

OAKLAND MILLS ROAD IMPROVEMENTS

HOWARD COUNTY, MARYLAND

SNOWDEN RIVER PARKWAY TO OLD MONTGOMERY ROAD

CAPITAL PROJECT NO. J-4095

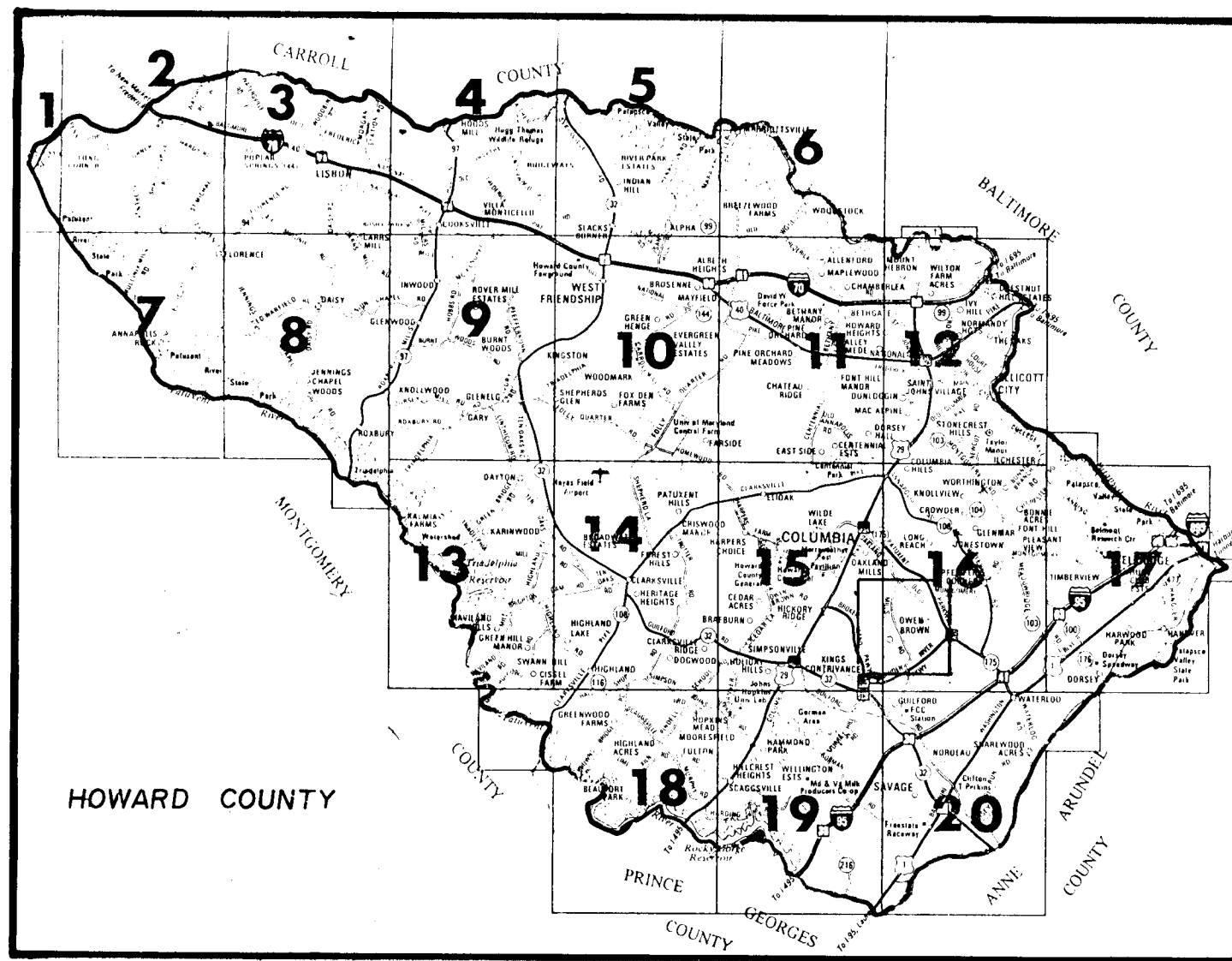
1989 ADT = 9,200
2010 ADT = 10,000
DESIGN SPEED = 40 MPH
LENGTH = 2.2 MILES

CONVENTIONAL SYMBOLS

SYMBOL	DESCRIPTION
---	EXISTING CURB/CURB & GUTTER
---	PROPOSED CURB AND GUTTER
---	PROPERTY / LOT BOUNDARY
---	RIGHT-OF-WAY
---	PROPOSED FULL DEPTH PAVEMENT
T	UTILITY POLE
○	GAS MAIN VALVE COVER
○	ROADSIDE TREES (WITH DIAMETER)
○	STORM DRAIN & MANHOLE (EXISTING)
○	WATER MAIN VALVE COVER
○	EXISTING STORM DRAIN THROUGH INLET
---	PROPOSED STORM DRAIN
---	EXISTING STORM DRAIN GRATE INLET
---	BOXES FOR UNDERGROUND UTILITIES
○	CITY WIRE
○	FIRE HYDRANT
○	TRANSFORMER BOX (POWER PLANT)
○	METAL PLATE
○	SIGNAL POLE
○	LIGHT POLE
---	WATER MAIN
---	SEWER MAIN
---	PAVEMENT & CURB TIE-IN AT CURB RETURNS
---	REVERTIBLE GRADING EASEMENTS
△	TRAVERSE POINT
---	REMOVE EXISTING PAVEMENT & REPLACE FULL DEPTH BETWEEN PROPOSED CURBS.
---	BURIED CBP CABLE WITHOUT CONDUIT WITH
---	BG&E - BALTIMORE GAS & ELECTRIC CABLE
---	AREA FOR PAVEMENT RESURFACING
---	PROPOSED CENTERLINE (BASE LINE OF CONSTRUCTION)
---	PROPOSED SIDEWALK
---	MILL EXISTING PAVEMENT (1/2" DEPTH)
---	TEST PIT LOCATION
---	PAVEMENT CORING LOCATION
---	INLET PROTECTION FOR SEDIMENT CONTROL (SEE SHT. 16 FOR DETAIL)

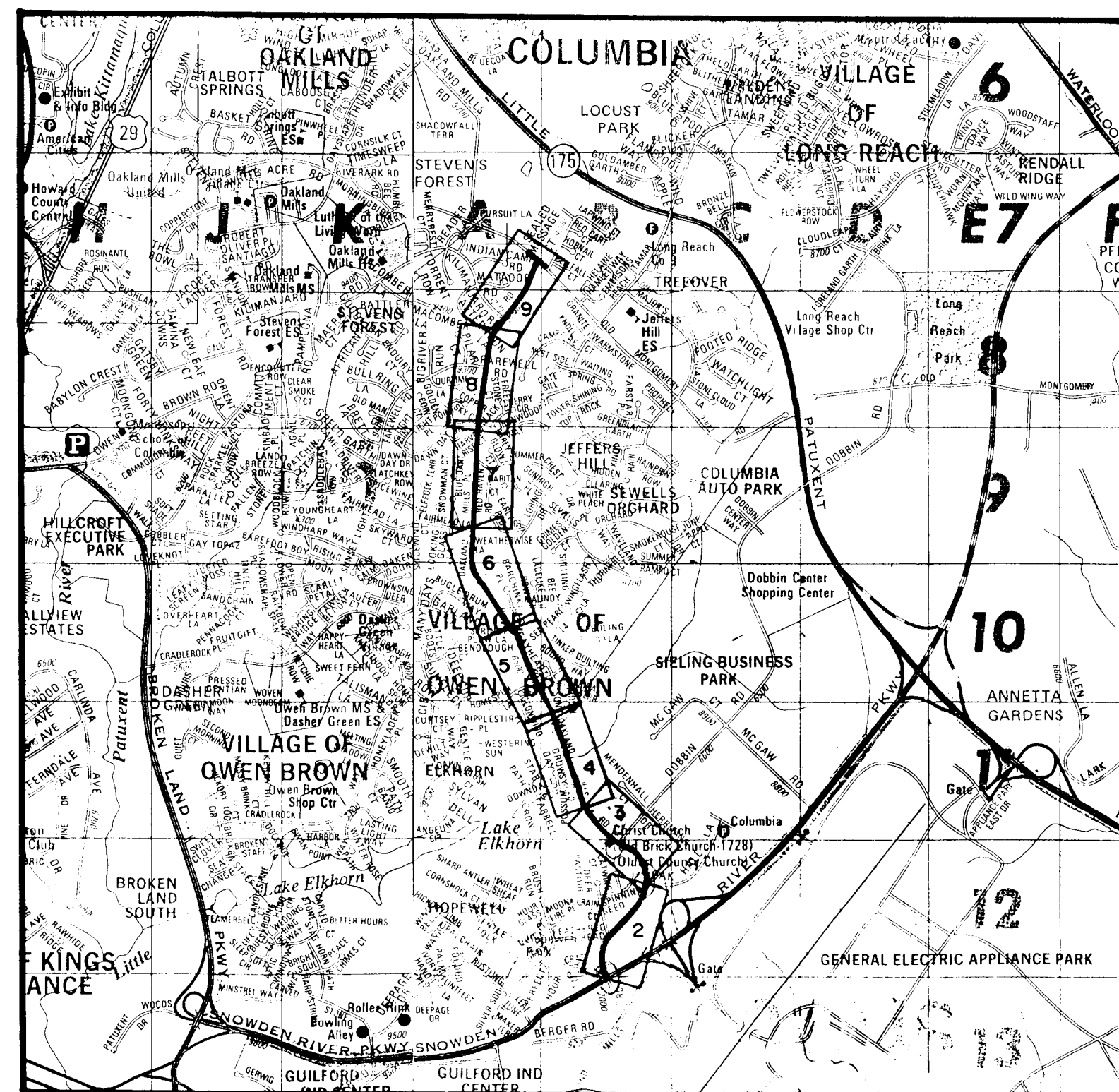
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS "DESIGN MANUAL, VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT LEAST FIVE WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.
- EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE INFORMATION AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGED UTILITIES DUE TO THE CONSTRUCTION OPERATION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- AS PART OF THIS CONTRACT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL THE EXISTING CURB, REALIGN, AND RESURFACE AND WIDEN OAKLAND MILLS ROAD IN ACCORDANCE WITH THE PLANS, PROFILES AND CROSS SECTIONS SHOWN ON THESE DRAWINGS. AT ALL ROADWAY AND CURBED DRIVEWAY ENTRANCE INTERSECTIONS, CURB AND GUTTER WILL BE PLACED TO JOIN THE EXISTING CURB AT THE CURB RETURN. THE CONTRACTOR SHALL ESTABLISH THE EXISTING CURB RADIUS WHERE CURBS ARE TO BE REPLACED AT STREET INTERSECTIONS AND DRIVEWAYS; NEW CURB & GUTTER SHALL BE PLACED AT THE EXISTING RADIUS, UNLESS OTHERWISE SHOWN.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ADJUST ALL EXISTING VALVES, MANHOLES COVERS, ETC. LOCATED WITHIN THE PROPOSED PAVING AND SIDEWALK AREAS.
- THE CONTRACTOR SHALL RELOCATE ALL UTILITIES AS REQUIRED FOR THE ROAD IMPROVEMENTS.
- ALL H&E AND C&P LINES SHOWN HEREON ARE APPROXIMATE IN LOCATION & DEPICTION OF SAME MAY BE INCOMPLETE. FIELD ADJUSTMENT OF THE SEDIMENT CONTROL MEASURES AS SHOWN MAY BE REQUIRED, BASED UPON FIELD LOCATION OF THE UTILITIES. SAID ADJUSTMENTS WILL BE PERFORMED AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE HANDICAP RAMPS, PER HOWARD COUNTY STANDARDS R-4.01, AT ALL STREET INTERSECTIONS AND DRIVEWAYS WITH EXISTING AND PROPOSED SIDEWALKS RAMPS TO BE PROVIDED AT ALL CURBED DRIVEWAYS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL EXISTING CURB / CURB AND GUTTER IS REMOVED AS REQUIRED AND THAT A FULL DEPTH PAVEMENT SECTION ABUTS THE GUTTER PAN ALONG THE ENTIRE ROADWAY SURFACE.



LOCATION MAP

SCALE : 1" = 21,120'
OR 1" = 4 miles



SITE LOCATION

SCALE: 1" = 2000'

DRAWING INDEX

- COVER SHEET
- PLAN AND PROFILE - STA 0+00 TO STA 14+00
- PLAN AND PROFILE - STA 14+00 TO STA 29+00
- PLAN AND PROFILE - STA 29+00 TO STA 44+00
- PLAN AND PROFILE - STA 44+00 TO STA 59+00
- PLAN AND PROFILE - STA 59+00 TO STA 74+50
- PLAN AND PROFILE - STA 74+50 TO STA 90+00
- PLAN AND PROFILE - STA 90+00 TO STA 105+50
- PLAN AND PROFILE - STA 105+50 TO STA 117+81.72
- TOP OF CURB PROFILE - STA. 0+00 TO STA. 29+00
- TOP OF CURB PROFILE - STA. 29+00 TO STA. 44+00
- TOP OF CURB PROFILE - STA. 44+00 TO STA. 59+00
- TOP OF CURB PROFILE - STA. 59+00 TO STA. 90+00
- TOP OF CURB PROFILE - STA. 90+00 TO STA. 117+81.72
- TYPICAL CROSS SECTIONS
- TYPICAL CROSS SECTIONS & EARTHWORK SUMMARY
- STORM DRAIN PROFILES
- STORM DRAIN PROFILES
- SEDIMENT CONTROL DETAILS & CONSTRUCTION SEQUENCES
- 20-27. LANDSCAPING PLANS

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

APPROVED: *[Signature]* DATE: 8/1/90
HOWARD S.C.D.

REVIEWED FOR: *[Signature]* S.C.D. AND MEETS TECHNICAL REQUIREMENTS

[Signature] DATE: 8/21/90
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE ENGINEER

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

[Signature] DATE: 7/31/89
SIGNATURE DATE

CERTIFICATION BY THE DEVELOPER

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT THE RESPONSIBLE PERSONAL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATIONAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."

[Signature] DATE: 8-21-90
SIGNATURE OF DEVELOPER DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE: 8/1/90
DIRECTOR OF PUBLIC WORKS

[Signature] DATE: 8/22/90
CHIEF, BUREAU OF HIGHWAYS

CHIEF, DIVISION OF ROADS & BRIDGES AND DRAINAGE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS

3448 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 481-9920

[Signature]
Michael N. Armstrong

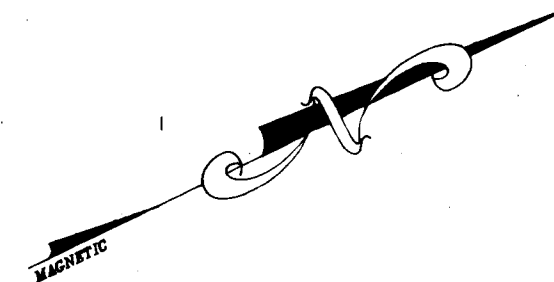
DES: KAP	BY	NO.	REVISION	DATE
DRN: GJP				
CHK: MVA				
DATE: 8/30				

600 SCALE MAP NO. _____ BLOCK NO. _____

COVER SHEET

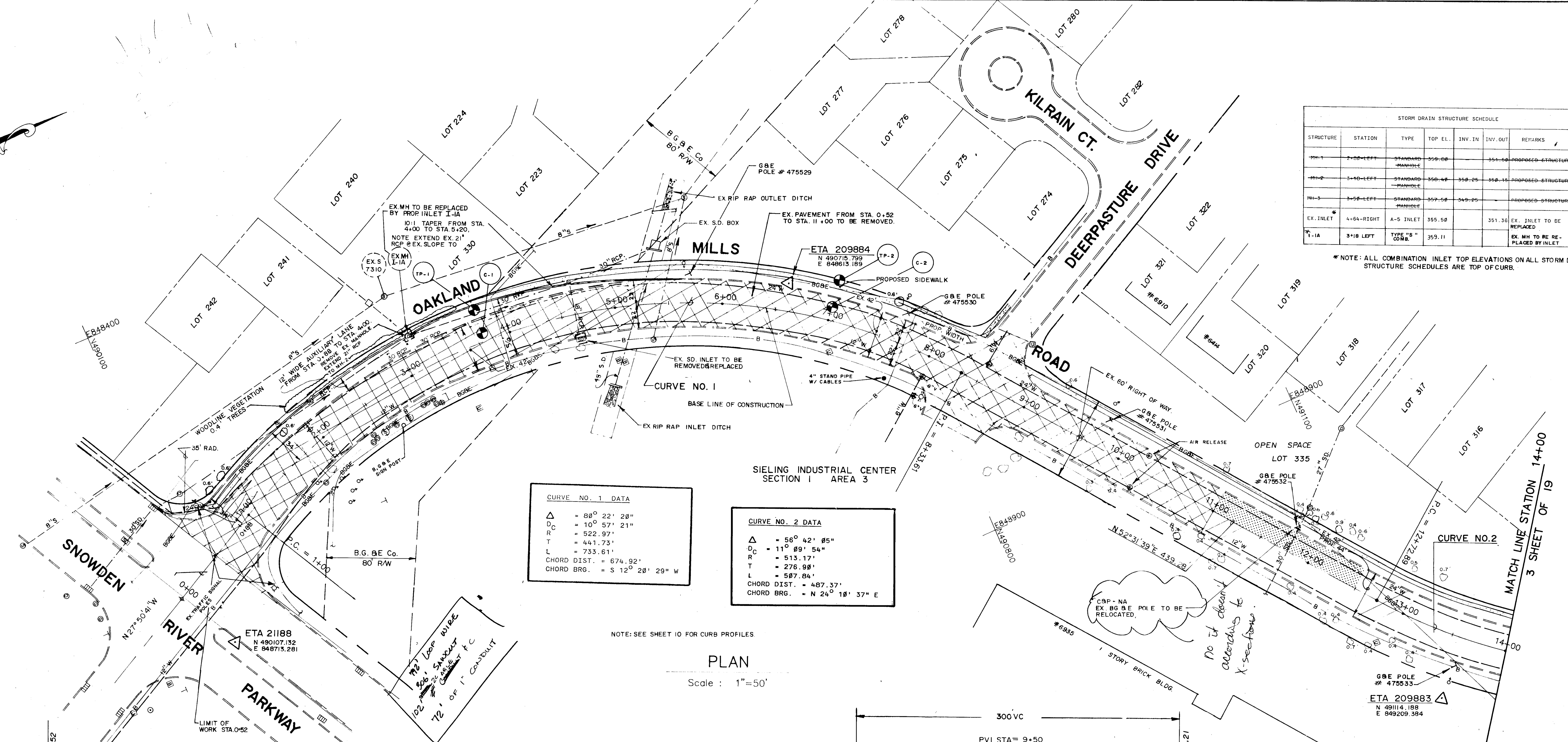
OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4095

SCALE AS SHOWN
SHEET 1 OF 27



STORM DRAIN STRUCTURE SCHEDULE									
STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. NO.	E. STG. OFFSET	
MH-1	2+00 LEFT	STANDARD	359.08		354.64	APPROVED STRUCTURE	0 6-11	30'-L.T.	
MH-2	5+10 LEFT	STANDARD	350.48	358.25	358.14	APPROVED STRUCTURE	0 6-11	30'-L.T.	
MH-3	3+08 LEFT	STANDARD	357.58	349.25		APPROVED STRUCTURE	0 6-11	30'-L.T.	
EX. INLET	4+64-RIGHT	A-5 INLET	355.50		351.36	EX. INLET TO BE REPLACED	SD 4.40	23.87 FT.	
T-1A	3+18 LEFT	TYPE "B" COMB.	359.11			EX. MH TO BE REPLACED BY INLET	SD 4.32	32'-W/L	

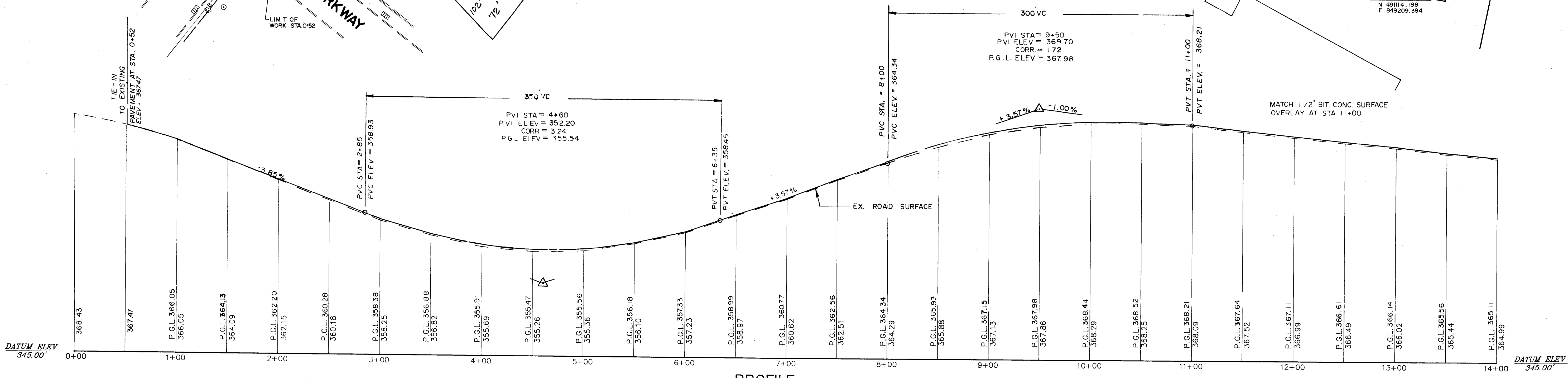
* NOTE: ALL COMBINATION INLET TOP ELEVATIONS ON ALL STORM DRAIN STRUCTURE SCHEDULES ARE TOP OF CURB.



NOTE: SEE SHEET 10 FOR CURB PROFILES

PLAN

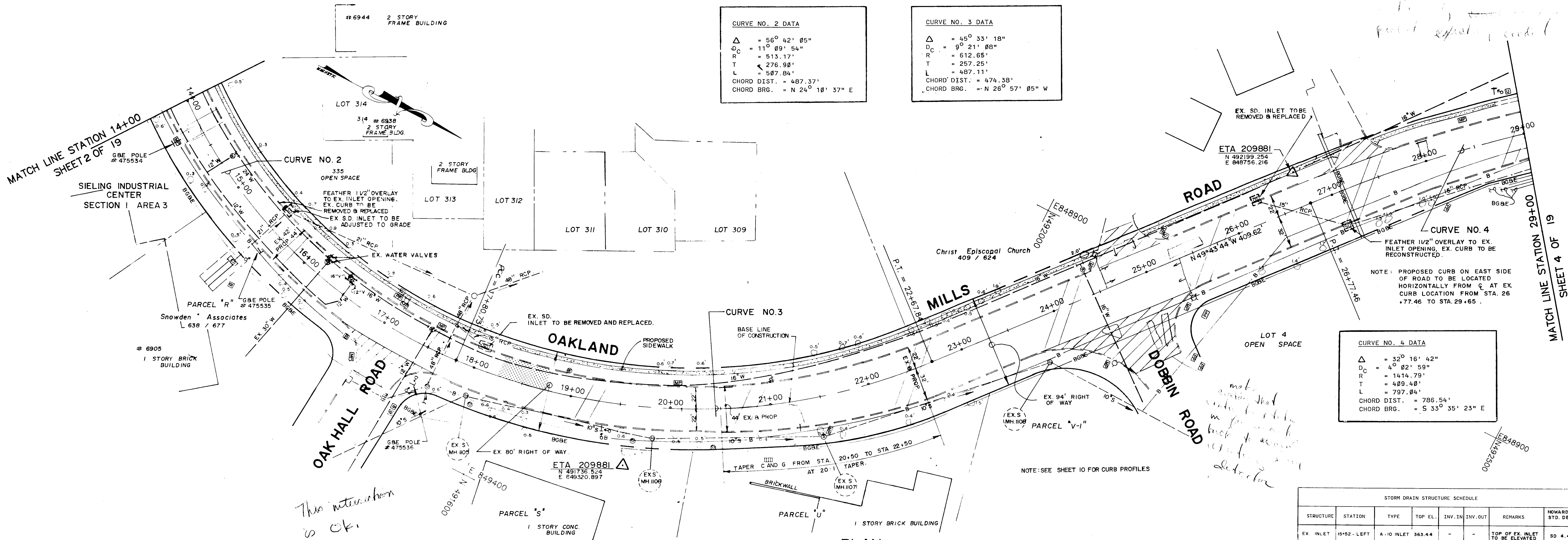
Scale: 1"=50'



PROFILE

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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND James J. [Signature] 8/22/90 DIRECTOR OF PUBLIC WORKS Craville W. McLeod 8/22/90 CHIEF, BUREAU OF HIGHWAYS		ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 3459 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 (301) 481-9820 Michael N. Armstrong		DES: JVP. DRN: SGP. CHK: MNA. DATE: 8/90		PLAN AND PROFILE - STA. 0+00 TO STA. 14+00 OAKLAND MILLS ROAD IMPROVEMENTS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4095		SCALE AS SHOWN SHEET 2 OF 27
--	--	---	--	---	--	---	--	--



CURVE NO. 2 DATA

Δ	= 56° 42' 05"
D _C	= 11° 09' 54"
R	= 513.17'
T	= 276.90'
L	= 587.84'
CHORD DIST.	= 487.37'
CHORD BRG.	= N 24° 18' 37" E

CURVE NO. 3 DATA

Δ	= 46° 33' 18"
D _C	= 9° 21' 08"
R	= 612.65'
T	= 257.25'
L	= 487.11'
CHORD DIST.	= 474.38'
CHORD BRG.	= N 26° 57' 05" W

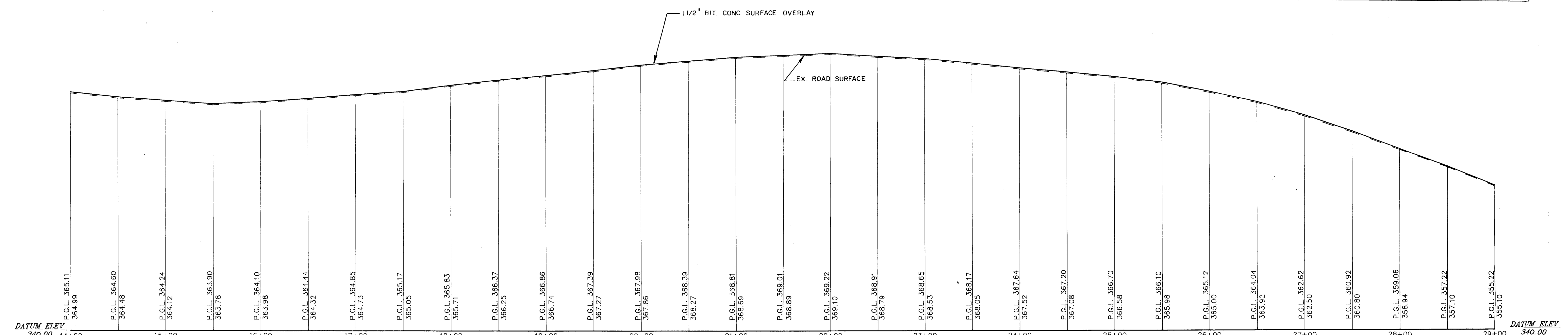
CURVE NO. 4 DATA

Δ	= 32° 16' 42"
D _C	= 4° 02' 59"
R	= 1414.79'
T	= 489.40'
L	= 737.84'
CHORD DIST.	= 786.54'
CHORD BRG.	= S 33° 35' 23" E

PLAN
Scale: 1" = 50'

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. DETAIL	Q. STR. OFFSET
EX. INLET	15+52-LEFT	A-10 INLET	363.44	-	-	TOP OF EX. INLET TO BE ELEVATED	SD 4.41	23.67' LT
EX. INLET	16+83-LEFT	A-10 INLET	366.88	-	-	EX. INLET TO BE REPLACED	SD 4.41	23.67' LT
EX. INLET	26+27-LEFT	A-10 INLET	364.99	-	361.47	EX. INLET TO BE REPLACED	SD 4.41	23.67' LT
EX. INLET	27+02-RIGHT	A-10 INLET	362.20	-	-	TOP OF EX. INLET TO BE ELEVATED	SD 4.41	33.67' RT

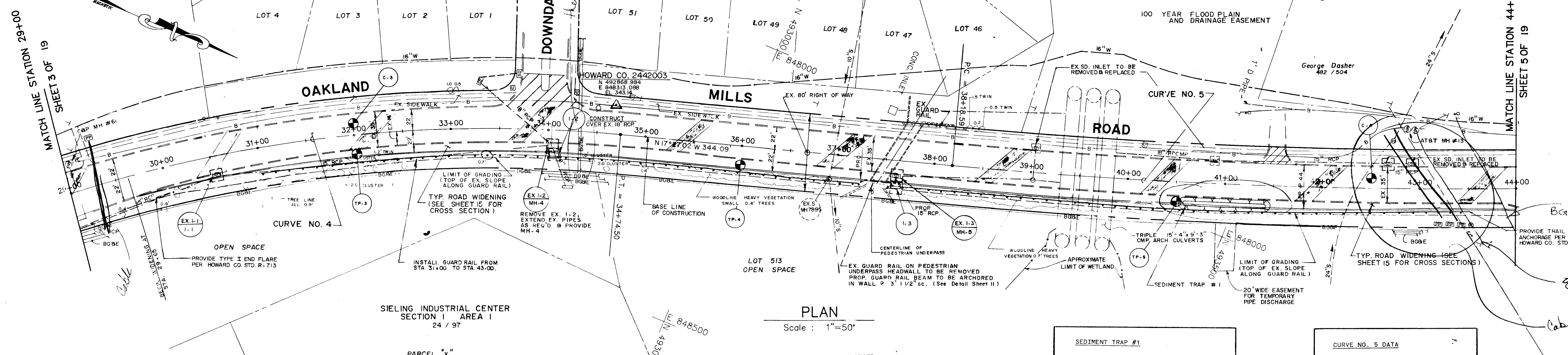


PROFILE
Scale: Horz. 1" = 50'
Vert. 1" = 5'

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James P. Smith</i> DIRECTOR OF PUBLIC WORKS</p> <p><i>Draville W. Welwood</i> CHIEF, BUREAU OF HIGHWAYS</p>	<p>ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS</p> <p>3458 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 (301) 461-9920</p> <p><i>Michael N. Armstrong</i></p>	<p>DES: JVP.</p> <p>DRN: SGP</p> <p>CHK: MNA.</p> <p>DATE: 8/90</p>	<p>PLAN AND PROFILE -- STA. 14+00 TO STA. 29+00</p> <p>OAKLAND MILLS ROAD IMPROVEMENTS</p> <p>6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. : J-4095</p>
<p>DATE: 8/90</p>			<p>SCALE AS SHOWN</p> <p>SHEET 3 OF 27</p>

CURVE NO. 4 DATA
 $\Delta = 32^{\circ} 16' 42''$
 $D_c = 4^{\circ} 02' 59''$
 $R = 1474.79'$
 $T = 489.48'$
 $L = 797.84'$
 CHORD DIST. = 786.54'
 CHORD BRG. = S 33^{\circ} 35' 23" E

these should be test pitted prior to excavation.



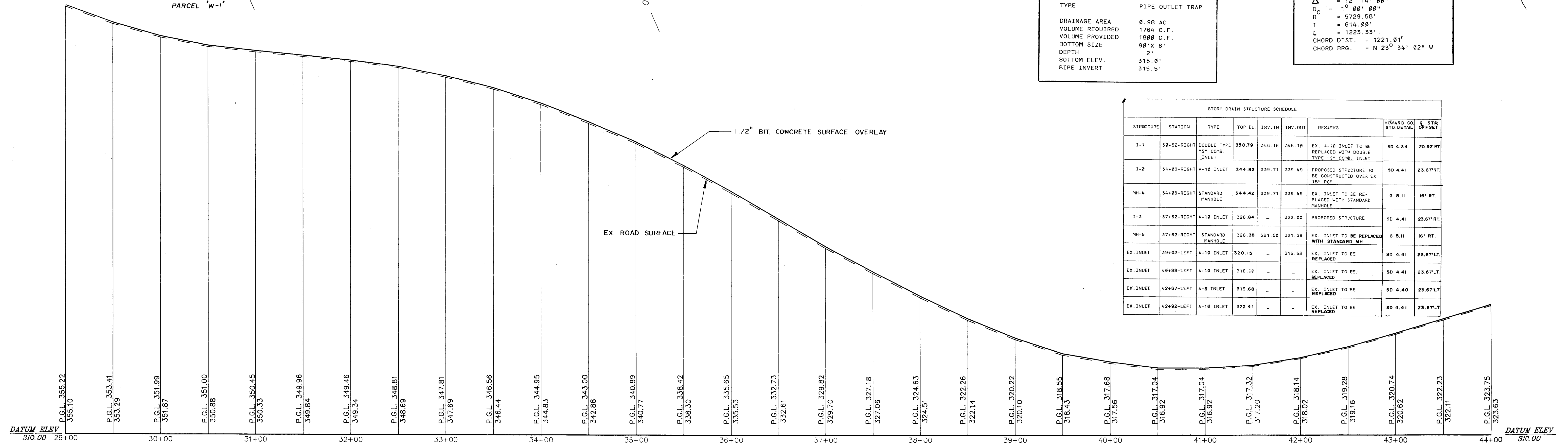
PLAN
 Scale: 1"=50'

NOTE: SEE SHEET II FOR CURB PROFILES.

SEDIMENT TRAP #1

TYPE	PIPE OUTLET TRAP
DRAINAGE AREA	0.98 AC
VOLUME REQUIRED	1764 C.F.
VOLUME PROVIDED	1800 C.F.
BOTTOM SIZE	98" X 6"
DEPTH	2'
BOTTOM ELEV.	315.6'
PIPE INVERT	315.5'

CURVE NO. 5 DATA
 $\Delta = 12^{\circ} 14' 08''$
 $D_c = 1^{\circ} 08' 08''$
 $R = 5729.58'$
 $T = 614.08'$
 $L = 1223.33'$
 CHORD DIST. = 1221.01'
 CHORD BRG. = N 23^{\circ} 34' 02" W



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

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	TYPE	TOP EL.	INV. IN.	INV. OUT.	REMARKS	HOWARD CO. STD. DETAIL	6 STA. OFFSET
1-1	30+52-RIGHT	DOUBLE TYPE 15" CORR. INLET	350.79	346.16	346.16	EX. A-10 INLET TO BE REPLACED WITH DOUBLE TYPE 15" CORR. INLET	SD 4.34	20.92' RT
1-2	34+03-RIGHT	A-10 INLET	344.02	339.71	339.49	PROPOSED STRUCTURE TO BE CONSTRUCTED OVER EX. 18" RCP	SD 4.41	23.67' RT
PH-4	34+83-RIGHT	STANDARD MANHOLE	344.42	339.71	339.49	EX. INLET TO BE REPLACED WITH STANDARD MANHOLE	0 5.11	16' RT.
1-3	37+62-RIGHT	A-10 INLET	326.84	-	322.00	PROPOSED STRUCTURE	SD 4.41	23.67' RT
PH-5	37+62-RIGHT	STANDARD MANHOLE	326.38	321.58	321.58	EX. INLET TO BE REPLACED WITH STANDARD MH	0 5.11	16' RT.
EX. INLET	39+82-LEFT	A-10 INLET	320.15	-	315.58	EX. INLET TO BE REPLACED	SD 4.41	23.67' LT.
EX. INLET	40+88-LEFT	A-10 INLET	316.93	-	-	EX. INLET TO BE REPLACED	SD 4.41	23.67' LT.
EX. INLET	42+67-LEFT	A-5 INLET	319.68	-	-	EX. INLET TO BE REPLACED	SD 4.40	23.67' LT.
EX. INLET	42+92-LEFT	A-10 INLET	328.41	-	-	EX. INLET TO BE REPLACED	SD 4.41	23.67' LT.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS
 3458 ELLICOTT CENTER DRIVE SUITE 101
 ELLICOTT CITY, MARYLAND 21043
 (301) 461-9920

James P. ... 8/22/90
 Director of Public Works
 DATE
 Chief, Bureau of Engineering
 DATE
 Drowille W. Welland 8/22/90
 Chief, Bureau of Highways
 DATE
 Chief, Division of Roads, Bridges and Storm Drainage
 DATE

Michael A. Armatas

DES: JVP							
DRN: SGP							
CHK: MNA							
DATE: 8/90	BY: NO.	REVISION	DATE	600' SCALE MAP NO.	BLOCK NO.		

PLAN AND PROFILE - STA. 29+00 TO STA. 44+00

OAKLAND MILLS ROAD IMPROVEMENTS
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4095

SCALE AS SHOWN
 SHEET 4 OF 27

DRAWING 44-132-01-150

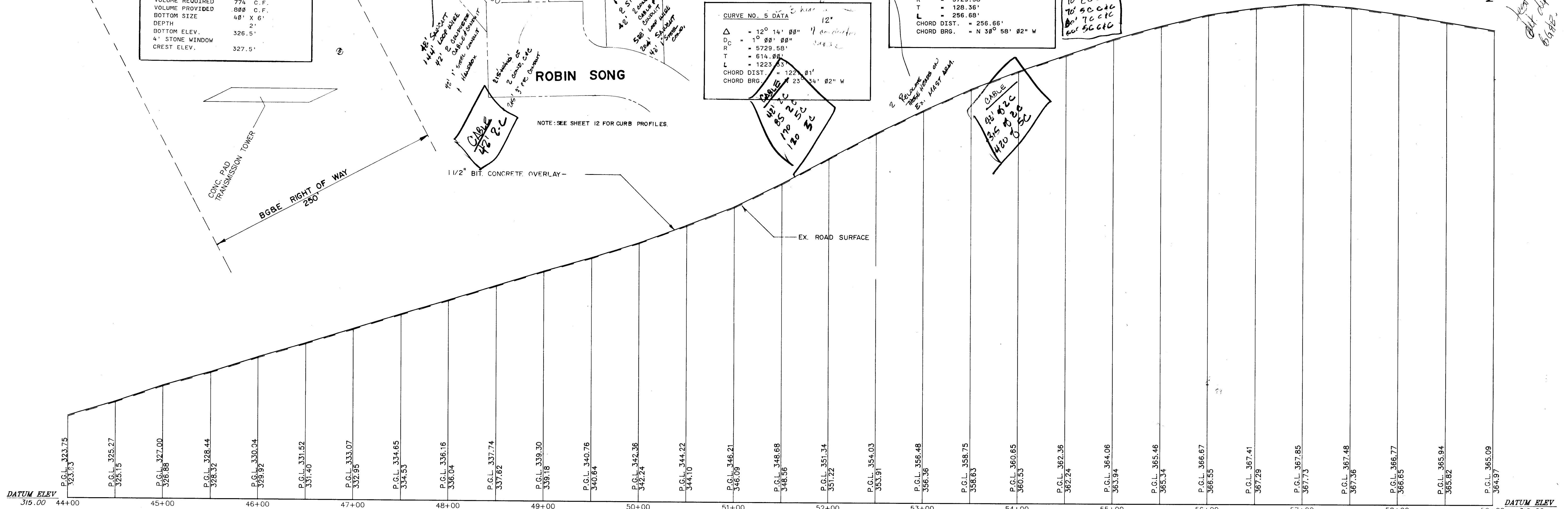
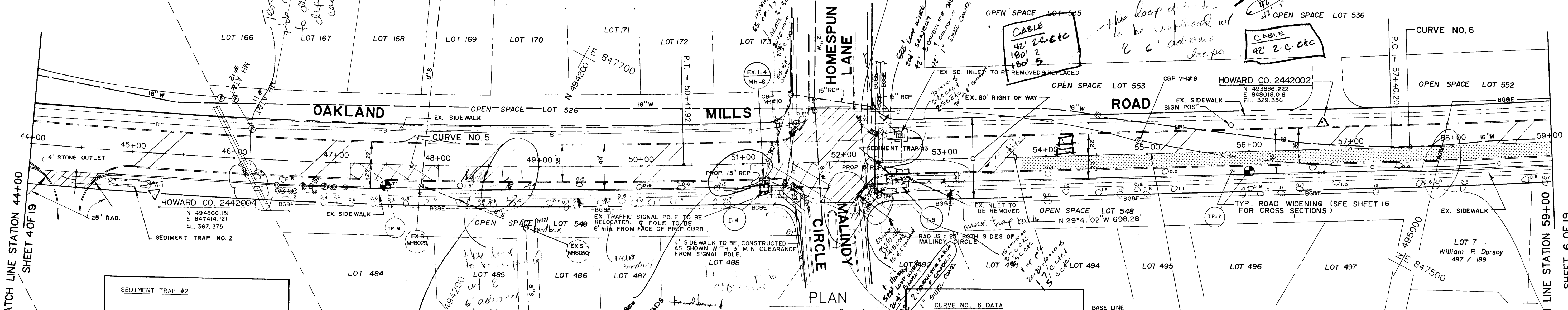
STORM DRAIN STRUCTURE SCHEDULE							
STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. DETAIL
I-4	51+22-RIGHT	A-5 INLET	347.88	-	345.88	PROPOSED STRUCTURE	SD. 4.40
I-5	52+58-RIGHT	A-10 INLET	351.12	-	349.88	PROPOSED STRUCTURE	SD. 4.41
MH-6	51+22-RIGHT	STANDARD MANHOLE	347.28	345.68	343.47	EX. INLET TO BE REPLACED WITH STANDARD MANHOLE	0 5.11
EX. INLET	52+58-LEFT	A-10 INLET	354.00	-	348.76	EX. INLET TO BE REPLACED	SD. 4.41

SEDIMENT TRAP #3	
TYPE	STORM INLET TRAP
DRAINAGE AREA	8.57 AC.
VOLUME REQUIRED	1826 C.F.
VOLUME PROVIDED	1848 C.F.
BOTTOM SIZE	65" X 4"
DEPTH	2'
BOTTOM ELEV.	352.8'

SEDIMENT TRAP #2	
TYPE	STONE OUTLET TRAP
DRAINAGE AREA	8.43 AC.
VOLUME REQUIRED	774 C.F.
VOLUME PROVIDED	888 C.F.
BOTTOM SIZE	48" X 6"
DEPTH	2'
BOTTOM ELEV.	326.5'
4" STONE WINDOW CREST ELEV.	327.5'

CURVE NO. 5 DATA	
Δ	$12^{\circ} 14' 08''$
D.C.	$1^{\circ} 08' 08''$
R	$5729.58'$
T	$614.89'$
L	$1223.53'$
CHORD DIST.	$1223.53'$
CHORD BRG.	$N 23^{\circ} 34' 02'' W$

CURVE NO. 6 DATA	
Δ	$2^{\circ} 34' 08''$
D.C.	$1^{\circ} 08' 08''$
R	$5729.58'$
T	$128.36'$
L	$256.68'$
CHORD DIST.	$256.68'$
CHORD BRG.	$N 38^{\circ} 58' 02'' W$



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Ramon J. Law
 DIRECTOR OF PUBLIC WORKS DATE 8/22/90

Drayville W. Weiland
 CHIEF, BUREAU OF HIGHWAYS DATE

Michael N. Armstrong
 CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS

3458 ELLICOTT CENTER DRIVE SUITE 101
 ELLICOTT CITY, MARYLAND 21043
 (301) 461-9920

DES:	JVP
DRN:	SGP
CHK:	MHA
DATE:	8/90

BY	NO.	REVISION	DATE

PLAN AND PROFILE - STA 44+00 TO STA. 59+00

OAKLAND MILLS ROAD IMPROVEMENTS
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4095

SCALE AS SHOWN

SHEET 5 OF 27

STORM DRAIN STRUCTURE SCHEDULE							
STRUCTURE	STATION	TYPE	TOP E.	INV. IN	INV. OUT	REMARKS	HOWARD CO. C. STR. STD. DETAIL OFFSET
EX. INLET	60+37-LEFT	A-5 INLET	363.34	352.14	351.21	EX. INLET TO BE RE-PLACED	SD 4.01 24' LT.
I-6	60+37-RIGHT	A-5 INLET	363.46	-	354.14	PROPOSED STRUCTURE	SD 4.01 24' RT.
MH-9	62+81-RIGHT	STANDARD MANHOLE	364.21	358.88	359.91	EX. INLET TO BE RE-PLACED WITH STANDARD MANHOLE	0 8.11 16' RT.
I-7	62+01-RIGHT	A-18 INLET	364.60	-	368.58	PROPOSED STRUCTURE	SD 4.41 23.67' RT.
I-8	76+11-RIGHT	A-18 INLET	372.48	362.88	361.75	PROPOSED STRUCTURE	SD 4.02 24' RT.

CURVE NO. 7 DATA
 $\Delta = 34^{\circ} 25' 08''$
 $D_c = 5^{\circ} 38' 54''$
 $R = 1014.39'$
 $T = 314.17'$
 $L = 689.33'$
 CHORD DIST. = 688.21'
 CHORD BRG. = S 15° 02' 32" E

SEDIMENT TRAP #6

TYPE	STORM INLET TRAP
DRAINAGE AREA	2.2 AC.
VOLUME REQUIRED	3968 C.F.
VOLUME PROVIDED	4288 C.F.
BOTTOM SIZE	120x15'
DEPTH	2'
BOTTOM ELEV.	376'

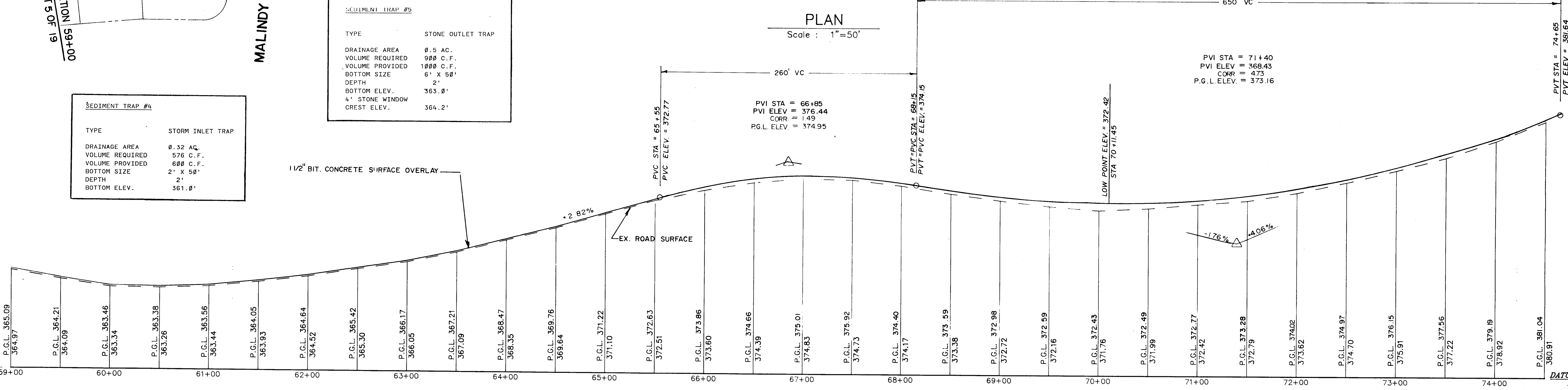
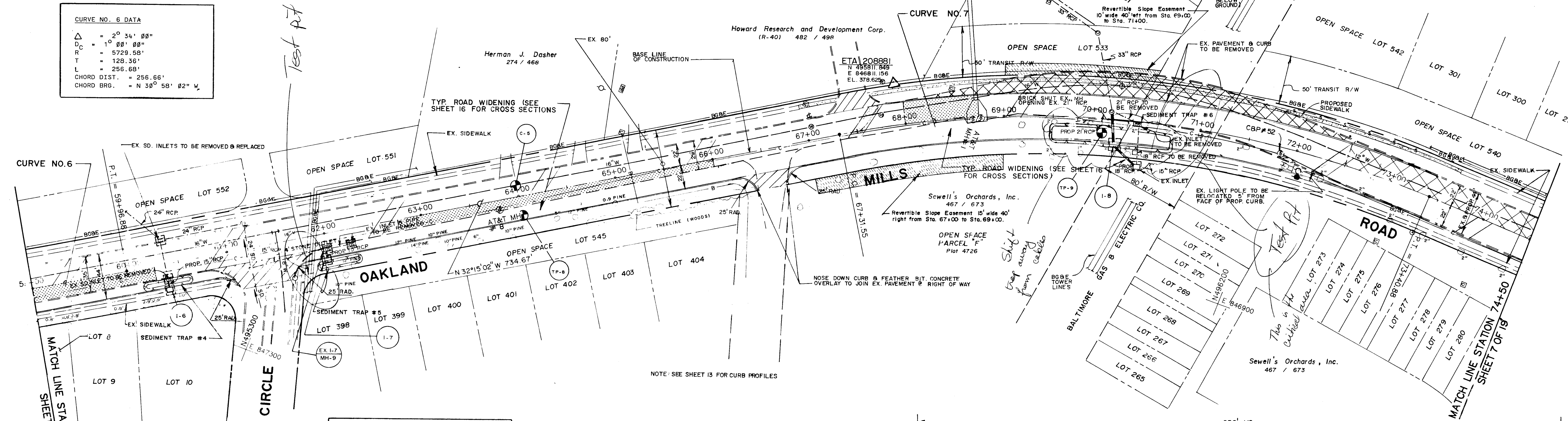
CURVE NO. 6 DATA
 $\Delta = 2^{\circ} 34' 08''$
 $D_c = 1^{\circ} 08' 08''$
 $R = 5729.58'$
 $T = 129.36'$
 $L = 256.68'$
 CHORD DIST. = 256.66'
 CHORD BRG. = N 38° 58' 02" W

SEDIMENT TRAP #5

TYPE	STONE OUTLET TRAP
DRAINAGE AREA	0.5 AC.
VOLUME REQUIRED	988 C.F.
VOLUME PROVIDED	1898 C.F.
BOTTOM SIZE	6' X 58'
DEPTH	2'
BOTTOM ELEV.	363.0'
4" STONE WINDOW CREST ELEV.	364.2'

SEDIMENT TRAP #4

TYPE	STORM INLET TRAP
DRAINAGE AREA	0.32 AC.
VOLUME REQUIRED	576 C.F.
VOLUME PROVIDED	688 C.F.
BOTTOM SIZE	2' X 58'
DEPTH	2'
BOTTOM ELEV.	361.0'



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James W. Howard</i> Chief, Bureau of Highways: <i>Braville W. Howard</i> Chief, Division of Roads, Bridges and Storm Drainage: <i>Michael N. Armstrong</i>	ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 2458 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 (301) 481-9920	DES: JVP DRN: SGP CHK: MJA DATE: 8/90	PLAN AND PROFILE - STA. 59+00 TO STA. 74+50 OAKLAND MILLS ROAD IMPROVEMENTS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4095	SCALE AS SHOWN SHEET 6 OF 27
		DATE: 8/90 BY NO. _____ REVISION _____ DATE _____ 600' SCALE MAP NO. _____ BLOCK NO. _____	SHEET 6 OF 27	



STORM DRAIN STRUCTURE SCHEDULE						
STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS
MH-10	83+02-LEFT	STANDARD MANHOLE	481.48	398.98	398.74	EX. INLET TO BE REPLACED WITH STANDARD MANHOLE
I-9	84+15-LEFT	A-10 INLET	481.23	-	397.23	PROPOSED STRUCTURE
I-10	84+15-RIGHT	A-5 INLET	481.23	-	396.58	PROPOSED STRUCTURE
MH-11	83+02-RIGHT	STANDARD MANHOLE	400.90	375.88	394.73	EX. INLET TO BE REPLACED WITH STANDARD MANHOLE

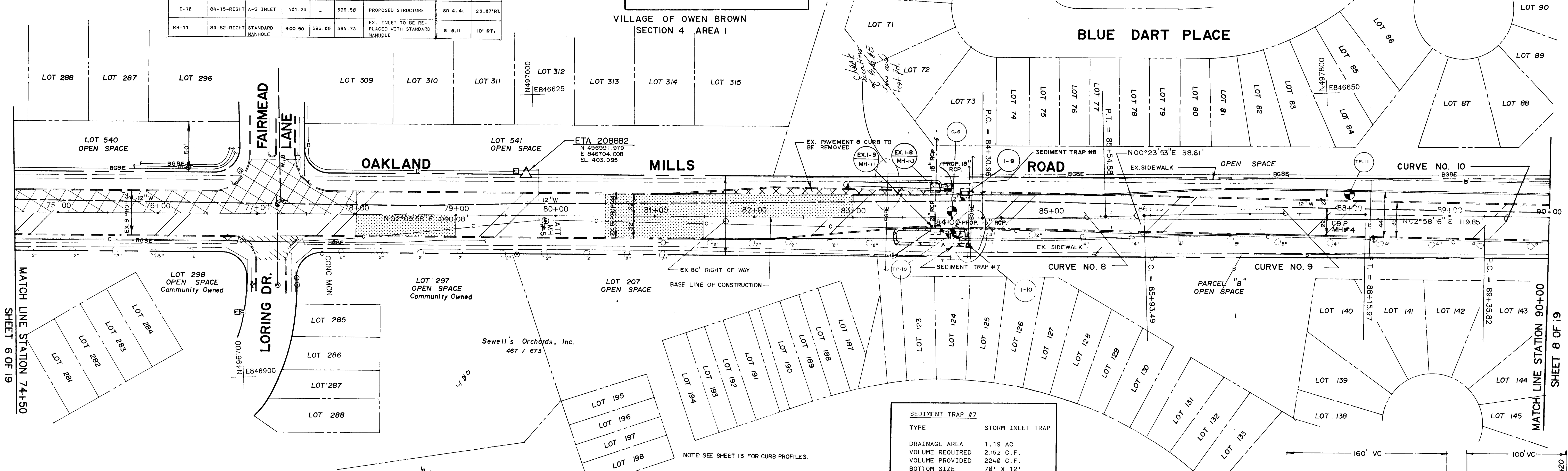
SEDIMENT TRAP #8	
TYPE	STORM INLET TRAP
DRAINAGE AREA	1.08 AC
VOLUME REQUIRED	1800 C.F.
VOLUME PROVIDED	1800 C.F.
BOTTOM SIZE	108" X 5'
DEPTH	2'
BOTTOM ELEVATION	398.0'

CURVE NO. 8 DATA	
Δ	= 1° 46' 05"
D_c	= 1° 25' 36"
R	= 4815.98'
T	= 61.97'
L	= 123.92'
CHORD DIST.	= 123.92'
CHORD BRG.	= N 01° 16' 56" E

CURVE NO. 9 DATA	
Δ	= 2° 34' 23"
D_c	= 1° 09' 24"
R	= 4954.05'
T	= 111.26'
L	= 222.48'
CHORD DIST.	= 222.48'
CHORD BRG.	= S 01° 41' 05" W

CURVE NO. 10 DATA	
Δ	= 2° 25' 43"
D_c	= 0° 45' 18"
R	= 7598.29'
T	= 168.89'
L	= 321.73'
CHORD DIST.	= 321.73'
CHORD BRG.	= S 04° 11' 08" W

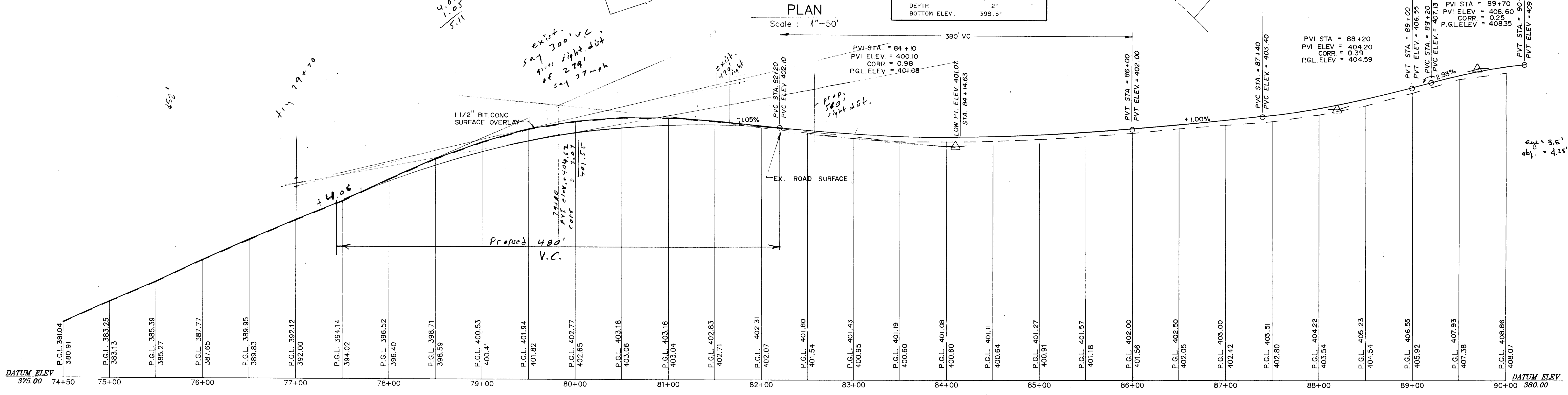
VILLAGE OF OWEN BROWN
SECTION 4 AREA I



SEDIMENT TRAP #7	
TYPE	STORM INLET TRAP
DRAINAGE AREA	1.19 AC
VOLUME REQUIRED	2152 C.F.
VOLUME PROVIDED	2248 C.F.
BOTTOM SIZE	78" X 12'
DEPTH	2'
BOTTOM ELEV.	398.5'

NOTE: SEE SHEET 13 FOR CURB PROFILES.

PLAN
Scale: 1"=50'



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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

ENGINEERING TECHNOLOGIES
ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 481-9920

DES: JVP			
DRN: SGP			
CHK: MNA			
DATE: 8/90	BY: NO.	REVISION:	DATE:

PLAN AND PROFILE - STA. 74+50 TO STA 90+00
OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

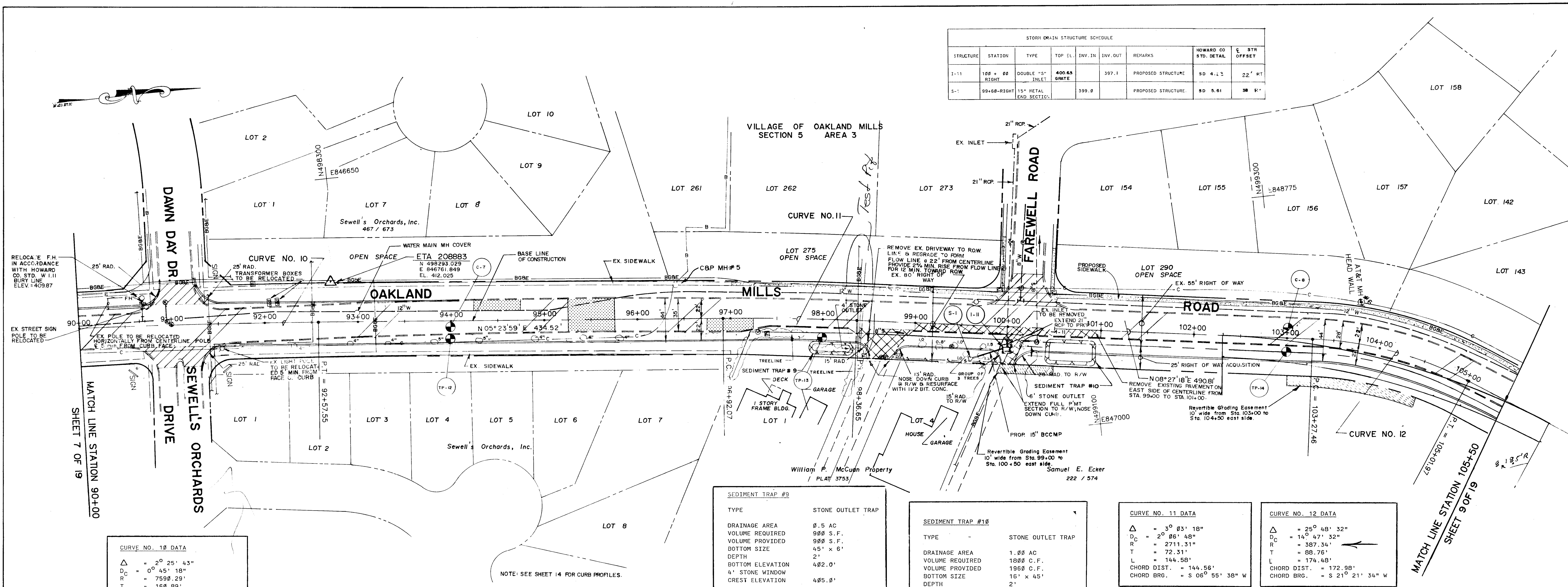
SCALE AS SHOWN
SHEET 7 OF 27

BRUNING 44-132-69150

Director of Public Works: [Signature] DATE: 8/22/90
Chief, Bureau of Engineering: [Signature] DATE: []
Chief, Bureau of Highways: [Signature] DATE: []
Chief, Division of Roads, Bridges and Storm Drainage: [Signature] DATE: []

Michael A. Armstrong

STORM DRAIN STRUCTURE SCHEDULE									
STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. DETAIL	Q	STR. OFFSET
I-11	100+00	DOUBLE "5" INLET	400.65		397.1	PROPOSED STRUCTURE	SD 4.1.2		22' RT
S-1	99+68-RIGHT	15" METAL END SECTION			399.0	PROPOSED STRUCTURE	SD 5.61		38' RT



CURVE NO. 10 DATA

Δ	= 2° 25' 43"
D _C	= 0° 45' 18"
R	= 7500.29'
T	= 160.89'
L	= 321.73'
CHORD DIST.	= 321.71'
CHORD BRG.	= S 84° 11' 08" W

SEDIMENT TRAP #9

TYPE	STONE OUTLET TRAP
DRAINAGE AREA	0.5 AC
VOLUME REQUIRED	900 S.F.
VOLUME PROVIDED	900 S.F.
BOTTOM SIZE	45' x 6'
DEPTH	2'
BOTTOM ELEVATION	402.0'
4" STONE WINDOW	
CREST ELEVATION	405.0'

SEDIMENT TRAP #10

TYPE	STONE OUTLET TRAP
DRAINAGE AREA	1.00 AC
VOLUME REQUIRED	1800 C.F.
VOLUME PROVIDED	1968 C.F.
BOTTOM SIZE	16' x 45'
DEPTH	2'
BOTTOM ELEV.	400'
6" STONE WINDOW	
CREST ELEV.	401.5'

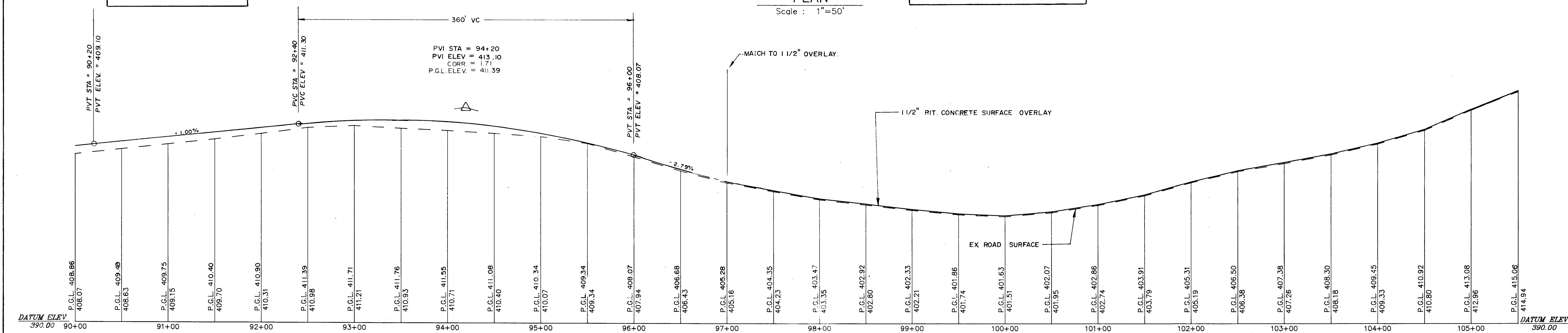
CURVE NO. 11 DATA

Δ	= 3° 03' 18"
D _C	= 2° 06' 48"
R	= 2711.31'
T	= 72.31'
L	= 144.58'
CHORD DIST.	= 144.56'
CHORD BRG.	= S 06° 55' 38" W

CURVE NO. 12 DATA

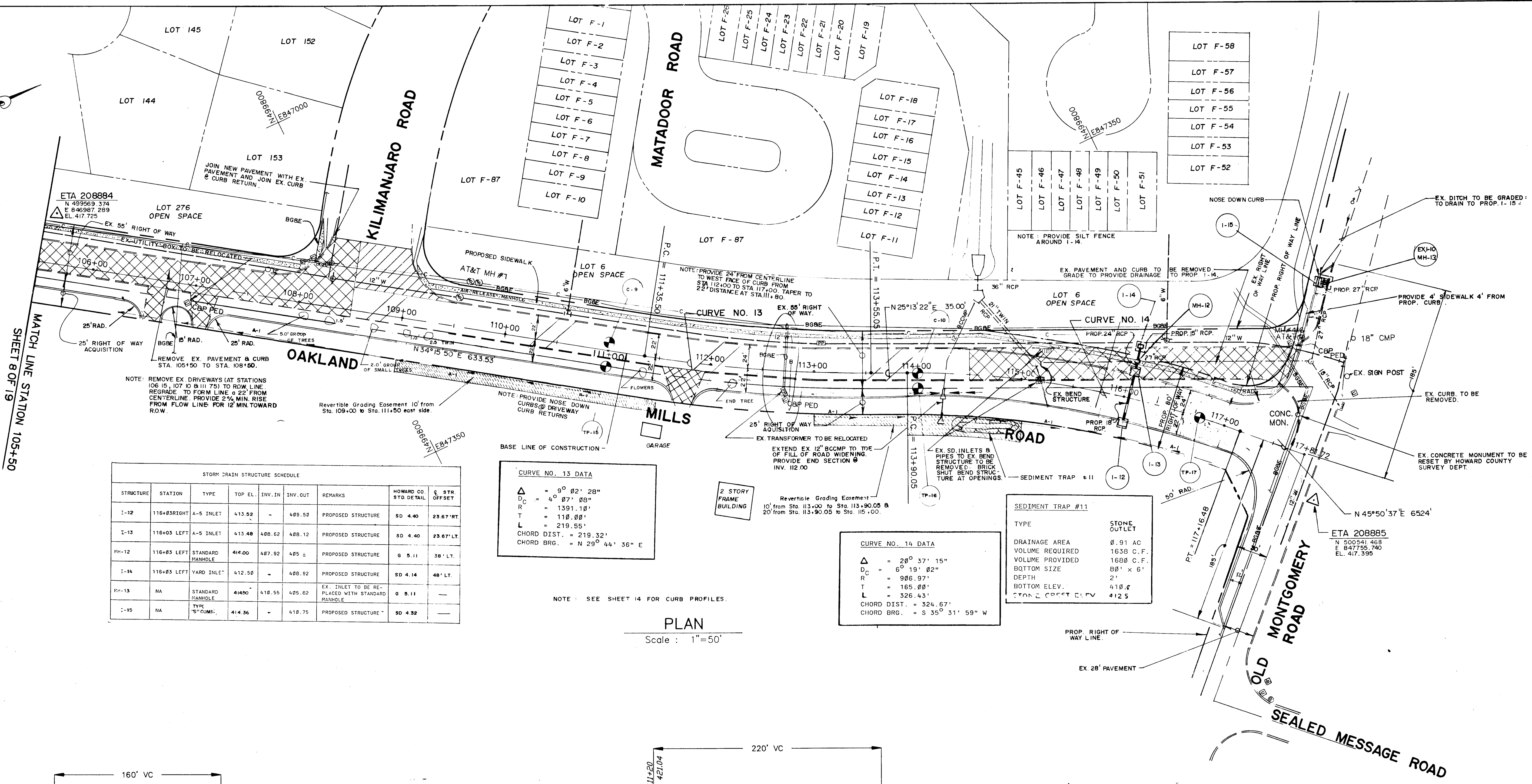
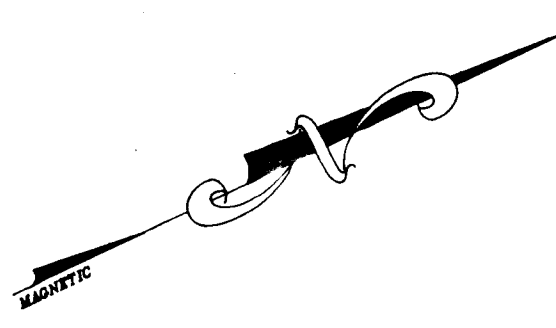
Δ	= 25° 48' 32"
D _C	= 14° 47' 52"
R	= 307.34'
T	= 88.76'
L	= 174.48'
CHORD DIST.	= 172.98'
CHORD BRG.	= S 21° 21' 34" W

PLAN
Scale: 1"=50'



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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Robert J. ...</i> Chief, Bureau of Highways: <i>William D. ...</i>		ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 3458 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 (301) 461-9920 Michael N. Armstrong		DES: JVP DRN: SQP CHK: MNA DATE: 8/90		PLAN AND PROFILE - STA. 90+00 TO STA. 105+50 OAKLAND MILLS ROAD IMPROVEMENTS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J - 4095		SCALE AS SHOWN SHEET 8 OF 27
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STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. DETAIL	STR. OFFSET
I-12	116+83	RIGHT A-5 INLET	413.52	-	489.58	PROPOSED STRUCTURE	SD 4.40	23.67' HT.
I-13	116+03	LEFT A-5 INLET	413.48	489.62	488.12	PROPOSED STRUCTURE	SD 4.40	23.67' LT.
MH-12	116+83	LEFT STANDARD MANHOLE	414.00	487.92	485.5	PROPOSED STRUCTURE	6 5.11	38' LT.
I-14	116+83	LEFT YARD INLET	412.58	-	488.92	PROPOSED STRUCTURE	SD 4.14	48' LT.
MH-13	NA	STANDARD MANHOLE	414.50	418.55	485.82	EX. INLET TO BE REPLACED WITH STANDARD MANHOLE	6 8.11	-
I-15	NA	TYPE 'S' CURB	414.36	-	418.75	PROPOSED STRUCTURE	SD 4.32	-

CURVE NO. 13 DATA

Δ	= 9° 02' 28"
D_c	= 4° 07' 08"
R	= 1391.18'
T	= 118.88'
L	= 219.55'
CHORD DIST.	= 219.32'
CHORD BRG.	= N 29° 44' 36" E

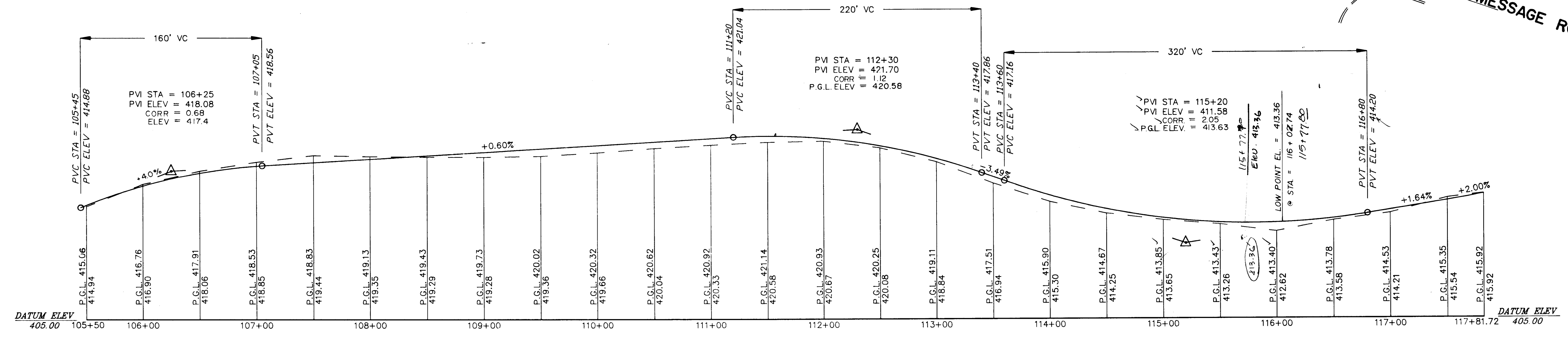
CURVE NO. 14 DATA

Δ	= 28° 37' 15"
D_c	= 6° 19' 02"
R	= 986.97'
T	= 165.88'
L	= 326.43'
CHORD DIST.	= 324.67'
CHORD BRG.	= S 35° 31' 59" W

SEDIMENT TRAP #11

TYPE	STONE OUTLET
DRAINAGE AREA	0.91 AC
VOLUME REQUIRED	1638 C.F.
VOLUME PROVIDED	1688 C.F.
BOTTOM SIZE	80' x 6'
DEPTH	2'
BOTTOM ELEV.	418.8
STAIN PROTECT. CL. V.	412.5

PLAN
Scale: 1"=50'



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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Wallace
DIRECTOR OF PUBLIC WORKS

William W. Wallace
CHIEF, BUREAU OF HIGHWAYS

Michael N. Armstrong
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS

3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 411-8820

Michael N. Armstrong

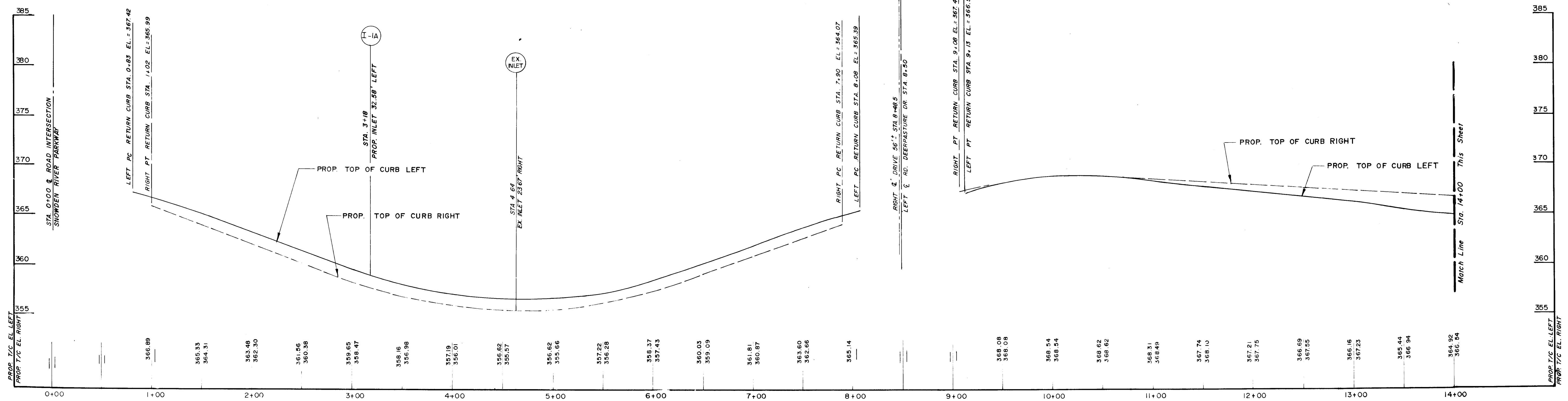
DESIGNED BY	JVP	DATE	8/100
CHECKED BY	SGP	DATE	
APPROVED BY	MNA	DATE	
BY	NO	REVISION	DATE

PLAN AND PROFILE - STA. 105+50 TO STA. 117+81.72

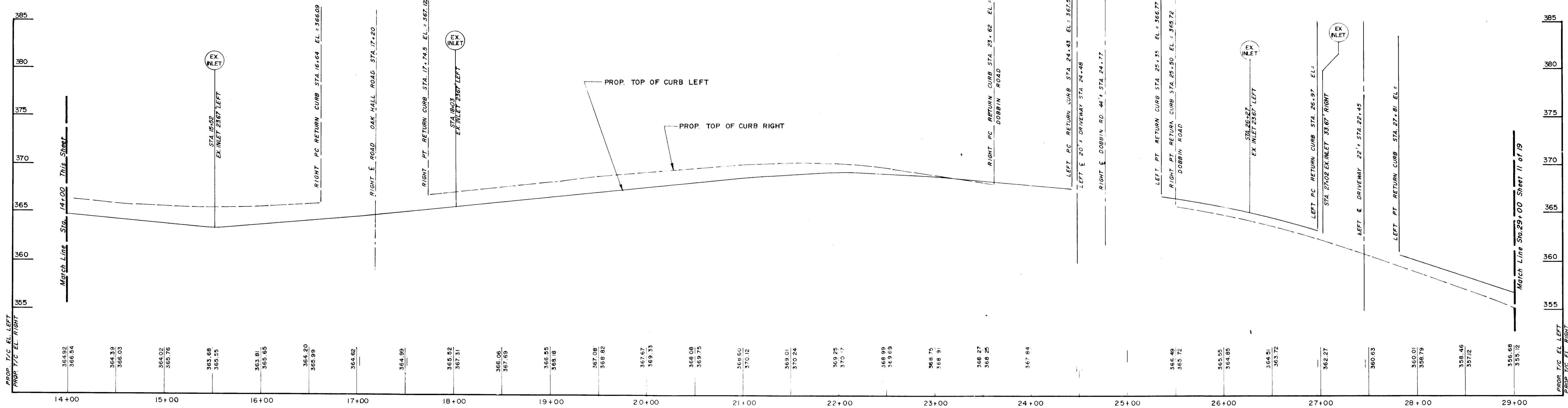
OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 9 OF 27



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



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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James P. Shaw 8/22/90
 DIRECTOR OF PUBLIC WORKS DATE

Drayville W. Wallace 8/22/90
 CHIEF, BUREAU OF HIGHWAYS DATE

Michael N. Amatore 8/30
 CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS

2458 ELLICOTT CENTER DRIVE, SUITE 101
 ELLICOTT CITY, MARYLAND 21043
 (301) 461-9920

Michael N. Amatore

KAP	DATE	8/30
SGP	NO.	
MNA	REVISION	
	DATE	
	EDD SCALE	MAP NO.
	BLOCK NO.	

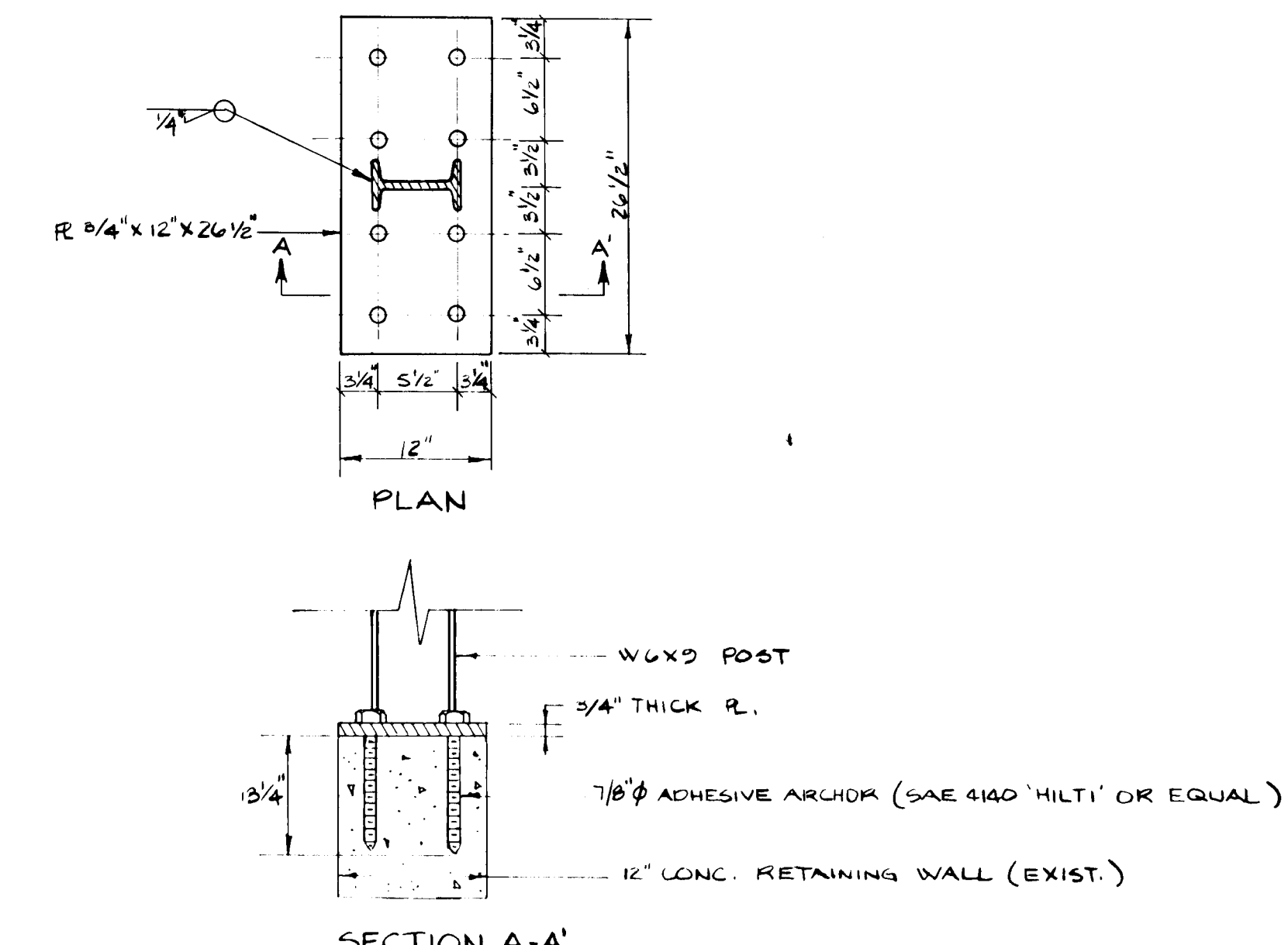
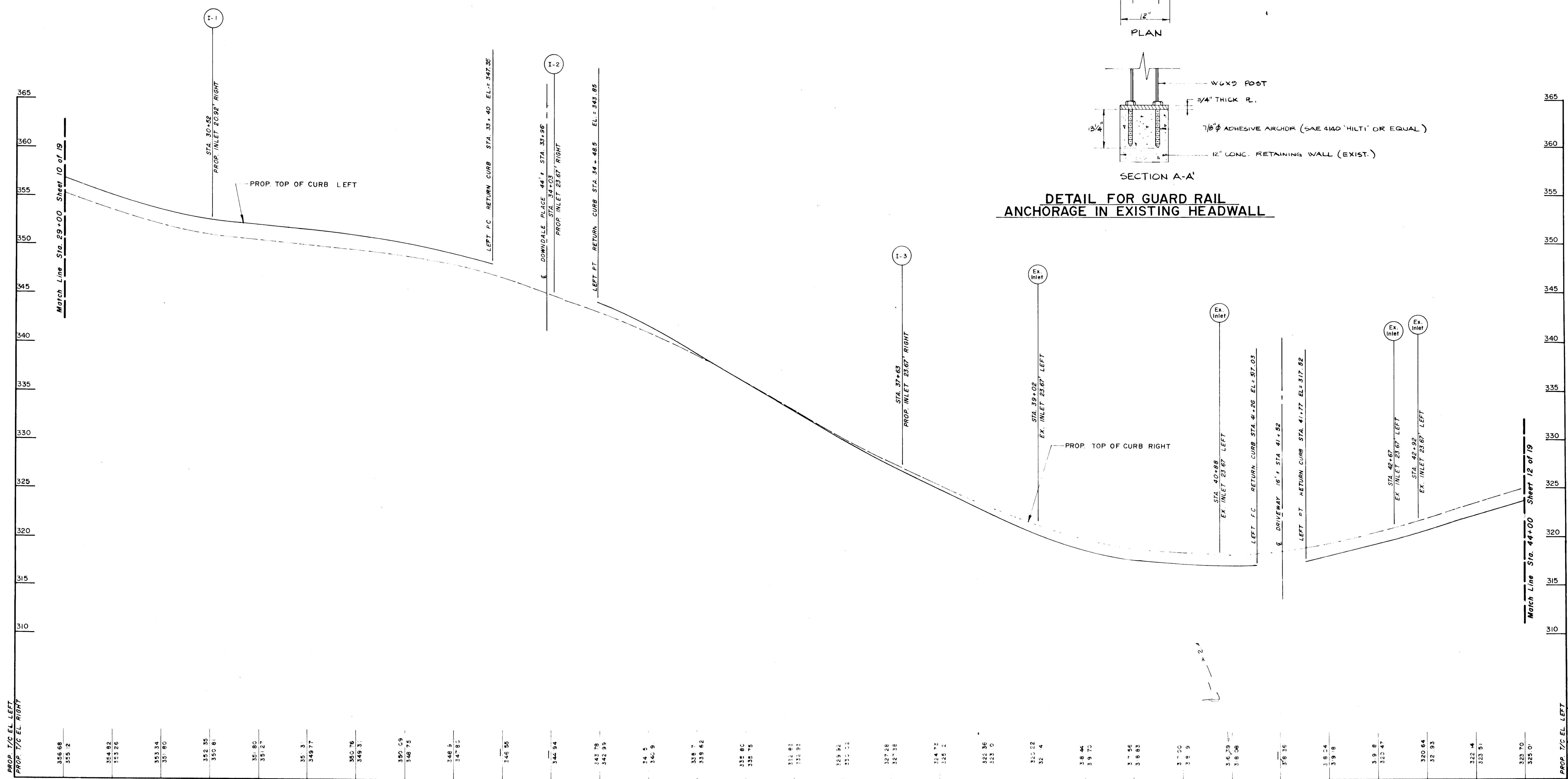
TOP OF CURB PROFILE — STA. 0+00 TO STA. 29+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4095

SCALE AS SHOWN

SHEET 10 OF 27



DETAIL FOR GUARD RAIL ANCHORAGE IN EXISTING HEADWALL

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Thomas H. ...
DIRECTOR OF PUBLIC WORKS
DATE 8/22/90

Braville W. ...
CHIEF, BUREAU OF HIGHWAYS
DATE

...
CHIEF, DIVISION OF ROADS,
BRIDGES AND STORM DRAINAGE
DATE

ENGINEERING TECHNOLOGIES
ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS

345A, ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461-9920

Michael M. ...
DATE 8/20

BY	KAP	DATE	
BY	SAP	DATE	
BY	MNA	DATE	
BY		DATE	
REVISION		DATE	
SCALE		BLOCK	

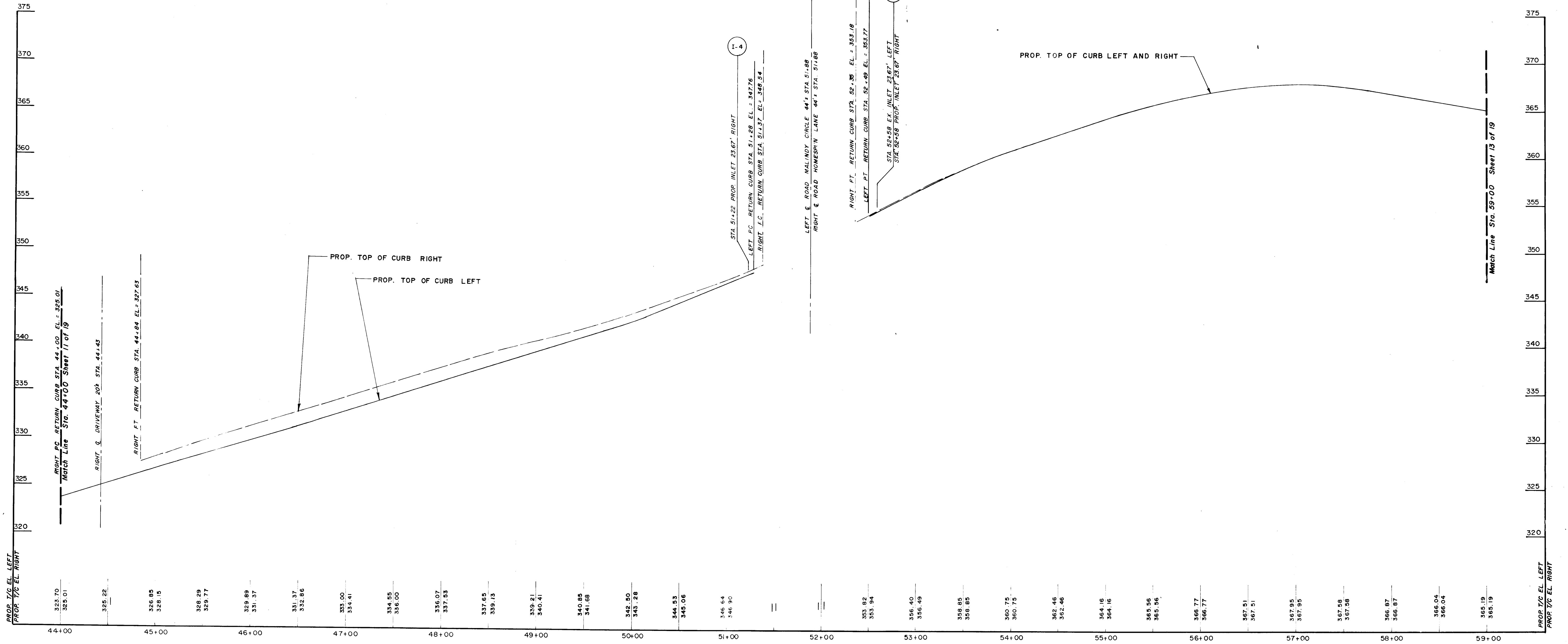
TOP OF CURB PROFILE — STA. 29+00 TO STA. 44+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO.: J-4095

SCALE AS SHOWN

SHEET 11 OF 27



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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James W. Wilcox 8/22/90
 DIRECTOR OF PUBLIC WORKS DATE

Paulville W. Wilcox 8/22/90
 CHIEF, BUREAU OF HIGHWAYS DATE

Elizabeth Calton 8/22/90
 CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS

2158 ELLICOTT CENTER DRIVE SUITE 101
 ELLICOTT CITY, MARYLAND 21043
 (301) 461-9920

DES. KAP	
DRN. SGP	
CHK. MNA	
DATE: 8/90	
BY: NO	
REVISION	
DATE	
600 SCALE MAP NO	
BLOCK NO	

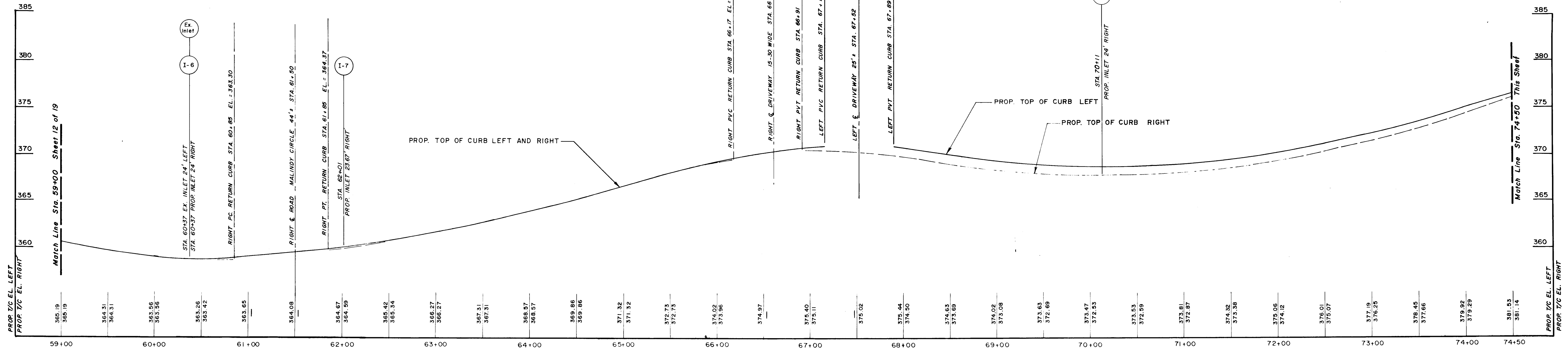
TOP OF CURB PROFILE — STA. 44+00 TO STA. 59+00

OAKLAND MILLS ROAD IMPROVEMENTS

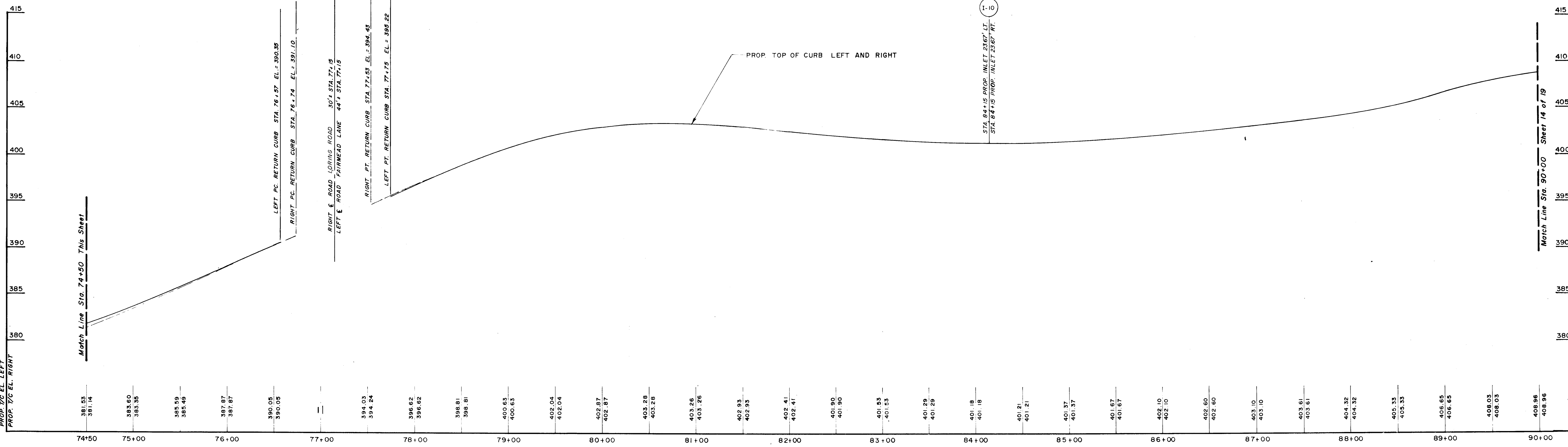
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO: J-4095

SCALE AS SHOWN

SHEET 12 OF 27



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



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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *[Signature]* DATE: 8/22/90
 Chief, Bureau of Highways: *[Signature]* DATE: 8/22/90
 Chief, Division of Roads, Bridges and Storm Drainage: *[Signature]* DATE: 8/22/90

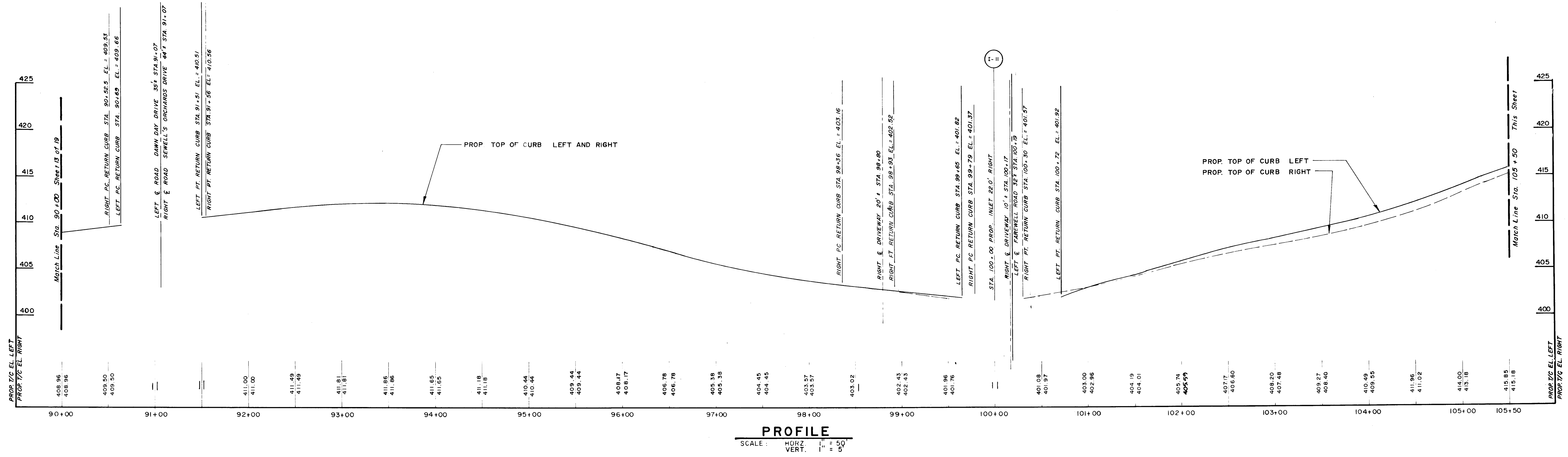
ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS
 2458 ELLICOTT CENTER DRIVE SUITE 101
 ELLICOTT CITY, MARYLAND 21043
 (301) 461-9920
 Michael R. Armstrong

DES.	KAP
DRW.	SGP
CHK.	MNA
DATE:	8/90
BY:	NO
REVISION:	
DATE:	

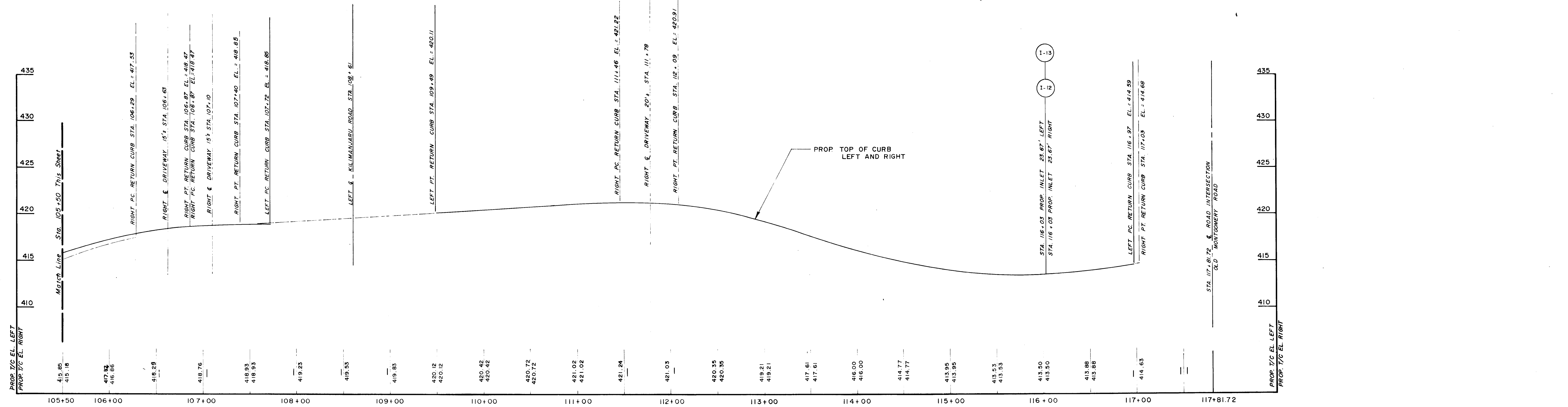
600 SCALE MAP NO. _____ BLOCK NO. _____

TOP OF CURB PROFILE — STA. 59+00 TO STA. 90+00
OAKLAND MILLS ROAD IMPROVEMENTS
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO.: J-4095

SCALE AS SHOWN
 SHEET 13 OF 27



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



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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
James J. ...
Shawville W. ...
 CHIEF, BUREAU OF HIGHWAYS
 DATE 8/20

ENGINEERING TECHNOLOGIES
 ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS
 3408 ELLICOTT CENTER DRIVE SUITE 201
 ELLICOTT CITY, MARYLAND 21043
 (301) 481-9920
 Michael N. Armstrong

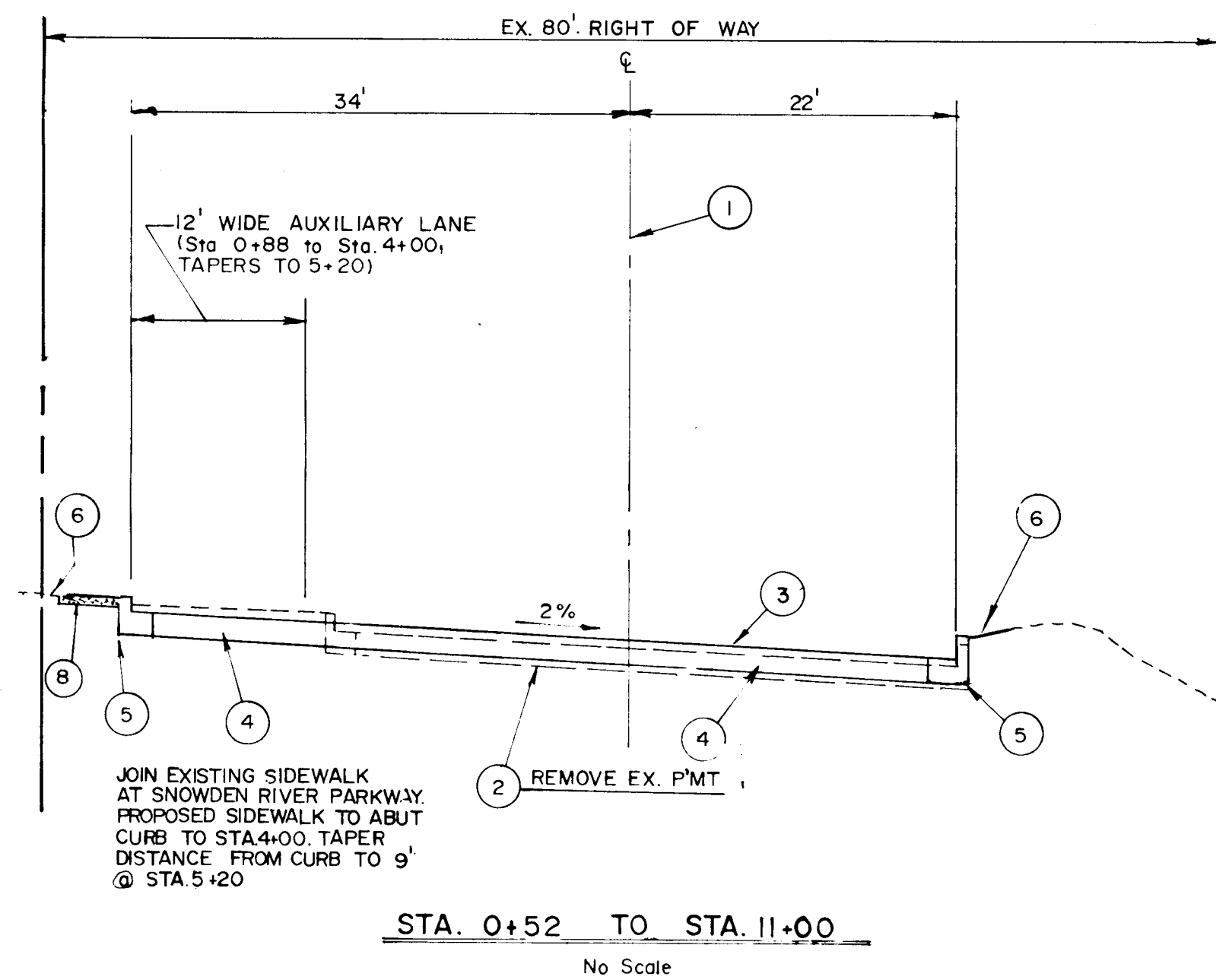
KAP
 SGP
 MNA
 DATE 8/20
 BY
 SCALE MAP N
 BLOCK N

TOP OF CURB PROFILE — STA. 90+00 TO STA. 117+81.72
OAKLAND MILLS ROAD IMPROVEMENTS
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO.: J-4095

SCALE AS SHOWN
 SHEET 14 OF 27

NOTES FOR SECTION FROM STA. 0+52 TO STA. 11+00

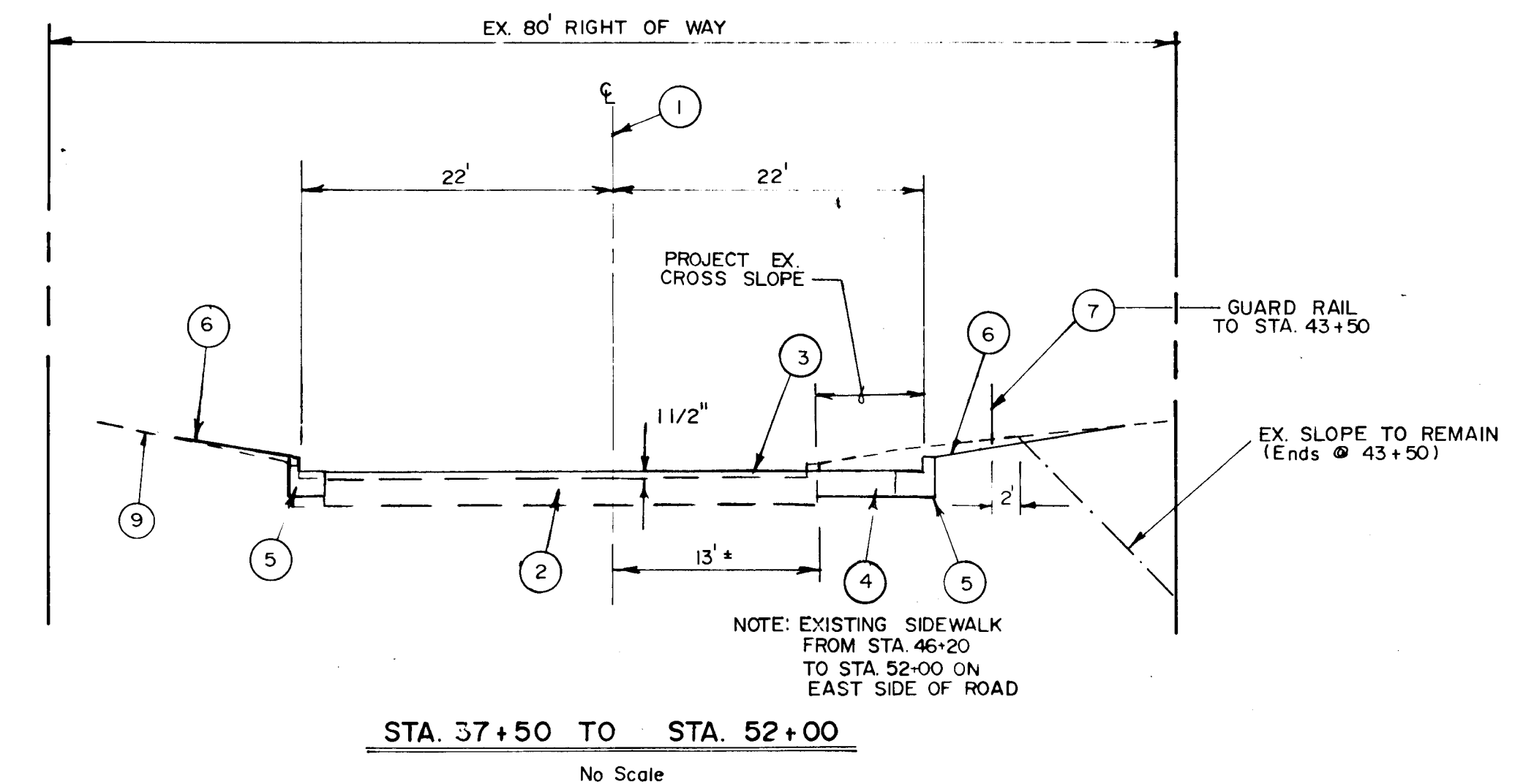
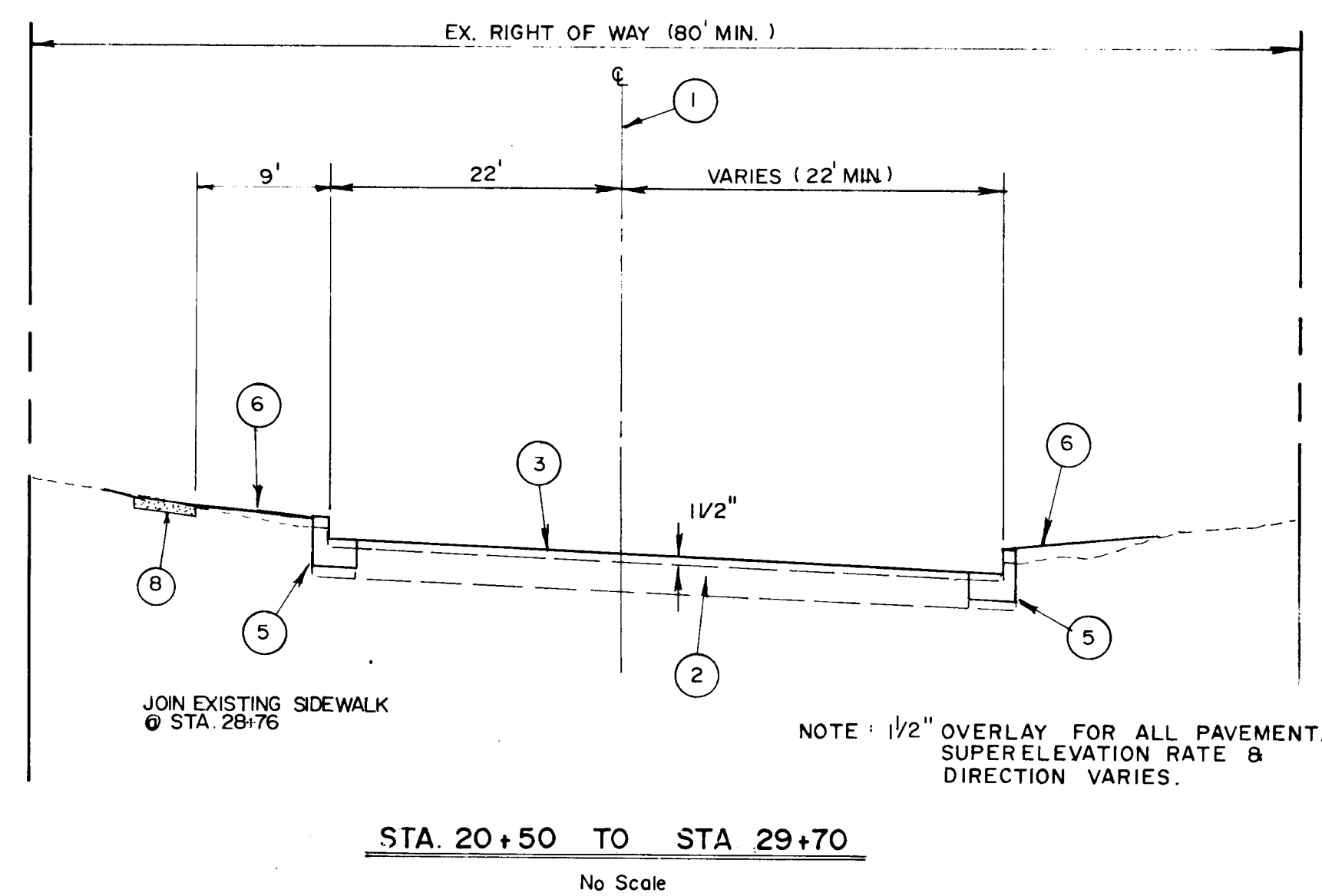
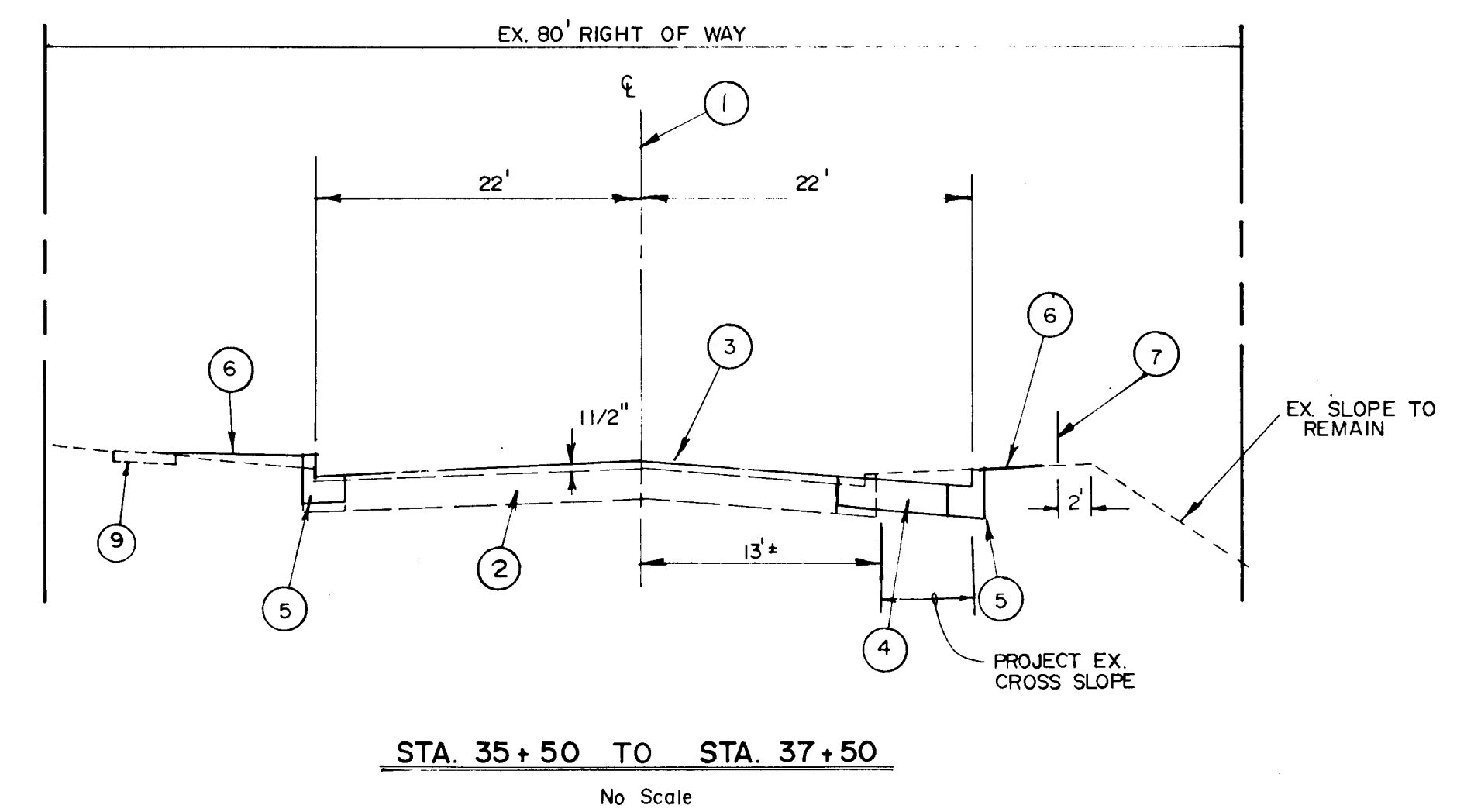
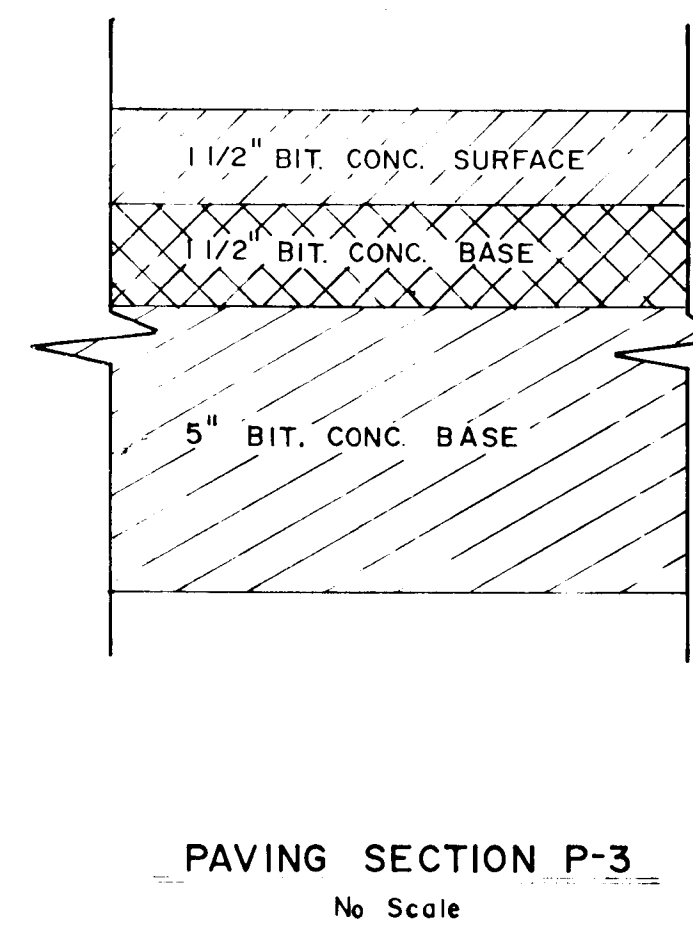
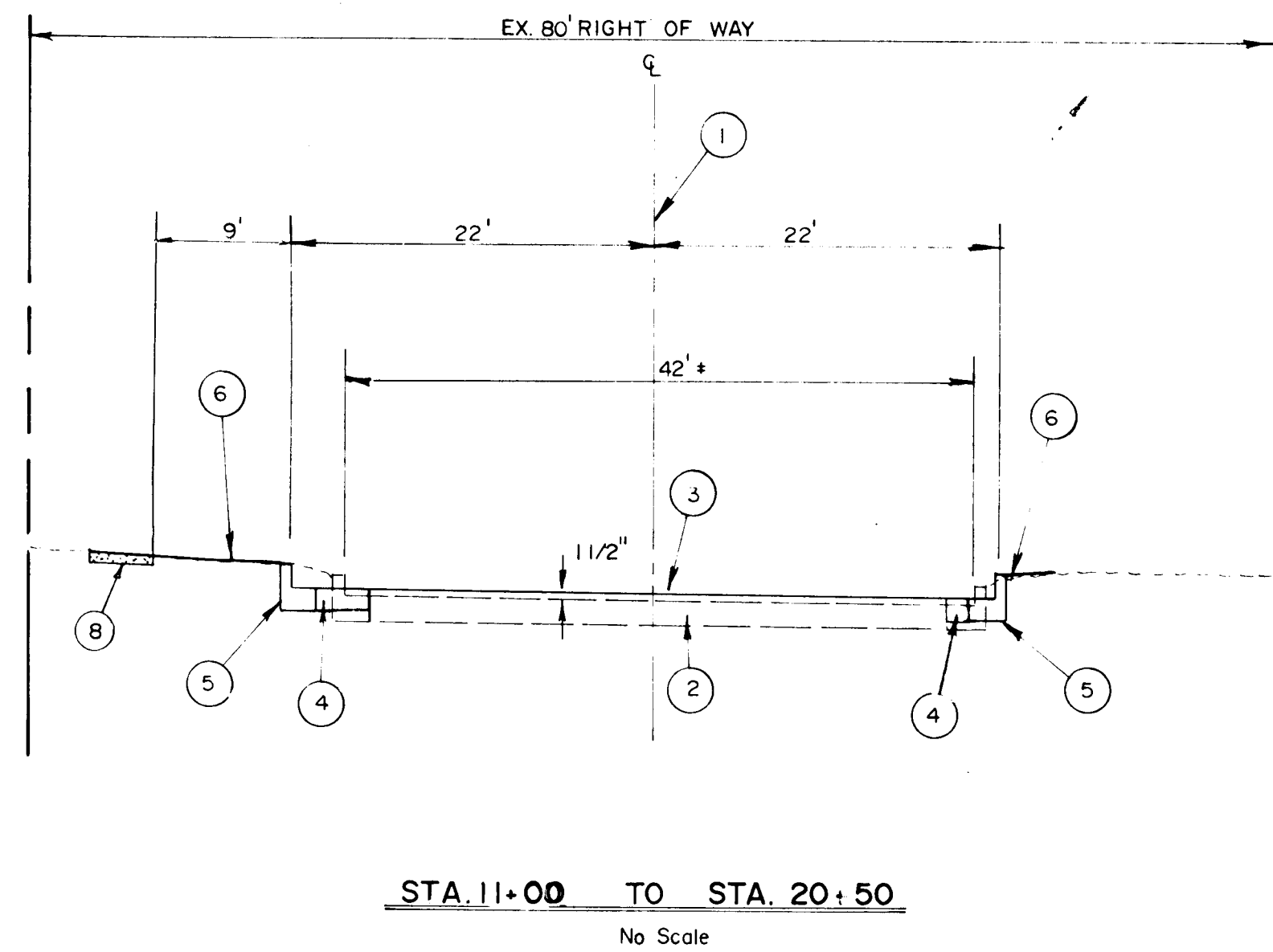
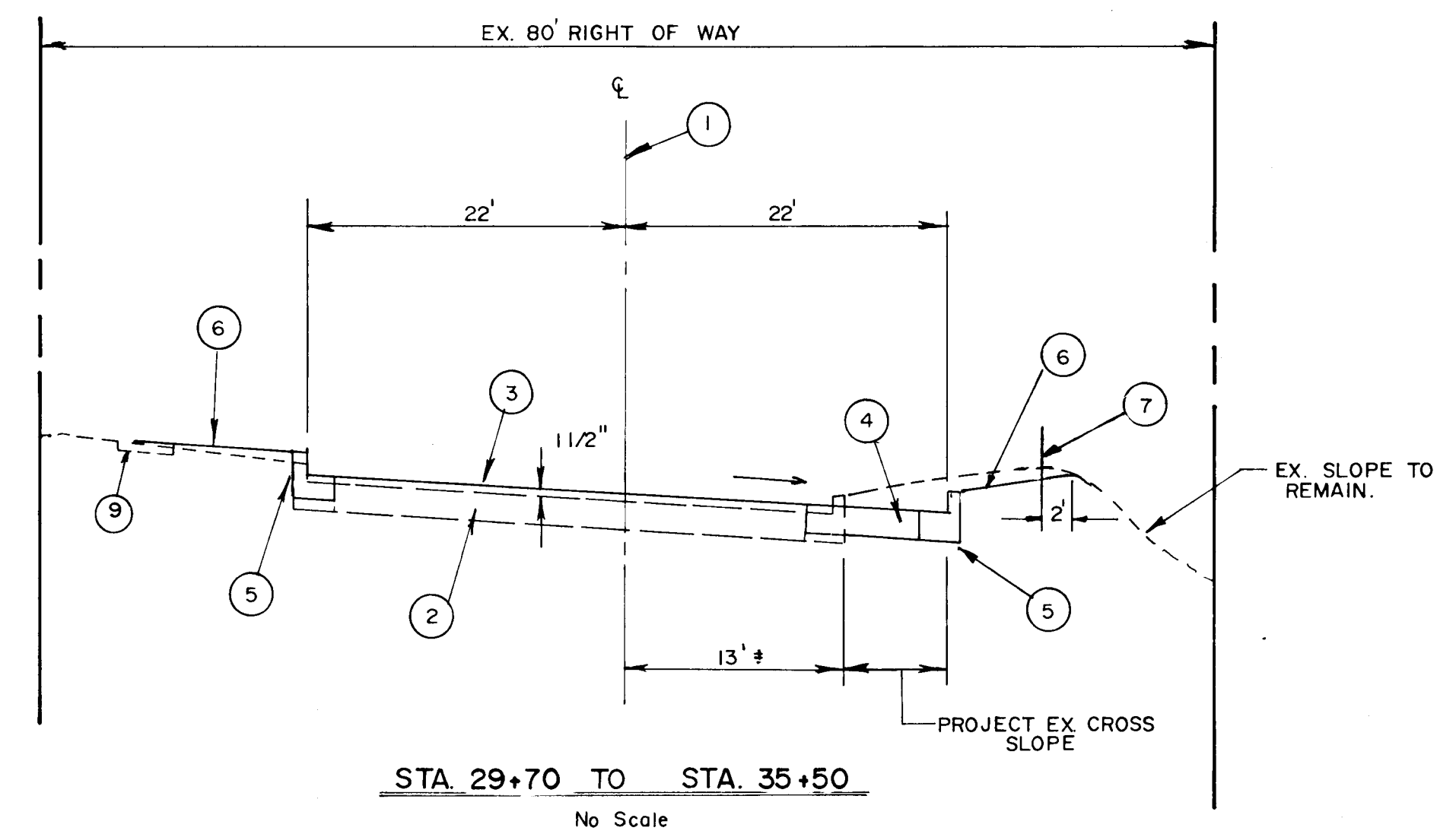
- NOTES:
1. MATCH EXISTING PAVEMENT AT SNOWDEN RIVER PARKWAY (STA 0+52). TRANSITION ROADWAY TO FULL SUPERELEVATION AT 24 CROSS SLOPE AT STA 2+00.
 2. SUPERELEVATION RATES TO STA 2+00 AND FROM STA 7+50 TO STA 8+11 WILL BE PER EXISTING CONDITION. ROADWAY IS IN FULL SUPERELEVATION AT 24 CROSS SLOPE FROM STA 2+00 TO STA 7+50.
 3. CROSS SLOPES AT STA 8+50 WILL BE AT CONSTANT GRADE FROM P.G.L. TO PAVEMENT MATCH AT DEERASURE DRIVE AND SEEING INDUSTRIAL CENTER CURB RETURNS.
 4. CROSS SLOPES FROM STA 9+00 TO STA 11+00 WILL BE PER EXISTING CONDITION.



NOTE: ALL EXISTING CURB & GUTTER (INCLUDING GUTTER PAN UNDER EXISTING RESURFACED AREAS) SHALL BE REMOVED. FULL PAVEMENT SECTION (PAVING SECTION P-3) SHALL BE PROVIDED BETWEEN PROPOSED CURB & GUTTER AND TIE-IN TO 1 1/2" SURFACE OVERLAY.

LEGEND

- 1 PROFILE GRADE LINE (P.G.L.)
- 2 EXISTING PAVEMENT SECTION
- 3 BITUMINOUS CONCRETE SURFACE OVERLAY
- 4 PAVING SECTION P-3
- 5 STANDARD COMB. CURB & GUTTER (HOWARD CO. STD. R-3.01)
- 6 2" TOPSOIL, SEED & MULCH; TIE IN PROP. GRADE TO EX. GR @ 2% MIN. DOWN SLOPE TOWARD CURB.
- 7 GUARDRAIL PLACED AT TOP OF SLOPE.
- 8 PROPOSED 4' WIDTH, 4" SIDEWALK WITH THE EXCEPTION OF AREAS WHERE SIDEWALK ABUTS THE CURB, IN WHICH CASE IT SHOULD BE 5' WIDE.
- 9 EXISTING SIDEWALK.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Cleveland 8/22/90
CHIEF, BUREAU OF HIGHWAYS

Michael N. Armstrong
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE

ENGINEERING TECHNOLOGIES
ASSOCIATES, INC.

ENGINEERS - PLANNERS - SURVEYORS
1458 ELLCOTT CENTER DRIVE SUITE 101
ELLCOTT CITY, MARYLAND 21043
(301) 461-9920

DES: JYP

DRN: SGP

CHK: MNA

DATE: 8/90

BY NO REVISION DATE 600 SCALE MAP NO BLOCK NO

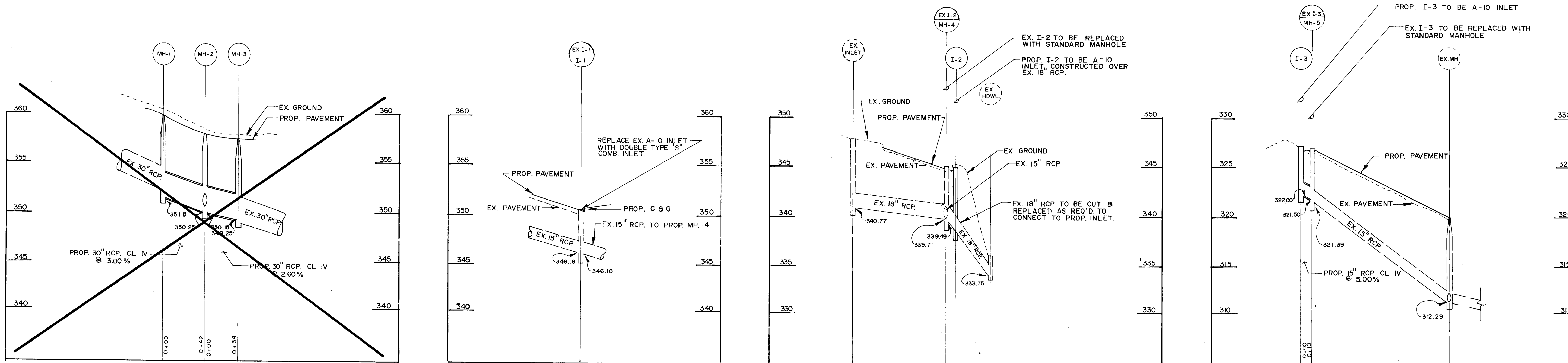
TYPICAL CROSS SECTIONS

OAKLAND MILLS ROAD IMPROVEMENTS

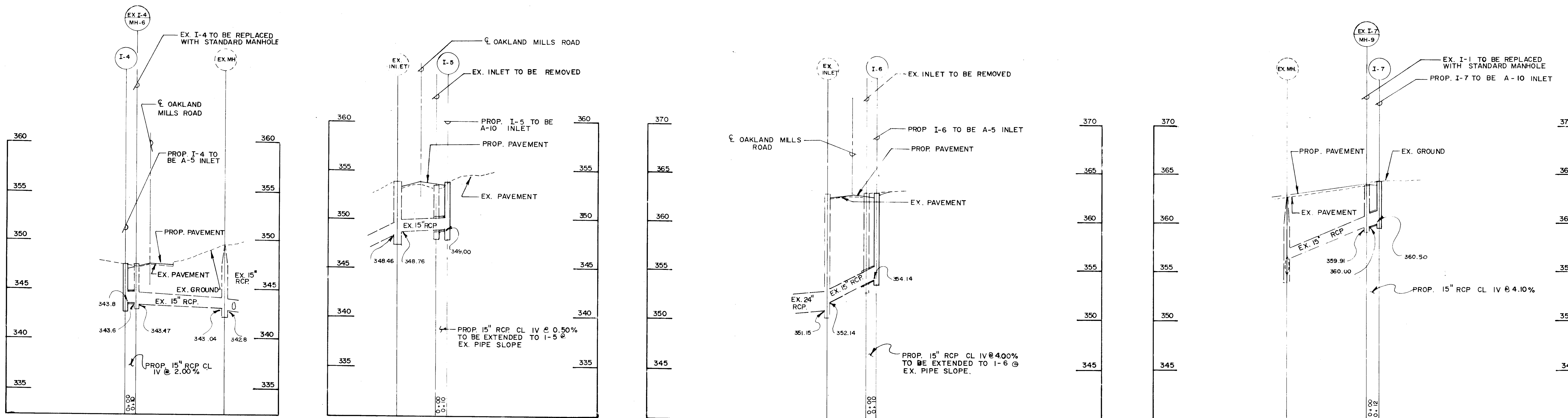
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4095

SCALE
AS
SHOWN

SHEET
15 OF 27



NOTES: EXISTING PIPES TO BE EXTENDED SHALL BE EXTENDED FROM EXISTING PIPE AT JOINT AT SAME SLOPE AS EXISTING PIPE
 2 AT SOME PROPOSED STRUCTURES TO BE PLACED OVER EXISTING STORM DRAIN PIPE, PIPE ALIGNMENT ADJUSTMENTS MAY BE REQUIRED IN ORDER TO ENSURE CONNECTION TO THE PROPOSED STRUCTURE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN THIS SITUATION EXISTS IN THE FIELD. THE CONTRACTOR WILL INSTALL A HORIZONTAL BEND IN THE PIPE AS DIRECTED BY THE ENGINEER.



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *[Signature]* 8/22/90
 Chief, Bureau of Engineering: *[Signature]*
 Chief, Bureau of Highways: *[Signature]* 8/22/90
 Chief, Division of Roads, Bridges and Storm Drainage: *[Signature]*

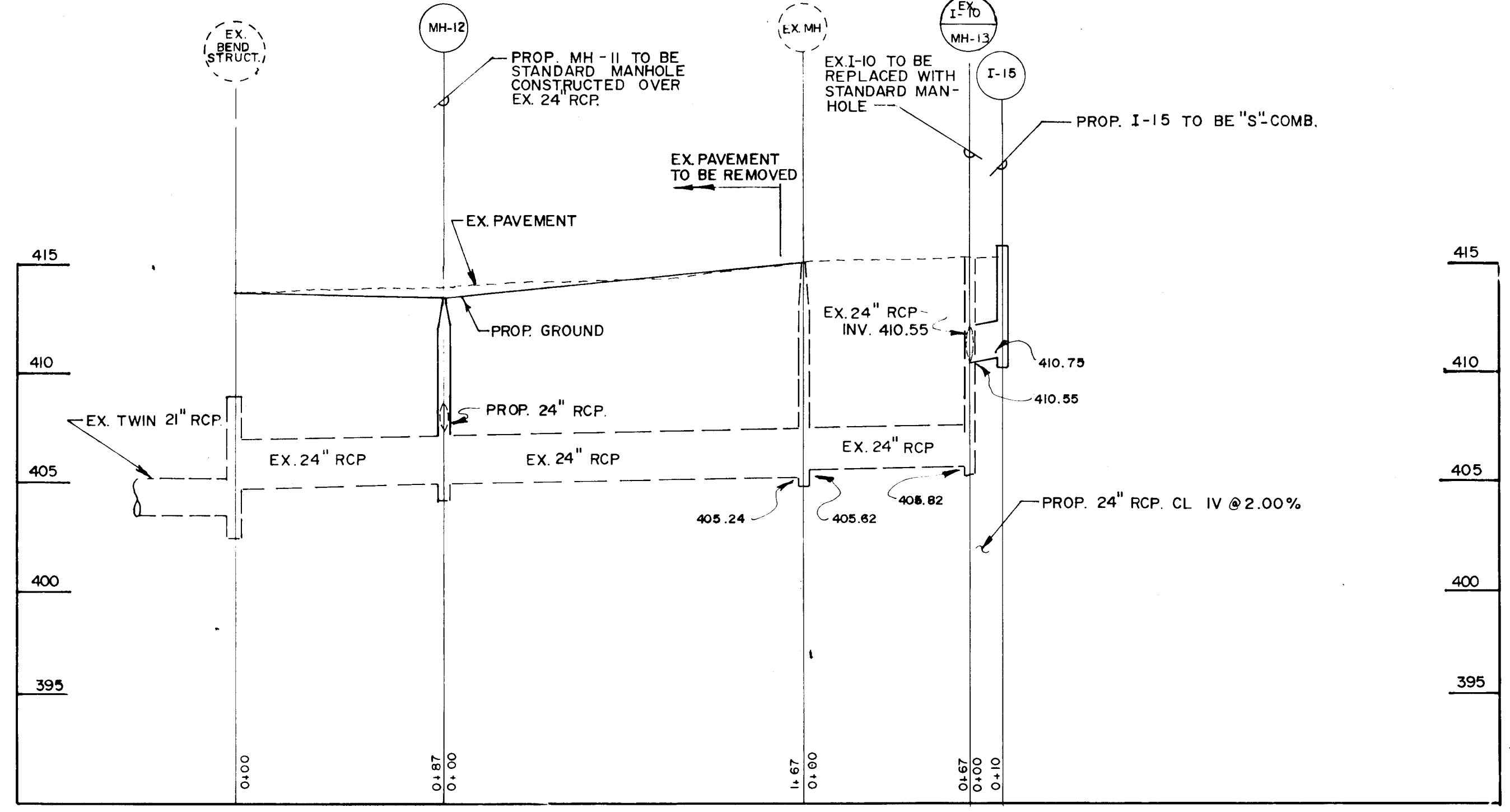
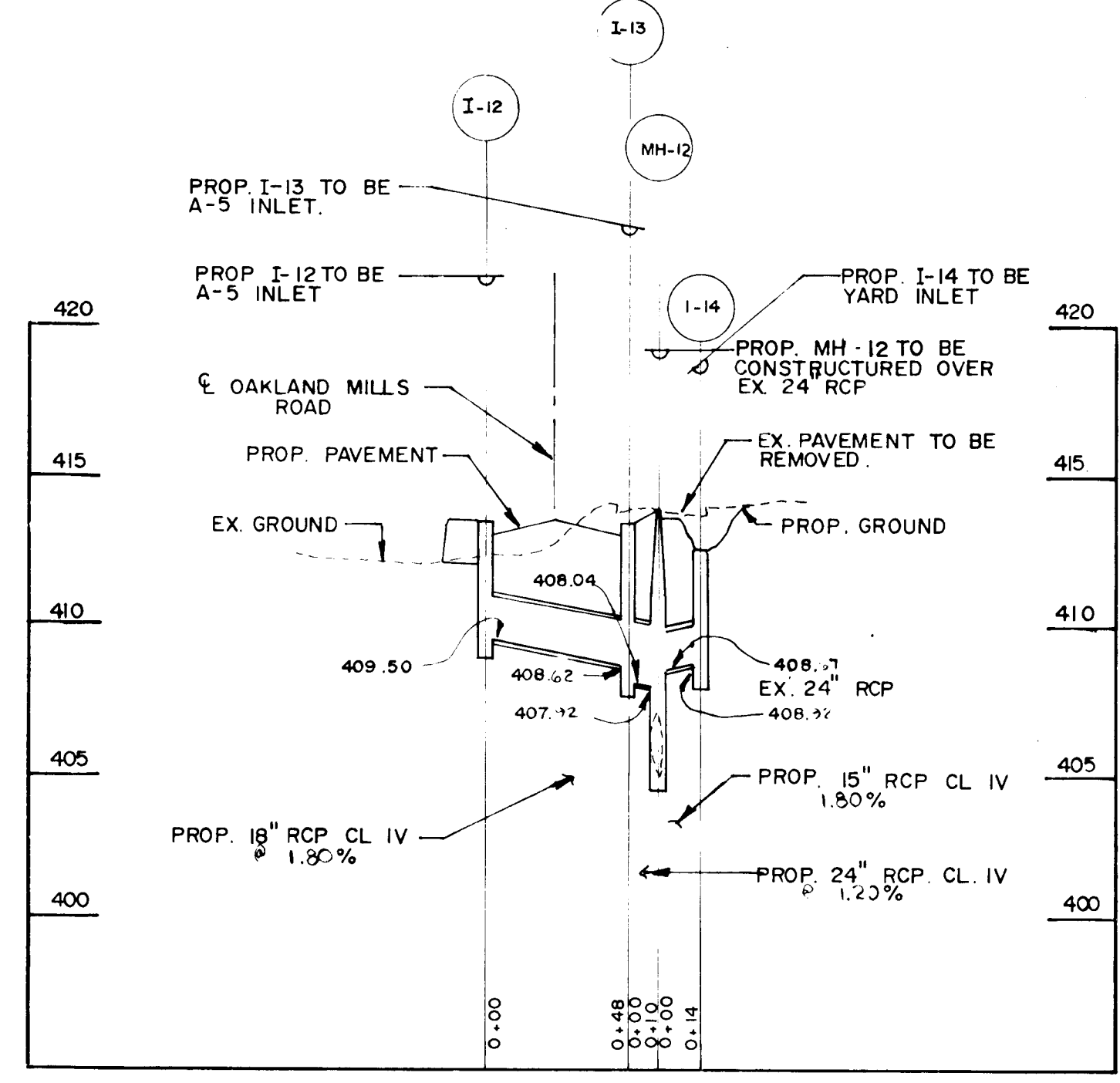
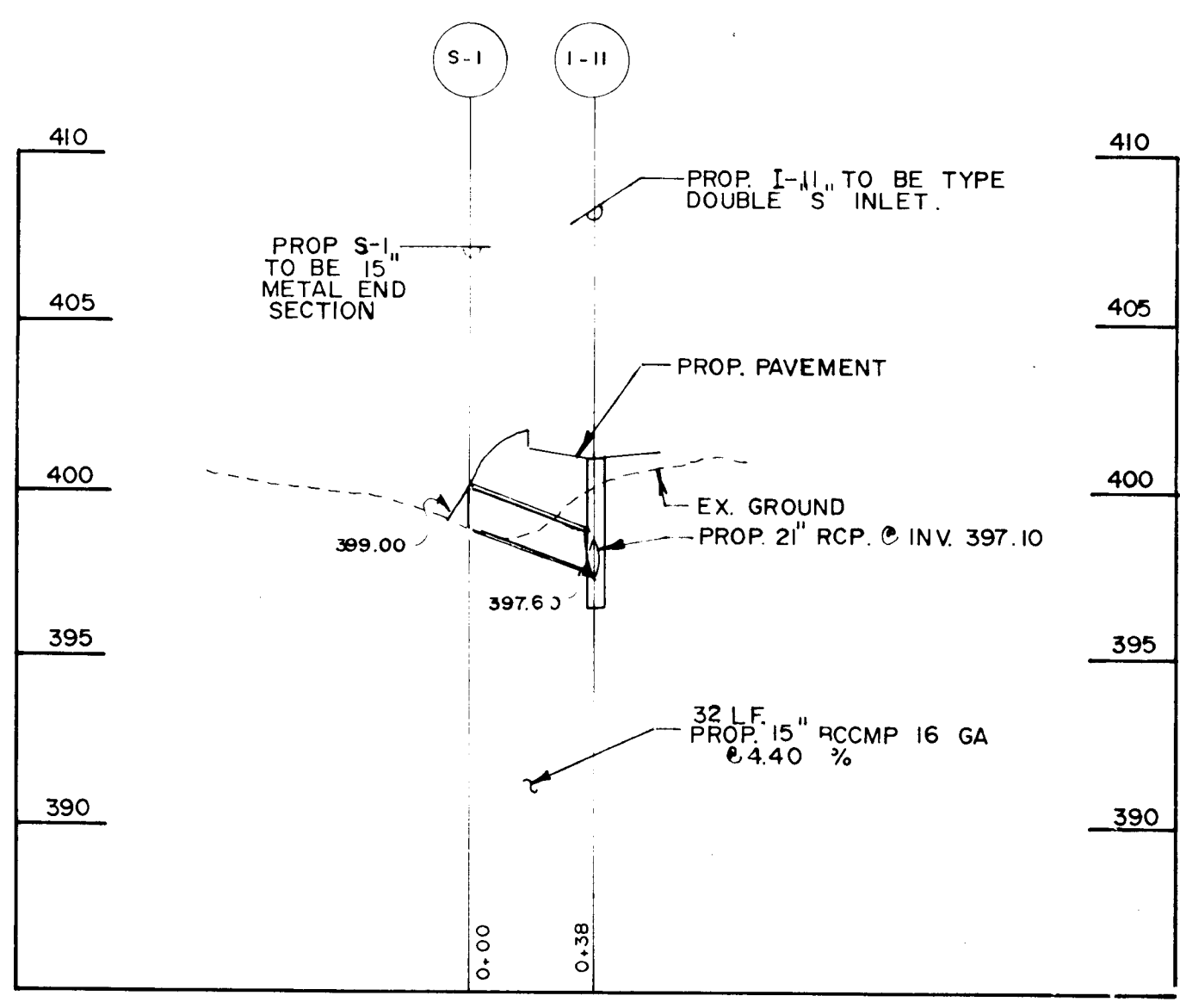
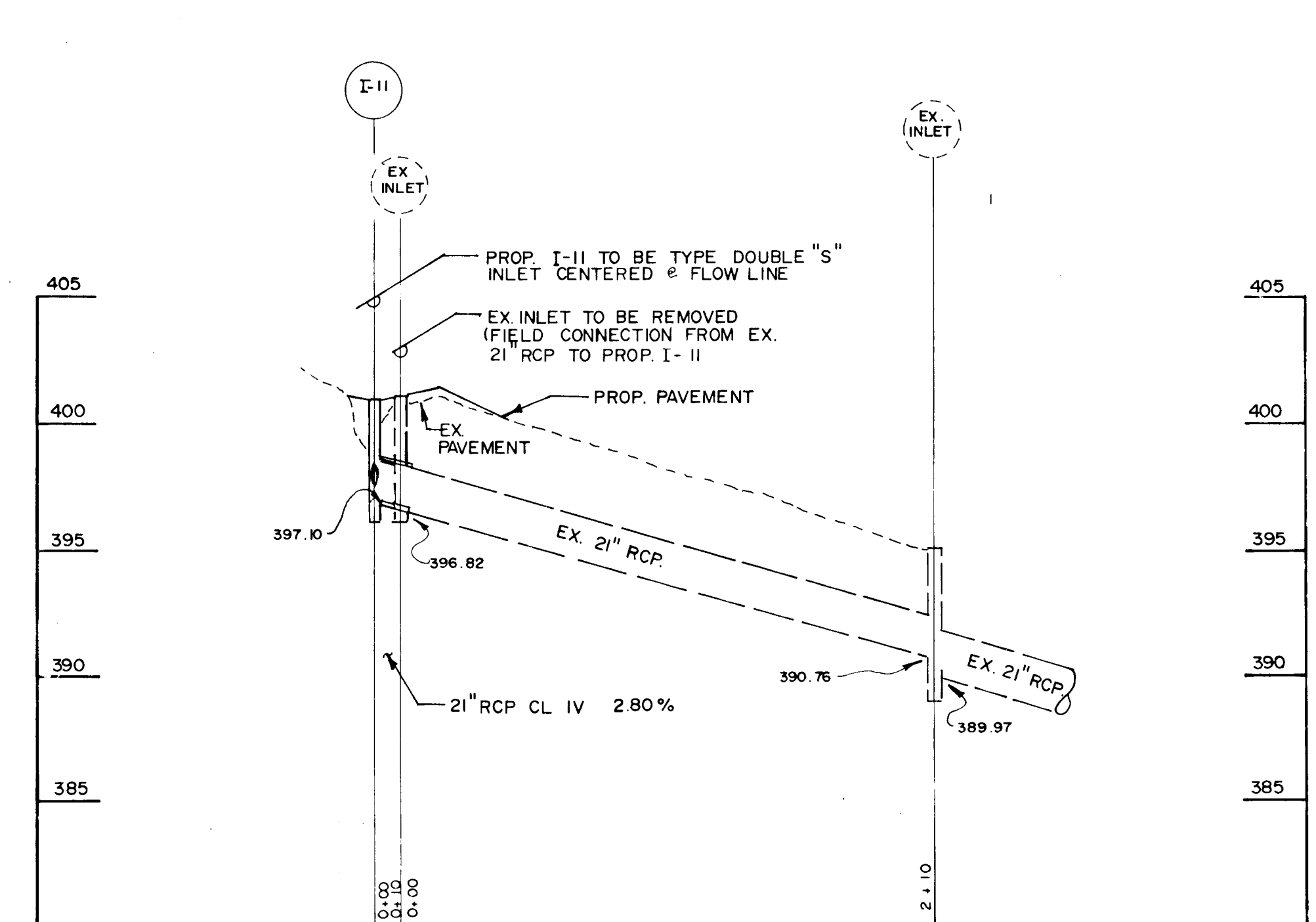
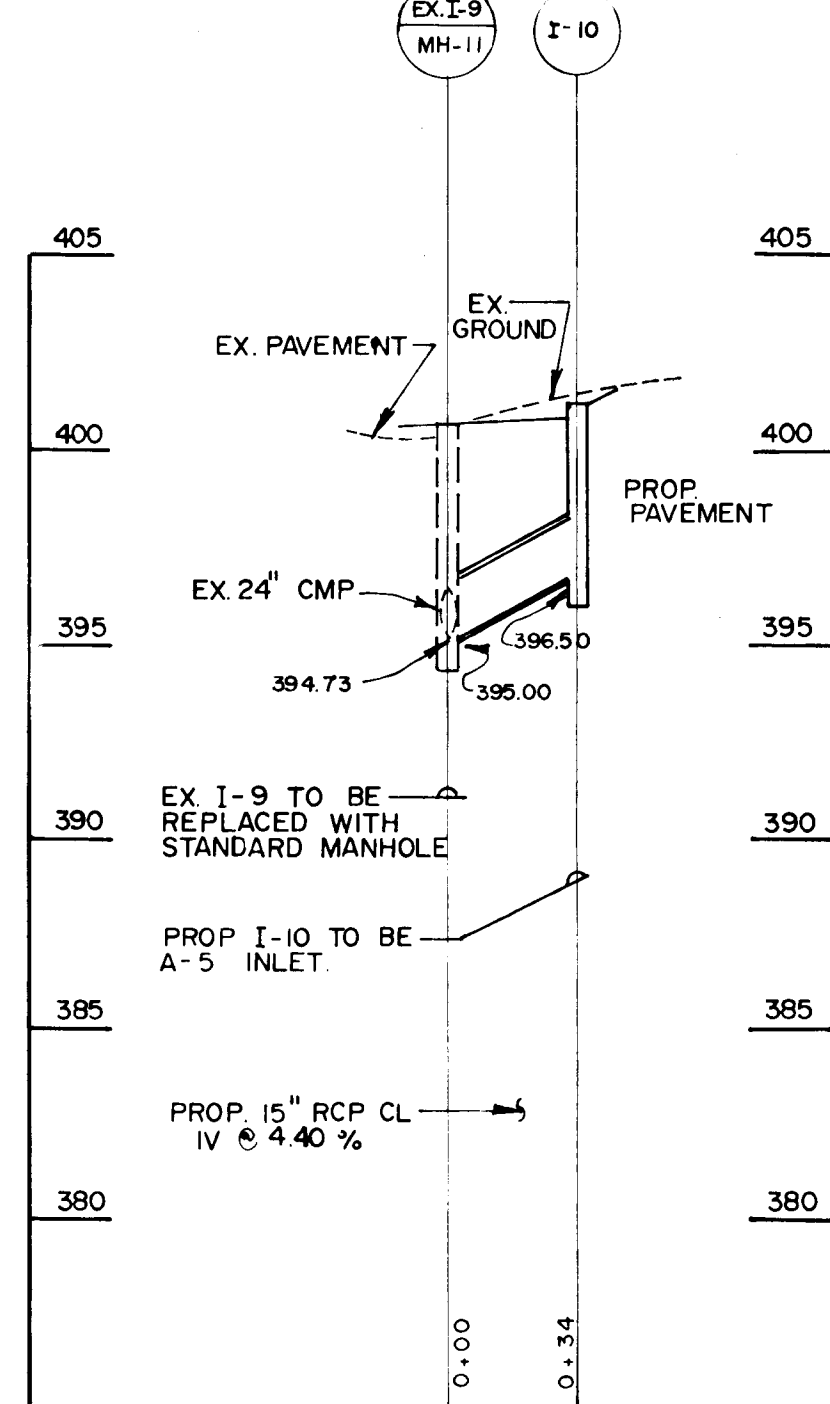
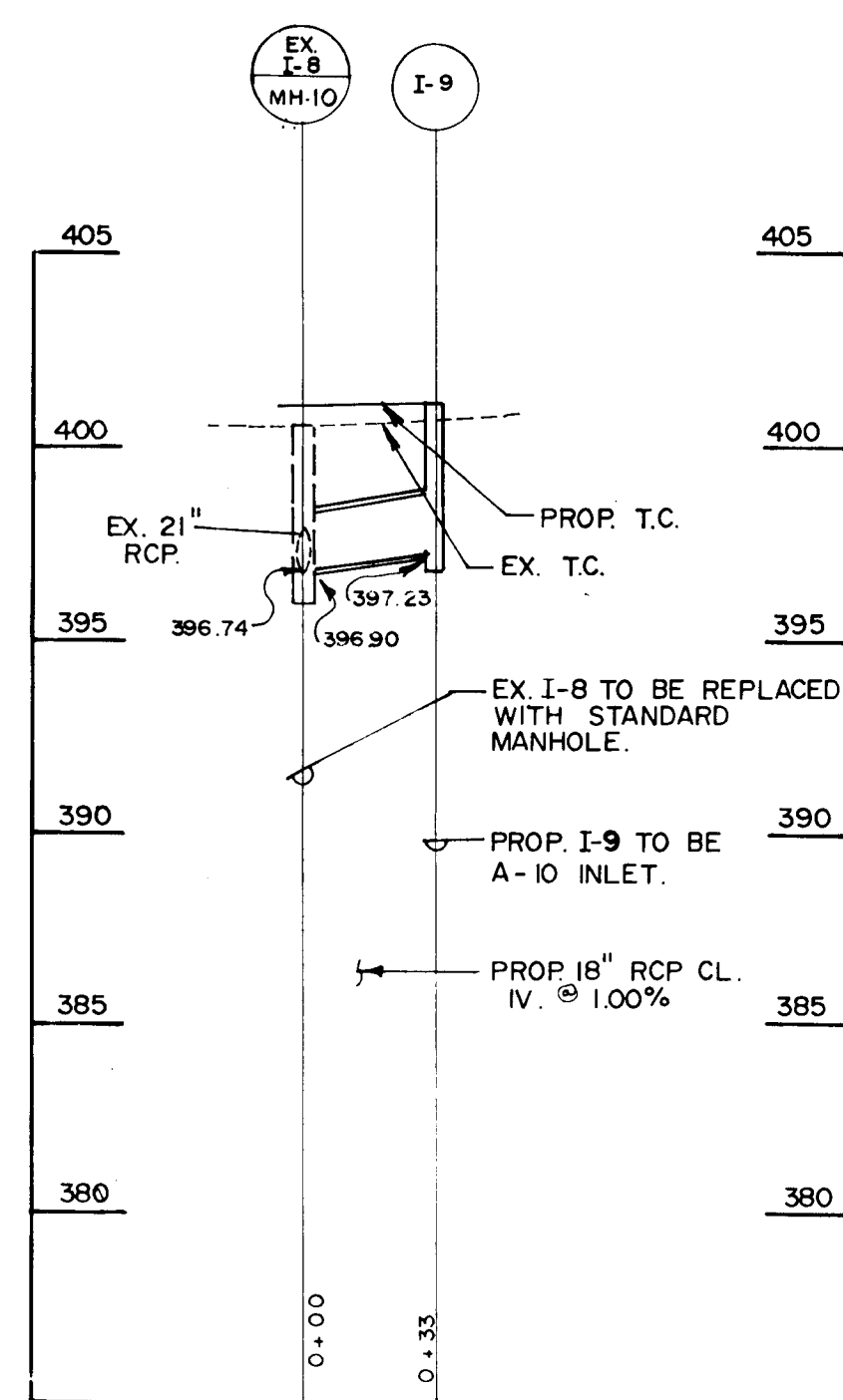
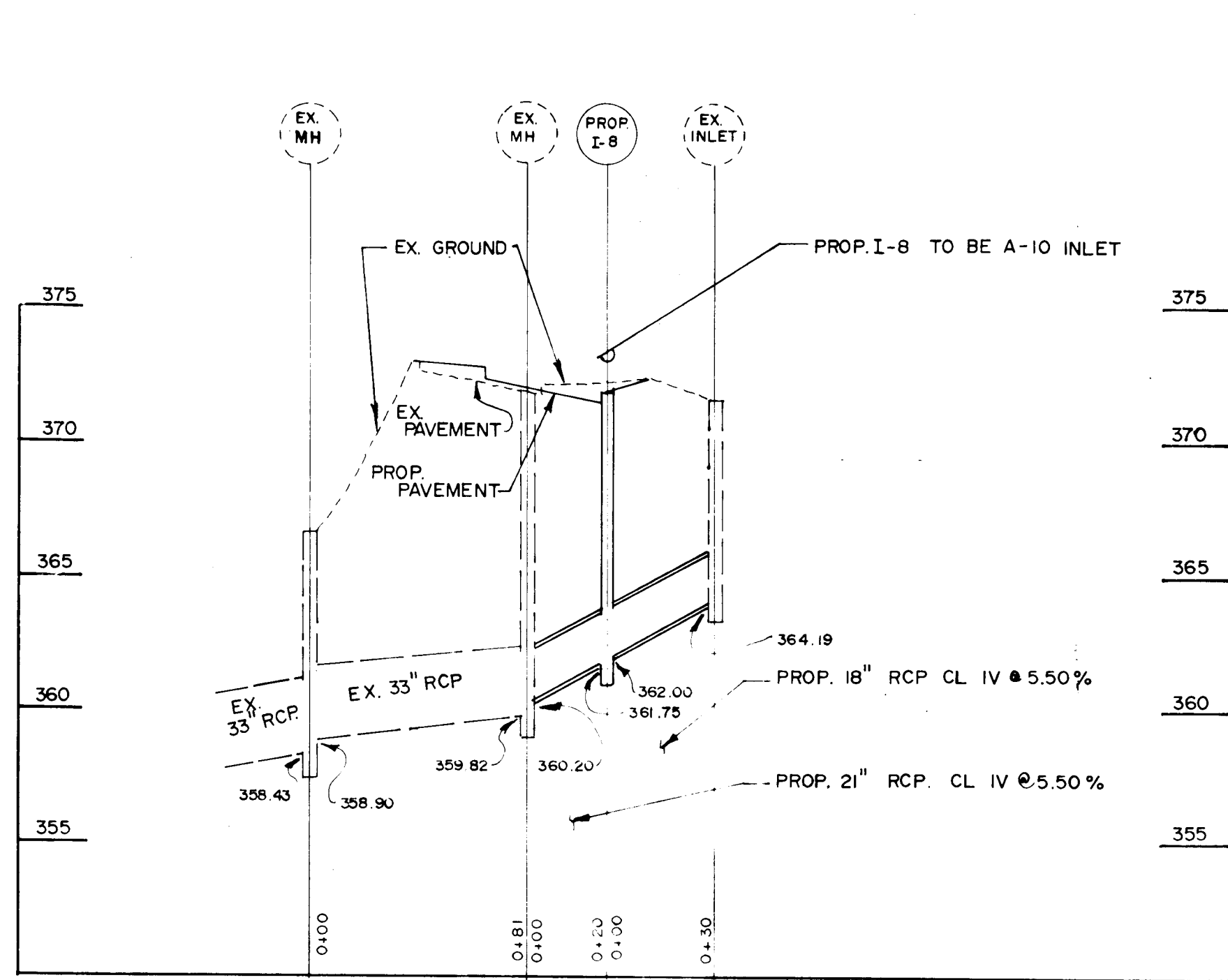
ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS
 3458 ELLICOTT DRIVE, SUITE 101
 ELLICOTT CITY, MD 21114
 (301) 481-9900

Michael N. Armstrong

DES: JVP					
DRN: sap					
CHK: MNA					
DATE: 8/90	BY	NO.	REVISION	DATE	600' SCALE MAP NO. BLOCK NO.

STORM DRAIN PROFILES
OAKLAND MILLS ROAD IMPROVEMENTS
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4095

SCALE
 Horz. 1" = 50'
 Vert. 1" = 5'
 SHEET
 17 OF 27



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

ENGINEERING TECHNOLOGIES
ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS

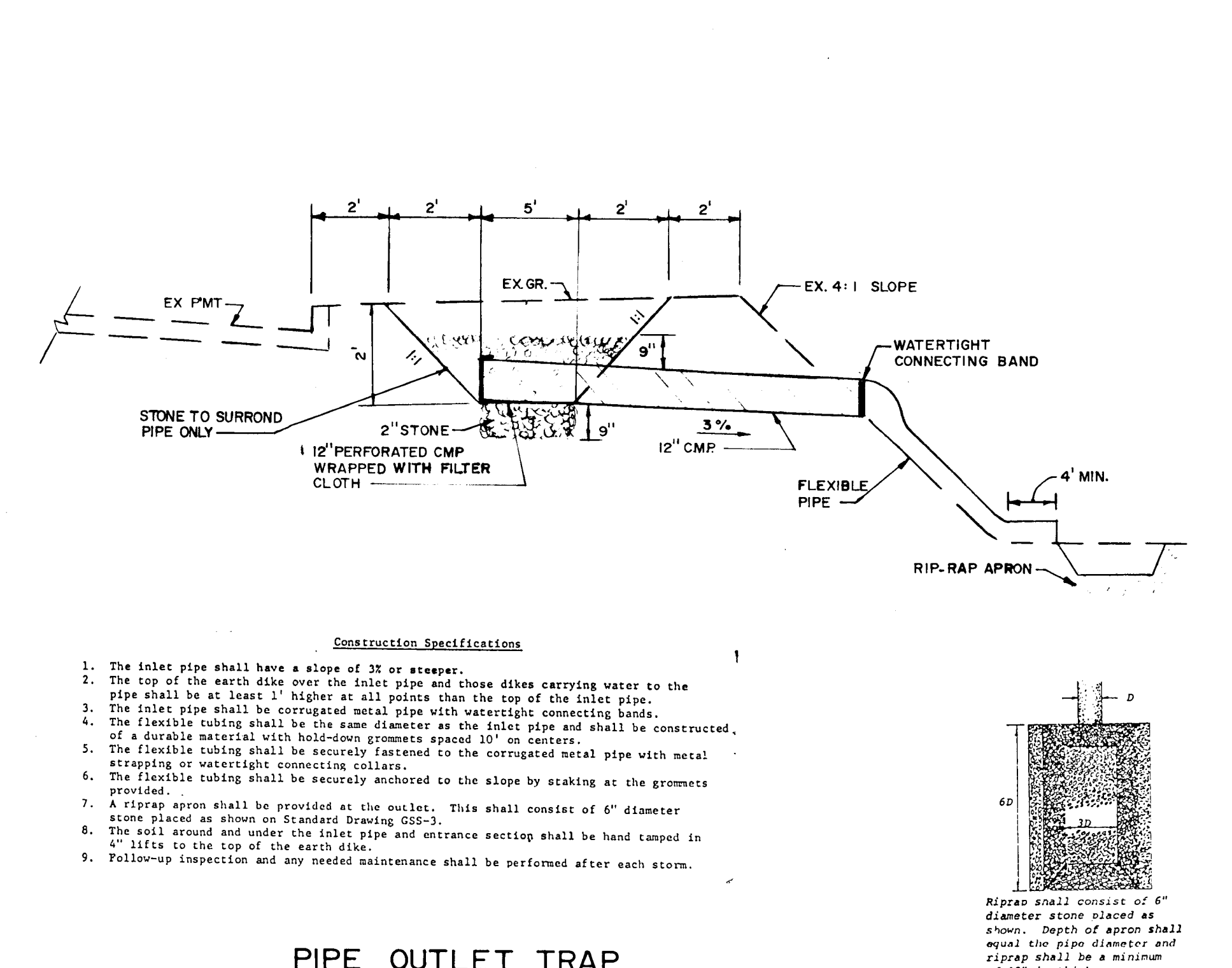
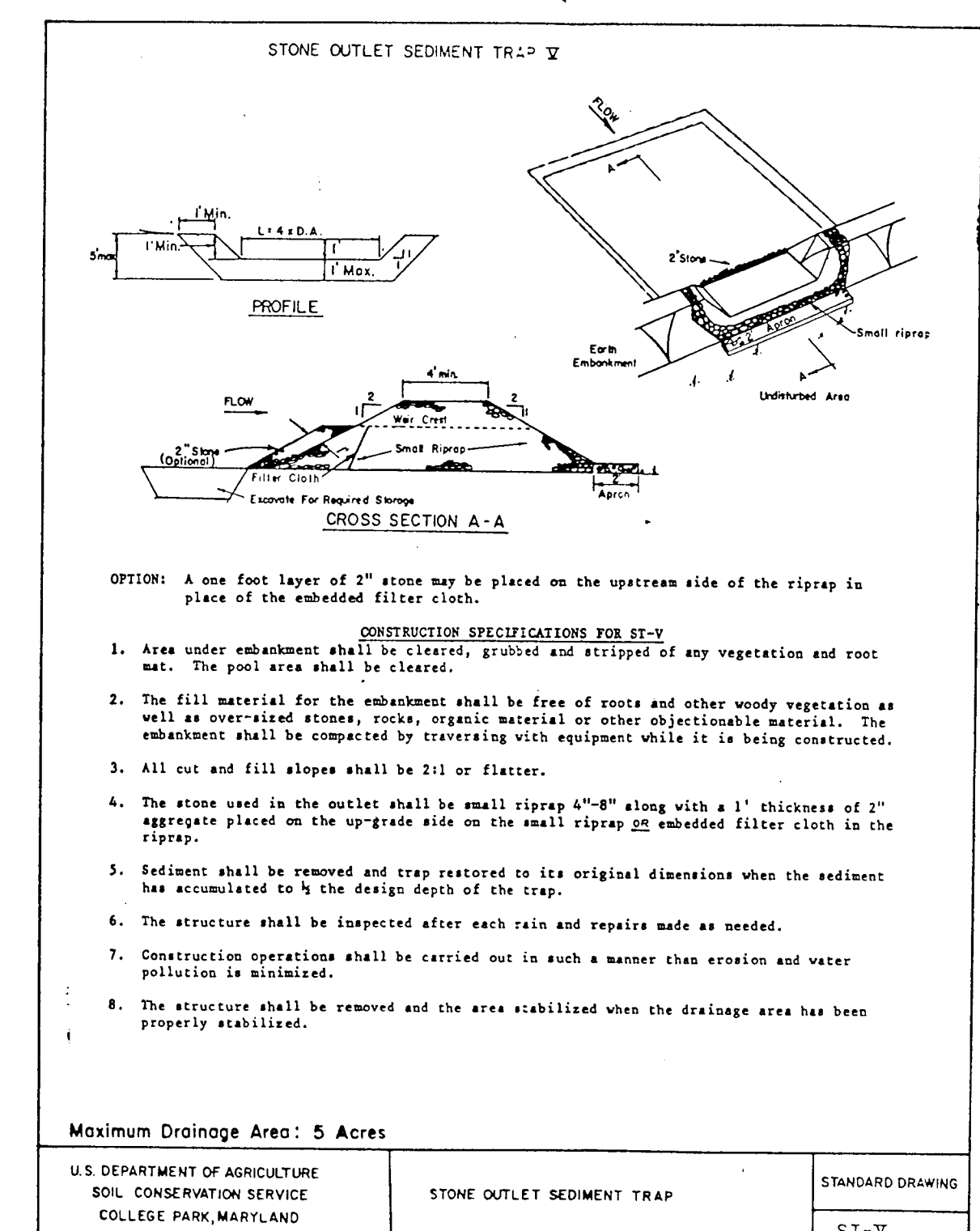
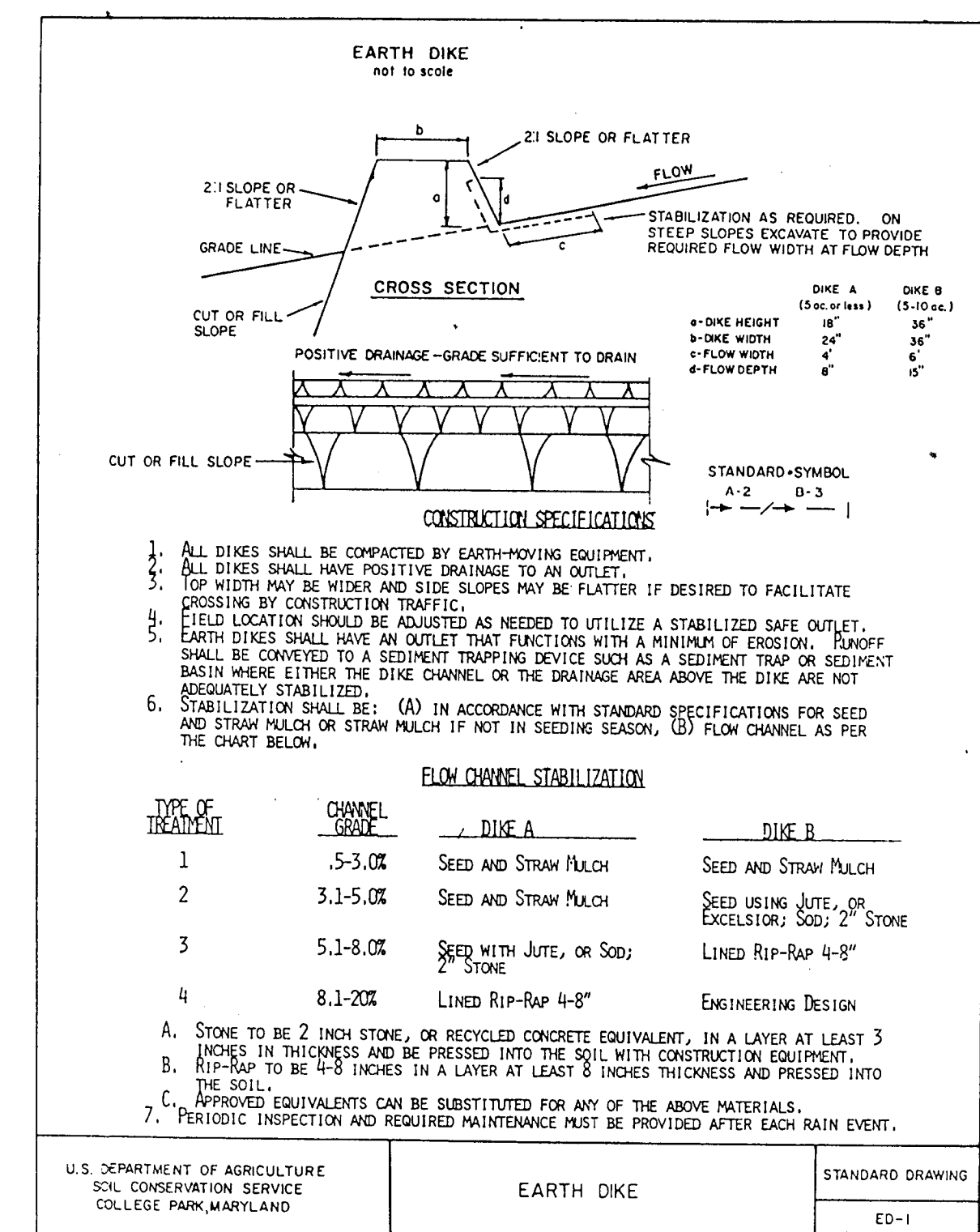
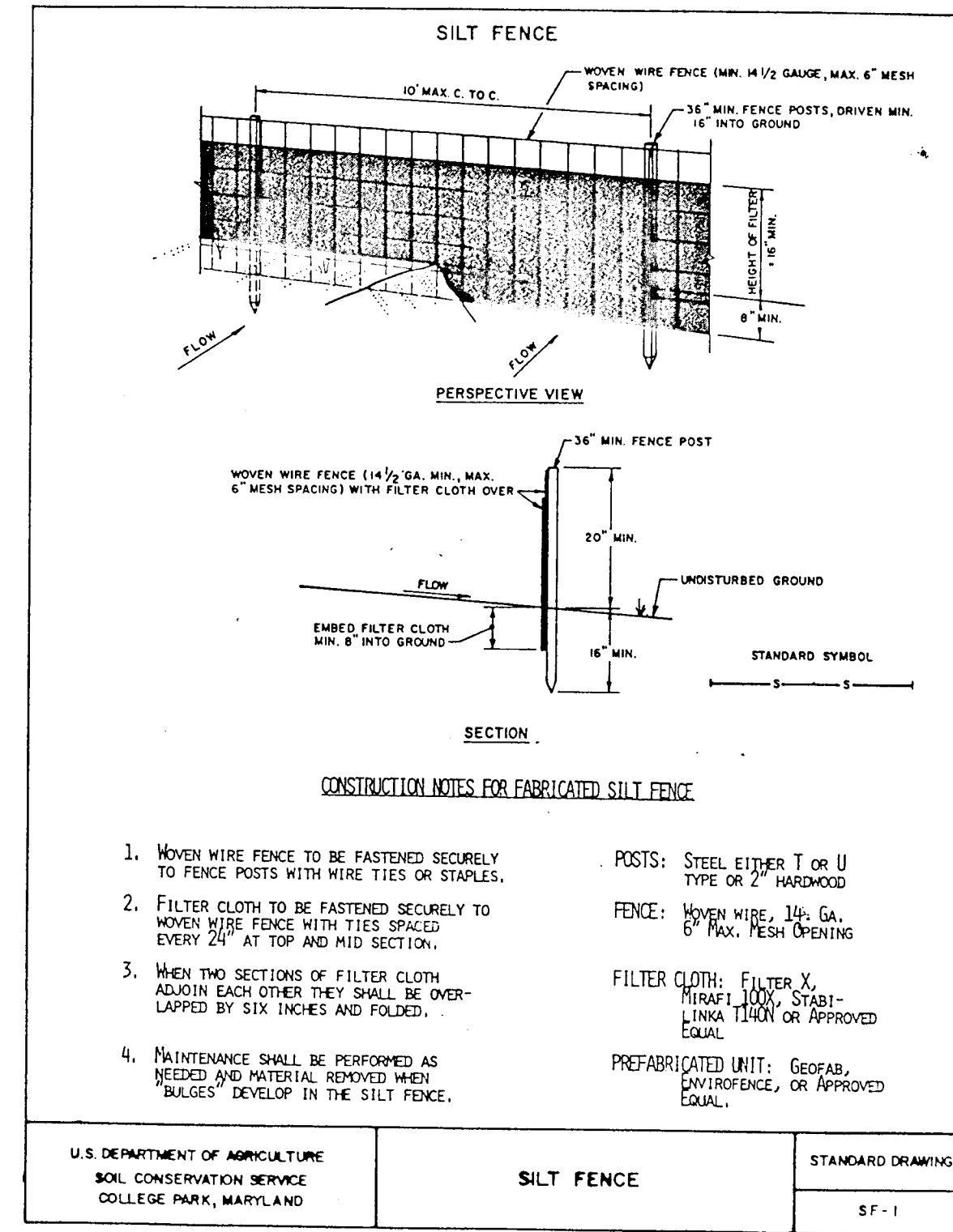
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DRN: 69P					
CHK: MNA					
DATE: 8/90	BY	NO.	REVISION	DATE	600' SCALE MAP NO. BLOCK NO.

STORM DRAIN PROFILES
OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4095

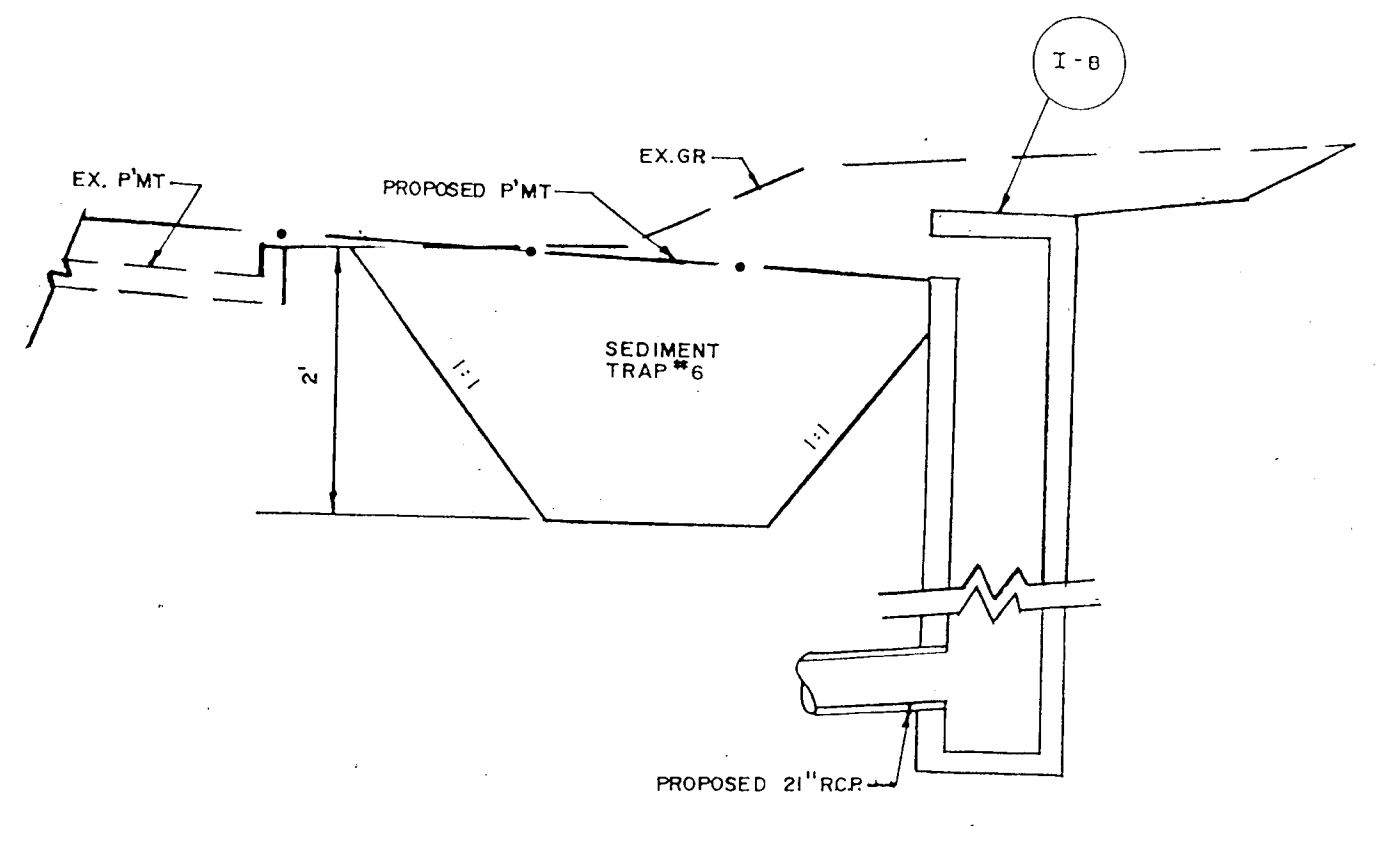
SCALE
HOR. 1"=50'
VERT. 1"=5'
SHEET
18 OF 27

Michael N. Armstrong

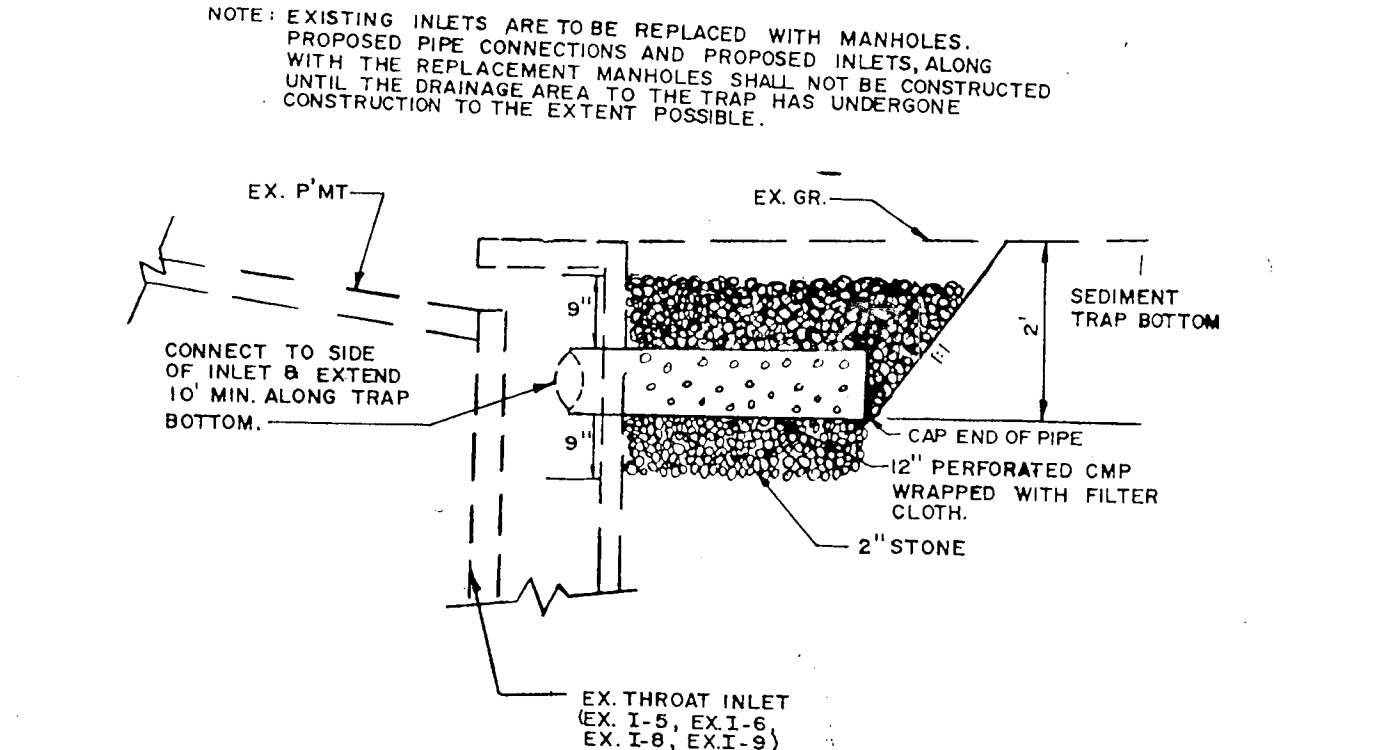
Director of Public Works DATE 8/22/90
Chief, Bureau of Engineering DATE
Chief, Division of Roads, Bridges and Storm Drainage DATE



NOTE: CONSTRUCT PROPOSED INLET & CONNECT 24" RIP TO EX. MH. REMOVE EX. INLET PIPE AS SHOWN ON THE PLANS IN CONJUNCTION WITH SEDIMENT TRAP INSTALLATION.



STORM DRAIN INLET TRAP AT I-8
NO SCALE



STORM DRAIN INLET TRAP AT EXISTING INLETS
NO SCALE

SEDIMENT 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. (992-1437)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 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 perimeter in accordance with Vol. 1, 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) and (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: 21.5 Acres
Area Disturbed: 19 Acres
Area to be roofed or paved: 12.5 Acres (INCLUDING SIDEWALK)
Area to be vegetatively stabilized: 6.5 Acres
Total Cut: 55,000 Cu. yds.
Total Fill: 34,000 Cu. yds.
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 controls must be provided, if deemed necessary by the Howard County DWP 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.

PERMANENT SEEDING NOTES

Seedbed Preparation: Loosen upper 3 inches of soil by raking, disking or other acceptable means before seeding.

Soil Amendments: Use one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 square ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 square ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 square ft.)
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 square 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 through April 30, and August 1 through October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 square ft.) of creeping lovegrass. During the period of October 16 through February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs./acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of untreated 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 3 inches of soil by raking, disking or other acceptable means before seeding.

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

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 24 lbs. per acre of annual rye (3.2 lbs./1000 sq. ft.). For the period May 1 through August 14, seed with 3 lbs. per acre of creeping lovegrass (.07 lbs./1000 sq. ft.) For the period November 16 through February 28, protect the site by applying 4 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 untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher use 348 gal. per acre (8 gal./1000 sq. ft.) for anchoring.

TRAFFIC MAINTENANCE SEQUENCE
(SEE SPECIFICATIONS FOR DETAILED INFORMATION)

FOR THE FOLLOWING SEQUENCE, IT SHALL BE UNDERSTOOD THAT ALL CONSTRUCTION AT INTERSECTIONS (ROADS AND DRIVEWAYS) SHALL BE DONE IN A MANNER WHICH ENSURES CONTINUOUS TRAFFIC ACCESS. IN ADDITION, STRICT ADHERENCE TO THE SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION IS REQUIRED.

- COMPLETE THE CONSTRUCTION FROM STATION 8+52 TO STATION 11+88.
 - DIVERT TRAFFIC TO PROVIDE TWO-WAY TRAFFIC ON NORTHBOUND LANES (SEE SPECIAL PROVISIONS).
 - CLOSE THE SOUTHBOUND LANES; REMOVE THE EXISTING PAVEMENT SECTION AND COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
 - SWITCH TRAFFIC TO NORTHBOUND LANES & CLOSE SOUTHBOUND LANES (SEE SPECIAL PROVISIONS).
 - CLOSE THE NORTHBOUND LANES; REMOVE THE EXISTING PAVEMENT SECTION AND COMPLETE THE ROAD CONSTRUCTION.
- COMPLETE THE CONSTRUCTION FROM STATION 11+88 TO STATION 29+78:
 - PROVIDE MINIMUM LONGITUDINAL SOUTHBOUND LANE CLOSURES AND COMPLETE CONSTRUCTION AT THE OAK HALL ROAD AND DOBBIN ROAD INTERSECTIONS (SEE SPECIAL PROVISIONS).
 - PROVIDE SOUTHBOUND LANE CLOSURES AND COMPLETE THE CONSTRUCTION TO THE ROAD CENTERLINE.
 - PROVIDE NORTHBOUND LANE CLOSURES AND COMPLETE THE CONSTRUCTION TO THE ROAD CENTERLINE.
- COMPLETE THE ROAD CONSTRUCTION FROM STATION 29+78 TO STATION 67+88:
 - PROVIDE SOUTHBOUND LANE CLOSURES FROM THE CENTERLINE.
 - COMPLETE THE ROAD WIDENING CONSTRUCTION TO THE CENTERLINE.
 - PROVIDE NORTHBOUND LANE CLOSURES AND COMPLETE THE ROAD CONSTRUCTION.
- COMPLETE THE ROAD CONSTRUCTION FROM STATION 67+88 TO STATION 73+88:
 - CLOSE THE EAST SIDE OF THE ROAD AT 22' FROM THE WEST EDGE OF PAVEMENT, AND COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
 - CLOSE THE WEST SIDE OF THE ROAD FROM THE CENTERLINE; REMOVE THE EXISTING CURB AND PAVEMENT AS SHOWN ON THE PLANS AND COMPLETE THE ROAD CONSTRUCTION.
- COMPLETE THE ROAD CONSTRUCTION FROM STATION 67+88 TO STATION 114+88:
 - ALTERNATE NORTHBOUND AND SOUTHBOUND LANE CLOSURES AND COMPLETE THE ROAD CONSTRUCTION TO STATION 81+88.
 - CLOSE THE EAST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 81+88 TO STATION 85+51. COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
 - CLOSE THE EAST SIDE OF THE ROAD AT 5' FROM THE CENTERLINE FROM STATION 85+58 TO STATION 87+88. REMOVE THE EXISTING CURB, CONSTRUCT CURB AND GUTTER AND PREPARE THE SUBGRADE FOR WIDENING. CLOSE THE ROAD FROM THE CENTERLINE AND COMPLETE THE CONSTRUCTION TO THE CENTERLINE.
 - CLOSE THE WEST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 81+88 TO STATION 93+58. COMPLETE THE ROAD CONSTRUCTION TO STATION 87+88. COMPLETE THE CONSTRUCTION TO THE CENTERLINE.
 - CLOSE THE EAST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 87+88 TO STATION 105+58. COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.

SEQUENCE OF CONSTRUCTION

NOTE: CONSTRUCTION OF THE ENTIRE LENGTH OF ROAD SHALL BE DIVIDED INTO VARIOUS SEGMENTS. EACH SEGMENT SHALL BE DEFINED BY THE DRAINAGE AREA TO A SPECIFIC SEDIMENT TRAP. ALL INLETS, EXISTING AND PROPOSED, SHALL BE PROTECTED FROM SEDIMENT PRIOR TO CONSTRUCTION.

- COMPLETE THE INSTALLATION OF SEDIMENT CONTROL MEASURES FOR THE SEGMENT TO BE CONSTRUCTED PRIOR TO ANY DISTURBANCE.
- GRADE THE ROAD TO SUBGRADE IN THE SEGMENT OF CONSTRUCTION. GRADING SHALL BE DONE IN A MANNER WHICH ENSURES POSITIVE DRAINAGE TO THE SEDIMENT TRAP. EXCESS EXCAVATION FOR THE ROAD SHALL BE REMOVED FROM THE AREA OF CONSTRUCTION.
- CONSTRUCT CURB AND GUTTER AND PAVE THE ROAD ACCORDING TO THE TRAFFIC MAINTENANCE SEQUENCE. RELOCATE AND ADJUST EXISTING UTILITIES AS REQUIRED AND INSTALL STORM DRAIN SYSTEMS AND ALL ROADWAY APPEARANCES. SEDIMENT TRAPS IN EACH SEGMENT SHALL REMAIN FUNCTIONAL UNTIL ALL OTHER AREAS OF THE SEGMENT HAVE BEEN PAVED.
- VEGETATIVELY STABILIZE ALL DISTURBED AREAS IN EACH SEGMENT AFTER THE ROAD CONSTRUCTION FOR THE SPECIFIC SEGMENT HAS BEEN COMPLETED.
- REMOVE SEDIMENT CONTROL MEASURES (UPON INSPECTOR'S APPROVAL) AFTER THE WORK FOR A SPECIFIC SEGMENT IS COMPLETE. STABILIZE THE AFFECTED AREAS IMMEDIATELY.

*NOTE: REFER TO SPECIAL PROVISIONS FOR TRAFFIC DIVERSION PATTERNS FOR ITEMS 2 THRU 6.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ... 8/21/90
DIRECTOR OF PUBLIC WORKS

Drayton M. ... 8/22/90
CHIEF, BUREAU OF HIGHWAYS

CHIEF BUREAU OF ENGINEERING
CHIEF DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE

ENGINEERING TECHNOLOGIES
ASSOCIATES, INC.

ENGINEERS, PLANNERS, SURVEYORS

3458 ELLICOTT CENTER DRIVE, SUITE 101
ELLICOTT CITY, MD 21043
(301) 461-9200

Richard N. Armstrong

DES: JVP
DRN: SGP
CHK: MNA
DATE: 8/90

BY NO REVISION DATE

600' SCALE MAP NO _____ BLOCK NO _____

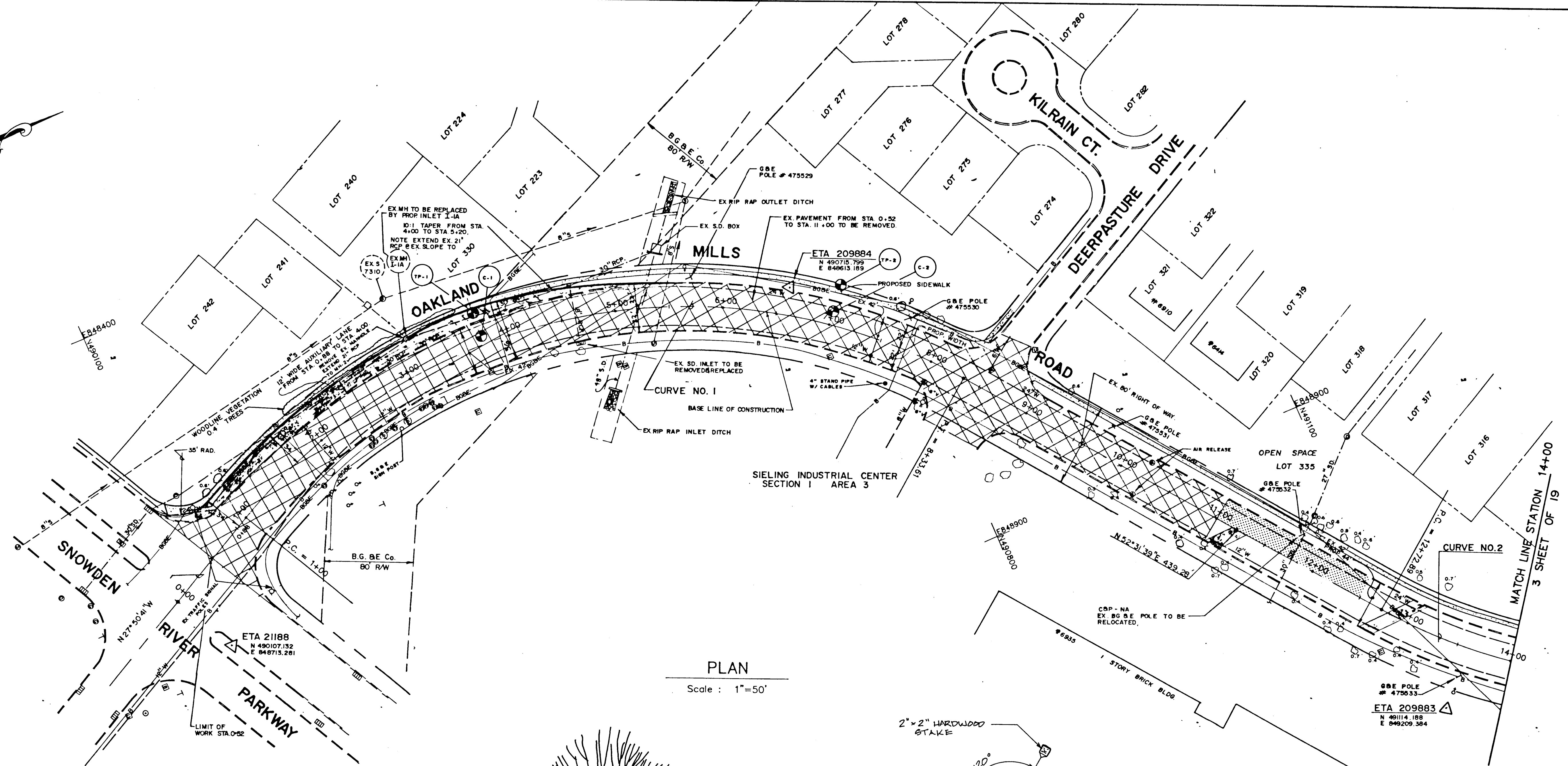
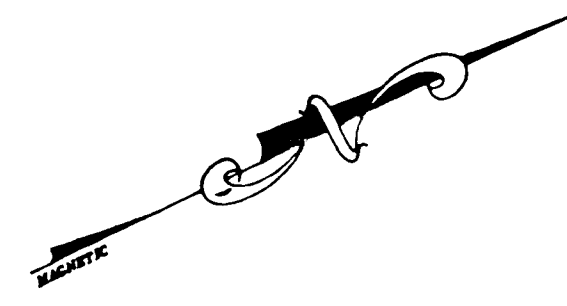
SEDIMENT CONTROL DETAILS & CONSTRUCTION SEQUENCES

OAKLAND MILLS ROAD IMPROVEMENTS

ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4095

SCALE AS SHOWN

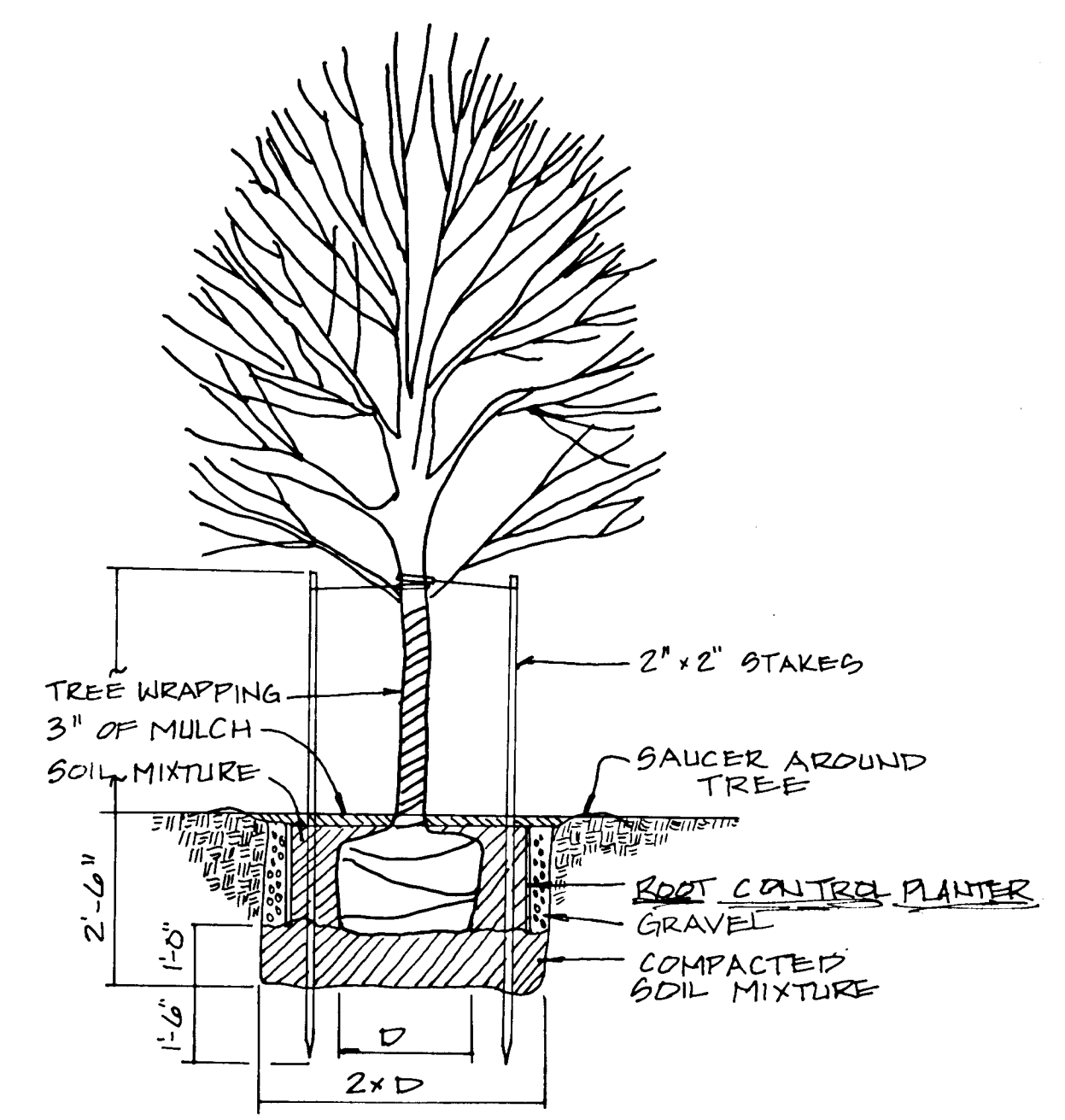
SHEET 19 OF 27



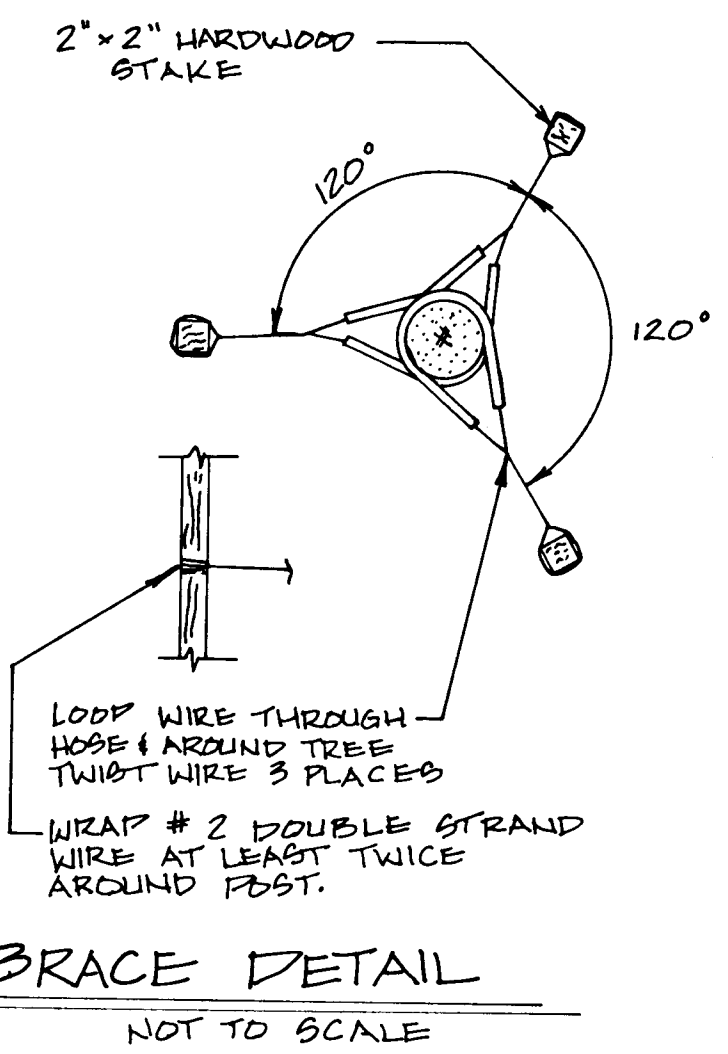
PLAN

Scale : 1"=50'

PLANT LIST				
QTY.	SYMBOL	NAME	SIZE	REMARKS
53		CRATAEGUS FLOWERING HAWTHORNE	2 1/2'-3' CAL.	B.B. FULL HEAD
32		SOPHORA JAPONICA JAPANESE PAGODA TREE	2 1/2'-3' CAL.	B.B. FULL HEAD
67		ACER RUBRUM RED MAPLES	2 1/2'-3' CAL. 15'-16' HGT.	B.B. FULL HEAD
67		GLEDITSIA TRIACANTHOS INERMIS THORNLESS HONEY LOCUST	2 1/2'-3' CAL.	B.B. FULL HEAD
38		TRANSPLANTED		



TYPICAL TREE PLANTING DETAIL
NOT TO SCALE



BRACE DETAIL
NOT TO SCALE

LANDSCAPING NOTES

SHEET NO'S 20 THROUGH 27 ARE INTENDED TO CONVEY INFORMATION PERTINENT TO PLACEMENT OF STREET TREES AND LANDSCAPING DETAILS ONLY. SEE OTHER ROAD CONSTRUCTION PLANS FOR ALL OTHER INFORMATION RELATED TO CONSTRUCTION OF OAKLAND MILLS ROAD

1. CONTRACTOR SHALL FIELD VERIFY EXISTING UNDERGROUND UTILITIES BEFORE DIGGING.
2. TREES SHALL BE PLANTED 7' BEHIND THE FACE OF CURB, HOWEVER ACTUAL LOCATIONS OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS.
3. POLYETHYLENE ROOT CONTROL PLANTERS ARE REQUIRED FOR EACH TREE TO MINIMIZE ROOT SPREADING. ALL PLANTERS SHALL BE MANUFACTURED BY DEEP ROOT CORPORATION OF WESTMINISTER, CALIFORNIA (48" UNIVERSAL BARRIER, STOCK UB-48-2) OR APPROVED EQUAL AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR GENERAL PLANTING REQUIREMENTS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Miller 8/22/90
DIRECTOR OF PUBLIC WORKS DATE

David W. Heavens 8/22/90
CHIEF, BUREAU OF ENGINEERING DATE

David W. Heavens 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS

2448 ELLICOTT CENTER DRIVE, SUITE 101
ELLICOTT CITY, MARYLAND 21113
(301) 461-9920



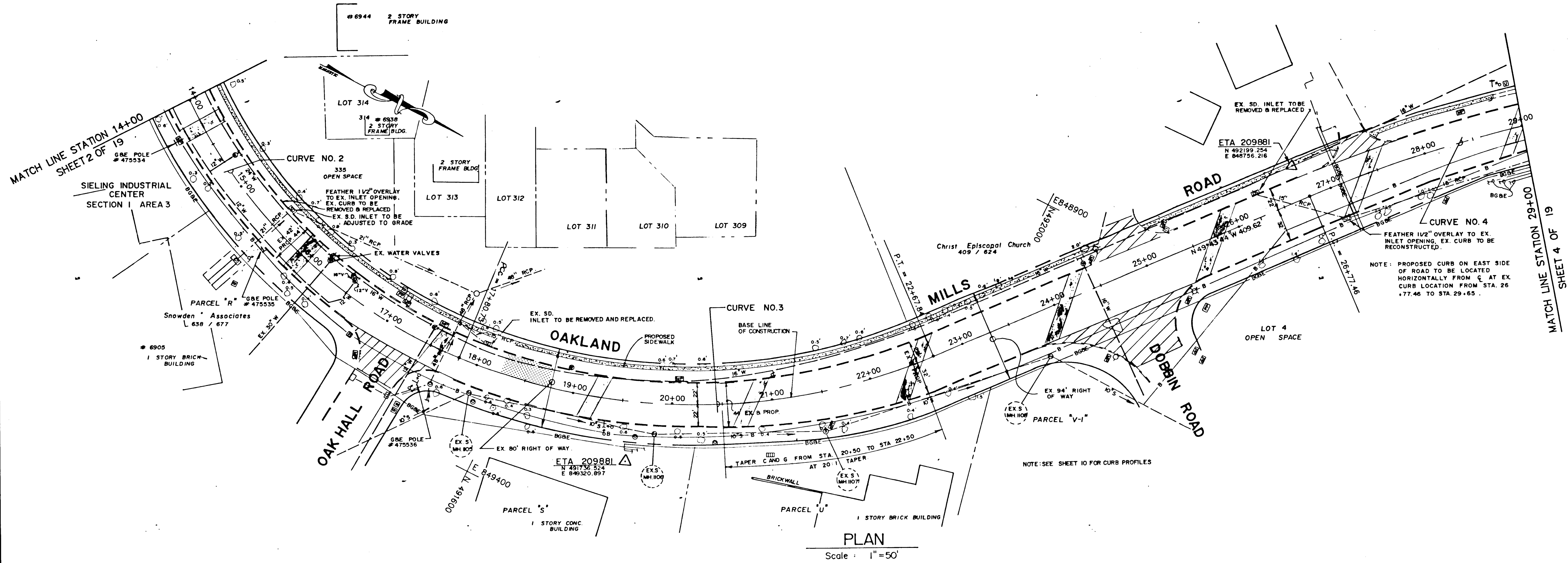
DES: GMI				
DRN: GMI				
CHK: JN				
DATE: 8/90				
BY	NO.	REVISION	DATE	600' SCALE MAP NO.
				BLOCK NO.

LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4095

SCALE AS SHOWN

SHEET 20 OF 27

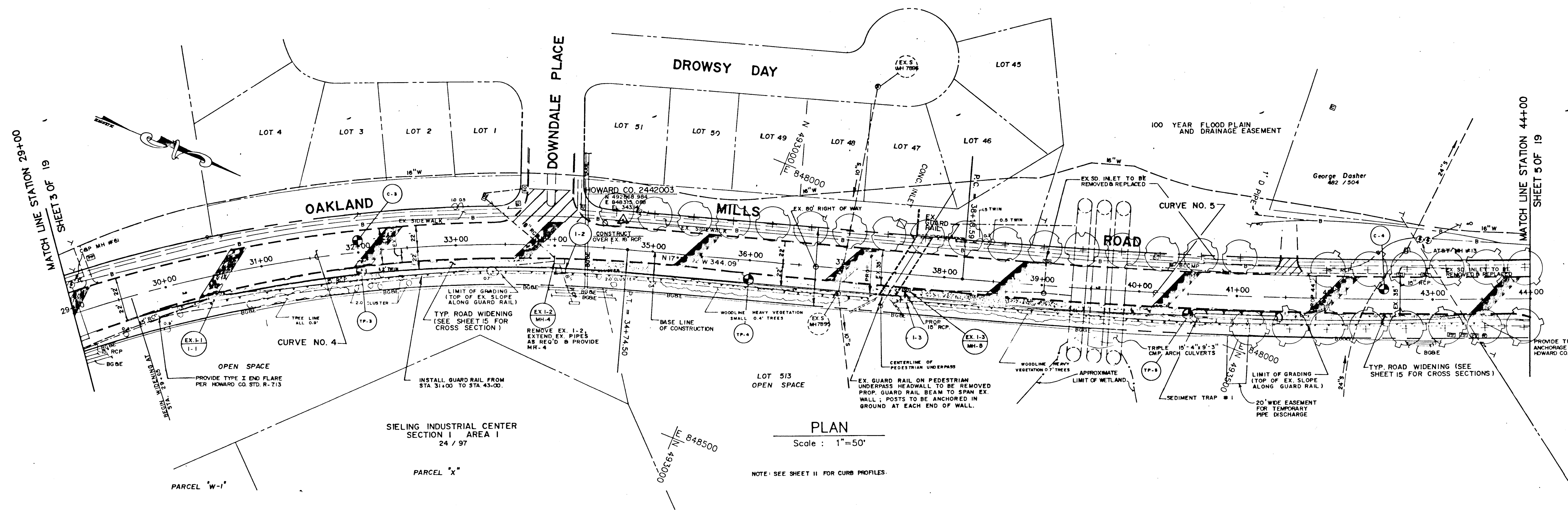


NOTE: PROPOSED CURB ON EAST SIDE OF ROAD TO BE LOCATED HORIZONTALLY FROM C AT EX CURB LOCATION FROM STA. 26 +77.46 TO STA. 29+65.

NOTE: SEE SHEET 10 FOR CURB PROFILES

NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James P. ...</i> Chief, Bureau of Engineering: <i>...</i> Chief, Bureau of Highways: <i>... 8/22/90</i> Chief, Division of Roads, Bridges and Storm Drainage: <i>...</i>		ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 2440 BELLCOTT CENTER DRIVE, SUITE 101 BELLCOTT CITY, MARYLAND 21041 (301) 481-9920		DES: GMI DRN: GMI CHK: JJJ DATE: 8/90		LANDSCAPING PLAN OAKLAND MILLS ROAD IMPROVEMENTS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4095		SCALE AS SHOWN SHEET 21 OF 27
BRUNING 44-13269150				600' SCALE MAP NO. _____ BLOCK NO. _____				



PLAN
Scale : 1"=50'

NOTE: SEE SHEET 11 FOR CURB PROFILES.

NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Woodard 8/22/90
DIRECTOR OF PUBLIC WORKS DATE

William W. Woodard 8/22/90
CHIEF, BUREAU OF HIGHWAYS DATE

CHIEF, BUREAU OF ENGINEERING DATE

CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS

3488 ELLICOTT CENTER DRIVE SUITE 101
ELLCOTT CITY, MARYLAND 21043
(301) 461-8820

DES: GMI			
DRN: GMI			
CHK: JN			
DATE: 8/90			
BY	NO.	REVISION	DATE

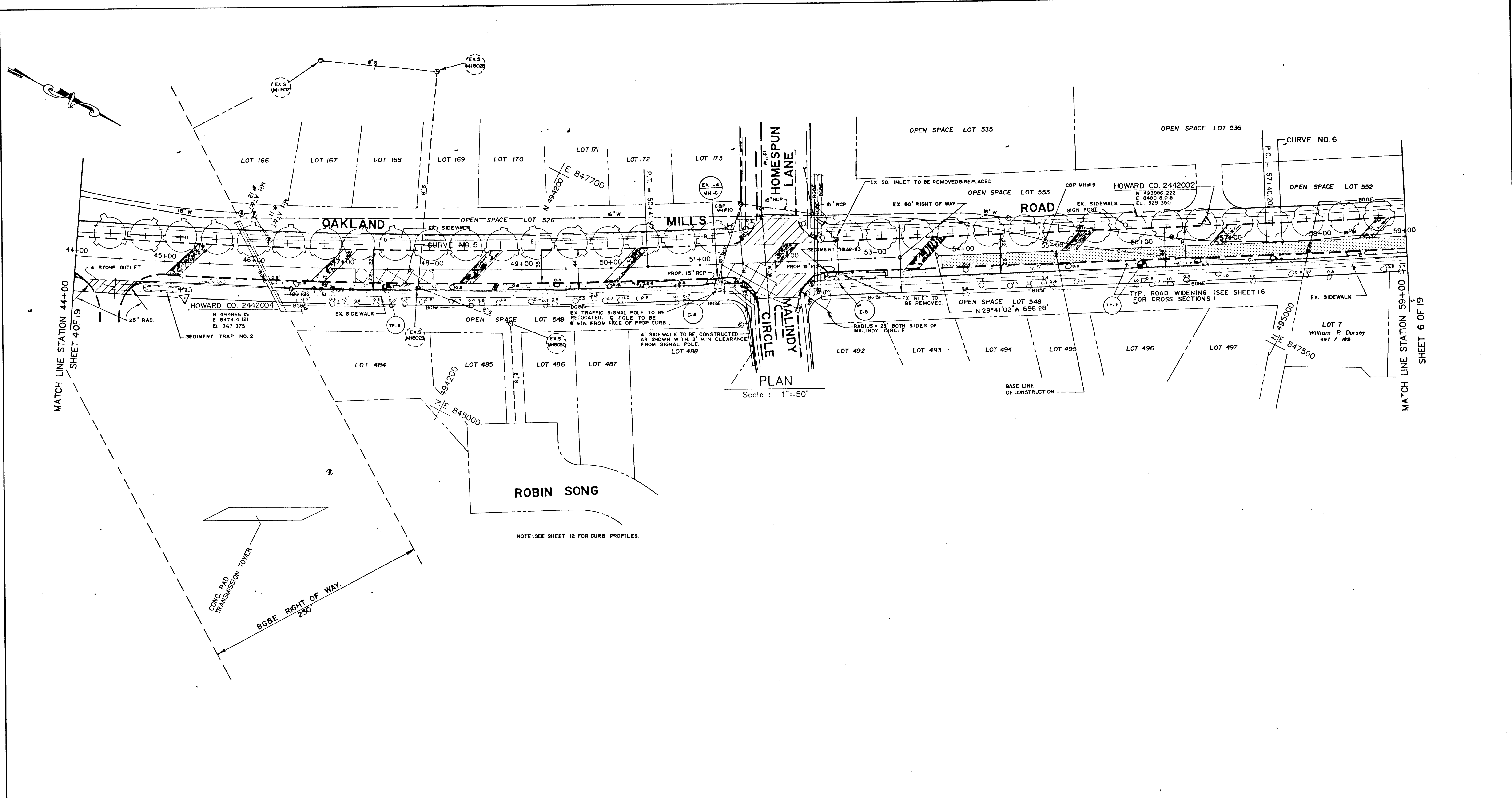
600' SCALE MAP NO. _____ BLOCK NO. _____

LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4095

SCALE AS SHOWN

SHEET 22 OF 27



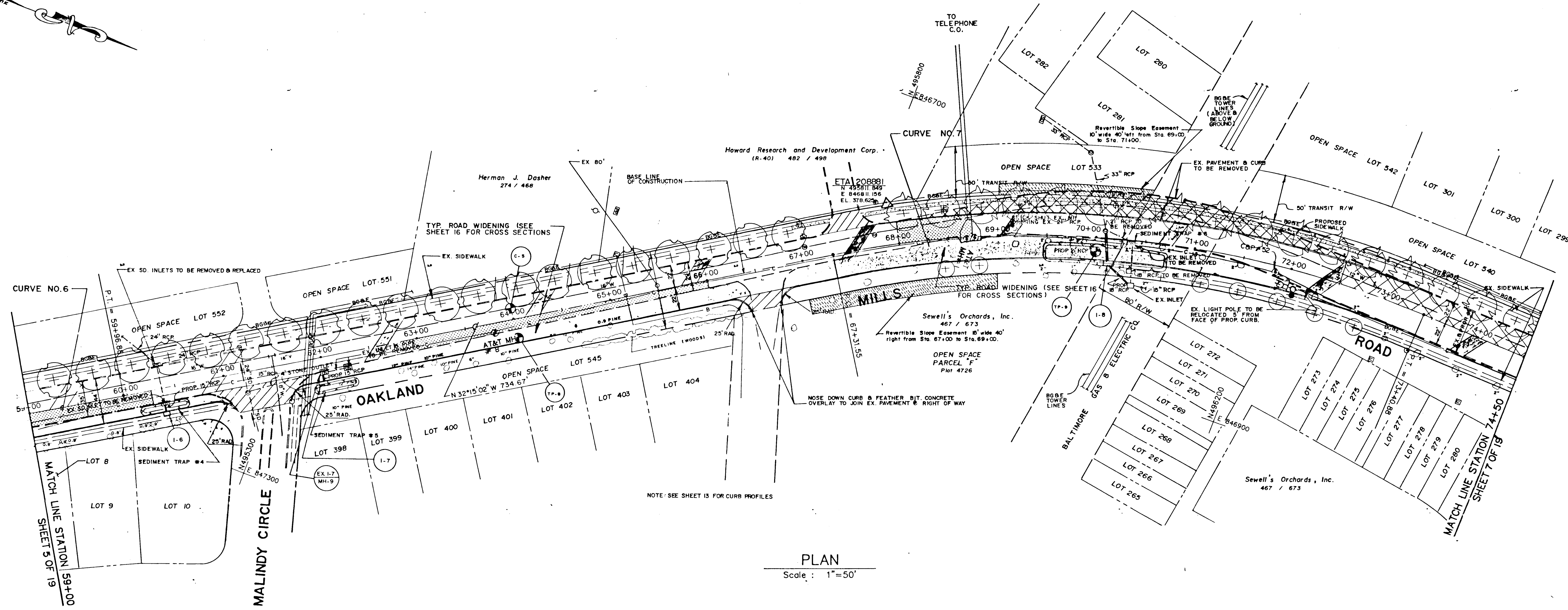
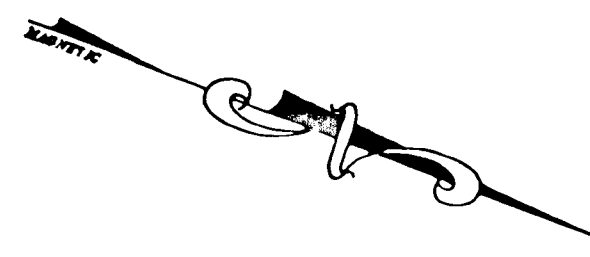
PLAN
Scale: 1"=50'

NOTE: SEE SHEET 12 FOR CURB PROFILES.

NOTE: SEE SHEET 20 FOR LANDSCAPING
GENERAL NOTES AND LANDSCAPING
DETAILS.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James W. Lee</i> DATE: <i>8/21/90</i> Chief, Bureau of Engineering: <i>Franklin W. Williams</i> DATE: <i>8/21/90</i>		ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 3418 ELLCOTT CENTER DRIVE, SUITE 101 ELLCOTT CITY, MARYLAND 21117 (301) 461-8820		DES: GMI DRN: GMI CHK: JN DATE: 8/90		LANDSCAPING PLAN OAKLAND MILLS ROAD IMPROVEMENTS 6 TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4095		SCALE AS SHOWN SHEET 23 OF 27
CHIEF, BUREAU OF HIGHWAYS: <i>Franklin W. Williams</i> DATE: <i>8/21/90</i> CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE: _____ DATE: _____		BY: _____ NO. _____ REVISION: _____ DATE: _____		600' SCALE MAP NO. _____ BLOCK NO. _____				

BRUNING 44-132-69150



PLAN
Scale: 1"=50'

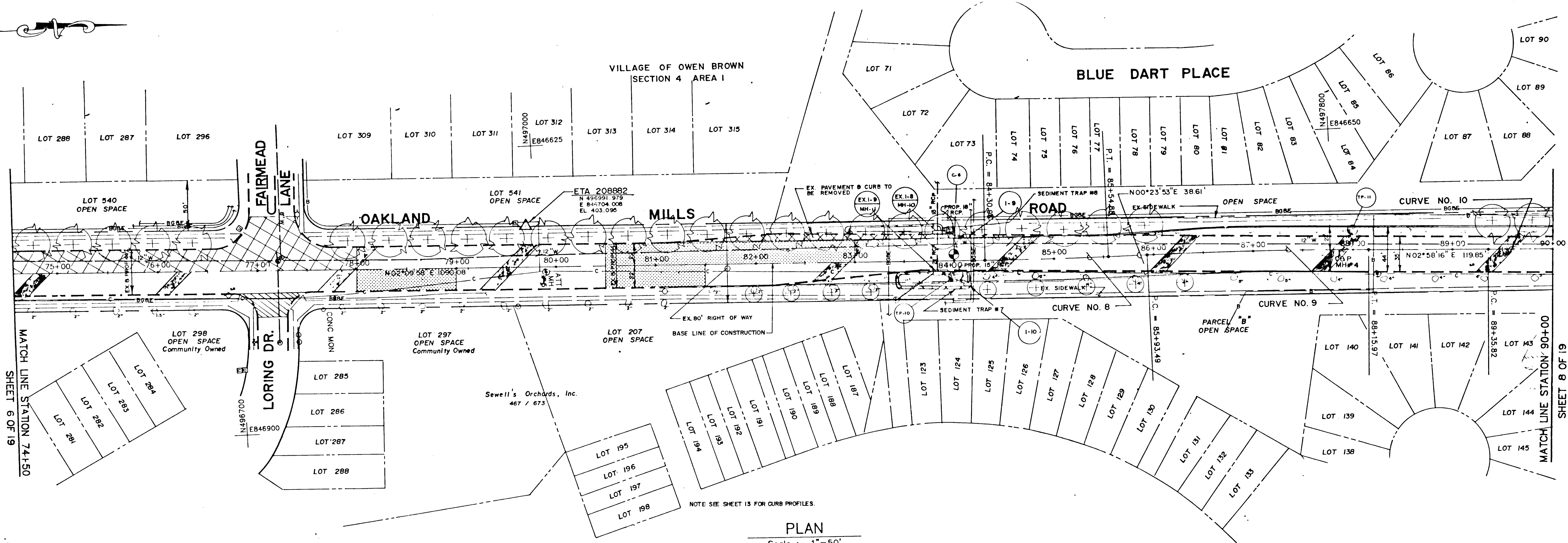
NOTE: SEE SHEET 13 FOR CURB PROFILES

NOTE: SEE SHEET 20 FOR LANDSCAPING
GENERAL NOTES AND LANDSCAPING
DETAILS.

7 on this sheet

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James P. Lewis</i> 8/22/90 Chief, Bureau of Engineering: _____ DATE _____ Chief, Bureau of Highways: <i>Drayton W. McLeod</i> 8/22/90 Chief, Division of Roads, Bridges and Storm Drainage: _____ DATE _____		ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 2455 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 (301) 481-1900		DES: BML DRN: BML CHK: JN DATE: 8/90		LANDSCAPING PLAN OAKLAND MILLS ROAD IMPROVEMENTS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4095		SCALE AS SHOWN SHEET 24 OF 27
		BY NO. REVISION DATE		600' SCALE MAP NO. BLOCK NO.				

BRUNING 44-132 69150



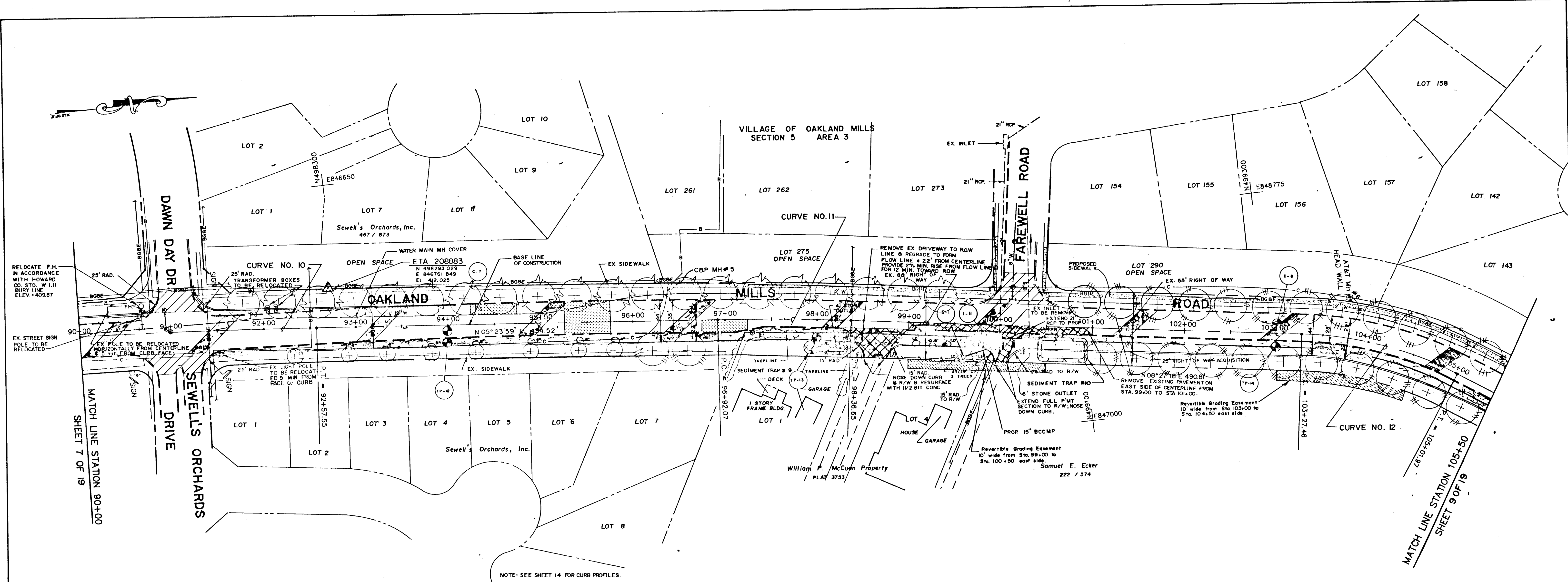
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NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

2 on this sheet

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works <i>James W. [Signature]</i> DATE: 8/22/90 Chief, Bureau of Engineering	ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 2418 ELLCOTT CENTER DRIVE SUITE 101 ELLCOTT CITY, MARYLAND 21043 (301) 481-1920	DES: GMI						LANDSCAPING PLAN OAKLAND MILLS ROAD IMPROVEMENTS 6 TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4095	SCALE AS SHOWN
		DRN: GMI							
Chief, Bureau of Highways <i>Rawville W. [Signature]</i> DATE: 8/22/90 Chief, Division of Roads, Bridges and Storm Drainage		CHK: JN							
		DATE: 8/90	BY:	NO:	REVISION:	DATE:	600' SCALE MAP NO.:	BLOCK NO.:	

BRUNING 44 132 6150



NOTE: SEE SHEET 14 FOR CURB PROFILES.

NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. [Signature] 8/22/90
DIRECTOR OF PUBLIC WORKS DATE

Samuel E. Ecker 8/22/90
CHIEF, BUREAU OF ENGINEERING DATE

Samuel E. Ecker 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS

2458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 481-9620

DES: GMI					
DRN: GMI					
CHK: JN					
DATE: 8/90	BY	NO	REVISION	DATE	600' SCALE MAP NO. BLOCK NO.

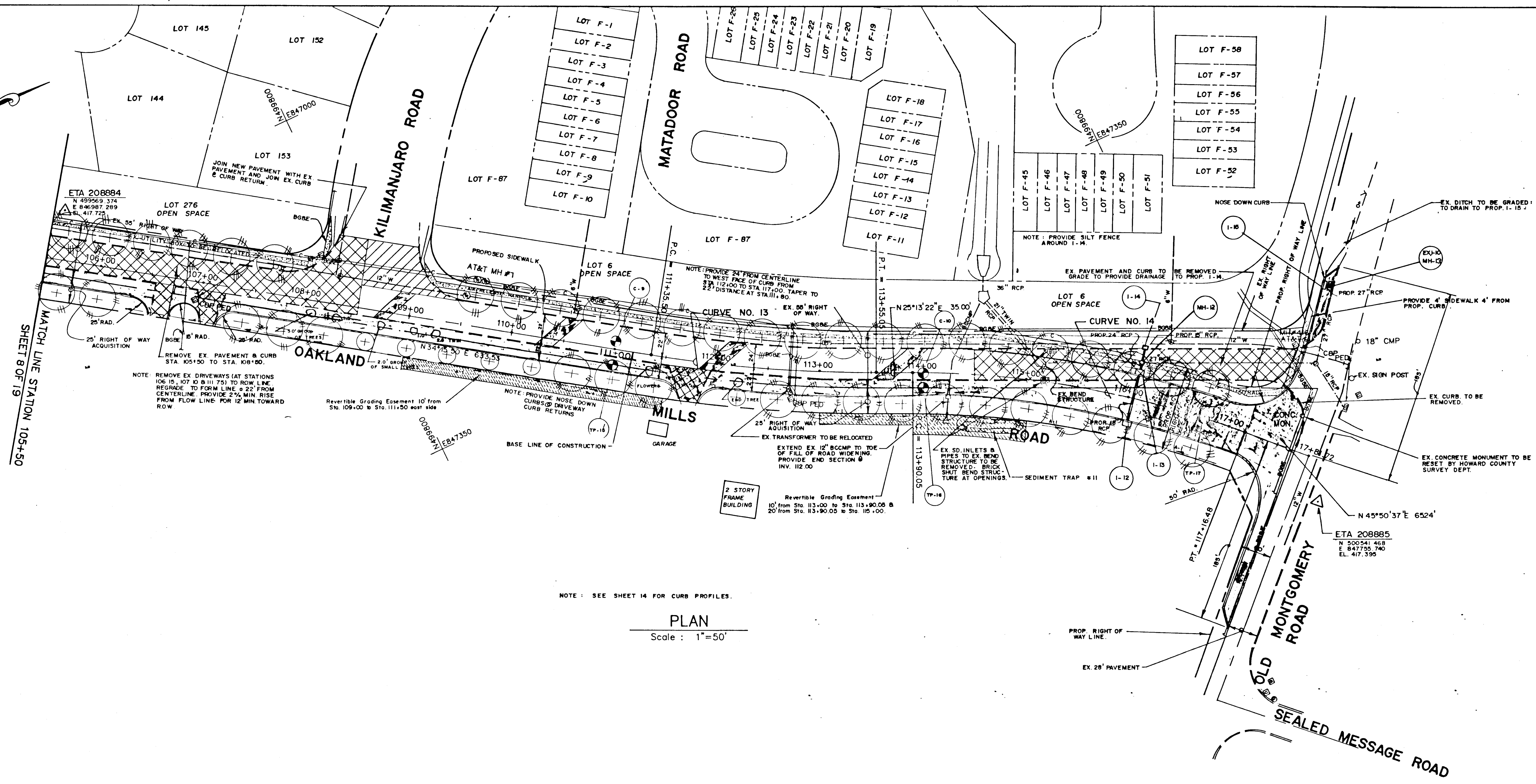
LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J - 4095

SCALE AS SHOWN

SHEET 22 OF 27

BRUNING 44-132 031 50



NOTE: SEE SHEET 14 FOR CURB PROFILES.

PLAN
Scale: 1"=50'

NOTE: SEE SHEET 26 FOR LANDSCAPING
GENERAL NOTES AND LANDSCAPING
DETAILS.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Samuel J. ...</i> 8/22/96 Chief, Bureau of Engineering Chief, Bureau of Highways: <i>Dawson W. ...</i> 8/22/96 Chief, Division of Roads, Bridges and Storm Drainage	ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS 3488 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 (301) 481-9900	DES: BML								LANDSCAPING PLAN OAKLAND MILLS ROAD IMPROVEMENTS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4095	SCALE AS SHOWN
		DRN: BML	CHK: JN	DATE: 8/90	BY: NO	REVISION	DATE	600' SCALE MAP NO	BLOCK NO.		SHEET 27 OF 27