

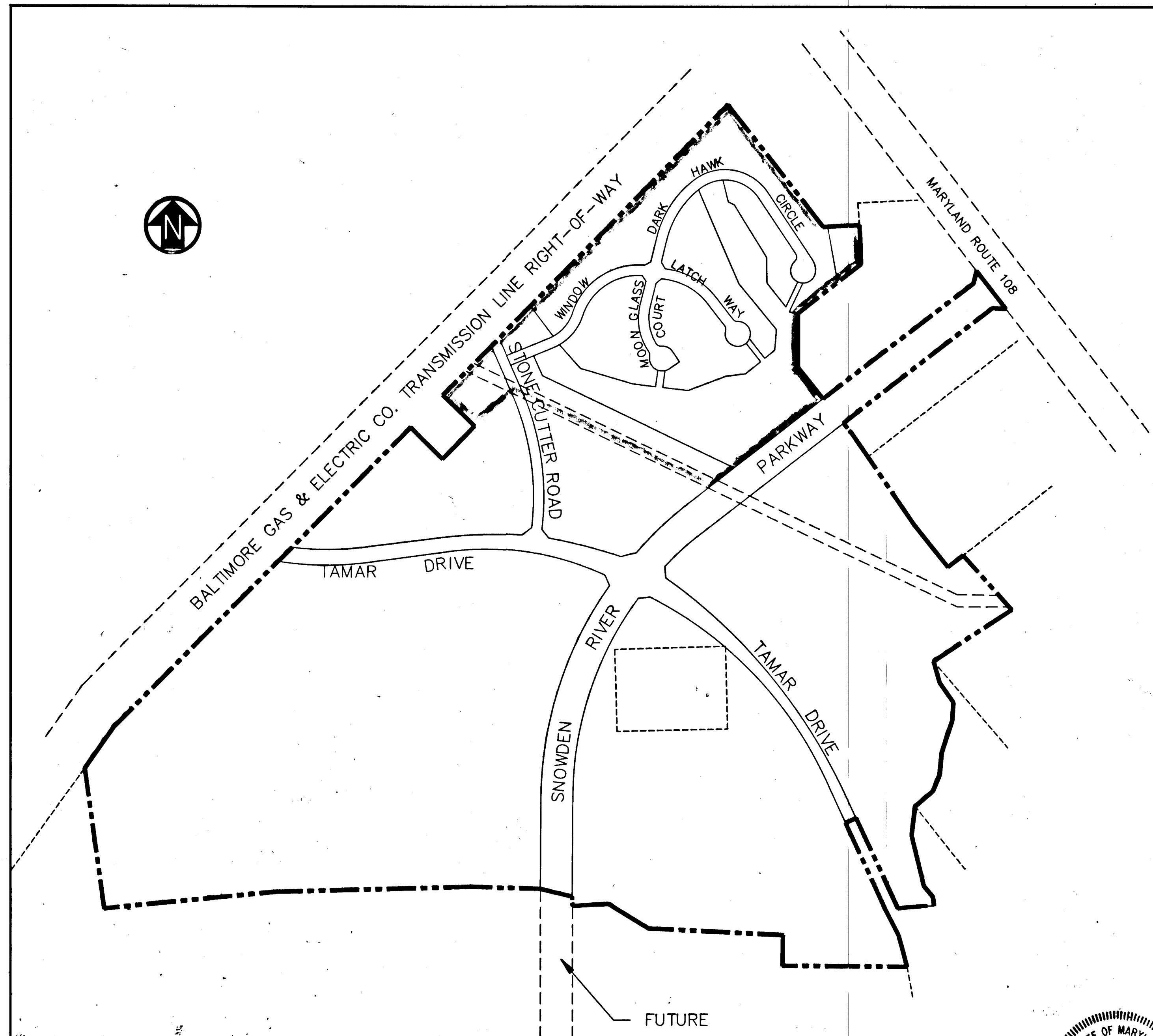
VICINITY MAP
SCALE: 1" = 2000'

VILLAGE of LONGREACH

SECTION 3 - AREA 3

ROAD CONSTRUCTION PLANS

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ROAD PLANS AND PROFILES - STONECUTTER ROAD 0+47 TO 8+77
3	WINDOW LATCH WAY STA. 0+00 TO 9+50
4	WINDOW LATCH WAY STA. 9+50 TO 14+20
5	MOON GLASS COURT STA. 0+00 TO 4+50 DARK HAWK CIRCLE STA. 0+00 TO 12+75
6	TYPICAL ROADWAY SECTIONS
7	DRAINAGE AREA MAPS - SHEET 1
8	STORM DRAIN PROFILES - SHEET 1
9	SHEET 2
10	SHEET 3
11	CULVERT PROFILES
12	SEDIMENT AND EROSION CONTROL PLANS - STONECUTTER ROAD STA. 0+47 TO 8+77
13	WINDOW LATCH WAY STA. 0+00 TO 14+20 MOON GLASS COURT STA. 0+00 TO 4+50 DARK HAWK CIRCLE STA. 0+00 TO 12+75
14	SEDIMENT & EROSION CONTROL DETAILS & NOTES



SITE PLAN
SCALE: 1" = 400'

ESTIMATE OF QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
	STANDARD TYPE A-5 INLET	EA.	12
	STANDARD TYPE A-5 INLET WITH DEFLECTORS	EA.	1
	STANDARD 4' MANHOLE	EA.	5
	48" CMP	16 Gage L.F.	249
	18" CMP	16 Gage L.F.	768
	15" CMP	16 Gage L.F.	794
	58" X 36" STD. METAL END SECTION	EA.	2
	48" STD. METAL END SECTION	EA.	4
	15" STD. METAL END SECTION	EA.	3
	STANDARD TYPE A-10 INLET	EA.	1
	STANDARD TYPE A-10 INLET WITH DEFLECTORS	EA.	1
	18" STD. METAL END SECTION	EA.	3
	LANDSCAPING		
	2" CAL. MAPLE	EA.	194

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- ALL UTILITY COMPANIES SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF CONSTRUCTION.
- ALL INLETS SHALL BE HOWARD COUNTY STANDARDS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHTS-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROODE CODE.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY CONSTRUCTION.
- TEMPORARY COMPACTED 18" HIGH EARTH FILL DIVERSION DIKES SHALL BE CONSTRUCTED ABOVE THE LIPS OF THE FILL SLOPES ON THE RIGHT-OF-WAY CONCURRENTLY WITH THE INITIAL GRADING AND DIRECTED TO UNDISTURBED SOD AREAS AT THE END OF EACH DAY.
- CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPT. OF INSPECTIONS AND PERMITS AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE NO. 792-7272
- ALL DISTURBED SLOPE AREAS TO BE STABILIZED AS SOON AS GRADING IS COMPLETED.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3500 P.S.I.
- ALL SWALES AND SLOPES SHALL BE PERMANENTLY SEEDDED. SEE THE SEED SPECIFICATIONS ON SHEET 14.
- TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1984 REVISED EDITION.
- POLY FILTER-X (FILTER CLOTH BLANKET) OR EQUAL SHALL BE PLACED UNDER ALL STONE RIP-RAP (FULL WIDTH AND LENGTH OF STONE).
- STONE SHALL BE MARYLAND S.H.A. CLASS I MEDIUM RIP-RAP. STONE FROM ON SITE ROCK EXCAVATION MAY SUBSTITUTED FOR THE MARYLAND S.H.A. CLASS I MEDIUM RIP-RAP. RIP-RAP SHALL BE UNPAVED UNLESS OTHERWISE NOTED.
- STORMWATER MANAGEMENT IS PROVIDED UNDER VILLAGE OF LONGREACH SECTION 3 AREA 2, OFFICE OF PLANNING AND ZONING FILE NO. F-88-171.
- 100 YEAR FLOOD PLAIN BASED ON STUDY BY PURDUM AND JESCHKE DATED 1987.

TREE PLANTING

THE LOCATIONS AND TYPE OF TREES 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.

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

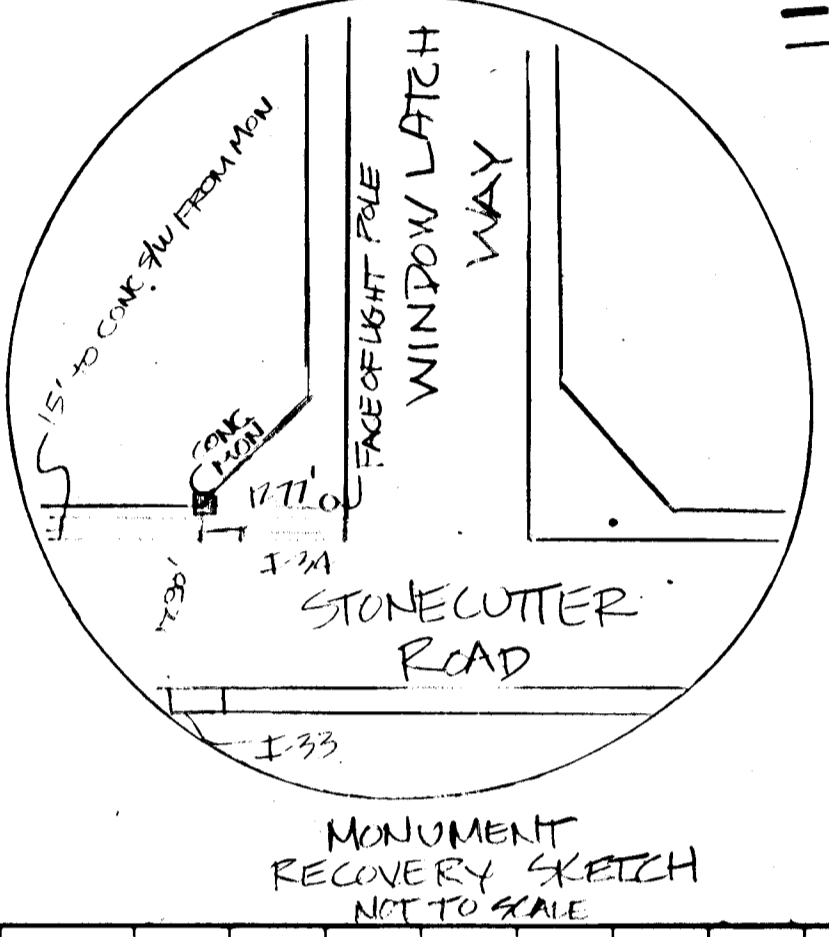
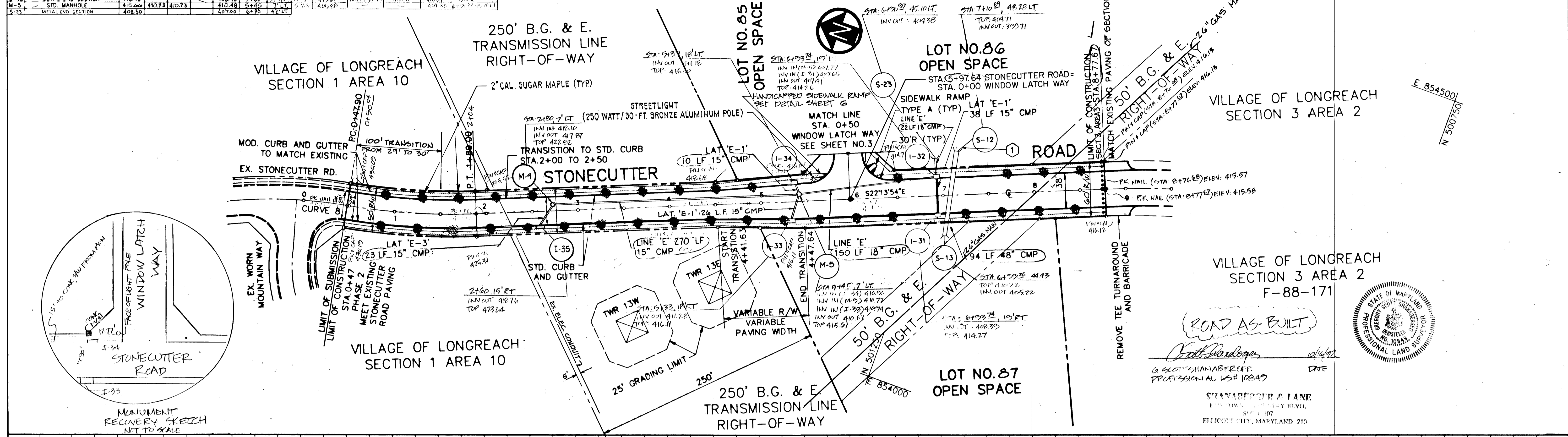
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PURDUM & JESCHKE CONSULTING ENGINEERS AND LAND SURVEYORS 1029 North Calvert Street Baltimore, Maryland 21202 (301)837-0194	OWNER/DEVELOPER THE HOWARD RESEARCH & DEVELOPMENT LAND COMPANY THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD. 21044	OFFICE OF PLANNING & ZONING <i>Charles S. D. Taylor</i> 10/24/88 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>James W. Williams</i> 10/18/88 CHIEF, LAND DEVELOPMENT DIVISION <i>Francis W. Williams</i> 10/18/88 CHIEF, BUREAU OF HIGHWAYS <i>William E. Reilly</i> 10/18/88 CHIEF, BUREAU OF ENGINEERING	NO. DATE DESCRIPTION REVISIONS		VILLAGE OF LONGREACH SECTION 3 AREA 3 - ROAD CONSTRUCTION PLANS TITLE SHEET PARCELS: 27, 50, 229, 242, 254, 255 & 448 REFERENCE: S87-46 SIXTH ELECTION DISTRICT HOWARD COUNTY, MD. DATE: 3/1/88 SCALE: NOTED	SHEET 1 OF 14 DES: GDT DRAWN: LCC, JMJ CHK: RHB
						PURDUM & JESCHKE CONSULTING ENGINEERS AND LAND SURVEYORS 1029 North Calvert Street Baltimore, Maryland 21202 (301)837-0194	

STORM DRAIN STRUCTURE SCHEDULE										
NO.	TYPE	TOP E.	INV. IN	INV. IN	INV. IN	INV. OUT	STATION	OFFSET	NO.	TOP E.
I-31	STD. A-5 INLET	414.28	408.90	6+93.74	19	RT			1	414.27
I-32	STD. A-5 INLET	414.28	407.69	6+93.74	19	RT			2	414.26
I-33	STD. A-5 INLET W/DEFLECTORS	418.20	411.13	5+33	18	RT			3	418.19
I-34	STD. A-5 INLET	416.20	411.13	5+37	18	LT			4	416.19
I-35	STD. A-10 INLET W/DEFLECTORS	422.00	418.85	2+60	18	RT			5	421.99
M-9	STD. MANHOLE	422.17	418.37	2+75	7	LT			6	422.16
S-12	METAL END SECTION	404.80	399.80	7+10	48	LT			7	404.79
S-13	METAL END SECTION	410.40	405.40	7+00	44	RT			8	410.39
M-5	STD. MANHOLE	415.60	410.73	410.73	7	LT			9	415.59
S-23	METAL END SECTION	408.50	407.80	6+70	42	LT			10	408.49

CENTERLINE CURVE DATA					
CURVE NO.	Δ	RADIUS	LENGTH	TANGENT	CHORD BEARING
8	11°42'58"	690.01	141.10	70.80	140.86
					516°22'25"E

SEE SEDIMENT CONTROL PLANS FOR OUTLET RIPRAP PROTECTION

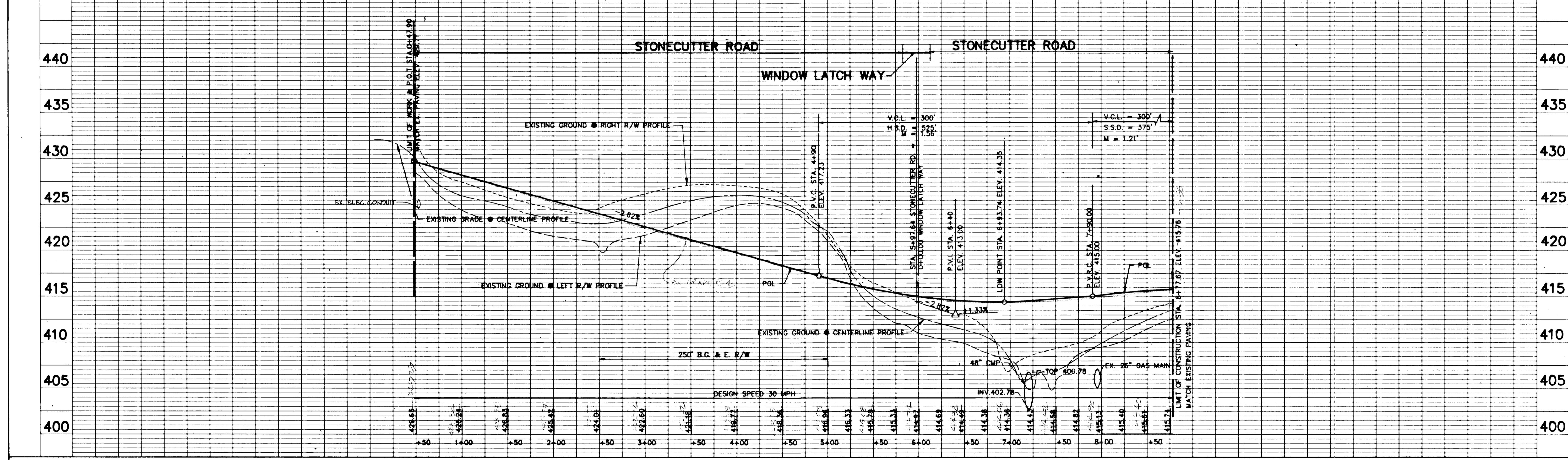


ROAD AS BUILT

Richard H. B... [Signature]

G. CLON SHANABEREE
PROFESSIONAL LS# 10849

SIAMBERGER & LANE
ENGINEERS & SURVEYORS
5001 107
FELICITY CITY, MARYLAND 210

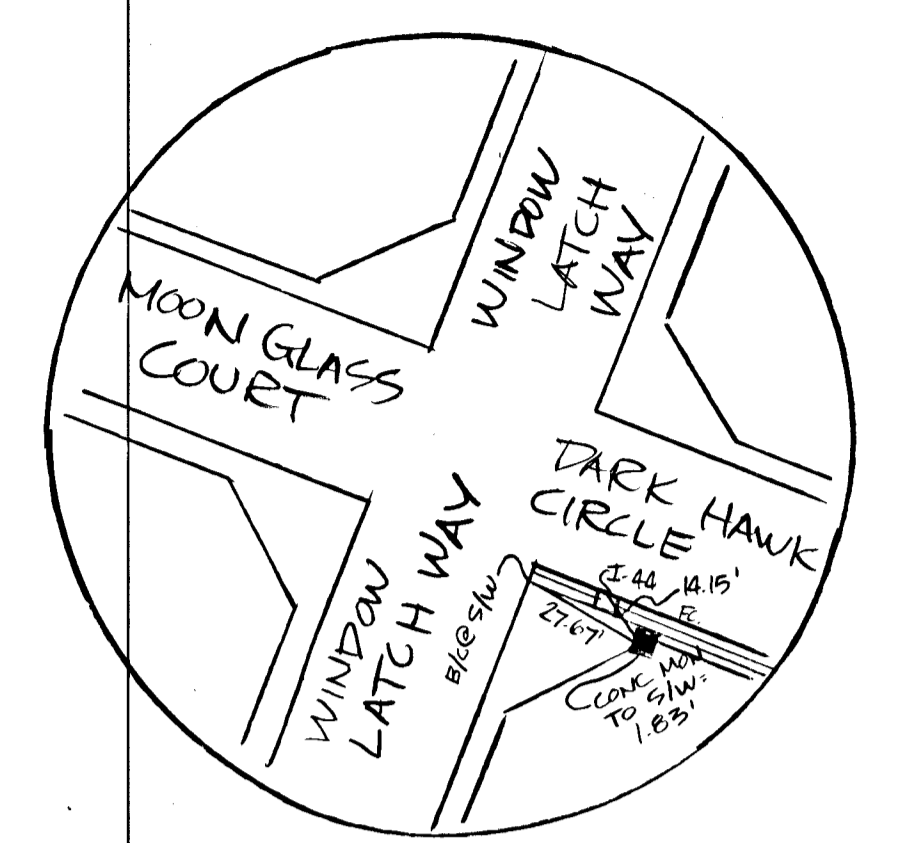
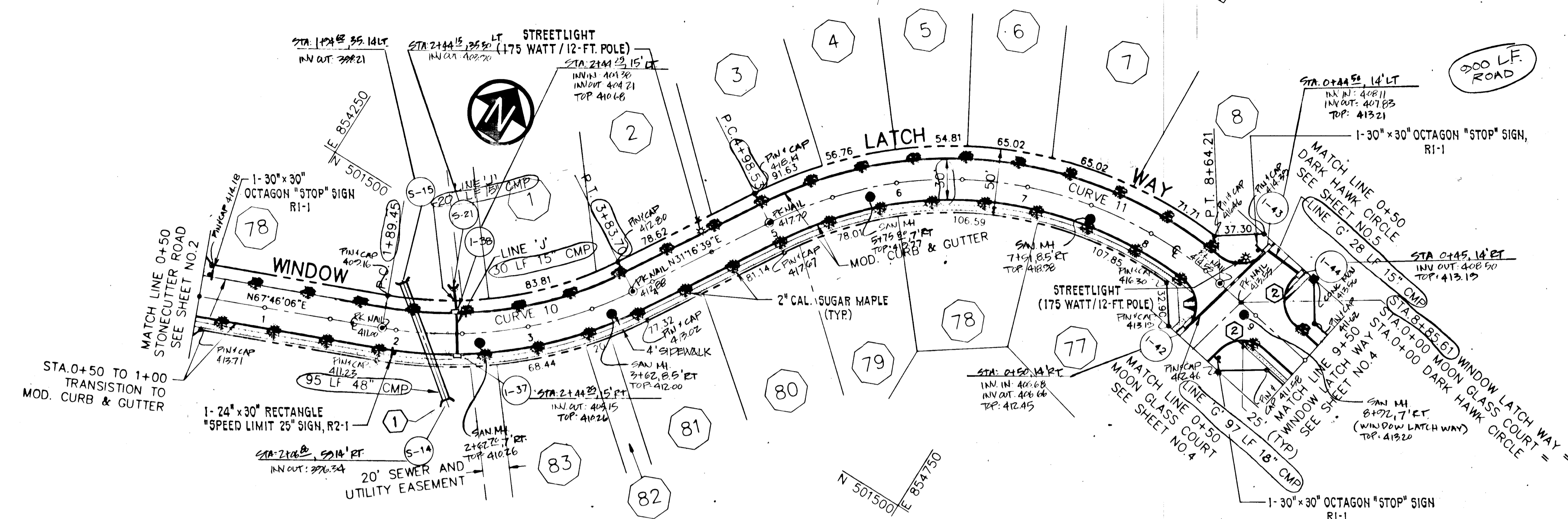


<p>PURDUM & JESCHKE CONSULTING ENGINEERS AND LAND SURVEYORS</p> <p>1029 North Calvert Street Baltimore, Maryland 21202 (301)837-0194</p>	<p>OWNER/DEVELOPER THE HOWARD RESEARCH & DEVELOPMENT LAND COMPANY THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD. 21044</p>	<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS</p> <p><i>[Signature]</i> 10/18/88 DATE</p> <p>CHIEF, LAND DEVELOPMENT DIVISION</p> <p><i>[Signature]</i> 10-19-88 DATE</p> <p>CHIEF, BUREAU OF HIGHWAYS</p> <p><i>[Signature]</i> 10-19-88 DATE</p> <p>CHIEF, BUREAU OF ENGINEERING</p>	<p>VILLAGE OF LONGREACH-SECT. 3 AREA 3 ROADWAY PLAN & PROFILE STONECUTTER ROAD STA. 0+47 TO STA. 8+77.67</p> <p>SIXTH ELECTION DISTRICT HOWARD COUNTY, MD. DATE: 3/1/88</p>	<p>SHEET 2 OF 14</p> <p>DES: GDT DRAWN: LCC, JMJ CHK: RHB</p> <p>SCALE: HORIZ: 1" = 50' VERT: 1" = 5'</p>
	<p>OFFICE OF PLANNING & ZONING</p> <p><i>[Signature]</i> 11-27-88 DATE</p> <p>CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT</p>	<p>DATE: 10-19-88</p>	<p>DATE: 10-19-88</p>	<p>DATE: 3/1/88</p>

NO.	TYPE	TOP EL.	INV. IN	INV. IN	INV. IN	INV. OUT	STATION	OFFSET	NO.	TOP ELEV.	INV. IN	INV. IN	INV. OUT	STATION	OFFSET
1-37	STD. A-5 INLET	410.36	408.36	2+44.29	15	RT	13-37	210.26		410.26	408.26	2+44.29	15	RT	13-37
1-38	STD. A-5 INLET	410.36	408.36	2+44.29	15	LT	13-38	210.26		410.26	408.26	2+44.29	15	LT	13-38
1-42	STD. A-5 INLET	412.12	408.46	0+50	14	RT	13-42	210.26		410.26	408.26	2+44.29	15	RT	13-42
1-43	STD. A-5 INLET	413.12	408.46	0+50	14	LT	13-43	210.26		410.26	408.26	2+44.29	15	LT	13-43
1-44	STD. A-5 INLET	413.12	408.46	0+50	14	RT	13-44	210.26		410.26	408.26	2+44.29	15	RT	13-44
5-14	STD. METAL END SECTION	450.75	393.25	2+30	46	RT	13-14	210.26		410.26	408.26	2+44.29	15	RT	13-14
5-15	STD. METAL END SECTION	450.75	393.25	2+30	46	LT	13-15	210.26		410.26	408.26	2+44.29	15	LT	13-15
5-21	STD. METAL END SECTION	450.75	393.25	2+30	46	RT	13-21	210.26		410.26	408.26	2+44.29	15	RT	13-21

CENTERLINE CURVE DATA						
CURVE NO.	Δ	RADIUS	LENGTH	TANGENT	CHORD LENGTH	CHORD BEARING
10	36°29'27"	305.00	194.25	100.55	190.98	N49°31'23"E
11	68°41'43"	305.00	365.69	208.43	344.17	N35°37'30"E

- ① SEE SEDIMENT CONTROL PLANS FOR OUTLET KIPRAP PROTECTION
- ② SEE SHEET 6 FOR HANDICAP SIDEWALK RAMP DETAILS

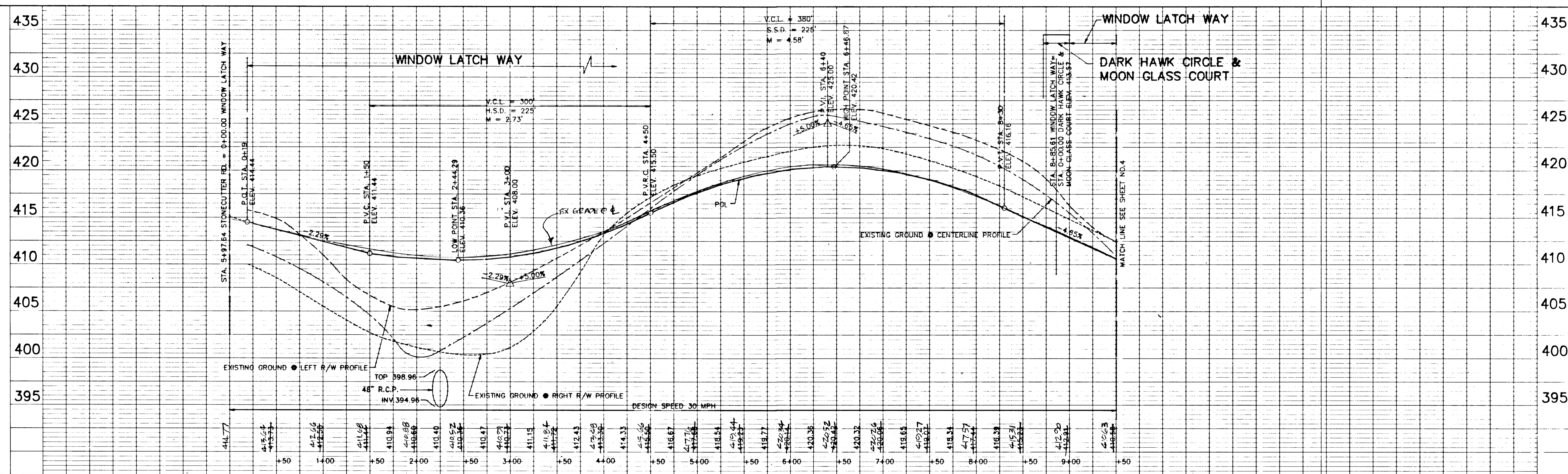


MONUMENT RECOVERY SKETCH
NOT TO SCALE

ROAD AS-BUILT

STATE OF MARYLAND
PROFESSIONAL LAND SURVEYOR
REG. NO. 10849

SPANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 107
FELICITY CITY, MARYLAND 21043

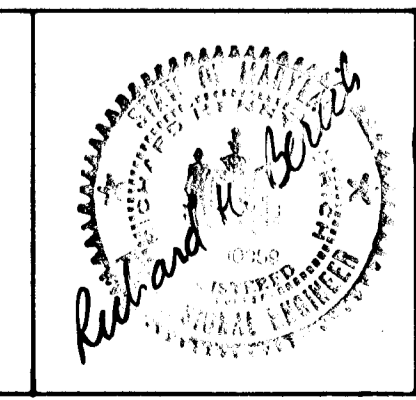


PURDUM & JESCHKE
CONSULTING ENGINEERS AND
LAND SURVEYORS
1029 North Calvert Street
Baltimore, Maryland 21202 (301)837-0194

OWNER/DEVELOPER
THE HOWARD RESEARCH &
DEVELOPMENT LAND COMPANY
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD. 21044

OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF COMMUNITY
PLANNING AND LAND DEVELOPMENT

APPROVED:
HOWARD COUNTY DEPARTMENT OF
PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION
CHIEF, BUREAU OF HIGHWAYS
CHIEF, BUREAU OF ENGINEERING



VILLAGE OF LONGREACH-SECT. 3 AREA 3
ROADWAY PLAN & PROFILE
WINDOW LATCH WAY
STA. 0+19 TO STA. 9+50
SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
DATE: 3/1/88

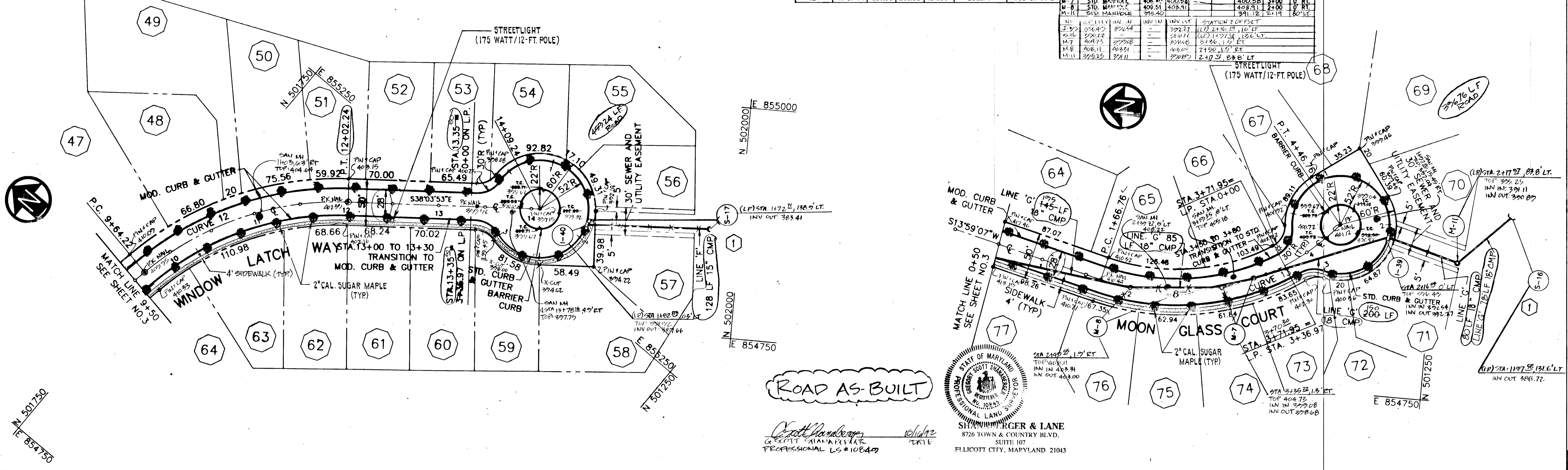
SHEET 3 OF 14
DES: GDT
DRAWN: LCC, JMJ
CHK: RHB
SCALE: HORIZ: 1" = 50'
VERT: 1" = 5'

NO.	TYPE	TOP EL.	INV.	IN.	IN.	IN.	OUT.	STA.	OFFSET
1-40	STD. A-5 INLET	392.00						387.50	1+85.23 @ LT.
5-17	12" MANHOLE	393.70						1+85.23 @ LT.	1+85.23 @ LT.

CURVE NO.	Δ	RADIUS	LENGTH	TANGENT	CHORD LENGTH	CHORD BEARING
13	83°41'30"	251.86	200.00	158.45	205.80	S17°31'41"E
12	41°57'44"	325.00	238.02	124.63	232.74	N30°57'14"E

NO.	TYPE	TOP EL.	INV.	IN.	IN.	IN.	OUT.	STA.	OFFSET
1-39	STD. A-5 INLET	392.75						392.75	2+17.06 @ LT.
5-16	12" MANHOLE	392.50						392.50	2+17.06 @ LT.

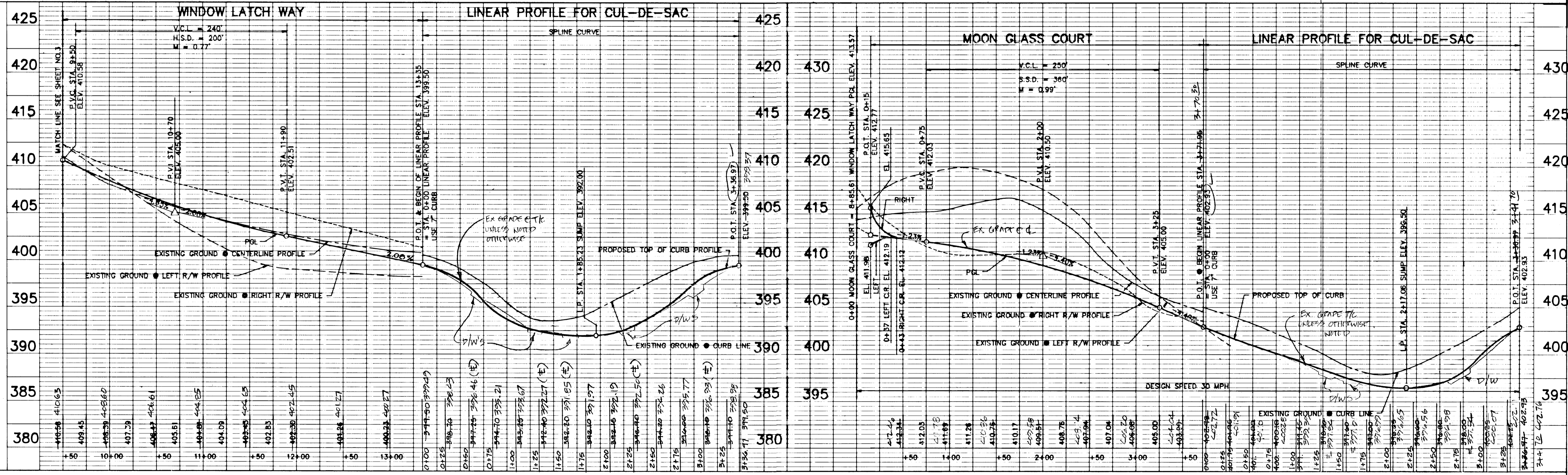
SEE SEDIMENT CONTROL PLANS FOR OUTLET RIFRAP PROTECTION



ROAD AS-BUILT

Scott Handberg
 GEORGE W. HANBERG
 PROFESSIONAL LS #10840

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



PURDUM & JESCHKE
 CONSULTING ENGINEERS AND
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 1029 North Calvert Street
 Baltimore, Maryland 21202 (301)837-0194

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 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD. 21044

OFFICE OF PLANNING & ZONING
Charles J. Campbell 1-24-08
 CHIEF, DIVISION OF COMMUNITY
 PLANNING AND LAND DEVELOPMENT

APPROVED:
 HOWARD COUNTY DEPARTMENT OF
 PUBLIC WORKS
Donald J. Seaman 10/18/08
 CHIEF, LAND DEVELOPMENT DIVISION
Granville W. Hancock 10/18/08
 CHIEF, BUREAU OF HIGHWAYS
William E. Reid 10-19-08
 CHIEF, BUREAU OF ENGINEERING



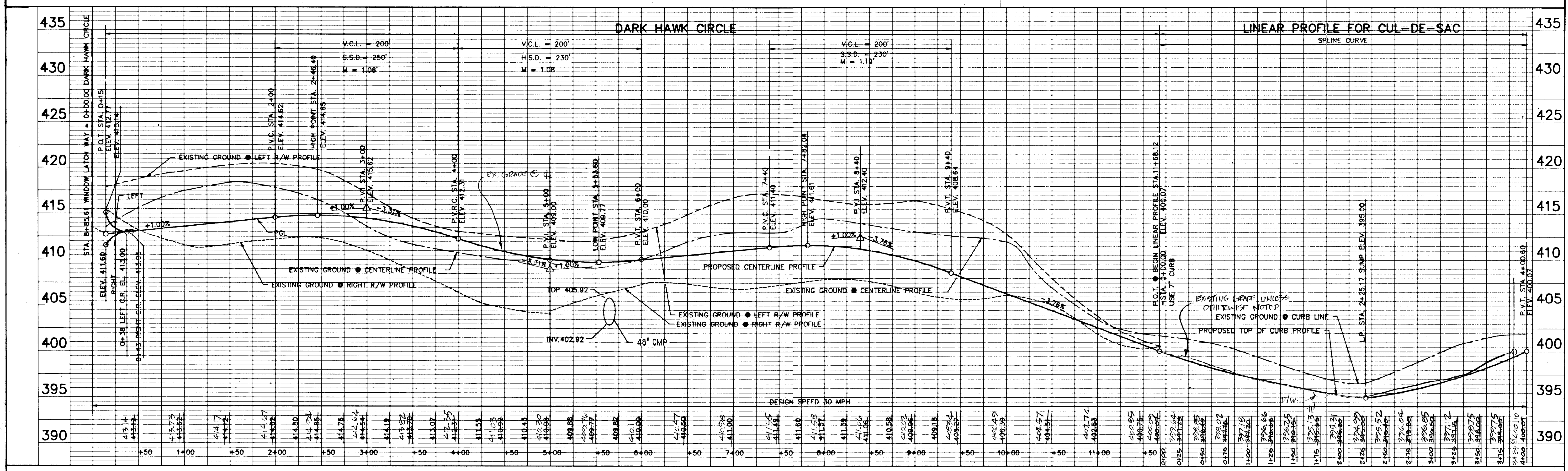
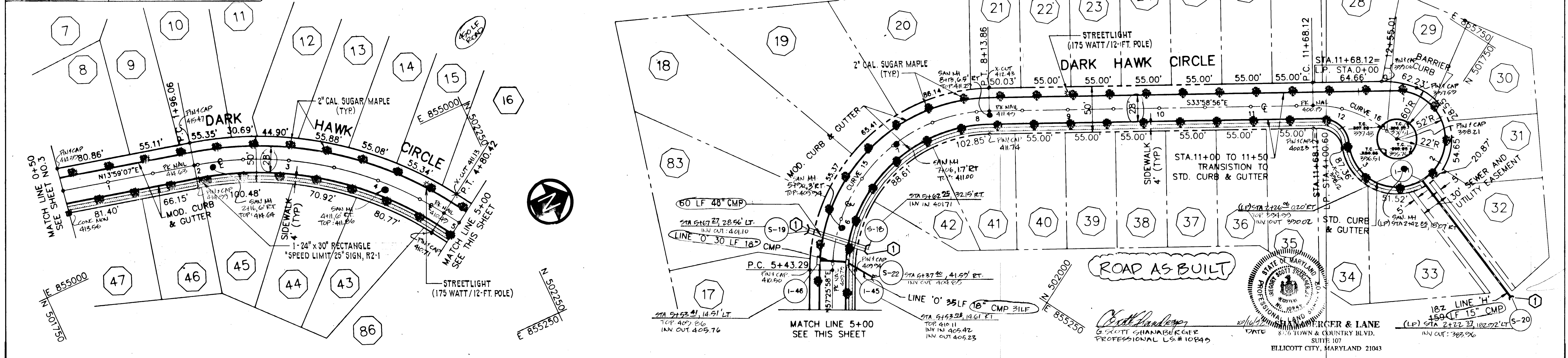
VILLAGE OF LONGREACH-SECT. 3 AREA 3
 ROADWAY PLAN & PROFILE
 WINDOW LATCH WAY
 MOON GLASS COURT
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
 DATE: 3/1/88

SHEET 4 OF 14
 DES: GDT
 DRAWN: LCC, JMJ
 CHK: RHB
 SCALE: HORIZ: 1" = 50'
 VERT: 1" = 5'

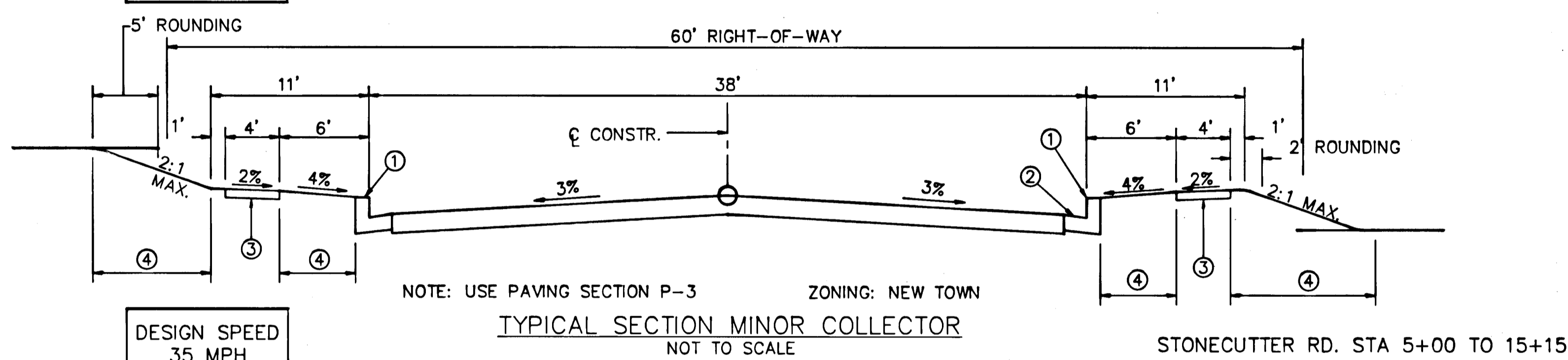
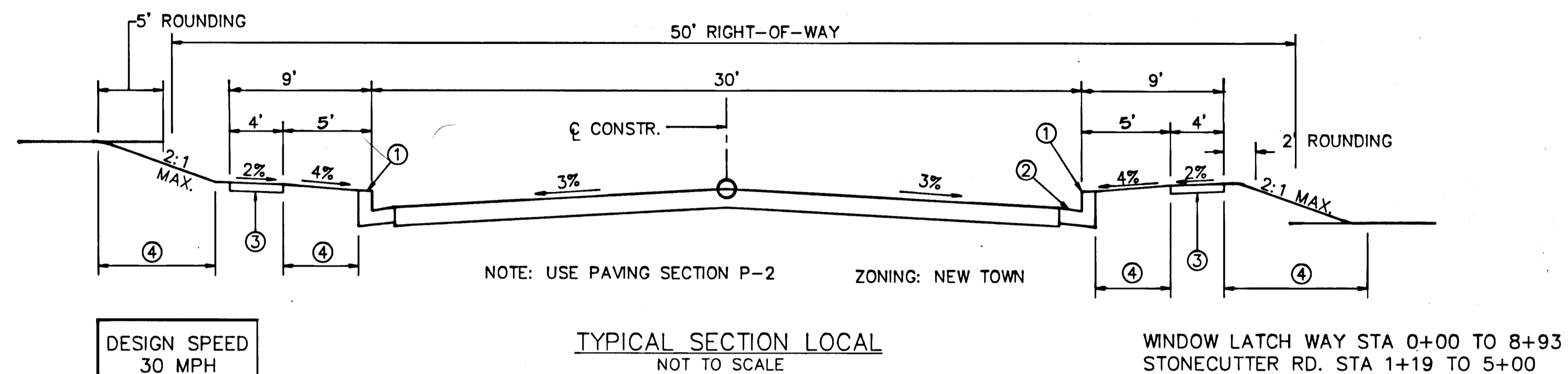
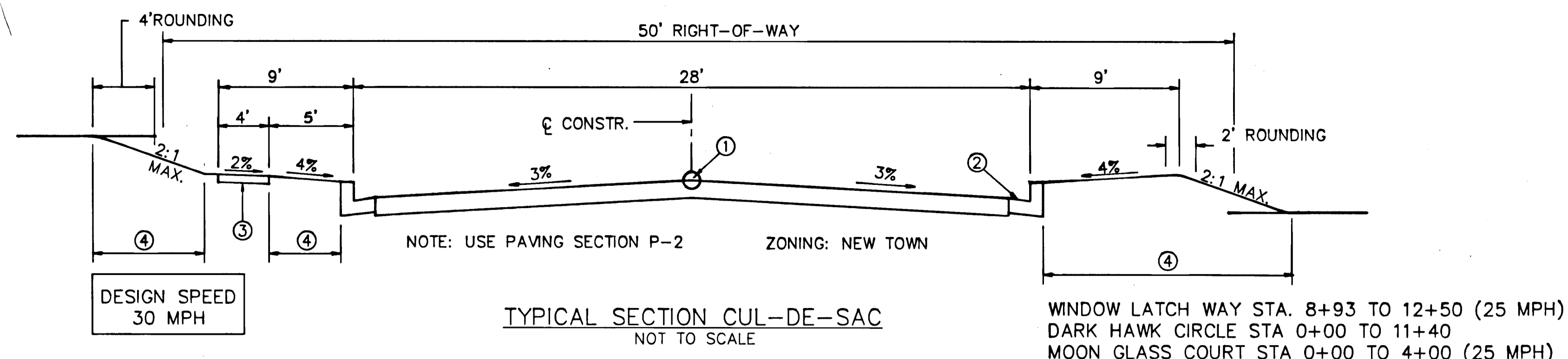
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STORM DRAIN STRUCTURE SCHEDULE				CENTERLINE CURVE DATA										
NO.	TYPE	TOP EL.	IN V. IN	IN V. IN	IN V. OUT	STATION	OFFSET	CURVE NO.	Δ	RADIUS	LENGTH	TANGENT	CHORD LENGTH	CHORD BEARING
I-41	STD. A-S INLET	395.00	395.00	395.00	395.00	2+25.17	0' LT.	14	43°26'51"	375.00	284.36	149.41	277.60	N35°42'33"E
I-45	STD. A-S INLET	405.27	405.27	405.27	405.27	5+53.60	14' RT.	15	88°35'06"	175.00	270.57	170.73	244.41	S78°16'29"E
I-46	STD. A-S INLET	409.77	409.77	409.77	409.77	5+53.60	14' LT.	16	39°59'38"	124.48	86.89	45.30	85.14	S66°00'53"E
S-18	METAL END SECTION	405.83	405.83	405.83	405.83	5+73	31' RT.							
S-19	METAL END SECTION	407.53	407.53	407.53	407.53	5+88	5+88							
S-20	METAL END SECTION	408.25	408.25	408.25	408.25	5+117	100' RT.							
S-22	METAL END SECTION	406.50	406.50	406.50	406.50	5+30	52' RT.							

SEE SEDIMENT CONTROL PLANS FOR OUTLET RIPRAP PROTECTION



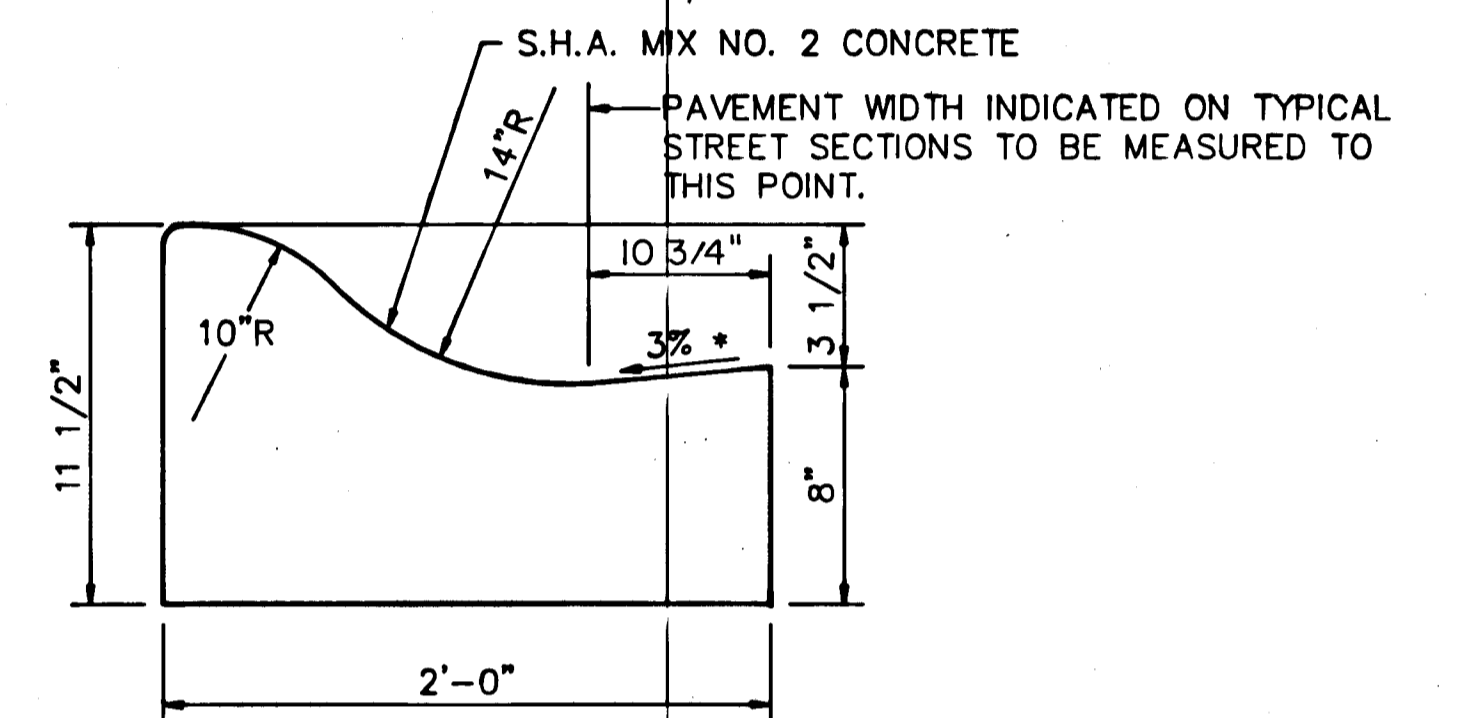
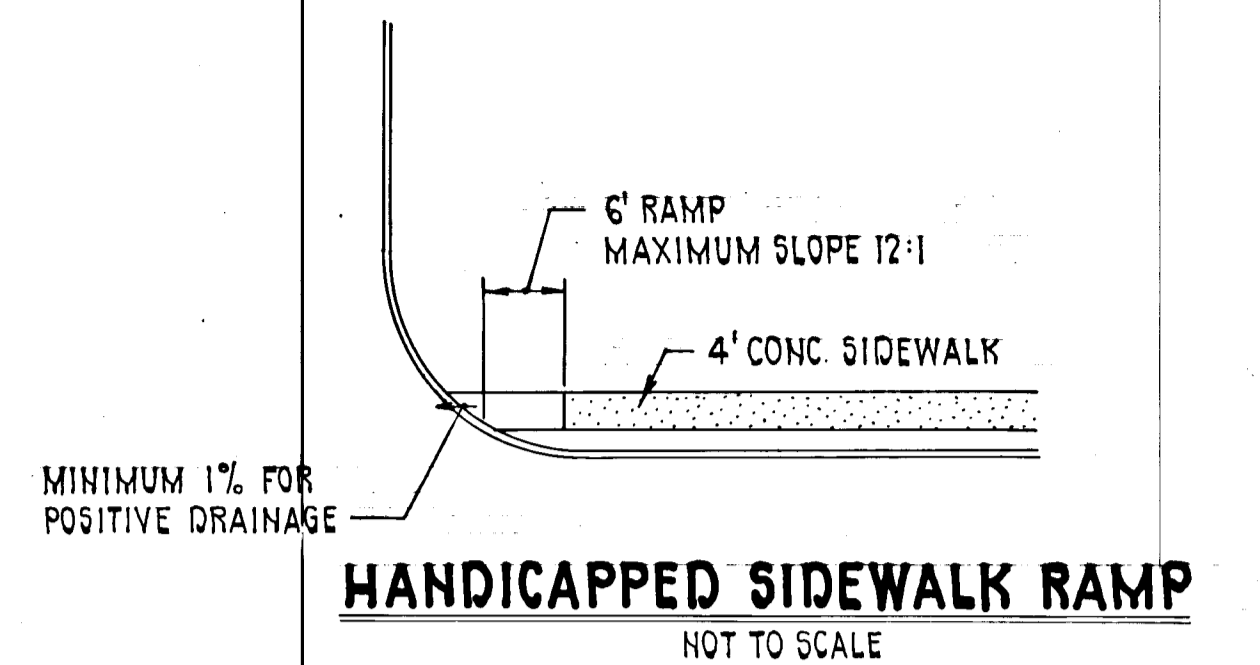
<p>PURDUM & JESCHKE CONSULTING ENGINEERS AND LAND SURVEYORS 1029 North Calvert Street Baltimore, Maryland 21202 (301)837-0194</p>	<p>OWNER/DEVELOPER THE HOWARD RESEARCH & DEVELOPMENT LAND COMPANY THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD. 21044</p>	<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>[Signature]</i> CHIEF, LAND DEVELOPMENT DIVISION <i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS <i>[Signature]</i> CHIEF, BUREAU OF ENGINEERING</p>	<p>VILLAGE OF LONGREACH-SECT. 3 AREA 3 ROADWAY PLAN & PROFILE DARK HAWK CIRCLE STA. 0+15 TO STA. 11+68 SIXTH ELECTION DISTRICT HOWARD COUNTY, MD. DATE: 3/1/88</p>	<p>100</p>
	<p>OFFICE OF PLANNING & ZONING <i>[Signature]</i> CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT</p>	<p>DATE: 10/18/88 DATE: 10/15/88</p>	<p>DATE: 3/1/88</p>	<p>DATE: 3/1/88</p>



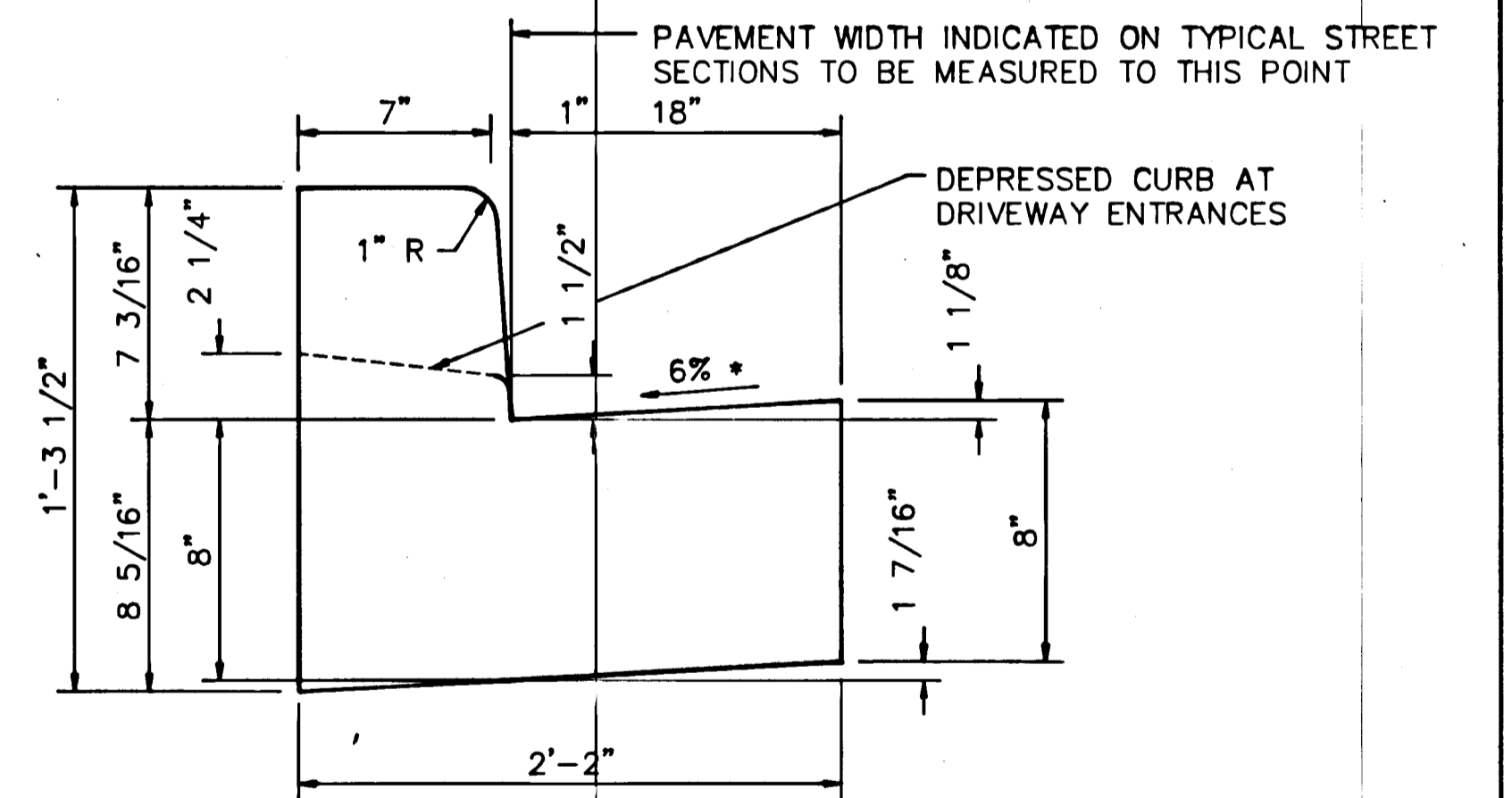
TYPICAL ROAD SECTIONS

SECTION NUMBER	FULL DEPTH BIT. CONC. ALTERNATE	GRANULAR BASE ALTERNATE
P-2	<p>1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE</p>	<p>1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE PRIME 8" CRUSHER RUN BASE COURSE (2 COURSES) OR 6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE</p>
P-3	<p>1 1/2" BIT. CONC. SURFACE 1 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE</p>	<p>1 1/2" BIT. CONC. SURFACE 4 1/2" BIT. CONC. BASE PRIME 6" CRUSHER RUN BASE COURSE OR 4 1/2" DENSE GRADED STABILIZED AGGREGATE BASE COURSE</p>

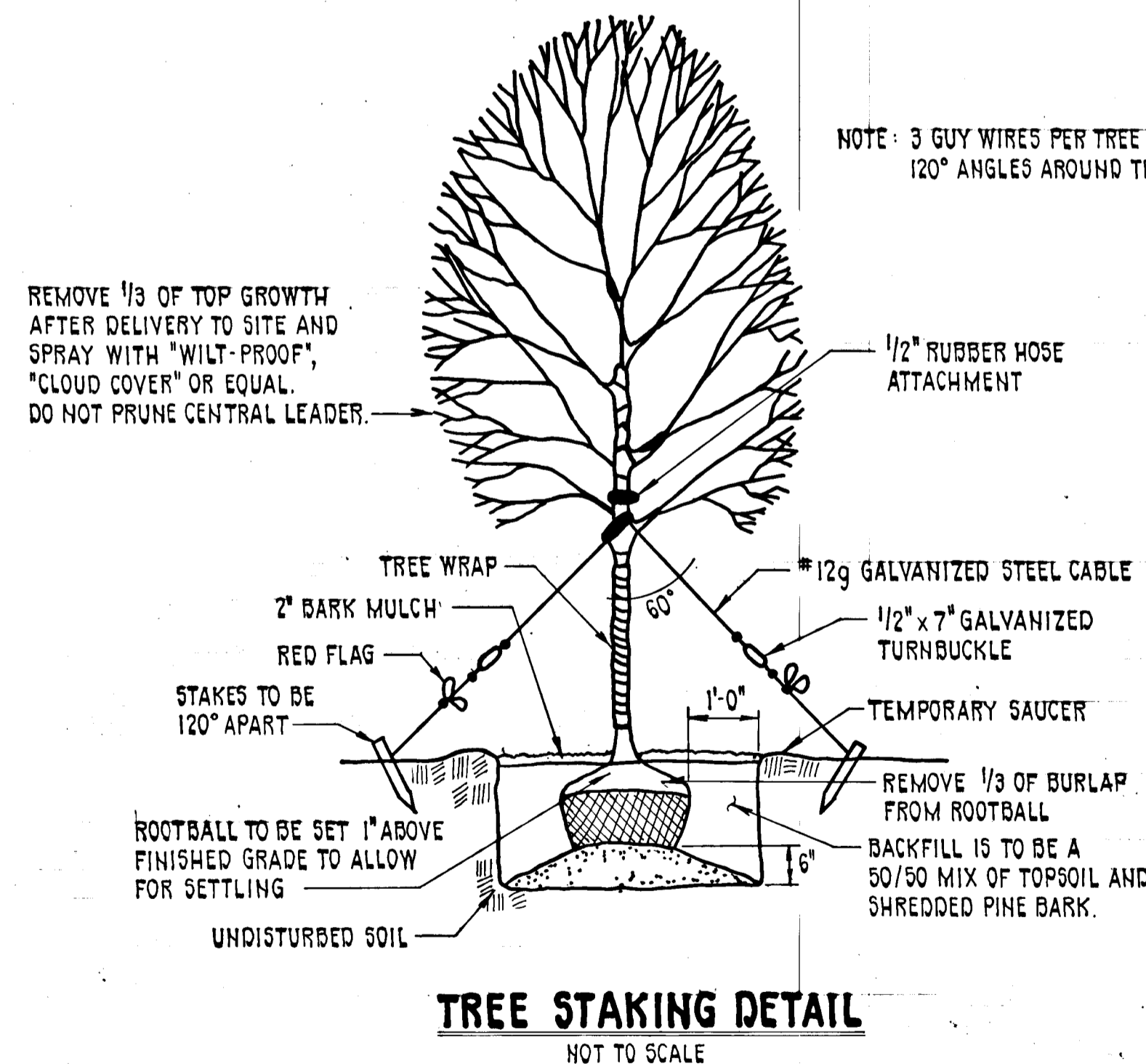
- LEGEND**
- ① PROFILE GRADE LINE (PGL)
 - ② ST'D. COMB. CURB & GUTTER
 - ③ 4" CONCRETE SIDEWALK AS REQUIRED BY SUB-DIVISION REGULATIONS
 - ④ 2" TOPSOIL, SEED AND MULCH



MODIFIED COMBINATION CURB AND GUTTER
NOT TO SCALE



* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.



NOTE: 3 GUY WIRES PER TREE AT 120° ANGLES AROUND TRUNK

<p>PURDUM & JESCHKE CONSULTING ENGINEERS AND LAND SURVEYORS 1029 North Calvert Street Baltimore, Maryland 21202 (301)837-0194</p>	<p>OWNER/DEVELOPER THE HOWARD RESEARCH & DEVELOPMENT LAND COMPANY THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD. 21044</p>	<p>OFFICE OF PLANNING & ZONING DATE: 10-18-88 LCS</p>	<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DATE: 10/18/88 CHIEF, LAND DEVELOPMENT DIVISION</p>		<p>VILLAGE OF LONGREACH SECTION 3 - AREA 3 TYPICAL SECTIONS & DETAILS</p>	<p>SHEET 6 OF 14</p>
		<p>CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT</p>	<p>CHIEF, BUREAU OF HIGHWAYS DATE: 10/18/88</p>			<p>SIXTH ELECTION DISTRICT HOWARD COUNTY, MD. DATE: 3/1/88</p>

ST	AREA (Ac.)	COEFF.	TIME CONC. (Min.)
1B	1.68	0.35	12.8
1C	0.28	0.58	5.0
1D	1.24	0.35	12.5
1E	0.18	0.58	5.0
1F	0.18	0.58	5.0
2A	0.40	0.58	5.0
2B	1.38	0.37	12.0
3A	1.23	0.44	11.6
3B	1.47	0.44	11.8
3C	1.12	0.52	11.3
3D	2.30	0.29	15.2
3E	1.33	0.38	13.6
3F	1.35	0.38	15.2
3G	1.35	0.38	15.7
3H	1.12	0.38	15.2
3I	1.12	0.38	15.2
3J	0.41	0.58	5.0
3K	1.65	0.48	11.2
3L	4.18	0.32	16.0
3M	0.23	0.58	5.0
3N	0.17	0.58	5.0
3O	0.57	0.29	5.0

NOTE: ALL PIPE SIZES ARE 15" UNLESS NOTED OTHERWISE.

NOTE: ALL INLET ARE TYPE A-5 WITH DEFLECTORS, UNLESS OTHERWISE NOTED. INLET TYPES ARE NOTED ON ROAD CONSTRUCTION PLANS.



31.0 Acres RCN=76 2 N.T.

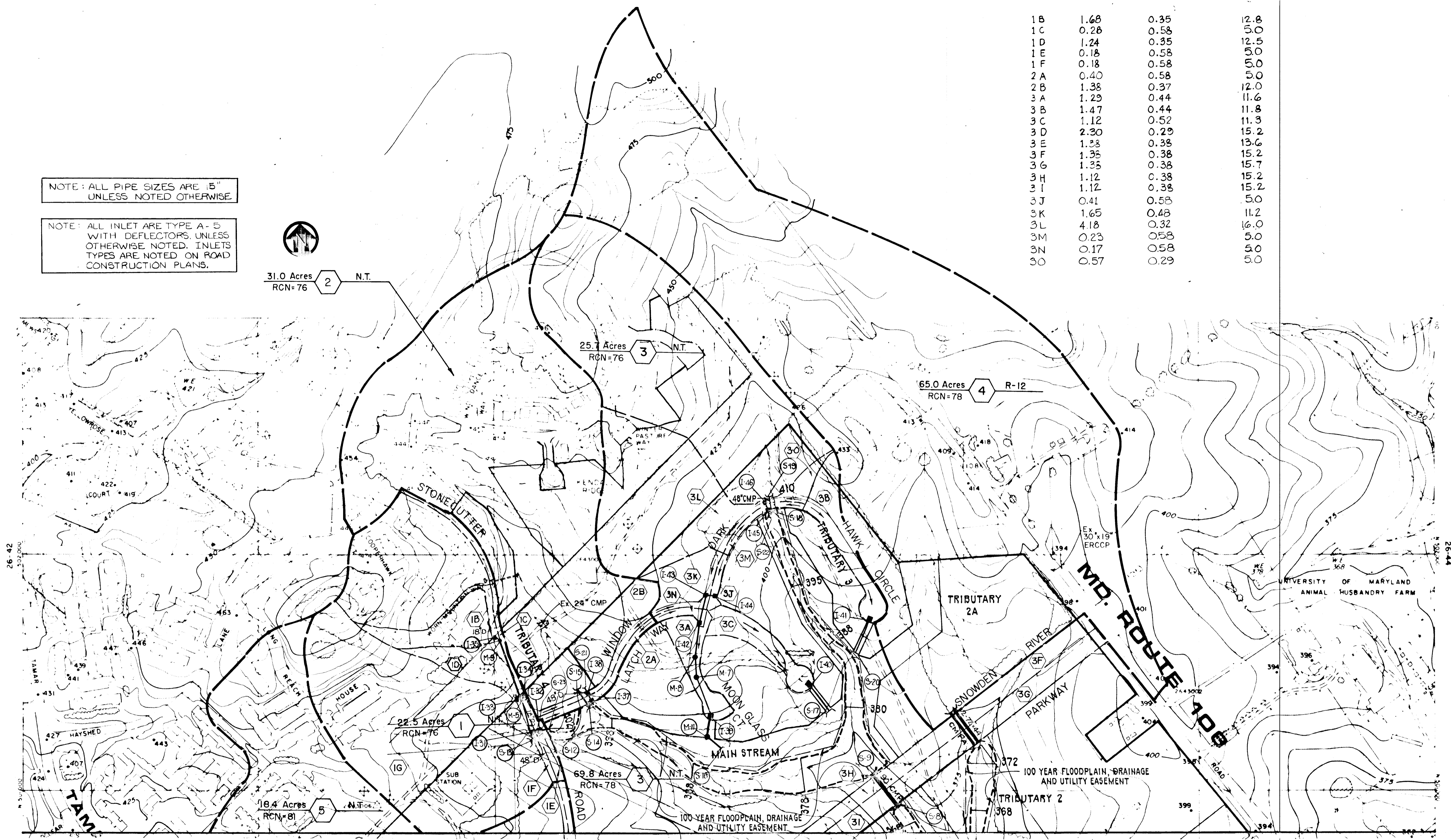
25.7 Acres RCN=76 3 N.T.

65.0 Acres RCN=78 4 R-12

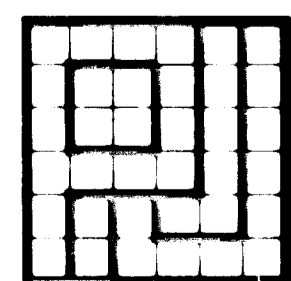
22.5 Acres RCN=76 1

18.4 Acres RCN=81 5 N.T.

69.8 Acres RCN=78 3 N.T.



100



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CONSULTING ENGINEERS AND
LAND SURVEYORS
1029 North Calvert Street
Baltimore, Maryland 21202 (301)837-0194

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THE HOWARD RESEARCH &
DEVELOPMENT LAND COMPANY
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD. 21044

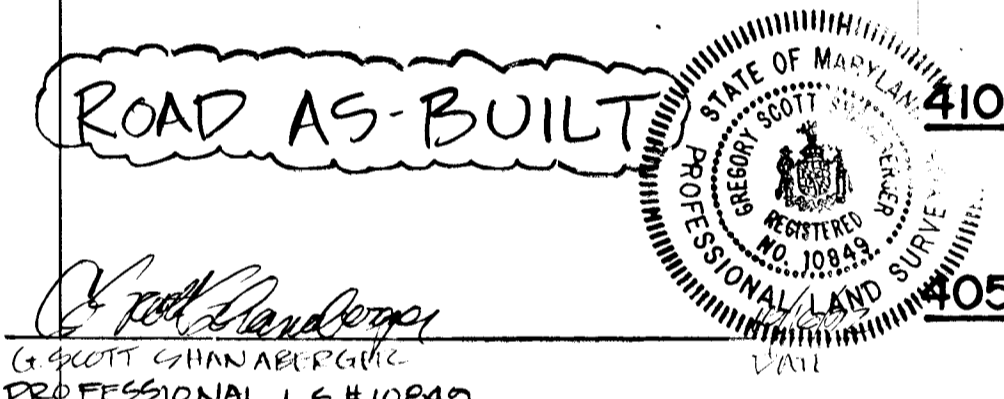
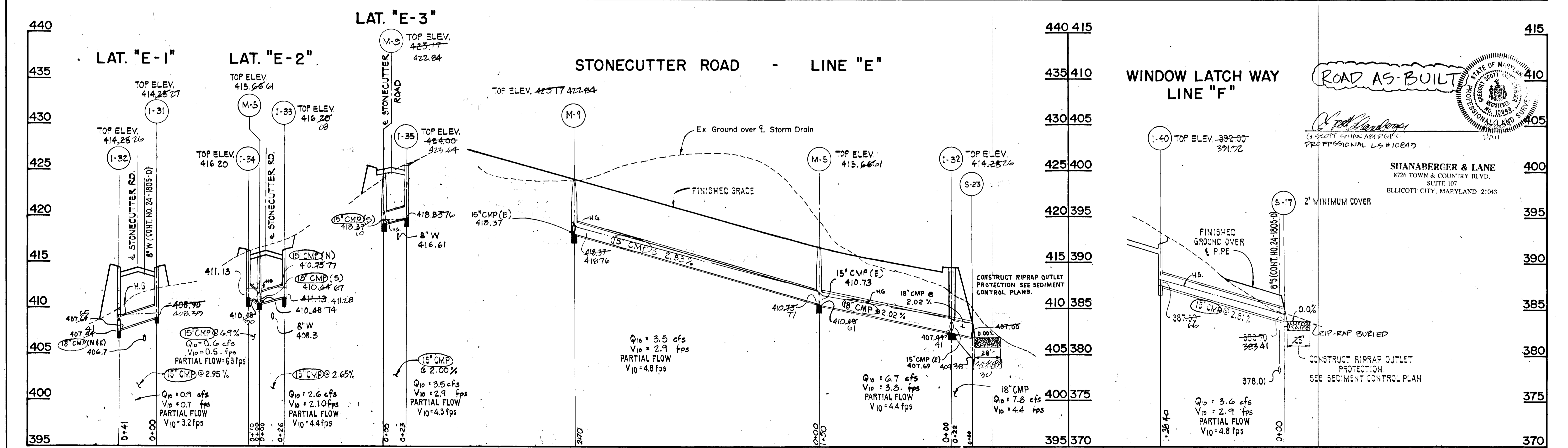
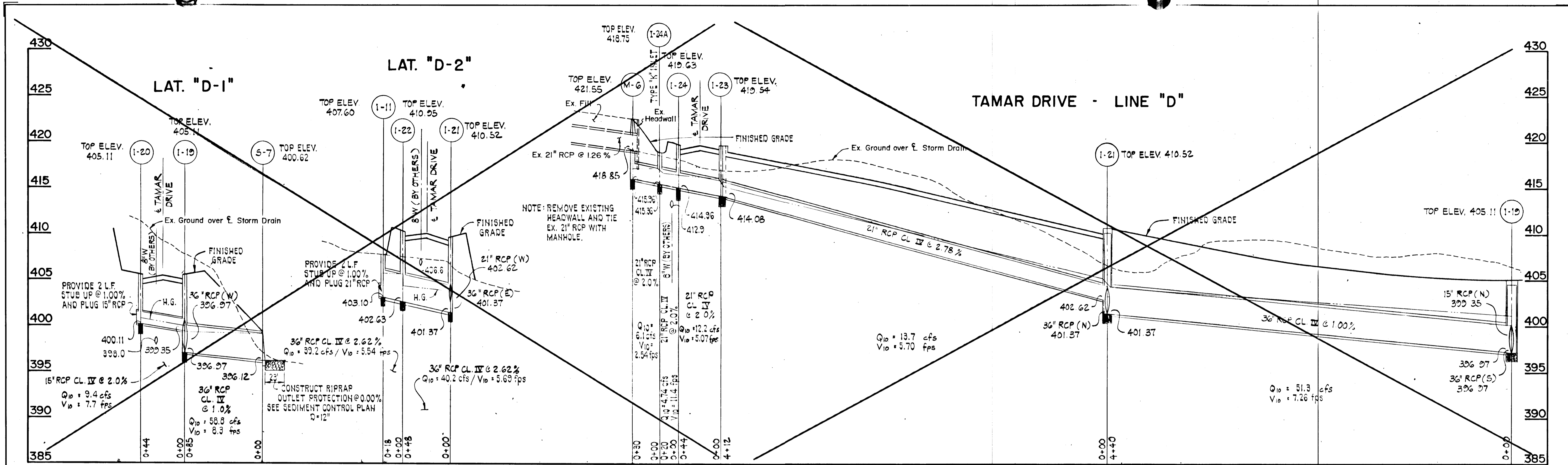
OFFICE OF PLANNING & ZONING
Frank J. Campbell DATE 10-19-88
CHIEF, DIVISION OF COMMUNITY
PLANNING AND LAND DEVELOPMENT

APPROVED:
HOWARD COUNTY DEPARTMENT OF
PUBLIC WORKS
Donald J. ... DATE 10/13/88
CHIEF, LAND DEVELOPMENT DIVISION
... DATE 10/13/88
CHIEF, BUREAU OF HIGHWAYS
... DATE 10-19-88
CHIEF, BUREAU OF ENGINEERING

Richard H. ...

VILLAGE OF LONGREACH - SECTION 3
AREA-2
DRAINAGE AREA MAP
TAX MAP 36 & 37
SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
DATE: 3/1/88 SCALE: 1" = 200'

SHEET 7 OF 14
DES: GDT
DRAWN: CNW
CHK: RHB

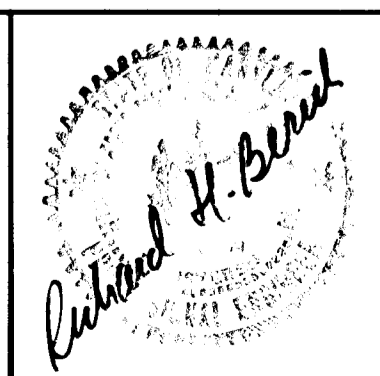


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10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD. 21044

OFFICE OF PLANNING & ZONING
DATE: 10/18/88
DATE: 10/18/88

APPROVED:
HOWARD COUNTY DEPARTMENT OF
PUBLIC WORKS
DATE: 10/18/88
DATE: 10/18/88

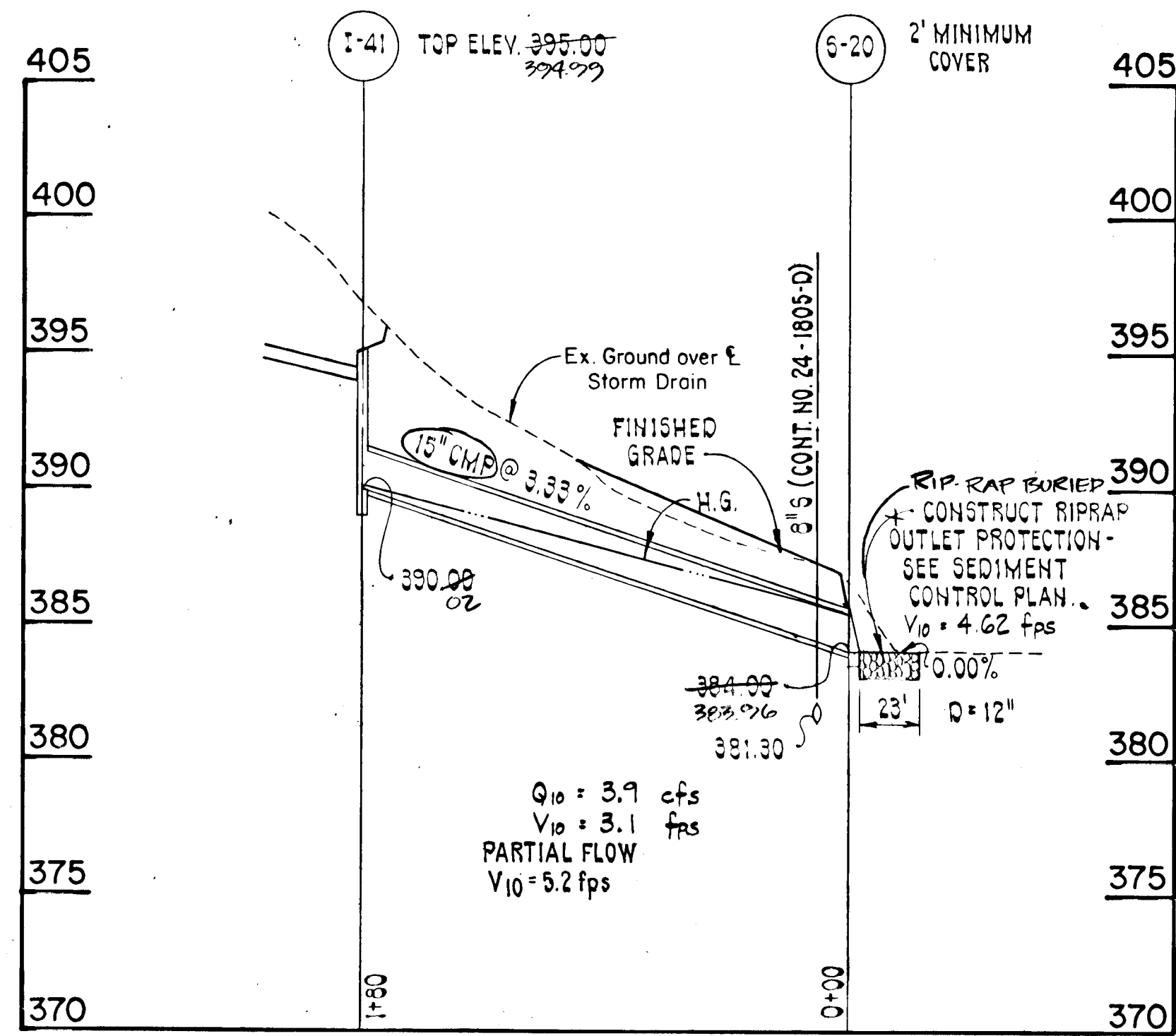


VILLAGE OF LONGREACH-SECT. 3, AREA 3
STORM DRAIN PROFILES

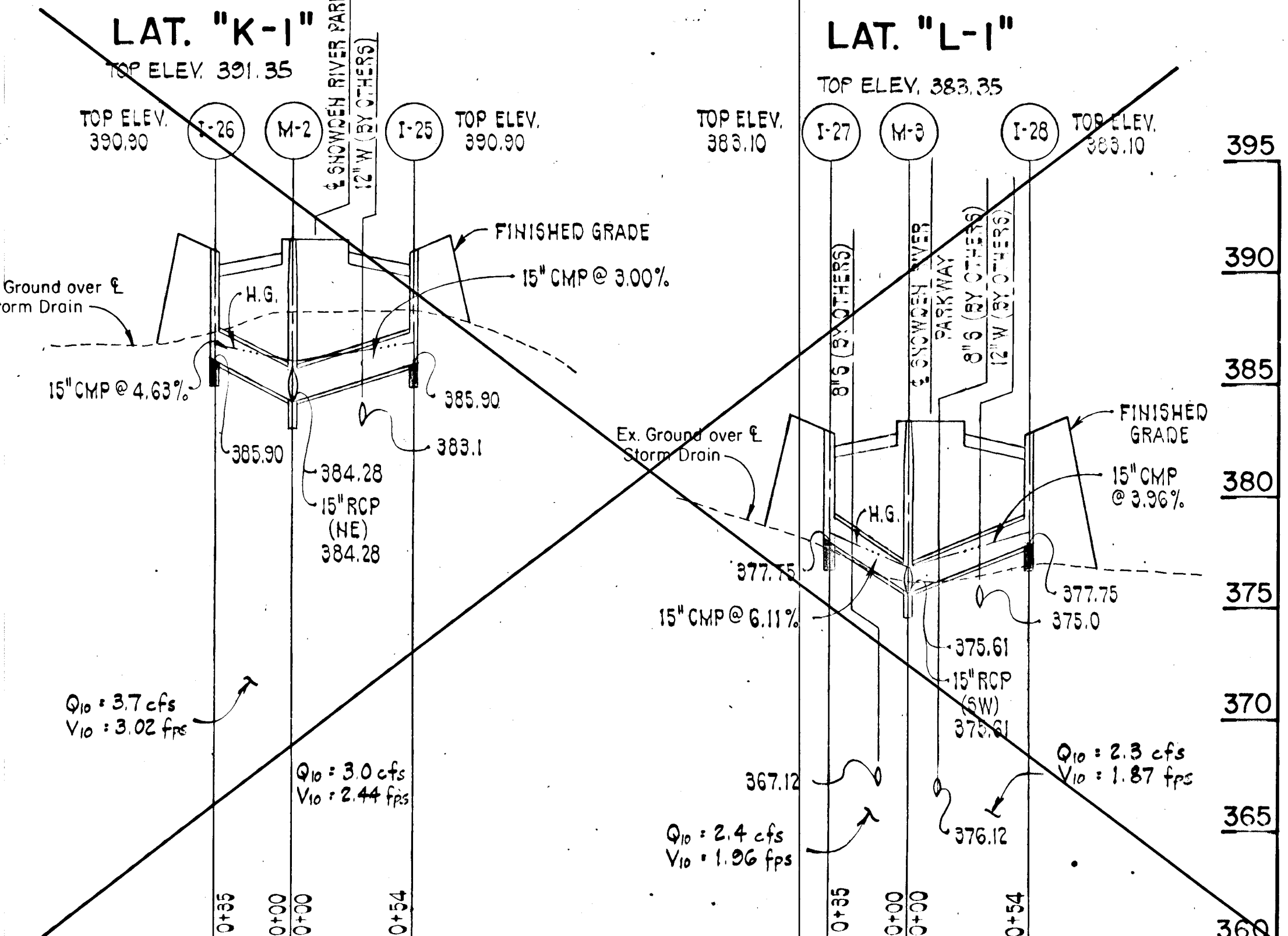
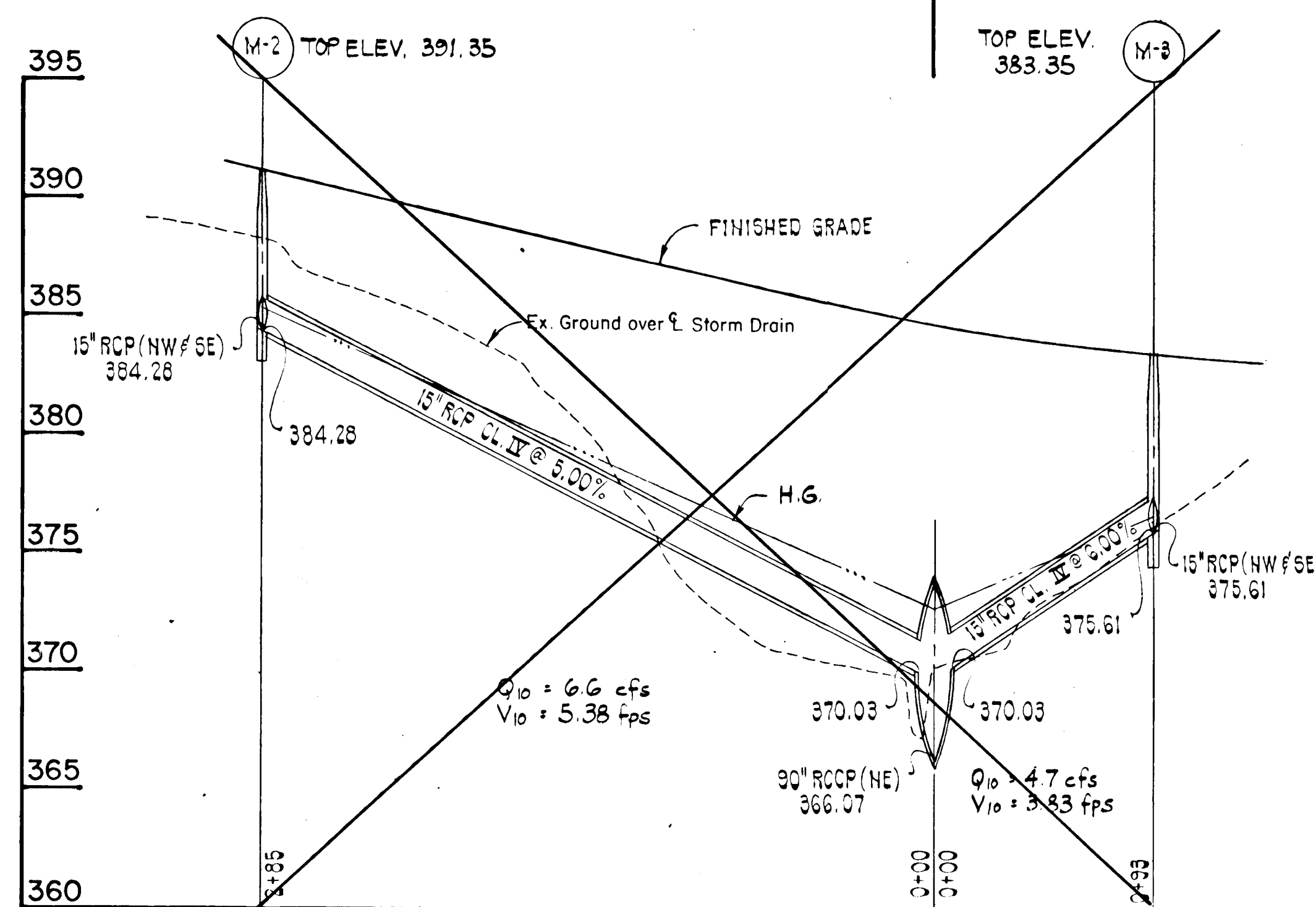
SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
DATE: 3/1/88

SHEET 8 OF 14
DES: GDT
DRAWN: RC
CHK: RHB
SCALE: HORIZ: 1" = 50'
VERT: 1" = 5'

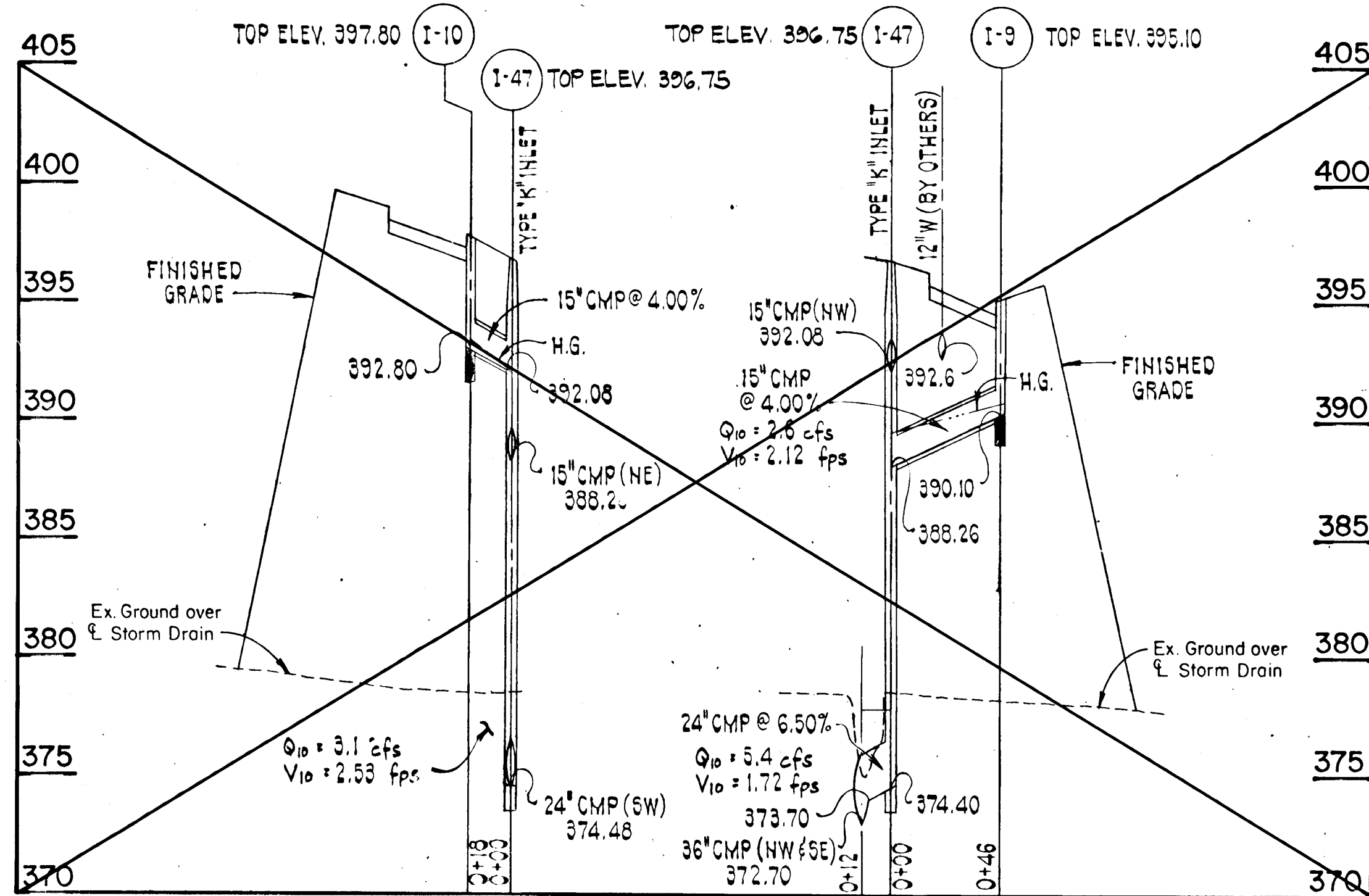
DARK HAWK CIRCLE - LINE "H"



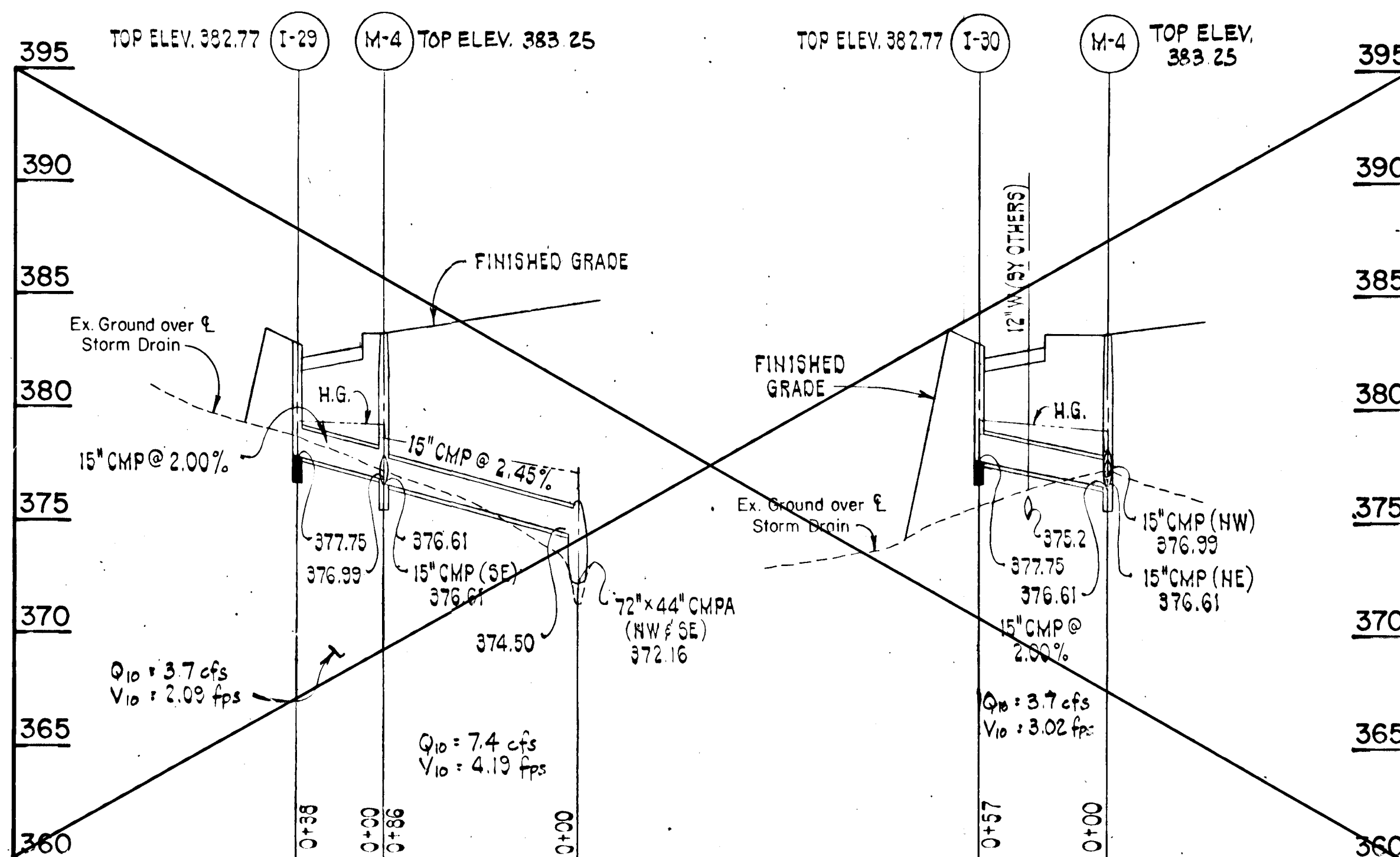
SNOWDEN RIVER PARKWAY - LINE "K" | LINE "L"



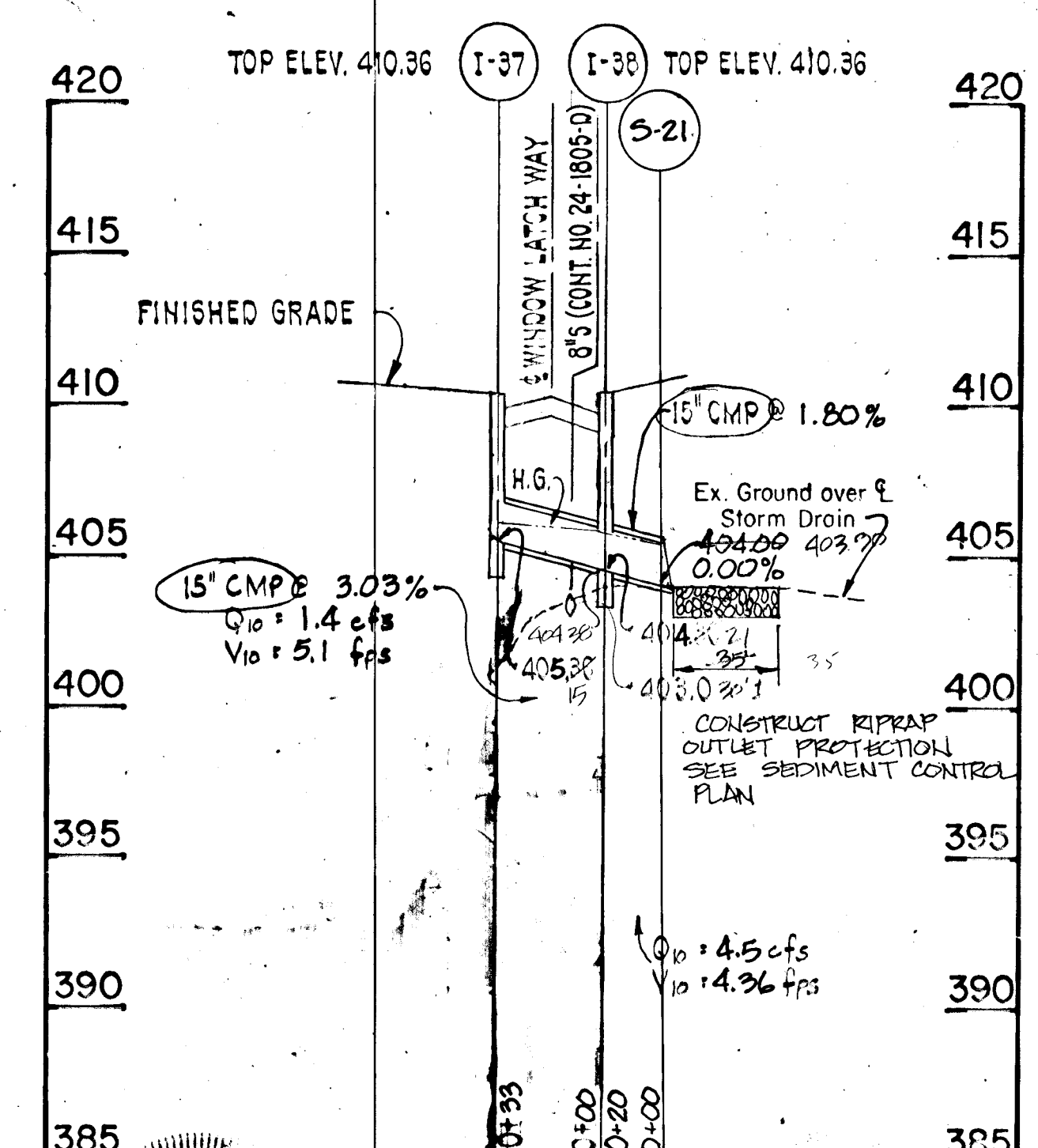
**SNOWDEN RIVER PARKWAY
LAT. "N-1" | LINE "N"**



**SNOWDEN RIVER PARKWAY
LINE "M" | LAT. "M-1"**

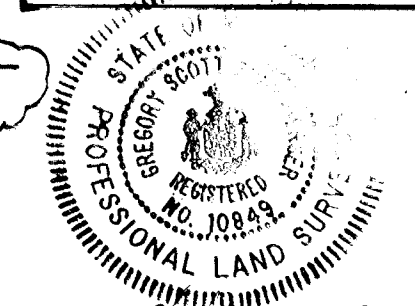


WINDOW LATCH WAY - LINE "J"



ROAD AS-BUILT

Scott Handberg
SCOTT SHANBERGER & IANE
PROFESSIONAL L.S. # 10292



SHANBERGER & IANE
8726 TOWN & COUNTRY BLVD.
SUITE 107
ELICOTT CITY, MARYLAND 21043

PURDUM & JESCHKE
CONSULTING ENGINEERS AND
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Baltimore, Maryland 21202 (301)837-0194

OWNER/DEVELOPER
THE HOWARD RESEARCH &
DEVELOPMENT LAND COMPANY
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD. 21044

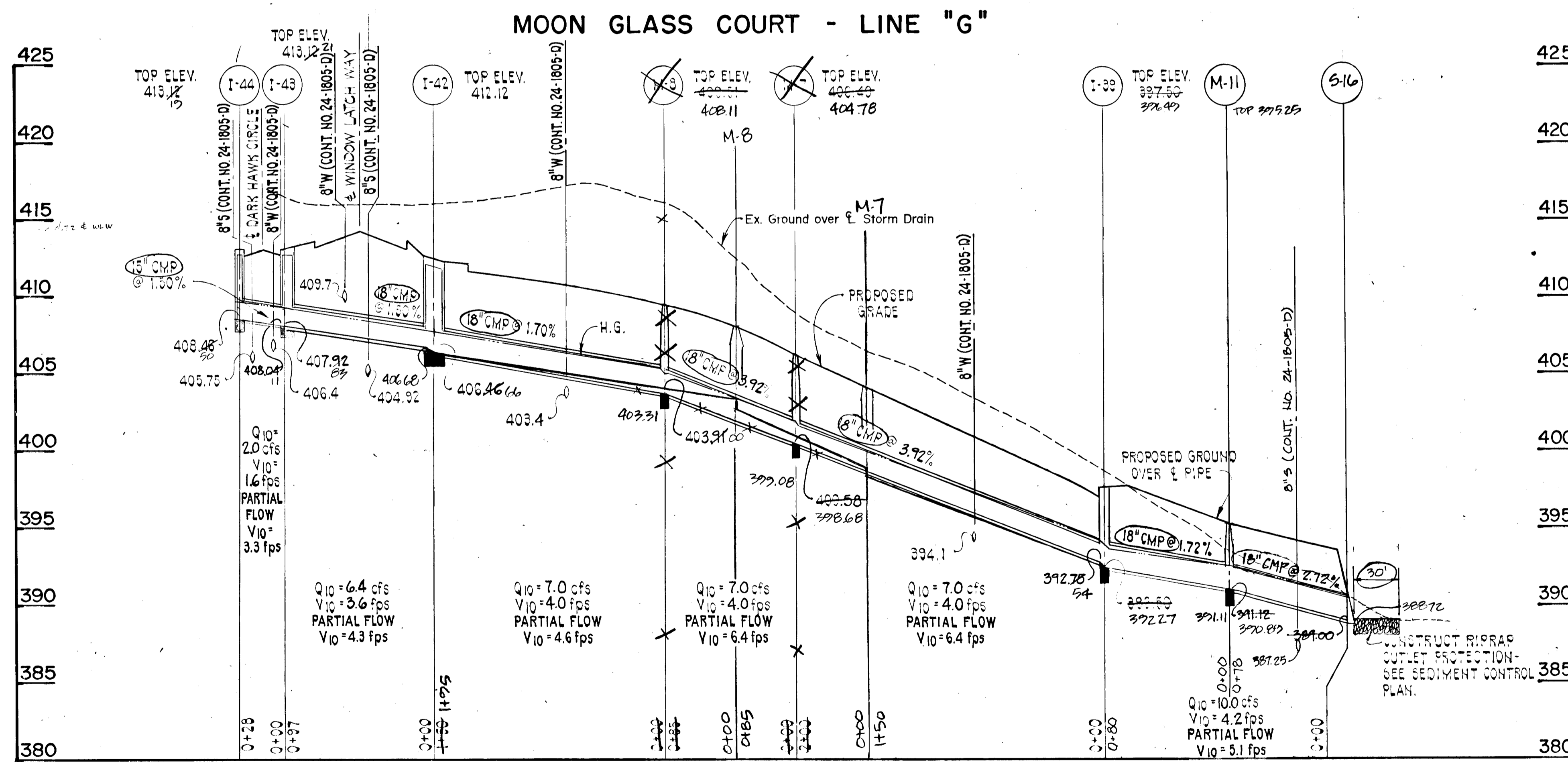
APPROVED:
HOWARD COUNTY DEPARTMENT OF
PUBLIC WORKS
Paul J. ... 10/18/88
CHIEF, LAND DEVELOPMENT DIVISION
... 10-27-88
CHIEF, BUREAU OF HIGHWAYS
... 10-19-88
CHIEF, BUREAU OF ENGINEERING

OFFICE OF PLANNING & ZONING
... 10-27-88
CHIEF, DIVISION OF COMMUNITY
PLANNING AND LAND DEVELOPMENT

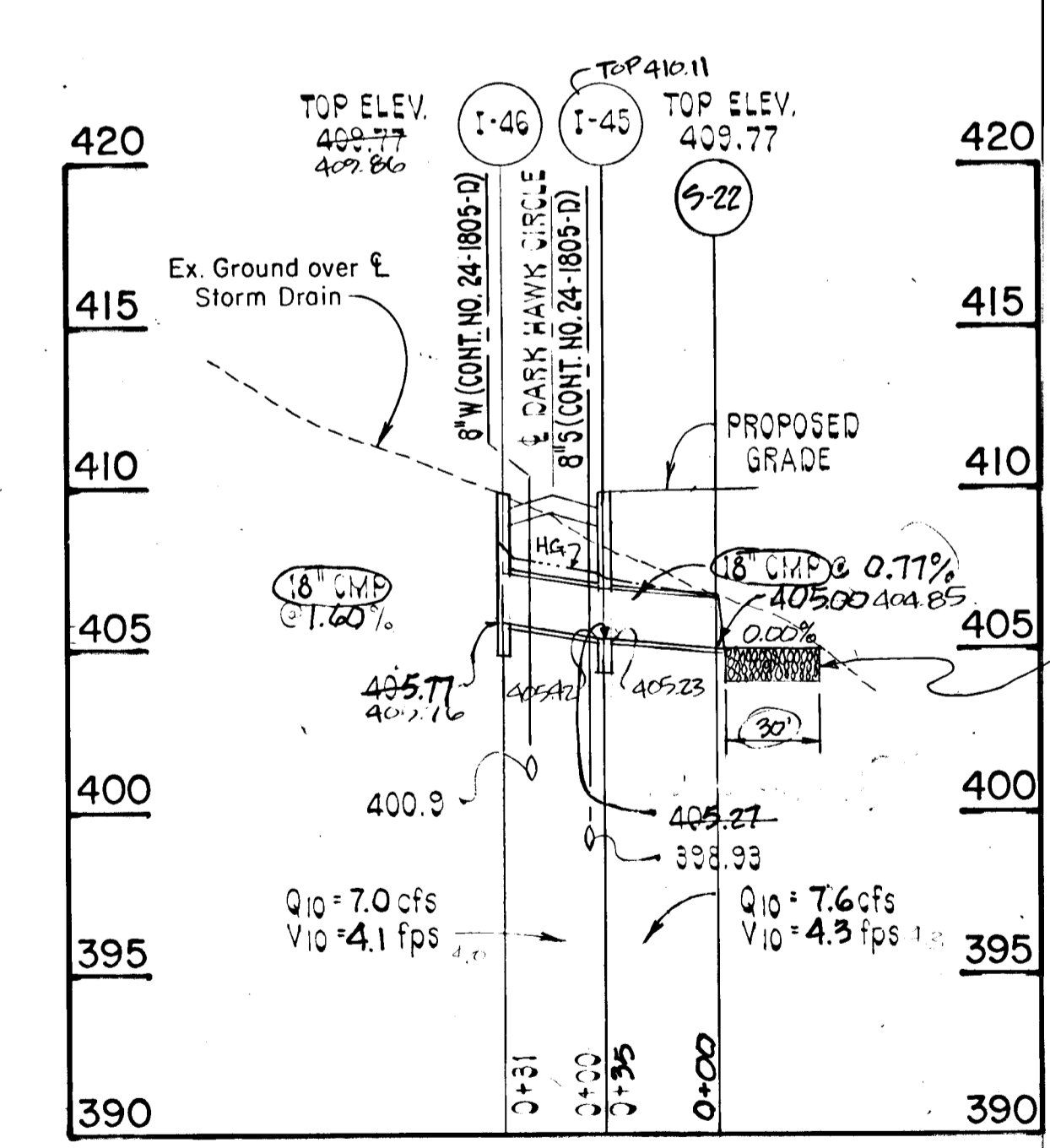


VILLAGE OF LONGFACHT SECT. 3, AREA 3
STORM DRAIN PROFILES
SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
DATE: 3/1/88

SHEET 9 OF 14
DES: GDT
DRAWN: RC
CHK: RHB
SCALE: HORIZ: 1" = 50'
VERT: 1" = 5'



DARK HAWK CIRCLE - LINE "O"



CONSTRUCT RIPRAP OUTLET PROTECTION - SEE SEDIMENT CONTROL PLAN

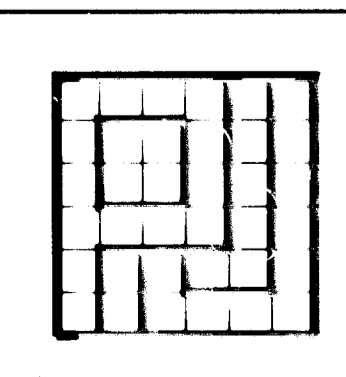
ROAD AS-BUILT

Shanabarger & Lane
 GEORGE SHANABARGER, P.E.
 PROFESSIONAL LAND SURVEYOR



SHANABARGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 107
 ELIJACOTT CITY, MARYLAND 21043

1001

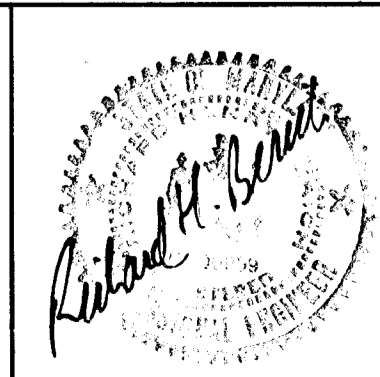


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 COLUMBIA, MD. 21044

OFFICE OF PLANNING AND ZONING
Mark S. ...
 CHIEF, DIVISION OF COMMUNITY
 PLANNING AND LAND DEVELOPMENT

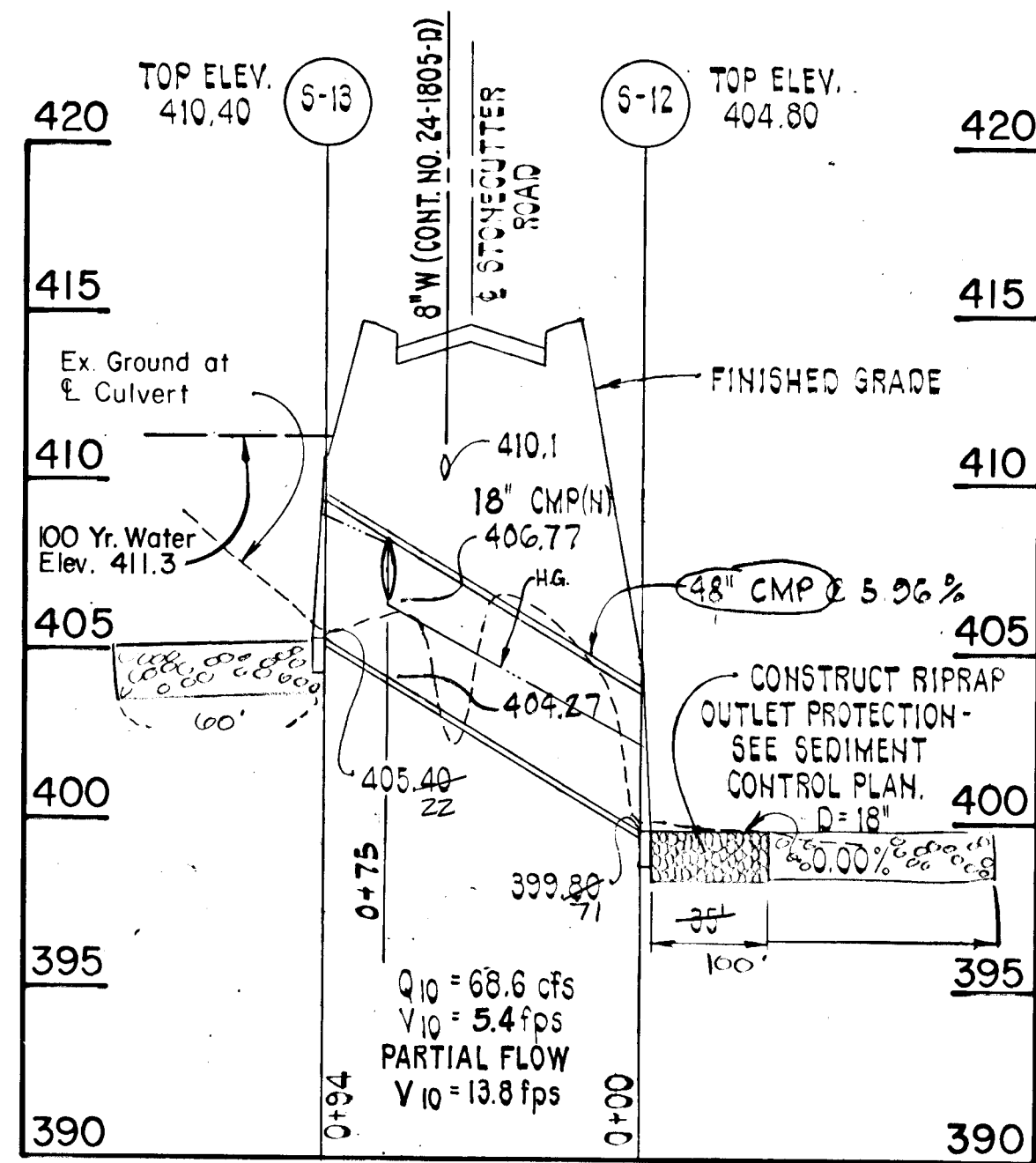
APPROVED:
 HOWARD COUNTY DEPARTMENT OF
 PUBLIC WORKS
Donald ... 10/18/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE
William W. ... 10/31/88
 CHIEF, BUREAU OF HIGHWAYS DATE
William ... 10/19/88
 CHIEF, BUREAU OF ENGINEERING DATE



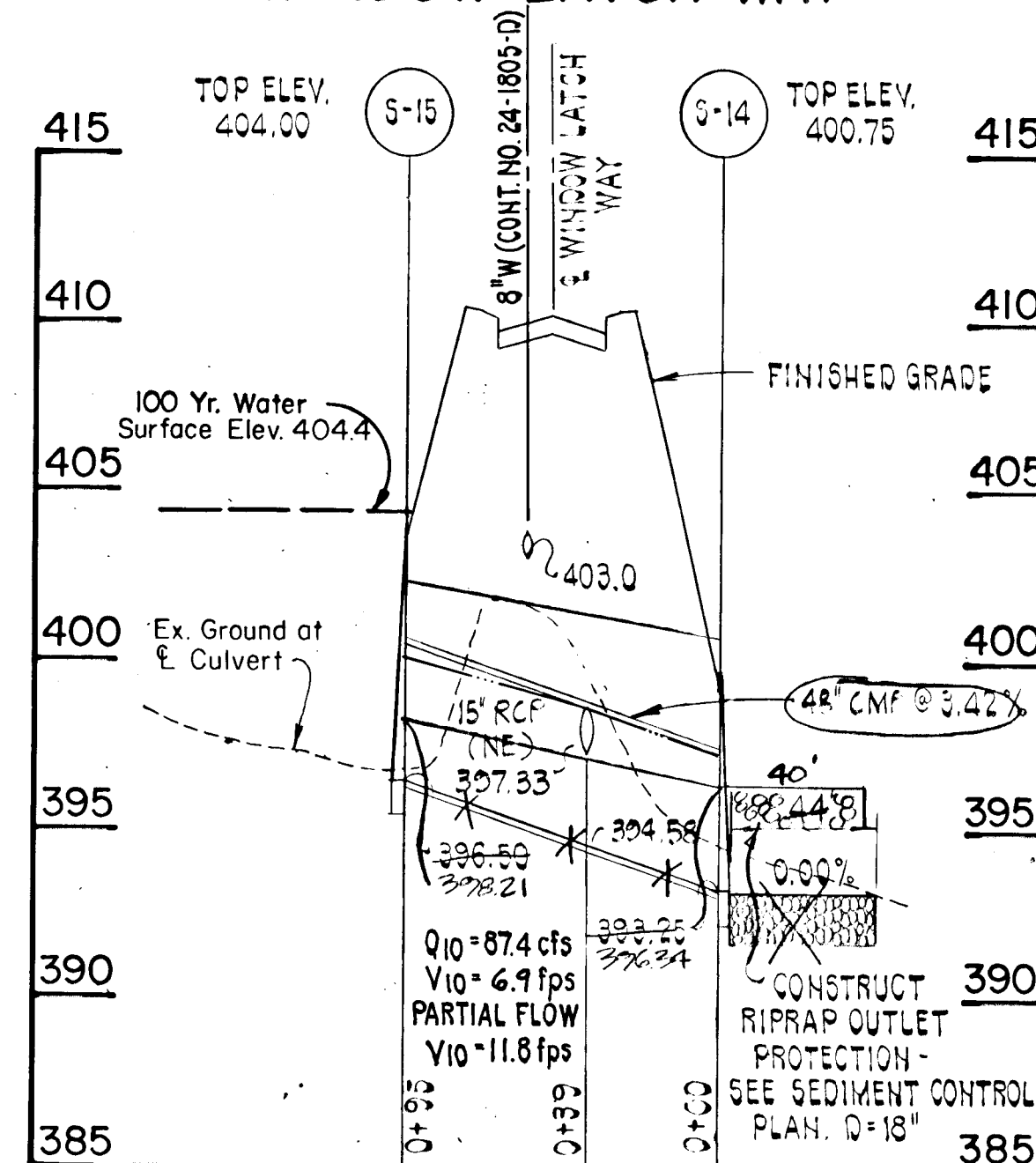
VILLAGE OF LONGREACH SECT. 3, AREA 3
STORM DRAIN PROFILES
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
 DATE: 3/1/88

SHEET 10 OF 14
 DES: GDT
 DRAWN: RC
 CHK: RHB
 SCALE: HORIZ: 1" = 50'
 VERT: 1" = 5'

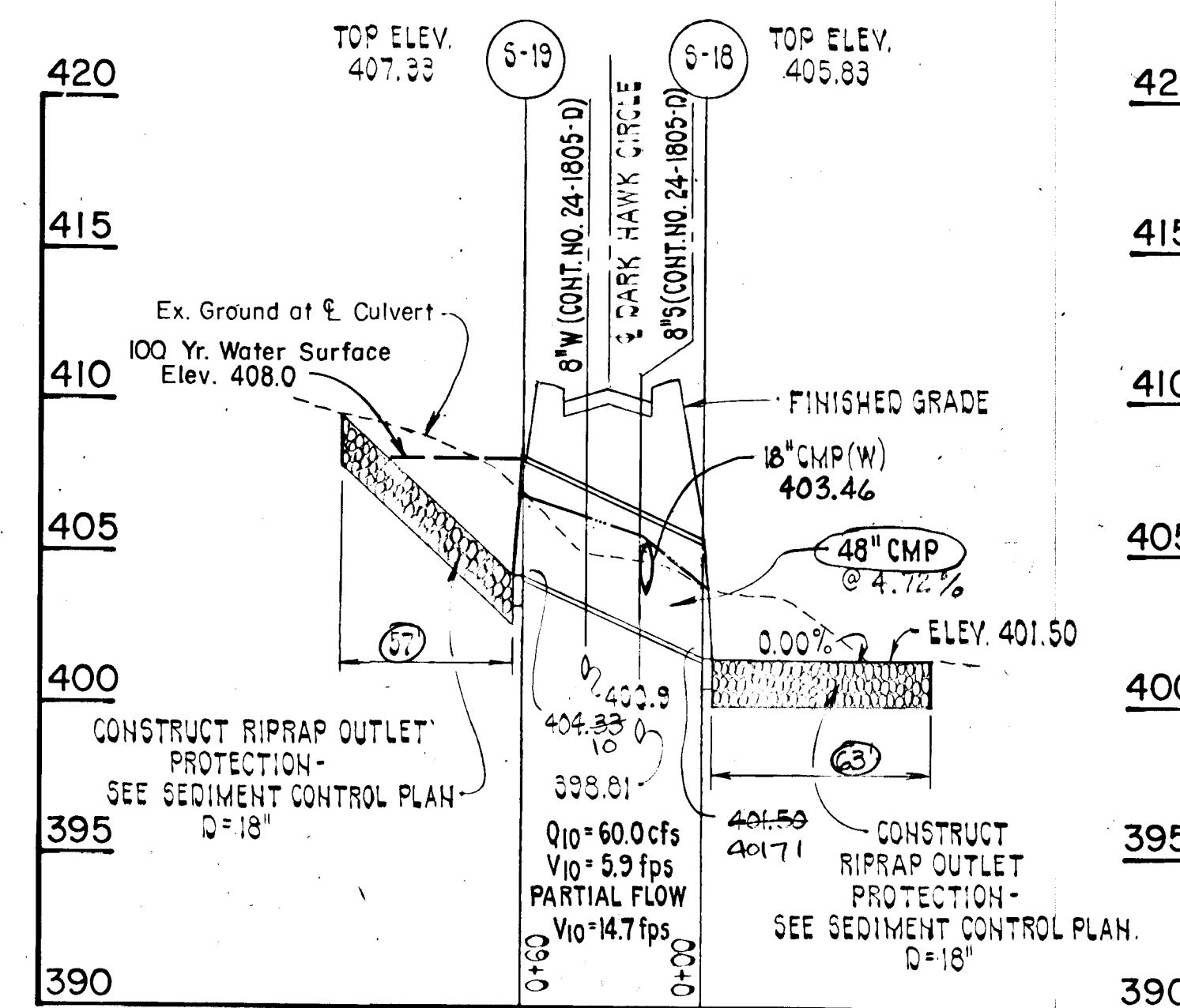
STONECUTTER ROAD



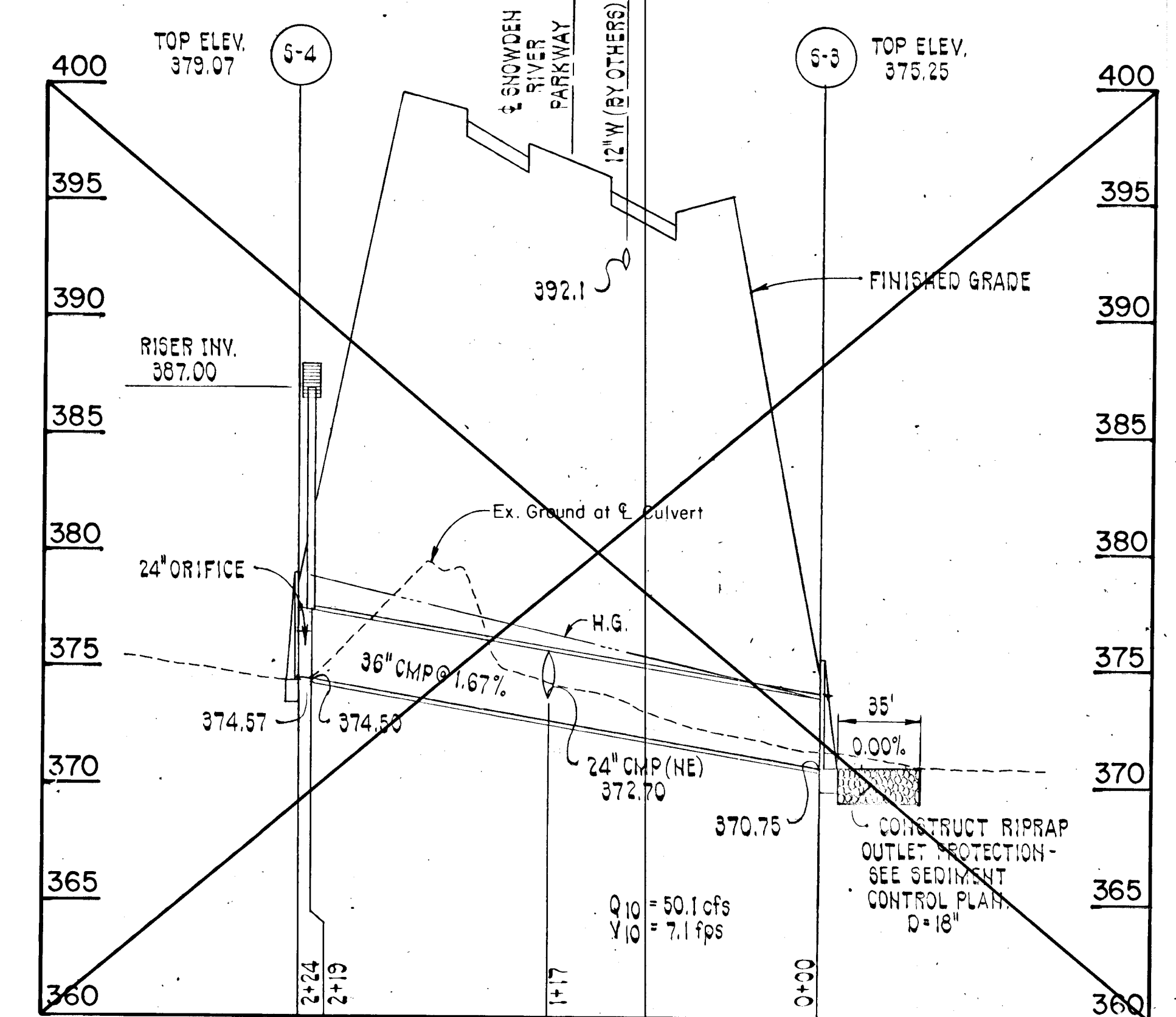
WINDOW LATCH WAY



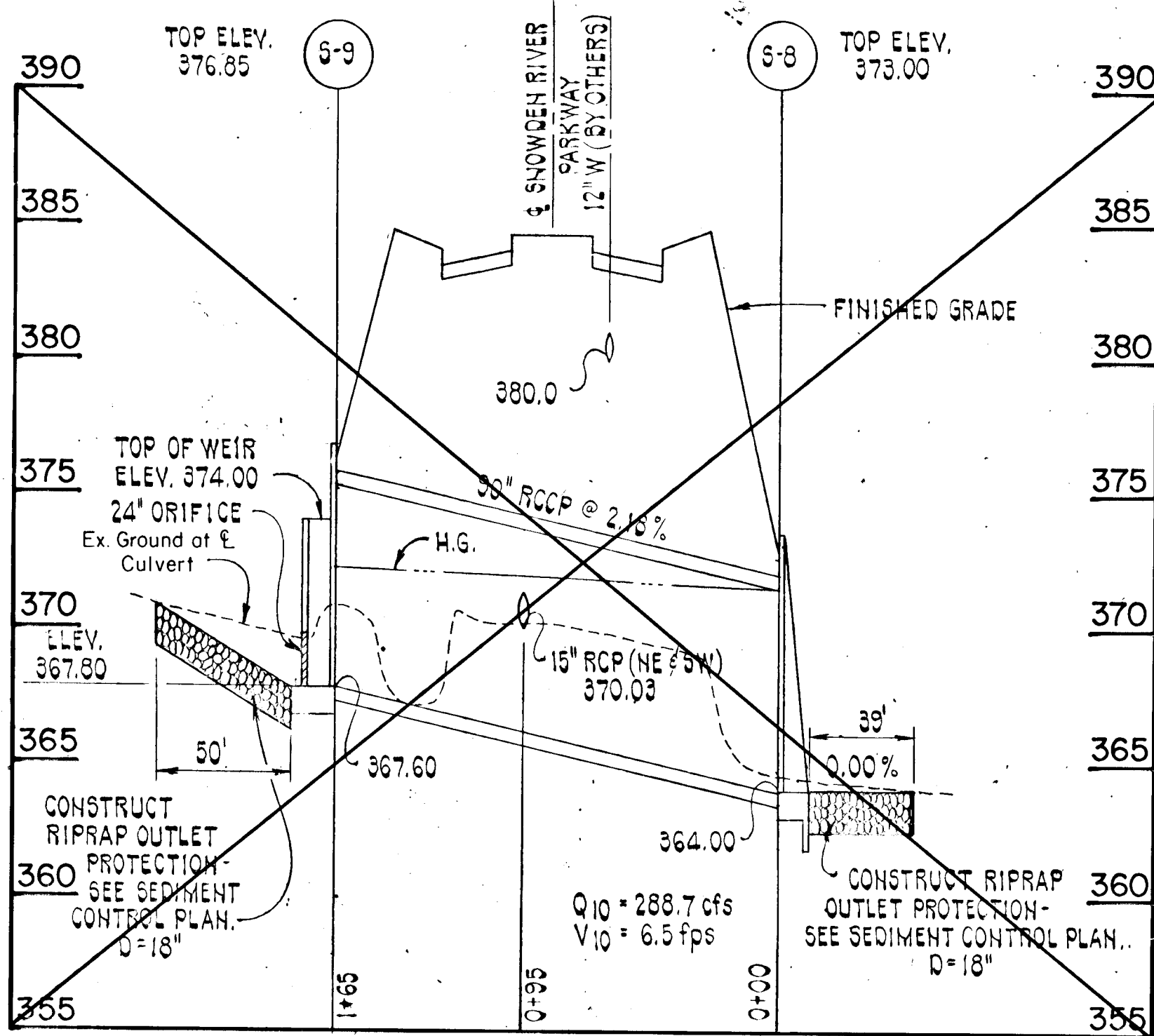
DARK HAWK CIRCLE



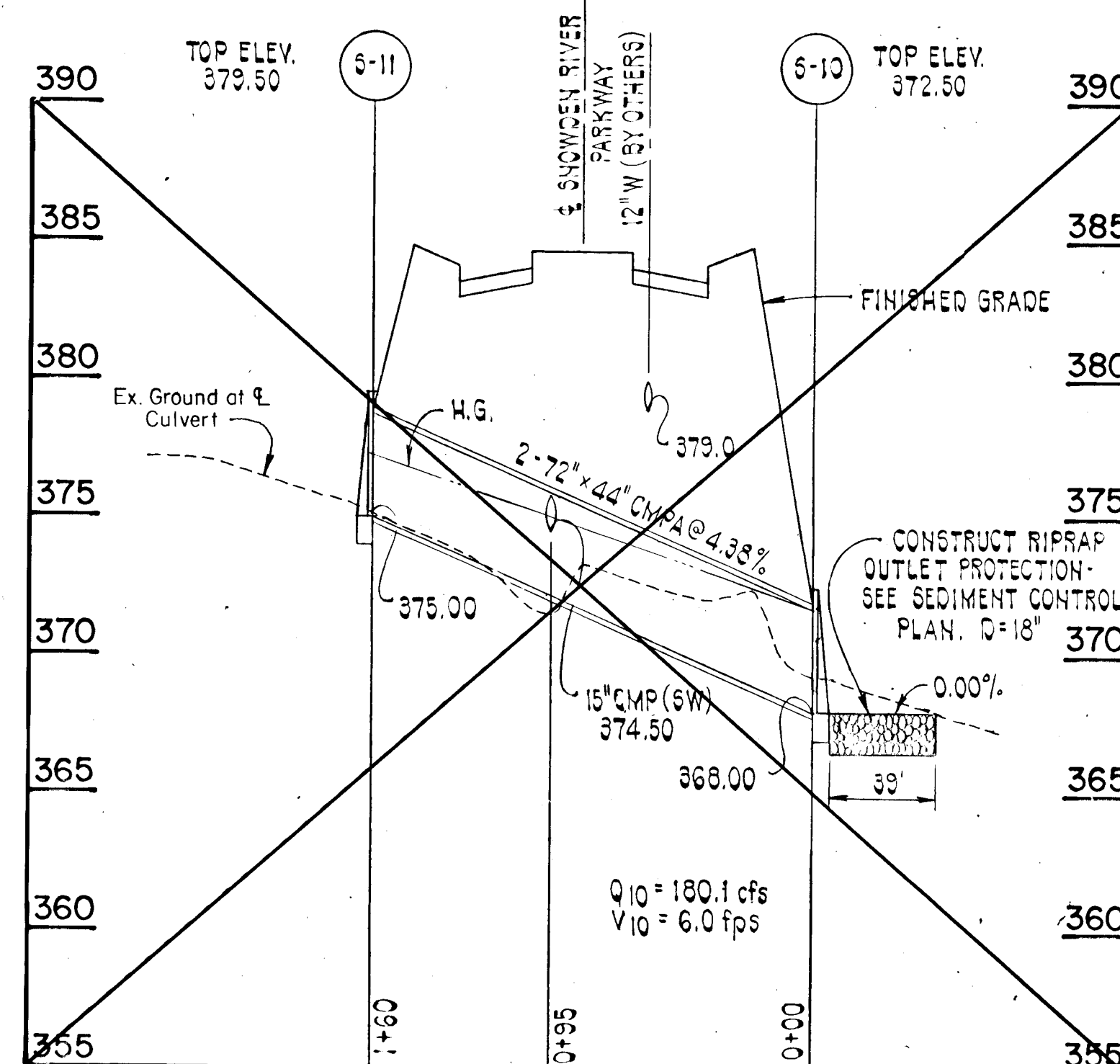
SNOWDEN RIVER PARKWAY - STA. 53+65



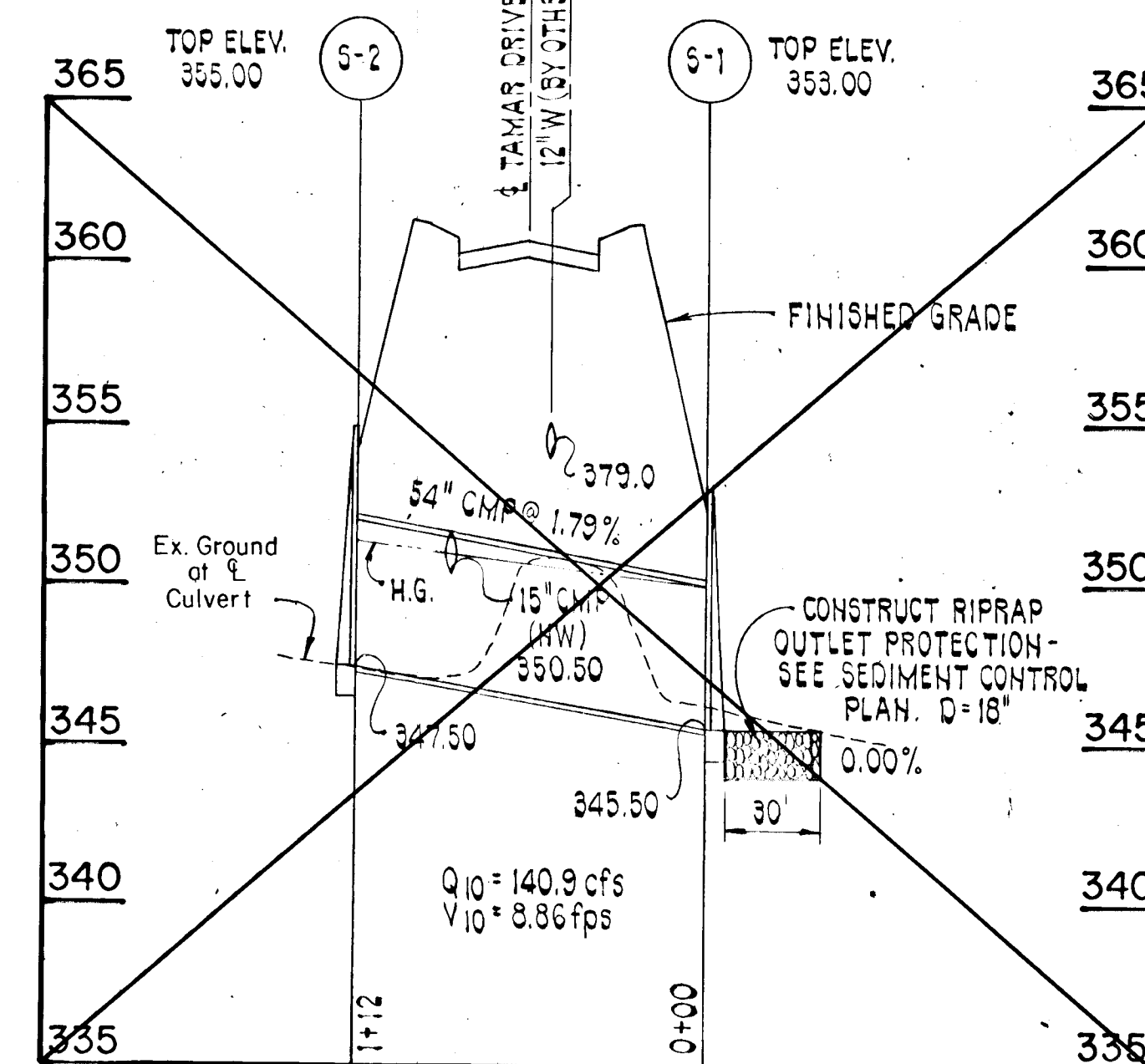
SNOWDEN RIVER PARKWAY - STA. 72+50



SNOWDEN RIVER PARKWAY - STA. 76+89



TAMAR DRIVE



ROAD AS-BUILTS

Paul Shanabarger
PAUL SHANABARGER
PROFESSIONAL LAND SURVEYOR

SHANABARGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 101
ELICOTT CITY, MARYLAND 21043

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COLUMBIA, MD. 21044

OFFICE OF PLANNING & ZONING
Mark J. Z. ...
CHIEF, DIVISION OF COMMUNITY
PLANNING AND LAND DEVELOPMENT

APPROVED:
HOWARD COUNTY DEPARTMENT OF
PUBLIC WORKS
Donald J. ...
CHIEF, LAND DEVELOPMENT DIVISION
William W. ...
CHIEF, BUREAU OF HIGHWAYS
...
CHIEF, BUREAU OF ENGINEERING

VILLAGE OF LONGREACH SECT. 3, AREA 3
STORM DRAIN PROFILES
SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
DATE: 3/1/88

SHEET 11 OF 14
DES: GDT
DRAWN: RC
CHK: RHB
SCALE: HORIZ: 1" = 50'
VERT: 1" = 5'

STONE OUTLET SEDIMENT TRAP NO. 18
 DRAINAGE AREA = 2.0 AC.
 L = 5'
 VOL. REQ'D = 3600 C.F.
 VOLUME PROVIDED = 44' x 28' x 4' = 3840 C.F.
 DEPTH = 4'
 BOTTOM ELEV. = 412
 TOP OF EMBANKMENT = 418
 OUTLET WEIR CREST ELEV. = 417
 CLEANOUT ELEV. = 416
 TRAP DEPTH = 5'
 BOTTOM DIMENSIONS = 38' x 22'

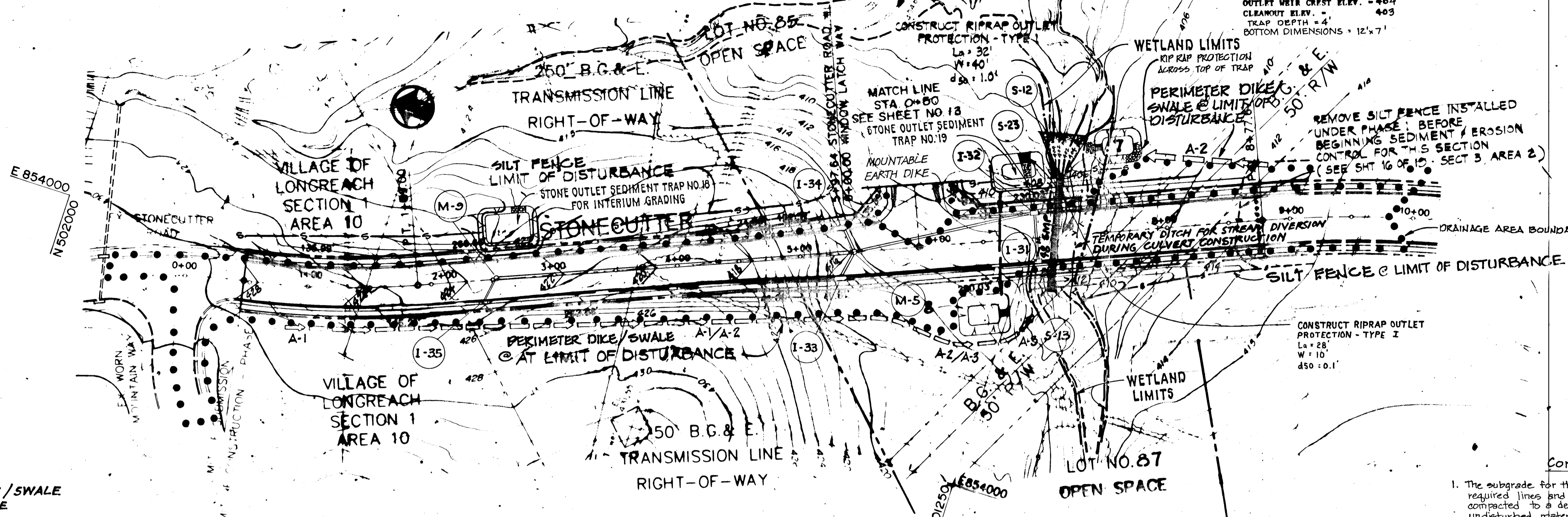
STONE OUTLET SEDIMENT TRAP NO. 19
 DRAINAGE AREA = 1.40 AC.
 L = 5'
 VOLUME REQ'D = 2520 C.F.
 VOLUME PROVIDED = 35' x 20' x 4' = 2800 C.F.
 DEPTH = 4'
 BOTTOM ELEV. = 402
 TOP OF EMBANKMENT = 408
 OUTLET WEIR CREST ELEV. = 407
 CLEANOUT ELEV. = 406
 TRAP DEPTH = 5'
 BOTTOM DIMENSIONS = 27' x 12'

LIMIT OF 100-YR. FLOOD PLAIN
 100 YEAR FLOODPLAIN INFORMATION IS
 BASED ON WATERSHED STUDY BY
 PURDUM AND JESCHKE IN 1987.

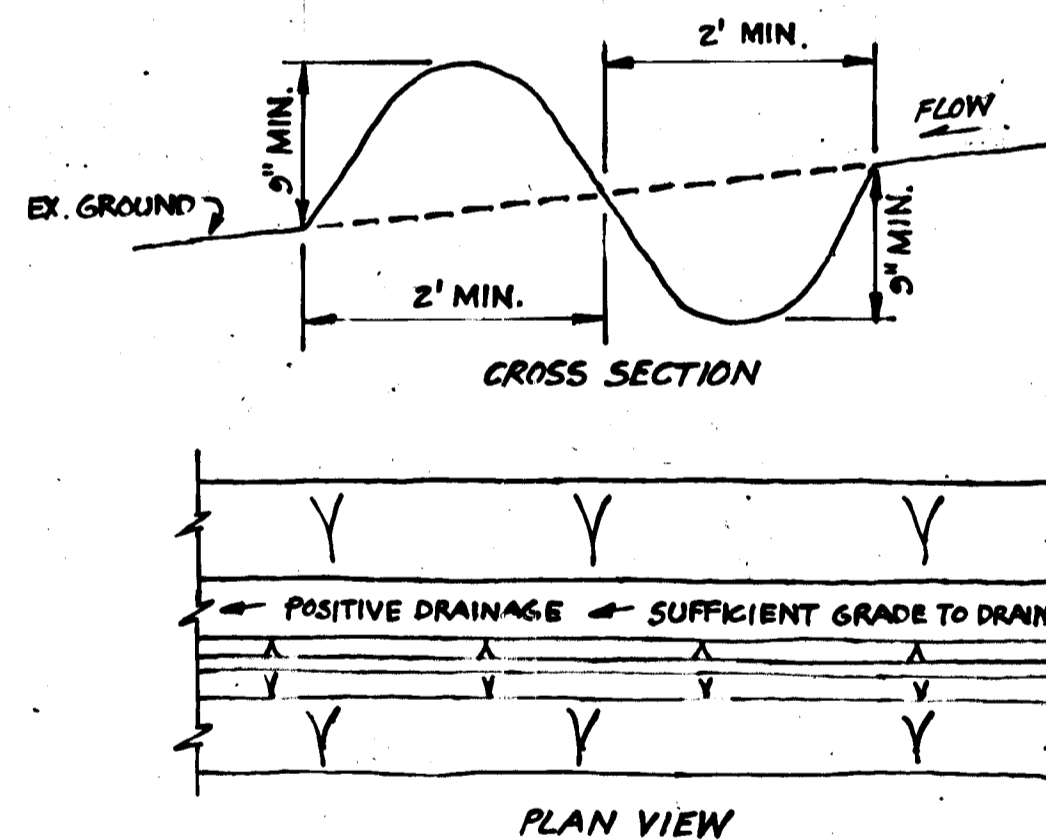
STONE OUTLET SEDIMENT TRAP NO. 7
 DRAINAGE AREA = 0.15 AC.
 L = 5'
 VOLUME REQ'D = 270 C.F.
 VOLUME PROVIDED = 15' x 10' x 5' = 450 C.F.
 DEPTH = 5'
 BOTTOM ELEV. = 400
 TOP OF EMBANKMENT = 405
 OUTLET WEIR CREST ELEV. = 404
 CLEANOUT ELEV. = 403
 TRAP DEPTH = 4'
 BOTTOM DIMENSIONS = 12' x 7'

STONE OUTLET SEDIMENT TRAP NO. 6
 DRAINAGE AREA = 1.38 AC.
 L = 5'
 VOLUME REQ'D = 2484 C.F.
 VOLUME PROVIDED = 33' x 24' x 4' = 3024 C.F.
 DEPTH = 4'
 BOTTOM ELEV. = 407
 TOP OF EMBANKMENT = 413
 OUTLET WEIR CREST ELEV. = 412
 CLEANOUT ELEV. = 411
 TRAP DEPTH = 5'
 BOTTOM DIMENSIONS = 31' x 16'

STORMWATER MANAGEMENT FOR
 THIS AREA IS TO BE PROVIDED UNDER
 SECTION 3, AREA 2. F-88-171



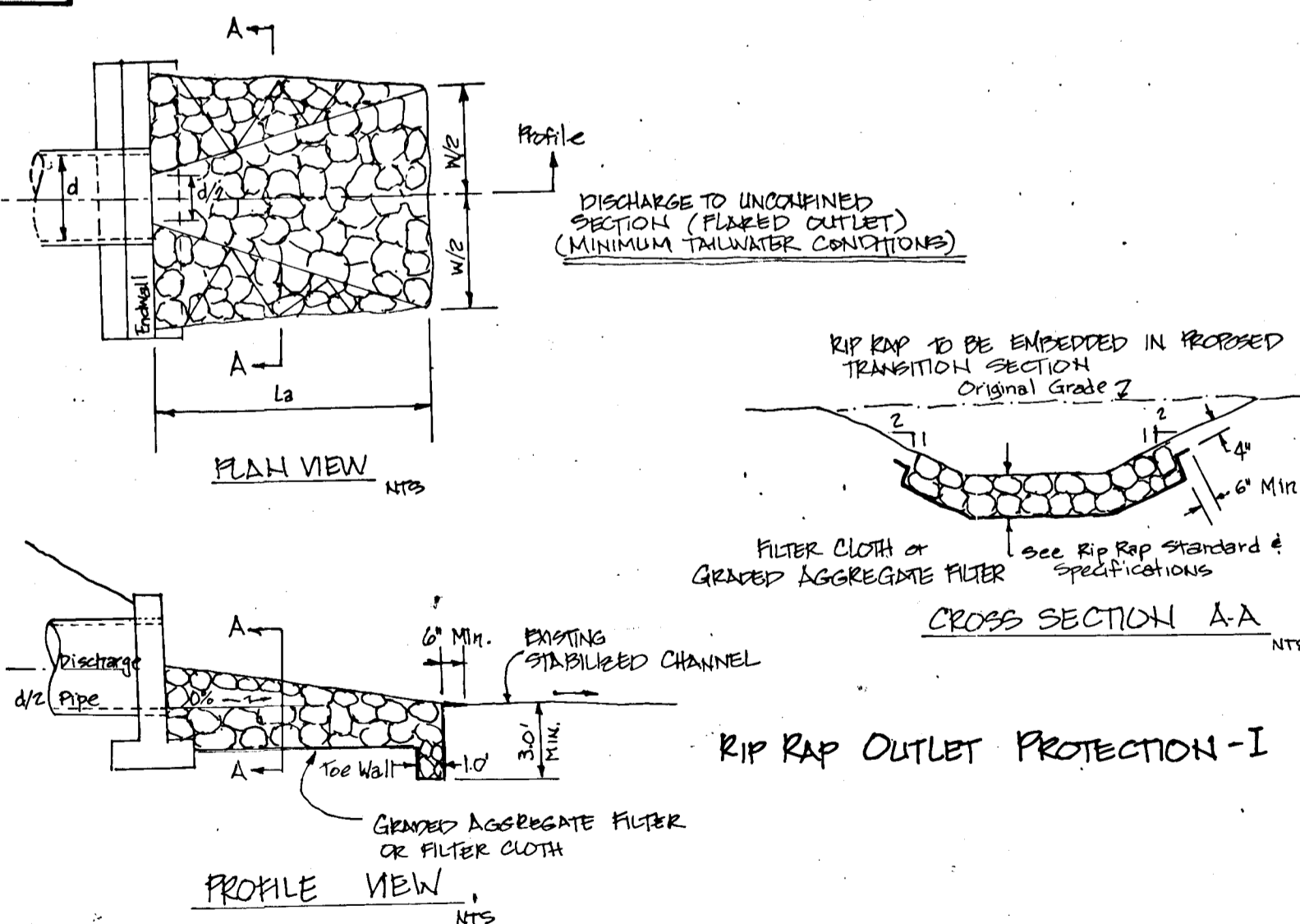
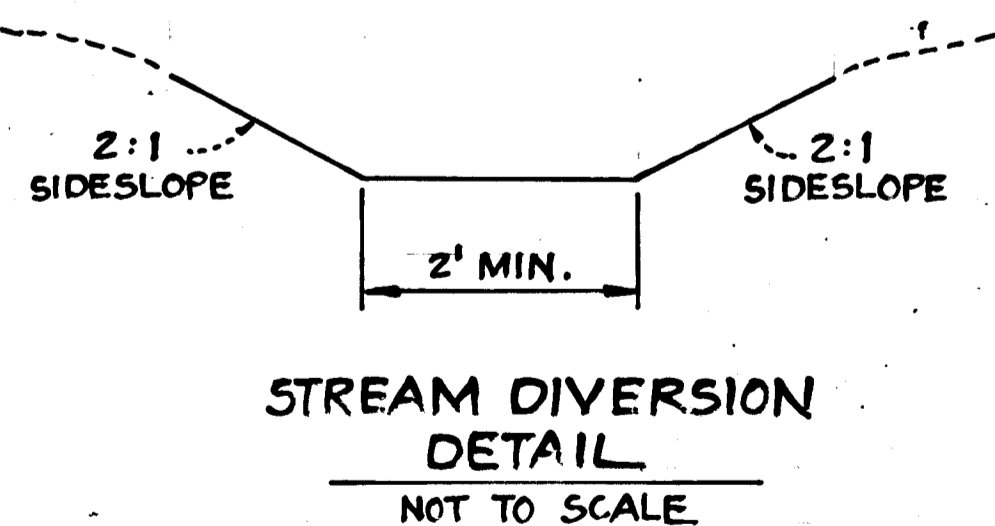
PERIMETER DIKE / SWALE
 NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

- ALL PERIMETER DIKE / 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 INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSION VELOCITY.
- THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.
- STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SEED AND STRAW MULCH AND SHALL BE DONE WITHIN 10 DAYS.
- PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

MAX. DRAINAGE AREA LIMIT : 2 ACRES



- Construction Specifications**
- 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 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.

APPROVED:
 HOWARD COUNTY DEPARTMENT OF
 PUBLIC WORKS
 [Signature] 10/19/88
 CHIEF, LAND DEVELOPMENT DIVISION
 [Signature] 10/19/88
 CHIEF, BUREAU OF HIGHWAYS
 [Signature] 10/19/88
 CHIEF, BUREAU OF ENGINEERING

Reviewed for Howard Soil Conservation District and meets technical requirements.
 [Signature] 9/28/88
 U.S. Soil Conservation Service
 This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.
 [Signature] 9/28/88
 Howard Soil Conservation District

PURDUM & JESCHKE
 CONSULTING ENGINEERS AND
 LAND SURVEYORS
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 Baltimore, Maryland 21202 (301)837-0194

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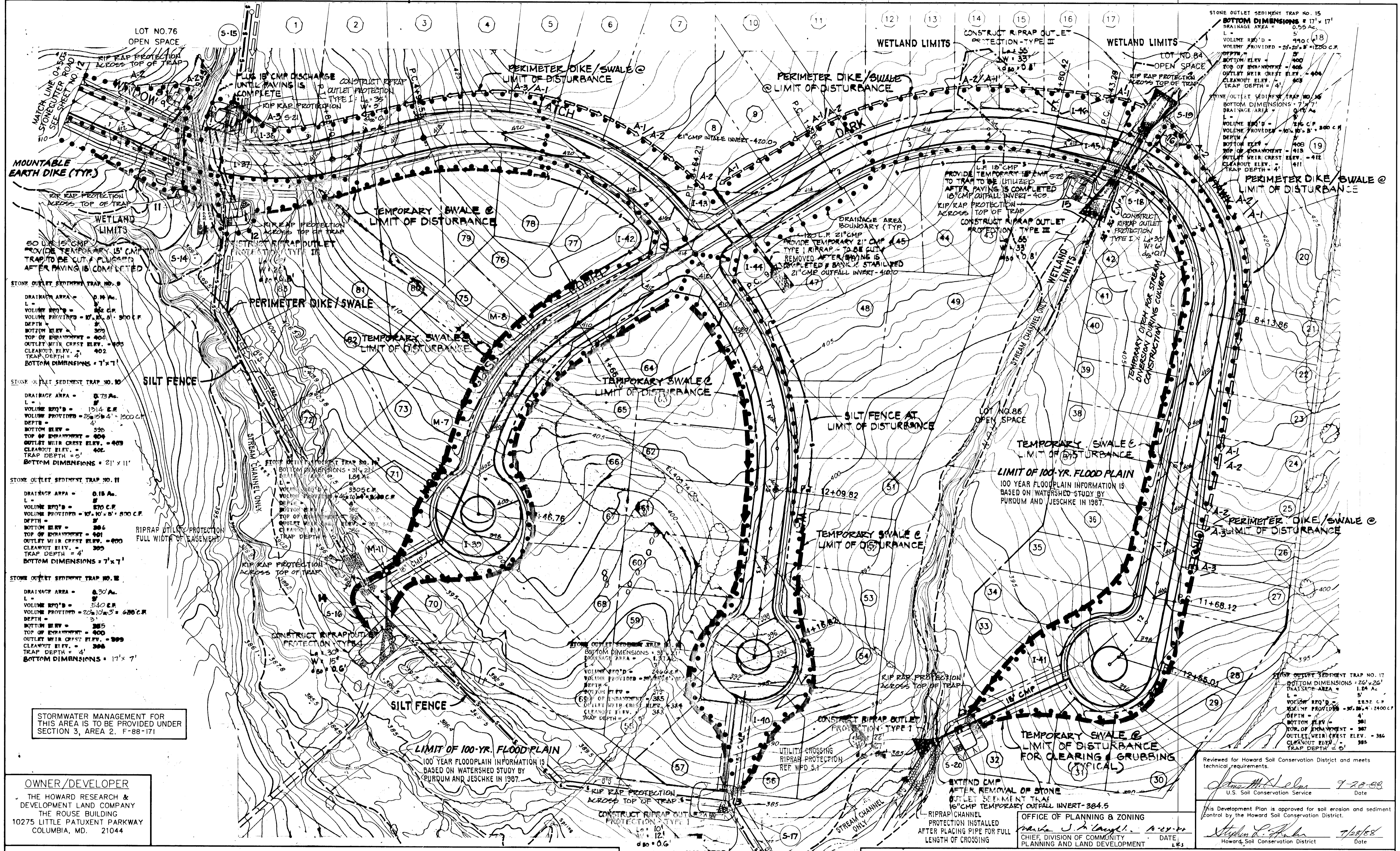
OFFICE OF PLANNING & ZONING
 [Signature] 3-3-88
 CHIEF, DIVISION OF COMMUNITY
 PLANNING AND LAND DEVELOPMENT

DEVELOPER'S CERTIFICATION
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 3-3-88

ENGINEER'S CERTIFICATION
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 3/3/88

**VILLAGE OF LONGREACH-SECT. 3, AREA 3
 SEDIMENT & EROSION CONTROL PLAN**
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
 DATE: 3/1/88

SHEET 12 OF 14
 DES: GDT
 DRAWN: RC
 CHK: RHR
 SCALE: 1" = 50'



STONE OUTLET SEDIMENT TRAP NO. 9
 DRAINAGE AREA = 0.14 AC.
 L = 5'
 VOLUME RPT'D = 152 C.F.
 VOLUME PROVIDED = 10' x 10' x 4' = 400 C.F.
 DEPTH = 4'
 BOTTOM ELEV. = 392
 TOP OF ENHANCEMENT = 404
 OUTLET WEIR CREST ELEV. = 400
 CLEANOUT ELEV. = 402
 TRAP DEPTH = 4'
 BOTTOM DIMENSIONS = 7' x 7'

STONE OUTLET SEDIMENT TRAP NO. 10
 DRAINAGE AREA = 0.73 AC.
 L = 5'
 VOLUME RPT'D = 1914 C.F.
 VOLUME PROVIDED = 25' x 10' x 4' = 1000 C.F.
 DEPTH = 4'
 BOTTOM ELEV. = 396
 TOP OF ENHANCEMENT = 404
 OUTLET WEIR CREST ELEV. = 403
 CLEANOUT ELEV. = 402
 TRAP DEPTH = 5'
 BOTTOM DIMENSIONS = 21' x 11'

STONE OUTLET SEDIMENT TRAP NO. 11
 DRAINAGE AREA = 0.18 AC.
 L = 5'
 VOLUME RPT'D = 870 C.F.
 VOLUME PROVIDED = 10' x 10' x 8' = 800 C.F.
 DEPTH = 8'
 BOTTOM ELEV. = 386
 TOP OF ENHANCEMENT = 401
 OUTLET WEIR CREST ELEV. = 400
 CLEANOUT ELEV. = 399
 TRAP DEPTH = 4'
 BOTTOM DIMENSIONS = 7' x 7'

STONE OUTLET SEDIMENT TRAP NO. 12
 DRAINAGE AREA = 0.30 AC.
 L = 5'
 VOLUME RPT'D = 540 C.F.
 VOLUME PROVIDED = 20' x 10' x 3' = 600 C.F.
 DEPTH = 3'
 BOTTOM ELEV. = 385
 TOP OF ENHANCEMENT = 400
 OUTLET WEIR CREST ELEV. = 399
 CLEANOUT ELEV. = 398
 TRAP DEPTH = 4'
 BOTTOM DIMENSIONS = 17' x 7'

STORMWATER MANAGEMENT FOR THIS AREA IS TO BE PROVIDED UNDER SECTION 3, AREA 2. F-88-171

OWNER/DEVELOPER
 THE HOWARD RESEARCH & DEVELOPMENT LAND COMPANY
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD. 21044

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Paul D. Eppm 10/18/88
 CHIEF, LAND DEVELOPMENT DIVISION
Erwin W. Wilford 10/18/88
 CHIEF, BUREAU OF HIGHWAYS
Gregory A. Har 10/19/88
 CHIEF, BUREAU OF ENGINEERING

DEVELOPER'S CERTIFICATION
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
Gregory A. Har 3-3-88

EXTEND CMP AFTER REMOVAL OF SEDIMENT TRAP
 15" CMP TEMP. OUTFALL INV. = 383.58

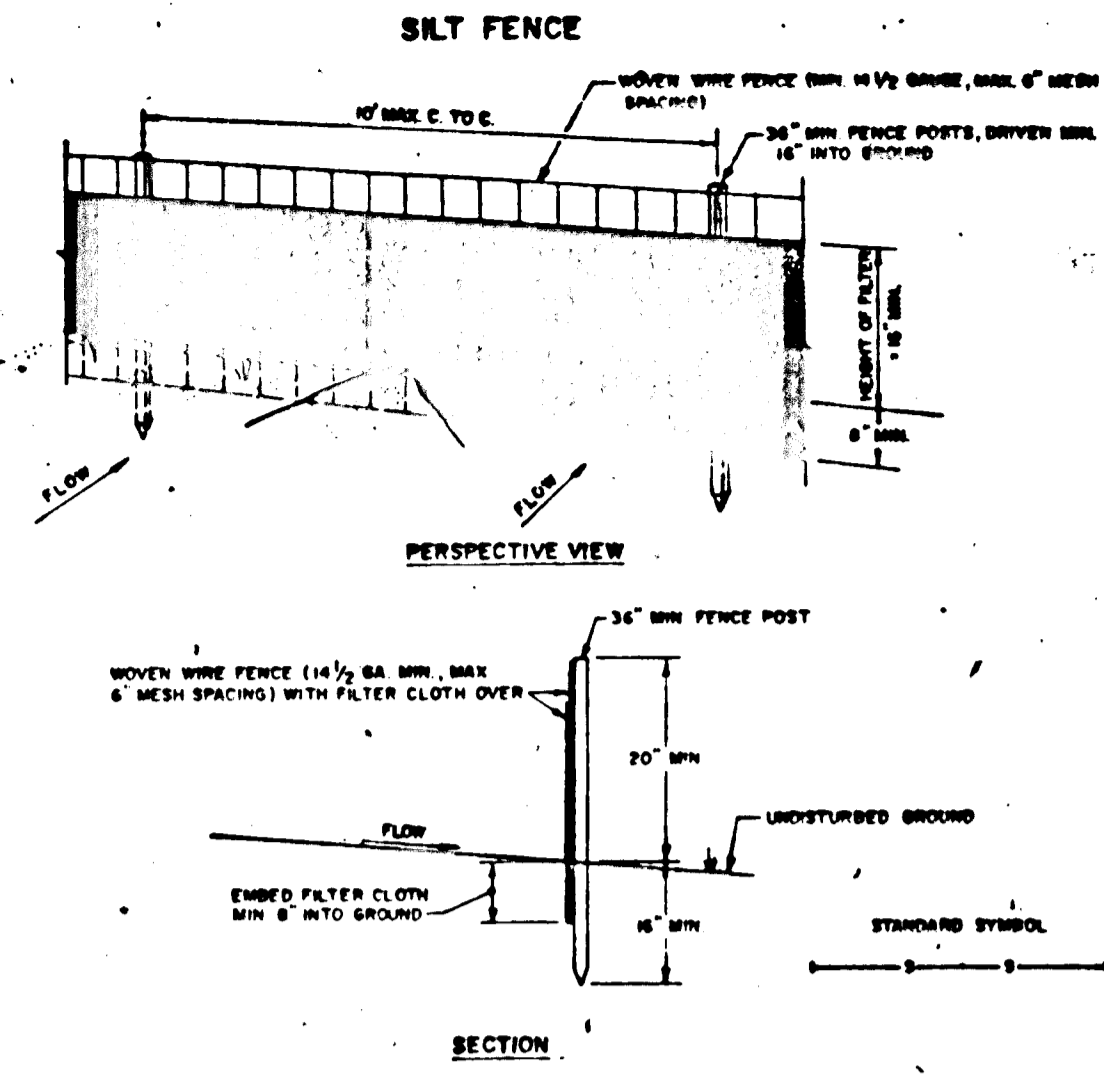
ENGINEER'S CERTIFICATION
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Richard H. Bewil 3/3/88

OFFICE OF PLANNING & ZONING
Marie J. Langell 6-29-88
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

Reviewed for Howard Soil Conservation District and meets technical requirements.
Jenna M. Selas 7-28-88
 U.S. Soil Conservation Service
 This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.
Stephen R. Fisher 7/28/88
 Howard Soil Conservation District

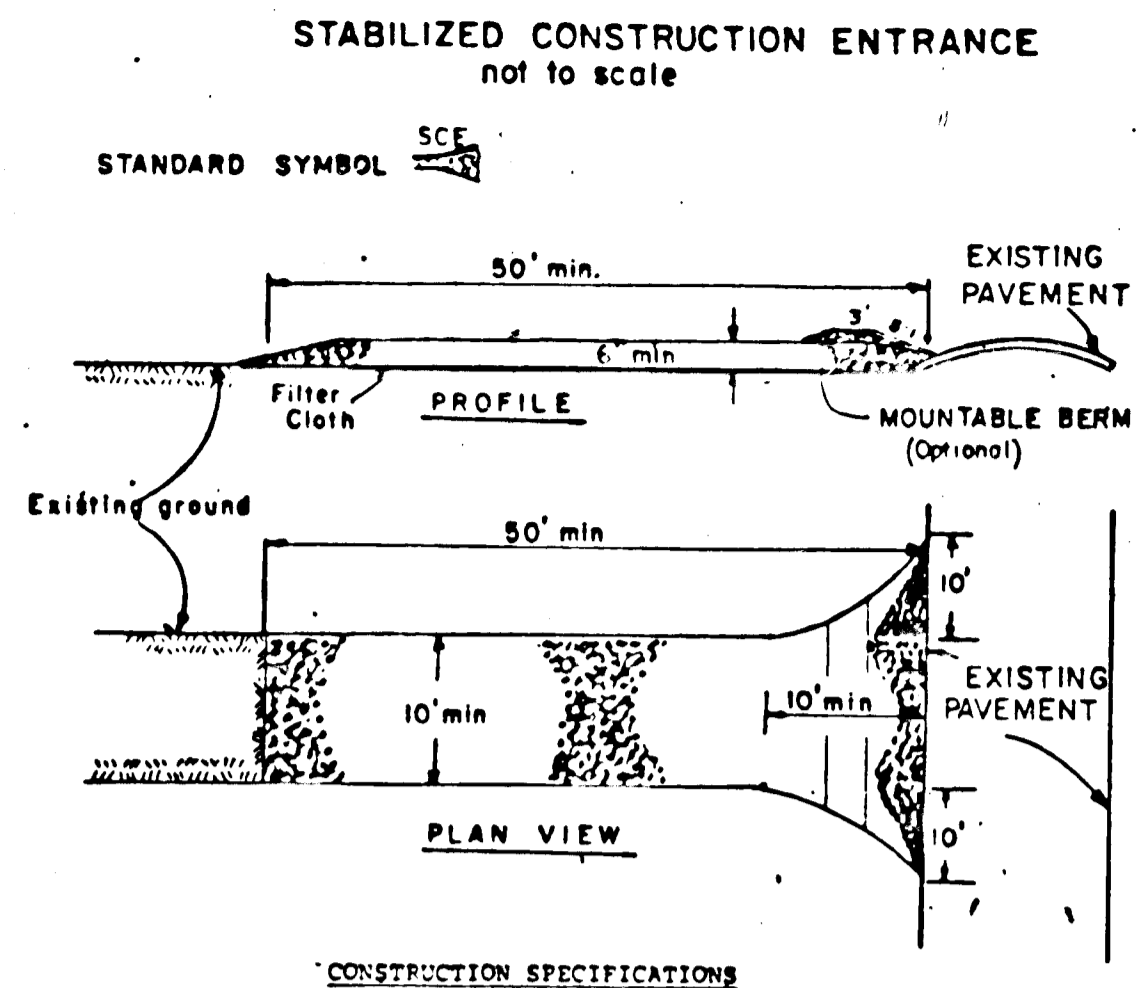
VILLAGE OF LONGREACH-SECT. 3, AREA 3 SEDIMENT & EROSION CONTROL PLAN
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MD.
 DATE: 3/1/88

SHEET 13 OF 14
 DES: GDT
 DRAWN: RC
 CHK: RHB
 SCALE: 1" = 50'



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
 2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "RAZES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14" GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MIRAFLEX 1000, STABILINK 1100 OR APPROVED EQUAL
PRE-FABRICATED UNIT: GEOTEX, GEOTRIFLEX, OR APPROVED EQUAL



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

PERMANENT SEEDING NOTES

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

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

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square 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).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre 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 unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

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

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

Soil Amendments: Apply 60 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

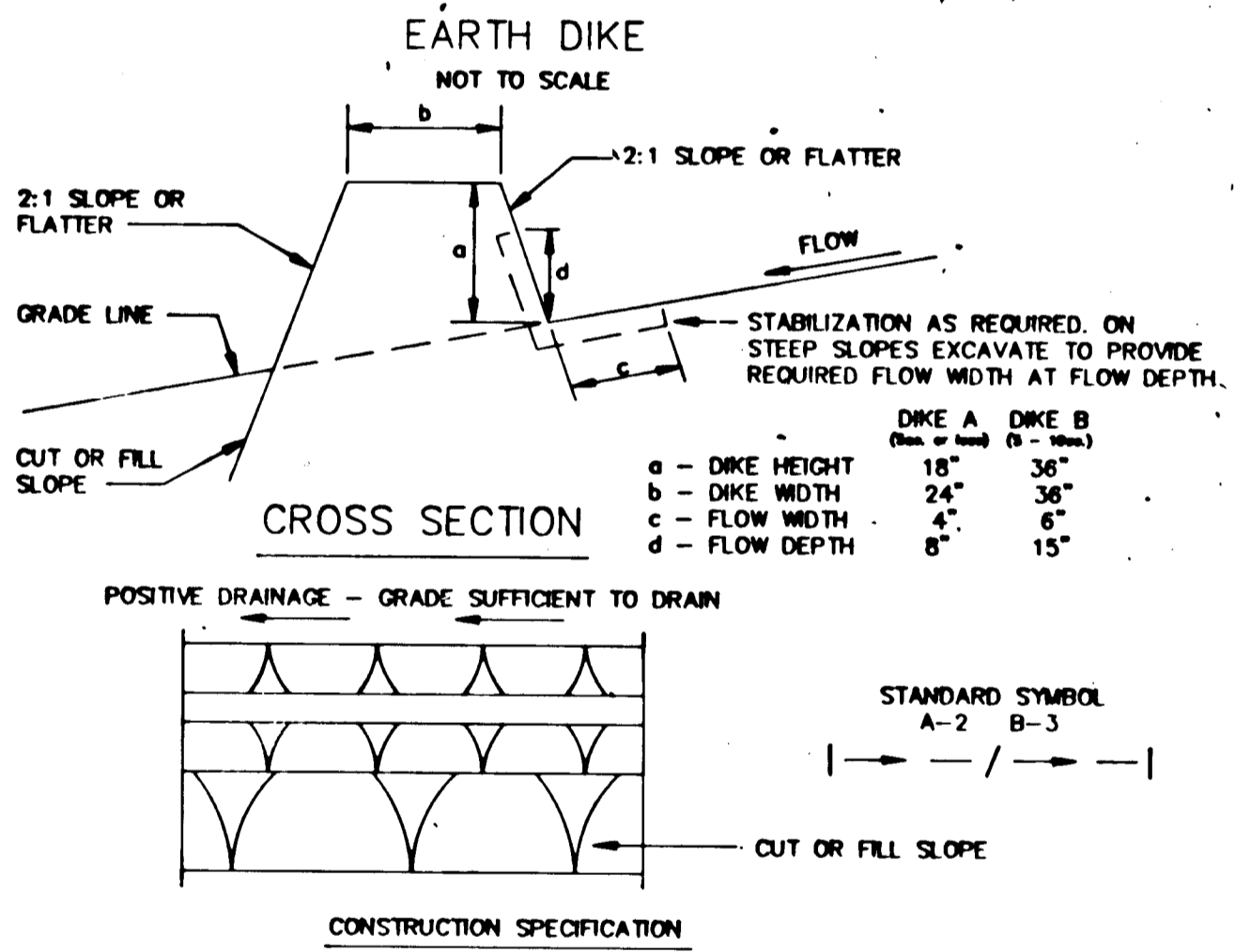
Seeding: For periods March 1 thru April 30, and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect 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 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 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.

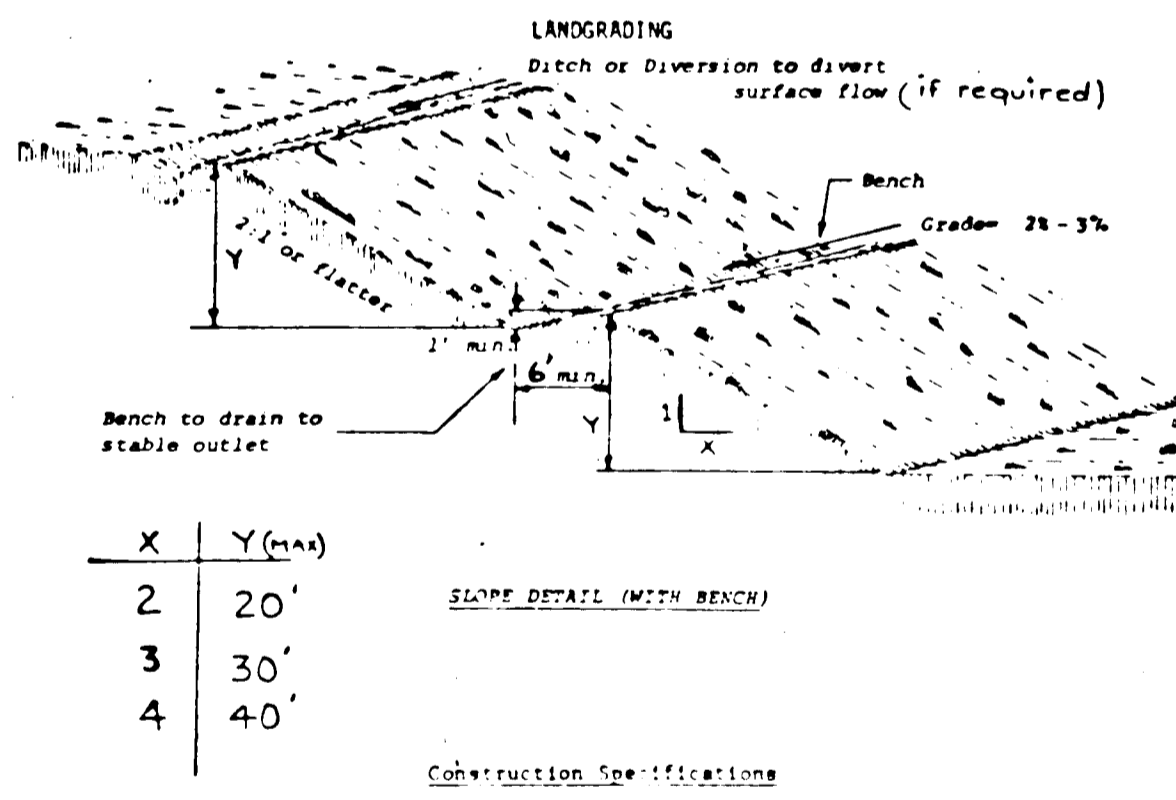
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

- SEDIMENT CONTROL NOTES**
- 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
 - 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - 3) Following initial soil 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.
 - 4) 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.
 - 5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (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.
 - 6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
 - 7) Site Analysis:

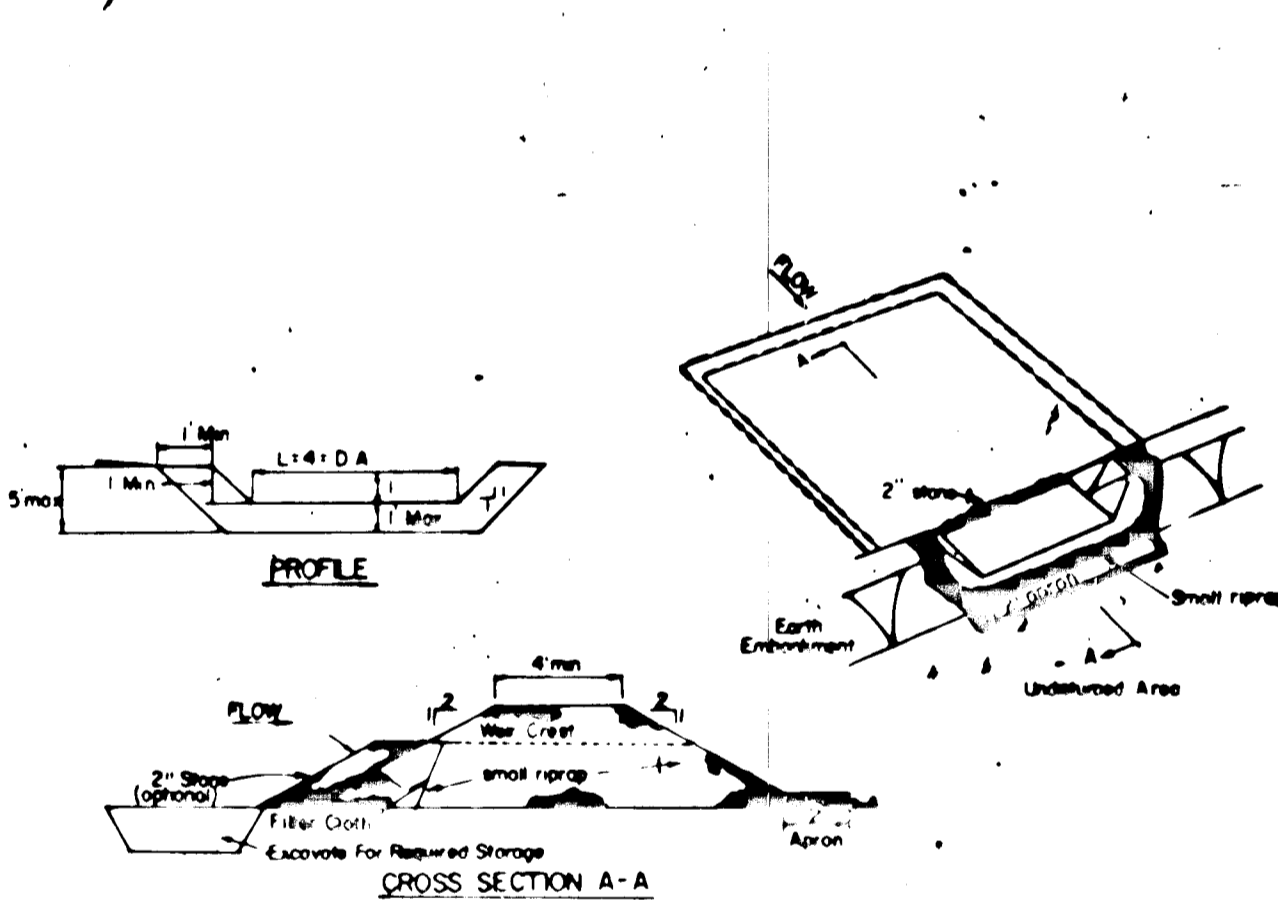
Total Area of Site	40.50 Acres
Area Disturbed	6.76 Acres
Area to be roofed or paved	5.20 Acres
Area to be vegetatively stabilized	1.66 Acres
Total Cut	11,000 Cu. yds
Total Fill	11,000 Cu. yds
Offsite waste/borrow area location	NA
 - 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 - 9) Additional sediment controls must be provided, if deemed necessary by the Howard County DPM sediment control inspector.
 - 10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.



- CONSTRUCTION SPECIFICATION**
1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
 2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
 3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
 4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
 5. EARTH DIKES 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.
 6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATION FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.
- | TYPE OF TREATMENT | CHANNEL GRADE | FLOW CHANNEL STABILIZATION | |
|-------------------|---------------|----------------------------------|--|
| | | DIKE A | DIKE B |
| 1 | .5 - 3.0% | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3.1 - 5.0% | SEED AND STRAW MULCH | SEED USING JUTE, OR EXCELSDOR, SOD; 2" STONE |
| 3 | 5.1 - 8.0% | SEED WITH JUTE, OR SOD; 2" STONE | LINED RIPRAP 4 - 8" |
| 4 | 8.1 - 20% | LINED RIPRAP 4 - 8" | ENGINEERING DESIGN |
- A. STONE TO BE 2 INCH STONE, OR RECYCLE CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
 B. RIPRAP TO BE 4 - 8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
 C. APPROVED EQUIVALENT CAN BE SUBSTITUTED FOR ANY OF THE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



- CONSTRUCTION SPECIFICATIONS**
1. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved sediment control plan until they are permanently stabilized.
 2. All sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved sediment control plan and the "Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas".
 3. Topsoil required for the establishment of vegetation shall be stockpiled in amount necessary to complete finished grading of all exposed areas.
 4. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable material.
 5. Areas which are to be topsoiled shall be stratified to a minimum depth of three inches prior to placement of topsoil.
 6. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.
 7. All fill to be placed and compacted in layers not to exceed 8 inches in thickness.
 8. Except for approved landfills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fill.
 9. Frozen materials or soft, mucky or highly compressible materials shall not be incorporated into a fill.
 10. Fill shall not be placed on a frozen foundation.
 11. All benches shall be kept free of sediment during all phases of development.
 12. Seeps or springs encountered during construction shall be handled in accordance with the Standards and Specifications for Subsurface Drain or other approved method.
 13. All graded areas shall be permanently stabilized immediately following finished grading.
 14. Stockpiles, borrow areas and spoil areas shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

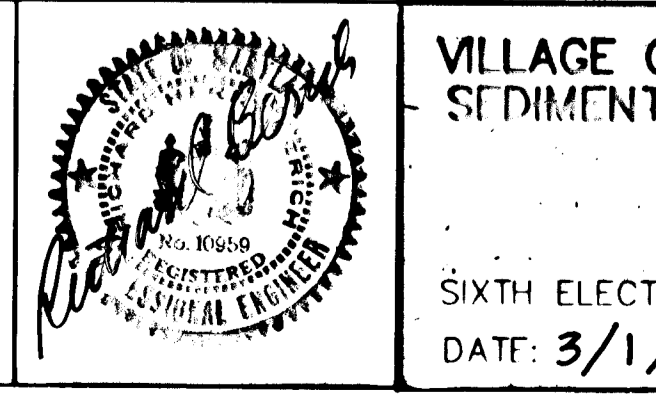


- CONSTRUCTION SPECIFICATIONS FOR UTILITY CROSSING PROTECTION**
1. Area under embankment shall be cleared, graded, and striped of any vegetation and root mat. The pool area shall be cleared.
 2. The 12" material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by tamping with equipment while it is being constructed.
 3. All cut and fill slopes shall be 2:1 or flatter.
 4. The stone used in the outlet shall be small riprap, 4-8" long with a thickness of 2" to 3" placed on the up grade side of the small riprap or embedded filter cloth in the riprap.
 5. 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.
 6. The structure shall be inspected after each rain and repairs made as needed.
 7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

OFFICE OF PLANNING & ZONING
 Chief, Division of Community Planning and Land Development
 Date: 10/18/88

ENGINEER'S CERTIFICATION
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Date: 9/28/88

SECTION A-A
 UTILITY PIPE
 BANK PROTECTION



Reviewed for Howard Soil Conservation District and meets technical requirements.
 Howard Soil Conservation District
 Date: 9-28-88
 This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.
 Howard Soil Conservation District
 Date: 9/28/88

PURDUM & JESCHKE
 CONSULTING ENGINEERS AND LAND SURVEYORS
 1029 North Calvert Street
 Baltimore, Maryland 21202 (301)837-0194

OWNER / DEVELOPER
 THE HOWARD RESEARCH & DEVELOPMENT LAND COMPANY
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD. 21044

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Land Development Division
 Date: 10/18/88
 Chief, Bureau of Highways
 Date: 10-18-88
 Chief, Bureau of Engineering
 Date: 10-18-88

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 Date: 3-3-88

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 Date: 9/28/88

VILLAGE OF LONGREACH-SECT. 3-AREA 3
 SEDIMENT & EROSION CONTROL DETAIL
 SIXTH ELECTION DISTRICT, HOWARD COUNTY, MD.
 DATE: 3/1/88
 SHEET 14 OF 14
 DES: G01
 DRAWN: RC
 CHK: RHR
 SCALE: 1" = 50'