

By the Developer:
 "I certify that all development and construction will be done according to this plan, and that any 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."
 Signature: *William E. Kelly* Date: 6-17-85

By the Engineer:
 "I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
 Signature: *Harlan E. Veenendaal* Date: 5/24/85

Reviewed for Howard S.C.D. and meets Technical Requirements.
 Signature: *James H. Helm* Date: 6-14-85
 U.S. Soil Conservation Service

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
 Signature: *Stephen L. Maden* Date: 6/17/85
 Howard S.C.D.

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Sheet No.	Description
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STORM DRAIN IMPROVEMENTS

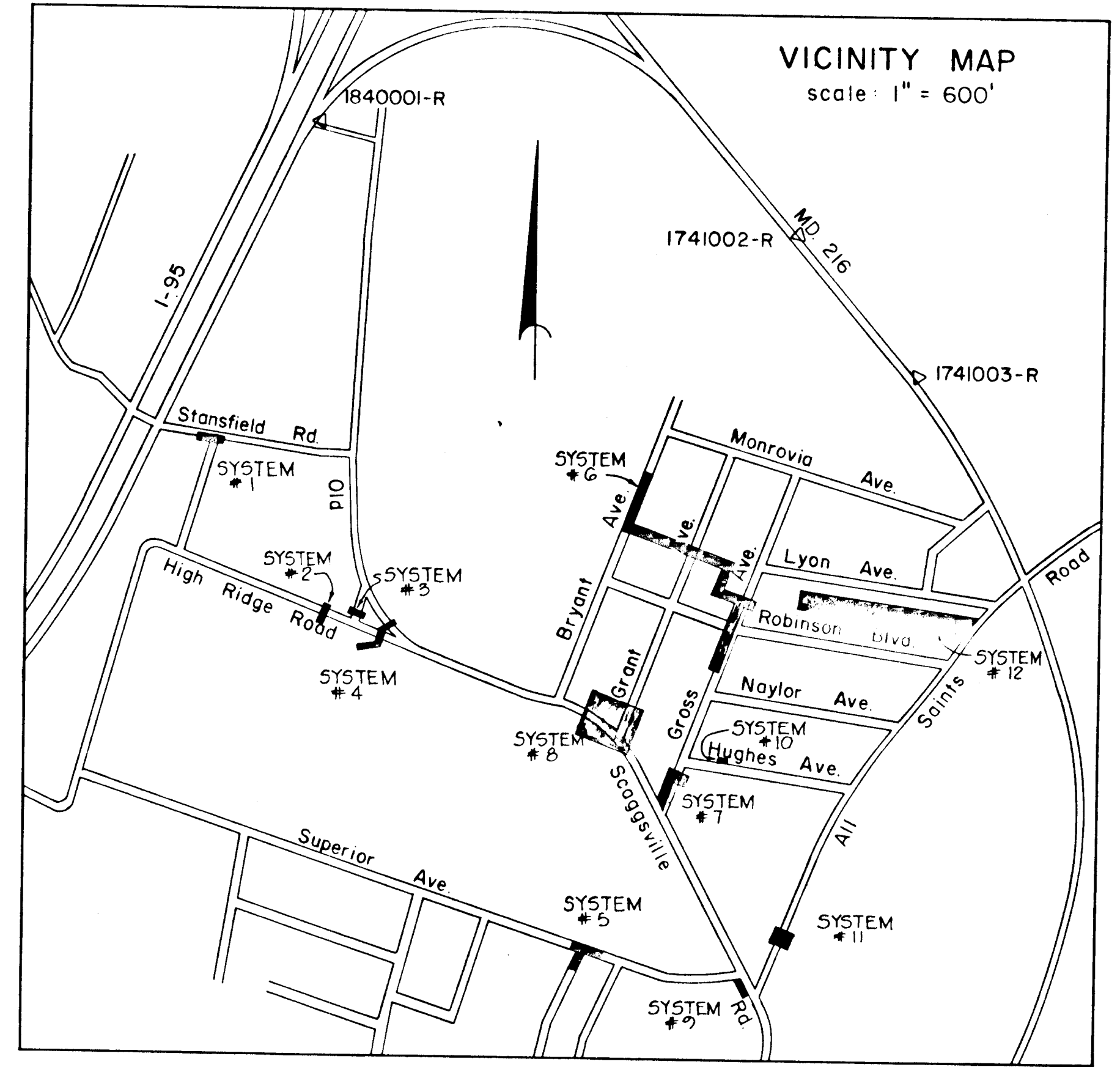
HIGH RIDGE PARK

6th Election District, Howard Co., Md.

HOWARD COUNTY

DEPARTMENT OF PUBLIC WORKS

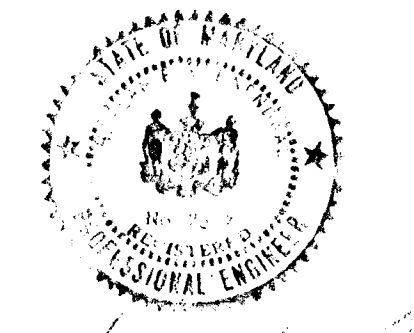
Capital Project D-7-1047



GENERAL NOTES:

- RIGHT OF WAY LINES SHOWN ON THESE PLANS ARE SHOWN FOR ASSISTANCE IN INTERPRETING THE PLANS. FOR ANY FEE RIGHT OF WAY AND EASEMENT INFORMATION, SEE RIGHT OF WAY PLATS.
- ENDWALLS ARE NOT TO BE CONSTRUCTED UNTIL GRADING IS COMPLETED. THE TYPES OF ENDWALLS ARE SUBJECT TO MODIFICATIONS.
- EXISTING PRIVATE DRIVEWAYS, FENCES, MAILBOXES, SIGNS AND SHRUBS DISTURBED BY THE WORK SHALL BE RECONSTRUCTED OR REPLACED.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT \ominus ELEVATIONS.
- ALL SLOPES AND/OR DISTURBED AREAS SHALL RECEIVE 2" TOPSOIL, SEED AND MULCH EXCEPT WHERE OTHERWISE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TEMPORARY SEDIMENT CONTROL MEASURES AS SHOWN ON THE DRAWINGS. HOWEVER, ANY SEDIMENT CONTROL MEASURES NOT SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS, BUT REQUIRED AS A RESULT OF THE CONTRACTOR'S EXCAVATIONS OR ACTIVITIES SHALL NOT BE CAUSE FOR EXTRA PAYMENT.
- LOCATION POINTS FOR INLETS, MANHOLES AND STRUCTURES:

ITEM	HORIZONTAL LOC.	VERTICAL LOC.
CURB TYPE INLETS	CENTER FACE OF CURB	TOP OF CURB
GRATE TYPE INLETS	CENTER OF GRATE	TOP OF GRATE
MANHOLES	CENTER OF COVER	TOP OF COVER
ENDWALLS	CENTER OF WALL	TOP OF WALL
- APPROXIMATE LOCATION OF EXISTING UTILITIES IS SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES. COST SHALL BE INCLUDED IN THE PRICES BID FOR STORM DRAIN ITEMS.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN HEREON:
 - MISS UTILITY (COLLECT) 1-559-0100
 - BALTIMORE GAS & ELECTRIC CO., UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-5691
 - BALTIMORE GAS & ELECTRIC CO., UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5533
 - CHESAPEAKE AND POTOMAC TELEPHONE CO. 725-9976
 - STATE HIGHWAY ADMINISTRATION 531-5533
 - COLONIAL PIPELINE COMPANY 781-4641
 - HOWARD COUNTY BUREAU OF UTILITIES 992-2366
 - CONSTRUCTION INSPECTION/SURVEYS DIVISION 992-2417
- STANDARD DETAILS FOR THIS CONTRACT SHALL BE THE HOWARD COUNTY STANDARD DETAILS AS SUPPLEMENTED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER.
- TREES ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR STORM DRAIN ITEMS.
- PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
- TOP ELEVATIONS OF STRUCTURES SHALL BE ADJUSTED IN THE FIELD TO MEET EXISTING CONDITIONS AS DIRECTED BY THE ENGINEER.
- GRADING SHALL BE DONE IN SUCH A MANNER SO AS TO INSURE POSITIVE DRAINAGE TO THE PROPOSED INLET STRUCTURES.
- HORIZONTAL AND VERTICAL CONTROLS ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM, STATIONS.
- CLEARANCE BETWEEN EXISTING AND PROPOSED UTILITIES SHALL BE A MINIMUM OF SIX (6) INCHES. CLEARANCE BETWEEN ALL UTILITY POLES AND PROPOSED UTILITIES SHALL BE A MINIMUM OF 2'-0". COST OF BRACING AT POLES SHALL BE INCLUDED IN THE BID FOR STORM DRAIN ITEMS.
- INFORMATION RESULTING FROM SUBSURFACE SOIL INVESTIGATION IS TO BE USED AT THE CONTRACTOR'S RISK. THE COUNTY ASSUMES NO RESPONSIBILITY FOR THIS INFORMATION. SEE SECTION 5-07 OF THE SPECIAL PROVISIONS.
- FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY STANDARD SPECIFICATIONS.
- WATER HOUSE CONNECTIONS TO BE ADJUSTED TO PROVIDE CLEARANCE FOR PROPOSED STORM DRAIN SYSTEMS, AS DIRECTED BY THE ENGINEER AND THROUGH COORDINATION WITH THE BUREAU OF UTILITIES.
- POSITIVE DRAINAGE TO BE ACHIEVED AT ALL NEW STRUCTURES. EXISTING SWALES TO BE MODIFIED, WHERE NECESSARY, AS DIRECTED BY THE ENGINEER.
- HORIZONTAL LOCATION TIES HAVE BEEN COMPUTED FROM TRAVERSE SYSTEM AS SHOWN. THESE HORIZONTAL LOCATIONS MAY BE ADJUSTED IN THE FIELD WHERE REQUIRED TO MEET EXISTING CONDITIONS, (CURB LINE, EXISTING PIPE CONNECTION, ETC.) AS DIRECTED BY ENGINEER.
- DRIVEWAY PAVING RECONSTRUCTION WILL CONFORM TO HOWARD COUNTY STANDARD P-1 (HO.CO. ST'D. R-2.01)
- SEDIMENT CONTROL TO BE PROVIDED IN ACCORDANCE WITH ARTICLE 15 OF THE HOWARD COUNTY DESIGN MANUAL, 1983 STANDARDS AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL, AND THIS PLAN.



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: _____ Date: _____
 Chief, Bureau of Engineering: *William E. Kelly* Date: 6/17/85
 Chief, Utility Division: _____ Date: _____

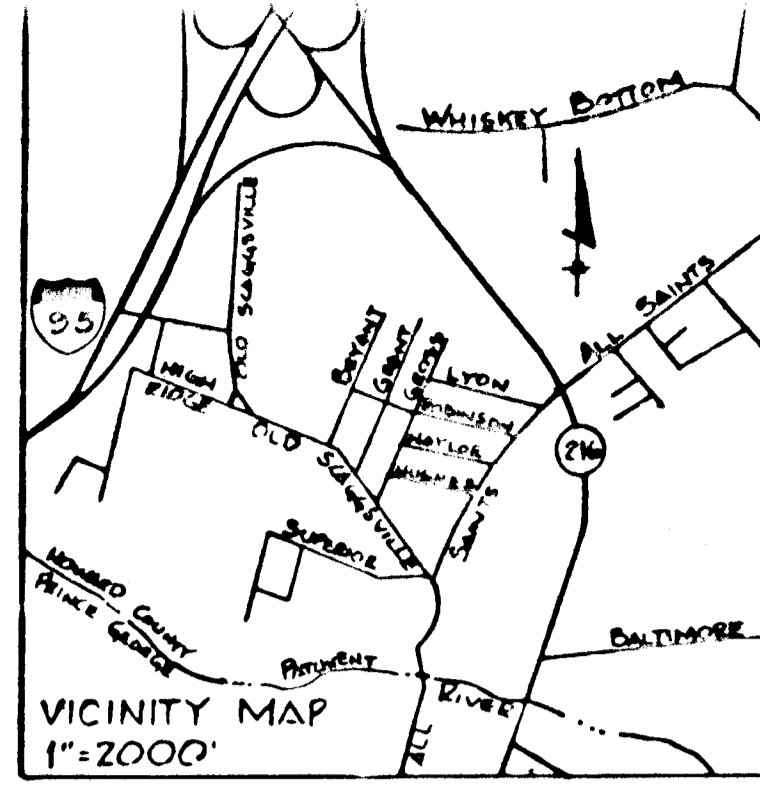
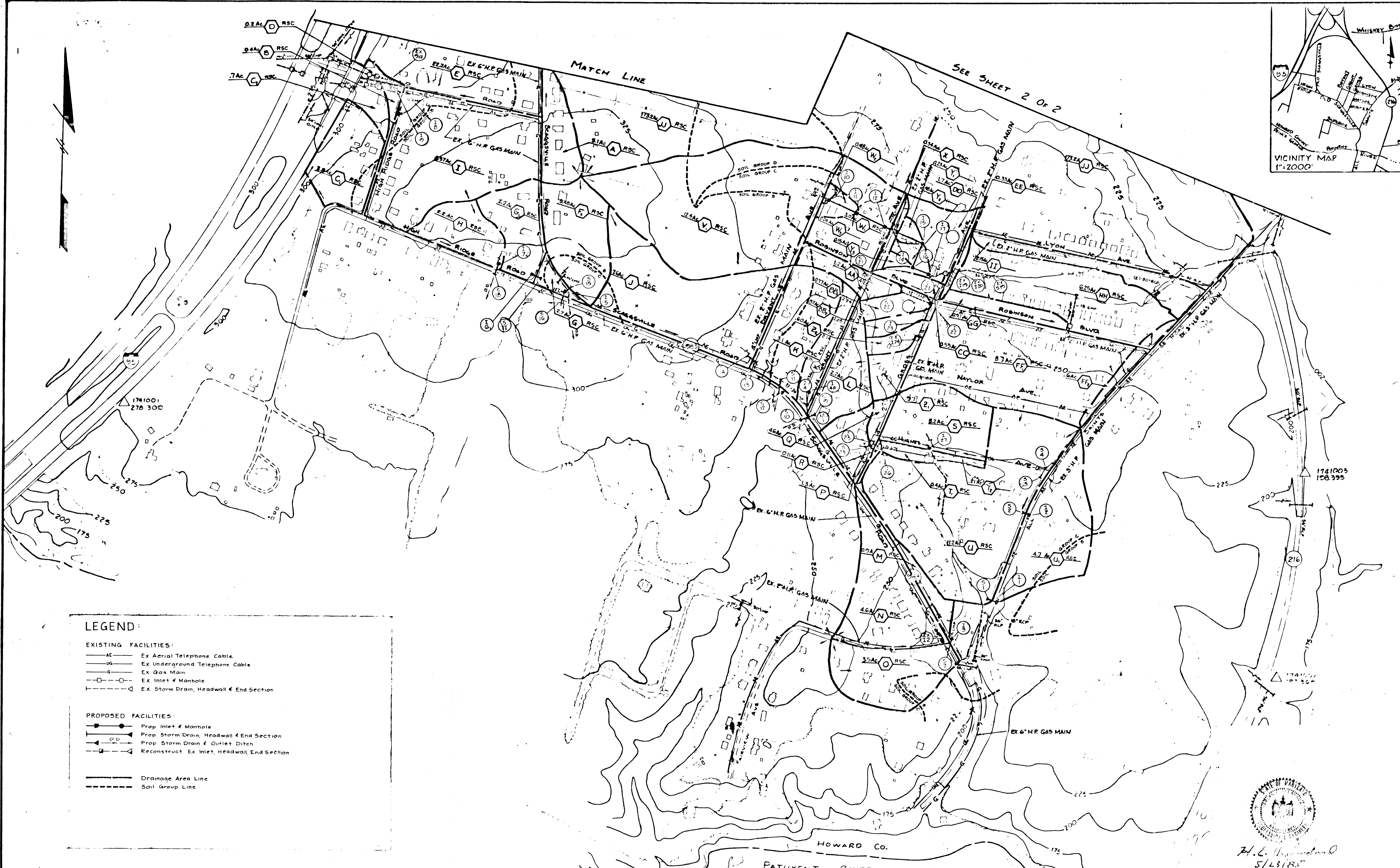
STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK
 CAPITAL PROJECT D-7-1047
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

High Ridge Rd
 CO/69701

revisions		
no.	description	date

prepared by
richard p. browne associates
 professional design & planning consultants
 suite 207 wilde lake village green
 columbia, maryland 21044
 301/730-7950 596-3524

SCALE		AS SHOWN	
DRAWN	DATE	CHECKED	DATE



LEGEND:

EXISTING FACILITIES:

- AE — Ex Aerial Telephone Cable
- UG — Ex Underground Telephone Cable
- G — Ex Gas Main
- □ — Ex Inlet & Manhole
- — Ex Storm Drain, Headwall & End Section

PROPOSED FACILITIES:

- ● — Prop Inlet & Manhole
- — Prop Storm Drain, Headwall & End Section
- — Prop Storm Drain & Outlet Ditch
- — Reconstruct Ex Inlet, Headwall, End Section

— — Drainage Area Line

— — Soil Group Line



H. L. [unreadable]
5/23/85

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works Date Chief, Bureau of Engineering Date

 5/23/85
Chief, Roads - Bridges - Storm Drainage Division Date

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK

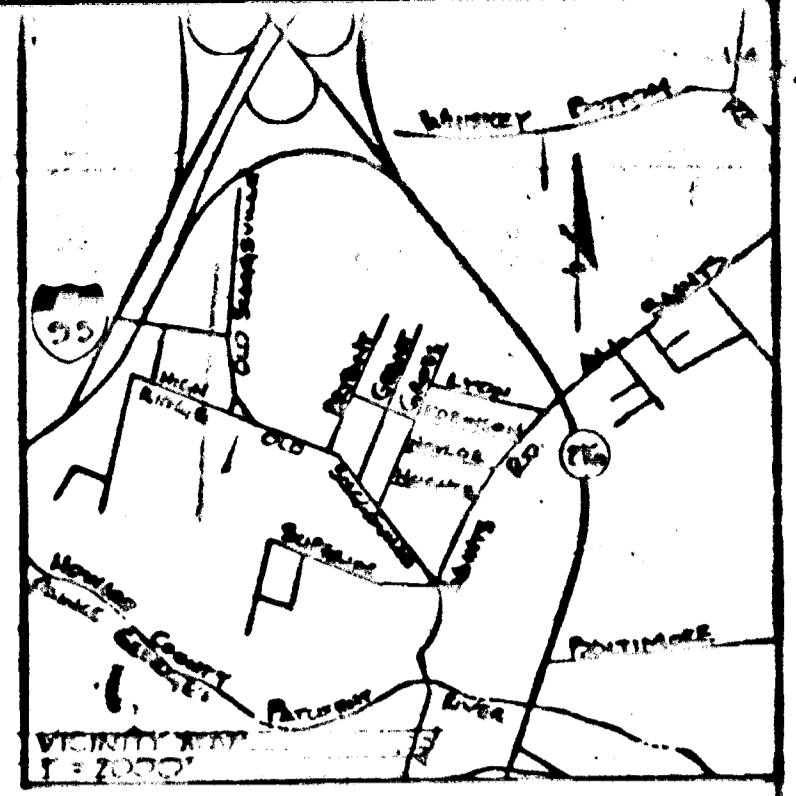
CAPITAL PROJECT D-7-1047
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no.	description	date

richard browne associates
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 columbia, maryland 21044
 301/730-7950 596-3524

DRAINAGE AREA MAP

SCALE	1"=200'
DRAWN	1"=200'
MK	CHECKED
PROJ NO	DATE
4485	5/23/85
2	13



H.E. [Signature]
5/23/85

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK

CAPITAL PROJECT D-7-1047
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

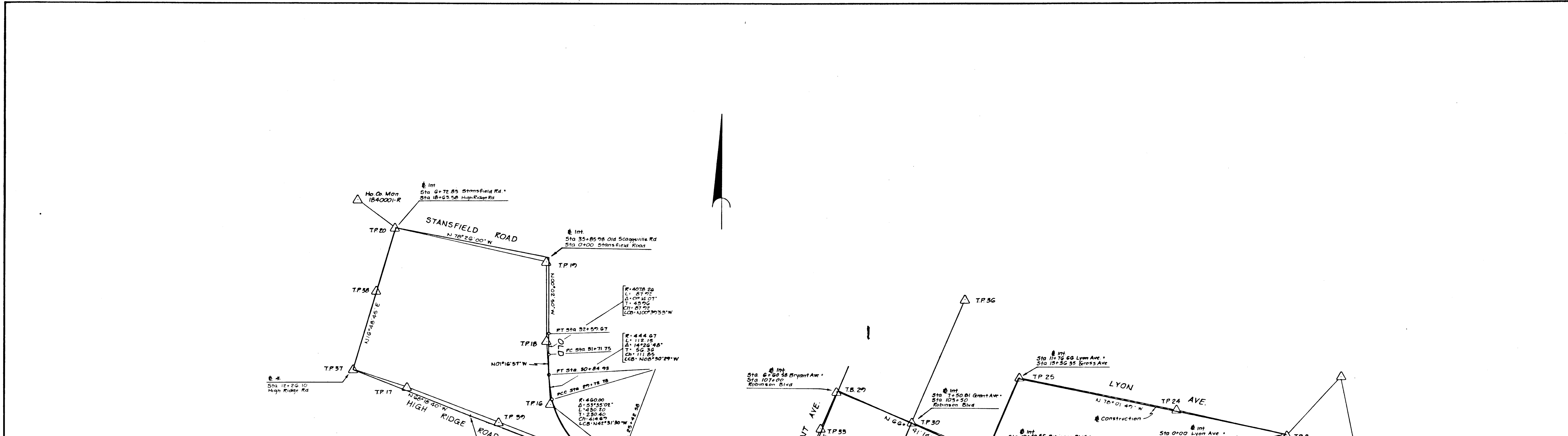
REVISIONS	
no	description

prepared by
rba richard browne associates
professional design & planning consultants
suite 207 wilde lake village green
columbia, maryland 21044
301/730-7950 596-3524

DRAINAGE
AREA MAP

SCALE	1" = 200'
DRAWN	MK
CHECKED	
PROJ NO	4483
DATE	
3	13
SHEETS	OF

Director of Public Works Date
Chief, Bureau of Engineering Date
Chief, Utility Division Date
Chief, Records & Plans - Storm Drainage Division Date



BASE LINE CONSTRUCTION STAKE OUT

ROAD	Sta	Feature	Trav A	Trav B	RIGHT	DIST	COORDINATES	
							North	East
All Saints Road	0+00	PI	7	7	271°27'10"	6.82	466,060.462	840,495.117
	8+53.02	PC	21	6	2°18'46"	169.50	466,857.532	840,798.957
	9+51.42	PT	21	6	10°58'54"	72.59	466,944.263	840,844.705
@ Hughes Ave	10+16.52	PI	21	6	59°07'01"	12.18	466,997.613	840,882.207
	13+89.65	PC	5	3	557°47'23"	58.75	467,303.410	841,079.020
@ Naylor Ave	13+98.75	PI	5	3	557°16'13"	66.02	467,309.190	841,100.138
	14+41.83	PT	5	3	556°55'18"	111.08	467,344.106	841,128.622
@ Robinson Blvd	18+01.41	PI	3	5	71°47'41"	8.66	467,609.491	841,371.253
@ Lyon Ave	22+08.73	PI	2	3	87°24'11"	10.68	467,910.107	841,646.096
Old Scaggsville Road	0+00	PI	7	7	271°27'10"	6.82	466,060.462	840,495.117
	5+59.04	PC	10	8	5°34'52"	83.80	466,526.018	840,735.518
	8+54.55	PT	8	11	4°00'33"	162.52	466,779.840	840,073.198
	10+12.86	PC	11	8	2°41'21"	310.38	466,723.798	839,768.252
@ Gross Ave	10+16.43	PI	11	8	2°45'55"	306.81	466,926.889	839,768.155
	10+47.77	PT	11	8	3°02'04"	275.52	466,752.572	839,748.204
@ Grant Ave	14+51.61	PI	54	14	139°12'57"	14.78	467,258.222	839,741.618
@ Bryant Ave	17+98.29	PI	14	34	148°38'47"	51.00	467,471.870	839,447.394
	18+01.55	PT	14	34	149°06'25"	54.01	467,492.951	839,444.553
	25+42.58	PC	15	16	286°10'72"	184.40	467,754.762	838,751.079
	29+78.78	PCC	16	18	28°56'01"	23.70	468,060.380	838,470.786
	30+84.93	PT	16	18	1°00'06"	132.24	468,171.003	838,454.238
	31+71.75	PC	18	16	353°23'24"	54.71	468,257.796	838,452.295
	32+59.67	PT	18	16	198°07'57"	35.18	468,345.714	838,451.275
Gross Avenue	0+00	PI	11	8	2°45'55"	306.81	466,926.889	839,768.155
@ Hughes Ave	2+64.33	PI	22	23	16°32'21"	9.51	467,169.642	840,070.765
@ Naylor Ave	6+21.30	PI	26	27	35°56'05"	1.04	467,497.471	840,212.038
@ Robinson (W)	7+74.14	PI	27	26	3°06'23"	7.27	467,821.496	840,351.670
@ Robinson (E)	7+78.28	PI	27	26	7°24'45"	3.15	467,825.878	840,353.308
@ Lyon	13+56.55	PI	25	27	25°45'53"	3.29	468,154.140	840,475.018
		POL						
Grant Avenue	0+00	PI	54	14	74°38'30"	13.04	467,270.491	839,733.109
@ Robinson Blvd	7+50.81	PI	50	27	85°43'52"	1.08	467,960.008	840,030.244
		POL						
Bryant Avenue	0+00	PI	14	34	148°38'49"	51.00	467,471.870	839,447.394
@ Robinson Blvd	6+60.58	PI	29	33	227°27'54"	7.78	468,098.521	839,708.819
		POL						
Hughes Avenue	0+00	PI	21	6	59°07'01"	12.18	466,997.613	840,882.207
@ Gross Ave	8+29.48	PI	22	23	16°32'21"	9.51	467,169.642	840,070.765
Naylor Avenue	0+00	PI	5	3	557°16'13"	66.02	467,309.190	841,100.138
@ Gross Ave	9+07.84	PI	26	27	35°56'05"	1.04	467,497.471	840,212.038
Robinson Boulevard (E)	0+00	PI	3	5	71°47'41"	8.66	467,609.491	841,371.253
@ Gross Ave	10+40.56	PI	27	26	3°06'23"	7.27	467,825.878	840,353.308
Robinson Boulevard (W)	100+00	PI	27	26	7°24'45"	3.15	467,821.496	840,351.670
@ Grant Ave	103+50	PI	30	27	85°43'52"	1.08	467,960.008	840,030.244
@ Bryant Ave	107+00	PI	29	33	227°27'54"	7.78	468,098.521	839,708.819

(CON'T.)

Lyon Avenue	0+00	PI	2	3	87°24'11"	10.68	467,910.107	841,646.096
@ Gross Ave	11+76.66	PI	25	27	25°45'53"	3.29	468,154.140	840,475.018
High Ridge Road	0+00	PI	15	16	286°10'72"	124.40	467,754.762	838,751.079
	4+43.81	PI	17	37	184°18'57"	295.96	467,996.789	838,111.338
	12+26.10	PI	37	17	308°03'03"	1.68	468,196.700	837,607.849
@ Stansfield Rd	18+63.58	PI	20	38	208°07'52"	4.70	468,806.936	837,791.836
Stansfield Road	0+00	PI	19	20	114°50'45"	18.17	468,672.021	838,451.006
@ High Ridge Rd	6+72.85	PI	20	38	208°07'52"	4.70	468,806.936	837,791.836
Superior Ave	3+00	POL	44	41	01°45'00"	200.25	466,206.694	839,860.583
@ Fairview Ave	5+00	PI	44	41	274°36'00"	10.25	466,278.504	839,673.719
Fairview Ave	2+00	POL	44	41	101°05'12"	185.82	466,100.480	839,582.570

ROAD	Sta	Feature	Trav A	Trav B	RIGHT	DIST	North	East
Stansfield Road	0+00	PI	19	20	114°50'45"	18.17	468,672.021	838,451.006
@ High Ridge Rd	6+72.85	PI	20	38	208°07'52"	4.70	468,806.936	837,791.836
Superior Ave	3+00	POL	44	41	01°45'00"	200.25	466,206.694	839,860.583
@ Fairview Ave	5+00	PI	44	41	274°36'00"	10.25	466,278.504	839,673.719
Fairview Ave	2+00	POL	44	41	101°05'12"	185.82	466,100.480	839,582.570

1197

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works Date 5/23/85
 Chief, Bureau of Engineering Date 5/23/85
 Chief, Roads - Bridges - Storm Drainage Division Date 5/23/85

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK
 CAPITAL PROJECT D-7-1047
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

no.	description	date

prepared by
rbha richard p. browne associates
 professional design & planning consultants
 suite 207 wide lake village green
 columbia, maryland 21044
 301/730-7950 596-3524

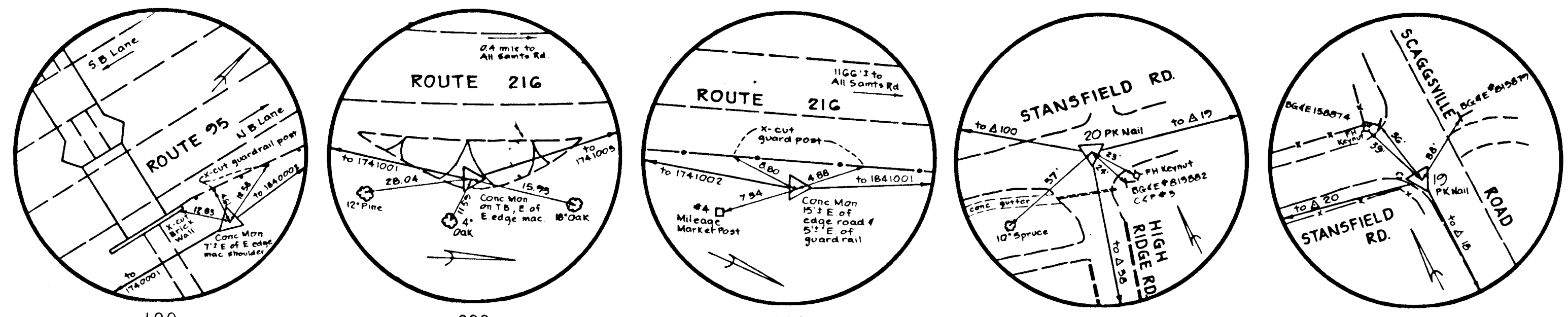
GEOMETRY LAYOUT
 SCALE 1" = 200'
 DRAWN M.K. CHECKED S.J.J.
 PROJ NO. 4483 DATE
 4 SHEET 13 OF



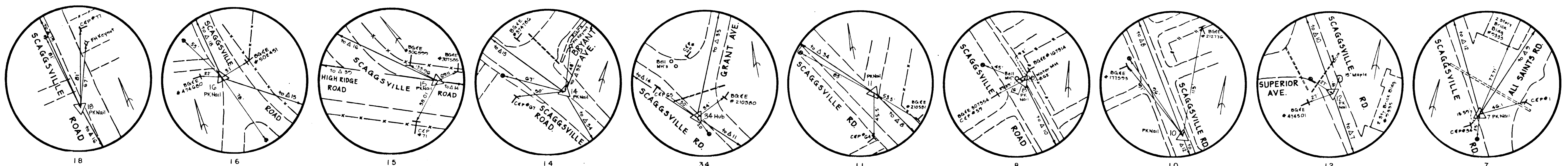
Richard P. Browne
 5/23/85

TRAVERSE POINTS - ELEVATIONS

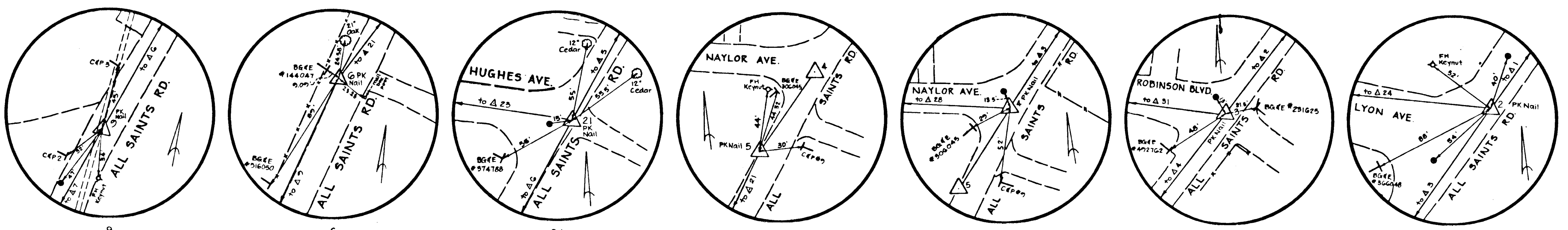
No.	Elev.	No.	Elev.	No.	Elev.	No.	Elev.
1	220.65	12	202.85	23	248.67	33	288.07
2	241.45	14	276.43	24	244.44	34	264.45
3	249.92	15	307.97	25	259.73	41	252.41
4	251.54	16	323.20	26	266.42	44	245.83
5	235.53	17	326.38	27	253.51	37	313.96
6	195.93	18	338.90	28	256.00	38	303.43
7	244.91	19	322.87	29	284.30	39	316.64
8	205.33	20	293.16	30	268.50	100	303.02
9	228.91	21	244.06	31		200	
11	264.35	22	263.08	32	280.6	300	228.14



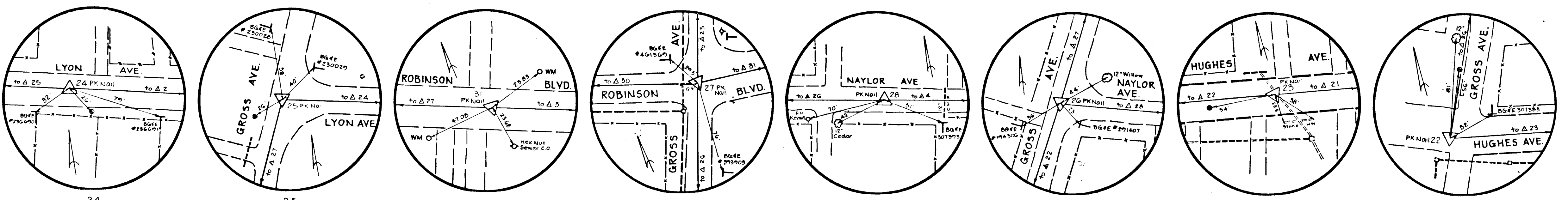
STANSFIELD ROAD



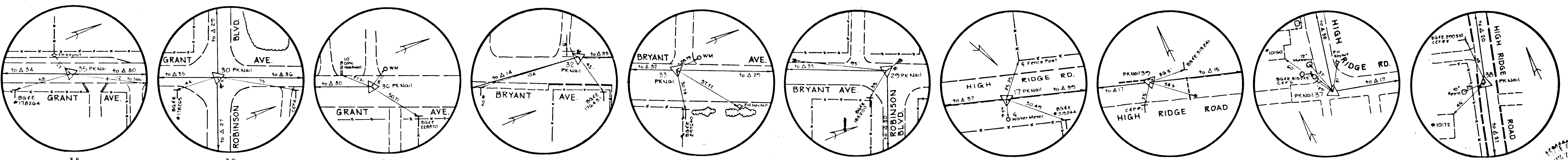
OLD SCAGGSVILLE ROAD



ALL SAINTS ROAD



LYON AVE. ROBINSON BLVD. NAYLOR AVE. HUGHES AVE.



GRANT AVE. BRYANT AVE. HIGH RIDGE ROAD

TRAVERSE POINTS - COORDINATES

No.	North	East	No.	North	East
23	467,118.190	840,325.894	23	467,118.190	840,325.894
2	467,903.308	841,654.333	24	468,015.437	841,177.476
3	467,605.887	841,379.129	25	468,156.286	840,497.507
4	467,308.261	841,103.550	26	467,496.939	840,211.138
5	467,258.661	841,057.639	27	467,828.001	840,354.925
6	466,795.073	840,767.988	28	467,410.657	840,619.239
7	466,055.950	840,500.235	29	468,096.014	839,701.451
8	466,653.732	840,175.392	30	467,961.042	840,030.541
9	466,248.336	840,569.928	31	467,730.501	840,804.714
10	466,456.630	840,282.500	32	467,688.333	839,522.402
11	467,186.269	839,802.275	33	467,938.762	839,632.388
12	466,164.005	840,441.517	34	467,259.046	839,726.863
14	467,480.719	839,497.165	35	467,770.956	839,948.561
15	467,720.341	838,870.622	36	468,495.344	840,260.657
16	468,038.919	838,460.723	37	468,195.787	837,606.031
17	468,114.351	837,839.951	38	468,530.375	837,706.433
18	468,311.637	838,442.554	41	466,216.676	837,648.103
19	468,657.607	838,439.955	100	468,928.161	837,623.979
20	468,803.464	837,898.380	200	466,043.183	841,993.790
21	466,997.376	840,894.388	300	467,020.503	842,118.765
22	467,174.184	840,062.413	44	466,268.935	837,670.054

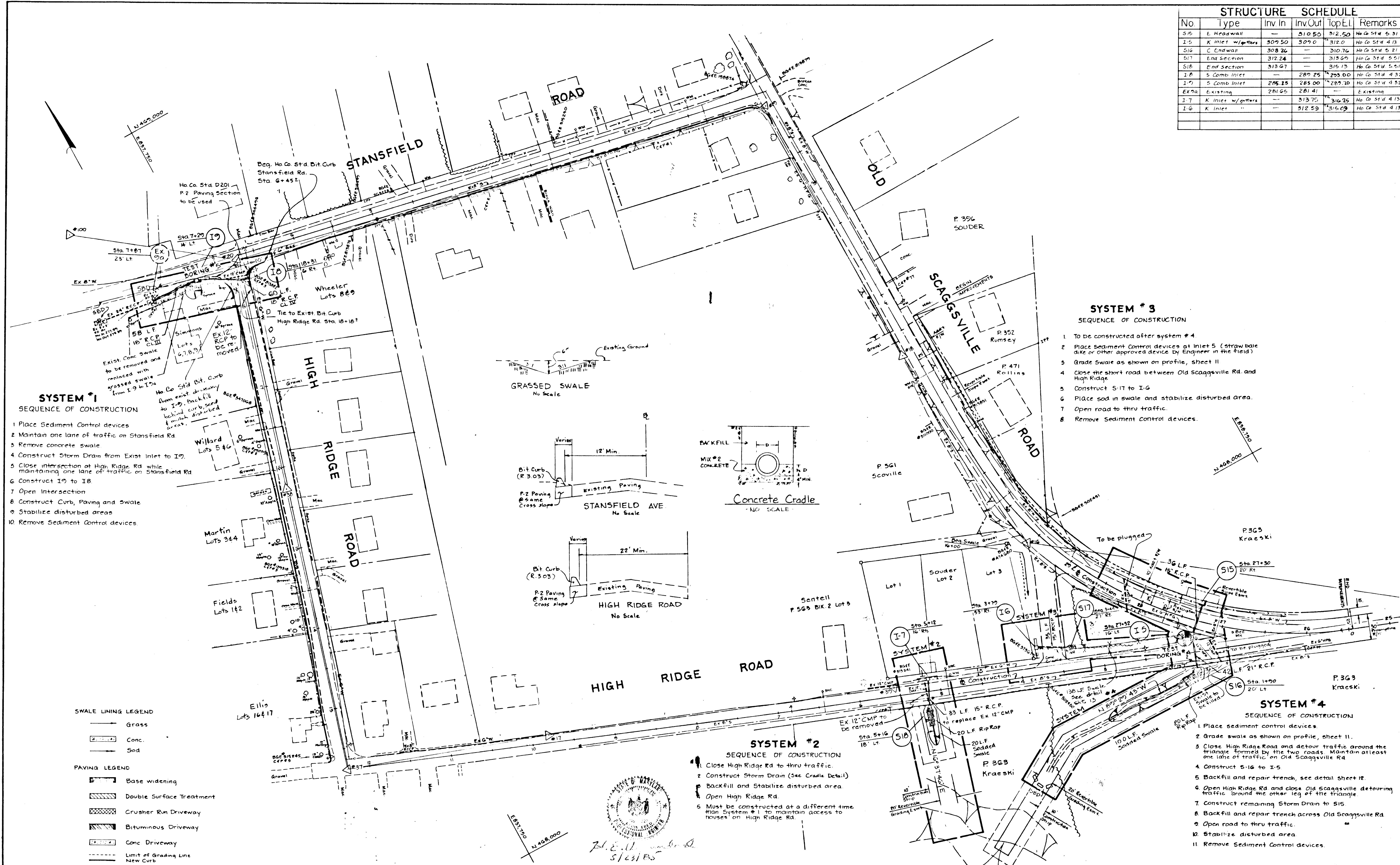
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works Date
 Chief, Bureau of Engineering Date

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK
 CAPITAL PROJECT D-7-1047
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

revisions description date prepared by
rba richard p. browne associates
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 suite 207 wilde lake village green
 columbia, maryland 21044
 301/730-7950 596-3524

HORIZONTAL & VERTICAL CONTROLS
 SCALE as shown
 DRAWN M.K. CHECKED
 PROJ. NO. 4485 DATE
5 **13**
 SHEET OF

STRUCTURE		SCHEDULE		Top El.	Remarks
No	Type	Inv In	Inv Out		
S15	E Headwall	—	310.50	312.50	Ho Co Sta 4 31
I-5	K Inlet w/gutters	307.50	307.0	312.0	Ho Co Sta 4 13
S16	C Endwall	308.26	—	310.76	Ho Co Sta 5 21
S17	End Section	312.24	—	313.67	Ho Co Sta 5 51
S18	End Section	313.67	—	315.13	Ho Co Sta 5 51
I-6	S Comb Inlet	—	285.25	285.00	Ho Co Sta 4 32
I-7	S Comb Inlet	285.25	285.00	285.70	Ho Co Sta 4 32
Ex 7a	Existing	281.65	281.41	—	Existing
I-7	K Inlet w/gutters	—	313.75	316.25	Ho Co Sta 4 13
I-6	K Inlet	—	312.59	315.09	Ho Co Sta 4 13



- SYSTEM #3**
SEQUENCE OF CONSTRUCTION
- To be constructed after system #4
 - Place Sediment Control devices at Inlet 5 (straw bale dike or other approved device by Engineer in the field)
 - Grade Swale as shown on profile, sheet 11
 - Close the short road between Old Scaggsville Rd. and High Ridge
 - Construct I-7 to I-6
 - Place sod in swale and stabilize disturbed area.
 - Open road to thru traffic.
 - Remove Sediment control devices.

- SYSTEM #4**
SEQUENCE OF CONSTRUCTION
- Place sediment control devices.
 - Grade swale as shown on profile, sheet 11.
 - Close High Ridge Road and detour traffic around the triangle formed by the two roads. Maintain at least one lane of traffic on Old Scaggsville Rd.
 - Construct S-16 to I-5
 - Backfill and repair trench, see detail sheet 12.
 - Open High Ridge Rd and close Old Scaggsville detouring traffic around the other leg of the triangle
 - Construct remaining Storm Drain to S15
 - Backfill and repair trench across Old Scaggsville Rd.
 - Open road to thru traffic.
 - Stabilize disturbed area
 - Remove Sediment Control devices.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *W. McC...* Date: *4/17/85*
 Chief, Bureau of Engineering: *...* Date: *5/12/85*

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK

CAPITAL PROJECT D-7-1047
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

revisions
no. description date

prepared by
rba richard p. browne associates
professional design & planning consultants
suite 207 wild lake village green
columbia, maryland 21044
301/730-7950 596-3524

PLAN
Stansfield Road
High Ridge Road
Old Scaggsville Road

SCALE 1"=50'

DRAWN: M.K. CHECKED: []
 PROJ. NO. 4485 DATE: []
 SHEET 6 OF 13

1197

Note A -
Should any damage be done to the house at 915G Gross Avenue, or its foundation, as a result of the storm drain construction, the property owners will be reimbursed by the contractor, at the contractor's expense, for all costs incurred in correcting the damage done. The property owners will allow the County, its agents or assistants to enter their house prior to the construction to take pictures of the house and its foundation. These pictures will be used to determine damages, if any.

STRUCTURE SCHEDULE
NOTE
See Sht. 7 of 13 for the Structure Schedule.

- SYSTEM #8**
SEQUENCE OF CONSTRUCTION
(CONTACT C&P TELEPHONE CO.)
1. Close Old Scaggsville Rd to thru traffic from Bryant Ave to Grant Ave. Detour traffic to Robinson Blvd.
 2. Construct S12 to S11
 3. Repair road and trench
 4. Stabilize disturbed area
 5. Close Grant Ave. south of Robinson Blvd. to thru traffic and Old Scaggsville Rd. from Bryant Ave to Gross Ave. Detour traffic along Robinson Blvd.
 6. Construct Storm Drain across Old Scaggsville Rd. and Grant Ave.
 7. Repair trench and road surface (See Detail Sht. 12)
 8. Stabilize disturbed areas
 9. Open all roads
 10. Construct I-4 to I-4a
 11. Stabilize disturbed areas.

- SYSTEM #6**
SEQUENCE OF CONSTRUCTION
1. Maintain atleast one lane of traffic on Gross Ave at all times
 2. Construct St Dr improvements from Ex I-19 to I-21
 3. Close Robinson Blvd from Gross Ave to Grant Ave
 4. Construct St Dr improvements to I-22
 5. Open Robinson Blvd
 6. Complete improvements to I-23
 7. Stabilize disturbed areas. Adjust inlet top @ Ex I-20
 8. Construct I-17 to I-14, existing
 9. Stabilize disturbed areas
 10. Close Grant Ave east of Robinson Blvd
 11. Lower water main
 12. Construct I-14 to I-12. Trench across Grant Ave is not to remain open overnight
 13. Repair trench and road (See Detail Sht. 12)
 14. Open Grant Ave
 15. Construct I-12 to I-10
 16. Backfill stream bed along System 6
 17. Stabilize disturbed areas.

- SYSTEM #7**
SEQUENCE OF CONSTRUCTION
1. Close Gross Ave. (Hughes Ave to Old Scaggsville)
 2. Construct trench & install PCMP at flat grade (see Sect A-A)
 3. Backfill in 6" lifts w stone aggregate in which approx 50% of the stones have a diam greater than the perforation in pipe. Stone not to exceed 2"
 4. Open Gross Ave

- SWALE LINING LEGEND:**
- Grass
 - Conc
 - Sod
- PAVING LEGEND:**
- Base Widening
 - Double Surface Treatment
 - Crusher Run Driveway
 - Bituminous Driveway
 - Conc Driveway
 - Limit of Grading Line
 - New Curb



SECTION A-A
not to scale

1197

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works _____ Date _____
Chief, Bureau of Engineering _____ Date _____
Chief, Utility Division _____ Date _____

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK

CAPITAL PROJECT D-7-1047
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

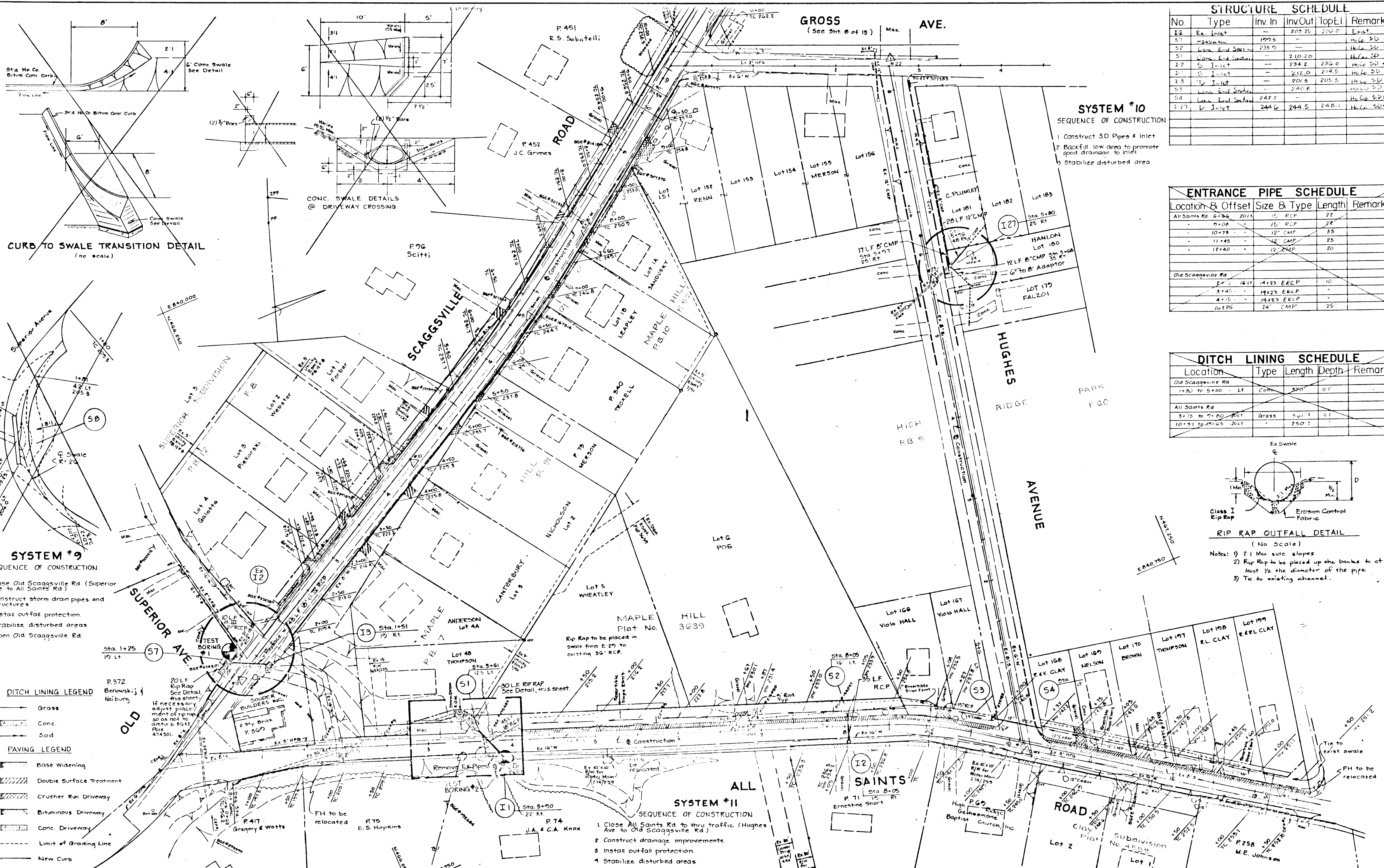
revisions table:
description, date, prepared by

prepared by
rba richard p. browne associates
professional design & planning consultants
suite 207 wilde lake vil oge green
columbia, maryland 21044
301/730-7950 596-3524

PLAN
Old Scaggsville Road
Robinson Blvd.
Bryant Avenue
Grant Avenue
Gross Avenue

SCALE 1"=50'

DRAWN M.K.	CHECKED
PROJ. NO. 4465	DATE
8	13
SHEET	OF



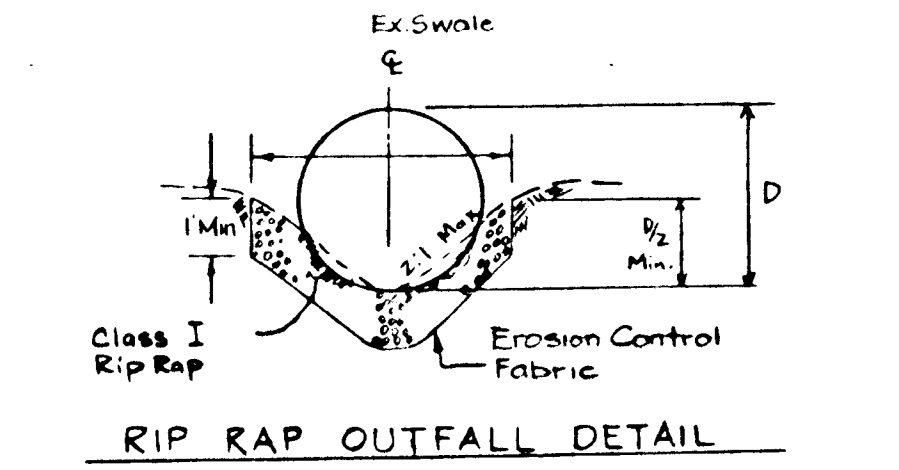
STRUCTURE SCHEDULE					
No	Type	Inv In	Inv Out	Top El	Remarks
22	Ex. Inlet	-	202.25	202.0	Exist.
57	Manhole	199.5	-	-	Hub. SD E.31
52	Man. End Station	238.9	-	-	Hub. SD E.32
51	Man. End Station	-	210.20	-	Hub. SD E.32
27	S. Inlet	-	234.2	236.0	Hub. SD 4.22
21	S. Inlet	-	212.0	214.5	Hub. SD 4.22
23	S. Inlet	-	201.5	203.5	Hub. SD 4.11
53	Man. End Station	-	240.8	-	Hub. SD E.32
54	Man. End Station	242.2	-	-	Hub. SD E.32
374	S. Inlet	244.6	244.5	248.1	Hub. SD 4.11

SYSTEM #10
SEQUENCE OF CONSTRUCTION

- 1 Construct SD Pipes & Inlet
- 2 Backfill low area to promote good drainage to inlet
- 3 Stabilize disturbed area

ENTRANCE PIPE SCHEDULE				
Location & Offset	Size & Type	Length	Remarks	
All Saints Rd 6+34 - 2014	15" RCP	28'		
7+08	15" RCP	38'		
10+75	12" CMP	33'		
11+45	12" CMP	25'		
12+40	12" CMP	20'		
Old Scaggsville Rd				
2+72 to 16+11	14x23 ERCP	10'		
3+40	14x23 ERCP	-		
4+75	14x23 ERCP	-		
16+95	24" CMP	25'		

DITCH LINING SCHEDULE				
Location	Type	Length	Depth	Remarks
Old Scaggsville Rd 1+80 to 5+00	Lt. Conc.	320'	21"	
All Saints Rd				
3+75 to 7+80	Grass	500'	21"	
10+31 to 14+65	-	250'	-	



RIP RAP OFFFALL DETAIL
(No Scale)

Notes: 1) 2:1 Max side slopes
2) Rip Rap to be placed up the banks to at least 1/2 the diameter of the pipe.
3) Tie to existing channel.

SYSTEM #9
SEQUENCE OF CONSTRUCTION

- 1 Close Old Scaggsville Rd (Superior Ave to All Saints Rd)
- 2 Construct storm drain pipes and structures
- 3 Install outfall protection
- 4 Stabilize disturbed areas
- 5 Open Old Scaggsville Rd

DITCH LINING LEGEND

- Grass
- Conc.
- Sod

PAVING LEGEND

- Base Widening
- Double Surface Treatment
- Crusher Run Driveway
- Bituminous Driveway
- Conc. Driveway
- Limit of Grading Line
- New Curb

SYSTEM #11
SEQUENCE OF CONSTRUCTION

- 1 Close All Saints Rd to thru traffic (Hughes Ave to Old Scaggsville Rd)
- 2 Construct drainage improvements
- 3 Install outfall protection
- 4 Stabilize disturbed areas
- 5 Open All Saints Road

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works Date Chief, Bureau of Engineering Date

Elizabeth Anderson-Kalich 5/23/05
Chief, Roads - Bridges - Storm Drainage Division Date

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK

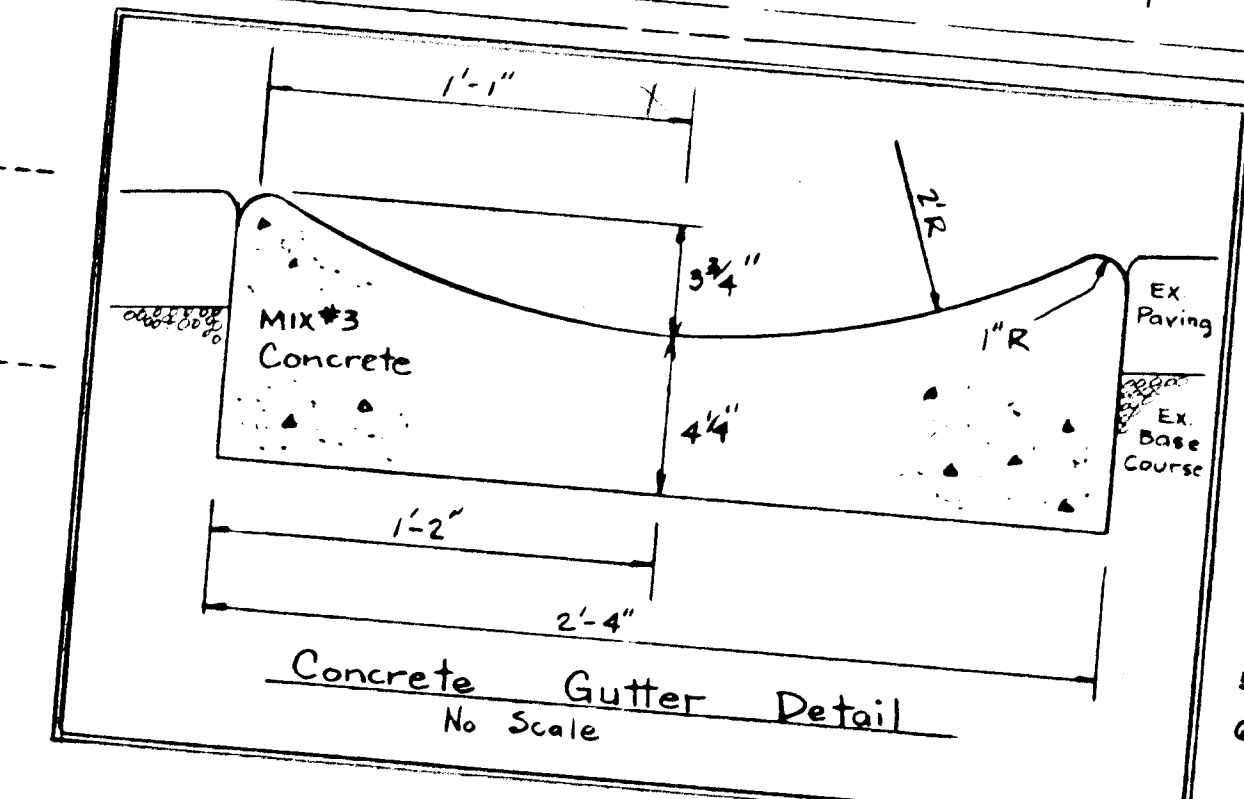
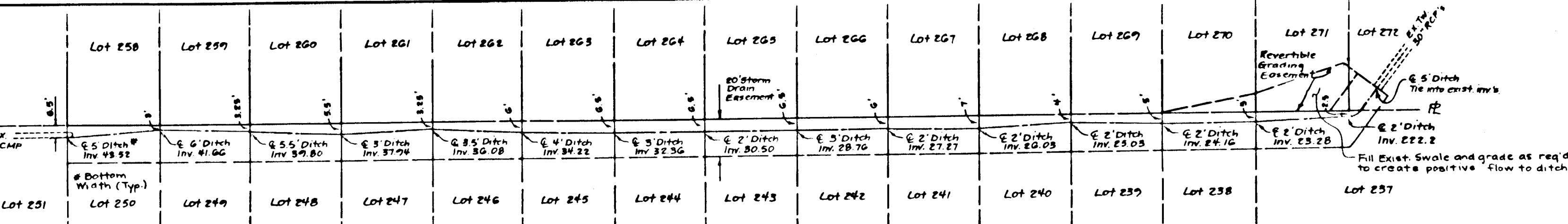
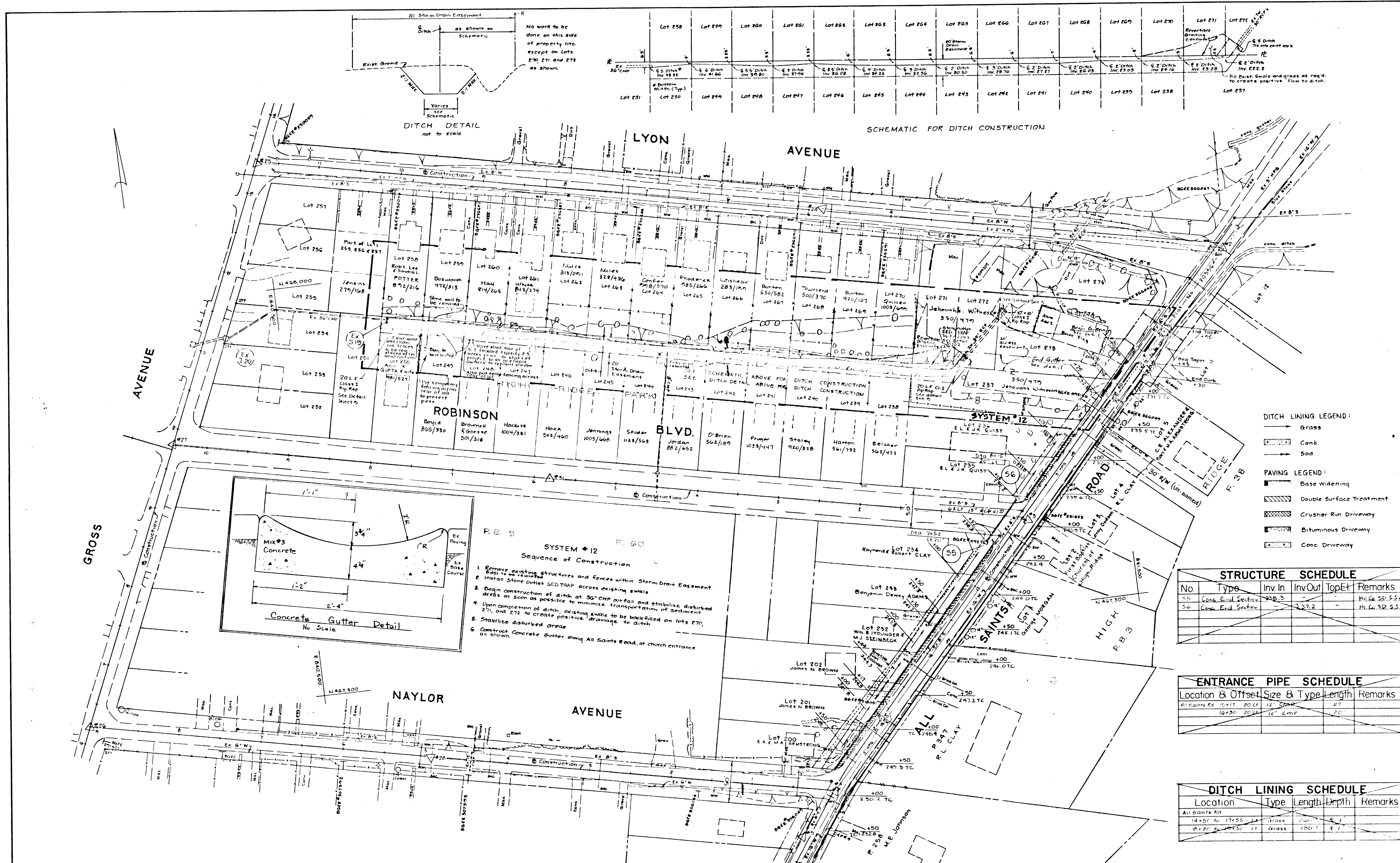
CAPITAL PROJECT D-7-1047
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

no.	description	date

prepared by
rt richard p. browne associates
professional design & planning consultants
suite 207 wide oak village green
columbia, maryland 21044
301/730-7850 596-3524

PLAN
All Saints Road
Old Scaggsville Road
Hughes Avenue

SCALE	1" = 50'
DRAWN	CHECKED
PROJ. NO.	DATE
4485	
9	13
SHEET	OF



- SYSTEM #12**
Sequence of Construction
1. Remove existing structures and fences within Storm Drain Easement.
 2. Install Stone outlet SED TRAP across existing swale.
 3. Begin construction of ditch at 36" CMP outfall and stabilize disturbed areas as soon as possible to minimize transportation of sediment.
 4. Upon completion of ditch, existing swale to be backfilled on lots 270, 271, and 272 to create positive drainage to ditch.
 5. Stabilize disturbed areas.
 6. Construct Concrete Gutter along All Saints Road, at church entrance as shown.

- DITCH LINING LEGEND:**
- Grass
 - Cont.
 - Sod
- PAVING LEGEND:**
- Base Widening
 - Double Surface Treatment
 - Crusher Run Driveway
 - Bituminous Driveway
 - Conc. Driveway

STRUCTURE SCHEDULE

No	Type	Inv. In	Inv. Out	Top E	Remarks
55	Conc. End Section	238.3			Ht. Co. SD 5.52
56	Conc. End Section		237.2		Ht. Co. SD 5.52

ENTRANCE PIPE SCHEDULE

Location & Offset	Size & Type	Length	Remarks
All Saints Rd 15+17	20" CI 12" CMP	27'	
16+30	20" CI 12" CMP	20'	

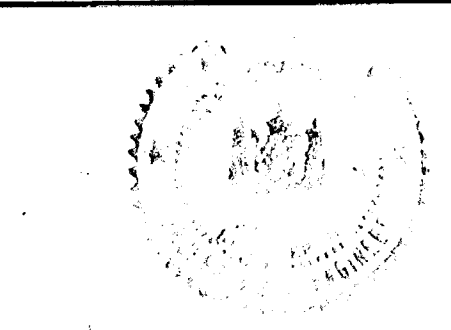
DITCH LINING SCHEDULE

Location	Type	Length	Depth	Remarks
All Saints Rd	Grass	200'	6"	
14+50 to 17+55	Grass	200'	6"	
16+00 to 17+50	Grass	150'	6"	

1197

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works _____ Date _____
Chief, Bureau of Engineering _____ Date _____
Shirley L. Lamm, C.E. 5/23/85

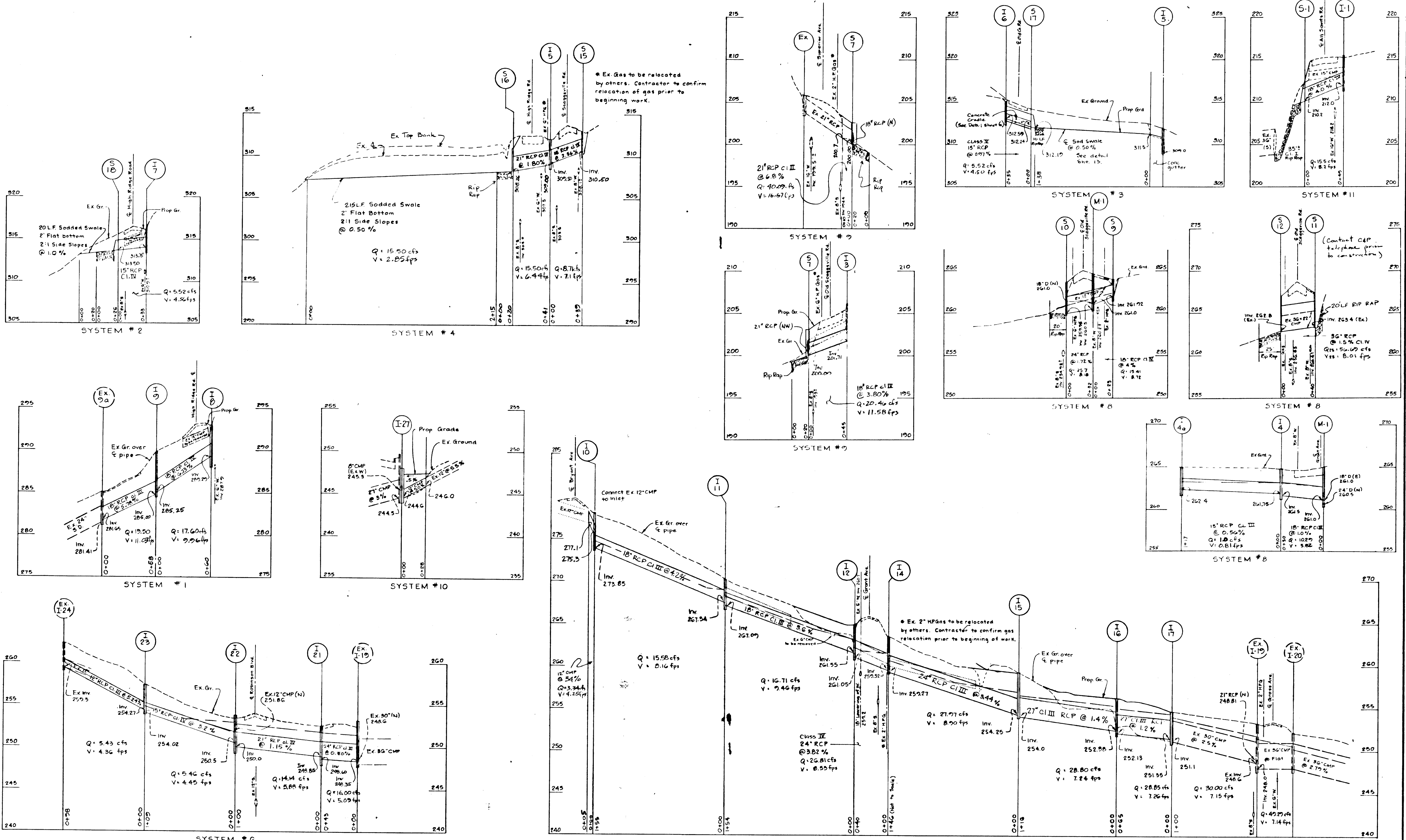
STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK
CAPITAL PROJECT D-7-1047
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND



no.	description	date	revisions

prepared by
rbpa richard p. browne associates
professional design & planning consultants
suite 207 wild lake village #120
columbia, maryland 21044
301/730-7950 596-3524

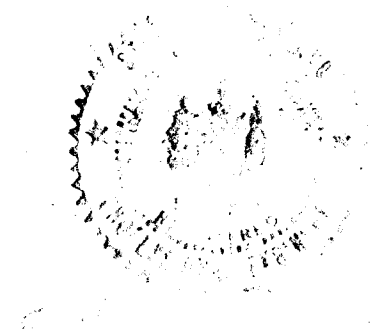
PLAN
All Saints Road
Lyon Avenue
Naylor Avenue
SCALE 1"=50'
DRAWN MK
PROJ. NO. 4485
DATE
10 SHEET 13 OF



SCALE:
 Horizontal - 1" = 50'
 Vertical - 1" = 5'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works Date _____
 Chief, Bureau of Engineering Date _____
 5/23/85

STORM DRAIN IMPROVEMENTS
 HIGH RIDGE PARK
 CAPITAL PROJECT D-7-1047
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

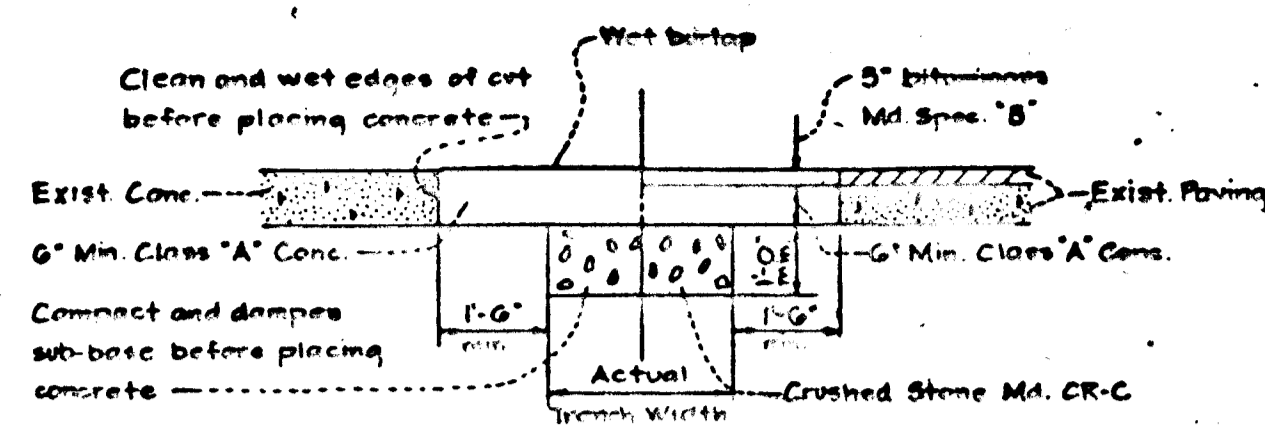


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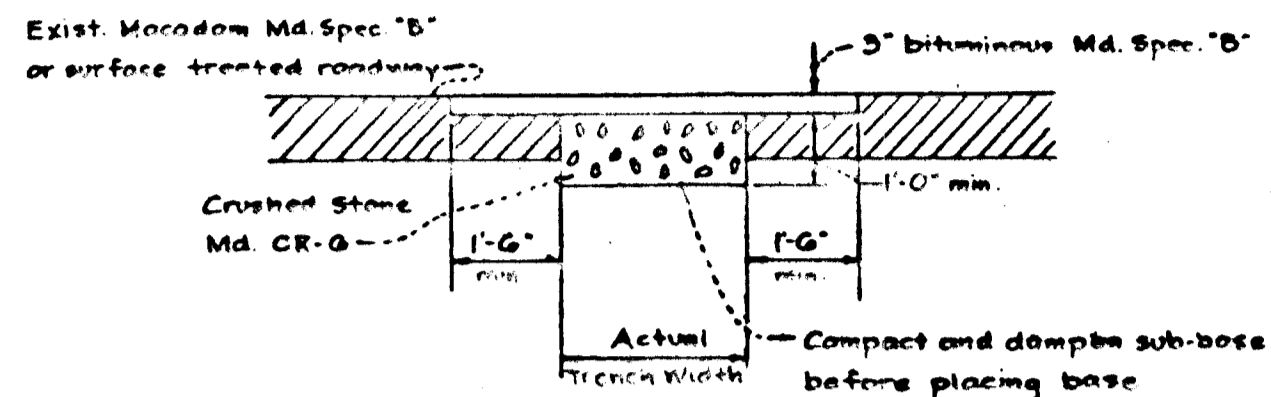
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 columbia, maryland 21044
 301/730-7950 596-3524

PROFILES

SCALE	AS SHOWN
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PROJ. NO.	DATE
11	13
SHIFT	OF



CONCRETE ROADWAY & BITUMINOUS ROADS w. CONC. BASE



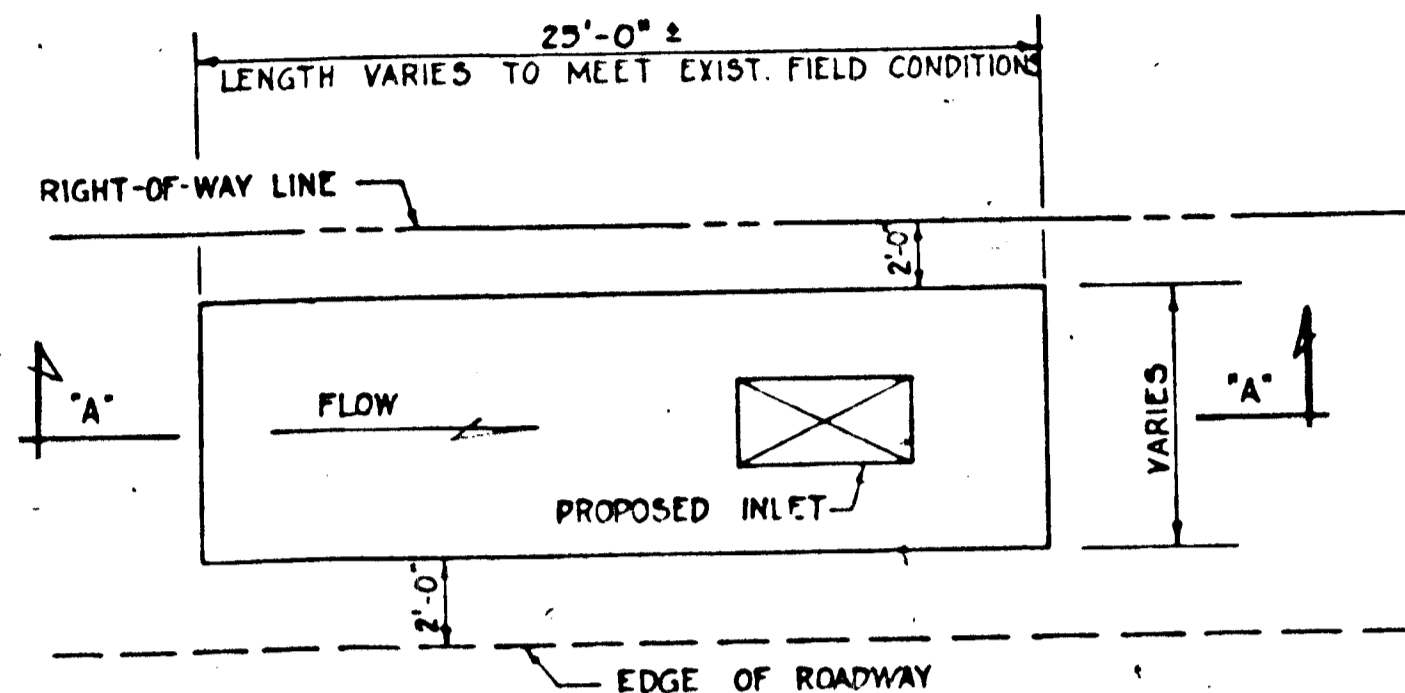
MACADAM OR SURFACED TREATED ROADWAY

Backfill in trench shall be thoroughly compacted by tamping or by some other approved method in 6" layers before patch is made.

No excavation or cave-ins will be permitted under existing surfaces and no bellying of the trenches will be allowed. Sheeting or shoring will be used when so directed by the Engineer.

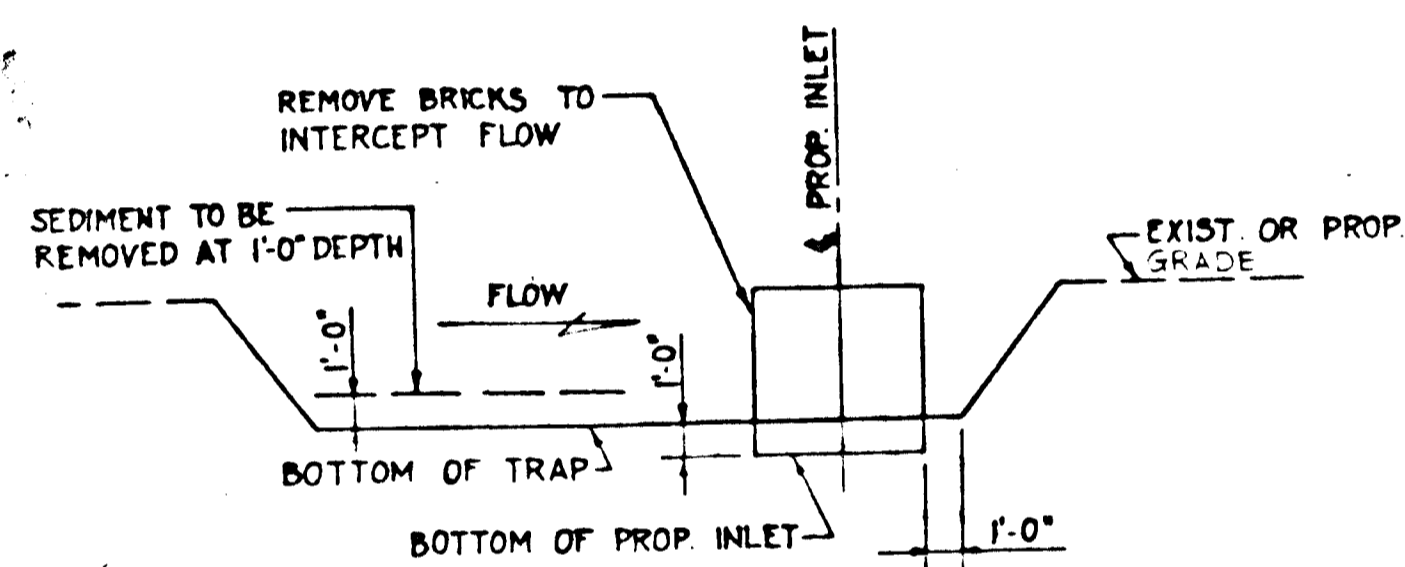
METHOD OF CUTTING AND REPAIRING OPENINGS IN EXISTING ROADWAYS

No Scale



TEMPORARY INLET SEDIMENT TRAP

Not To Scale

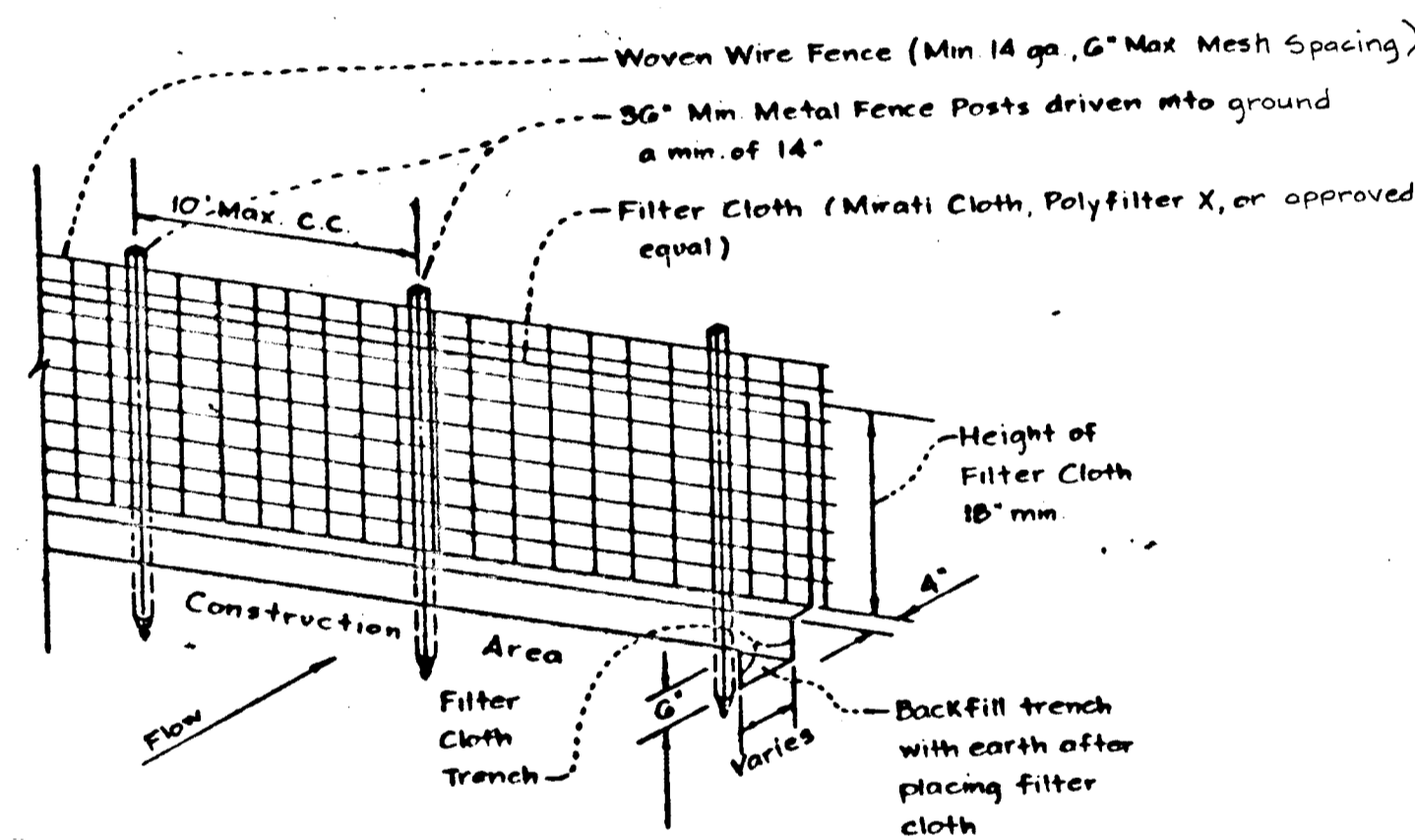


SECTION A-A

Not To Scale

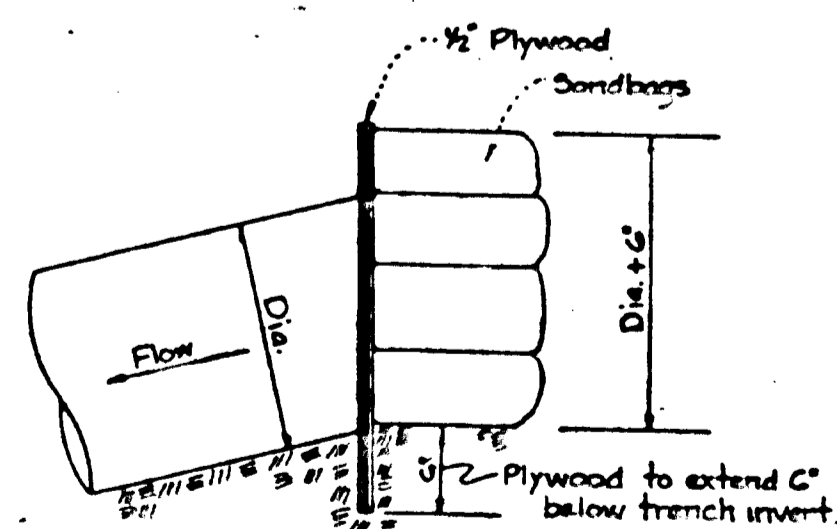
NOTES:

1. Woven Wire Fence to be fastened securely to fence posts by use of wire ties.
2. Filter Cloth to be fastened securely to woven wire fence by use of wire ties spaced every 24" x 24".



SILT FENCE DETAIL

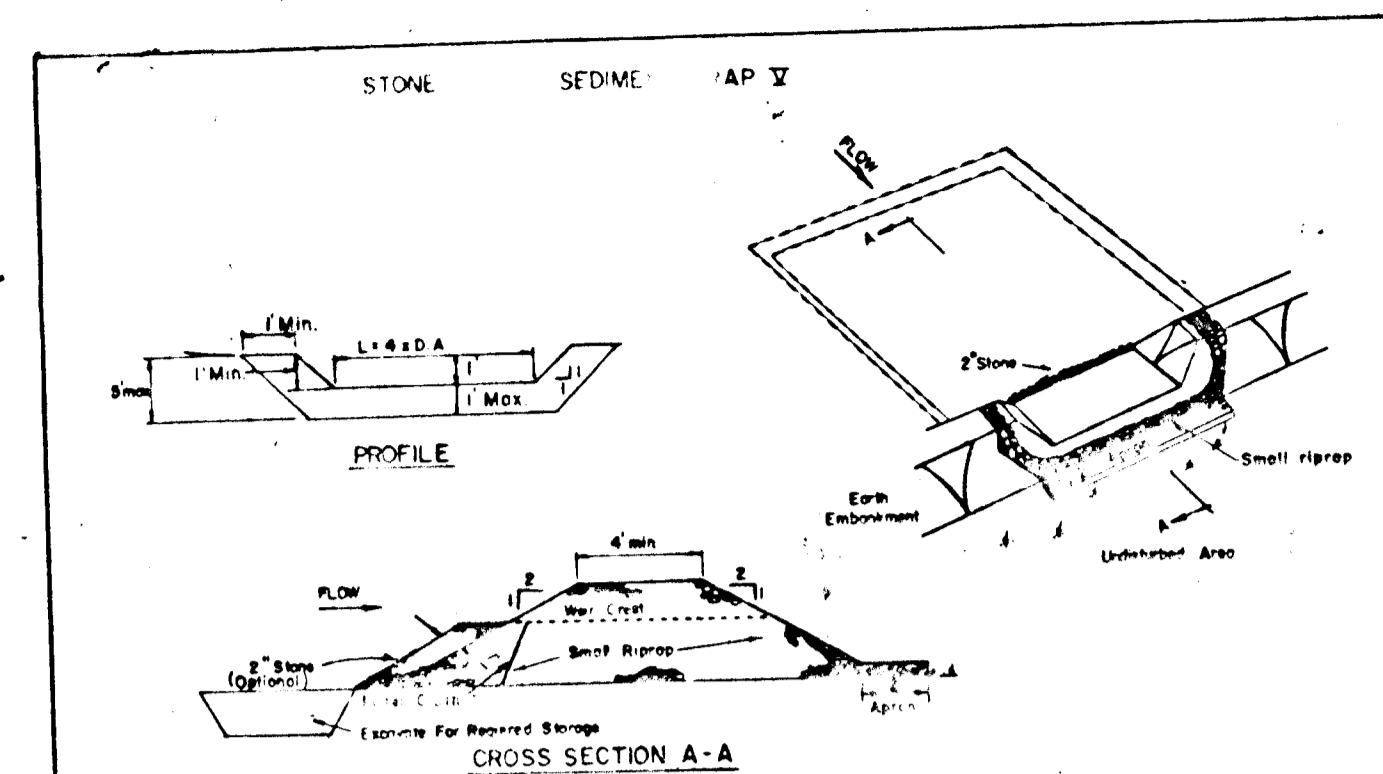
No Scale



Note: To be used at the end of each working day during storm drain construction.

PIPE BLOCKING DETAIL

No Scale



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.

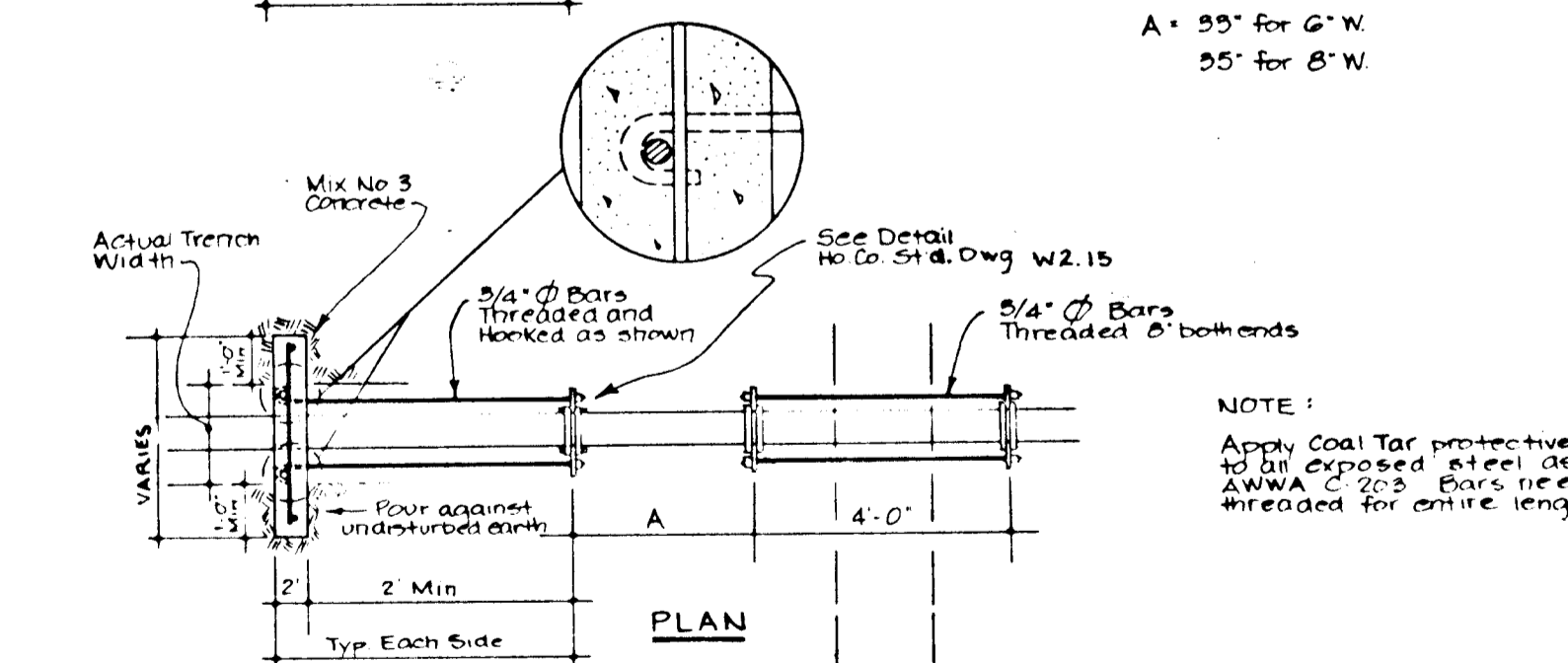
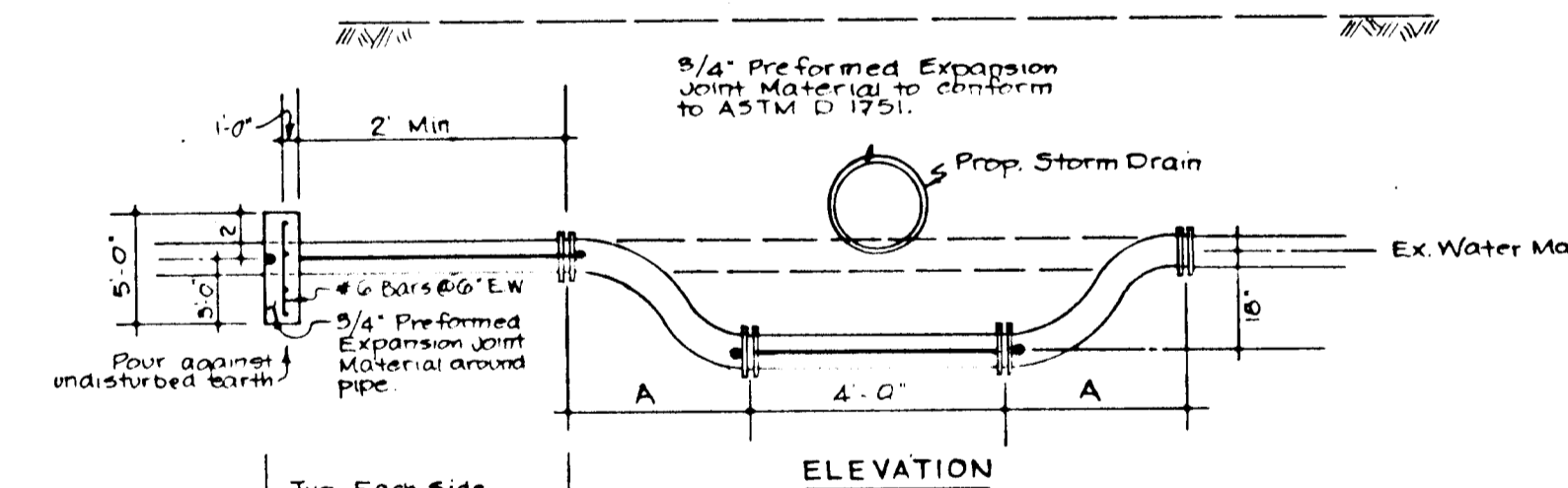
- CONSTRUCTION SPECIFICATIONS FOR ST-T
1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing 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" along with a 1" thickness of 2" aggregate placed on the upgrade side on 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.

Maximum Drainage Area: 5 Acres

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

STONE OUTLET SEDIMENT TRAP

STANDARD DRAWING
ST-X



WATER MAIN LOWERING DETAIL

Not to Scale

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works _____ Date _____
Chief, Bureau of Engineering _____ Date _____
Chief Roads, Bridges, Storm Drainage Division _____ Date _____

STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK

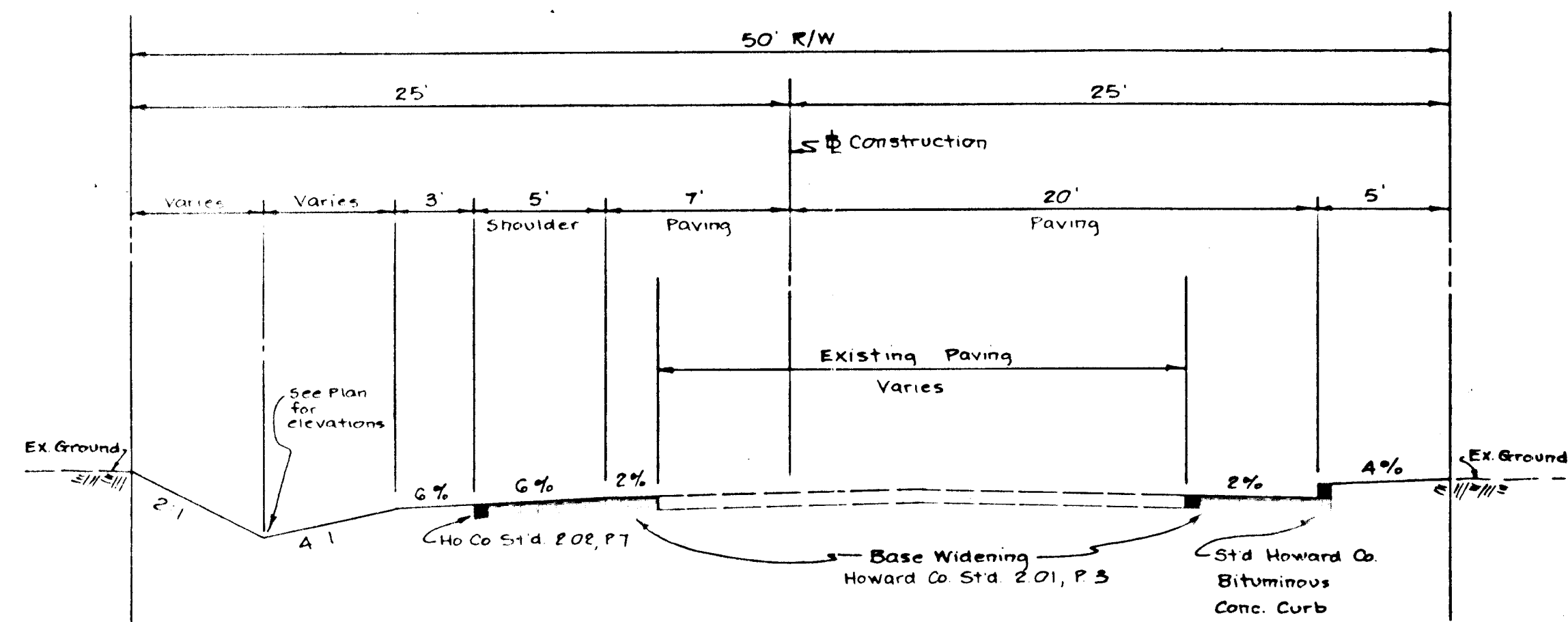
CAPITAL PROJECT D-7-1047
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

revisions	description	date
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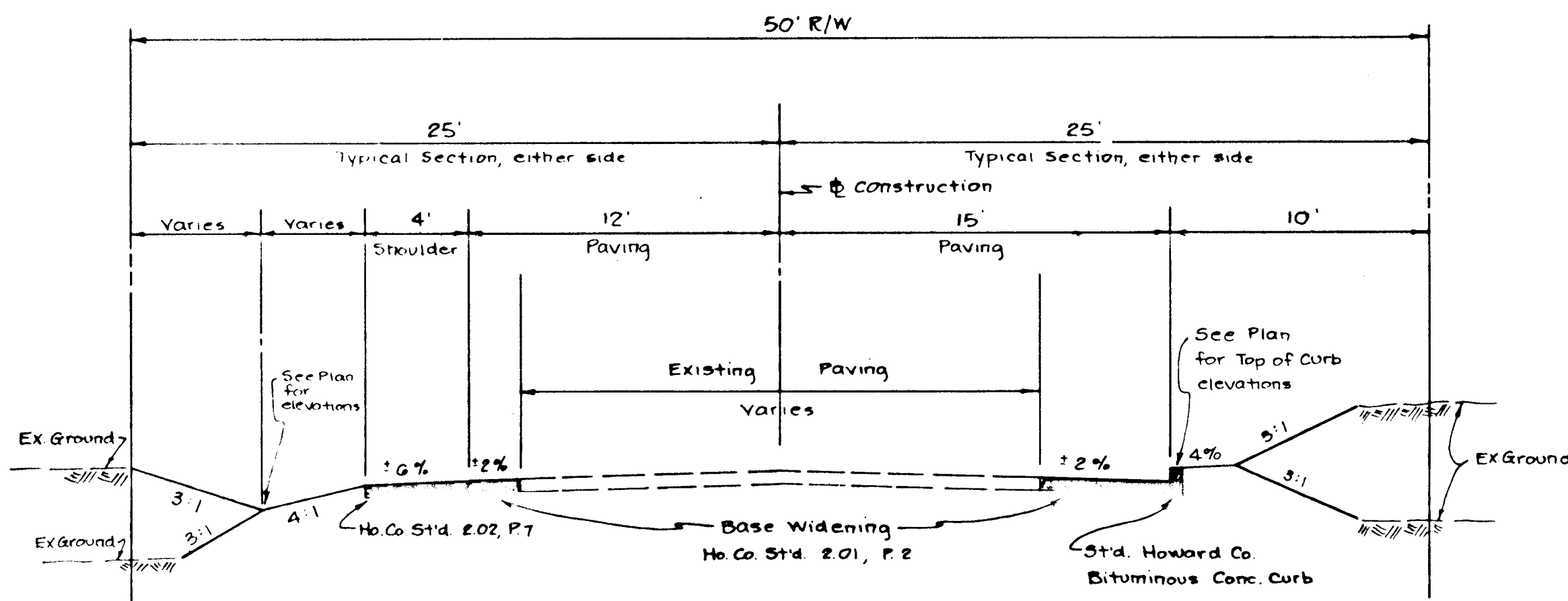
prepared by
rpa richard p. browne associates
professional design & planning consultants
suite 207 wide lake village green
columbia, maryland 21044
301/730-7950 596-3524

DETAILS

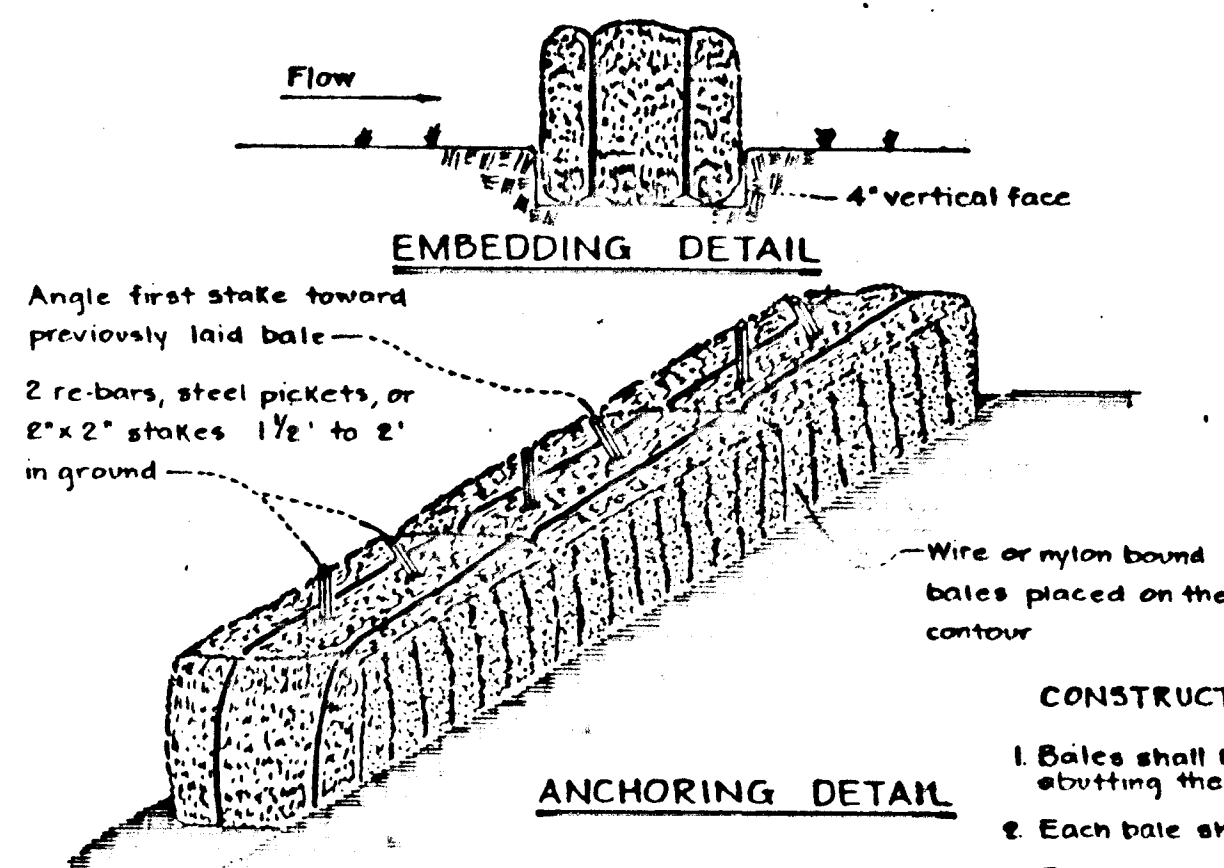
SCALE		as shown	
DRAWN	M.K.	CHECKED	
PROJ NO	4485	DATE	
12	SHF ET	13	GT



**TYPICAL SECTION
ALL SAINTS ROAD**
See Plan for Location
(Not to Scale)

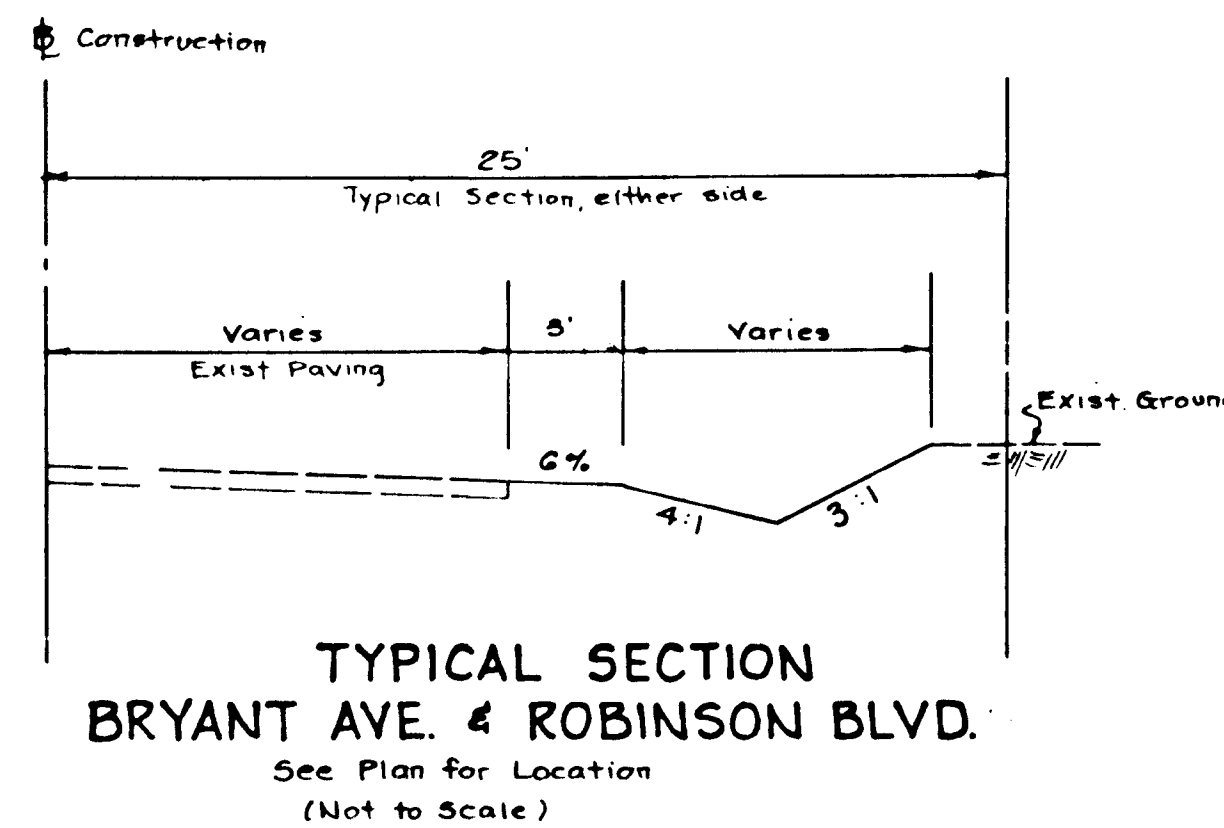


**TYPICAL SECTION
GROSS AVE. & GRANT AVE.**
See Plan for Location
(Not to Scale)

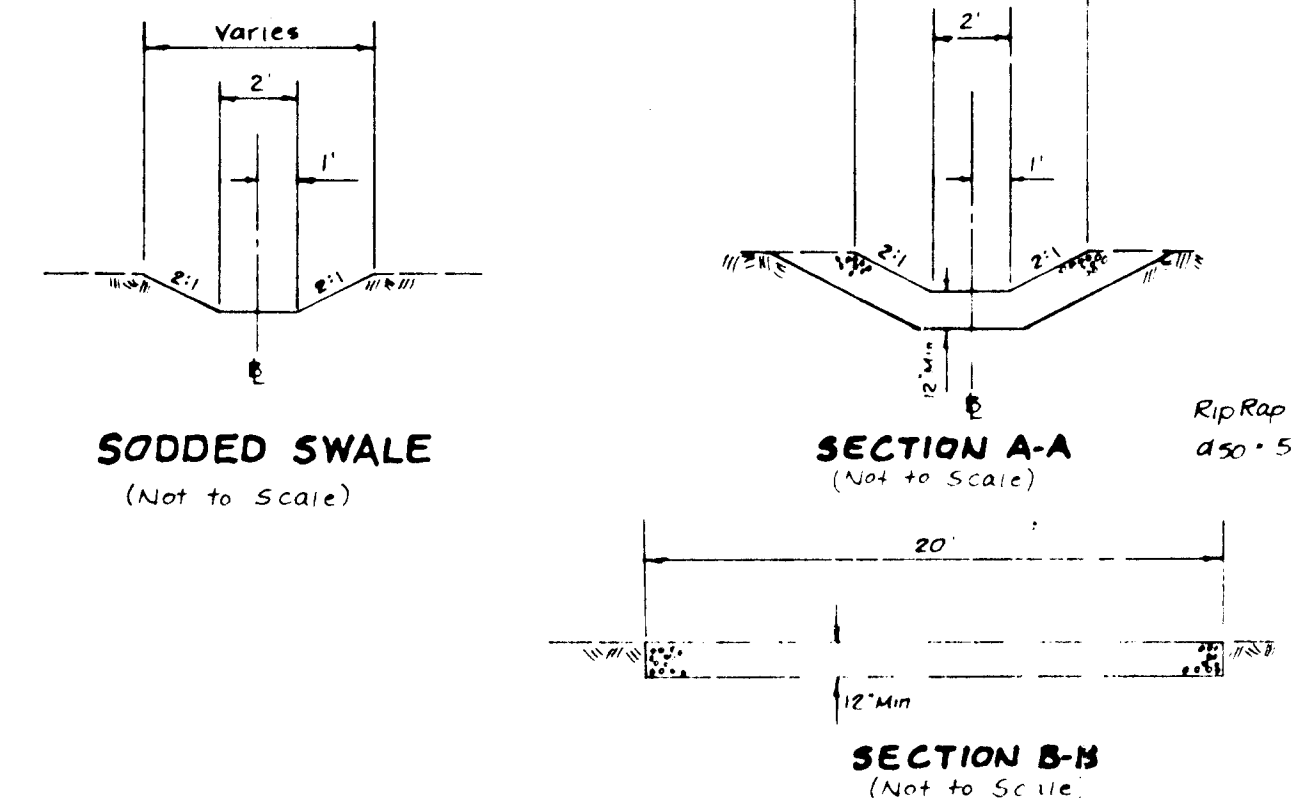


STRAW BALE DIKE
No Scale

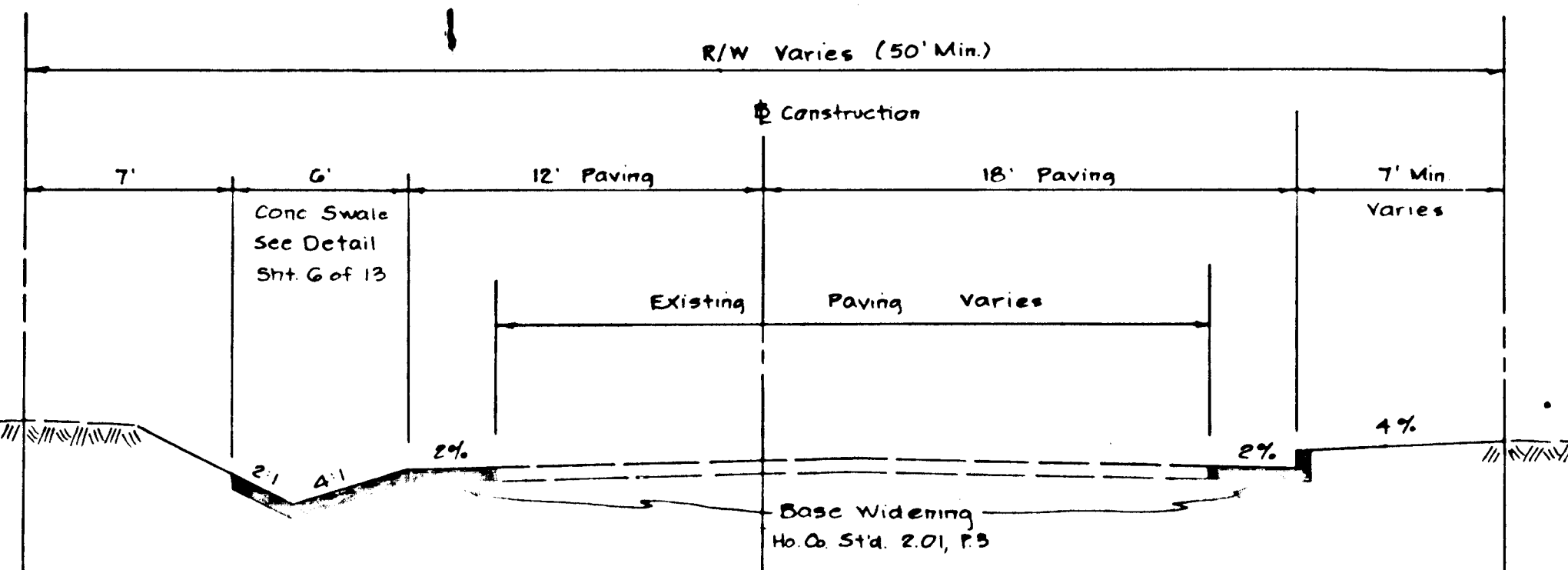
- CONSTRUCTION SPECIFICATIONS:**
- Bales shall be placed in a row with ends tightly abutting the adjacent bales.
 - Each bale shall be embedded in the soil a min. of 4'.
 - Bales shall be securely anchored in place by stakes or re-bars driven through the bales. The first stake in each bale shall be angled toward previously laid bale to force bales together.
 - Inspection shall be frequent and repair or replacement shall be made promptly as needed.
 - Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.



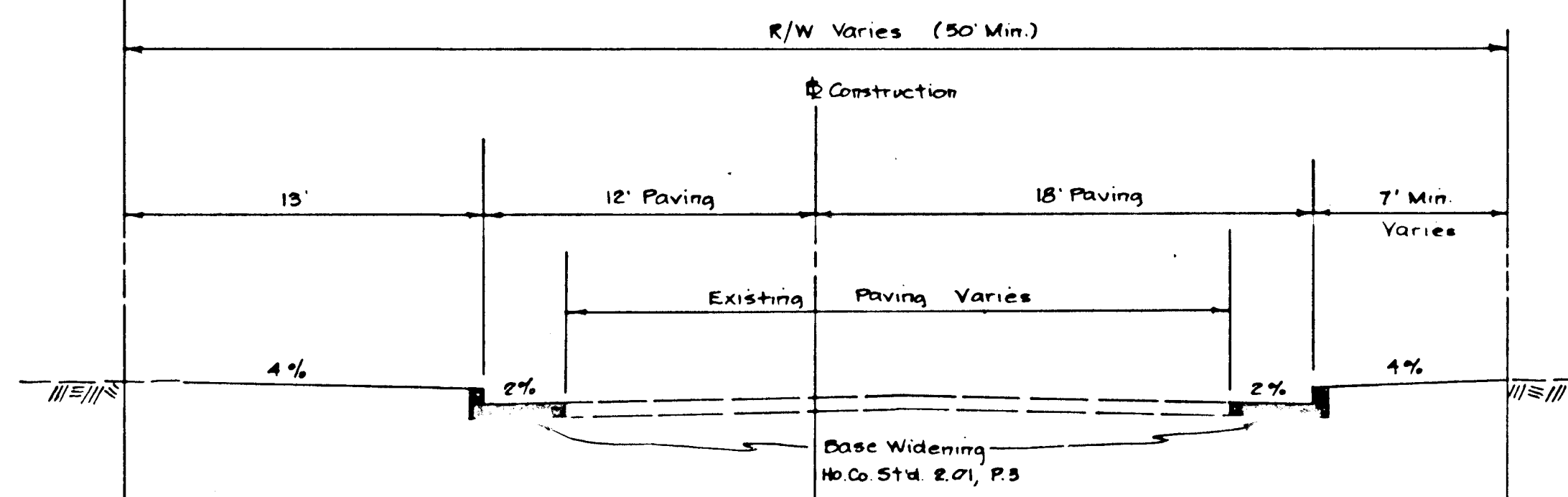
**TYPICAL SECTION
BRYANT AVE. & ROBINSON BLVD.**
See Plan for Location
(Not to Scale)



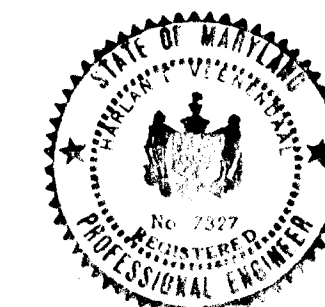
RIP RAP SWALE
(Not to Scale)



**TYPICAL SECTION
OLD SCAGGSVILLE RD. Sta. 1+80 to Sta. 5+00**
(Not to Scale)



**TYPICAL SECTION
OLD SCAGGSVILLE RD. Sta. 5+00 to Sta. 11+20;
Sta. 11+20 to 13+25 Right ; Sta. 16+10 to 18+10 Left**
(Not to Scale)



H. E. Vermeulen
5/23/85

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Date: 5/23/85
Chief, Bureau of Engineering

**STORM DRAIN IMPROVEMENTS
HIGH RIDGE PARK**

CAPITAL PROJECT D-7-1047
ELECTION DISTRICT NO 6
HOWARD COUNTY, MARYLAND

revisions		date
no.	description	

prepared by
rba richard p. browne associates
professional design & planning consultants
suite 207 wilde lake village green
columbia, maryland 21044
301/730-7950 596-3524

**SECTIONS
&
DETAILS**

SCALE as shown	
DRAWN	CHECKED
PROJ. NO.	DATE
4485	5/23/85
13 SHEET	13 OF