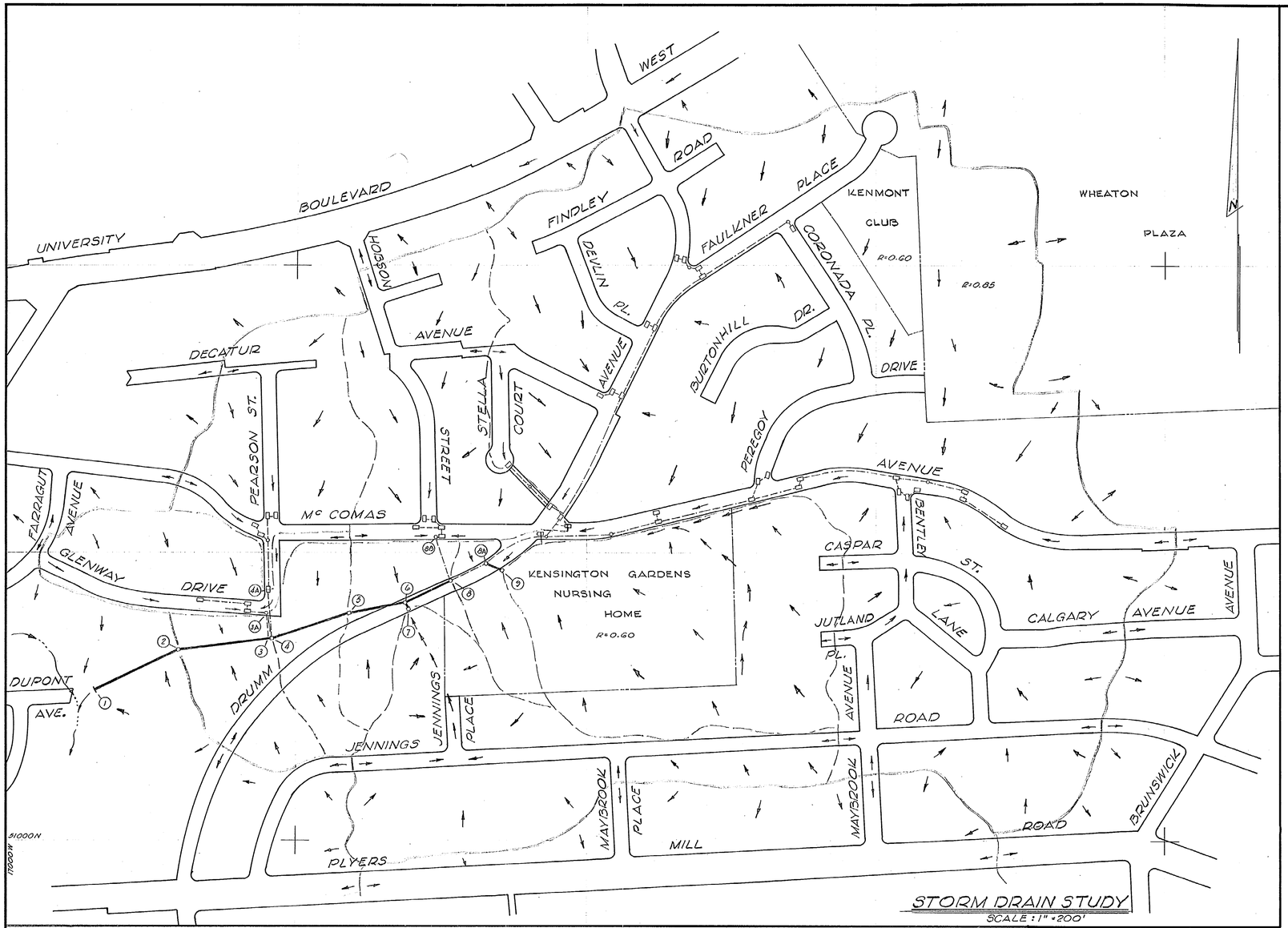
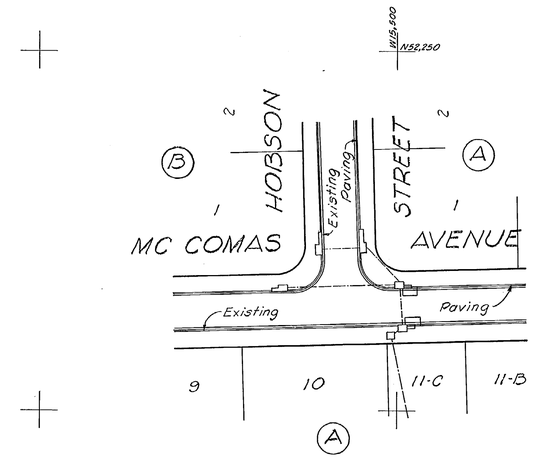
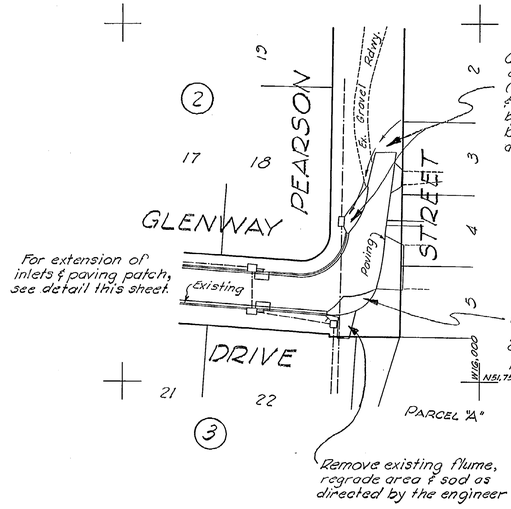


STORM DRAIN STUDY
SCALE: 1" = 200'



For extension of inlets & paving patch, see detail this sheet

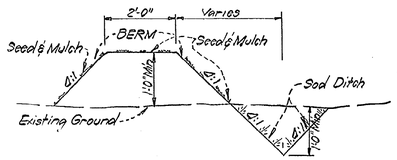


Construct a 1'-0" deep ditch, with 4:1 side slopes (sodded), replace paving & repair inlet as directed by the engineer; paving to be same as for patch, per detail this sheet.

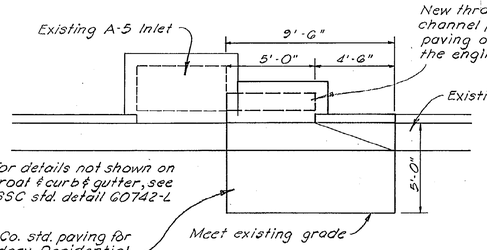
For extension of inlets & paving patch, see detail this sheet.

Repave area to provide positive drainage to inlet as directed by the engineer; paving to be same as for patch, per detail this sheet.

Remove existing flume, regrade area & sod as directed by the engineer



BERM AND SWALE @ STR. No. 9
NO SCALE



New throat to be built with channel parallel to existing paving or as directed by the engineer.

Existing Curb & Gutter

For details not shown on throat & curb & gutter, see WSSC std. detail 60742-L

Mont. Co. std. paving for Secondary Residential Streets, Alternate No. 2. Paving shall be placed to provide positive drainage to inlet.

Meet existing grade

Thereby certify that this plan has been designed in accordance with the M.C.D.P.W. interim Storm Drain Design Criteria dated July 1, 1968

11/24/69

DM-76657 FOR WORK IN PUBLIC SPACE

NUMBER	REVISION	DATE

DES. PK
DR. PK
CHK. [illegible]
REVISIONS

MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
ROCKVILLE, MD.

STORM DRAINS

KENSINGTON HEIGHTS
DRUMM AVENUE & GLENWAY DRIVE
KENSINGTON, MD.

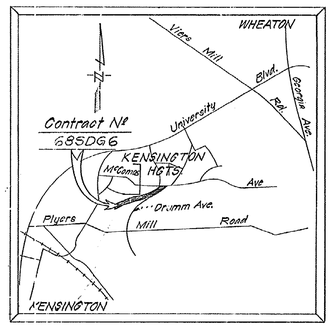
APPROVED JAN. 6, 1970

CHIEF - BUR. OF ENG'G. — DEP. DIRECTOR, DEPT. OF PUB. WKS.

PROJECT: 68SDGG — DWG: 1 OF 5

SD FILE NO. 5

CE 487-5-1



VICINITY MAP
Scale: 1" = 2000'

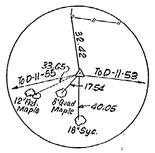
B.M. #3 — Elev. 300.10
N¢W on N side 12" Poplar

B.M. #4 — Elev. 304.78
N¢W on S side 14" Cherry

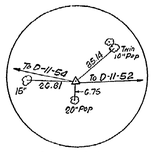
B.M. #6 — Elev 323.78
N¢W on S side 15" Maple

B.M. #7 — Elev 324.62
Sq. cut on top of Headwall

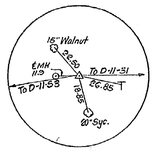
B.M. #5 — Elev. 309.95
N¢W on SE side 12" Walnut



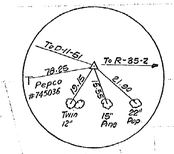
D-11-54



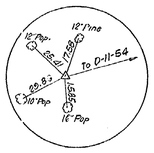
D-11-53
Iron Pipe



D-11-52
Iron Pipe

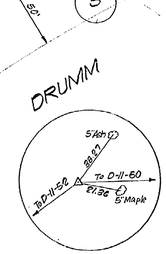


D-11-50
Iron Pipe



D-11-55
Iron Pipe

Curve #2 & Data
R = 225.00'
Δ = 23°00'
T = 45.78'
L = 90.32'
Max. length of 66" RCP to be on curve = 4'-0"



D-11-51
Iron Pipe

GENERAL NOTES

1. All elevations, unless otherwise shown, are invert elevations.
2. Information concerning underground utilities was obtained from available records, but the Contractor must determine the exact location and elevation of mains by digging test pits by hand at all utility crossings well in advance of excavation. If clearances are less than shown on this plan or six (6) inches, whichever is less, contact W.S.S.C. before proceeding with construction.
3. Existing utilities which conflict with proposed work will be moved by others, except as noted.
4. Adjustments or repair to utilities damaged as a result of the Contractors negligence or method of operation must be made at his own expense.
5. Sod all graded areas on which the slope is 3:1 or greater. All other graded areas shall be seeded and mulched, unless otherwise specified.
6. Fill shall be provided in the existing stream to the limits shown on the plan according to the Typical Grading Sections and shall be placed in such a manner as to assure positive drainage.
7. No trees to be left standing within 5'-0" from the edge of the pipe trench or top of Out fall channel.
8. Any tree left uncut in the Right of Way to be reinspected upon completion of final grading, and the extent of any fill around structures will determine the necessity of any tree well construction.
9. All existing drainage structures to be removed as necessary for new construction.
10. All storm drains shall be constructed in accordance with the latest Edition of the General Specifications of Maryland State Roads Commission and Montgomery County.
11. Types of structures refer to the Standard Storm Drainage Details of the W.S.S.C., Maryland State Roads Commission and Montgomery County, unless otherwise noted.
12. Where the drop on the main line through a structure can be accomodated by an invert slope of 1½:1 or flatter, a rounded channel lined with sewer on edge shall be built to the crown of the pipes.
13. All cement concrete to be M.S.R.C. Class P.1.
14. Asphalt Coated Corrugated Steel Pipe, internally 100% paved, may be used as an acceptable alternate to the reinforced concrete pipe shown hereon.

PLAN
Scale: 1" = 50'

Curve #3 & Data
R = 346.89
Δ = 14°06'23"
T = 42.92
L = 85.41
Max. length of 66" RCP to be laid on curve = 6'-0"

Curve #1 & Data
R = 65.00
Δ = 38°15'
T = 22.54
L = 43.39

STRUCTURE SCHEDULE			
Nº	TYPE	TOP ELEV.	REMARKS
1	Endwall W/ Handrail	—	W.S.S.C. Std. (See Detail Sheet 4 of 5)
2	B-Manhole	308.20	W.S.S.C. Modified-48"x 78" Rect ***
3	Field Connection	—	W.S.S.C. Std. - 18"x66" ⊗
4	B-Manhole	309.00	W.S.S.C. Modified-48"x 78" Rect ***
5	B-Manhole	316.07	W.S.S.C. Modified-48"x 72" Rect ** ***
6	B-Manhole	322.00	W.S.S.C. Modified-48"x 78" Rect. ***
7	Specl. Endwall & Trans. Flume		See Detail Sheet 5 of 5
8	B-Manhole	324.17	W.S.S.C. Modified -60"x 72" Rect ***
9	Specl. Endwall & Trans. Flume		See Detail Sheet 5 of 5

* Manhole Frame to be cast in top slab
** With Slots, see Slot Schedule, Sheet 5 of 5
*** See detail, sheet 4 of 5

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
27"	RCP Cl. IV	25'
33"	" " IV	60'
60"	" " IV	640'
66"	" " IV	670'

ALTERNATE SCHEDULE #		
SIZE	TYPE	LENGTH
27"	16 gage	25'
33"	14 gage	60'
60"	12 gage	640'
66"	12 gage	670'

ACCSP — 100% paved
⊗ 2.4"x66" ACCSP

I hereby certify that this plan has been designed in accordance with M.C.D.P.W. Interim Storm Drain Design Criteria dated July 1, 1968.

STATE OF MARYLAND — ROBERT L. TURNER — No. 6917 — REGISTERED PROFESSIONAL ENGINEER — 11/24/69

STATE OF MARYLAND — ROBERT L. TURNER — No. 6917 — REGISTERED PROFESSIONAL ENGINEER — 12-31-69

W.S.S.C. PERMIT No. DM-1969-87 FOR WORK IN PUBLIC STREET

DATE	REVISIONS
1-28-69	Revised Structure #8 M.C.D.P.W.&T.
9-69	General Revision

MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
APPROVED
CHIEF-BUR. OF ENG'G. — DEP. DIRECTOR

DESIGNED	TRACED	CHECKED
W.J.	R.L.T.	
CHECKED		
EXAMINED		

EXAMINED FOR		
Water & Sewer	HK	11/21/68
R/W REQUIRED		
OTHER UTILITIES	WMH	11/21/68

WASHINGTON SUBURBAN SANITARY COMMISSION
Feb. 9, 1968 (DATE) — (CHIEF ENGINEER)

GREENHORNE & O'MARA
CONSULTING ENGINEERS
6715 KENILWORTH AVENUE
RIVERDALE, MARYLAND

KENSINGTON DISTRICT — MONTGOMERY CO.
STORM DRAINS
DRUMM AVENUE & GLENWAY DRIVE
KENSINGTON HEIGHTS

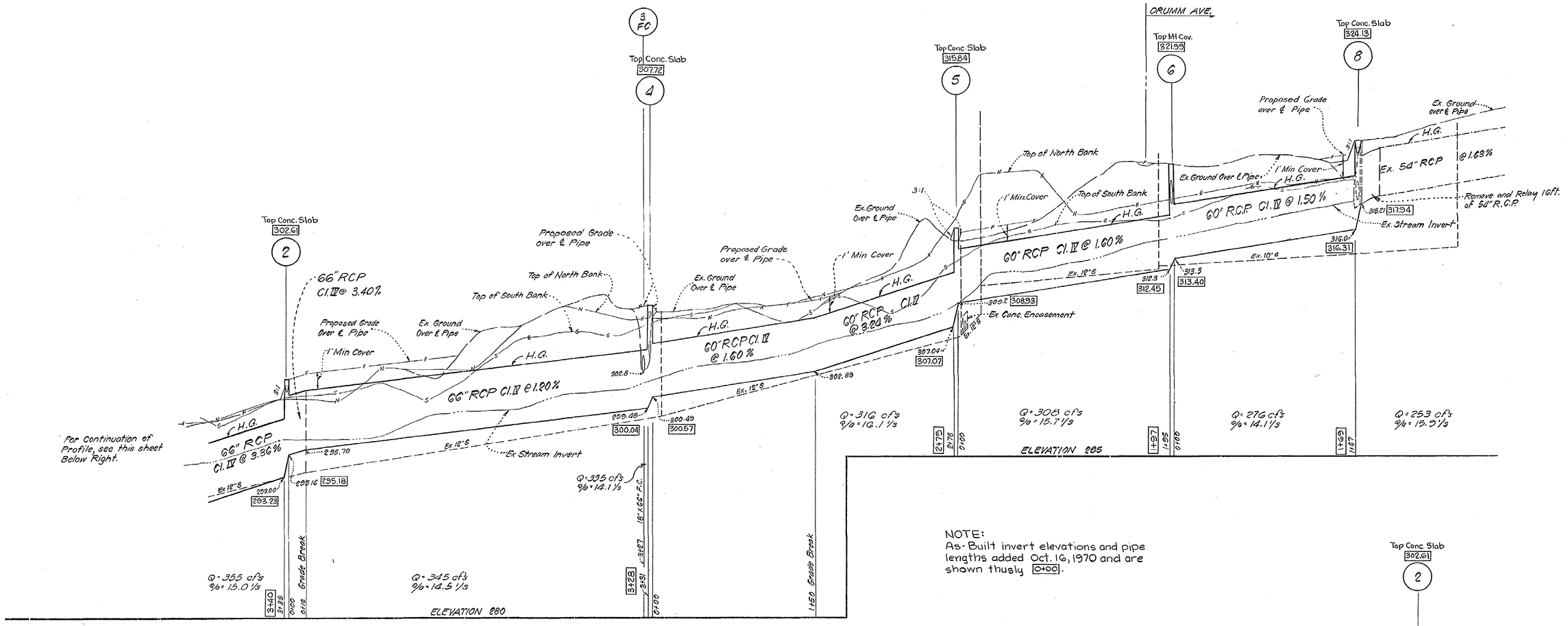
CONTRACT NO 66DE0071-A

50's 26 NW G-1, 26 NW G-2		Y
	NO.	2
200's 213 NW 3	OF	5

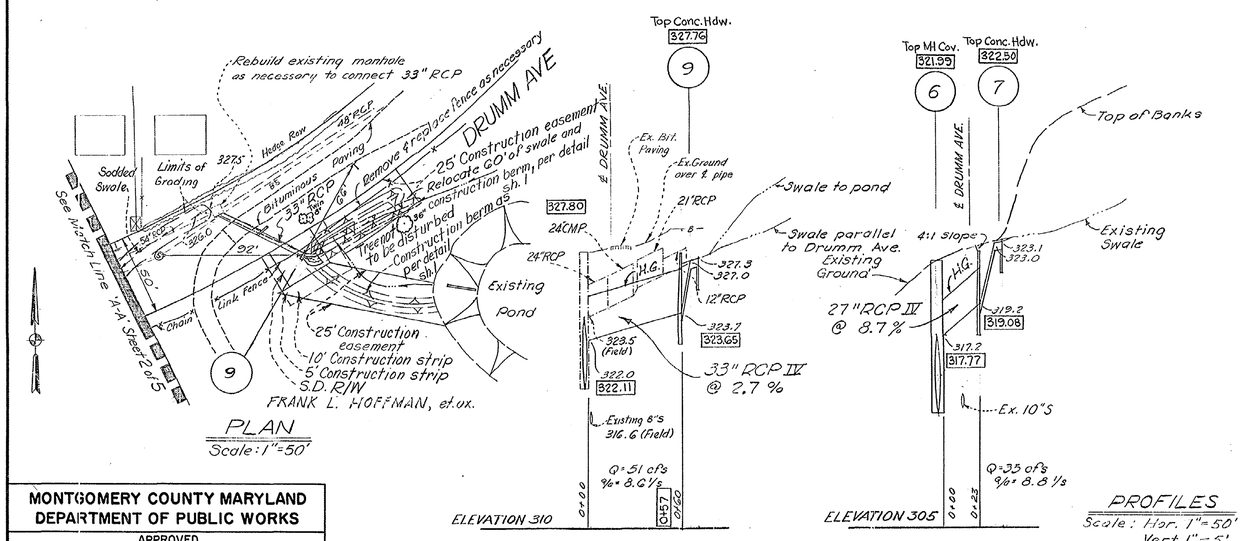
688DG 6
FILE NO. 5

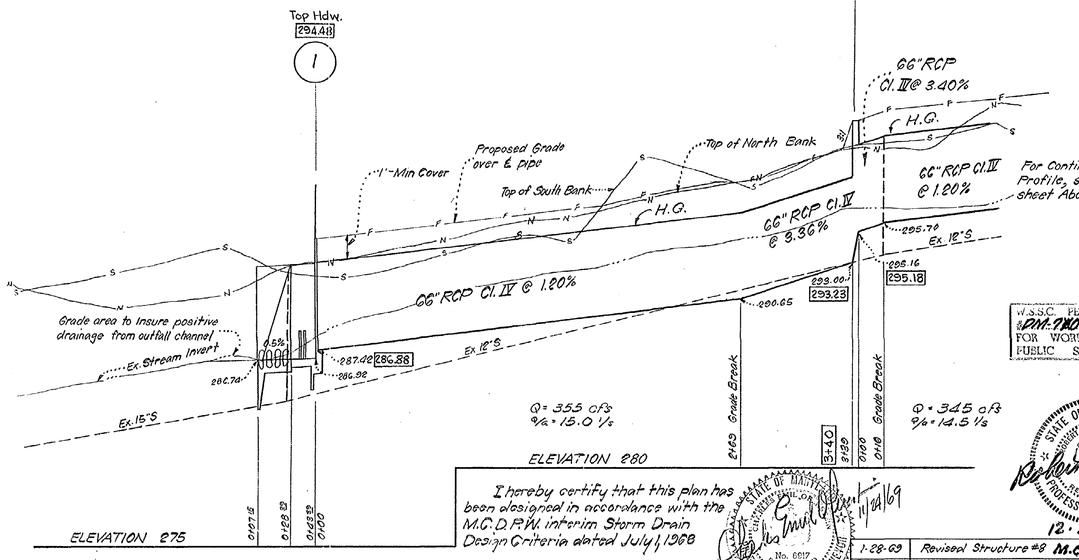
CE487-5-2

12-24-69 (D)
2-12-69 (D)



NOTE:
As-Built invert elevations and pipe lengths added Oct. 16, 1970 and are shown thusly [0+00].





W.S.S.C. PERMIT #DM-78057 FOR WORK IN PUBLIC SPACE

I hereby certify that this plan has been designed in accordance with the M.C.D.P.W. Interim Storm Drain Design Criteria dated July 1, 1968

11/28/69

STATE OF MARYLAND — ROBERT L. SHRIVER — No. 2382 — REGISTERED PROFESSIONAL ENGINEER

12-27-67

STATE OF MARYLAND — No. 6617 — REGISTERED PROFESSIONAL LAND SURVEYOR

MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
APPROVED

CHIEF-BUR. OF ENG'G | DEP. DIRECTOR

DESIGNED	TRACED	CHECKED
W.J.	RLT	
CHECKED		
EXAMINED		

EXAMINED FOR

Water & Sewer		
R/W REQUIRED		
OTHER UTILITIES		

WASHINGTON SUBURBAN SANITARY COMMISSION
Feb. 2, 1968 DATE
CHIEF ENGINEER

GREENHORNE & O'MARA
CONSULTING ENGINEERS
6715 KENILWORTH AVENUE
RIVERDALE, MARYLAND

KENSINGTON DISTRICT MONTGOMERY CO.

STORM DRAINS

DRUMM AVENUE & GLENWAY DRIVE
KENSINGTON HEIGHTS

DATE	REVISIONS
1-28-69	Revised Structure #8 M.C.D.P.W. Dtd.
9-69	General Revision

CONTRACT NO. 66DE0071-A

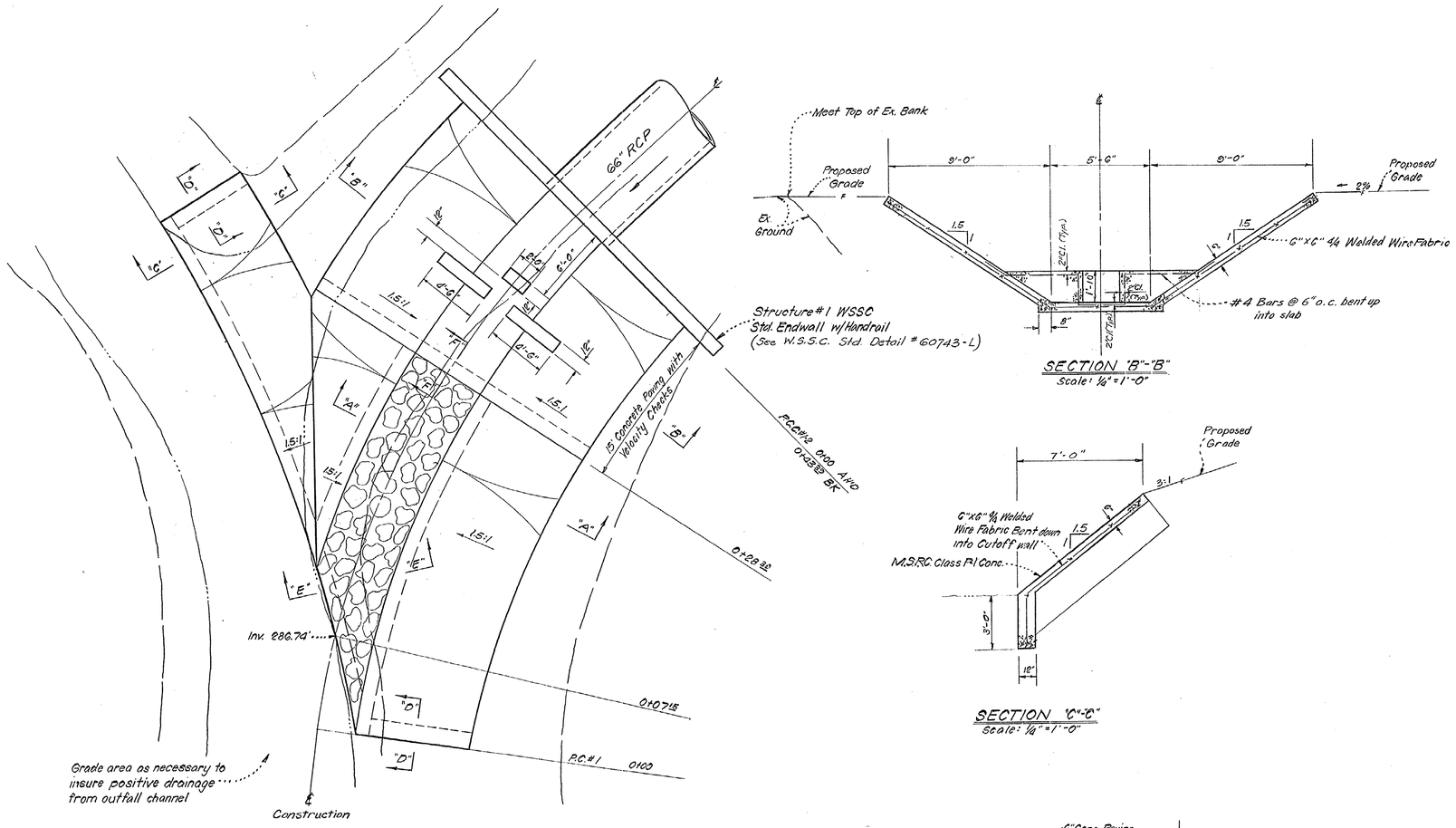
50'S 26 NW 6-2	Y
	NO. 3
200'S 213 NW 3	OF 5

68 SDG 6

CE 487-5-3

SD FILE NO. 5

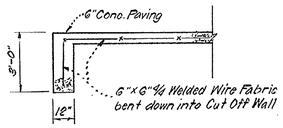
Maryland State Archives



OUTFALL CHANNEL
Scale: 3/16"=1'-0"
Subject to modification as directed by the engineer to accomodate existing conditions.

SECTION "B"-"B"
Scale: 1/4"=1'-0"

SECTION "C"-"C"
Scale: 1/4"=1'-0"



SECTION "D"-"D"
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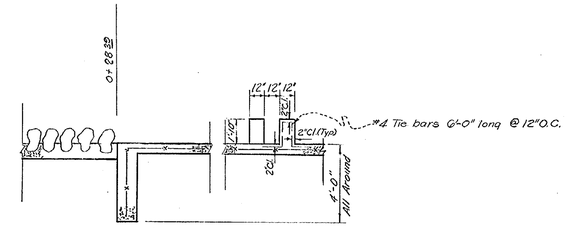

SECTION "F"-"F"
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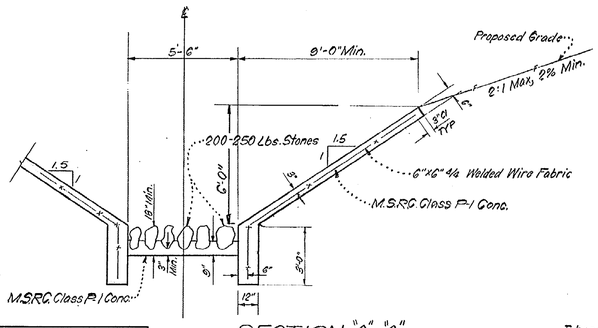

SECTION "A"-"A"
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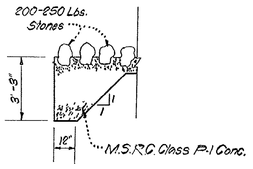
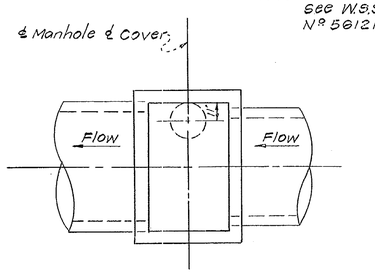
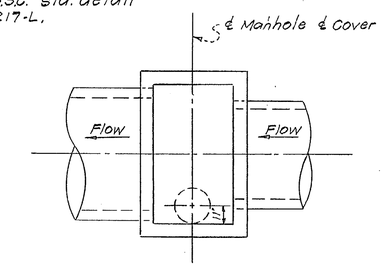


SECTION "E"-"E"
Scale: 1/4"=1'-0"

NOTE: For all details not shown see W.S.S.C. std. detail Nº 561217-L.



STRUCTURES Nº 2, 6 & 8
No Scale



STRUCTURES Nº 4 & 5
No Scale

MODIFIED "B" MANHOLES

W.S.S.C. PERMIT DM-78057 FOR WORK IN PUBLIC SPACE

STATE OF MARYLAND GEORGE MOYLE GIBBONS No. 3392 REGISTERED PROFESSIONAL ENGINEER
12-21-67

Thereby certify that this plan has been designed in accordance with the M.C.D.P.W. interim Storm Drain Design Criteria dated July 1, 1968

STATE OF MARYLAND CHARLES EMIL GIBBONS No. 6917 REGISTERED PROFESSIONAL LAND SURVEYOR
11/24/69

MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
APPROVED
CHIEF-BUR. OF ENG'G. DEP. DIRECTOR

DESIGNED	TRACED	CHECKED	EXAMINED FOR		
W.J.	RLT		Water & Sewer		
			R/W REQUIRED		
CHECKED			OTHER UTILITIES		
EXAMINED					

WASHINGTON SUBURBAN SANITARY COMMISSION
Feb. 9, 1968 DATE
CHIEF ENGINEER

GREENHORNE & O'MARA
CONSULTING ENGINEERS
6715 KENILWORTH AVENUE
RIVERDALE, MARYLAND

KENSINGTON DISTRICT MONTGOMERY CO.
STORM DRAINS
DRUMM AVENUE & GLENWAY DRIVE
KENSINGTON HEIGHTS

DATE	REVISIONS
9-69	General Revision

CONTRACT NO. 66DE0071-A
50'S Y
NO. 4
200'S OF 5

68 SDG 6
SD FILE NO. 5

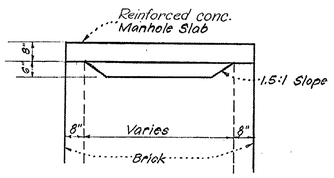
CE 487-5-4

Maryland State Archives

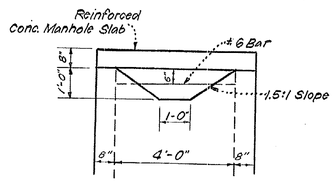
SLOT SCHEDULE

Structure Nº	Slot Location (Face of Structure)	Dimensions	Inv. Elev.	
2	S	0'-6" × 4'-0"	301.08	
4	N	0'-6" × 4'-0"	307.83	
4	S	1'-0" × 4'-0"	307.33	*
5	E	0'-6" × 6'-0"	314.80	
8	N	1'-0" × 5'-0"	322.5	*
8	S	0'-6" × 5'-0"	323.00	

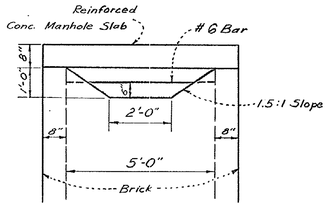
* See detail this sheet



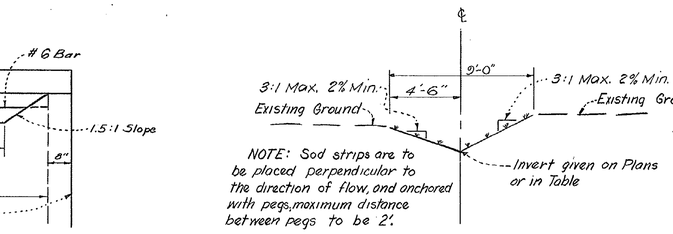
TYPICAL SLOT DETAIL
Scale: 3/8" = 1'-0"



TRAPEZOIDAL SLOT DETAIL
SOUTH FACE STRUCTURE Nº4
Scale: 3/8" = 1'-0"

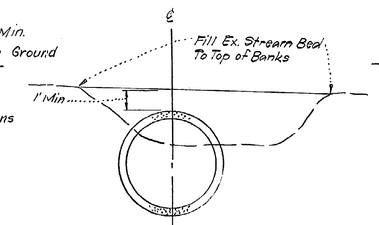


TRAPEZOIDAL SLOT DETAIL
NORTH FACE STRUCTURE Nº 8
Scale: 3/8" = 1'-0"

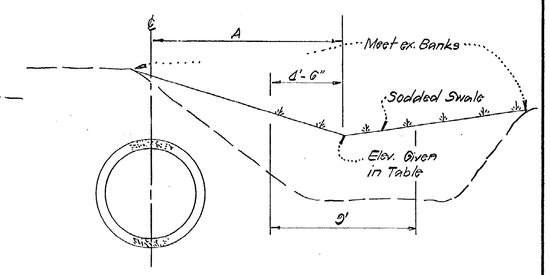


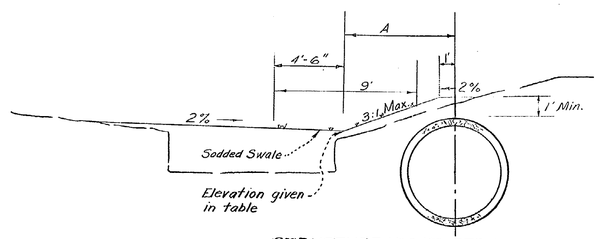
NOTE: Sod strips are to be placed perpendicular to the direction of flow, and anchored with pegs, maximum distance between pegs to be 2'.

SODDED SWALE DETAIL
NO SCALE



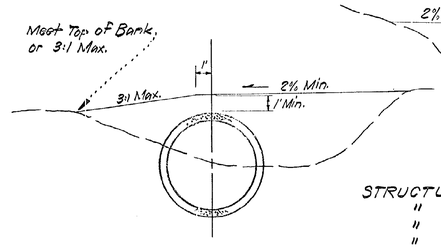
From Sta. 2+05 To Sta. 3+39



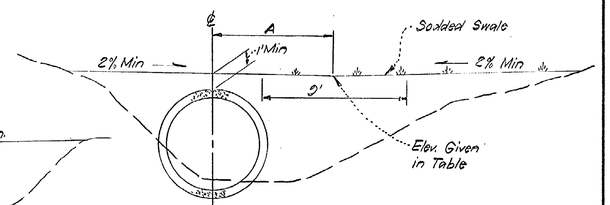


STRUCTURE Nº6 TO STRUCTURE Nº 8
From Sta. 1+36 To Sta. 1+67

NOTE: 9' Sodded Swale to be centered on ditch invert, see Detail this sheet.



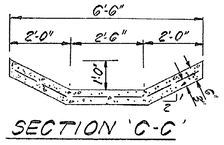
From Sta. 0+00 To Sta. 2+05
STRUCTURE Nº1 TO STRUCTURE Nº2



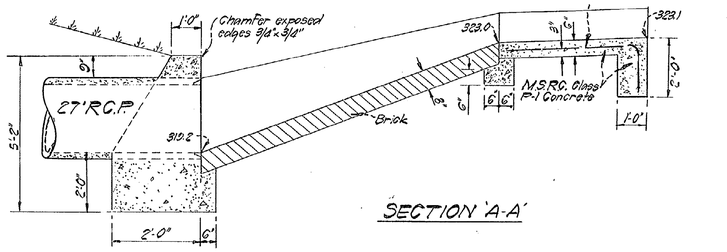
STRUCTURE Nº2 TO STRUCTURE Nº 4,
" Nº4 TO " Nº 5
" Nº5 TO " Nº6
" Nº6 TO " Nº8
From Sta. 0+00 To Sta. 1+36

TYPICAL GRADING SECTIONS
NO SCALE

MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
APPROVED
CHIEF-BUR. OF ENG'G. DEP. DIRECTOR



SECTION 'C-C'



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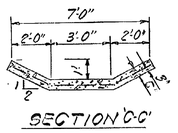

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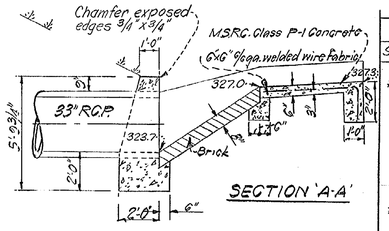
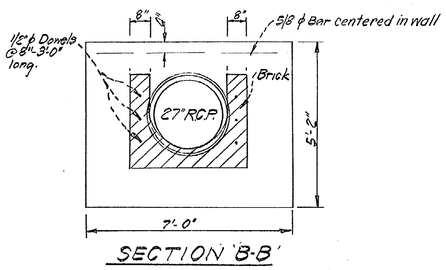
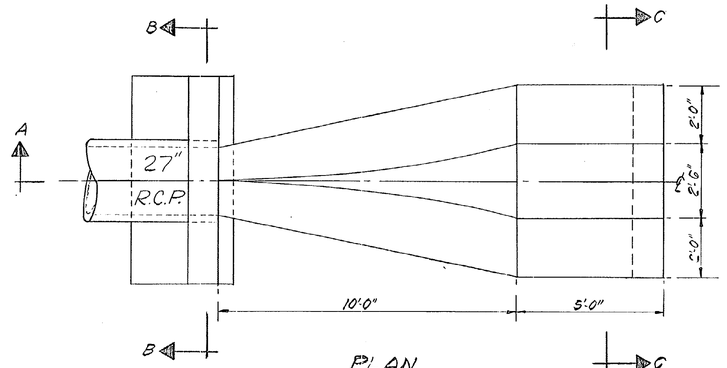


SECTION 'A-A'

FILL DIMENSION SCHEDULE			
Structures	Sta.	A	Elevation
#2 to #4	0+00	5.0'(R)	301.1
	0+35	10.0'(R)	302.7
	0+83	10.0'(R)	303.2
	1+24	20.0'(R)	303.5
	1+66	30.0'(R)	303.9
	2+11	10.0'(R)	304.3
	2+54	12.0'(R)	304.8
	3+02	17.5'(R)	305.7
	3+31	17.5'(R)	306.2
#4 to #5	0+00	5.0'(R)	307.33
	0+08	8.3'(R)	307.4
	0+55	11.6'(R)	307.9
	0+79	8.0'(R)	308.5
	1+25	5.0'(R)	308.9
	1+67	10.0'(L)	309.8
	2+12	18.2'(L)	311.0
	2+49	32.5'(L)	311.5
	2+76	28.5'(L)	312.2
	2+78	28.0'(L)	312.5
#5 to #6	0+00	℄	314.9
	0+32	5.0'(L)	316.1
	0+69	10.0'(L)	316.5
	1+09	15.0'(L)	317.0
	1+58	30.0'(L)	317.9
	1+89	40.0'(L)	318.6
	1+95	36.0'(L)	318.7
#6 to #8	0+00	37.0'(L)	318.7
	0+26	29.0'(L)	319.0
	0+74	26.0'(L)	320.0
	1+10	17.2'(L)	320.5
	1+42	5.5'(L)	321.0
	1+67	3.2'(L)	Ex. Ground

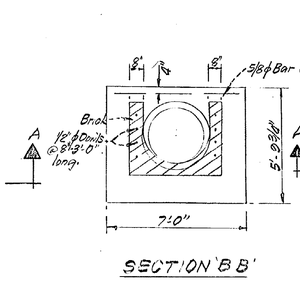


SECTION 'B-B'

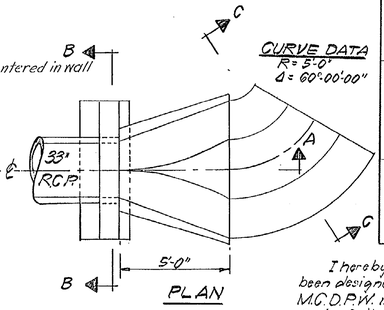


PLAN

SPECIAL ENDWALL AND TRANSITION FLUME
STRUCTURE NO 7
NO SCALE



SECTION 'B-B'



PLAN

CURVE DATA
R = 5'-0"
Δ = 60°-00'-00"

SPECIAL ENDWALL AND TRANSITION FLUME
STRUCTURE NO 9
NO SCALE

I hereby certify that this plan has been designed in accordance with the M.C.D.P.W. interim Storm Drain Design Criteria dated July 1, 1968

STATE OF MARYLAND — No. 6017 — REGISTERED PROFESSIONAL LAND SURVEYOR — 11/24/69

STATE OF MARYLAND — No. 3251 — REGISTERED PROFESSIONAL ENGINEER — 12-21-67

1-28-69	Revised Structure #8 M.C.D.P.W. Dftm
9-69	General Revision
DATE	REVISIONS

WSSC PERMIT # DM-71057 FOR WORK IN PUBLIC SPACE

DESIGNED	TRACED	CHECKED
WJ	RLT	
CHECKED		
EXAMINED		

EXAMINED FOR		
Water & Sewer		
R/W REQUIRED		
OTHER UTILITIES		

WASHINGTON SUBURBAN SANITARY COMMISSION
Feb. 2, 1968 DATE — CHIEF ENGINEER

GREENHORNE & O'MARA
CONSULTING ENGINEERS
6715 KENILWORTH AVENUE
RIVERDALE, MARYLAND

KENSINGTON DISTRICT MONTGOMERY CO.

STORM DRAINS

DRUMM AVENUE & GLENWAY DRIVE
KENSINGTON HEIGHTS

CONTRACT NO. 66DE0071-A

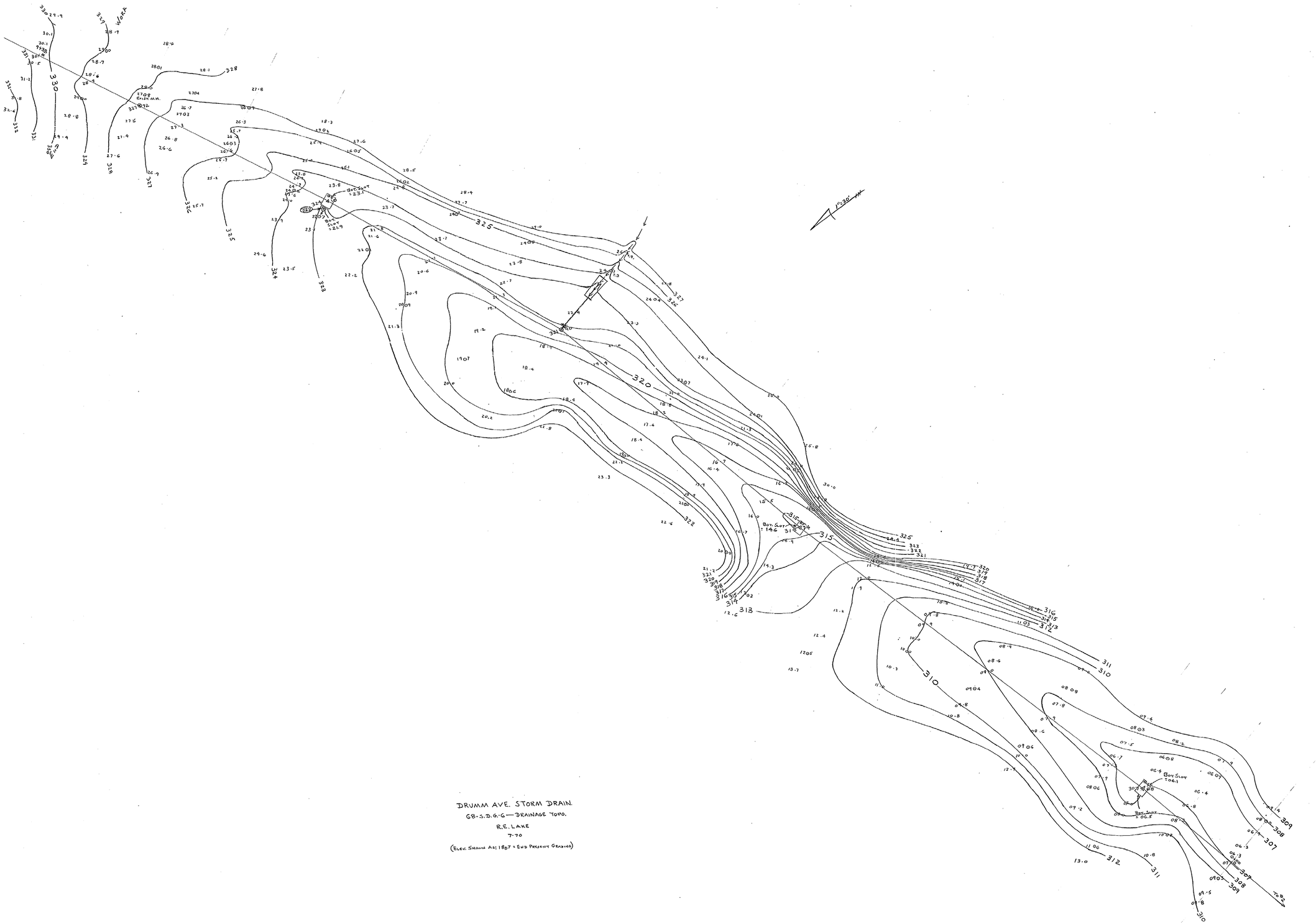
50'S	Y
	NO. 5
200'S	OF 5

69 SDG 6

CE 487-5-5

SD FILE NO. 5

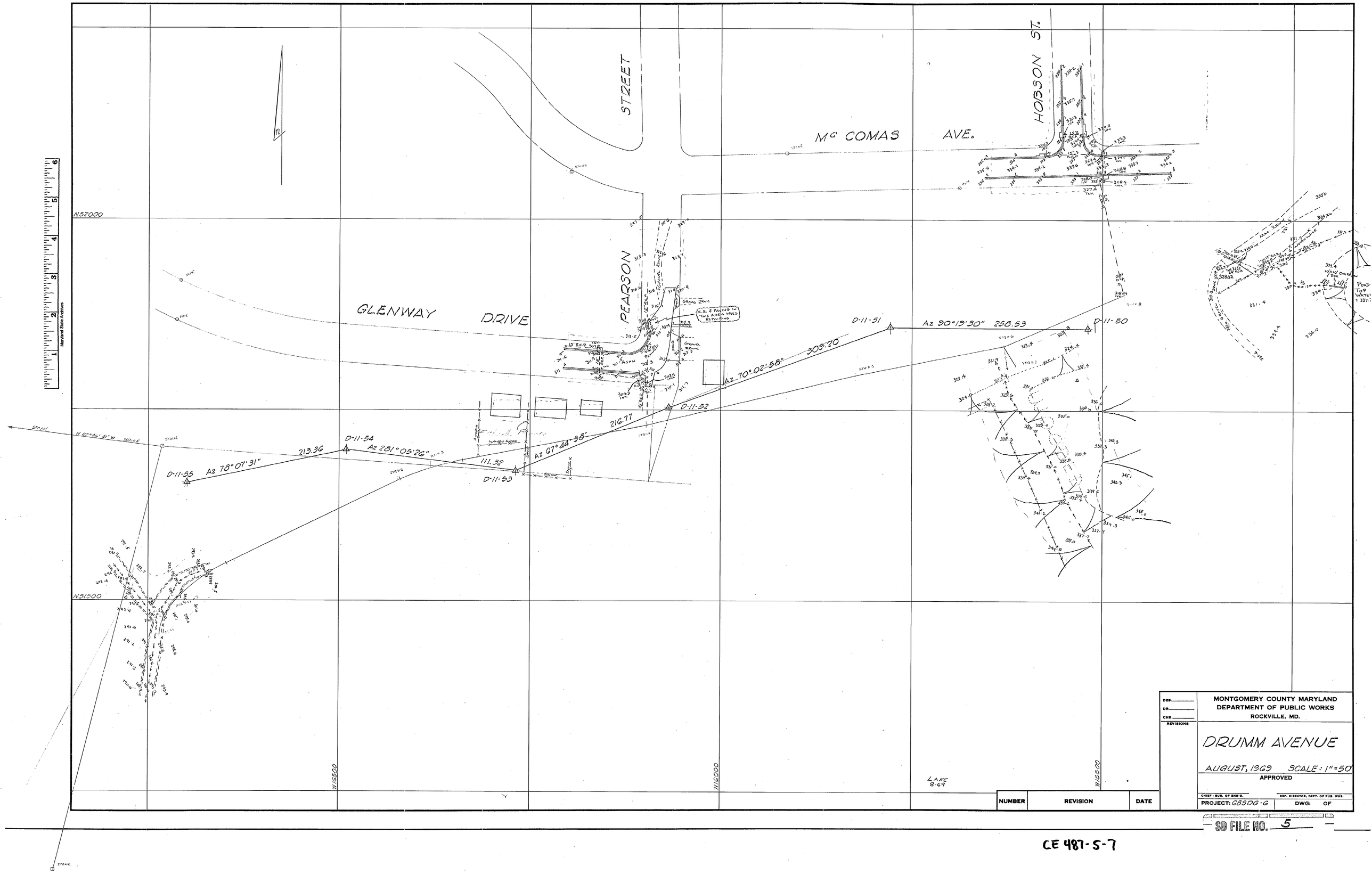
Maryland State Archives



CE 487-5-6

SD FILE NO. 5

Maryland State Archives



NUMBER	REVISION	DATE

DES.
DR.
CHK.
REVISIONS

MONTGOMERY COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
ROCKVILLE, MD.

DRUMM AVENUE

AUGUST, 1969 SCALE: 1"=50'

APPROVED

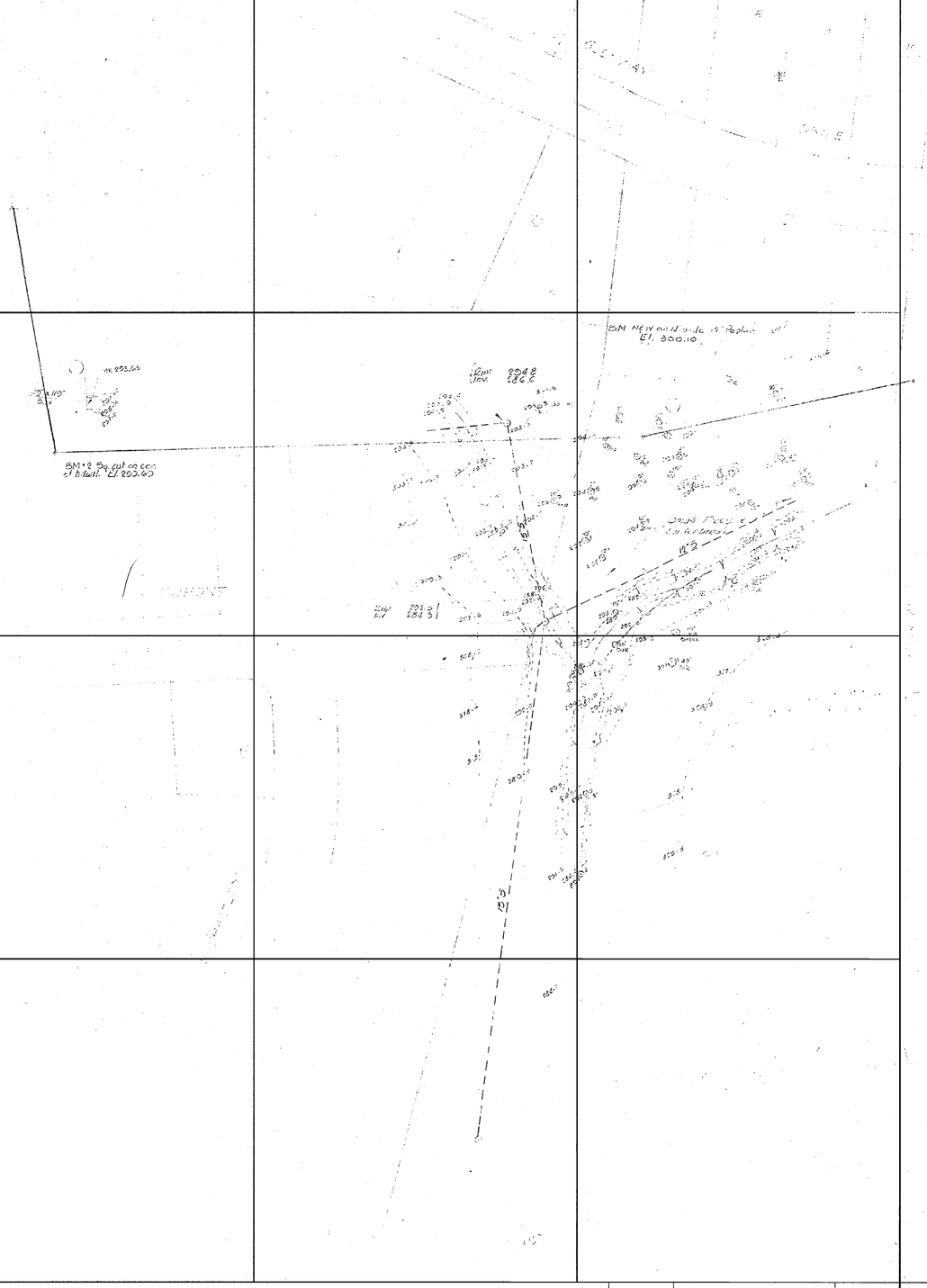
CHIEF - BUR. OF ENG'G. DEP. DIRECTOR, DEPT. OF PUB. WKS.

PROJECT: 68SDG-6 DWG: OF

SD FILE NO. 5

CE 487-5-7

Maryland State Archives



WASHINGTON SUBURBAN SANITARY COMMISSION

26NW6-1

SD FILE NO. 000008

Dietzgen 138-7 ozeproof

CE 487-S-8

68-SDG-6