

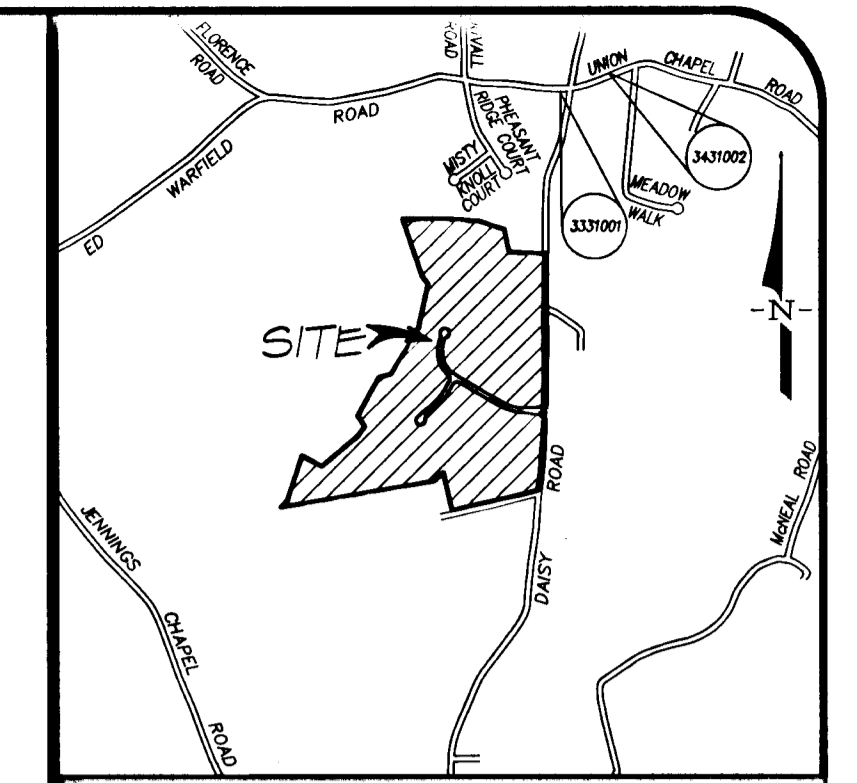
ROADS, STORM DRAIN & GRADING WARFIELD'S GRANT SECTION II ELECTION DISTRICT NO. 4 HOWARD COUNTY, MARYLAND

HOWARD COUNTY
BENCHMARK 3331001
ELEV = 543.772

LOCATED ALONG ED WARFIELD ROAD
125'± WEST OF DAISY ROAD
MONUMENT IS 0.3' BELOW SURFACE

HOWARD COUNTY
BENCHMARK 3431002
ELEV = 578.513

LOCATED ALONG UNION CHAPEL ROAD
400'± EAST OF DAISY ROAD
MONUMENT IS 14.5' OFF EDGE OF PAVING
FLUSH WITH GROUND

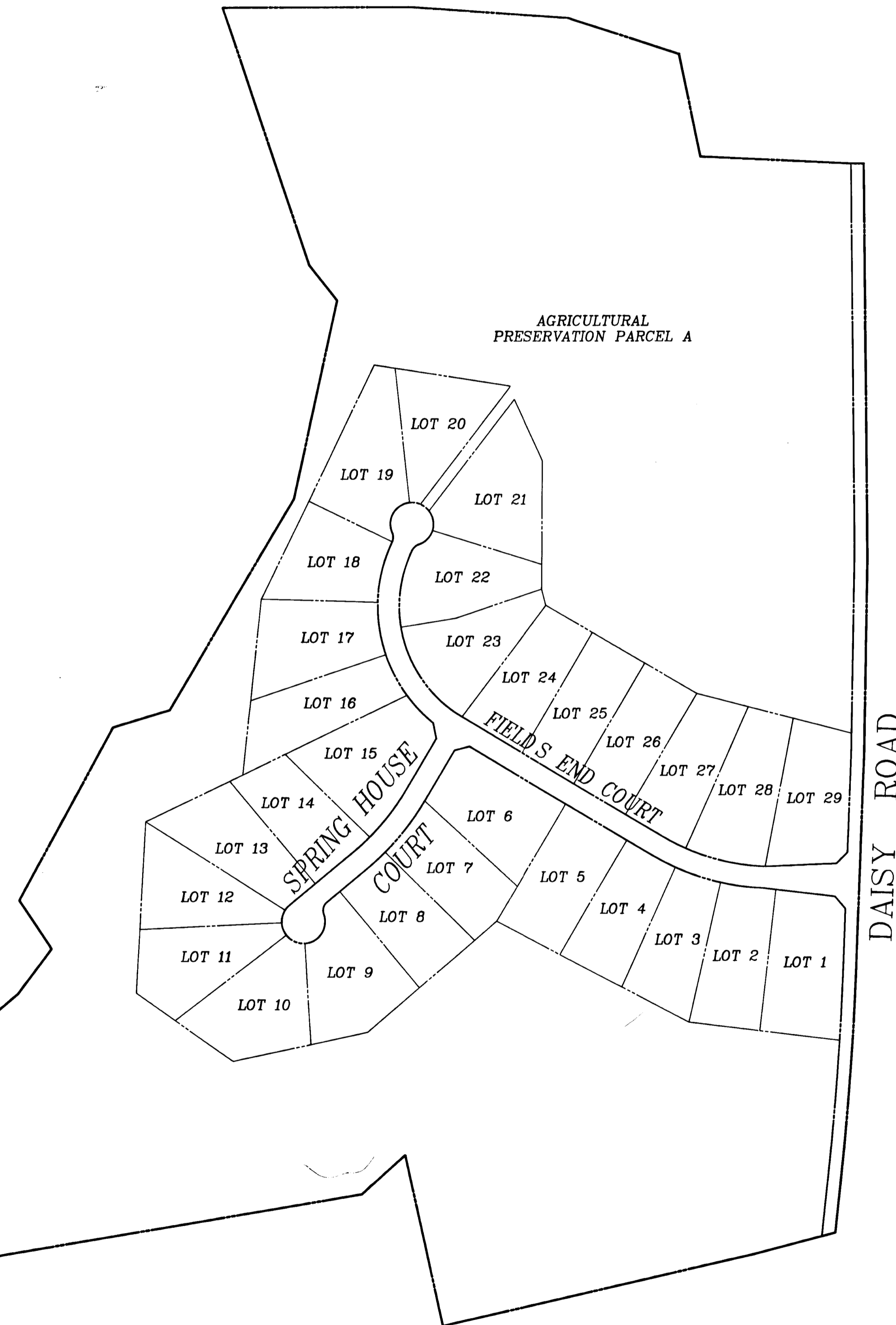


Vicinity Map
Scale: 1" = 2000'

GENERAL NOTES

1. PROJECT BACKGROUND:
TAX MAP 13 PARCEL 128
ZONING: RC-DEO
ELECTION DISTRICT: 4th
TOTAL TRACT AREA: 108.0860 AC.±
NUMBER OF PROPOSED LOTS: 29 (Buildable Lots)
1 (Preservation Parcel)
SKETCH PLAN, S-94-05, APPROVED ON NOVEMBER 3, 1993
PRELIMINARY PLAN, P-94-11, APPROVED ON JUNE 15, 1994
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1990 AMENDMENTS.
3. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
4. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS.
5. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

MISS UTILITY	1-800-257-7777
BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 OR 3554
BALTIMORE GAS AND ELECTRIC CO.	539-8000
HOWARD COUNTY BUREAU OF UTILITIES	313-4900
HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (24 HOUR NOTICE PRIOR TO COMMENCEMENT OF WORK)	313-1880
COLONIAL PIPELINE	795-1390
6. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
7. STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1990 AMENDMENTS.
8. INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1988 EDITION. ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
9. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
10. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
11. TOPOGRAPHIC SURVEY PROVIDED BY HOWARD COUNTY 1"=200' TOPO AND FIELD RUN TOPO BY FISHER, COLLINS AND CARTER, INC. ON OR ABOUT JANUARY, 1990 & R.M. MOCHI GROUP, P.C. ON OR ABOUT JULY, 1994 AND IS SHOWN AT 2' CONTOUR INTERVALS.
12. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS "C" AS SHOWN IN FIGURE 11.4 VOLUME I OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
13. THE PAVEMENT DETAILS SHOWN ON THESE PLANS REFLECT THE HOWARD COUNTY MINIMUM STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING, THE FINAL PAVING SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE. ANY PAVEMENT SECTIONS DETERMINED BY THE GEOTECHNICAL ENGINEER THAT IS LESS THAN THE HOWARD COUNTY MINIMUM STANDARD, SHALL FIRST BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. THE TESTING AND GEOTECHNICAL ENGINEER SHALL BE FURNISHED BY THE OWNER.
14. A NON-CRITICAL FLOODPLAIN STUDY PROVIDED BY FISHER, COLLINS & CARTER, INC. WAS APPROVED UNDER F-90-58.
15. WETLANDS DELINEATED BY M.A. DIRCKS & CO., INC. & APPROVED ON 11/3/93.
16. TRAFFIC STUDY PROVIDED BY THE STREET TRAFFIC STUDIES, LTD. AND APPROVED ON 11/3/93.
17. WATER AND SEWER SERVICE SHALL BE PRIVATE WELL & SEPTIC.
18. THIS PROJECT CONFORMS TO THE LATEST EDITION OF THE AMERICANS WITH DISABILITIES ACT.
19. ALL DRIVEWAYS SHALL HAVE A 12" CMP DRIVEWAY CULVERT PLACED AS SHOWN IN HOWARD COUNTY STANDARD DETAIL RE.06, UNLESS OTHERWISE INDICATED ON THE GRADING AND SEDIMENT CONTROL PLAN.
20. THIS PROJECT HAS BEEN APPROVED FOR PAYMENT OF FEE-IN-LIEU OF STORMWATER MANAGEMENT PER A LETTER DATED JULY 11, 1994 FROM MR. JAMES M. IRVIN.



LOCATION MAP
SCALE 1" = 200'

SHEET INDEX

1. COVER SHEET
2. FIELDS END COURT - PLAN & PROFILE
3. SPRING HOUSE COURT - PLAN & PROFILE
4. DAISY ROAD - ROAD IMPROVEMENTS
5. DAISY ROAD - ROAD IMPROVEMENTS
6. GRADING & SEDIMENT CONTROL PLAN/LANDSCAPING PLAN
7. GRADING & SEDIMENT CONTROL PLAN/LANDSCAPING PLAN
8. GRADING & SEDIMENT CONTROL PLAN/LANDSCAPING PLAN
9. GRADING & SEDIMENT CONTROL PLAN/LANDSCAPING PLAN
10. STORM DRAIN PROFILES
11. STORM DRAIN PROFILES AND ENDWALL DETAILS
12. SEDIMENT CONTROL DETAILS & NOTES
13. DRAINAGE AREA MAP, DETAILS

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John Dammann 5/24/95
CHIEF, LAND DEVELOPMENT DIVISION DATE

Robert M. Darrick 4-26-95
CHIEF, BUREAU OF HIGHWAYS DATE

Robert J. Ryan 5/24/95
CHIEF, BUREAU OF ENGINEERING MK DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Gina Surimmons 5/25/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

OWNER/DEVELOPER
WARFIELD'S GRANT LIMITED PARTNERSHIP
c/o CARMAN ASSOCIATES
P.O. Box 122
Ellicott City, Maryland 21043
ATTN: Mr. Ron Carter

ENGINEER
R. M. MOCHI GROUP, P.C.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(410)461-0079
ATTN: Mr. Robert Mochi, P.E.



date	8/15/94
project	94012.00
illustration	LJG
scale	1" = 200'
approval	AMV
revision	

date	4/16/95
revision	0
description	SUBMITTED FOR STANDARDS REVIEW TO HOWARD COUNTY DPZ
revision	

SECTION II
WARFIELD'S GRANT
ELECTION DISTRICT No. 4
HOWARD COUNTY, MARYLAND
COVER SHEET

R.M. MOCHI GROUP, P.C.
3300 N. Ridge Road, Suite 235
Ellicott City, MD 21043-1005
(410) 461-0079
Fax: (410) 750-6340

1574
A 184025-001/94012.00

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chad Cummings 5/22/95
CHIEF, LAND DEVELOPMENT DIVISION DATE

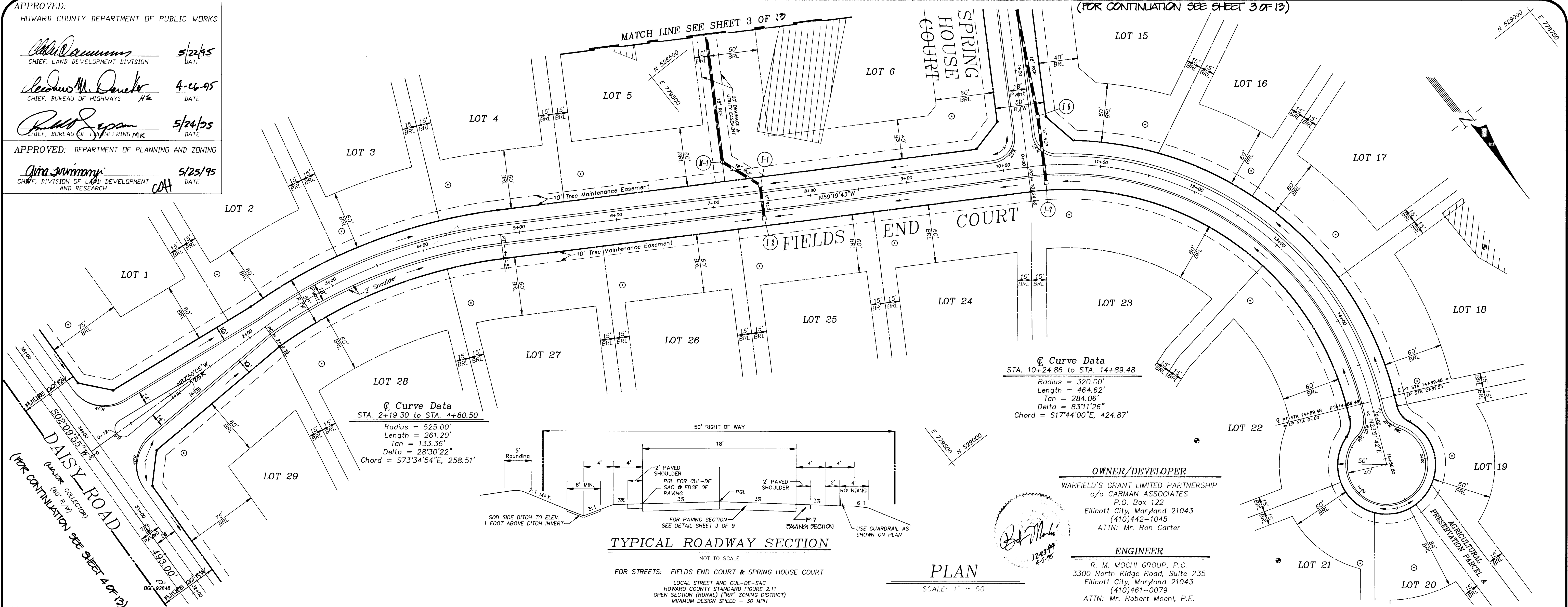
Richard M. Daniels 4-26-95
CHIEF, BUREAU OF HIGHWAYS DATE

Paul J. Ryan 5/24/95
CHIEF, BUREAU OF ENGINEERING MK DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Anna Swinomy 5/25/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

(FOR CONTINUATION SEE SHEET 3 OF 13)



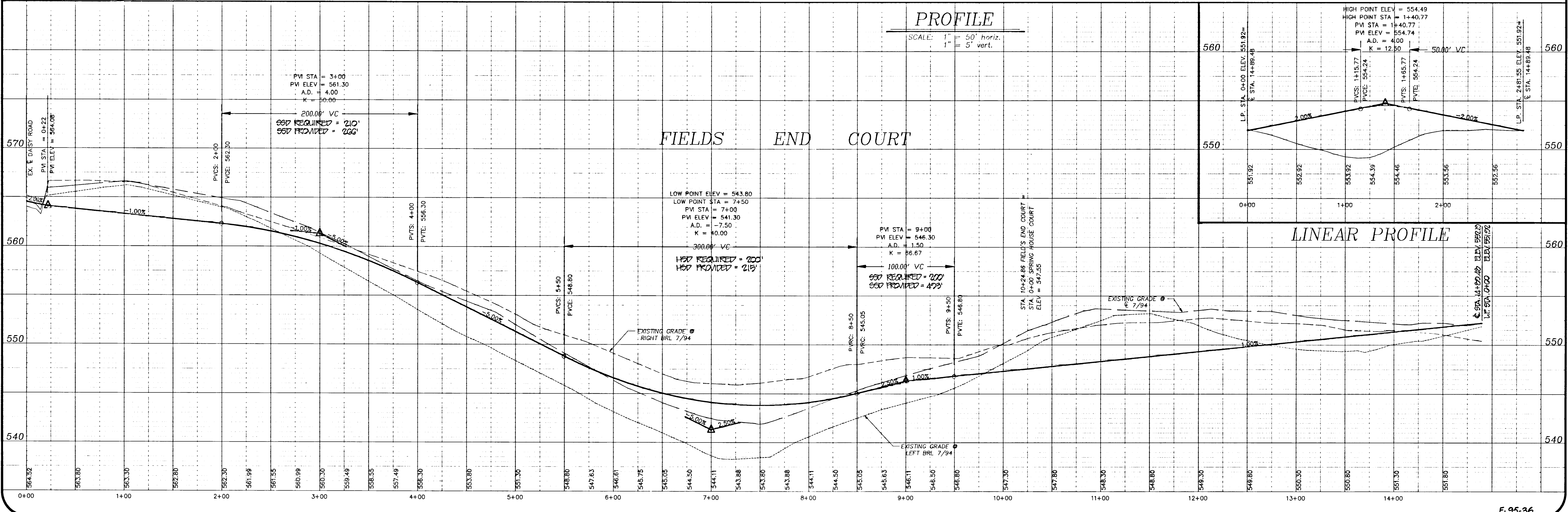
DAISY ROAD
(FOR CONTINUATION SEE SHEET 4 OF 13)

PLAN

SCALE: 1" = 50'

PROFILE

SCALE: 1" = 50' horiz.
1" = 5' vert.



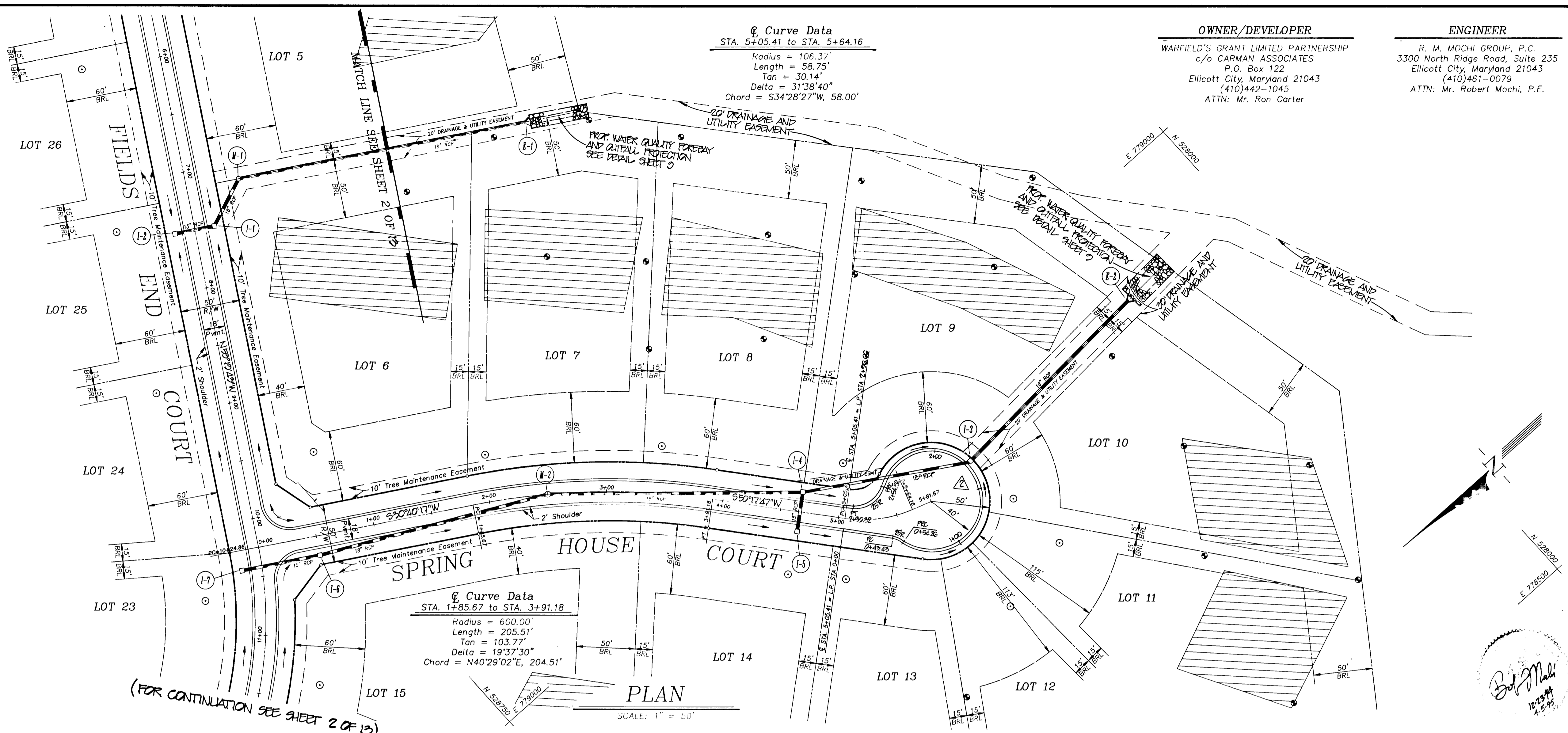
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date	8/15/94	engineering	
project	94012.00	illustration	AMV
		LJG	approval
		scale	as shown
		RAM	

date	4/16/95	description	
no.	0	revision	
SUBMITTED FOR APPROVAL		DATE	
1st SUBMITTAL TO HOWARD COUNTY DPZ		DATE	

SECTION 2
WARFIELD'S GRANT
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 4
FIELDS END COURT - PLAN & PROFILE

R.M. MOCHI GROUP, P.C.
1300 N. Edge Road, Suite 235
Ellicott City, MD 21043-3305
(410) 461-0079
Fax: (410) 750-6340



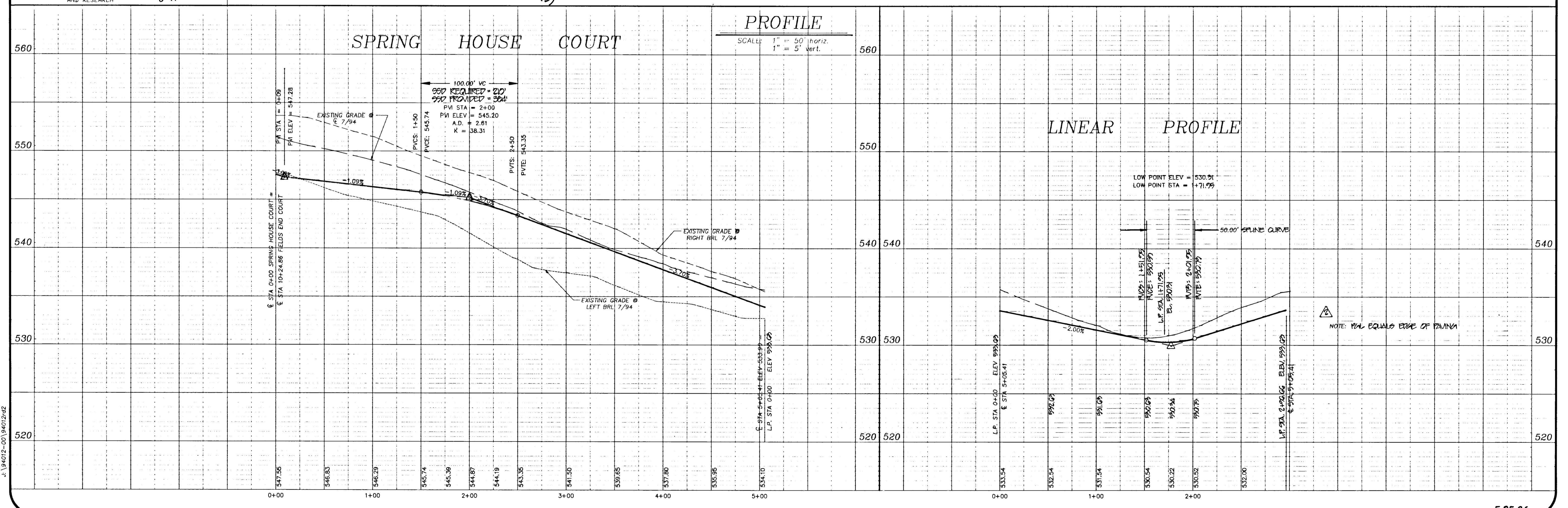
OWNER/DEVELOPER
 WARFIELD'S GRANT LIMITED PARTNERSHIP
 c/o CARMAN ASSOCIATES
 P.O. Box 122
 Ellicott City, Maryland 21043
 (410)442-1045
 ATTN: Mr. Ron Carter

ENGINEER
 R. M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410)461-0079
 ATTN: Mr. Robert Mochi, P.E.

project	date	description	revision
94012-00	8/15/94	engineering	
		illustration	
	5/16/95	AMV	
	1/16/95	LJG	
	12/22/94	scale	
		as shown	
		approval	
		RMA	

REMOVE CURB & GUTTER ON SPRING HOUSE CT. QUANTIFIED FOR SUPPLIERS. 1st SUBMITTAL TO HOWARD COUNTY DPZ.

SECTION 2
WARFIELD'S GRANT
 ELECTION DISTRICT No. 4
 HOWARD COUNTY, MARYLAND
 SPRING HOUSE COURT - PLAN & PROFILE

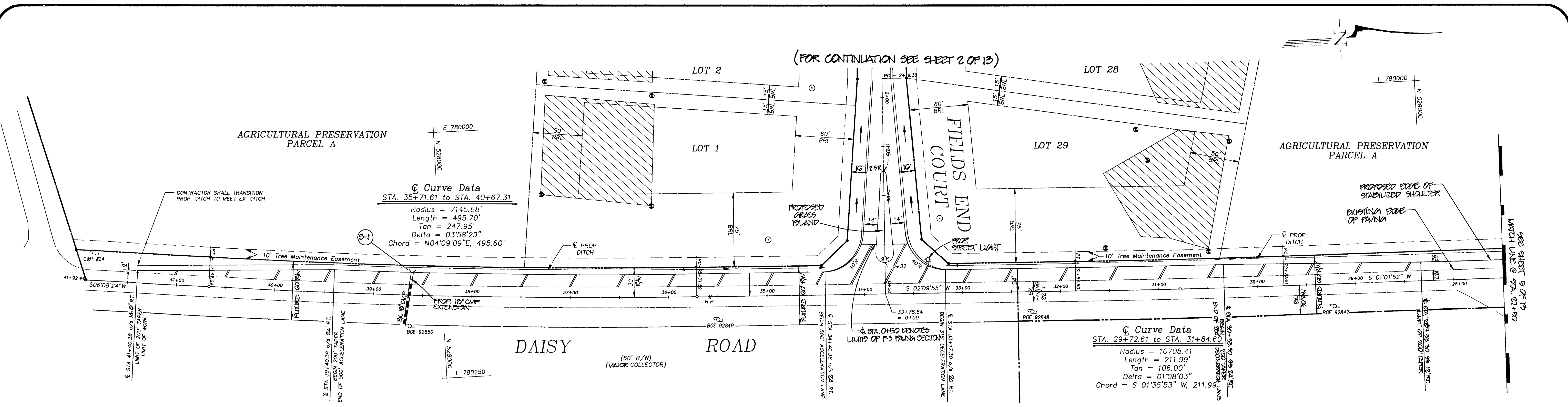


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R.M. MOCHI GROUP, P.C.
 3300 N. Ridge Road, Suite 235
 Ellicott City, MD 21043-3305
 (410) 461-0079
 Fax: (410) 750-6340

1574

194012-00 94012603



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Land Development Division 5/24/95
Chief, Bureau of Highways 4-26-95
Chief, Bureau of Engineering 5/24/95

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development and Research 5/25/95

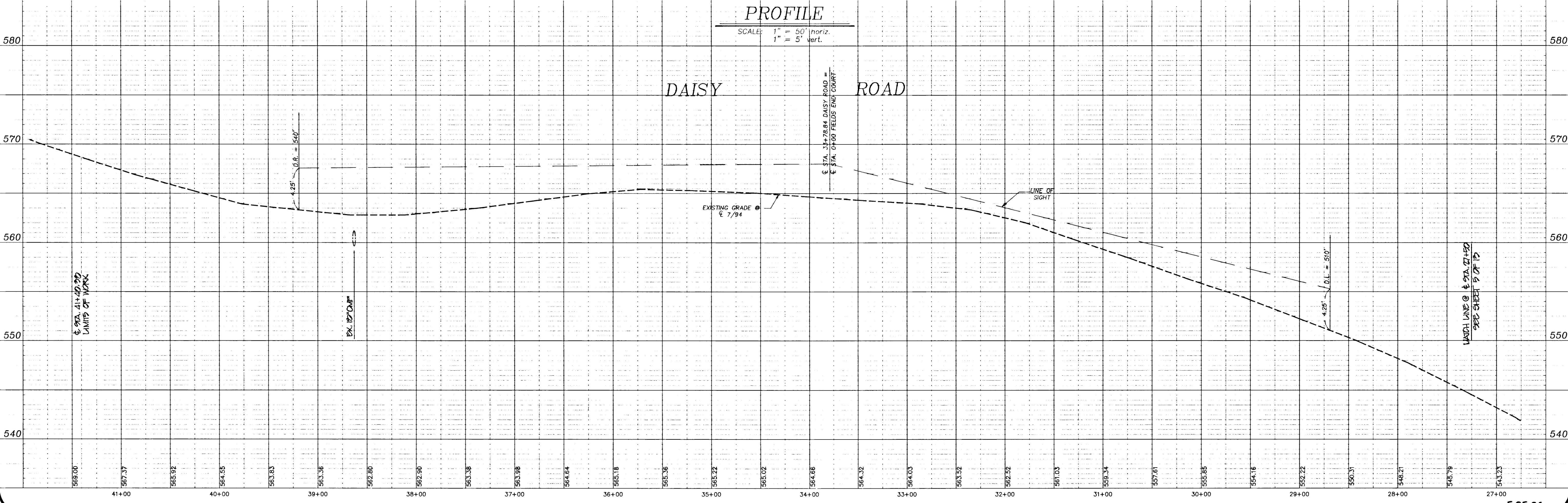
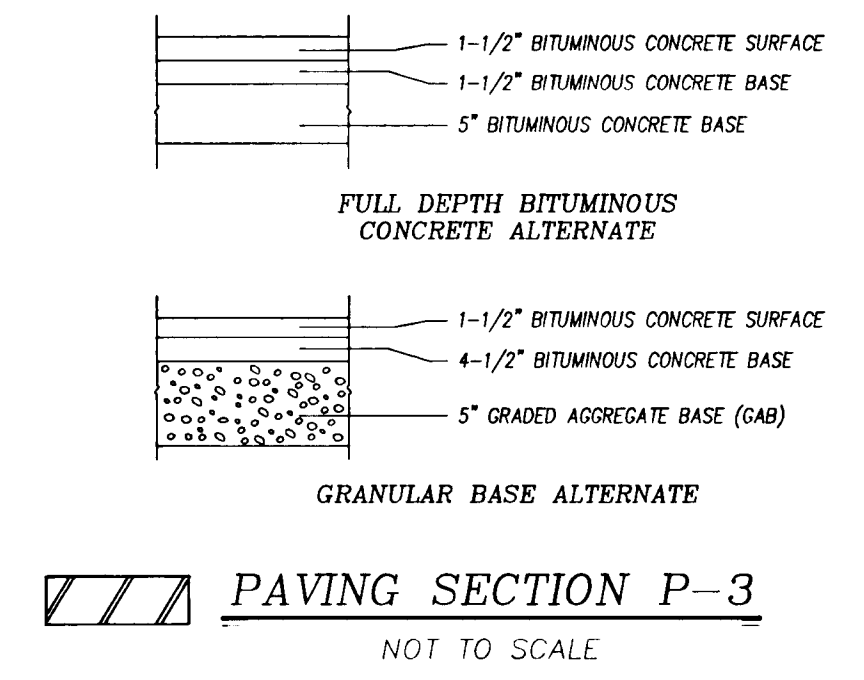
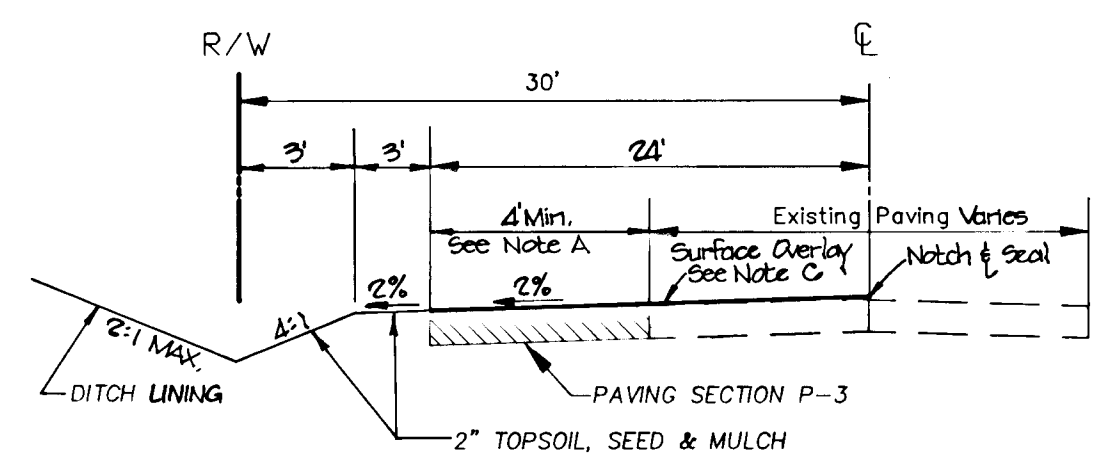
STREET LIGHT DATA
 * 350 WATT LIPS TRIPLEX FIXTURE
 MOUNTED ON A 30 FOOT GALVANIZED
 STEEL BURIAL POST LOCATED AT
 STA. 0+34 96 43 FT.

OWNER/DEVELOPER
 WARFIELD'S GRANT LIMITED PARTNERSHIP
 c/o CARMAN ASSOCIATES
 P.O. Box 122
 Ellicott City, Maryland 21043
 (410)442-1045
 ATTN: Mr. Ron Carter

ENGINEER
 R. M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410)461-0079
 ATTN: Mr. Robert Mochi, P.E.



- NOTE A - WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REPAIR SURFACE OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDTH OF 4'.
- NOTE B - THE SURFACE OVERLAY SHALL BE CARRIED TO THE E OF THE ROAD AND NOTCHED AND SEALED.
- NOTE C - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBMISSION.
- NOTE D - 1/2 OF ROAD TO BE VALLED AT DEPTH OF 1/8" X 1" WIDE USING A MILLING MACHINE.



Project	date
94012.00	8/15/94
Illustration	engineering
LIG	AMY
Scale	approval
as shown	RMK

REVISION	DATE	DESCRIPTION
1	5/19/95	REVISED PER PLAN REVIEW COMMENTS
2	5/24/95	PLAN REVISION FOR HOWARD COUNTY DPZ
3	10/09/94	
4		
5		
6		
7		
8		
9		
10		

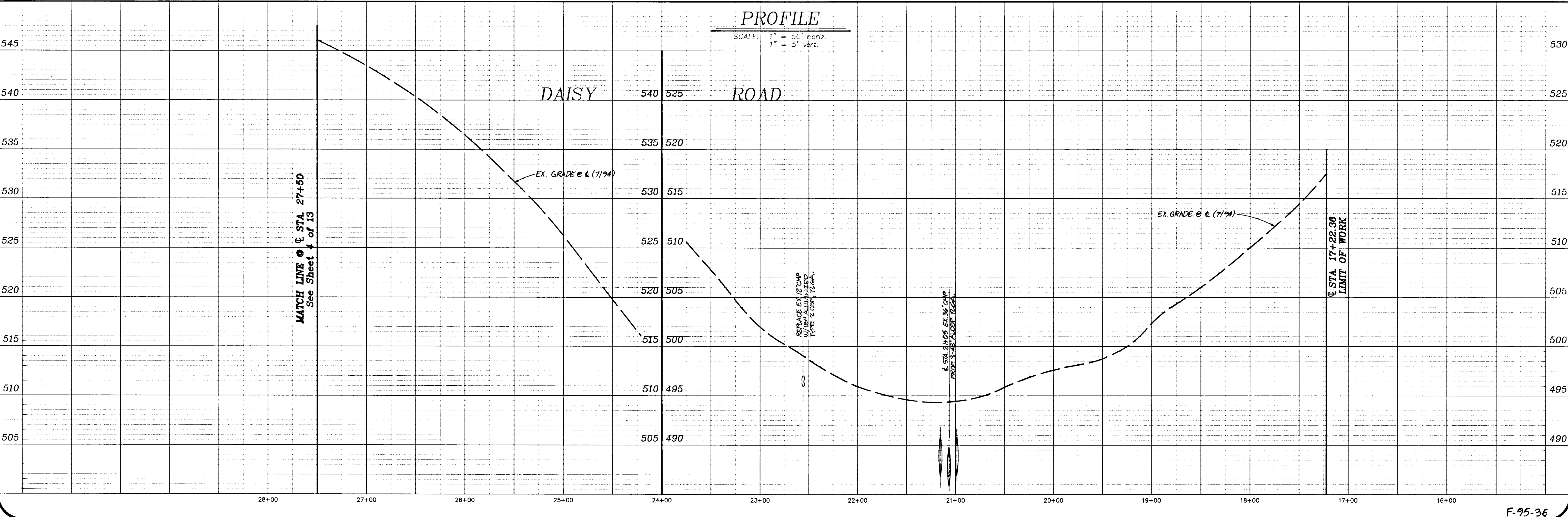
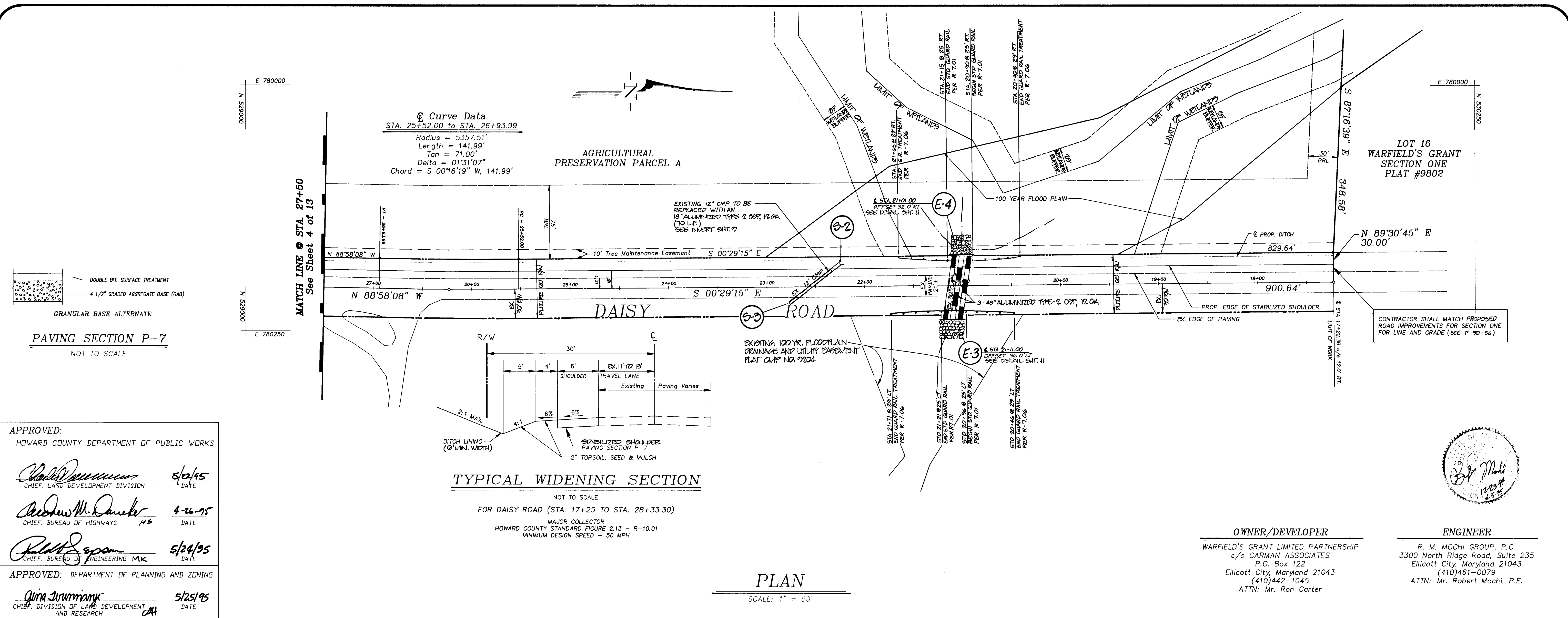
SECTION 2
WARFIELD'S GRANT
 HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 4
DAISY ROAD - ROAD IMPROVEMENTS

R.M. MOCHI GROUP, P.C.
 3300 N. Ridge Road, Suite 235
 Ellicott City, MD 21043-1065
 (410) 461-0079
 Fax: (410) 750-6540

4 OF 13

1574

J. 194012-00\194012R04



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Charles P. ... 5/24/95
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Richard M. ... 4-26-95
 CHIEF, BUREAU OF HIGHWAYS HS DATE

Robert ... 5/24/95
 CHIEF, BUREAU OF ENGINEERING MK DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Quinn ... 5/25/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH CM DATE

OWNER/DEVELOPER
 WARFIELD'S GRANT LIMITED PARTNERSHIP
 c/o CARMAN ASSOCIATES
 P.O. Box 122
 Ellicott City, Maryland 21043
 (410)442-1045
 ATTN: Mr. Ron Carter

ENGINEER
 R. M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410)461-0079
 ATTN: Mr. Robert Mochi, P.E.

Project	date
94012.00	12/6/94
Illustration	engineering
MWZ	AMV
scale	approval
as shown	RMM

REMOVED PER DPA REVIEW COMMENTS	DATE
1	12/28/94
2	12/28/94
3	12/28/94
DESCRIPTION	REVISIONS

SECTION 2
WARFIELD'S GRANT
 ELECTION DISTRICT No. 4
 HOWARD COUNTY, MARYLAND
DAISY ROAD - ROAD IMPROVEMENTS

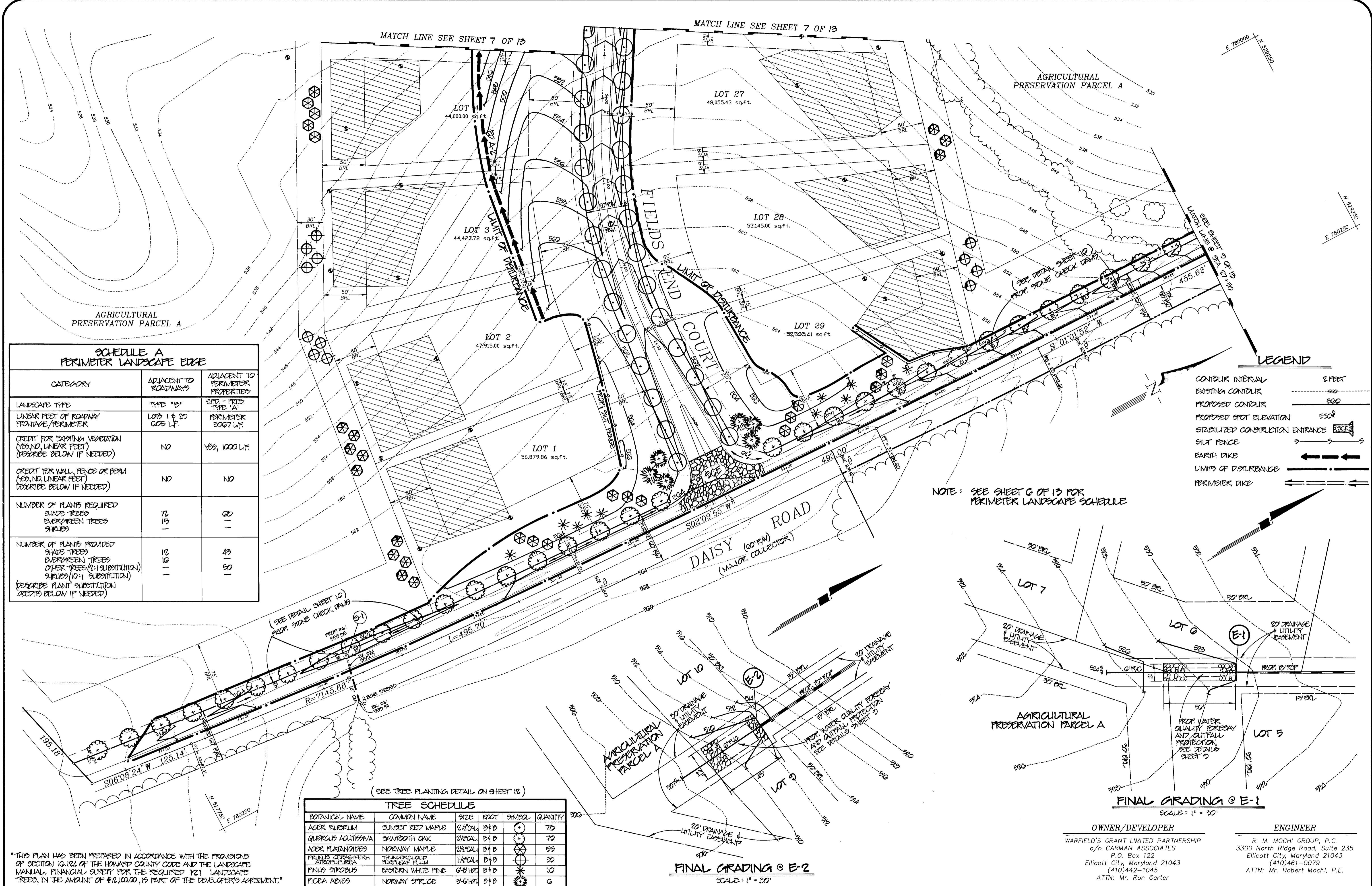
R.M. MOCHI GROUP, P.C.
 3300 N. Ridge Road, Suite 235
 Ellicott City, MD 21043-3305
 (410) 461-0079
 Fax: (410) 750-8340

Project	94012.00	Date	8/15/94
Illustration	DP	Engineering	AMY
Scale	1" = 50'	Approval	RMM

Author	1	Date	12/03/94
Description	1st SUBMITTAL TO HOWARD COUNTY DPZ		
Revisions			

SECTION 2
WARFIELD'S GRANT
 HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 4
GRADING, SEDIMENT CONTROL & LANDSCAPING PLAN

R.M. MOCHI GROUP, P.C.
 1300 N. Ridge Road, Suite 235
 Ellicott City, MD 21043-3505
 (410) 461-0070
 Fax: (410) 759-6240



SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	TYPE "B"	SPD - PRES TYPE "A"
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	LOTS 1 & 29 605 LF	PERIMETER 5007 LF
CREDIT FOR EXISTING VEGETATION (YES/NO, LINEAR FEET) (RESURFIDE BELOW IF NEEDED)	NO	YES, 1000 LF
CREDIT FOR WALL, FENCE OR BERM (YES/NO, LINEAR FEET) (RESURFIDE BELOW IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	2/3/1	0/1/0
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (1:1 SUBSTITUTION) SHRUBS (1:1 SUBSTITUTION) (RESURFIDE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	1/15/11	10/13/1

LEGEND

CONTOUR INTERVAL	2 FEET
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
PROPOSED SPOT ELEVATION	550'
STABILIZED CONSTRUCTION ENTRANCE	---
SILT FENCE	---
EARTH DIKE	---
LIMITS OF DISTURBANCE	---
PERIMETER DIKE	---

TREE SCHEDULE

BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SYMBOL	QUANTITY
ACER RUBRUM	SUNSET RED MAPLE	2 1/2" CAL	D+B	⊙	70
QUERCUS ALIFISMA	SANDWICH OAK	2 1/2" CAL	D+B	⊙	70
ACER PLATANOIDES	NORWAY MAPLE	2 1/2" CAL	D+B	⊙	99
FRAXINUS CERASIFERA	THUNDERBOLT HURDLEAF PLUM	1 1/2" CAL	D+B	⊙	50
PRUNUS STROBUS	EASTERN WHITE PINE	6" DBH	D+B	⊙	10
PICEA ABIES	NORWAY SPRUCE	6" DBH	D+B	⊙	0

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 10.122 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 12% LANDSCAPE TREES, IN THE AMOUNT OF \$12,000.00, IS PART OF THE DEVELOPER'S AGREEMENT."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John P. ... 5/22/95
 CHIEF, LAND DEVELOPMENT DIVISION
Andrew M. ... 8-26-95
 CHIEF, BUREAU OF HIGHWAYS
Paul ... 5/24/95
 CHIEF, BUREAU OF ENGINEERING MK

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Anna ... 5/25/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 DATE

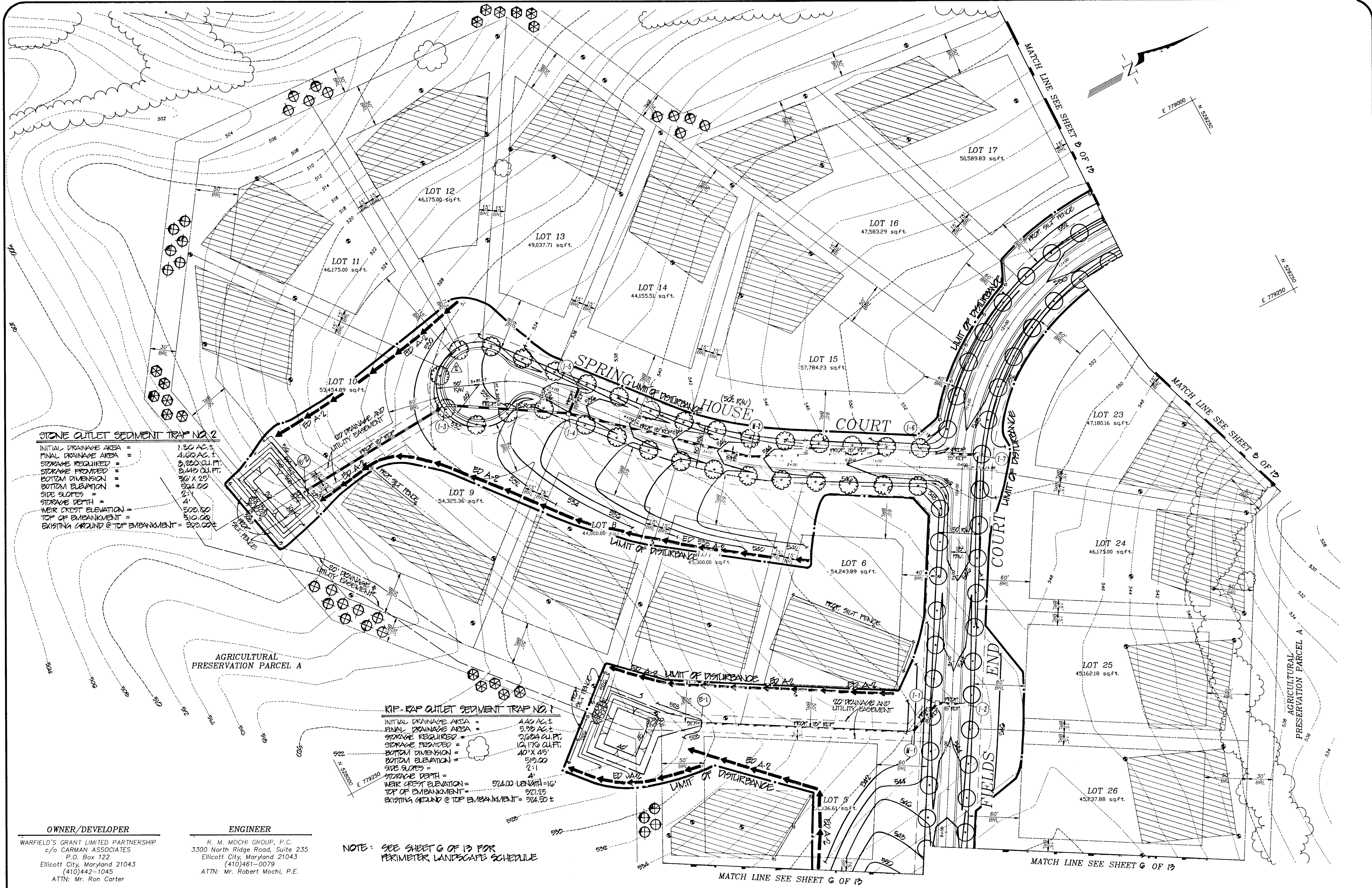
APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
John P. ... 4/11/95
 HOWARD COUNTY SOIL CONSERVATION DISTRICT

APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Patricia ... 4/11/95
 NATURAL RESOURCES CONSERVATION SERVICES

DEVELOPER'S CERTIFICATE
 I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
James S. ... 9/21/94
 Signature of Developer Date

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.
Robert M. Mochi, P.E. 12-23-94 12:35
 Robert M. Mochi, P.E. Date

1574



STONE OUTLET SEDIMENT TRAP NO. 2

INITIAL DRAINAGE AREA = 1.50 AC ±
 FINAL DRAINAGE AREA = 4.00 AC ±
 STORAGE REQUIRED = 3,820 CU. FT.
 STORAGE PROVIDED = 3,440 CU. FT.
 BOTTOM DIMENSION = 30' X 25'
 BOTTOM ELEVATION = 504.00
 SIDE SLOPES = 2:1
 STORAGE DEPTH = 4'
 WEIR CREST ELEVATION = 508.00
 TOP OF EMBANKMENT = 510.08
 EXISTING GROUND @ TOP EMBANKMENT = 503.00 ±

RIP-RAP OUTLET SEDIMENT TRAP NO. 1

INITIAL DRAINAGE AREA = 4.40 AC ±
 FINAL DRAINAGE AREA = 5.30 AC ±
 STORAGE REQUIRED = 2,624 CU. FT.
 STORAGE PROVIDED = 12,176 CU. FT.
 BOTTOM DIMENSION = 40' X 45'
 BOTTOM ELEVATION = 519.00
 SIDE SLOPES = 2:1
 STORAGE DEPTH = 4'
 WEIR CREST ELEVATION = 524.00 LENGTH = 16'
 TOP OF EMBANKMENT = 527.25
 EXISTING GROUND @ TOP EMBANKMENT = 524.50 ±

NOTE: SEE SHEET G OF 13 FOR PERIMETER LANDSCAPE SCHEDULE

OWNER/DEVELOPER
 WARFIELD'S GRANT LIMITED PARTNERSHIP
 c/o CARMAN ASSOCIATES
 P.O. Box 122
 Ellicott City, Maryland 21043
 (410)442-1045
 ATTN: Mr. Ron Carter

ENGINEER
 R. M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410)461-0079
 ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/22/95
 CHIEF, LAND DEVELOPMENT DIVISION
 [Signature] 4-26-95
 CHIEF, BUREAU OF HIGHWAYS
 [Signature] 5/24/95
 CHIEF, BUREAU OF ENGINEERING MK

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 5/25/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 [Signature] 4/11/95
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 [Signature] 4/11/95
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 [Signature] 4/11/95
 U.S. NATURAL RESOURCES CONSERVATION SERVICES

DEVELOPER'S CERTIFICATE
 I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
 [Signature] 4/11/95
 Signature of Developer Date

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.
 [Signature] 12-23-94
 Robert M. Mochi, P.E. Date

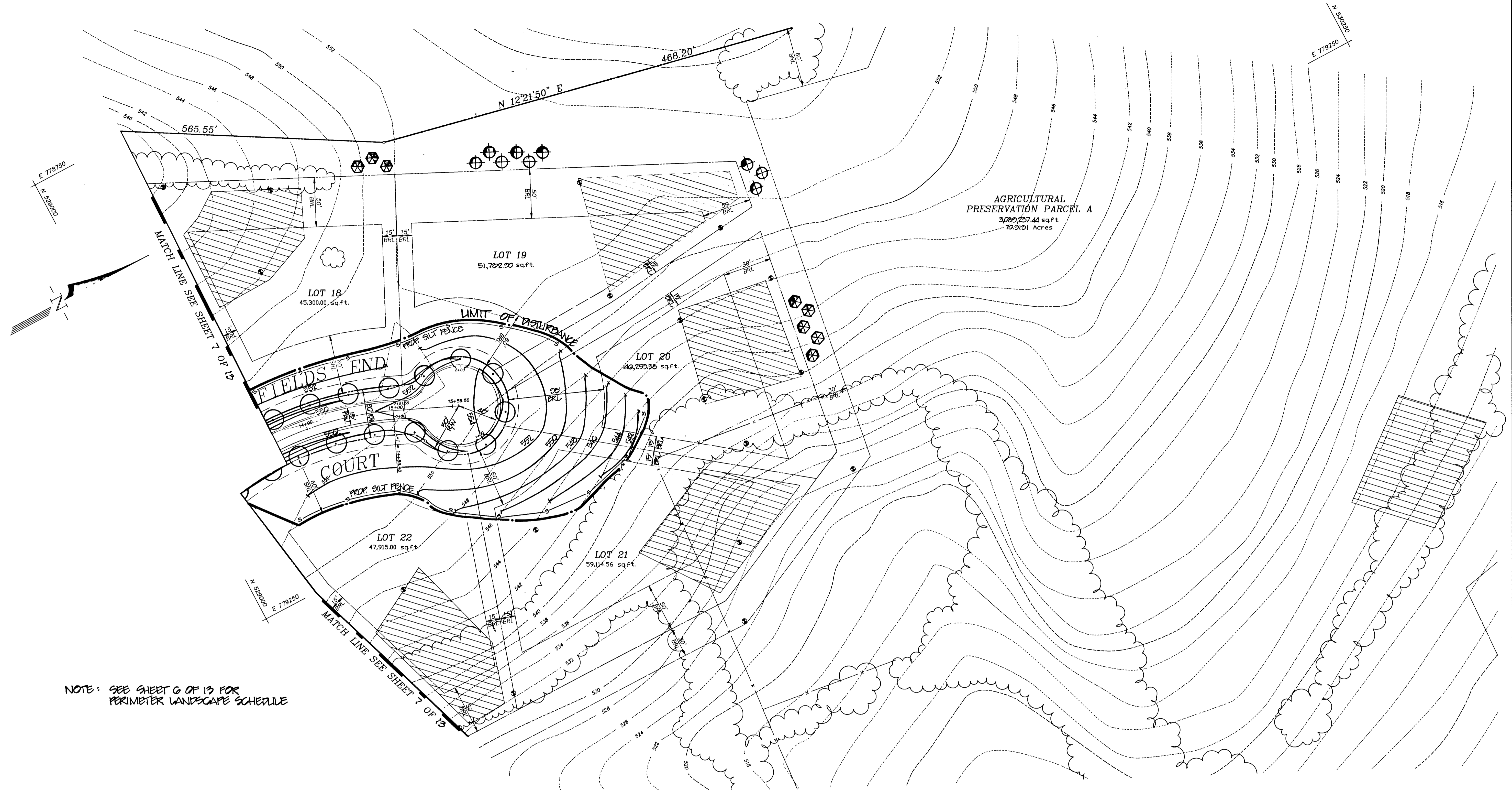
Project	94012.00	Date	8/15/94
Illustration	BLP	Engineering	AMV
Scale	1" = 50'	Approval	RMM

Revised	5/21/95	By	AMV	Date	5/21/95
Revised	4/16/95	By	AMV	Date	4/16/95
Revised	4/12/94	By	AMV	Date	4/12/94

SECTION 2
WARFIELD'S GRANT
 HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 4
GRADING, SEDIMENT CONTROL & LANDSCAPING PLAN

R.M. MOCHI GROUP, P.C.
 3300 N. Ridge Road, Suite 235
 Ellicott City, MD 21043-3326
 (410) 461-0079
 Fax: (410) 750-8346

1574
 4151



NOTE: SEE SHEET 6 OF 13 FOR PERIMETER LANDSCAPE SCHEDULE

Project	94012.00	Date	8/15/94
Illustration	PLAN	Engineering	AMV
Scale	1" = 50'	Approval	RMM

Revised	1	Date	4/6/95
Revised	0	Date	12/22/94
REVISIONS			
DESCRIPTION			
1st SUBMITTAL TO HOWARD COUNTY DPZ			

SECTION 2
WARFIELD'S GRANT
 HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 4
GRADING, SEDIMENT CONTROL & LANDSCAPING PLAN

R.M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410) 461-1100
 Fax: (410) 709-0340

OWNER/DEVELOPER
 WARFIELD'S GRANT LIMITED PARTNERSHIP
 c/o CARMAN ASSOCIATES
 P.O. Box 122
 Ellicott City, Maryland 21043
 (410) 442-1045
 ATTN: Mr. Ron Carter

ENGINEER
 R. M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410) 461-1100
 ATTN: Mr. Robert Mochi, P.E.

1574

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 5/24/95
 CHIEF, LAND DEVELOPMENT DIVISION
[Signature] 4-26-95
 CHIEF, BUREAU OF HIGHWAYS
[Signature] 5/24/95
 CHIEF, BUREAU OF ENGINEERING MK

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 5/25/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH CAH

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
[Signature] 4/11/95
 HOWARD COUNTY SOIL CONSERVATION DISTRICT

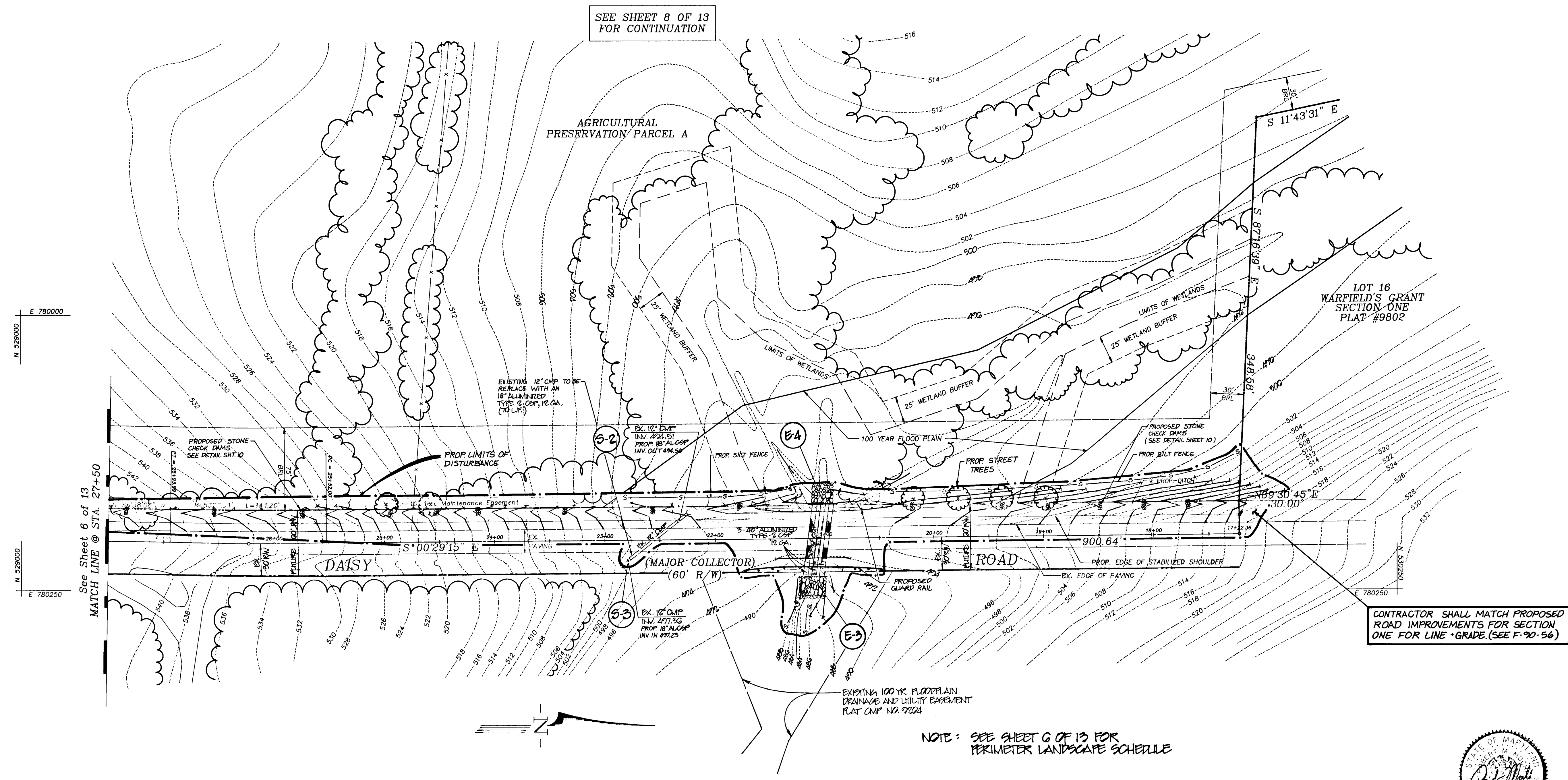
APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
[Signature] 4/1/95
 U.S. NATURAL RESOURCES CONSERVATION SERVICES UATB

DEVELOPER'S CERTIFICATE
 I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
[Signature] 9/21/1994
 Signature of Developer Date

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.
[Signature] 12-23-94
 Robert M. Mochi, P.E. Date

1574

4-194012-201(940)2525



SEE SHEET 8 OF 13 FOR CONTINUATION

CONTRACTOR SHALL MATCH PROPOSED ROAD IMPROVEMENTS FOR SECTION ONE FOR LINE GRADE (SEE F-90-56)

NOTE: SEE SHEET 6 OF 13 FOR PERIMETER LANDSCAPE SCHEDULE



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 c/o CARMAN ASSOCIATES
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 ATTN: Mr. Ron Carter

ENGINEER
 R. M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410)461-0079
 ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/24/95
 CHIEF, LAND DEVELOPMENT DIVISION
 [Signature] 4-26-95
 CHIEF, BUREAU OF HIGHWAYS
 [Signature] 5/24/95
 CHIEF, BUREAU OF ENGINEERING MK

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 5/25/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 [Signature]

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 [Signature] 4/14/95
 HOWARD COUNTY SOIL CONSERVATION DISTRICT

APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 [Signature] 4/4/95
 NATURAL RESOURCES CONSERVATION SERVICES

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 [Signature] 4/21/95
 Signature of Developer Date

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for erosion and sediment control represents a practical and feasible plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.
 [Signature] 12/23/94
 Robert M. Mochi, P.E. Date

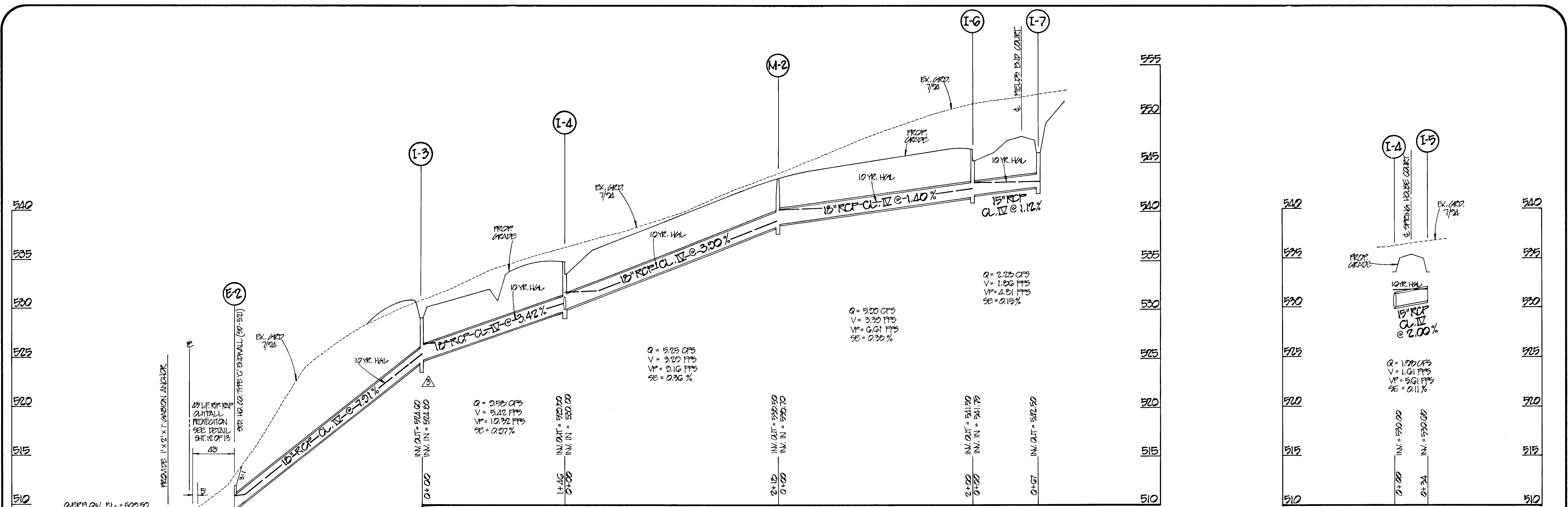
Project	94012.00	Date	12/7/94
Illustration	MWZ	Engineering	AMV
Scale	1" = 50'	Approval	RMK

Revised Per DWG Review Comments	5/10/95	Date	5/10/95
Submitted For Swatilities	4/14/95	Date	4/14/95
1st Submitted To Howard County	10/20/94	Date	10/20/94
2		Revisions	
1		no.	
0			

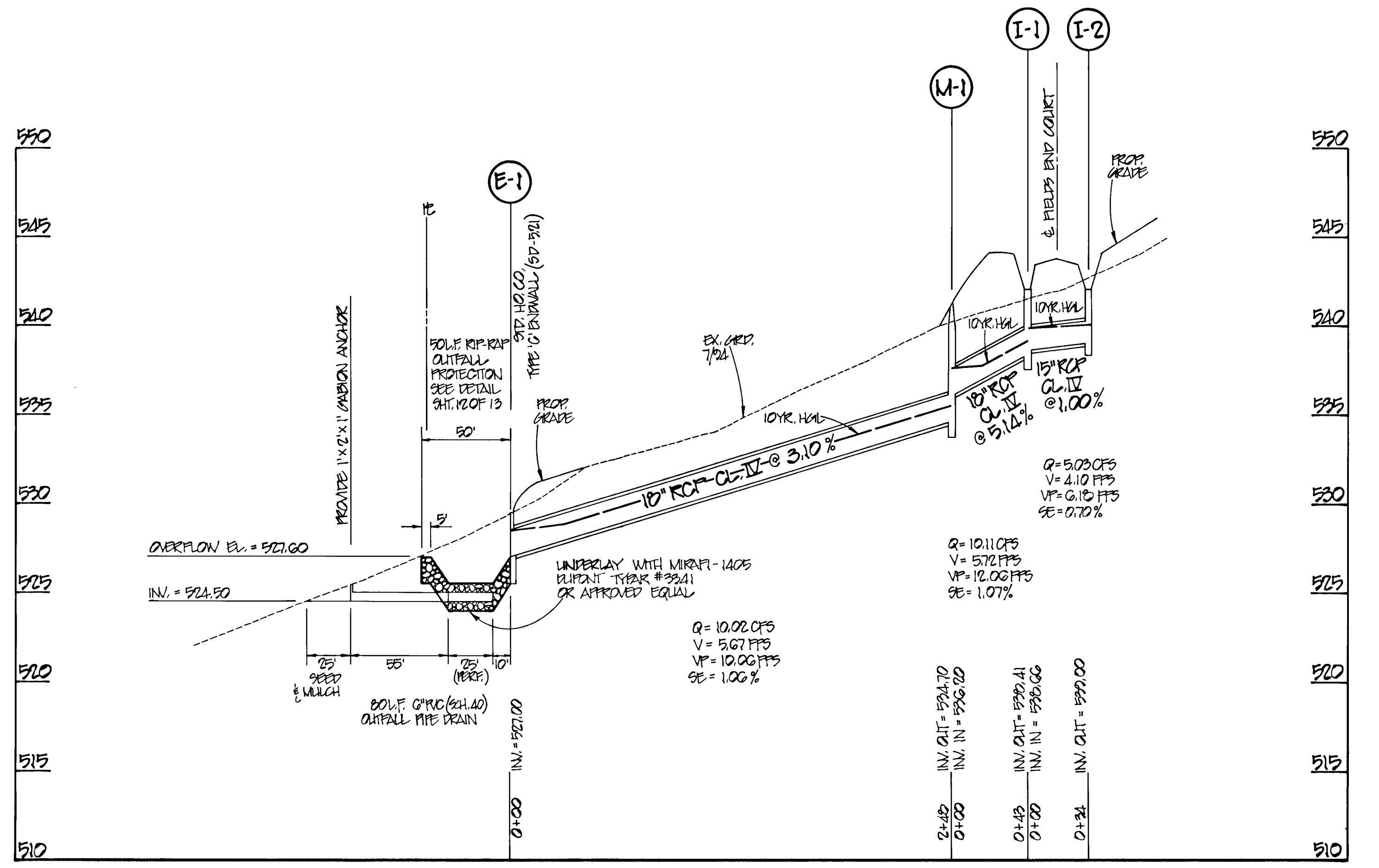
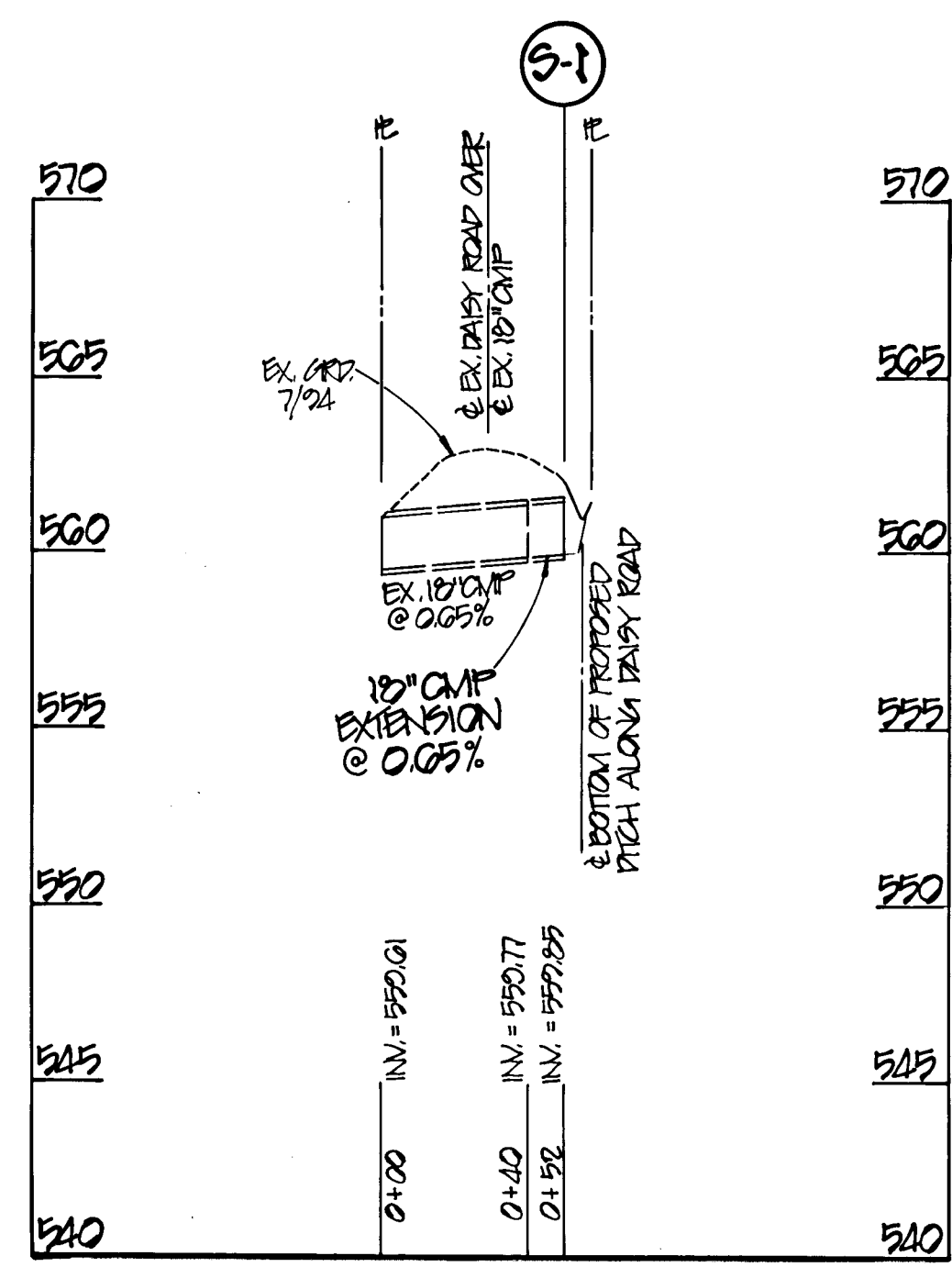
SECTION 2
WARFIELD'S GRANT
 HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 4
GRADING, SEDIMENT CONTROL & LANDSCAPING PLAN

R.M. MOCHI GROUP, P.C.
 3300 N. Ridge Road, Suite 235
 Ellicott City, MD 21043-3350
 (410) 461-0079
 Fax: (410) 756-6540

1574



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



APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 5/22/95
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 5/24/95
 CHIEF, BUREAU OF ENGINEERING MK

APPROVED:
 [Signature] 5/25/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

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 WARFIELD'S GRANT LIMITED PARTNERSHIP
 c/o CARMAN ASSOCIATES
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 Ellicott City, Maryland 21043
 (410) 442-1045
 ATTN: Mr. Ron Carter

ENGINEER
 R. M. MOCHI GROUP, P.C.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (410) 461-0079
 ATTN: Mr. Robert Mochi, P.E.

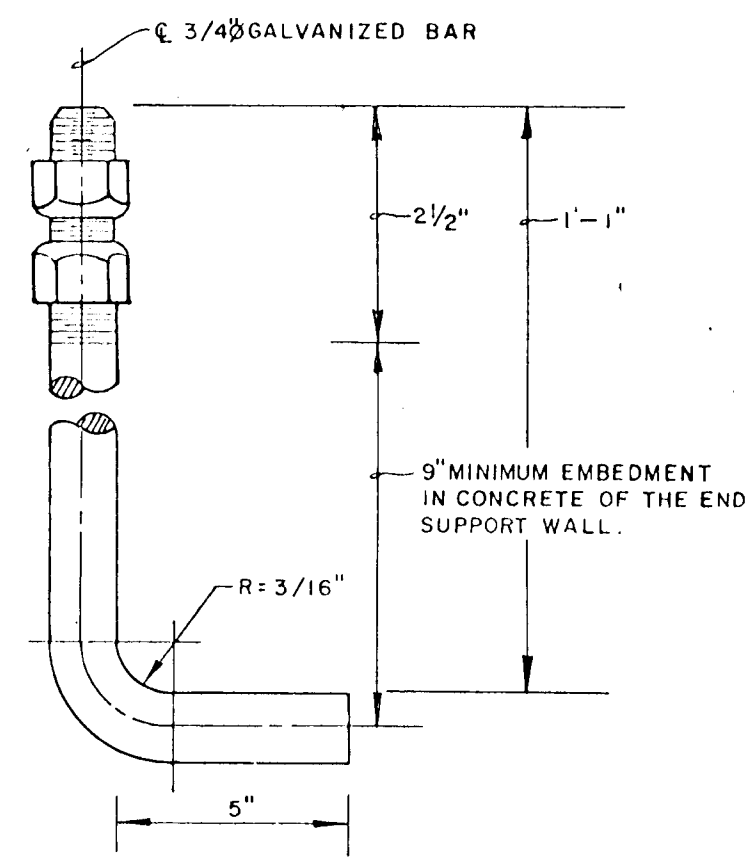


Project: 94012.00
 Illustration: BLP
 Scale: AS SHOWN
 Date: 8/11/94
 Engineering: AMY
 Approval: AS SHOWN

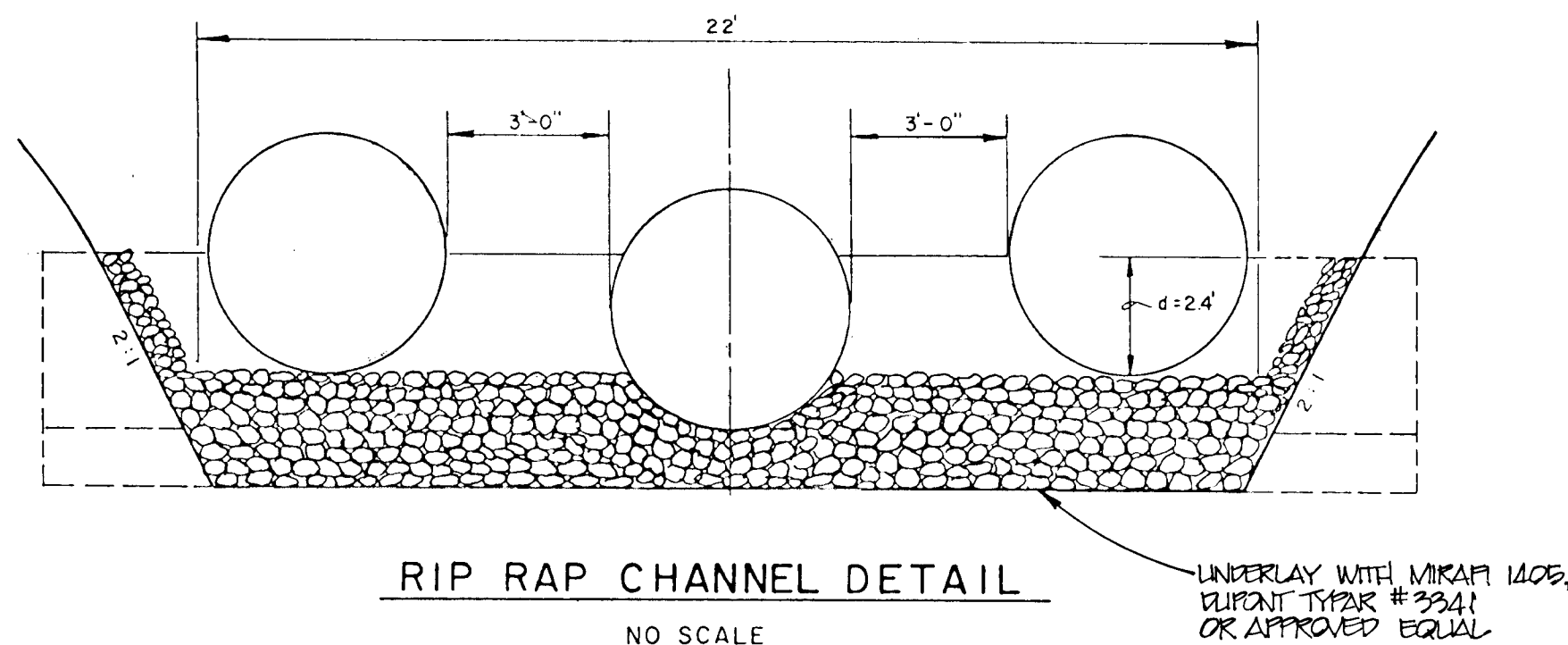
REMOVED CURB & GUTTER ON STRING HOUSE CT. REPAIRED PER LAW REVISION COMMENTS. SUBMITTED FOR SIGNATURES. 1st SUBMITTAL TO HOWARD COUNTY DEP. OF PUBLIC WORKS. 5/10/95 5/10/95 10/27/95

SECTION II
WARFIELD'S GRANT
 ELECTION DISTRICT No. 4
 HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES

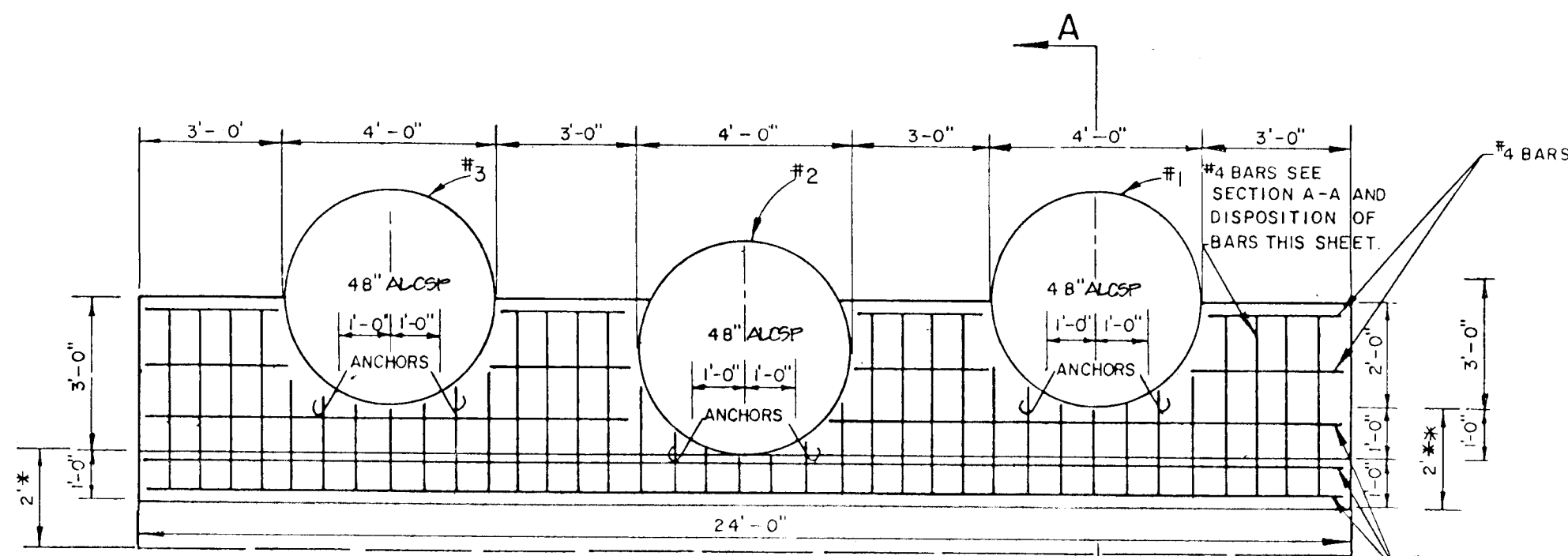
R.M. MOCHI GROUP, P.C.
 3300 N. Ridge Road, Suite 235
 Ellicott City, MD 21043-1055
 (410) 461-0079
 Fax: (410) 750-5340



ANCHOR BOLT DETAIL
NO SCALE

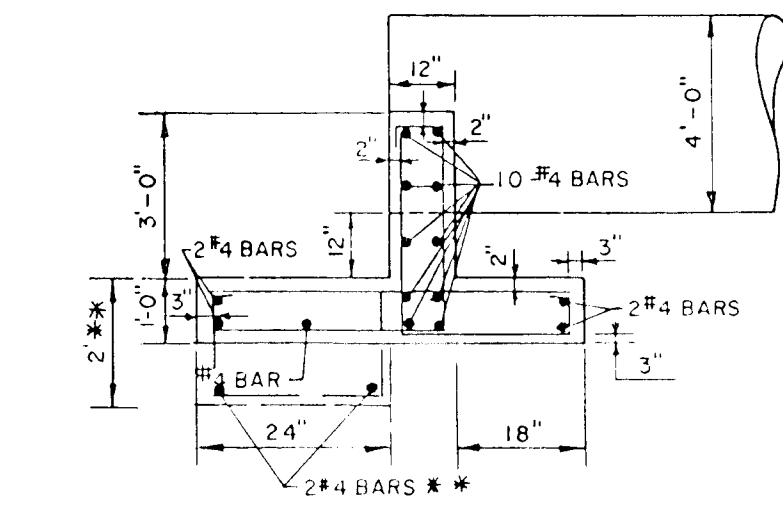


RIP RAP CHANNEL DETAIL
NO SCALE

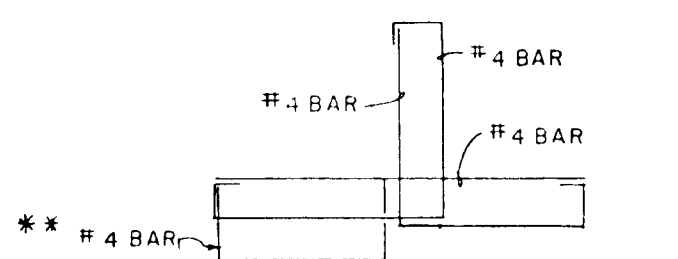


END SUPPORT WALL DETAIL
NO SCALE

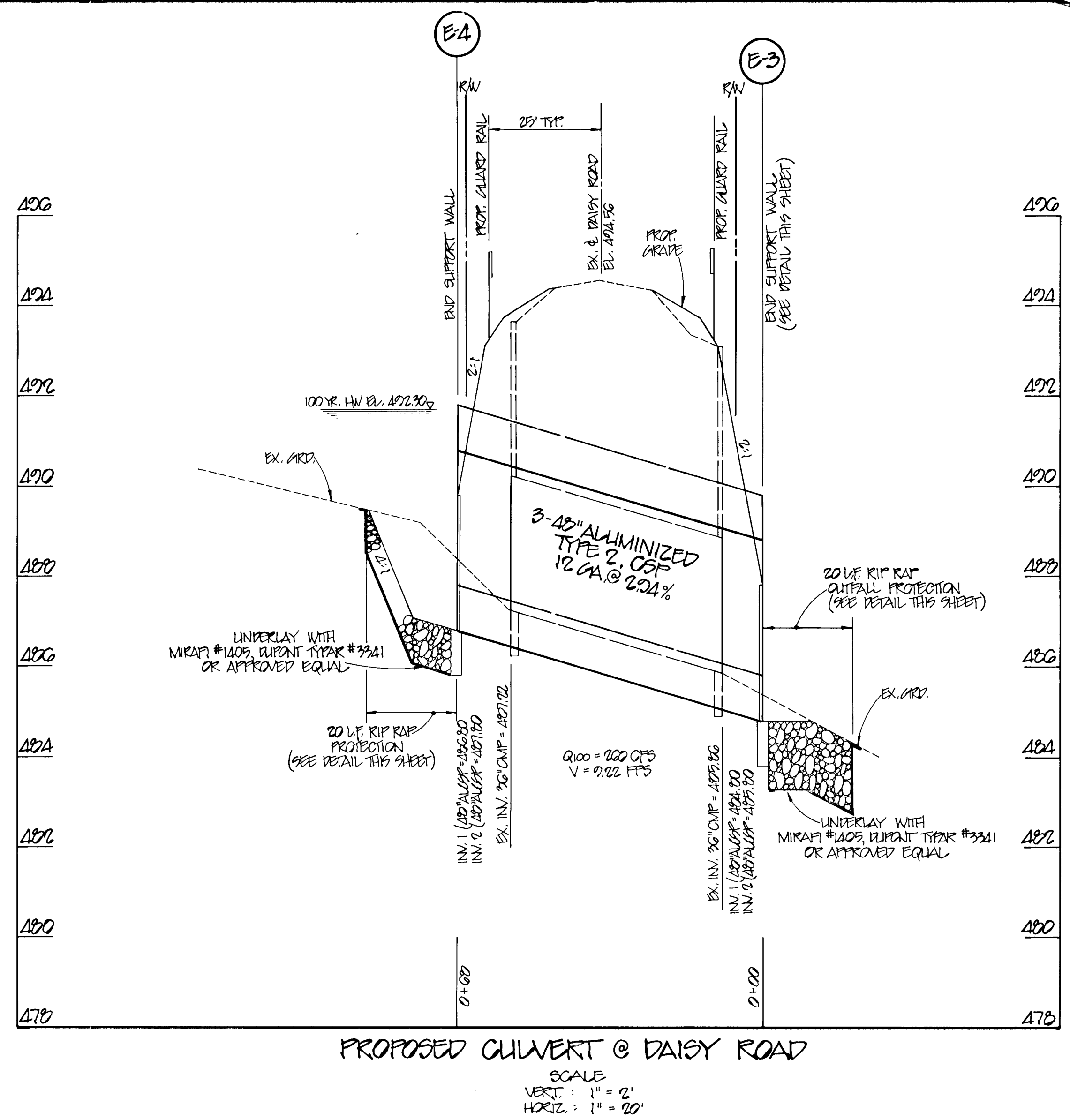
** THIS DETAIL IS FOR
END SUPPORT WALL
E-3 ONLY.



SECTION A-A
NO SCALE



DISPOSITION OF BARS
NO SCALE



PROPOSED CULVERT @ DAISY ROAD

SCALE
VERT: 1" = 2'
HORIZ: 1" = 20'

RIP-RAP CHANNEL DESIGN DATA														
STRUCTURE	A [†]	P FT	R	R ² /S	S %	S 1/2	N	Q OF S	V FTS	D FT	W FT	RIP-RAP SIZE D 50 D MAX	t	
E-3	592.61	28.19	2.06	1.62	0.9	0.0707	0.04	260.00	4.76	2.63	18	9"	14"	20"
E-4	571.70	23.37	0.97	0.71	2.24	0.1715	0.04	920.00	5.76	4.50	18	9"	14"	12"

STRUCTURE SCHEDULE						
NO.	STD. TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS
I-1	S.D.-412	C/L STA. 7+50 O/S 17 LL	15'-538.66	18'-538.41	542.08	Type 'K' Inlet
I-2	S.D.-412	C/L STA. 7+50 O/S 17 RL	---	15'-539.00	542.08	Type 'K' Inlet
I-3	S.D.-412	L.P. STA. 14+71.95	18'-524.00	18'-524.60	507.15	Type 'K' Inlet
I-4	S.D.-412	C/L STA. 4+67 O/S 17 LL	15'-530.75	18'-529.80	533.60	Type 'K' Inlet
I-5	S.D.-412	C/L STA. 4+67 O/S 17 RL	---	15'-530.68	533.60	Type 'K' Inlet
I-6	S.D.-412	C/L STA. 0+50 @ 17 RL	15'-541.75	18'-541.50	545.11	Type 'K' Inlet
I-7	S.D.-412	C/L STA. 10+41.86 @ 17 RL	---	15'-542.50	546.00	Type 'K' Inlet
M-1	S.G.-512	N 528612.61 E 779496.50	18'-536.20	18'-534.70	541.50	Std. Manhole
M-2	S.G.-512	C/L STA. 2+50	18'-538.70	18'-538.50	543.35	Std. Manhole
E-1	S.D.-521	N 528399.31 E 779069.99	---	18'-527.00	529.50	Type 'C' Endwall
E-2	S.D.-521	N 528188.87 E 778913.27	---	18'-509.50	512.00	Type 'C' Endwall
S-1	S.D.-561	C/L STA. 38+62 @ 34 RL	18'-559.85	---	561.35	Std. End Section
S-2	S.D.-561	C/L STA. 22+25	---	18'-494.50	496.00	Std. End Section
S-3	S.D.-561	C/L STA. 22+77 @ 17 LL	18'-497.25	---	498.75	Std. End Section
E-3	SEE PLAN	C/L STA. 21+11.00 @ 30' LL	---	48'(1)=484.80 48'(2)=489.80	---	SEE PLAN Mod. Endwall
E-4	SEE PLAN	C/L STA. 21+01.00 @ 32' RL	---	48'(1)=482.80 48'(2)=487.80	---	SEE PLAN Mod. Endwall

NOTE: Top of Structure Elevations refer to:
A. Inlet - Top of curb elevation @ Centerline of inlet
- For 'K' inlets it denotes the throat elevation.
B. Manholes - Denotes Rim Elevation

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Alan Dammann 5/24/95
CHIEF, LAND DEVELOPMENT DIVISION

Andrew M. Daniels 4-26-95
CHIEF, BUREAU OF HIGHWAYS

Robert Eppson 5/24/95
CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Gina Zimmerman 5/25/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

OWNER/DEVELOPER
WARFIELD'S GRANT LIMITED PARTNERSHIP
c/o GARMAN ASSOCIATES
P.O. Box 122
Ellicott City, Maryland 21043
(410)442-1045
ATTN: Mr. Ron Carter

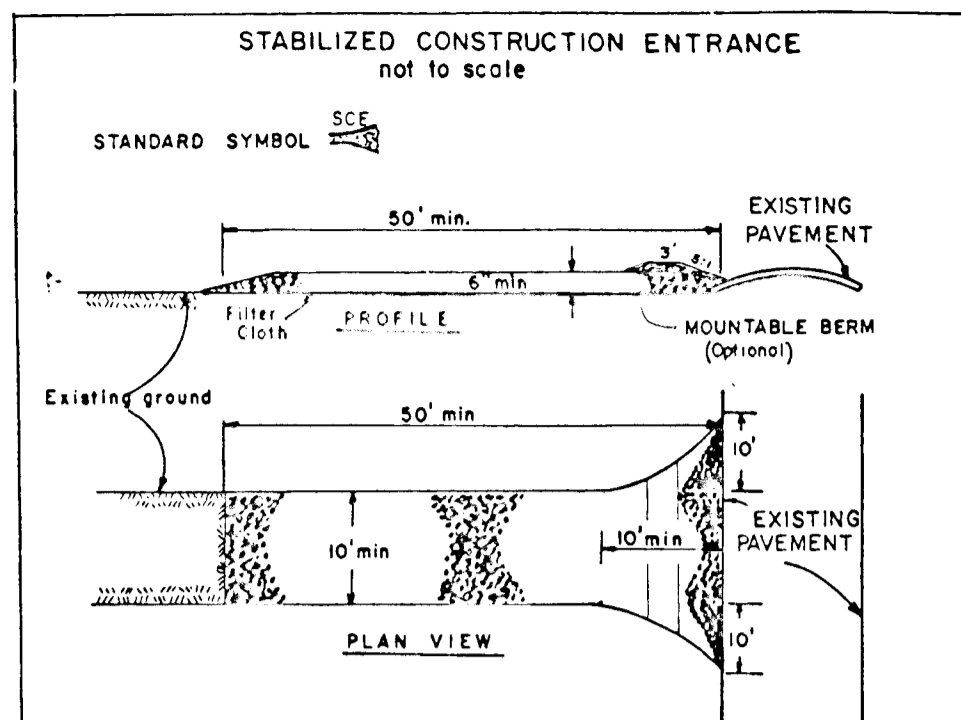
ENGINEER
R. M. MOCHI GROUP, P.C.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(410)461-0079
ATTN: Mr. Robert Mochi, P.E.

Project date 12/16/94
94012.00 engineering
Illustration MWZ AMY
Scale 1/8" = 1'-0" approval
AS SHOWN BY RM

5/21/95
REMOVED CURB & GUTTER CALIBRATION HOUSE OF
REMOVED PER CIVIL REVIEW COMMENTS
5/18/95
UNLIMITED PER SHARITZER
12/29/94
1ST SUBMITTAL TO HOWARD COUNTY DEPT
description
revisions

SECTION II
WARFIELD'S GRANT
ELECTION DISTRICT No. 4
HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES AND DETAILS

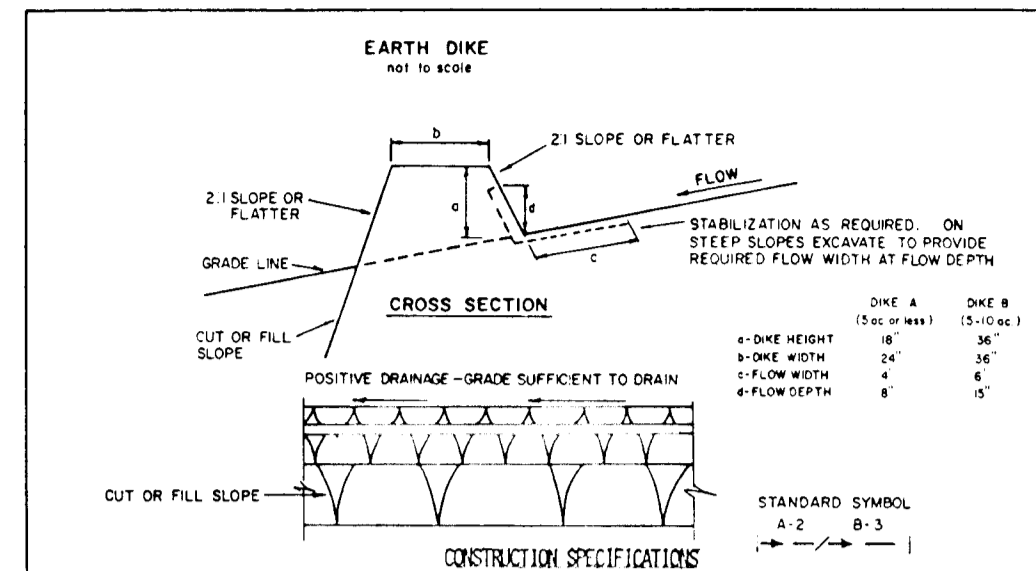
R. M. MOCHI GROUP, P.C.
3300 N. Ridge Road, Suite 235
Ellicott City, MD 21043-3035
(410) 461-0079
Fax: (410) 750-6340



- CONSTRUCTION SPECIFICATIONS**
- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 - Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 - Thickness - Not less than six (6) inches.
 - Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mounded berm with 5:1 slopes will be permitted.
 - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediments spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 - Periodic inspection and needed maintenance shall be provided after each rain.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
College Park, Md.

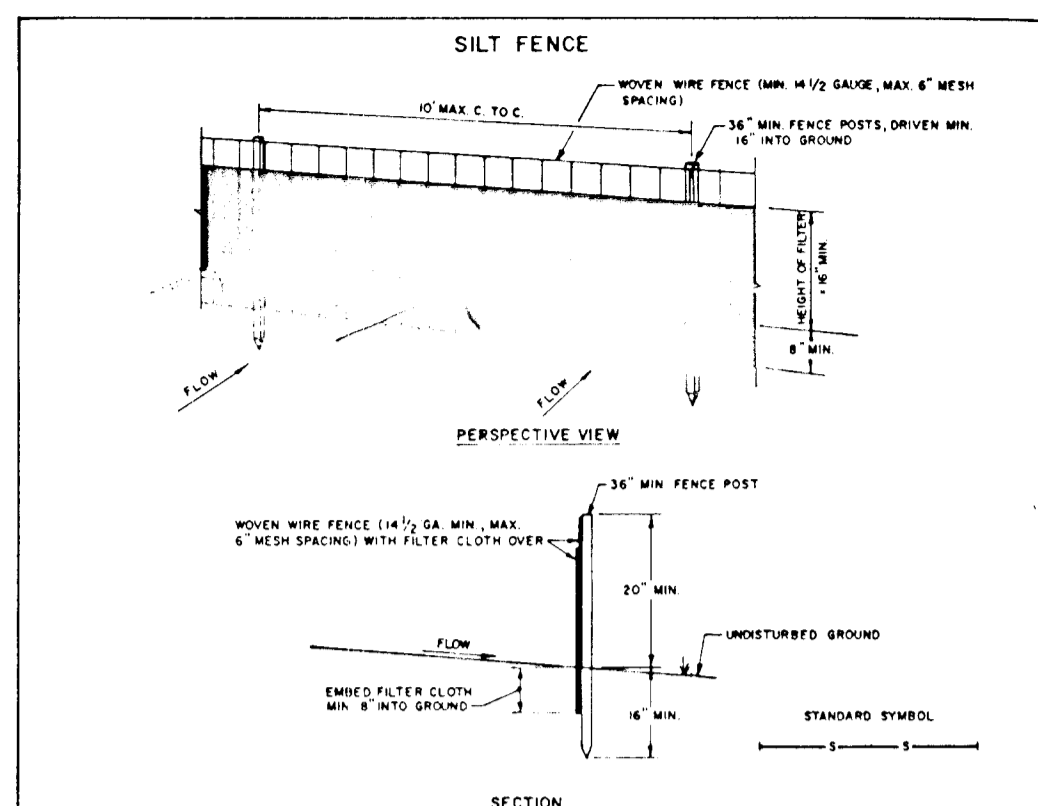
STABILIZED CONSTRUCTION ENTRANCE
Standard Drawing
SC-1



- CONSTRUCTION SPECIFICATIONS**
- All dikes shall be compacted by earth-moving equipment.
 - All dikes shall have positive drainage to an outlet.
 - Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
 - Field location should be adjusted as needed to utilize a stabilized safe outlet.
 - Earth dikes shall have an outlet that functions with a minimum of erosion. Sediment shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin where either the dike channel or the drainage area above the dike are not separately stabilized.
 - Stabilization shall be: (A) in accordance with standard specifications for seed and straw mulch or straw mulch if not in seeding season, (B) flow channel as per the chart below.
- | TYPE OF IRRIGATION | CHANNEL SLOPE | DIKE A | DIKE B |
|--------------------|---------------|------------------------|--|
| 1 | 3-5:00 | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3-1-0:00 | SEED AND STRAW MULCH | SEED USING ATE, OR EXCESSIVE SOIL OF STONE |
| 3 | 5-1-0:00 | SEED WITH ATE, OR SOIL | LINED RIP-RAP 4-8" |
| 4 | 8-1-0:00 | LINED RIP-RAP 4-8" | ENGINEERING DESIGN |
- FLOW CHANNEL STABILIZATION**
- A. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.
B. Rip-rap to be 4-8 inches in a layer at least 8 inches thickness and pressed into the soil.
C. Approved equivalents can be substituted for any of the above materials.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
College Park, Maryland

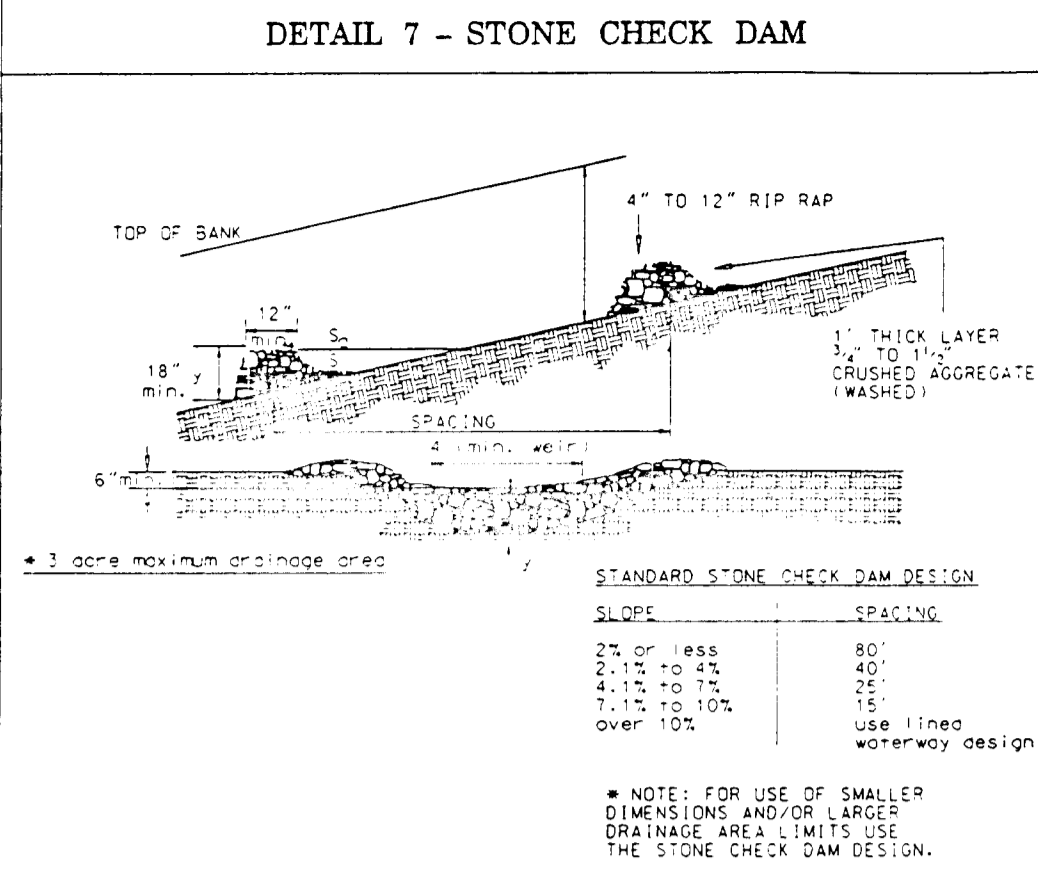
EARTH DIKE
STANDARD DRAWING
ED-1



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
 - Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
 - When two sections of filter cloth abut in each other they shall be overlapped by six inches and folded.
 - Maintenance shall be performed as needed and material removed when "bales" develop in the silt fence.
- POSTS:** STEEL EIGHT (8) OR TEN (10) TYPE OR 2" HEMLOCK
FENCE: WOVEN WIRE 30 GAL. GALV. 1/2" MESH OPENING
FILTER CLOTH: FILTER X, HEAVY DUTY, STABILIZED LINEN OR APPROVED EQUIVALENT
PREFABRICATED UNIT: GEOTAB, GEOTEX, OR APPROVED EQUIVALENT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
College Park, Maryland

SILT FENCE
STANDARD DRAWING
SF-1

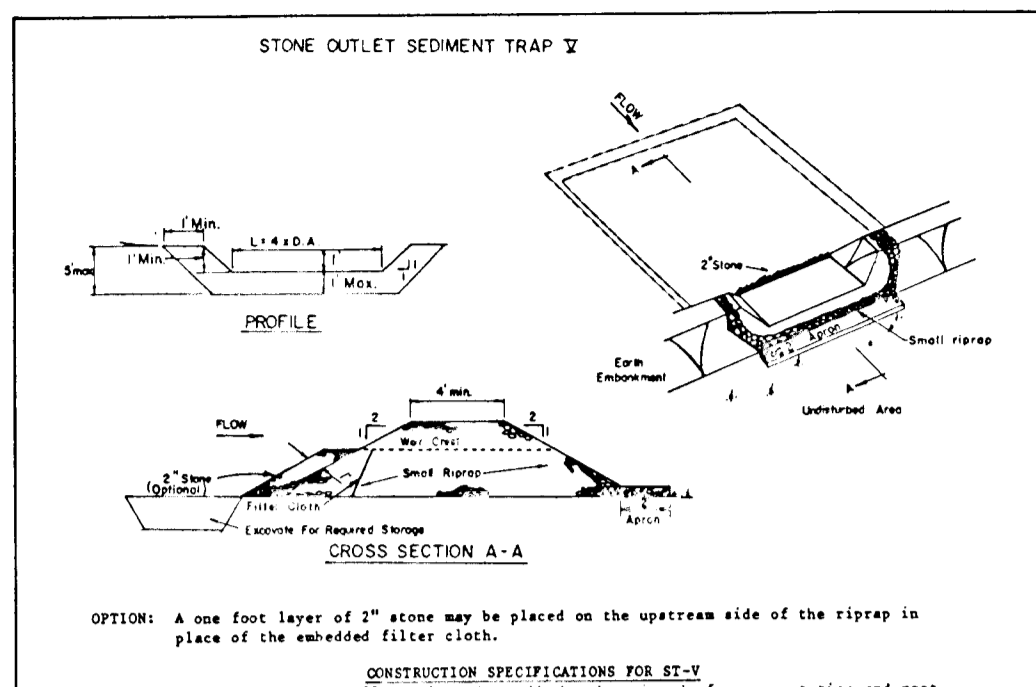


- STANDARD STONE CHECK DAM DESIGN**
- | SLOPE | SPACING |
|------------|---------|
| 2% or less | 80' |
| 2.1% to 2% | 60' |
| 4.1% to 2% | 40' |
| 6.1% to 4% | 25' |
| over 10% | 15' |
- NOTE:** FOR USE OF SMALLER DIMENSIONS AND/OR LARGER DRAINAGE AREA, LIMITS USE THE STONE CHECK DAM DESIGN.
- CONSTRUCTION SPECIFICATIONS**
- Slopes and ditches shall be prepared in accordance with the construction specifications described in Section A-2, Standards and Specifications for Temporary Soils.
 - The check dam shall be constructed of 4 inch to 12 inch rip rap. The rip rap shall be placed so that it completely covers the width of the channel and extends into the channel walls.
 - The top of the check dam shall be constructed so that the center is approximately 8 inches lower than the outer edges, forming a weir that water can flow across.
 - The maximum height of the check dam at the center shall not exceed 2 feet.
 - The upstream side of the check dam may be lined with approximately 1 foot of 3/4 to 1 1/2 inch crushed aggregate.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

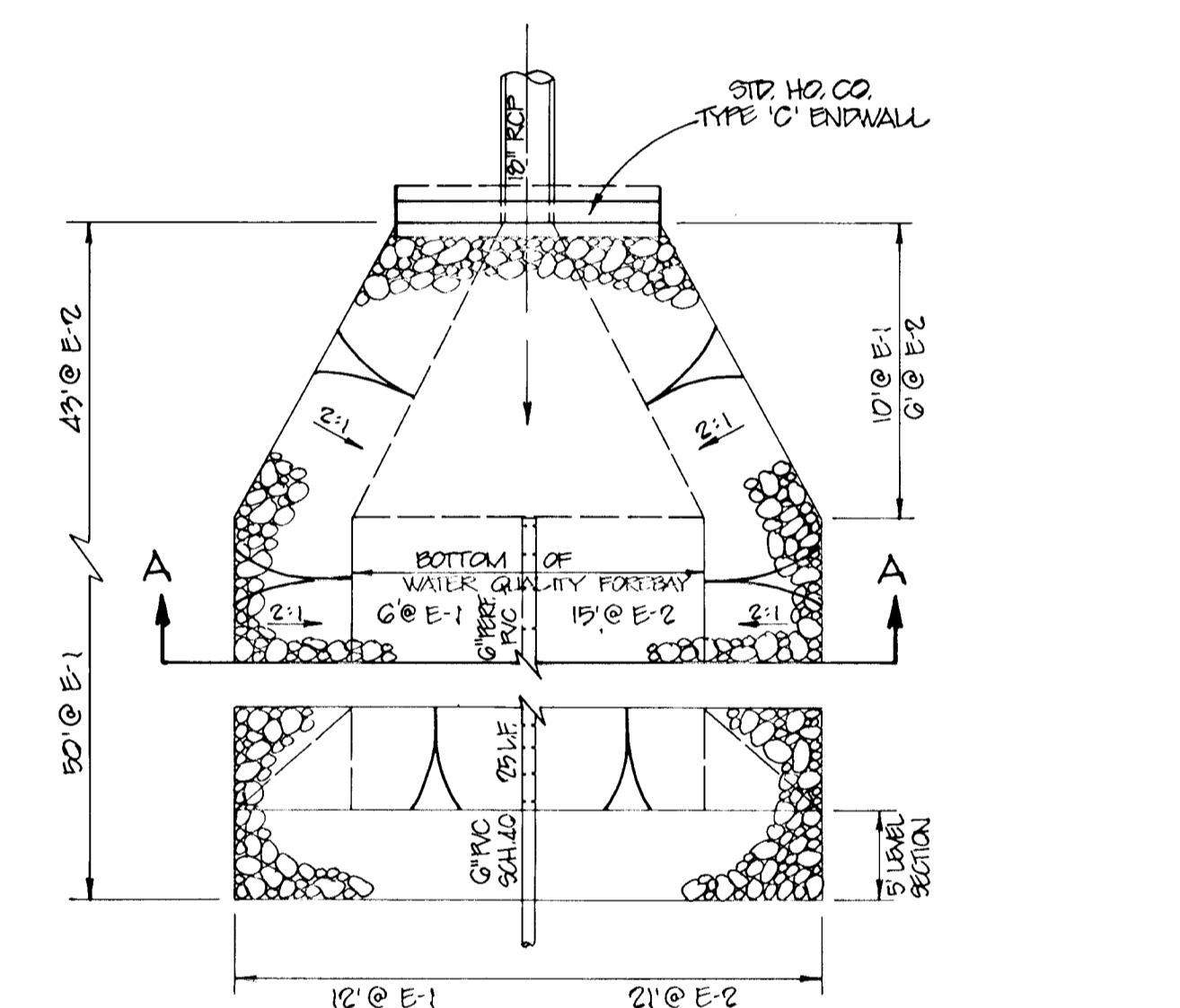
PAGE B-8-8



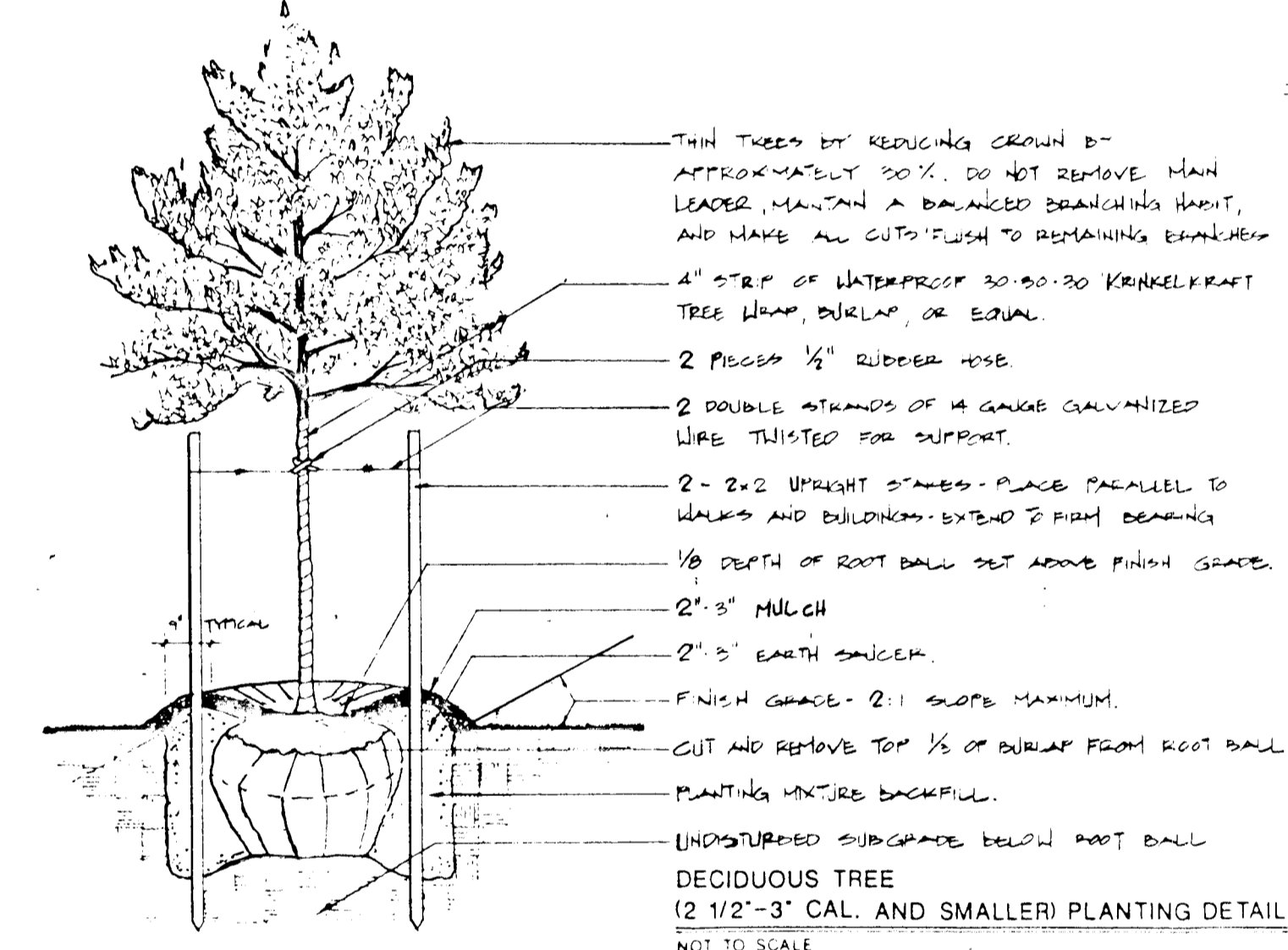
- CONSTRUCTION SPECIFICATIONS FOR ST-VI**
- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 - The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 - All cut and fill slopes shall be 2:1 or flatter.
 - The slope used in the outlet shall be small riprap 4-8" along with a 2" thickness of 2" aggregate placed on the up-grade side on the small riprap to embedded filter cloth in the riprap.
 - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to the design depth of the trap.
 - The structure shall be inspected after each rain and repairs made as needed.
 - Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
 - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
College Park, Maryland

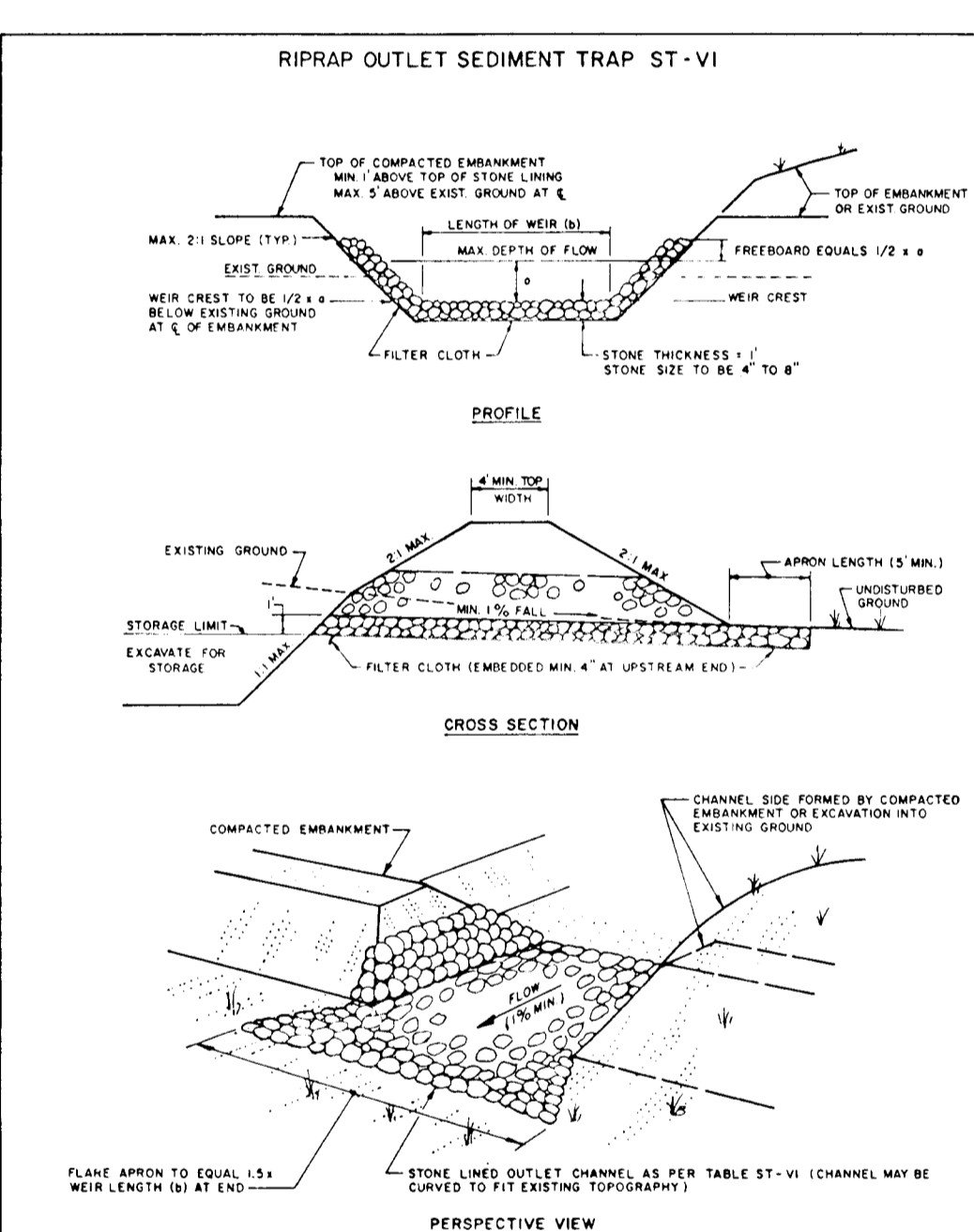
STONE OUTLET SEDIMENT TRAP
STANDARD DRAWING
ST-VI



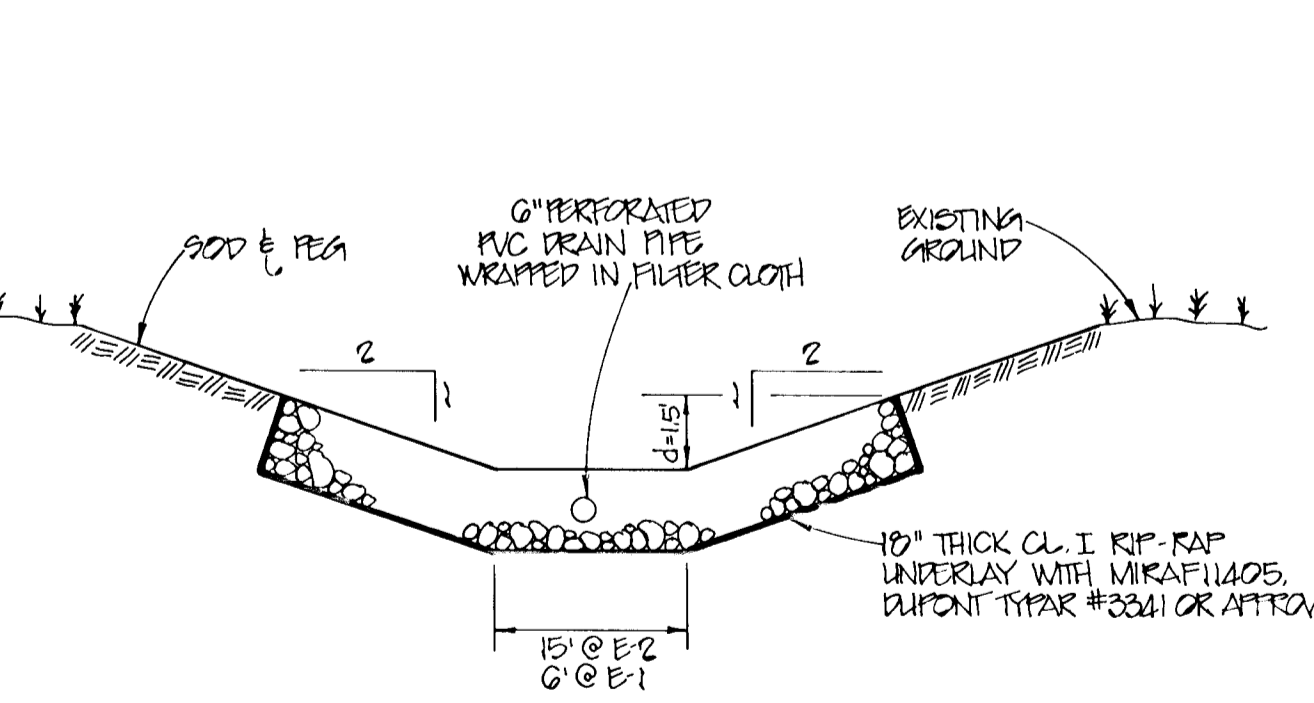
WATER QUALITY FOREBAY & RIP-RAP OUTFALL PROTECTION
NOT TO SCALE



TYPICAL
DECIDUOUS TREE
(2 1/2"-3" CAL. AND SMALLER) PLANTING DETAIL
NOT TO SCALE



RIPRAP OUTFALL SEDIMENT TRAP
STANDARD DRAWING
ST-VI



RIP-RAP TRAPEZOIDAL CHANNEL DETAIL A-A
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 5/22/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
DATE: 4-26-95

APPROVED: BUREAU OF ENGINEERING
DATE: 5/24/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
DATE: 5/25/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
DATE: 4/11/95

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
DATE: 4/11/95

APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
DATE: 4/11/95

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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/We also authorize periodic onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
DATE: 12/01/94

ENGINEER'S CERTIFICATE
I hereby certify that this plan for erosion and sediment control represents a practical and applicable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.
DATE: 4/11/95

1574

PROJECT: 94012-00
DATE: 8/15/94
ENGINEERING: AMV
BLP
SCALE: AS SHOWN
APPROVAL: RM

SECTION 2
WARFIELD'S GRANT
ELECTION DISTRICT No. 4
HOWARD COUNTY, MARYLAND
SEDIMENT CONTROL DETAILS

R.M. MOCHI GROUP, P.C.
3000 N. Ridge Road, Suite 235
Ellicott City, MD 21043
(410) 461-0079
Fax: (410) 750-6340

PERMANENT SEEDING NOTES

Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeded 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 on the following schedules.

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

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) use sod. Option 3) seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

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

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seeded 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 sf).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through 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 sf) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

SEDIMENT CONTROL NOTES

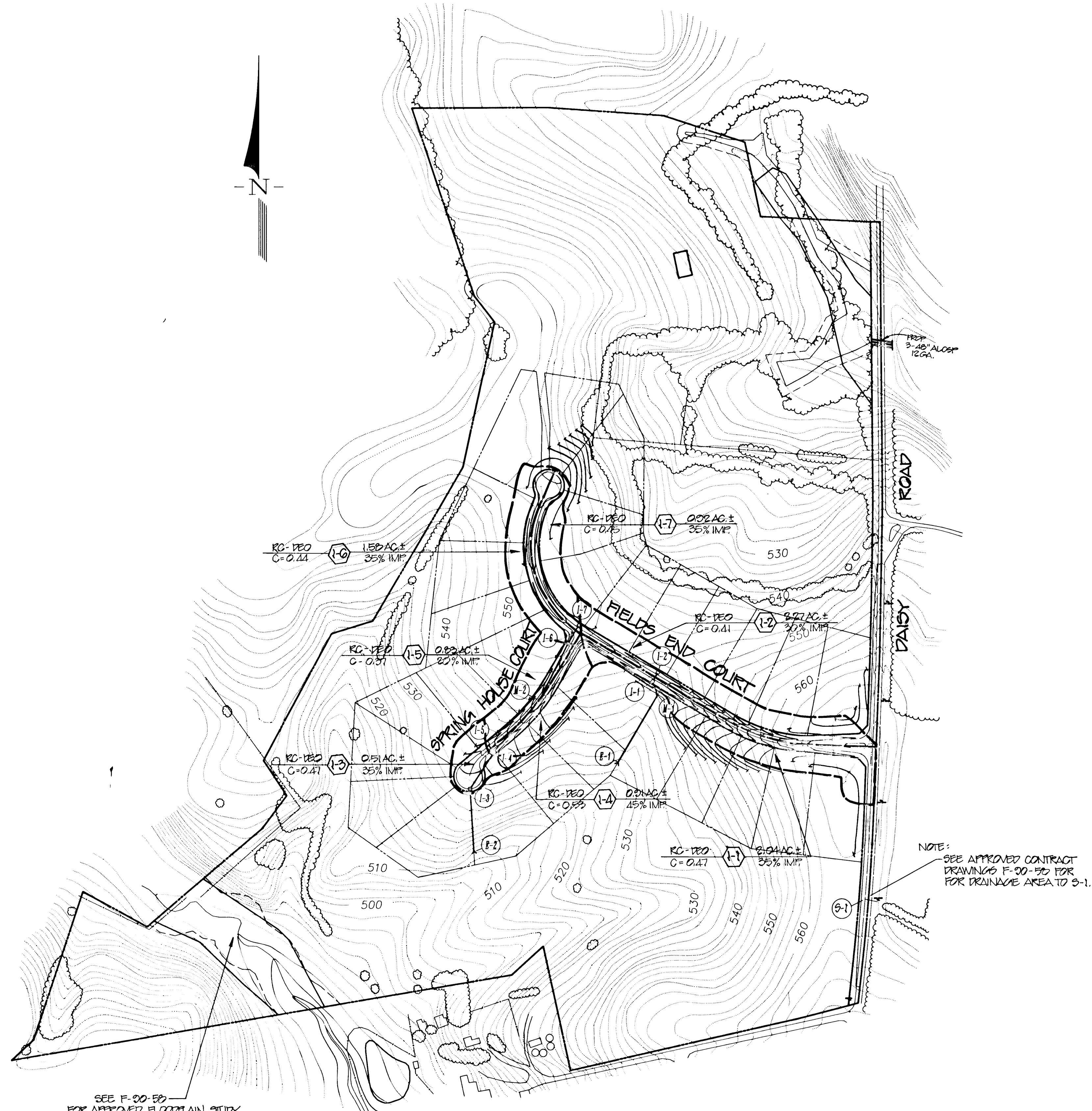
1. A minimum of 48 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction. (313-1855)
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
3. Following initial soil disturbances or redisturbances, permanent or temporary stabilization shall be completed within: a) 72 hours for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 5 calendar days as to all other disturbed or graded areas on the project site.
4. 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 Seeding (Sec. 51) Sod (Sec. 54), Temporary Seeding (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
5. 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.
6. Site Analysis:
Total Area of Site: 108.09 Ac.
Area to be Disturbed: 20 Ac.±
Area to be roofed or paved: 1.6 Ac.±
Area to be vegetatively stabilized: 8.7 Ac.±
Total Cut: 8400 c.y.±
Total Fill: 8100 c.y.±
Offsite Waste/Borrow Area: None
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment controls must be provided, if deemed necessary by the Howard County D.I.P. Sediment Control Inspector.
9. Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his/her own quantity estimates to his/her satisfaction.

LANDSCAPE NOTES

1. Proposed locations of Street Trees and Perimeter Landscaped Edges are shown on sheets 4 and 5.
2. Tree Tabulation
A. Street Trees
Daisy Road
2350 L.F. of Right-of-Way
50 Street Trees required 40 feet apart
30 Quercus Acutissima / Sawtooth Oak proposed + CREDIT FOR EX. VEGETATION
Fields End Court
1560 L.F. of Right-of-Way
78 Street Trees required 40 feet apart
78 Acer Rubrum / Sunset Red Maple proposed
Spring House Court
600 L.F. of Right-of-Way
30 Street Trees required 40 feet apart
31 Quercus Acutissima / Sawtooth Oak proposed

SEQUENCE OF CONSTRUCTION

1. Obtain all required permits, approvals and licenses from appropriate agencies.
2. Notify Howard County Construction Inspection Division (313-1880) at least five (5) working days prior to starting work on these plans.
3. Clear and grub for sediment and erosion control measures only. Install stabilized construction entrance.
4. Install all sediment and erosion control measures and devices only as indicated on the plans. All sediment control devices are to be inspected daily and after each rainfall. Repair sediment devices as required.
5. Clear and grub for the remainder of the site.
6. Install proposed 48"ALOSP No. 1 next to the existing 36" CMP culvert. Divert flow from the existing 36" CMP to the now existing 48"ALOSP No.1.
7. Remove the existing 36" CMP and install the proposed 48"ALOSP pipes no. 2 and 3 and endwalls E-1 and E-2 as shown on these plans.
8. Replace the existing 12" CMP in Daisy Road with an 18" CMP as shown hereon.
9. Grade site to the proposed subgrade. Widen and grade Daisy Road according to the typical widening section shown hereon. Stabilize all slopes immediately upon completion of grading.
10. Construct storm drains and paving.
11. When all contributing areas to the sediment control devices have been stabilized and with the permission of the sediment control inspector, the device may be removed and/or backfilled and the area brought to final design grade. Stabilize all remaining areas in accordance with permanent seeding notes.
12. Notify Howard County Office of Inspections and Permits for final inspection of completed project.



SEE F-30-150 FOR APPROVED FLOODPLAIN STUDY

DRAINAGE AREA MAP
SCALE: 1" = 200'

OWNER/DEVELOPER
WARFIELD'S GRANT LIMITED PARTNERSHIP
c/o CARMAN ASSOCIATES
P.O. Box 122
Ellicott City, Maryland 21043
(410)442-1045
ATTN: Mr. Ron Carter

ENGINEER
R. M. MOCHI GROUP, P.C.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(410)461-0079
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 5/22/95
CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 4-26-95
CHIEF, BUREAU OF HIGHWAYS

APPROVED: BUREAU OF ENGINEERING MK
[Signature] 5/24/95
DATE

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
[Signature] 5/25/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
[Signature] 4/16/95
DATE

APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
[Signature] 4/16/95
US NATURAL RESOURCES CONSERVATION SERVICES

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
[Signature] 12/21/94
Signature of Developer Date

ENGINEER'S CERTIFICATE
I hereby certify that the plan for erosion and sediment control represents a proper and practical plan based on my personal knowledge of the site conditions and the requirements of the Howard County Soil Conservation District.
[Signature] 4/16/95
Robert M. Mochi, P.E. Date

project	date	engineering	approval
94012-00	8/15/94	AMV	RM
illustration			
LIG			
scale	1" = 200'		

REVISED PER PERM REVIEW COMMENTS	DATE
1. SUBMITTED TO HOWARD COUNTY DPZ	10/22/94
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

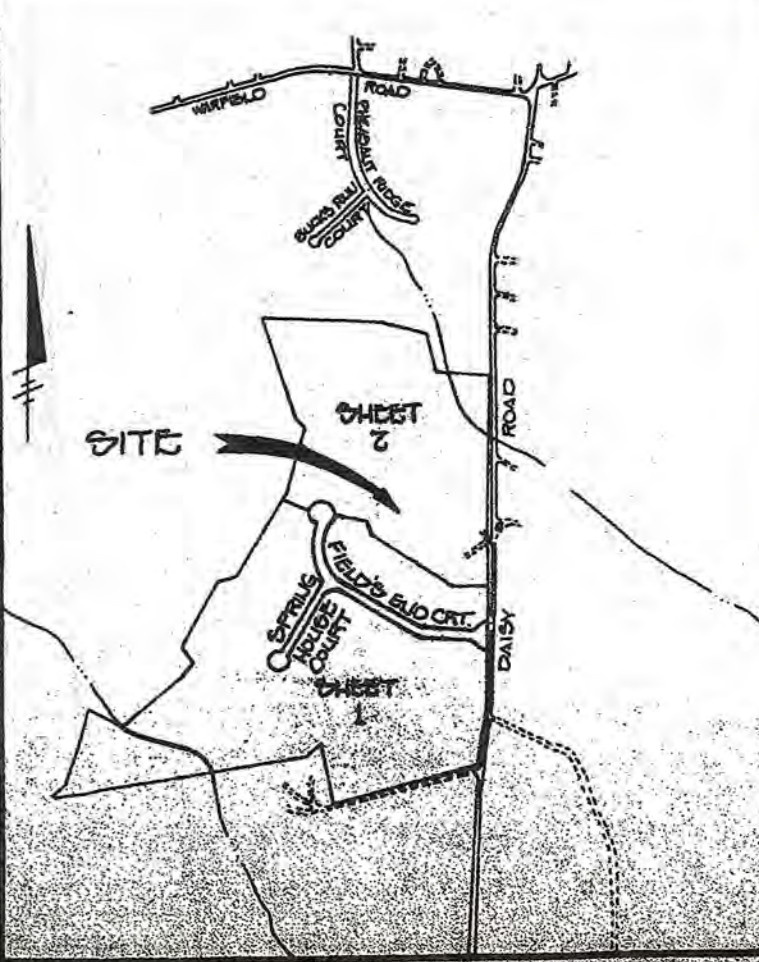
SECTION 2
WARFIELD'S GRANT
ELECTION DISTRICT No. 4
HOWARD COUNTY, MARYLAND
DRAINAGE AREA MAP & SEDIMENT CONTROL NOTES

R.M. MOCHI GROUP, P.C.
3300 N. Ridge Road, Suite 235
Ellicott City, MD 21043-1350
(410) 461-0079
Fax: (410) 750-6340

1574

PROPERTY OF THEODORE F. MARIANI 1216/417

PROPERTY OF THEODORE F. MARIANI 1216/417



VICINITY MAP
SCALE: 1"=100'

SOILS STUDY

SOIL	NAME	SOIL GROUP
G1A	Glenville	C
G1B2	Glenville	C
G1B2	Glenelig	B
G1C2	Glenelig	B
G1D3	Glenelig	B
CHA	Chester	D
CHB2	Chester	B
EBK2	Block	B
MIE	Manor	B
MTE	Mt. Airy Chert	A
RC	Coarctus	C

- (*) SOILS SUSCEPTIBLE TO HYDRIC CONDITIONS
- 10% TO 20% SLOPED
- 20% SLOPED
- DENOTES POSSIBLE LOCATIONS FOR TREE CASES (SEE PLAN)
- DENOTES POSSIBLE WELL LOCATIONS
- DENOTES POSSIBLE HOUSE LOCATIONS
- AFFORESTATION AREA

TOTAL AREA OF TRACT = 36.54 AC. ±
(AREA OF LAND USE CHANGE)
NET AREA = 30.54 AC. ±
AFFORESTATION REQUIRED =
PROVIDED = 4.5 ACRES

.8
.4
2.201
3.401

3.901
41
7.501

SAVE

FOREST CONSERVATION
{ PLANTING PLAN

WARFIELD'S GRANT

SECTION 2
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 13 PARCEL 12B
SCALE: 1"=100' FEBRUARY 1974
SHEET 10P5
REFERENCES: 582-15 P20-55 P20-57 100-26

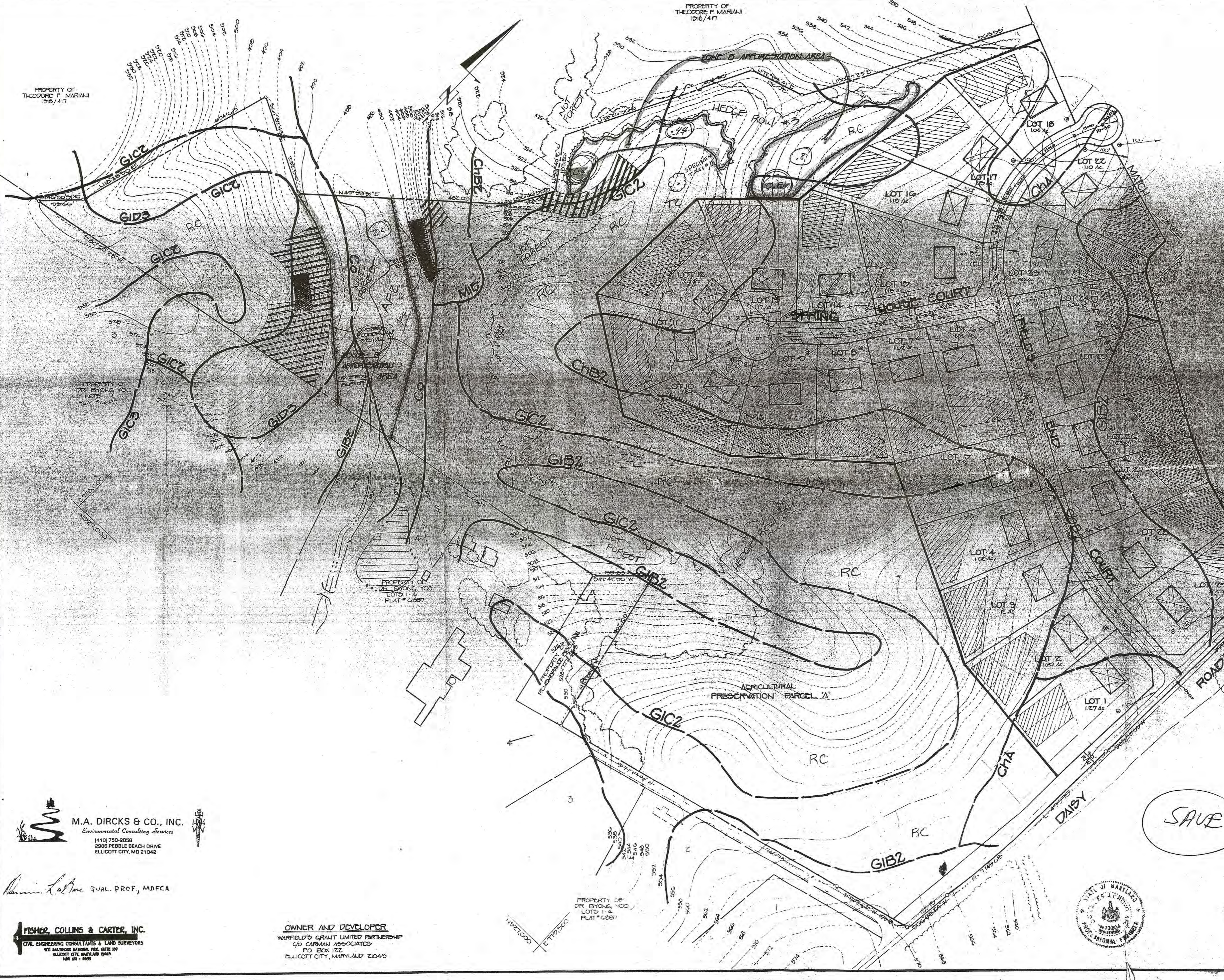


M.A. DIRCKS & CO., INC.
Environmental Consulting Services
(410) 750-2058
2905 PEBBLE BEACH DRIVE
ELLICOTT CITY, MD 21042

Shirley LaBrec QUAL. PROF., MDPCA

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CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
871 WASHINGTON NATIONAL PKA. BLDG. 107
ELLICOTT CITY, MARYLAND 21043
198 98 - 2595

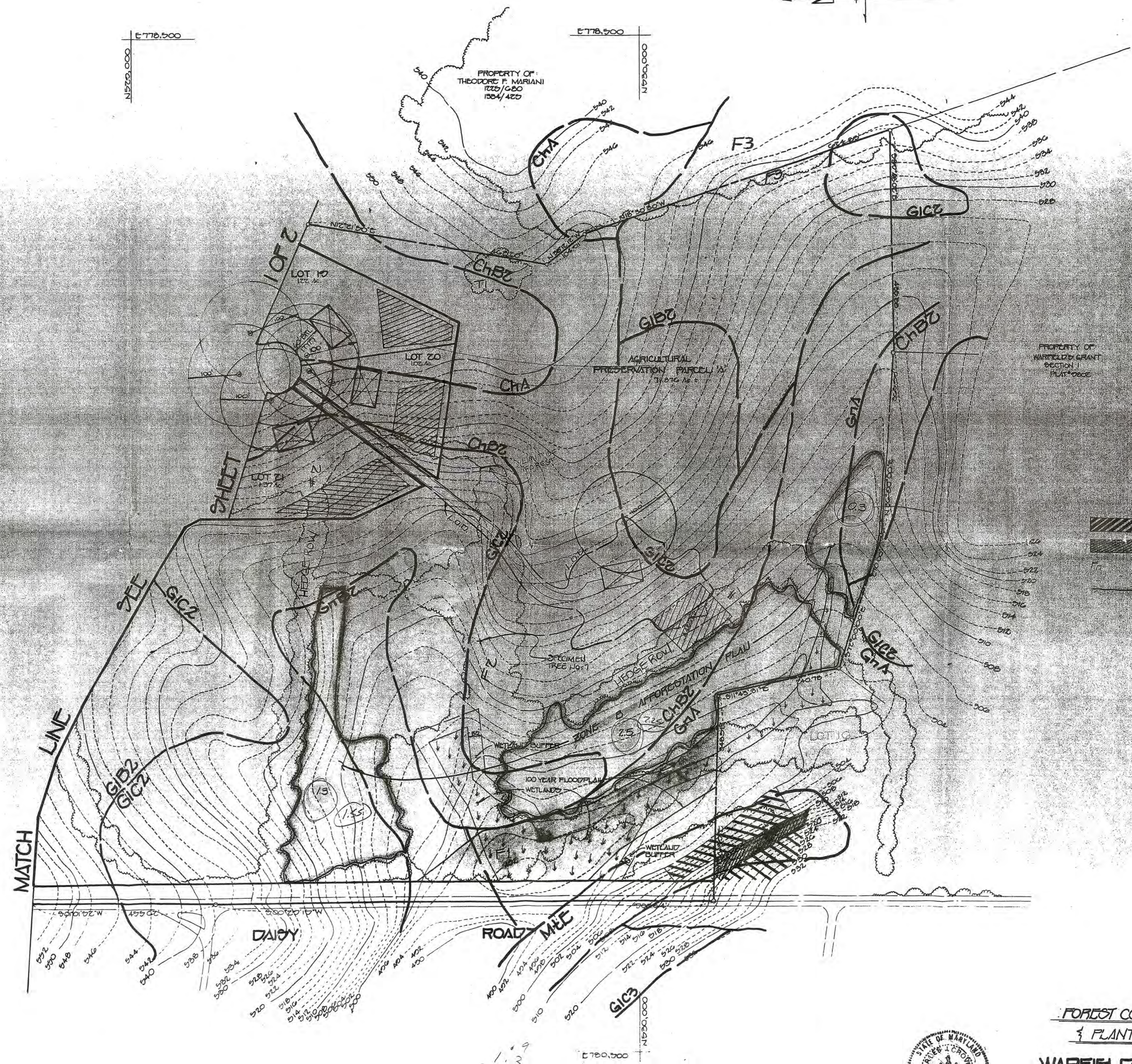
OWNER AND DEVELOPER
WARFIELD'S GRANT LIMITED PARTNERSHIP
c/o CARMAN ASSOCIATES
P.O. BOX 122
ELLICOTT CITY, MARYLAND 21043





E 778,500
N 1320,000

E 778,500
N 1320,000




-  15% - 20% BUFFER
-  50% BUFFER
-  FOREST
-  AFFORESTATION AREA

1.3
2.5
0.3
4.1

1.3
2.2
1.4
2.6

 **M.A. DIRCKS & CO., INC.**
Environmental Consulting Services
(410) 750-2098
2988 PEBBLE BEACH DRIVE
ELLICOTT CITY, MD 21042

Kevin LeBar, QUAL. PROF., MDP/CA

 **FISHER, COLLINS & CARTER, INC.**
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
871 BALTIMORE NATIONAL PKW. SUITE 300
ELLICOTT CITY, MARYLAND 21043
1989 08 - 2002

OWNER AND DEVELOPER
WARFIELD'S GRANT LIMITED PARTNERSHIP
C/O CARMAN ASSOCIATES
P.O. BOX 122
ELLICOTT CITY, MARYLAND 21043



**FOREST CONSERVATION
& PLANTING PLAN**

WARFIELD'S GRANT

SECTION 1
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 13 PARCEL 123
SCALE: 1" = 100' SHEET 2 OF 3
FEBRUARY 1994
REFERENCES: 02-15-85, 02-25-85, 02-27-85, 02-28-85

FOREST PROTECTION PROCEDURES - Preconstruction Phase

- The edge of the woods to be protected will be marked (staked or flagged) in the field per the limits of disturbance shown in the approved site development plan prior to the start of construction activity. All areas within protective fences are to be considered "off limits" to any construction activities. The protective fencing shall be installed at the outside edge of forested areas and specimen trees to be retained and should be combined with sediment control devices when possible. The limit of the critical root zone and therefore the location of the protective devices is to be determined as follows:

Edge of Forested Area - 1 foot of protective radius/inch of DBH or an eight foot protective radius, which ever is greater.

Critical Root Zone for the forest on this site is an average of 10 feet from the trunk of the tree.

- Construction activities expressly prohibited within the preservation areas are:

- Placing or stockpiling backfill or top soil in protected areas
- Felling trees into protected areas
- Driving construction equipment into or through protected areas
- Burning in or in close proximity to protected areas
- Stacking or storing supplies of any kind
- Concrete wash-off areas
- Conducting trenching operations
- Grading beyond the limits of disturbance
- Parking vehicles or construction equipment
- Removal of root mat or topsoil
- Siting and construction of:
 - Utility lines
 - Access roads
 - Impervious surfaces
 - Stormwater management devices
 - Staging areas

- Protective fencing (see Figure "Protective Fencing") shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are "Forest Retention Area" (see Figure "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that root systems are protected from smothering, flooding, excessive wetting from de-watering operations, off-site run-off, spillage, and drainage or solutions containing materials hazardous to tree roots.

- The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, sub-contractors, or licensees.
- Foot traffic shall be kept to a minimum in the protective areas.
- All trees which are not to be preserved within fifty feet of any tree preservation areas are to be removed in a manner that will not damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.
- The general contractor shall designate a "wash out" area on-site for concrete trucks which will not drain toward a protected area.
- A pre-construction meeting shall be held with local authorities before any disturbance has taken place on site.

FOREST PROTECTION PROCEDURES - Construction Phase

Forest and tree conditions should be monitored during construction and corrective measures taken when appropriate.

The following shall be monitored:

- Soil compaction
- Root injury - prune and monitor; consider crown reduction
- Limb injury - prune and monitor
- Flooded conditions - drain and monitor; correct problem
- Drought conditions - water and monitor; correct problem
- Other stress signs - determine reason, correct, and monitor.

FOREST PROTECTION PROCEDURES - Post-Construction Phase

The following measures shall be taken:

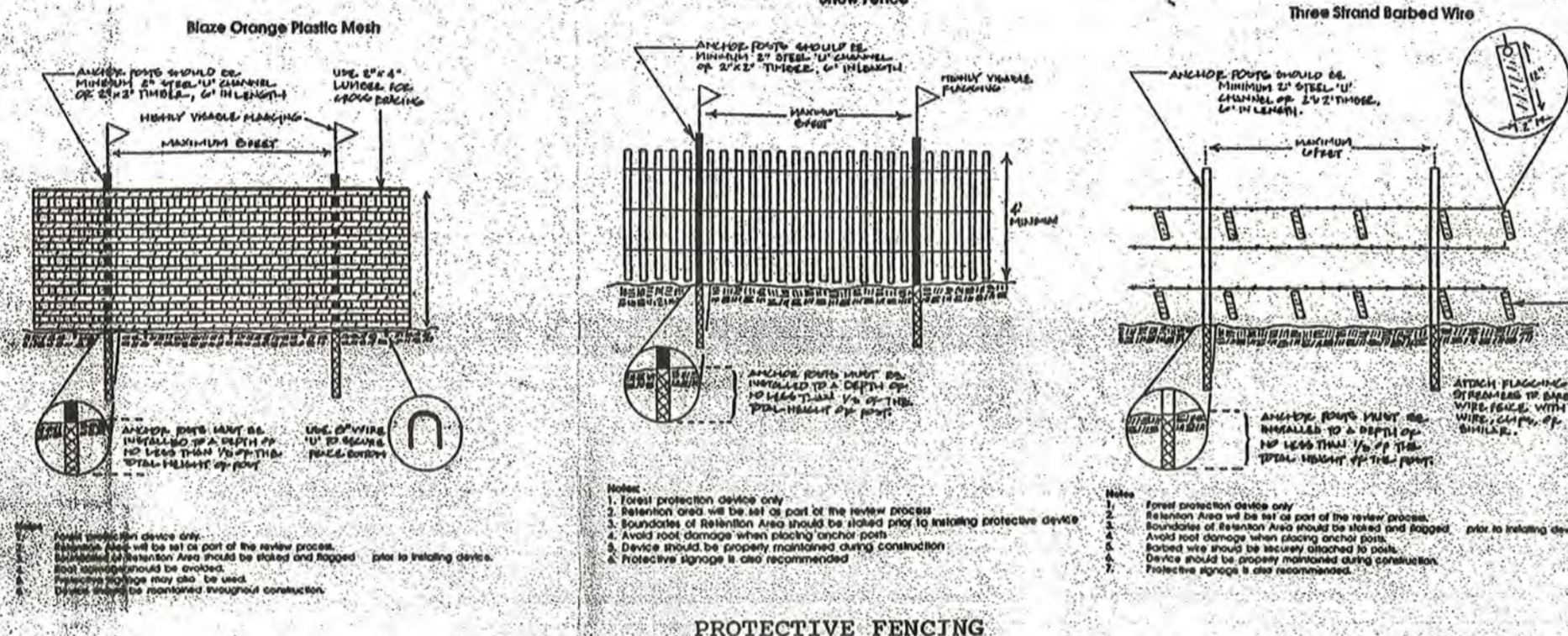
- Corrective measures if damages were incurred due to negligence:
 - Stress reduction
 - Removal of dead or dying trees. This may be done only if trees pose an immediate safety hazard

2.) Removal of temporary structures:

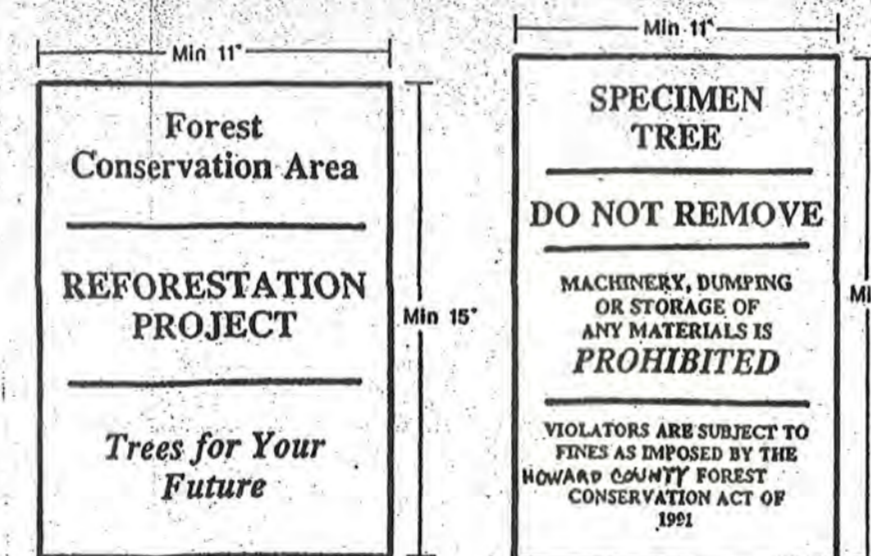
- No burial of discarded materials will occur on-site within the conservation area.
- No open burning within 100 feet of a wooded area.
- All temporary forest protection structures will be removed after construction.
- Remove temporary roads by removing stone or broadcasting mulch; pre-construction elevation should be maintained.
- Aerate compacted soil.
- Replant disturbed sites with trees, shrubs and/or herbaceous plants.
- Retain signs for retention areas or specimen trees.
- A County official shall inspect the entire site.

3.) Future protection measures:

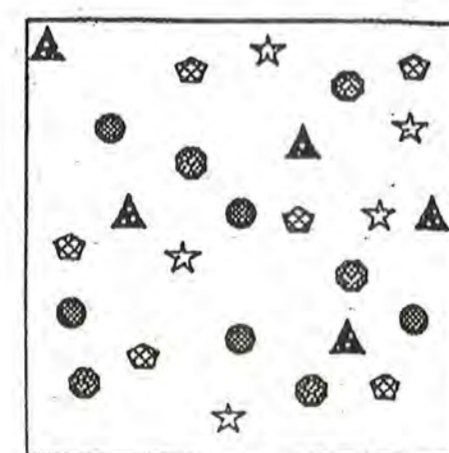
- Howard County and the developer shall arrange for the dedication of an appropriate forest conservation easement at a later date.



PROTECTIVE FENCING

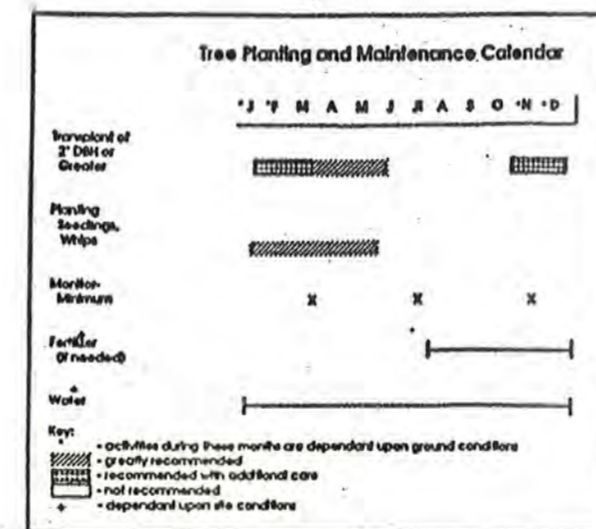


SIGNAGE



- SYCAMORE/OAK
 - TULIP POPLAR
 - RED MAPLE
 - DOGWOOD
 - GREEN ASH
- TO BE PLANTED IN RANDOM DISTRIBUTION PATTERN

RANDOM PLANTING DETAIL



The planting and care of trees is most successful when coordinated with the local climate conditions. The calendar summarizes some of the recommended time frames for local retention, when and how retention activities.

PLANTING SPECIFICATIONS AND NOTES

I. SITE PREPARATION AND SOILS

- Disturbance of soils should be limited to the Planting Field for each plant. Planting hole will be a minimum 18" auger hole, dug to the depth of the root ball. As shown on the detail view, a Planting Field of 18" diameter is recommended.
- In areas of steep slopes or erodible soils, soil disturbance will be limited to the Planting Field which is equal to the 18" diameter auger hole.
- Soil mix for all plants shall be native soil with no soil amendments, unless a soils analysis determines that soil amendments are required (disturbed sites). Natural amendments, such as organic mulch or leaf mold compost, are preferred.

II. PLANT STORAGE AND INSPECTION

- For container grown nursery stock, planting should occur within two weeks after delivery to site.
- Planting stock should be inspected prior to planting. Plants not conforming to standard nurseryman specifications for size, form, and vigor, roots, trunk wounds, insects and disease should be replaced.

III. SOIL AMENDMENTS

- Amendments are not recommended in the planting field as studies have shown that roots will be encouraged to stay within the amended soils.

IV. PLANT INSTALLATION

- Container grown stock should be removed from the container and roots gently loosened from the soil. If the roots encircle the root ball, substitution is required. J-shaped or kinked root systems should also be rejected. **ROOTS MAY NOT BE TRIMMED ON SITE.**
- The Planting Field should be prepared as specified (see detail). Stock must be planted in random pattern (see detail). Native dug soils should be used to backfill Planting Field. Set plant material no more than 1" above existing ground and no lower than existing ground. Gently pack native soil around plant to eliminate all air pockets. After whip and container installation, rake soils evenly over the Planting Field and cover hole with three inches of composted hardwood mulch. Water to settle soil and provide moisture, as needed.
- Prune whips to encourage branching. Container stock will be pruned to eliminate broken and dead branches.
- Newly planted trees may need watering depending on weather conditions. During the next two years watering may be required during summer and dry months. Any watering should consider recent rainfall patterns.
- Staking of stock is not required, if preferred stock type used.
- Side dressing fertilization 1 year after planting may be warranted.

V. MAINTENANCE SCHEDULE

- Landscape should conduct an inspection at the following intervals: 6 months after planting, 1 year after planting and 2 years after planting. The purpose of inspection is to evaluate survival rate with reference to the survival required at the end of the two year period (75% minimum).
Regular visits during the first growing season (yr. 1) are to assess the success of the plantings and determine if supplemental watering or other actions are necessary. Early spring visits will determine winter kill and autumn visits will determine summer kill.
- Assess tree mortality of planting stock, remove and replace any dead or diseased plantings for the first 2 growing seasons.
- Volunteer seeding of native, local and endemic vegetation is to be expected. Do not discourage this effort unless it is negatively affecting the planted stock.
- Landscape shall remove or control aggressive, noxious, invasive species (i.e. Multiflora Rose, Japanese Honeysuckle, and all herbaceous vegetation) within a 3-foot radius surrounding the planted woody nursery stock for 2 years after planting.
- The landscaper shall be responsible to remove down and dead material that is smothering planting stock. Naturally occurring material that is not affecting planted stock shall not be removed.
- Mowing is one of the most effective means to control exotic and/or invasive species. No mowing shall occur during the wildlife nesting period of early April through mid-July. The landscaper is responsible for mowing and/or weed wacking and/or applying herbicide around planting stock, if needed for 2 growing seasons after planting.

Long-term Management Responsibilities:

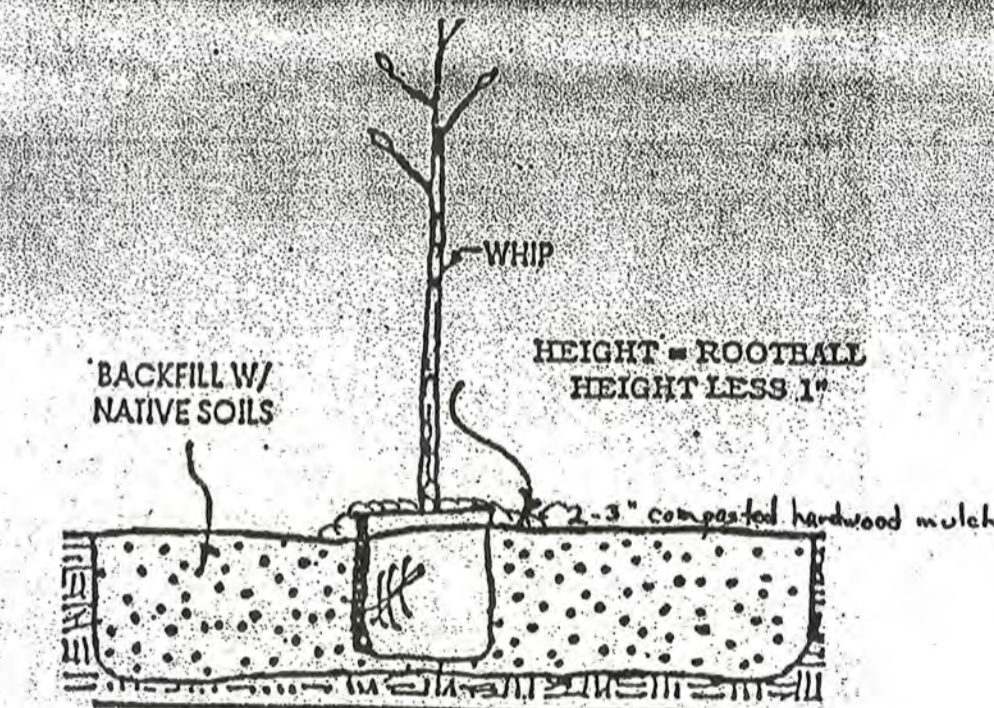
- To maintain the integrity of forest conservation areas, the owners must refrain from activities which would diminish the viability of forest retention areas or new plantings. Responsibility for ensuring that all provisions of the conservation easement are adhered to ultimately belong to the property owner.

PLANT LIST

QTY	SPECIES	INDICATOR STATUS	SIZE
Zone A:			
154	Platanus occidentalis Sycamore	FACW	whip
154	Salix nigra Black willow	FACW+	whip
154	Ilex verticillata Winterberry	FACW	container
154	Cornus amomum Swamp dogwood	FACW	container
154	Acer rubrum Red maple	FAC	whip
Zone B:			
371	Quercus palustris Pin oak		whip
371	Quercus alba White oak		whip
371	Quercus rubra R. red oak		whip
371	Vaccinium corymbosum Highbush blueberry		whip/container
371	Cornus florida Flowering dogwood		whip/container

PLANTING NOTES

- Whips should be planted an average of 11 ft on center. (see random planting detail)
- Planting stock should be 3' to 4' whips and 1 1/2 to 2 gallon container stock at a minimum
- only composted mulch may be used.
- In Zone B in the wetland area indicated on the plan, plant pin oak and blueberry only.



PLANTING FIELD DETAIL
NO SCALE

**FOREST CONSERVATION
{ PLANTING PLAN**

WARFIELD'S GRANT
SECTION 2
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 15 PARCEL 12B
SCALE: 1"=100' SHEET 3 OF 3 FEBRUARY 1974
REFERENCES: 000-15 P00-05 P00-07 100-05

Handwritten signature/initials