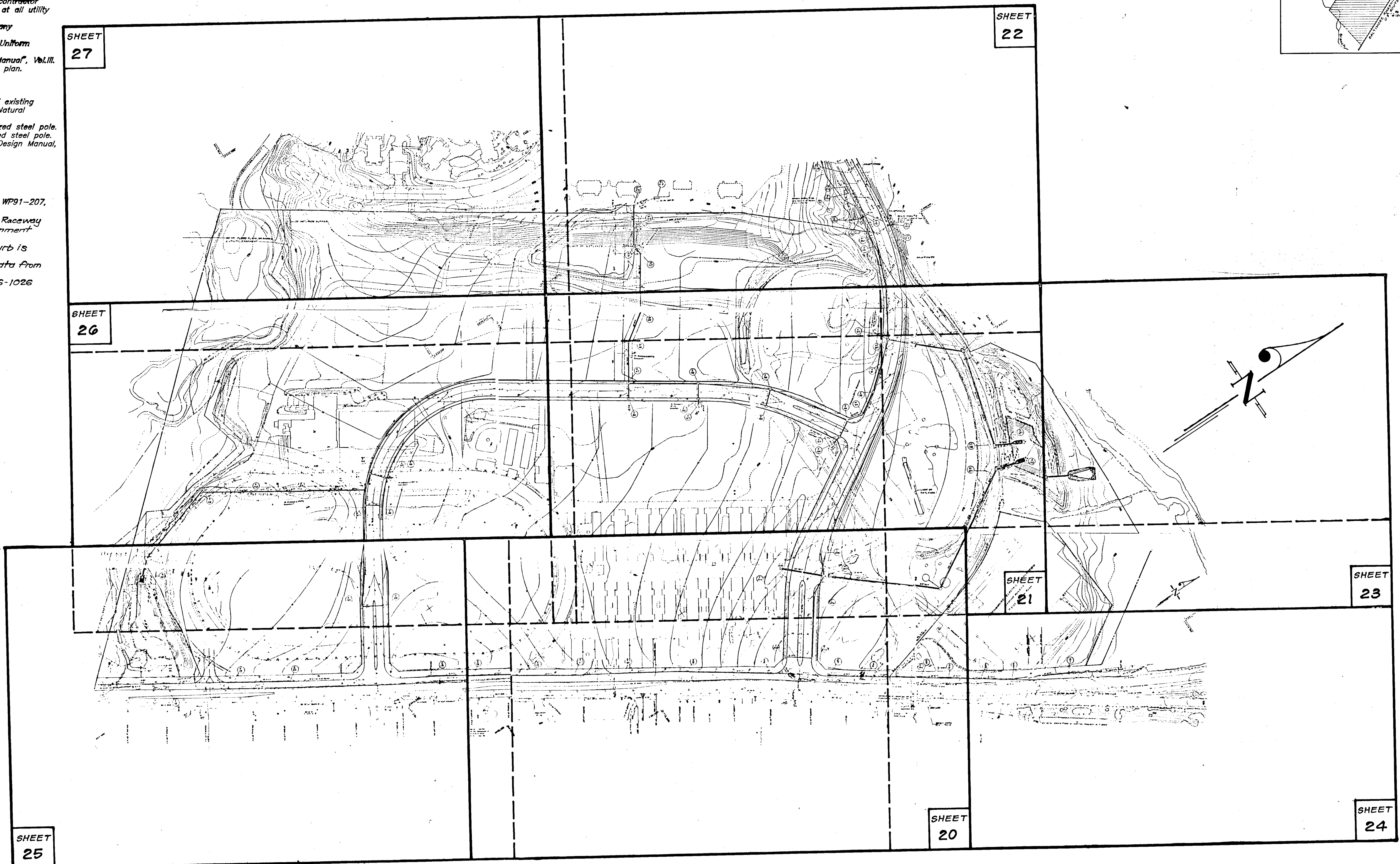
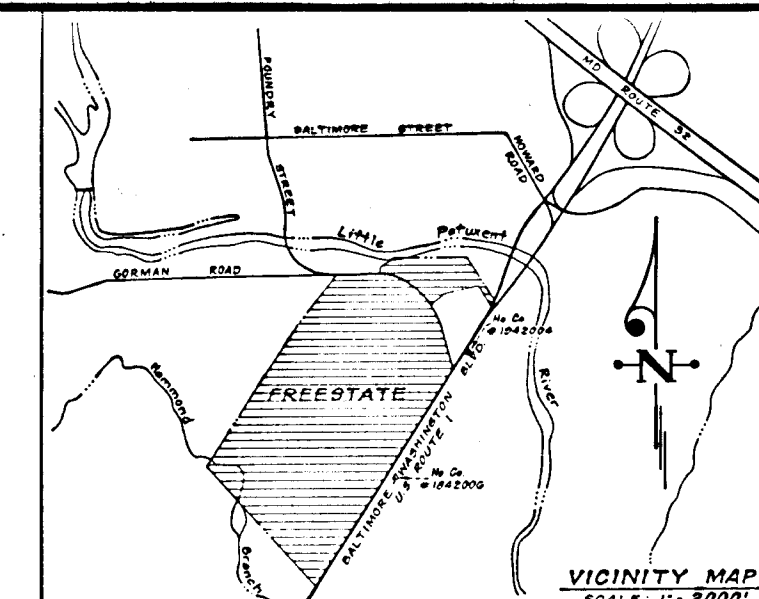
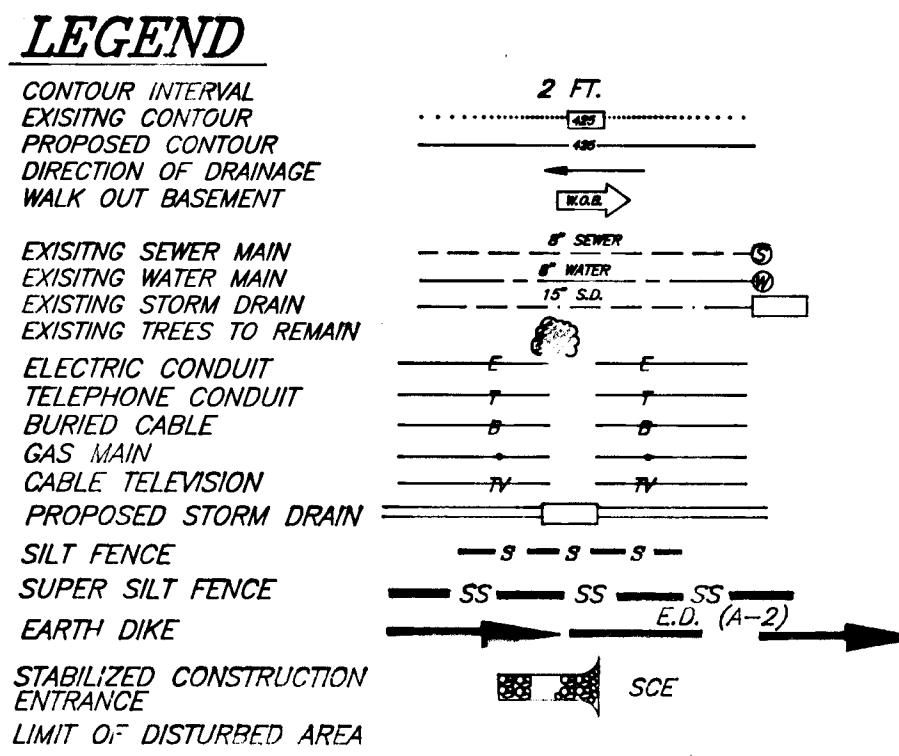


**GENERAL NOTES**

- All construction shall be in accordance with the latest standards and specifications of Howard County and the Maryland State Highway Administration Standards and Specifications.
- Types of storm drainage refer to the standard details of Howard County and MDSHA.
- Trench compaction for storm drains within road or street right-of-way limits shall be in accordance with "Howard County Design Manual, Volume IV", Standard G-2.01.
- Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of mains by digging test pits, by hand, at all utility crossings, well in advance of construction.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Traffic Control Devices, markings and signing shall be in accordance with the "Manual of Uniform Traffic Control Devices", 1988 Revised Edition.
- Sag and Crest Vertical Curves were designed in accordance with "Howard County Design Manual", Vol.III.
- Provide concrete sidewalk ramps: Howard County Standard Type A R-4.01 where shown in plan.
- Design Speed: As shown on Sheet 12 of 49. Zoning: M-1 and B-2.
- The contractor shall notify the Dept. of Public Works/Bureau of Construction Inspection at 301-792-7272 at least five (5) working days prior to the start of work.
- Disturbance within the wetlands and buffer for proposed Ponds 1 and 2 and the filling of existing wetlands are to be in accordance with water petition WP91-01 and the Department of Natural Resources and the Dept. of the Environment permits.
- Street Lights: \* 250 Watt Sodium Vapor lamp pendant mounted fixtures on 30' galvanized steel pole. 150 Watt Sodium Vapor lamp pendant mounted fixtures of 25' galvanized steel pole. Light Poles and fixtures for street lights shall be in accordance with the latest Ho. Co. Design Manual, Vol. III, Roads and Bridges.
- Storm Drainage system along U.S. Route #1 to be maintained by SHA.
- SWM provided by Retention Ponds 1 and 2.
- Public water and sewer provided under Contract No. 24-3172-D.
- Wetlands delineation done by Exploration Research, Inc. January, 1990.
- Traffic Study prepared by The Traffic Group, Inc. 4/5/90.
- See Dept. of Planning and Zoning file references: S90-28, P91-02, WP91-01, WP91-52, WP91-207, ZB-917M, Resolution No. 139, Resolution No. 251 & W/P-92-166.
- Plan subject to Army Corps of Engineers Permit CENAB-0P-RW (Freestate Raceway Commercial Project) 90-03632-3 and Maryland Department of the Environment Water Quality Certification 90-WQ-0692.
- Ret barriers shall be provided when distance between sidewalk and curb is less than eight feet.
- Little Patuxent River 100 Year Floodplain determination is based on data from Ho. Co. updated Sept. 1990 by C.F.S., Inc.
- Hammond Branch Floodplain Study is based upon Capitol Project D-6-1026 and D-1063, updated Sept. 1990 by C.F.S., Inc.
- All striping on County Roads to be done prior to dedication.



DRAWING LIST	
NO.	DESCRIPTION
1	INDEX SHEET
2	U.S. ROUTE #1
3	U.S. ROUTE #1
4	U.S. ROUTE #1
5	RELOCATED GORMAN ROAD
6	RELOCATED GORMAN ROAD
7	RELOCATED GORMAN ROAD
8	FREESTATE DRIVE
9	FREESTATE DRIVE
10	FREESTATE DRIVE
11	PAVING SECTIONS - U.S. ROUTE #1
12	PAVING SECTIONS - FREESTATE DRIVE & GORMAN ROAD
13	PAVING & STORM DRAINAGE DETAILS
14	STORM DRAINAGE PROFILES - U.S. ROUTE #1
15	STORM DRAINAGE PROFILES - U.S. ROUTE #1
16	STORM DRAINAGE PROFILES
17	STORM DRAINAGE PROFILES
18	STORM DRAINAGE PROFILES
19	STORM DRAINAGE PROFILES
20	GRADING & SEDIMENT & EROSION CONTROL PLAN
21	GRADING & SEDIMENT & EROSION CONTROL PLAN
22	GRADING & SEDIMENT & EROSION CONTROL PLAN
23	GRADING & SEDIMENT & EROSION CONTROL PLAN - STORM WATER MANAGEMENT POND NO. 1
24	GRADING & SEDIMENT & EROSION CONTROL PLAN
25	GRADING & SEDIMENT & EROSION CONTROL PLAN - STORM WATER MANAGEMENT POND NO. 2
26	GRADING & SEDIMENT & EROSION CONTROL PLAN
27	GRADING & SEDIMENT & EROSION CONTROL PLAN
28	STORM WATER MANAGEMENT POND NO. 1 - PROFILES & DETAILS
29	STORM WATER MANAGEMENT POND NO. 2 - PROFILES & DETAILS
30	BORING LOGS
31	DRAINAGE AREA MAP (STORM WATER MANAGEMENT) PREDEVELOPED CONDITIONS
32	DRAINAGE AREA MAP (STORM WATER MANAGEMENT) DEVELOPED CONDITIONS
33	DRAINAGE AREA MAP FOR STORM DRAINAGE
34	DRAINAGE AREA MAP FOR STORM DRAINAGE
35	SEDIMENT & EROSION CONTROL DETAILS
36	TRAFFIC CONTROL PLAN - GENERAL NOTES
37	TRAFFIC CONTROL PLAN - PHASE 1
38	TRAFFIC CONTROL PLAN - PHASE 1
39	TRAFFIC CONTROL PLAN - PHASE 1
40	TRAFFIC CONTROL PLAN - PHASE 1
41	TRAFFIC CONTROL PLAN - PHASE 2
42	TRAFFIC CONTROL PLAN - PHASE 2
43	TRAFFIC CONTROL PLAN - PHASE 2
44	TRAFFIC CONTROL PLAN - PHASE 2
45	SIGNING & PAVEMENT MARKING PLAN
46	SIGNING & PAVEMENT MARKING PLAN
47	SIGNING & PAVEMENT MARKING PLAN
48	LANDSCAPING & MITIGATION PLAN - POND NO. 1
49	LANDSCAPING & MITIGATION PLAN - POND NO. 2



THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 4/15/92  
 [Signature] 6/8/92  
 CHIEF, LAND DEVELOPMENT DIVISION  
 [Signature] 5/11/92  
 CHIEF, BUREAU OF HIGHWAYS (Admin)  
 [Signature] 6-8-92  
 CHIEF, BUREAU OF ENGINEERING  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] 6/20/92  
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

1	Revised per County and State comments	APR 1992
NO.	REVISION	DATE

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

**ROAD CONSTRUCTION PLANS**  
**INDEX SHEET**  
**FREESTATE**

6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
 9% THE SANFORD COMPANIES  
 1515 NOYES DRIVE SILVER SPRING, MD 20910

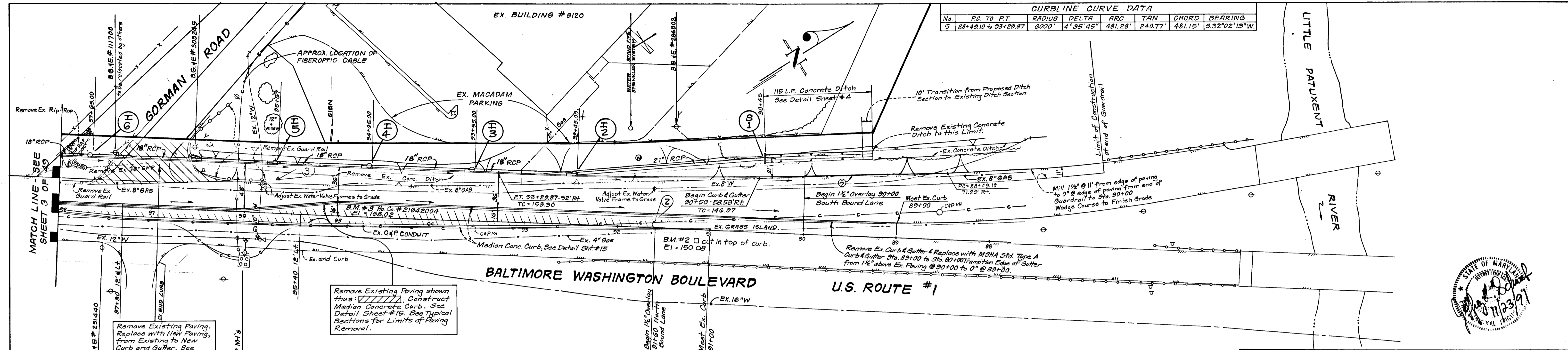
SCALE 1" = 200'  
 DRAWING 1 OF 49  
 JOB NO. 91-099  
 FILE NO. 89-134 D

DATE 11/91

1640



No.	P.C. TO P.T.	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
5	88+49.10 to 93+29.87	6000'	4° 35' 45"	481.28'	240.77'	481.15'	S. 92° 02' 13" W.



NOTE: Extreme care to be utilized when working in area of existing utilities. The contractor must verify the exact elevation and location of utilities prior to commencing with construction.

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Dennis P. DeLuca*  
4/15/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John P. ...*  
 CHIEF LAND DEVELOPMENT DIVISION (acting)  
 DATE: 6/13/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Anna ...*  
 Chief, Division of Community Planning & Land Development  
 DATE: 6/27/92

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

DESIGNED: D.A.B.  
 DRAWN: V.L.M.  
 CHECKED: D.A.B.  
 DATE: 11/91

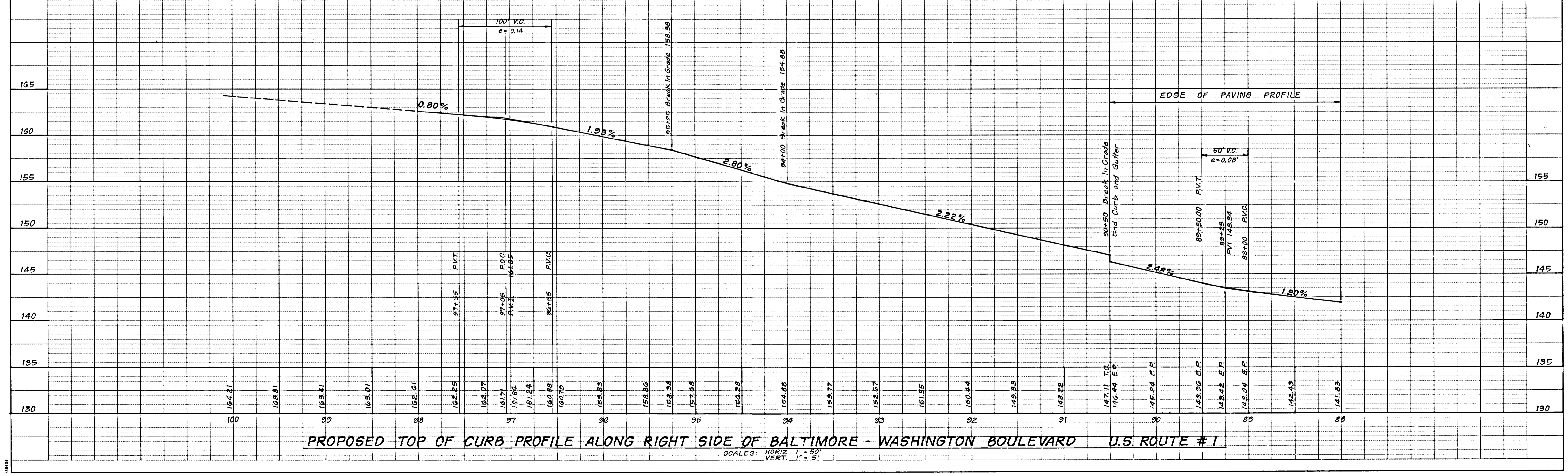
**ROAD CONSTRUCTION PLANS**  
**U. S. ROUTE #1**  
**FREESTATE**

6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
 c/o THE SANFORD COMPANIES  
 1515 NOYES DRIVE SILVER SPRING, MD 20910

SCALE: 1" = 50'  
 DRAWING: 2 OF 49  
 JOB NO.: 91-029  
 FILE NO.: 89-134-D

NO.	REVISION	DATE
1	Revised per County and State comments.	Apr. 1992

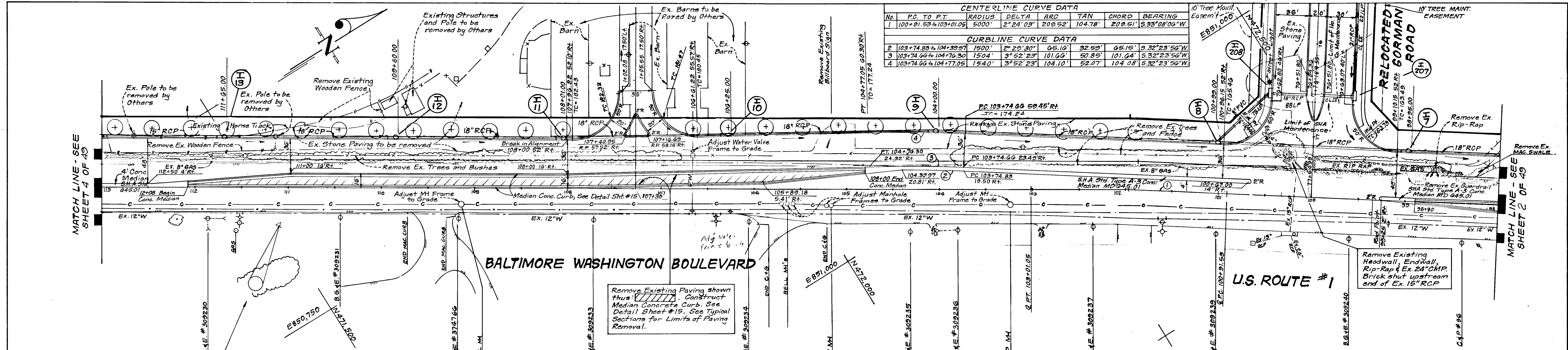


PROPOSED TOP OF CURB PROFILE ALONG RIGHT SIDE OF BALTIMORE - WASHINGTON BOULEVARD U.S. ROUTE #1

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

164D





CENTERLINE CURVE DATA

No.	P.C. TO P.T.	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
1	100+91.53 to 103+01.05	5000'	2° 24' 03"	209.92'	104.78'	209.51'	3.33° 08' 06" W

CURBLINE CURVE DATA

No.	P.C.	P.T.	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
2	103+74.83	104+39.97	1500'	2° 29' 30"	65.16'	32.59'	65.15'	3.32° 23' 56" W
3	103+74.66	104+78.30	1500'	3° 52' 23"	101.60'	50.80'	101.64'	3.32° 23' 56" W
4	103+74.66	104+77.05	1340'	3° 52' 23"	104.10'	52.07'	104.08'	3.32° 23' 56" W

**BALTIMORE WASHINGTON BOULEVARD**

**U.S. ROUTE #1**

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Dennis P. Debut*  
4/15/92



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad Debus* 4/18/92  
CHIEFLAND DEVELOPMENT DIVISION (Chief) DATE  
*John M. Sengman* 6/18/92  
CHIEF BUREAU OF HIGHWAYS DATE  
*William S. Row* 6-19-92  
CHIEF BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Anna J. Howard* 6/20/92  
Chief, Division of Community Planning & Land Development Date

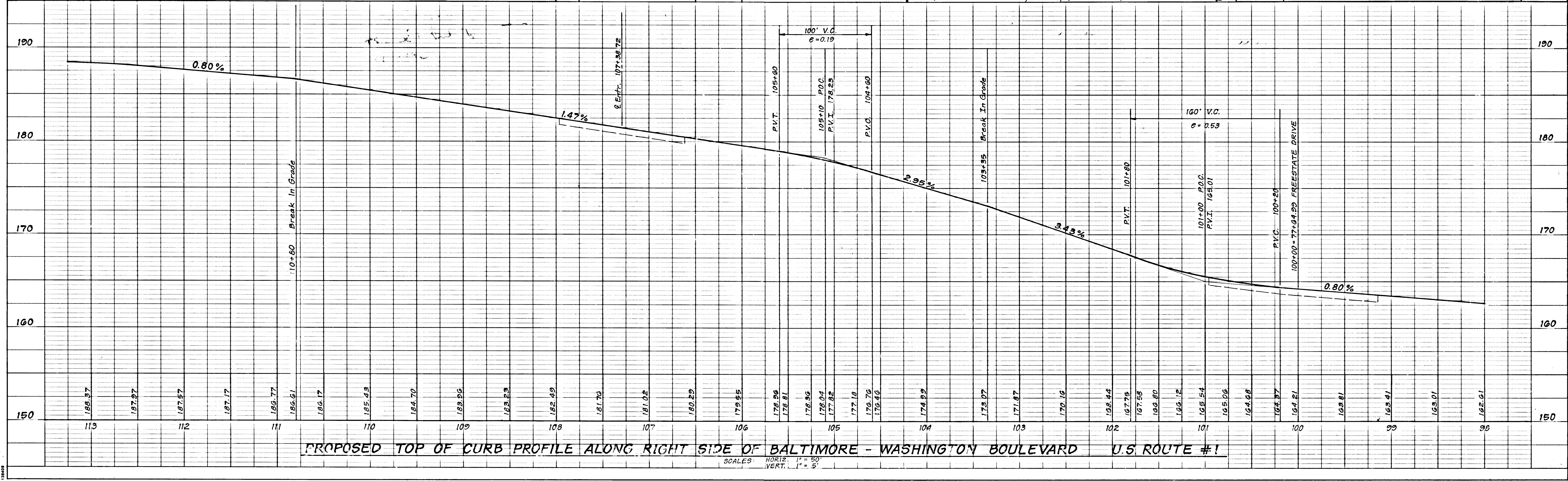
**CLARK • FINEROCK & SACKETT, INC.**  
ENGINEERS • PLANNERS • SURVEYORS  
7135 MINSTREL WAY • COLUMBIA MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.

ROAD CONSTRUCTION PLANS  
**U. S. ROUTE #1**  
**FREESTATE**

SCALE: 1" = 50'  
DRAWING: 3 OF 49  
JOB NO.: 01-000  
FILE NO.: 80-134-D

DATE: 11/91  
For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
c/o THE BANFORD COMPANIES  
1515 NOYES DRIVE SILVER SPRING, MD 20910

NO.	REVISION	DATE
1	Revised per County & State Comments	Apr. 1992

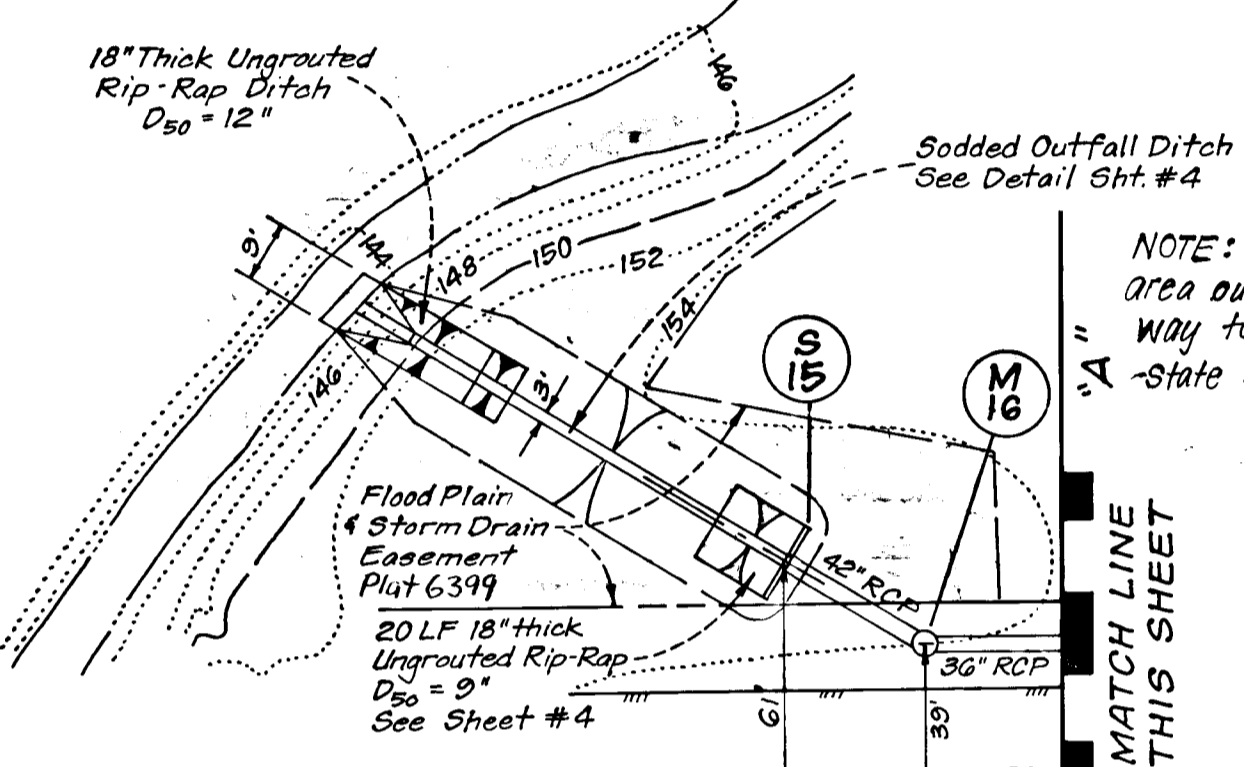
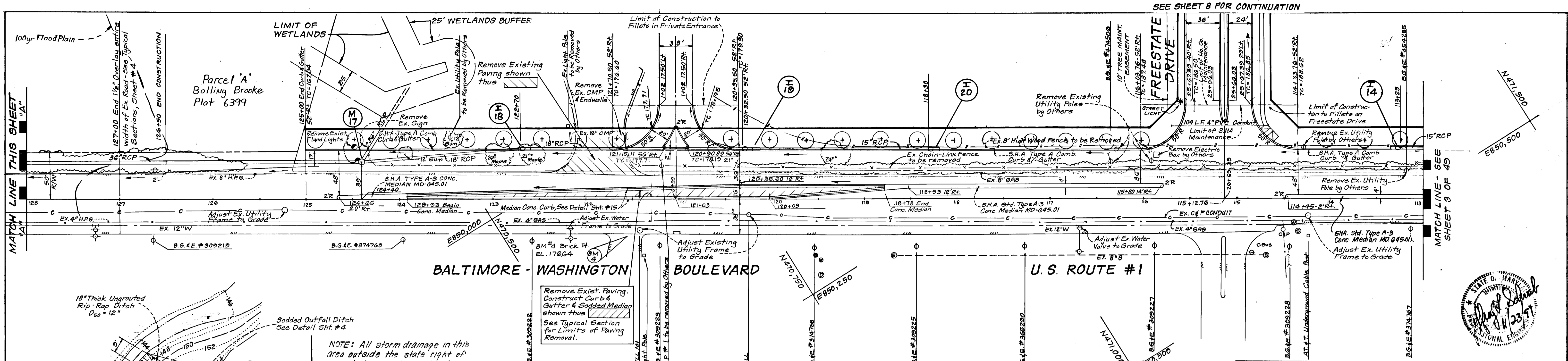


**PROPOSED TOP OF CURB PROFILE ALONG RIGHT SIDE OF BALTIMORE - WASHINGTON BOULEVARD U.S. ROUTE #1**

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

1640





NOTE: All storm drainage in this area outside the state right of way to be maintained by the State Highway Administration.

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

Daniel P. DeLuca  
4115192

NO	REVISION	DATE
1	Revised per County & State Comments.	Apr. 1992

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad Danman* 6/10/92  
CHIEF LAND DEVELOPMENT DIVISION (acting) DATE  
*Alan M. Langston* 6/18/92  
CHIEF BUREAU OF HIGHWAYS DATE  
*William S. Row* 6-19-92  
CHIEF BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Stimmas Simms* 6/20/92  
Chief, Division of Community Planning & Land Development DATE

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

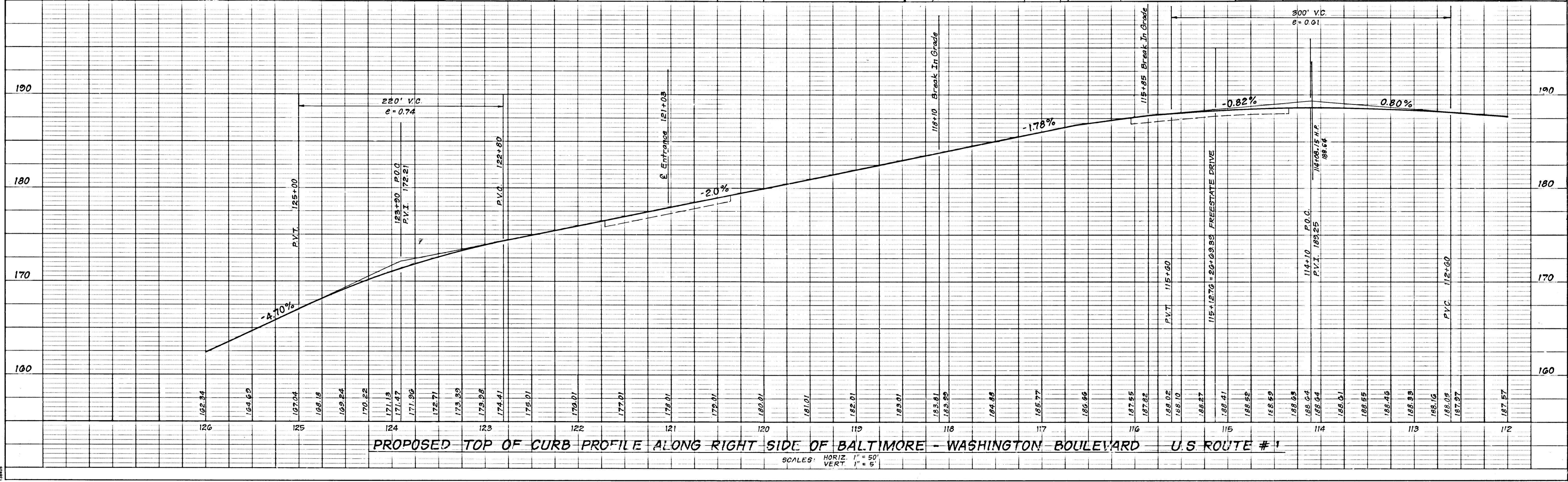
DESIGNED: D.A.B.  
DRAWN: Y.L.M.  
CHECKED: D.A.B.  
DATE: 11/91

ROAD CONSTRUCTION PLANS  
**U.S. ROUTE #1**  
**FREESTATE**

GTHELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
96 THE SANFORD COMPANIES  
1515 NOYES DRIVE SILVER SPRING, MD 20910

SCALE: 1" = 50'  
DRAWING: 4 OF 49  
JOB NO.: 91-099  
FILE NO.: 89-134-D

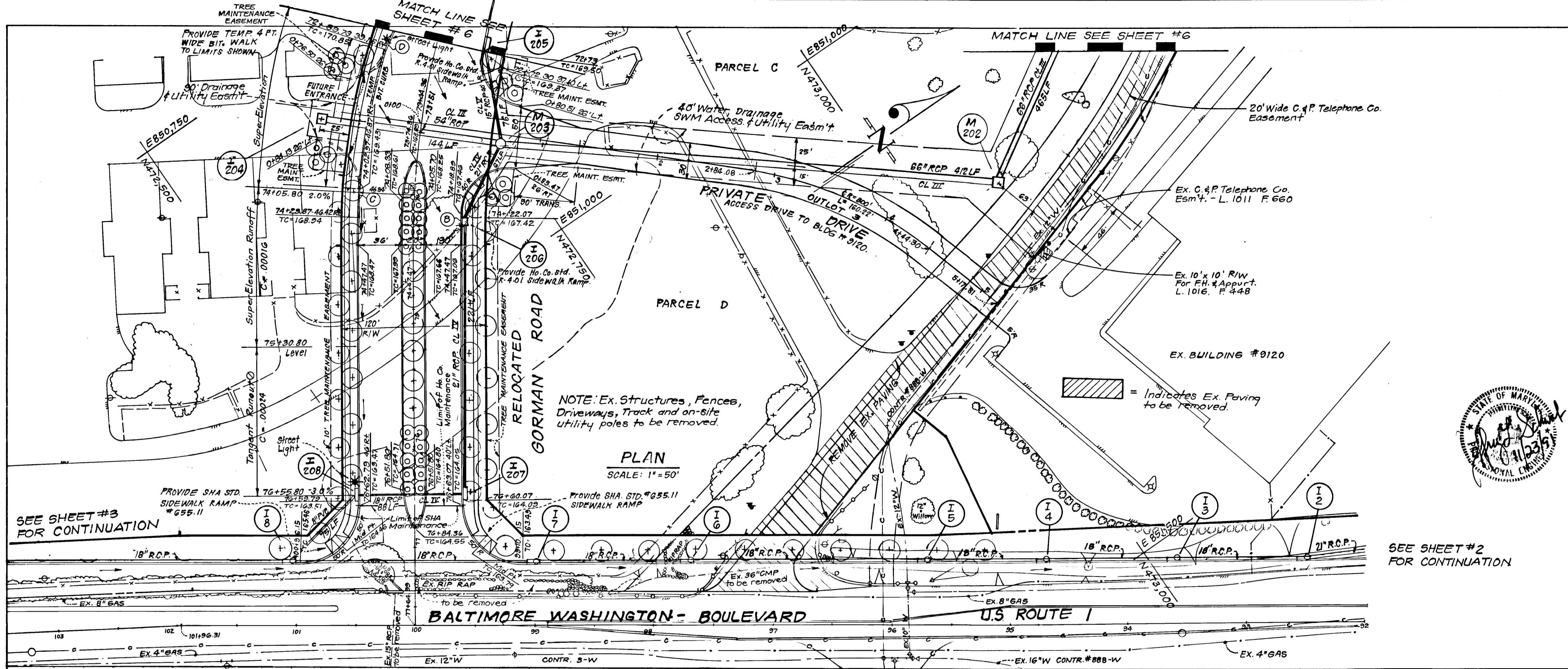


PROPOSED TOP OF CURB PROFILE ALONG RIGHT SIDE OF BALTIMORE - WASHINGTON BOULEVARD U.S. ROUTE #1

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

1640





CENTERLINE CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
71+47.39 to 74+47.47	703.00	24°15'00"	300.08	152.32	297.84	S43°37'30"E

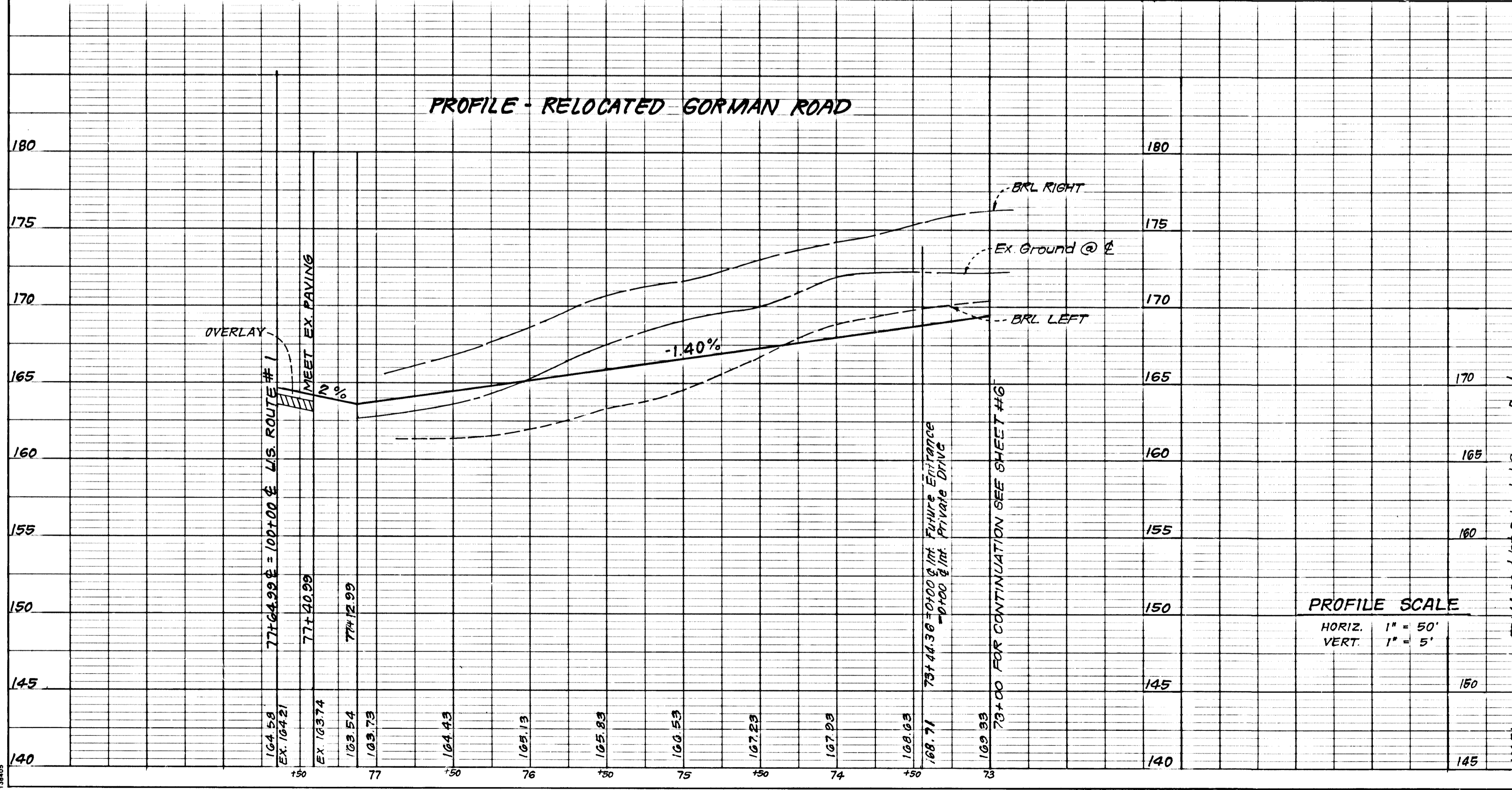
CURB CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
A 70+64.60 to 72+72.30	905.00	12°48'12"	202.23	101.54	201.81	S37°54'06"E
B 74+18.89 to 74+47.47	662.00	2°18'34"	26.97	13.48	26.96	S54°38'43"E
C 74+02.97 to 74+23.87	400.00	3°11'30"	22.28	11.14	22.28	S54°09'15"E
D 72+65.00 to 72+89.73	400.00	3°46'19"	26.33	13.17	26.33	S33°23'10"E

1	Revised per State & County Comments	Apr 92
No.	REVISION	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
	<i>John M. Pennington</i> Chief, Land Development Division	6/1/92 Date
	<i>John M. Pennington</i> Chief, Bureau of Highways (Acting)	5/11/92 Date
	<i>John M. Pennington</i> Chief, Bureau of Engineering	6-2-92 Date
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING		
	<i>Edward J. Howard</i> Chief, Division of Community Planning & Land Development	6/1/92 Date

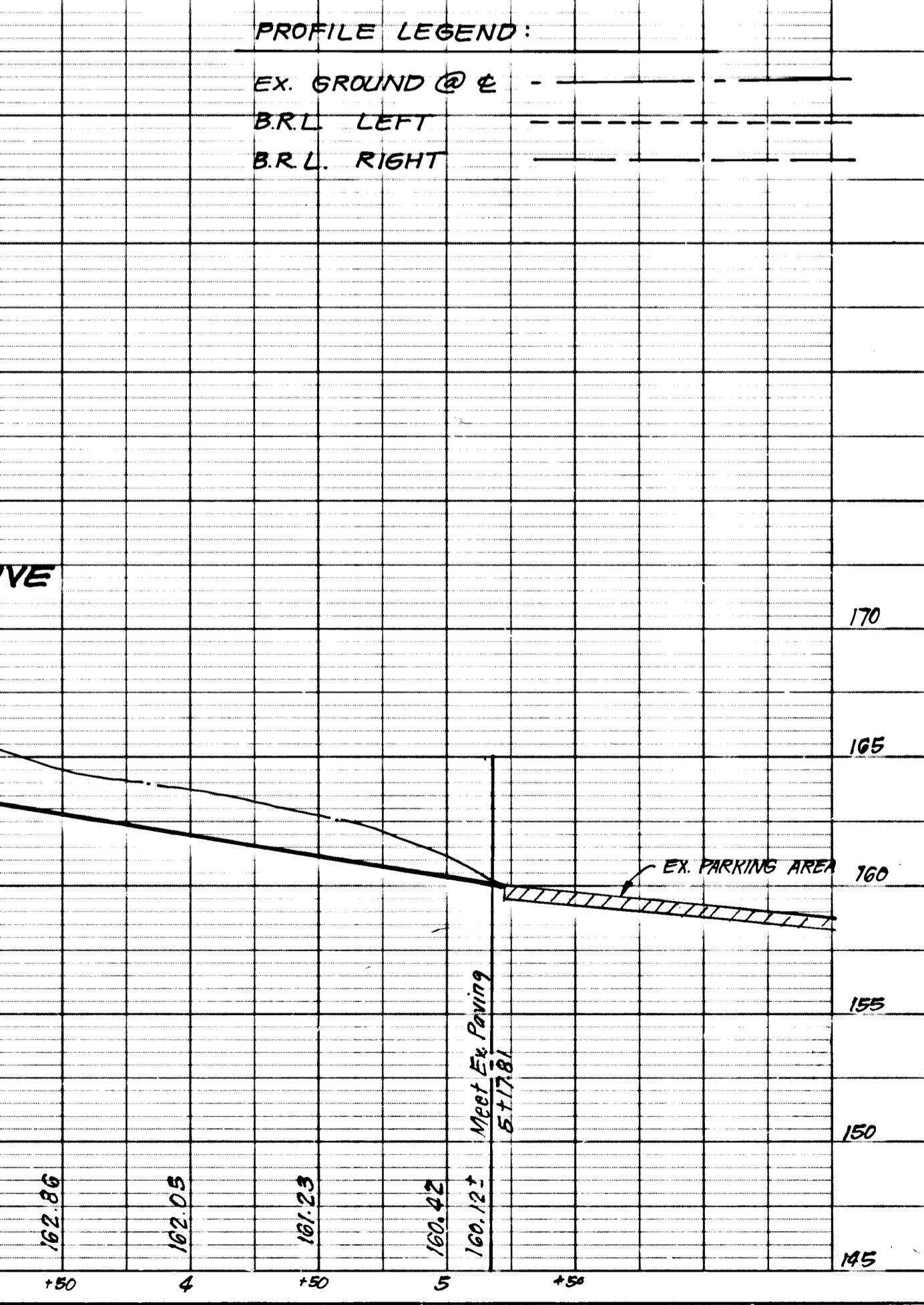


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ENGINEERS • PLANNERS • SURVEYORS  
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.

DESIGNED J. L. S.	<b>ROAD CONSTRUCTION PLANS</b> <b>RELOCATED GORMAN ROAD</b> <b>FREESTATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP c/o THE SANFORD COMPANIES 1515 NOYES DRIVE SILVER SPRING, MD 20910	SCALE 1" = 50'
DRAWN V. L. M.		DRAWING 5 OF 49
CHECKED J. L. S.		JOB NO. 89-134
DATE 11/91		FILE NO. 91-099 D

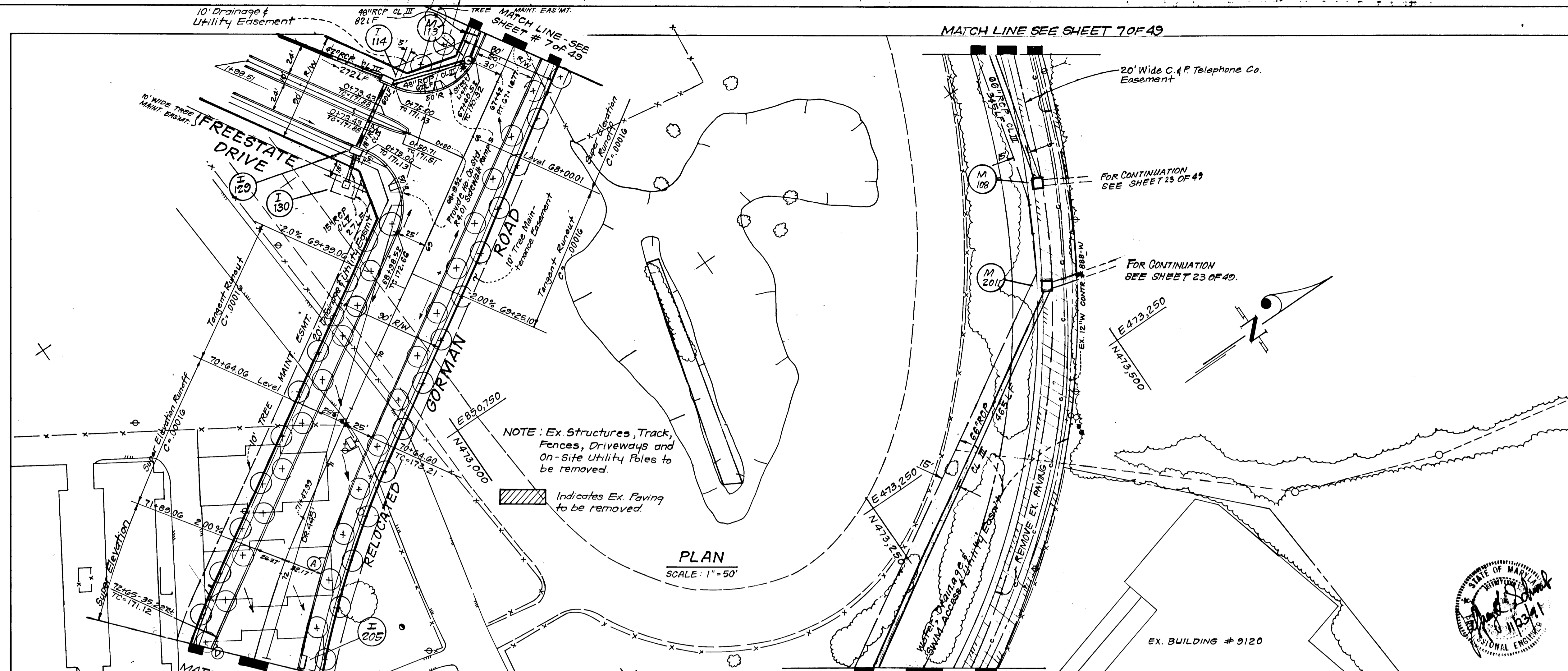


SUPER ELEVATION TABLE			
STATION	E	TC (L.F)	TC (Rt)
74+05.80	167.85	167.65	169.37
74+25	167.58	167.38	168.96
74+50	167.23	167.03	168.42
74+75	166.88	166.68	167.83
75+00	166.53	166.33	167.36
75+25	166.18	165.98	166.82
75+50	165.83	165.63	166.30
75+75	165.48	165.28	165.73
76+00	165.13	164.93	164.97
76+25	164.78	164.58	164.34
76+50	164.43	164.23	163.71
76+55.80	164.35	164.15	163.57



164D





CENTERLINE CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
71+47.39 to 74+47.47	709.00	24°15'00"	300.08	152.32	297.84	6.43°37'30"E

CURB CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
A 70+64.60 to 72+72.30	905.00	12°48'12"	202.23	101.54	201.81	8.37°54'06"E
D 72+65.00 to 72+89.73	400.00	3°46'19"	24.33	13.17	26.33	6.33°23'10"E

1 Revised per State & County Comments  
No. REVISION DATE APR '92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*John Dammann* 4/16/92  
Chief, Land Development Division Date

*John M. Pennington* 5/11/92  
Chief, Bureau of Highways (Acting) Date

*John C. ...* 4/28/92  
Chief, Bureau of Engineering Date

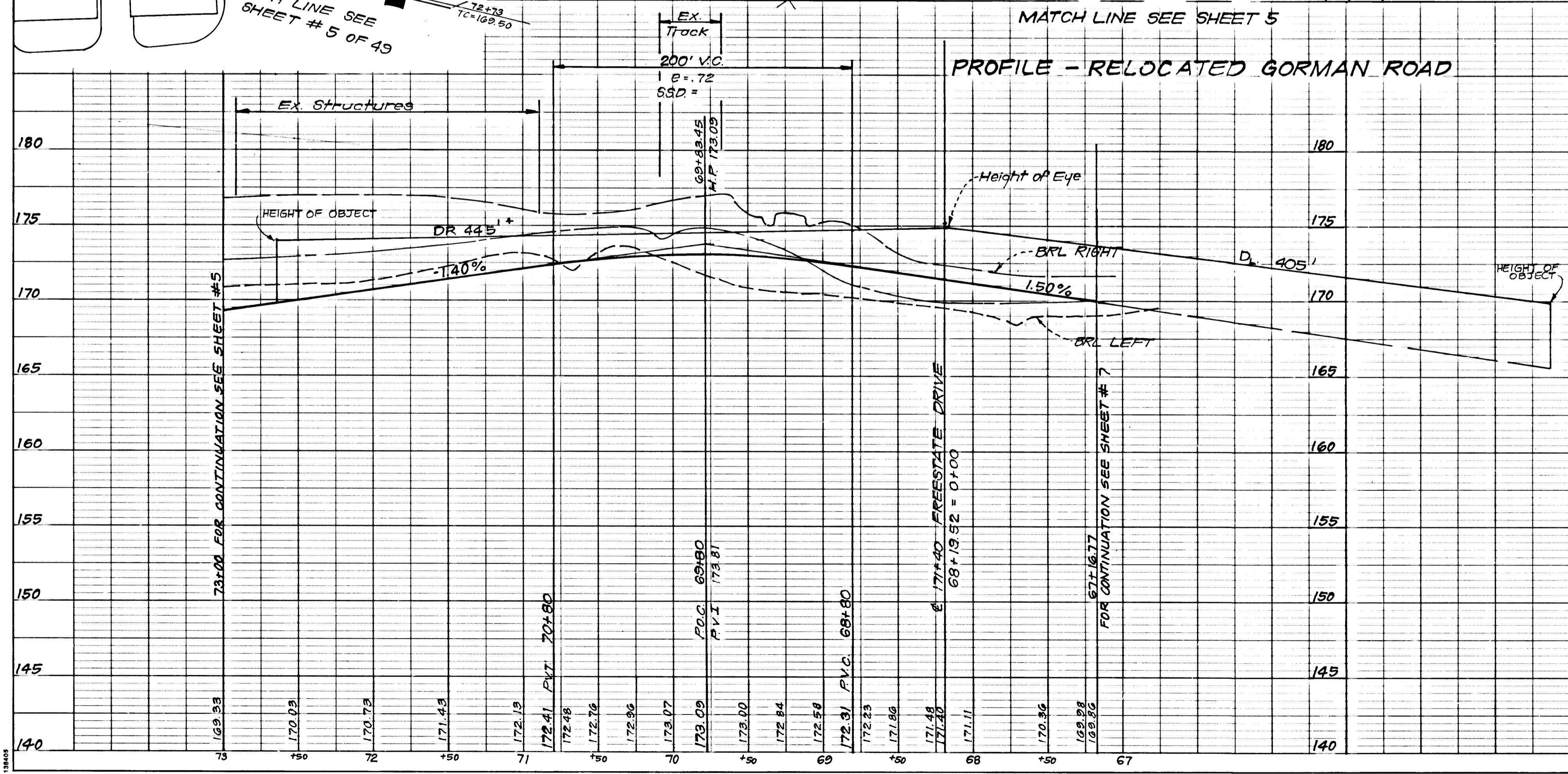
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Shirley Holman* 4/28/92  
Chief, Division of Community Planning & Land Development Date

**CLARK • FINEROCK & SACKETT, INC.**  
ENGINEERS • PLANNERS • SURVEYORS

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

DESIGNED J.L.S.	<b>ROAD CONSTRUCTION PLANS</b> <b>RELOCATED GORMAN ROAD</b> <b>FREESTATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: FREESTATE ASSOCIATES LIMITED PARTNERSHIP % THE SANDFORD COMPANIES 1515 NAVES DRIVE SILVER SPRING, MD 20910	SCALE 1" = 50'
DRAWN V.L.M.		DRAWING 6 OF 49
CHECKED J.L.S.		JOB NO. 91-090
DATE 11/91		FILE NO. 80-134 D



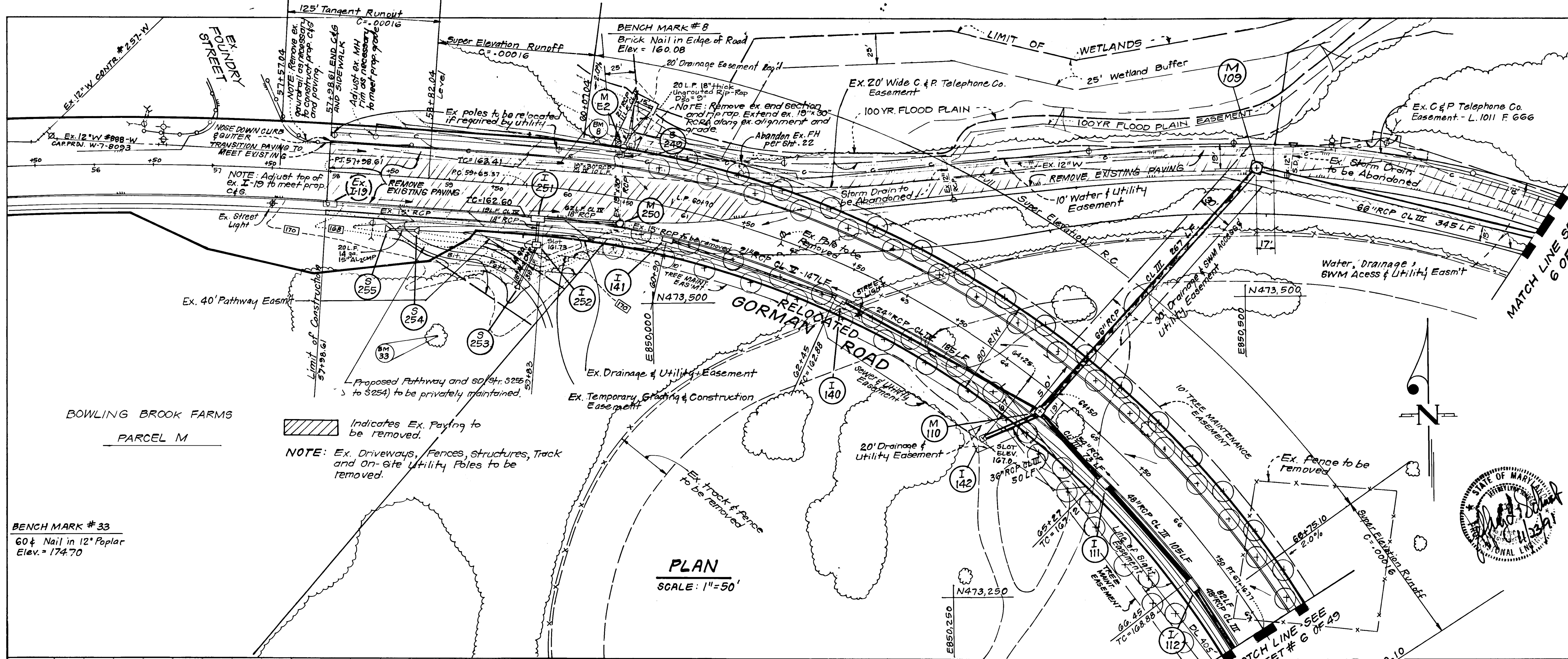
SUPERELEVATION TABLE			
STATION	E	TC (L)	TC (R)
67+16.77	169.86	170.79	169.96
67+25	169.98	170.88	170.08
67+50	170.36	171.16	170.46
67+75	170.74	171.44	170.84
68+00.10	171.11	171.71	171.21
68+25	171.48	171.98	171.58
68+50	171.86	172.26	171.96
68+75	172.23	172.53	172.33
69+00	172.58	172.78	172.67
69+25.10	172.84	172.94	172.92
69+39.00	172.94	173.04	173.01
69+50	173.00	173.10	173.09
69+75	173.07	173.17	173.28
70+00	173.07	173.17	173.38
70+25	172.96	173.06	173.38
70+50	172.76	172.85	173.30
70+64.06	172.62	172.69	173.22
70+75	172.48	172.55	173.13
71+00	172.13	172.17	172.90
71+25	171.78	171.78	172.68
71+50	171.43	171.58	172.47
71+75	171.08	171.28	172.27
71+89.00	170.88	171.05	172.16

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

PROFILE LEGEND:  
EX. GROUND @ e - - - - -  
B.R.L. LEFT - - - - -  
B.R.L. RIGHT - - - - -

1640





CENTERLINE CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
59+65.37 to 67+16.77	800.00	53°48'55"	751.40	406.00	724.08	S58°24'27"E

NOTE: Extreme care to be utilized when working near existing C&P Fiber Optic Cable and Ex. 12" Water Main. Contractor to verify location of mains and cable at all crossings prior to commencing work.

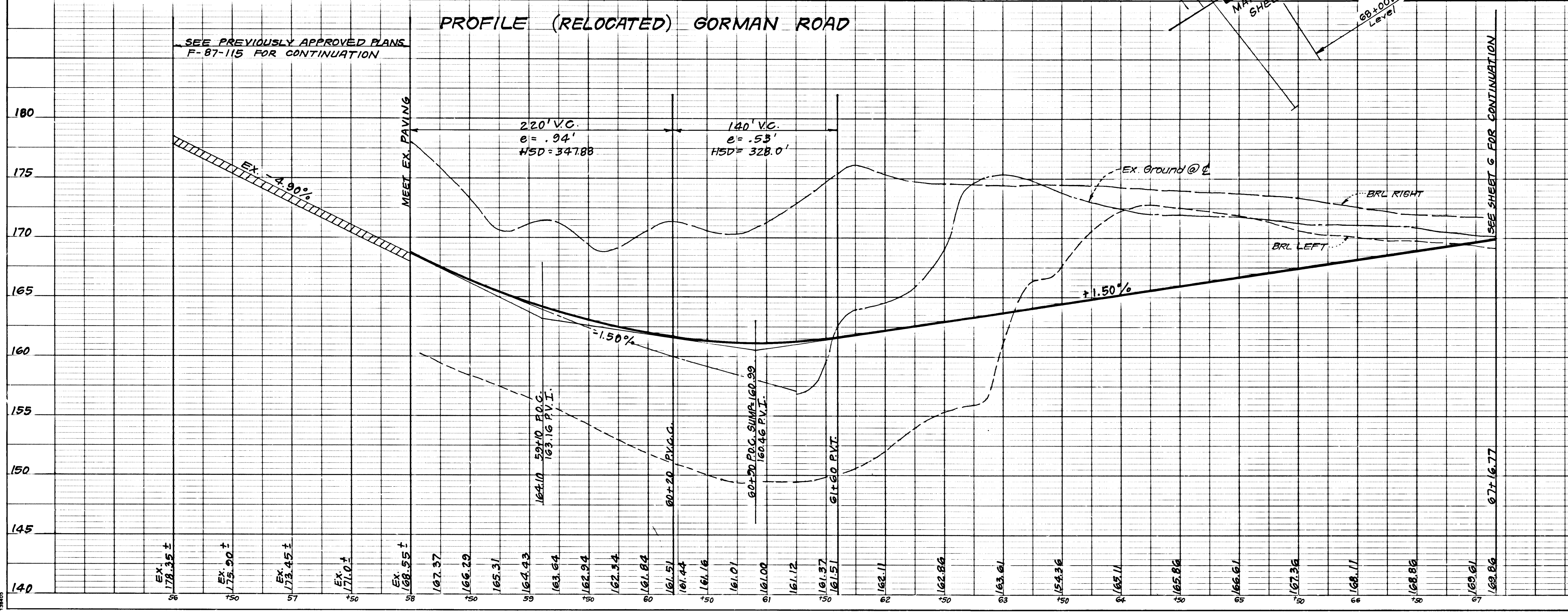
No.	REVISION	DATE
1	Revised per State & County Comments	APR. 92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Land Development Division  
 Chief, Bureau of Highways (Active)  
 Chief, Bureau of Engineering

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & Z  
 Chief, Division of Community Planning & Land Development

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

DESIGNED	SCALE
J.L.S.	AS SHOWN
DRAWN	DRAWING
V.L.M.	7 OF 49
CHECKED	JOB NO.
J.L.S.	91-099
DATE	FILE NO.
11/91	89-134-D



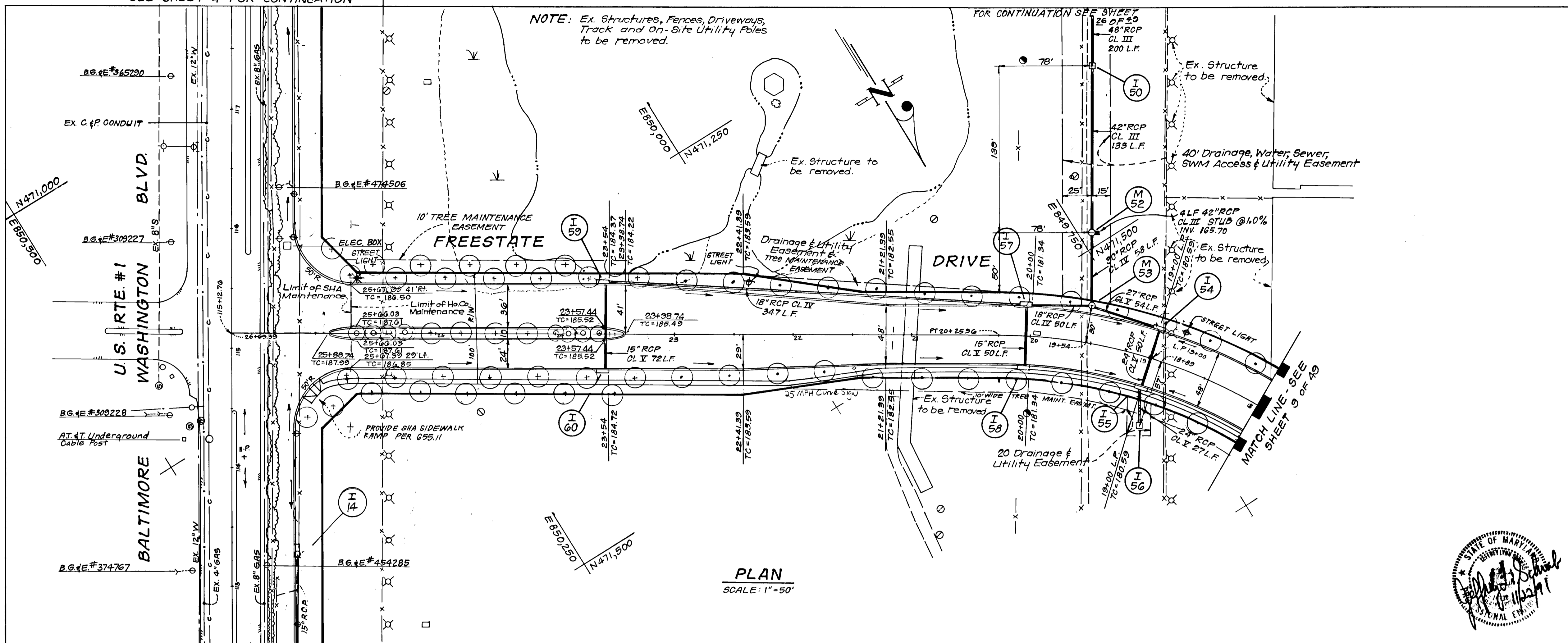
SUPERELEVATION TABLE			
STATION	E	TC (L)	TC (R)
57+51.04	Ex		
57+75			
57+98.61	168.70	168.80	
58+25	167.37	167.02	167.55
58+50	166.29	166.70	166.43
58+75	165.31	165.87	165.42
58+82.04	165.05	165.65	165.15
59+00	164.43	165.10	164.53
59+25	163.24	164.47	163.74
59+50	162.34	163.81	163.04
59+65.37	162.56	163.49	162.66
59+75	162.34	163.31	162.44
60+00	161.84	162.91	161.94
60+07.04	161.72	162.82	161.82
60+75.10	160.24	170.34	169.34
61+00	169.64	170.64	169.74
61+16.77	169.86	170.79	169.96
61+25	169.98	170.88	170.08
61+50	170.36	171.16	170.46
61+75	170.74	171.44	170.84
68+00.10	171.11	171.71	171.21

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

1640



SEE SHEET 4 FOR CONTINUATION



PLAN  
SCALE: 1" = 50'

CENTERLINE CURVE DATA					
PC to PT	RADIUS	DELTA	ARC TAN	CHORD	BEARING
13+45.30 to 20+25.36	430.00	90°41'45"	680.66	435.26	611.79 N12°43'03"W

NO.	REVISION	DATE
1	Revised per State or County Comments	Apr: 92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*John P. ...*  
Chief, Land Development Division  
Date: 5/1/92

*John M. ...*  
Chief, Bureau of Highways (Admin)  
Date: 5/1/92

*John ...*  
Chief, Bureau of Engineering  
Date: 5/1/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Elmura J. Hilmar*  
Chief, Division of Community Planning & Land Development  
Date: 5/1/92

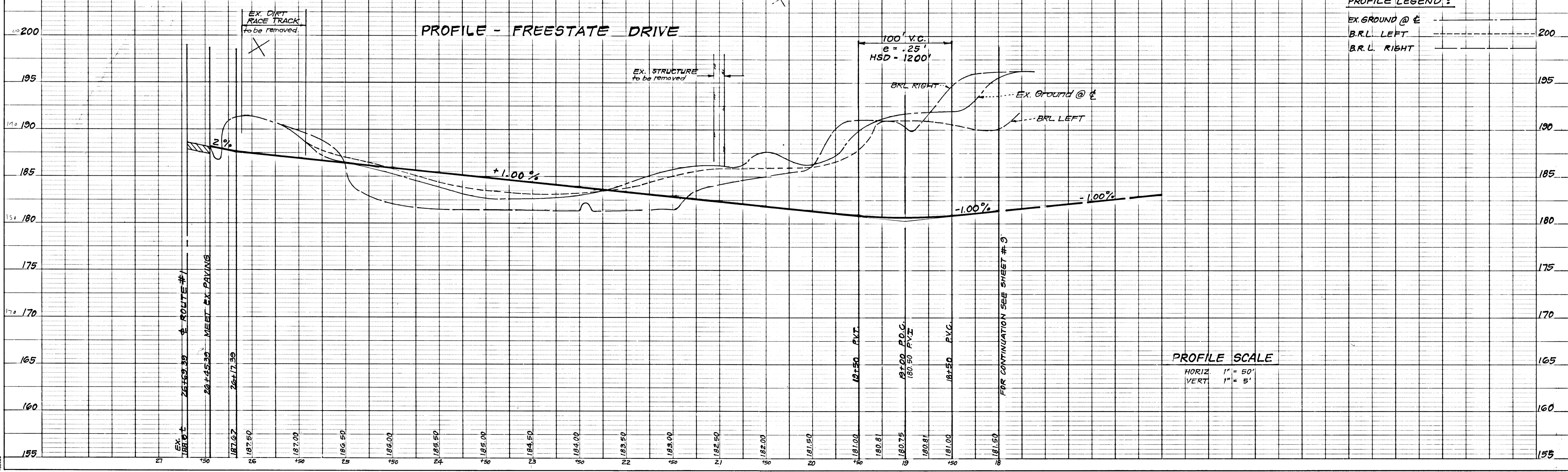
**CLARK • FINEFROCK & SACKETT, INC.**  
ENGINEERS • PLANNERS • SURVEYORS  
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (301) 381-7500 - BALTO • (301) 621-8100 - WASH.

DESIGNED J.L.S.	<b>ROAD CONSTRUCTION PLANS FREESTATE DRIVE FREESTATE</b>	SCALE 1" = 50'
DRAWN V.L.M.		DRAWING 8 OF 49
CHECKED J.L.S.		JOB NO. 91-099
DATE 11/91		FILE NO. 89-134 D

6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
% THE SANFORD COMPANIES  
1515 NOYES DRIVE SILVER SPRING, MD 20910



SEE SHEET 3 FOR CONTINUATION



PROFILE - FREESTATE DRIVE

PROFILE LEGEND:

EX. GROUND @ E	---	200
B.R.L. LEFT	---	190
B.R.L. RIGHT	---	185

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

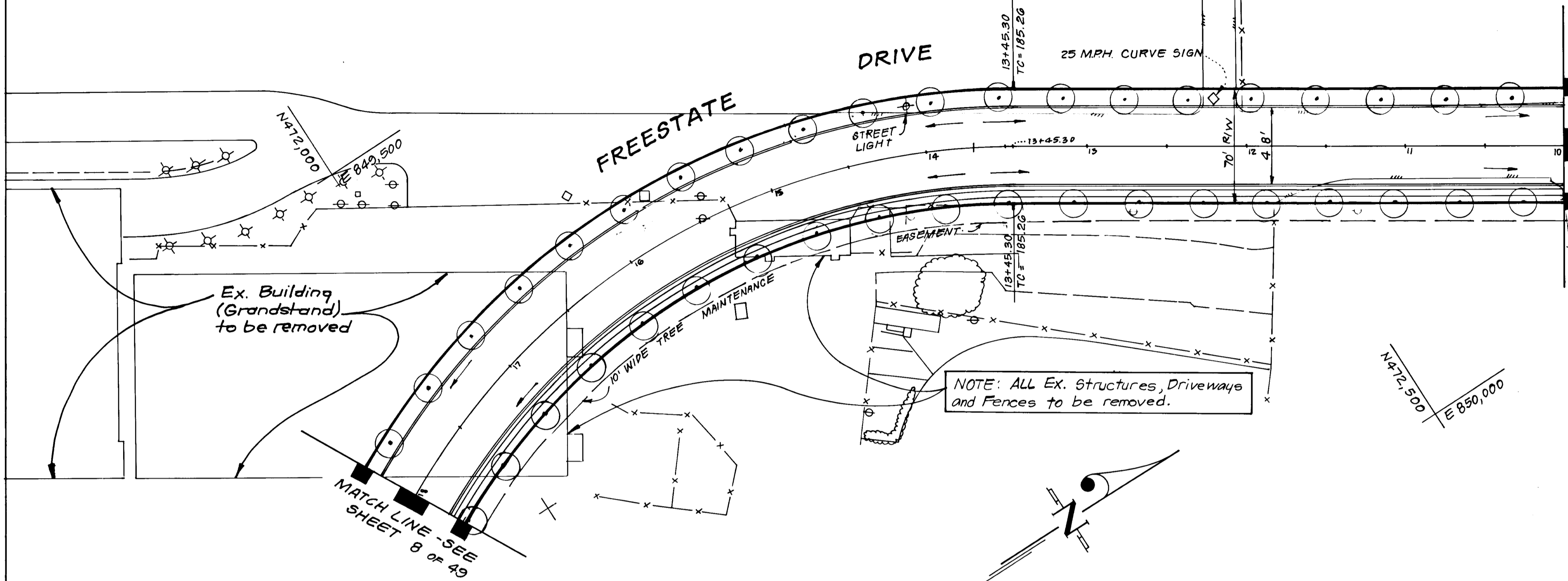


CENTERLINE CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
13+45.30 to 20+25.96	430.00	90°41'45"	680.66	435.26	611.79	N12°43'03"W

NOTE: Waiver granted for 430' Radius was granted 12-28-90.

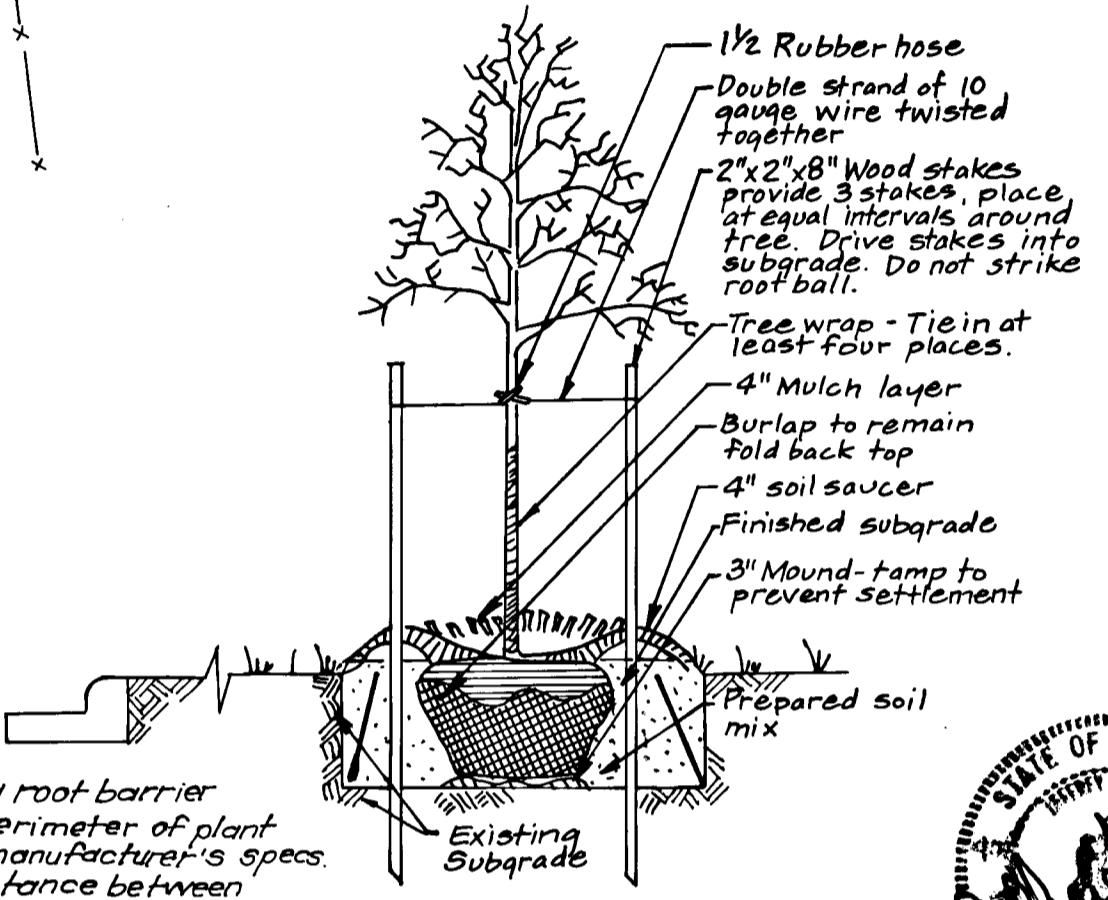
STREET TREE TABLE				
SYM.	TYPE	SIZE	QUANT.	REMARKS
⊙	ACER RUBRUM / RED BUDGET	2 1/2" D.C.	114	B&B, HEAVY 40' D.C.
+	PLATANUS ACERIFOLIA / BUDGET	11"	249	" "
⊙	FRAXINUS YERGENSIS / YOSHINO CHERRY	2-2 1/2" D.C.	48	B&B HEAVY HEADS

- Notes:
- Final spacing between street trees may need to vary slightly to accommodate specific field conditions.
  - Street trees along U.S. Rte. 1 to be 10' setback from curb.
  - The contractor shall verify location of underground utilities prior to digging, location of trees may be adjusted slightly to meet field conditions.



NOTE: Site Distance Analysis to be provided at time of Site Development Plan or Resubdivision Plat Submission for parcels fronting on 430' radius of Freestate Drive Sta. 13+45.30 to 20+25.96.

Provide a root barrier around perimeter of plant pit per manufacturer's specs when distance between sidewalk and curb is less than or equal to eight feet.



TREE PLANTING DETAIL  
NO SCALE

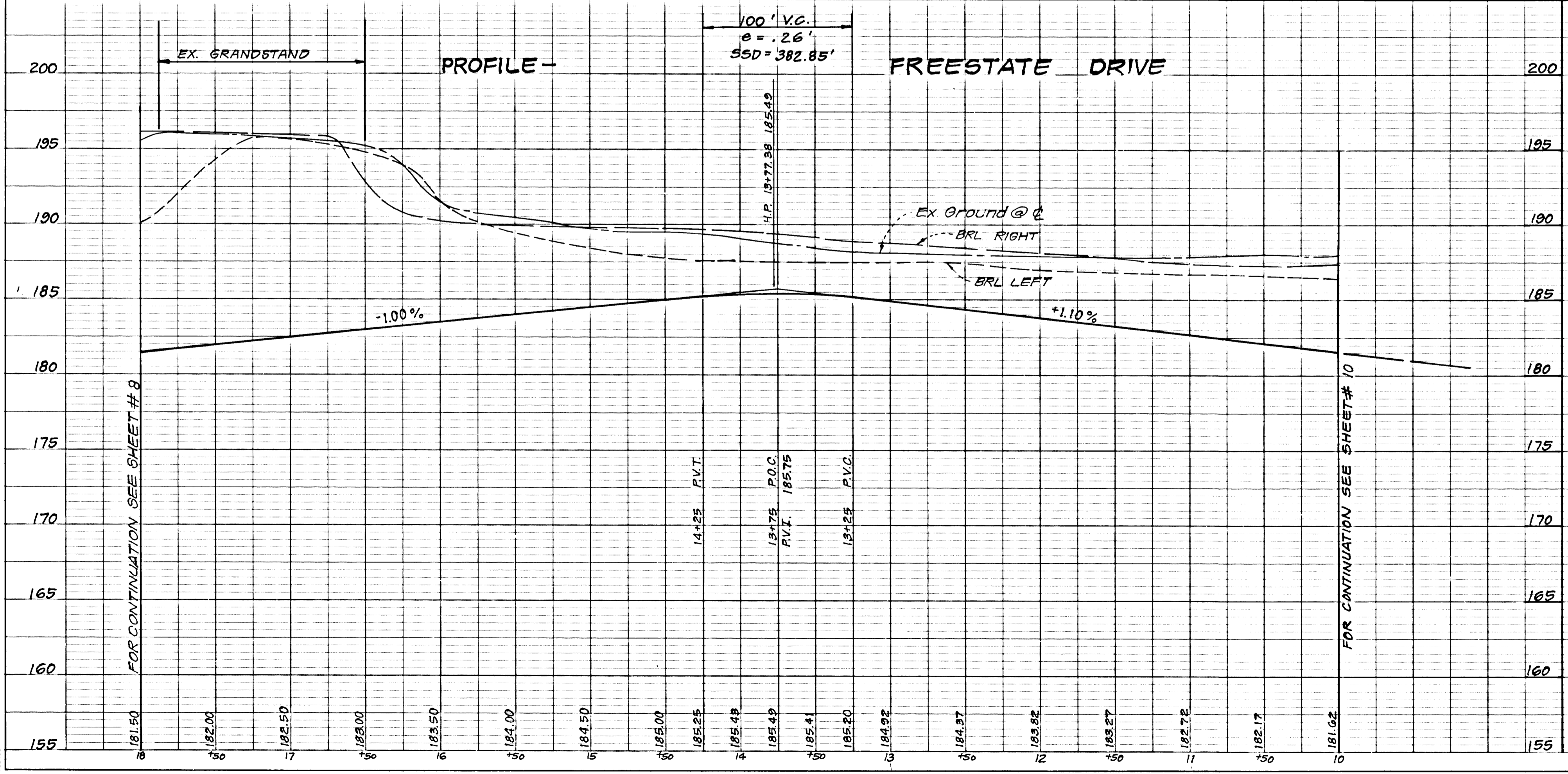
1. Revised per State & County Comments		Apr. 92
No.	REVISION	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
	<i>John M. Tangeman</i> Chief, Land Development Division	6/6/92
	<i>John M. Tangeman</i> Chief, Bureau of Highways (Acting)	5/11/92
	<i>John M. Tangeman</i> Chief, Bureau of Engineering	6-8-92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING		6/28/92
No.	REVISION	DATE
	<i>Anna H. Howard</i> Chief, Division of Community Planning & Land Development	6/28/92

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

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS FREESTATE DRIVE <b>FREESTATE</b>	SCALE 1" = 50'
DRAWN V.L.M.		DRAWING 9 OF 49
CHECKED J.L.S.		JOB NO. 91-099
DATE 11/91		FILE NO. 89-134 D

FOR: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
c/o THE SANFORD COMPANIES  
1515 NOYES DRIVE SILVER SPRING, MD 20910

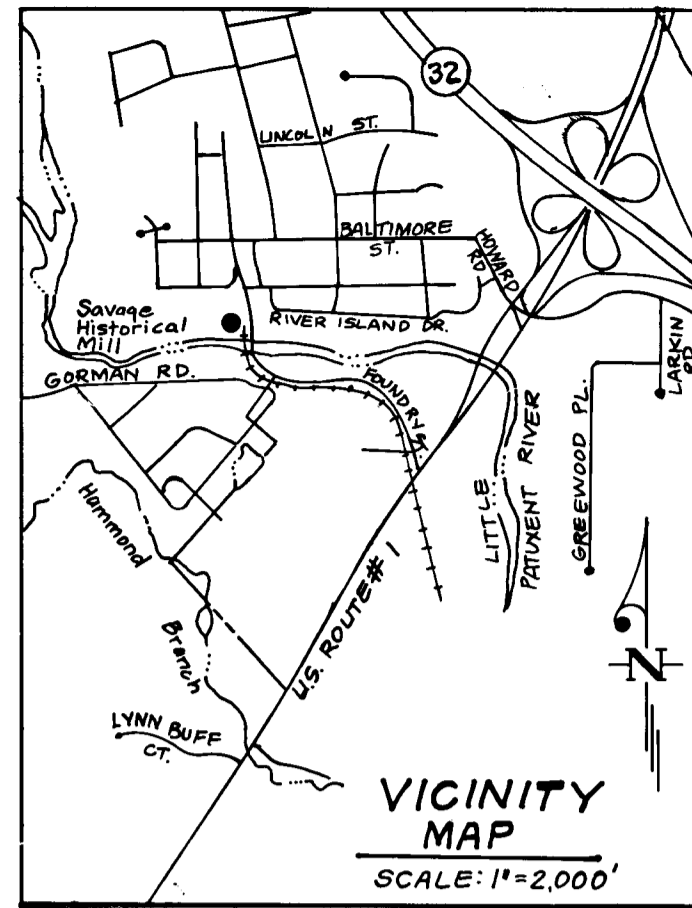


PROFILE LEGEND:

EX. GROUND @	---
B.R.L. LEFT	---
B.R.L. RIGHT	---

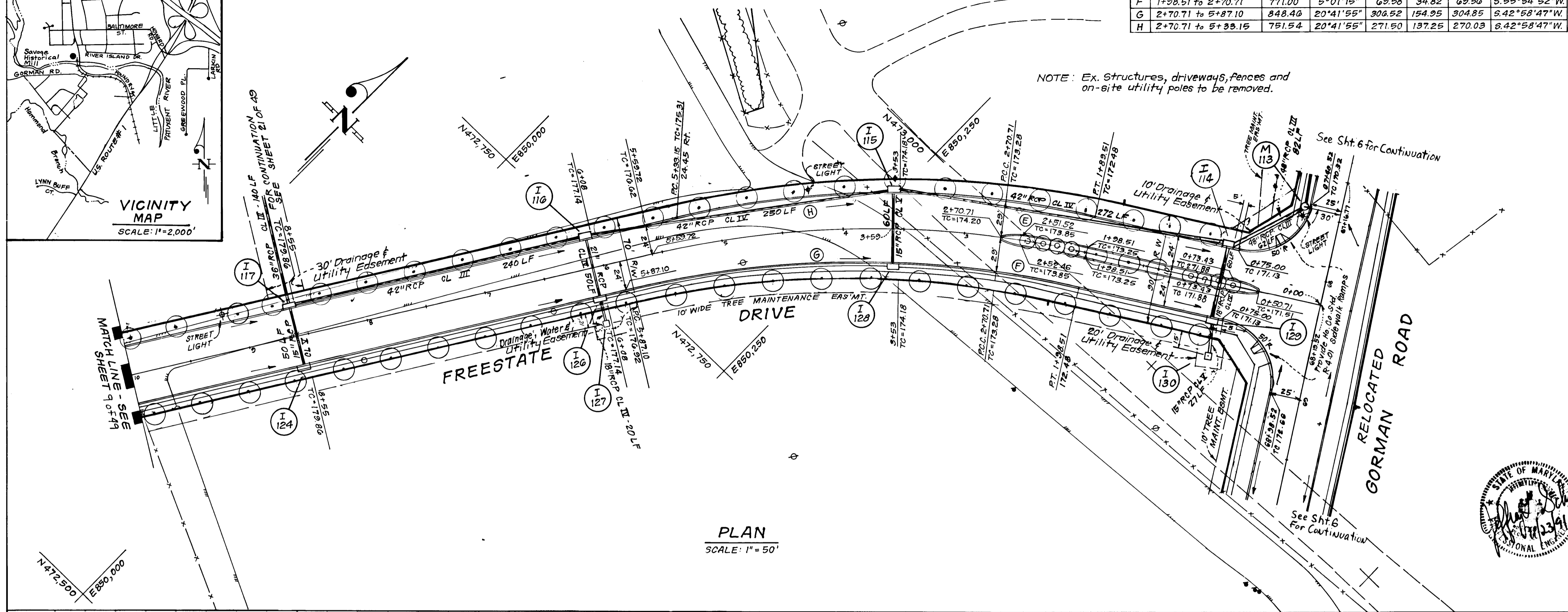
1640





CENTERLINE CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
1+98.51 to 5+59.72	800.00	25°52'11"	361.21	183.74	358.15	N45°33'55"W

CURB CURVE DATA						
PC to PT	RADIUS	DELTA	ARC	TANG	CHORD	BEARING
E 1+98.51 to 2+70.71	829.00	5°01'15"	74.82	37.43	74.79	S55°54'52"W
F 1+98.51 to 2+70.71	771.00	5°01'15"	69.58	34.82	69.56	S55°54'52"W
G 2+70.71 to 5+87.10	848.46	20°41'55"	306.52	154.95	304.85	S42°58'47"W
H 2+70.71 to 5+87.15	751.54	20°41'55"	271.50	137.25	270.03	S42°58'47"W



1 Revised per State & County Comments. Apr. 92  
 No. REVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John Damann* for Chief, Land Development Division Date 6/16/92  
*John M. Pennington* Chief, Bureau of Highways (Admin) Date 5/18/92  
*John S. ...* Chief, Bureau of Engineering Date 6-8-92

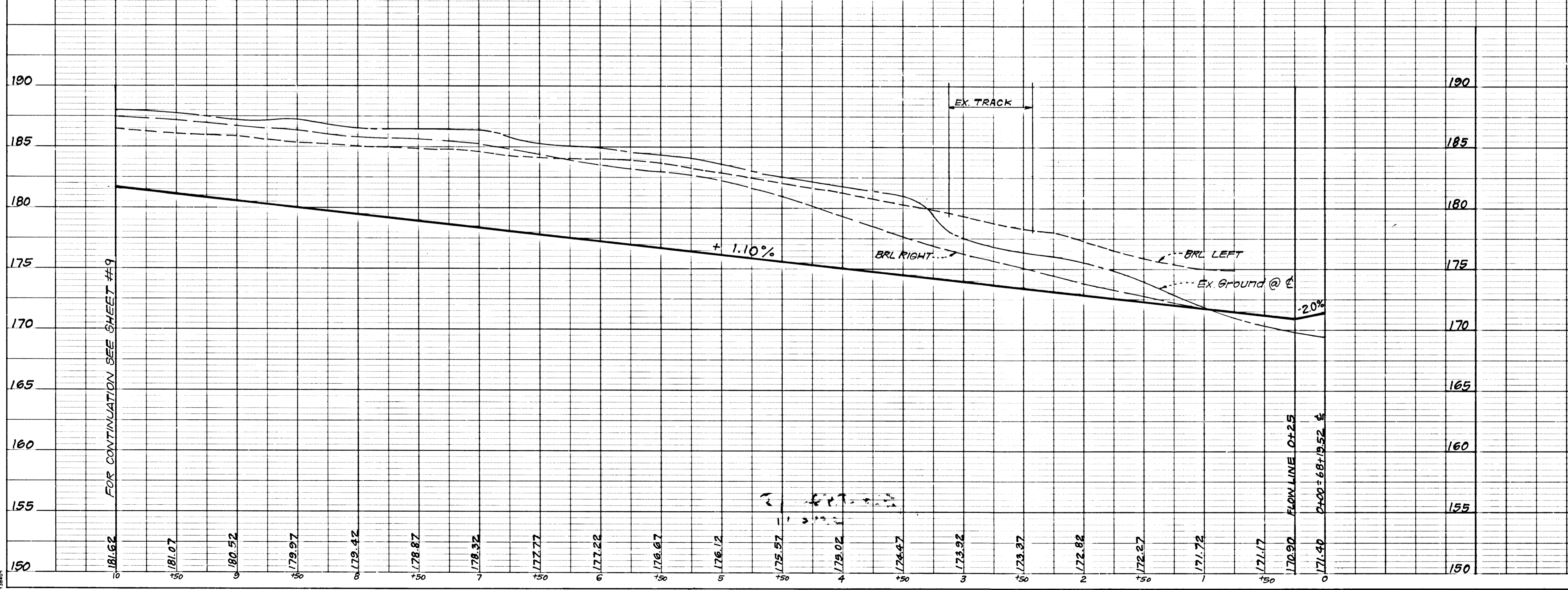
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Anna Howard* Chief, Division of Community Planning & Land Development Date 6/22/92

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

DESIGNED: J.L.S. SCALE: 1" = 50'  
 DRAWN: V.L.M. DRAWING: 10 OF 49  
 CHECKED: J.L.S. JOB NO.: 01-099  
 DATE: 11/91 FILE NO.: 89-134 D

ROAD CONSTRUCTION PLANS  
 FREESTATE DRIVE  
**FREESTATE**  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
 c/o THE SANFORD COMPANIES  
 1515 NOYES DRIVE SILVER SPRING, MD 20910

PROFILE - FREESTATE DRIVE

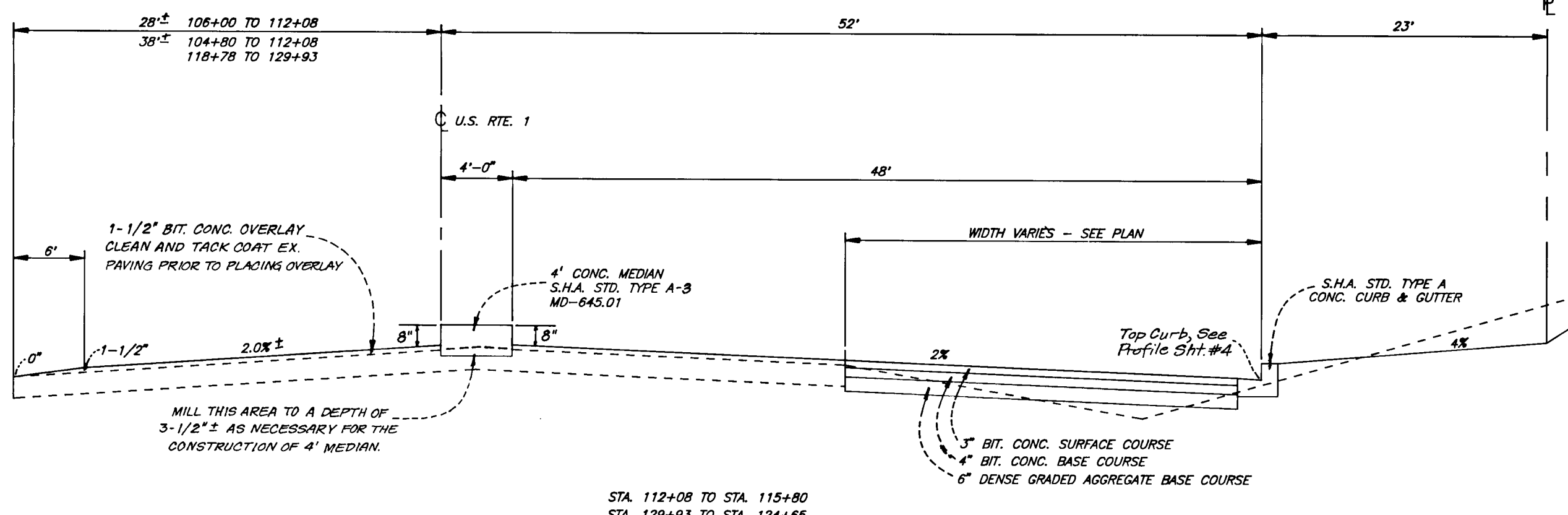


PROFILE LEGEND:  
 EX. GROUND @ ± [---]  
 B.R.L. LEFT [---]  
 B.R.L. RIGHT [---]

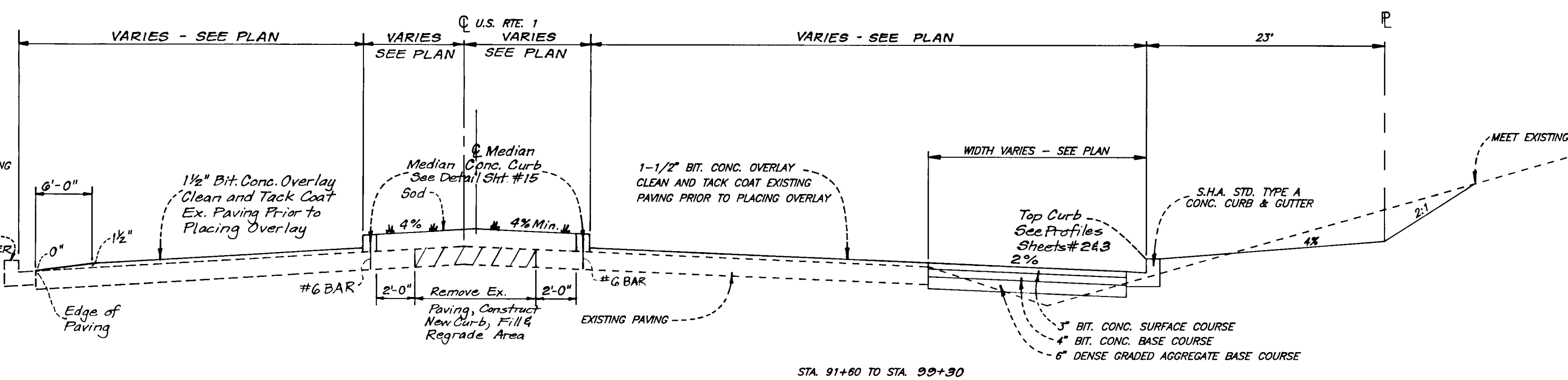
PROFILE SCALE  
 HORIZ 1" = 50'  
 VERT. 1" = 5'

1640

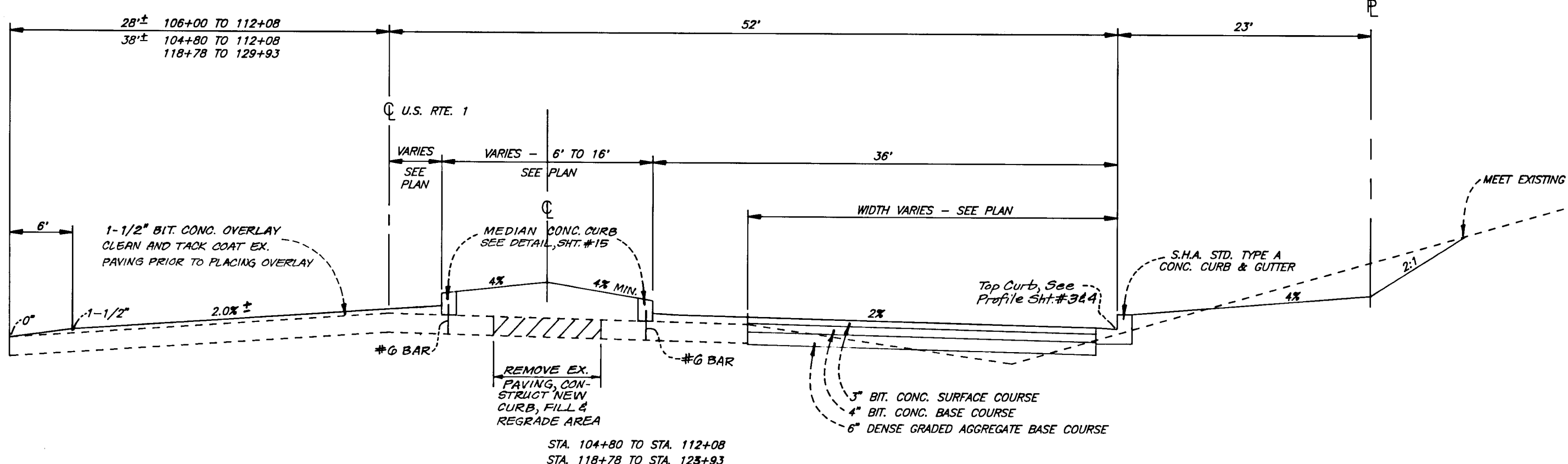




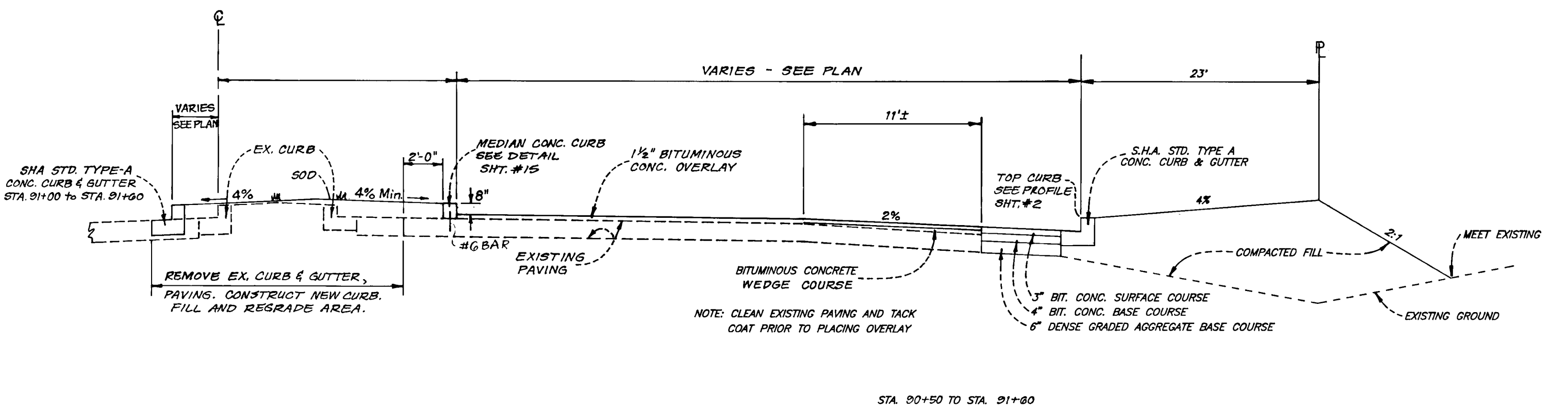
**TYPICAL PAVING SECTION  
BALTIMORE WASHINGTON BOULEVARD  
U.S. ROUTE 1**  
NO SCALE



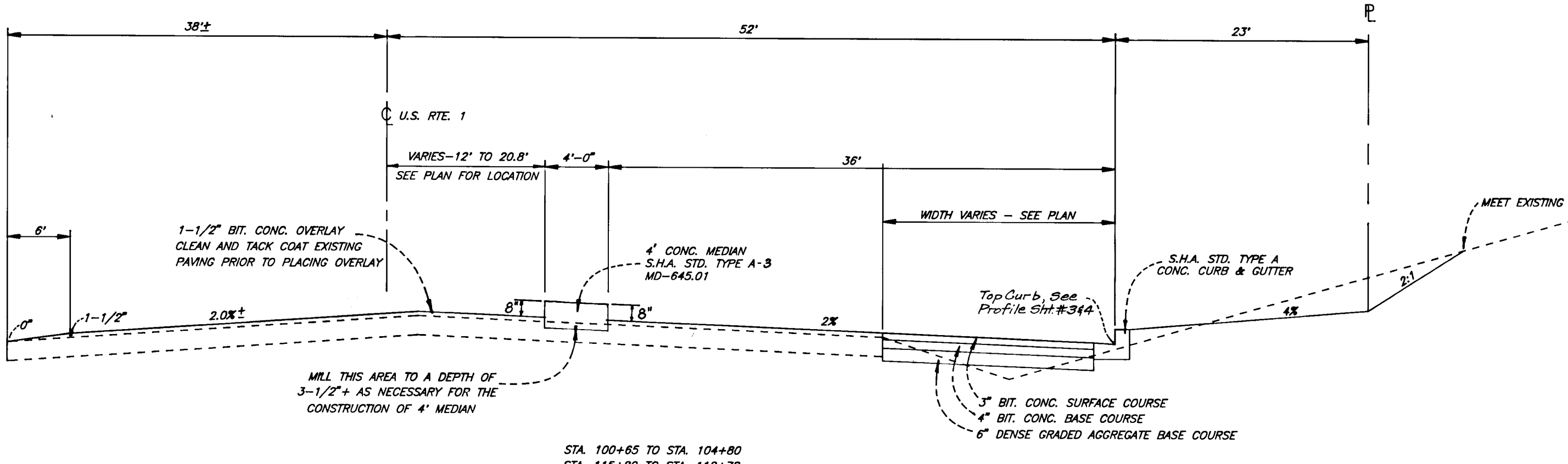
**TYPICAL PAVING SECTION  
BALTIMORE WASHINGTON BOULEVARD  
U.S. ROUTE 1**  
NO SCALE



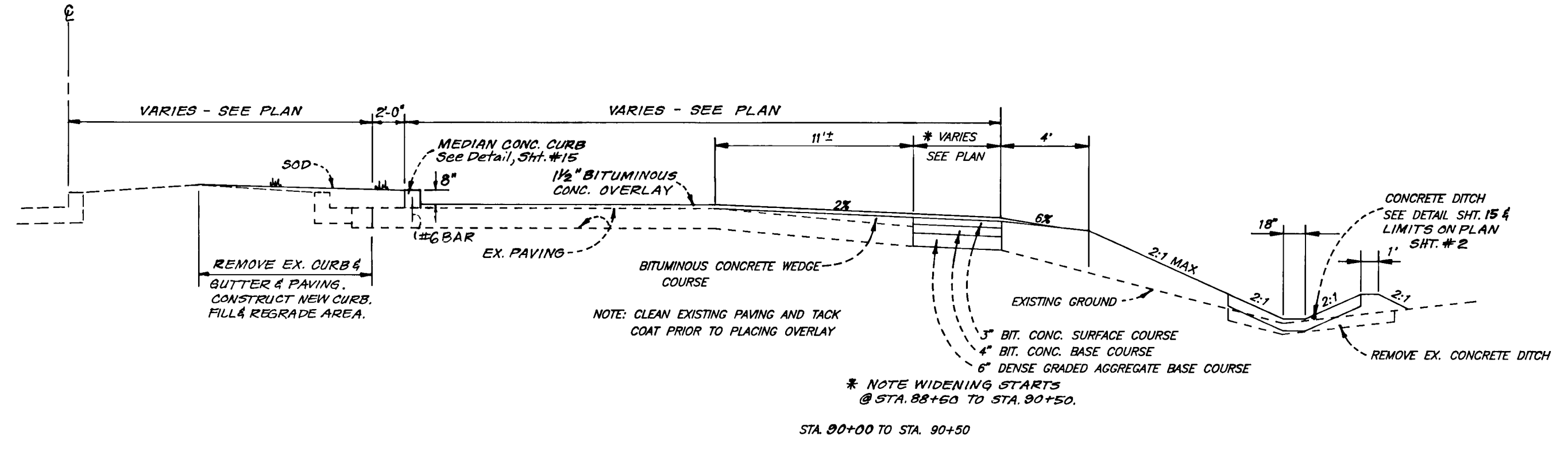
**TYPICAL PAVING SECTION  
BALTIMORE WASHINGTON BOULEVARD  
U.S. ROUTE 1**  
NO SCALE



**TYPICAL PAVING SECTION  
BALTIMORE WASHINGTON BOULEVARD  
U.S. ROUTE 1**  
NO SCALE



**TYPICAL PAVING SECTION  
BALTIMORE WASHINGTON BOULEVARD  
U.S. ROUTE 1**  
NO SCALE



**TYPICAL PAVING SECTION  
BALTIMORE WASHINGTON BOULEVARD  
U.S. ROUTE 1**  
NO SCALE

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Dominic P. Delaney*  
4/15/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard*  
CHIEF LAND DEVELOPMENT DIVISION (acting)  
DATE 6/18/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Elmira J. Jilms*  
Chief, Division of Community Planning & Land Development  
DATE 6/22/92

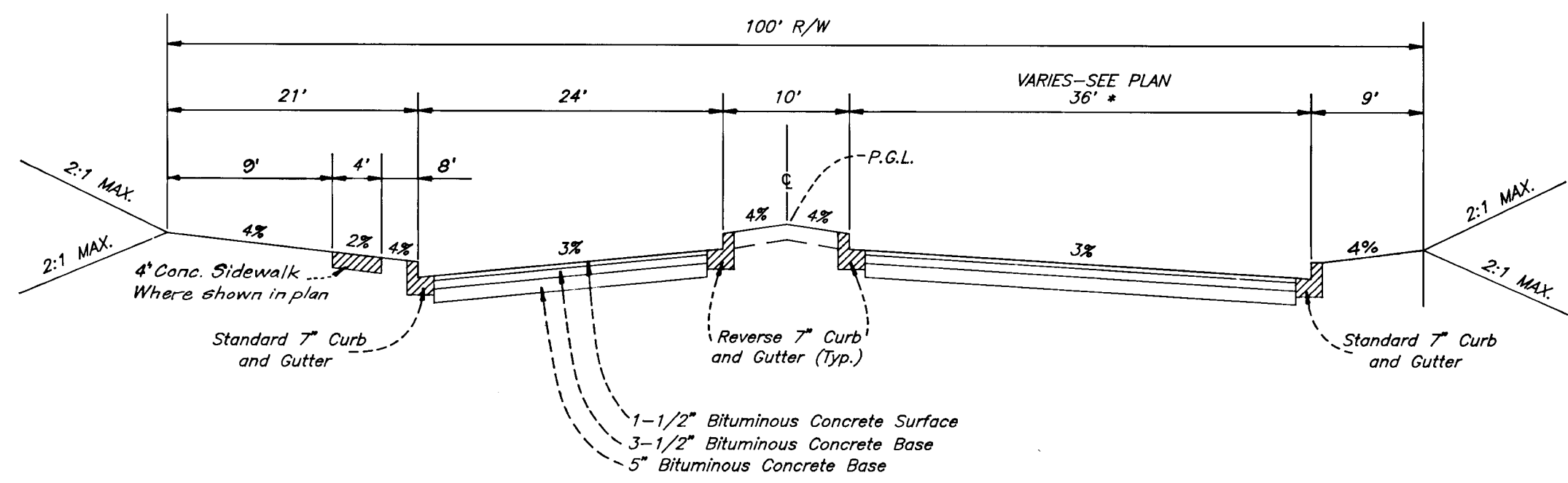
<b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.		SCALE <b>As Shown</b>
DESIGNED <b>DAB</b>	<b>ROAD CONSTRUCTION PLANS PAVING DETAILS</b>	DRAWING <b>11 of 49</b>
DRAWN <b>LAI</b>	<b>FREESTATE</b>	JOB NO. <b>91-099</b>
CHECKED <b>DAB</b>	<b>6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND</b>	FILE NO. <b>89-134D</b>
DATE <b>11/91</b>	For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP % THE SANFORD COMPANIES 1915 NOYES DRIVE SILVER SPRING, MD 20910	

1640

NO.	REVISION	DATE
1	Revised per County and State comments.	APR 1992

STATE OF MARYLAND  
*John J. Schmitt*  
 11/23/91  
 NATIONAL HIGHWAY CONSTRUCTION

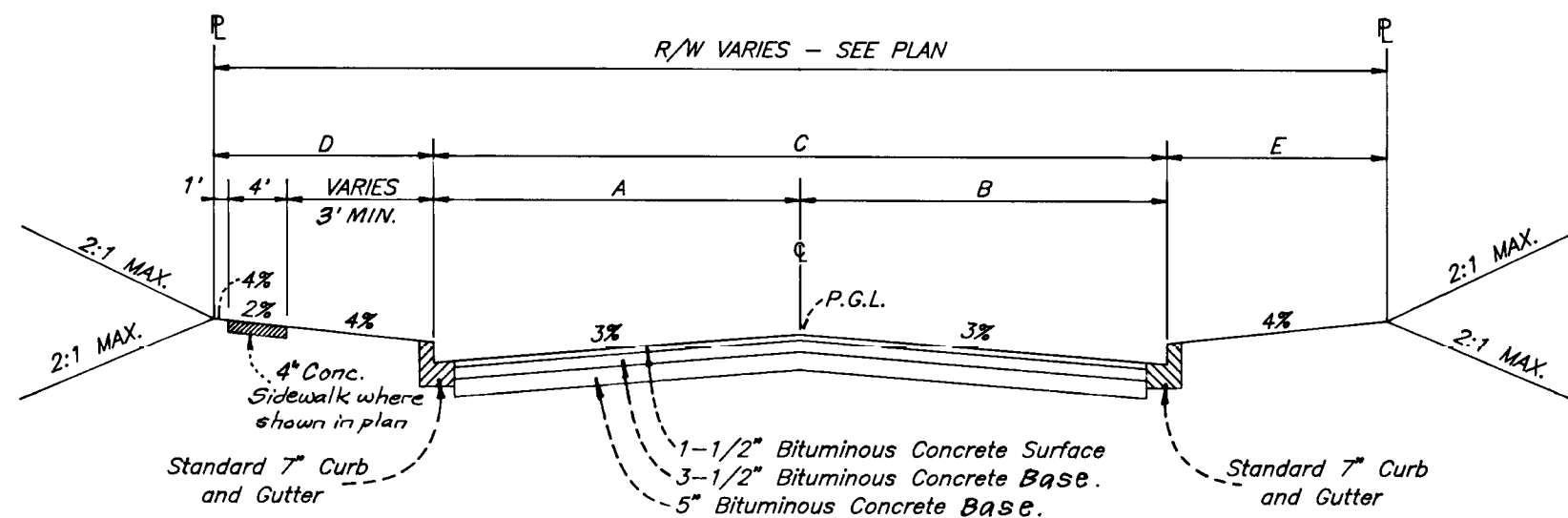




**TYPICAL PAVING SECTION  
FREESTATE DRIVE**

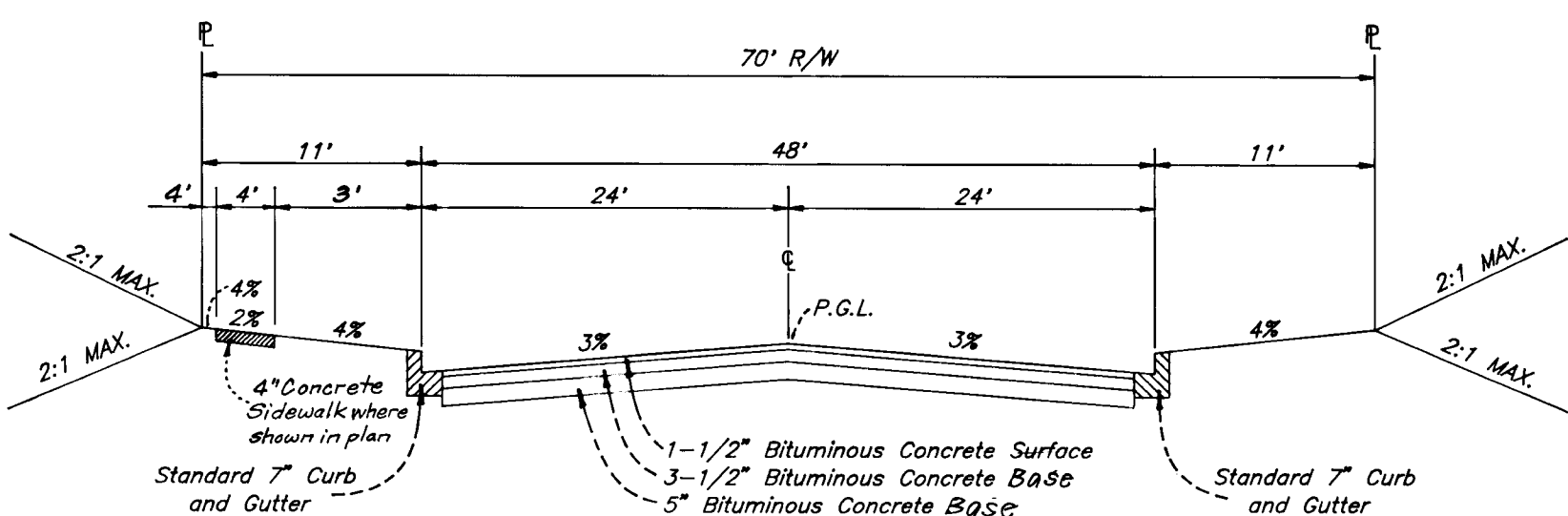
NO SCALE  
STA. 23+38.74 TO STA. 26+69.39

STATION	A	B	C	D	E
TRANSITION 2+70.71 TO 5+87.10	29' TO 24'	29' TO 24'	58' TO 48'	16' TO 11'	16' TO 11'
TRANSITION 21+21.39 TO 23+37.74	24' TO 29'	24' TO 41'	48' TO 70'	11' TO 21'	11' VARIES



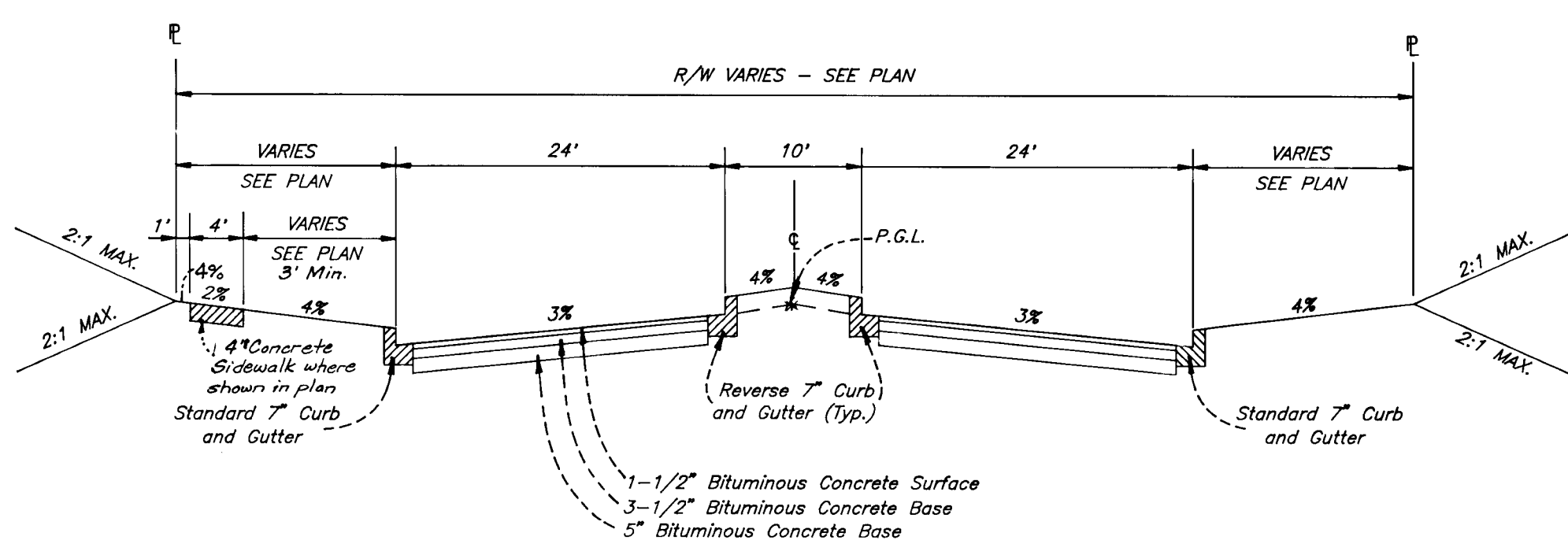
**TYPICAL PAVING SECTION  
FREESTATE DRIVE**

NO SCALE



**TYPICAL PAVING SECTION  
FREESTATE DRIVE**

NO SCALE  
STA. 5+87.10 TO STA. 21+21.39



**TYPICAL PAVING SECTION  
FREESTATE DRIVE**

NO SCALE  
STA. 0+00 TO STA. 2+70.71

1-1/2" Bituminous Concrete Surface	1-1/2"
1-1/2" Bituminous Concrete Base	1-1/2"
5" Bituminous Concrete Base	5"
Prime	
5" Crusher Run Base Course or 4" Dense Graded Stabilized Aggregate Base Course	4" OR 5"

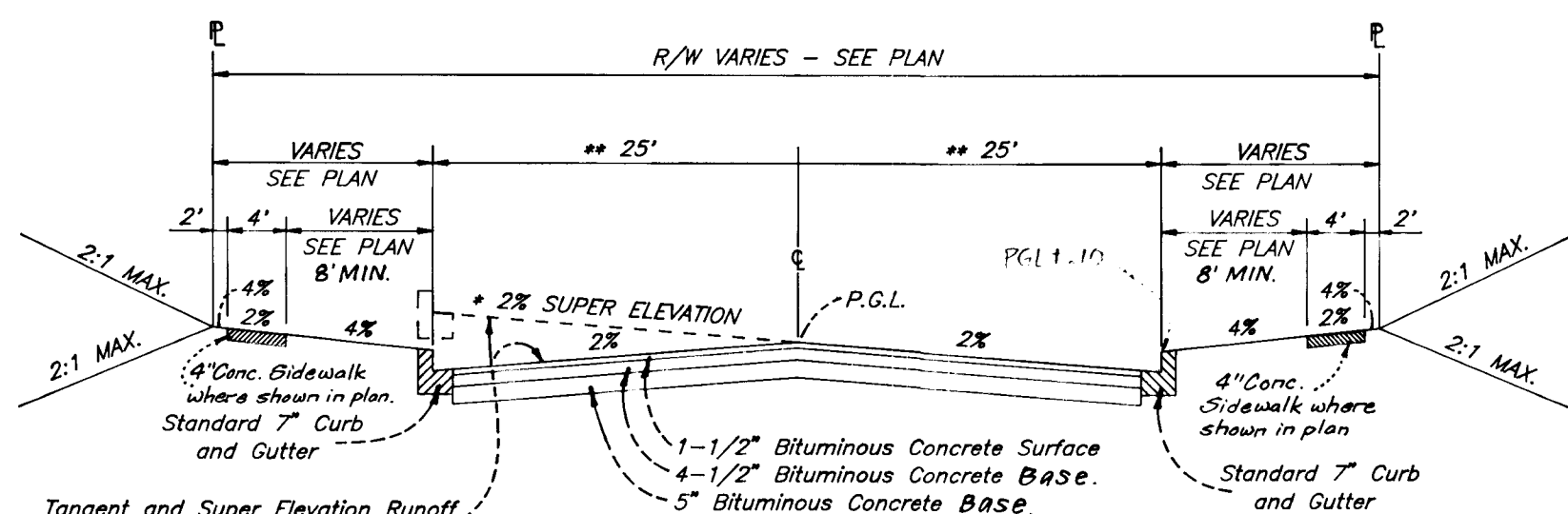
**ALTERNATE PAVING SECTION  
FREESTATE DRIVE**

NO SCALE  
(SECTION P-4)

1-1/2" Bituminous Concrete Surface	1-1/2"
1-1/2" Bituminous Concrete Base	1-1/2"
5" Bituminous Concrete Base	5"
Prime	
8" Crusher Run Base Course or 6" Dense Graded Stabilized Aggregate Base Course	6" OR 8"

**ALTERNATE PAVING SECTION  
GORMAN ROAD**

NO SCALE  
(SECTION P-5)



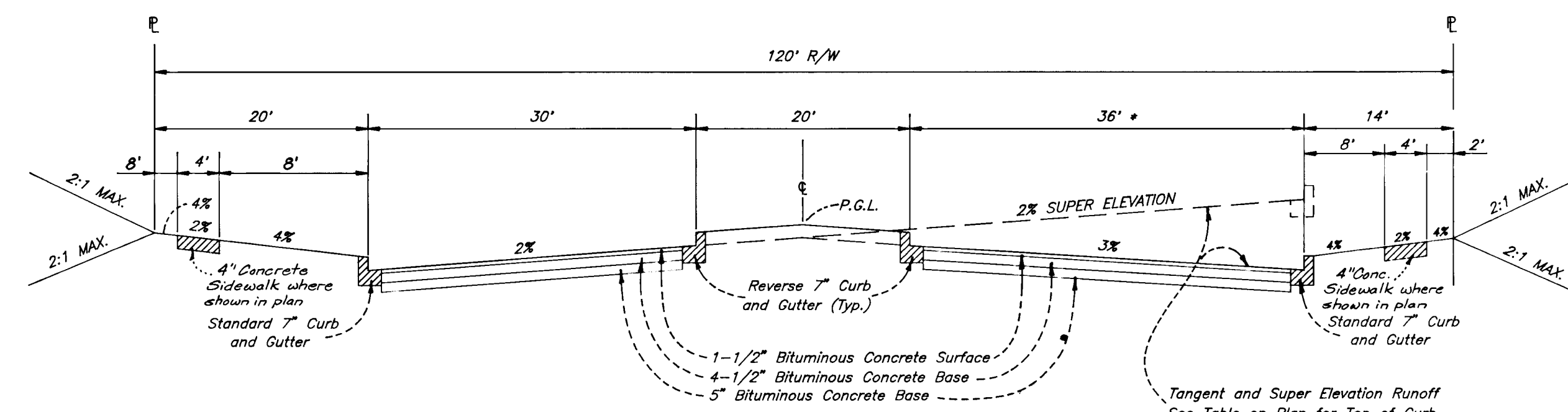
**TYPICAL PAVING SECTION  
RELOCATED GORMAN ROAD**

NO SCALE  
STA. 57+98.61 TO STA. 60+07.04  
STA. 66+75.10 TO STA. 69+25.10  
STA. 69+25.10 TO STA. 71+89.06

**ZONING M-1**

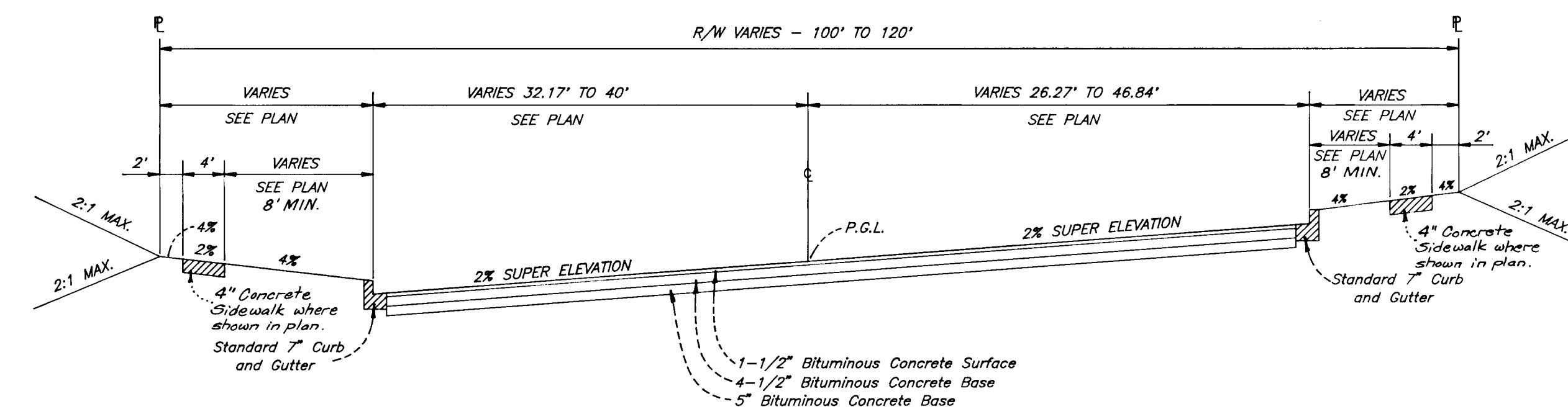
DESIGN SPEED CLASSIFICATION

FREESTATE DRIVE : 35 mph ; MINOR COLLECTOR  
RELOCATED GORMAN ROAD: 40mph ; MINOR ARTERIAL



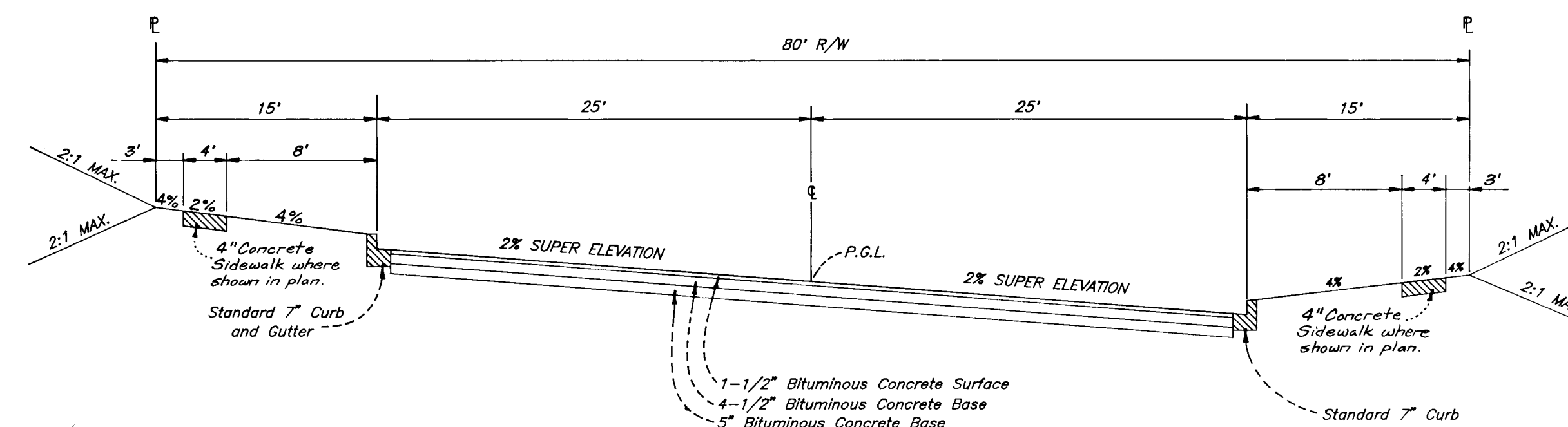
**TYPICAL PAVING SECTION  
RELOCATED GORMAN ROAD**

NO SCALE  
STA. 73+74.36 TO STA. 77+64.99



**TYPICAL PAVING SECTION  
RELOCATED GORMAN ROAD**

NO SCALE  
STA. 71+89.06 TO STA. 73+74.36



**TYPICAL PAVING SECTION  
RELOCATED GORMAN ROAD**

NO SCALE  
STA. 60+07.04 TO STA. 66+75.10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DESIGNED: *John M. Donagan* DATE: 6/14/92  
DRAWN: *LAI* DATE: 5/11/92  
CHECKED: *DAB* DATE: 6-8-92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Anna M. Blomquist* DATE: 6/20/92  
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

**CLARK • FINEROCK & SACKETT, INC.**  
ENGINEERS • PLANNERS • SURVEYORS  
7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO • (301) 621-8300 - WASH.

DESIGNED: DAB	ROAD CONSTRUCTION PLANS PAVING SECTIONS FREESTATE DRIVE & GORMAN ROAD FREESTATE	SCALE: As Shown
DRAWN: LAI		DRAWING: 12 of 49
CHECKED: DAB	6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.: 91-099
DATE: 11/91		FILE NO.: 89-134 D

For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
% THE SANFORD COMPANIES  
1515 NOYES DRIVE SILVER SPRING, MD 20910

NO.	REVISION	DATE
1	Revised per County and State comments.	APR 1992



STRUCTURE SCHEDULE						
NO.	TYPE	INV. IN	INV. OUT	TOP ELEVATION		REMARKS
				UPPER	LOWER	
S-1	TYPE C ENDWALL	140.00	140.00			
I-2	20" CIRCULAR COG INLET	145.25	144.59	151.91	151.44	SHA MD. NO. 354.01 D=21"
I-3	20" CIRCULAR COG INLET	148.07	147.50	154.35	153.88	SHA MD. NO. 374.62 D=48"
I-4	20" CIRCULAR COG INLET	151.00	150.50	157.29	156.70	SHA MD. NO. 374.62 D=48"
I-5	15" CIRCULAR COG INLET	154.40	153.75	159.50	158.19	SHA MD. NO. 374.62 D=48"
I-6	10" CIRCULAR COG INLET	155.87	155.56	162.42	162.33	SHA MD. NO. 374.62 D=48"
I-7	10" CIRCULAR COG INLET	157.31	157.05	163.46	163.37	SHA MD. NO. 374.62 D=48"
I-8	20" CIRCULAR COG INLET	159.52	159.07	165.97	165.52	SHA MD. NO. 374.62 D=48"
I-9	15" CIRCULAR COG INLET	168.52	168.31	175.46	174.99	SHA MD. NO. 374.62 D=48"
I-10	15" CIRCULAR COG INLET	173.51	173.40	180.15	179.92	SHA MD. NO. 374.62 D=48"
I-11	15" CIRCULAR COG INLET	176.00	175.90	182.73	182.50	SHA MD. NO. 374.62 D=60"
I-12	15" CIRCULAR COG INLET	178.60	178.50	185.37	185.14	SHA MD. NO. 374.62 D=48"
I-13	10" CIRCULAR COG INLET	180.70	180.41	187.38	187.29	SHA MD. NO. 374.62 D=48"
I-14	10" CIRCULAR COG INLET	182.26	182.26	188.50	188.46	SHA MD. NO. 374.62 D=48"
S-15	TYPE C ENDWALL	147.80	147.80			
M-16	PRECAST MANHOLE	149.12	148.00	155.9		SHA MD. NO. 384.05 72" DIA
M-17	PRECAST MANHOLE	158.00	156.68	169.22		SHA MD. NO. 384.05 60" DIA
I-18	15" CIRCULAR COG INLET	168.49	168.25	177.73	177.41	SHA MD. NO. 374.62 D=48"
I-19	15" CIRCULAR COG INLET	173.50	173.20	179.68	179.36	SHA MD. NO. 374.62 D=48"
I-20	15" CIRCULAR COG INLET	177.50	177.50	184.82	184.52	SHA MD. NO. 374.62 D=48"
S-46	CONCRETE END SECTION	159.73	159.69			HO. CO. STD. SD 5.51 48" DIA.
I-47	A-10 INLET	160.29	159.98	173.9		HO. CO. STD. SD 4.02 W=5'-5"
I-48	A-10 INLET	162.03	161.89	176.00		HO. CO. STD. SD 4.02 W=5'-0"
I-49	DOUBLE 'S' INLET	163.20	163.00	175.00		HO. CO. STD. SD 4.23 W=2'-7 1/2"
I-50	DOUBLE 'S' INLET	164.83	164.22	175.00		HO. CO. STD. SD 4.23 W=2'-7 1/2"
M-52	MANHOLE (BRICK)	170.00	165.50	182.5		HO. CO. STD. G 5.03 48" DIA PIPE
M-53	MANHOLE (BRICK)	174.50	173.00	181.1		HO. CO. STD. G 5.03 48" DIA PIPES
I-54	A-10 INLET	174.79	174.50	180.59		HO. CO. STD. SD 4.02 W=3'-5"
I-55	A-10 INLET	176.00	175.50	180.59		HO. CO. STD. SD 4.02 W=2'-6"
I-56	D INLET			TOP 181.33 SLOT=180.55		HO. CO. STD. SD 4.11 2'-6" SQ.
I-57	A-10 INLET	176.28	175.50	181.44	181.34	HO. CO. STD. SD 4.02 W=2.6
I-58	A-10 INLET			177.50	181.44	HO. CO. STD. SD 4.02 W=2.6
I-59	A-10 INLET	179.78	179.50	184.47	184.37	HO. CO. STD. SD 4.02 W=2.6
I-60	A-10 INLET			180.50	184.82	HO. CO. STD. SD 4.02 W=2.6
S-107	CONCRETE END SECTION	142.87	142.82			HO. CO. STD. SD 5.51 66" DIA
M-108	MANHOLE (BRICK)	146.76	143.18	160.80		HO. CO. STD. G 5.03 66" DIA
M-109	MANHOLE (BRICK)	148.89	148.69	160.50		HO. CO. STD. G 5.03 66" DIA
M-110	MANHOLE (BRICK)	154.83	155.50	165.48		HO. CO. STD. G 5.03 66" DIA
I-111	A-10 INLET	145.00	144.59	151.63	151.38	HO. CO. STD. SD 4.02 W=2.6
I-112	A-10 INLET	159.90	159.80	169.03	168.88	HO. CO. STD. SD 4.02 W=5.0
M-113	MANHOLE	161.24	161.00	170.45		HO. CO. STD. G 5.03 48" DIA
I-114	A-10 INLET	155.46	155.99	171.31	171.19	HO. CO. STD. SD 4.02 W=5'-0"
I-115	A-10 INLET	165.28	165.00	174.29	174.18	HO. CO. STD. SD 4.02 W=4'-6"
I-116	A-10 INLET	171.31	171.33	177.25	177.14	HO. CO. STD. SD 4.02 W=4'-6"
I-117	A-10 INLET	176.31	176.08	179.97	179.86	HO. CO. STD. SD 4.02 W=4'-6"
I-118	S INLET	170.71	170.50	TOP 177.50 SLOT=176.50		HO. CO. STD. SD 4.22
I-119	S INLET	171.87	171.65	TOP 177.50 SLOT=176.50		HO. CO. STD. SD 4.22
I-120	S INLET	173.44	173.25	TOP 177.50 SLOT=176.50		HO. CO. STD. SD 4.22
I-121	D INLET	174.00	173.76	TOP 177.50 SLOT=176.50		HO. CO. STD. SD 4.11 2'-6" SQ.
M-122	STD. PRECAST MANHOLE	193.50	191.00	198.9		HO. CO. STD. G 5.12 4' ROUND
M-123	STD. PRECAST MANHOLE	199.0	198.0	204.50		HO. CO. STD. G 5.12 4' ROUND
I-124	A-10 INLET		176.00	179.97	179.86	HO. CO. STD. SD 4.02 W=2'-6"

STRUCTURE SCHEDULE						
NO.	TYPE	INV. IN	INV. OUT	TOP ELEVATION		REMARKS
				UPPER	LOWER	
I-126	A-10 INLET	172.89	172.30	177.25	177.14	HO. CO. STD. SD 4.02 W=2'-6"
I-127	A-10 INLET			173.75	173.33	HO. CO. STD. SD 4.02 2'-6" SQ.
I-128	A-10 INLET			170.00	174.20	HO. CO. STD. SD 4.11 2'-6" SQ.
I-129	A-10 INLET	167.18	167.00	171.31	171.19	HO. CO. STD. SD 4.02 W=2'-6"
I-130	D INLET			168.00	168.00	HO. CO. STD. SD 4.11 2'-6" SQ.
I-140	A-10 INLET			156.00	155.75	HO. CO. STD. SD 4.02 W=3'-0"
I-141	A-10 INLET			156.74	160.49	HO. CO. STD. SD 4.02 W=2'-6"
I-142	MODIFIED D INLET	154.83	151.33	167.83	167.83	HO. CO. STD. SD 4.11 W=4'-0"
S-200	CONCRETE END SECTION	142.00	142.82			HO. CO. STD. SD 5.51 66" DIA
M-201	BRICK MANHOLE	149.08	143.53	160.80		HO. CO. STD. SD 5.03 66" DIA
M-202	BRICK MANHOLE	151.14	150.68	162.00		HO. CO. STD. SD 5.03 66" DIA
M-203	BRICK MANHOLE	159.50	153.20	167.55		HO. CO. STD. SD 5.03 66" DIA
I-204	MODIFIED D INLET			163.00	163.00	HO. CO. STD. SD 4.11 W=5'-6"
I-205	A-10 INLET			165.00	168.66	HO. CO. STD. SD 4.02 2'-6" SQ.
I-206	A-5 INLET	195.39	195.12	167.33	167.42	HO. CO. STD. SD 4.01 2'-6" SQ.
I-207	A-10 INLET	196.95	196.70	164.25	164.02	HO. CO. STD. SD 4.02 2'-6" SQ.
I-208	A-10 INLET	198.22	197.39	163.67	163.51	HO. CO. STD. SD 4.02 2'-6" SQ.
S-249	CONCRETE END SECTION	152.27	152.00			HO. CO. STD. SD 5.51 24" DIA
M-E2	STD PRECAST MANHOLE	155.34	153.00	162.00		HO. CO. STD. G 5.12 48" RD.
M-250	SHALLOW BRICK MANHOLE	156.58	EX. 155.80	160.75		HO. CO. STD. SD 5.05 48" SQ.
I-251	A-10 INLET	158.25	158.25	157.85	162.51	HO. CO. STD. SD 4.02 W=2'-6"
I-252	K-INLET W/GRATE	159.00	158.75	163.00		HO. CO. STD. SD 4.12
S-253	METAL END SECTION	165.62	165.20			HO. CO. STD. SD 5.61 18" DIA
S-254	METAL END SECTION	163.70	163.59			HO. CO. STD. SD 5.61 15" DIA
S-255	METAL END SECTION	164.81	164.70			HO. CO. STD. SD 5.61 15" DIA
S-300	A-ENDWALL	141.00	141.00			HO. CO. STD. SD 5.11 48" DIA

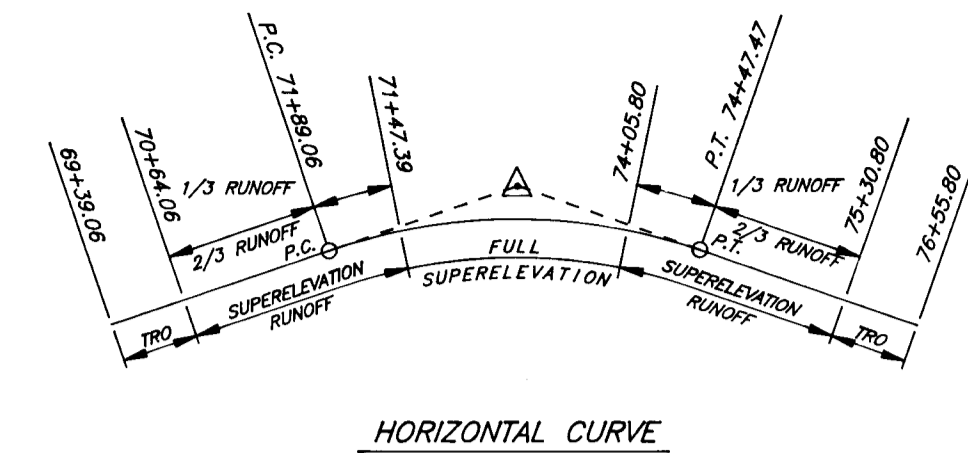
ALL INVERTS TO BE FULLY DEVELOPED.  
\* SLOTS IN ALL 4 SIDES.

1-1/2" Bituminous Concrete Surface	1-1/2"
1-1/2" Bituminous Concrete Base	1-1/2"
5" Bituminous Concrete Base	5"

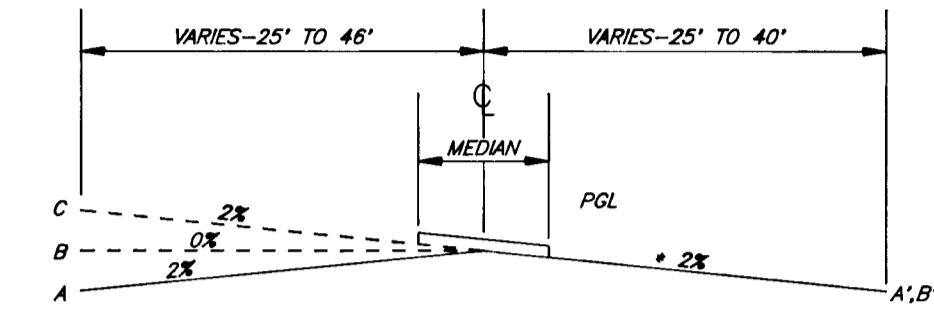
PAVING SECTION  
ACCESS DRIVE  
NO SCALE  
(SECTION P-3)

1-1/2" Bituminous Concrete Surface	1-1/2"
4-1/2" Bituminous Concrete Base	4-1/2"
Prime	
6" Crusher Run Base Course or 4-1/2" Dense Graded Stabilized Aggregate Base Course	6" OR 4-1/2"

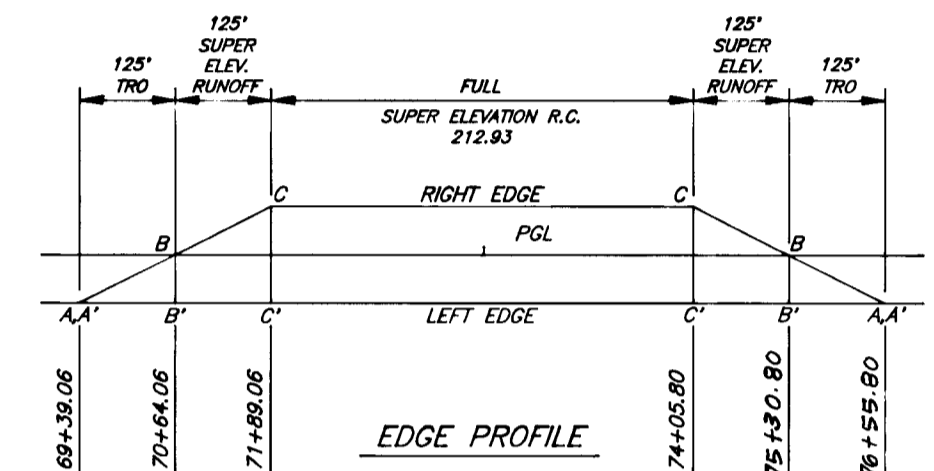
ALTERNATE PAVING SECTION  
ACCESS DRIVE  
NO SCALE  
(SECTION P-3)



HORIZONTAL CURVE



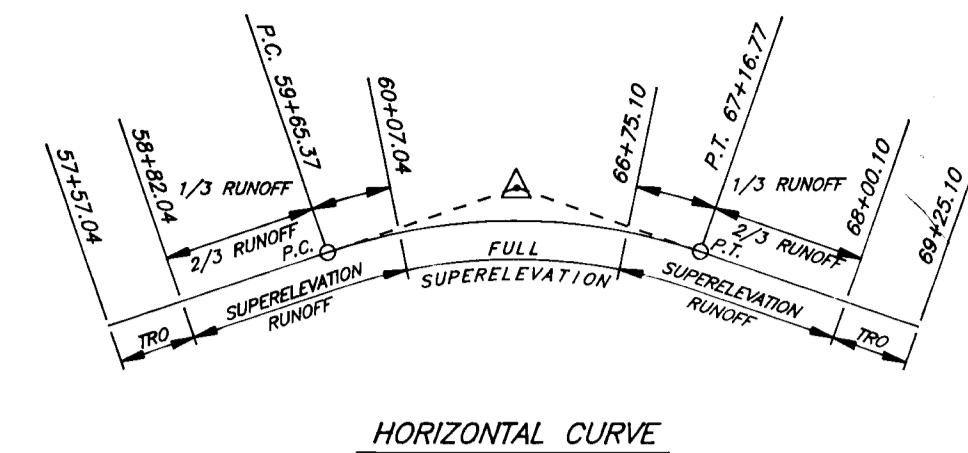
CROSS SECTION



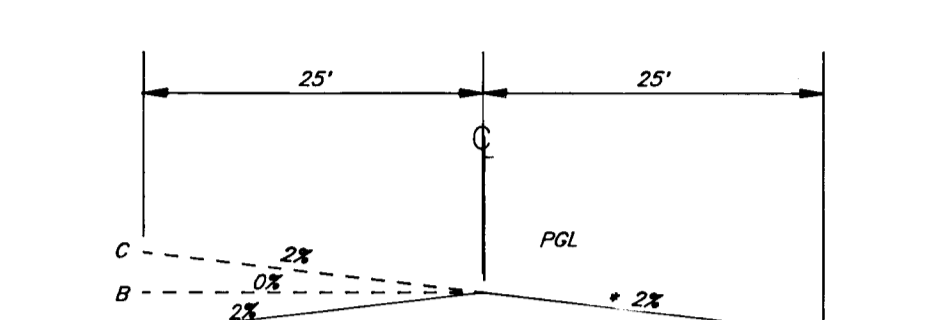
EDGE PROFILE

LEGEND  
P.C. - POINT OF CURVATURE  
P.T. - POINT OF TANGENCY  
T.R.O. - TANGENT RUNOUT  
PGL - PROFILE GRADE LINE

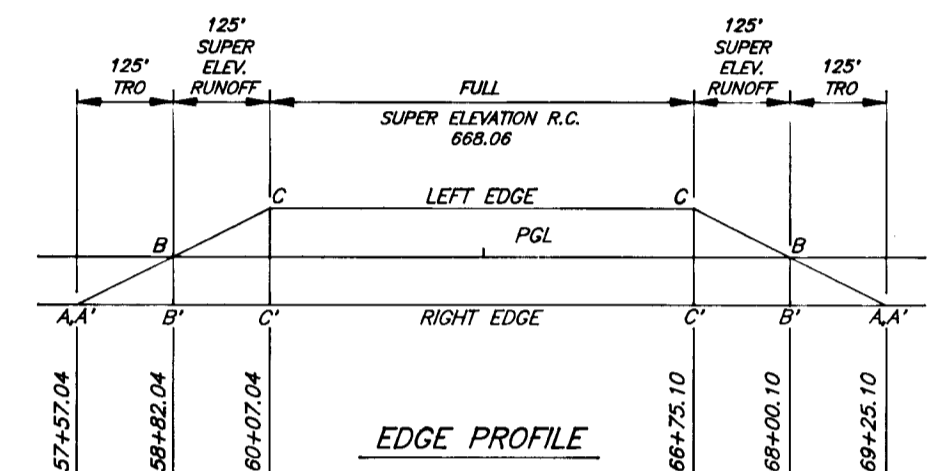
SCHEMATIC PLAN  
GORMAN ROAD  
SUPERELEVATION  
STA 69+39.06 TO STA 76+55.80  
NO SCALE



HORIZONTAL CURVE



CROSS SECTION



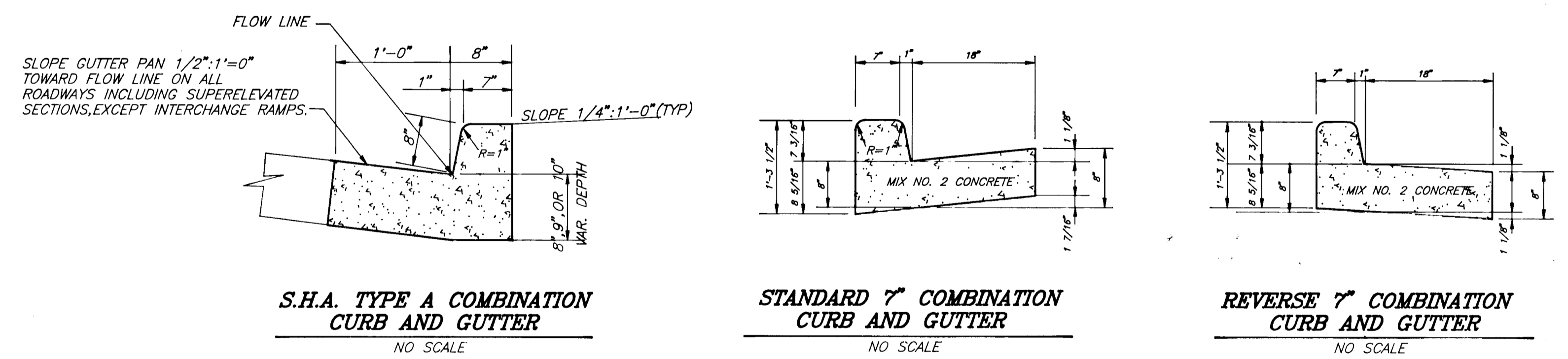
EDGE PROFILE

LEGEND  
P.C. - POINT OF CURVATURE  
P.T. - POINT OF TANGENCY  
T.R.O. - TANGENT RUNOUT  
PGL - PROFILE GRADE LINE

SCHEMATIC PLAN  
GORMAN ROAD  
SUPERELEVATION  
STA 57+57.04 TO STA 69+25.10  
NO SCALE

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15"	ALUM. CMP 14ga	20 LF
18"	ALUM. CMP 14ga	30 LF
36"	RCP CLASS III	190 LF
42"	RCP CLASS III	377 LF
48"	RCP CLASS III	972 LF
54"	RCP CLASS III	217 LF
66"	RCP CLASS III	1607 LF
TEMP	18" CMP 16ga	63 LF
18"	RCP CLASS IV	646 LF
21"	RCP CLASS IV	477 LF
27"	RCP CLASS IV	30 LF
30"	RCP CLASS IV	376 LF
24"	RCP CLASS IV	106 LF
TEMP	66" CMP 10ga	25 LF
15"	RCP CLASS V	335 LF
19" x 30"	RCP CL. IX	11 LF ±
21"	RCP CLASS V	147 LF
24"	RCP CLASS V	77 LF
27"	RCP CLASS V	54 LF
36"	RCP ASTM C-361	160 LF
48"	RCP ASTM C-361	80 LF
8"	PVC	75 LF
6"	DUCTILE IRON PIPE	37 LF
12"	PVC	28 LF
36"	BUMP ELBOW	5 LF ±
42"	RCP CL. IX	522 LF

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15"	RCP CL. IX	856 LF
18"	RCP CL. IX	2217 LF
21"	RCP CL. IX	202 LF
36"	RCP CL. IX	380 LF
42"	RCP CL. IX	40 LF



S.H.A. TYPE A COMBINATION  
CURB AND GUTTER  
NO SCALE

STANDARD 7" COMBINATION  
CURB AND GUTTER  
NO SCALE

REVERSE 7" COMBINATION  
CURB AND GUTTER  
NO SCALE

*Jeffrey Schick*  
11/13/92

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Daniel P. DeLuca*  
11/13/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Chad Danner*  
CHIEF, LAND DEVELOPMENT DIVISION  
DATE: 6/6/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Shirley Helms*  
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT  
DATE: 6/8/92

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

DESIGNED: DAB  
DRAWN: LAI  
CHECKED: DAB  
DATE: 11/91

ROAD CONSTRUCTION PLANS  
PAVING AND STORM DRAINAGE DETAILS

FREESTATE  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: As Shown  
DRAWING: 13 of 49  
JOB NO.: 91-099  
FILE NO.: 89-134D







Reviewed for HOWARD S.C.D.  
Name  
Signature  
Date  
US Soil Conservation Service

DEVELOPER'S/BUILDER'S CERTIFICATE

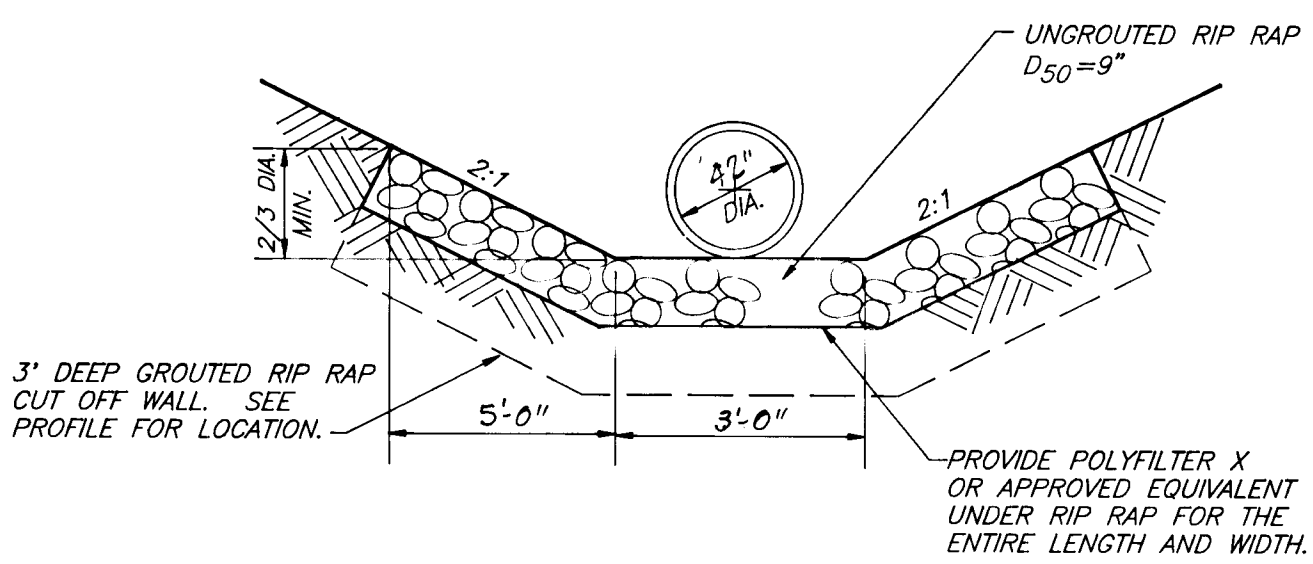
"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training 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."

Signature: *L. Benjaff* Date: 11/20/91

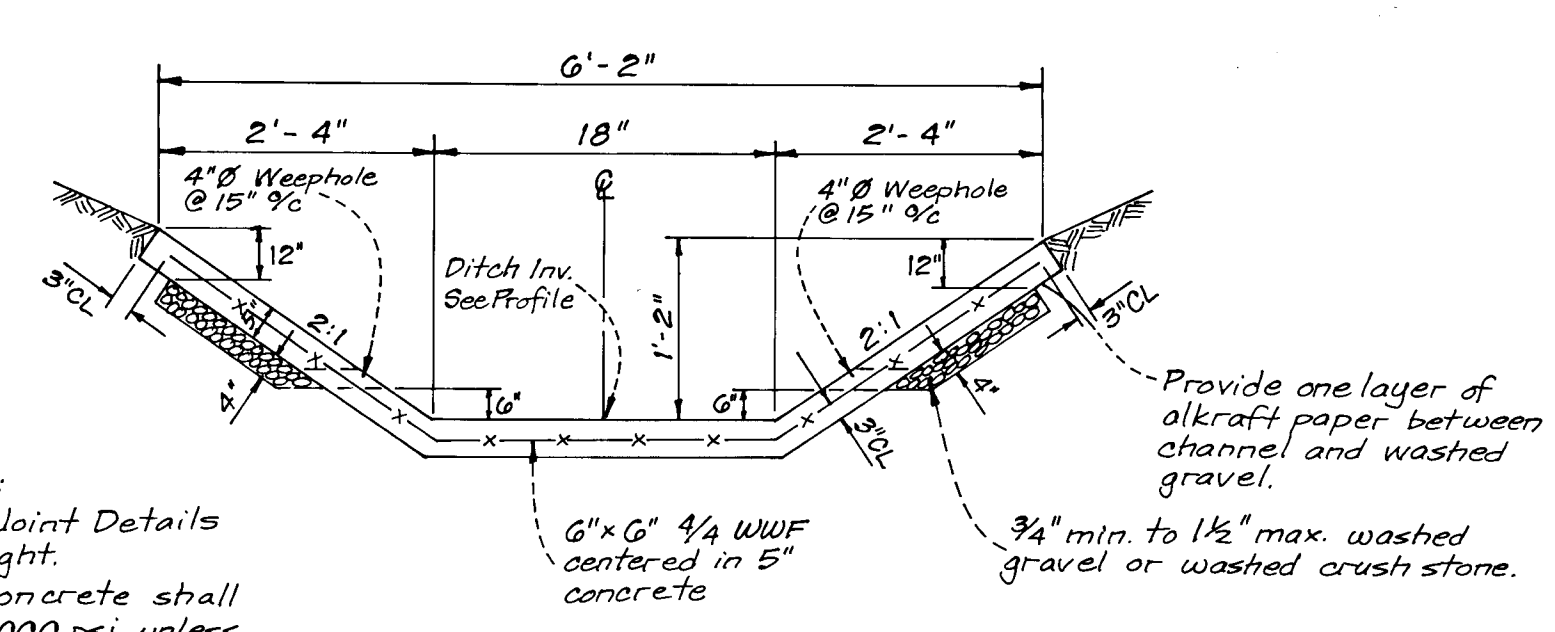
THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

Signature: *Dennis O.P. D... 11/15/91*

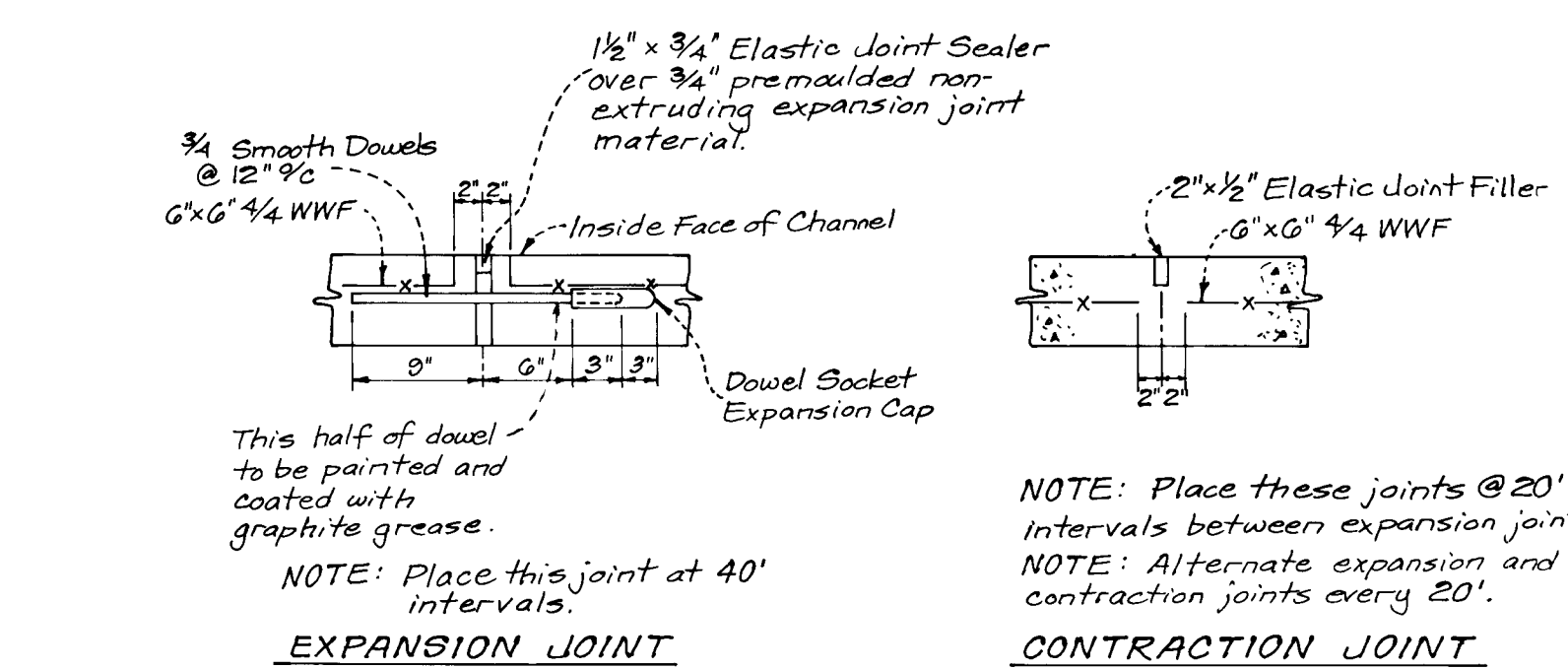
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
Signature: *Robert Z...* Date: 11/20/91



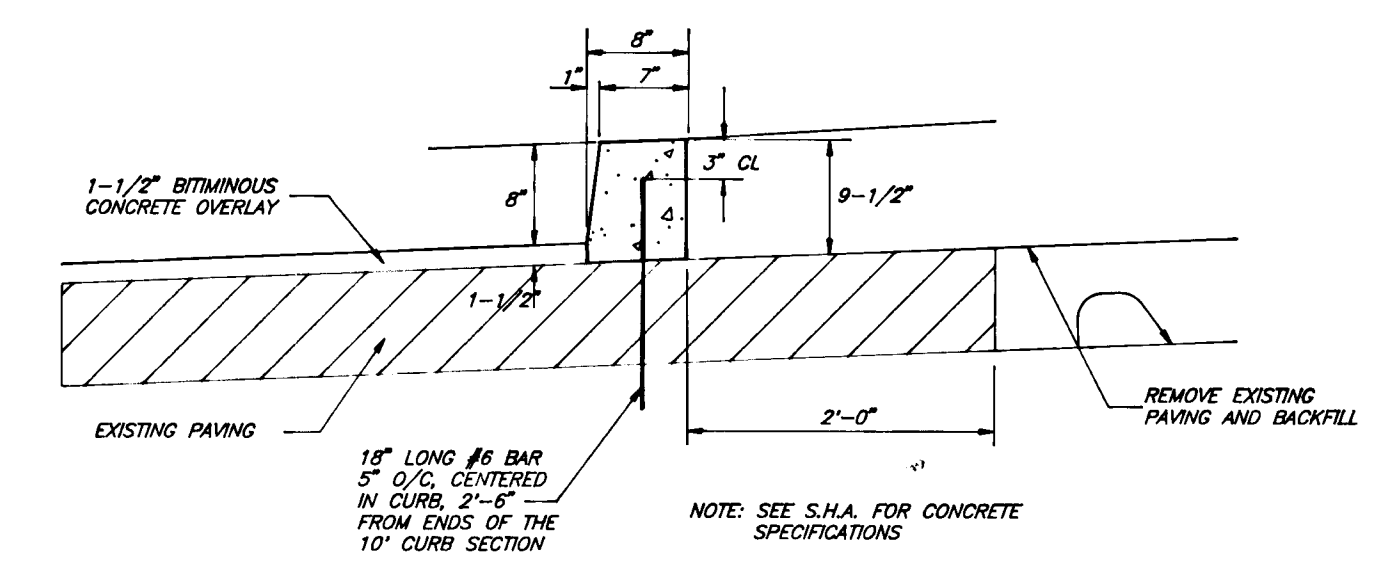
UNGROUTED RIP RAP DETAIL @ S-15  
NO SCALE



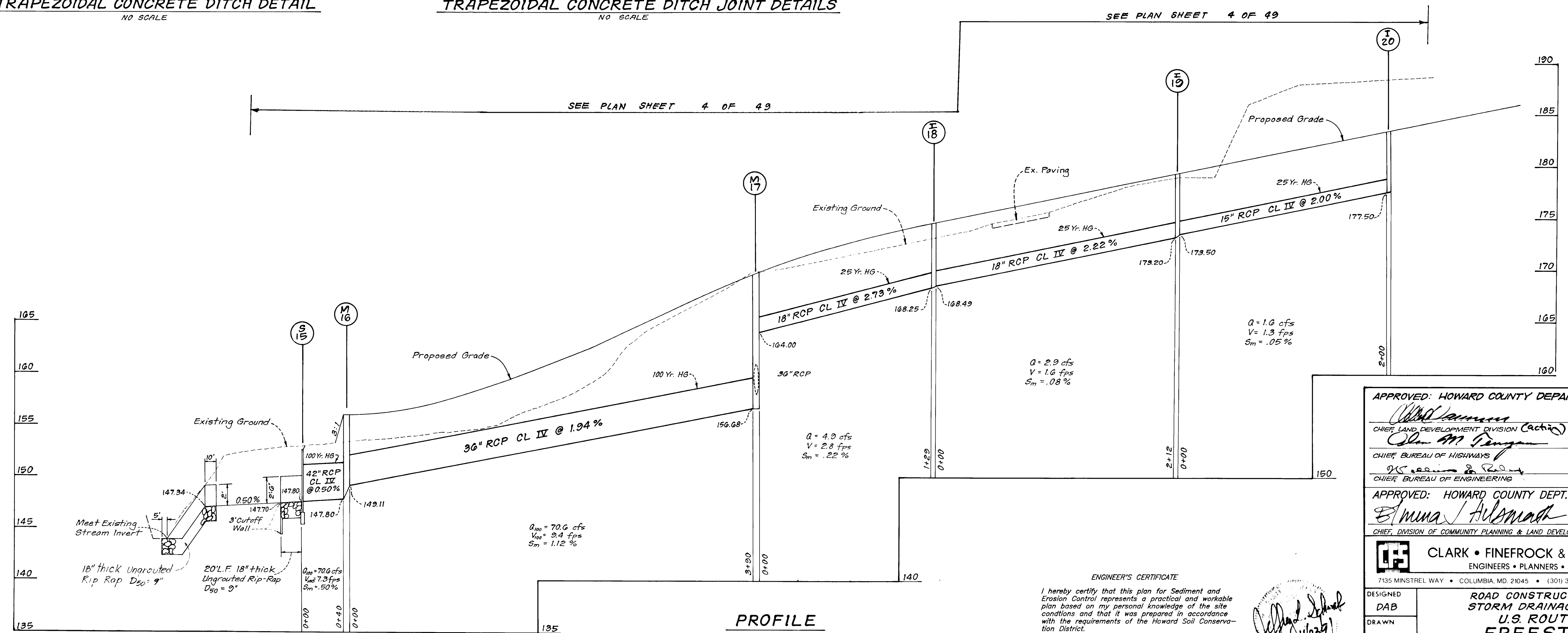
TRAPEZOIDAL CONCRETE DITCH DETAIL  
NO SCALE



TRAPEZOIDAL CONCRETE DITCH JOINT DETAILS  
NO SCALE



MEDIAN CONCRETE CURB DETAIL  
NO SCALE



PROFILE  
SCALES: HORIZ: 1"=50'  
VERT: 1"=5'

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: *Jeffrey School* Date: 11/23/91

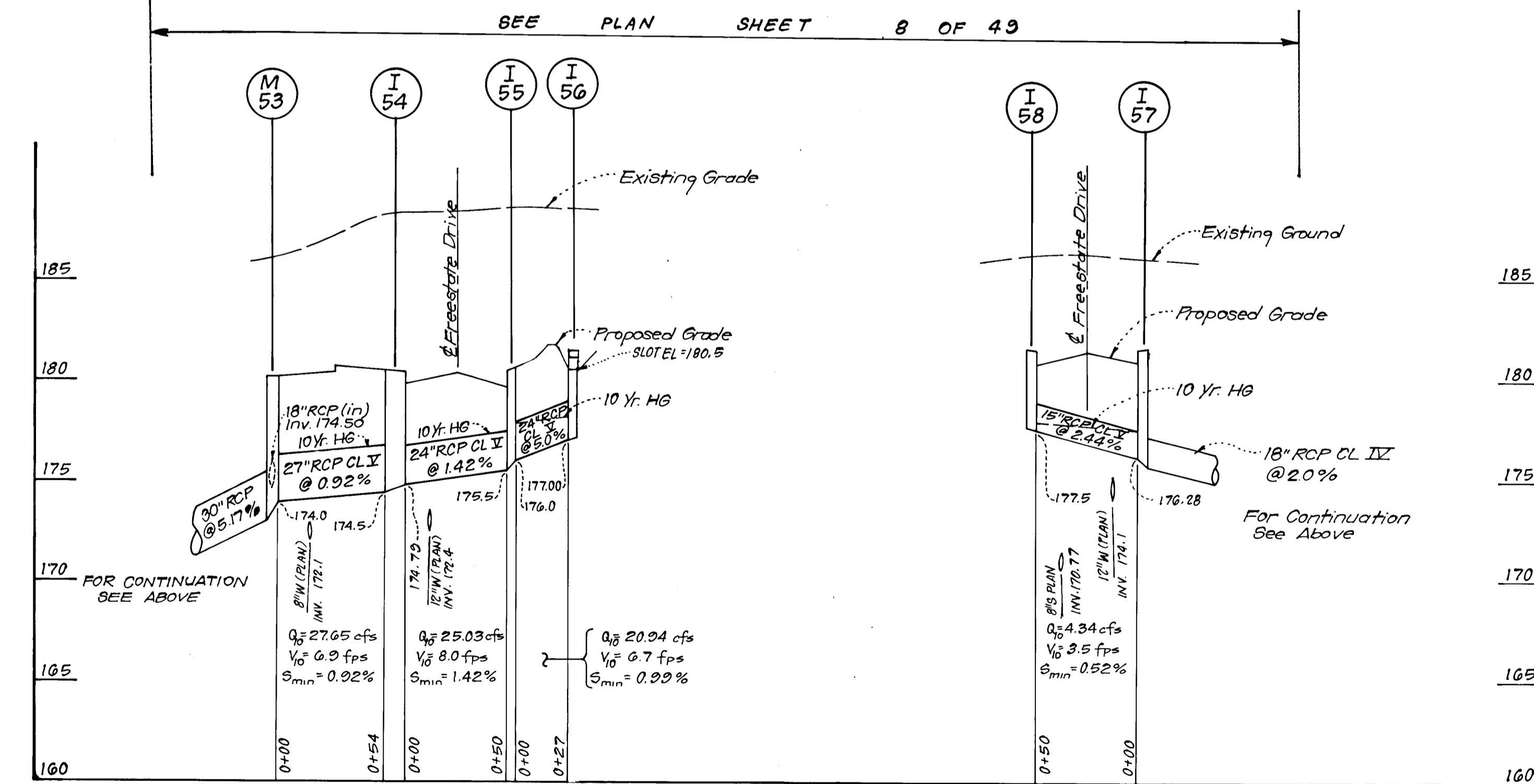
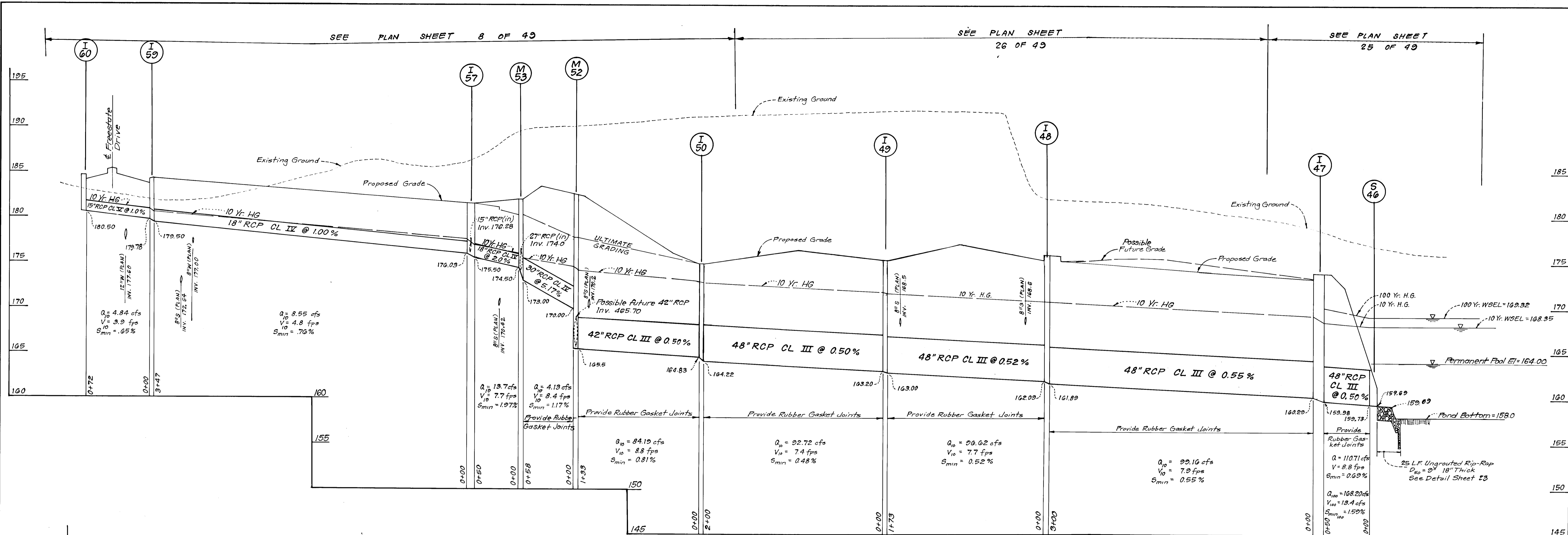
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Signature: *Wend Samson* Date: 6/10/92  
Signature: *Alan M. Pungam* Date: 6/10/92  
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
Signature: *Shirley Adams* Date: 6/10/92

<b>CLARK • FINEROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.		
DESIGNED DAB	<b>ROAD CONSTRUCTION PLANS STORM DRAINAGE PROFILES U.S. ROUTE #1 FREESTATE</b>  6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE As Shown
DRAWN LAI		DRAWING 15 of 49
CHECKED DAB		JOB NO. 91-099
DATE 11/91		FILE NO. 89-134 D
For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP 9% THE SANFORD COMPANIES 1515 NOYES DRIVE SILVER SPRING, MD 20910		

1640

No.	Revised Per State & County Comments	DATE
1		Apr. 1992





**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."

*L. Beun Jaffe* 4/30/91  
Signature Date

**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.

*Jeffrey L. Schmitt* 4/30/91  
Signature Date

Reviewed for HOWARD S.C.D. Name \_\_\_\_\_  
 Date \_\_\_\_\_  
 Signature \_\_\_\_\_  
 US Soil Conservation Service

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

*Robert W. Z...* 4/30/91  
Approved

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*[Signature]* 4/30/91  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*[Signature]* 5/10/91  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 6/8/92  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*[Signature]* 4/30/91  
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

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

DESIGNED: KJWM  
 DRAWN: LAI  
 CHECKED: JLS  
 DATE: Nov. 1991

ROAD CONSTRUCTION PLANS  
 STORM DRAIN PROFILES

**FREESTATE**

6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

FOR: FREESTATE ASSOCIATES LIMITED PART.  
 c/o The Sanford Companies  
 1515 Noyes Drive Silver Spring, Md. 20910

SCALE: 1" = 50'  
 DRAWING: 16 OF 49  
 JOB NO.: 91-099  
 FILE NO.: 89-134-D

1640

No	REVISION	DATE
1	Revised per State & County Comments	Apr. 92



Reviewed for HOWARD S.C.D.  
Name  
Signature  
Date  
US Soil Conservation Service

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".

ENGINEER'S CERTIFICATE

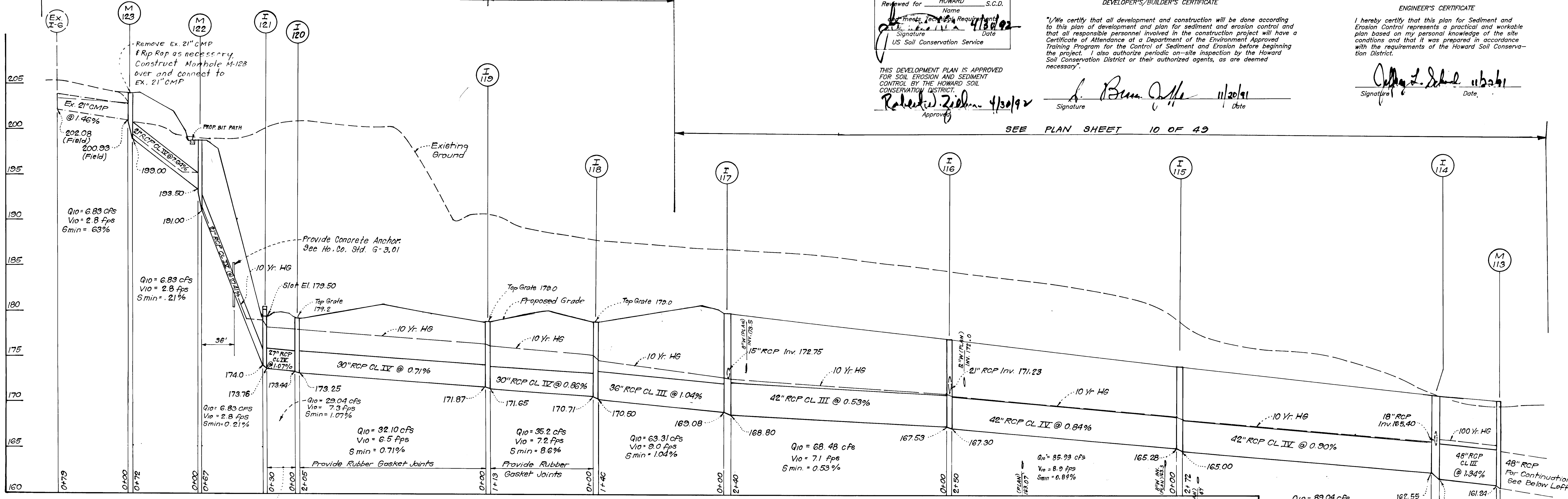
I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
Approved: Robert J. Zedman 4/30/92

Signature: L. Bean Goffe 11/20/91  
Date

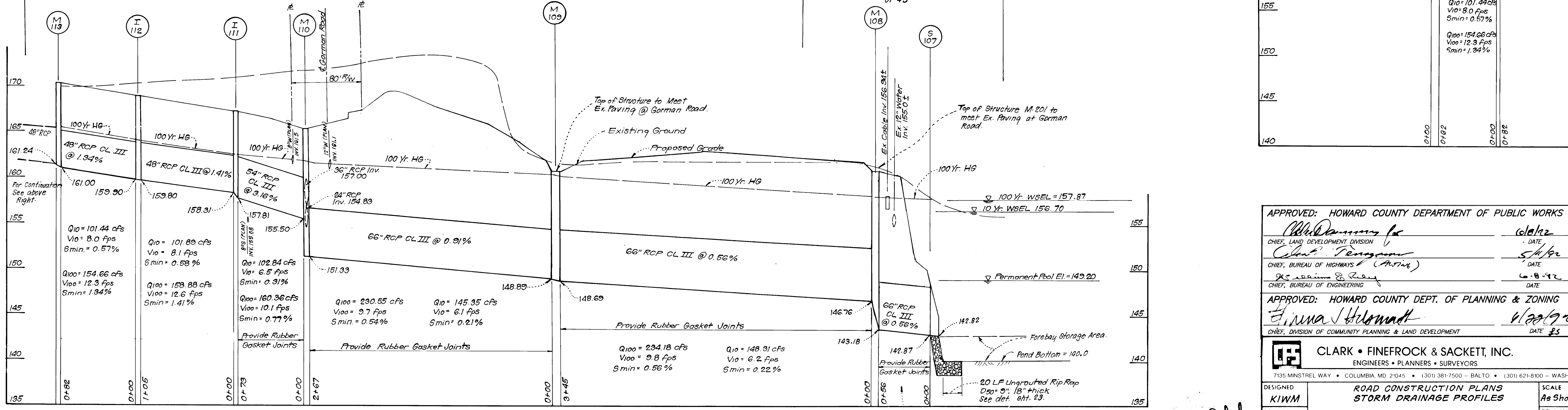
Signature: Jeffrey L. Schuchman  
Date

SEE PLAN SHEET 10 OF 49



SEE PLAN SHEET 7 OF 49

SEE PLAN SHEET 23 & 6 OF 49



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Land Development Division: [Signature] 6/21/92  
 Chief, Bureau of Highways (Aurifer): [Signature] 5/1/92  
 Chief, Bureau of Engineering: [Signature] 6-8-92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief, Division of Community Planning & Land Development: [Signature] 4/30/92

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

DESIGNED: KIWM  
 DRAWN: BAL  
 CHECKED: JLS  
 DATE: 11/91

ROAD CONSTRUCTION PLANS  
 STORM DRAINAGE PROFILES

SCALE: As Shown  
 DRAWING: 17 OF 49  
 JOB NO.: 91-099  
 FILE NO.: 03 134D

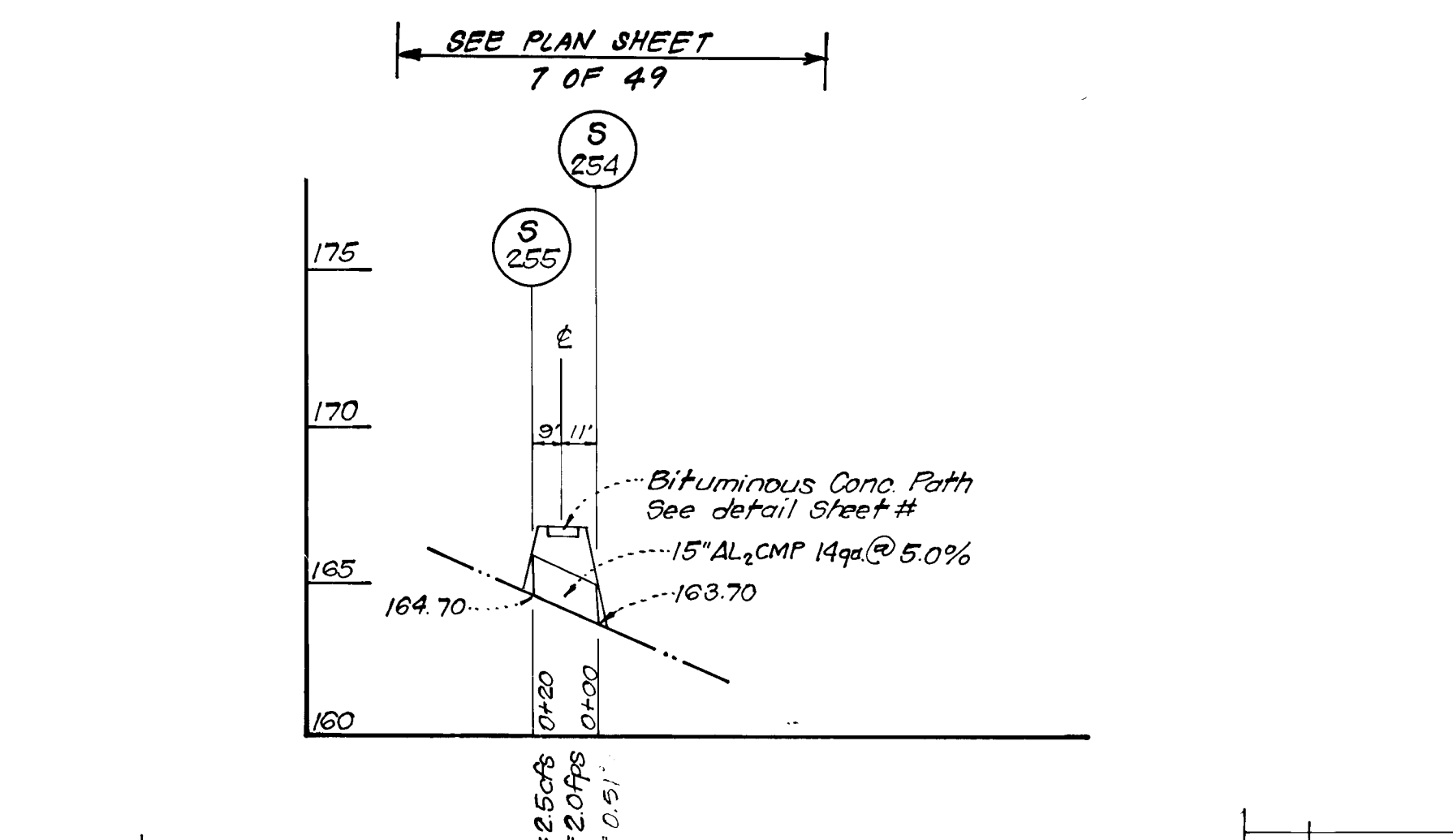
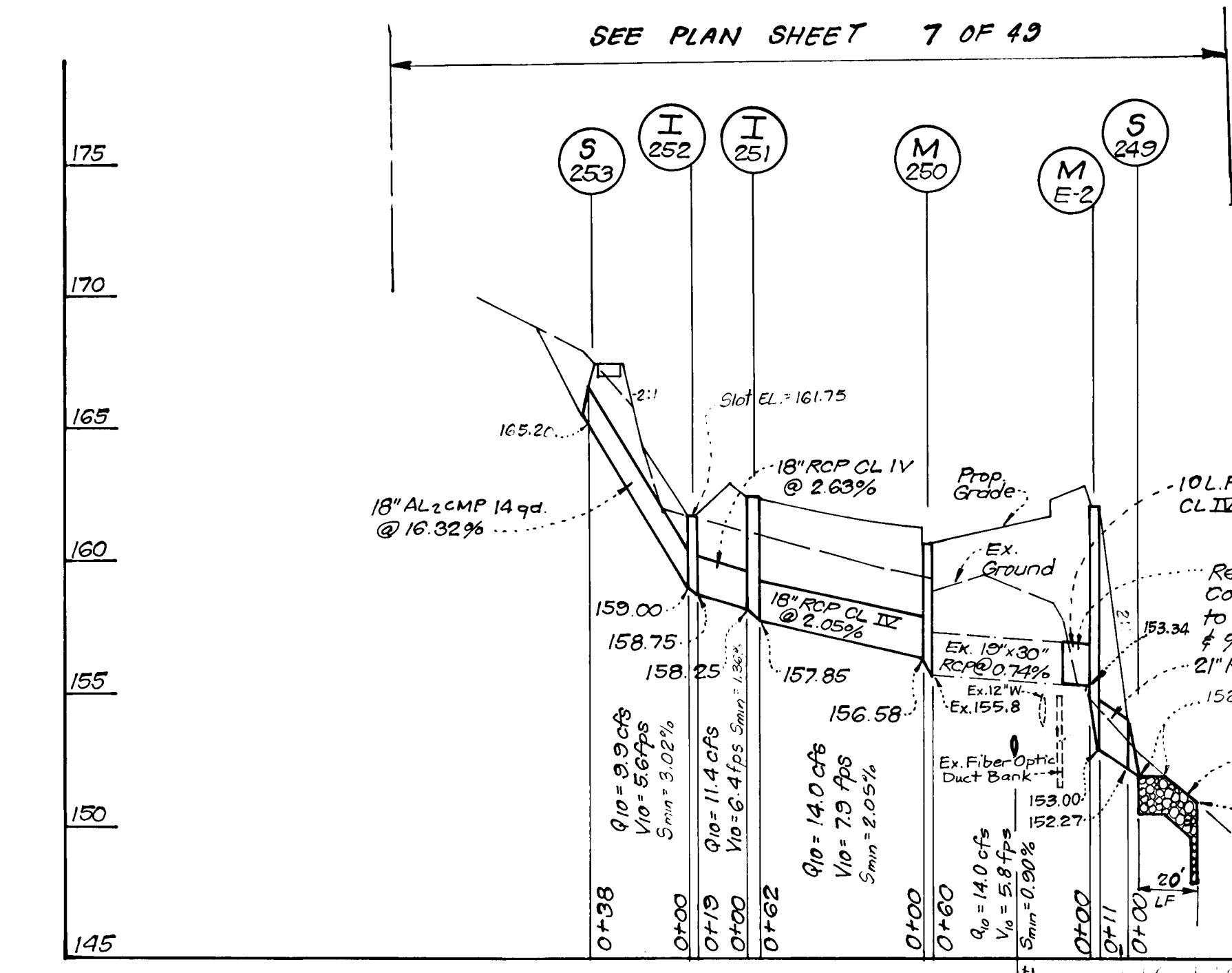
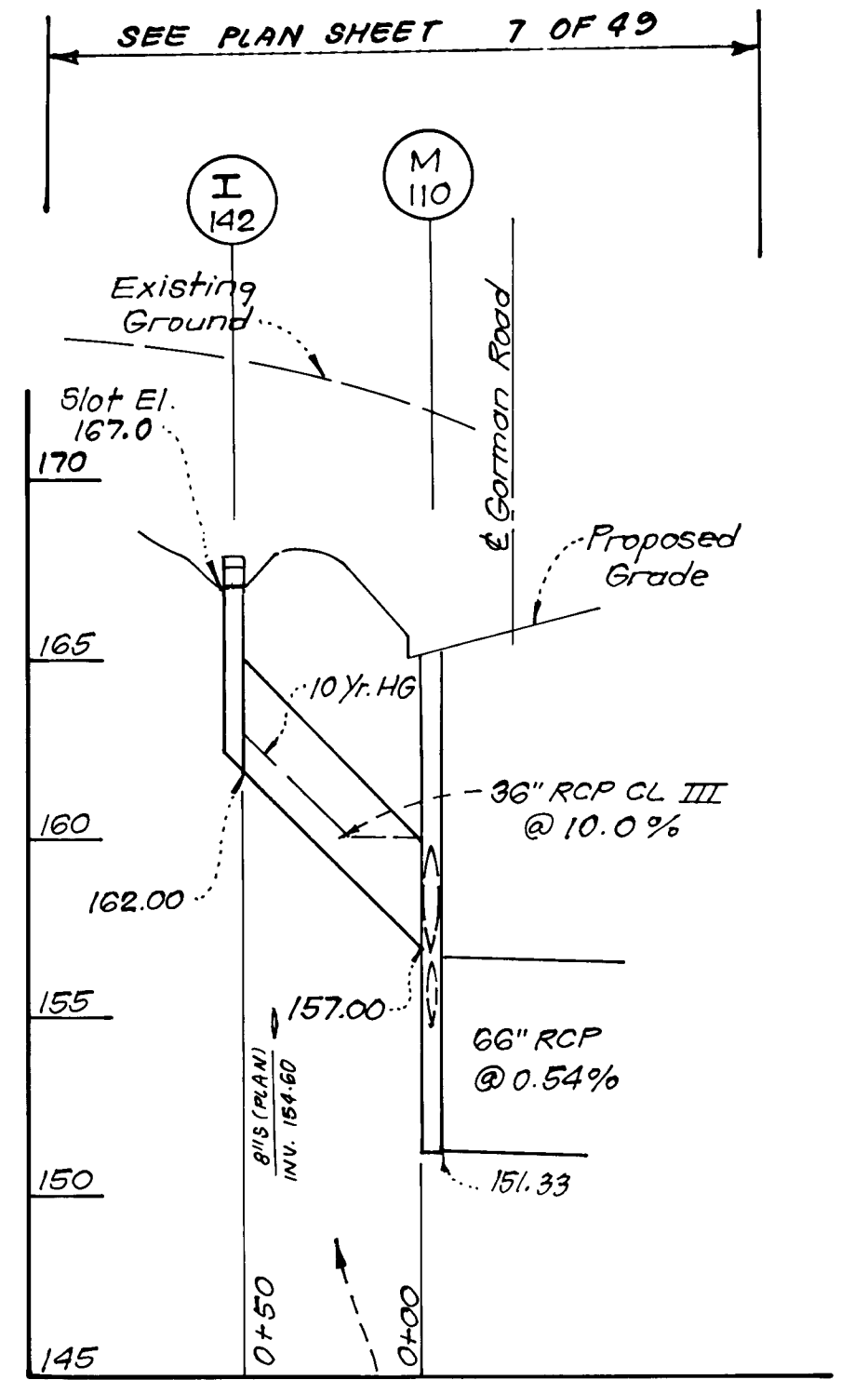
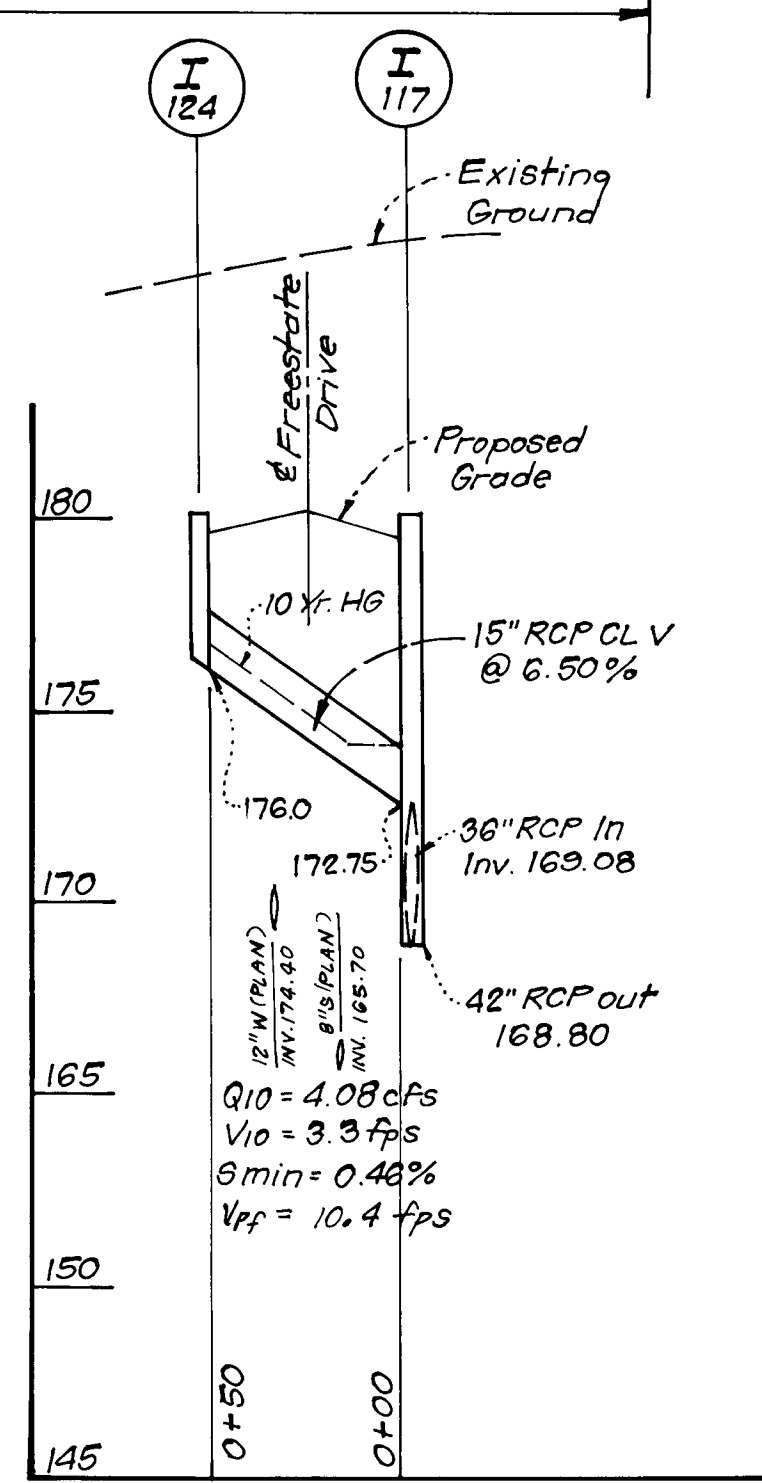
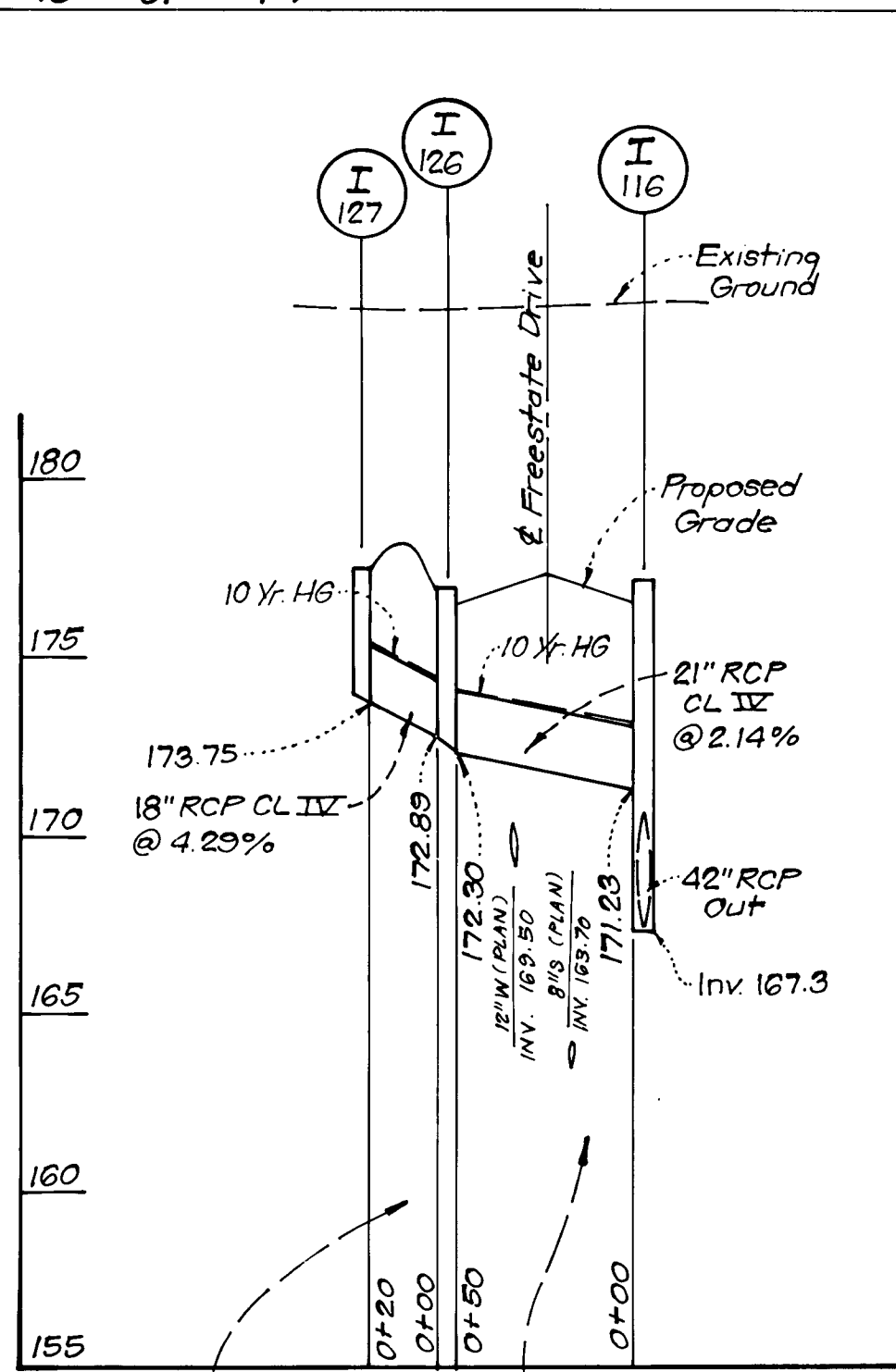
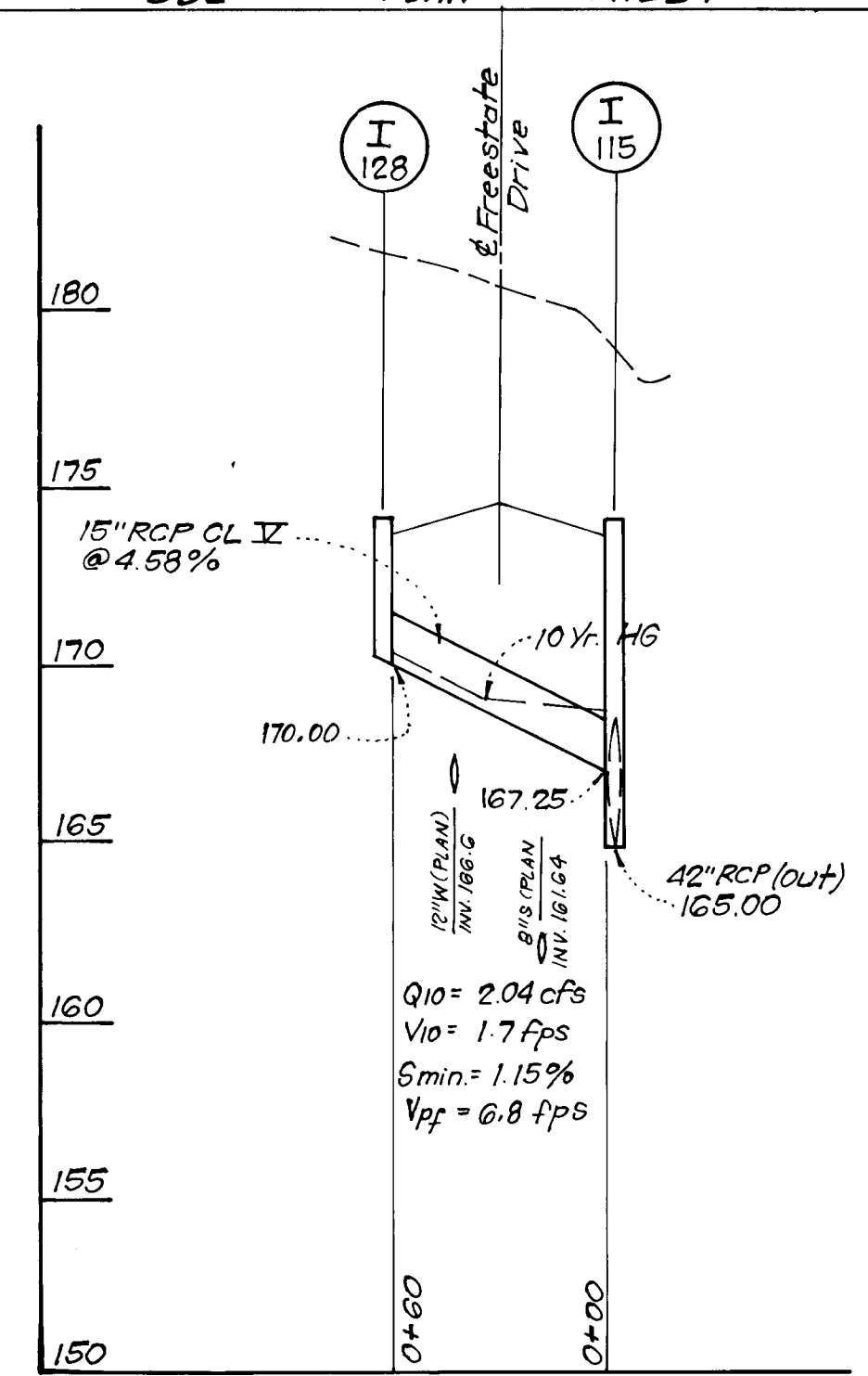
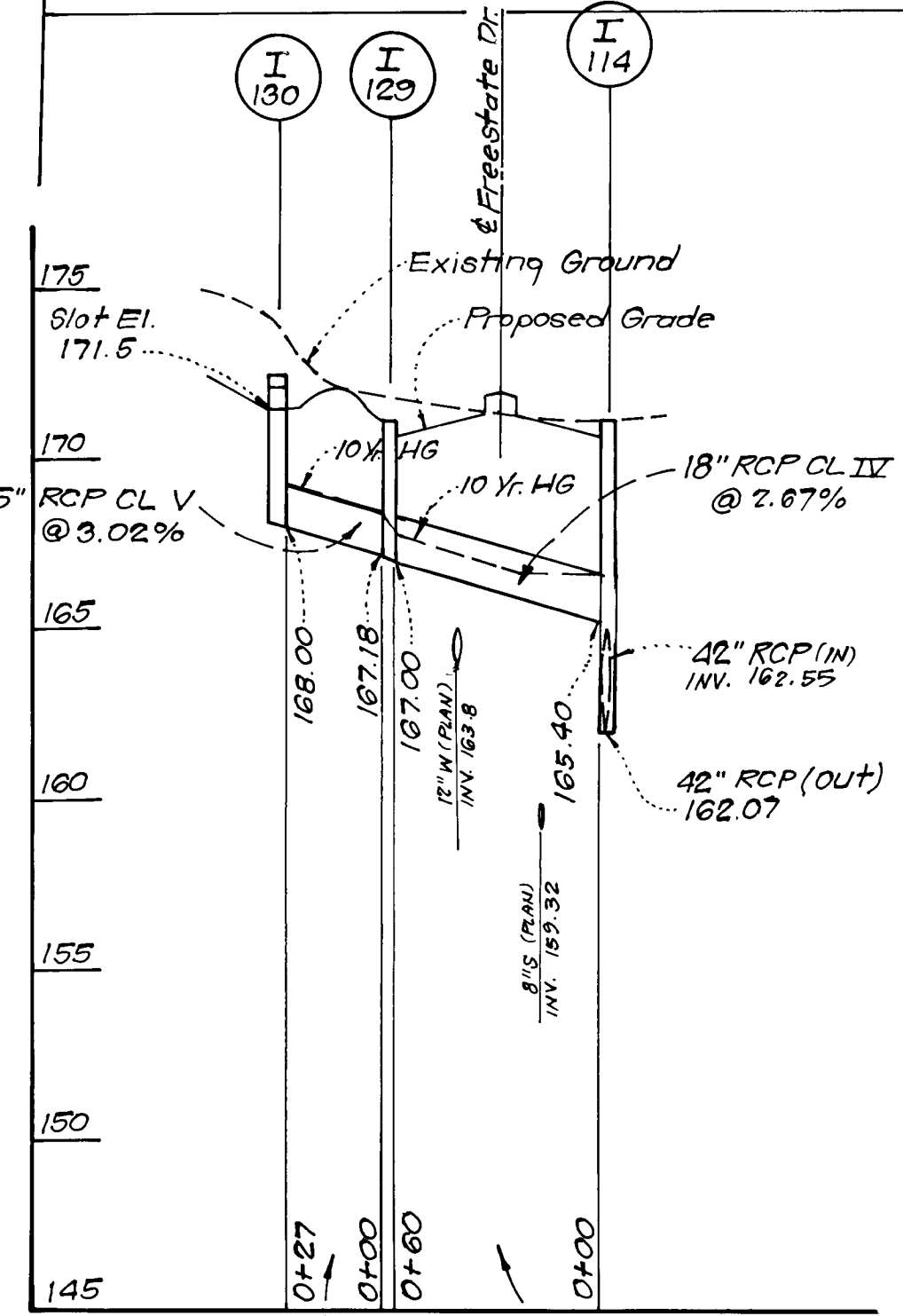
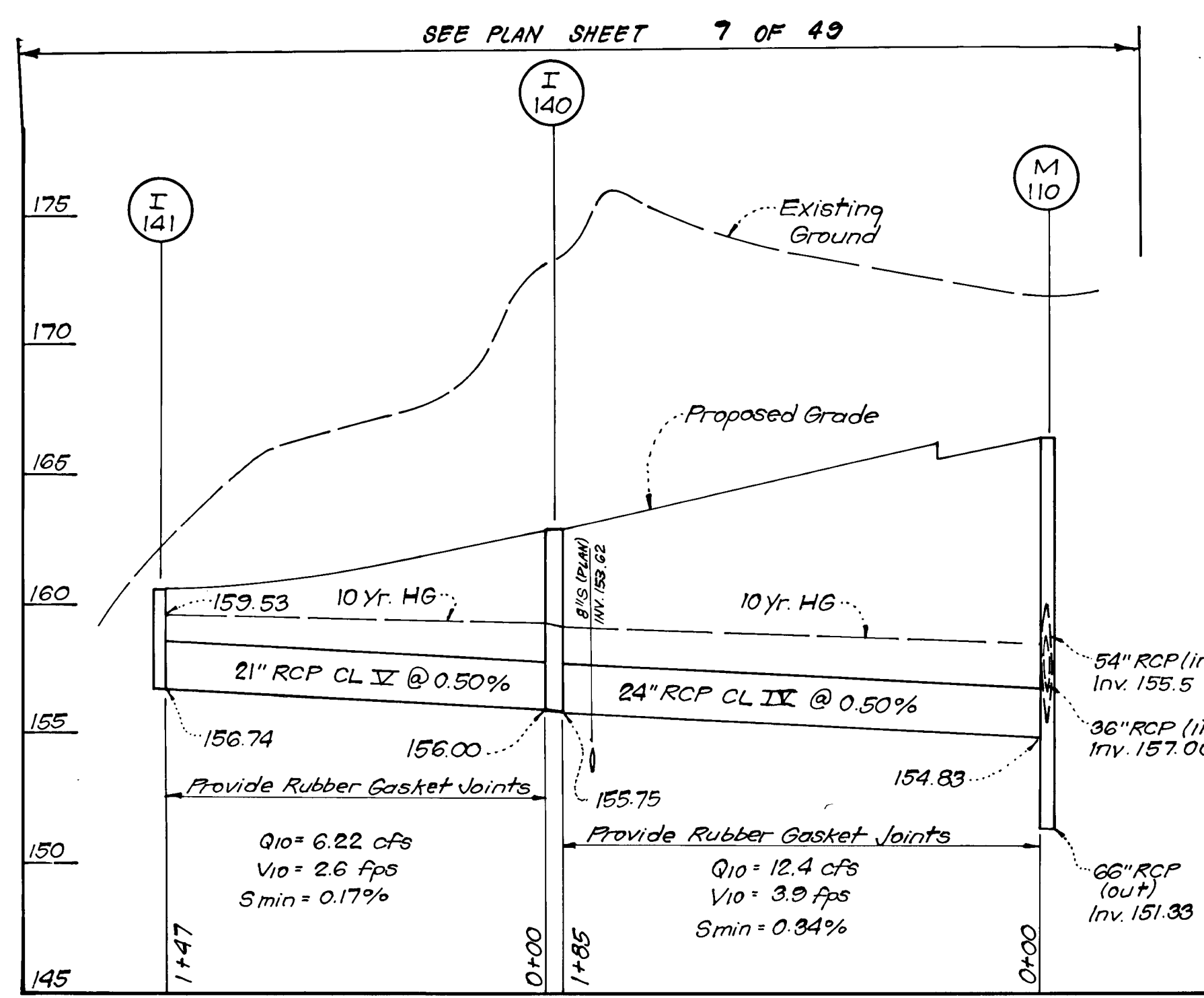
FREESTATE  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

FOR: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
 % THE SANFORD COMPANIES  
 1515 NOYES DRIVE SILVER SPRING, MD 20910

1640

1	Revised per State & County Comments	Apr. 92
No.	REVISION	DATE





**PROFILES**  
Scale: Horz. 1"=50'  
Vert. 1"=5'

**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."

**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."

Reviewed for HOWARD S.C.D. Name: *[Signature]* Date: 4/20/92  
Signature: *[Signature]* Date: 4/20/92  
US Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* Date: 4/20/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Chief, Land Development Division: *[Signature]* Date: 6/10/92  
Chief, Bureau of Highways: *[Signature]* Date: 5/11/92  
Chief, Bureau of Engineering: *[Signature]* Date: 6-8-92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
Chief, Division of Community Planning & Land Development: *[Signature]* Date: 6/22/92

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

DESIGNED: KIWM  
DRAWN: BAL  
CHECKED: JLS  
DATE: Nov. 1991

**ROAD CONSTRUCTION PLANS  
STORM DRAIN PROFILES  
FREESTATE**  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

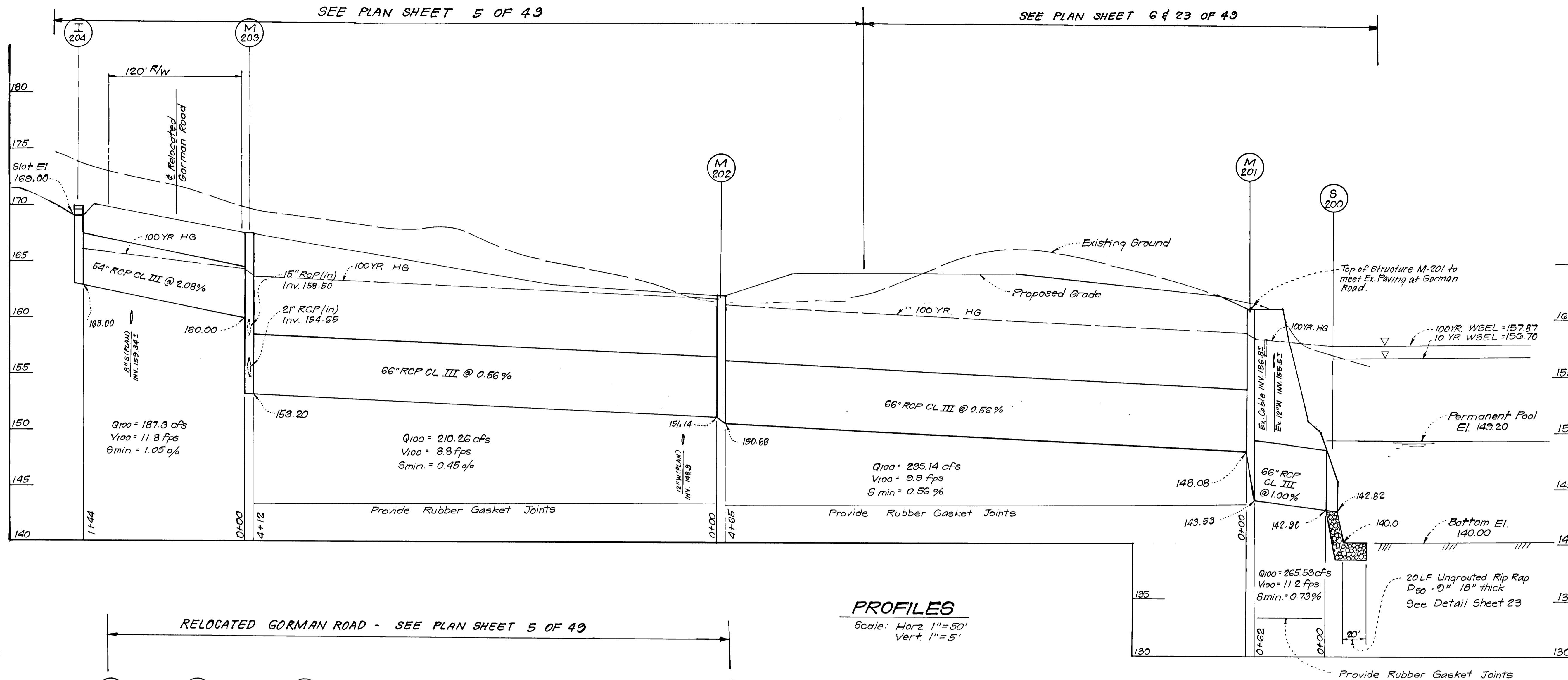
FOR: FREESTATE ASSOCIATES LIMITED PART.  
c/o The Sanford Companies  
1515 Noyes Drive Silver Spring, Md. 20910

SCALE: As Shown  
DRAWING: 18 OF 49  
JOB NO: 91-099  
FILE NO: 89-134-D



SEE PLAN SHEET 5 OF 43

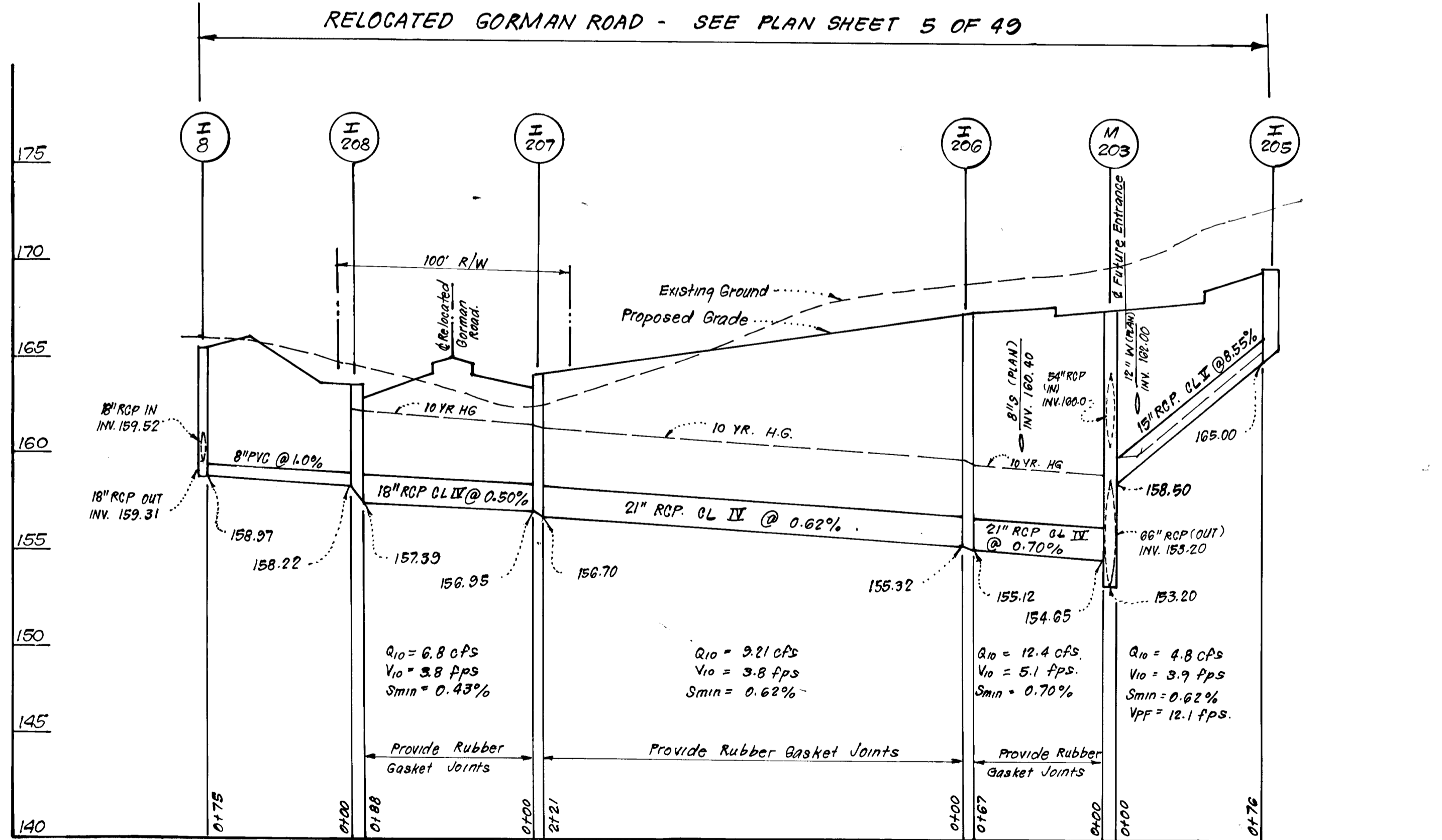
SEE PLAN SHEET 6 OF 23 OF 43



**PROFILES**

Scale: Horz. 1"=50'  
Vert. 1"=5'

RELOCATED GORMAN ROAD - SEE PLAN SHEET 5 OF 43



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."

*L. Brun...* 11/20/91  
Signature Date

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."

*J. Howard...* 11/20/91  
Signature Date

Reviewed for HOWARD S.C.D. Name *Robert...* Date *11/20/91*  
Signature *Robert...* Date *11/20/91*  
US Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Robert...* 11/20/91  
Approved

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*John...* 6/10/92  
CHIEF, LAND DEVELOPMENT DIVISION DATE  
*John...* 5/11/92  
CHIEF, BUREAU OF HIGHWAY DATE  
*John...* 6-2-92  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*John...* 6/2/92  
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

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

DESIGNED: **KIWM**  
DRAWN: **BAL**  
CHECKED: **JLS**  
DATE: Nov. 1991

**ROAD CONSTRUCTION PLANS  
STORM DRAIN PROFILES**

**FREESTATE**

**6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND**

FOR: **FREESTATE ASSOCIATES LIMITED PART.**  
26 The Sanford Companies  
1515 Hayes Drive Silver Spring, Md. 20910

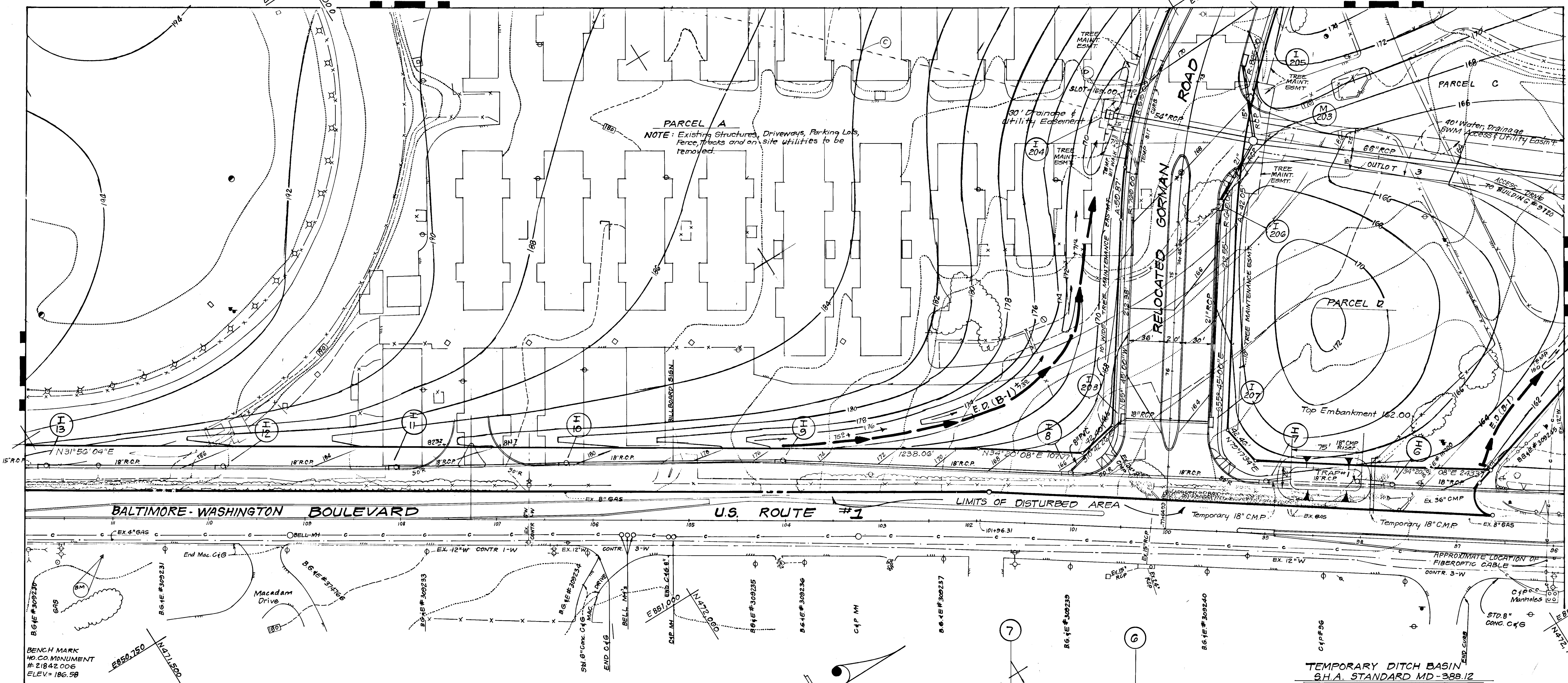
SCALE: As Shown  
DRAWING: 19 OF 40  
JOB NO.: 91-099  
FILE NO.: 89-134-D

1640

No.	REVISION	DATE
1	REVISED PER STATE & COUNTY COMMENTS	Apr. 92



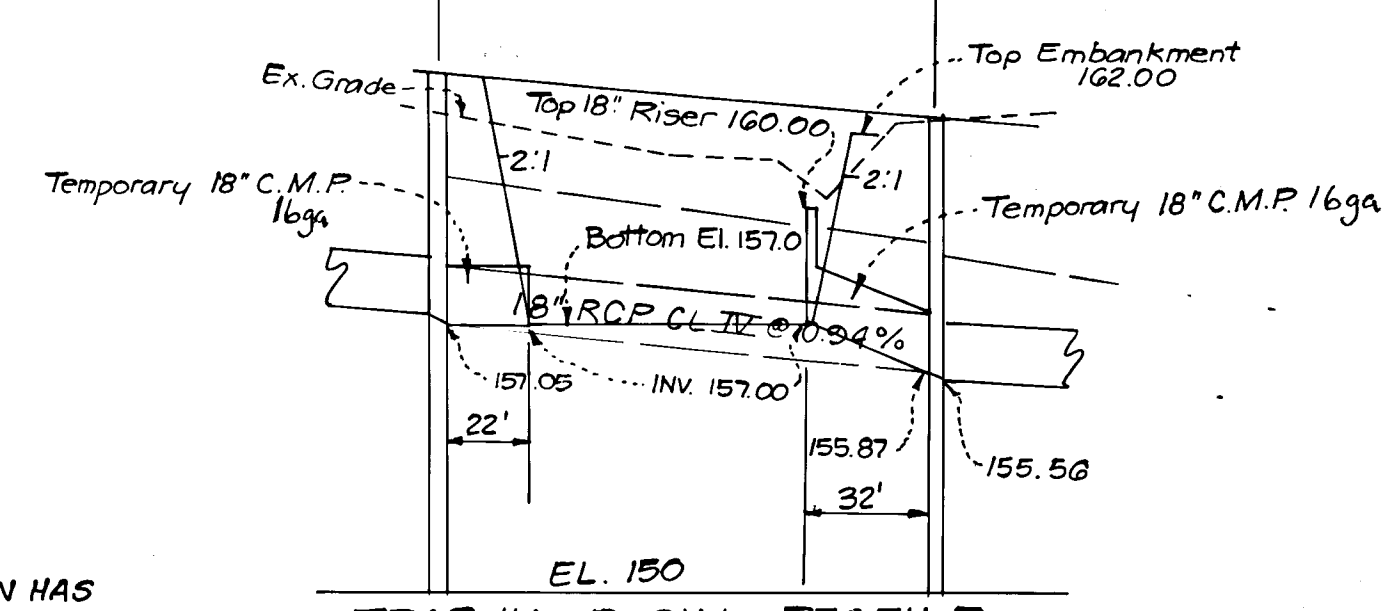
PARCEL A  
NOTE: Existing Structures, Driveways, Parking Lots, Fence, Trucks and on-site utilities to be removed.



BENCH MARK  
HD. CO. MONUMENT  
# 21842.006  
ELEV. = 186.58

TEMPORARY DITCH BASIN  
S.H.A. STANDARD MD-388.12

DA = 3.2 Ac.  
Storage Required: 3.2 x 1800 = 5760 cf.  
Storage Available: 5850 cf.  
18" Riser Crest: El. 160.00  
Top Embankment: 162.00  
Bottom Basin El.: 157.00  
Bottom Dimensions: 75' x 22' x 3' Deep



TRAP #1 BASIN PROFILE  
Scale: HORIZ. 1"=50'  
VERT. 1"=5'

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

David P. DeLong  
4115192

Reviewed for HOWARD S.C.D.  
Name  
Signature Date  
US Soil Conservation Service

DEVELOPER'S/BUILDER'S CERTIFICATE

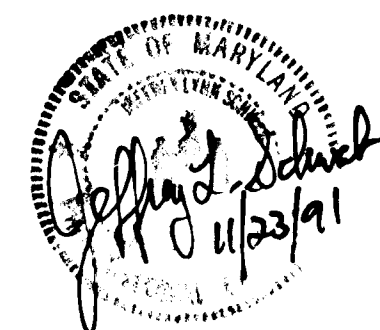
I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training 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.

Signature Date  
11/20/91

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 Date  
11/23/91



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature Date  
Signature Date  
Signature Date

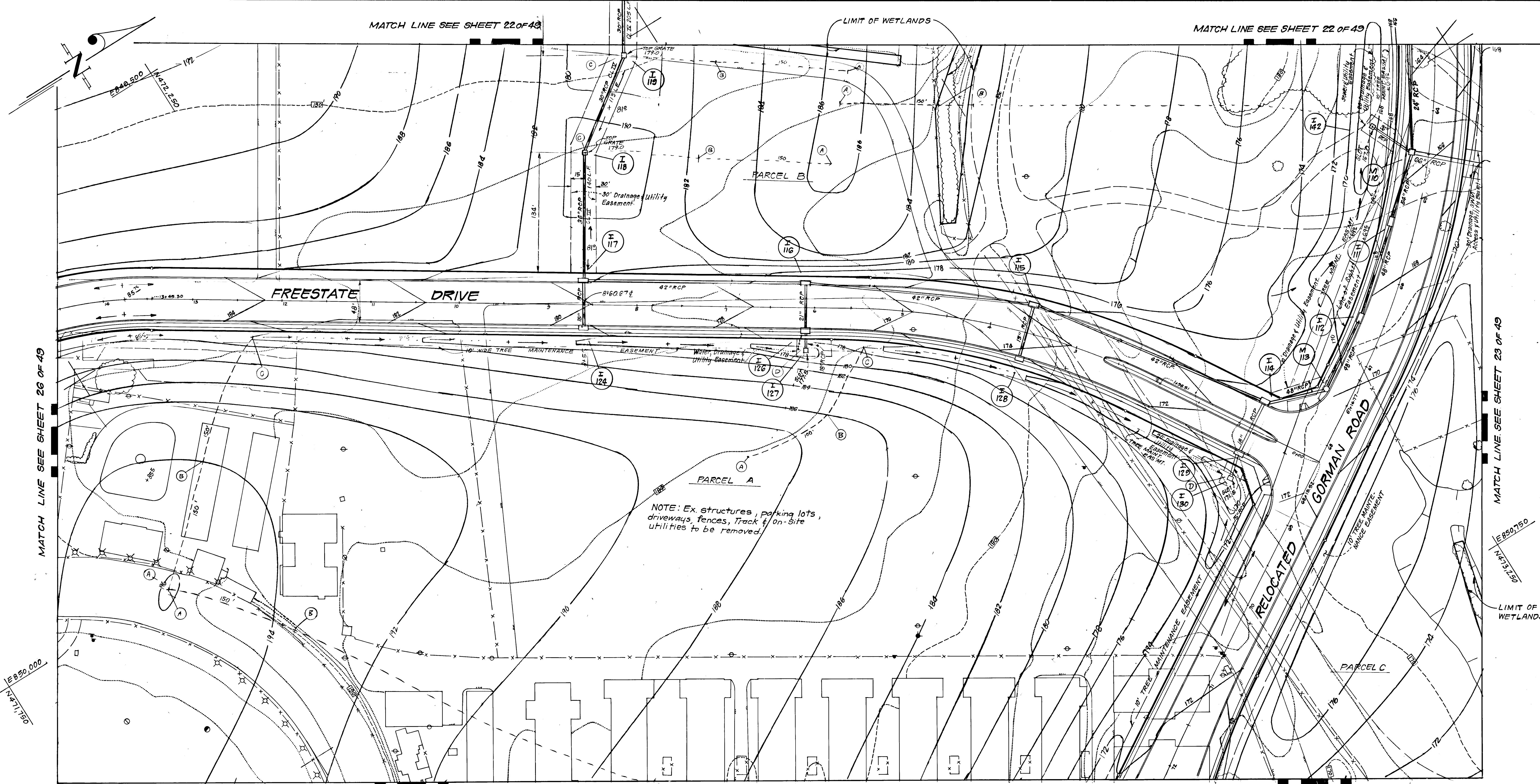
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature Date  
Signature Date

Revision table with 3 columns: No., Revised per State & County Comments, Date.

CLARK • FINEFROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS. ROAD CONSTRUCTION PLANS GRADING AND SEDIMENT AND EROSION CONTROL PLAN. FREESTATE. 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND. For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP 9% THE SANFORD COMPANIES 1515 NOYES DRIVE SILVER SPRING, MD 20910





MATCH LINE SEE SHEET 26 OF 49

MATCH LINE SEE SHEET 23 OF 49

MATCH LINE SEE SHEET 20 OF 49

MATCH LINE SEE SHEET 20 OF 49

Reviewed for HOWARD S.C.D.  
Name  
Signature  
Date  
US Soil Conservation Service

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

Signature: *[Signature]* Date: *4/10/92*

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.

Signature: *[Signature]* Date: *11/30/91*

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: *11/23/91*



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Land Development Division: *[Signature]* Date: *6/6/92*

Chief, Bureau of Highways: *[Signature]* Date: *5/11/92*

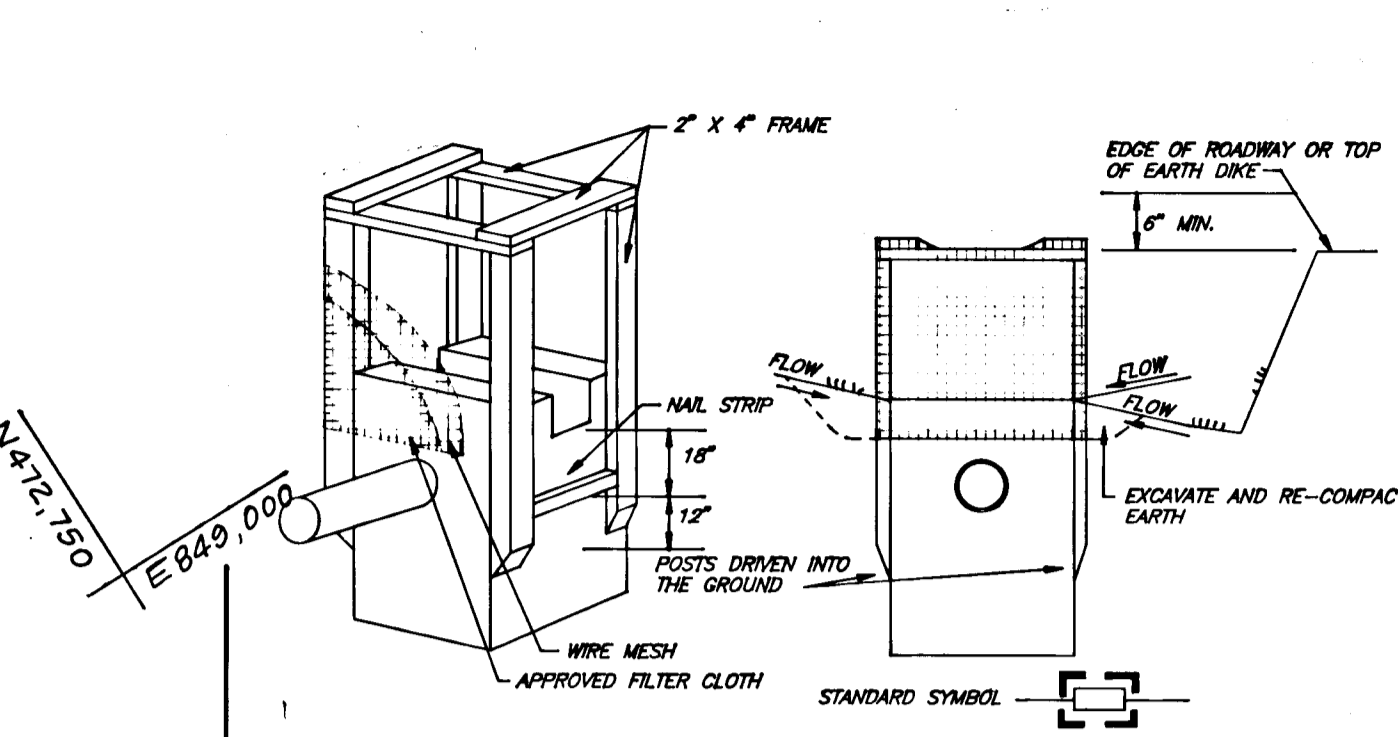
Chief, Bureau of Engineering: *[Signature]* Date: *6-8-92*

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Chief, Division of Community Planning & Land Development: *[Signature]* Date: *1/20/92*

1	Revised per State & County Comments	Apr '92
No.	REVISION	DATE
<b>CLARK • FINEPROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS		
7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-6100 - WASH.		
DESIGNED	JLS	SCALE 1" = 50'
DRAWN	KIWM	DRAWING 21 OF 49
CHECKED	JLS	JOB NO. 91-099
DATE	Nov 1991	FILE NO. 88-134-D
<b>ROAD CONSTRUCTION PLANS GRADING &amp; SEDIMENT &amp; EROSION CONTROL PLAN</b>		
<b>FREESTATE</b>		
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
FOR: FREESTATE ASSOCIATES LIMITED PART, c/o The Sanford Companies 1515 Noyes Drive Silver Spring, Md. 20910		

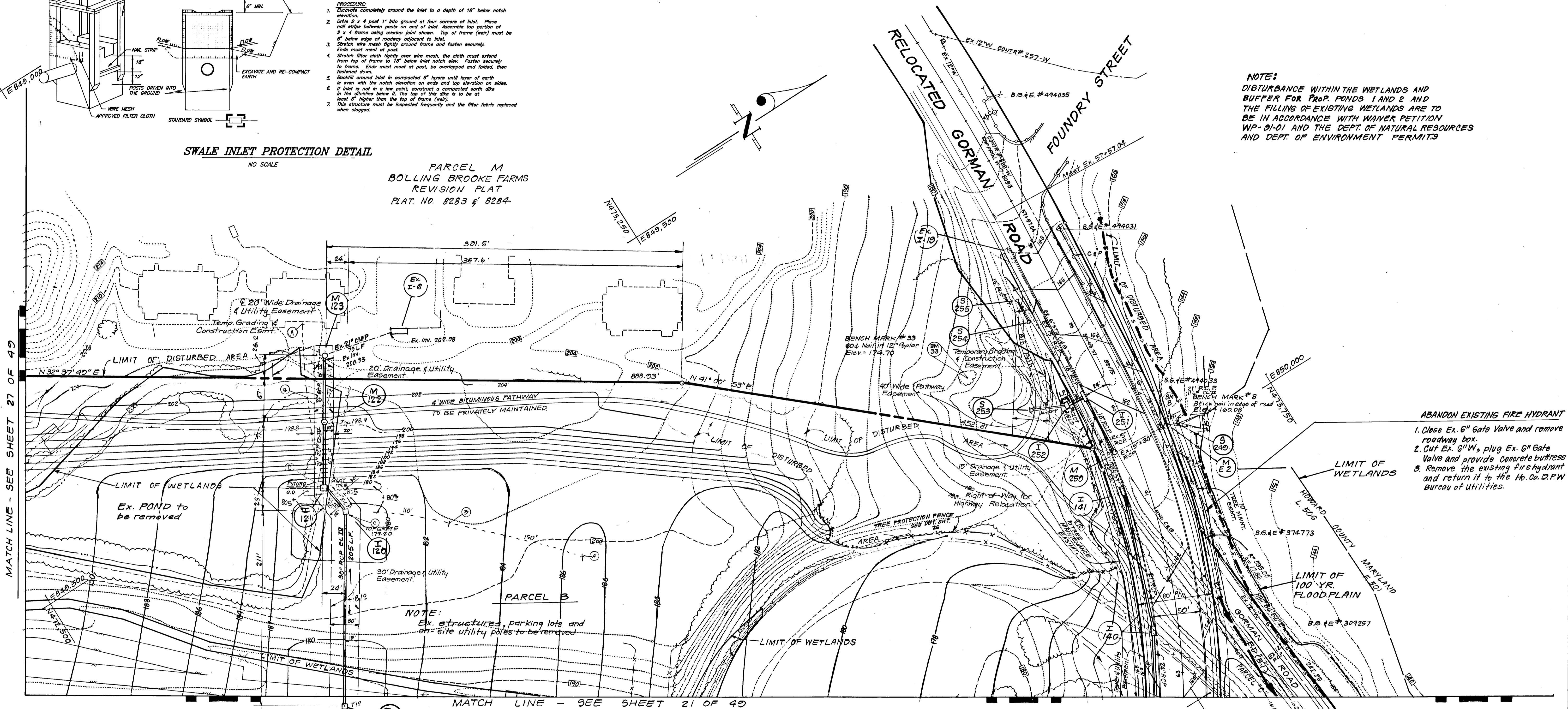




- MATERIALS:**
1. Wooden frame is to be constructed of 2" x 4" construction grade lumber.
  2. Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.
  3. Filter cloth must be of a type approved for this purpose; resistant to sunlight with stone size, EDS, 40-85, to allow sufficient passage of water and removal of sediment.
  4. Stone is to be 2" in size and clean, since fines would clog the cloth.
- PROCEDURE:**
1. Excavate completely around the inlet to a depth of 18" below notch elevation.
  2. Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on end of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
  3. Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
  4. Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
  5. Backfill around inlet in compacted 6" layers until layer of earth is even with the notch elevation on ends and top elevation on sides.
  6. If inlet not in a low point, construct a compacted earth dike in the direction below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
  7. This structure must be inspected frequently and the filter fabric replaced when clogged.

**SWALE INLET PROTECTION DETAIL**  
NO SCALE

PARCEL M  
BOLLING BROOKE FARMS  
REVISION PLAT  
PLAT. NO. 8283 & 8284



**NOTE:**  
DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR PROP. PONDS 1 AND 2 AND THE FILLING OF EXISTING WETLANDS ARE TO BE IN ACCORDANCE WITH WAMER PETITION WP-91-01 AND THE DEPT. OF NATURAL RESOURCES AND DEPT. OF ENVIRONMENT PERMITS

- ABANDON EXISTING FIRE HYDRANT**
1. Close Ex. 6" Gate Valve and remove roadway box.
  2. Cut Ex. 6" W, plug Ex. 6" Gate Valve and provide concrete buttress
  3. Remove the existing fire hydrant and return it to the Hb. Co. D.P.W. Bureau of Utilities.

MATCH LINE - SEE SHEET 27 OF 49

MATCH LINE - SEE SHEET 21 OF 49

1140

Reviewed for HOWARD S.C.D.  
Name  
Signature  
Date  
US Soil Conservation Service

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

Signature: *Robert J. Z...* Date: *11/20/91*

**DEVELOPER'S/BUILDER'S CERTIFICATE**

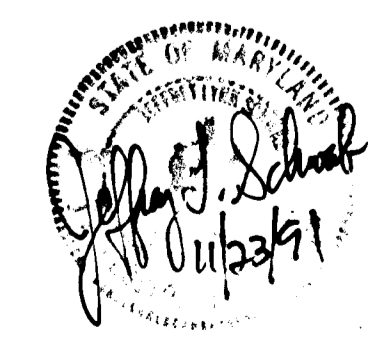
"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training 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."

Signature: *d. Baum* Date: *11/20/91*

**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: *Jeffrey J. Schuck* Date: *11/23/91*



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature: *...* Date: *4/1/92*

Signature: *...* Date: *5/1/92*

Signature: *...* Date: *6-8-92*

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature: *...* Date: *6/20/92*

1	Revised per State & County Comments	Apr. 92
No.	REVISION	DATE
<b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.		
DESIGNED	<b>ROAD CONSTRUCTION PLANS GRADING &amp; SEDIMENT &amp; EROSION CONTROL PLAN</b> <b>FREESTATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: FREESTATE ASSOCIATES LIMITED PART. 96 The Sanford Companies 1515 Nayes Drive Silver Spring, Md. 20910	SCALE
DRAWN		1" = 50'
KIWM		DRAWING
CHECKED		22 of 49
JLS		JOB NO.
DATE	31-099	FILE NO.
NOV 1991		89-134-D

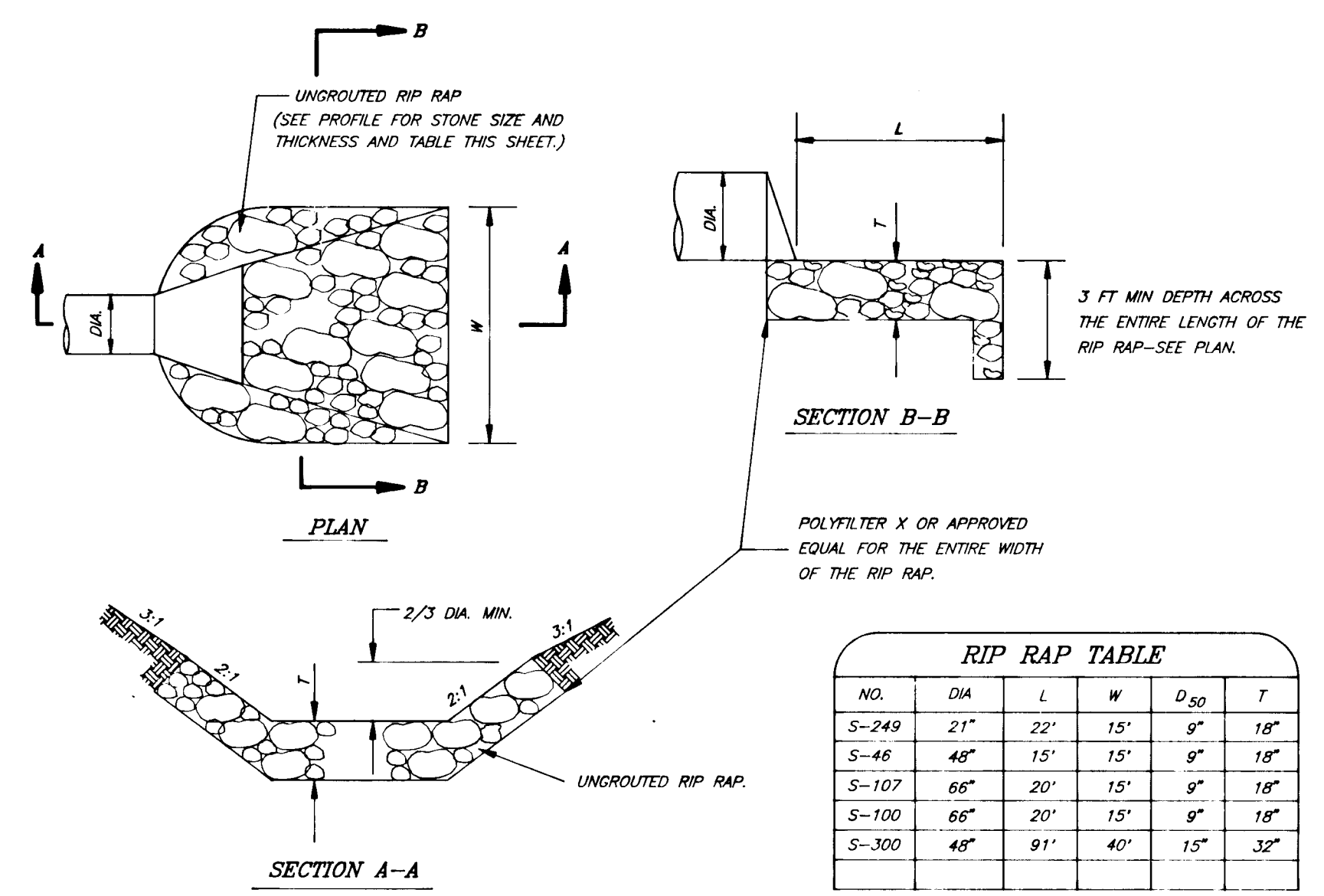


MATCH LINE SEE SHEET 22 OF 49

Note: Extreme care to be utilized when working near Existing C&P Cables and Existing Water Mains. The Contractor must verify the exact elevation & location of mains and cable at all crossings prior to commencing with construction.

NOTE: Ex Gorman Rd. to remain open to traffic until Relocated Gorman Rd. is constructed.

NOTE: DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR PROP. PONDS 1 AND 2 AND THE FILLING OF EXISTING WETLANDS ARE TO BE IN ACCORDANCE WITH WAIVER PETITION WP-91-01 AND THE DEPT. OF NATURAL RESOURCES AND DEPT. OF ENVIRONMENT PERMITS.

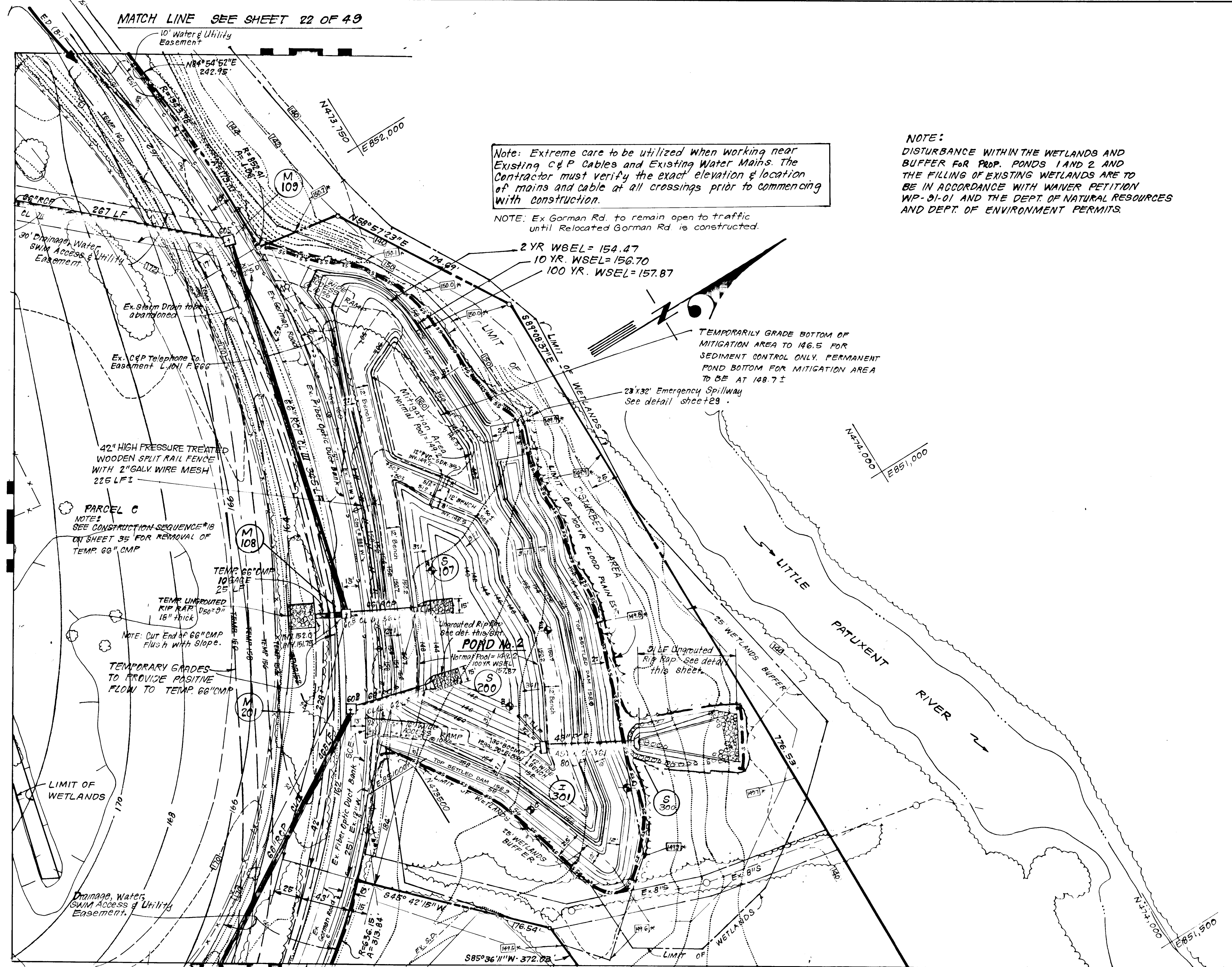


UNGRROUTED RIP RAP DETAILS  
STRUCTURES S-46, S-100, S-107, S-249 & S-300

NO SCALE

MATCH LINE SEE SHEET 21 OF 49

MATCH LINE SEE SHEET 24 OF 49



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Signature: [Signature] 4/30/92  
S. Soil Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved: [Signature] 4/30/92  
Howard S.C.D. Date

DEVELOPER'S CERTIFICATION

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with 'As Built' plan of the pond within 30 days of completion. I will also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature of Developer: [Signature] 4/30/92 Date

ENGINEER'S CERTIFICATE

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions; this plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red lined 'As Built' of the pond within 30 days of completion."

Signature of Engineer: [Signature] 4/6/92 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature: [Signature] 4/6/92  
Signature: [Signature] 5/1/92  
Signature: [Signature] 6-8-92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
Signature: [Signature] 6/30/92

1 Revised per County and State Comments APR 92	
No. REVISION DATE	
<b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 1111 MONTELEONE WAY • COLUMBIA, MD 21045 • (301) 981-7500 BAL TO • (301) 621-8100 - WASH	
DESIGNED JLS	SCALE 1" = 50'
DRAWN BAL	DRAWING 23 OF 49
CHECKED JLS	JOB NO. 91-099
DATE Nov. 1991	FILE NO. 80-134-D
<b>ROAD CONSTRUCTION PLANS</b> <b>GRADING &amp; SEDIMENT &amp; EROSION CONTROL</b> <b>PLAN-STORMWATER MANAGEMENT POND NO. 2</b> <b>FREESTATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: FREESTATE ASSOCIATES LIMITED PART. c/o The Sanford Companies 1515 Noyes Drive Silver Spring, Md. 20910	

1640







MATCH LINE SEE SHEET 26 OF 49

MATCH LINE SEE SHEET 26 OF 49

NOTE: DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR PROP. PONDS 1 AND 2 AND THE FILLING OF EXISTING WETLANDS ARE TO BE IN ACCORDANCE WITH WAIVER PETITION WP-31-01 AND THE DEPT. OF NATURAL RESOURCES AND DEPT. OF ENVIRONMENT PERMITS.

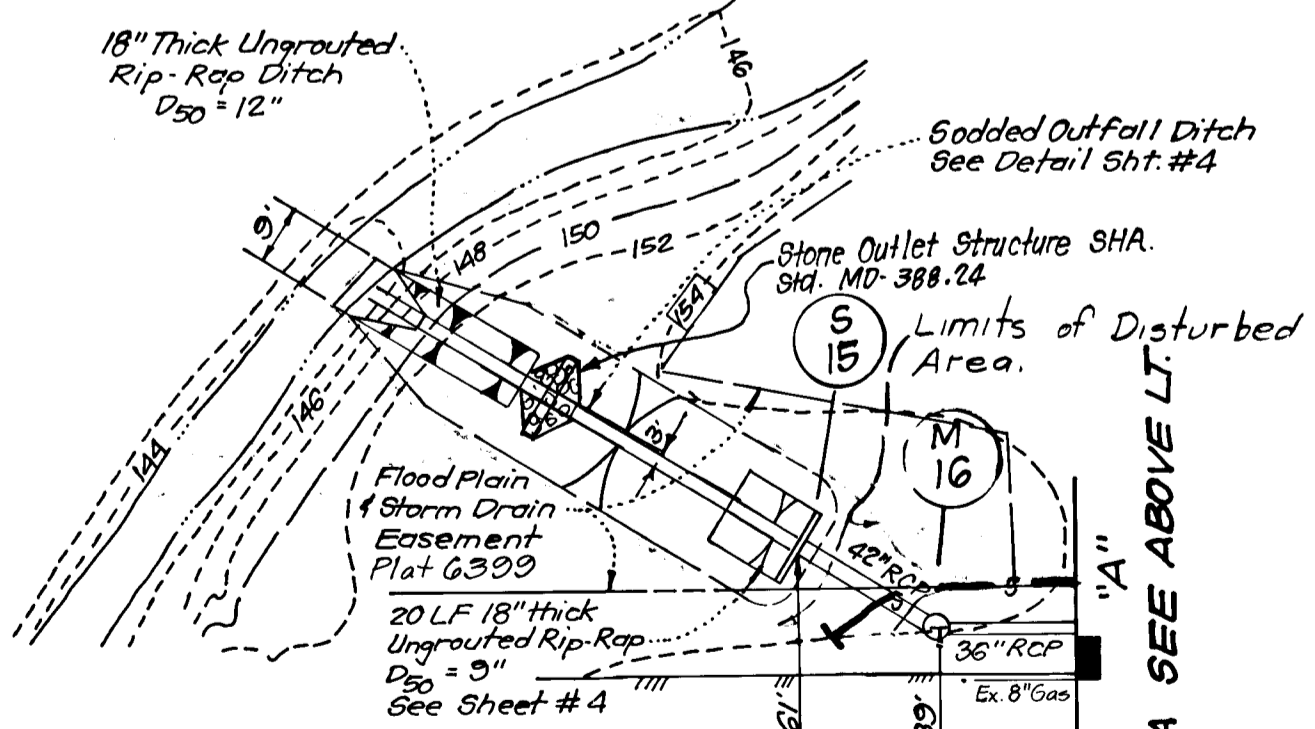
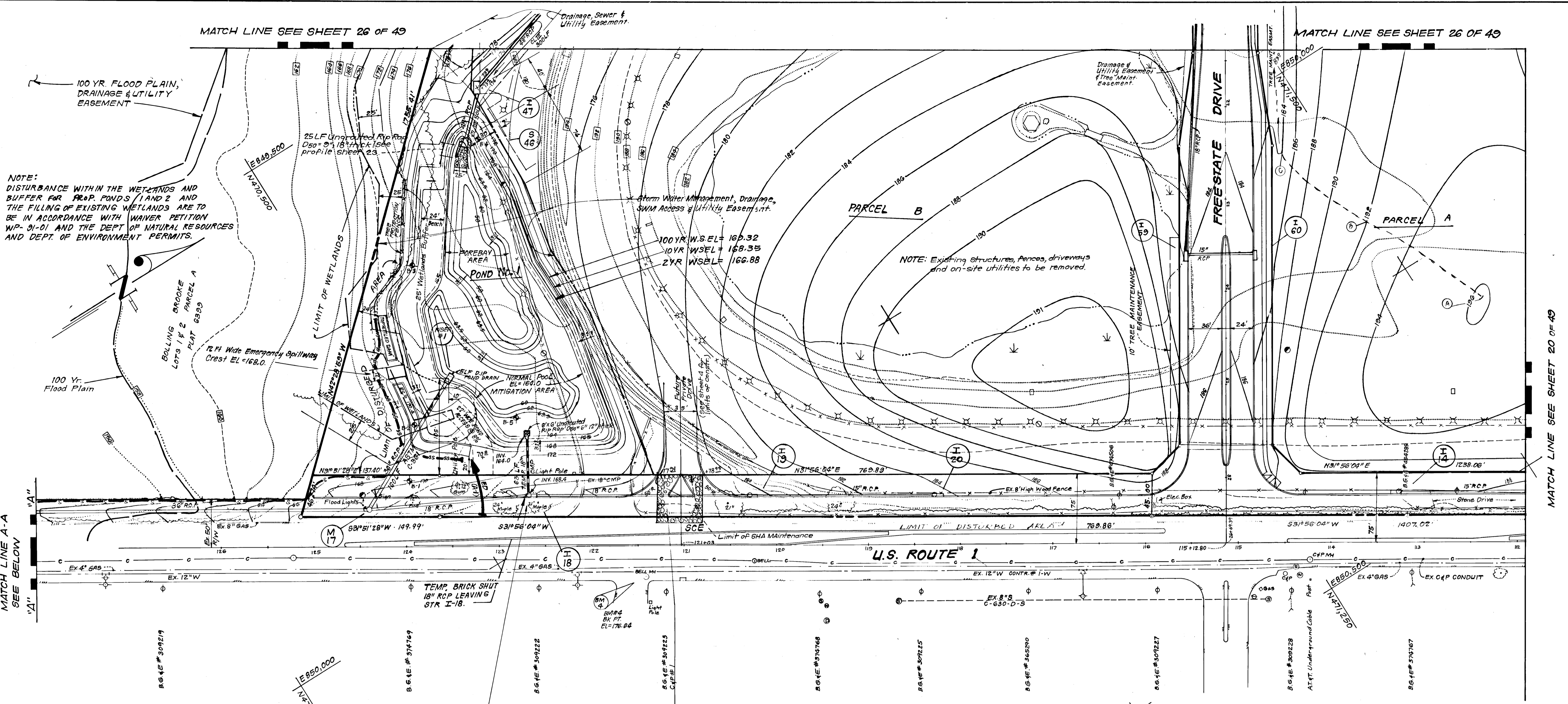
NOTE: Existing structures, fences, driveways and on-site utilities to be removed.

NOTE: Temp. 18" CMP to be removed per Ho. Co Soil Conservation prior to dedication.

1640

MATCH LINE A-A SEE BELOW

MATCH LINE SEE SHEET 20 OF 49



THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

Signature: Daniel P. DeLuca  
Date: 4/15/92

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Signature: John W. H...  
Date: 4/30/92  
U.S. Soil Conservation Service

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Signature: Robert W. Ziehm  
Date: 4/30/92  
Approved: Howard S.C.D.

DEVELOPER'S CERTIFICATION  
"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with "As Built" plan of the pond within 30 days of completion. I will also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature: d. Baum...  
Date: 11/20/91  
Signature of Developer

ENGINEER'S CERTIFICATE  
"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red lined "As Built" of the pond within 30 days of completion."

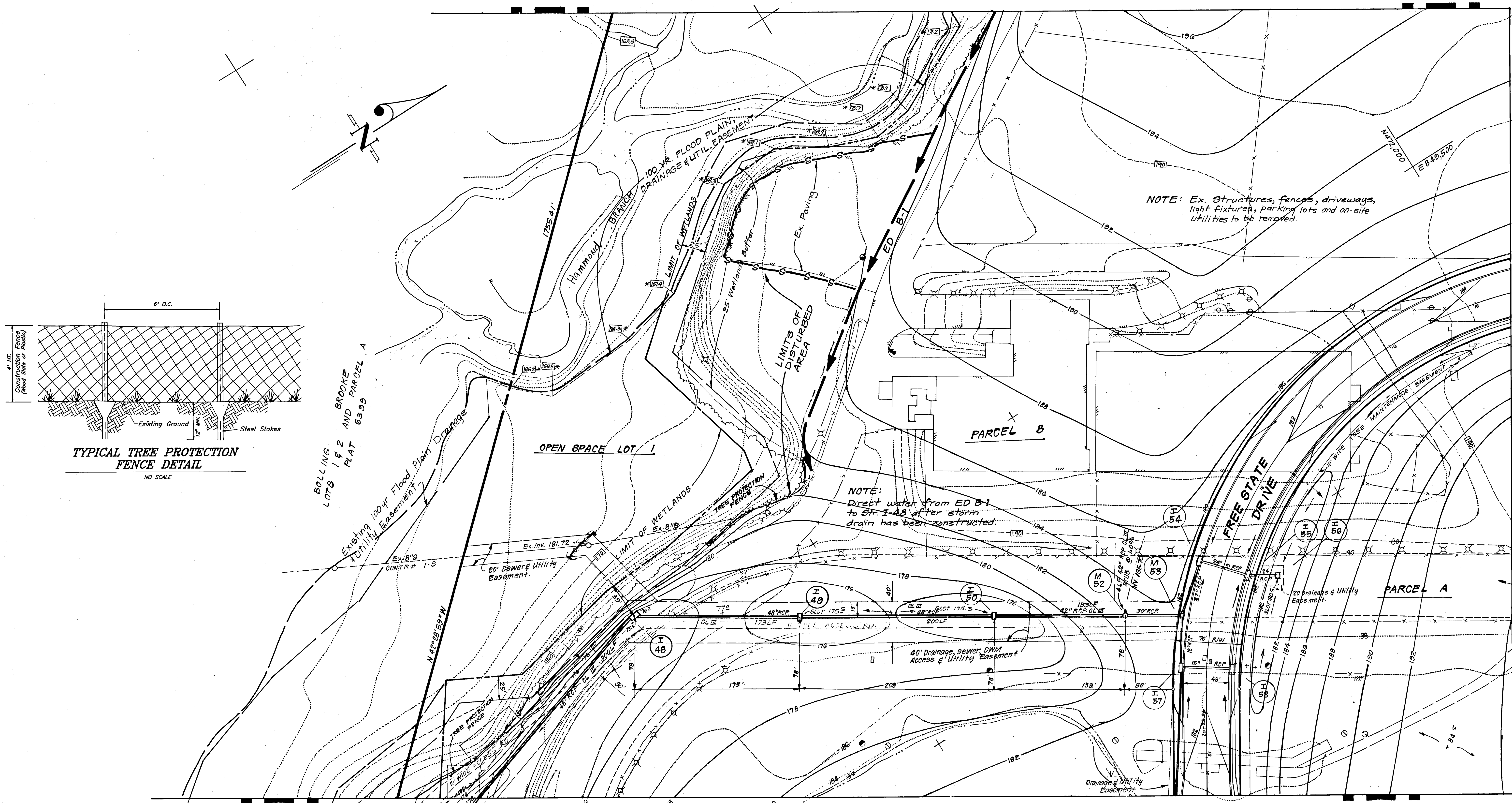
Signature: Jeffrey L. Schmitz  
Date: 11/23/91  
Signature of Engineer

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Signature: [Signature]	Date: 6/6/92
CHIEF, LAND DEVELOPMENT DIVISION	
Signature: [Signature]	Date: 5/12/92
CHIEF, BUREAU OF HIGHWAYS (Admin)	
Signature: [Signature]	Date: 6-8-92
CHIEF, BUREAU OF ENGINEERING	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
Signature: [Signature]	Date: 6/30/92
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT	

CLARK • FINEFROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (301) 381-7500 - BALTO. • (301) 621-9100 - WASH.	
DESIGNED: JLS	SCALE: 1" = 50'
DRAWN: LAI	DRAWING: 25 OF 49
CHECKED: JLS	JOB NO.: 91-099
DATE: NOV. 1991	FILE NO.: 89-134-D
ROAD CONSTRUCTION PLANS GRADING & SEDIMENT & EROSION CONTROL PLAN STORMWATER MANAGEMENT POND NO. 2 <b>FREE STATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: FREE STATE ASSOCIATES LIMITED PART. c/o The SanFord Companies 1515 Noyes Drive Silver Spring, Md. 20910	

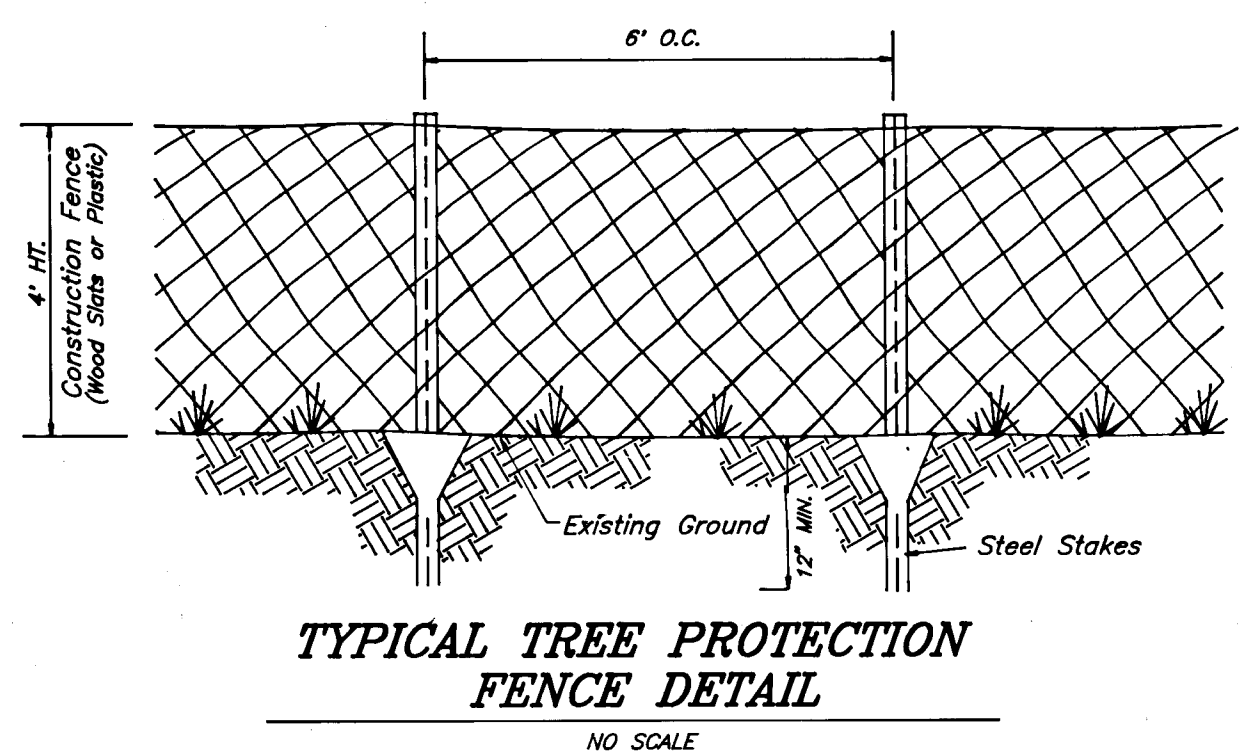
1	Revised per State & County Comments	Apr '92
No.	REVISION	DATE





NOTE: Ex. Structures, fences, driveways, light fixtures, parking lots and on-site utilities to be removed.

NOTE: Direct water from ED B-1 to ST I-48 after storm drain has been constructed.



Reviewed for HOWARD S.C. 4/12/91  
Signature: [Signature]  
Date: 4/12/91  
US Soil Conservation Service

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.  
Signature: [Signature] Date: 11/20/91

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: 11/22/91

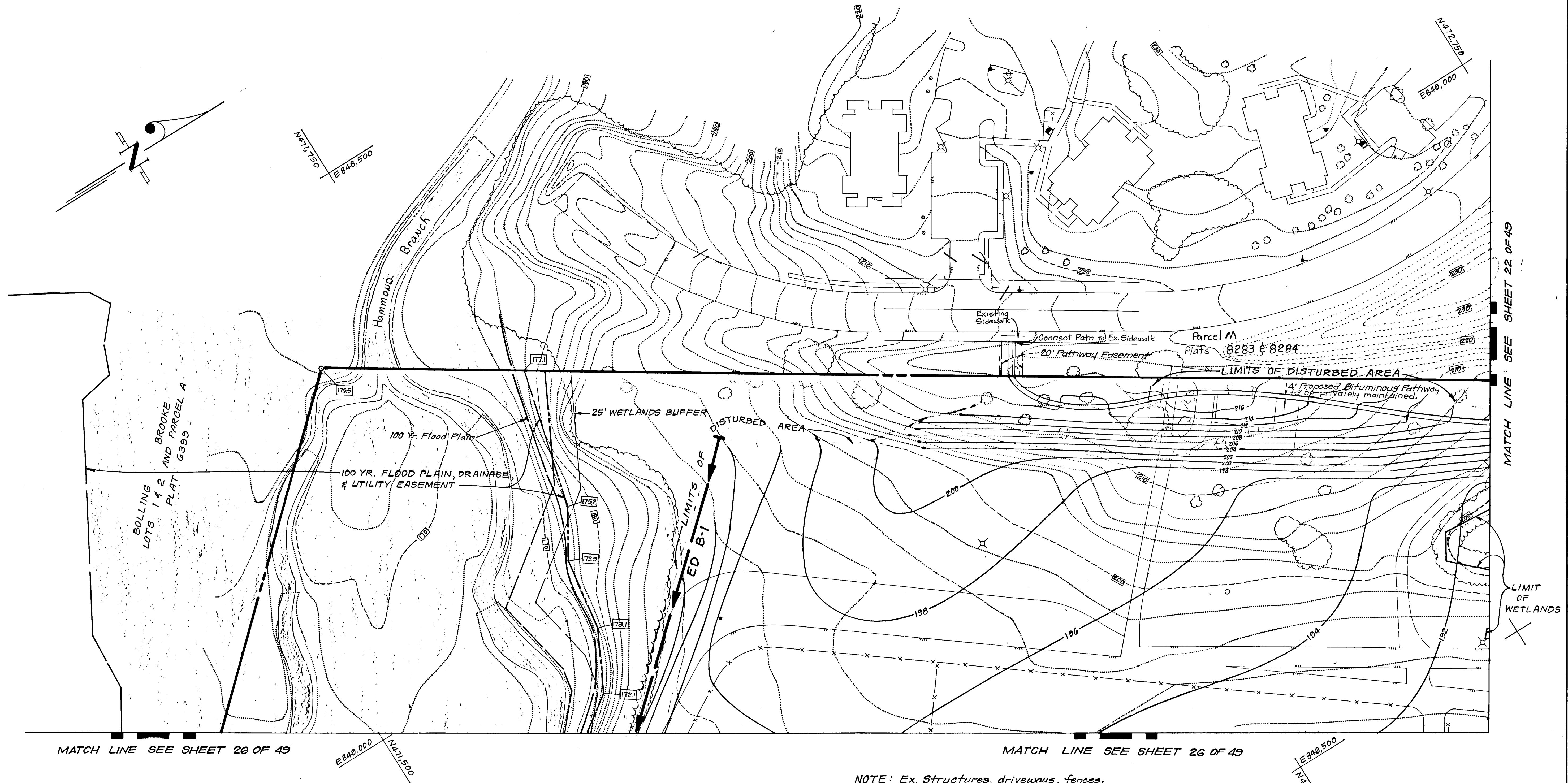


APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Chief, Land Development Division: [Signature] Date: 6/16/92  
Chief, Bureau of Highways (Aeris): [Signature] Date: 5/12/92  
Chief, Bureau of Engineering: [Signature] Date: 6-2-92  
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
Chief, Division of Community Planning & Land Development: [Signature] Date: 6/20/92

Revised per State & County Comments.		Apr '92
No.	REVISION	DATE
<b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO • (301) 621-8100 - WASH.		
DESIGNED	JLS	SCALE 1" = 50'
DRAWN	KIWM	DRAWING 26 OF 49
CHECKED	JLS	JOB NO. 01-099
DATE	Nov 1991	FILE NO. 89-134-D
FOR: FREESTATE ASSOCIATES LIMITED PART. c/o The Sanford Companies 1515 Noyes Drive Silver Spring, Md. 20910		

1640





MATCH LINE SEE SHEET 26 OF 49

MATCH LINE SEE SHEET 26 OF 49

NOTE: Ex. Structures, driveways, fences, parking lot, and on-site utility poles to be removed.

Reviewed for HOWARD S.C.D.  
Name  
Signature Date  
US Soil Conservation Service

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

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.

Signature Date

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 Date



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

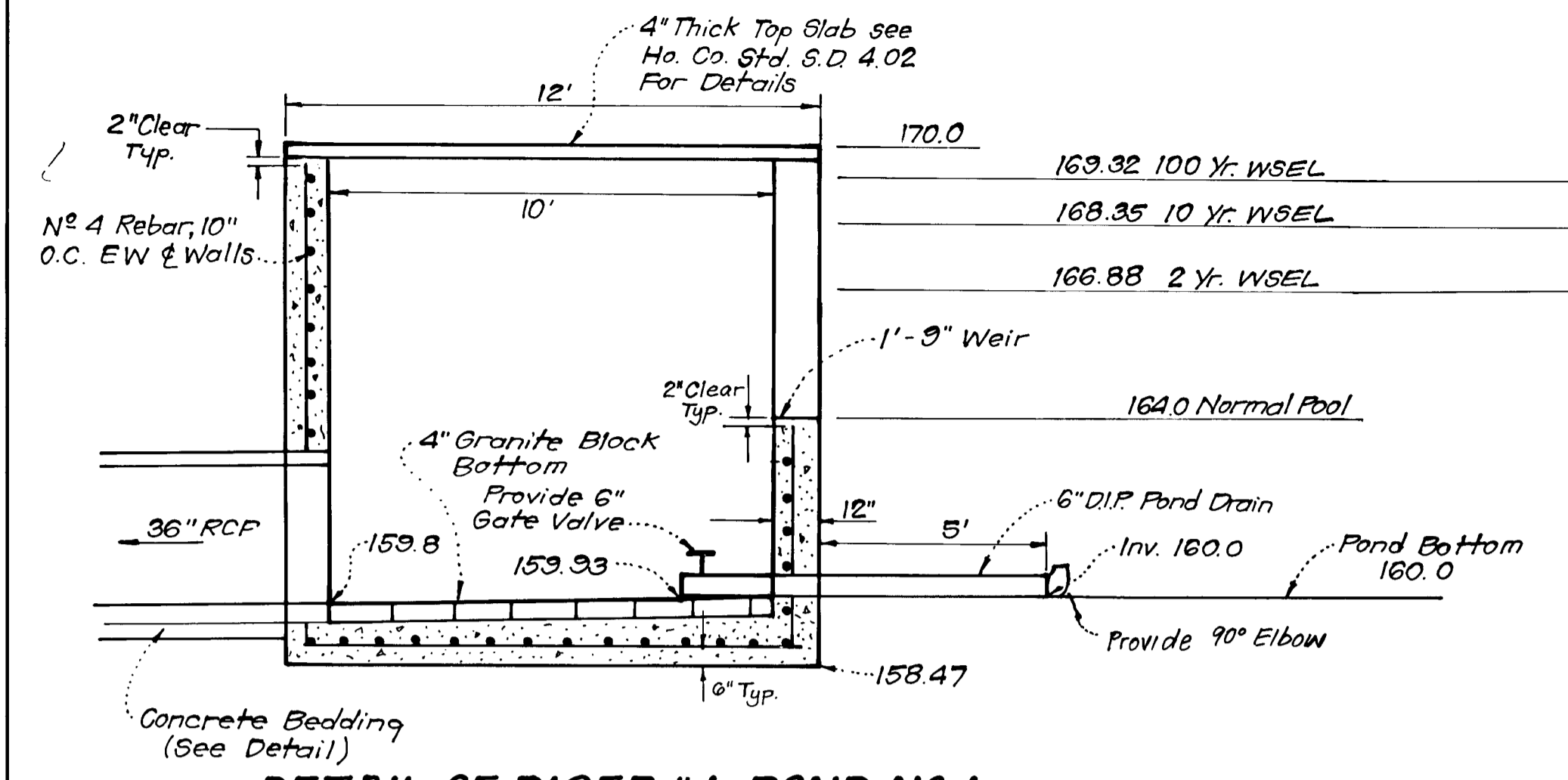
Signature Date  
Signature Date  
Signature Date

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature Date

<b>CLARK • FINFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO • (301) 621-8100 - WASH.		
DESIGNED JLS	<b>ROAD CONSTRUCTION PLAN GRADING &amp; SEDIMENT &amp; EROSION CONTROL PLAN</b> <b>FREESTATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE 1" = 50'
DRAWN KIWM		DRAWING 27 OF 49
CHECKED JLS	FOR: FREESTATE ASSOCIATES LIMITED PART. c/o The Sanford Companies 1515 Noyes Drive Silver Spring, Md. 20910	JOB NO. 91-099
DATE NOV. 1991		FILE NO. 89-134-D

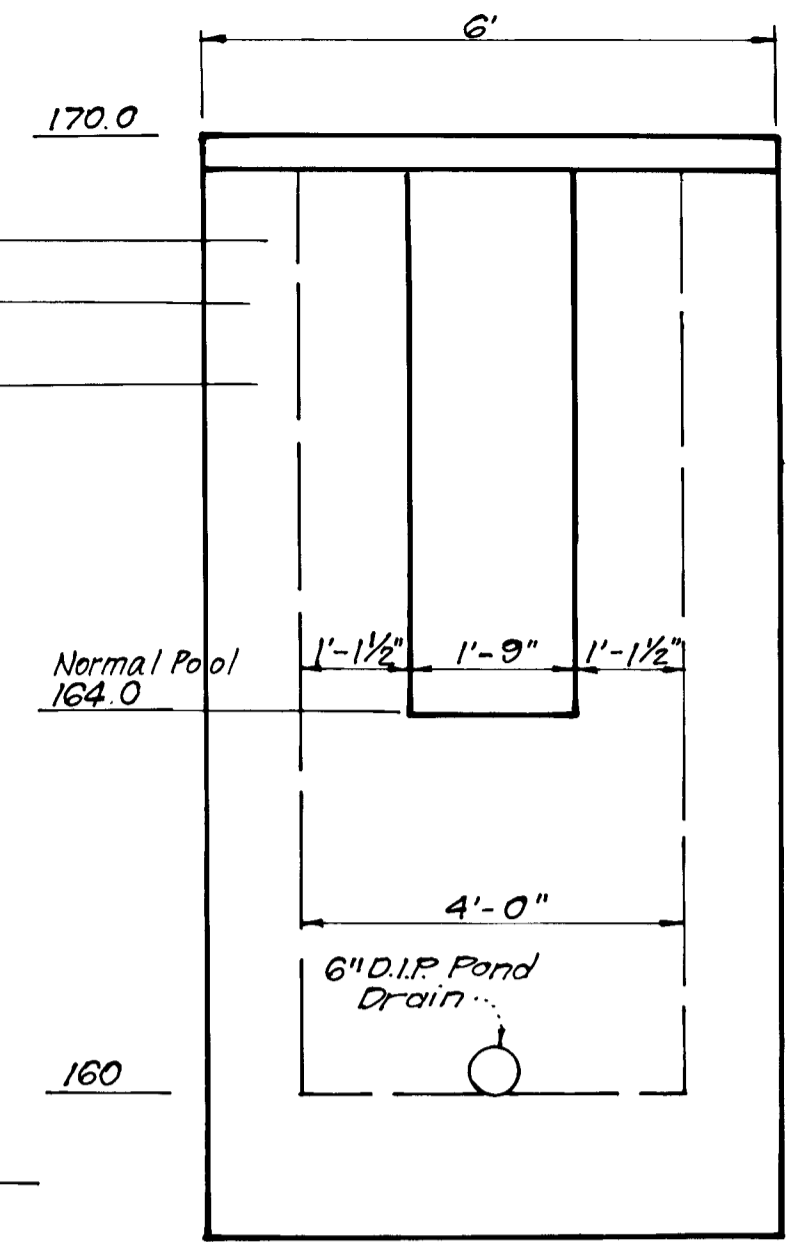




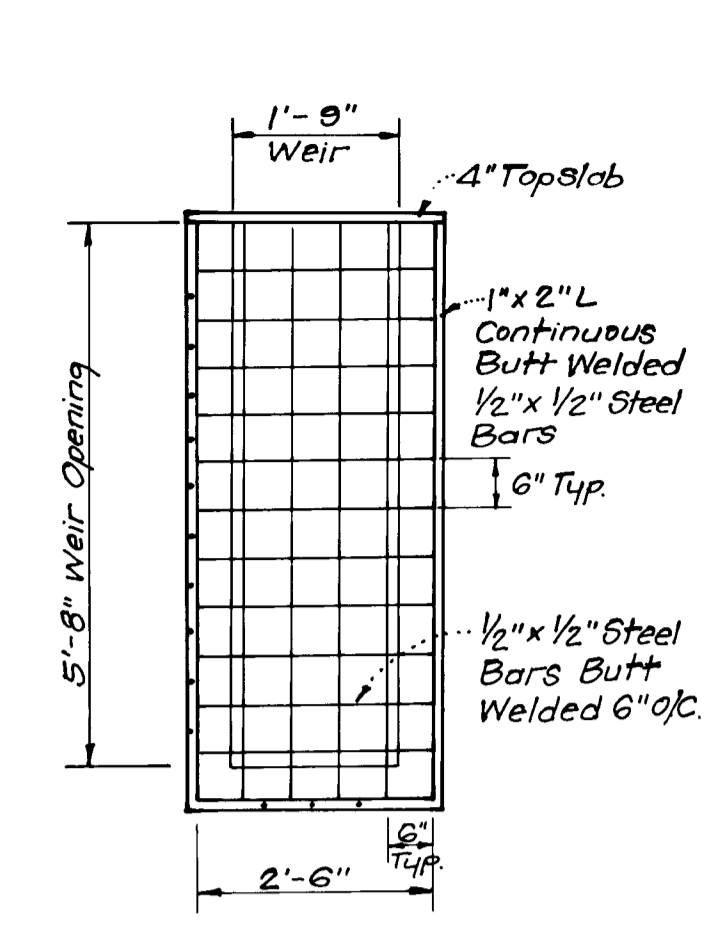
**DETAIL OF RISER #1 POND NO 1**

**STRUCTURE NOTES**

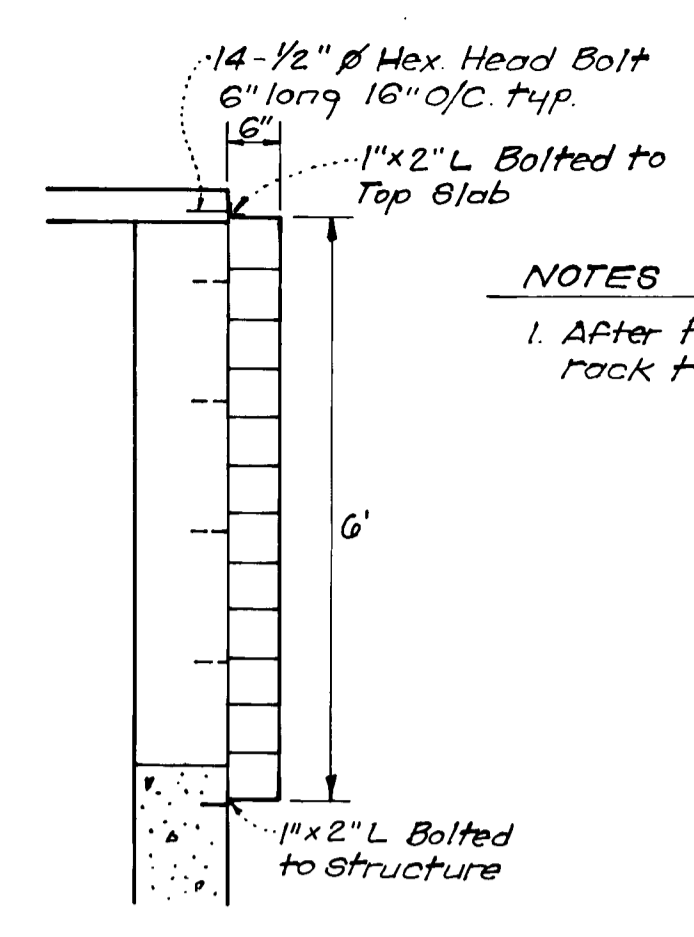
1.  $f_c = 3000$  psi @ 28 Days SHA mix concrete air entrained.
2.  $f_y = 60$  ksi all reinforcing to conform to ASTM A-615 specs.
3. Chamfer 1" x 1" all exposed edges.
4. Ho. Co. Std. Manhole steps to be provided.
5. All reinforcing to be continuous at corners. All laps to be 1'-4".
6. All reinforcing to be epoxy coated.



**FRONT VIEW EXCLUDING TRASH RACK RISER #1**  
NO SCALE



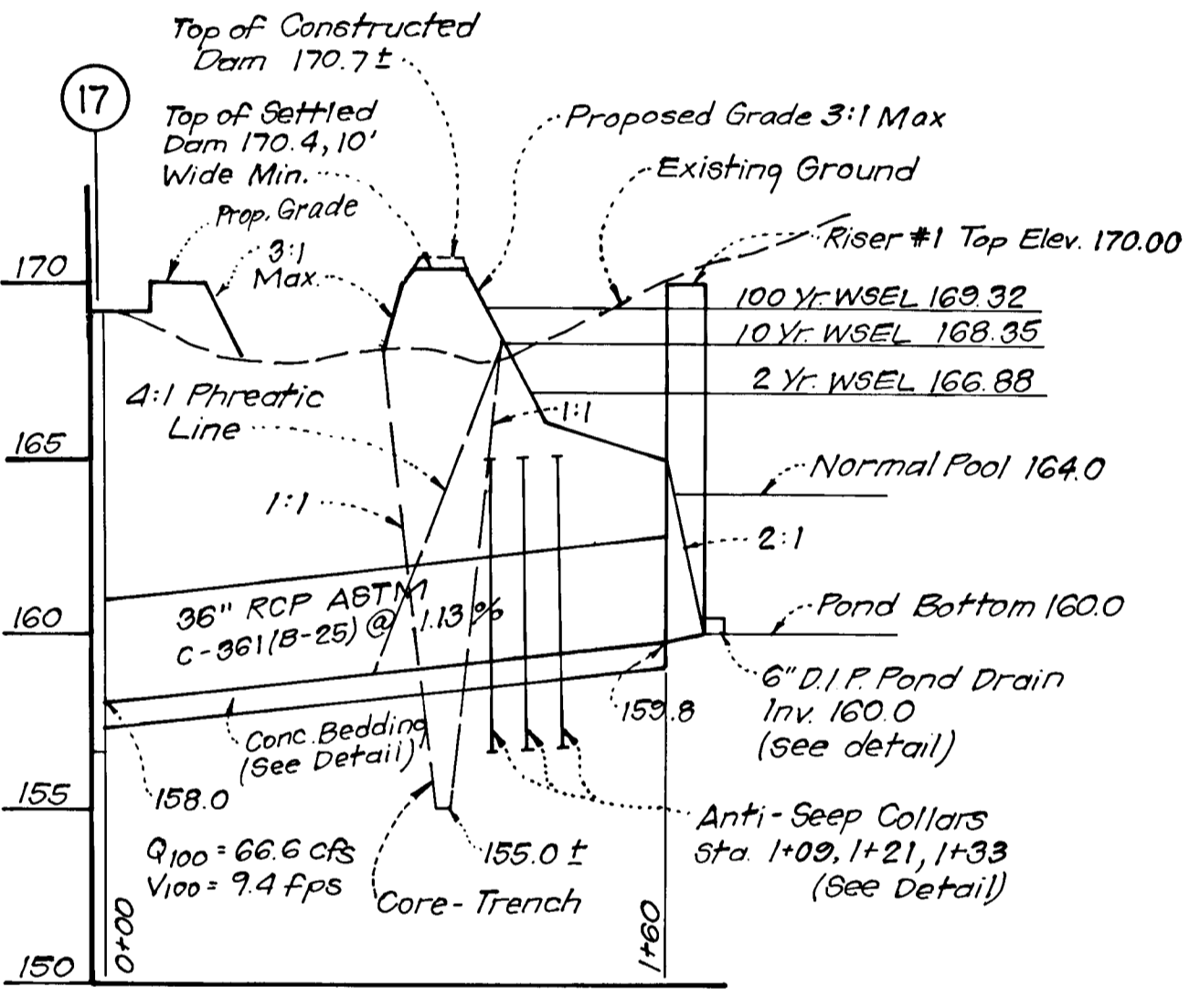
**TRASH RACK DETAIL @ 1'-9" Weir**  
Riser No. 1, No Scale



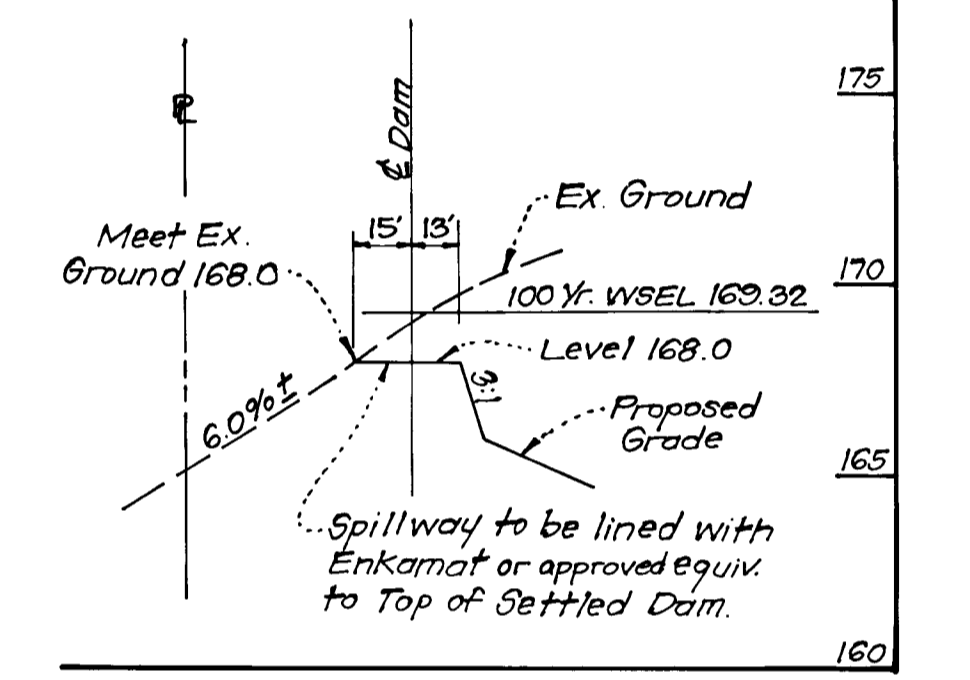
- NOTES**
1. After fabrication trash rack to be galvanized.

**ANTI-SEEP COLLAR NOTES**

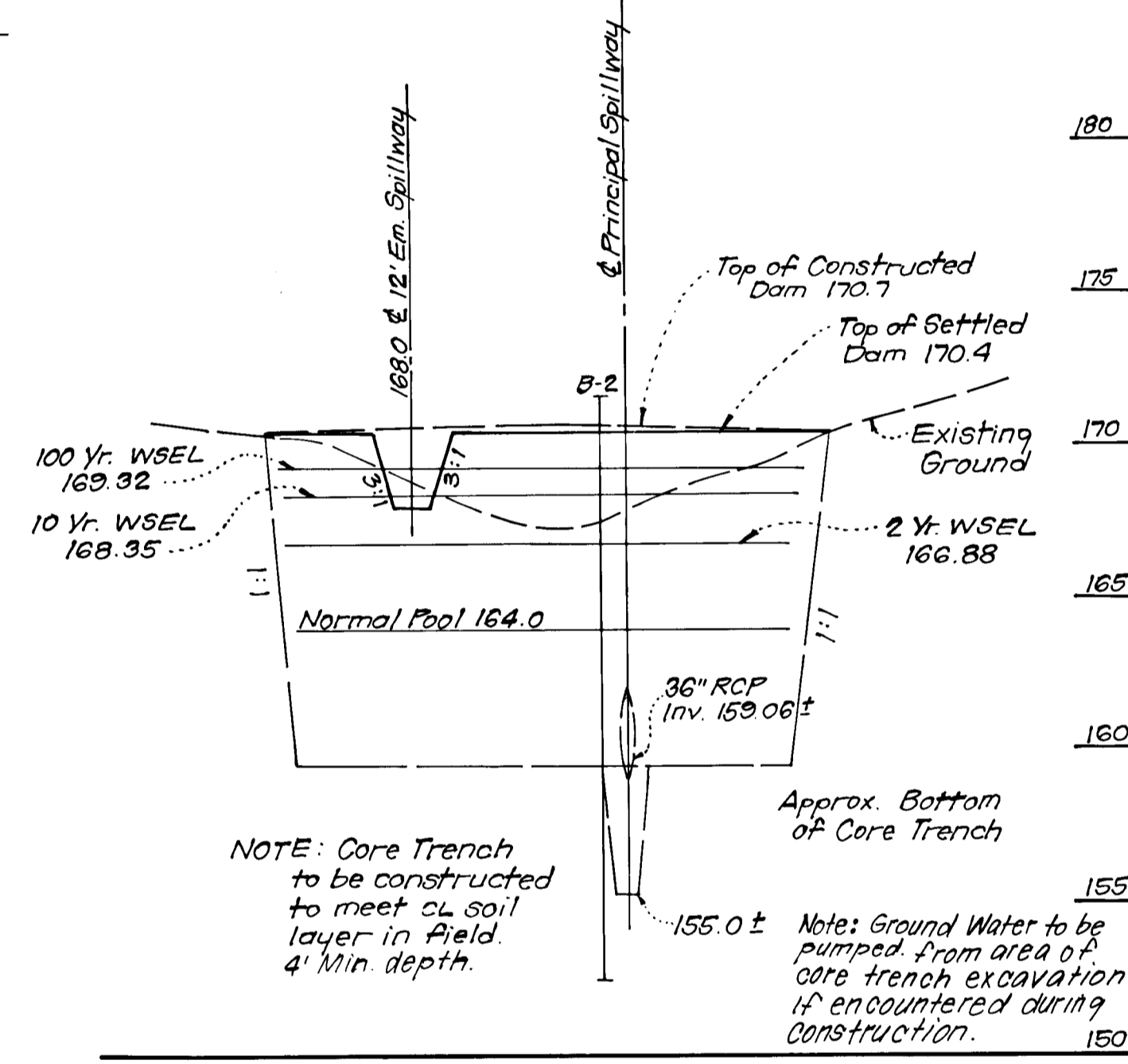
1.  $f_c = 3000$  PSI @ 28 DAYS
2. POUR COLLAR WITH PIPE IN PLACE
3. BACKFILL EVENLY ON BOTH SIDES OF COLLARS
4. LOCATE COLLARS A MIN. OF 2' FROM PIPE JOINTS



**PROFILE OF PRINCIPAL SPILLWAY POND NO 1**  
Scale: Horz. 1" = 50'  
Vert. 1" = 5'

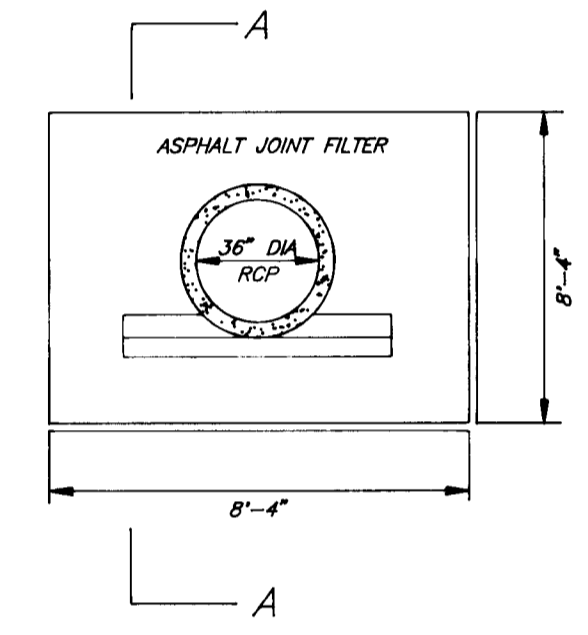


**PROFILE ALONG C OF EMERGENCY SPILLWAY POND NO 1**  
Scale: Horz. 1" = 50'  
Vert. 1" = 5'

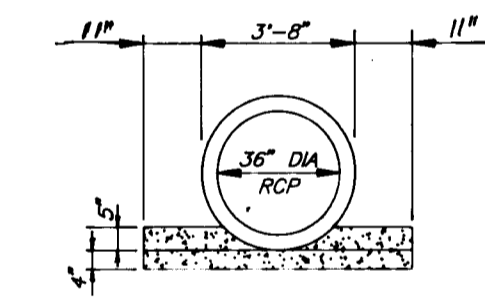


**PROFILE ALONG E OF DAM POND NO 1**  
Scale: Horz. 1" = 50'  
Vert. 1" = 5'

**CROSS SECTION OF EMERGENCY SPILLWAY POND NO 1**  
NO SCALE



**ANTI-SEEP COLLAR DETAILS**  
NO SCALE



**CONCRETE BEDDING DETAIL**  
NO SCALE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved: Robert J. Zepher 4/30/92  
Howard S.C.D. Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Approved: [Signature] 4/30/92  
U.S. Soil Conservation Service Date

**Developers Certification:**

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Approved: [Signature] 4/22/91  
Signature of Developer Date

**ENGINEER'S CERTIFICATE**

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer District that he must provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion."

Approved: [Signature] 4/22/91  
Signature of Engineer Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature] 6/10/92  
Chief, Land Development Division Date

[Signature] 5/12/92  
Chief, Bureau of Highways (Asst) Date

[Signature] 5-8-92  
Chief, Bureau of Engineering Date

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

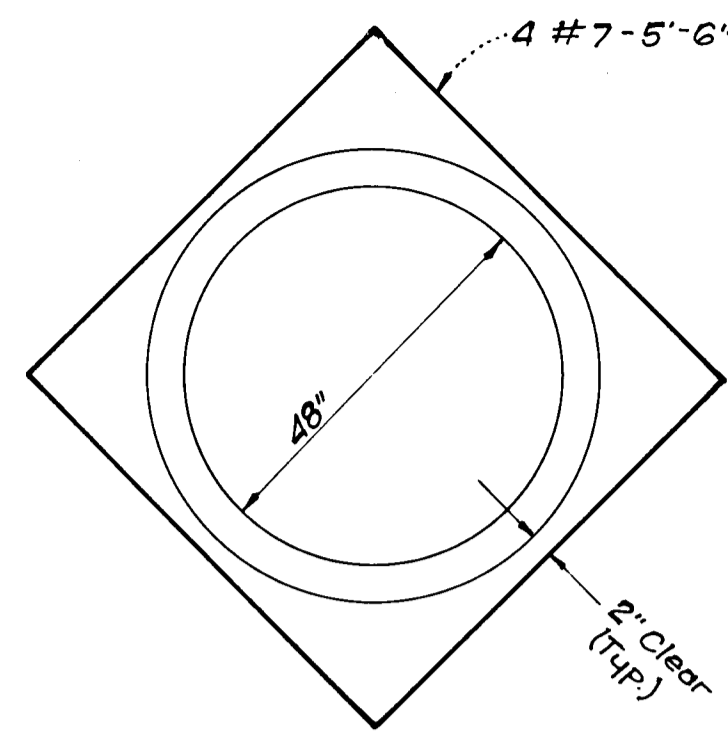
[Signature] 6/20/92  
Chief, Division of Community, Planning & Land Development Date

<b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.		
DESIGNED JLS	<b>ROAD CONSTRUCTION PLANS STORMWATER MANAGEMENT POND NO 1 PROFILES AND DETAILS</b>	SCALE As Shown
DRAWN BAL		DRAWING 28 of 49
CHECKED ULS	<b>FREE STATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 91-099
DATE Nov. 1991		FOR: FREE STATE ASSOCIATES LIMITED PART c/o The Sanford Companies 1515 Noyes Drive Silver Spring, Md. 20910

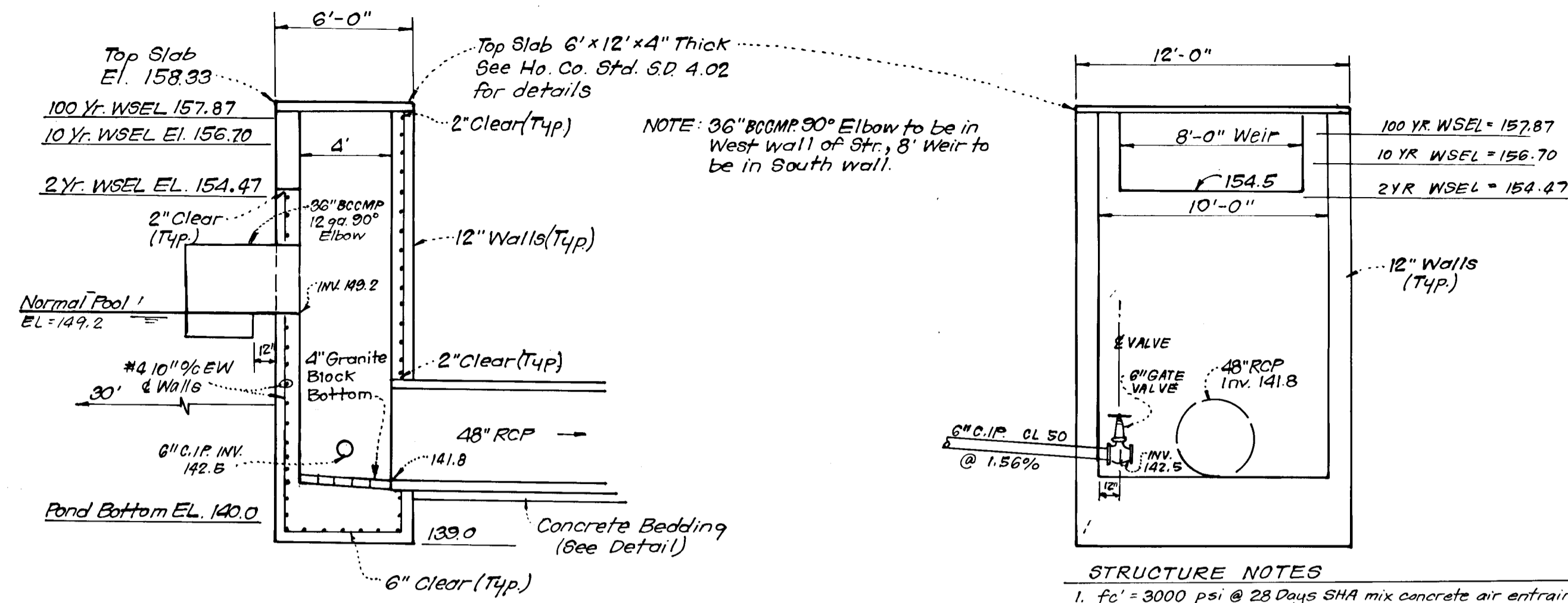
1640

1	Revised per County and State comments.	APR. 1992
NO.	REVISION	DATE

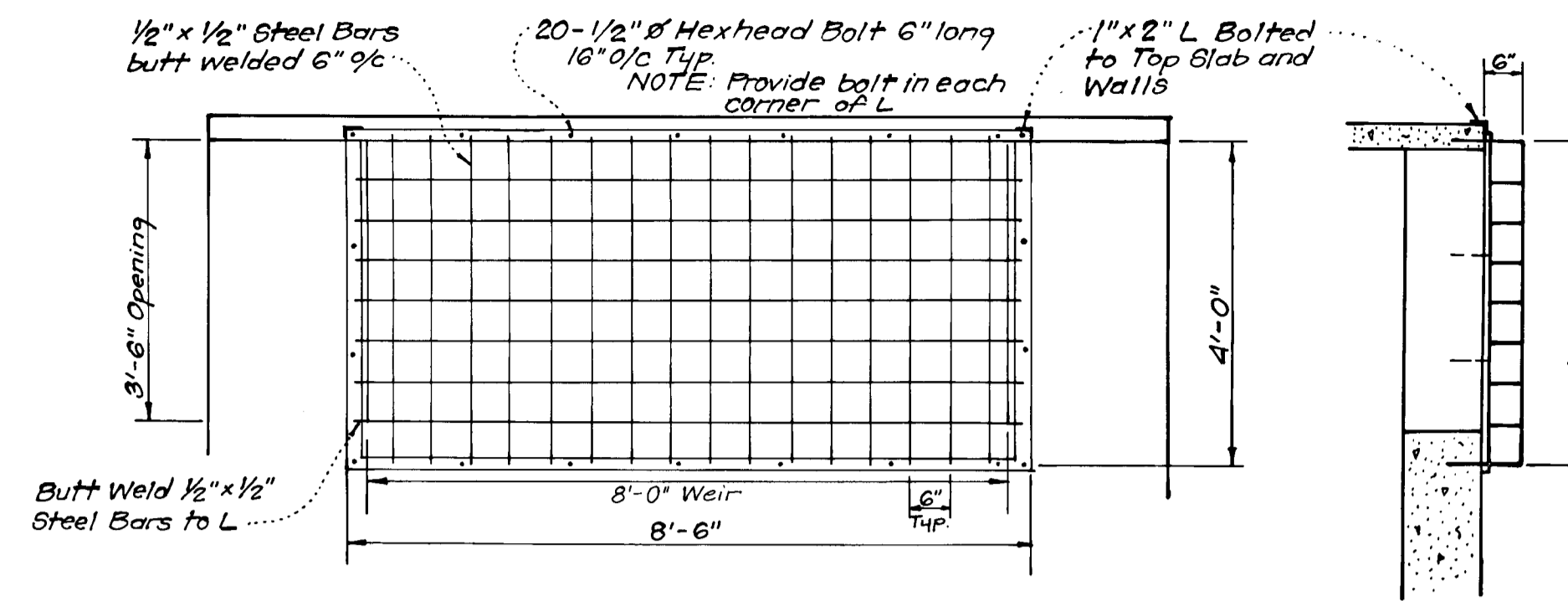




**EXTRA REINFORCING AT 48" RCP RISER #2**  
NO SCALE

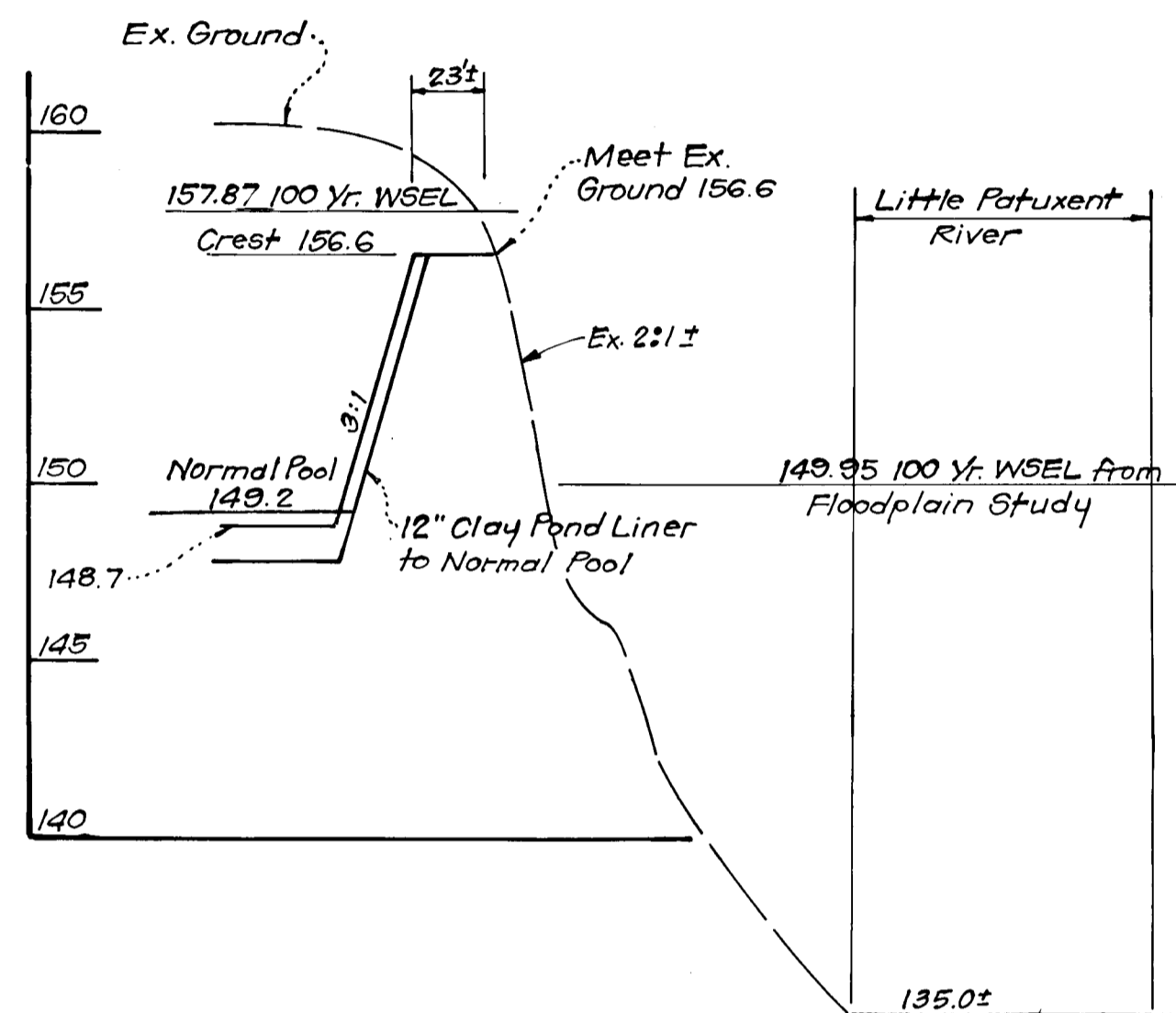


**DETAILS - RISER #2 POND #2**  
NO SCALE

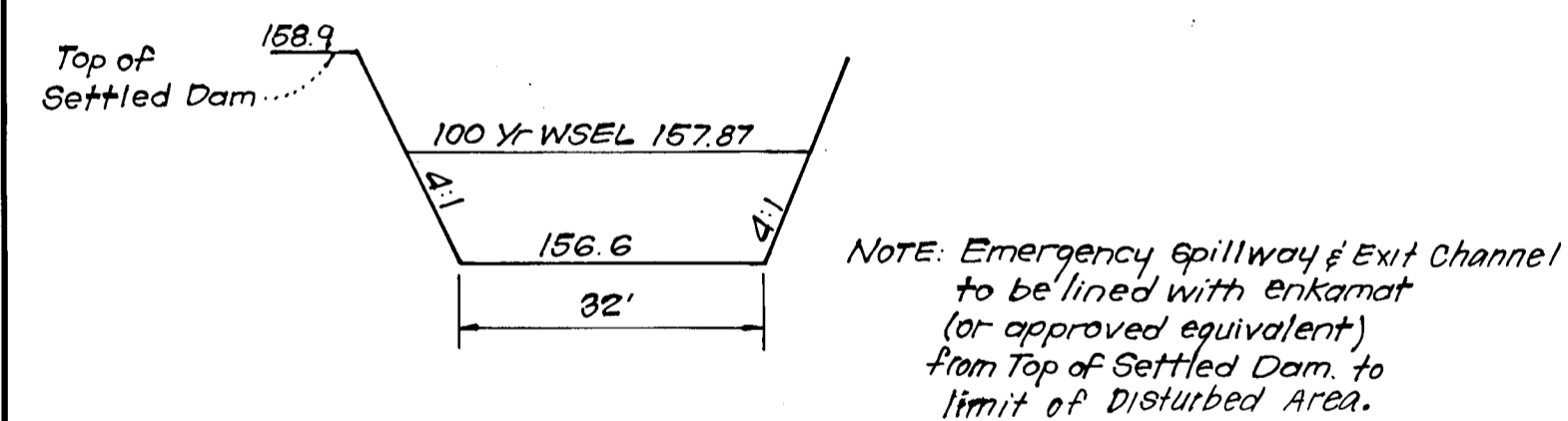


**TRASH RACK @ 8' WEIR RISER #2 POND #2**

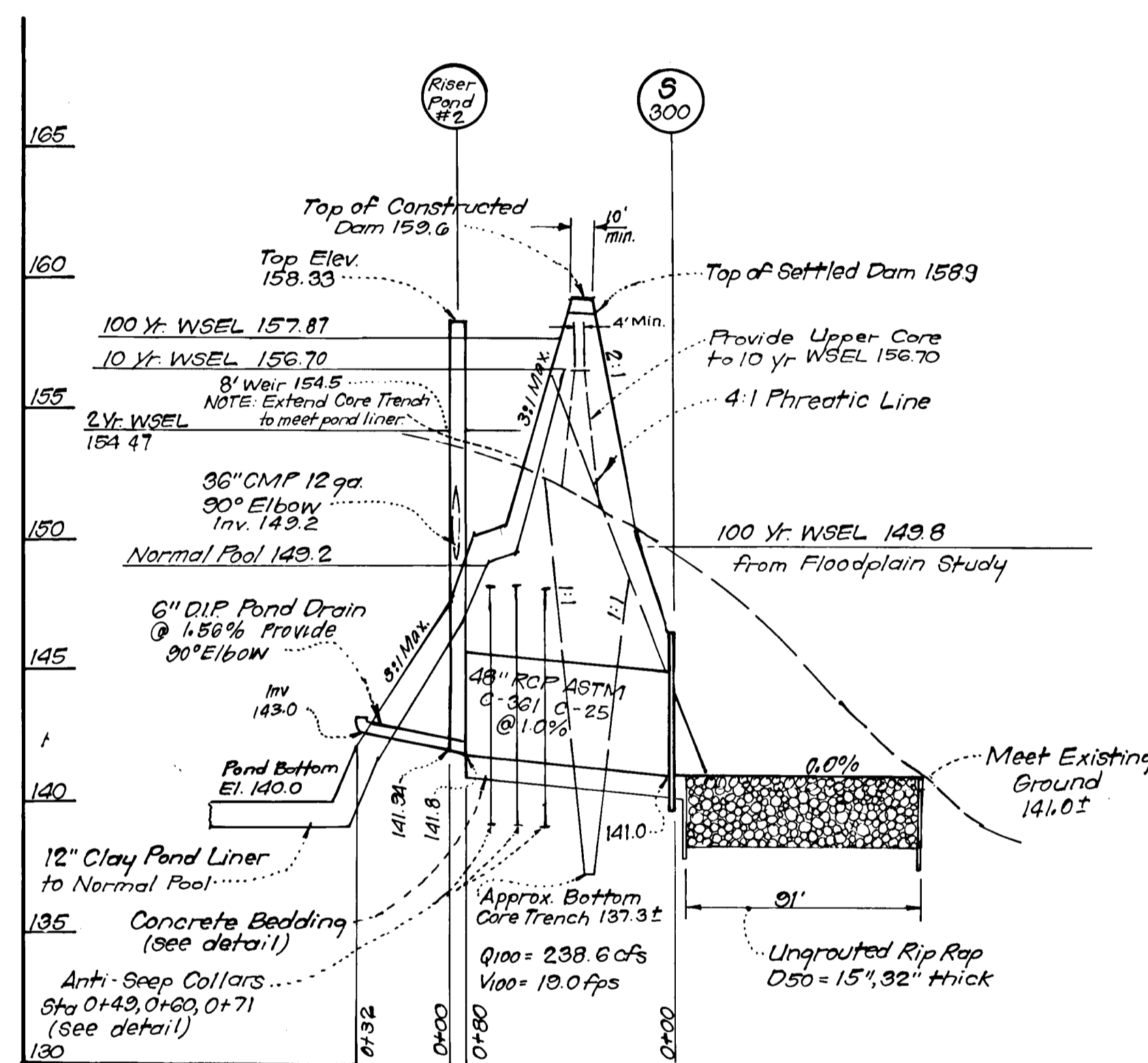
**NOTES**  
1. After fabrication trash rack to be galvanized.



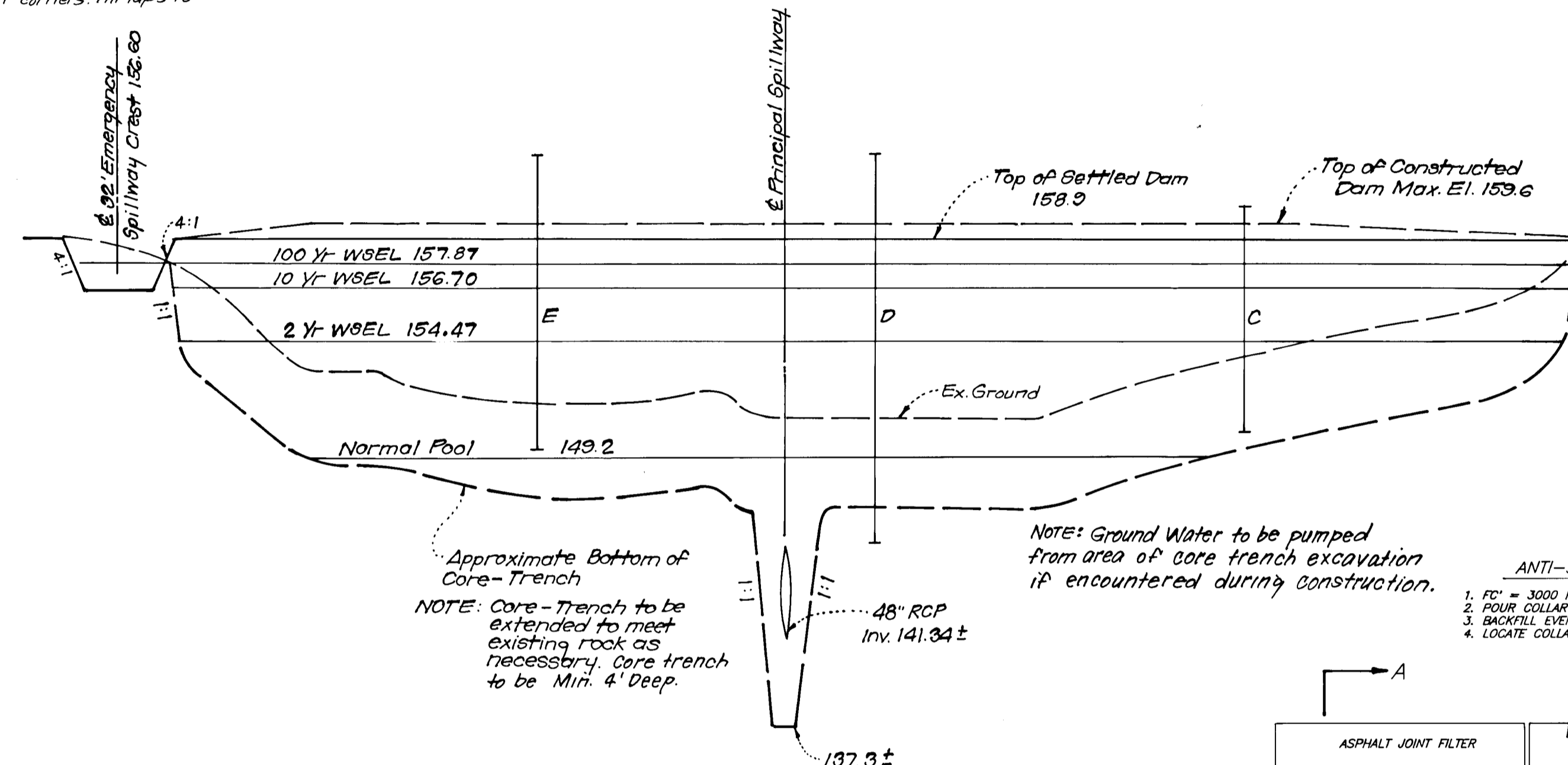
**PROFILE OF EMERGENCY SPILLWAY POND #2**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'



**TYPICAL CROSS SECTION OF EMERGENCY SPILLWAY POND #2**  
No Scale

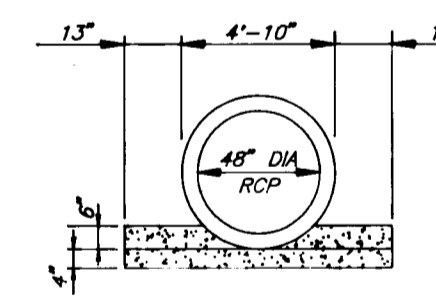


**PROFILE OF PRINCIPAL SPILLWAY POND #2**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

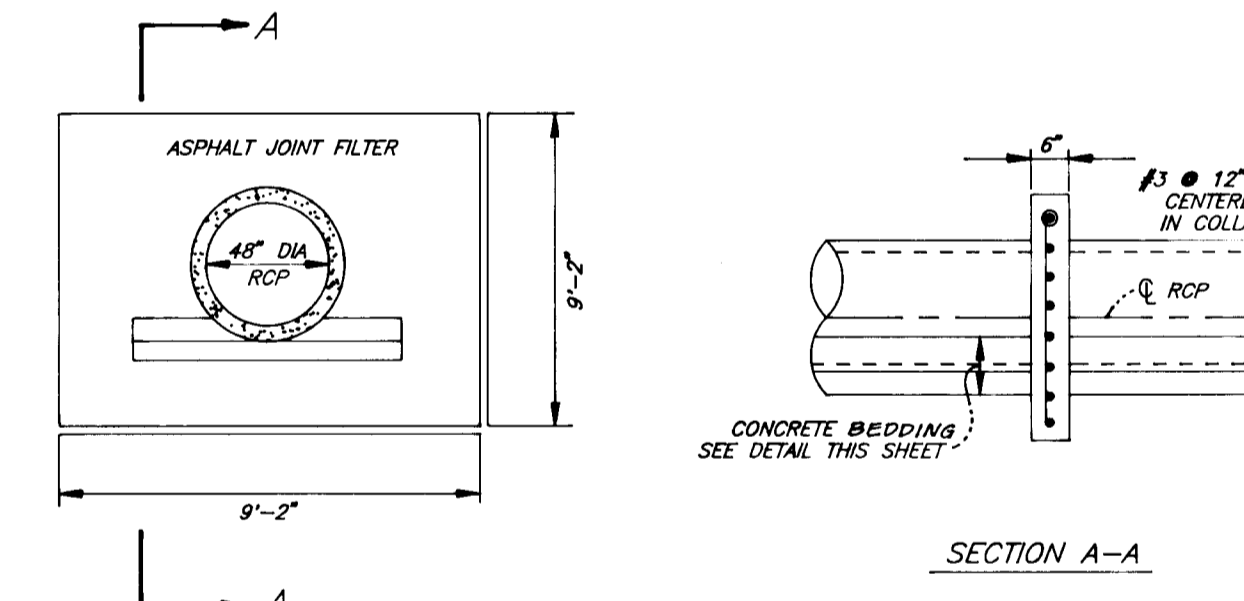


**PROFILE ALONG C/L OF DAM POND #2**

Scale: Horiz. 1"=50'  
Vert. 1"=5'



**CONCRETE BEDDING DETAIL**  
NO SCALE



**ANTI-SEEP COLLAR DETAILS**  
NO SCALE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved: *Robert Ziehm* 4/30/92  
Howard S.C.D. Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Approved: *John J. ...* 4/30/92  
Howard Soil Conservation Service Date

Developers Certification:  
"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Approved: *J. Brown* 4/30/91  
Signature of Developer Date

**ENGINEER'S CERTIFICATE**

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion."

Approved: *Jeffrey L. School* 4/22/91  
Signature of Engineer Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Approved: *Robert Damman* 6/6/92  
Chief, Land Development Division Date  
*Sam M. Tangeman* 5/16/92  
Chief, Bureau of Highways (Active) Date  
*Michael E. Relyea* 6-8-92  
Chief, Bureau of Engineering Date

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Approved: *Elmora Holmuth* 6/6/92  
Chief, Division of Community Planning & Land Development Date

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

DESIGNED JLS	<b>ROAD CONSTRUCTION PLANS STORMWATER MANAGEMENT POND #2 PROFILES AND DETAILS</b>  <b>FREESTATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE As Shown
DRAWN BAL		DRAWING 29 of 49
CHECKED JLS		JOB NO. 91-099
DATE NOV. 1991		FILE NO. 89-134-D
FOR: FREESTATE ASSOCIATES LIMITED PART c/o The Sanford Companies 1515 Noyes Drive Silver Spring, Md. 20910		



SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

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

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material. All lines or obstructions on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50' foot radius around the inlet structure shall be cleared.

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

Earth Fill

Material: The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CL or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 6 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one track of the equipment or complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble or so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted to obtain this density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

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

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

Pipe Conduits: All pipes shall be circular in cross section.

Corrugated Metal Pipe: All of the following criteria shall apply for corrugated metal pipe:

- 1. Materials (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with metallic coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plast-Cox, Black-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246. Materials (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Concrete: Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3

Rock Riprap: All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment. The rock shall have the following properties:

- 1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
2. Absorption not more than three percent.
3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Concrete: Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 619.12.

Notes: Geotechnical Engineering Study prepared by Atec, dated October 14, 1991 for Pond #2. Geotechnical Study by GMTI dated March 7, 1990 for Pond #1.

See Profiles along E Dams for approximate Core Trench depths.

Care of Water during Construction

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

Stabilization

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

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and soil pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

Reinforced Concrete Pipe: All of the following criteria shall apply for reinforced concrete pipe:

- 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-302. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. The bedding shall consist of high strength concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 4 inches, or as shown on the drawings. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

- 1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Joints and connectors to anti-seep collars shall be completely watertight. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support. Backfilling shall conform to "Structure Backfill". Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete: Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3

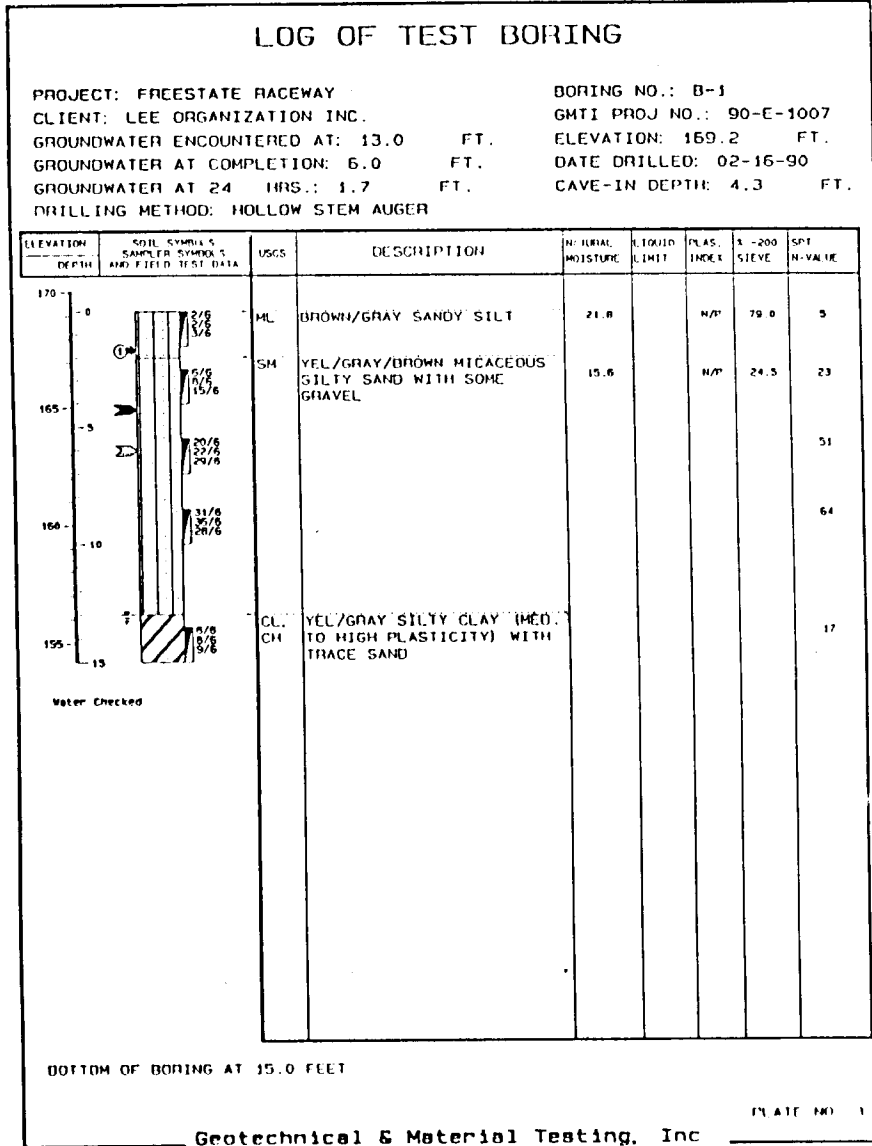
Rock Riprap: All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment. The rock shall have the following properties:

- 1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
2. Absorption not more than three percent.
3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Concrete: Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 619.12.

Notes: Geotechnical Engineering Study prepared by Atec, dated October 14, 1991 for Pond #2. Geotechnical Study by GMTI dated March 7, 1990 for Pond #1.

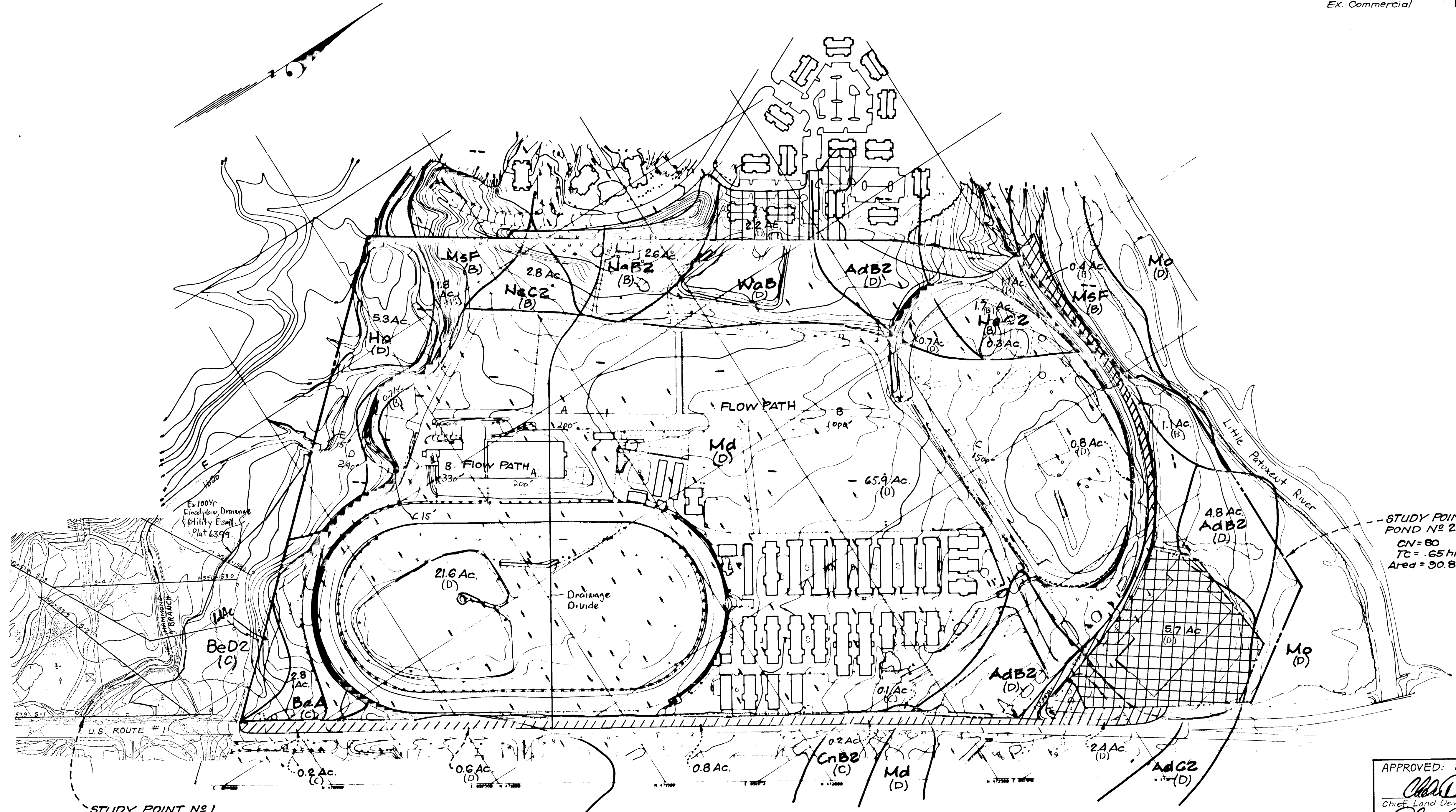
See Profiles along E Dams for approximate Core Trench depths.





**LEGEND**

- Soil Type Md
- Hydraulic Soil Group (D)
- Flow Path  $\frac{A}{200'}$
- Open Space Land Use
- Woods
- Ex. R/W 85% Imp
- Ex. Apts.
- Ex. Commercial



STUDY POINT NO 1  
FOR POND NO 1  
CN = 76  
TC = .534 hr  
Area = 36.5 Ac.

STUDY POINT NO 2  
POND NO 2  
CN = 80  
TC = .65 hr  
Area = 90.8 Ac.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Chad Damm* 6/8/92  
 Chief, Land Development Division  
*Alan M. Pongman* 5/12/92  
 Chief, Bureau of Highway (Acres)  
*Robert R. Remy* 6-8-92  
 Chief, Bureau of Engineering  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Hanna Helms* 6/8/92  
 Chief, Division of Community Planning & Land Development

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

DESIGNED JLS	ROAD CONSTRUCTION PLANS DRAINAGE AREA MAP FOR PREDEVELOPED CONDITIONS FREESTATE	SCALE 1" = 200'
DRAWN BAL		DRAWING 31 of 49
CHECKED JLS		JOB NO 91-099
DATE 11/91		FILE NO 89-134 D

6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
 For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP  
 OF THE SHARFORD COMPANIES  
 1515 NOYES DRIVE SILVER SPRING, MD 20910

*Jeffrey S. Schuch*  
 11/22/91

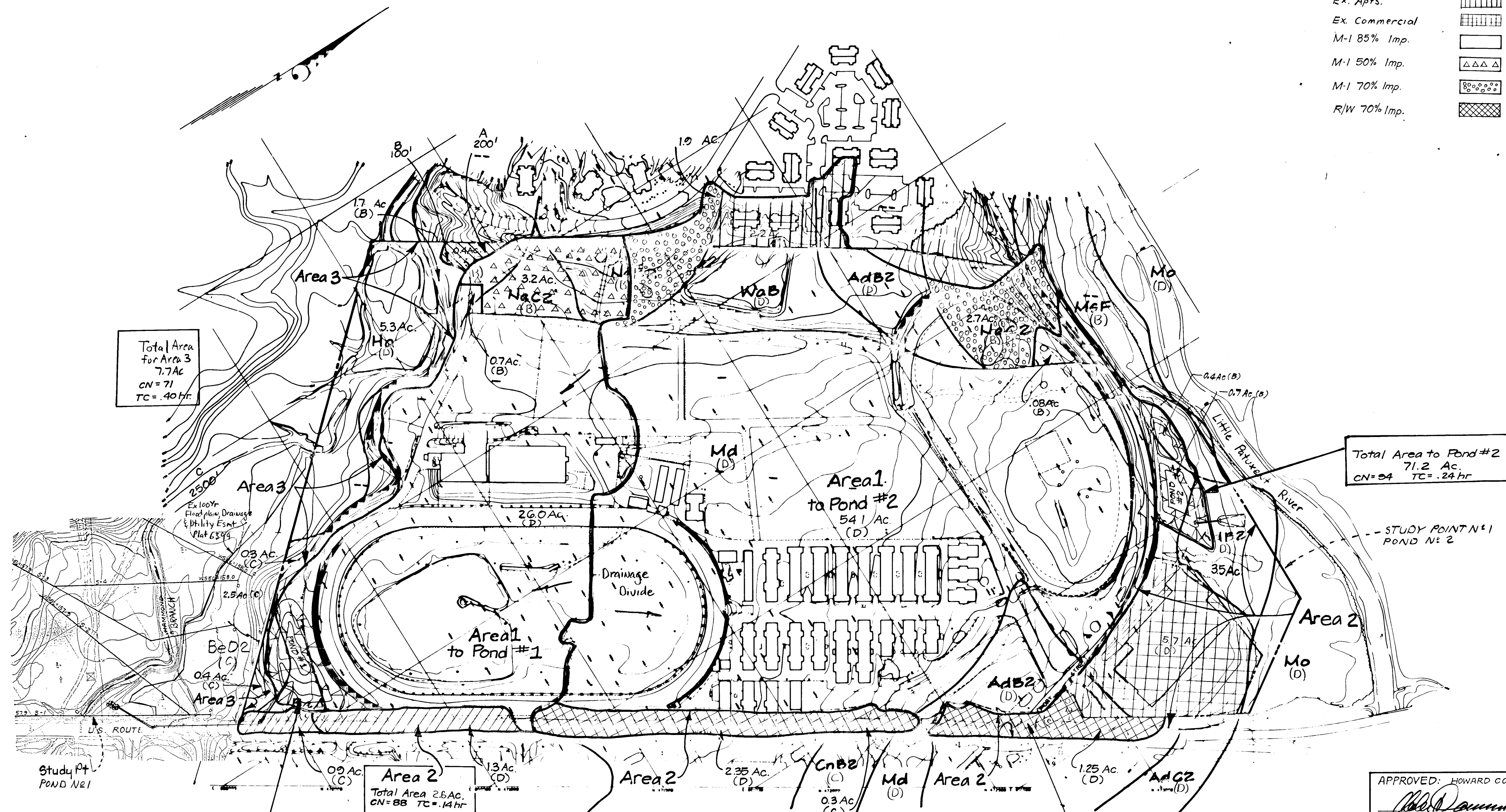
1640

1	Revised per County and State comments.	APR 1992
NO.	REVISION	DATE



**LEGEND**

Soil Type	Md
Hydraulic Soil Group	(D)
Flow Path	$\frac{A}{200'}$
Open Space	
Woods	
R/W 65% Imp.	
Ex. Apts.	
Ex. Commercial	
M-1 85% Imp.	
M-1 50% Imp.	
M-1 70% Imp.	
R/W 70% Imp.	



Total Area for Area 3  
7.7 Ac  
CN = 71  
TC = .40 hr

Total Area to Pond #2  
71.2 Ac  
CN = 84  
TC = .24 hr

TOTAL AREA TO POND #1  
32.4 Acres  
CN = 93  
TC = .275 hr

AREA 2  
CN = 87  
TC = .23 hr  
Area = 13.8 Ac

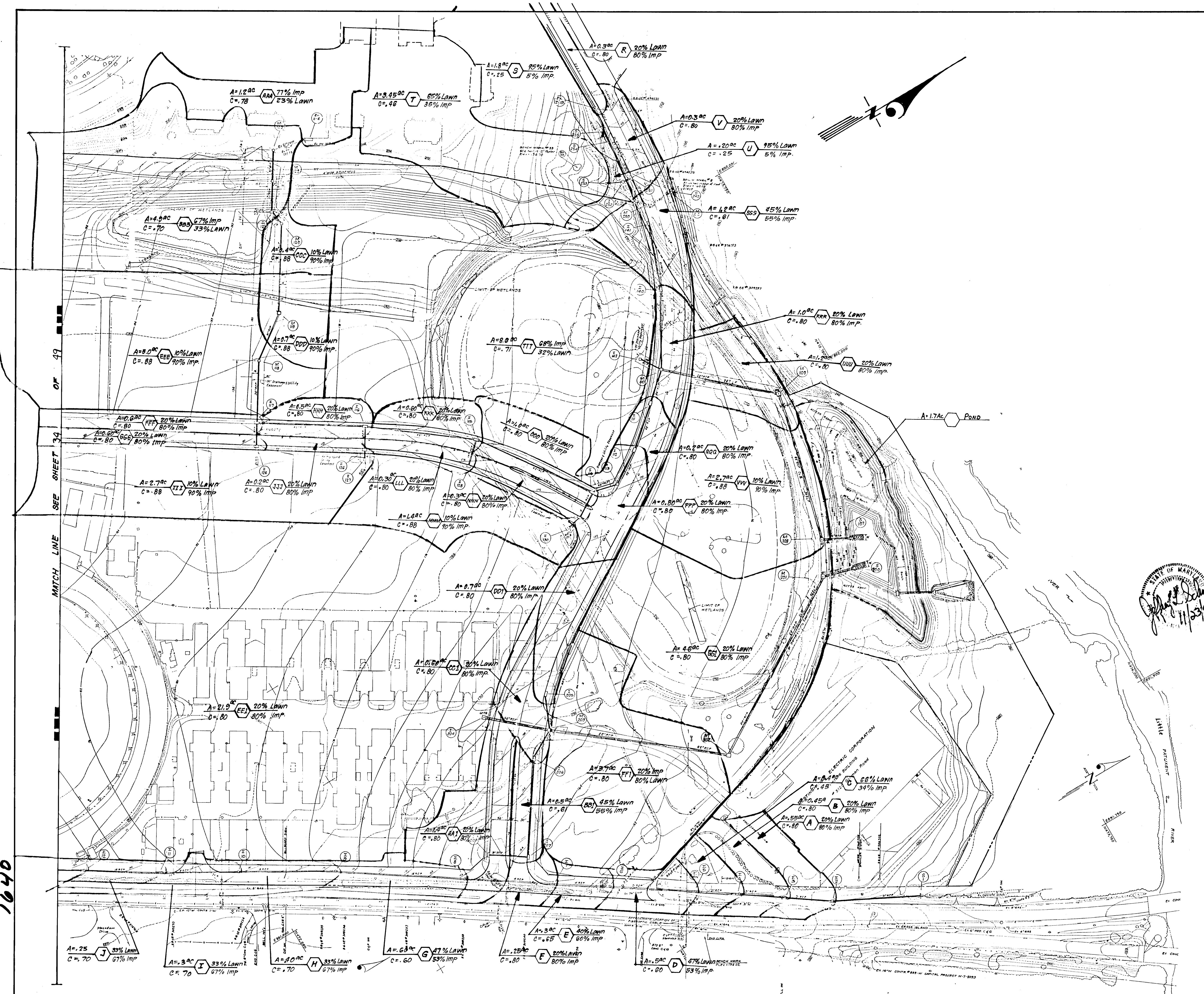
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John M. Pennington* 6/10/92  
 Chief, Land Development Division Date  
*John M. Pennington* 5/10/92  
 Chief, Bureau of Highways (Asst) Date  
*John M. Pennington* 6-8-92  
 Chief, Bureau of Engineering Date  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Anna Hilborn* 6/22/92  
 Chief, Division of Community Planning & Land Development Date

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

DESIGNED JLS	ROAD CONSTRUCTION PLANS DRAINAGE AREA MAP FOR DEVELOPED CONDITIONS FREESTATE	SCALE 1" = 200'	
DRAWN BAL		DRAWING 326549	
CHECKED JLS		JOB NO. 91-099	
DATE 11/91		6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	FILE NO. 89-134 D
		For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP % THE SANFORD COMPANIES 1515 NOYES DRIVE SILVER SPRING, MD 20910	

1	Revised per County and State comments.	APR. 1992
NO.	REVISION	DATE





STATE OF MARYLAND  
*[Signature]*  
 11/23/91

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

Daniel P. Dolan  
 4/15/92

NO.	REVISION	DATE
1	Revised per County and State comments.	Apr. 1992

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*[Signature]*  
 Chief, Land Development Division  
 Date: 6/6/92

*[Signature]*  
 Chief, Bureau of Highways (AS/ins)  
 Date: 5/14/92

*[Signature]*  
 Chief, Bureau of Engineering  
 Date: 6-8-92

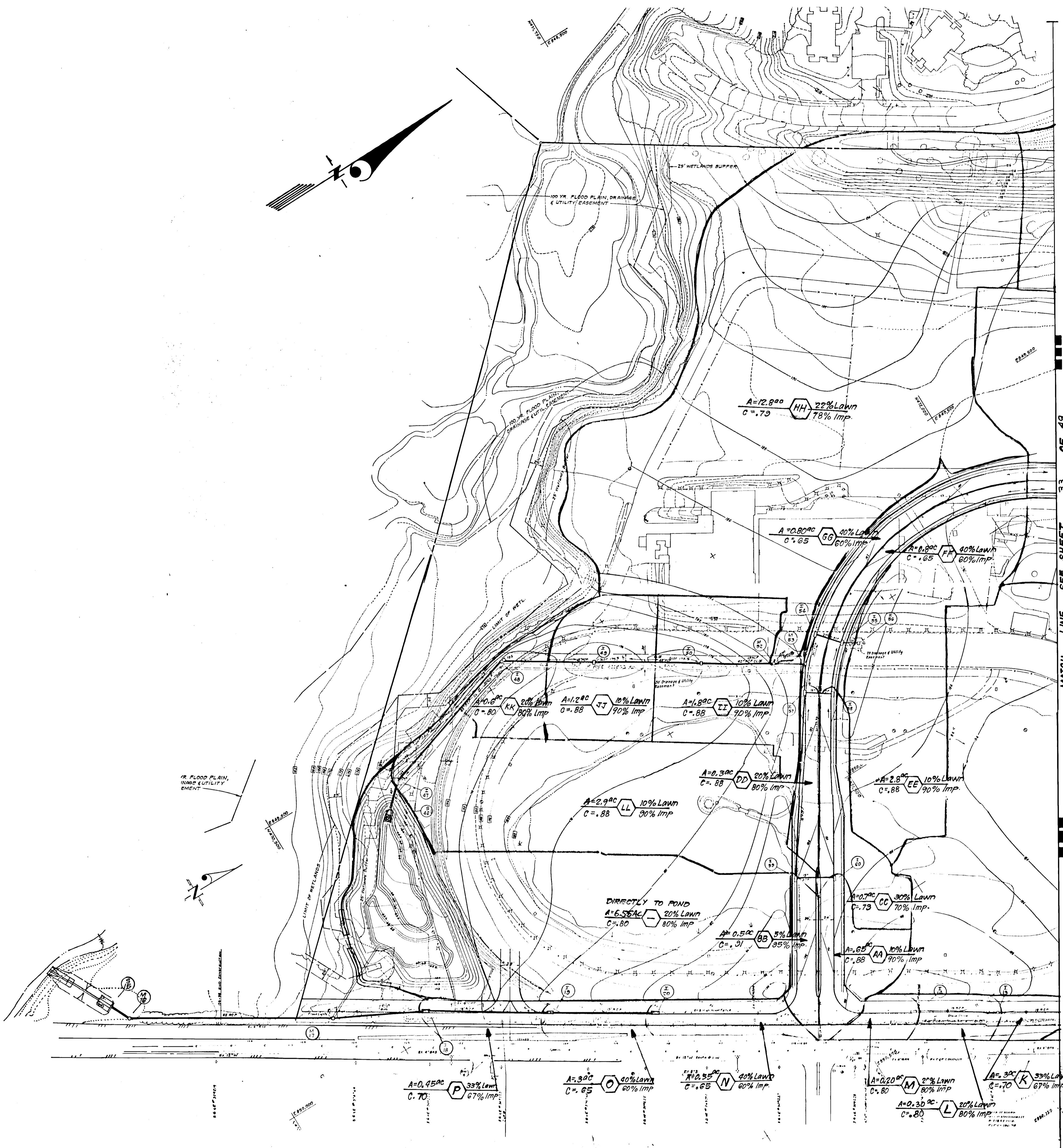
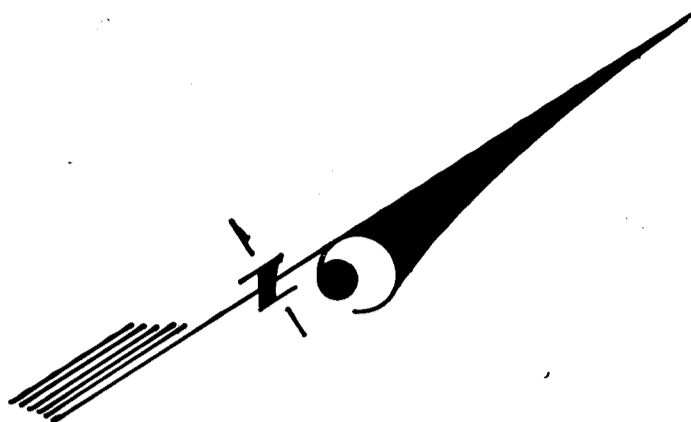
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*[Signature]*  
 Chief, Division of Community Planning & Land Development  
 Date: 6/28/92

**CLARK • FINEFROCK & SACKETT, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 2100 MINNIE HILL WAY • COLUMBIA, MD 21045 • (410) 383-7500 FAX TO: (301) 621-1801 WASH.

DESIGNED J.L.S.	<b>ROAD CONSTRUCTION PLANS          DRAINAGE AREA MAP          FOR STORM DRAINAGE</b>  <b>FREESTATE</b>  6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP c/o THE SANFORD COMPANIES 1515 NOYES DRIVE SILVER SPRING, MD 20910	SCALE 1"=100'
DRAWN KIWM		DRAWING 33 OF 49
CHECKED J.L.S.		JOB NO 80-134
DATE 11/91		FILE NO 91-099 D





100 YR FLOOD PLAIN, DRAINAGE UTILITY CASEMENT

25' WETLANDS BUFFER

MATCH LINE SEE SHEET 33 OF 49

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*David P. Delaney*  
4/15/92

NO.	REVISION	DATE
1	Revised per County and State comments.	Apr. 1992

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad Dammon* for  
Chief, Land Development Division  
Date: 6/10/92

*Colin M. Duggan*  
Chief, Bureau of Highways  
(Acting)  
Date: 5/16/92

*Robert S. Ryan*  
Chief, Bureau of Engineering  
Date: 6-8-92

APPROVED: HOWARD COUNTY DEPT OF PLANNING & ZONING

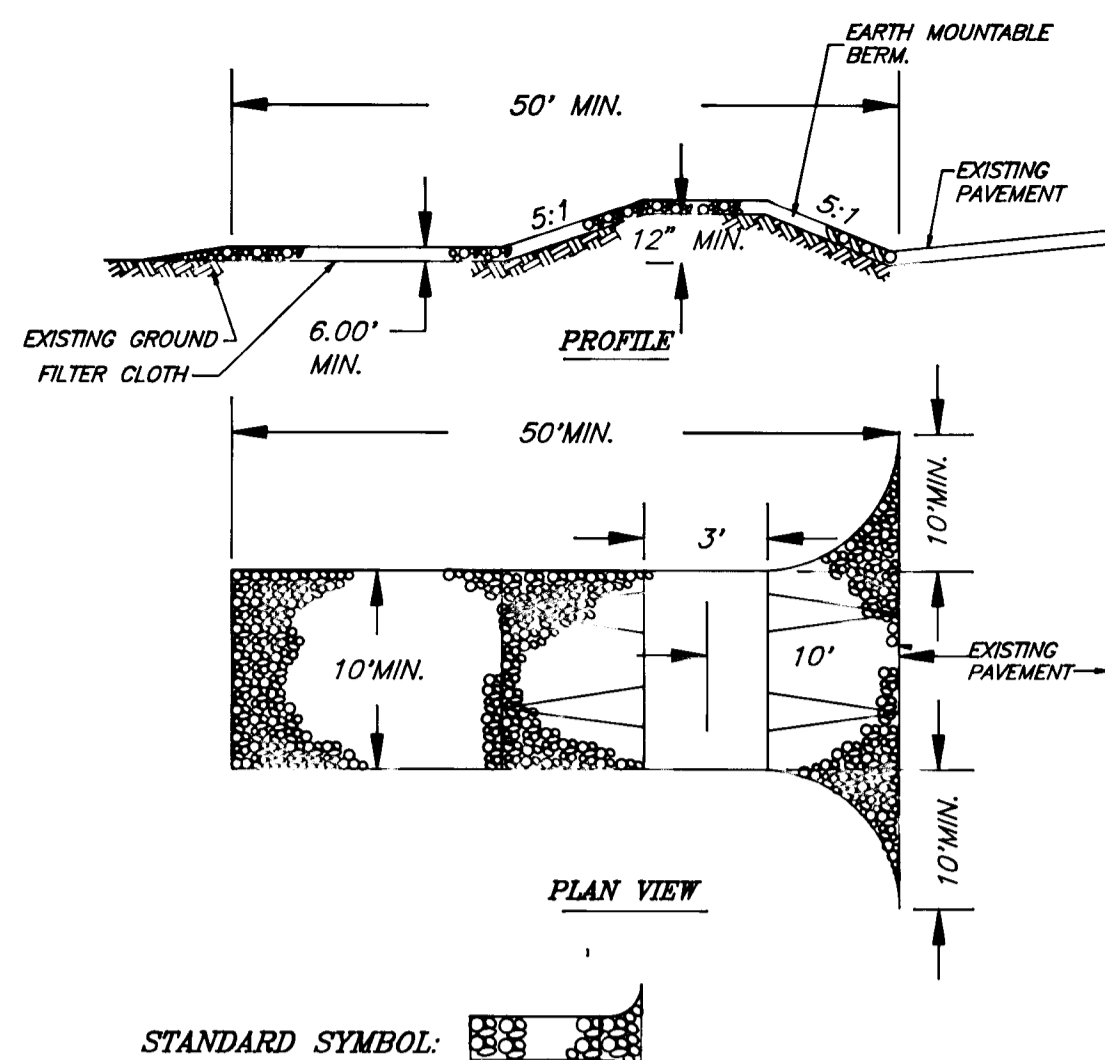
*Shirley Stewart*  
Chief, Division of Community Planning & Land Development  
Date: 4/20/92

**CLARK • FINEROCK & SACKETT, INC.**  
ENGINEERS • PLANNERS • SURVEYORS  
715 MINISTERS WAY • COLUMBIA, MD 21045 • (301) 381-7500 • BALTO. • (301) 621-8800 • WASH.

DESIGNED	ROAD CONSTRUCTION PLANS DRAINAGE AREA MAP FOR STORM DRAINAGE ...	SCALE
J. L. S.		1" = 100'
DRAWN		DRAWING
KIWM	<b>FREESTATE</b>	34 OF 43
CHECKED		JOB NO
J. L. S.	6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	80-134
DATE	For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP % THE SANFORD COMPANIES 1515 NOYES DRIVE SILVER SPRING, MD 20910	FILE NO
11/91		91-099 D





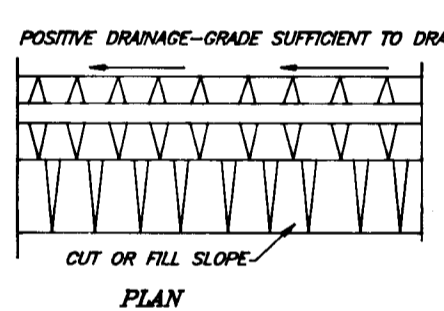
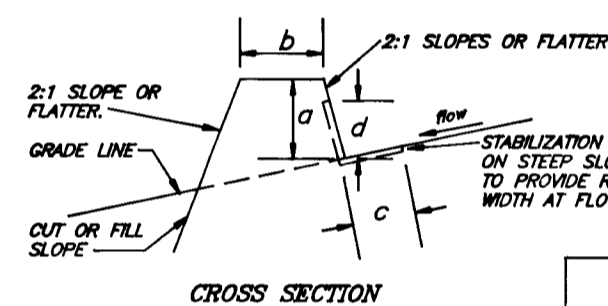


STANDARD SYMBOL: CONSTRUCTION SPECIFICATIONS

- STONE SIZE: USE 2" STONE, OR RECYCLED CONCRETE EQUIVALENT. LENGTH, AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A 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 CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE.
- SURFACE WATER: ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE 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 CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT 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 RAINFALL.

### STABILIZED CONSTRUCTION ENTRANCE (SCE)

NO SCALE



TYPE OF TREATMENT	CHANNEL GRADE	DIKE A (3' OR LESS)	DIKE B (6'-10' OR LESS)
1	0.5-3.0%	10'	16'
2	3.1-5.0%	24"	36"
3	5.1-8.0%	24"	36"
4	8.1-20%	6"	15"

STANDARD SYMBOL:

### CONSTRUCTION SPECIFICATIONS

- All dikes shall be constructed 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 drainage by construction traffic.
- Filter location should be adjusted as needed to utilize a stabilized slope outlet.
- Stabilize area on outlet that functions with a minimum of erosion. Runoff 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 adequately stabilized.
- Stabilization shall be (A) in accordance with standard specifications for seed and straw mulch or straw matting if not in seeding season, (B) flow channel as per the chart below.

### FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING SUITE, OR EXCELSION SUITE, 4'-6"
3	5.1-8.0%	SEED WITH SUITE, OR SOG, 4'-6"	LINED RIP-RAP 4'-6"
4	8.1-20%	LINED RIP-RAP 4'-6"	ENGINEERING DESIGN

### EARTH DIKE (ED)

NO SCALE

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

David P. De...  
4/15/92

Revised for HOWARD S.C.D.  
Name: *[Signature]*  
Signature: *[Signature]*  
Date: *[Date]*  
US Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]*  
Approver

### 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."

*[Signature]*  
Signature Date

### 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

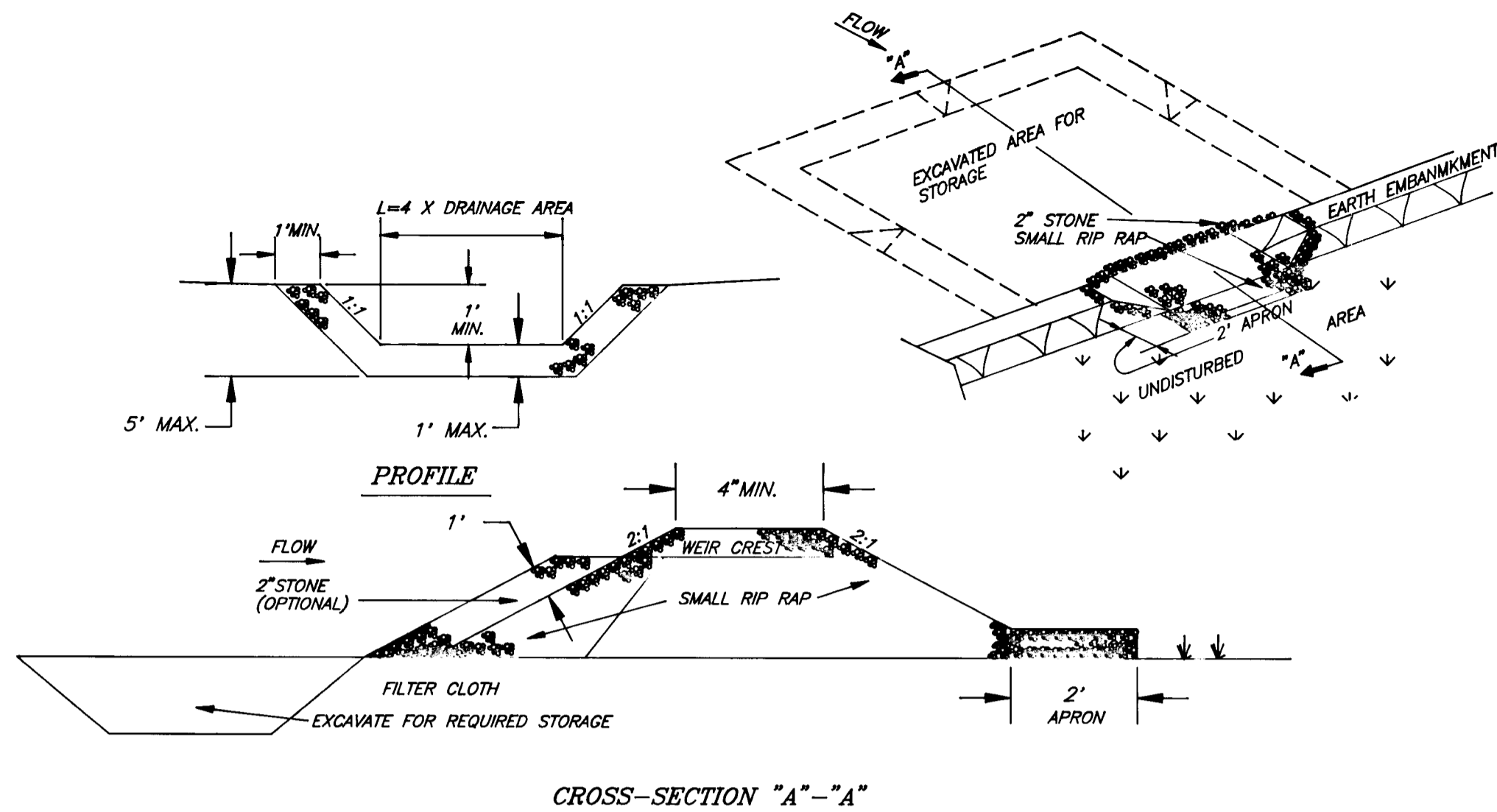
### STONE OUTLET SEDIMENT TRAP (ST-V)

NO SCALE

### CONSTRUCTION SPECIFICATIONS FOR ST-V

- Area under embankment shall be cleared, grubbed and stripped of any vegetation on a 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 stone used in the outlet shall be riprap 4"-8" along with a 1" thickness of 2" aggregate placed on the up-grade side on the small riprap or embedded filter cloth in the riprap.
- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 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 is minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.



### 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 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. Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs./1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

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

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

### TEMPORARY SEEDING NOTES

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

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

SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (3.2 lbs./1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs./1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

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

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

### SEDIMENT AND EROSION CONTROL NOTES

- 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. (892-2437).
- 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 SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL.
- 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 as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeters in accordance with Vol. I, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 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 (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.
- 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.
- SITE ANALYSIS:  
Total Area of Site: 115.51 AC.  
Area Disturbed: 27.31 AC.  
Area to be roofed or paved: 6.91 AC.  
Area to be vegetatively stabilized: 13.5 AC.  
Total Cut: 38.9, 000 CY  
Total Fill: 38.9, 000 CY  
Offsite Waste/Borrow Area Location: \*

- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
- 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.
- If houses are to be constructed on an "as sold" basis, at random, Single Family Sediment Control, as shown below shall be implemented.
- All pipes to be blocked at the end of each day (see detail this sheet).
- The total amount of silt fence: (340 LF)  
The total amount of Super-Silt Fence: 1225 LF

\* It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and its grading permit number at the time of construction.  
\* 1.9 AC ± Per Area of Ponds

### CONSTRUCTION SEQUENCE

	NO. OF DAYS
1. OBTAIN GRADING PERMIT.	7 DAYS
* 2. CONSTRUCT POND NO. 1 AND POND NO. 2, SCE'S, AND INSTALL SILT FENCE. CONSTRUCT STORM DRAINAGE M-17 TO S-15 AND IMMEDIATELY STABILIZE.	60 DAYS
3. CONSTRUCT STORM DRAINAGE M-108 TO S-107 AND INSTALL TEMP. 66" CMP. EARTH DIKES AND TEMPORARILY GRADE AS SHOWN. TRAFFIC ON EXISTING GORMAN ROAD TO BE MAINTAINED DURING CONSTRUCTION OF STORM DRAINAGE.	14 DAYS
4. CONSTRUCT STORM DRAINAGE I-48 TO S-46 AND INSTALL EARTH DIKE AT POND NO. 1. DIVERT WATER FROM EARTH DIKE TO I-48.	14 DAYS
5. INSTALL SEDIMENT AND EROSION CONTROL MEASURES FOR U.S. ROUTE #1 AND INSTALL PHASE I TRAFFIC CONTROL FOR U.S. ROUTE #1 AND RELOCATED GORMAN ROAD.	14 DAYS
6. CLEAR AND ROUGH GRADE SITE.	120 DAYS
7. CONSTRUCT REMAINING STORM DRAINAGE AND INSTALL TEMPORARY PIPES.	120 DAYS
8. CONSTRUCT SANITARY SEWER.	90 DAYS
9. CONSTRUCT WATER MAINS.	60 DAYS
10. RELOCATE AND INSTALL UTILITIES.	60 DAYS
11. FINE GRADE AND CONSTRUCT WIDENING ALONG U.S. ROUTE #1 EXCEPT AT INTERSECTION WITH EXISTING GORMAN ROAD.	30 DAYS
12. FINE GRADE AND CONSTRUCT RELOCATED GORMAN ROAD FULL WIDTH FROM U.S. ROUTE #1 TO STATION 62+50.	30 DAYS
13. CONSTRUCT SOUTH SIDE (25 FT.) OF RELOCATED GORMAN ROAD, STATION 58+00 TO 62+50, MAINTAINING TRAFFIC IN ACCORDANCE WITH SHEET 40 OF 49 TRAFFIC CONTROL PLAN.	30 DAYS
14. AFTER COMPLETION OF 11, 12 AND 13, INSTALL PHASE II TRAFFIC CONTROL FOR RELOCATED GORMAN ROAD AND DIRECT TRAFFIC ONTO RELOCATED GORMAN ROAD FROM GORMAN ROAD AND COMPLETE WIDENING ALONG U.S. ROUTE #1 AND CONSTRUCT PROPOSED DRIVEWAY TO BUILDING # 9120 OFF RELOCATED GORMAN ROAD.	30 DAYS
15. FINE GRADE AND CONSTRUCT REMAINDER OF PAVING FOR RELOCATED GORMAN ROAD AND REMOVE PAVING FOR EXISTING GORMAN ROAD.	30 DAYS
16. FINE GRADE AND CONSTRUCT PAVING FOR FREESTATE DRIVE.	30 DAYS
17. STABILIZE ALL DISTURBED AREAS ONSITE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS.	30 DAYS
18. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TEMP. PIPES AND SEDIMENT AND EROSION CONTROLS AND STABILIZE.	14 DAYS
19. CLEANOUT AND CONVERT PONDS TO STORM WATER MANAGEMENT FACILITIES.	14 DAYS
20. AFTER ALL AREAS DRAINING TO THE PONDS HAVE BEEN STABILIZED, INSTALL PLANTS AND TREES PER SHEETS 48 AND 49.	14 DAYS
21. INSTALL PHASE II TRAFFIC CONTROL FOR U.S. ROUTE #1.	14 DAYS
22. CONSTRUCT MEDIAN AND OVERLAY FOR U.S. ROUTE #1.	21 DAYS
23. PAVEMENT OF U.S. ROUTE #1, RELOCATED GORMAN ROAD, AND FREESTATE DRIVE TO BE MARKED PER PAVEMENT MARKING PLANS.	7 DAYS

\* IF WATER IS ENCOUNTERED DURING CONSTRUCTION OF COKE TRENCH IT WILL BE PUMPED OUT AS REQUIRED. IF ROCK IS ENCOUNTERED, IT SHALL REMAIN.

### APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*[Signature]*  
DATE: 6/26/92  
*[Signature]*  
DATE: 5/16/92  
*[Signature]*  
DATE: 6-8-92

### APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*[Signature]*  
DATE: 6/22/92

### CLARK • FINEFROCK & SACKETT, INC.

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

DESIGNED	JLS	SCALE	As Shown
DRAWN <td>KIWM <td>DRAWING <td>35 OF 49</td> </td></td>	KIWM <td>DRAWING <td>35 OF 49</td> </td>	DRAWING <td>35 OF 49</td>	35 OF 49
CHECKED <td>JLS <td>JOB NO. <td>91-039</td> </td></td>	JLS <td>JOB NO. <td>91-039</td> </td>	JOB NO. <td>91-039</td>	91-039
DATE <td>NOV. 1991 <td>FILE NO. <td>89-134-D</td> </td></td>	NOV. 1991 <td>FILE NO. <td>89-134-D</td> </td>	FILE NO. <td>89-134-D</td>	89-134-D

ROAD CONSTRUCTION PLANS  
SEDIMENT AND EROSION CONTROL  
DETAIL SHEET  
**FREESTATE**  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

FOR: FREESTATE ASSOCIATES LIMITED PART  
96 The Sanford Companies  
1515 Noyes Drive Silver Spring, Md. 20910



**TWO LANES, TWO-WAY  
MULTI-USE UNDIVIDED  
DIVIDED UNCONTROLLED CONVENTIONAL  
EXPRESSWAY/FREEWAY**

- Flashing warning lights and/or flags may be used to call attention to early warning signs.
- Warning lights may be used to mark channelizing devices as needed.
- Channelizing devices are to be extended to a point where they are visible to approaching traffic. A full taper length (on two lane, two-way roadways) shall always be provided in advance of curves.
- Taper formula  $L = SW$  for speeds greater than (>) 40 MPH  
 $L = WS/2/60$  for speeds equal to or less than (<) 40 MPH  
Where:  
L = minimum length of taper  
S = numerical value of vehicle speed  
W = width of offset
- Maximum spacing between channelizing devices:  
a. Taper - approximately equal in feet to the speed limit.  
b. Tangent - twice the above taper value.
- Flood lights should be provided to mark flagger stations at night.
- If flaggers are not able to see each other, two-way radio communications shall be used.
- If entire work area is visible from one station, a single flagger may be used.
- Pavement markings no longer applicable shall be removed or obliterated as soon as practicable. Temporary markings shall be used as necessary.

Alternate traffic control plans may be presented to the SHA District Office for approval in accordance with section 814.02 of the MDT's Standard Specifications for Construction and Materials, January 1982 and any revisions thereto.

For emergency repair operations, a minimum number of traffic control devices (TCDs) may be used. This generally will consist of one sign per direction, flashing lights on the vehicle, a minimum number of channelizing devices, and flags or high level devices. Additional TCD's such as, arrow panels, more signing, etc., will be placed as soon as possible to present an array of devices which are consistent with the standard work zone traffic control typicals.

(continued)

APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**GENERAL NOTES**  
STANDARD NO. MD-106.00

An arrow panel in the flashing arrow mode shall be used anytime there is a lane closure on a multi-lane highway. Arrow panels shall not be used along two lane two-way roadways unless they display MSHA's "four corner" lamp array.

Vehicles should not occupy or be stopped in a lane beyond a horizontal curve or a vertical curve (hill). Instead vehicles stopping are to be pulled as far off the road as possible or be otherwise parked in a manner as to inhibit the movement of traffic as little as possible. If stopping is necessary and no backup vehicle is available, place channelizing devices in accordance with general note #3 along with the appropriate signing.

Warning signs mounted on wood post(s) for the over 24 hour operations shall be installed as shown on Figure 6-1, Part V of the MUTCD. The bottom of the signs mounted on portable supports shall be not less than one foot above the pavement elevation. All signs shall be installed in such a manner as to provide adequate visibility of these signs and all other existing signs on the highway to the driver.

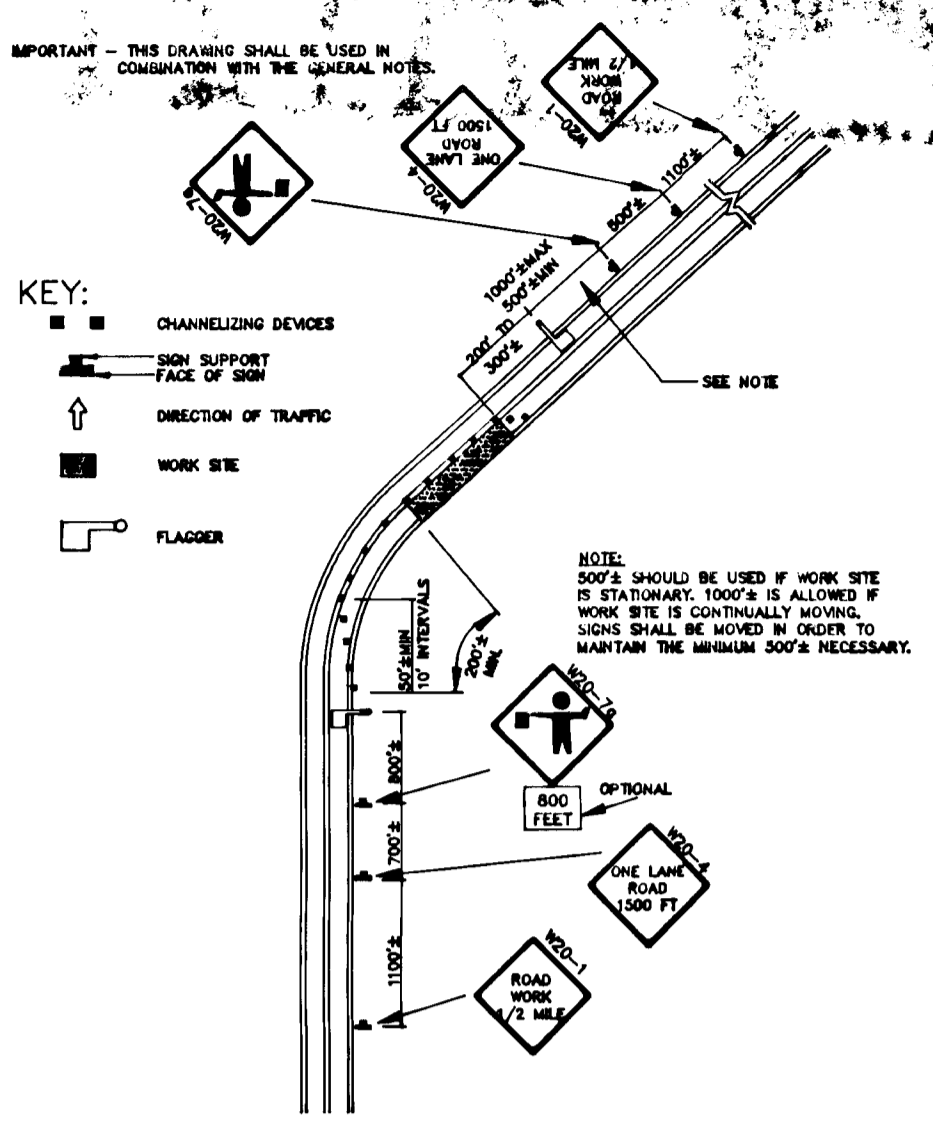
In urban areas along streets where the prevailing speed is 35 MPH or less, and along secondary roads where the Average Daily Traffic (ADT) is less than 1000 vehicles, the minimum size of 36" x 36" may be used.

For utility operations, advance warning signs may utilize the word "AHEAD" in lieu of distance up to and including 1500 feet. At greater distances, such as 1/2 mile or 1 mile, however, the correct distance value is to be used on such warning signs. Also, the UTILITY WORK AHEAD sign may be used in lieu of ROAD CONSTRUCTION ROAD WORK or SHOULDER WORK signs only.

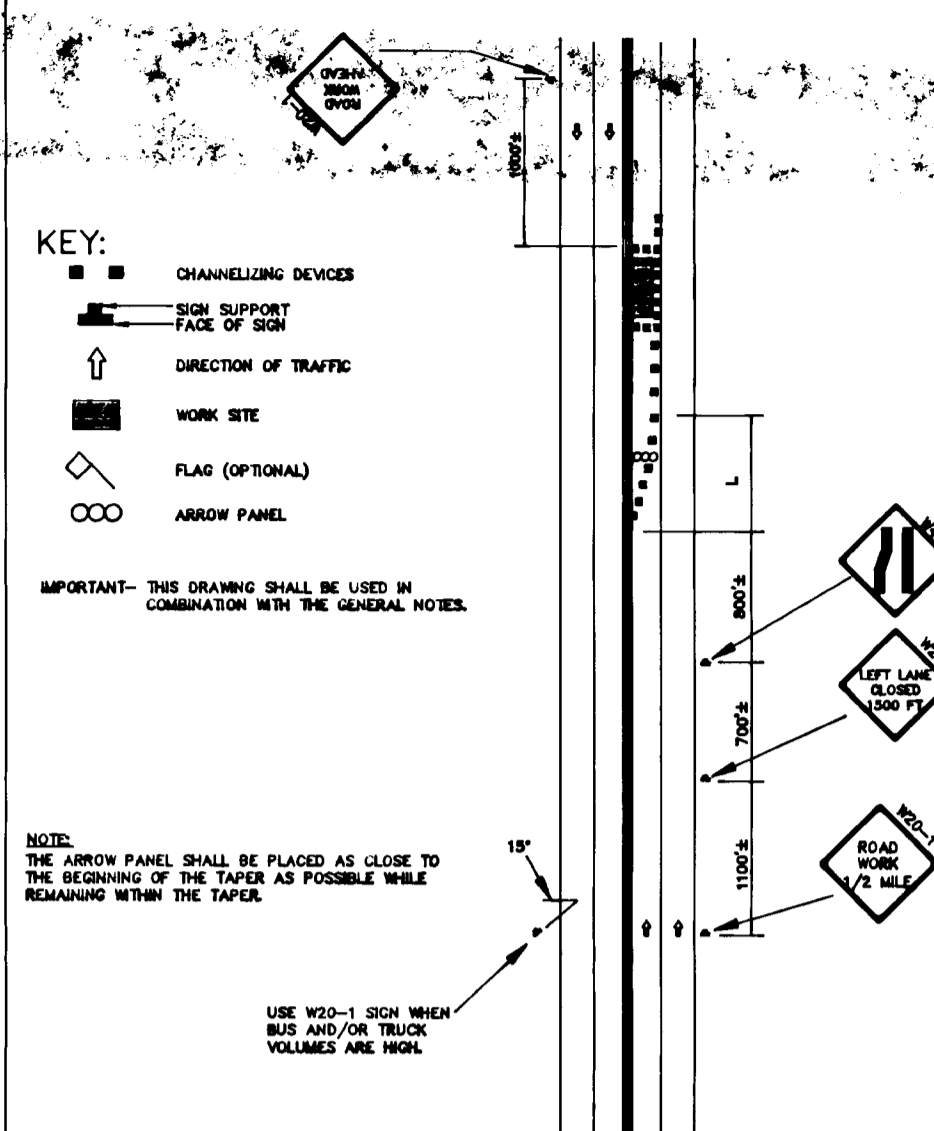
No work operations which interfere with the flow of traffic may take place during the peak hours 6 A.M. - 9 A.M. and 3 P.M. - 7 P.M. Monday - Friday unless written approval is received from the SHA District Engineer.

All signs, channelizing devices, etc. shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

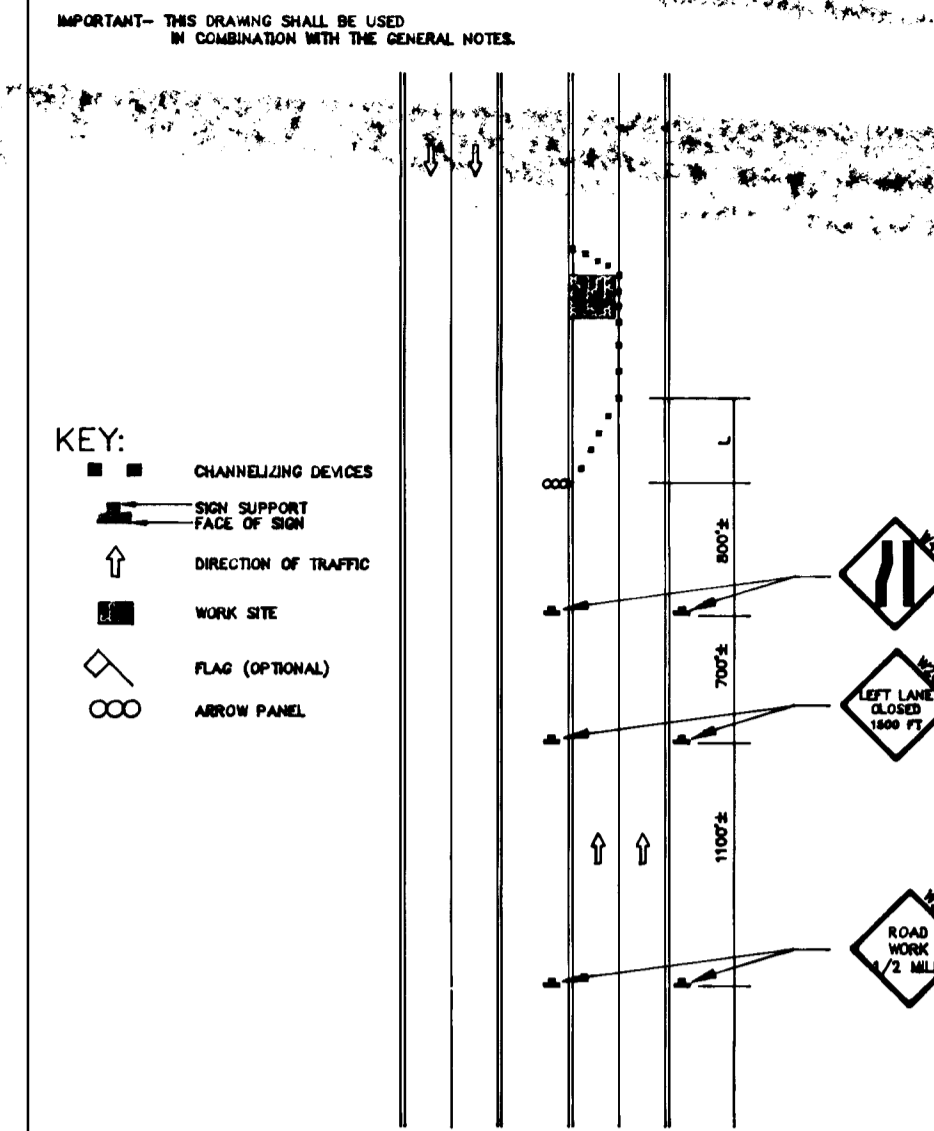
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[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**GENERAL NOTES**  
STANDARD NO. MD-106.00



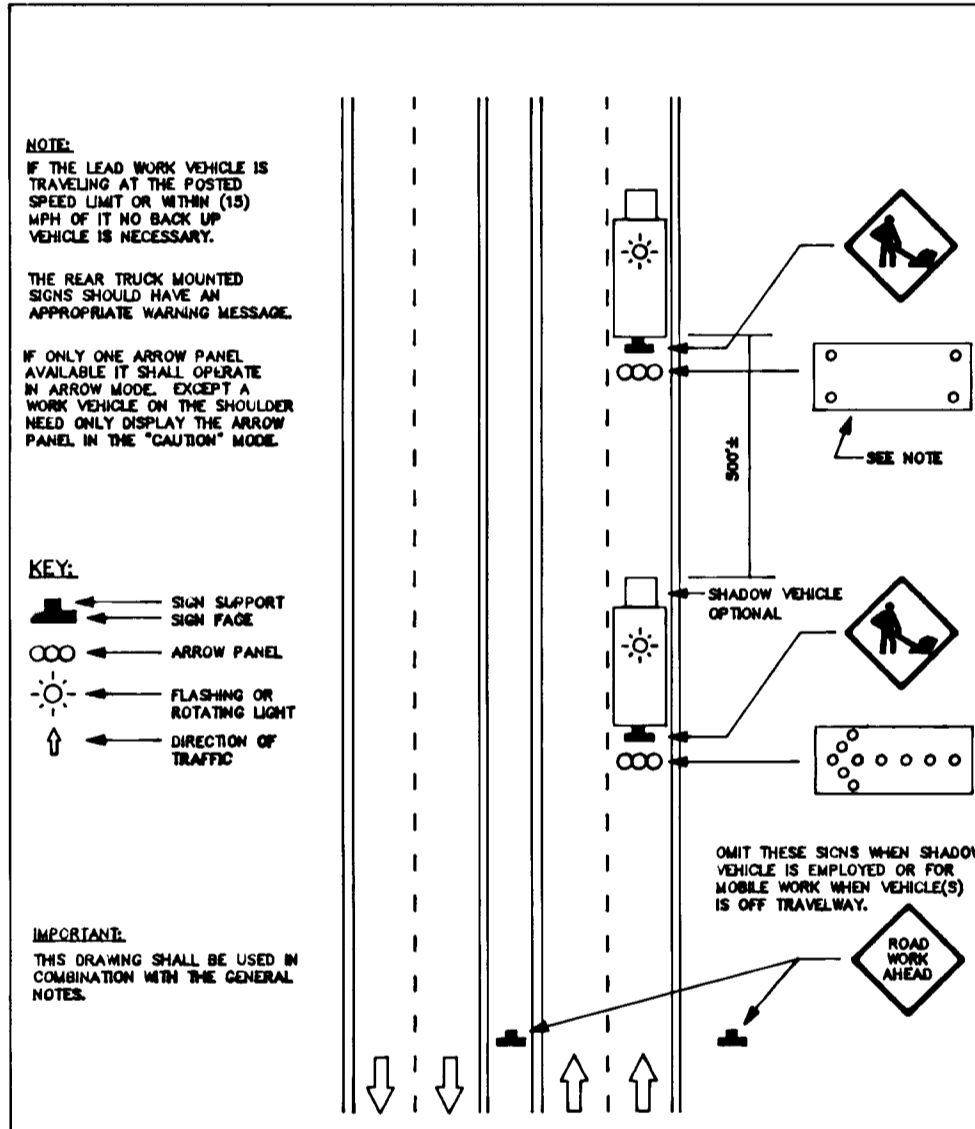
APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**FLAGGER OPERATION**  
15 MIN-24 HRS ON ROAD GREATER THAN 40 MPH  
2 LANES, 2 WAY STANDARD NO. MD-105.101



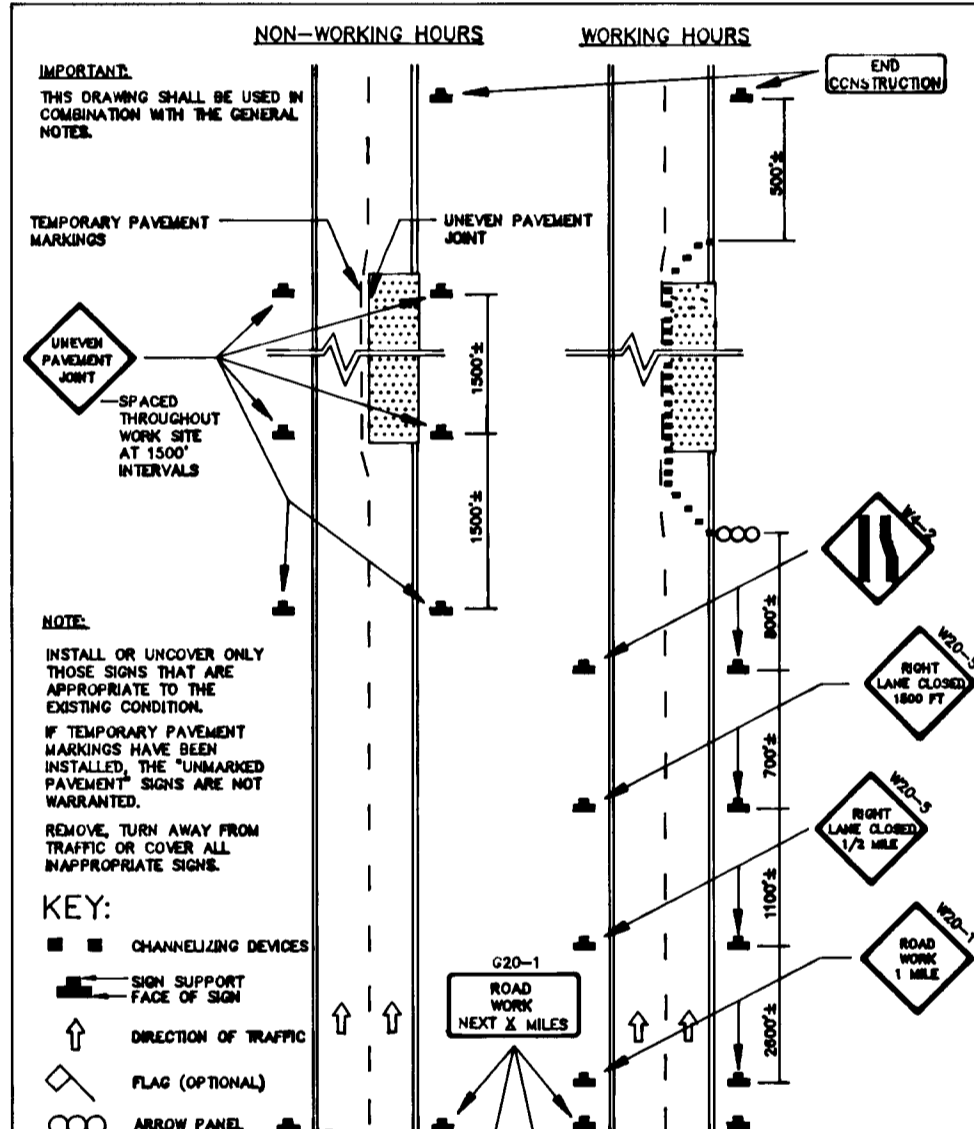
APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**LEFT LANE CLOSURE**  
15 MIN-24 HRS ON ROAD GREATER THAN 40 MPH  
MULTILANE UNDIV. STANDARD NO. MD-105.201



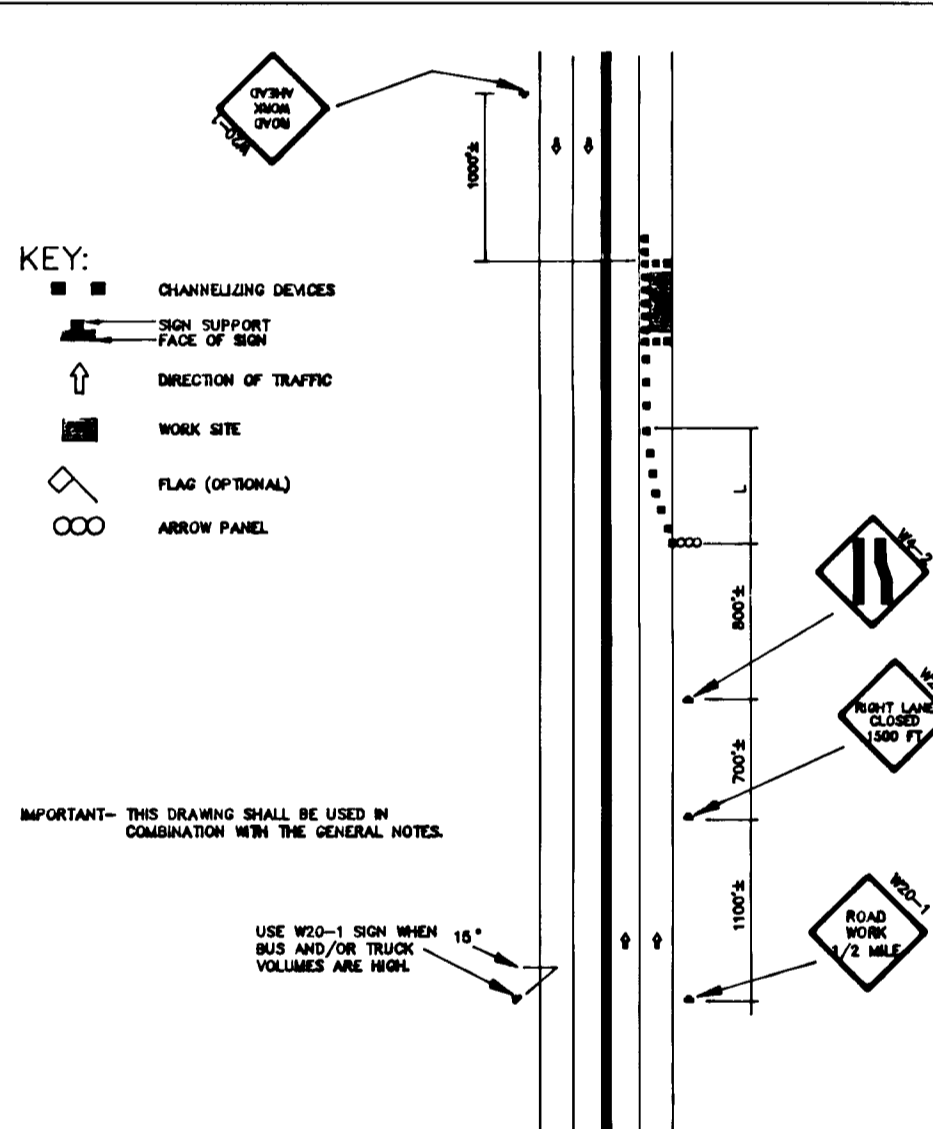
APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**LEFT LANE CLOSURE**  
15 MIN-24 HRS ON ROAD GREATER THAN 40 MPH  
DIVIDED UNCON. STANDARD NO. MD-105.301



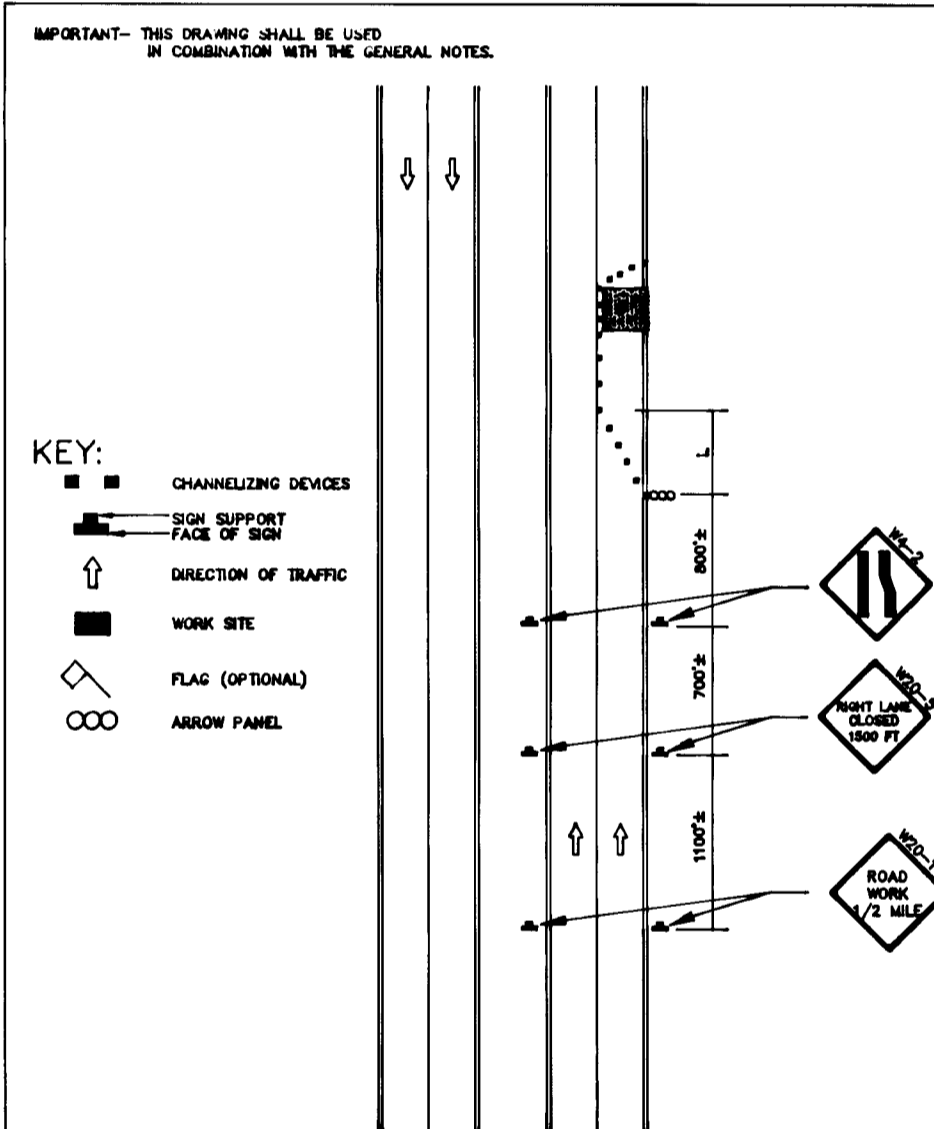
APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**MOVING/MOBILE OPERATION**  
0-15 MIN/SLOW ON ROAD ALL SPEEDS  
DIVIDED UNCON. STANDARD NO. MD-106.301



APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**RESURFACING PROJECT**  
OVER 24 HRS ON ROAD ALL SPEEDS  
EXP/FREEWAY STANDARD NO. MD-107.001



APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**RIGHT LANE CLOSURE**  
15 MIN-24 HRS ON ROAD GREATER THAN 40 MPH  
MULTILANE UNDIV. STANDARD NO. MD-105.203



APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**RIGHT LANE CLOSURE**  
15 MIN-24 HRS ON ROAD GREATER THAN 40 MPH  
DIVIDED UNCON. STANDARD NO. MD-105.303

MPH	MINIMUM DISTANCE FROM TAPER TO FIRST SIGN	ADDITIONAL SIGNS IN SERIES TO BE SPACED AT A MINIMUM			MINIMUM COMBINED ADVANCED WARNING
	A	B	C	D	
0 - 25	300	200	300	-	800
30 - 35	300	300	300	-	900
40	300	500	300	-	1500
41 - 55	800'	700'	1100'	2800'	5200' (1/2 MILE)

\* SPEED LIMIT OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER.  
BELOW EXAMPLE: TWO LANES ONE-WAY ROADWAY / SPEED LIMIT IS 35 MPH / PREVAILING SPEED IS 38 MPH (USE 40 MPH)

TERMINATION AREA	WORK AREA	BUFFER AREA	TRANSITION AREA	ADVANCE WARNING AREA
LETS TRAFFIC RESUME NORMAL DRIVING	PROTECTS TRAFFIC AND WORKERS	PROTECTS TRAFFIC OUT OF ITS NORMAL PATH	TELLS TRAFFIC WHAT TO EXPECT AHEAD	

APPROVED: [Signature] DEPUTY CHIEF ENGINEER - TRAFFIC DATE: [Date]  
[Signature] FEDERAL HIGHWAY ADMINISTRATION  
[Signature] STATE HIGHWAY ADMINISTRATION  
**Maryland Department of Transportation**  
STATE HIGHWAY ADMINISTRATION  
WORK ZONE TRAFFIC CONTROL TYPICAL  
**SIGN SPACING CHART**  
STANDARD NO. MD-105.02

**SYMBOLS TYPICAL**

- PRECAST CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICE (BARRELS)
- CHANNELIZING DEVICE (TRAFFIC CONES)
- FACE OF SIGN
- SIGN SUPPORT
- S.H.A. APPROVED RAISED PAVEMENT MARKING

**GENERAL NOTES:**

- THE TYPICALS SHOWN ON THIS SHEET ARE TO BE USED FOR SPECIFIC MAINTENANCE OF TRAFFIC SITUATIONS NOT ADDRESSED ON THE FOLLOWING SHEETS.
- THE CONTRACTOR SHALL ADHERE TO THE MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS (DATED 02/14/92) CONTAINED IN THE PROJECT SPECIFICATIONS.
- ALL SIGNS SHOWN IN THE TRAFFIC CONTROL PLANS SHALL BE DESIGNED AND FABRICATED AS PER MD STANDARD HIGHWAY SIGNS BOOKLET, M.U.T.C.D., AND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

During Construction and maintenance activities involving pavement surface work, it often becomes necessary to maintain traffic along-side or near lanes and shoulders having different elevations. Special traffic control devices are needed to safely guide traffic through such areas, and the traffic control requirements are described in these guidelines.

**1. Drop-off of 2 inches or less:**

Pavement elevation differences of two inches (2) or less may be freely crossed by traffic. Drop-offs of 2 inches or less shall be indicated to traffic through the use of the Uneven Pavement Warning sign, either the Word Message sign or the Symbol sign.

The Uneven Pavement Warning sign is to be placed supplemental to other work zone traffic control devices and shall provide advance warning along the approach to the area of uneven pavement, and be repeated within such an area.

The sign size and spacing, and how it complements other traffic control devices is covered in the SHA Standard Specifications and the MUTCD.

**2. Drop-offs greater than 2 inches but 5 inches or less:**

Pavement with vertical elevation differences exceeding 2 inches but not exceeding 5 inches shall be marked with drums or other suitable channelizing devices so as to prevent traffic from crossing from one area to the other.

While it is intended that traffic traveling in the same direction drive to one side of the drop-off or the other, such traffic may be permitted to drive along both sides under properly controlled conditions, but such traffic may not be permitted to freely cross.

Drop-offs exceeding 2 inches but not exceeding 5 inches may be provided with an abutting wedge with a minimum slope of 3:1. Pavement drop-offs not exceeding 5 inches that are provided with wedges may be freely crossed by traffic. The standard Word Message or Symbol Uneven Pavement Warning sign shall be used where traffic is allowed to cross.

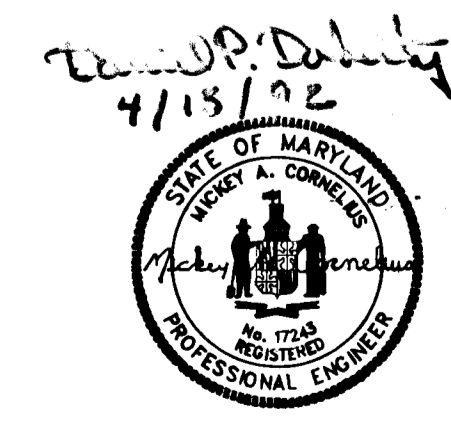
Pavement drop-offs exceeding 2 inches but not exceeding 5 inches along which traffic passes in opposite directions shall be marked with drums or other suitable channelizing devices and traffic shall not be permitted to cross.

**3. Drop-offs exceeding 5 inches:**

Pavement drop-offs exceeding 5 inches if next to a lane of traffic, or within 12 feet of a lane of traffic, shall be provided with a positive barrier to preclude crossing the drop-off throughout the entire length.

Unused pavement areas, and pavement areas exceeding 12 feet in width along which a positive barrier is not placed, shall be marked with drums or other suitable channelizing devices.

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
[Signature] DATE: 6/18/92  
[Signature] DATE: 6/18/92  
[Signature] DATE: 6-19-92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
[Signature] DATE: 6/22/92

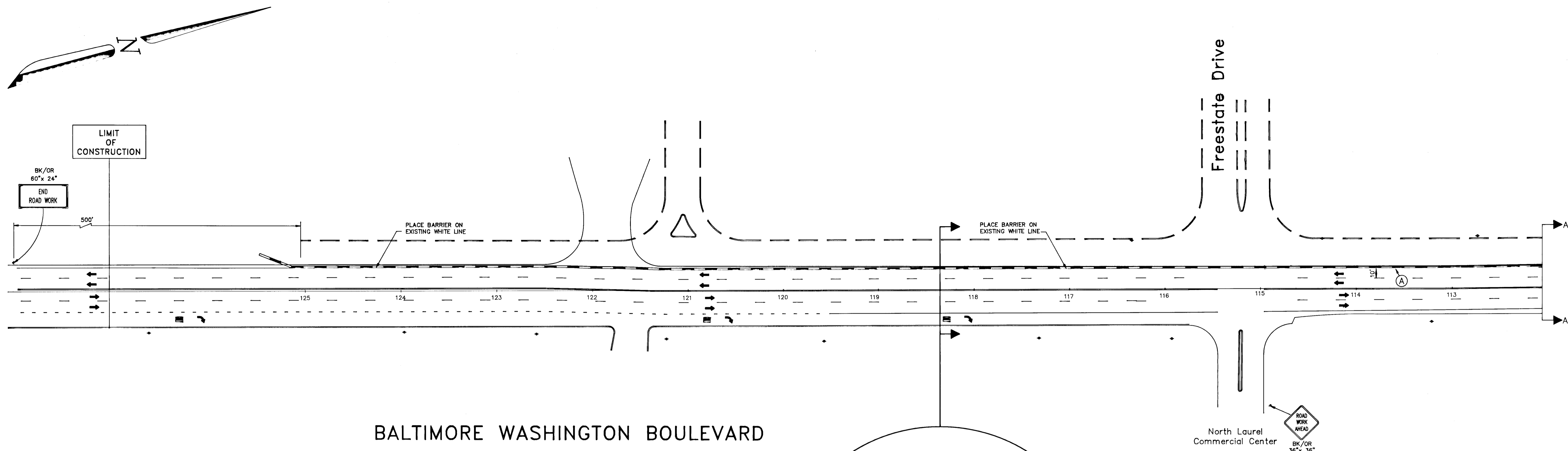
**The Traffic Group**  
The Traffic Group, Inc.  
Suite 600  
40 W. Chesapeake Avenue  
Towson, Maryland 21284  
301-583-8465  
Fax 301-321-8458

**FREESTATE TRAFFIC CONTROL PLAN**  
**GENERAL NOTES**

NO.	REVISION DESCRIPTION	BY	DATE
1	PER MSHA AND COUNTY COMMENTS		APR 92

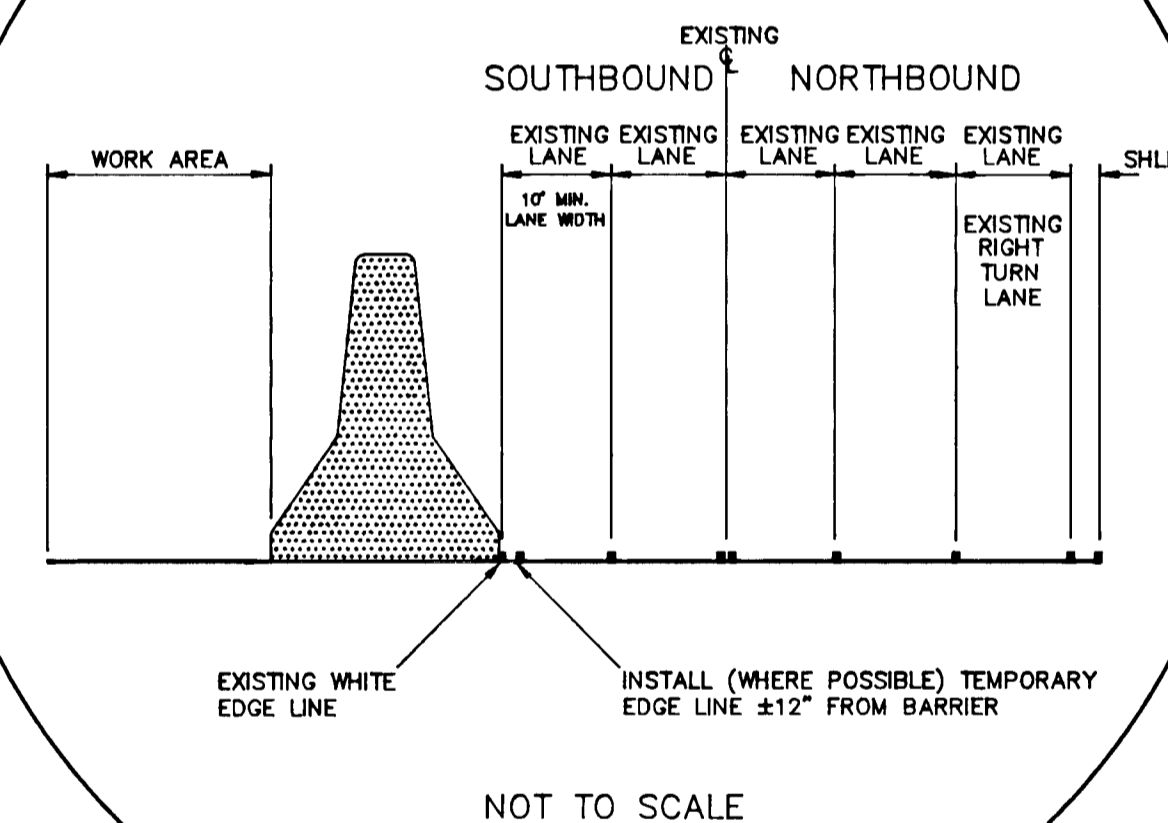
SCALE: NO TO SCALE  
DRAWN BY: M.A.M.  
DESIGNED BY: M.A.M./J.L.D.  
CHECKED BY: J.A.B.  
DATE: 11/14/91  
JOB NO: 11005  
SHEET NO: 36 of 49





BALTIMORE WASHINGTON BOULEVARD

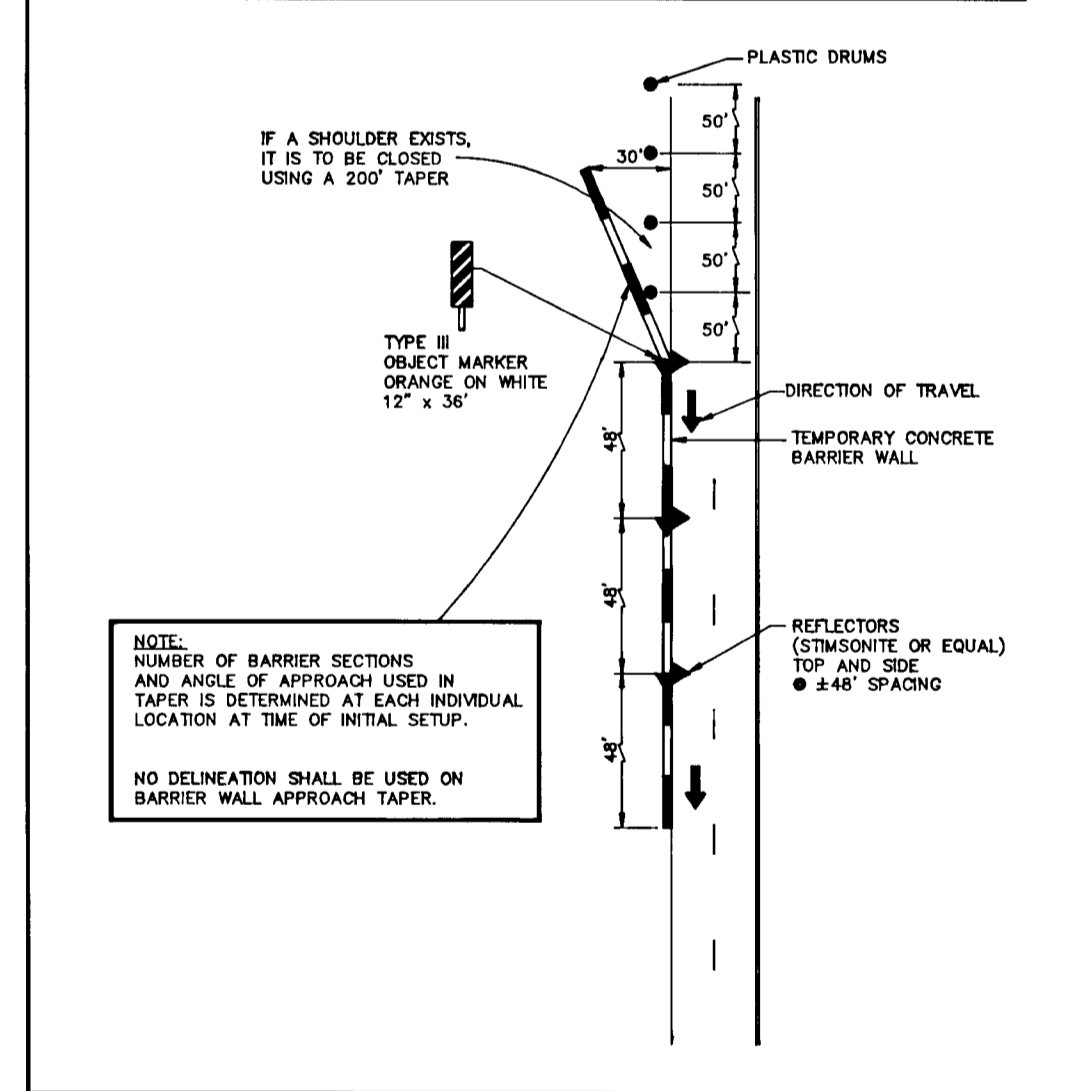
TYPICAL SECTION ALONG US 1



PAVEMENT MARKING LEGEND

A. INSTALL 5" TEMPORARY SOLID WHITE TAPE FOR EDGE LINE.

TEMPORARY CONCRETE BARRIER WALL DELINEATION



GENERAL NOTES

1. THE BARRIER FOR THIS PHASE IS TO BE PLACED ON THE EXISTING WHITE EDGE LINE FOR SOUTHBOUND US 1.
2. THERE IS TO BE A 5" WHITE EDGE LINE INSTALLED (WHERE POSSIBLE) ±12" FROM THE EDGE OF THE BARRIER.
3. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
4. A CONSTRUCTION VEHICLE ENTRANCE IS TO BE LOCATED JUST OFF OF EXISTING GORMAN ROAD.
5. ALL EXISTING PAVEMENT MARKINGS ARE TO BE UTILIZED DURING THIS PHASE OF CONSTRUCTION.

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*David T. DeLuca*  
4/15/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Chad Cameron*  
CHIEF LAND DEVELOPMENT DIVISION (acting) 6/10/92  
*Oliver M. Langston*  
CHIEF BUREAU OF HIGHWAY 6/10/92  
*James R. Kelly*  
CHIEF BUREAU OF ENGINEERING 6/19/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Bluma J. Helwan*  
Chief, Division of Community Planning & Land Development 6/22/92

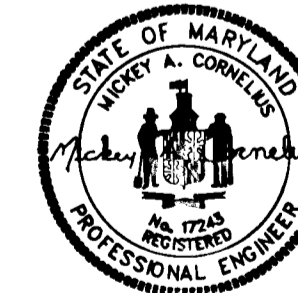


FREESTATE TRAFFIC CONTROL PLAN

PHASE 1

NO.	REVISION DESCRIPTION	BY	DATE
1	PER SIGN AND COUNTY COMMENTS		APR. 92

SCALE: 1" = 50'  
DRAWN BY: M.A.M.  
DESIGNED BY: M.A.M./J.J.D.  
CHECKED BY: J.A.B.  
DATE: 03/25/92  
JOB NO: 11005  
SHEET NO: 37 of 49

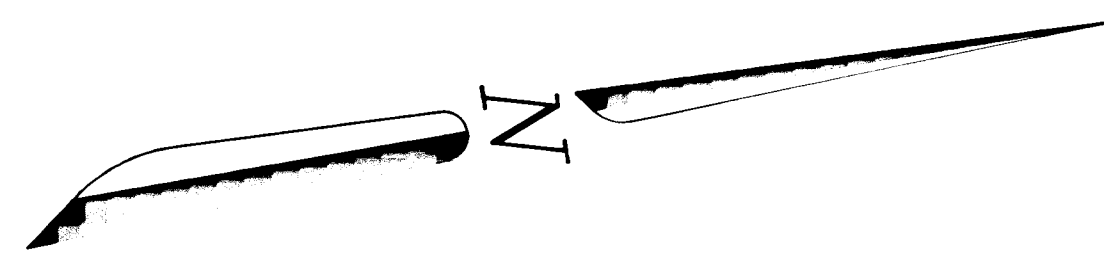


1640

GEOMETRIC LEGEND

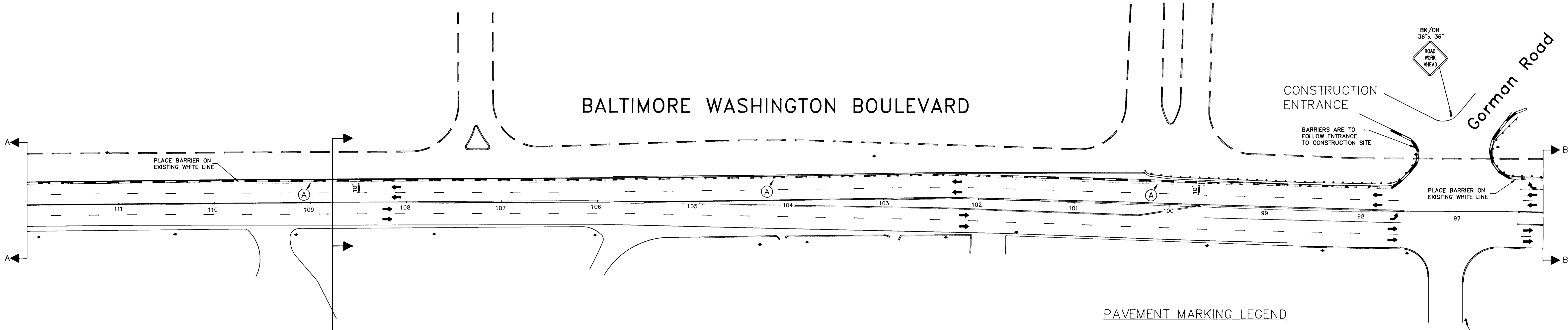
===== PROPOSED GEOMETRICS  
----- EXISTING GEOMETRICS





# BALTIMORE WASHINGTON BOULEVARD

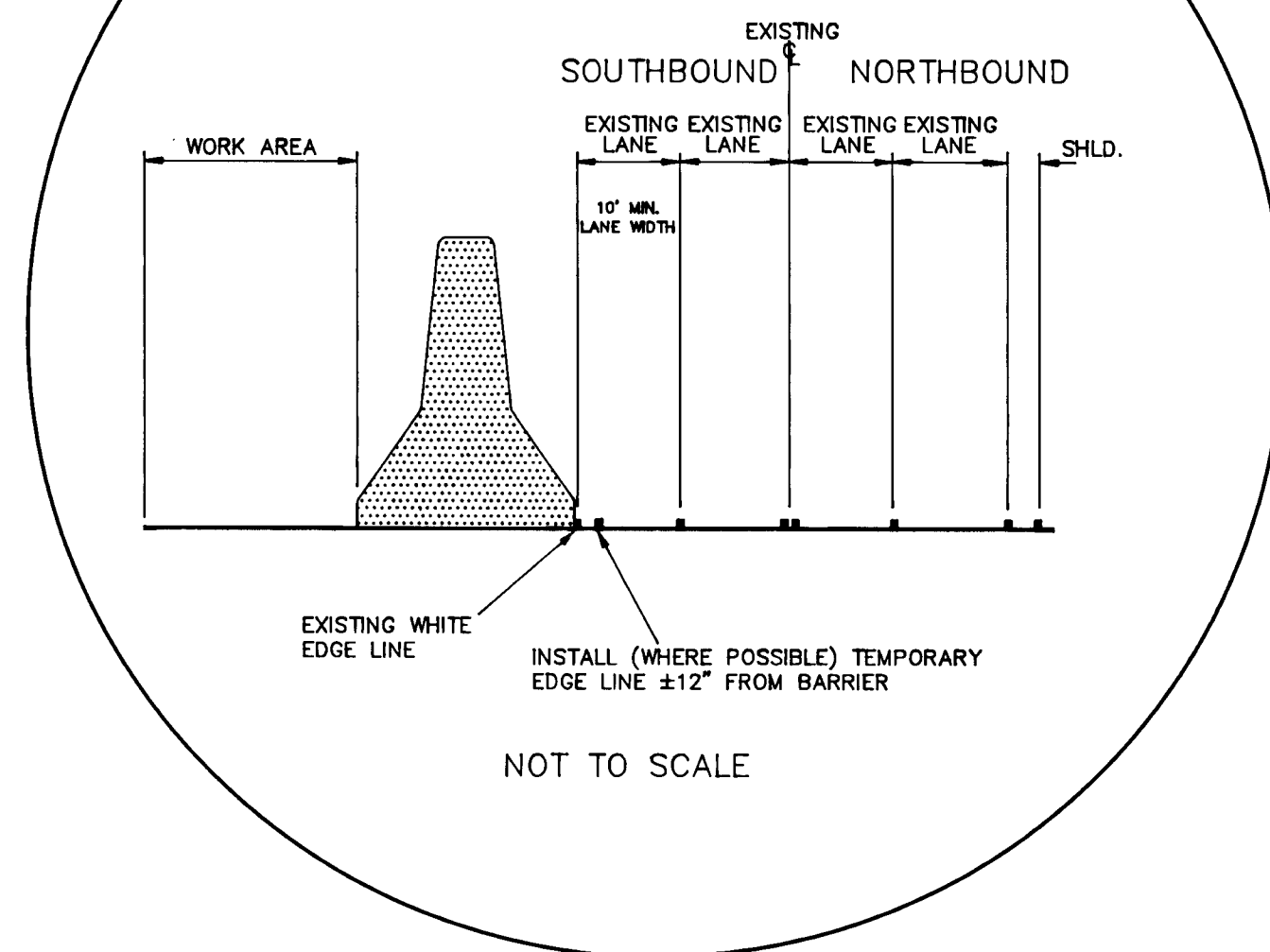
Relocated  
Gorman Road



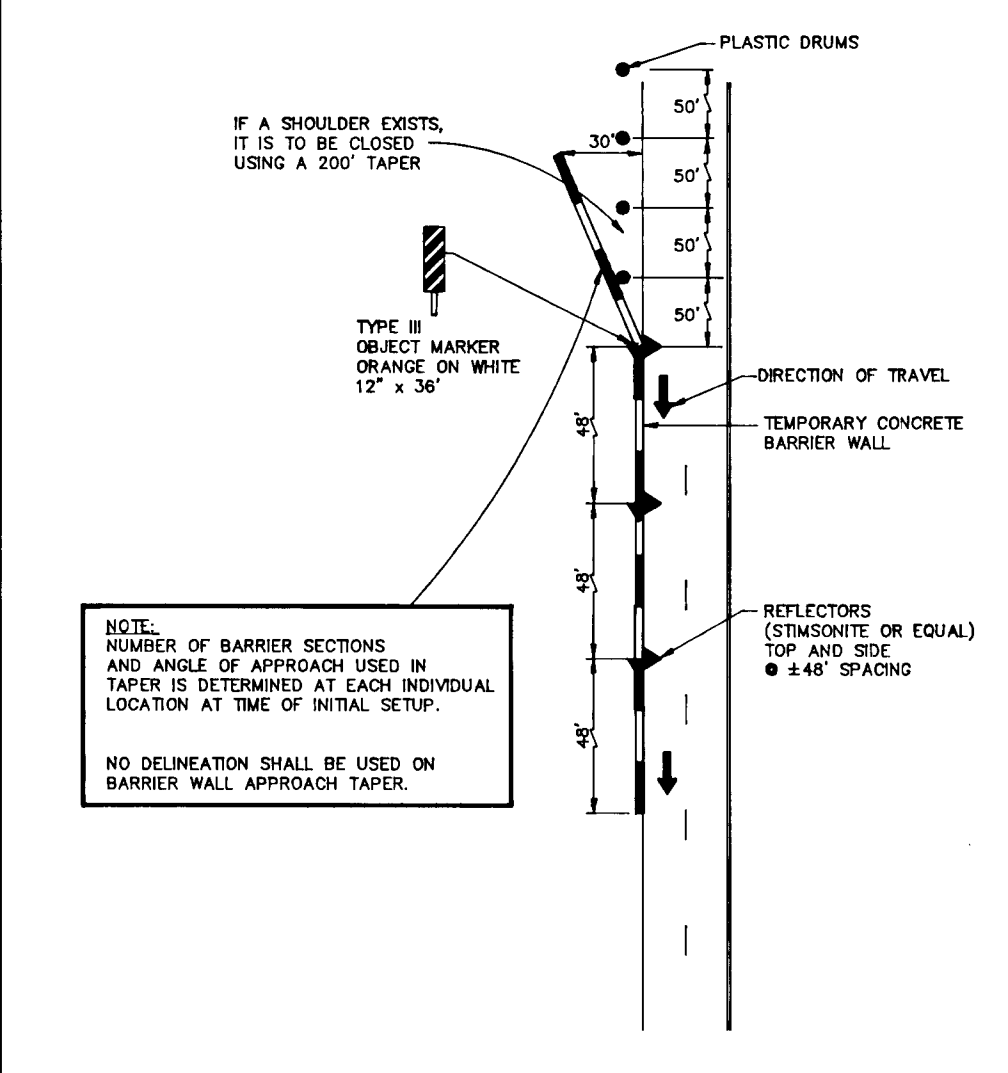
### PAVEMENT MARKING LEGEND

A. INSTALL 5" TEMPORARY SOLID WHITE TAPE FOR EDGE LINE.

### TYPICAL SECTION ALONG US 1



### TEMPORARY CONCRETE BARRIER WALL DELINEATION



### GENERAL NOTES

1. THE BARRIER FOR THIS PHASE IS TO BE PLACED ON THE EXISTING WHITE EDGE LINE FOR SOUTHBOUND US 1.
2. THERE IS TO BE A 5" WHITE EDGE LINE INSTALLED (WHERE POSSIBLE) ±12" FROM THE EDGE OF THE BARRIER.
3. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
4. A CONSTRUCTION VEHICLE ENTRANCE IS TO BE LOCATED JUST OFF OF EXISTING GORMAN ROAD.
5. ALL EXISTING PAVEMENT MARKINGS ARE TO BE UTILIZED DURING THIS PHASE OF CONSTRUCTION.

### GEOMETRIC LEGEND

- — — — — PROPOSED GEOMETRICS
- — — — — EXISTING GEOMETRICS

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Daniel M. D... 4/15/92*



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Howard County*  
Chief, Land Development Division  
*John M. Benjamin*  
Chief, Bureau of Highways  
*Robert A. Conner*  
Chief, Bureau of Engineering

6/8/92  
DATE

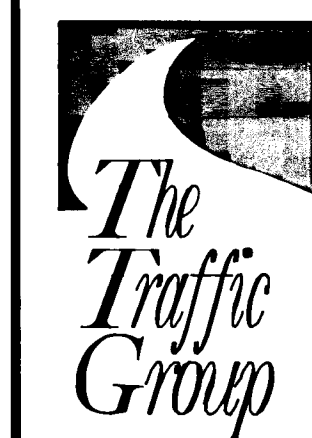
5/12/91  
DATE

6-8-92  
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Howard County*  
Chief, Division of Community Planning & Land Development

6/22/92  
DATE



The Traffic Group, Inc.  
Suite 400  
40 W. Chesapeake Avenue  
Towson, Maryland 21204  
410-583-8465  
Fax 410-521-8458

## FREESTATE TRAFFIC CONTROL PLAN

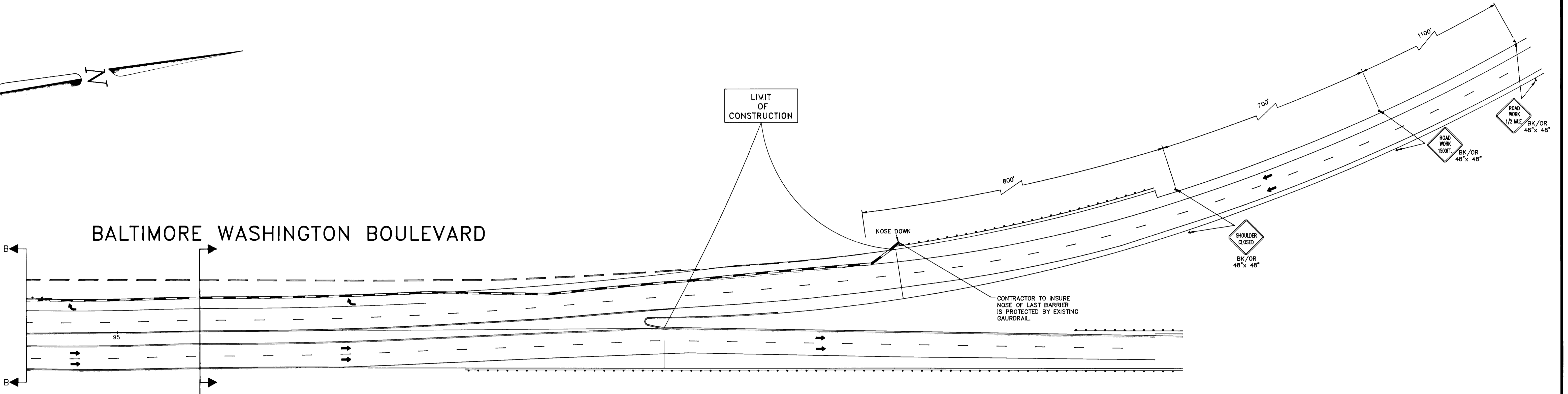
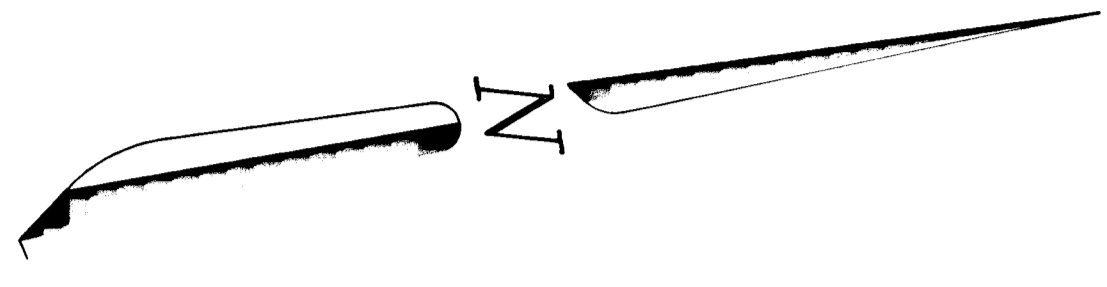
### PHASE 1

NO.	REVISION DESCRIPTION	BY	DATE
1	PER WISHA AND COUNTY COMMENTS		APR. 92

SCALE: 1" = 50'  
DRAWN BY: N.A.M.  
DESIGNED BY: N.A.M./J.J.D.  
CHECKED BY: J.A.B.  
DATE: 03/25/92  
JOB NO: 11005  
SHEET NO: 38 of 49

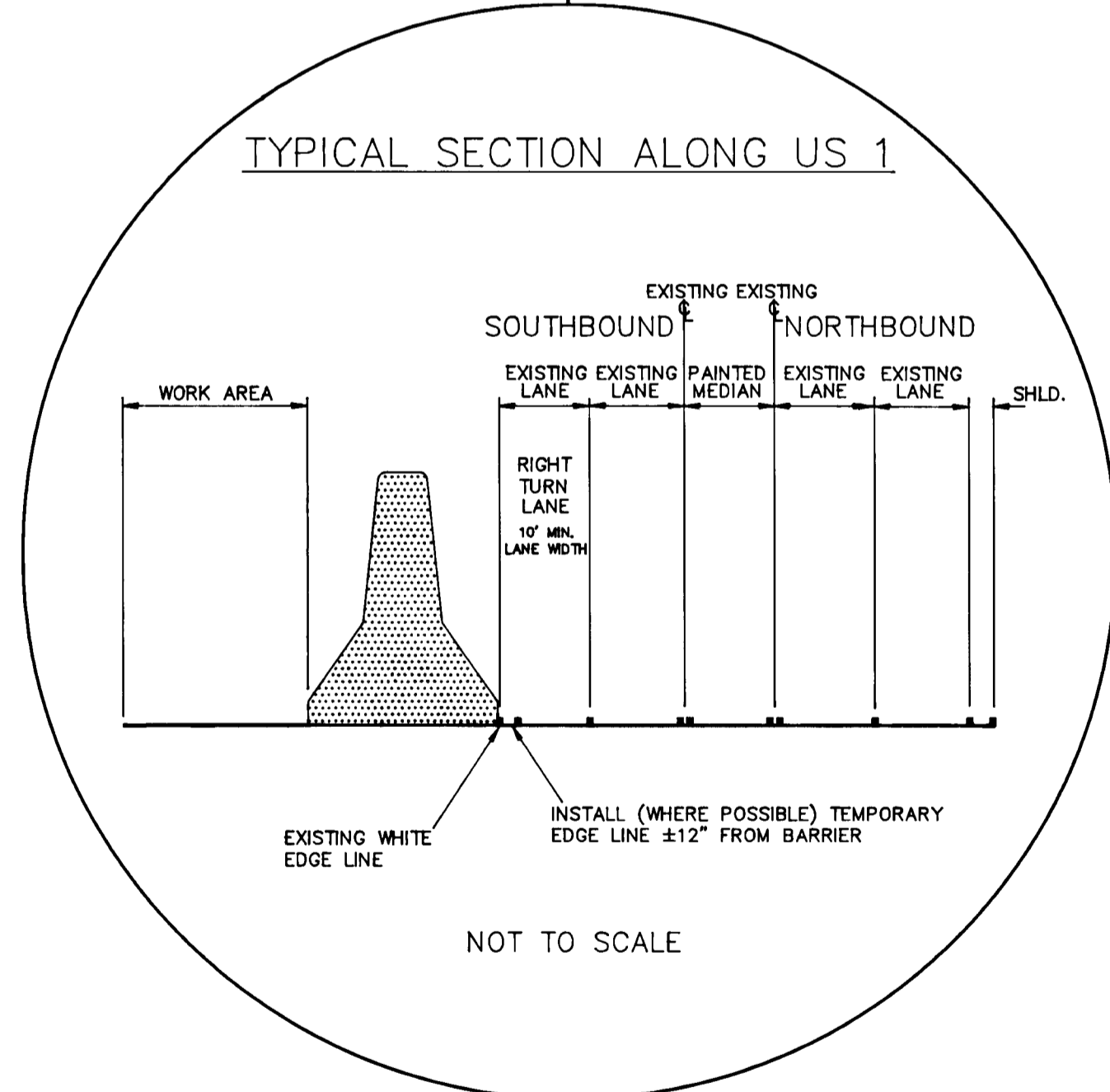
1640





BALTIMORE WASHINGTON BOULEVARD

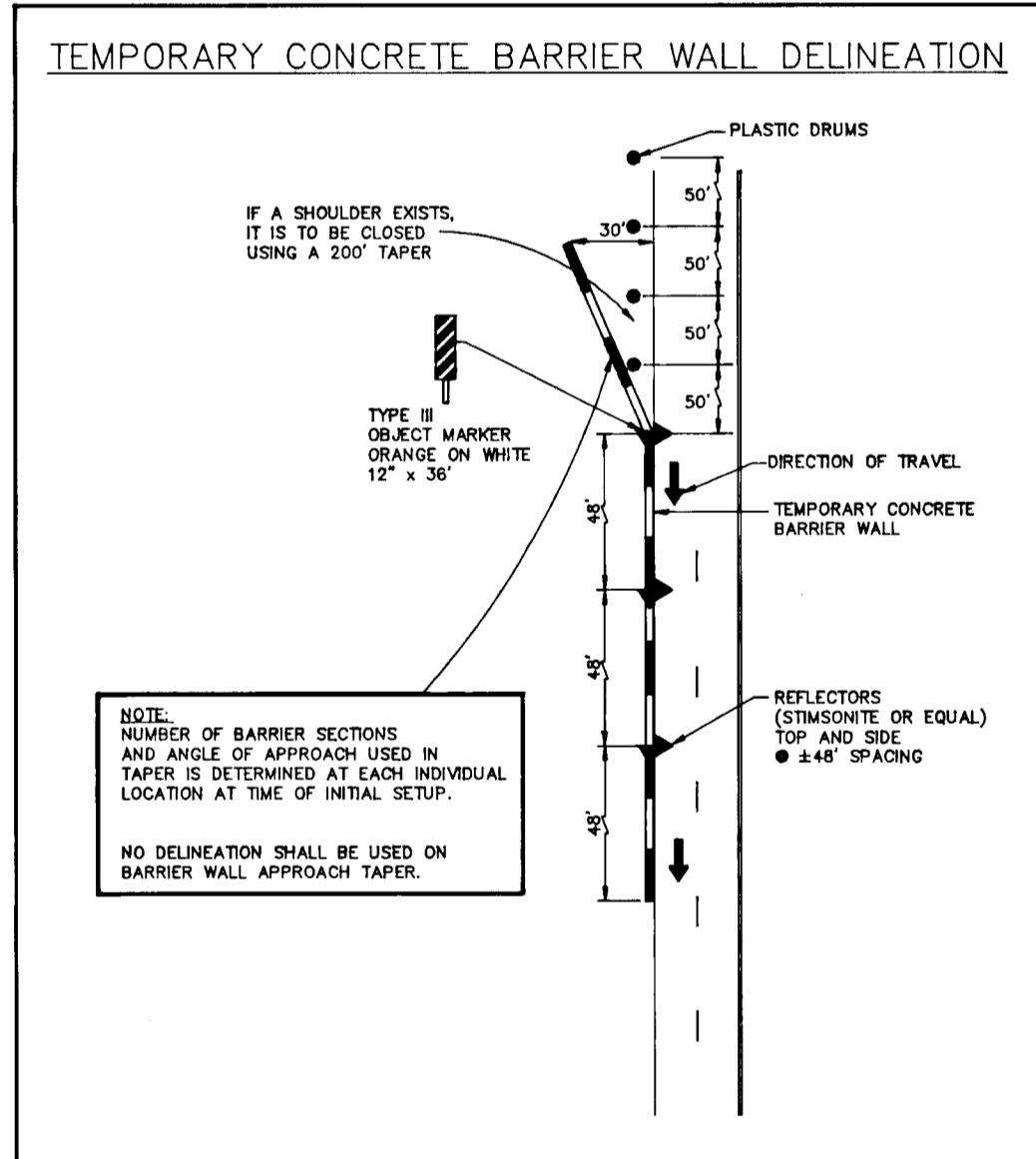
TYPICAL SECTION ALONG US 1



NOT TO SCALE

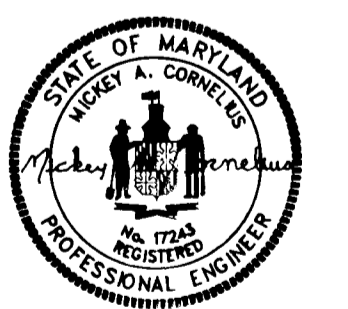
THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Signature*  
4/5/92



GENERAL NOTES

1. THE BARRIER FOR THIS PHASE IS TO BE PLACED ON THE EXISTING WHITE EDGE LINE FOR SOUTHBOUND US 1.
2. THERE IS TO BE A 5" WHITE EDGE LINE INSTALLED (WHERE POSSIBLE) ±12" FROM THE EDGE OF THE BARRIER.
3. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
4. A CONSTRUCTION VEHICLE ENTRANCE IS TO BE LOCATED JUST OFF OF EXISTING GORMAN ROAD.
5. ALL EXISTING PAVEMENT MARKINGS ARE TO BE UTILIZED DURING THIS PHASE OF CONSTRUCTION.



1640

GEOMETRIC LEGEND

	PROPOSED GEOMETRICS
	EXISTING GEOMETRICS

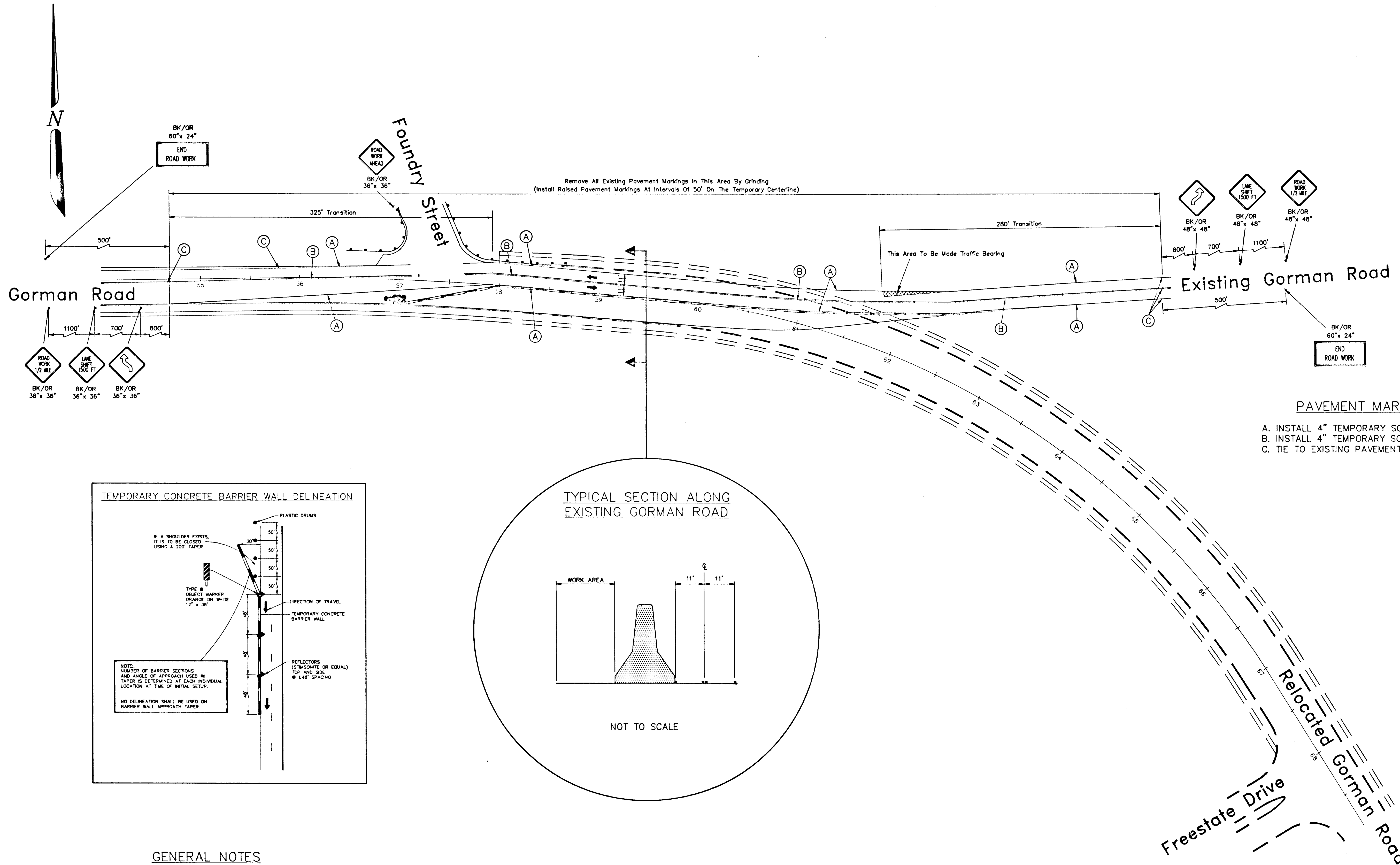
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Signature* 6/16/92  
 CHIEF, LAND DEVELOPMENT DIVISION (Contracting)  
*Signature* 6/16/92  
 CHIEF, BUREAU OF HIGHWAYS  
*Signature* 6-18-92  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Signature* 6/22/92  
 Chief, Division of Community Planning & Land Development

FREESTATE TRAFFIC CONTROL PLAN			
PHASE 1			
NO.	REVISION DESCRIPTION	BY	DATE
1	PREPARED AND COUNTY COMMENTS		APR 92

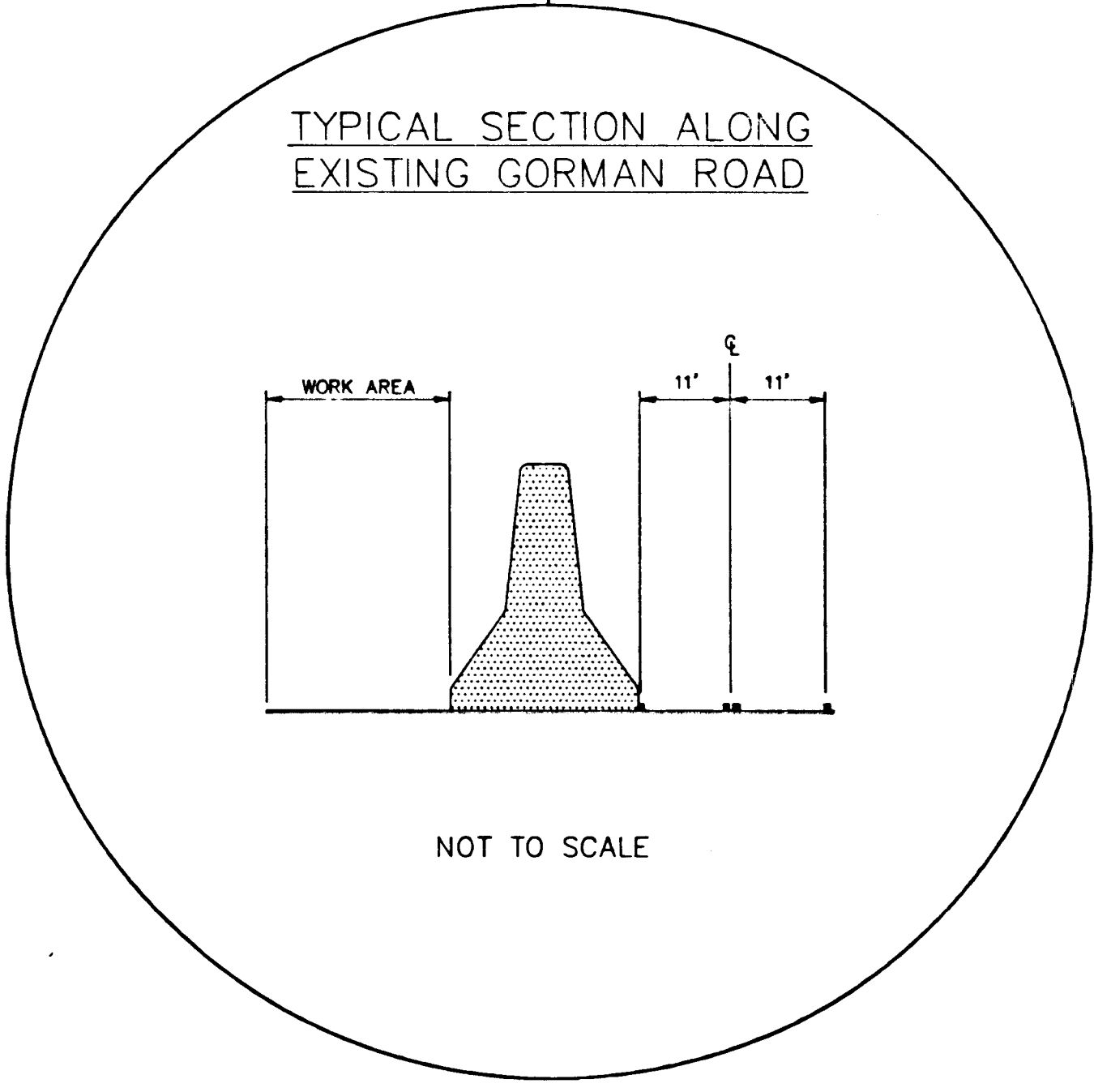
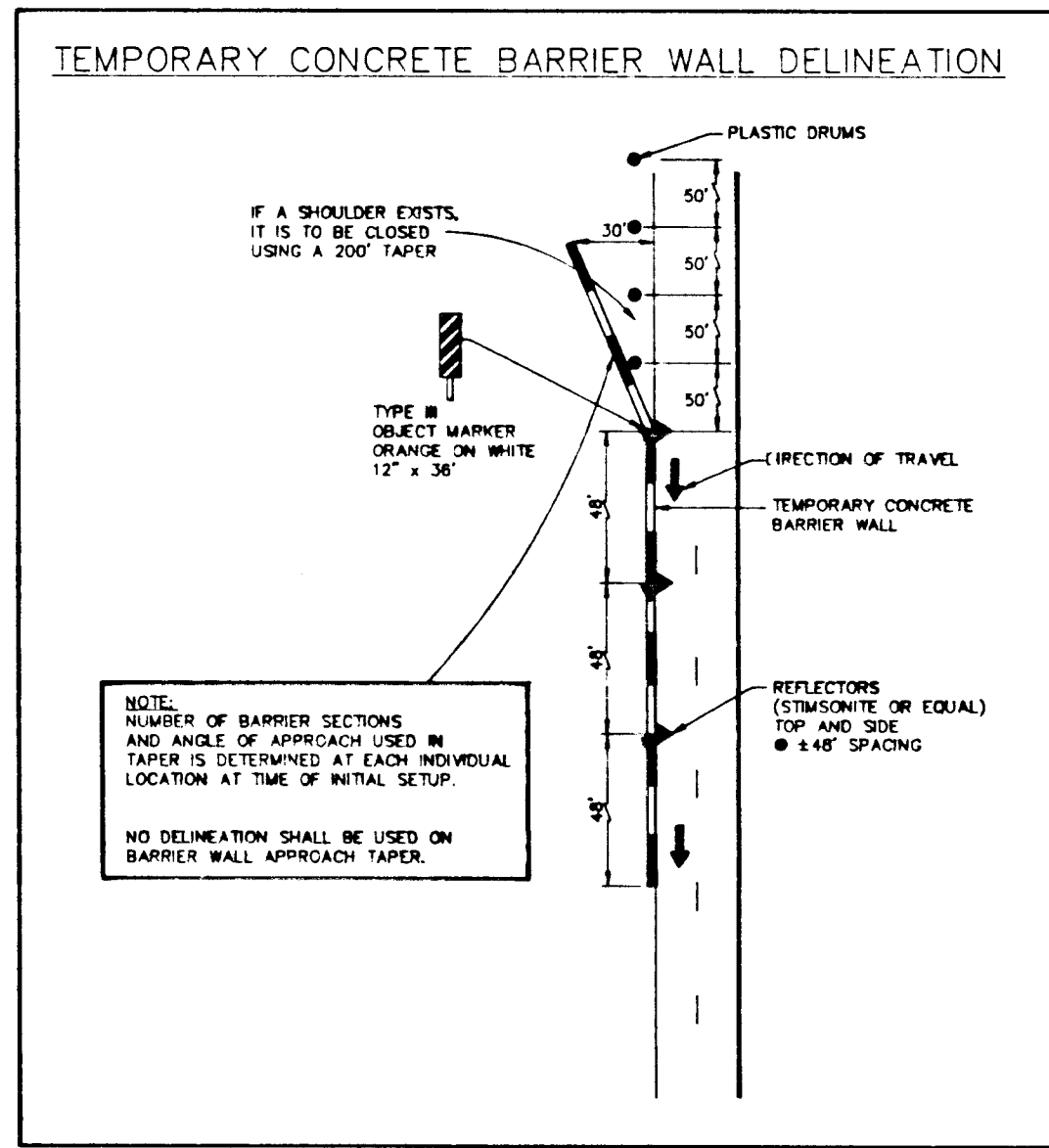
SCALE: 1" = 50'  
 DRAWN BY: M.A.M.  
 DESIGNED BY: M.A.M./J.J.D.  
 CHECKED BY: J.A.B.  
 DATE: 03/25/92  
 JOB NO: 11005  
 SHEET NO: 39 of 49





**PAVEMENT MARKING LEGEND**

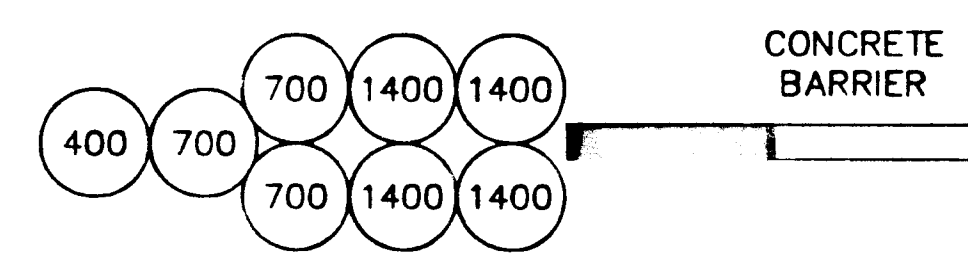
- A. INSTALL 4" TEMPORARY SOLID WHITE TAPE FOR LANE LINE.
- B. INSTALL 4" TEMPORARY SOLID DOUBLE YELLOW TAPE FOR CENTER LINE.
- C. TIE TO EXISTING PAVEMENT MARKINGS.



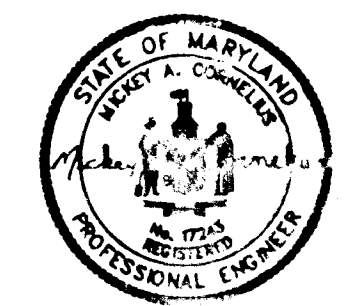
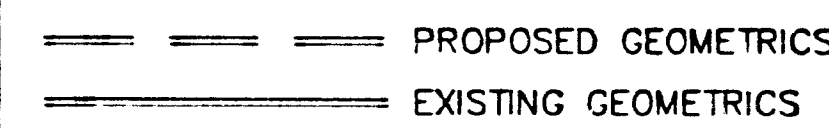
**GENERAL NOTES**

1. FOR GENERAL TRAFFIC CONTROL DETAILS SEE SHEET NO. OF ENTITLED GENERAL NOTES.
2. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
3. EXISTING PAVEMENT MARKINGS DURING THIS PHASE OF CONSTRUCTION ARE TO BE UTILIZED AS SHOWN.

**FITCH INERTIAL BARRIER SYSTEM**



**GEOMETRIC LEGEND**



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Michael J. ...*  
 Chief, Land Development Division  
 DATE: 6/8/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Amna J. ...*  
 Chief, Division of Community Planning & Land Development  
 DATE: 6/22/92



The Traffic Group, Inc.  
 Suite 600  
 48 W. Chesapeake Avenue  
 Towson, Maryland 21284  
 410-581-8105  
 Fax: 410-521-8458

**FREESTATE TRAFFIC CONTROL PLAN**

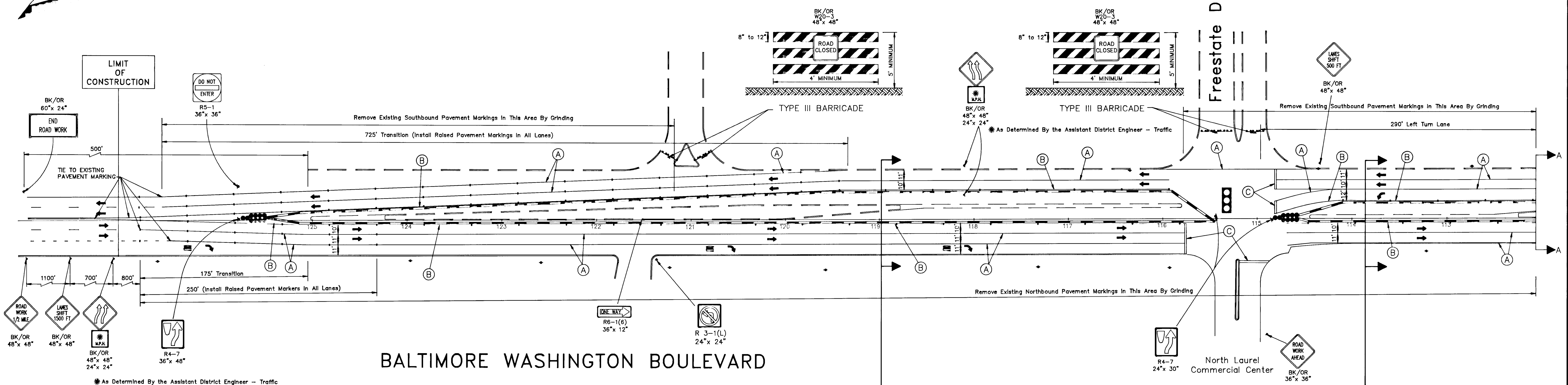
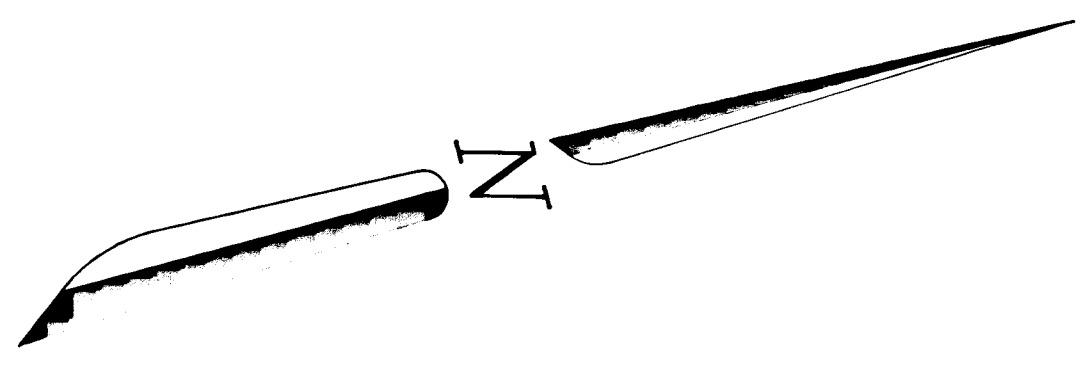
**PHASE 1**

NO.	REVISION DESCRIPTION	BY	DATE
1	PER HOWARD COUNTY COMMENTS		APR. 92

SCALE: 1" = 50'  
 DRAWN BY: J. Dimendorfer  
 DESIGNED BY: J. Dimendorfer  
 CHECKED BY: J. Boling  
 DATE: 03/25/92  
 JOB NO: 11005  
 SHEET NO: 40 of 49

1640

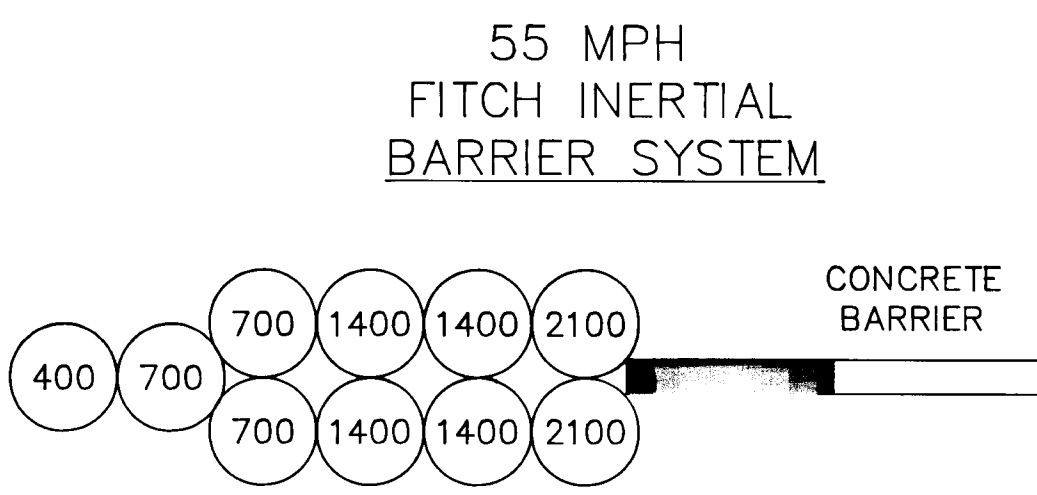
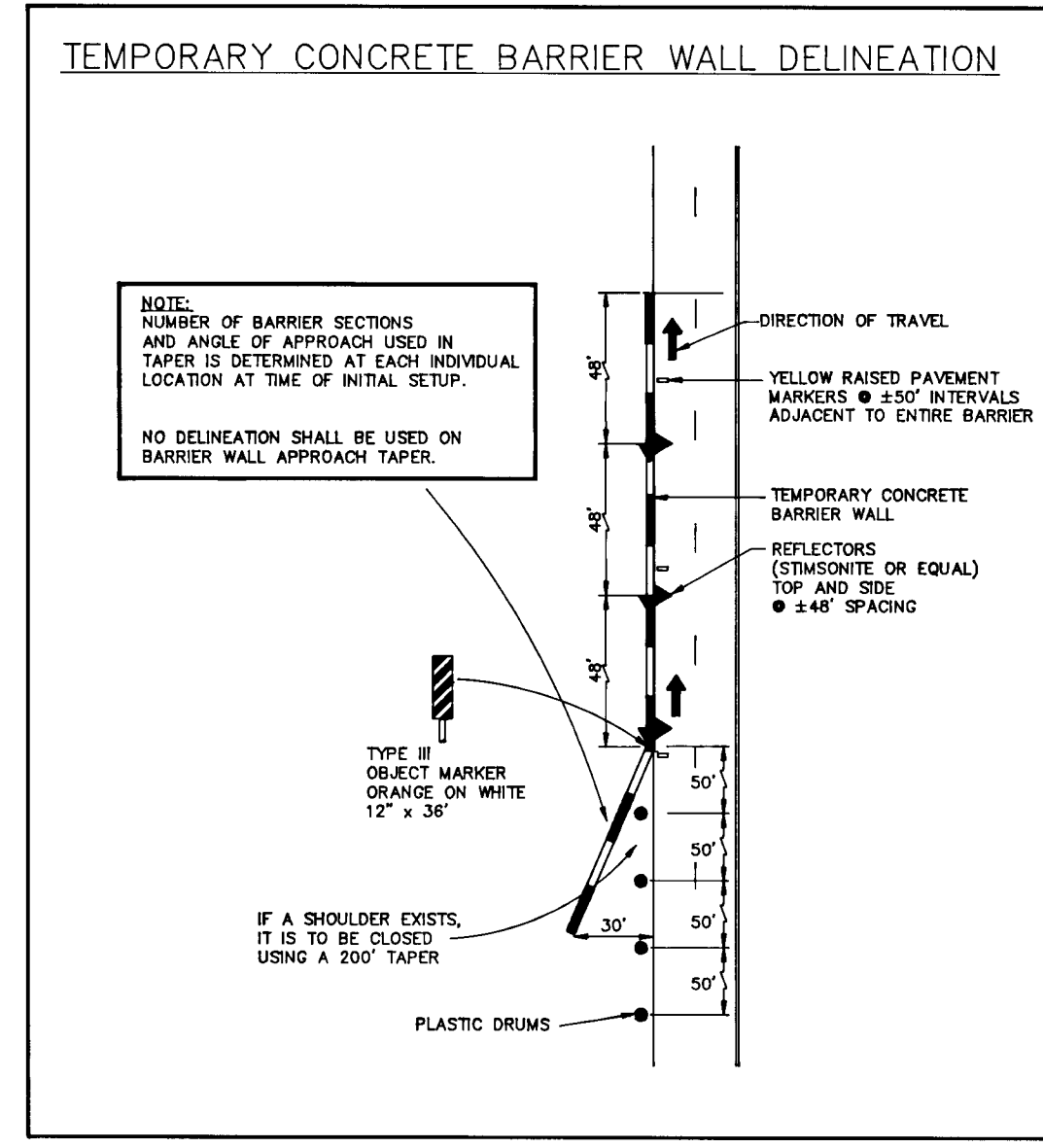




BALTIMORE WASHINGTON BOULEVARD

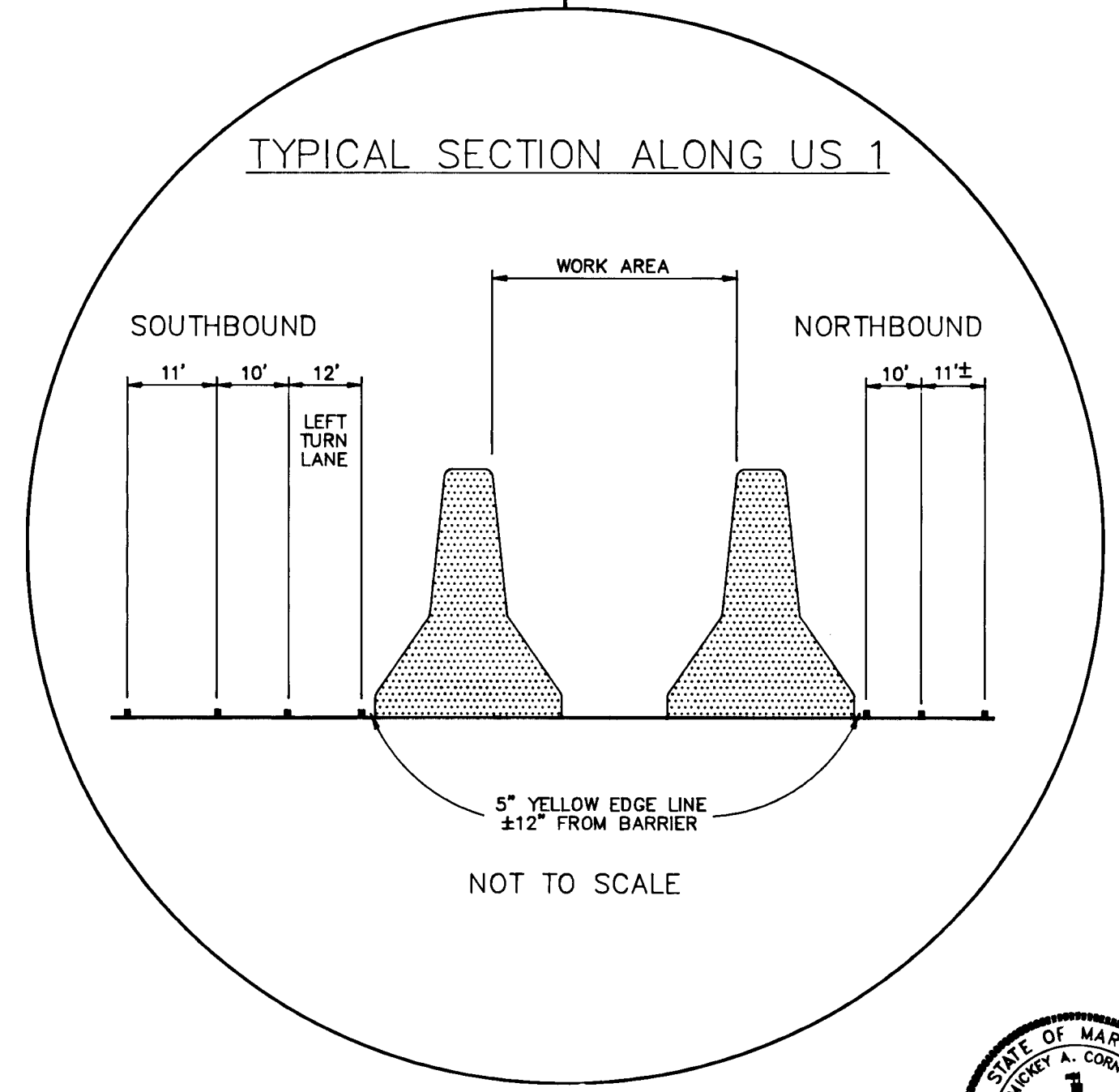
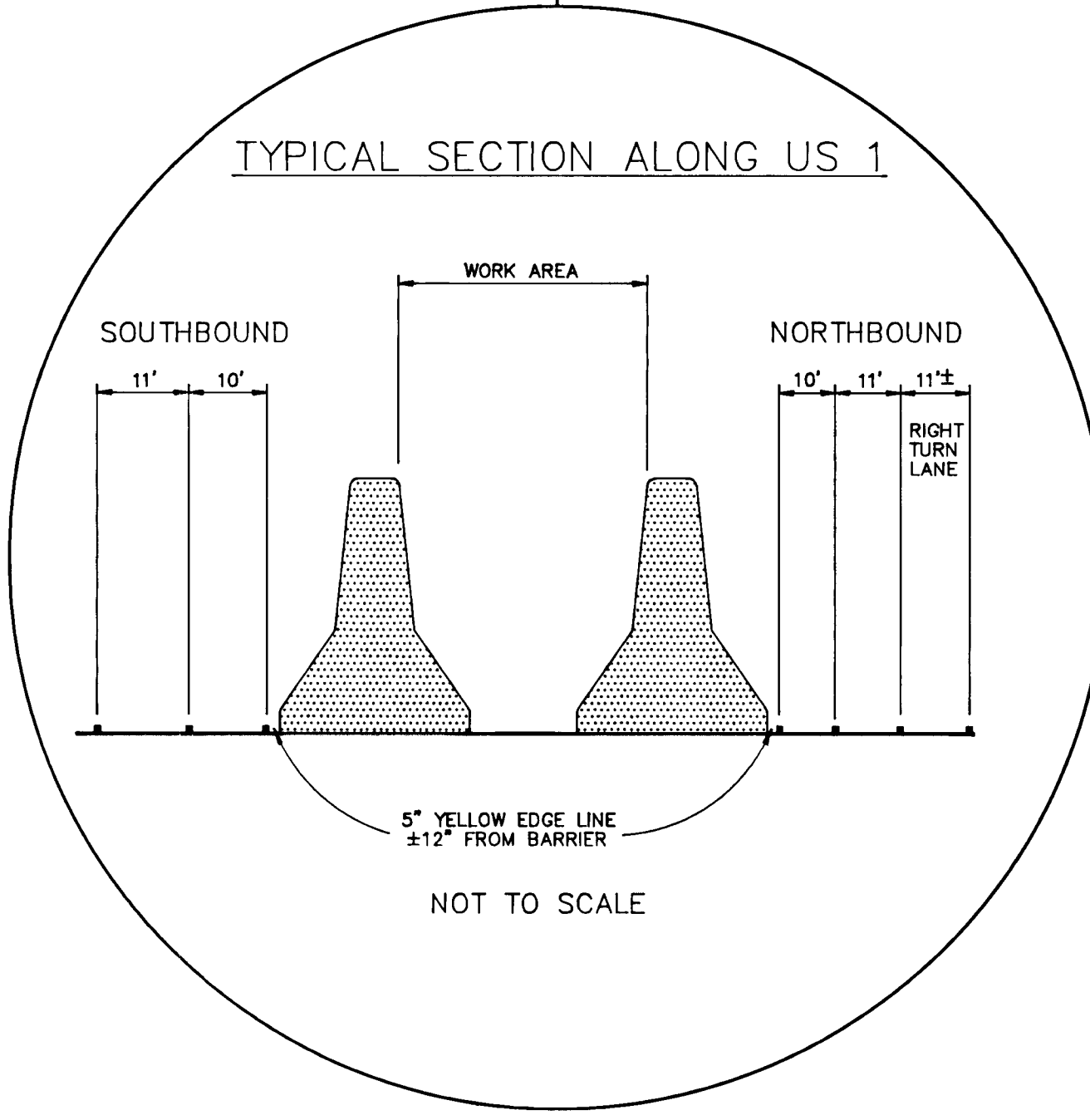
Freestate Drive

North Laurel Commercial Center



PAVEMENT MARKING LEGEND

- A. INSTALL 5" TEMPORARY SOLID WHITE TAPE FOR LANE LINE.
  - B. INSTALL 5" TEMPORARY SOLID YELLOW TAPE FOR EDGE LINE.
  - C. TO BE INSTALLED BY TRAFFIC SIGNAL CONTRACTOR.
- DENOTES THAT A TRAFFIC CONTROL SIGNAL IS TO BE INSTALLED PRIOR TO THE IMPLEMENTATION OF THIS PHASE OF CONSTRUCTION. SEE THE PLANS AND SPECIAL PROVISIONS FOR M.O.T., TRAFFIC CONTROL SIGNAL.



GENERAL NOTES

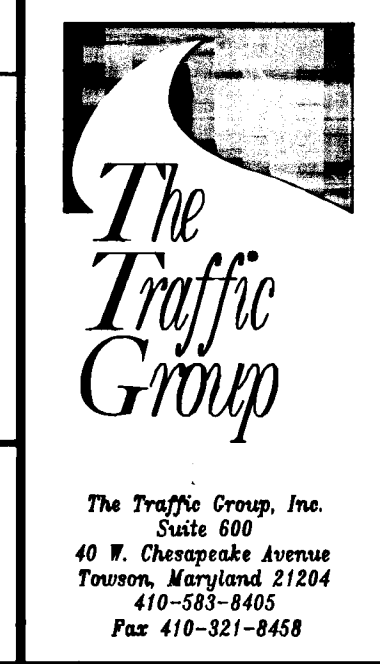
1. THERE IS TO BE A 5" WHITE EDGE LINE INSTALLED (WHERE POSSIBLE) ±12" FROM THE EDGE OF THE BARRIER.
2. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
3. EXISTING PAVEMENT MARKINGS DURING THIS PHASE OF CONSTRUCTION ARE TO BE UTILIZED AS SHOWN.

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*David P. Doherty*  
4/15/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Robert C. ...* 6/12/92  
 CHIEF LAND DEVELOPMENT DIVISION (acting)  
*John M. ...* 6/18/92  
 CHIEF, BUREAU OF HIGHWAYS  
*William E. ...* 6-18-92  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Anna J. ...* 6/22/92  
 Chief, Division of Community Planning & Land Development



FREESTATE TRAFFIC CONTROL PLAN			
PHASE 2			
NO.	REVISION DESCRIPTION	BY	DATE
1	PER MSHA AND COUNTY COMMENTS		APR. 92

SCALE: 1" = 50'  
 DRAWN BY: M.A.M.  
 DESIGNED BY: M.A.M./J.J.D.  
 CHECKED BY: J.A.B.  
 DATE: 03/25/92  
 JOB NO: 11005  
 SHEET NO: 21 of 49

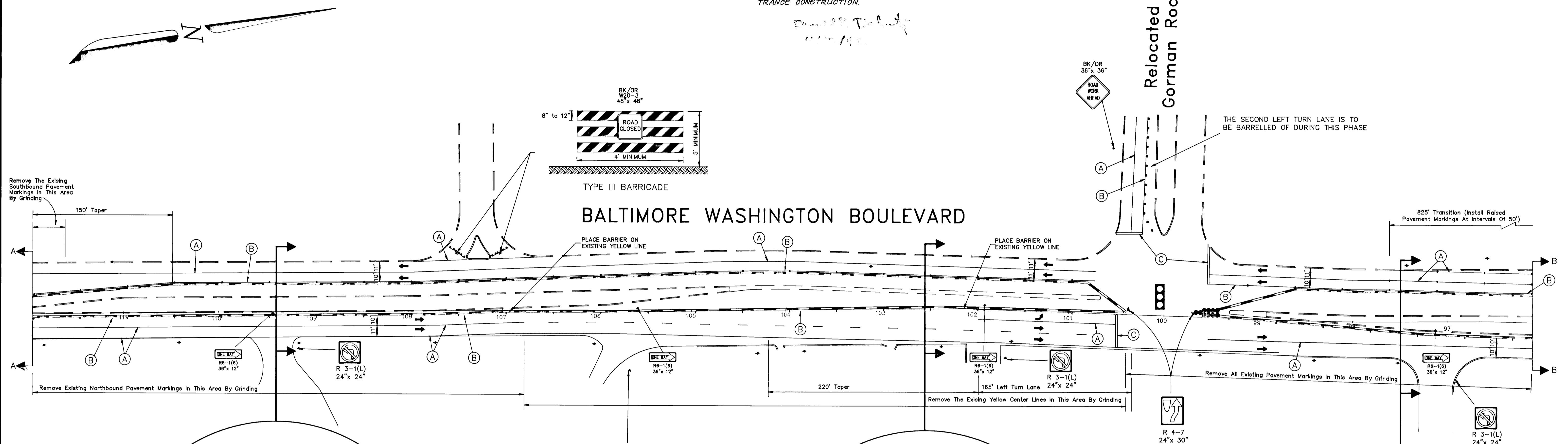


1640



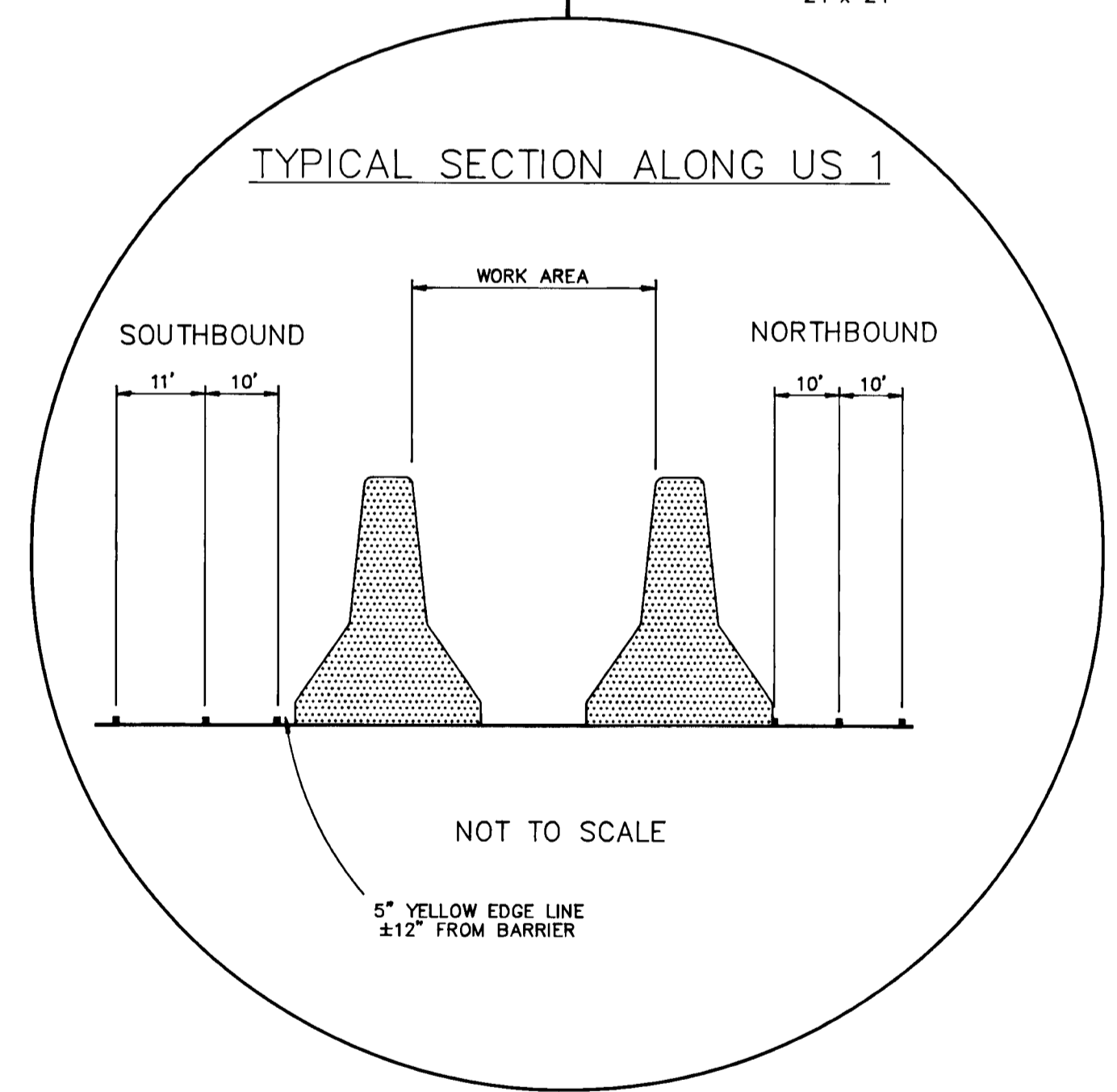
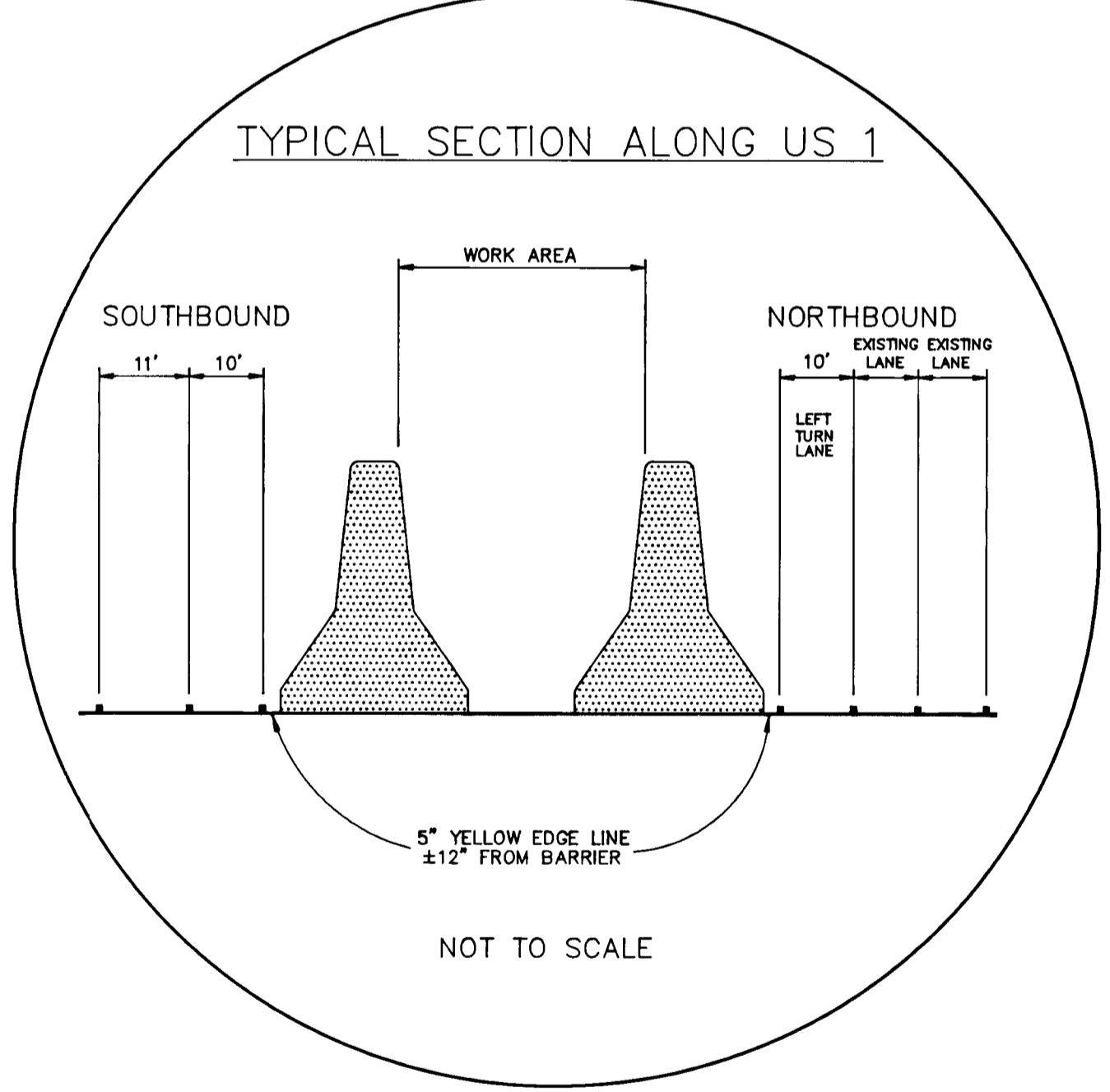
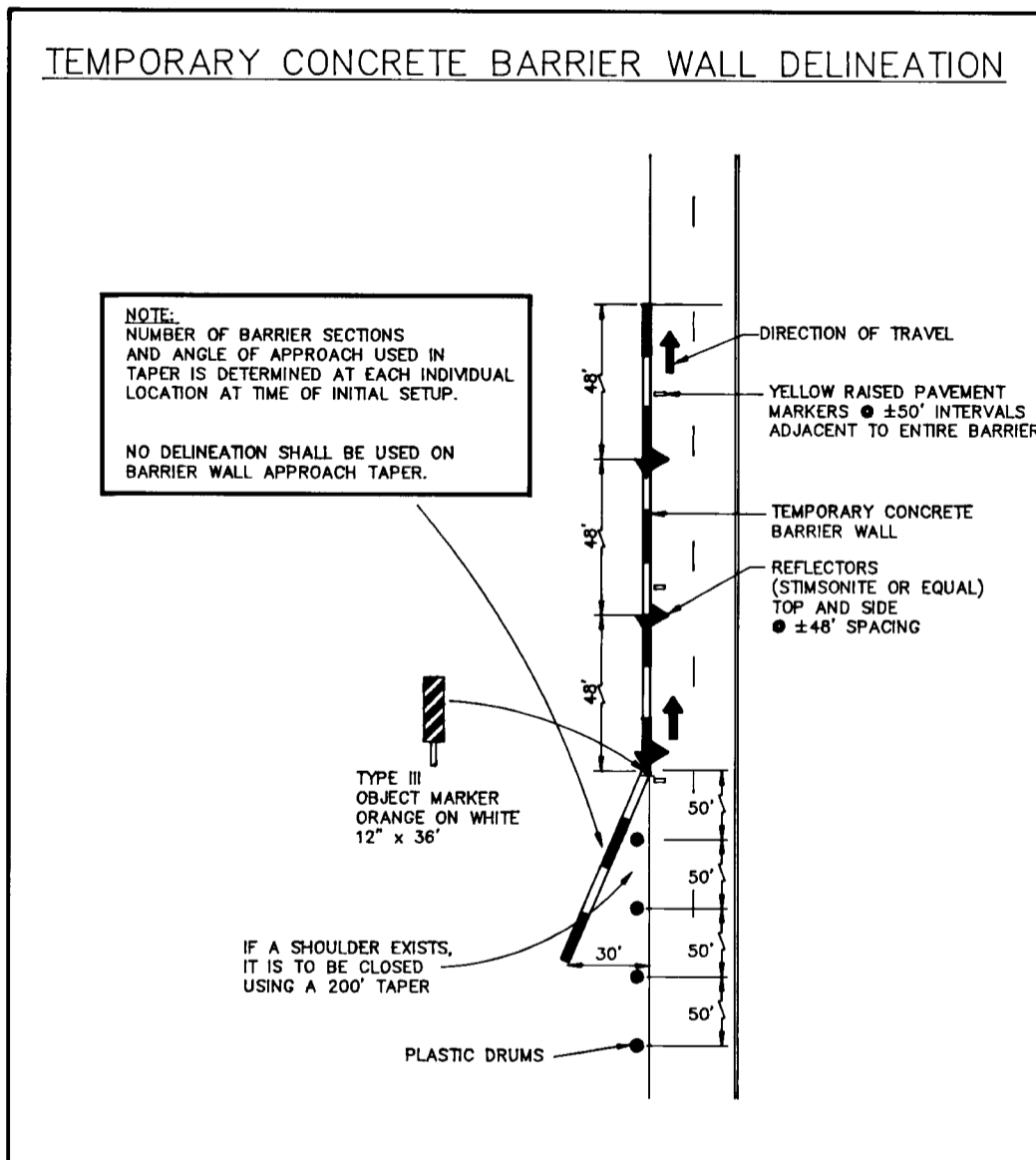
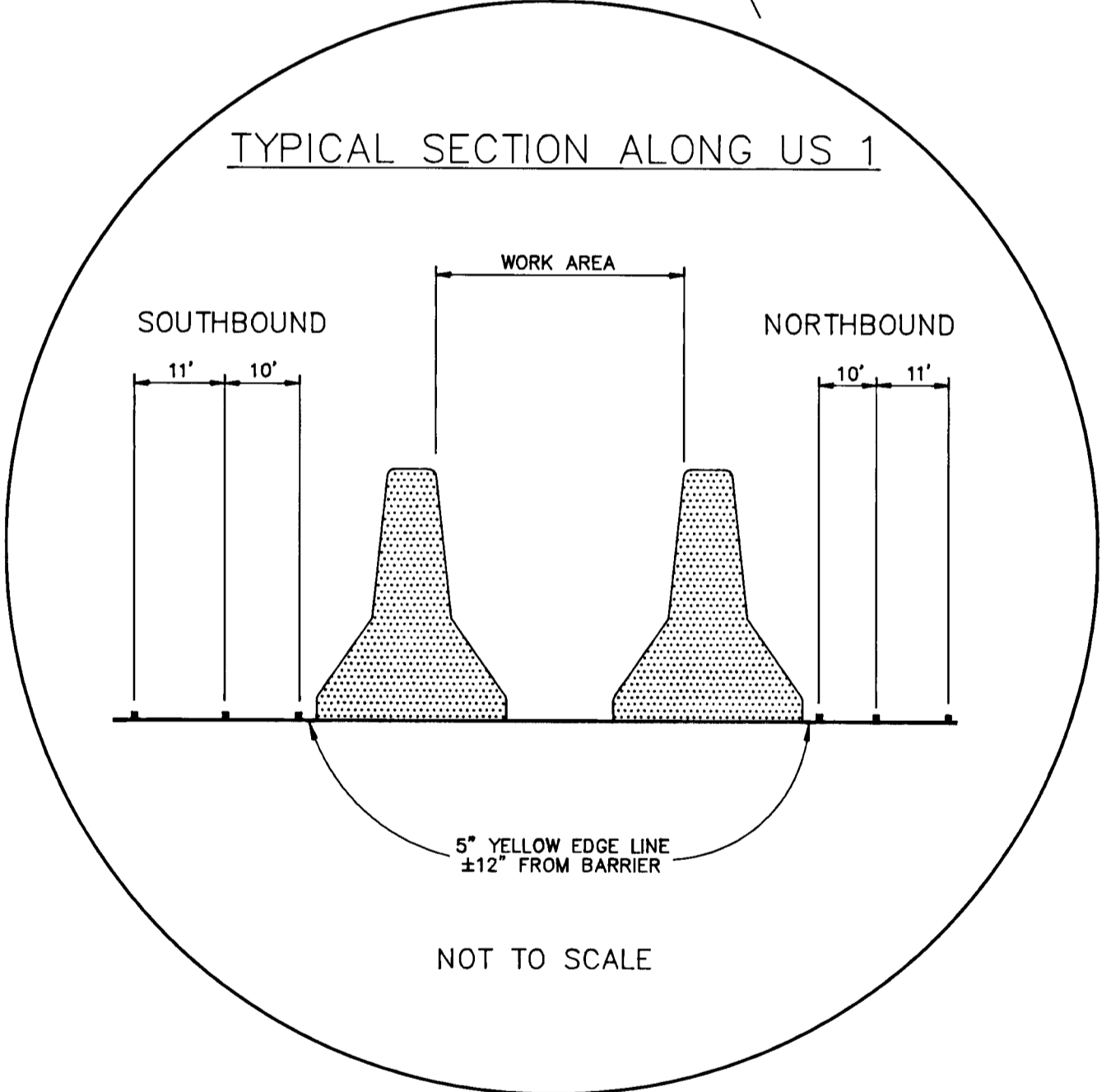
THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Howard County*  
11/11/92



Relocated Gorman Road

THE SECOND LEFT TURN LANE IS TO BE BARRELLED DURING THIS PHASE

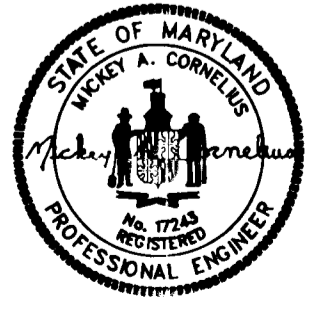
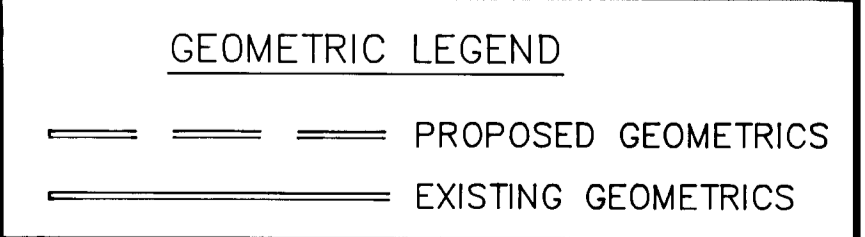


GENERAL NOTES

1. THERE IS TO BE A 5" WHITE EDGE LINE INSTALLED (WHERE POSSIBLE) ±12" FROM THE EDGE OF THE BARRIER.
2. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
3. EXISTING PAVEMENT MARKINGS DURING THIS PHASE OF CONSTRUCTION ARE TO BE UTILIZED AS SHOWN.

PAVEMENT MARKING LEGEND

- A. INSTALL 5" TEMPORARY SOLID WHITE TAPE FOR LANE LINE
  - B. INSTALL 5" TEMPORARY SOLID YELLOW TAPE FOR CENTER LINE
  - C. TO BE INSTALLED BY THE TRAFFIC SIGNAL CONTRACTOR.
- Ⓜ DENOTES THAT A TRAFFIC CONTROL SIGNAL IS TO BE INSTALLED PRIOR TO THE IMPLEMENTATION OF THIS PHASE OF CONSTRUCTION SEE THE PLANS AND SPECIAL PROVISIONS FOR THE M.O.T., TRAFFIC CONTROL SIGNAL



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Howard County*  
Chief, Land Development Division

*John M. Benjamin*  
Chief, Bureau of Highways

*Richard S. Riley*  
Chief, Bureau of Engineering

DATE: 6/8/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Shirley J. Helms*  
Chief, Division of Community Planning & Land Development

DATE: 6/22/92

The Traffic Group, Inc.  
Suite 600  
40 W. Chesapeake Avenue  
Towson, Maryland 21204  
410-583-8405  
Fax 410-321-8458

FREESTATE TRAFFIC CONTROL PLAN

PHASE 2

NO.	REVISION DESCRIPTION	BY	DATE
1	PER HIGH AND COUNTY COMMENTS		APR 92

SCALE: 1" = 50'

DRAWN BY: M.A.M.

DESIGNED BY: M.A.M./J.J.D.

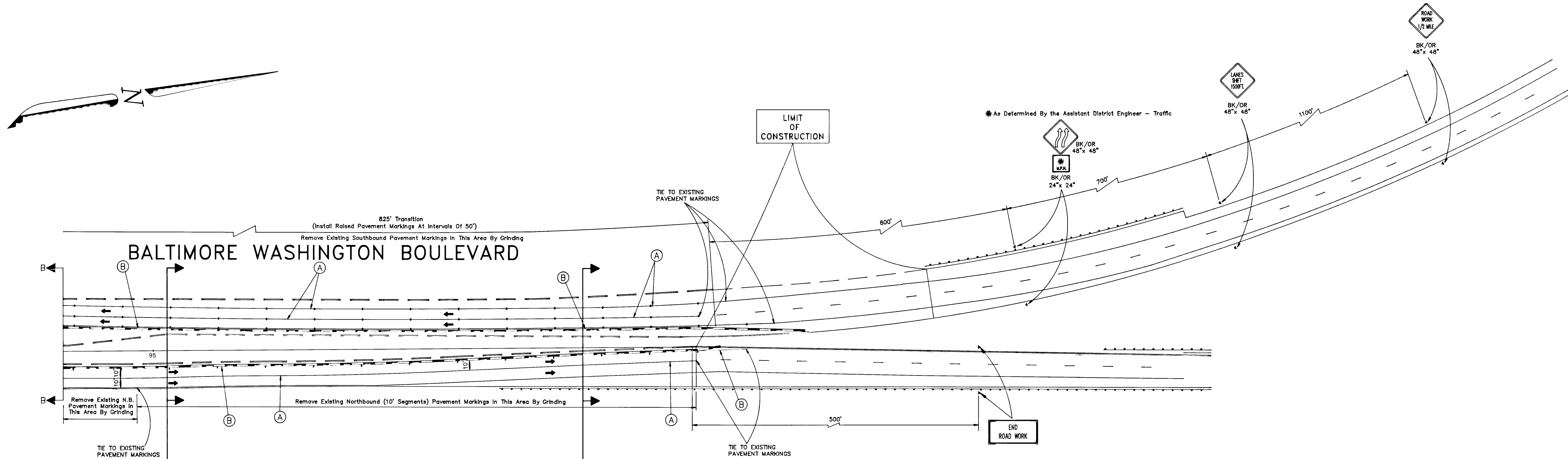
CHECKED BY: J.A.B.

DATE: 03/25/92

JOB NO: 11005

SHEET NO: 42 of 49

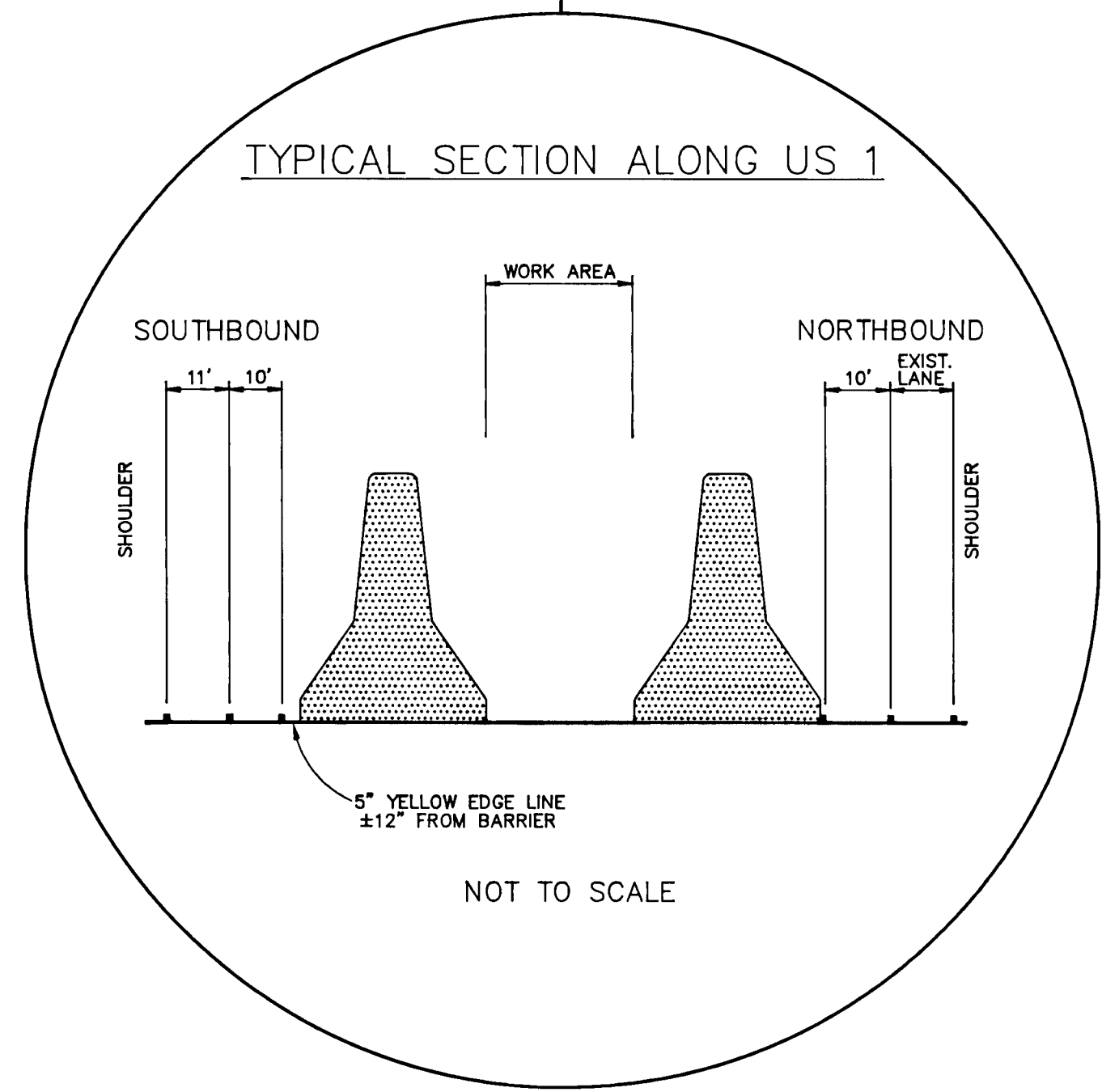
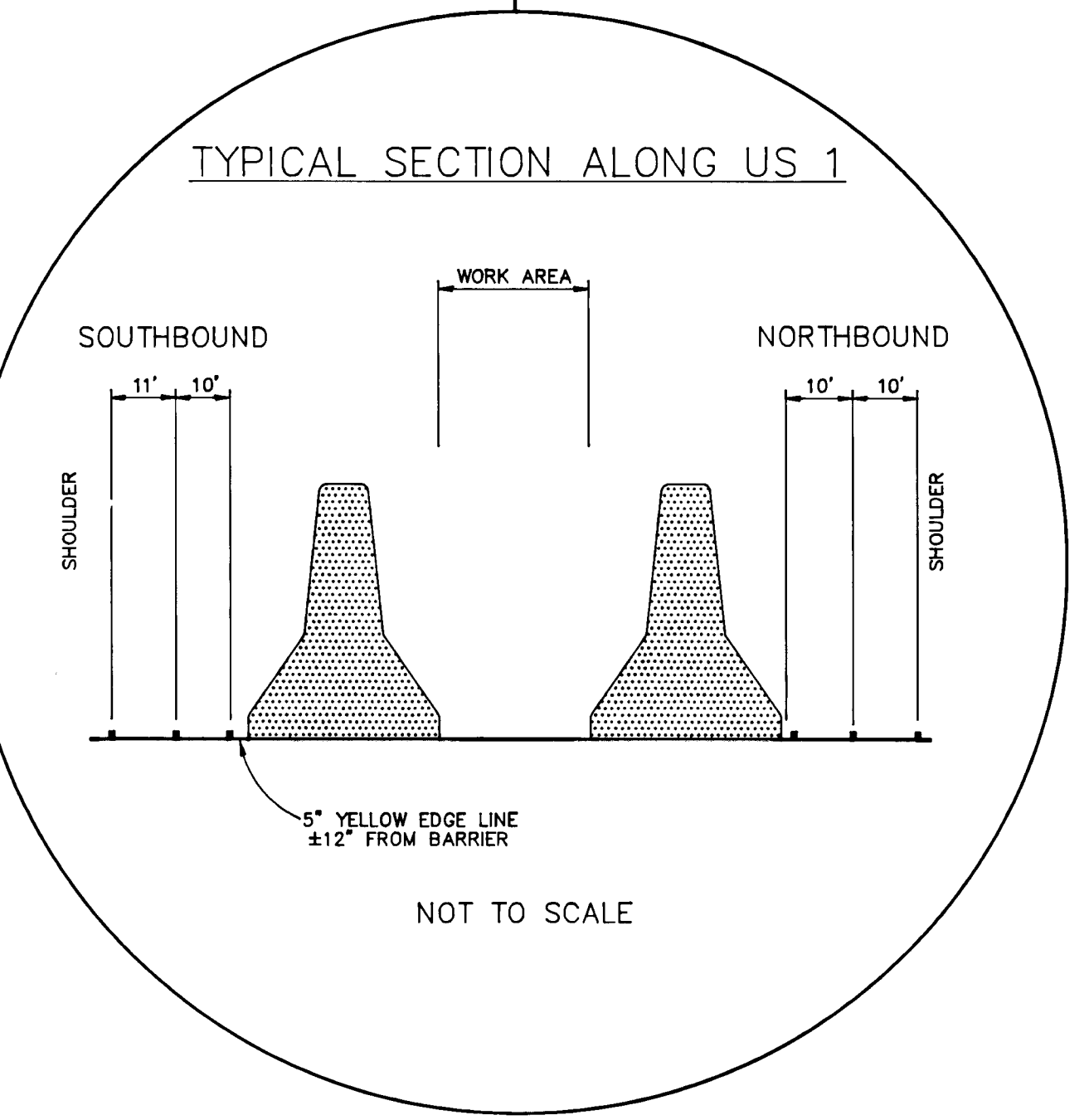
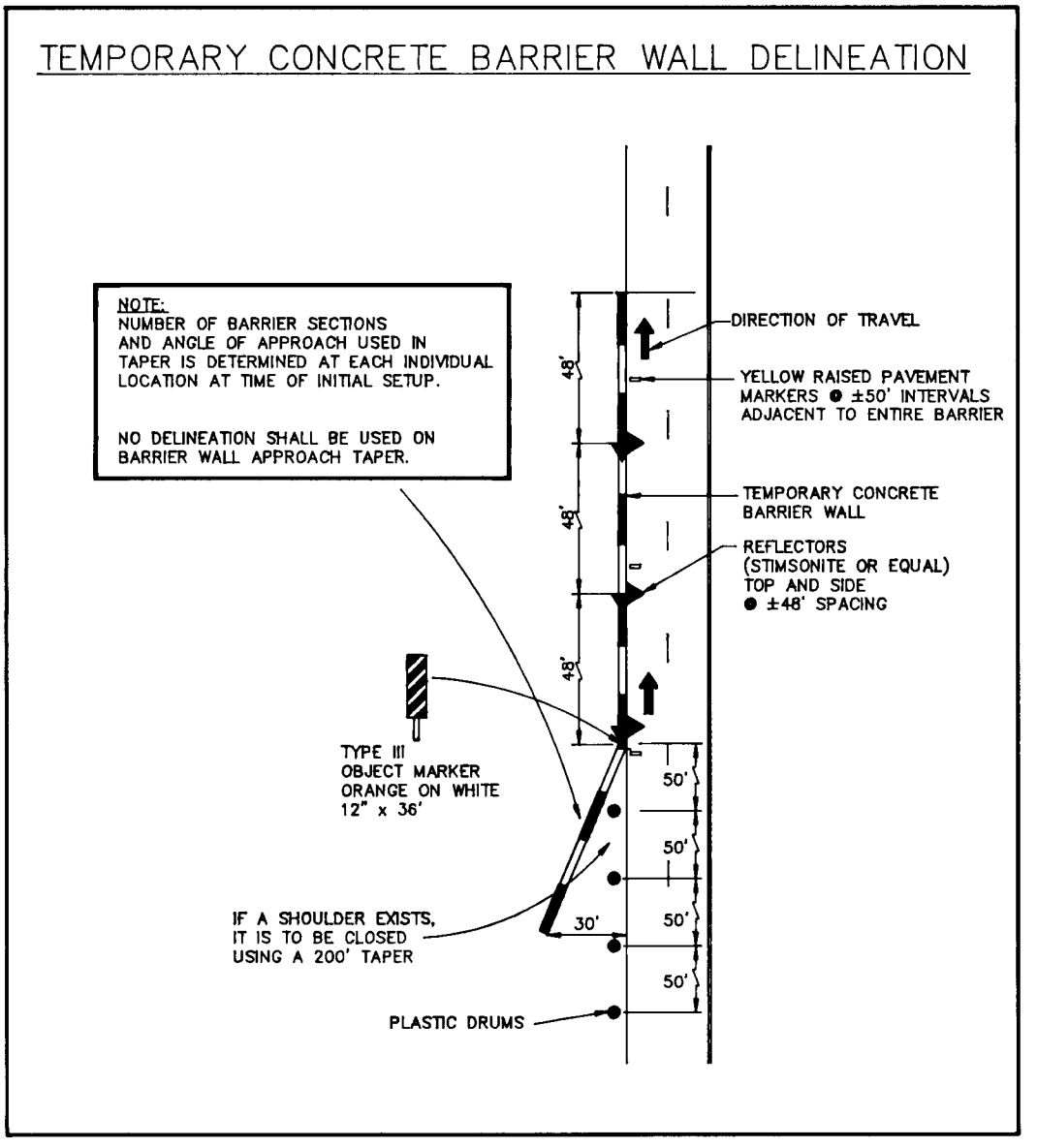
1640



**BALTIMORE WASHINGTON BOULEVARD**

**PAVEMENT MARKING LEGEND**  
 A. INSTALL 5" TEMPORARY SOLID WHITE TAPE FOR LANE LINE.  
 B. INSTALL 5" TEMPORARY SOLID YELLOW TAPE FOR EDGE LINE.

- GENERAL NOTES**
1. THERE IS TO BE A 5" WHITE EDGE LINE INSTALLED (WHERE POSSIBLE) ±12" FROM THE EDGE OF THE BARRIER.
  2. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
  3. EXISTING PAVEMENT MARKINGS DURING THIS PHASE OF CONSTRUCTION ARE TO BE UTILIZED AS SHOWN.

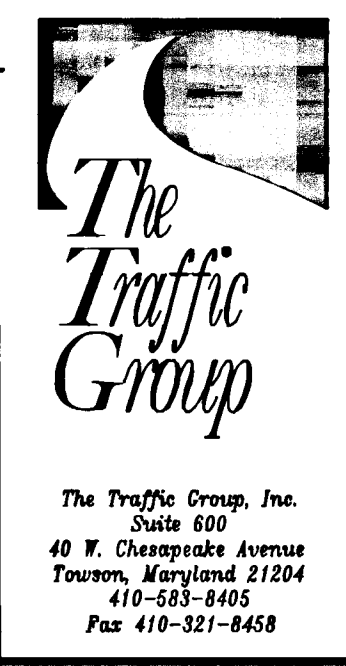


**GEOMETRIC LEGEND**  
 ——— PROPOSED GEOMETRICS  
 ——— EXISTING GEOMETRICS

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.  
*David P. ...*  
 4/15/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John ...* 6/10/92  
 CHIEF LAND DEVELOPMENT DIVISION (acting)  
*Charles M. ...* 6/18/92  
 CHIEF BUREAU OF HIGHWAYS  
*...* 6-19-92  
 CHIEF BUREAU OF ENGINEERING

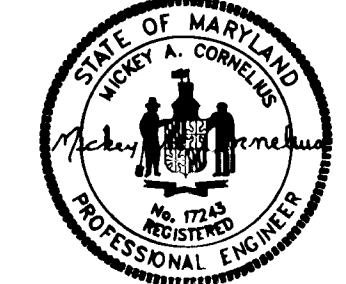
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Anna ...* 6/22/92  
 Chief, Division of Community Planning & Land Development



**FREESTATE TRAFFIC CONTROL PLAN**  
 PHASE 2

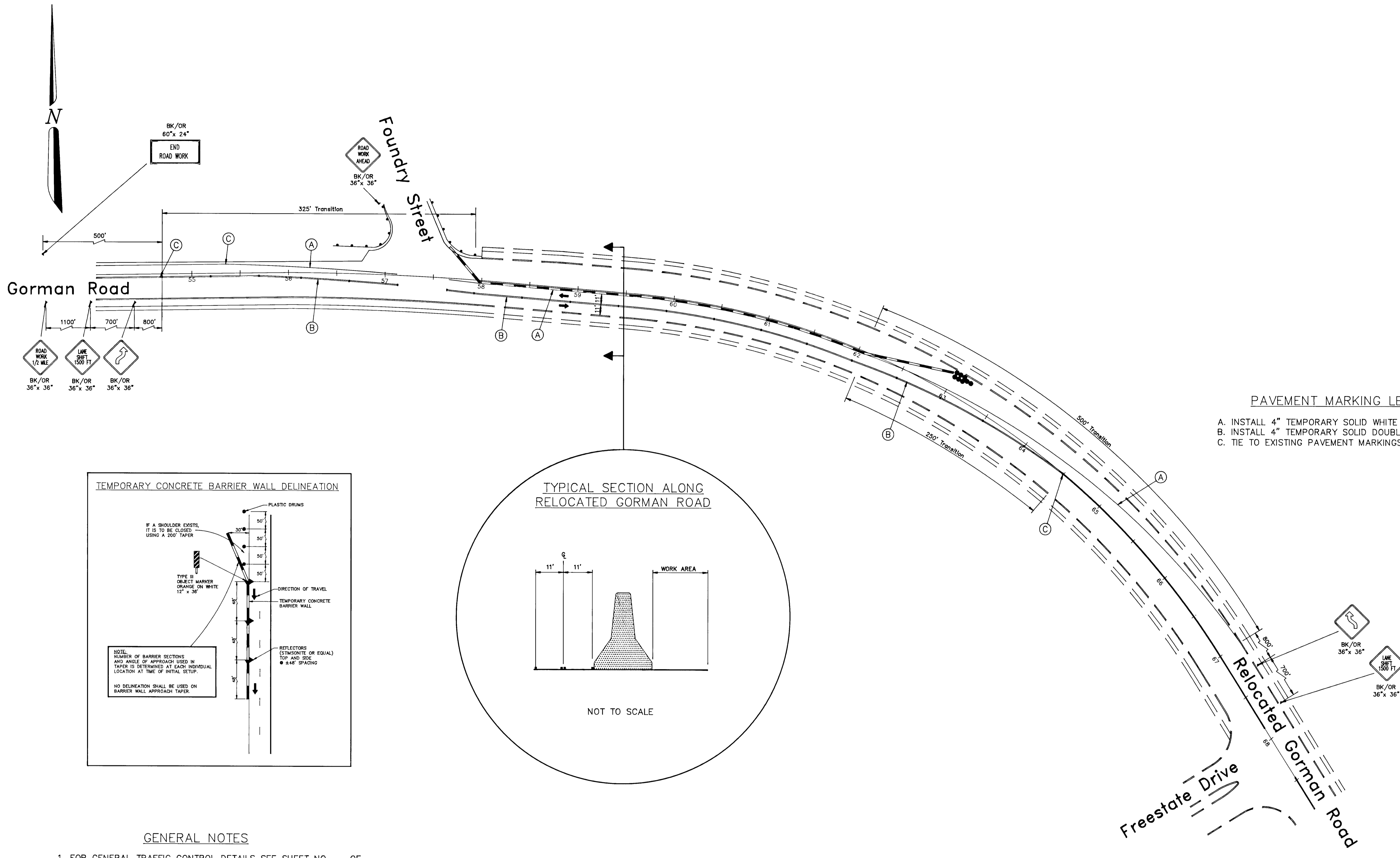
NO.	REVISION DESCRIPTION	BY	DATE
1	PER MS&A AND COUNTY COMMENTS		APR. 92

SCALE: 1" = 50'  
 DRAWN BY: M.A.M.  
 DESIGNED BY: J.A.B.  
 DATE: 03/25/92  
 JOB NO: 11005  
 SHEET NO: 43 OF 43



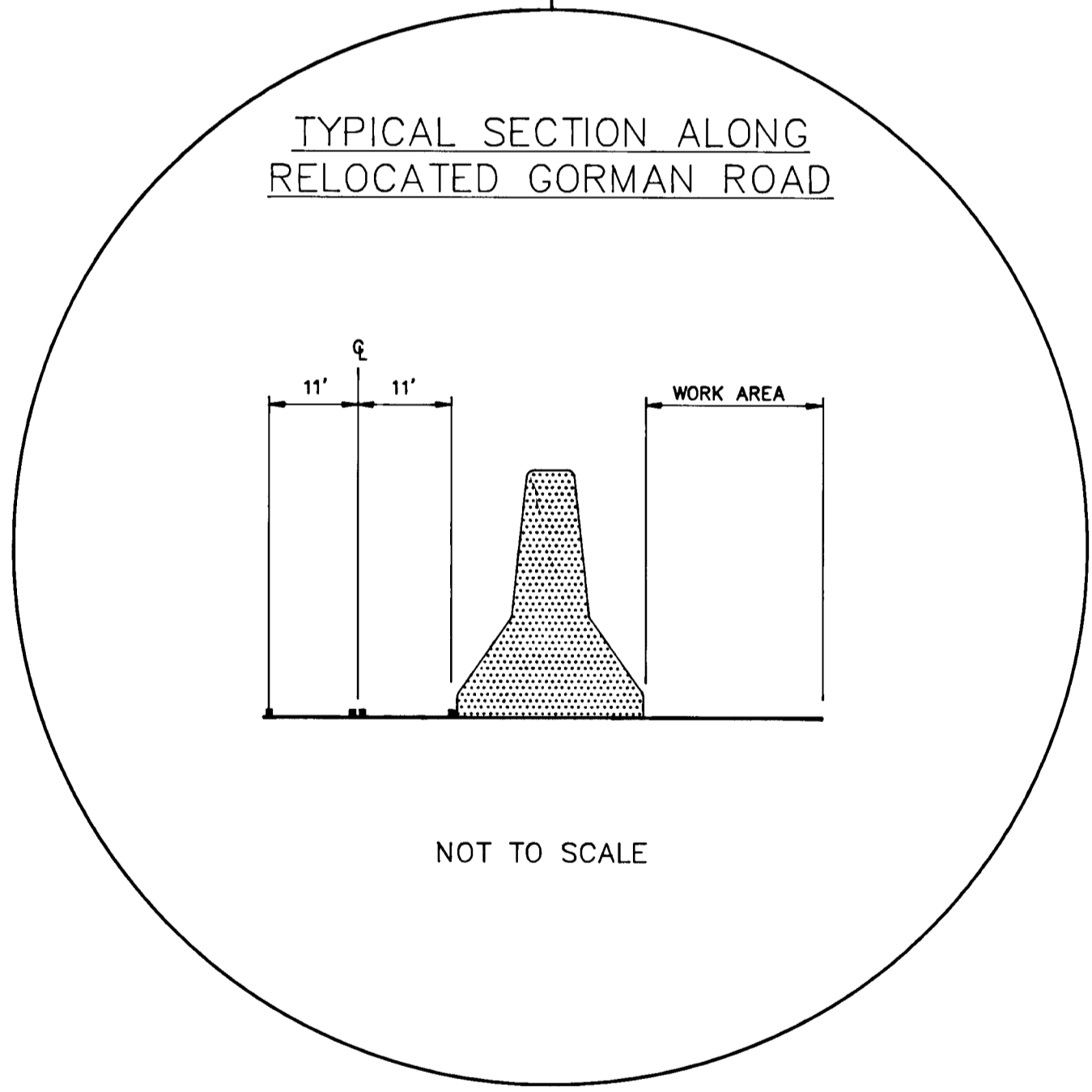
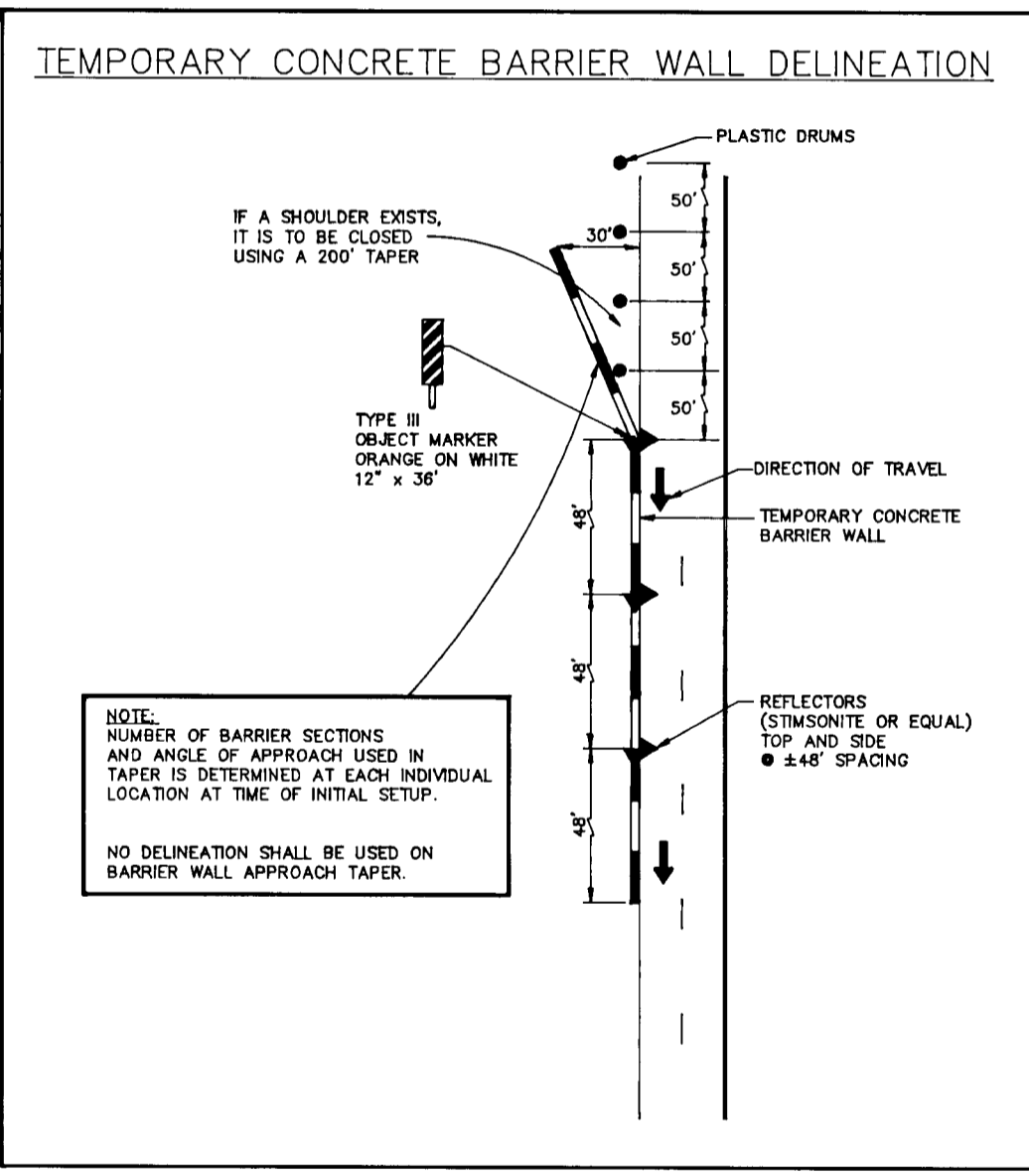
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**PAVEMENT MARKING LEGEND**

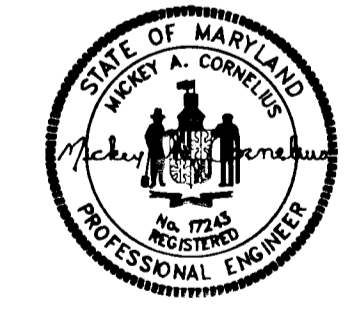
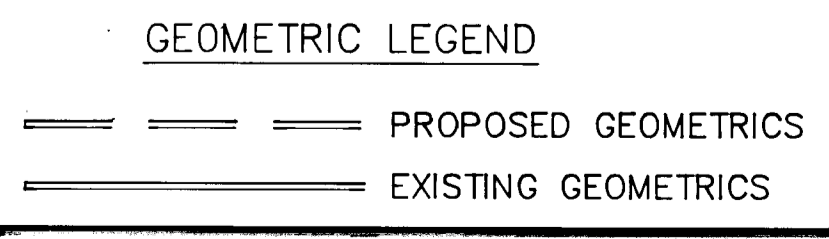
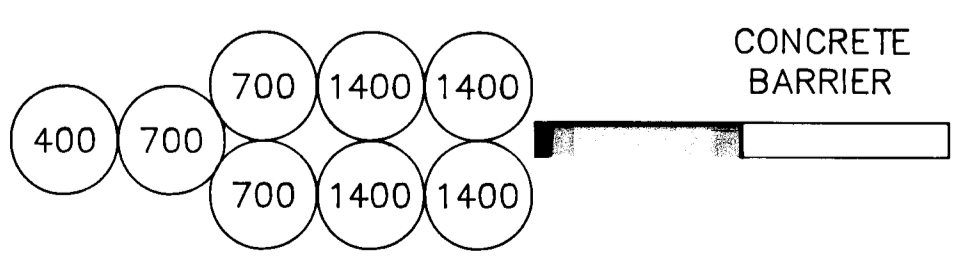
A. INSTALL 4" TEMPORARY SOLID WHITE TAPE FOR LANE LINE.  
 B. INSTALL 4" TEMPORARY SOLID DOUBLE YELLOW TAPE FOR CENTER LINE.  
 C. TIE TO EXISTING PAVEMENT MARKINGS.



**GENERAL NOTES**

1. FOR GENERAL TRAFFIC CONTROL DETAILS SEE SHEET NO. OF ENTITLED GENERAL NOTES.
2. ALL TRAVEL LANES ARE TO HAVE A MINIMUM WIDTH OF 10'.
3. EXISTING PAVEMENT MARKINGS DURING THIS PHASE OF CONSTRUCTION ARE TO BE UTILIZED AS SHOWN.
4. INSTALL RAISED PAVEMENT MARKINGS AT INTERVALS OF 50' ON THE TEMPORARY CENTERLINE.

**FITCH INERTIAL BARRIER SYSTEM**



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*John M. Pennington*  
 Chief, Land Development Division  
 DATE: 6/2/92

*John M. Pennington*  
 Chief, Bureau of Highways  
 DATE: 5/12/92

*James A. Conroy*  
 Chief, Bureau of Engineering  
 DATE: 6/2/92

---

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*James A. Conroy*  
 Chief, Division of Community Planning & Land Development  
 DATE: 6/2/92

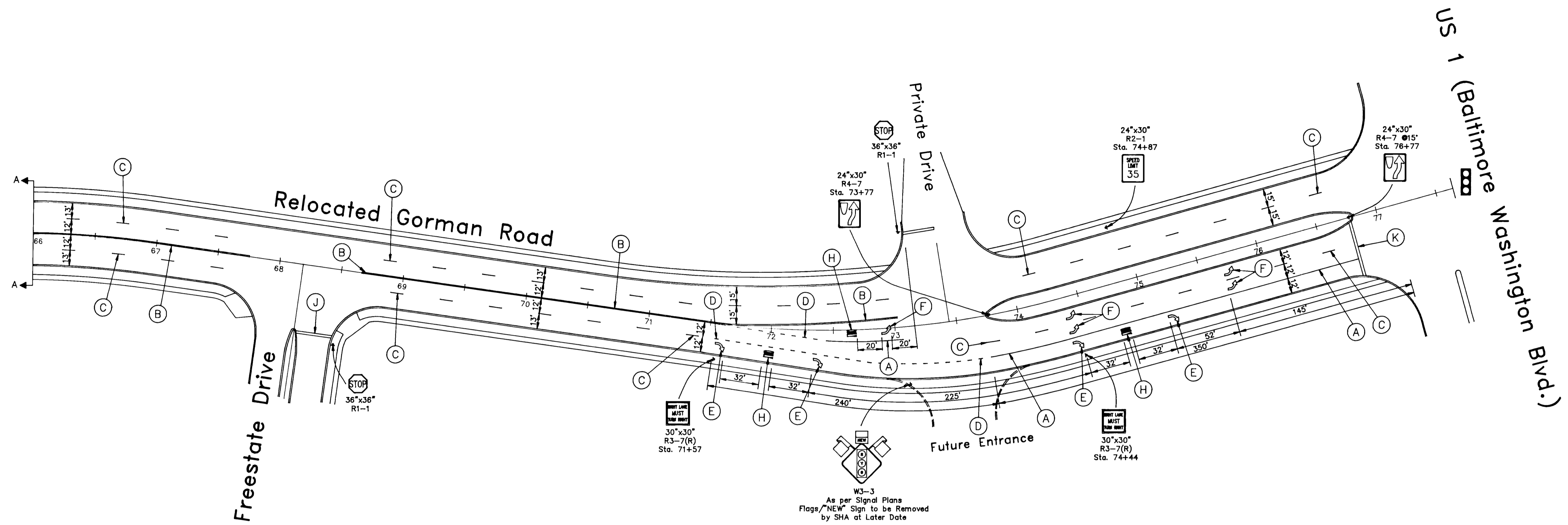
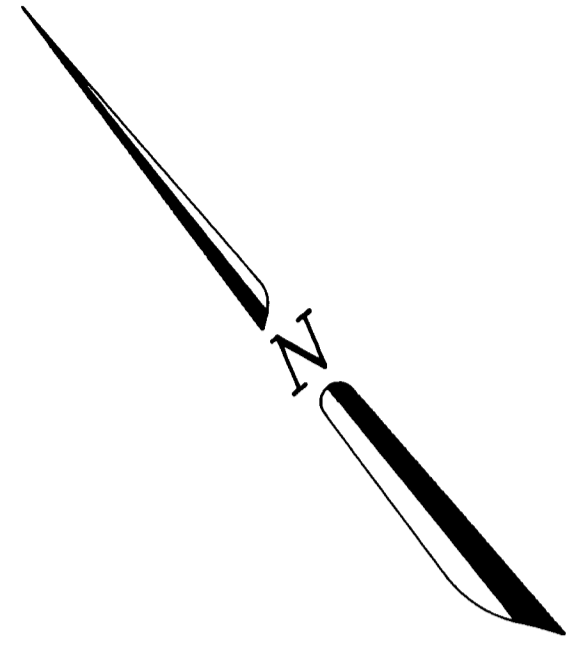
**FREESTATE TRAFFIC CONTROL PLAN**

**PHASE 2**

NO.	REVISION DESCRIPTION	BY	DATE
1	ISSUE REVISION AND SECURITY COMMENTS		APR. 92

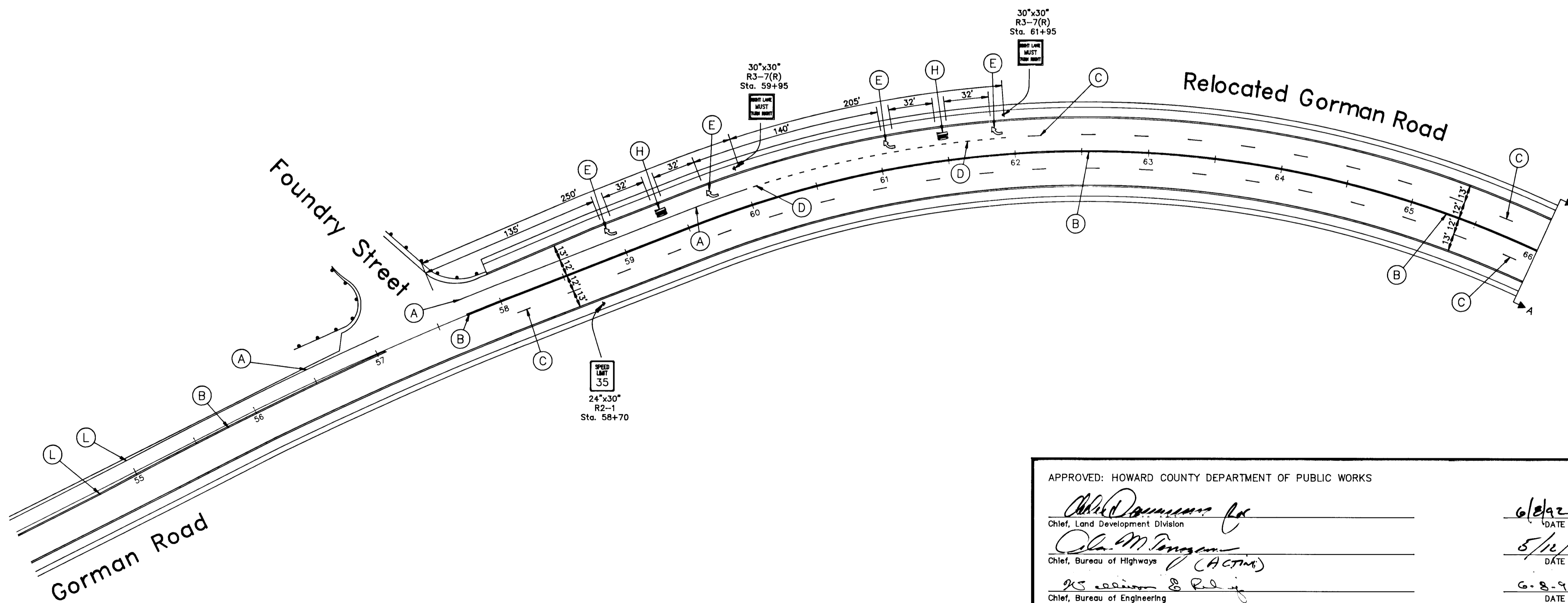
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 DRAWN BY: J.Dimendorfer  
 DESIGNED BY: J.Dimendorfer  
 CHECKED BY: J.Boling  
 DATE: 03/25/92  
 JOB NO: 11005  
 SHEET NO: 44 of 49

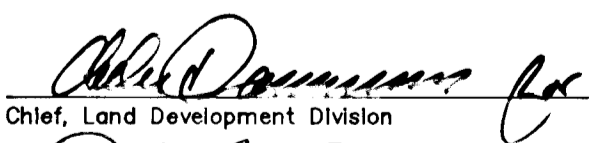
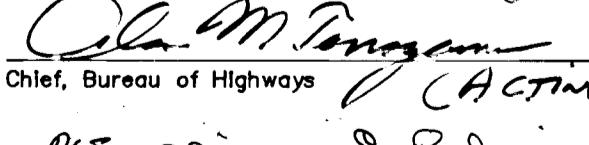
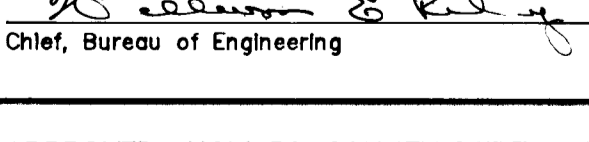


1640



**PAVEMENT MARKING LEGEND**

- A. INSTALL 4" SOLID WHITE LANE LINE.
- B. INSTALL 4" SOLID DOUBLE YELLOW CENTER LINE.
- C. INSTALL 4" BROKEN WHITE LANE LINE(10' SEGMENTS, 30' GAPS).
- D. INSTALL 4" BROKEN WHITE LANE LINE(2' SEGMENTS, 6' GAPS).
- E. INSTALL PAVEMENT MARKING ARROW - RIGHT.
- F. INSTALL PAVEMENT MARKING ARROW - LEFT.
- G. INSTALL PAVEMENT MARKING ARROW - LEFT/THROUGH COMBINATION.
- H. INSTALL PAVEMENT MARKING MESSAGE - "ONLY".
- J. INSTALL 24" WHITE PREFORMED PAVEMENT MARKING FOR STOP LINE.
- K. INSTALLED AS PER TRAFFIC CONTROL SIGNAL PLANS.
- L. TIE TO EXISTING PAVEMENT MARKINGS.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  Chief, Land Development Division  Chief, Bureau of Highways  Chief, Bureau of Engineering		6/2/92 DATE 5/12/92 DATE 6-8-92 DATE	 The Traffic Group, Inc. Suite 600 40 W. Chesapeake Avenue Towson, Maryland 21204 410-583-8465 Fax 410-821-8458	<b>FREESTATE</b> <b>SIGNING &amp; PAVEMENT MARKING PLAN</b>																			
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  Chief, Division of Community Planning & Land Development		6/2/92 DATE		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISION DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PER ASHA AND COUNTY COMMENTS</td> <td></td> <td>APR. 92</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	REVISION DESCRIPTION	BY	DATE	1	PER ASHA AND COUNTY COMMENTS		APR. 92											
NO.	REVISION DESCRIPTION	BY	DATE																				
1	PER ASHA AND COUNTY COMMENTS		APR. 92																				

SCALE: 1" = 50'  
 DRAWN BY: J.J.D.  
 DESIGNED BY: J.J.D.  
 CHECKED BY: J.A.B.  
 DATE: 03/26/92  
 JOB NO: 11021  
 SHEET NO: 45 of 49

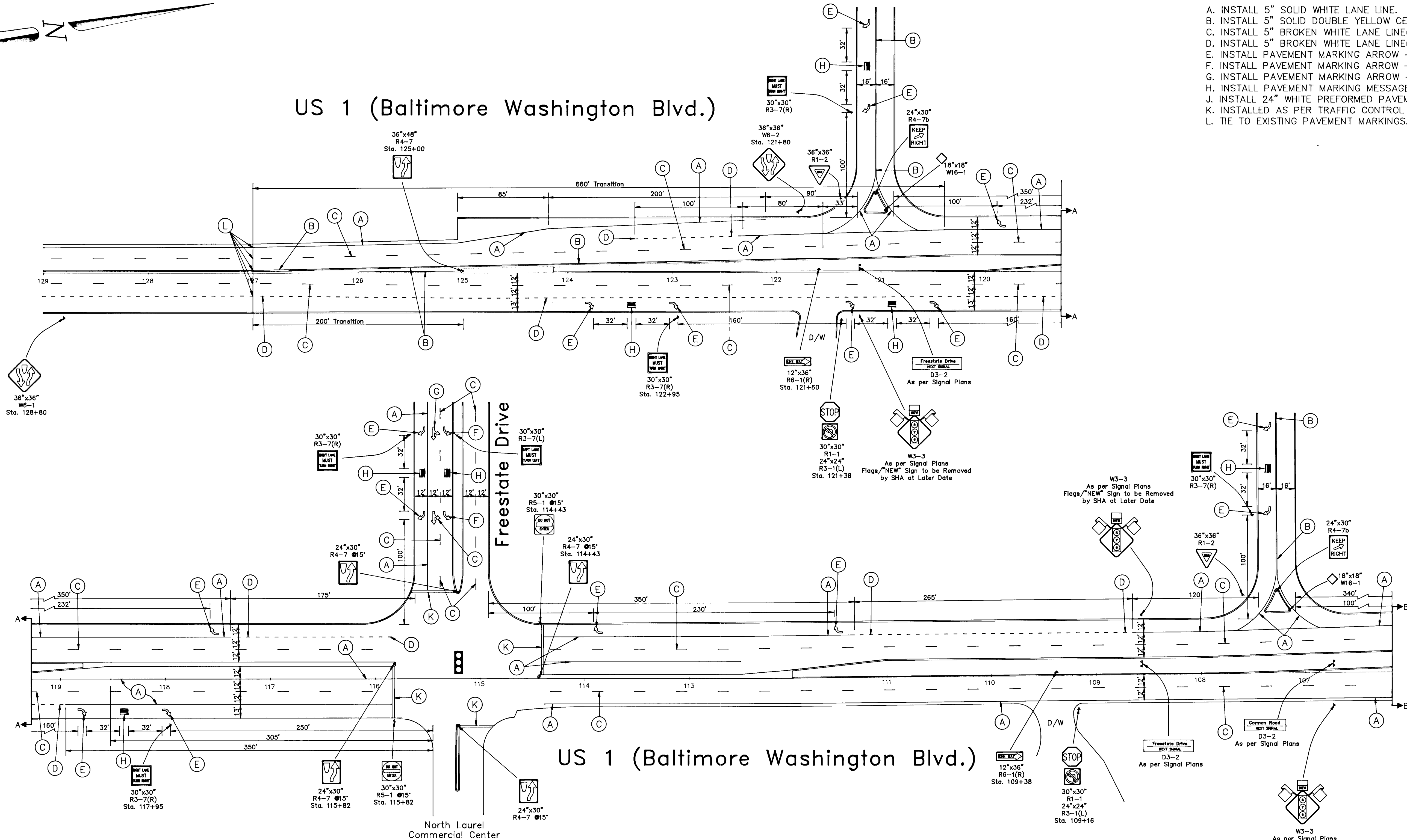
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PAVEMENT MARKING LEGEND

- A. INSTALL 5" SOLID WHITE LANE LINE.
- B. INSTALL 5" SOLID DOUBLE YELLOW CENTER LINE.
- C. INSTALL 5" BROKEN WHITE LANE LINE(10' SEGMENTS, 30' GAPS).
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- K. INSTALLED AS PER TRAFFIC CONTROL SIGNAL PLANS.
- L. TIE TO EXISTING PAVEMENT MARKINGS.

US 1 (Baltimore Washington Blvd.)



US 1 (Baltimore Washington Blvd.)

North Laurel Commercial Center

THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Signature*  
4/15/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Signature*  
Chief, Land Development Division

*Signature*  
Chief, Bureau of Highways (Action)

*Signature*  
Chief, Bureau of Engineering

DATE: 4/8/92

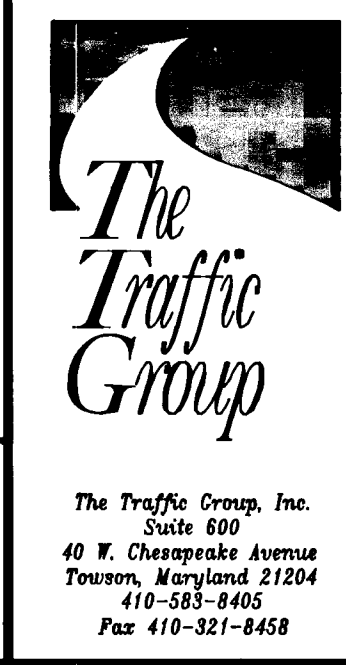
DATE: 5/12/92

DATE: 6/8/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Signature*  
Chief, Division of Community Planning & Land Development

DATE: 6/22/92



**FREESTATE SIGNING & PAVEMENT MARKING PLAN**

NO.	REVISION DESCRIPTION	BY	DATE
1	PER MSDA AND COUNTY COMMENTS		APR. 92

SCALE: 1" = 50'

DRAWN BY: M.A.M.

DESIGNED BY: J.J.D.

CHECKED BY: J.A.B.

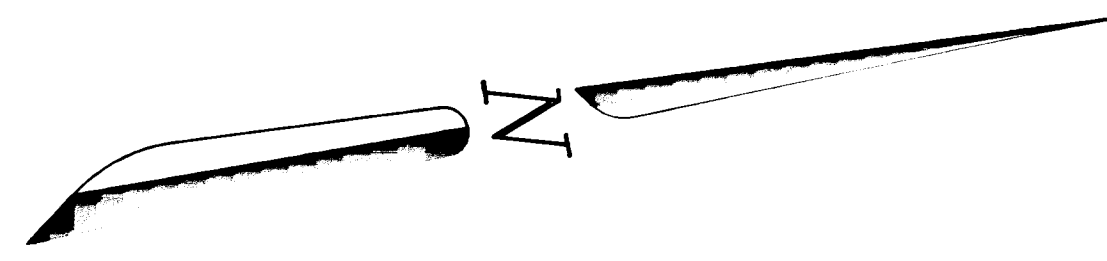
DATE: 03/26/92

JOB NO: 11021

SHEET NO: 46 of 49

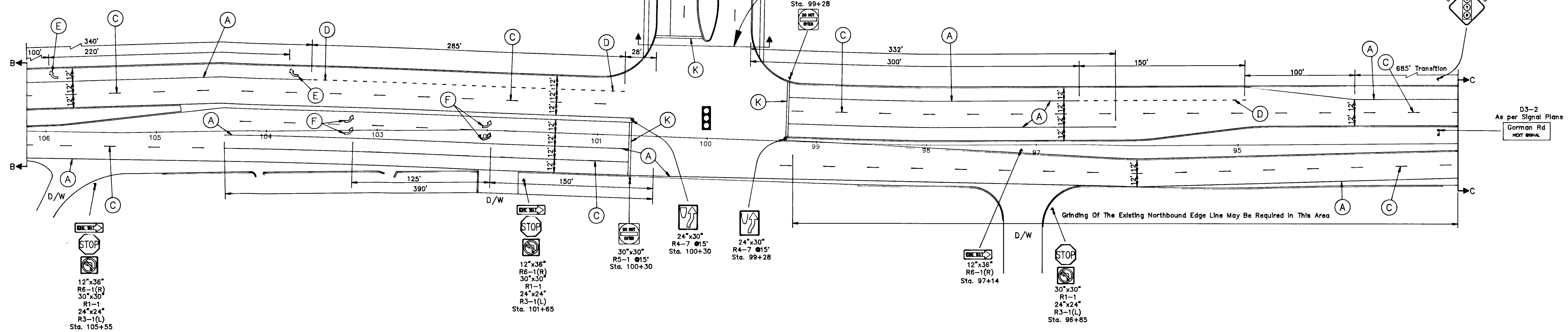


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US 1 (Baltimore Washington Blvd.)

Relocated Gorman Road

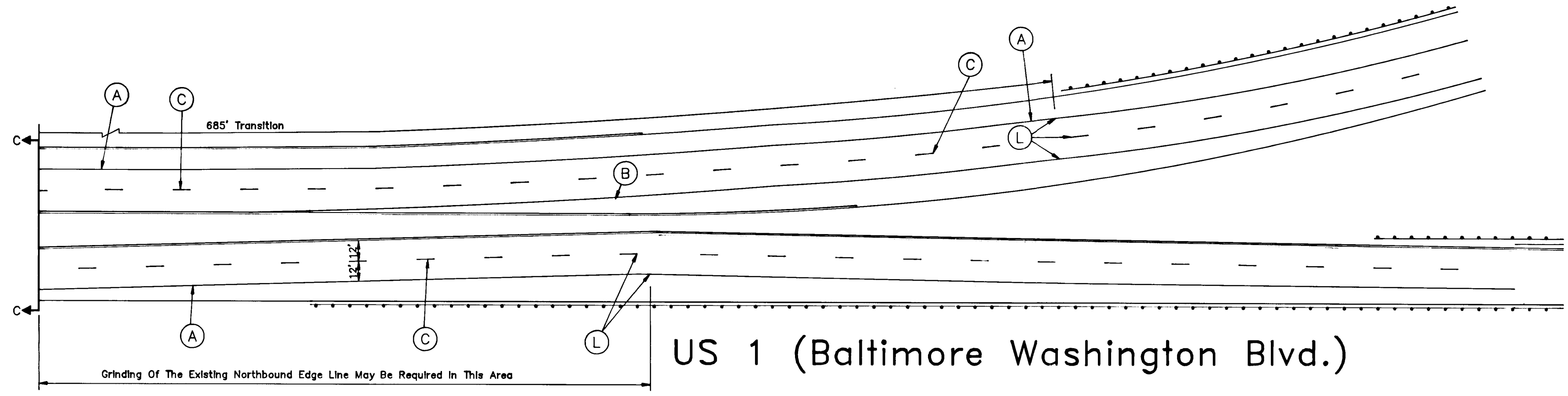


W3-3  
As per Signal Plans  
Flags/NEW Sign to be Removed  
by SHA at Later Date

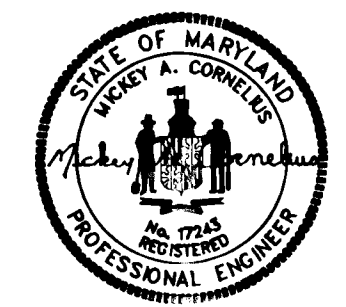
D3-2  
As per Signal Plans  
Gorman Rd  
NEXT SIGNAL

PAVEMENT MARKING LEGEND

- A. INSTALL 5" SOLID WHITE LANE LINE.
- B. INSTALL 5" SOLID DOUBLE YELLOW CENTER LINE.
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US 1 (Baltimore Washington Blvd.)



THIS SIGNATURE INDICATES THE STATE HIGHWAY ADMINISTRATION HAS REVIEWED THIS PLAN, AND CONSTITUTES CONCEPTUAL APPROVAL ONLY. FINAL APPROVAL SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE ACCESS PERMIT REQUIRED FOR ENTRANCE CONSTRUCTION.

*Handwritten signature and date: Howard County Dept. of Public Works, 11/15/98.*

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Howard County Dept. of Public Works*  
Chief, Land Development Division

*John M. Pangborn*  
Chief, Bureau of Highways

*James R. Riley*  
Chief, Bureau of Engineering

DATE: 6/2/98

DATE: 5/14/98

DATE: 6-2-98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Anna L. Salomata*  
Chief, Division of Community Planning & Land Development

DATE: 6/22/98

The Traffic Group  
Suite 600  
40 W. Chesapeake Avenue  
Towson, Maryland 21284  
410-583-9405  
Fax: 410-581-8458

FREESTATE  
SIGNING & PAVEMENT MARKING PLAN

NO.	REVISION DESCRIPTION	BY	DATE
1	PER HOWARD COUNTY COMMENTS		APR. 98

SCALE: 1" = 50'  
DRAWN BY: M.A.M.  
DESIGNED BY: J.J.D.  
CHECKED BY: J.A.B.  
DATE: 03/26/92  
JOB NO: 11021  
SHEET NO: 47 of 49

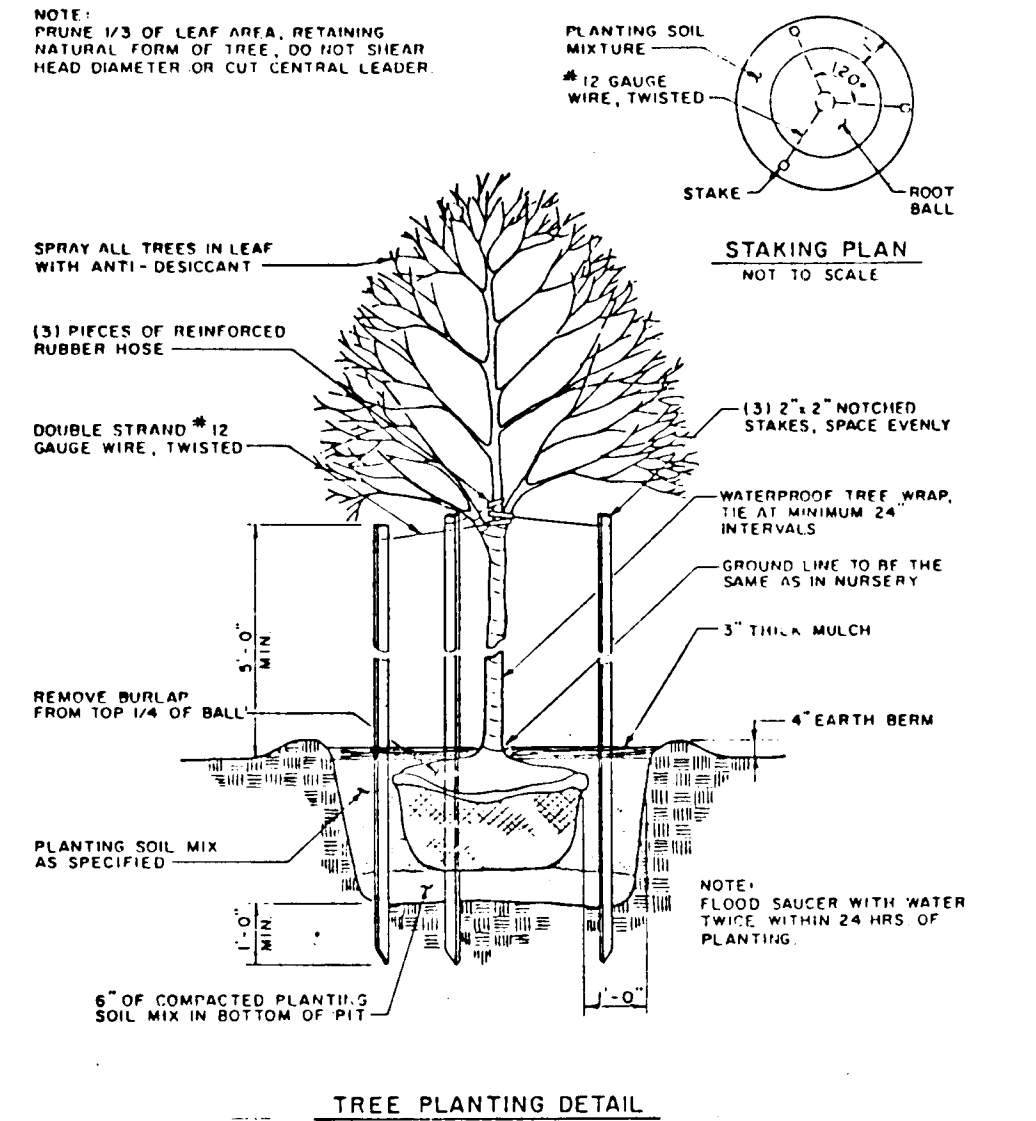
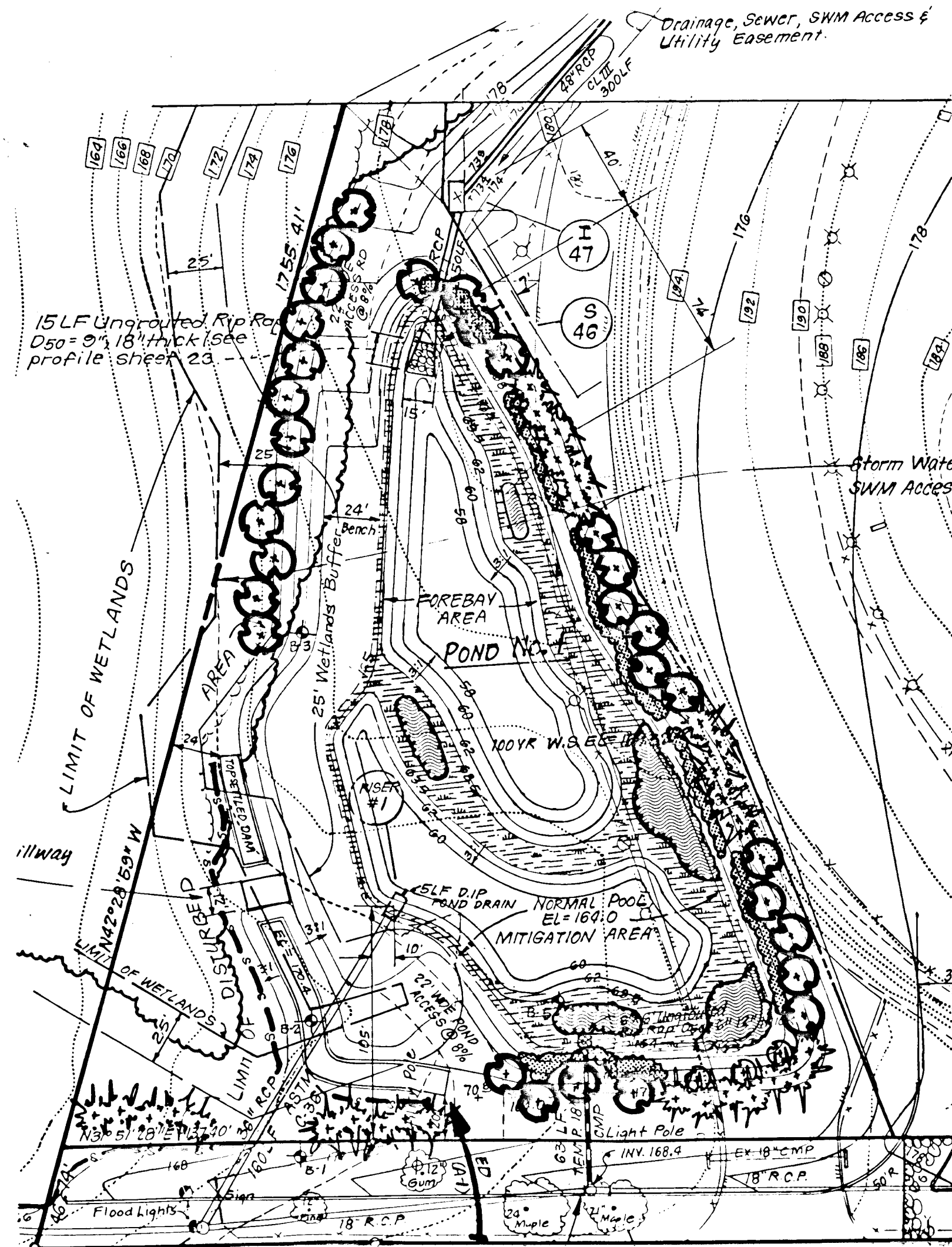
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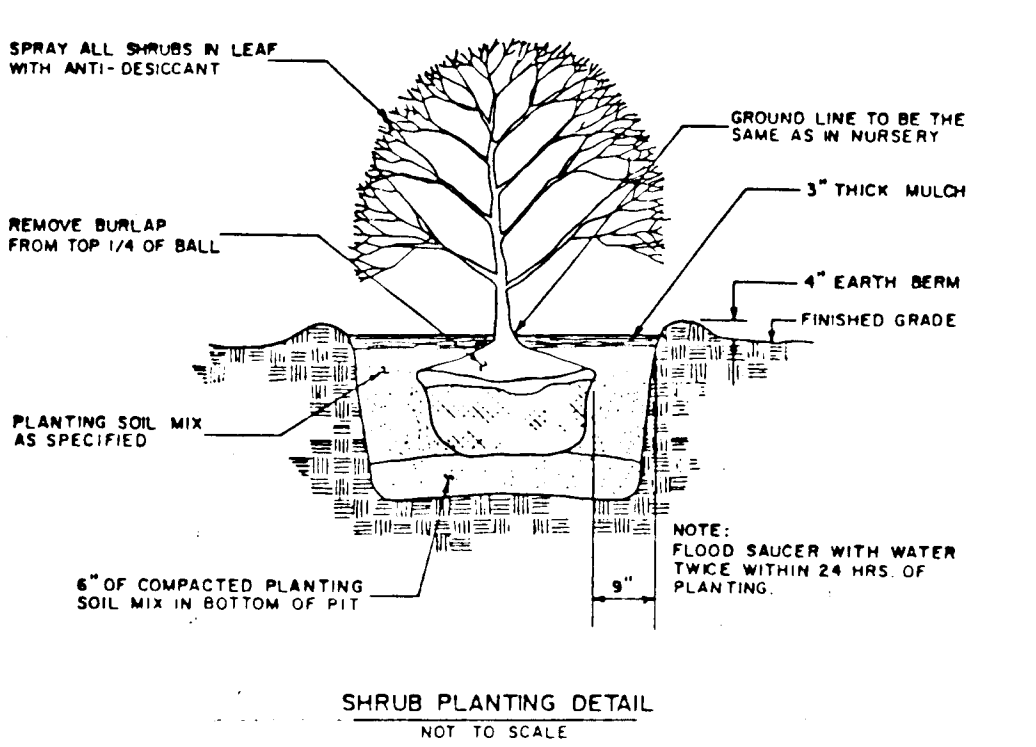
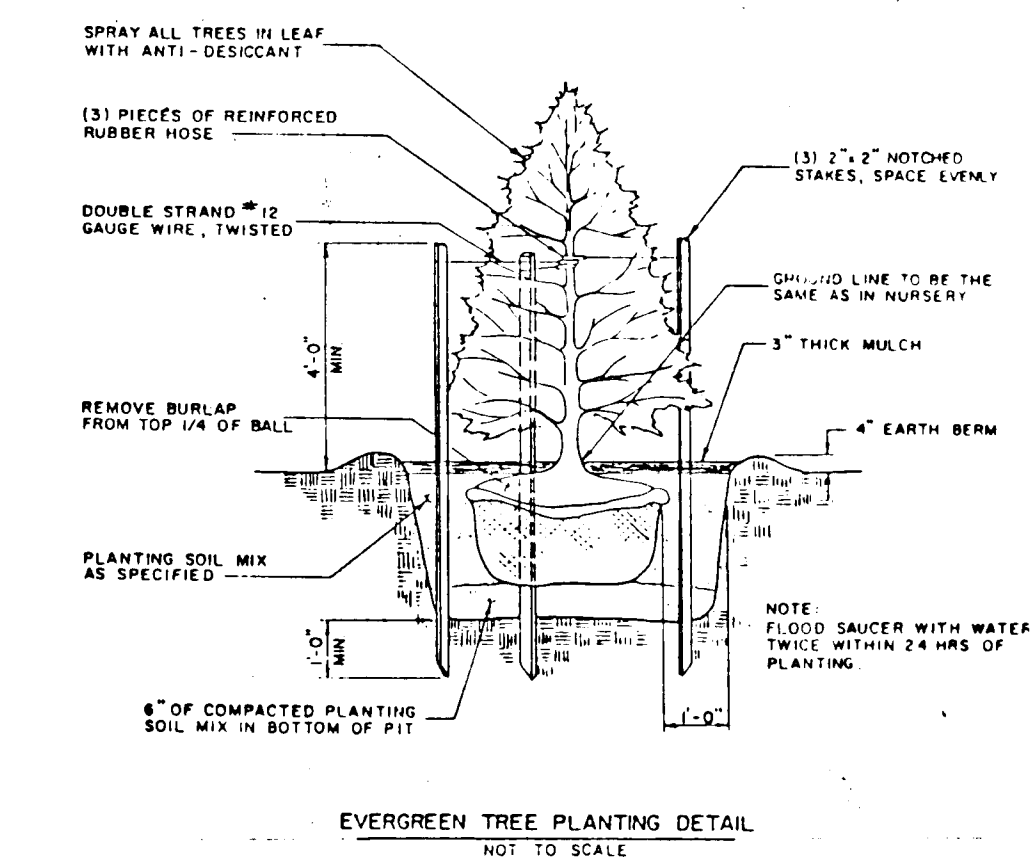
**PLANTS LEGEND**

- DECIDUOUS TREE
- EVERGREEN TREE
- DECIDUOUS & EVERGREEN UPLAND SHRUBS
- WETLAND SHRUBS
- EMERGENT PLANTS

**NOTE:**  
DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR PROP. PONDS 1 AND 2 AND THE FILLING OF EXISTING WETLANDS ARE TO BE IN ACCORDANCE WITH WYVER PETITION WP-91-01 AND THE DEPT. OF NATURAL RESOURCES AND DEPT. OF ENVIRONMENT PERMITS.



**NOTE:** This plan to be utilized for planting only - See sheets 23 & 20 for Pond Detail.



**WETLAND PLANT MATERIAL**

**DESCRIPTION**

This work shall consist of furnishing and planting trees and shrubs as shown on the plans and/or as directed by Exploration Research, Inc. and all planting operations and care and replacement as necessary to complete the work specified.

Prior to the start of the work on this project, Exploration Research, Inc. shall submit to the U.S. Army Corps of Engineers for review, the proposed planting schedule for the wetland vegetation.

**MATERIALS:**

- A. **Plant Material** - As shown on the plans, shall conform to the following specifications: The plant species required are normally available from standard landscape nursery sources.
- B. **Fertilizer** - Not required.
- C. **Substitute Plants** - Shall conform to the above specifications and approval of Exploration Research, Inc. and the U.S. Army Corps of Engineers.

**WETLAND MANAGEMENT NOTES**

In order to establish a productive, functioning wetland ecosystem, an effective wetland management plan has been developed. The objectives of the management plan include:

1. Reestablish a healthy, self-sustaining vegetative cover.
2. Reestablish self-sustaining hydrological conditions.
3. Enhance and promote maximum wildlife habitat.

In order to establish an effective, workable, and practical wetland management plan, the following strategy is recommended.

1. During and immediately preceding construction of the wetland areas, potential or existing problems will be identified and corrective management techniques will be implemented.

**LEGEND/TABULATION**

**POND #1**

Total Mitigation/Pond Area	34,500 sq. ft.
Total area of open water	22,050 sq. ft.
Total area of mitigation	12,450 sq. ft.
Shrubs:	2,457 sq. ft.
Emergents:	9,993 sq. ft.
Total area of upland buffer:	19,323 sq. ft.
Area of wetland disturbance:	1,742 sq. ft.

QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY SALINITY
17	1-1 1/2" CAL.	ACER RUBRUM	RED MAPLE	FAC	B&B	WETLAND/SCREENING EROSION CONTROL
10	1-1 1/2" CAL.	CERCIS CANADENSIS	EASTERN REDBUD	FACU	B&B	WETLAND/SCREENING EROSION CONTROL
3	5-6'	CATAREUS VIRIDIS	WINTER KING BANYAN	FACU	B&B	WETLAND/SCREENING EROSION CONTROL
4	1-1 1/2" CAL.	QUERCUS PALUSTRIS	PIN OAK	FACU	B&B	WETLAND/SCREENING EROSION CONTROL
17	5-6'	VICIA ARBIS	NORWAY SPANICE	FACU	B&B	WETLAND/SCREENING EROSION CONTROL
11	5-6'	FINUS STROBUS	WHITE PINE	FACU	B&B	WETLAND/SCREENING EROSION CONTROL

QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY SALINITY
40	12-15"	ARONIA MELANOCARPA	BLACK CHOKERBERRY	FAC	CONT.	WETLAND/ EROSION CONTROL
30	18-24"	Berberis julianae	WINTERGREEN BARBERY	FACU	CONT.	ARBOREAL, WETLAND/ EROSION CONTROL
25	12-15"	CERUALANTHUS OCCIDENTALIS	BOTTOMBUSH	OBL	CONT.	WETLAND/ EROSION CONTROL
21	12-15"	CLETHRA ALNIFOLIA	PEPPERBUSH	FACU	CONT.	WETLAND/ EROSION CONTROL
30	18-24"	EUDORIS ALATA	WINGED BROOMS	FACU	CONT.	ARBOREAL, WETLAND/ EROSION CONTROL
32	12-15"	CORNUS AMOMIN	SILEX DOGWOOD	FAC	CONT.	WETLAND/ EROSION CONTROL
24	18-24"	VIORUM PRUNIFOLIUM	BLACK HAM	FACU	CONT.	WETLAND/ EROSION CONTROL
28	18-24"	NYCIA PENNSYLVANICA	NORTHERN BAYBERRY	FAC	CONT.	WETLAND/ EROSION CONTROL

QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY SALINITY
352	-	PONTEDERIA CORDATA	PICKEREL REED	OBL	BR	WATER QUALITY
252	-	SAGITTARIA LATIFOLIA	ARROW-HEAD	OBL	BR	WATER QUALITY
294	-	JUNCUS EFFUSUS	SOFT RUSH	FACU	BR	WATER QUALITY
240	-	SCIRPUS CYPERINUS	MOOL-GRASS	FACU	BR	WATER QUALITY
232	-	CAREX SPP.	MIXED SEDGES	OBL/FACU	BR	WATER QUALITY

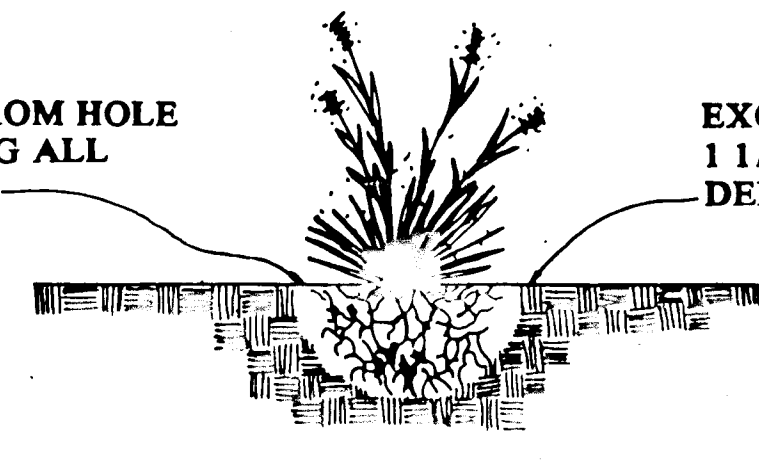
  

QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY SALINITY
350	-	HYDRALEA ODORATA	WHITE WATERLILLY	OBL	TUBER	WATER QUALITY

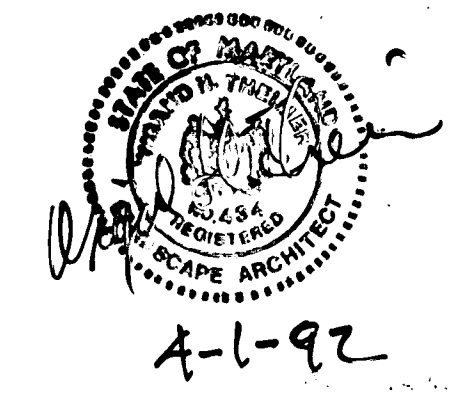
**GENERAL NOTES**

1. Quality and size of plants, spread of roots, and size of balls shall be in accordance with the standards of the American Association of Nurserymen, "American Standards for Nursery Stock".
  2. Contractor shall be required to guarantee all plant materials for a period of two year after installation is complete and approved. At the end of two year all plant material which is dead or dying shall be replaced at the contractor's expense as originally specified.
  3. Contractor shall be responsible for any damage to utilities and may make minor adjustments in spacing and/or location of plant materials. Contractor to verify "as-built" location of all utilities.
  4. No substitutions shall be made without the approval of the landscape architect.
  5. All areas not stabilized in paving or plant materials should be seeded and mulched.
  6. Evergreen trees shall have a full, well-branched, conical form typical of the species.
  7. Trees shall be planted and staked in accordance with the planting detail shown.
  8. Planting soil mix: 2/3 existing soil (with all stones or debris 2" or larger removed), 1/3 peat humus, composted sludge or other organic material.
  9. All groundcover and shrub beds shall receive 2" topsoil thoroughly worked into the top 6" of existing soil. All beds to be mulched 2" deep when plant installation is complete.
  10. All planting procedures and specifications shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area" latest edition.
  11. Emergents are to be planted on 2.5' centers.
  12. Floating aquatic plants are to be placed along the waters edge at 3.5' centers.
  13. All buffer areas are to be seeded with SCS approved seed mixture #11. This mixture consists of a seeding rate of 2 lbs/acre of weeping lovegrass and 20 lbs/acre of sericea lespedeza. Please refer to sediment and erosion control notes for seeding instructions.
- \* Approved by Army Corp of Engineers and Md. Dept of the Environment

TAMP SOIL EXCAVATED FROM HOLE OVER ROOT MASS FILLING ALL VOIDS AND AIR POCKETS



\* THIS PLAN IS SUBJECT TO CHANGE UPON THE REQUEST OF THE U.S. ARMY CORPS OF ENGINEERS AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
DATE: 6/22/92

APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 6-8-92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
DATE: 6/10/92

APPROVED: DATE: 5/14/92

1	Revised per State & County Comments	APR 1992
No.	REVISION	DATE
<b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500-BALTO. • (301) 621-8100-WASH.		
DESIGNED Others	<b>LANDSCAPE &amp; MITIGATION PLAN</b> <b>POND # 1</b> <b>FREESTATE</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE As Shown
DRAWN KIWM		DRAWING 48d40
CHECKED JLS		JOB NO 01-099
DATE		FILE NO 80-134-D
FOR: FREESTATE ASSOCIATES LIMITED PART. c/o The Sanford Companies 1515 Noyes Drive Silver Spring, Md 20910		



**PLANTS LEGEND**

- DECIDUOUS TREE
- EVERGREEN TREE
- DECIDUOUS & EVERGREEN UPLAND SHRUBS
- WETLAND SHRUBS
- EMERGENT PLANTS

**GENERAL NOTES**

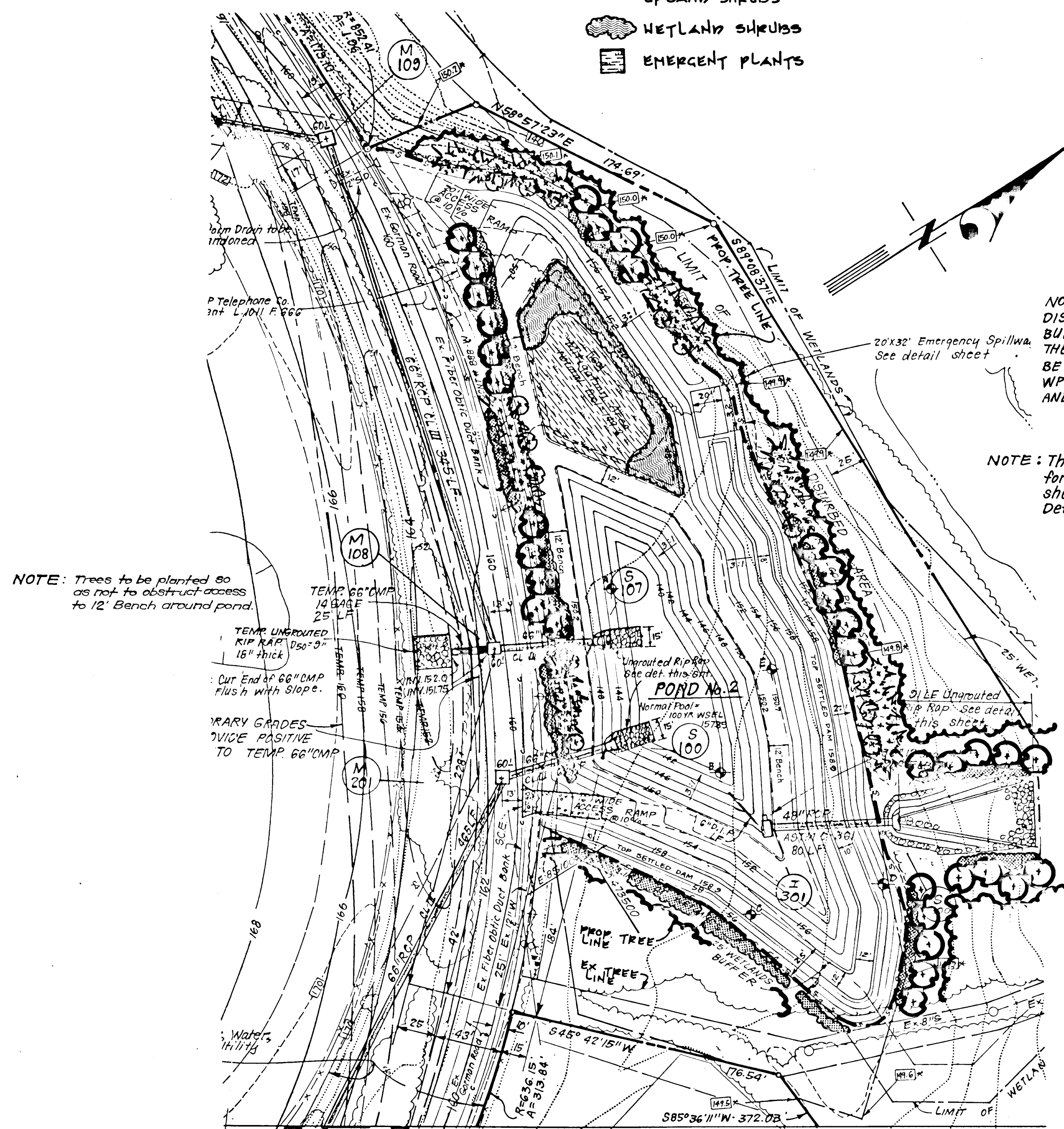
- Quality and size of plants, spread of roots, and size of balls shall be in accordance with the standards of the American Association of Nurserymen, "American Standards for Nursery Stock".
- Contractor shall be required to guarantee all plant materials for a period of two year after installation is complete and approved. At the end of two year all plant material which is dead or dying shall be replaced at the contractor's expense as originally specified.
- Contractor shall be responsible for any damage to utilities and may make minor adjustments in spacing and/or location of plant materials. Contractor to verify "as-built" location of all utilities.
- No substitutions shall be made without the approval of the landscape architect.
- All areas not stabilized in paving or plant materials should be seeded and mulched.
- Evergreen trees shall have a full, well-branched, conical form typical of the species.
- Trees shall be planted and staked in accordance with the planting detail shown.
- Planting soil mix: 2/3 existing soil (with all stones or debris 2" or larger removed), 1/3 peat humus, composted sludge or other organic material.
- All groundcover and shrub beds shall receive 2" topsoil thoroughly worked into the top 6" of existing soil. All beds to be mulched 2" deep when plant installation is complete.
- All planting procedures and specifications shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area" latest edition.
- Emergents are to be planted on 2.5' centers.
- Floating aquatic plants are to be placed along the waters edge at 3.5' centers.
- All buffer areas are to be seeded with SCS approved seed mixture #11. This mixture consists of a seeding rate of 2 lbs/acre of weeping lovegrass and 20 lbs/acre of sericea lespedeza. Please refer to sediment and erosion control notes for seeding instructions.

\* As approved by the Army Corp. of Engineers and Md. Dept. of the Environment

**LEGEND/TABULATION**

POND #2	
Total Mitigation/Pond Area	30,475 sq. ft.
Area of open water	20,850 sq. ft.
Total area of mitigation	9,625 sq. ft.
Shrubs:	3,675 sq. ft.
Emergents:	5,950 sq. ft.
Total area of upland buffer:	16,800 sq. ft.
Area of disturbed 25' wetland buffer:	7,750 sq. ft.

QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY VALUATION
11	2-1 1/2" CAL.	ACER RUBRUM	RED MAPLE	FAC	BAR	WETLAND/SCREENING EROSION CONTROL
9	2-1 1/2" CAL.	CERCIS CANADENSIS	EASTERN REDBUD	FACU	BAR	WETLAND/SCREENING EROSION CONTROL
14	2-1 1/2" CAL.	QUERCUS PALUSTRIS	PIN OAK	FACW	BAR	WETLAND/SCREENING EROSION CONTROL
13	3-6"	CATAWPA VIRIDIS	WINTER KING HANTHORN	FACW	BAR	WETLAND/SCREENING EROSION CONTROL
14	3-6"	FICUS ABIES	NORWAY SPRUCE	FACU	BAR	WETLAND/SCREENING EROSION CONTROL
21	3-6"	FIRUS STROBUS	WHITE PINE	FACU	BAR	WETLAND/SCREENING EROSION CONTROL
EMERGENT						
QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY VALUATION
31	12-15"	ARONIA MELANOCARPA	BLACK CHERRYBERRY	FAC	COYT.	WETLAND/ EROSION CONTROL
34	18-24"	BERRERIS JULIANAE	WINTERGREEN BARBERRY	FACU	COYT.	WETLAND/ EROSION CONTROL
37	12-15"	CERANTHUS OCCIDENTALIS	BUTTERFLY	OBL	COYT.	WETLAND/ EROSION CONTROL
20	12-15"	CLETHRA ALNIFOLIA	PEPPERBUSH	FACW	COYT.	WETLAND/ EROSION CONTROL
65	18-24"	NYCTICA PENSTYVANICA	NORTHERN BAYBERRY	FAC	COYT.	WETLAND/ EROSION CONTROL
29	18-24"	FRAXINUS ALATA	WINGED HICKORY	FACU	COYT.	WETLAND/ EROSION CONTROL
34	18-24"	FRACANTHA COCCINEA	NAVANO FIRETHORN	FACU	COYT.	WETLAND/ EROSION CONTROL
74	12-15"	CORNUS AMOMUM	SILKY DOGWOOD	FAC	COYT.	WETLAND/ EROSION CONTROL
50	18-24"	VIORUNUM PRUNIFOLIUM	BLACK HAW	FACU	COYT.	WETLAND/ EROSION CONTROL
EMERGENT						
QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY VALUATION
120	-	PONTIFEDRIA COARCTATA	FICKEREL REED	OBL	BAR	WATER QUALITY
120	-	SAGITTARIA LATIFOLIA	ARROW-HEAD	OBL	BAR	WATER QUALITY
180	-	JUNCUS EFFUSUS	SOFT RUSH	FACW+	BAR	WATER QUALITY
214	-	SCIRPUS CYPERINUS	MOOR-GRASS	FACW+	BAR	WATER QUALITY
174	-	CAREX SPP.	MIXED SEDGES	OBL/FACW	BAR	WATER QUALITY
FLOATING AQUATIC						
QUANTITY	SIZE	BOTANICAL NAME	COMMON NAME	INDICATOR	CONDITIONS	PRIMARY VALUATION
205	-	WETPHARA COARCTATA	WHITE WATERLILLY	OBL	TORER	WATER QUALITY



NOTE: Trees to be planted so as not to obstruct access to 12' Bench around pond.

NOTE: DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR POND #1 AND #2 AND THE FILLING OF EXISTING WETLANDS ARE TO BE IN ACCORDANCE WITH WAIVER PETITION WP-31-01 AND THE DEPT. OF NATURAL RESOURCES AND DEPT. OF ENVIRONMENTAL PERMITS.

NOTE: This plan to be utilized for planting only - See sheets 23 & 29 for Pond Detail.

**WETLAND PLANT MATERIAL**

**DESCRIPTION**

This work shall consist of furnishing and planting trees and shrubs as shown on the plans and/or as directed by Exploration Research, Inc. and all planting operations and care and replacement as necessary to complete the work specified.

Prior to the start of the work on this project, Exploration Research, Inc. shall submit to the U.S. Army Corps of Engineers for review, the proposed planting schedule for the wetland vegetation.

**MATERIALS:**

- Plant Material:** As shown on the plans, shall conform to the following specifications: The plant species required are normally available from standard landscape nursery sources.
- Fertilizer:** Not required.
- Substitute Plants:** Shall conform to the above specifications and approval of Exploration Research, Inc. and the U.S. Army Corps of Engineers.

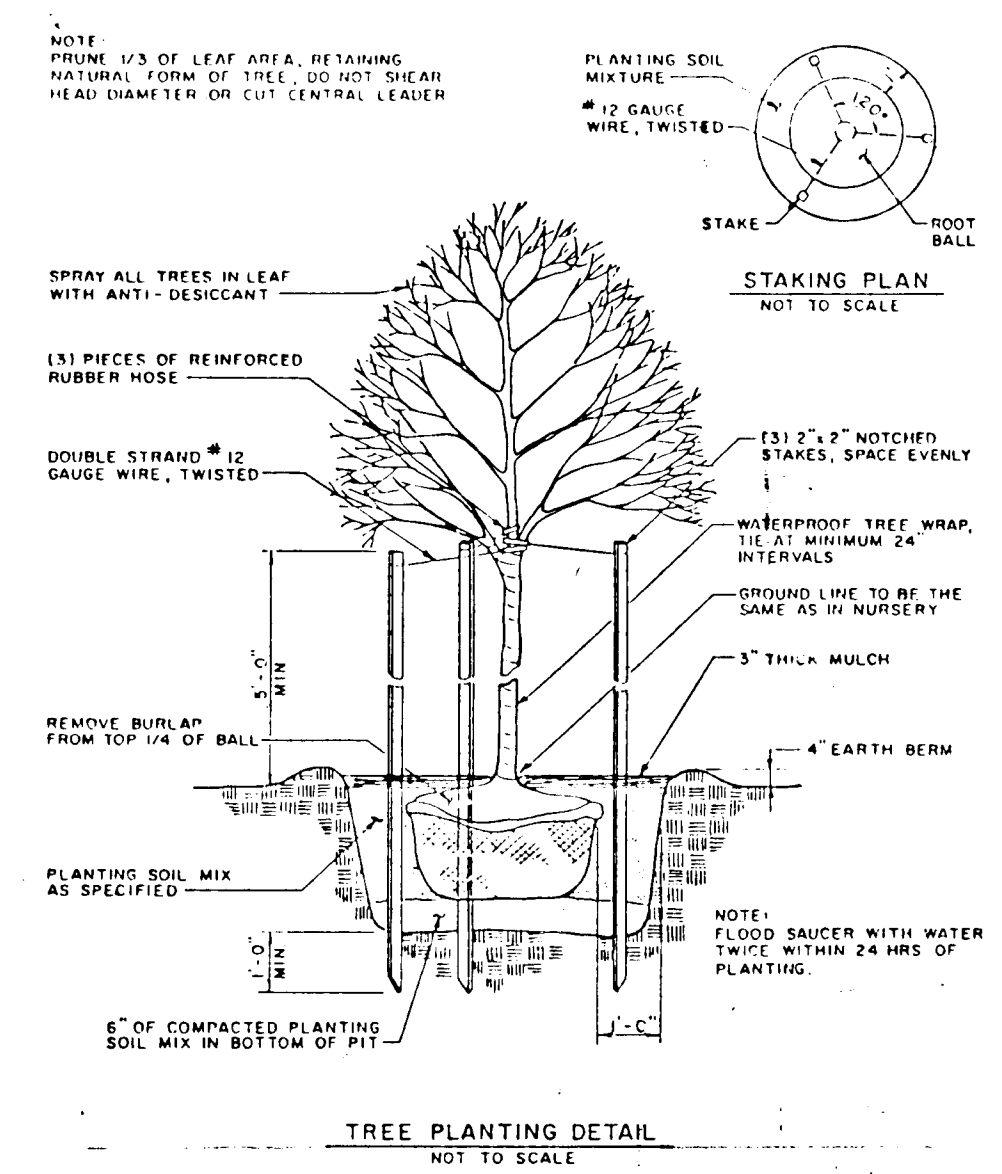
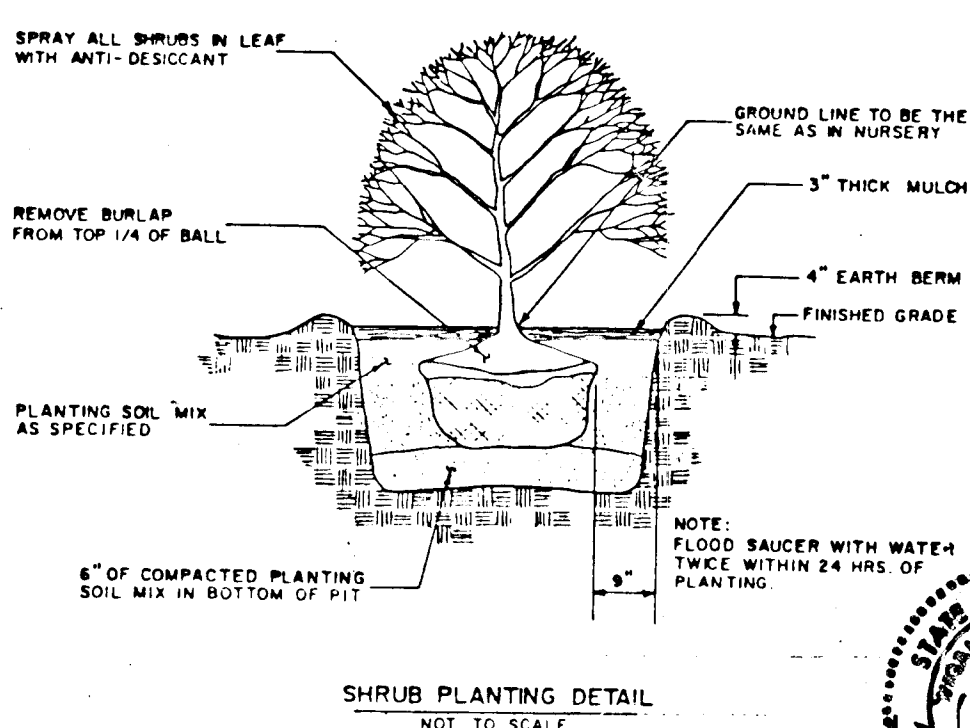
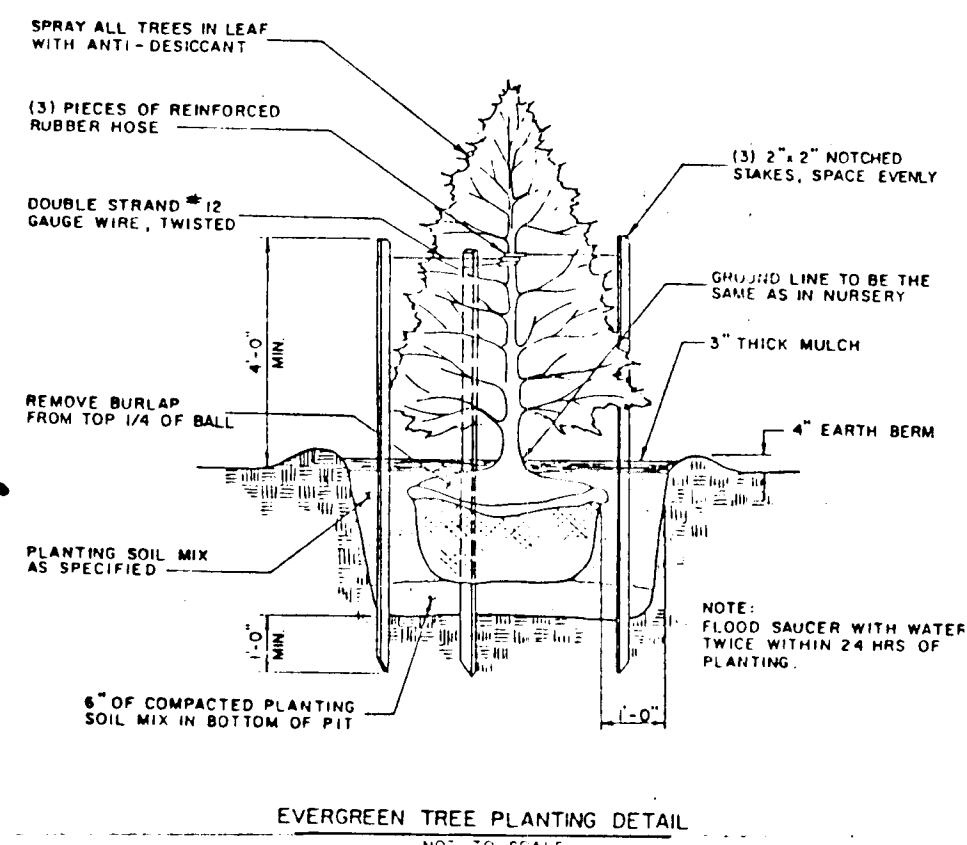
**WETLAND MANAGEMENT NOTES**

In order to establish a productive, functioning wetland ecosystem, an effective wetland management plan has been developed. The objectives of the management plan include:

- Reestablish a healthy, self-sustaining vegetative cover.
- Reestablish self-sustaining hydrological conditions.
- Enhance and promote maximum wildlife habitat.

In order to establish an effective, workable, and practical wetland management plan, the following strategy is recommended.

- During and immediately preceding construction of the wetland areas, potential or existing problems will be identified and corrective management techniques will be implemented.



TAMP SOIL EXCAVATED FROM HOLE OVER ROOT MASS FILLING ALL VOIDS AND AIR POCKETS

EXCAVATE HOLE 1 1/2 BY 1 1/2 TIMES THE WIDTH AND DEPTH OF THE ROOT MASS

**EMERGENT PLANTING DETAIL**  
NOT TO SCALE

\*THIS PLAN IS SUBJECT TO CHANGE UPON THE REQUEST OF THE U.S. ARMY CORPS OF ENGINEERS AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Chief, Land Development Division*  
 6/10/92 Date

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Chief, Division of Community Planning & Land Development*  
 6/3/92 Date

1 Revised per State & County Comments		Apr. 1992
No.	REVISION	DATE
<b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA MD 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.		
DESIGNED	LANDSCAPE & MITIGATION PLAN	
OTHERS	POND # 2	
DRAWN	FREESTATE	
KIWM	6 <sup>TH</sup> ELECTION DISTRICT	
CHECKED	HOWARD COUNTY, MARYLAND	
JLS	JOB NO. 91-099	
DATE	For: FREESTATE ASSOCIATES LIMITED PARTNERSHIP	
	90 THE SANFORD COMPANIES	
	1515 NOYES DRIVE SILVER SPRING, MD 20910	
	FILE NO. 89-134-D	