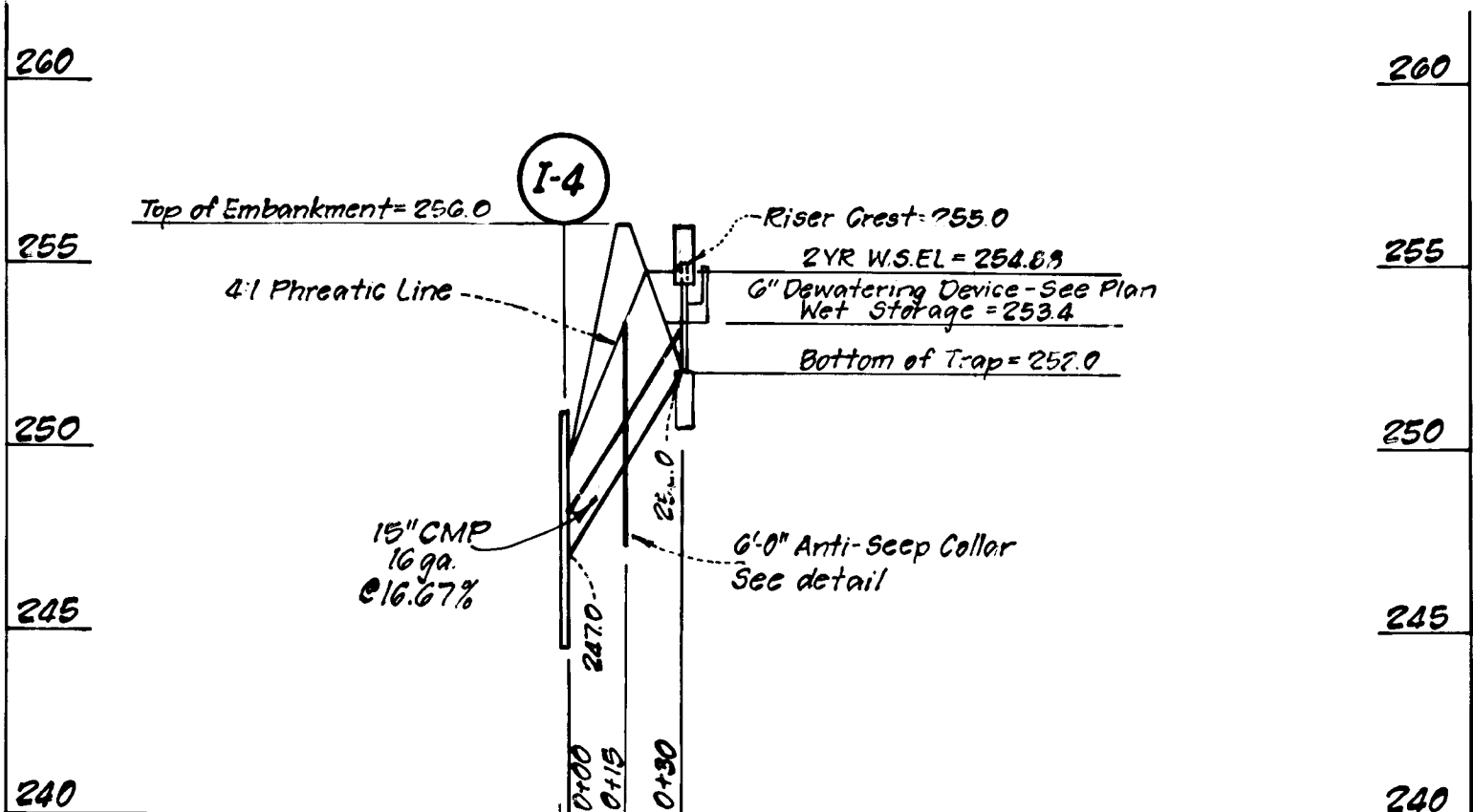
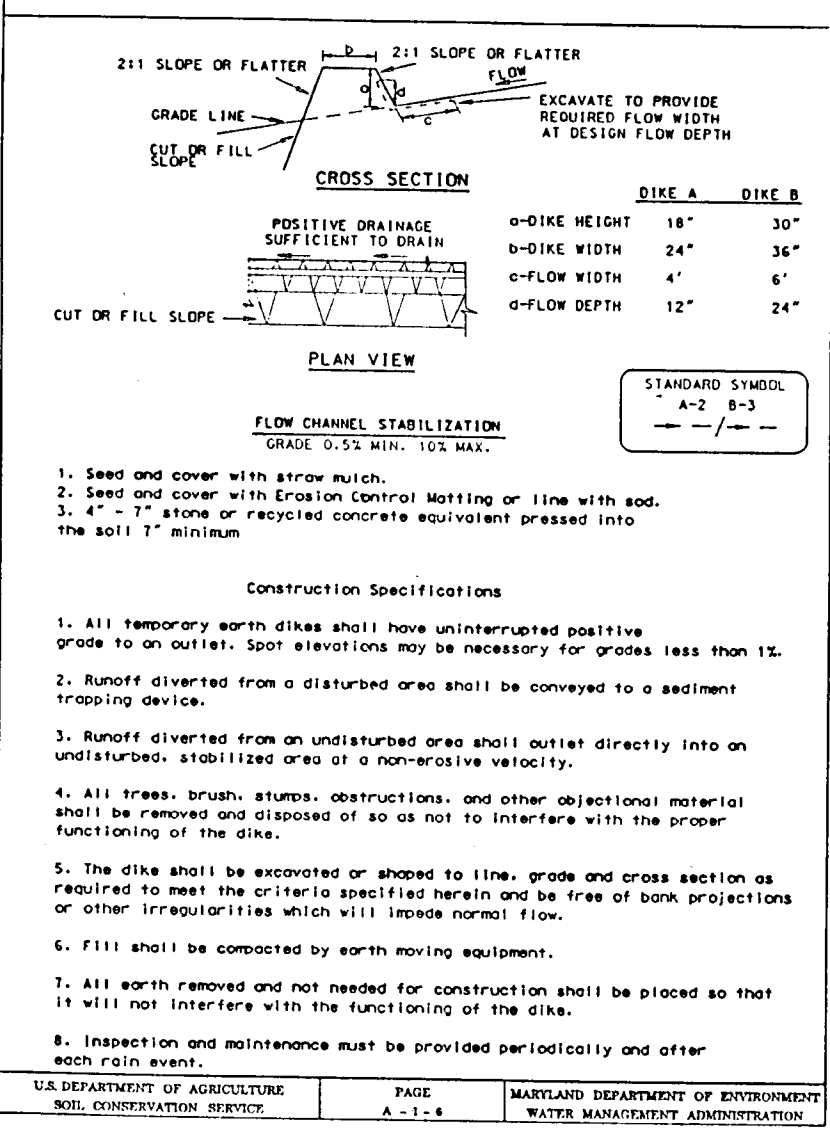
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



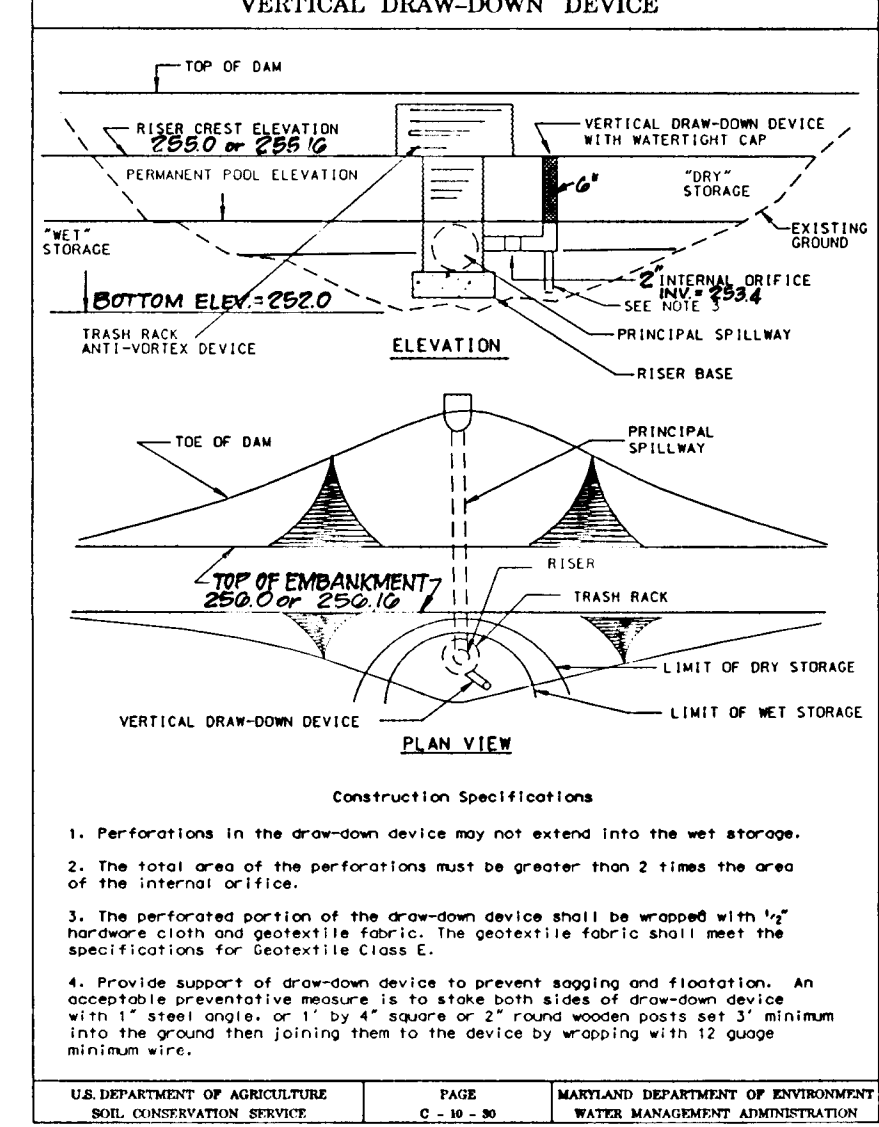
DETAIL 22 - SILT FENCE



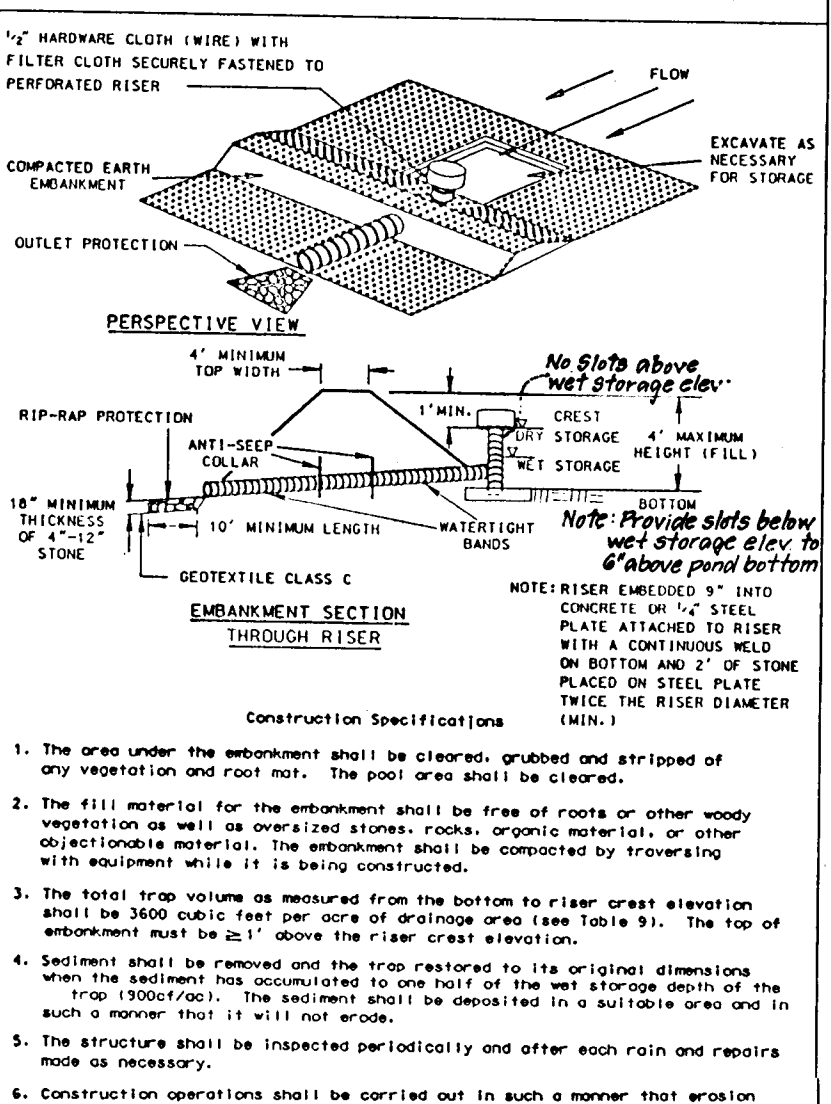
DETAIL 1 - EARTH DIKE



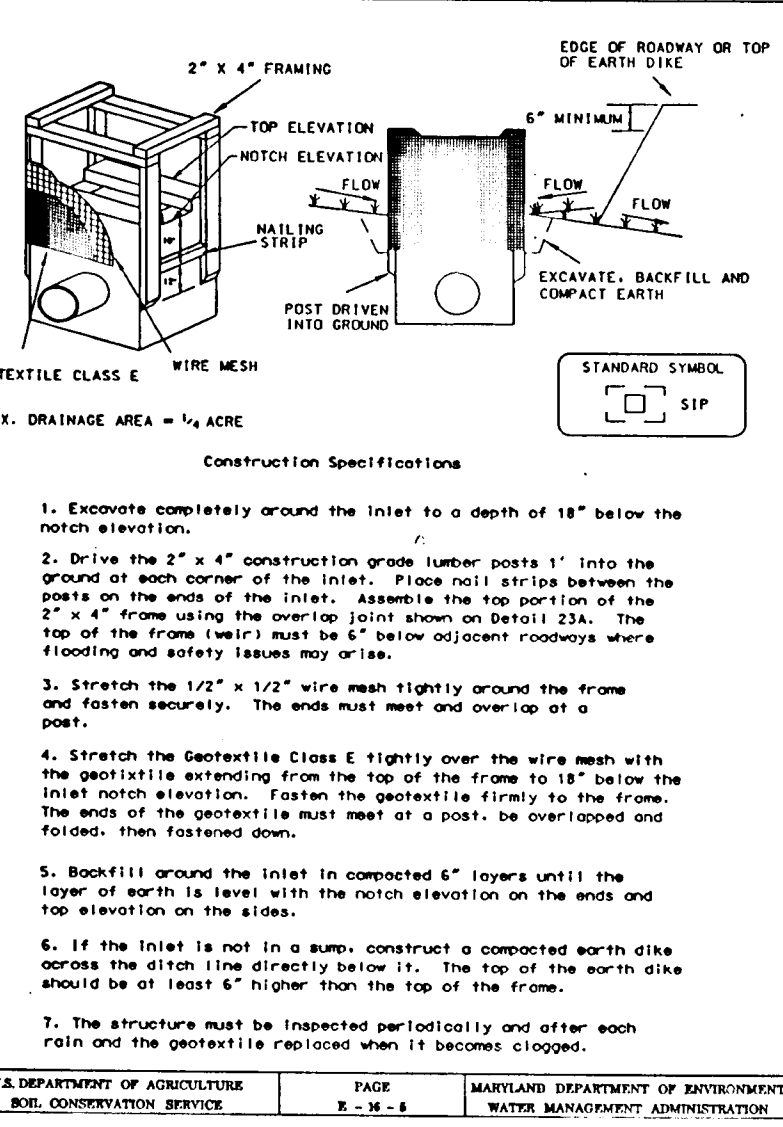
BASIN DRAWDOWN SCHEMATIC VERTICAL DRAW-DOWN DEVICE



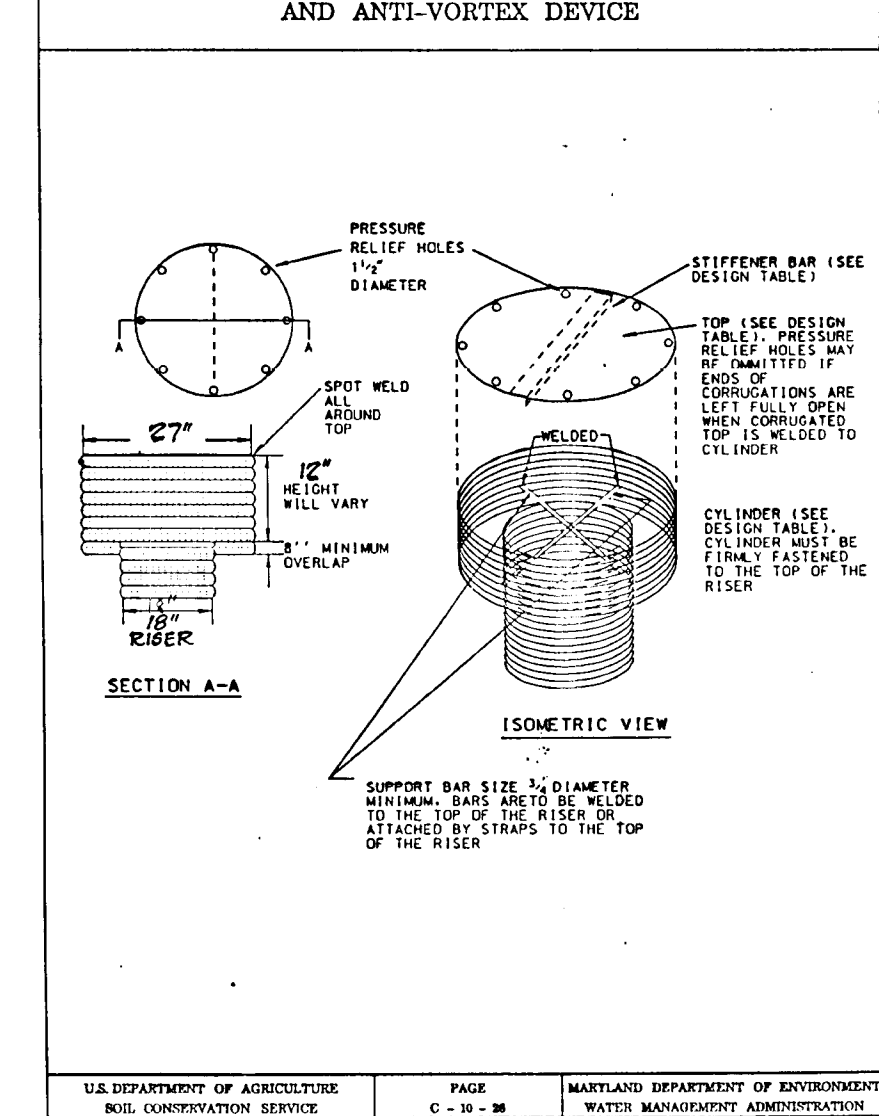
DETAIL 8 - PIPE OUTLET SEDIMENT TRAP - ST 1



DETAIL 23A - STANDARD INLET PROTECTION



DETAIL 16 - CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE



SEQUENCE OF CONSTRUCTION

1. Obtain Grading Permit.	1 day
2. Clear and grade site to install SCE, silt fence at Downs Ave and storm drainage S-8 thru I-12.	7 days
3. Install SCE and silt fence at Downs Ave.	1 day
4. Install silt fence and construct storm drainage S-2 thru I-12.	7 days
5. Construct Traps #1 and #2 and ED and install remaining Silt Fence.	7 days
6. Clear and grub remainder of site within L.O.D.	7 days
7. Rough grade site.	21 days
8. Temp. brick silt pipes leaving I-6 and I-8.	21 days
9. Construct utilities.	90 days
10. Fine grade and construct paving.	60 days
11. Fine grade and stabilize all disturbed areas onsite in accordance with standards and specs.	21 days
12. Upon approval of the sediment control Inspector, remove sediment and erosion control measures and stabilize.	30 days
13. Upon removal of traps #1 and #2 Final grade lots 2, 3, 21 & 22 as shown on phase II inset plan on Sheet 5.	60 Days
14. Upon approval of the sediment control Inspector, remove sediment & erosion control measures and stabilize.	4 Days

NOTE: Traps #1 and #2 are to remain in place until permanent BMPs are installed in Williams Road. IS constructed and storm drainage has been piped to pond.

Reviewed for HOWARD S.C.D. and meets Technical Requirements
Signature: [Signature] Date: 11/21/96
U.S. Natural Resources Conservation Service

DEVELOPER'S/BUILDER'S CERTIFICATE

"We certify that all development and construction will be done according to this plan of development and 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 or their authorized agents, as are deemed necessary."
Signature: [Signature] Date: 11/21/96

ENGINEER'S CERTIFICATE

I hereby 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: 11/21/96

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature: [Signature] Date: 1-7-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature: [Signature] Date: 1/21/97
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

Signature: [Signature] Date: 1/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

2	Adjust total cut #1 fill due to lowering road	10-0-97
1	Rev. Construction Sequence & Site Analysis	6-9-97
1/2	REVISIONS	Date

CLARK • FINEFROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALTO • (301) 621-8100 WASH

DESIGNED	JLS	SCALE	As Shown
DRAWN	ZAH	DRAWING	6 of 9
CHECKED	JLS	JOB NO	95-226
DATE	9-12-96	FILE NO	95-226-0

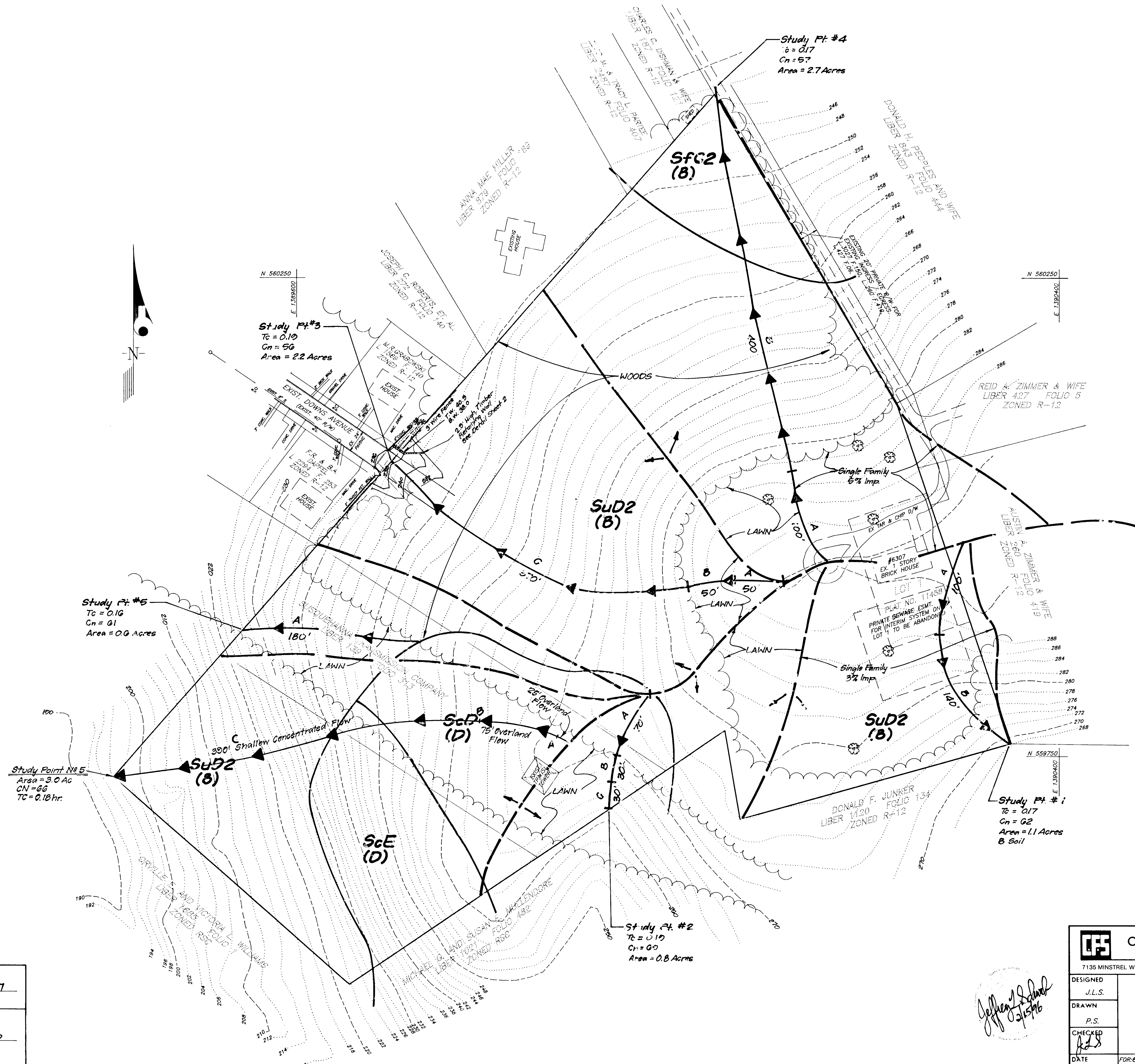
FOR: BRANTLEY DEVELOPMENT CORPORATION
8835-P COLUMBIA 100 PARKWAY
COLUMBIA, MARYLAND 21045

PHONE: (410) 730-0870

F96120

LEGEND

Existing Contours		2 FT
Existing Tree Line		
Existing Drainage Divide		
Existing Flow Paths		
Contour Interval		2 FT
Hydrologic Soil Group		(B)



1846

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Conner 1-7-97
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 1/21/97
 Chief, Division of Land Development and Research

Chris Dammann 1/10/97
 Chief, Development Engineering Division

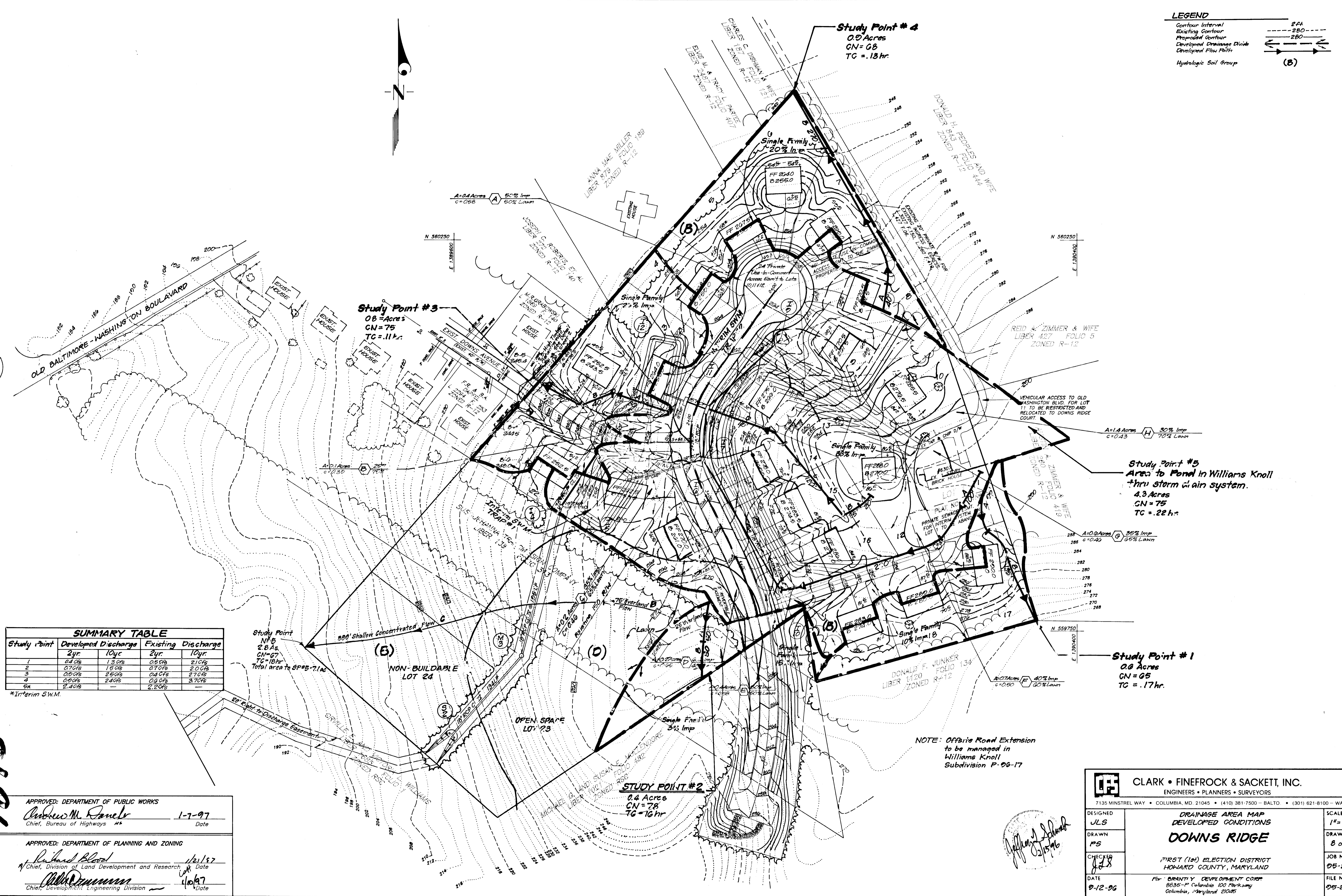
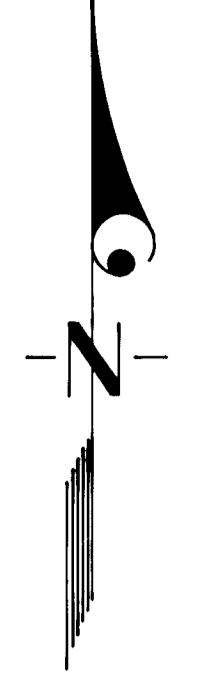
Jeffrey J. Sackett
 2/15/96

		CLARK • FINEFROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS	
7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (410) 381-7500 - BALTO. • (301) 621-8100 - WASH.			
DESIGNED	J.L.S.	EXISTING CONDITIONS DRAINAGE AREA MAP	SCALE
DRAWN	P.S.	DOWN'S RIDGE	1"=50'
CHECKED	<i>[Signature]</i>	FIRST (1st) ELECTION DISTRICT	DRAWING
DATE	9-12-96	HOWARD COUNTY, MARYLAND	7 of 9
FOR: BRANTLY DEVELOPMENT CORP. PHONE: (410) 730-0810		JOB NO.	
8835-P COLUMBIA 100 PARKWAY		95-226	
COLUMBIA, MARYLAND 21045		FILE NO.	
		95-226D	

F96120

LEGEND

- Contour Interval
- Existing Contour
- Proposed Contour
- Developed Drainage Divides
- Developed Flow Paths
- Hydrologic Soil Group



SUMMARY TABLE

Study Point	Developed Discharge		Existing Discharge	
	2yr	10yr	2yr	10yr
1	0.4 cfs	1.3 cfs	0.5 cfs	2.1 cfs
2	0.7 cfs	1.5 cfs	0.7 cfs	2.0 cfs
3	0.5 cfs	2.5 cfs	0.4 cfs	2.7 cfs
4	0.9 cfs	2.4 cfs	0.8 cfs	3.7 cfs
5A	2.4 cfs	-	2.2 cfs	-

*Interim S.W.M.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniel 1-7-97
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 1/21/97
 Chief, Division of Land Development and Research

John D. ... 1/10/97
 Chief, Development Engineering Division

NOTE: Office Road Extension to be managed in Williams Knoll Subdivision P-06-17

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 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (410) 381-7500 - BALTO. • (301) 621-8100 - WASH.

DESIGNED: JLS
 DRAWN: PS
 CHECKED: JLS
 DATE: 9-12-96

DRAINAGE AREA MAP DEVELOPED CONDITIONS
OWNS RIDGE

FIRST (1st) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

For: BRANTLY DEVELOPMENT CORP
 8835-1st Columbia, 100 Parkway
 Columbia, Maryland 21045

SCALE: 1" = 50'
 DRAWING: 8 of 9
 JOB NO.: 95-220
 FILE NO.: 95-220 D

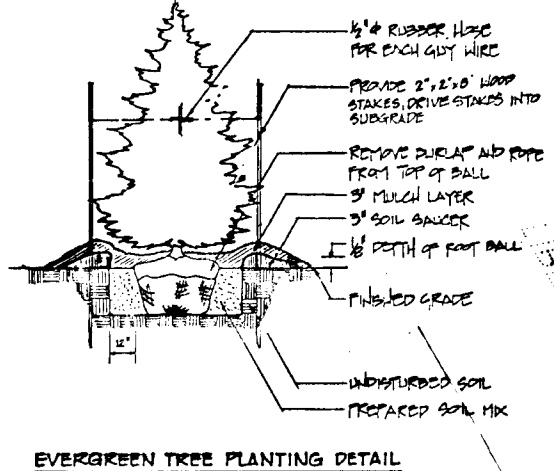
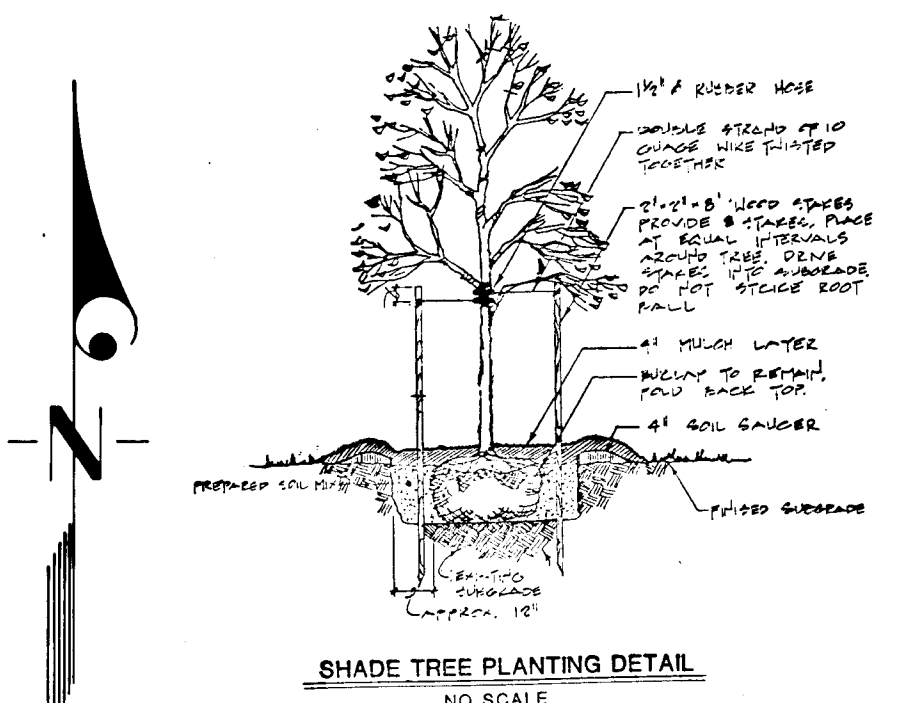
1846

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	A	A
Linear Foot of Roadway Frontage/Perimeter	2737	(714 w/ credit)
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	1943	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		
Number of Plants Required	13 (140)	
Shade Trees		
Evergreen Trees		
Shrubs		
Number of Plants Provided	13	
Shade Trees		
Evergreen Trees		
Other Trees (2:1 substitution)		
Shrubs (10:1 substitution)		
(Describe plant substitution credits below if needed)		

STREET TREE REQUIREMENTS

- Linear feet of right of way = 1800
- Number of trees required = 45 (1/40)
- Number of trees provided = 45

Comments: Credit for existing vegetation & the Susquehanna Trans Co easement.



SHADE TREE PLANTING DETAIL NO SCALE

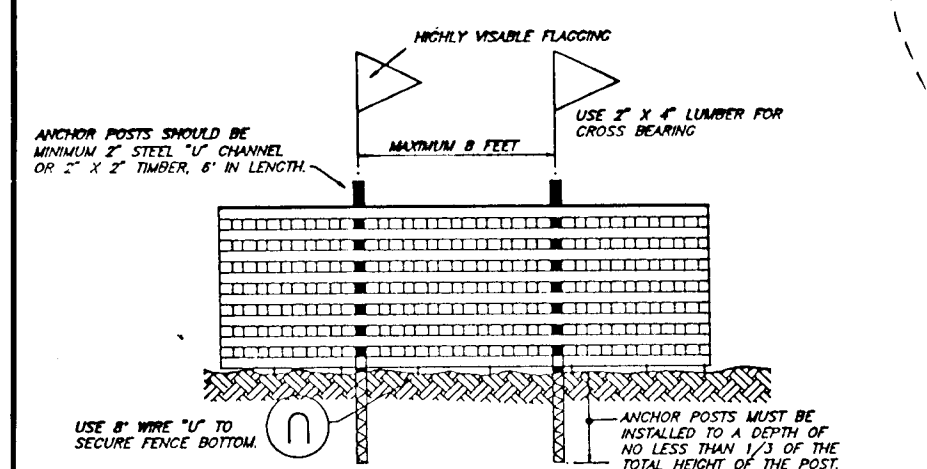
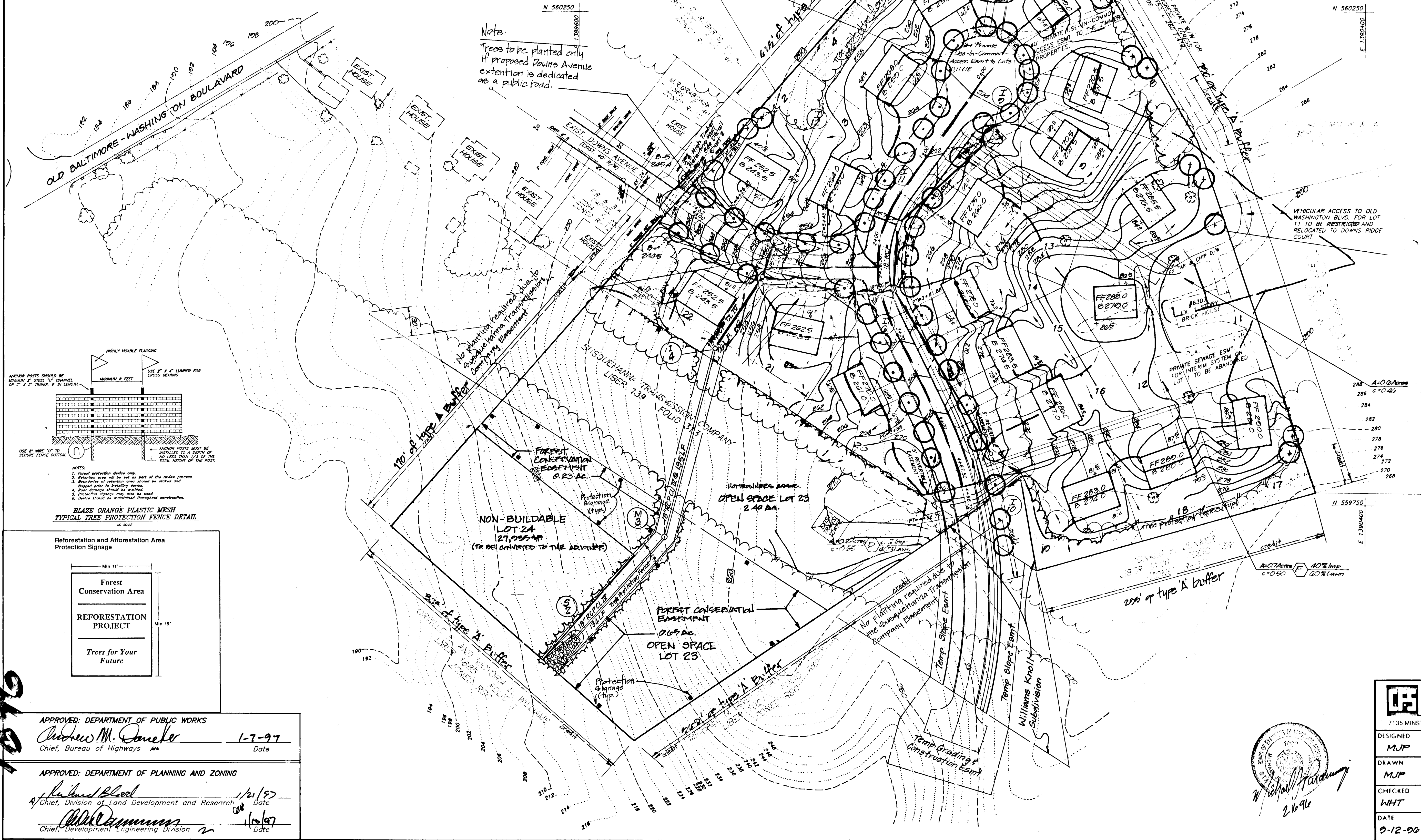
EVERGREEN TREE PLANTING DETAIL NO SCALE

APPENDIX G FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA		II. INFORMATION FOR CALCULATIONS		III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION	
GROSS SITE AREA	0.97	A. NET TRACT AREA	0.97	1. Reforestation	
AREA WITHIN 100 YEAR FLOODPLAIN		B. REFORESTATION THRESHOLD (20% x A)	0.19	2. Afforestation	
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)		C. AFFORESTATION MINIMUM (L22% x A)	0.21		
NET TRACT AREA	0.97	D. EXISTING FOREST ON NET TRACT AREA	0.00		
LAND USE CATEGORY (R, RLD, R-FMD, R-S, C-VO, I)	R-EP	E. FOREST AREAS TO BE CLEARED UNPROTECTED	0.00		
		F. FOREST AREAS TO BE RETAINED	0.00		
		G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D - F, if F equals or is greater than B, Alternate 1)	0.00		
		H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (D - F, if F is less than B, Alternate 2)	0.00		
		I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (B - F, if applicable)	0.00		
		J. FOREST AREAS RETAINED BELOW REFORESTATION THRESHOLD (B - F, if applicable)	0.00		

PLANT SCHEDULE

KEY	QTY	PLANT NAME	SIZE	REMARKS
+	45	ACER RUBRUM "October Glory"	2 1/2" x 3" 12" HT	BFB
+	13	PERIMETER BUFFER	2 1/2" x 3" 12" HT	BFB



Reforestation and Afforestation Area Protection Signage

Forest Conservation Area
REFORESTATION PROJECT
Trees for Your Future

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Demeke 1-7-97
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 1/21/97
 Chief, Division of Land Development and Research

John D. ... 1/20/97
 Chief, Development Engineering Division

NOTES:

- ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE BALT./WASH. LANDSCAPE SPECIFICATIONS OF L.C.A.M.W.
- FINAL LOCATION OF PLANT MATERIAL MAY VARY PER FINAL FIELD CONDITIONS. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- This Plan only to be used for Landscaping and Street Trees.

FOREST CONSERVATION NOTES:

- THIS FOREST CONSERVATION PLAN SUPERCEDES THE PREVIOUSLY APPROVED PLAN UNDER P-95-29. THIS PLAN REVISES THE FOREST CONSERVATION WORKSHEET, EASEMENT AND PROTECTION. SEE P-95-29 FOR ADDITIONAL FOREST CONSERVATION INFORMATION.
- THE DEVELOPER REQUESTS DIRECT PAYMENT TO THE DEPARTMENT OF RECREATION AND PARKS FOR OFFSITE PLANTING TO MEET REFORESTATION REQUIREMENTS. (P-90-16)
- The forest to be cleared (OTAC) for the construction of the Roadway Extension on the Williams Knolls Subdivision will be reforested in conjunction with approved Preliminary Plan (P-95-17).

BONDING NOTES:

- 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 13 TREES (INCLUDES PERIMETER BUFFER) IN THE AMOUNT OF 1800.00 SHALL BE PART OF THE DEVELOPER'S AGREEMENT. (STREET TREES ARE BONDED VIA A SEPARATE DEVELOPER'S AGREEMENT FOR ROAD CONSTRUCTION.)

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 ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (410) 381-7500 - BALTO • (301) 621-8100 - WASH

DESIGNED MJP	STREET TREE, LANDSCAPE PLAN AND FOREST CONSERVATION PLAN DOWN'S RIDGE FIRST (1st) ELECTION DISTRICT HOWARD COUNTY, MARYLAND For: BRANTLY DEVELOPMENT CORP 8835 Columbia 100 Parkway Columbia, Maryland 21045	SCALE 1" = 50'
DRAWN MJP		DRAWING 9 of 9
CHECKED WHT		JOB NO. 05-220
DATE 9-12-90		FILE NO. 05-220 0

1846