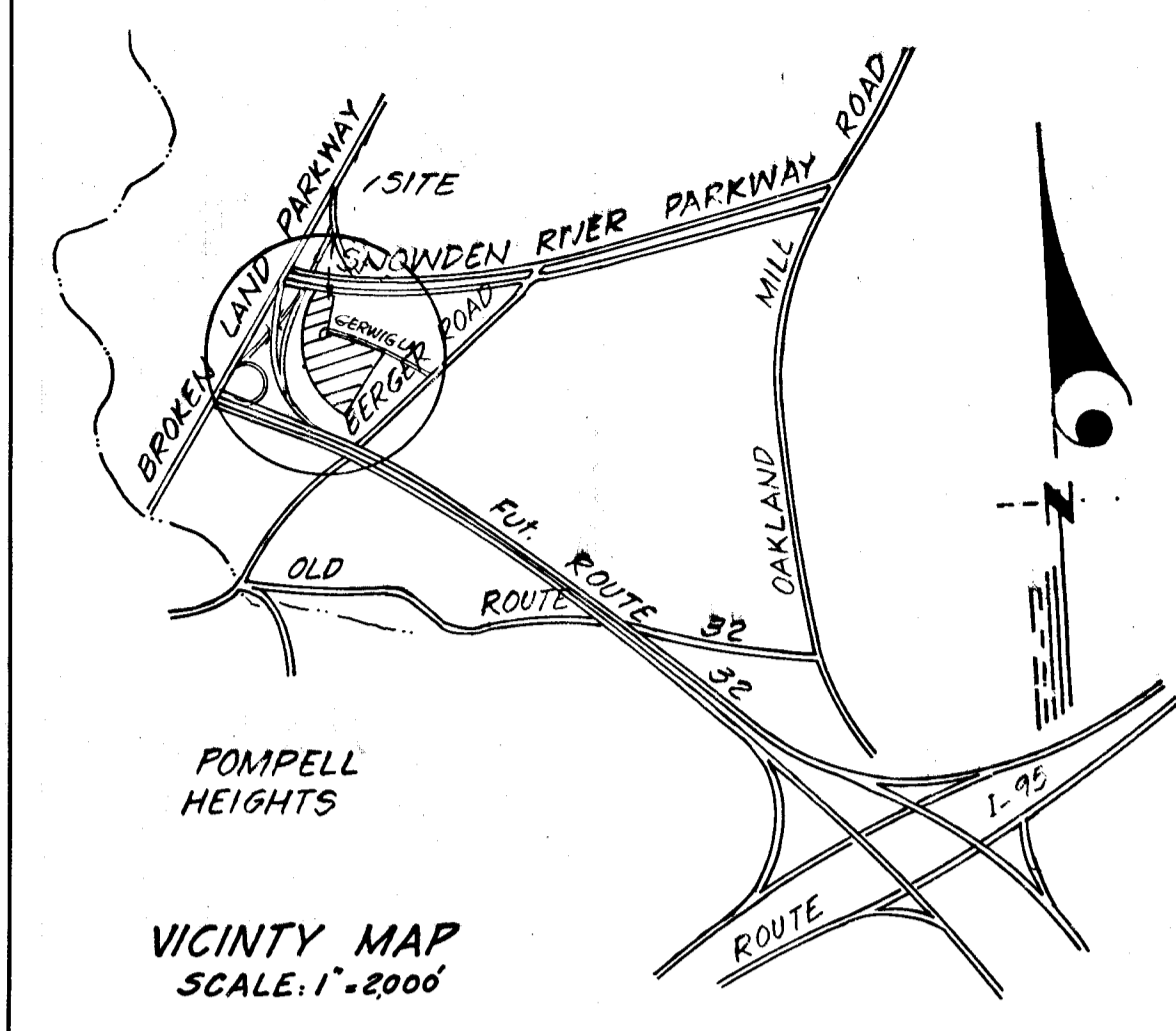
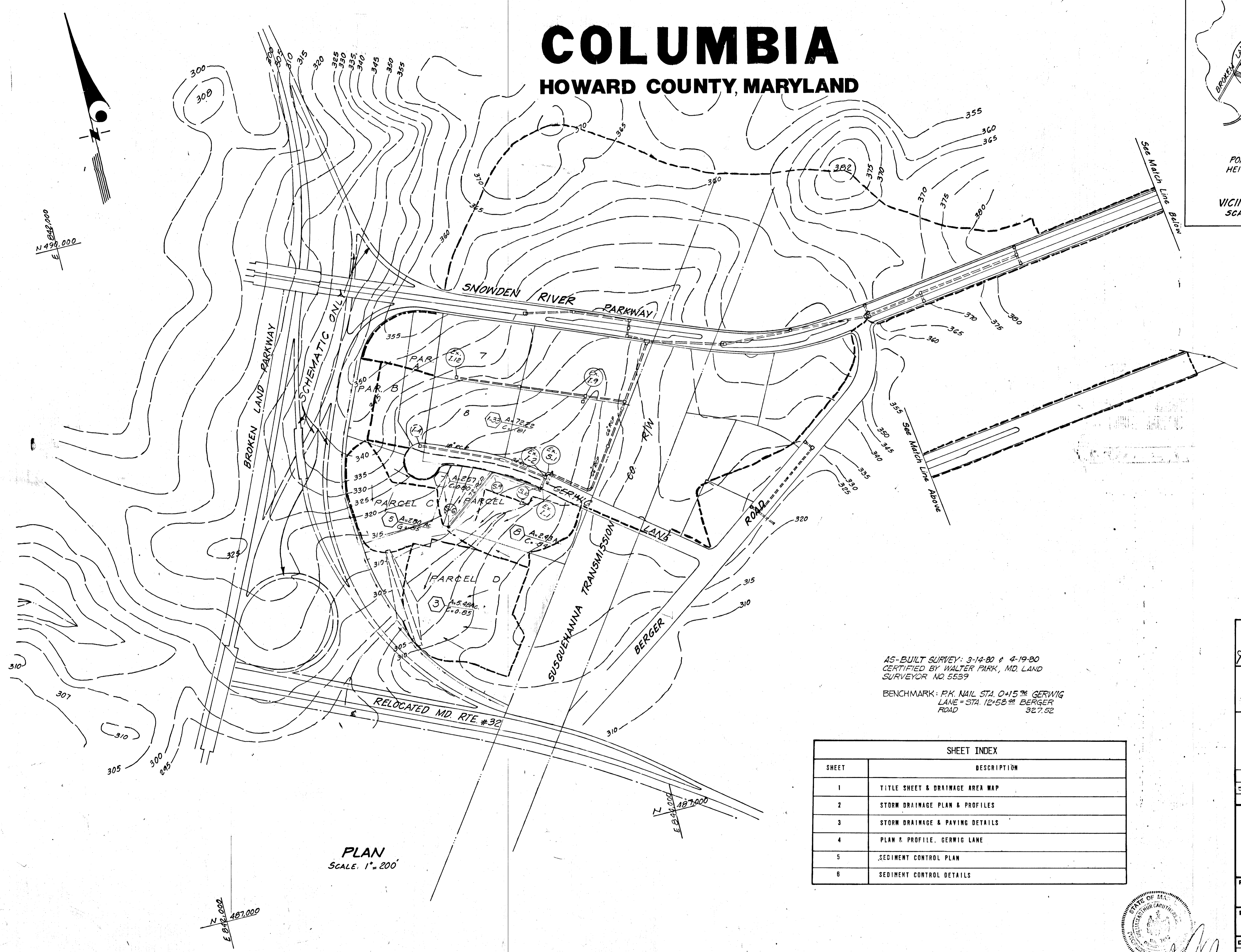


COLUMBIA

HOWARD COUNTY, MARYLAND



APPROVED
DIVISION OF LAND DEVELOPMENT
AND TRANSPORTATION PLANNING
HOWARD COUNTY, MARYLAND
DATE 4/22/73
J. H. Lawson

AS-BUILT SURVEY: 3-14-80 & 4-19-80
CERTIFIED BY WALTER PARK, MD. LAND
SURVEYOR NO. 5539
BENCHMARK: P.K. NAIL STA. 0+15.78 GERWIG
LANE = STA. 12+58 @ BERGER
ROAD 327.52

SHEET INDEX	
SHEET	DESCRIPTION
1	TITLE SHEET & DRAINAGE AREA MAP
2	STORM DRAINAGE PLAN & PROFILES
3	STORM DRAINAGE & PAVING DETAILS
4	PLAN & PROFILE, GERWIG LANE
5	SEDIMENT CONTROL PLAN
6	SEDIMENT CONTROL DETAILS

PLAN
SCALE: 1"=200'

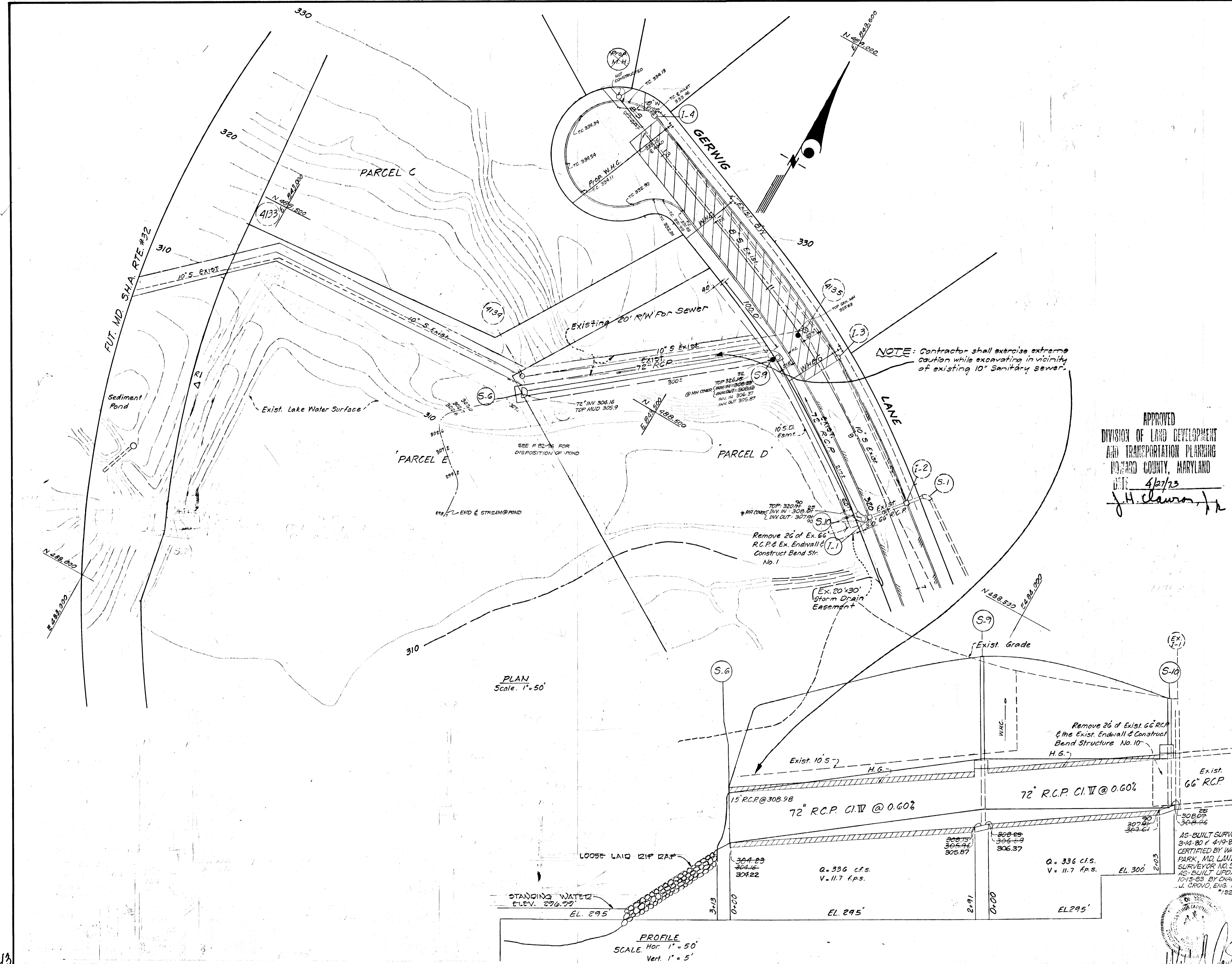
DEPARTMENT OF PUBLIC WORKS		
<i>J. H. Lawson</i>		5/14/73
CHIEF, BUREAU OF HIGHWAYS		DATE
OFFICE OF PLANNING AND ZONING		
<i>J. H. Lawson</i>		5/11/73
CHIEF, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING		DATE
GREENHORNE & O'MARA, INC. ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS 6715 KENILWORTH AVENUE RIVERDALE, MARYLAND 20840 277-2121		
5-13-72	1	REMOVE PROP. CONTOURS & REVISE S.D. SYSTEM
Rev Date	Rev No	Revision Description

COLUMBIA
M A R Y L A N D
6th Election District - Howard County
Owner And Developer
HOWARD RESEARCH AND DEVELOPMENT CORP
COLUMBIA, MARYLAND

PROJECT AREA
E.G.U. SUBDIVISION SECTION 2, A1

PROJECT TITLE
TITLE SHEET & DRAINAGE AREA

Des By <i>Sarwar</i>	Scale 1"=200'	Dwg No.
Drn By <i>Sarwar</i>	Date April, 1973	C.C.F.
Ckd	Approved	

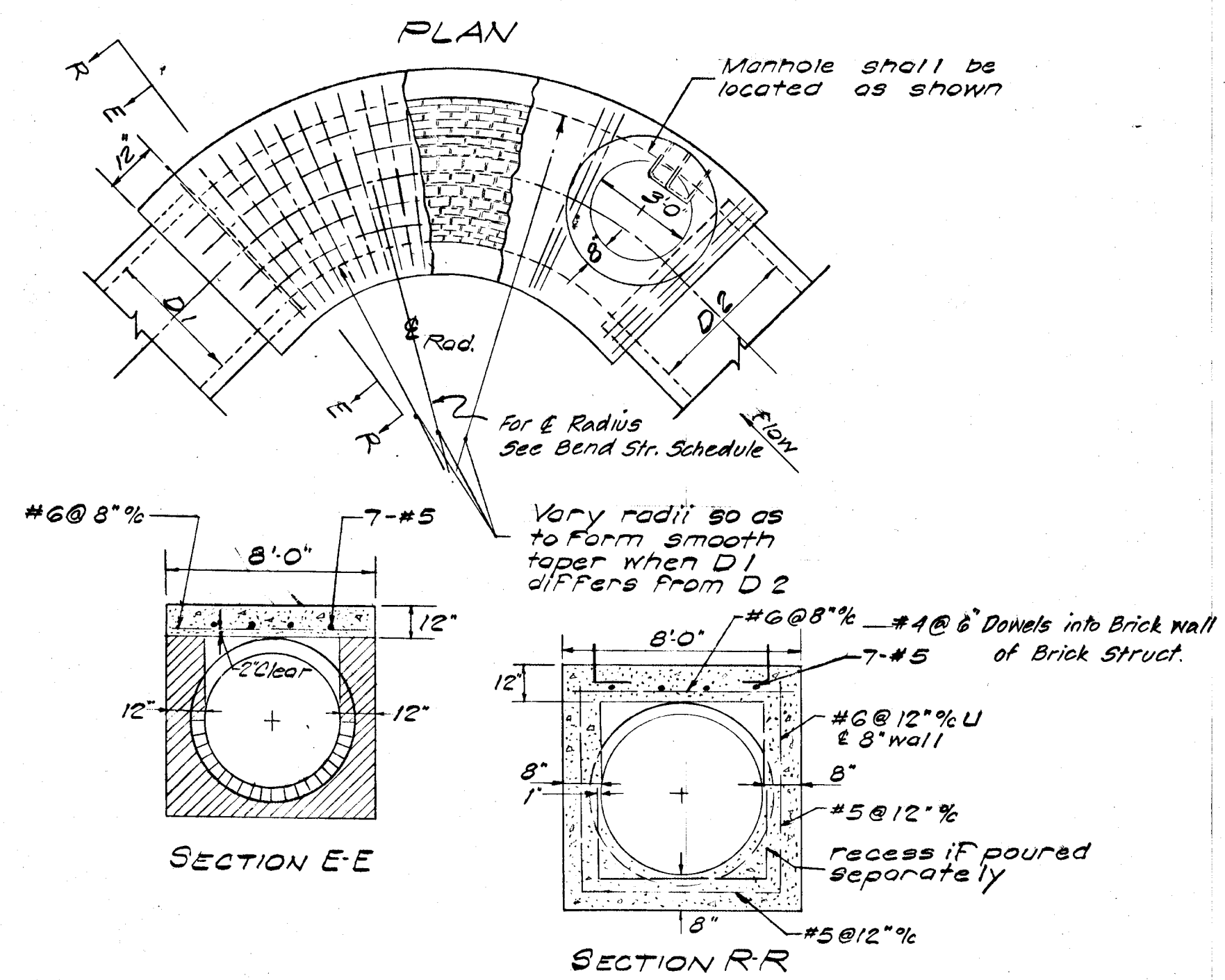


APPROVED
 DIVISION OF LAND DEVELOPMENT
 AND TRANSPORTATION PLANNING
 HOWARD COUNTY, MARYLAND
 DATE 4/27/73
 J.H. Clawson, Jr.

PLAN
 Scale: 1" = 50'

PROFILE
 SCALE: Hor. 1" = 50'
 Vert. 1" = 5'

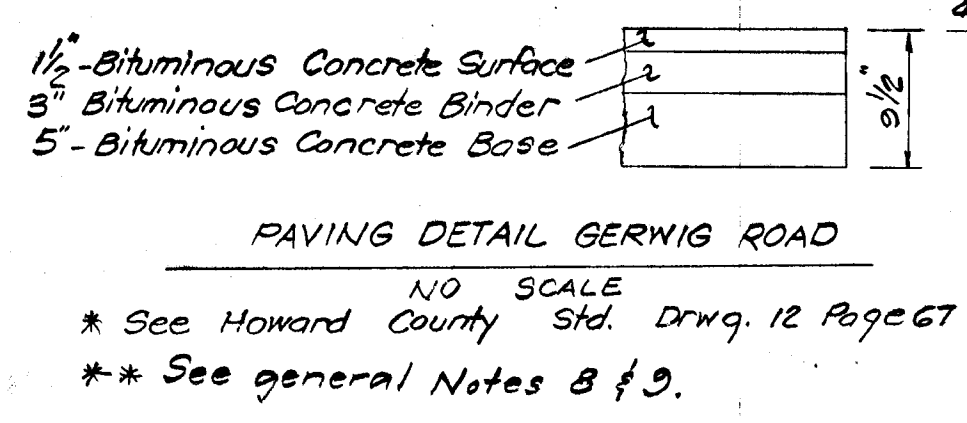
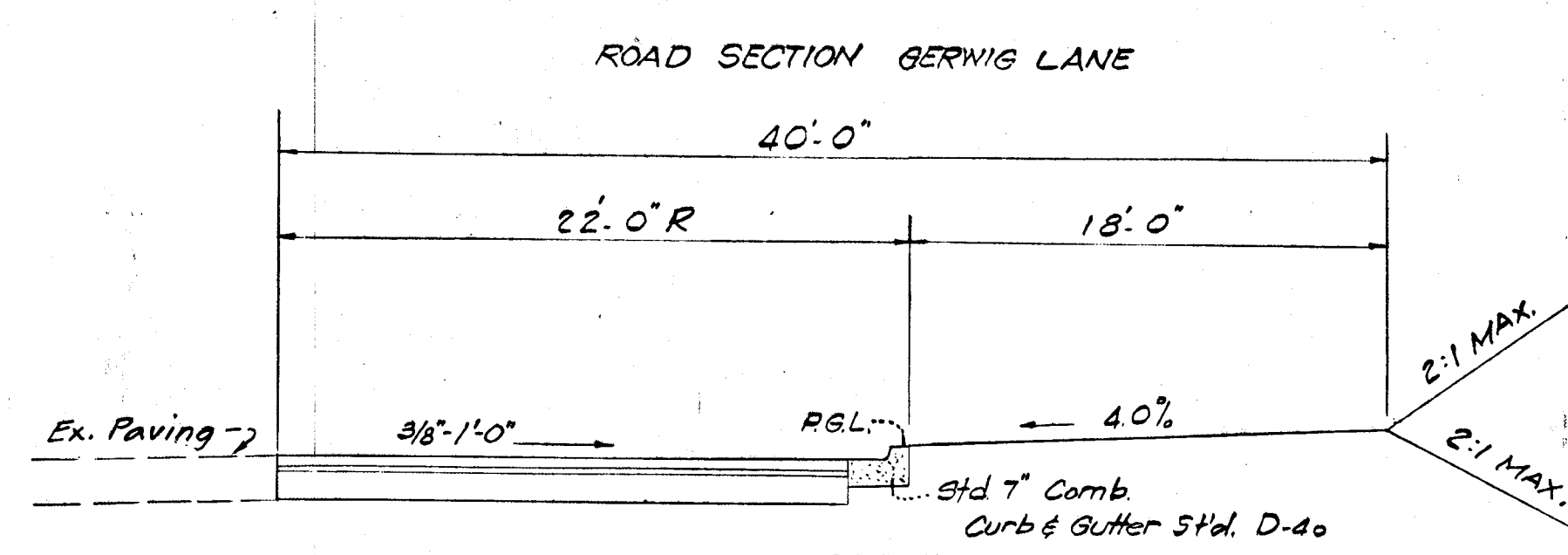
DEPARTMENT OF PUBLIC WORKS		5/14/73	
3. N. Melhead		DATE	
CHIEF, BUREAU OF HIGHWAYS			
OFFICE OF PLANNING AND ZONING		5/11/73	
J. H. Clawson, Jr.		DATE	
CHIEF, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING			
GREENHORNE & O MARA, INC ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS 6715 KENILWORTH AVENUE RIVERDALE, MARYLAND 20840			
5-13-92	1	REMOVE PROP. CONTOURS + REVISE S.D. SYSTEM	
REV. DATE	REV. NO.	REVISION DESCRIPTION	
COLUMBIA			
6th. Election District, Howard County			
HOWARD RESEARCH AND DEVELOPMENT CORP. COLUMBIA, MARYLAND			
PROJECT AREA E.G.U. SUBDIVISION SECTION 2 AREA 4			
PROJECT TITLE STORM DRAINAGE PLAN			
Des By	Sarwar	Scale	Hor. 1" = 50' Vert. 1" = 5'
	Sarwar	Date	April, 1973
	I.R.P.	DWG No	2 of 4
		CCF No	



- NOTES:
1. Material Walls and bottom shall be brick or plain conc. see Section E-E (where 12" thickness is required, 8" Reinforced Concrete may be substituted, See Section R-R).
 2. Loads Superload = A.A.S.H.O. H-20 Fill Load + 0 to 15 Ft. Earth
 3. Manhole Details steps, Frame, cover, walls and max. batter shall be as shown on standard manhole D-103, Page 158.

BEND STRUCTURES							
Str. No.	D-1	D-2	Δ°	Length	Conn.	Conn. Location	LR
10	72°	66"	85°	19.13'	-	-	12.0
9	72°	72"	73°	16.61'	-	-	12.0

* M/R Riser to be 4'0" Dia, 12" thick wall entire depth

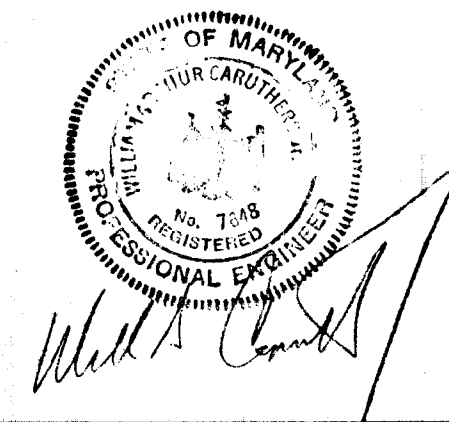


STRUCTURE SCHEDULE						
Str. No.	Type	Inv. Elev.	Top Elev.	No. of Pipes	No. of Drains	Remarks
S-10	Bend Structure	307.61	320.25	-	-	See Sht. No. 3 of 3
S-9	"	305.36	326.44	-	-	" " " "
S-6	CONC. END SECTION	304.14	-	-	-	" " " "

- GENERAL NOTES
1. Approximate location of existing utilities are shown from available records. The contractor shall take all necessary precautions to protect existing utilities and to maintain uninterrupted service. Any damages incurred due to Contractor's operation shall be repaired immediately at the Contractor's expense.
 2. The Contractor shall test pit existing utilities where directed by the Engineer a minimum of two weeks in advance of construction operations.
 3. All construction shall be in accordance with, and all details and page numbers refer to the "Howard County Road Construction Code and Std. Specifications as revised August 6, 1968.
 4. The Developer will place all roads to subgrade for full width of right-of-way before installations of utilities in same.
 5. The Contractor shall notify the following utilities at least three days before starting work shown on these drawings:
 Bell Telephone System 393-3649
 Long Distance Cable Division 393-3553
 Baltimore Gas & Electric Co. 539-8000 Ext. 691
 6. Elevations shown hereon based on Md. State Plane Datum
 7. All drainage on site to be routed to the sediment pond during grading. See Sediment Control Plan.
 8. Base will be primed in accordance with C-30-3 as provided in the Howard County Road Construction Code and Standard Specifications.
 9. Tack coat is required in accordance with C-31-4 of the Howard County Road Construction Code and Standard Specifications.
 10. Gerwig Road design speed is 25 mph.

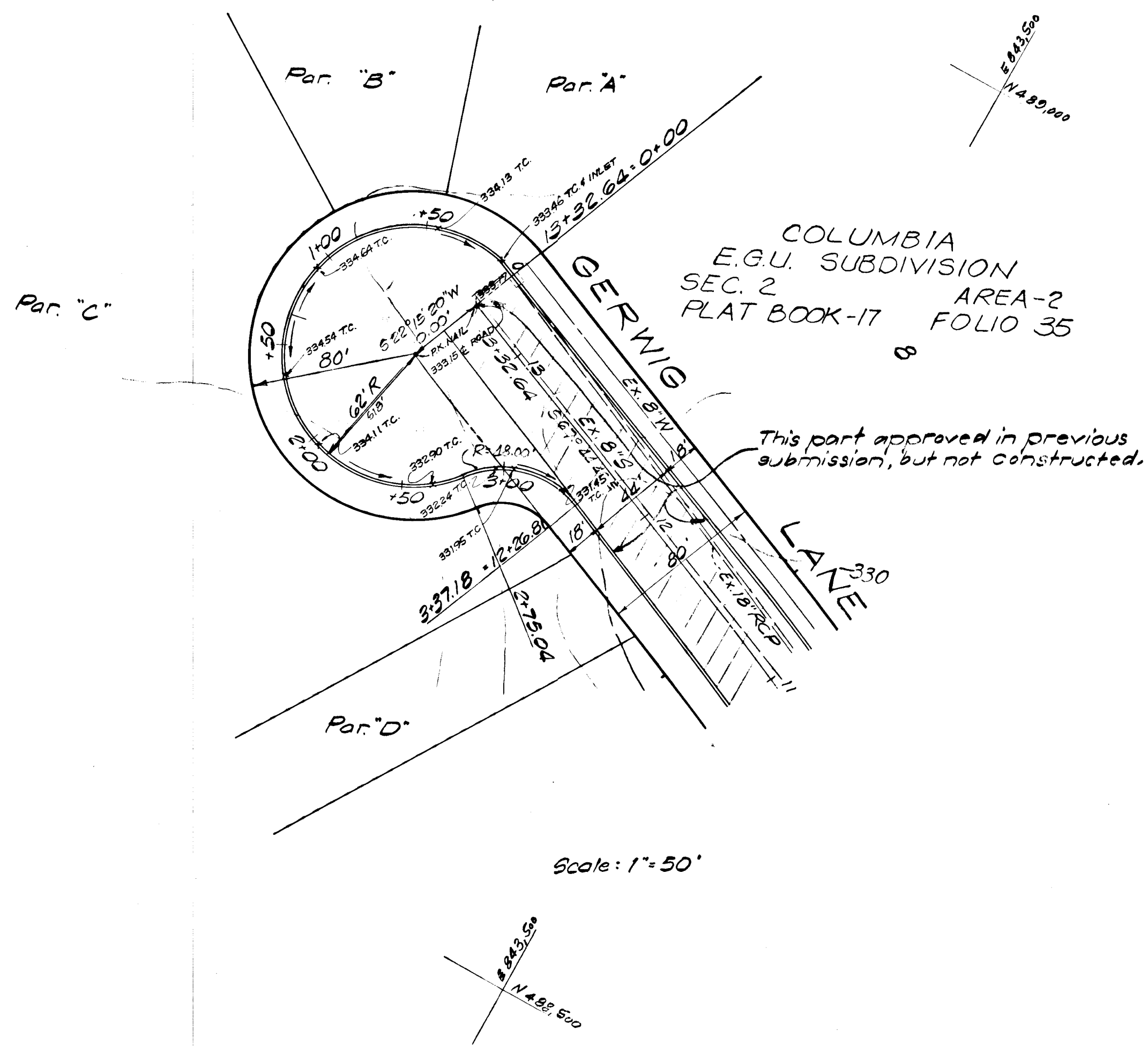
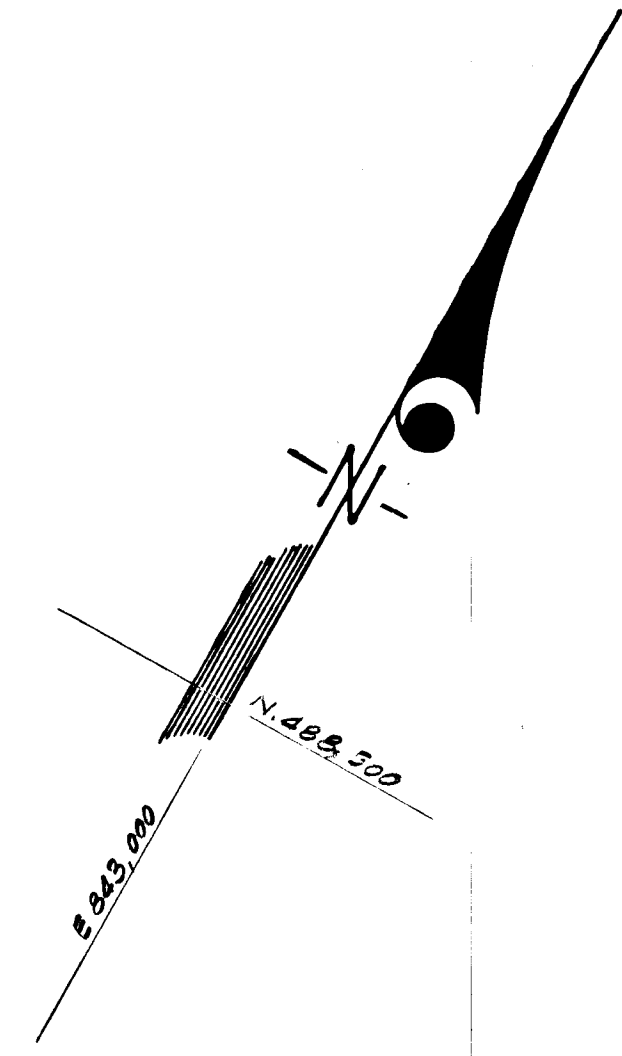
APPROVED
 DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING
 HOWARD COUNTY, MARYLAND
 DATE 4/27/73
 J. H. Clawson, Jr.

DEPARTMENT OF PUBLIC WORKS		5/14/73	
B. M. McElreath CHIEF BUREAU OF HIGHWAYS		DATE	
OFFICE OF PLANNING AND ZONING		5/17/73	
J. H. Clawson, Jr. CHIEF DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING		DATE	
GREENHORNE & O MARA, INC. ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS 6715 KENILWORTH AVENUE RIVERDALE, MARYLAND 20840 277-2121			
5-13-72	1	REMOVE PROP. CONTIGUES & REUSE S.D. SYSTEM	
REV. DATE	REV. NO.	REVISION DESCRIPTION	
COLUMBIA			
M A R Y L A N D 6TH ELECTION DISTRICT HOWARD COUNTY			
HOWARD RESEARCH AND DEVELOPMENT CORP. COLUMBIA, MARYLAND			
PROJECT AREA E. G. U. SUBDIVISION SECTION-2 AREA-4			
PROJECT TITLE STORM DRAINAGE & PAVING DETAILS			
Des By Sarwar	Scale 1" = 50'	Dwg No. 3 of 4	
Drn By Sarwar	Date April, 1973	D.C.F. No.	

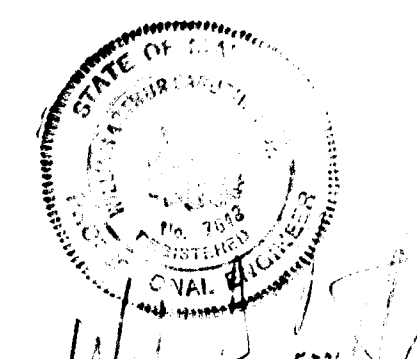


DATE: _____
 BY: _____
 CHECKED: _____
 SUPERVISOR: _____
 PLAN NO. _____
 NOTE BOOK: _____
 NO. _____

ROAD CONSTRUCTION			
ITEM NO.	ITEM	APPROX. QUAN.	UNIT
105	GRADE & RESHAPE ROAD BED	80	L.F.
	PAVING	1,180	S.Y.
	CONC. CURB & GUTTER	340	L.F.

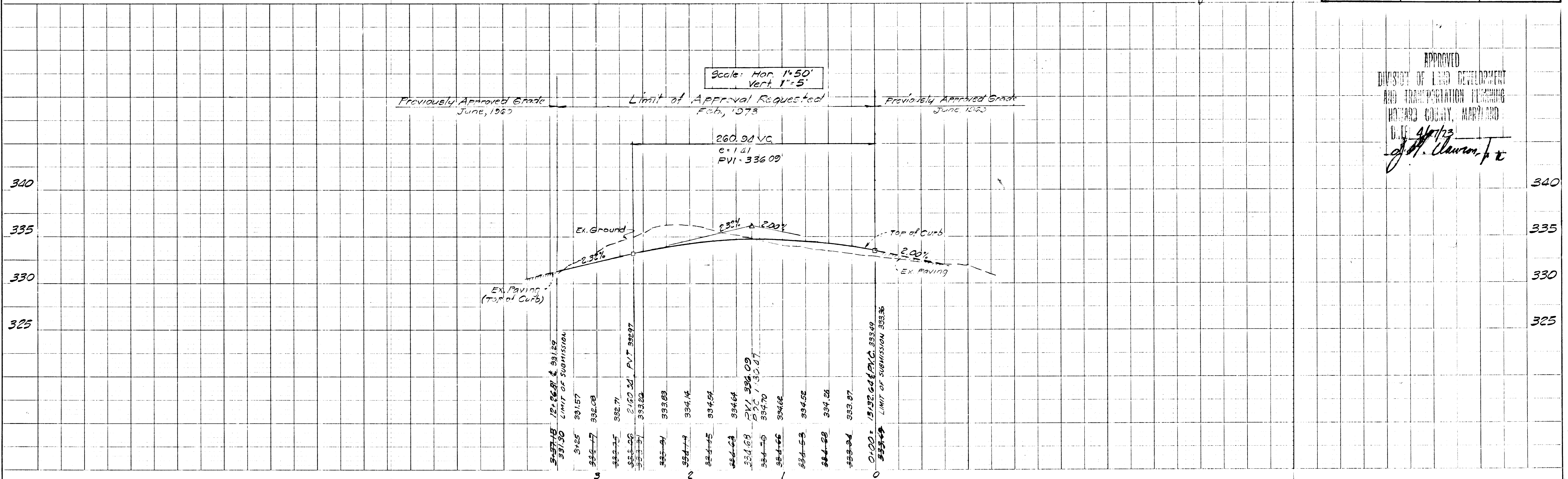


AS-BUILT SURVEY: 3-14-80 & 4-19-80
 CERTIFY BY WALTER PARK, MD. LAND SURVEYOR NO 5539
 -AS BUILT UPDATED BY CHARLES J. CROVO, ENG. No 13204



DEPARTMENT OF PUBLIC WORKS		5/14/73
B. H. McLeod CHIEF, BUREAU OF HIGHWAYS		DATE
OFFICE OF PLANNING AND ZONING		5/11/73
J. H. Lawson, Jr. CHIEF, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING		DATE
GREENHORNE & O MARA, INC. ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS 6715 KENILWORTH AVENUE RIVERDALE, MARYLAND 20840 277-2121		
5-13-82	1	REMOVE PROF. CONTOURS & REVISE S.D. SYSTEM
Rev. Date	Rev. No.	Revision Description
COLUMBIA 6TH ELECTION DISTRICT HOWARD COUNTY Owner and Developer HOWARD RESEARCH AND DEVELOPMENT CORP. COLUMBIA, MARYLAND		
PROJECT AREA E.G.U. SUBDIVISION SECTION-2 AREA-4		
PROJECT TITLE PLAN & PROFILE GERWIG LANE		
Des. By J.R.P.	Scale As Shown	Dwg. No. 4 of 4
D.P. By	Date Apr-1-1973	C.C.F. No.
Ckd	Approved	

DATE: _____
 BY: _____
 CHECKED: _____
 SUPERVISOR: _____
 PROFILE NO. _____
 NOTE BOOK: _____
 NO. _____

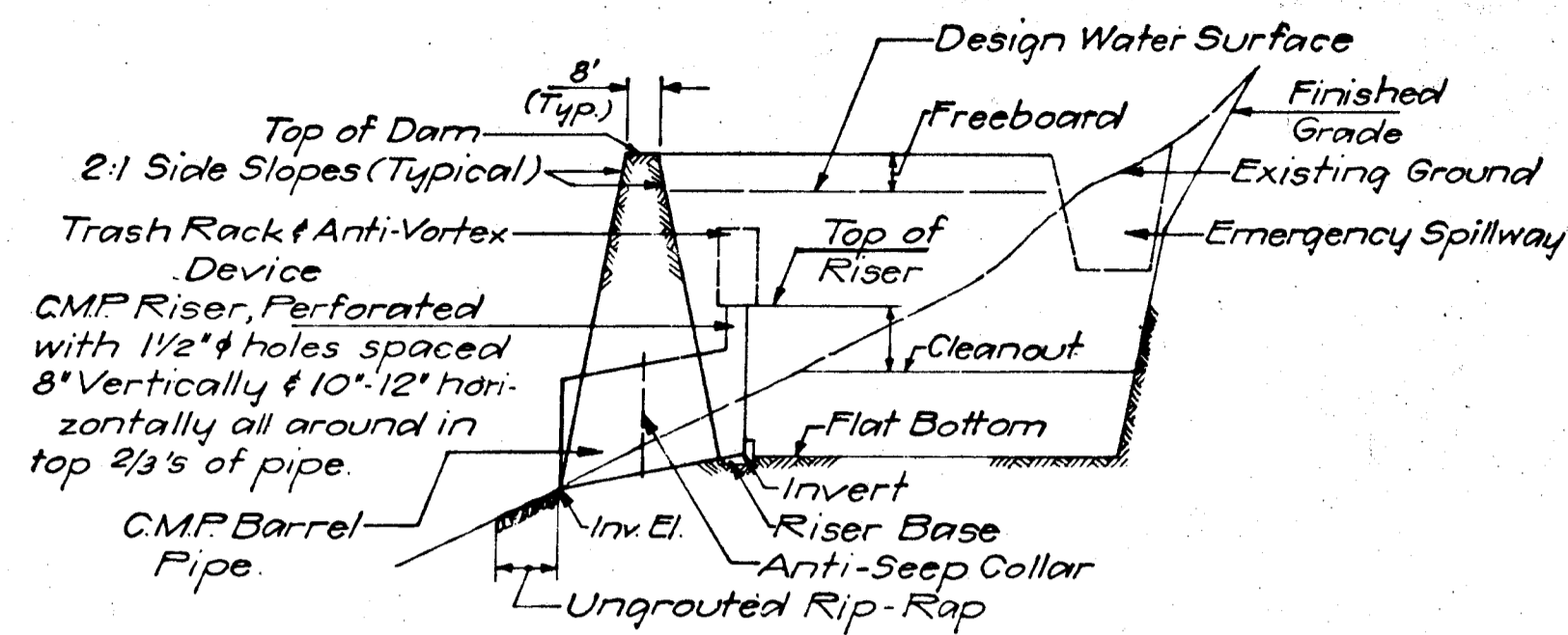


APPROVED
 DIVISION OF LAND DEVELOPMENT
 AND TRANSPORTATION PLANNING
 HOWARD COUNTY, MARYLAND
 DATE 4/11/73
 J. H. Lawson, Jr.

#43

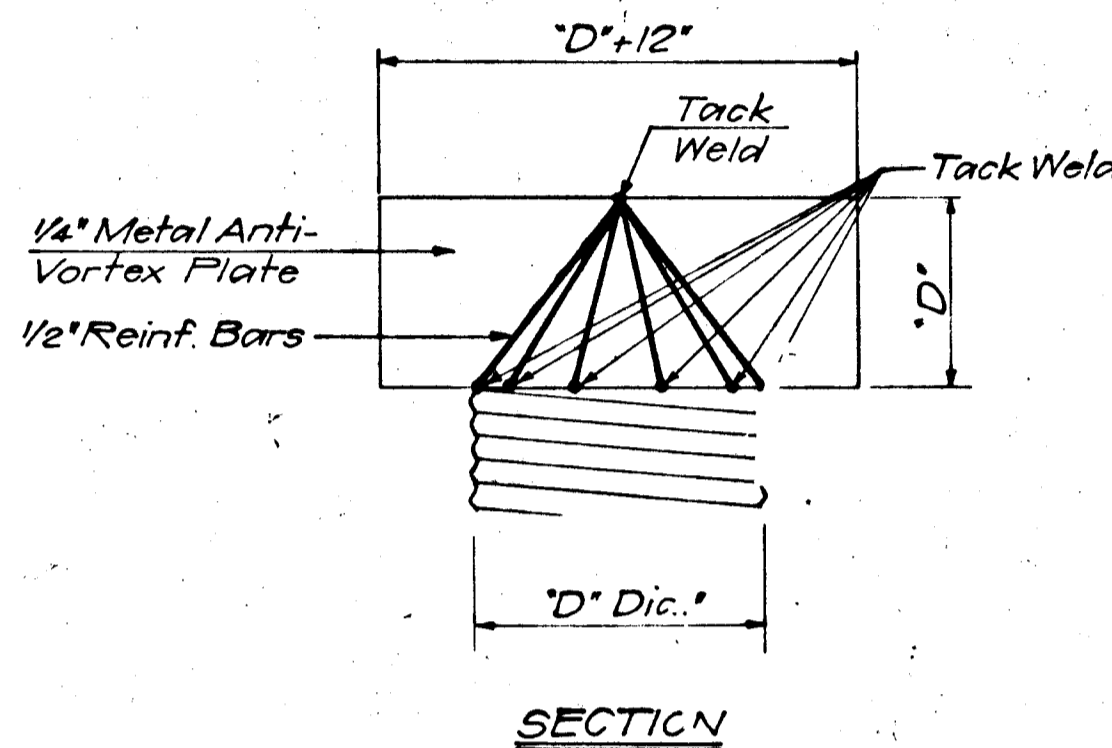
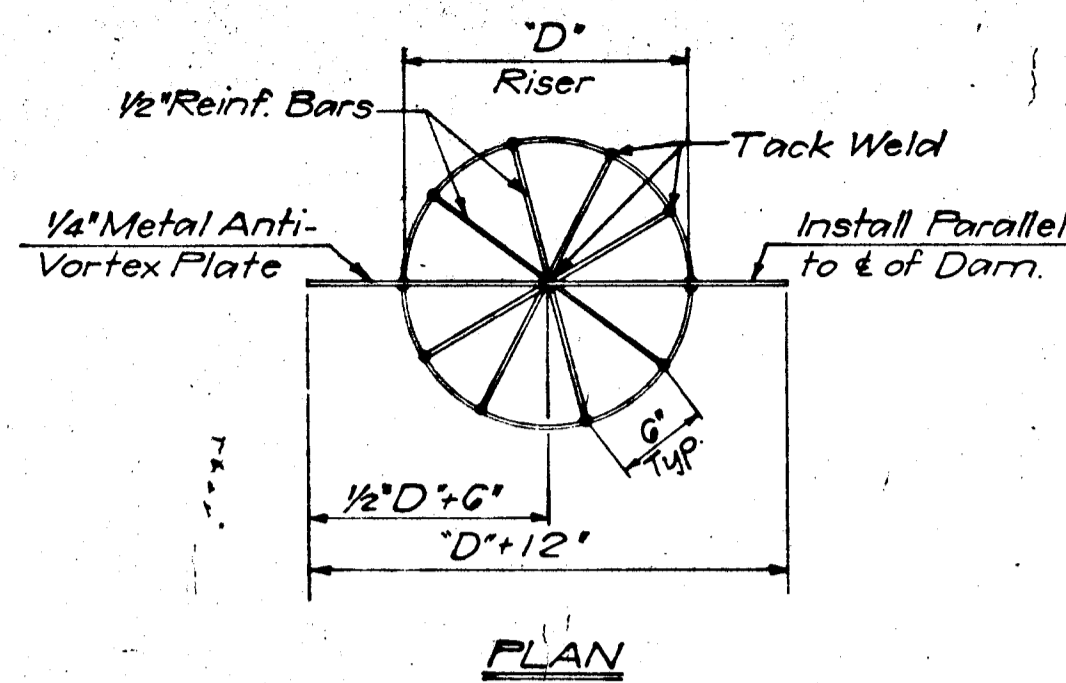
PLAT & PLAN, PROFILE BY STANDARD
 ENGINEERING & SURVEYING CO.
 1000 NEW YORK AVENUE
 WASHINGTON, D.C. 20004

SG-1728
 AS-BUILT 10-13-83 F-73-SAC

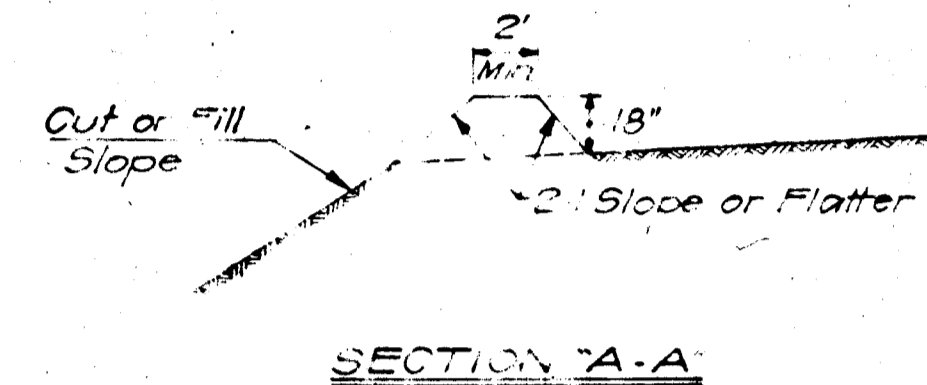
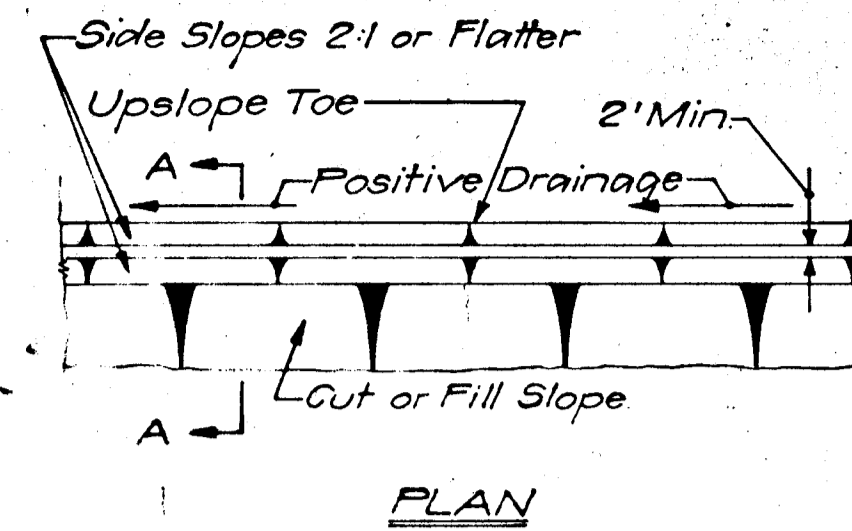


SCHEMATIC SEDIMENT BASIN SECTION
NO SCALE

SEDIMENT BASIN TABLE	
ITEM	BASIN NUMBER
Top of Dam Elev.	310.0
Bottom Elev. (Basin)	303.5
Bottom Area	2600 sq
Top of Riser Elev.	306.5
Cleanout Elev.	305.4
Invert Elev. at Riser	303.5
Invert Elev. at Outfall	302.0
Riser Pipe Size	24"
Barrel Pipe Size	18"
Riser Pipe Length	30'
Barrel Pipe Length	60'
Emergency Spillway Invert Elev.	307.5



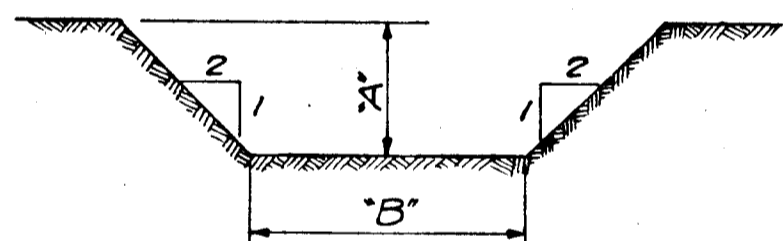
DETAIL OF TRASH RACK AND ANTI-VORTEX DEVICE
NO SCALE



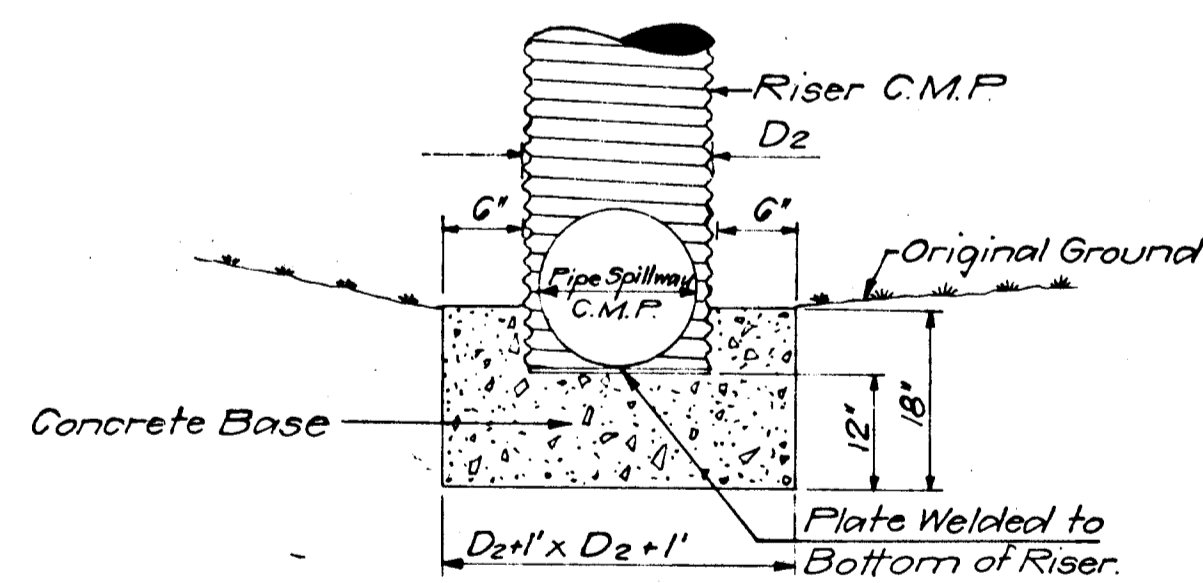
- NOTES:
- All dikes must be machine compacted.
 - All diversion dikes must have positive grade draining to a stabilized outlet.
 - Diverted runoff will outlet onto a stabilized, undisturbed area, a pre-area level spreader, or into a grade stabilization structure.
 - Periodic inspection & required maintenance must be provided.

DIVERSION DIKE
NO SCALE

ITEM	BASIN NUMBER
A	
B	

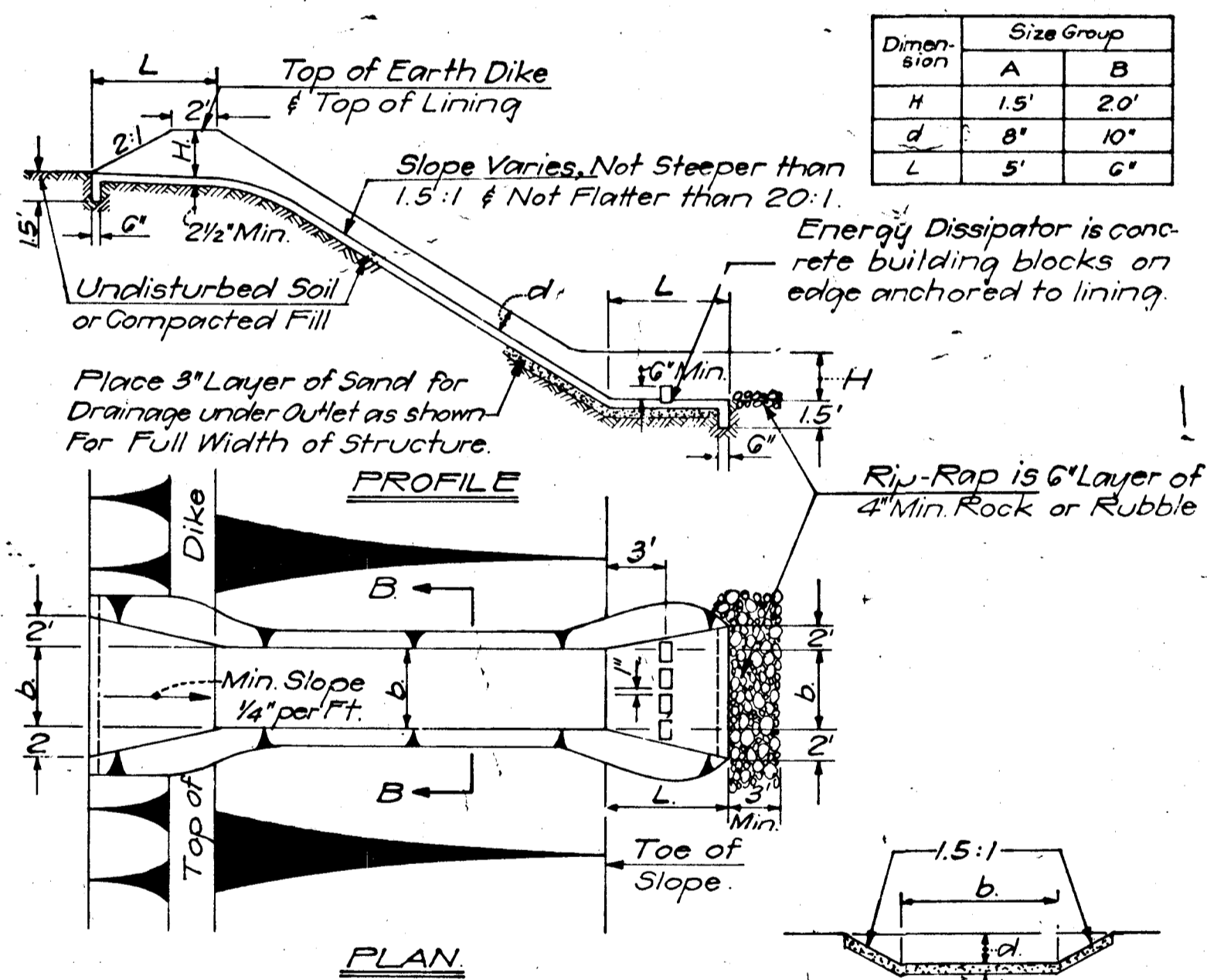


TYPICAL SECTION OF EMERGENCY SPILLWAY
NO SCALE



NOTE:
All joints & connections of C.M.P. to be securely fastened & water tight.

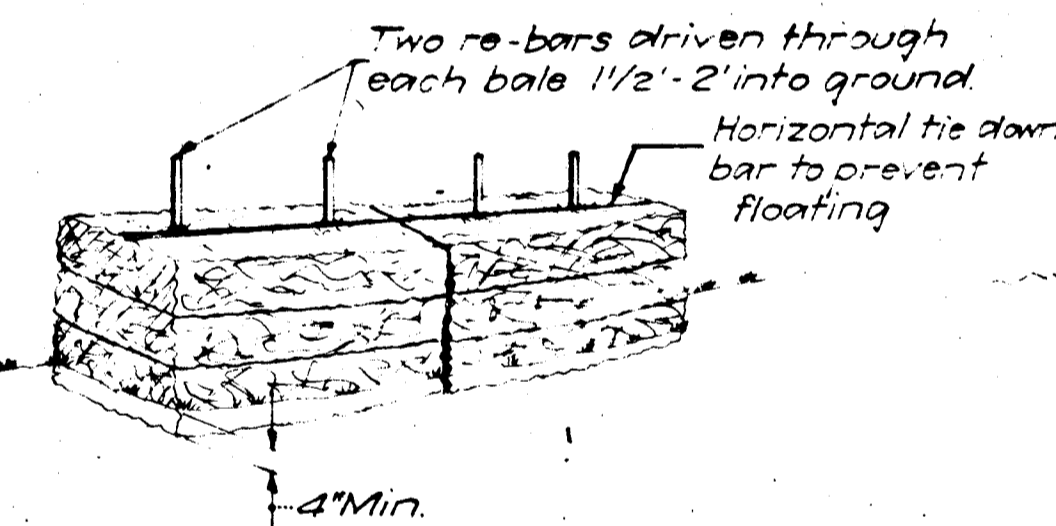
CROSS SECTION OF CONCRETE BASE
NO SCALE



- NOTES:
- Lining shall be Portland Cement concrete, bituminous concrete or comparable material.
 - Some type of energy dissipator, such as the one shown above, must be used to prevent erosion at the outlet.
 - The size is designated with a letter and a number, such as A-6, which means Size Group A with a 6' bottom width (b). For structure dimensions, see table in upper right corner.
 - Contractor shall be responsible for providing positive drainage for inlet & outlet entrance of flume.

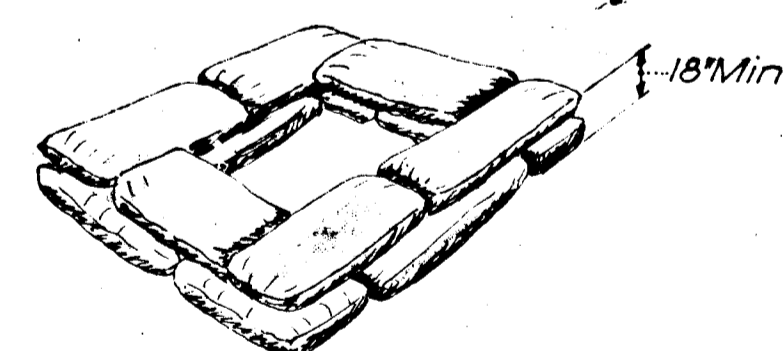
GRADE STABILIZATION STRUCTURE
NO SCALE

Dimension	Size Group	
	A	B
H	1.5'	20'
d	8'	10'
L	5'	6'



NOTE:
Bales may be wired to poultry or snow fence.

TYPICAL STRAW BALE DETAIL
NO SCALE



NOTE:
Form 18" high dike of sand bags around inlet. Stagger sand bags.

SAND BAG DETAIL
NO SCALE

4/27/73

DEPARTMENT OF PUBLIC WORKS	DATE
CHIEF, BUREAU OF HIGHWAYS	DATE
OFFICE OF PLANNING AND ZONING	DATE
CITY ENGINEER, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING	DATE
GREENBERG & O'NEAL, INC. ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS 6715 KENILWORTH AVENUE RIVERDALE, MARYLAND 20840 277-2121	

COLUMBIA
6th Election District, Howard County
HOWARD RESEARCH AND DEVELOPMENT CORP.

PROJECT AREA	E. 6. U. SUBDIVISION SECTION 2, AREA 4
PROJECT TIME	SEDIMENT CONTROL DETAILS
Des. By	Scale NOTED
En. By	Date
	2072
	11-73-546

*This development plan is approved for Soil Erosion and Sediment Control by Howard County Soil Conservation District.
REVIEWED: *James McHale* 5-9-73 DATE
DISTRICT SUPERVISOR
APPROVED: *Robert W. Ziehm* 5-9-73 DATE
DISTRICT COORDINATOR
HOWARD SOIL CONSERVATION DISTRICT

#43

5948-x 73-546