

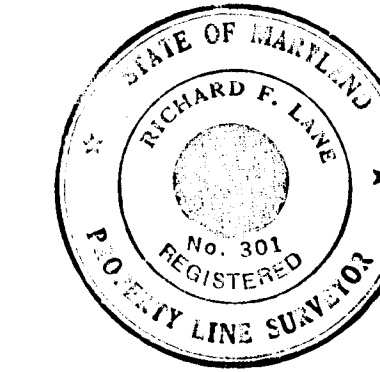
GENERAL NOTES

- 1.) ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS, AND DETAILS FOR CONSTRUCTION.
- 2.) ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HOURS IN ADVANCE OF ANY CONSTRUCTION.
- 3.) ALL INLETS SHALL BE HOWARD COUNTY STANDARDS UNLESS OTHERWISE SHOWN. ALL "A" INLETS SHALL BE DEPRESSED.
- 4.) STORM DRAIN TRENCHES WITHIN ROAD RIGHTS-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
- 5.) ANY DAMAGE, TO PUBLIC RIGHTS OF WAYS OR PAVING WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- 6.) CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPT OF INSPECTION AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE 792-7272
- 7.) ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1978 EDITION.
- 8.) DESIGN SHOWN HEREON IS BASED ON 1" AERIAL TOPOGRAPHY PREPARED BY MAPS INC.
- 9.) WATER AND SEWER SEDIMENT CONTROL SHOWN ON SHEETS 16 AND 17 IS FOR INFORMATIONAL PURPOSES ONLY. SEE WATER AND SEWER CONTRACT #24-1664-D FOR WATER AND SEWER SEDIMENT CONTROL.

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 107
ELLICOTT CITY, MARYLAND 21043

ROAD AS-BUILT

Richard F. Lane 3-20-91
RICHARD F. LANE, VP DATE
PROPERTY LINE SURVEYOR #301



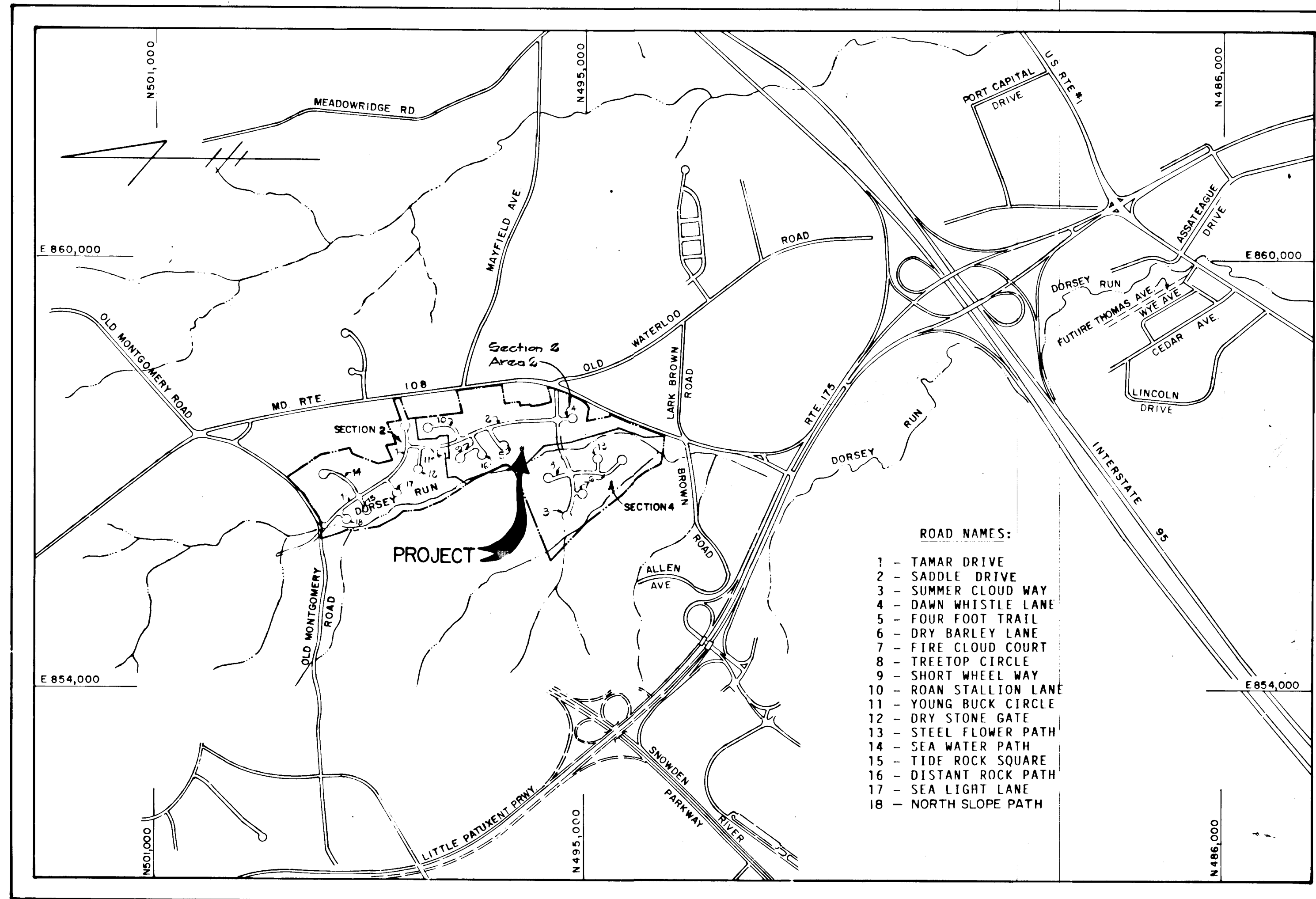
APPROVED	DEPARTMENT OF PUBLIC WORKS	
	<i>Granville W. Weiland</i>	2/1/88
	CHEF, BUREAU OF HIGHWAYS	DATE
APPROVED	DEPARTMENT OF PUBLIC WORKS	
	<i>William D. Riley</i>	2-1-88
	CHEF, BUREAU OF ENGINEERING	DATE
APPROVED	OFFICE OF PLANNING AND ZONING	
	<i>James R. Carter</i>	2/1/88
	CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE
APPROVED	DEPARTMENT OF PUBLIC WORKS	
	<i>Matthew L. F.</i>	2-1-88
	CHIEF, LAND DEVELOPMENT DIVISION	DATE

BENCH MARKS

- B.M. #1** ELEV.=306.04
R.R. SPIKE SET IN 15" POPLAR TREE LOCATED 47'± FROM TRAVERSE STA. LEX-8
*SEE SHEET 16 FOR LOCATION
- B.M. #2** ELEV.=299.32
R.R. SPIKE SET IN 20" CHERRY TREE LOCATED 35'± FROM TRAVERSE STA. LEX-5
*SEE SHEET 16 FOR LOCATION

Street Lights

- Type 'A' 175 W Mercury Vapor on 12' pole
- Type 'B' 650 W Mercury Vapor on 30' pole



INDEX OF SHEETS

- 1.) TITLE SHEET
- 2.) SUMMER CLOUD WAY - PLAN AND PROFILE
- 3.) SUMMER CLOUD WAY - PLAN AND PROFILE
- 4.) STEEL FLOWER PATH - PLAN AND PROFILE, DRY BARLEY LANE - PLAN AND PROFILE
- 5.) TREETOP CIRCLE - PLAN AND PROFILE, FIRE CLOUD COURT - PLAN AND PROFILE
- 6.) FOUR FOOT TRAIL - PLAN AND PROFILE, SADDLE DRIVE - PLAN AND PROFILE
- 7.) SADDLE DRIVE - PLAN AND PROFILE
- 8.) SHORT WHEEL WAY - PLAN AND PROFILE, DISTANT ROCK PATH - PLAN AND PROFILE
- 9.) ROAN STALLION LANE - PLAN AND PROFILE, DAWN WHISTLE LANE - PLAN AND PROFILE
- 10.) ROADWAY SECTION, NOTES AND DETAILS
- 11.) DRAINAGE AREA MAP
- 12.) STORM DRAIN PROFILES
- 13.) STORM DRAIN PROFILES
- 14.) STORM DRAIN PROFILES
- 15.) STREET TREE, GRADING, AND SEDIMENT CONTROL PLAN
- 16.) STREET TREE, GRADING, AND SEDIMENT CONTROL PLAN
- 17.) STREET TREE, GRADING, AND SEDIMENT CONTROL PLAN
- 18.) STREET TREE, GRADING, AND SEDIMENT CONTROL PLAN
- 19.) STREET TREE, GRADING, AND SEDIMENT CONTROL NOTES AND DETAILS

AS-BUILT INFORMATION DESIGNATED AS THIS:
395.66

HORIZONTAL & VERTICAL CONTROL

- 1) HOWARD CO. Δ #25A400Z
- 2) HOWARD CO. Δ #25A400B



SCALE: 1" = 1200'

COLUMBIA VILLAGE OF LONGREACH

SECTION 2 AREA 2 AND SECTION 4

SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

OWNER & DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

AS-BUILT

S87-39 P87-60

10/9/90

F 88-76

DATE
BY
SURVEYED
PLOTTED
ALIGNMENT CHECKED
NOTE BOOK
NO.

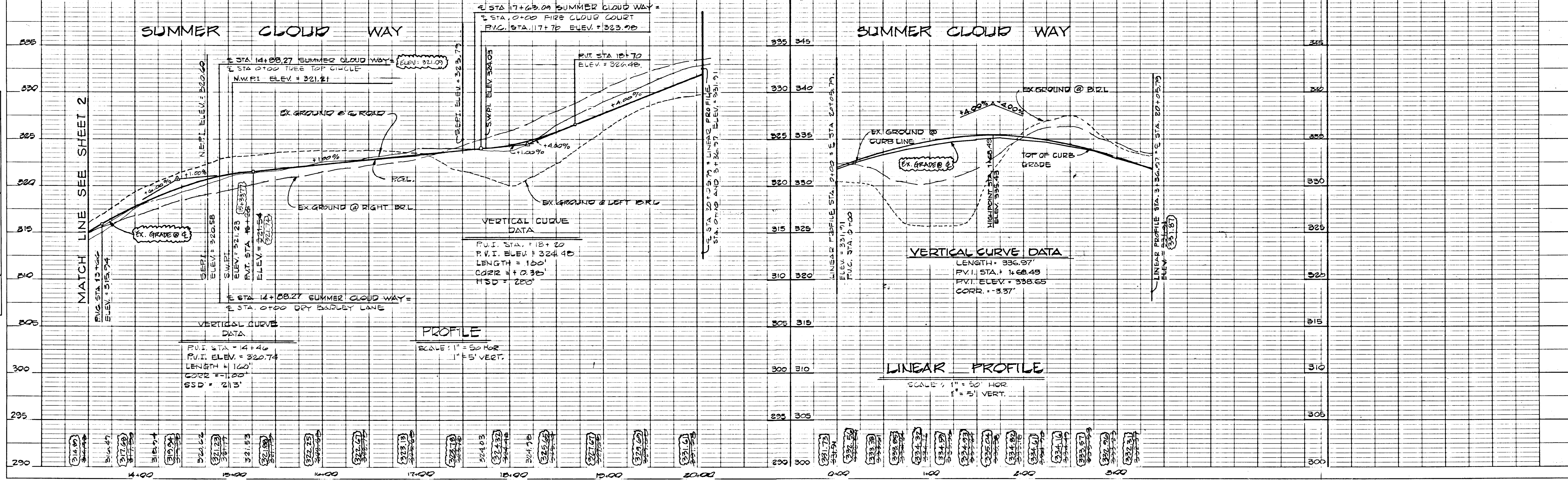
APPROVED DEPARTMENT OF PUBLIC WORKS
William L. [Signature] 2/18/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
Francis W. [Signature] 2/18/88
 CHIEF, BUREAU OF HIGHWAYS DATE

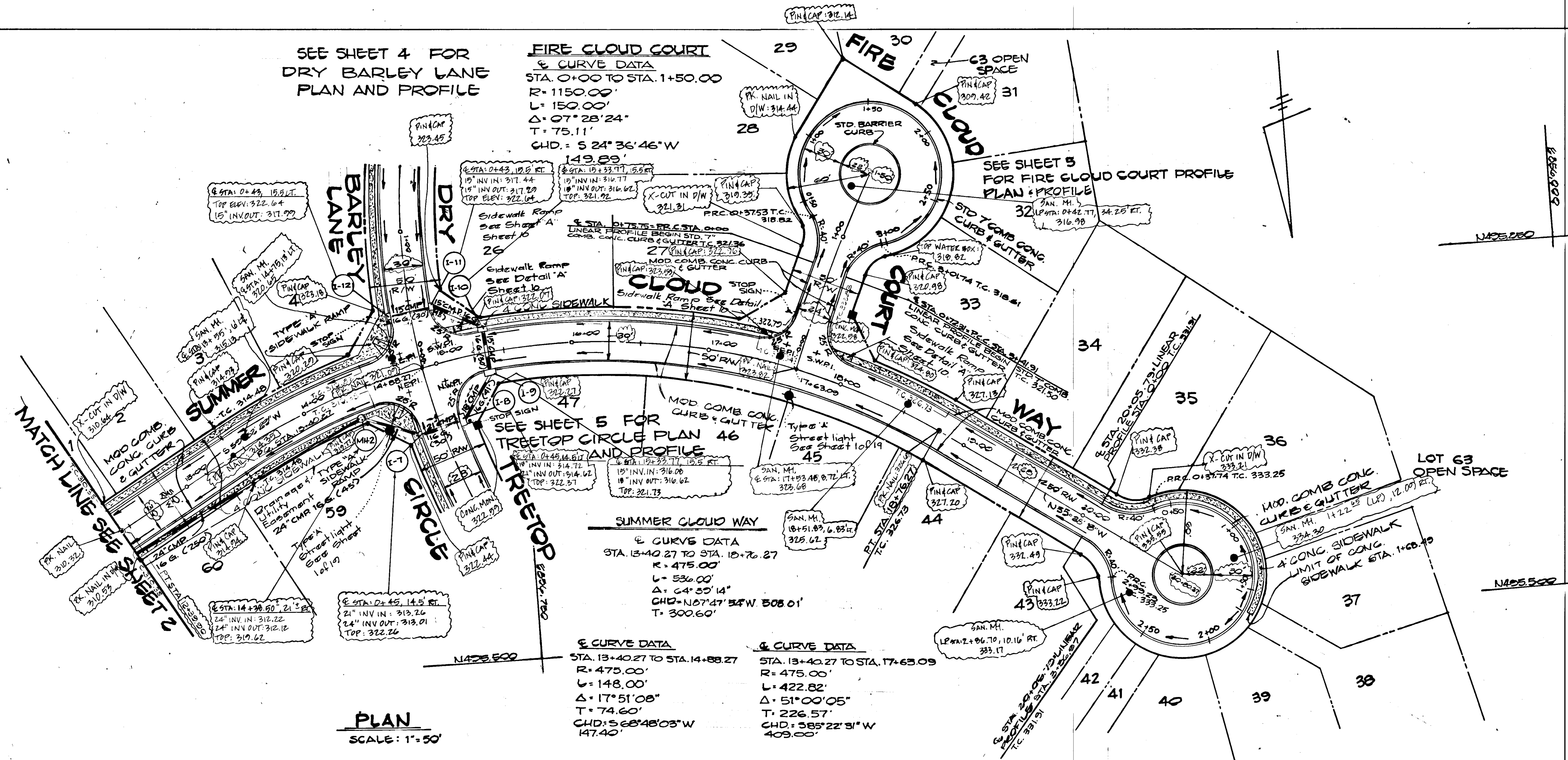
APPROVED DEPARTMENT OF PUBLIC WORKS
William [Signature] 2-1-88
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED OFFICE OF PLANNING AND ZONING
James [Signature] 2/9/88
 COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

DATE
BY
SURVEYED
GRADES CHECKED
NOTE BOOK
NO.



100



SHANABERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 107
 ELLICOTT CITY, MARYLAND 21043

STATE OF MARYLAND
 RICHARD F. LANE
 REGISTERED
 NO. 301
 P. O. CITY LINE SURVEYOR

ROAD AS-BUILT
Richard F. Lane 3-20-91
 RICHARD F. LANE, P.E. DATE
 PROPERTY LINE SURVEYOR # 301

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 1820A

Charles J. Crovo Sr. with DATE
 CHARLES J. CROVO SR.

VILLAGE OF LONGREACH
 SECTION 2 AREA 2 & SECTION 4
 LOTS 118-225 & LOTS 1-63
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SUMMER CLOUD WAY
 PLAN & PROFILE

OWNER AND DEVELOPER
 THE HOWARD RESEARCH AND
 DEVELOPMENT LAND COMPANY
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

SCALE(S) SHOWN DATE SEPT. 24, 1987 DWG. NO. 3 OF 10
 DES. R. ISAACS DRN. D. PARRAN CHK. C. J. CROVO

FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

DATE
BY
SURVEYED
ALIGNMENT CHECKED
GRADES CHECKED
RT. OF WAY CHECKED
NOTE BOOK NO.

DATE
BY
SURVEYED
GRADES CHECKED
STRUCTURE NOTATIONS CHECKED
NOTE BOOK NO.

STEEL FLOWER PATH

± CURVE DATA
STA. 0+00 TO STA. 2+30.73
R = 525.00'
L = 168.72'
Δ = 18°24'50"
T = 85.10'
CHD N 87°51'20"E 168.00'

DRY BARLEY LANE

± CURVE DATA
STA. 0+00 TO STA. 1+48.00
R = 475.00'
L = 148.00'
Δ = 17°51'00"
T = 21.00'
CHD S 01°51'23"E 147.00'

DRY BARLEY LANE

± CURVE DATA
STA. 2+00.00 TO STA. 3+93.07
R = 125.00'
L = 105.07'
Δ = 40°09'31"
T = 55.80'
CHD = S 17°00'55"E 102.00'

DRY BARLEY LANE

± CURVE DATA
STA. 4+93.07 TO STA. 6+00.00
R = 525.00'
L = 175.02'
Δ = 19°11'17"
T = 88.74'
CHD = S 50°41'19"E 175.00'

ROAD AS-BUILT

Richard F. Lane 3-20-91
RICHARD F. LANE, P.E.
PROPERTY LINE SURVEYOR #301

VILLAGE OF LONGREACH
SECTION 2 AREA 2 & SECTION 4
LOTS 118-225 & LOTS 1-63
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

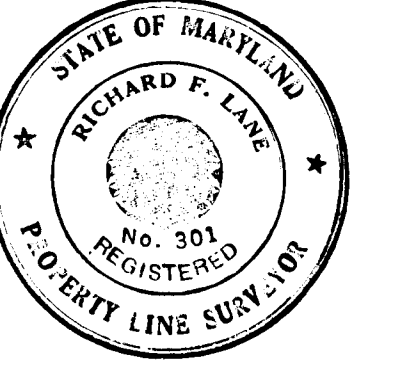
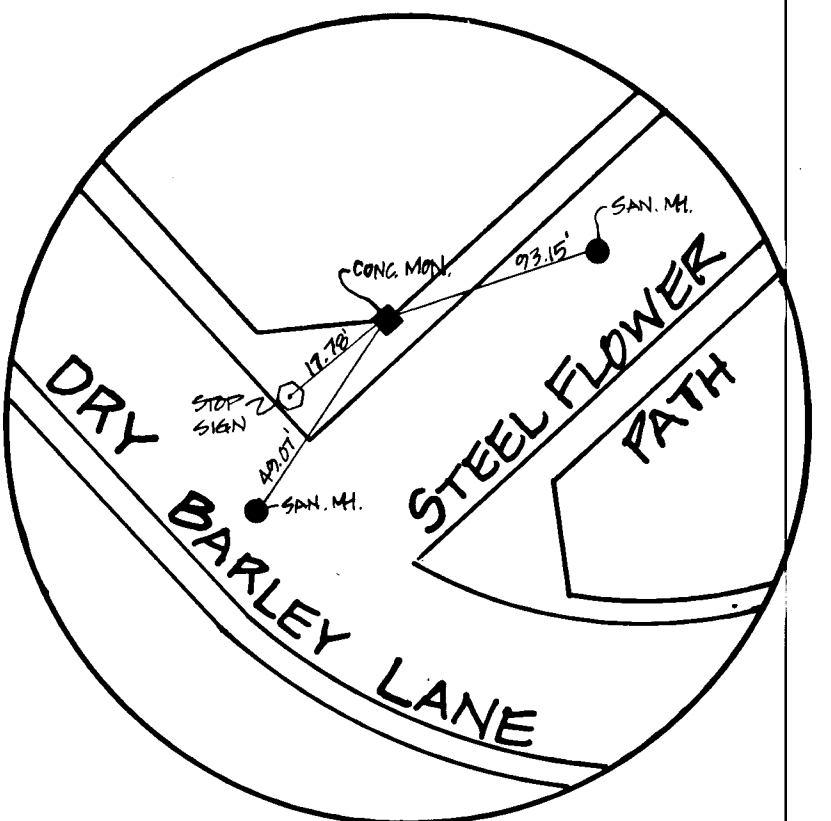
STEEL FLOWER PATH
PLAN & PROFILE

DRY BARLEY LANE
PLAN & PROFILE

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

SCALE AS SHOWN DATE: SEPT. 24, 1987 DWG. NO. 4 OF 19
DES. R. I. SAACS DRN. D. PARRAN CHK. C. J. CROVO

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

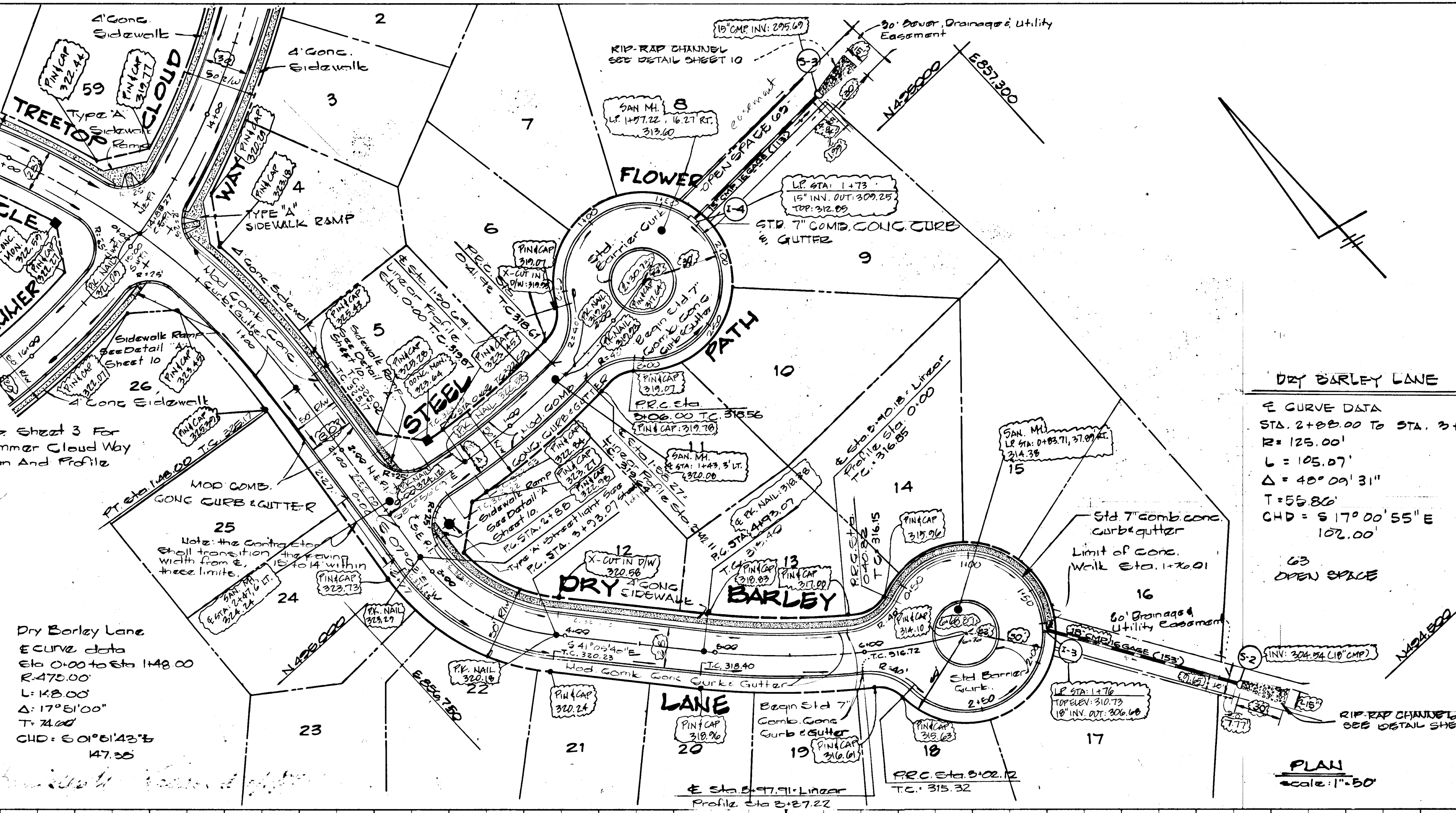


APPROVED DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION DATE 2/1/88

APPROVED DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS DATE 2/1/88

APPROVED DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING DATE 2/1/88

APPROVED OFFICE OF PLANNING AND ZONING
COMMUNITY PLANNING AND LAND DEVELOPMENT DATE 2/1/88

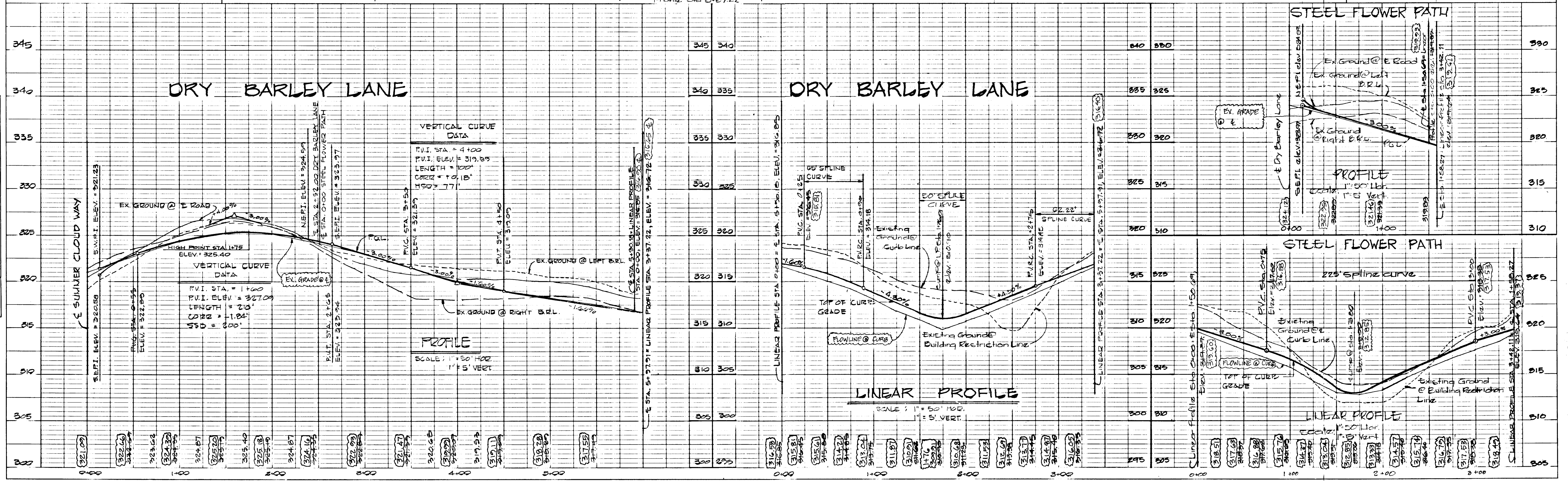


CHARLES J. CROVO SR.
DATE 10/1/87

DRY BARLEY LANE

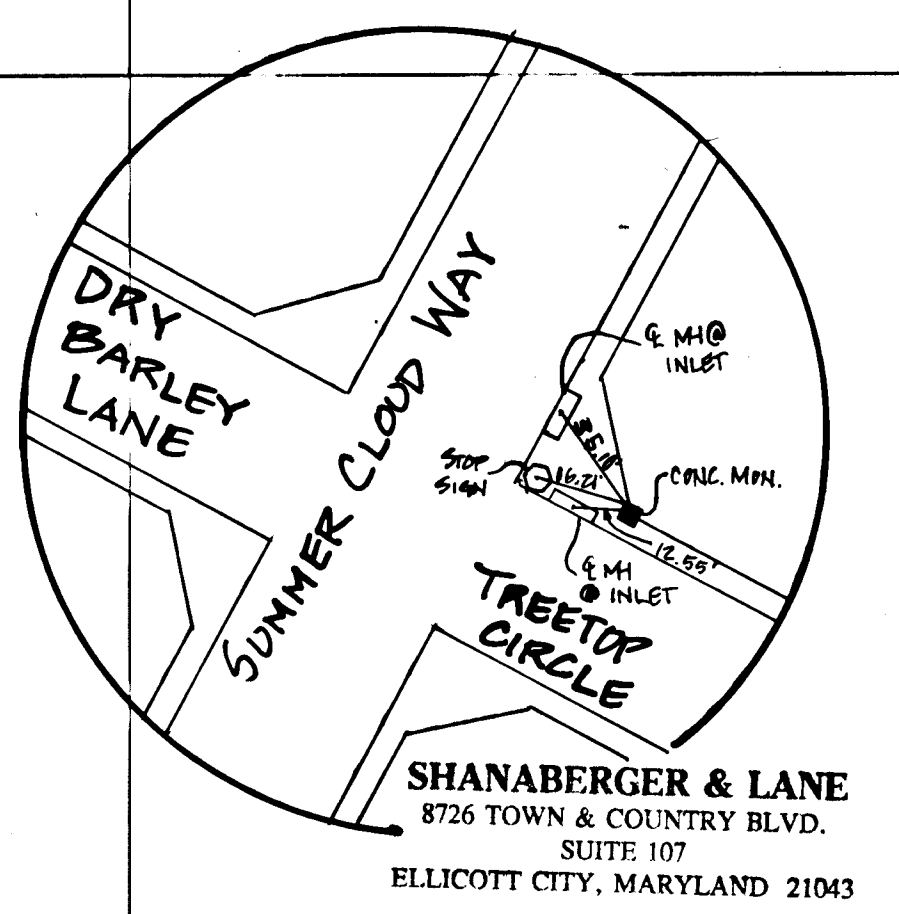
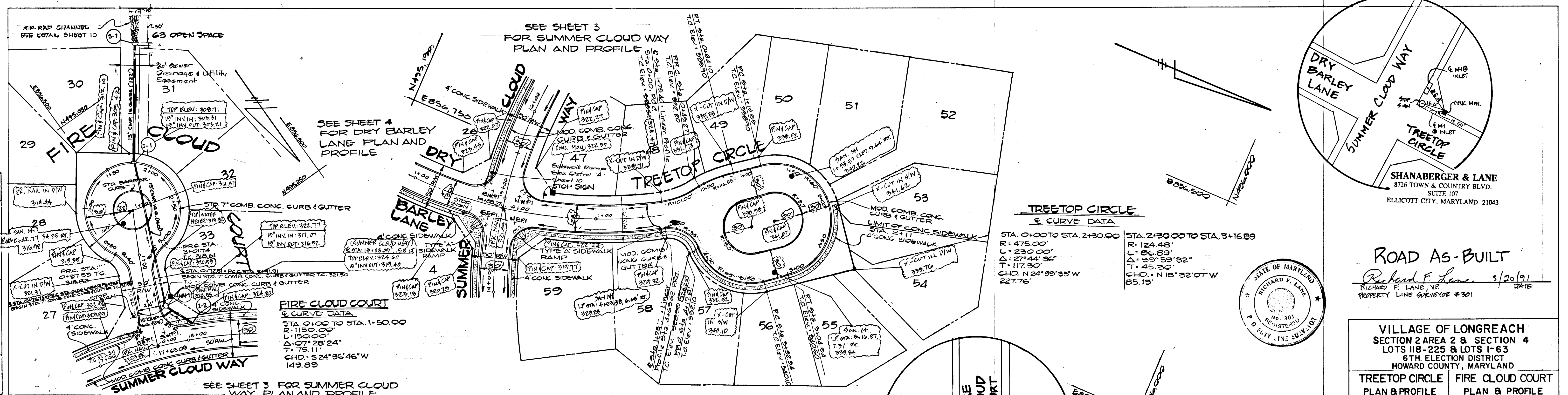
DRY BARLEY LANE

STEEL FLOWER PATH



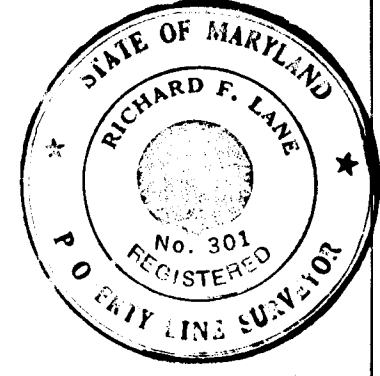
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DATE: _____
 BY: _____
 SURVEYED _____
 PLOTTED _____
 CHECKED _____
 NOTE BOOK NO. _____
 RT. OF WAY CHECKED _____
 NO. _____



ROAD AS-BUILT

Richard F. Lane 3/20/91
 RICHARD F. LANE, VP DATE
 PROPERTY LINE SURVEYOR #301



VILLAGE OF LONGREACH
 SECTION 2 AREA 2 & SECTION 4
 LOTS 118, 225 & LOTS 1-63
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TREETOP CIRCLE FIRE CLOUD COURT
 PLAN & PROFILE PLAN & PROFILE

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
 10275 LITTLE PATUMENT PARKWAY
 COLUMBIA, MARYLAND 21044

SCALE AS SHOWN DATE: SEPT 24, 1987 DWG. NO. 5 OF 19
 DES. R. ISAACS DRN. D. PARRAN CHK. C. J. CROVO

FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

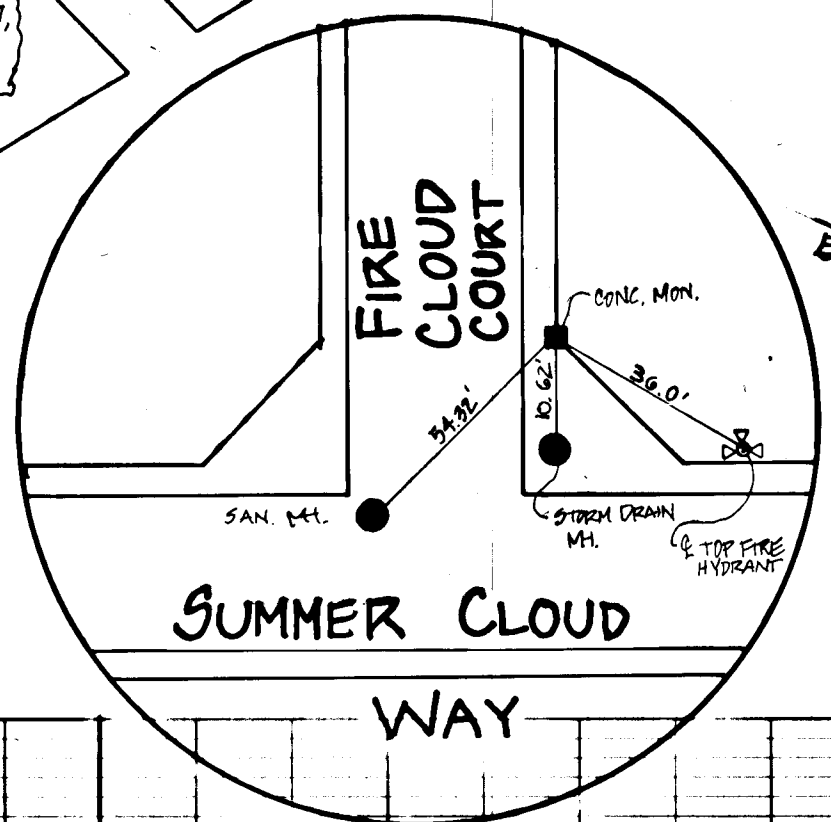
APPROVED DEPARTMENT OF PUBLIC WORKS
 GREEN S. KELLY 2-1-88
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED OFFICE OF PLANNING AND ZONING
 J. JOSEPH RUSTEN 2/7/88
 AND LAND DEVELOPMENT DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
 BRUCE W. WELLS 2/1/88
 CHIEF, BUREAU OF HIGHWAYS DATE

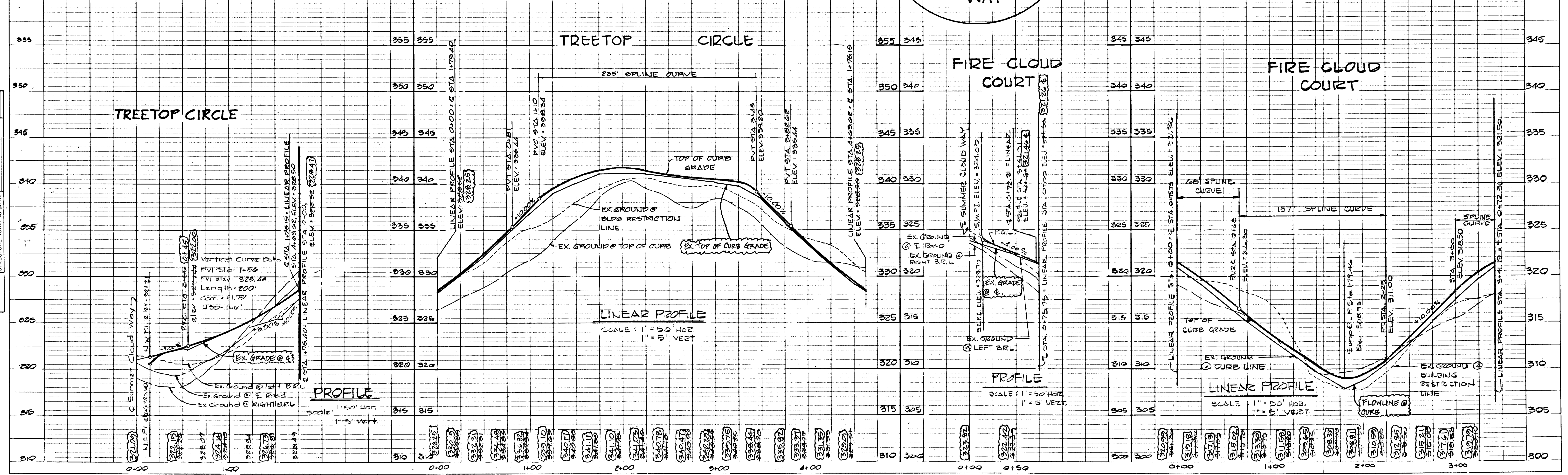
APPROVED DEPARTMENT OF PUBLIC WORKS
 W. H. H. 2/1/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE

PLAN
 SCALE: 1"=50'

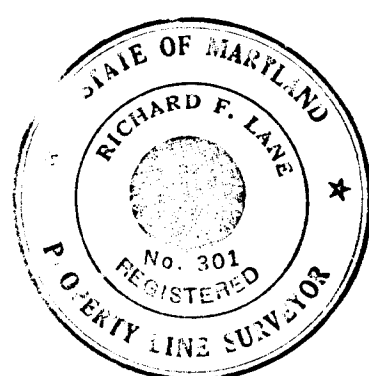


CHARLES J. CROVO SR. 10/1/97
 DATE

DATE: _____
 BY: _____
 SURVEYED _____
 PLOTTED _____
 CHECKED _____
 NOTE BOOK NO. _____
 STRUCTURE NOTATION: CHFC



100



ROAD AS-BUILT
 Richard F. Lane 3-20-91
 RICHARD F. LANE, VP
 PROPERTY LINE SURVEYOR #301

SHANBERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 107
 ELLICOTT CITY, MARYLAND 21043

DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 ALIGNED: _____
 RT. OF WAY CHECKED: _____
 PLAN

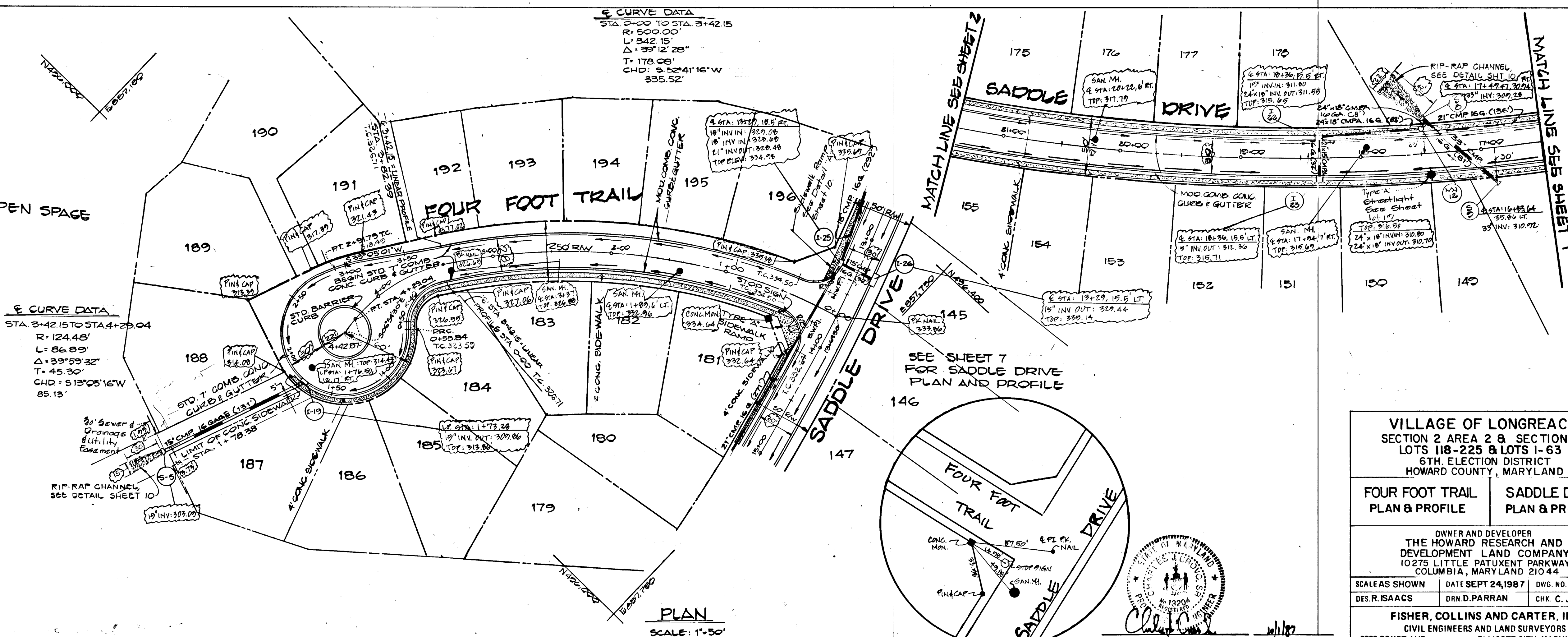
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 [Signature] 2/1/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] 2/1/88
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] 2-1-88
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED OFFICE OF PLANNING AND ZONING
 [Signature] 2/1/88
 COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 B.M. NOTED: _____
 STRUCTURE NOTATIONS CHFD
 PROFILE



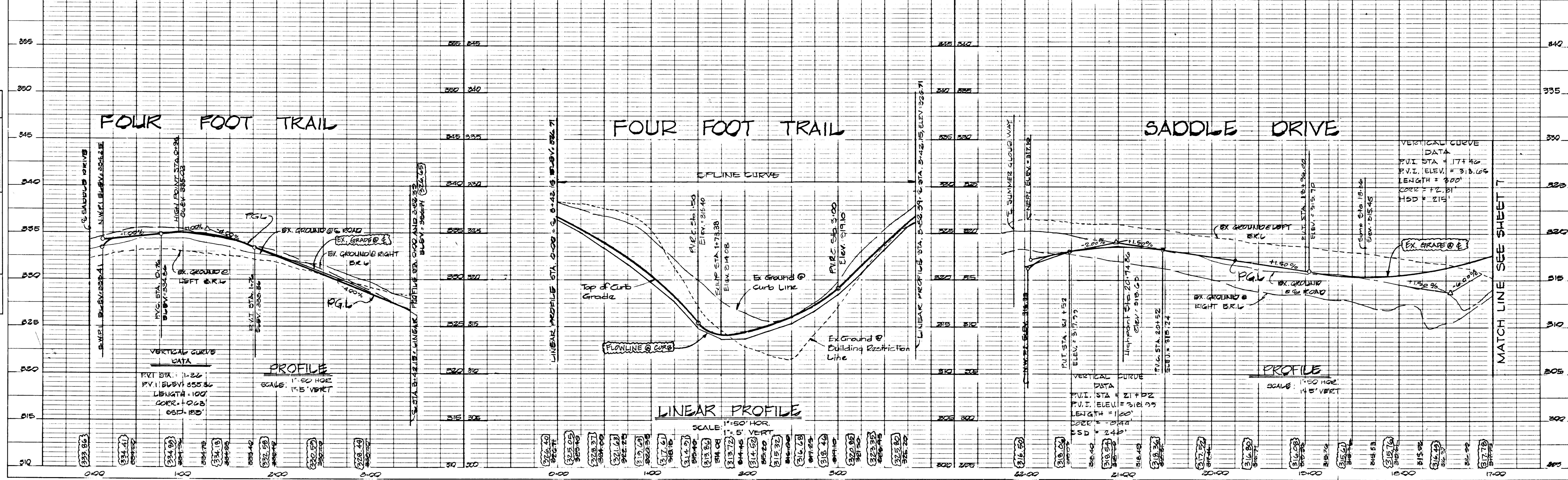
VILLAGE OF LONGREACH
 SECTION 2 AREA 2 & SECTION 4
 LOTS 118-225 & LOTS 1-63
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

FOUR FOOT TRAIL PLAN & PROFILE **SADDLE DRIVE PLAN & PROFILE**

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

SCALE AS SHOWN DATE SEPT 24, 1987 DWG. NO. 6 OF 19
 DES. R. ISAACS DRN. D. PARRAN CHK. C. J. CROVO

FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043



DATE
BY
SURVEYED
ALIGNMENT CHECKED
NOTE BOOK NO.
RT. OF WAY CHECKED

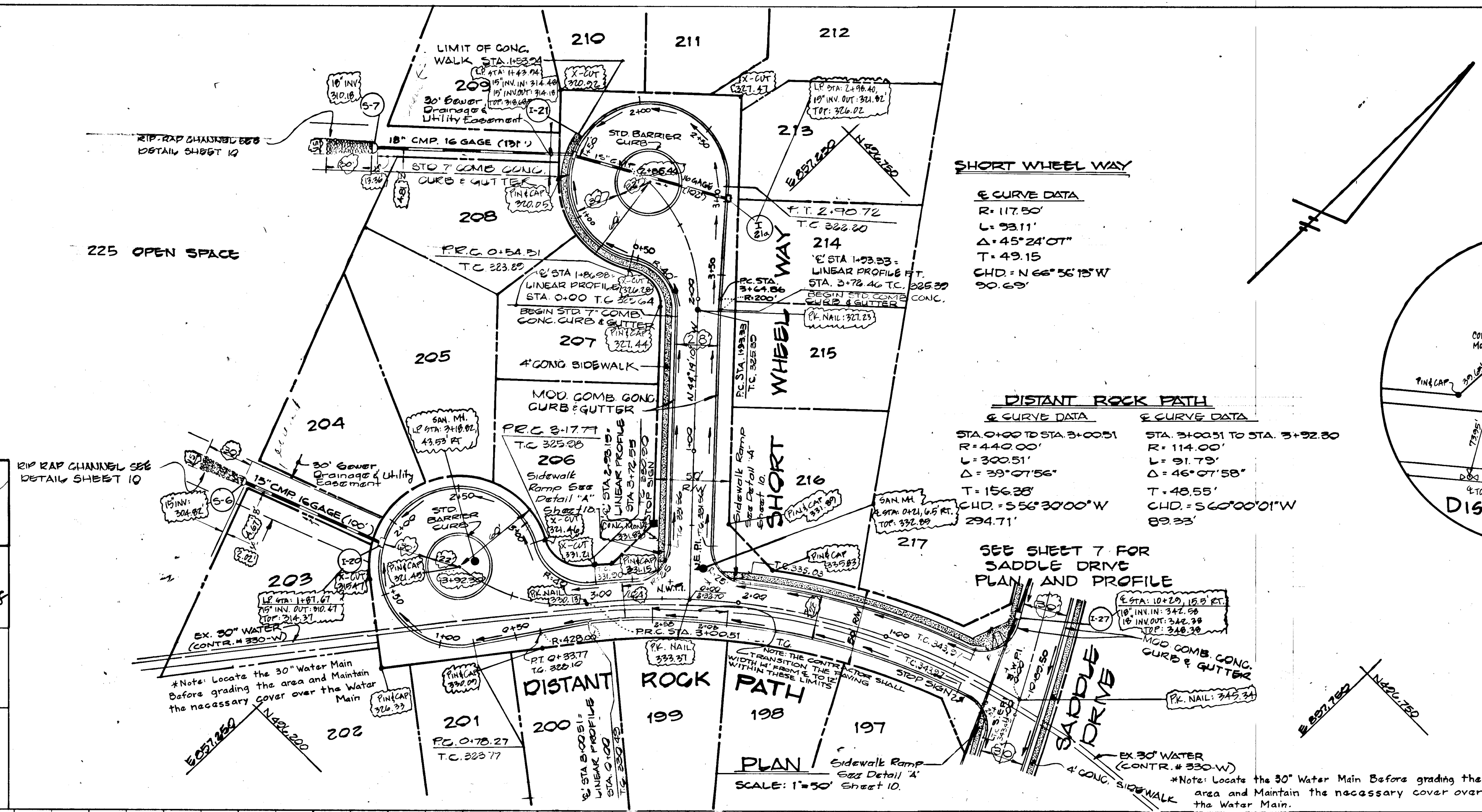
DATE
BY
SURVEYED
GRADES CHECKED
NOTE BOOK NO.
STRUCTURE NOTATIONS CHECKED

APPROVED
DEPARTMENT OF PUBLIC WORKS
Walter K. 2/18
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED
DEPARTMENT OF PUBLIC WORKS
Francis W. Williams 1/18
CHIEF, BUREAU OF HIGHWAYS DATE

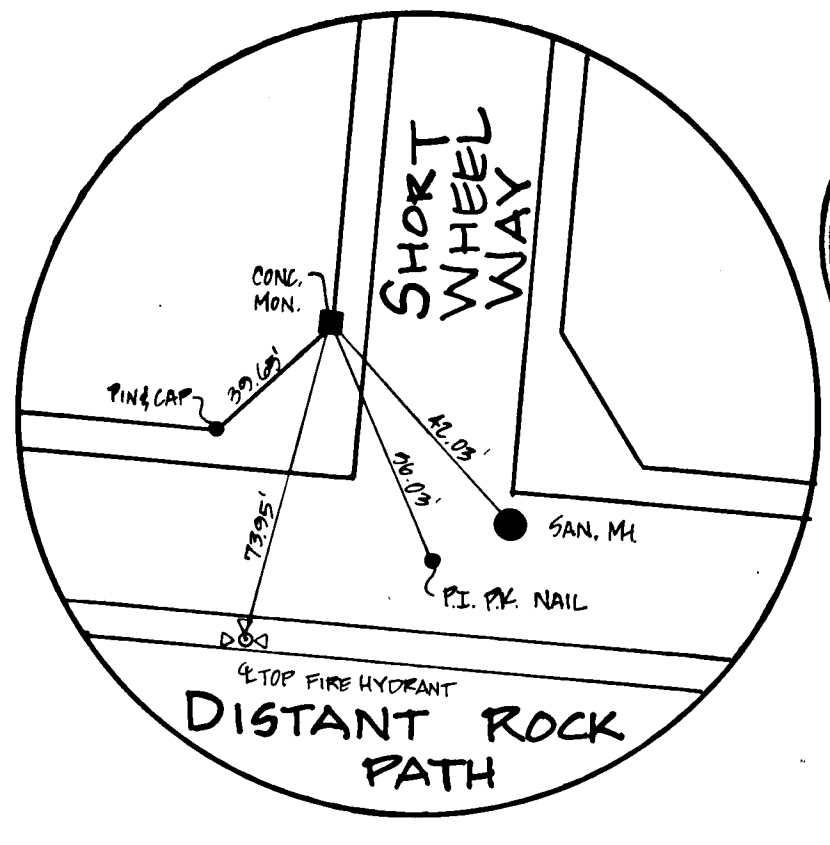
APPROVED
DEPARTMENT OF PUBLIC WORKS
Richard E. 2-1-88
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED
OFFICE OF PLANNING AND ZONING
John R. 2/7/88
COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



SHORT WHEEL WAY
 & CURVE DATA
 R=117.50'
 L=93.11'
 Δ=45°24'07"
 T=49.15'
 CHD=N 66°56'15"W
 90.69'

DISTANT ROCK PATH
 & CURVE DATA
 STA 0+00 TO STA 3+00.51
 R=440.00'
 L=300.51'
 Δ=39°07'56"
 T=156.25'
 CHD=S 55°30'00"W
 294.71'



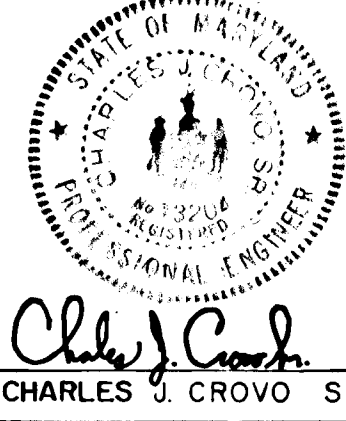
SHANBERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 107
 ELLICOTT CITY, MARYLAND 21043

ROAD AS-BUILT
Richard F. Lane 2-20-91
 RICHARD F. LANE, V.P.
 PROPERTY LINE SURVEYOR # 301 DATE

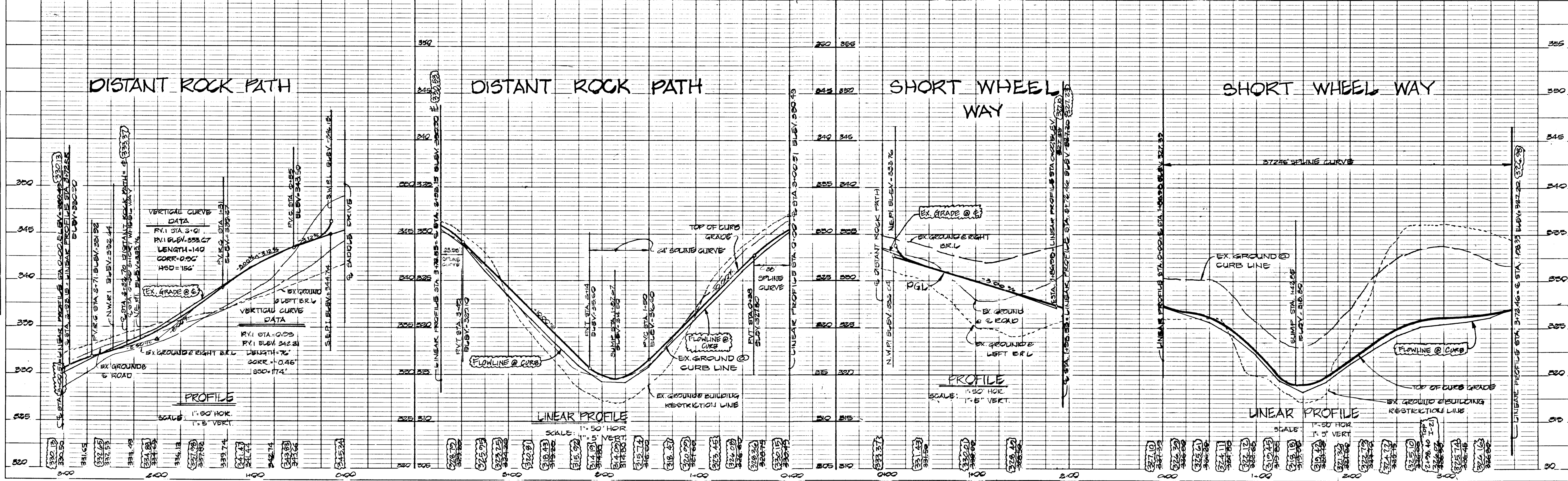
VILLAGE OF LONGREACH
 SECTION 2 AREA 2 & SECTION 4
 LOTS 118-225 & LOTS 1-63
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

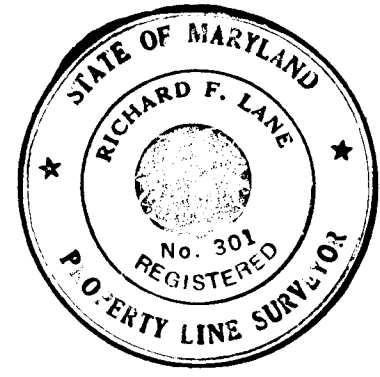
SCALE AS SHOWN	DATE SEPT 24, 1987	DWG. NO. 8 OF 19
DES. ISAACS	DRN. D. PARRAN	CHK. C. J. CROVO

FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043



Charles J. Crovo Sr.
 CHARLES J. CROVO SR. DATE



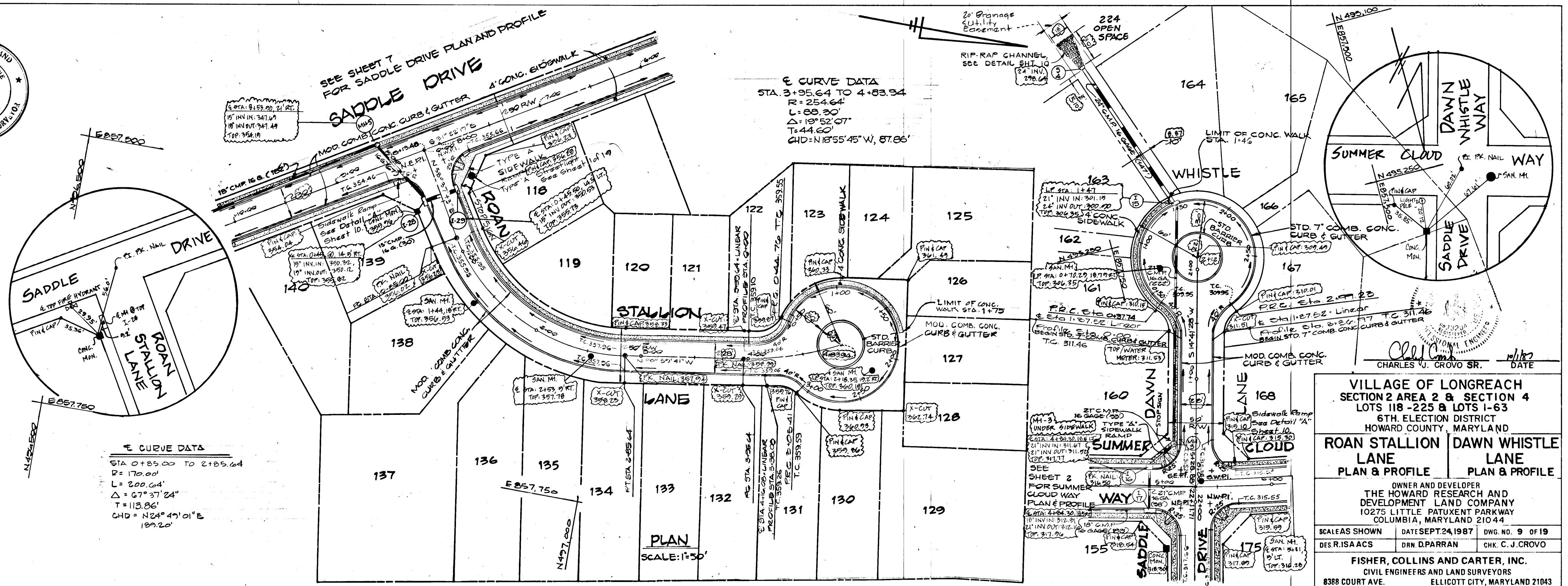


SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 107
ELLCOTT CITY, MARYLAND 21043

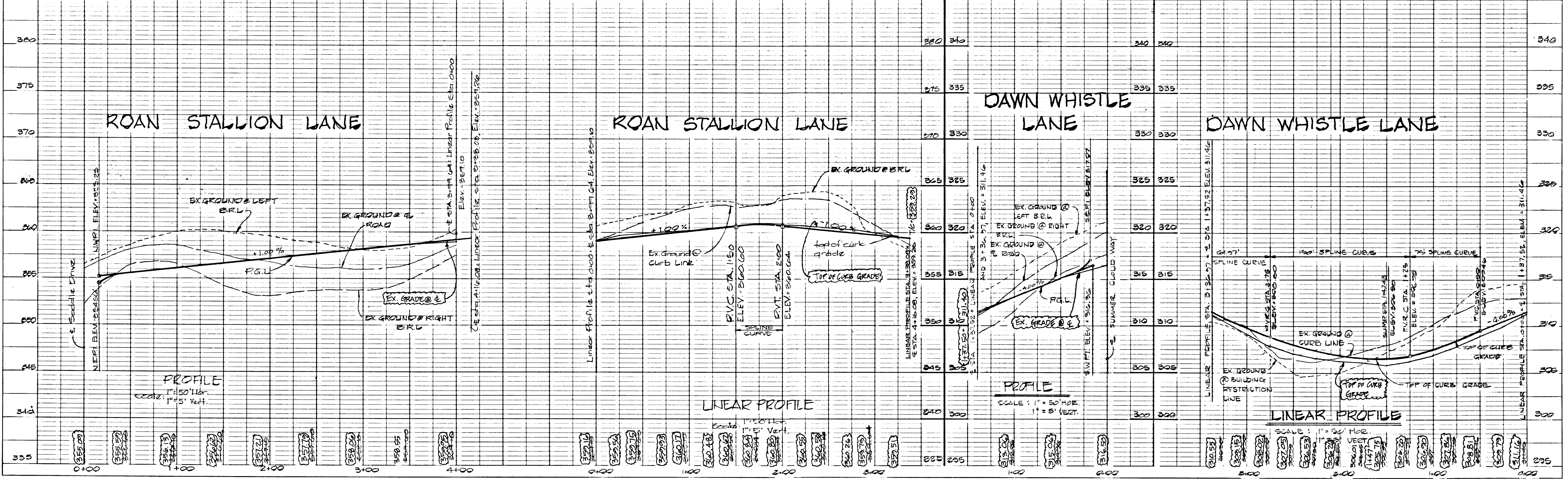
ROAD AS-BUILT

Richard F. Lane 3-20-91
RICHARD F. LANE, V.P.
PROPERTY LINE SURVEYOR #301

APPROVED	DEPARTMENT OF PUBLIC WORKS	DATE
<i>William L. 2/18/87</i>	CHIEF, LAND DEVELOPMENT DIVISION	
APPROVED	DEPARTMENT OF PUBLIC WORKS	DATE
<i>Francis W. 2/1/88</i>	CHIEF, BUREAU OF HIGHWAYS	
APPROVED	DEPARTMENT OF PUBLIC WORKS	DATE
<i>Richard E. 2-1-88</i>	CHIEF, BUREAU OF ENGINEERING	
APPROVED	OFFICE OF PLANNING AND ZONING	DATE
<i>James R. 2/1/88</i>	COMMUNITY PLANNING AND LAND DEVELOPMENT	



DATE
BY
SURVEYED
PLOTTED
ALIGNMENT CHECKED
NOTE BOOK NO.
PT. OF PLAN CHECKED



VILLAGE OF LONGREACH
SECTION 2 AREA 2 & SECTION 4
LOTS 118-225 & LOTS 1-63
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

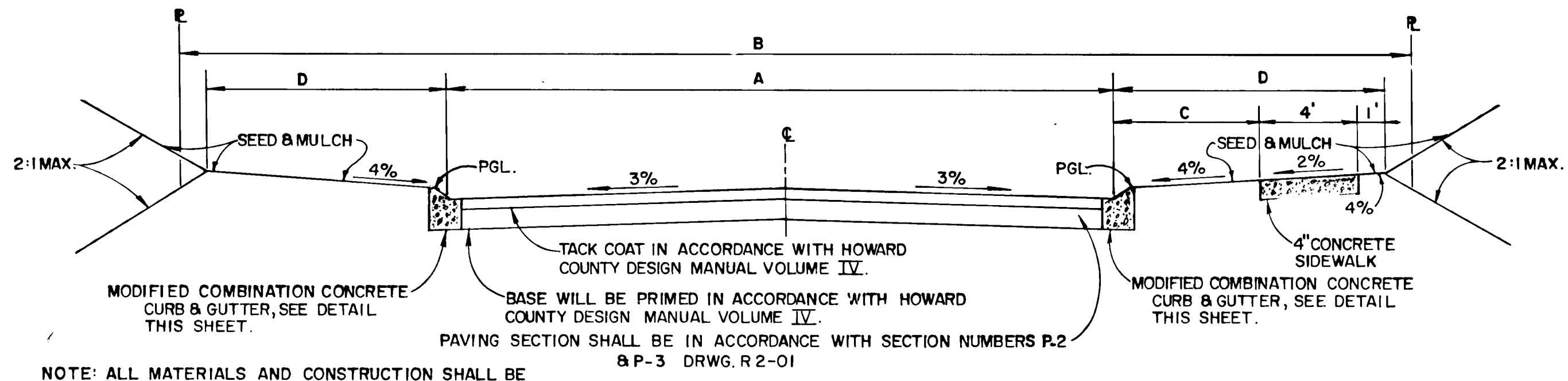
ROAN STALLION LANE PLAN & PROFILE

DAWN WHISTLE LANE PLAN & PROFILE

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

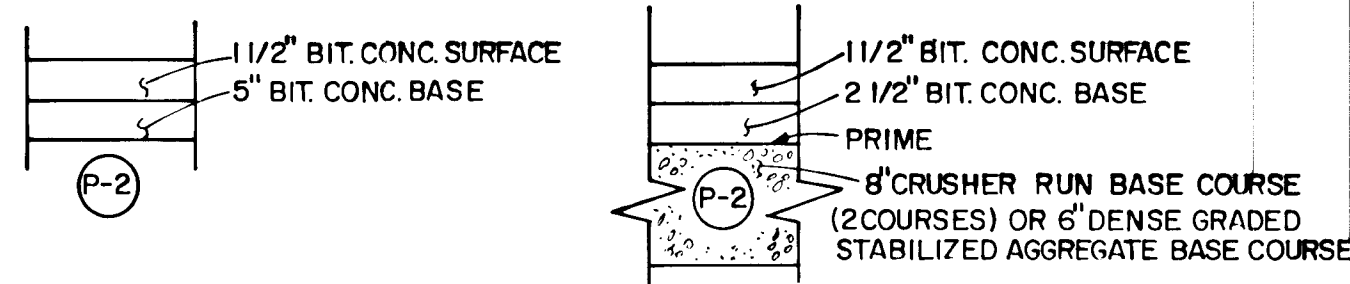
SCALEAS SHOWN DATE SEPT. 24, 1987 DWG. NO. 9 OF 19
DES. R. ISAACS DRN. D. PARRAN CHK. C. J. CROVO

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLCOTT CITY, MARYLAND 21043

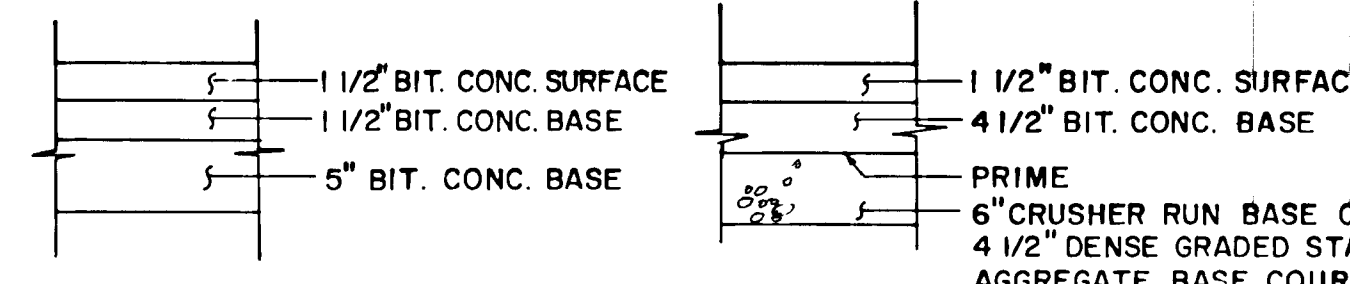


TYPICAL ROADWAY SECTION
NO SCALE

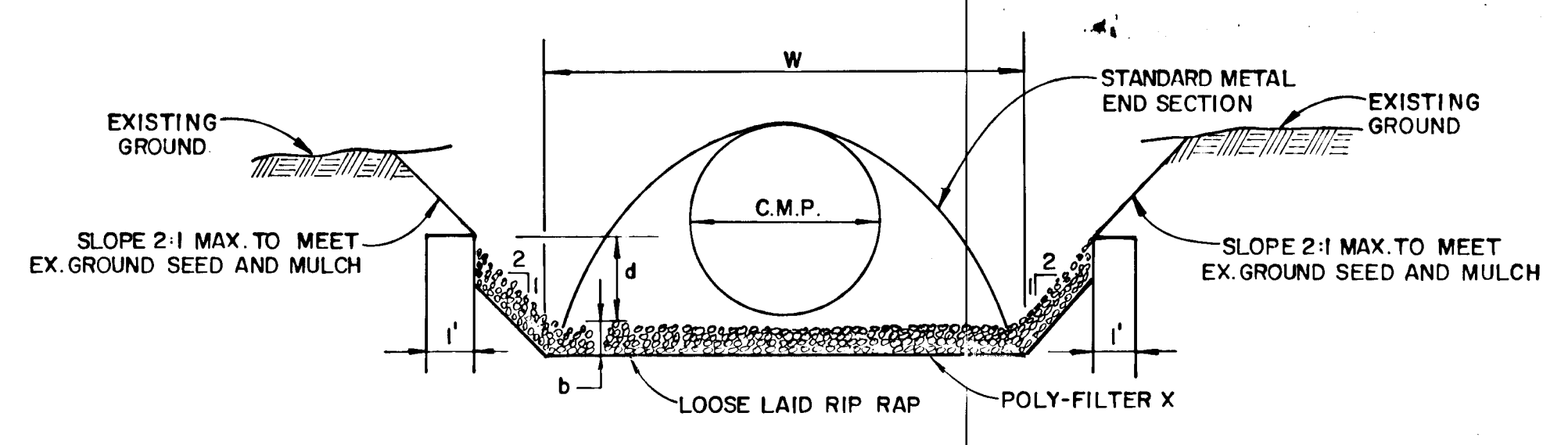
NOTE: ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.



PAVING SECTION P-2
NO SCALE



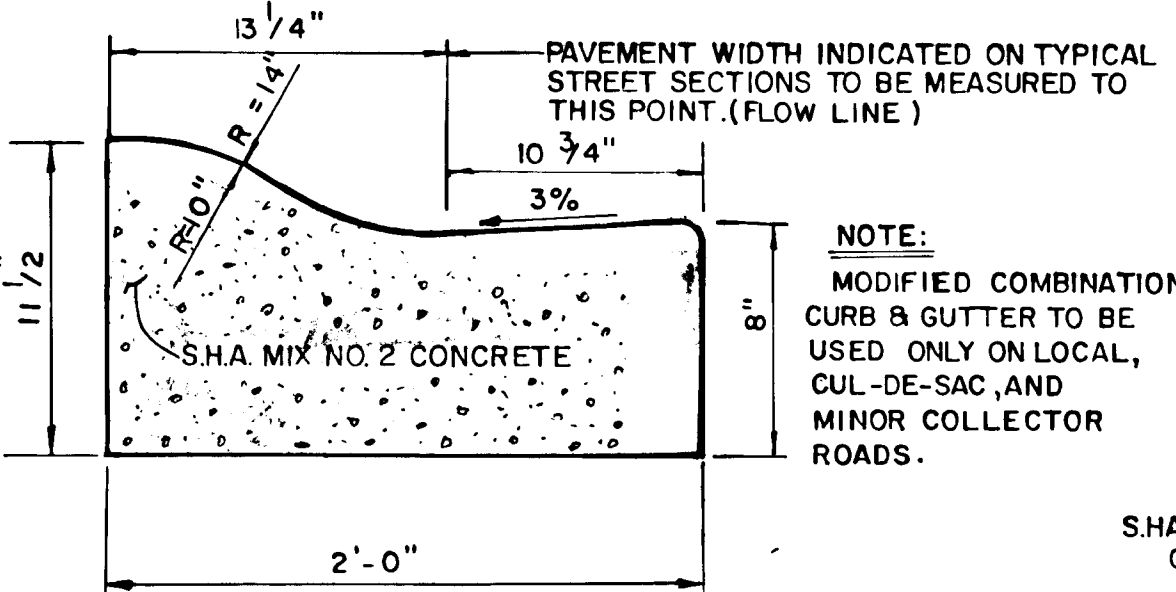
PAVING SECTION P-3
NO SCALE



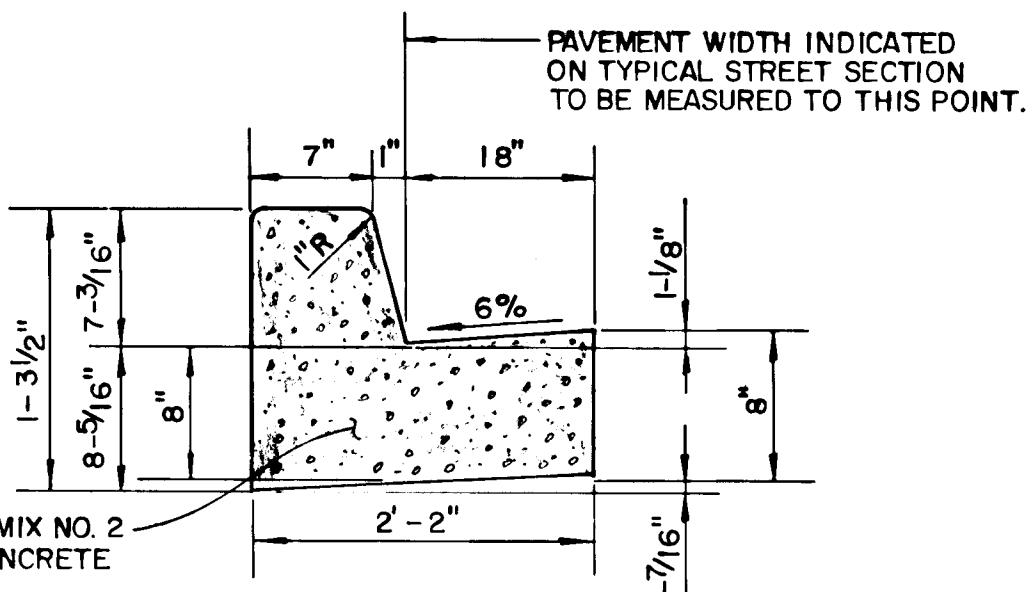
RIP RAP CHANNEL DETAIL
NO SCALE

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	B	D	N	V	Q	RIP-RAP SIZE D50	BLANKET THICKNESS
S-1	2.81	6.48	.4342	.5718	1.00Z	0.1000	4.0	0.55	.04	2.12'/SEC.	5.96 C.F.S.	6"	9"
S-2	4.13	7.63	.5412	.6628	0.50Z	0.0707	4.5	0.70	.04	1.74'/SEC.	7.19 C.F.S.	6"	14"
S-3	2.74	6.42	.4276	.5660	0.50Z	0.0707	4.0	0.54	.04	1.49'/SEC.	4.08 C.F.S.	6"	9"
S-4	7.41	10.20	.7259	.8069	0.50Z	0.0707	6.0	0.94	.04	2.12'/SEC.	15.70 C.F.S.	6"	14"
S-5	3.51	6.91	.5048	.6355	0.50Z	0.0707	4.0	0.66	.04	1.67'/SEC.	5.86 C.F.S.	6"	14"
S-6	2.74	6.42	.4276	.5660	0.50Z	0.0707	4.0	0.52	.04	1.49'/SEC.	4.08 C.F.S.	6"	14"
S-7	5.19	8.25	.6991	.7331	0.50Z	0.0707	4.5	0.84	.04	1.93'/SEC.	10.01 C.F.S.	6"	14"
S-10	4.43	7.81	.5672	.6839	0.50Z	0.0707	4.5	0.74	.04	1.80'/SEC.	7.97 C.F.S.	6"	14"
S-11	7.00	9.47	.7392	.8167	0.50Z	0.0707	5.0	1.00	.04	2.15'/SEC.	15.05 C.F.S.	6"	14"
S-14	2.62	6.32	.4143	.5541	0.50Z	0.0707	4.0	0.52	.04	1.46'/SEC.	3.81 C.F.S.	6"	14"
S-15	3.18	6.73	.4743	.6058	0.50Z	0.0707	4.0	0.61	.04	1.59'/SEC.	5.06 C.F.S.	6"	14"
S-16	3.45	6.91	.4988	.6275	0.50Z	0.0707	4.0	0.65	.04	1.65'/SEC.	5.69 C.F.S.	6"	14"
S-19	2.87	6.50	.4408	.5776	0.50Z	0.0707	4.0	0.56	.04	1.52'/SEC.	4.35 C.F.S.	6"	14"
S-20	8.71	10.79	.8076	.8666	0.50Z	0.0707	6.0	1.07	.04	2.28'/SEC.	19.82 C.F.S.	6"	14"

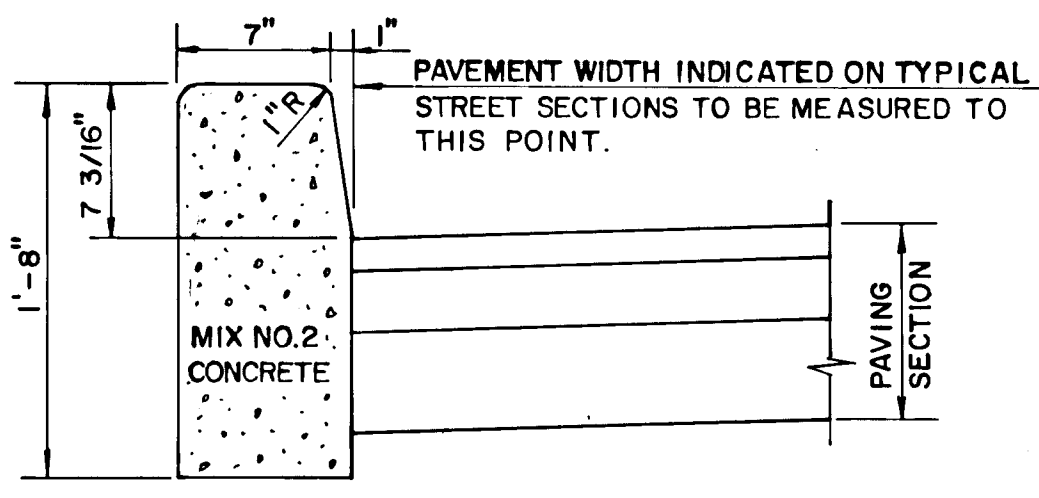
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	A	B	C	D	STATION LIMITS	PAVING SECTION
SADDLE DRIVE	LOCAL ROAD	30' M.P.H.	NT	30'	50'	4'	9"	6+45.48 TO 22+11.71	P-2
SUMMER CLOUD WAY	MINOR COLLECTOR	35' M.P.H.	NT	36'	60'	7'	12"	0+00 TO 5+28.88	P-3
	LOCAL ROAD	30' M.P.H.	NT	30'	50'	4'	9"	5+28.88 TO 17+63.09	P-2
	CUL-DE-SAC	30' M.P.H.	NT	28'	50'	4'	11"	17+63.09 TO 20+05.79	P-2
DAWN WHISTLE LANE	CUL-DE-SAC	30' M.P.H.	NT	28'	50'	4'	11"	0+00 TO 1+37.52	P-2
FOUR FOOT TRAIL	CUL-DE-SAC	25' M.P.H.	NT	28'	50'	4'	11"	0+00 TO 3+42.15	P-2
DISTANT ROCK PATH	CUL-DE-SAC	25' M.P.H.	NT	28'	50'	4'	11"	0+00 TO 2+32.70	P-2
	CUL-DE-SAC	25' M.P.H.	NT	24'	50'	-	13"	2+32.70 TO 3+00.51	P-2
SHORT WHEEL WAY	CUL-DE-SAC	25' M.P.H.	NT	28'	50'	4'	11"	0+00 TO 1+93.33	P-2
ROAN STALLION LANE	CUL-DE-SAC	25' M.P.H.	NT	28'	50'	4'	11"	0+00 TO 4+16.08	P-2
FIRE CLOUD COURT	CUL-DE-SAC	25' M.P.H.	NT	24'	50'	-	13"	0+00 TO 0+72.31	P-2
TREETOP CIRCLE	CUL-DE-SAC	25' M.P.H.	NT	28'	50'	4'	11"	0+00 TO 1+75.15	P-2
DRY BARLEY LANE	LOCAL ROAD	30' M.P.H.	NT	30'	50'	4'	9"	0+00 TO 2+52.00	P-2
	CUL-DE-SAC	30' M.P.H.	NT	28'	50'	4'	11"	2+52.00 TO 5+97.91	P-2
STEELFLOWER PATH	CUL-DE-SAC	25' M.P.H.	NT	24'	50'	-	13"	0+00 TO 1+58.27	P-2



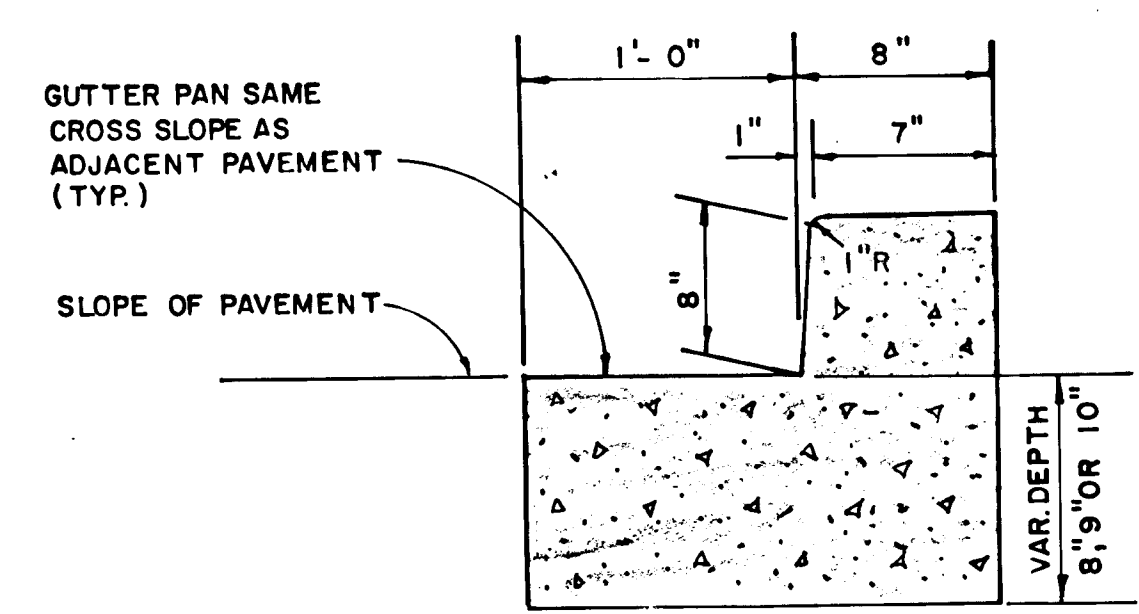
MODIFIED COMBINATION CURB AND GUTTER
NO SCALE



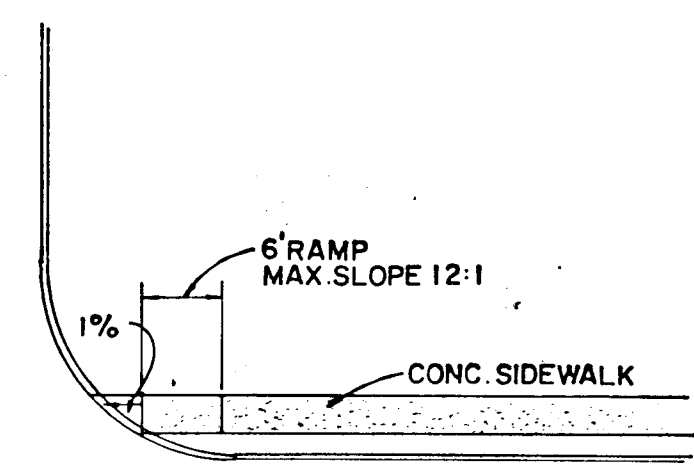
STANDARD 7" COMB. CONC. CURB & GUTTER
NO SCALE



STANDARD BARRIER CURB
NO SCALE



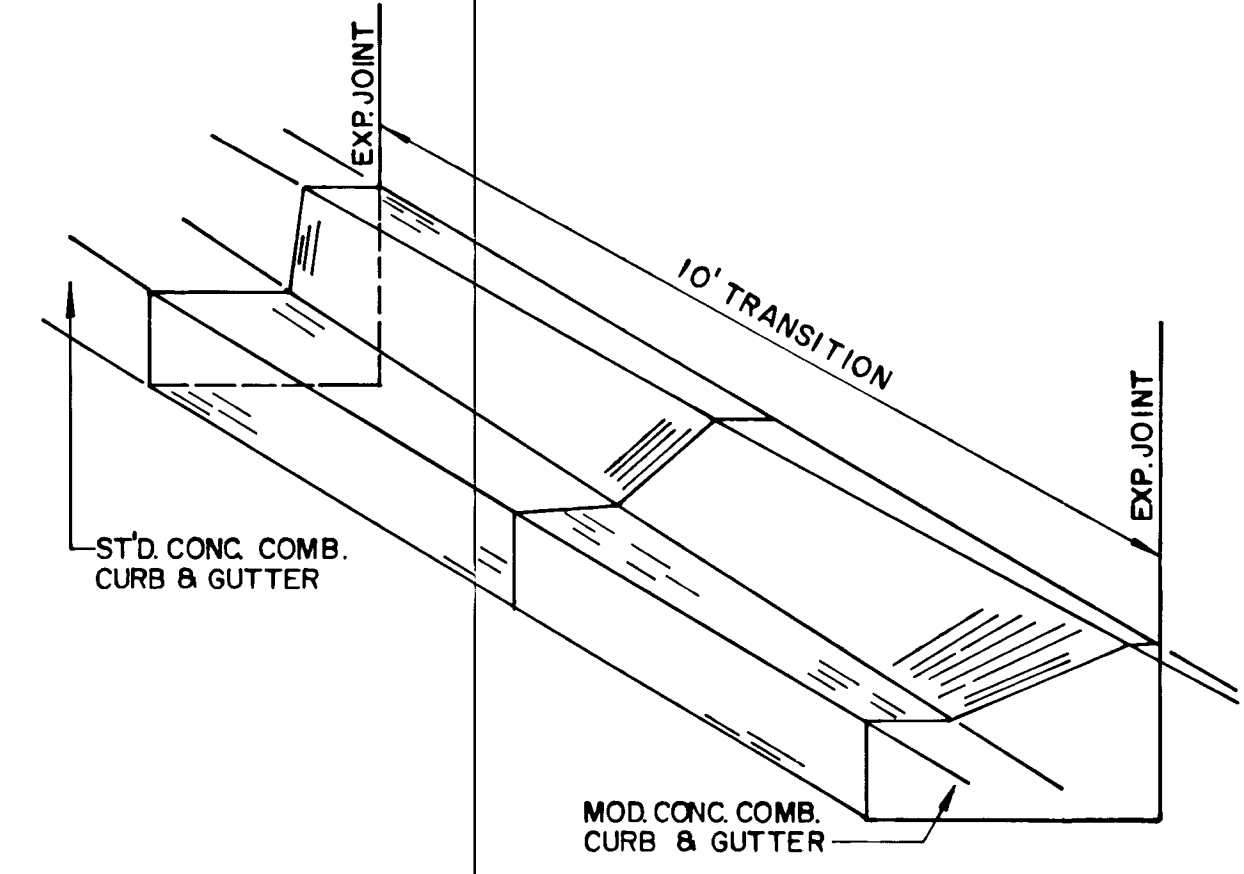
SHA TYPE 'A' COMBINATION CURB & GUTTER
NO SCALE



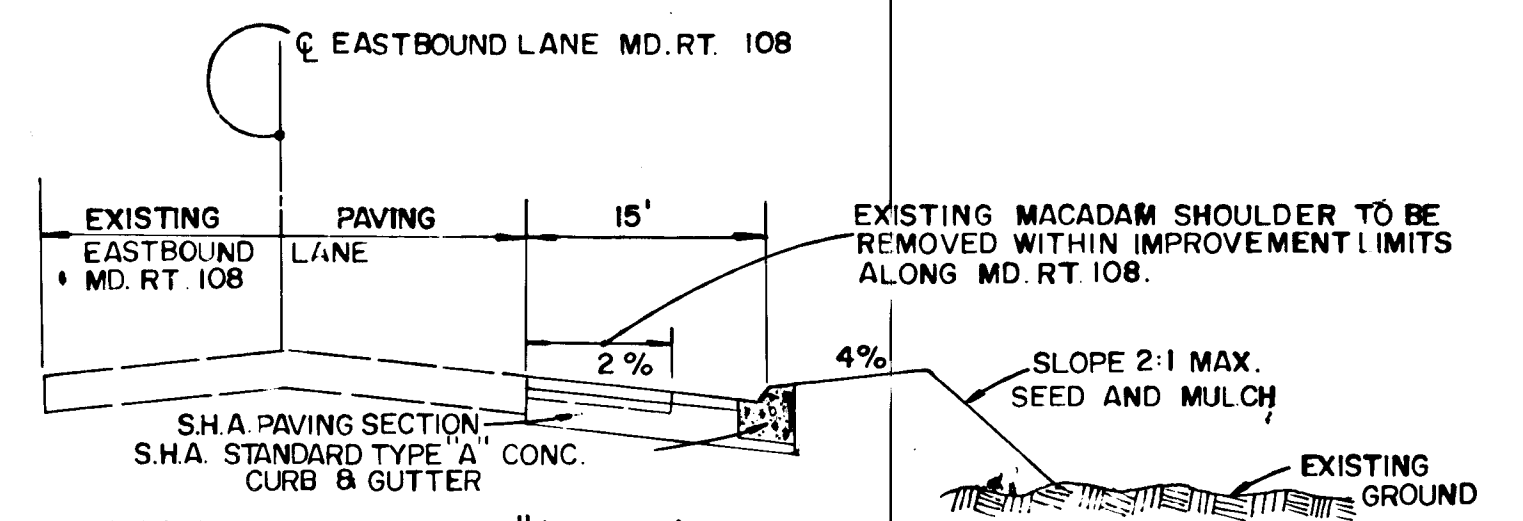
SIDEWALK RAMP DETAIL 'A'
NO SCALE

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



CURB TRANSITION DETAIL
NO SCALE



TYPICAL WIDENING SECTION ALONG MD. ROUTE 108
NO SCALE

APPROVED DEPARTMENT OF PUBLIC WORKS
Francis W. Weiland 2/1/88
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
William J. Kelly 2-1-88
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED OFFICE OF PLANNING AND ZONING
James R. Rutz 2/4/88
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
William J. Kelly 2-1-88
CHIEF, LAND DEVELOPMENT DIVISION DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CHARLES J. GROVO SR. DATE 10/1/87

ROADWAY SECTIONS, NOTES AND DETAILS
VILLAGE OF LONGREACH

SECTION 2 AREA 2 & SECTION 4
LOTS 118-225 & LOTS 1-63
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 10 OF 19 SEPTEMBER, 24 1987

STRUCTURE SCHEDULE FOR SECTION 2 AREA 1

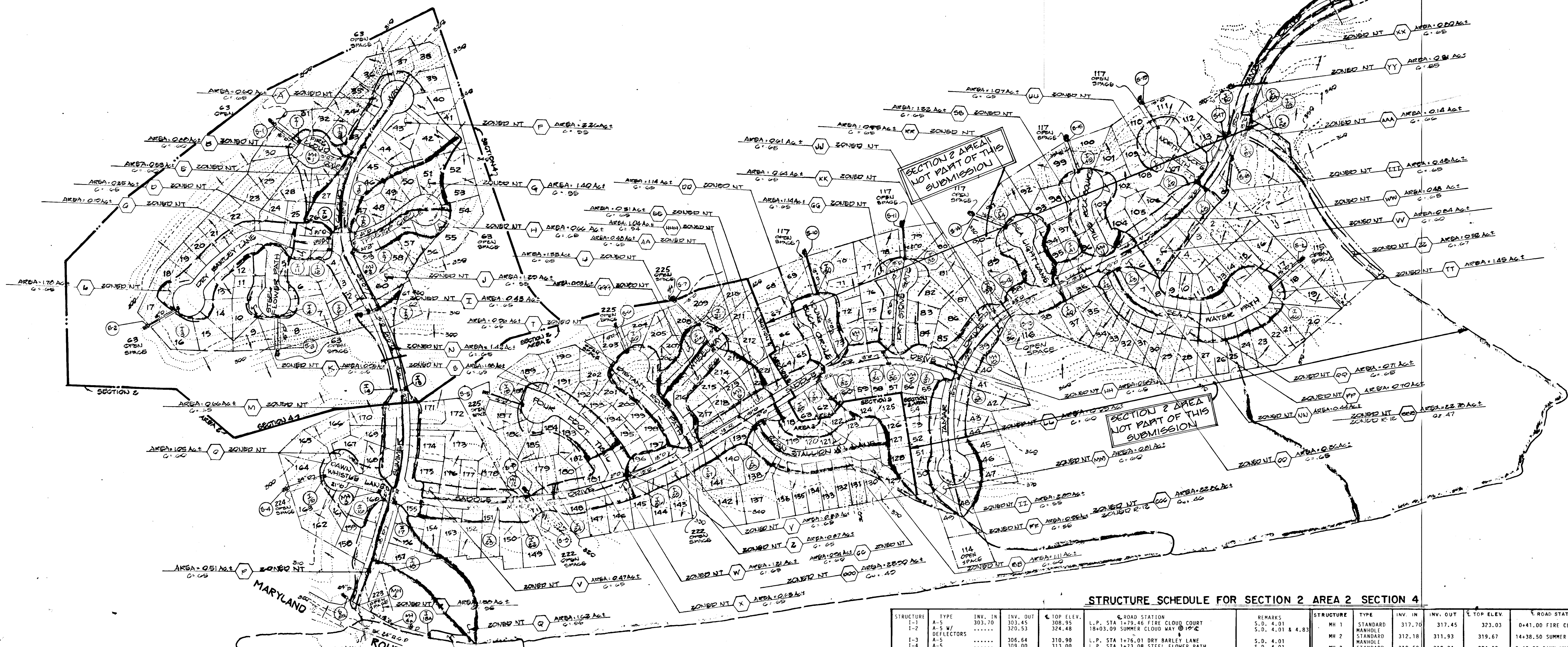
STRUCTURE	TYPE	INV. IN	INV. OUT	TOP ELEV.	ROAD STATION	REMARKS	STRUCTURE	TYPE	INV. IN	INV. OUT	TOP ELEV.	ROAD STATION	REMARKS
1-30	A-5	325.44	325.19	330.80	L.P. STA. 1+89.81 YOUNG BUCK CIRCLE	S.D. 4.01	MH 7	STANDARD MANHOLE	343.43	343.18	348.18	1+77.18 TAMAR DRIVE	G. 5.01
1-31	A-5 W/ DEFLECTORS	345.00	344.75	350.79	5+10.50 SADDLE DRIVE	S.D. 4.01 & 4.83	MH 8	STANDARD MANHOLE	333.46	333.21	339.16	0+40.00 YOUNG BUCK CIRCLE	G. 5.01
1-32	A-5 W/ DEFLECTORS	346.10	345.91	351.91	5+47.98 SADDLE DRIVE	S.D. 4.01 & 4.83	MH 9	STANDARD MANHOLE	341.05	340.80	346.96	0+40.00 DRY STONE GATE	G. 5.01
1-33	A-5	327.35	327.10	331.20	L.P. STA. 1+76.43 DRY STONE GATE	S.D. 4.01	MH 10	STANDARD MANHOLE	341.34	341.09	346.06	13+18.10 TAMAR DRIVE	G. 5.01
1-34	A-5	342.51	342.26	347.61	2+64.00 SADDLE DRIVE	S.D. 4.01	MH 11	STANDARD MANHOLE	358.00	357.75	362.96	7+55.70 TAMAR DRIVE	G. 5.01
1-35	A-5	343.25	343.00	347.44	2+55.00 SADDLE DRIVE	S.D. 4.02	S-10	ST'D METAL END SECT.	321.70	321.44	323.20		S.D. 5.61
1-36	A-5	336.13	334.25	343.00	11+33.69 TAMAR DRIVE	S.D. 4.01	S-11	ST'D METAL END SECT.	322.50	322.29	324.25		S.D. 5.61
1-37	A-5	338.10	343.00	343.00	11+33.69 TAMAR DRIVE	S.D. 4.01	S-12	ST'D METAL END SECT.	328.35	328.25	331.10		S.D. 5.61
1-38	A-5 W/ DEFLECTORS	347.37	347.12	353.61	14+78.94 TAMAR DRIVE	S.D. 4.01	S-13	ST'D METAL END SECT.	330.50	330.40	333.15		S.D. 5.61
1-39	A-5 W/ DEFLECTORS	348.50	348.25	353.61	14+78.94 TAMAR DRIVE	S.D. 4.01 & 4.83	S-14	ST'D METAL END SECT.	324.55	324.35	325.80		S.D. 5.61
1-40	A-5 W/ DEFLECTORS	346.30	346.05	351.02	9+27.26 TAMAR DRIVE	S.D. 4.01 & 4.83	S-15	ST'D METAL END SECT.	325.85	325.56	326.81		S.D. 5.61
1-41	A-5 W/ DEFLECTORS	358.00	357.75	351.02	9+27.26 TAMAR DRIVE	S.D. 4.01 & 4.83	S-16	ST'D METAL END SECT.	353.19	353.11	354.44		S.D. 5.61
1-42	A-5 W/ DEFLECTORS	361.02	360.77	366.17	0+43.00 SEA WATER PATH	S.D. 4.01 & 4.83	S-17	ST'D METAL END SECT.	332.00	331.76	334.75		S.D. 5.61
1-43	A-5 W/ DEFLECTORS	361.32	361.17	366.17	0+43.00 SEA WATER PATH	S.D. 4.01 & 4.83	S-18	ST'D METAL END SECT.	337.34	337.10	339.85		S.D. 5.61
1-44	A-5	336.00	339.90	339.90	L.P. STA. 1+16.92 SEA LIGHT LANE	S.D. 4.01	S-19	ST'D METAL END SECT.	332.00	331.85	333.25		S.D. 5.61
1-45	A-5	342.37	346.29	346.29	L.P. STA. 1+24.00 TIDE ROCK SQUARE	S.D. 4.01							
1-46	A-5	358.00	361.50	361.50	L.P. STA. 2+17.67 SEA WATER PATH	S.D. 4.01							
1-47	A-5	339.50	343.15	343.15	L.P. STA. 2+07.67 NORTH SLOPE PATH	S.D. 4.01							
1-48	A-5 W/ DEFLECTORS	346.18	345.93	350.67	2+63.50 TAMAR DRIVE	S.D. 4.01 & 4.83							
1-49	A-5 W/ DEFLECTORS	347.00	351.84	351.84	2+82.50 TAMAR DRIVE	S.D. 4.01 & 4.83							
1-50	A-5	334.59	334.34	343.68	0+48.00 TAMAR DRIVE	S.D. 4.01							
1-51	A-5	336.74	336.49	343.68	0+48.00 TAMAR DRIVE	S.D. 4.01							
1-52	A-5	338.88	338.43	344.40	0+46.00 OLD MONTGOMERY ROAD	S.D. 4.01							
1-53	A-5	339.80	339.35	344.40	0+46.00 OLD MONTGOMERY ROAD	S.D. 4.01							
1-54	A-5	339.74	339.24	344.14	0+46.00 TAMAR DRIVE	S.D. 4.01							

APPROVED
 DEPARTMENT OF PUBLIC WORKS
Braville W. Weiland 2/1/88
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED
 DEPARTMENT OF PUBLIC WORKS
Kearney E. G. Dwyer 2-1-88
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED
 OFFICE OF PLANNING AND ZONING
James South 2/1/88
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED
 DEPARTMENT OF PUBLIC WORKS
William L. ... 2/1/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE



DRAINAGE AREA MAP
 SCALE 1"=200'

STRUCTURE SCHEDULE FOR SECTION 2 AREA 2 SECTION 4

STRUCTURE	TYPE	INV. IN	INV. OUT	TOP ELEV.	ROAD STATION	REMARKS	STRUCTURE	TYPE	INV. IN	INV. OUT	TOP ELEV.	ROAD STATION	REMARKS
1-1	A-5	303.70	303.45	308.95	L.P. STA 1+79.46 FIRE CLOUD COURT	S.D. 4.01	MH 1	STANDARD MANHOLE	317.70	317.45	323.03	0+41.00 FIRE CLOUD COURT @ 15'E	G. 5.01
1-2	A-5 W/ DEFLECTORS	320.53	320.53	324.48	18+03.09 SUMMER CLOUD WAY @ 10'E	S.D. 4.01 & 4.83	MH 2	STANDARD MANHOLE	312.18	311.93	319.67	14+38.50 SUMMER CLOUD WAY @ 10'E	G. 5.01
1-3	A-5	306.64	310.90	310.90	L.P. STA 1+76.01 DRY BARLEY LANE	S.D. 4.01	MH 3	STANDARD MANHOLE	310.59	310.34	324.58	0+40.50 DAWN WHISTLE LANE @ 20'E	G. 5.01
1-4	A-5	305.00	312.00	312.00	L.P. STA 1+72.08 STEEL FLOWER PATH	S.D. 4.01	MH 4	STANDARD MANHOLE	320.55	318.28	326.69	0+54.00 SUMMER CLOUD WAY @ 0'E	G. 5.01
1-5	A-5 W/ DEFLECTORS	304.05	309.12	309.12	11+83.50 SUMMER CLOUD WAY @ 10'E	S.D. 4.02 & 4.83	MH 5	STANDARD MANHOLE	327.50	327.25	334.31		G. 5.01
1-6	A-5 W/ DEFLECTORS	304.37	309.12	309.12	11+83.50 SUMMER CLOUD WAY @ 10'E	S.D. 4.01 & 4.83	MH 6	STANDARD MANHOLE	347.75	347.50	353.98	8+53.50 SADDLE DRIVE @ 2'E	G. 5.01
1-7	A-5 W/ DEFLECTORS	313.25	313.00	322.05	0+43.00 TREETOP CIRCLE @ 14'E	S.D. 4.01 & 4.83	MH 7	STANDARD MANHOLE	299.95	299.95	301.20	0' CORNER OF LOT 31	S.D. 5.61
1-8	A-5	314.32	314.07	322.05	0+43.00 TREETOP CIRCLE @ 14'E	S.D. 4.02	S-1	ST'D METAL END SECT.	299.95	299.95	305.63	0' CORNER OF LOT 17	S.D. 5.61
1-9	A-10	315.85	315.60	321.62	15+33.77 SUMMER CLOUD WAY @ 15'E	S.D. 4.01	S-2	ST'D METAL END SECT.	304.33	304.29	305.63	0' CORNER OF LOT 9	S.D. 5.61
1-10	A-5	316.47	316.22	324.92	15+33.77 SUMMER CLOUD WAY @ 15'E	S.D. 4.01	S-3	ST'D METAL END SECT.	296.10	295.90	297.35	0' CORNER OF LOT 10	S.D. 5.61
1-11	A-5 W/ DEFLECTORS	317.15	316.90	322.41	0+43.00 DRY BARLEY LANE @ 15'E	S.D. 4.01 & 4.83	S-4	ST'D METAL END SECT.	298.63	298.57	300.63	0' CORNER OF LOT 16B	S.D. 5.61
1-12	A-5 W/ DEFLECTORS	317.45	317.20	322.41	0+43.00 DRY BARLEY LANE @ 15'E	S.D. 4.01 & 4.83	S-5	ST'D METAL END SECT.	303.30	303.19	304.55	0' CORNER OF LOT 18B	S.D. 5.61
1-13	A-5	301.12	300.87	306.30	8+73.95 SUMMER CLOUD WAY @ 15'E	S.D. 4.01	S-6	ST'D METAL END SECT.	305.00	304.88	306.25	0' CORNER OF LOT 20B	S.D. 5.61
1-14	A-5	301.60	301.35	306.30	8+73.95 SUMMER CLOUD WAY @ 15'E	S.D. 4.01	S-7	ST'D METAL END SECT.	310.20	311.70	312.00	0' CORNER OF LOT 20B	S.D. 5.61
1-15	A-5	301.25	301.00	306.50	L.P. STA. 1+43.83 DAWN WHISTLE LANE	S.D. 4.01	S-8	ST'D METAL END SECT.	309.30	309.21	312.05	20' STA. 17+47.00 SADDLE DRIVE	S.D. 5.61
1-16	A-5 W/ DEFLECTORS	311.48	311.23	317.67	4+84.30 SUMMER CLOUD WAY @ 15'E	S.D. 4.01 & 4.83	S-9	ST'D METAL END SECT.	311.10	311.01	313.76	80' STA. 16+59.00 SADDLE DRIVE	S.D. 5.61
1-17	A-10	312.25	312.00	317.67	4+84.30 SUMMER CLOUD WAY @ 15'E	S.D. 4.02	S-20	ST'D METAL END SECT.	316.48	316.09	318.48	0' STA. 0+25.00 SUMMER CLOUD WAY @ 14'E	S.D. 5.61
1-18	A-10	314.90	314.90	319.68	3+05.00 SUMMER CLOUD WAY @ 15'E	S.D. 4.01							
1-19	A-5	316.47	316.22	324.92	L.P. STA. 1+72.38 FOUR FOOT TRAIL	S.D. 4.01							
1-20	A-5	317.15	316.90	324.92	L.P. STA. 1+87.67 DISTANT ROCK PATH	S.D. 4.01							
1-21	A-5	314.33	314.08	318.80	L.P. STA. 1+53.94 SHORT WHEEL WAY	S.D. 4.01							
1-21A	A-10	322.15	321.90	324.04	L.P. STA. 2+85.40 SHORT WHEEL WAY	S.D. 4.02							
1-22	A-5	311.50	311.40	315.45	18+36.00 SADDLE DRIVE @ 15'E	S.D. 4.01							
1-23	A-5	311.75	311.75	315.45	18+36.00 SADDLE DRIVE @ 15'E	S.D. 4.01							
1-24	A-5 W/ DEFLECTORS	317.75	317.50	322.59	15+97.00 SADDLE DRIVE @ 15'E	S.D. 4.01 & 4.83							
1-25	A-5 W/ DEFLECTORS	329.60	329.60	335.03	13+29.25 SADDLE DRIVE @ 15'E	S.D. 4.01 & 4.83							
1-26	A-10 W/ DEFLECTORS	329.82	329.82	335.03	13+29.25 SADDLE DRIVE @ 15'E	S.D. 4.02 & 4.83							
1-27	A-5 W/ DEFLECTORS	347.75	347.50	348.15	10+31.09 SADDLE DRIVE @ 15'E	S.D. 4.01 & 4.83							
1-28	A-10	350.46	350.21	355.55	0+45.50 ROAN STALLION LANE @ 14'E	S.D. 4.02							
1-29	A-10	350.75	350.50	355.55	0+45.50 ROAN STALLION LANE @ 14'E	S.D. 4.02							
1-30A	N Lot	224.63	224.63	224.63									

DRAINAGE AREA MAP

VILLAGE OF LONGREACH

SECTION 2 AREA 1, SECTION 2 AREA 2 & SECTION 4
 LOTS 1-117, LOTS 118-225 & LOTS 1-63

6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN SHEET 11 OF 19 SEPTEMBER 24, 1987

Charles J. Crovo
 CHARLES J. CROVO SR. DATE

FISHER, COLLINS AND CARTER, INC.
 CONSULTING ENGINEERS AND LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043
 TELEPHONE (301) 461-2855

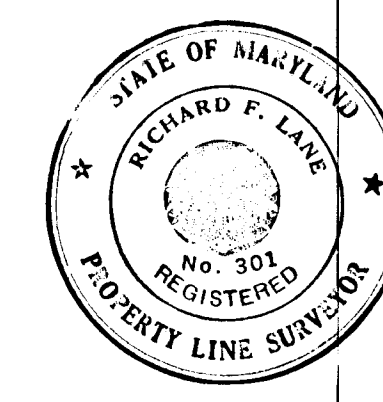
Revisions - N.F. A. Revise Structure Schedule 7-20-88

APPROVED DEPARTMENT OF PUBLIC WORKS
Ernest M. Weiland 2/1/88
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
William E. Kelly 2-1-88
 CHIEF, BUREAU OF ENGINEERING DATE

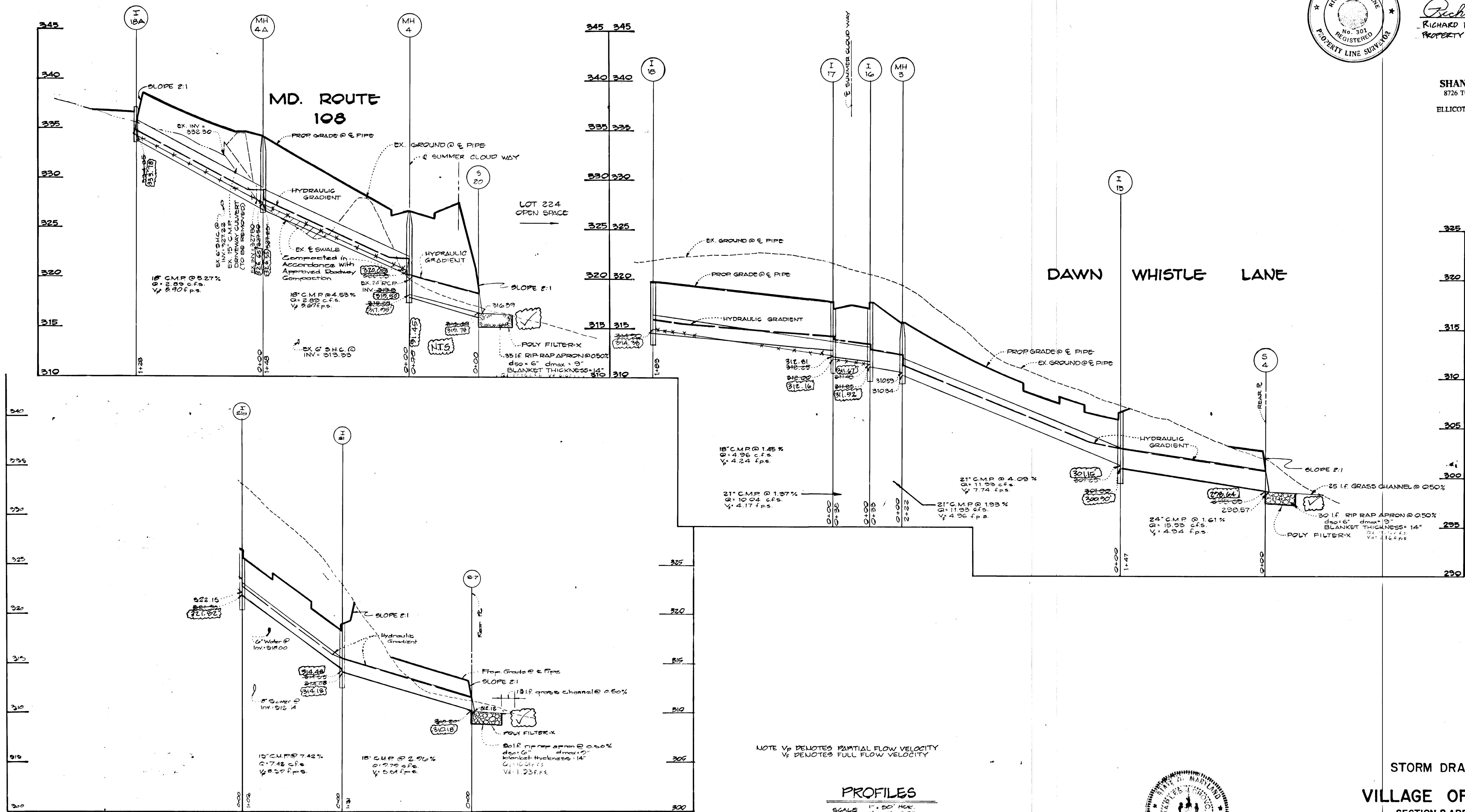
APPROVED OFFICE OF PLANNING AND ZONING
James A. Harts 2/9/88
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
Hubert L. F. 2-1-88
 CHIEF LAND DEVELOPMENT DIVISION DATE



ROAD AS-BUILT
Richard F. Lane 3-20-91
 RICHARD F. LANE, V.P. DATE
 PROPERTY LINE SURVEYOR #301

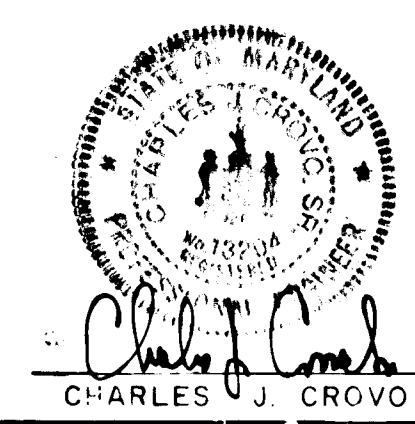
SHANABERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 107
 ELLICOTT CITY, MARYLAND 21043



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043

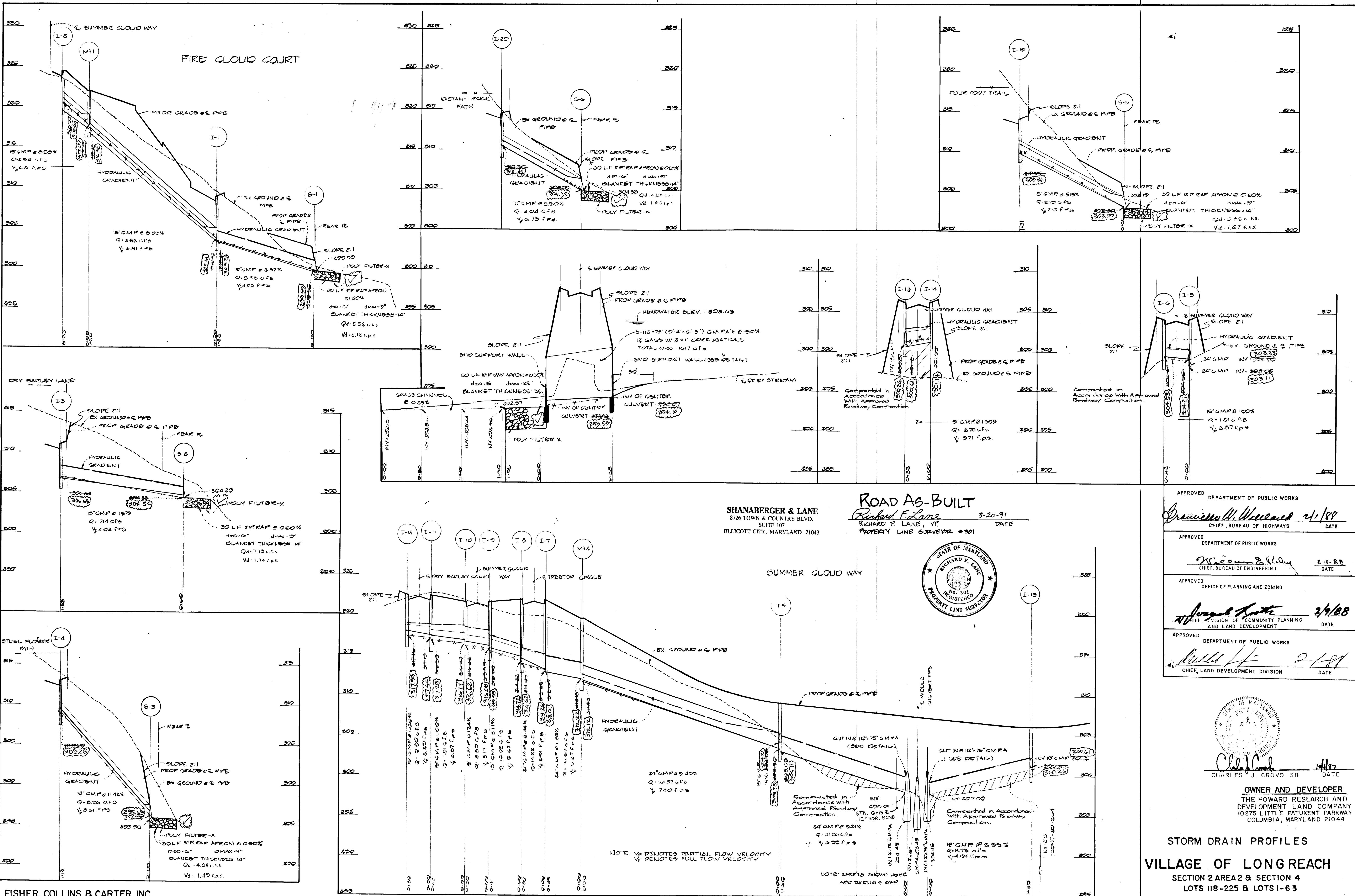
OWNER AND DEVELOPER
 THE HOWARD RESEARCH AND
 DEVELOPMENT LAND COMPANY
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

*Revisions M.F. & Add I-18A Profile
 M.F. & Remove I-216 Profile 7-26-88*



Charles J. Crovo Sr. 10/1/87
 CHARLES J. CROVO SR. DATE

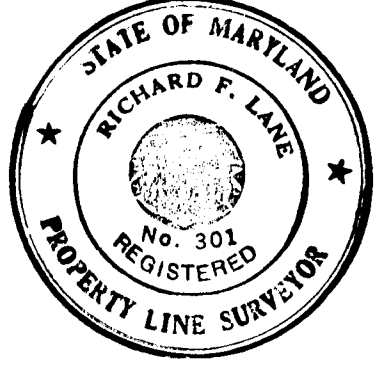
STORM DRAIN PROFILES
VILLAGE OF LONG REACH
 SECTION 2 AREA 2 & SECTION 4
 LOTS 118-225 & LOTS 1-63
 6TH. ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN SHEET 12 OF 19 SEPTEMBER, 24 1987



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043

SHANABERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 107
 ELLICOTT CITY, MARYLAND 21043

ROAD AS-BUILT
 Richard F. Lane
 RICHARD F. LANE, V.P.
 PROPERTY LINE SURVEYOR #301



APPROVED DEPARTMENT OF PUBLIC WORKS
Francis W. Weiland 2/1/89
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
William P. Kelly 2-1-88
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED OFFICE OF PLANNING AND ZONING
Joseph F. ... 2/4/88
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
... 2-1-89
 CHIEF, LAND DEVELOPMENT DIVISION DATE



OWNER AND DEVELOPER
 THE HOWARD RESEARCH AND
 DEVELOPMENT LAND COMPANY
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

STORM DRAIN PROFILES
 VILLAGE OF LONG REACH
 SECTION 2 AREA 2 & SECTION 4
 LOTS 118-225 & LOTS 1-63

PROFILES
 SCALE: 1" = 50' HOR.
 1" = 5' VERT.

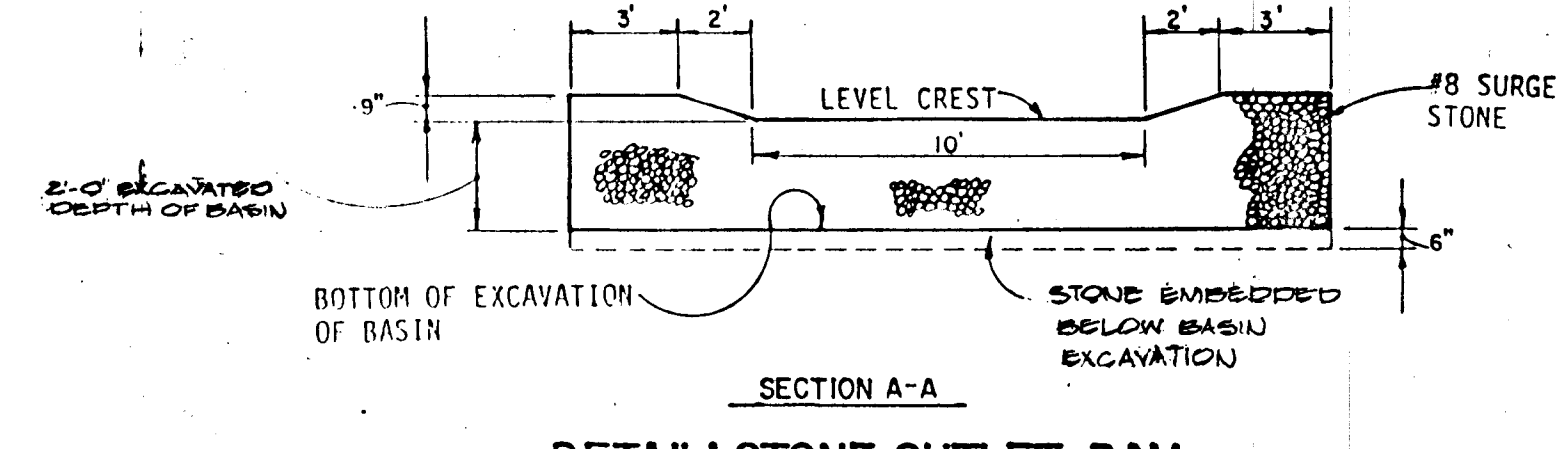
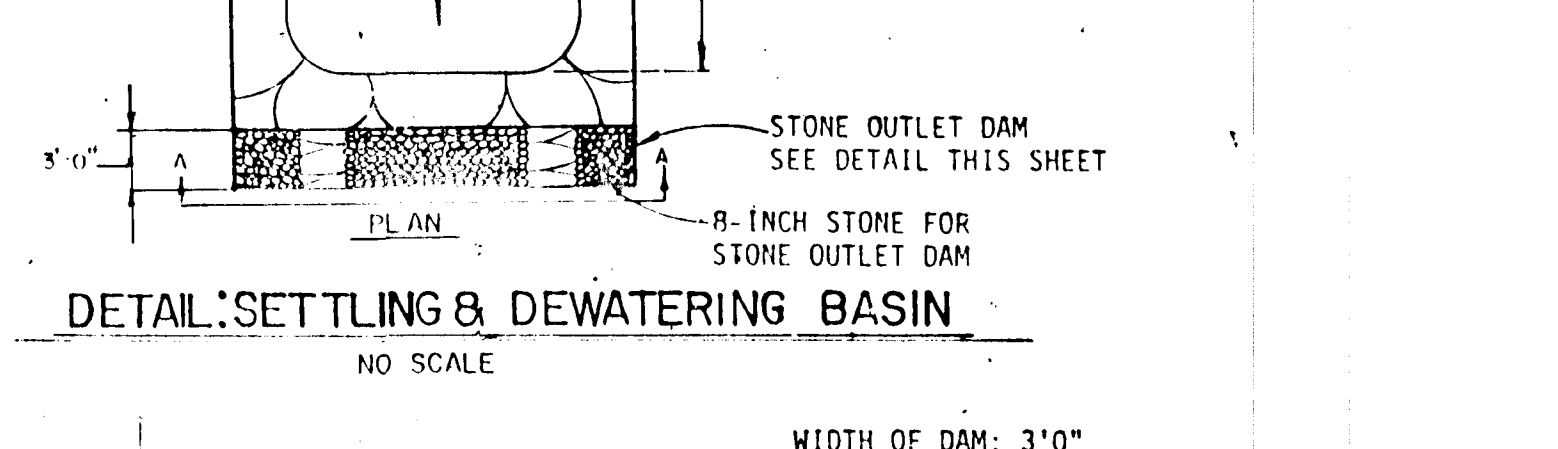
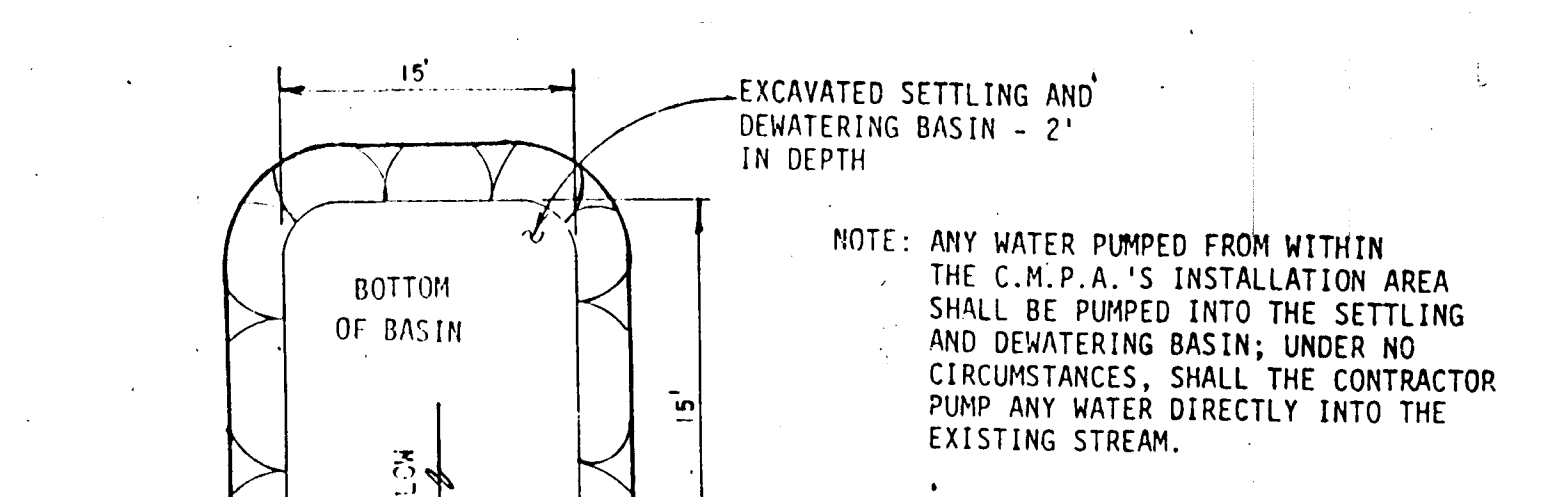
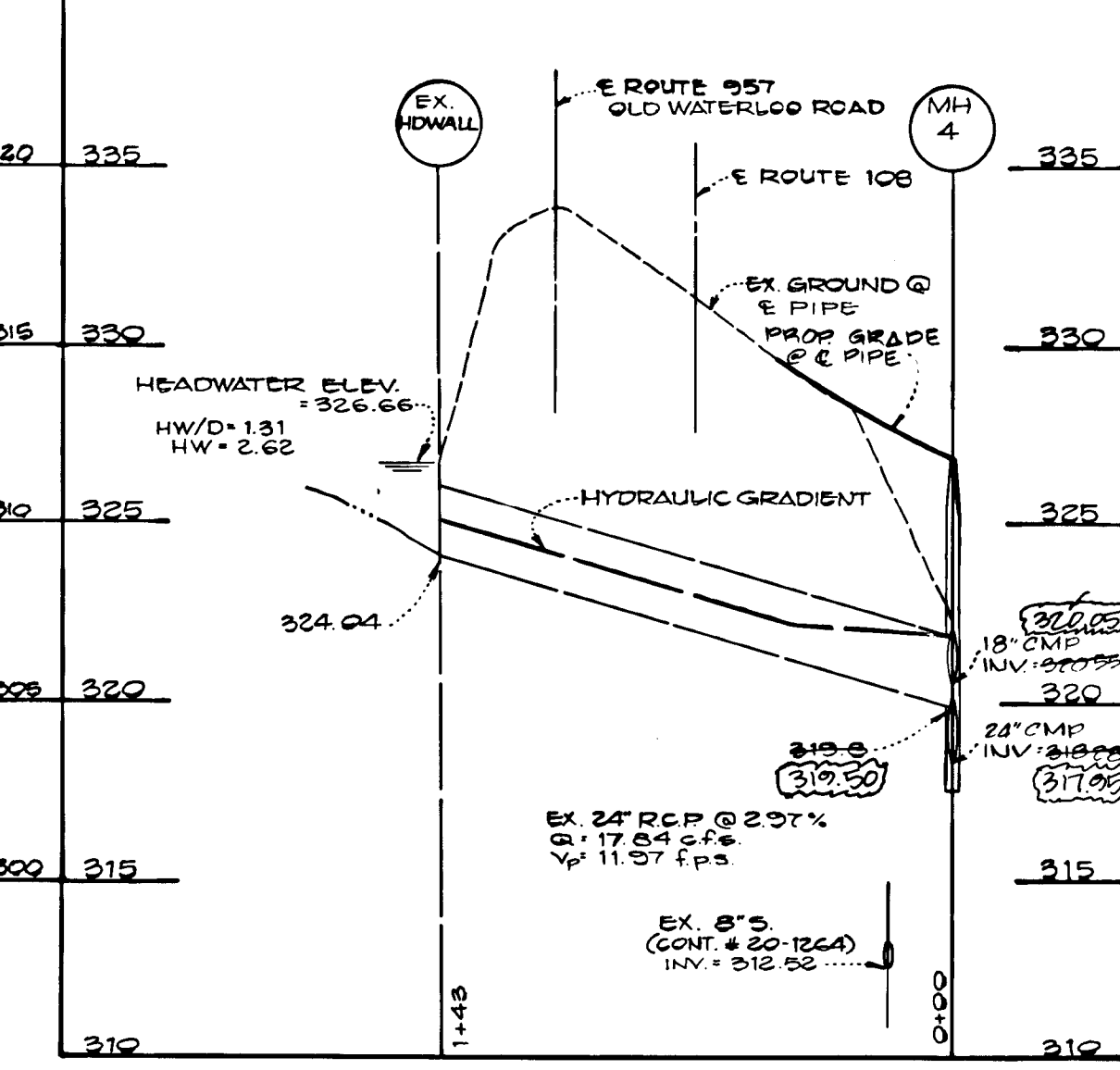
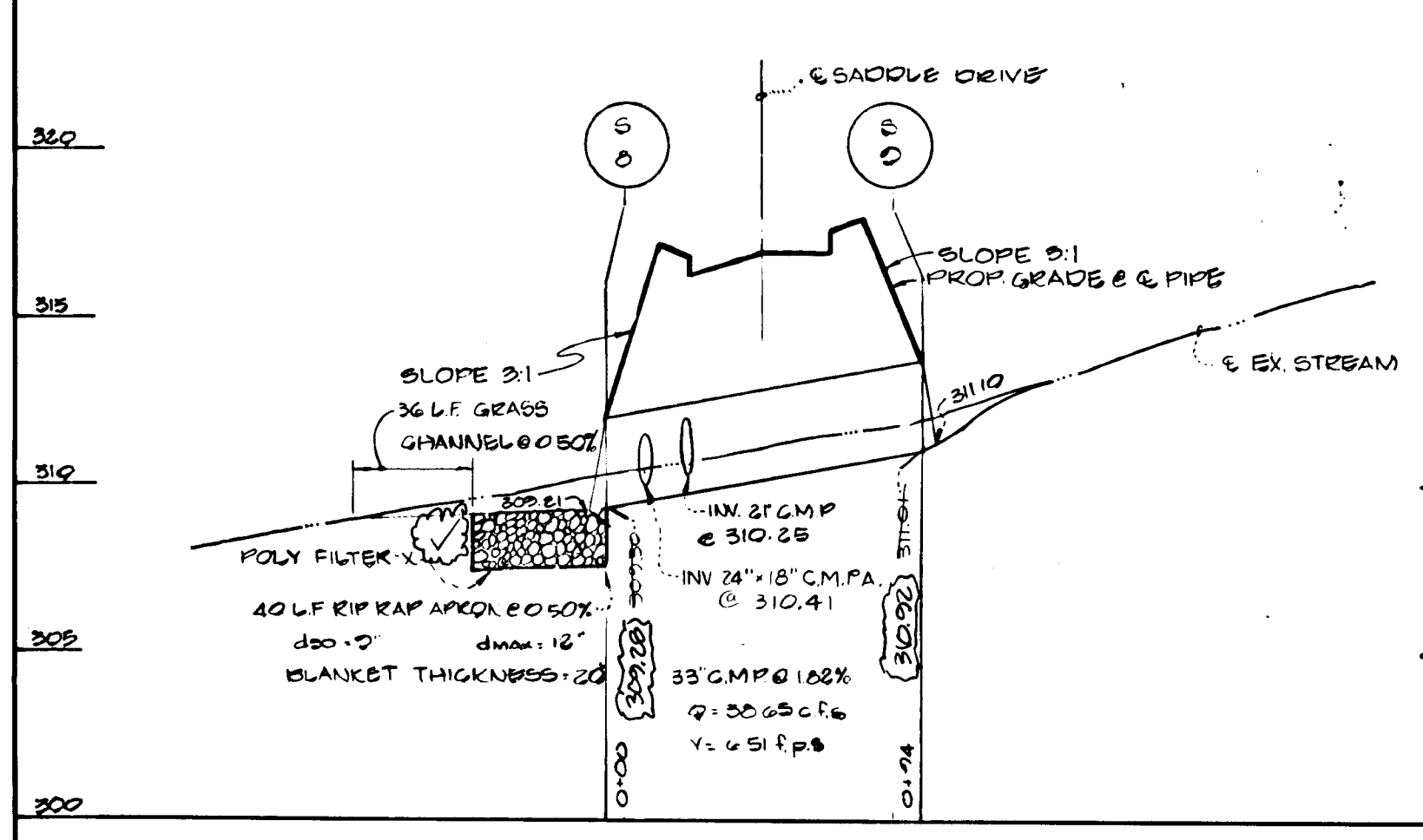
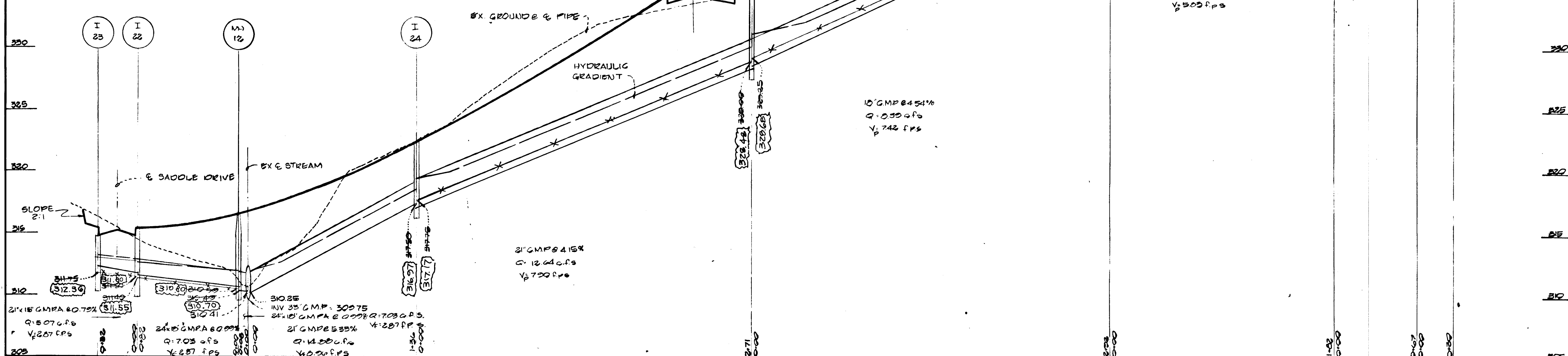
SCALE AS SHOWN SHEET 13 OF 19 SEPTEMBER, 24 1987

APPROVED
DEPARTMENT OF PUBLIC WORKS
Granville W. Weiland 11/87
CHIEF, BUREAU OF HIGHWAYS DATE

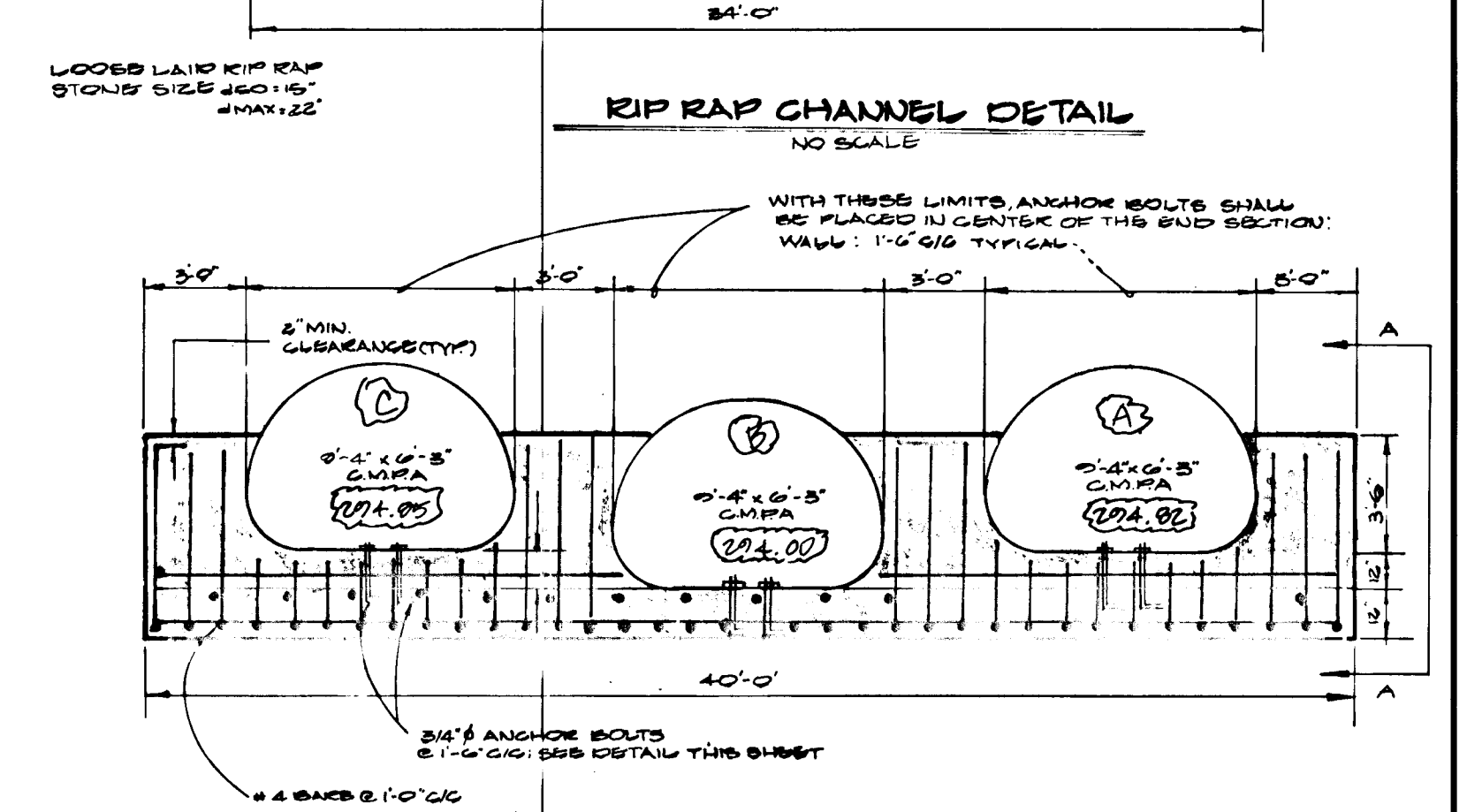
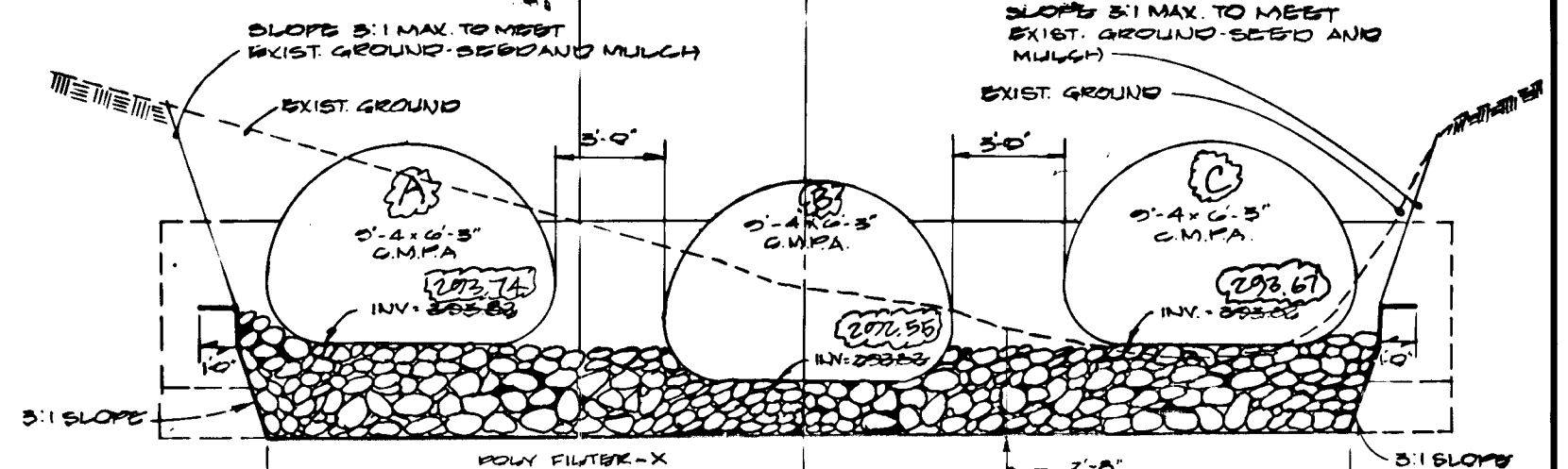
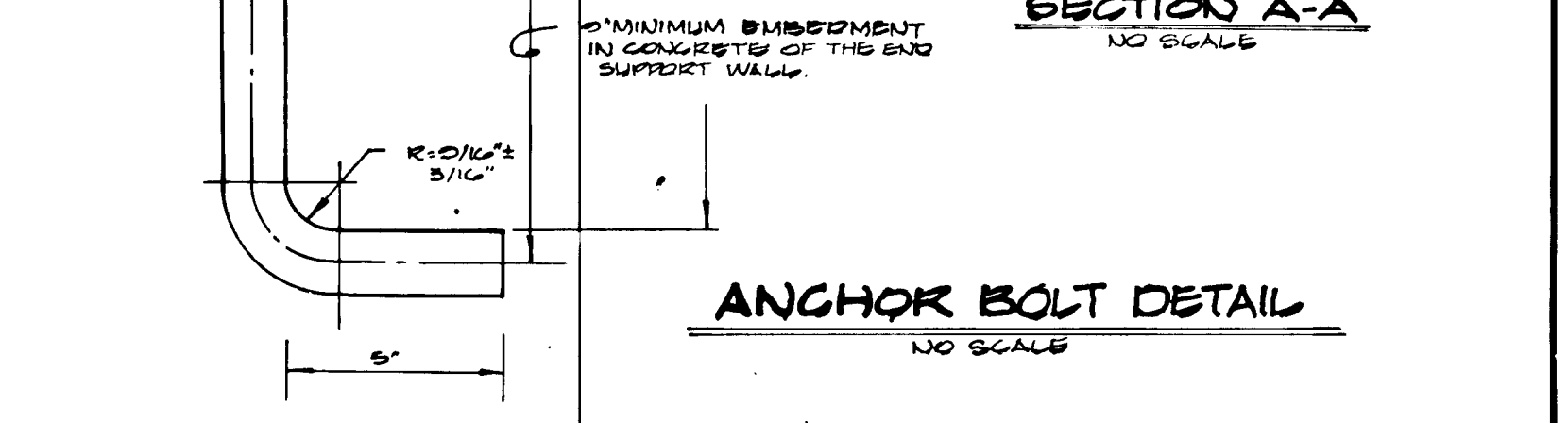
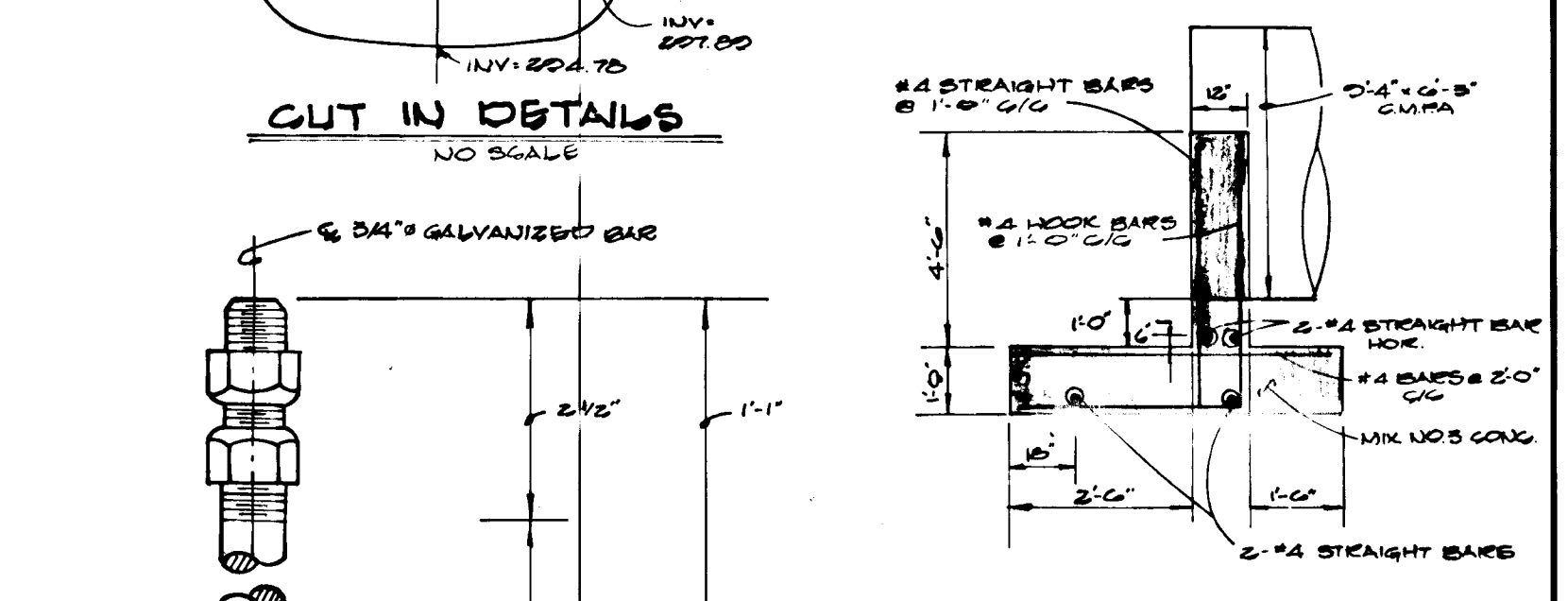
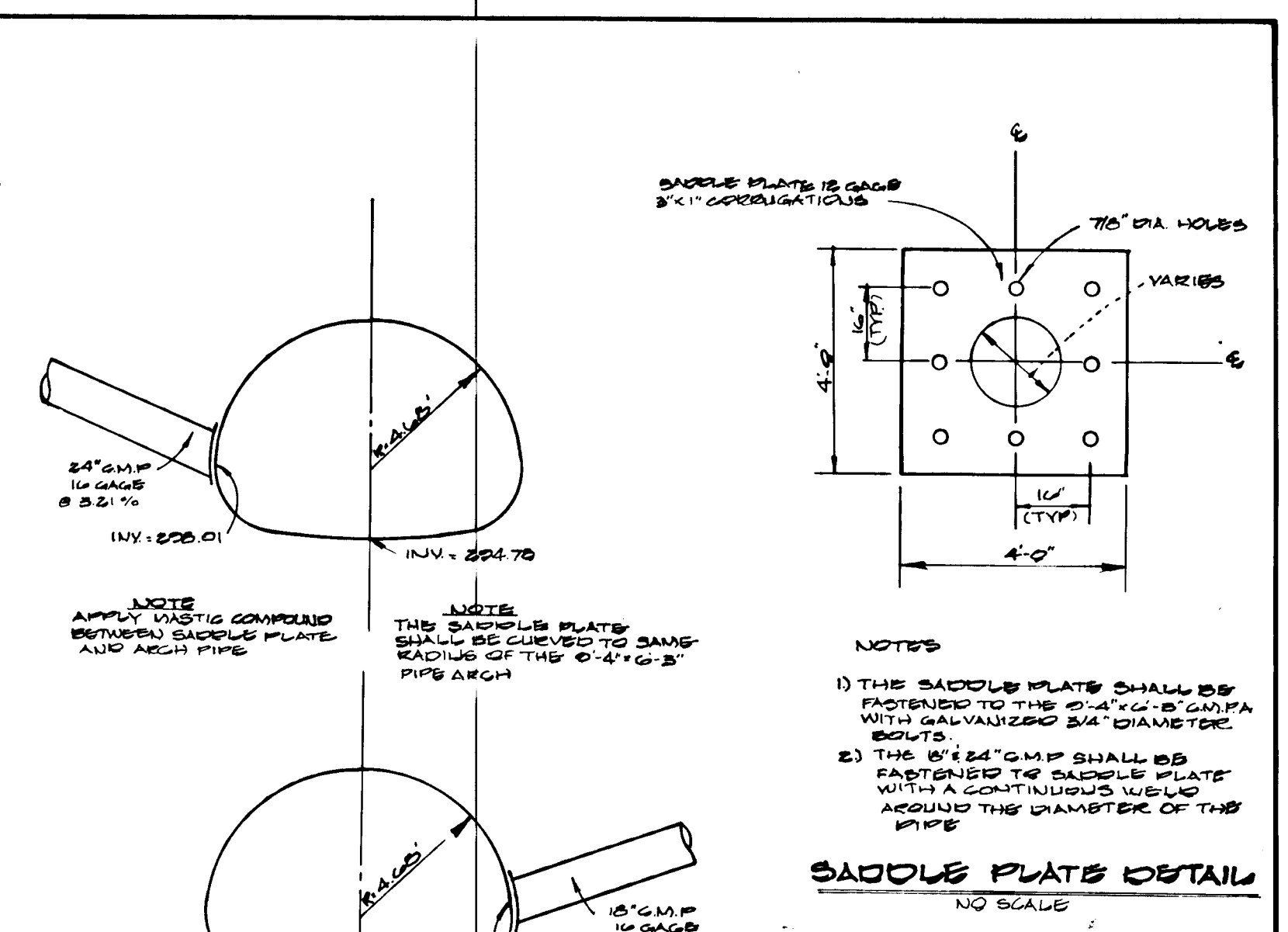
APPROVED
DEPARTMENT OF PUBLIC WORKS
William E. Kelly 2-1-88
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED
OFFICE OF PLANNING AND ZONING
James R. Batts 2/9/88
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED
DEPARTMENT OF PUBLIC WORKS
Muller 2/11/88
CHIEF, LAND DEVELOPMENT DIVISION DATE



END SUPPORT WALL DETAIL NOTES
1) EXCAVATION, BEDDING, FOUNDATION PREPARATION & BACKFILL FOR THE C.M.P.A.'S SHALL BE IN ACCORDANCE WITH SECT. 602 OF THE STATE HIGHWAY ADMINISTRATION SPECIFICATIONS. IF ROCK IS ENCOUNTERED, IT SHALL BE REMOVED & REPLACED WITH SAND TO PROVIDE A MINIMUM CUSHION OF 8 INCHES BELOW THE BOTTOM OF THE PIPE ARCH. SELECTED BACKFILL, IF REQUIRED, SHALL MEET THE REQUIREMENTS OF SECT. 601 OF THE S.H.A. SPECIFICATIONS.
2) REINFORCING STEEL SHALL BE FREE FROM MUD, OIL OR OTHER NON-METALLIC COATINGS THAT ADVERSELY AFFECT BONDING CAPACITY.



STORM DRAIN PROFILE'S
VILLAGE OF LONG REACH
SECTION 2 AREA 2 & SECTION 4
LOTS 118-225 & LOTS 1-63
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN SHEET 14 OF 19 SEPTEMBER, 24 1987

ROAD AS-BUILT
Richard F. Lane 3-20-91
RICHARD F. LANE, V.P.
PROPERTY LINE SURVEYOR #301 DATE

STATE OF MARYLAND
RICHARD F. LANE
REGISTERED
NO. 301
PROPERTY LINE SURVEYOR

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 107
ELICOTT CITY, MARYLAND 21043

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8388 COURT AVENUE
ELICOTT CITY, MARYLAND 21043

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND
DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
Charles J. Crovo
CHARLES J. CROVO, SR. DATE

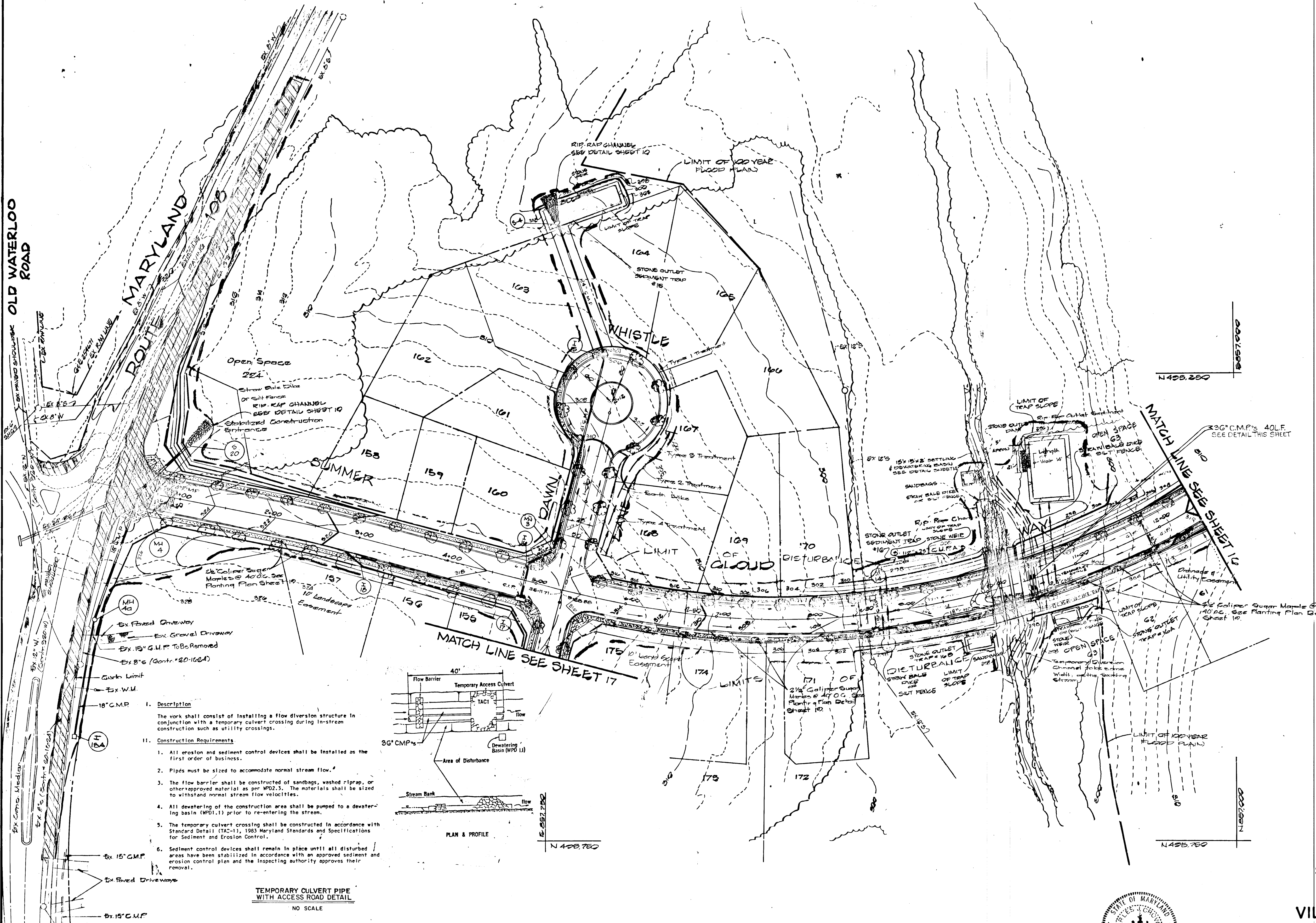
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STONE OUTLET SEDIMENT - TRAP DATA

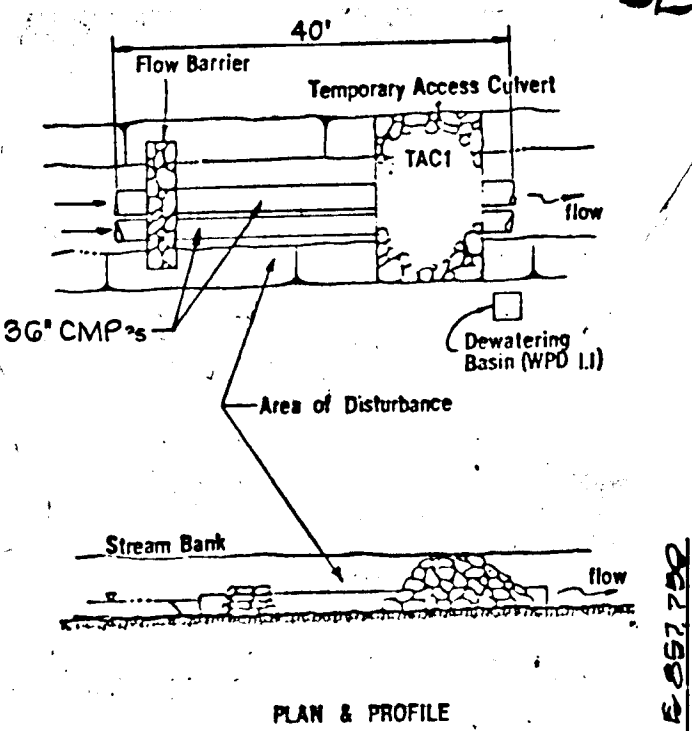
TRAP #	DRAINAGE AREA	VOLUME REQUIRED	VOLUME PROVIDED	TOP DIMENSIONS	BOTTOM DIMENSIONS	SIDE SLOPES	DEPTH	BOTTOM ELEVATION	WEIR CREST ELEVATION	CLEANOUT ELEVATION	WEIR CREST "L" DIMENSION
15	4.4AC. ±	293 CU. YDS.	295 CU. YDS.	90'X27'	82'X19'	1:1	4'	296.0	301.0	298.0	17.6'
16	0.8AC. ±	53 CU. YDS.	53 CU. YDS.	70'X10'	64'X4'	1:1	3'	294.0	298.0	295.5	3.2'
16A	0.5AC. ±	34 CU. YDS.	34 CU. YDS.	30'X14'	24'X8'	1:1	3'	295.0	299.0	296.5	2.0'
16B	0.5AC. ±	34 CU. YDS.	34 CU. YDS.	30'X14'	24'X8'	1:1	3'	293.0	297.0	294.5	2.0'

RIP-RAP OUTLET SEDIMENT - TRAP DATA

DRAINAGE AREA	VOLUME REQUIRED	VOLUME PROVIDED	TOP DIMENSION	BOTTOM DIMENSIONS	SIDE SLOPES	DEPTH	BOTTOM ELEVATION	WEIR CREST ELEVATION	CLEANOUT ELEVATION
6.5AC. ±	433 CU. YDS.	433 CU. YDS.	70'X48'	62'X40'	1:1	4'	290.75	295.75	292.75



- 1. Description**
The work shall consist of installing a flow diversion structure in conjunction with a temporary culvert crossing during in-stream construction such as utility crossings.
- 11. Construction Requirements**
- All erosion and sediment control devices shall be installed as the first order of business.
 - Pipds must be sized to accommodate normal stream flow.
 - The flow barrier shall be constructed of sandbags, washed riprap, or other approved material as per MD2.3. The materials shall be sized to withstand normal stream flow velocities.
 - All dewatering of the construction area shall be pumped to a dewatering basin (MPD.1) prior to re-entering the stream.
 - The temporary culvert crossing shall be constructed in accordance with Standard Detail (TAC-1), 1983 Maryland Standards and Specifications for Sediment and Erosion Control.
 - Sediment control devices shall remain in place until all disturbed areas have been stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8308 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND
DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

PLAN
Scale: 1"=50'

CHARLES J. CROVO SR.
DATE: 11/17/87

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Charles J. Crovo Sr.
SIGNATURE OF ENGINEER DATE: 11/17/87

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."
Gregory R. Siler
SIGNATURE OF DEVELOPER DATE: 12-1-87

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
J. Helms
U.S. SOIL CONSERVATION DISTRICT DATE: 1-27-88

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Stephen L. Fisher
DISTRICT HOWARD SOIL CONSERVATION DISTRICT DATE: 1/27/88

APPROVED: DEPARTMENT OF PUBLIC WORKS
W. Eason & C. Cole
CHIEF, BUREAU OF ENGINEERING DATE: 2-1-88

APPROVED: OFFICE OF PLANNING AND ZONING
Alfred Smith
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE: 2/9/88

APPROVED DEPARTMENT OF PUBLIC WORKS
Granville W. Hurland
CHIEF, BUREAU OF HIGHWAYS DATE: 2/1/88

APPROVED DEPARTMENT OF PUBLIC WORKS
Paul H. [Signature]
CHIEF, LAND DEVELOPMENT DIVISION DATE: 2/1/87

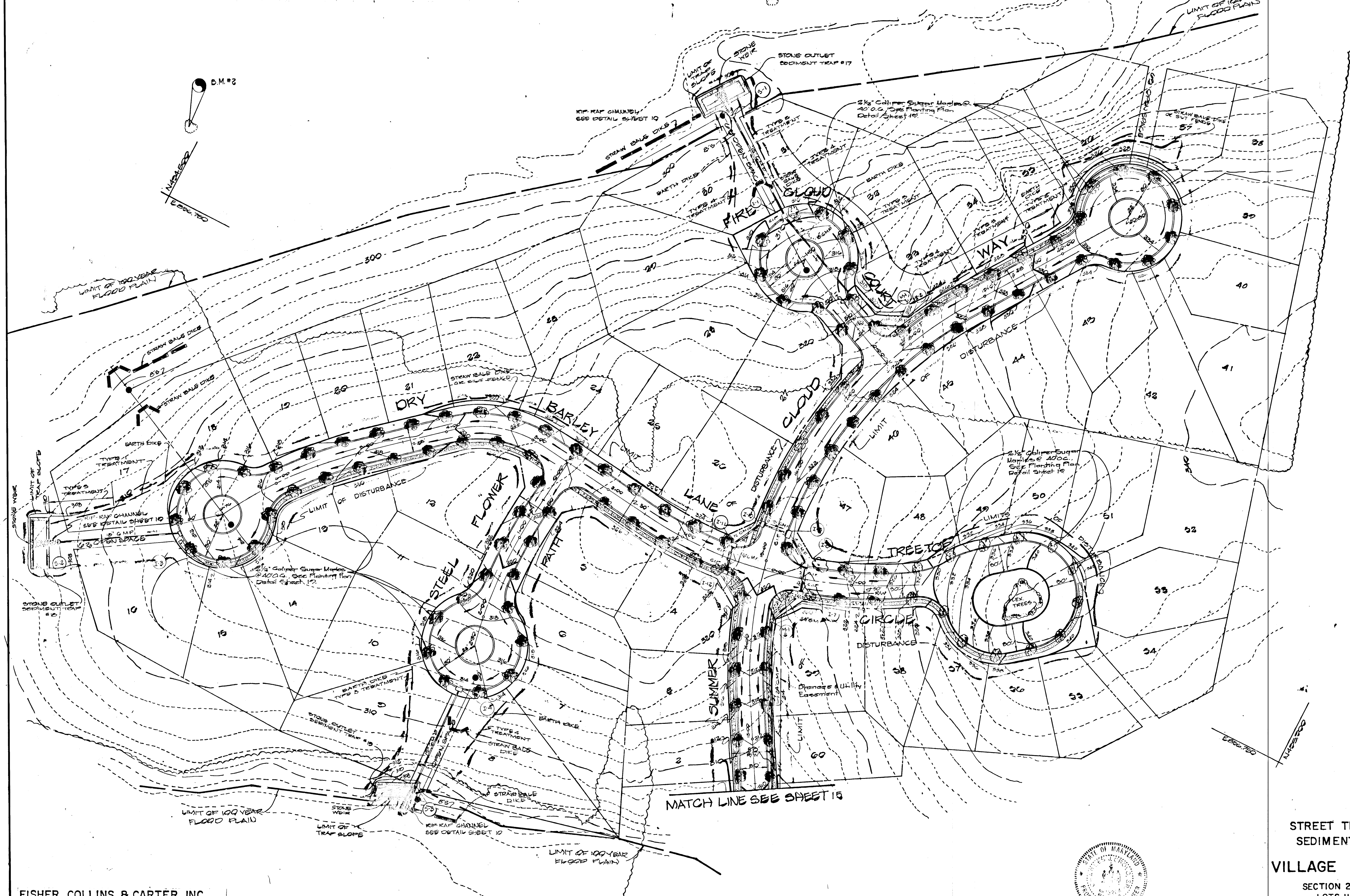
CONSTRUCTION SEQUENCE FOR TEMPORARY WATERWAY CROSSING
1) OBTAIN TEMPORARY WATERWAY CONSTRUCTION PERMIT FROM THE WATER RESOURCES ADMINISTRATION.
2) CONSTRUCT TEMPORARY DIVERSION CHANNEL.
3) INSTALL TEMPORARY 26" C.M.P.'s ALONG WITH THE TEMPORARY ACCESS CULVERT.

STREET TREE, GRADING, AND SEDIMENT CONTROL PLAN
VILLAGE OF LONGREACH

SECTION 2 AREA 2 & SECTION 4
LOTS 118-225 & LOTS 1-63
6TH. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN SHEET 15 OF 19 SEPTEMBER, 24 1987

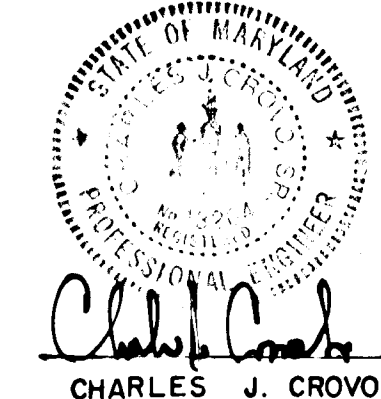
TRAP#	DRAINAGE AREA	VOLUME REQUIRED	VOLUME PROVIDED	STONE OUTLET SEDIMENT - TRAP DATA		SIDE SLOPES	DEPTH	BOTTOM ELEVATION	WEIR CREST ELEVATION	CLEANOUT ELEVATION	WEIR CREST "L" DIMENSION
				TOP DIMENSIONS	BOTTOM DIMENSIONS						
17	1.5AC.±	108 CU.YDS.	101 CU.YDS.	46'X20'	55'X12'	1:1	4'	297.5	299.5	296.5	6'0"
18	1.5AC.±	100 CU.YDS.	101 CU.YDS.	56'X20'	50'X14'	1:1	3'	303.0	307.0	304.5	6'0"
19	0.8AC.±	53 CU.YDS.	53 CU.YDS.	70'X10'	64'X4'	1:1	3'	302.0	306.0	303.5	3'2"

NOTE: THE 2" SEWER IS SHOWN FOR THE PURPOSE OF SEDIMENT TRAP LOCATIONS.



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043

PLAN
 Scale: 1"=60'



CHARLES J. CROVO SR. DATE 11/87

STREET TREE, GRADING, AND
 SEDIMENT CONTROL PLAN
 VILLAGE OF LONGREACH

SECTION 2 AREA 2 & SECTION 4
 LOTS 118-225 & LOTS 1-63
 6TH. ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 16 OF 19 SEPTEMBER, 24 1987

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR DESIGN 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.

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR DESIGN AND SEDIMENT CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.

APPROVED: OFFICE OF PLANNING AND ZONING
 DATE: 2/1/88

APPROVED: DEPARTMENT OF PUBLIC WORKS
 DATE: 2/1/88

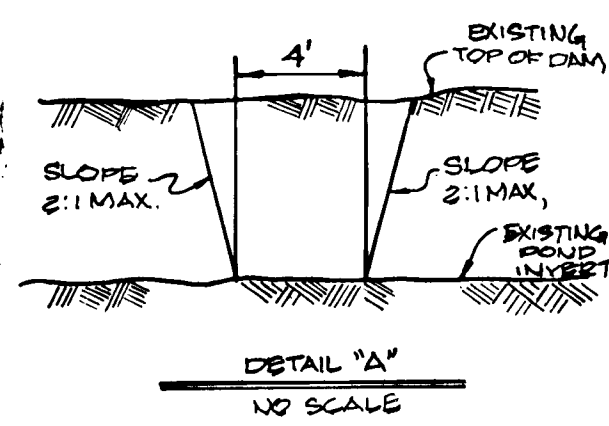
APPROVED: DEPARTMENT OF PUBLIC WORKS
 DATE: 2/1/88

100

GENERAL NOTES FOR POND REMOVAL

- 1) THE CONTRACTOR SHALL ACCESS THE POND SITE FROM MD ROUTE 100
- 2) THE POND SHALL BE DEWATERED BY PUMPING.
- 3) THE CONTRACTOR SHALL EXCAVATE A 4' WIDE OPENING IN THE EXISTING DAM SEE DETAIL "A" THIS SHEET.
- 4) THE EXISTING BOTTOM OF THE POND, THE OPENINGS IN THE DAM AND ANY DISTURBED AREAS DUE TO CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING.

LIMITS OF DISTURBANCE - 0.1 AC. ± AREA TO BE VEGETATED WITH PERMANENT SEEDING



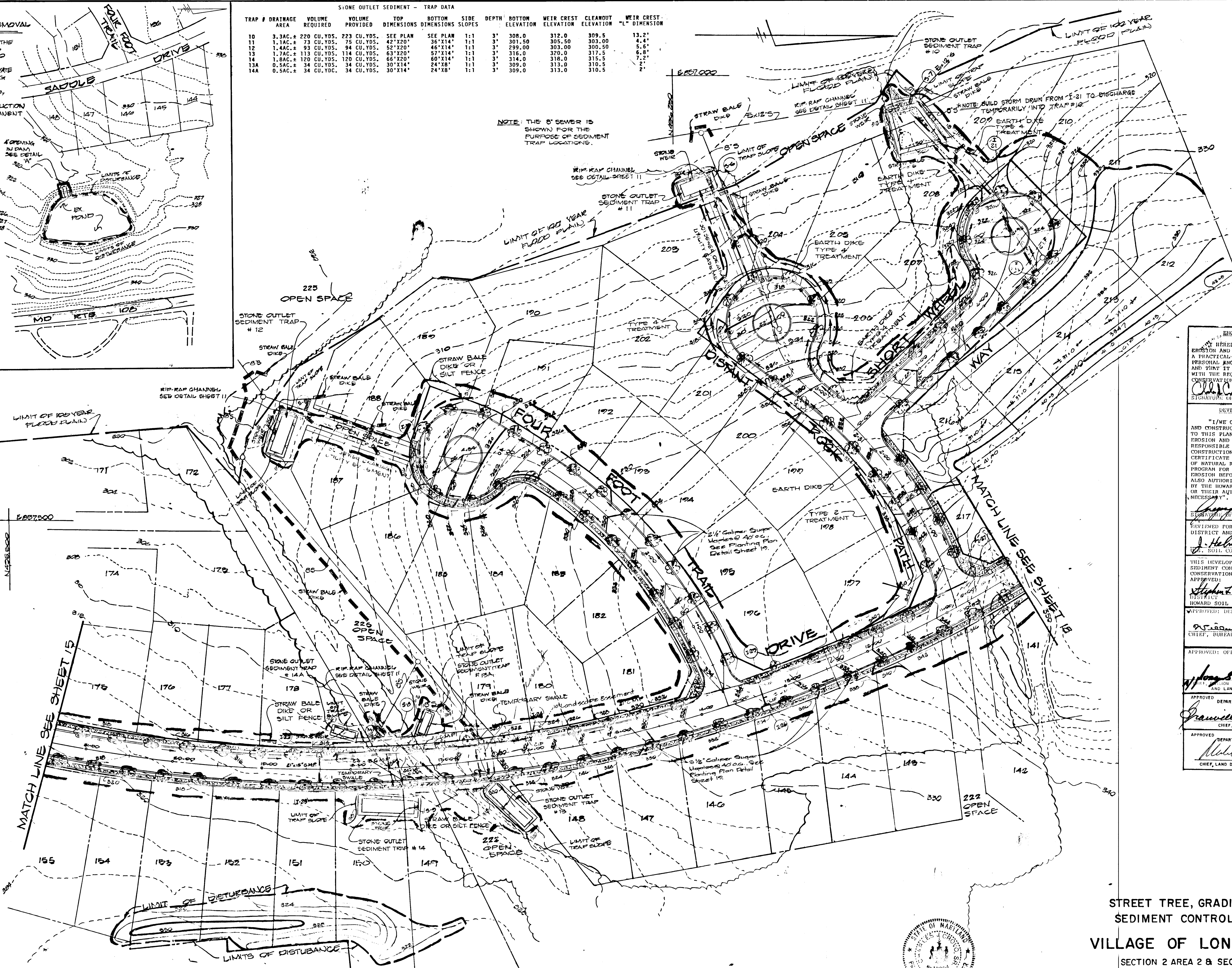
NOTE: THE EXCAVATED MATERIAL SHALL BE PLACED ON THE REAR OF LOTS 150-153

PLAN
SCALE 1" = 100'

STONE OUTLET SEDIMENT - TRAP DATA

TRAP #	DRAINAGE AREA	VOLUME REQUIRED	VOLUME PROVIDED	TOP DIMENSIONS	BOTTOM DIMENSIONS	SIDE SLOPES	DEPTH	BOTTOM ELEVATION	WEIR CREST ELEVATION	CLEANOUT ELEVATION	WEIR CREST "L" DIMENSION
10	3.3AC. ±	220 CU. YDS.	223 CU. YDS.	SEE PLAN	SEE PLAN	1:1	3'	308.0	312.0	309.5	13.2'
11	1.1AC. ±	73 CU. YDS.	75 CU. YDS.	42'x20'	36'x14'	1:1	3'	301.50	305.50	303.00	4.4'
12	1.4AC. ±	93 CU. YDS.	94 CU. YDS.	52'x20'	46'x14'	1:1	3'	299.00	303.00	300.50	5.6'
13	1.7AC. ±	113 CU. YDS.	114 CU. YDS.	63'x20'	57'x14'	1:1	3'	316.0	320.0	317.5	6.8'
14	1.8AC. ±	120 CU. YDS.	120 CU. YDS.	66'x20'	60'x14'	1:1	3'	314.0	318.0	315.5	7.2'
13A	0.5AC. ±	34 CU. YDS.	34 CU. YDS.	30'x14'	24'x8'	1:1	3'	309.0	313.0	310.5	2'
14A	0.5AC. ±	34 CU. YDS.	34 CU. YDS.	30'x14'	24'x8'	1:1	3'	309.0	313.0	310.5	2'

NOTE: THE 6" SEWER IS SHOWN FOR THE PURPOSE OF SEDIMENT TRAP LOCATIONS.



PLAN
Scale: 1" = 80'

ENGINEER'S CERTIFICATE

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

Charles J. Crovo Sr. 10/1/87
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.

Charles J. Crovo Sr. 10-1-87
SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

J. Helms 1-27-88
DATE

APPROVED: HOWARD SOIL CONSERVATION DISTRICT

Stephen L. Helms 1/27/88
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

William E. Poley 2-1-88
DATE

APPROVED: OFFICE OF PLANNING AND ZONING

James S. Smith 2/4/88
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

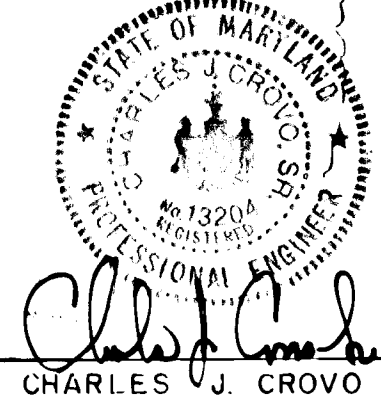
Pravica W. Wescott 2/1/88
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

Mark H. W. 2/1/88
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND
DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044



Charles J. Crovo Sr. 10/1/87
CHARLES J. CROVO SR. DATE

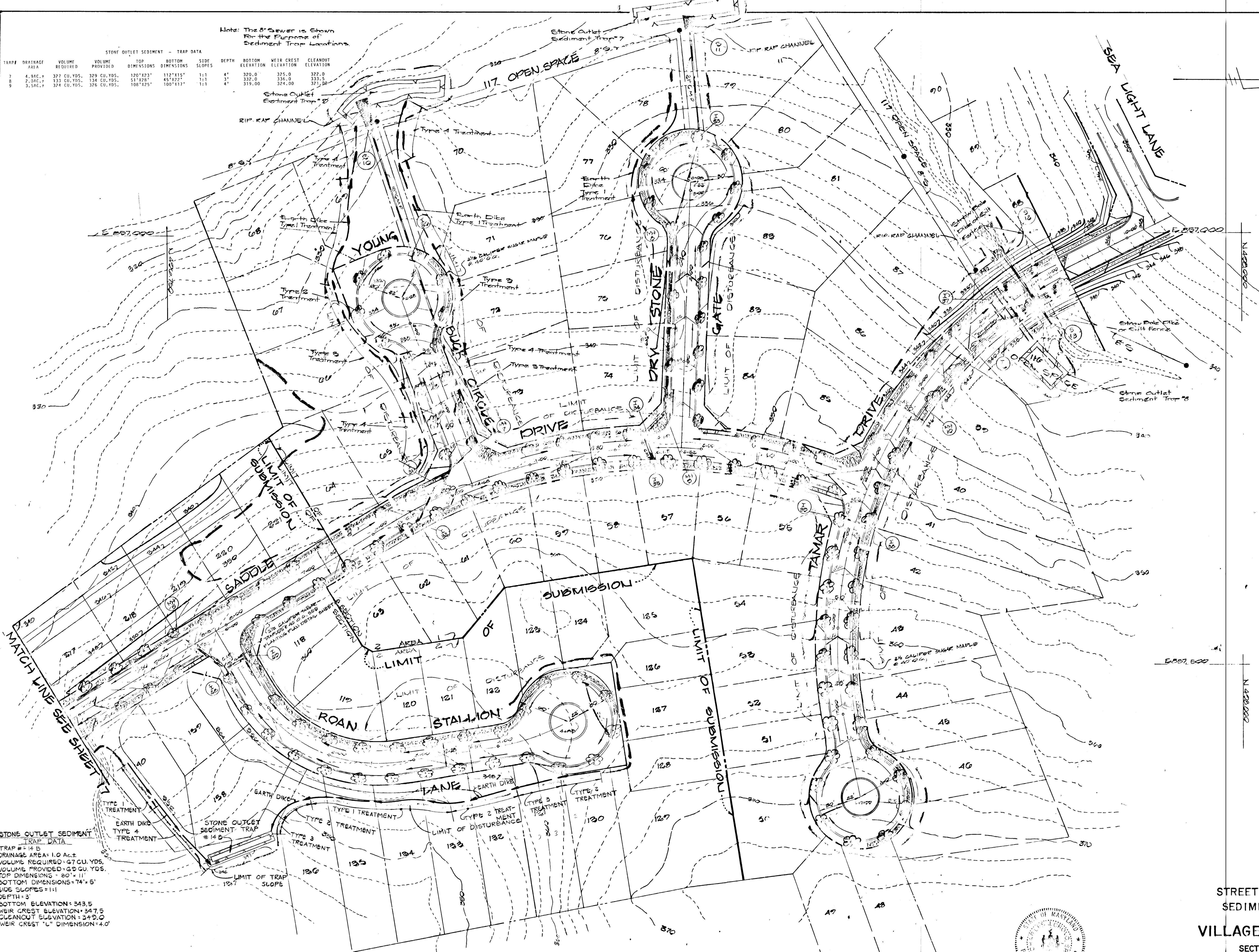
**STREET TREE, GRADING, AND
SEDIMENT CONTROL PLAN**
VILLAGE OF LONGREACH

SECTION 2 AREA 2 & SECTION 4
LOTS 118-225 & LOTS 1-63
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN SHEET 17 OF 19 SEPTEMBER, 24 1987

TRAP	DRAINAGE AREA	VOLUME REQUIRED	VOLUME PROVIDED	TOP DIMENSIONS	BOTTOM DIMENSIONS	SIDE SLOPES	DEPTH	BOTTOM ELEVATION	WEIR CREST ELEVATION	CLEANOUT ELEVATION
7	4.9AC.	37 CU.YDS.	329 CU.YDS.	120'x23'	112'x15'	1:1	4'	320.0	325.0	322.0
8	7.0AC.	133 CU.YDS.	134 CU.YDS.	51'x28'	45'x22'	1:1	3'	332.0	336.0	333.5
9	3.5AC.	34 CU.YDS.	376 CU.YDS.	100'x25'	100'x17'	1:1	4'	316.00	324.00	321.00

Notes: The 8" Sewer is Shown For the Purpose of Sediment Trap Locations.



STONE OUTLET SEDIMENT TRAP DATA

TRAP # 14 B

DRAINAGE AREA: 1.0 AC.±

VOLUME REQUIRED: 67 CU. YDS.

VOLUME PROVIDED: 69 CU. YDS.

TOP DIMENSIONS: 80' x 11'

BOTTOM DIMENSIONS: 14' x 5'

SIDE SLOPES: 1:1

DEPTH: 3'

BOTTOM ELEVATION: 343.5

WEIR CREST ELEVATION: 347.5

CLEANOUT ELEVATION: 349.0

WEIR CREST "L" DIMENSION: 4.0'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS, PLANNERS AND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND
DEVELOPMENT LAND COMPANY
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

PLAN
Scale: 1"=40'

DEVELOPER'S CERTIFICATE

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

Charles W. Grovo Sr. 10/1/87

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR PROVISION AND SEDIMENT CONTROL AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR APPOINTED AGENTS, AS AUTHORIZED HEREON.

John H. Nij 9-30-87

APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

J. Halme 1-27-88

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

APPROVED: *Stephen L. Fisher* 1/27/88

APPROVED: DEPARTMENT OF PUBLIC WORKS

William S. Ray 2-1-88

APPROVED: OFFICE OF PLANNING AND ZONING

Joseph S. Smith 2/9/88

DEPARTMENT OF PUBLIC WORKS

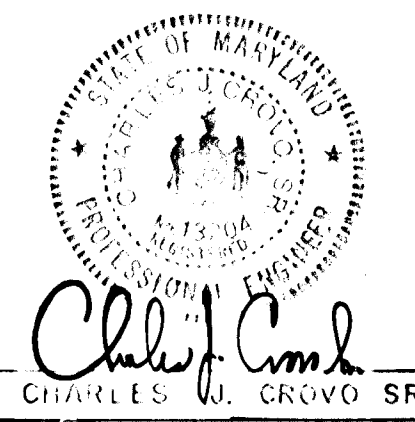
Bronville W. Weiland 2/1/88

APPROVED: DEPARTMENT OF PUBLIC WORKS

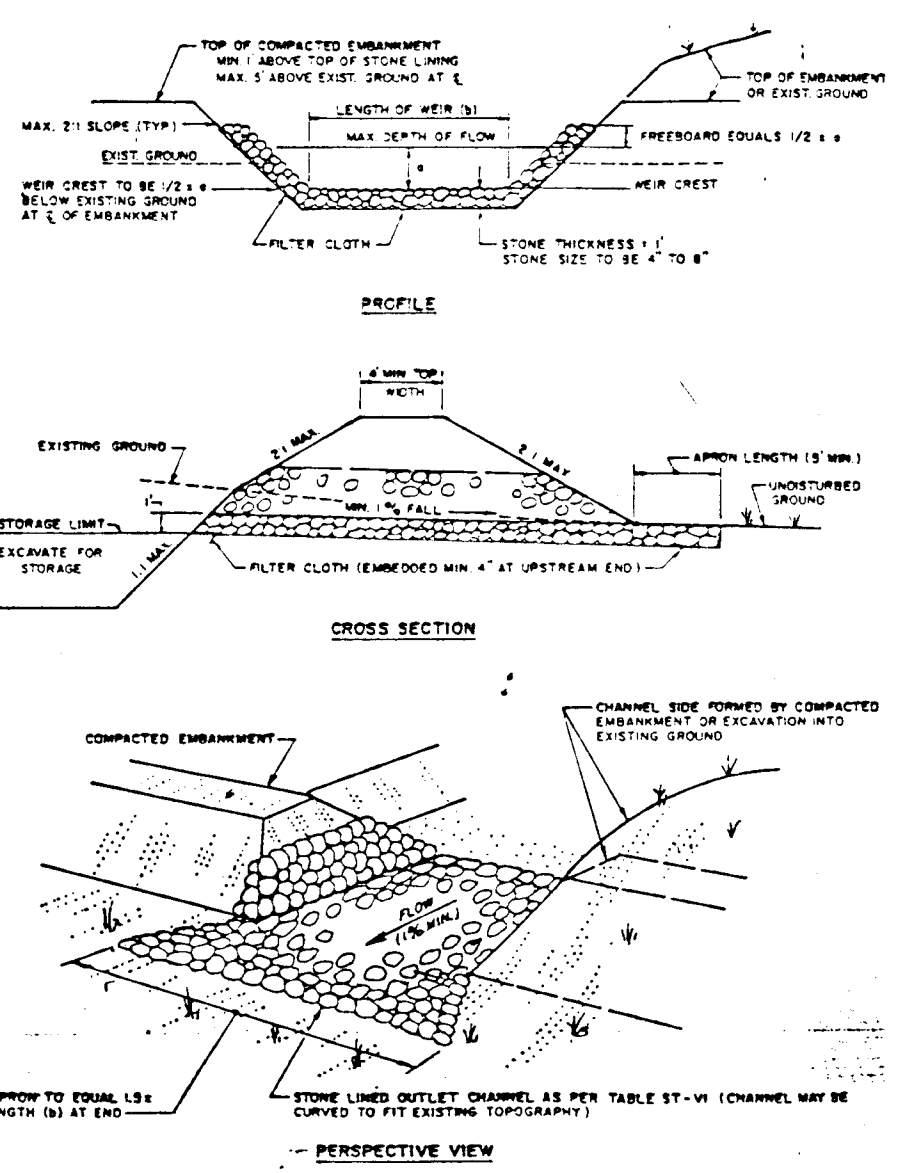
Charles W. Grovo Sr. 2/1/88

CHIEF, LAND DEVELOPMENT DIVISION DATE

STREET TREE, GRADING, AND
SEDIMENT CONTROL PLAN
VILLAGE OF LONGREACH
SECTION 2 AREA 2 & SECTION 4
LOTS 118-225 & 1-63
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN SHEET 18 OF 19 SEPTEMBER 24, 1987

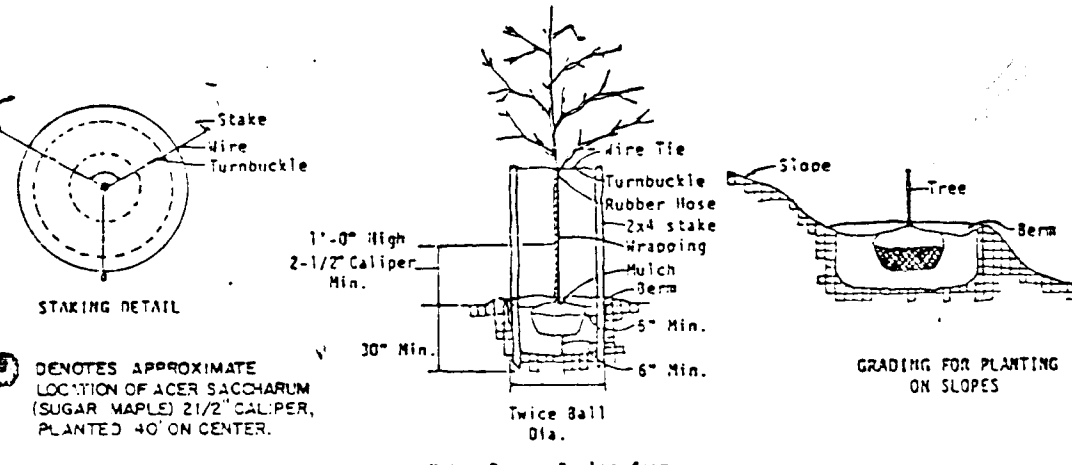


RIPRAP OUTLET SEDIMENT TRAP ST-VI



CONSTRUCTION SPECIFICATIONS FOR ST-VI

- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be constructed by excavating with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at centerline of embankment.
- All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
- Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level weir crest.
- Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
- Stone used in the outlet channel shall be four (4) to eight (8) inches (riprap). To provide a filtering effect, a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repaired as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
- Drainage area for this practice is limited to 15 acres or less.



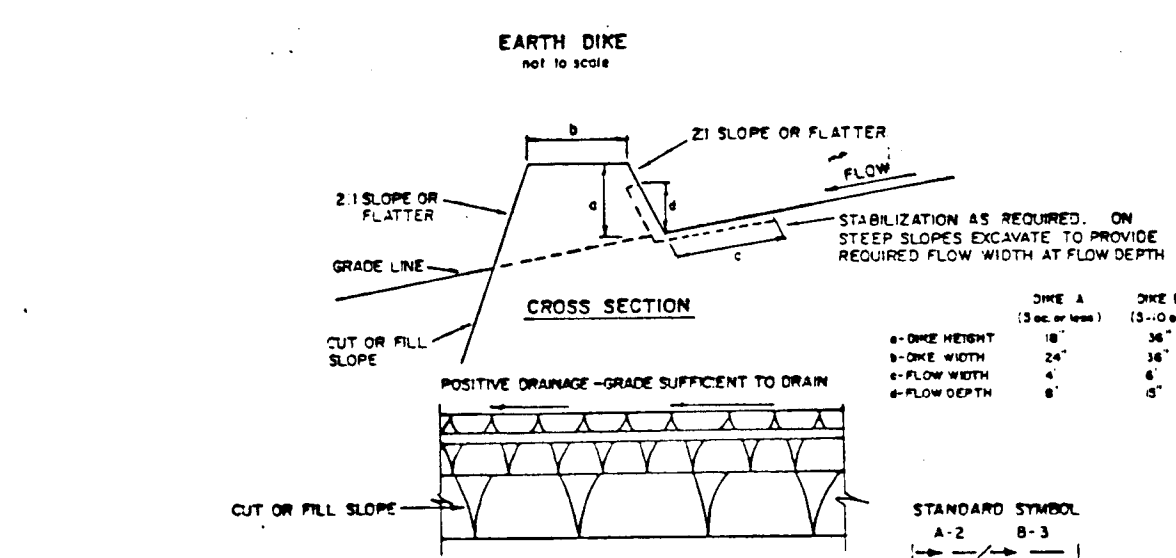
NOTE: CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING. FINAL LOCATIONS OF TREES MAY BE ADJUSTED SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS. PLANTING PROCEDURES SHALL COMPLY WITH LANDSCAPE SPECIFICATIONS FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS. SUBSTITUTIONS TO THE ABOVE SPECIES MAY BE PERMITTED, PROVIDED THAT THE PLANTING IS IN ACCORDANCE WITH THE STREET TREE AND LANDSCAPE REQUIREMENTS AS SPECIFIED IN SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.

STREET TREES: THE LOCATIONS, TYPE AND NUMBER OF TREES SHOWN ON THESE PLANS ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE OFFICE OF PLANNING AND ZONING.

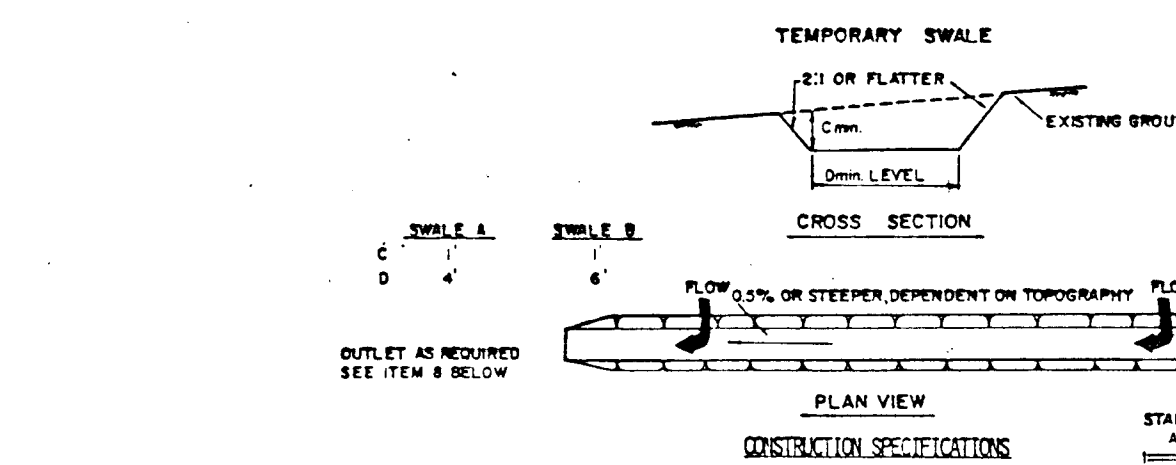
PERMANENT SEEDING NOTES:
 APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOGGED.
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULE.

- 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 TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.).
- 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.

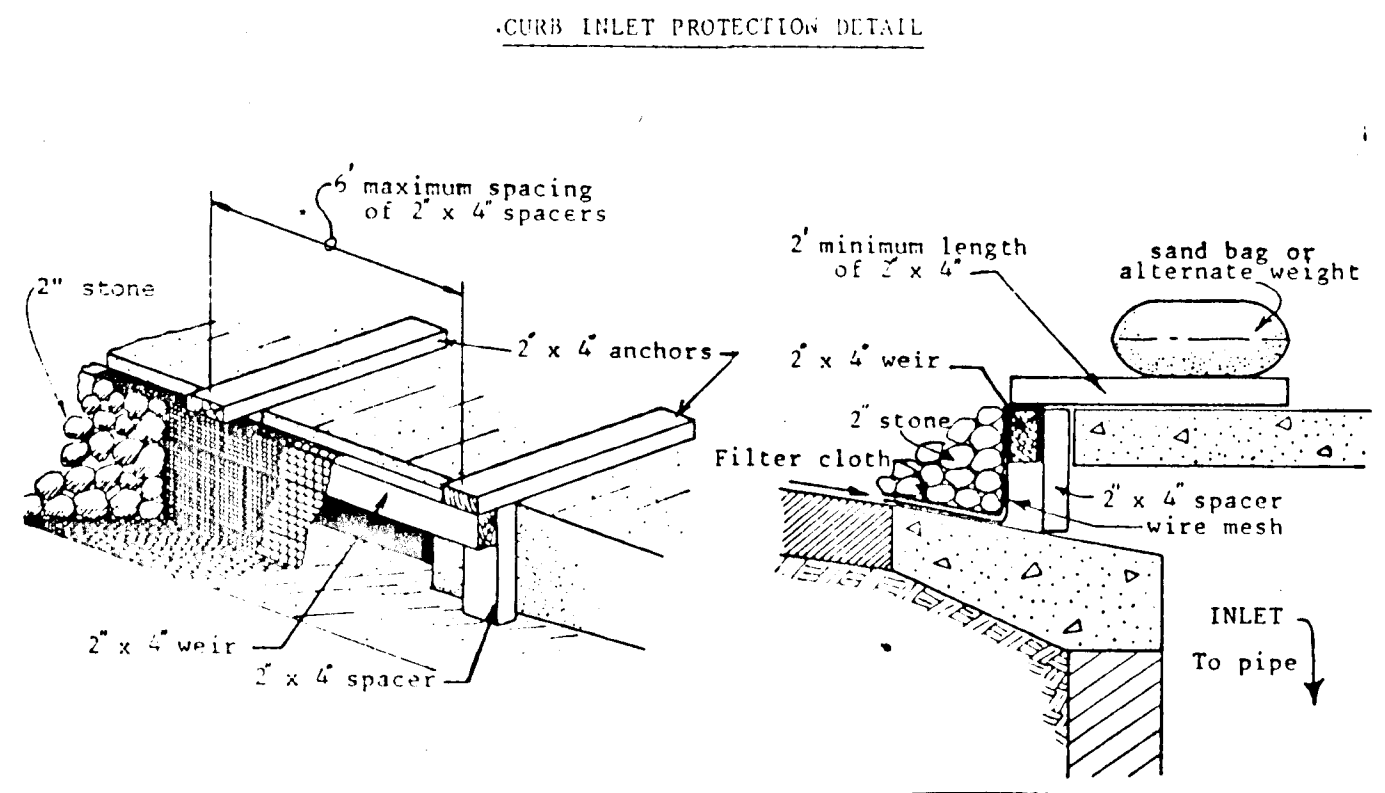
SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 20 LBS PER ACRE (3.2 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY OPTION (1) 2 TONS PER ACRE 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 14 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL BRUSH 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 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.
MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
TEMPORARY SEEDING NOTES:
 APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RESTORED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOGGED.
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 20 BUSHEL PER ACRE OF ANNUAL RYE (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 14 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL BRUSH 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.
 REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



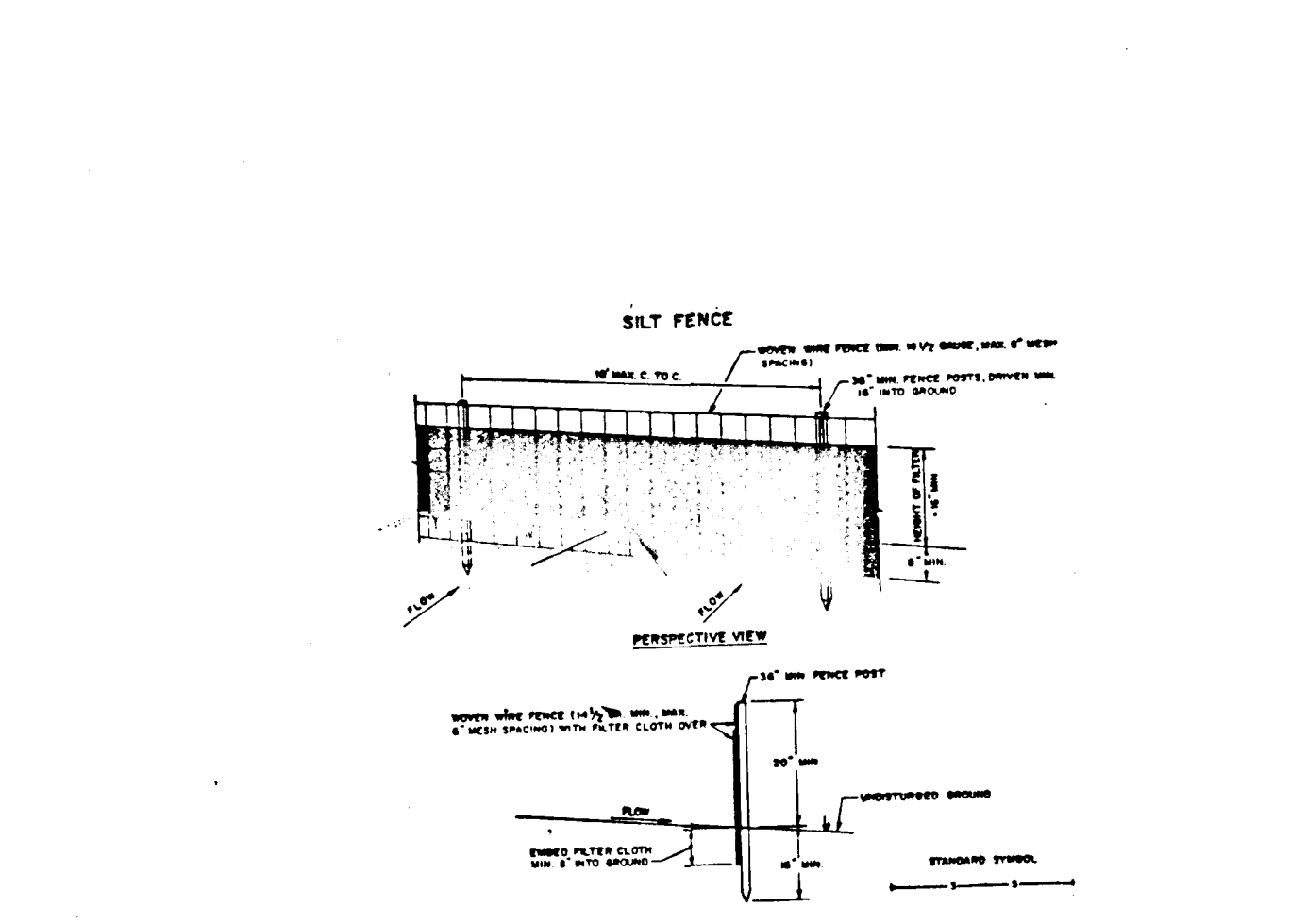
- All dikes shall be compacted by earth-moving equipment. All dikes shall have positive drainage to an outlet.
 - Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
 - FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
 - SMALL DICES SHALL HAVE AN 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 SEDIMENT TRAPPING DEVICES AND STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.
- | TYPE OF TREATMENT | CHANNEL SIZE | DIKE A | DIKE B |
|-------------------|--------------|------------------------|---|
| 1 | 5'-3'-0" | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3'-1'-0" | SEED AND STRAW MULCH | SEED USING JUTE OR EXCELSTON; SOED 2" STONE |
| 3 | 5'-1'-0" | SEED WITH JUTE, OR SOD | LINED RIP-RAP 4-8" |
| 4 | 8'-1'-0" | LINED RIP-RAP 4-8" | ENGINEERING DESIGN |
- NOTE:** A. STONE TO BE 2" INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT. B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 3 INCHES THICKNESS AND PRESSED INTO THE SOIL. C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS. D. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



- ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
 - DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
 - DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-POSITIVE VELOCITY.
 - ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF 50 FEET AWAY FROM THE SWALE TO PREVENT INTERFERENCE WITH THE FUNCTIONING OF THE SWALE.
 - THE SWALE SHALL BE LOCATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER OBSTRUCTION WHICH WILL IMPED NORMAL FLOW.
 - FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
 - ALL EARTH REMOVED AND NEEDED IN CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
 - STABILIZATION SHALL BE AS PER THE CHART BELOW.
- | TYPE OF TREATMENT | CHANNEL SIZE | A (5' AC OR LESS) | B (5' AC - 10' AC) |
|-------------------|--------------|------------------------|---|
| 1 | 0.5'-3'-0" | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3'-1'-0" | SEED AND STRAW MULCH | SEED USING JUTE OR EXCELSTON; SOED 2" STONE |
| 3 | 5'-1'-0" | SEED WITH JUTE, OR SOD | LINED RIP-RAP 4-8" |
| 4 | 8'-1'-0" | LINED RIP-RAP 4-8" | ENGINEERING DESIGN |
- NOTE:** PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

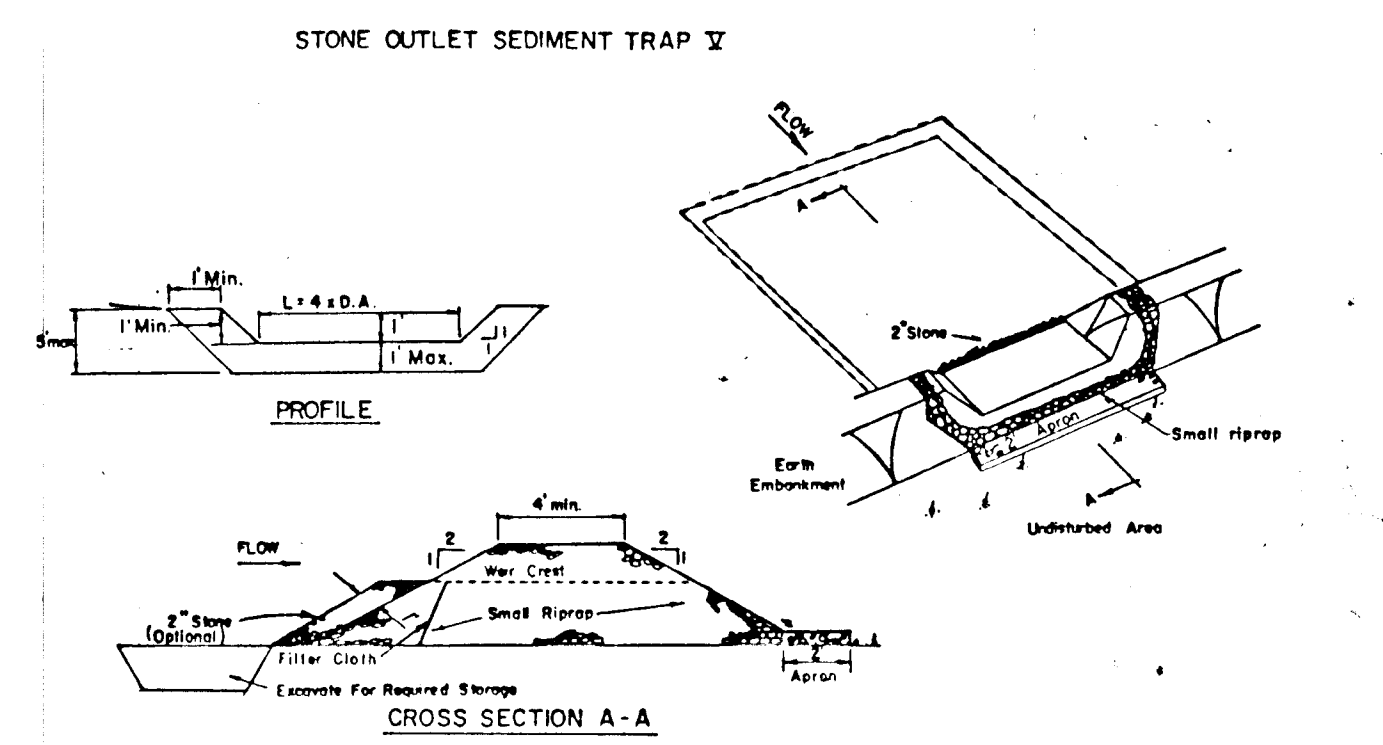


- B. Curb Inlet Protection.**
- Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 - Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
 - Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
 - Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
 - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
 - Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
 - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
 - Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.



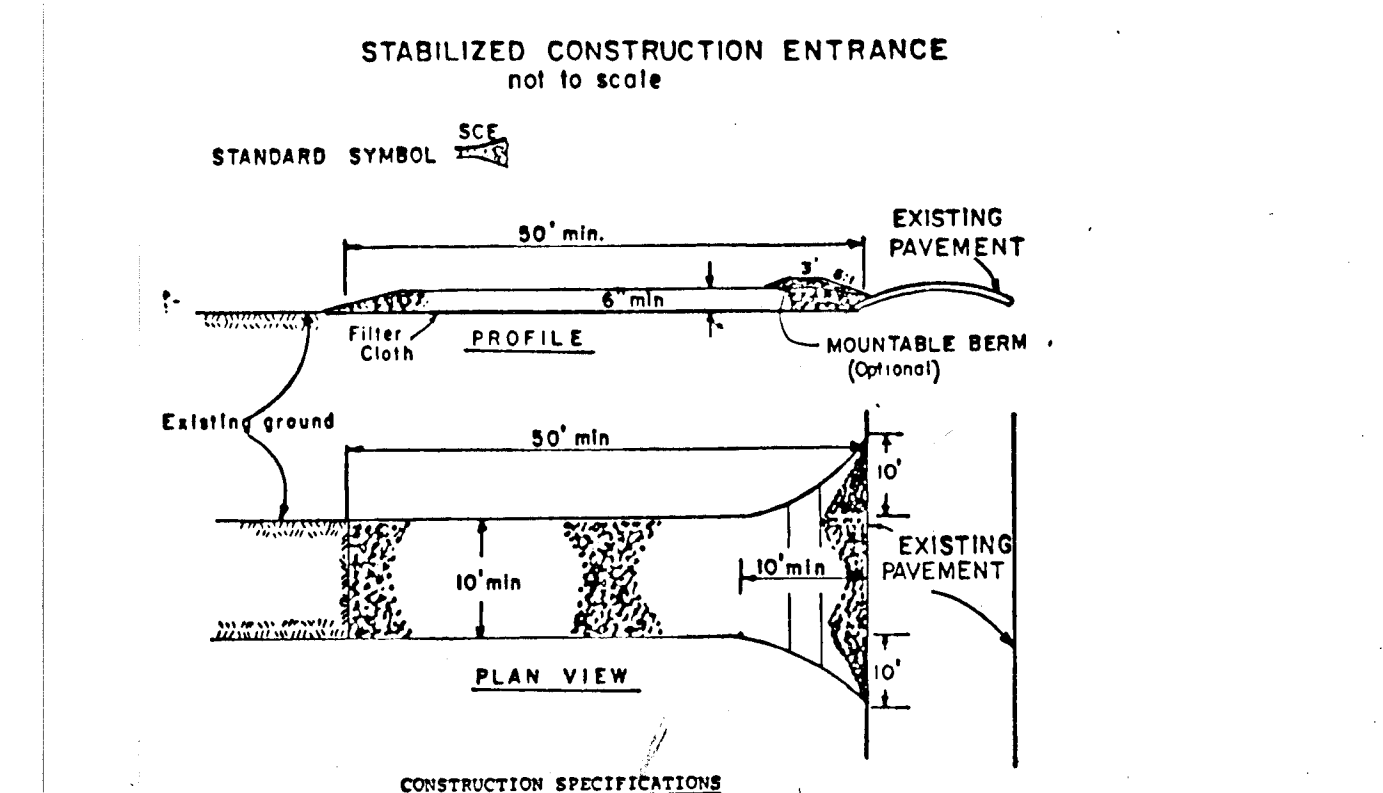
- When wire fence is to be installed, securely fence posts with wire ties.
- Fence shall be installed in accordance with the provisions of this plan and shall be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- When the sections of filter cloth are overlapped, each section shall be overlapped by at least 6 inches.
- When the sections of filter cloth are overlapped, each section shall be overlapped by at least 6 inches.

- SEDIMENT CONTROL NOTES:**
- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (1992-2437).
 - 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 SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR PERMETER SEDIMENT CONTROL STRUCTURES, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - ALL SEDIMENT TRAPS TO BE INSTALLED MUST BE FENCED AND MARKING 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 SEEDING (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 - 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 - 92.688 ACRES AREA DISTURBED - 50.203 ACRES AREA TO BE ROOFED OR PAVED - 0.162 ACRES AREA TO BE VEGETATIVELY STABILIZED - 14.114 ACRES TOTAL CUT - 26.600 CU. YDS. TOTAL FILL - 26.600 CU. YDS. OFFSITE WASTE/BORROW AREA LOCATION - CU. YDS.
 - 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 OFFICE OF SEDIMENT CONTROL INSPECTOR.
 - FOR ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE OBTAINED UPON COMPLETION OF INSTALLATION OF PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVAL MUST BE OBTAINED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.



- 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.
- CONSTRUCTION SPECIFICATIONS FOR ST-VI**
- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 - The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by excavating 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 small riprap 4"-8" along with a 1' thickness of 2" aggregate placed on the up-grade side on the small riprap on embedded filter cloth in the riprap.
 - Sediment shall be removed and 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.

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE
 CHIEF, LAND DEVELOPMENT DIVISION



- Stone Size - One 2" stone, or reclaimed or recycled concrete equivalent.
- Length - As required, but not less than 30 feet (except on a single residence lot where a 30 foot minimum length would apply).
- Thickness - Not less than six (6) inches.
- Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
- Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
- Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrances. 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 periodic 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 applied, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- Washing - Swales shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
- Periodic inspection and needed maintenance shall be provided after each rain.

CONSTRUCTION SEQUENCE:

- OBTAIN GRADING PERMIT.
- REVIEW AND IMPLEMENT REQUIREMENTS OF THE TEMPORARY WATERWAY CONSTRUCTION PERMIT ISSUED BY WATER RESOURCES ADMINISTRATION.
- REVIEW AND IMPLEMENT REQUIREMENTS OF THE STATE HIGHWAY ADMINISTRATION ENTRANCE PERMIT TO MARYLAND ROUTE 108 AT SUMMER CLOUD WAY.
- PLACE STONE CONSTRUCTION ENTRANCE AS SHOWN ON PLAN.
- INSTALL SILT FENCE OR STRAW BALE DIKE ALONG UPGRADE SIDE OF BASIN.
- CONSTRUCT SEDIMENT TRAPS (EARTH DIKES AND TEMPORARY SWALES, STABILIZE WITH TEMPORARY SEEDING.
- CONSTRUCT STORM DRAIN SYSTEM FROM S-20 TO S-21 AND S-8 TO S-9.
- INSTALL SILT FENCE OR STRAW BALE DIKE ALONG UPGRADE SIDES OF THE EXCAVATION AT THE LIMITS OF DISTURBANCE-BOTH SIDES OF STREAM.
- EXCAVATE SETTLING AND DETERMINING BASIN TO DIMENSIONS SHOWN ON PLAN.
- EXCAVATE STREAM DIVERSION CHANNEL.
- DEWATER C.M.P.A.'S INSTALLATION AREA - PUMP ALL WATER INTO THE SETTLING AND DETERMINING BASIN.
- PLACE SANDBAGS AT BOTH UPSTREAM AND DOWNSTREAM LIMITS OF C.M.P.A.'S INSTALLATION AREA.
- CONSTRUCT CONCRETE END SUPPORT WALLS.
- INSTALL C.M.P.A.'S.
- AS ROADWAY FILL IS PLACED, INSTALL SILT FENCE OR STRAW BALE DIKES ALONG THE ENTIRE LENGTH OF THE TOE OF SLOPE OF THE EMBANKMENT - UPSTREAM AND DOWNSTREAM FACES.
- INSTALL THE RIP-RAP CHANNEL AT THE DOWNSTREAM END OF THE C.M.P.A.'S.
- REDIVERT FLOW THROUGH C.M.P.A.'S.
- GRADE ROADS TO SUBGRADE AND CONSTRUCT STORM DRAIN SYSTEM.
- INSTALL INLET PROTECTION DEVICES AT ALL INLETS WHERE SHOWN. DURING CONSTRUCTION ALONG MARYLAND ROUTE 108, THE CONTRACTOR SHALL PLACE STRAW BALE DIKES OR SILT FENCE DOWNGRADE OF ANY DISTURBED AREA AT THE END OF EACH WORKING DAY.
- CONSTRUCT CURB AND GUTTER AND INSTALL BASE COURSE.
- SEEDING SHALL BE REMOVED FROM THE SEDIMENT TRAPS WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED.
- THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS.
- THE SEDIMENT TRAPS SHALL BE DETERMINED BY PUMPING THE SEDIMENT FROM THE TRAPS SHALL BE PLACED UP-GRADE FROM THE SEDIMENT TRAPS IN SUCH A MANNER AS NOT TO INTERFERE WITH CONSTRUCTION OPERATIONS OR CAUSE EROSION DOWNGRADE FROM THE SEDIMENT TRAP.
- REMOVE SEDIMENT FROM ROADWAYS AND DRESS STONE CONSTRUCTION ENTRANCE AS REQUIRED.
- REMOVE INLET PROTECTION DEVICES AND FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENT. INSTALL RIP-RAP APRONS.
- REMOVE STONE CONSTRUCTION ENTRANCE AND STRAW BALE DIKE/SILT FENCE. CLEAN BASE COURSE. APPLY TACK COAT TO BASE COURSE AND LAY SURFACE COURSE.
- ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED WITH PERMANENT SEEDING MIXTURE.
- NOTE: BUILD STORM DRAIN FROM I-21 TO DISCHARGE TEMPORARILY INTO TRAP #10.

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE
 CHIEF, BUREAU OF ENGINEERING

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] DATE
 SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.
 [Signature] DATE
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 [Signature] DATE
 U.S. SOIL CONSERVATION DISTRICT DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED:
 [Signature] DATE
 DISTRICT CHIEF, HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE
 CHIEF, BUREAU OF ENGINEERING

APPROVED OFFICE OF PLANNING AND ZONING
 [Signature] DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE
 CHIEF, BUREAU OF HIGHWAYS

STREET TREE, GRADING, AND SEDIMENT CONTROL NOTES AND DETAILS
VILLAGE OF LONGREACH
 SECTION 2 AREA 2 & SECTION 4
 LOTS 118-225 & 1-63
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN SHEET 19 OF 19 SEPTEMBER 24, 1987

FISHER, COLLINS AND CARTER INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE
 CHARLES J. CROVO SR. DATE