

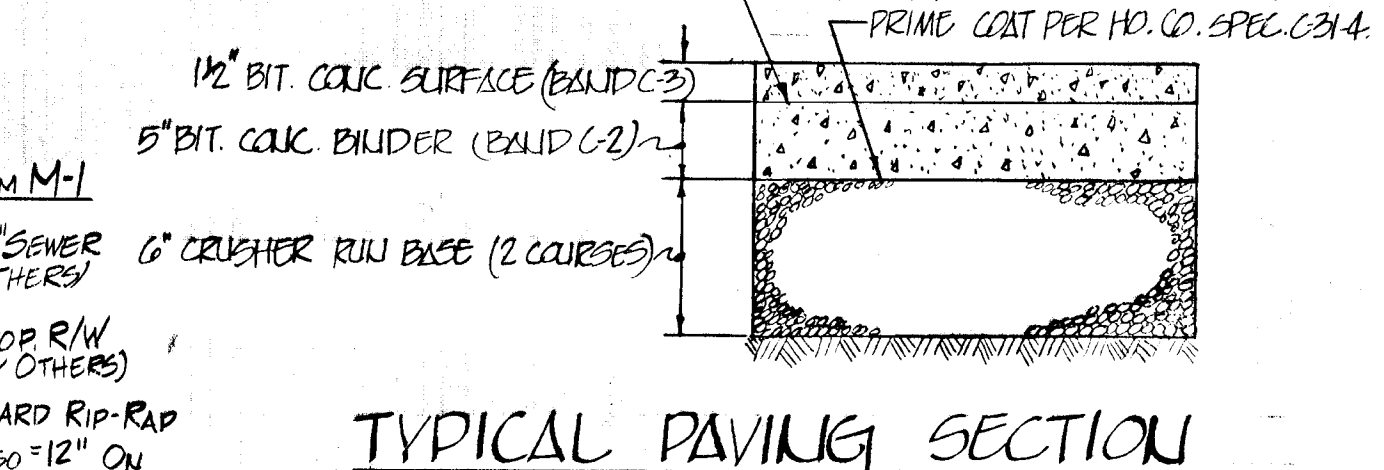
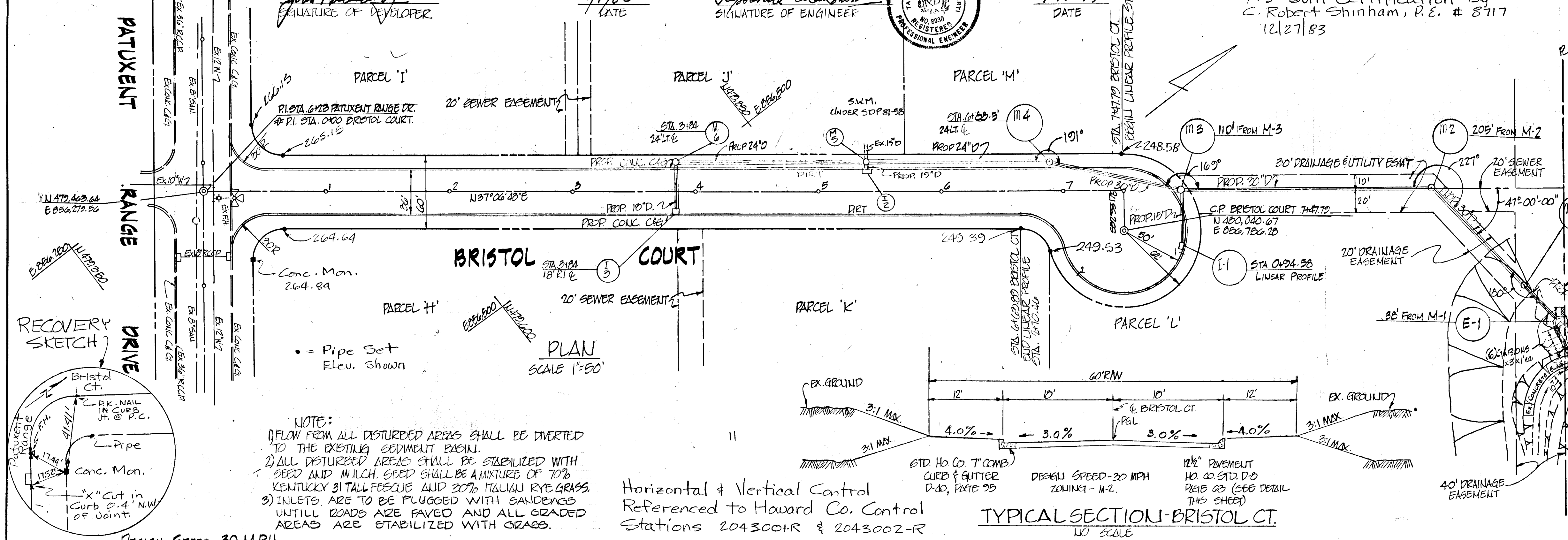
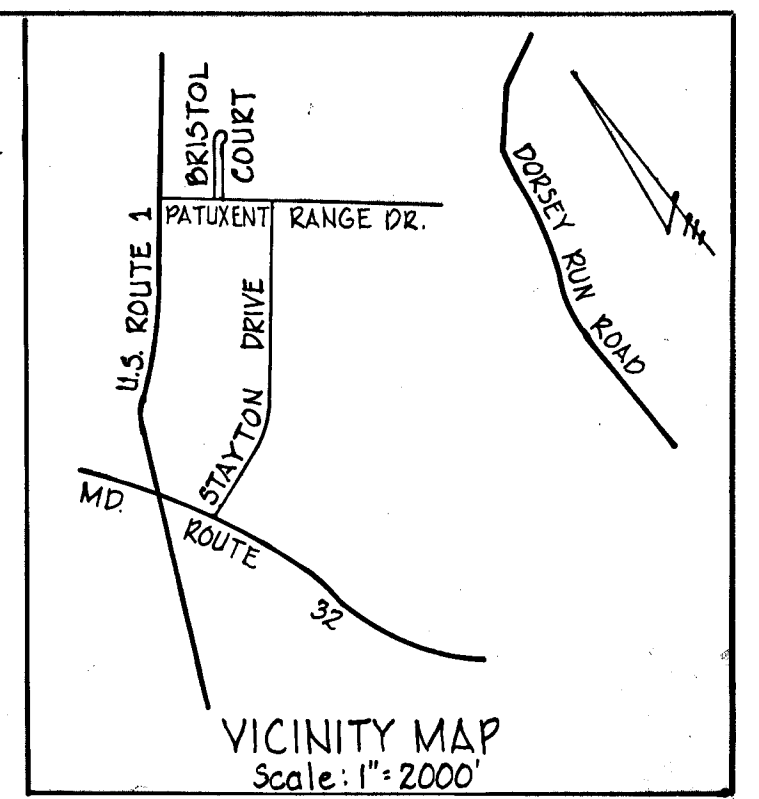
DEVELOPER'S CERTIFICATION
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY."
John H. Stephens
 SIGNATURE OF DEVELOPER
 2/7/80
 DATE

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 SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
Jambrata Clemons
 SIGNATURE OF ENGINEER
 7-15-77
 DATE

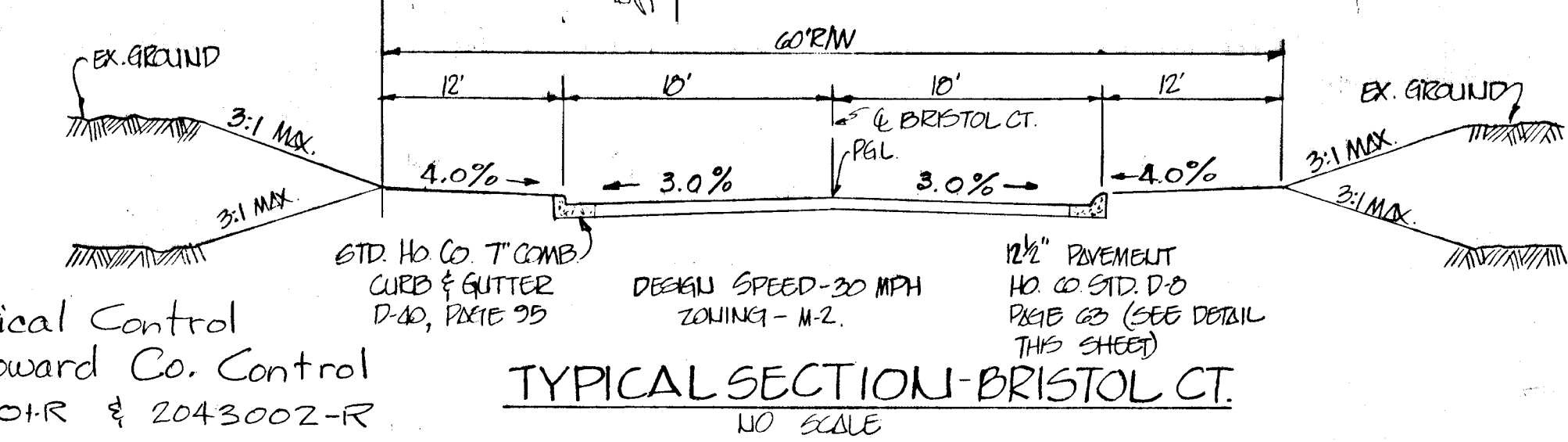
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
James S. Hatcher
 SIGNATURE
 2-13-80
 DATE
 USE SOIL CONSERVATION

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED: *Wes Farr*
 HOWARD S.C.D.
 2-15-80
 DATE

As-Built Certification By
 C. Robert Shinham, P.E. # 8717
 12/27/83



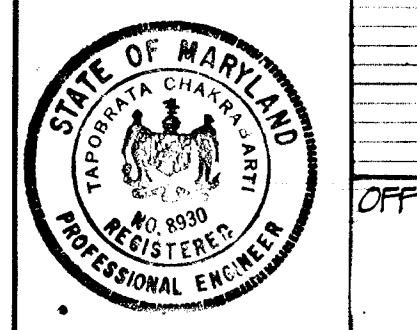
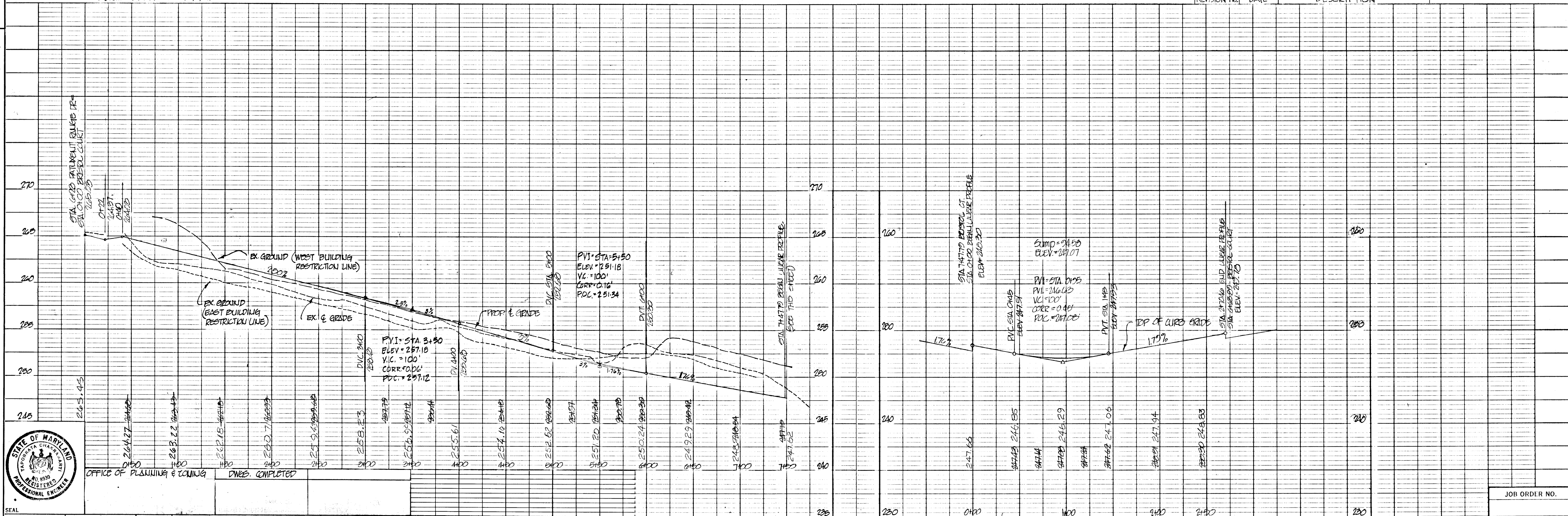
- A) BASE WILL BE PRIMED IN ACCORDANCE WITH C-20-3 AS PROVIDED IN THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
- B) TACK COAT IS REQUIRED IN ACCORDANCE WITH SECTION C-21-4 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
- C) ALL MATERIAL AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE AND STANDARD SPECIFICATIONS.



REVISION NO.	DATE	DESCRIPTION
1	2-3-81	STORM DRAIN M-6 TO M-5

NOTE:
 1) FLOW FROM ALL DISTURBED AREAS SHALL BE DIVERTED TO THE EXISTING SEDIMENT BASIN.
 2) ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED AND MULCH. SEED SHALL BE A MIXTURE OF 70% KENTUCKY 31 TALL FESCUE AND 30% ITALIAN RYE GRASS.
 3) INLETS ARE TO BE PLUGGED WITH SANDBAGS UNTILL ROADS ARE PAVED AND ALL GRADED AREAS ARE STABILIZED WITH GRASS.

Horizontal & Vertical Control
 Referenced to Howard Co. Control
 Stations 204300+R & 204302-R



DESIGNED P.R.C.	G.W. STEPHENS JR. & ASSOC. INC.	OFFICE OF PLANNING & ZONING	DEPARTMENT OF PUBLIC WORKS	OWNER & DEVELOPER	SCALE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING	JOB ORDER NO.
DRAWN L.A.H.	ENGINEER <i>Jambrata Clemons</i>	CHIEF DIVISION OF LAND DEVELOPMENT	CHIEF BUREAU OF ENGINEERING	B.W.I.P. INCORPORATED 110 WEST ROAD TOWSON, MD 21284	PLAN: 1" = 50' PROFILE: HOR. 1" = 20' VERT. 1" = 5'	BALTIMORE WASHINGTON INDUSTRIAL PARK BRISTOL COURT	SHEET 1 OF 3
CHECKED P.R.C.	DATE: 7-15-77 LIC. NO. 8930	DATE: 2/5/80	DATE: 2/5/80	DATE: 2/5/80	DATE: 2/5/80	DISTRICT NO. 6	DWG. NO.
						BALTIMORE COUNTY TYPE NUMBER 3	FILE:

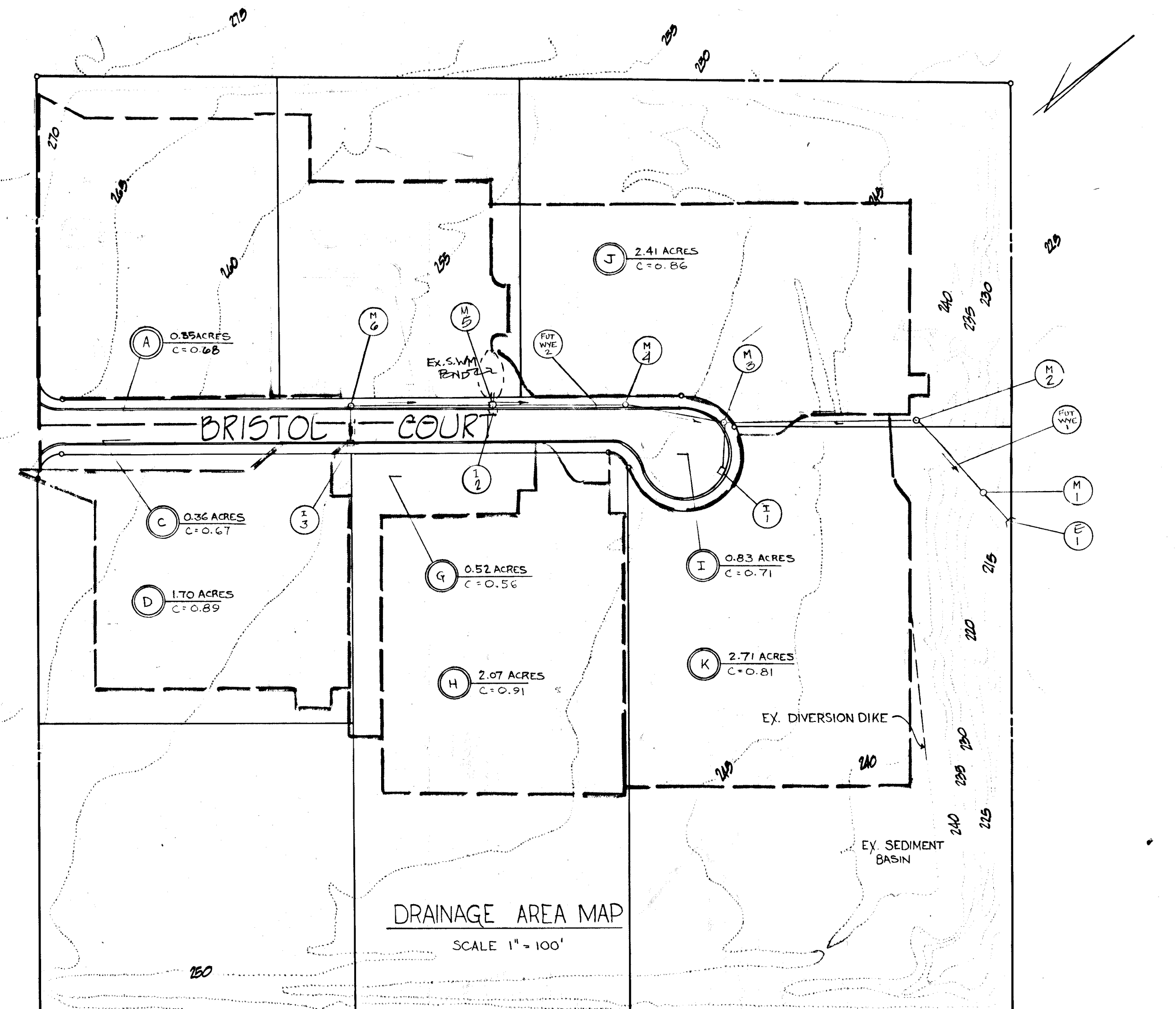
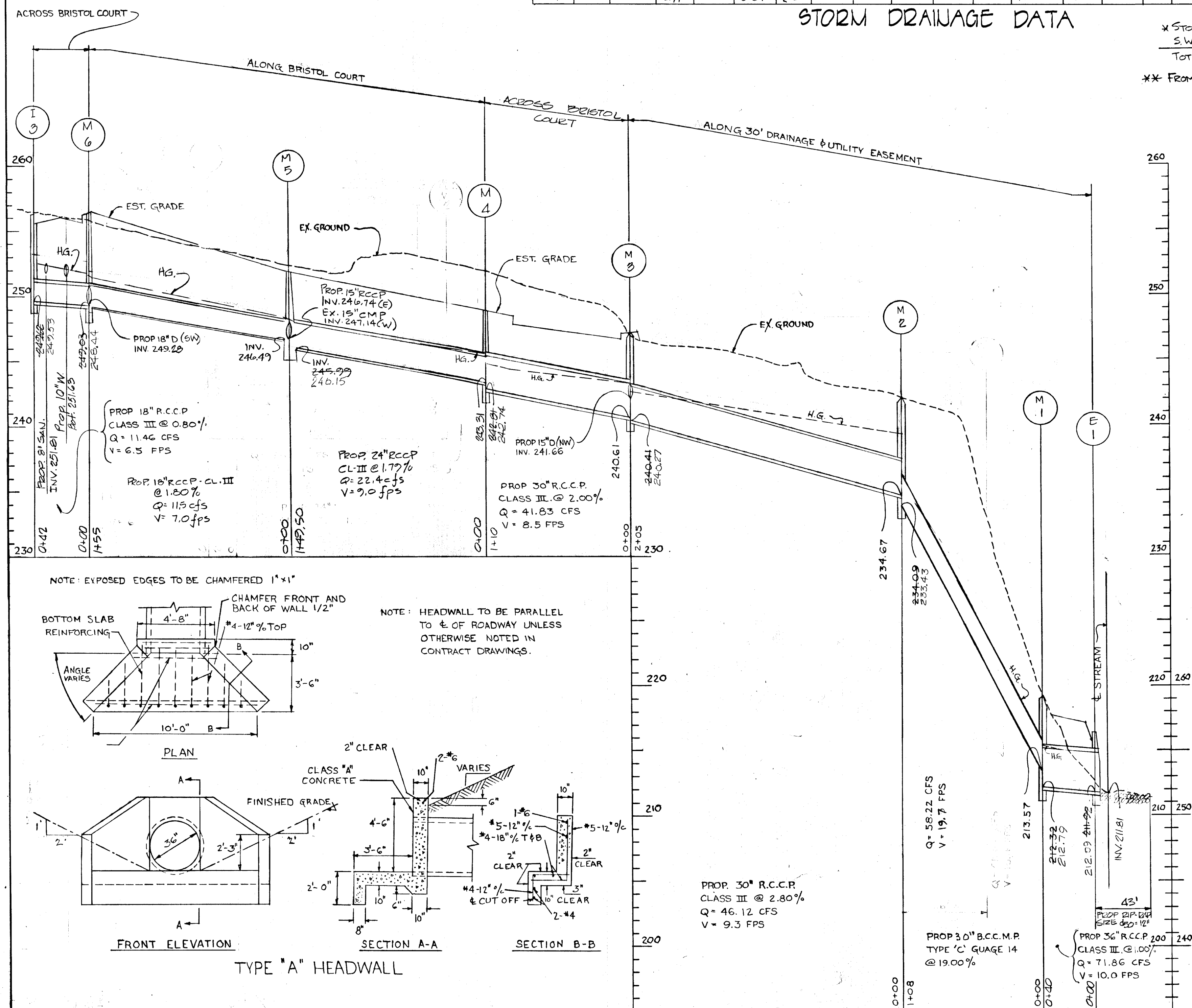
INLET SCHEDULE				
NO.	TYPE	Q (CFS)	INV. OUT	TOP ELEV. * REMARKS
1	DBL. S. COMB.	4.49	242.22	247.07 (H) NO CO-BUILDING
2	DBL. S. COMB.	2.40	246.76	250.96 (H) " " " "
3	DBL. S. COMB.	1.61	249.62	256.15 (H) " " " "

MANHOLE SCHEDULE				
NO.	TYPE	SIZE	INV. OUT	TOP ELEV. REMARKS
1	"	48"	212.32	SEE THIS PAGE
2	"	48"	234.09	SEE THIS PAGE
3	"	48"	240.41	SEE THIS PAGE
4	"	48"	242.81	SEE THIS PAGE
5	"	48"	245.77	SEE THIS PAGE
6	"	48"	248.70	SEE THIS PAGE

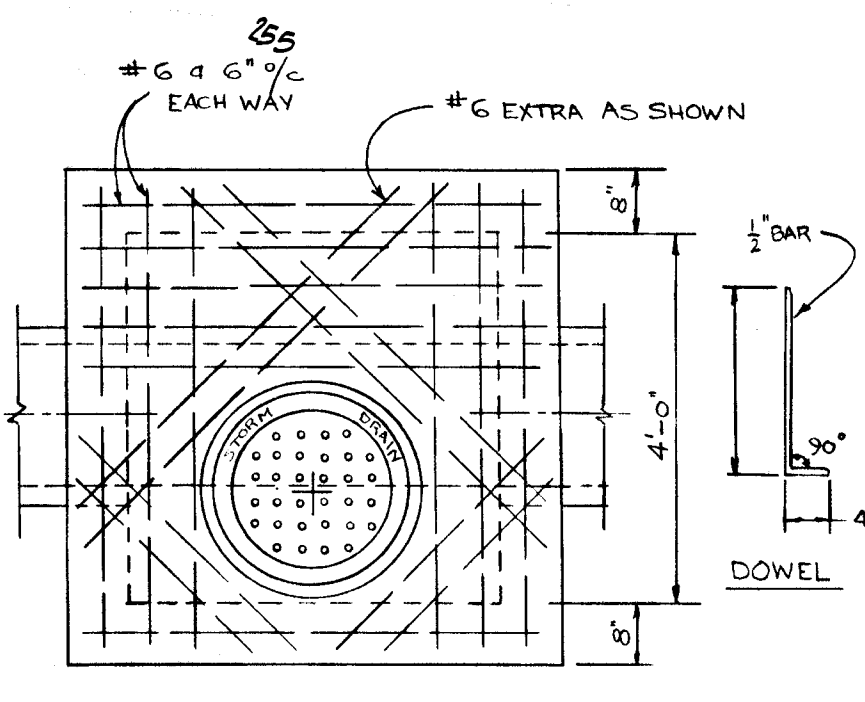
STRUCTURE SCHEDULE				
NO.	TYPE	SIZE	INV. OUT	TOP ELEV. REMARKS
E-1	"	36"	211.72	SEE THIS PAGE

STORM DRAINAGE DATA															
LOCATION FROM TO	AREA	ACRES SUB TOTAL	CO-EFF 'C'	CA	E.C.A.	TIME CONCEN. MIN. INLET	'I	Q=C.I.A CFS	PIPE D=C.I.A SIZES	SLOPE	VEL	LETH.	REMARKS		
I-3 D	1.70	-	0.89	1.51	-	7.3	-	7.3	6.55	15"	2.72	7.9	12'	Keep with 10' Min. 4' R.C.C.P. 15' S.D.P.	
I-3 M-6	C-D	0.36	-	0.67	0.24	-	-	6.5	6.70	1.61	-	-	-	-	
I-3 M-6	C-D	2.06	-	-	1.75	7.3	-	7.3	6.55	11.46	18"	1.40	6.5	42'	
I-3 M-6	C-D	2.06	-	-	1.75	7.3	0.11	7.41	6.50	11.50	18"	1.80	7.0	155'	
I-2 M-5	A	0.50	-	0.68	0.34	-	-	5.0	5.0	7.0	2.4	-	-	-	
I-2 M-5	A	0.50	-	-	0.34	5.0	-	5.0	7.0	2.4	16"	0.30	2.7	6'	
M-5 M-4	A,C,D	2.56	-	-	2.09	7.3	0.15	7.45	6.57	13.70	24"	1.79	7.1	147.50'	
M-5 M-4	A,C,D	0.52	-	0.56	0.29	-	-	8.6	6.35	1.84	-	-	-	-	
M-4 M-4	A-G	6.16	-	-	4.75	8.36	0.30	8.66	6.35	30.16	24"	2.10	9.5	30'	
M-4 M-4	H	2.07	-	0.91	1.89	-	-	7.6	7.6	6.50	12.29	18"	1.58	6.8	65'
M-4 M-3	A-H	8.23	-	-	6.64	8.66	0.04	8.70	6.30	41.83	30"	1.20	8.5	110'	
J-1 I-1	I	0.83	-	0.71	0.38	-	-	6.9	6.9	4.49	-	-	-	20 YR. 10 YR.	
I-1 M-3	I	-	0.83	-	0.68	6.9	-	6.9	6.60	4.49	15"	0.55	3.6	47'	
M-3 M-2	A-I	-	9.06	-	-	7.32	0.23	8.93	6.30	46.12	30"	1.50	9.3	205'	
M-2 M-2	A-J	2.41	-	0.86	2.07	-	-	6.7	6.7	6.65	13.77	18"	1.92	7.5	15'
M-2 M-1	A-J	-	11.47	-	-	9.39	0.37	9.30	6.20	58.22	30"	6.50	12.0	66'	
M-2 M-1	K	2.71	-	-	2.20	-	-	8.0	6.45	14.19	-	-	-	m=0.024	
M-1 M-1	A-K	2.71	14.18	-	-	11.59	0.07	9.37	6.20	71.86	30"	9.5	14.5	42'	
M-1 M-1	E-I	2.71	14.18	0.81	2.20	-	-	9.37	6.20	71.86	36"	1.40	10.0	40'	

* STORM DRAIN = 13.7 cfs
 S.W.M. BAND = 87 cfs
 TOTAL M-5 to M-1 = 22.4 cfs
 ** FROM SDP 81-5B

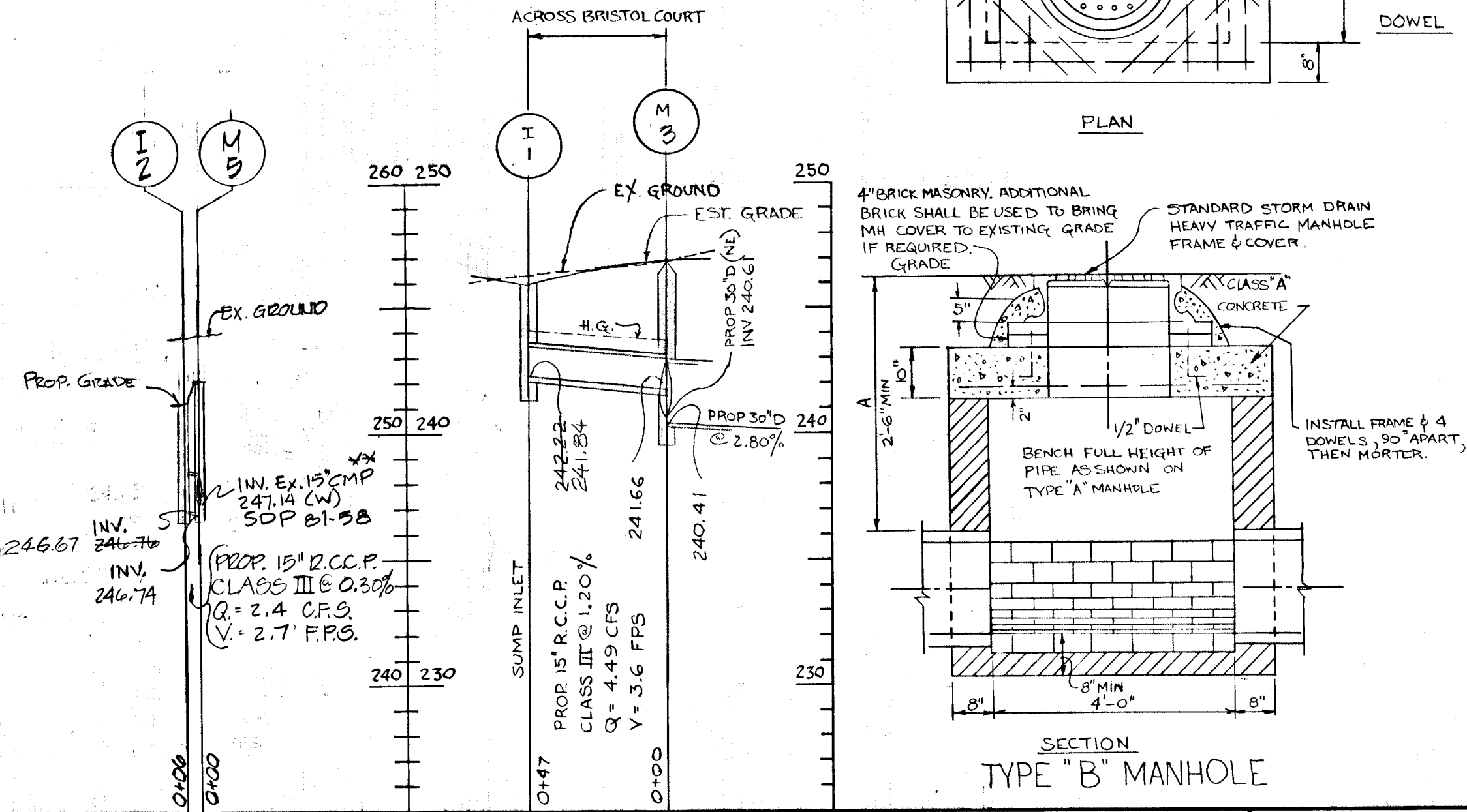


- NOTES:
1. WALLS, BOTTOM SLAB AND INVERT SHALL BE BRICK.
 2. WHERE A (COVER) IS GREATER THAN 6'-9" USE TYPE "A" MANHOLE.
 3. FOR PIPE SIZES 42" AND LARGER USE TYPE "C" MANHOLE.
 4. APPLY TWO COATS OF WATERPROOF BITUMINOUS COMPOUND OVER CEMENT MORTAR.
- NOTE: MANHOLE FRAME AND COVER TO BE PLACED AS SHOWN.

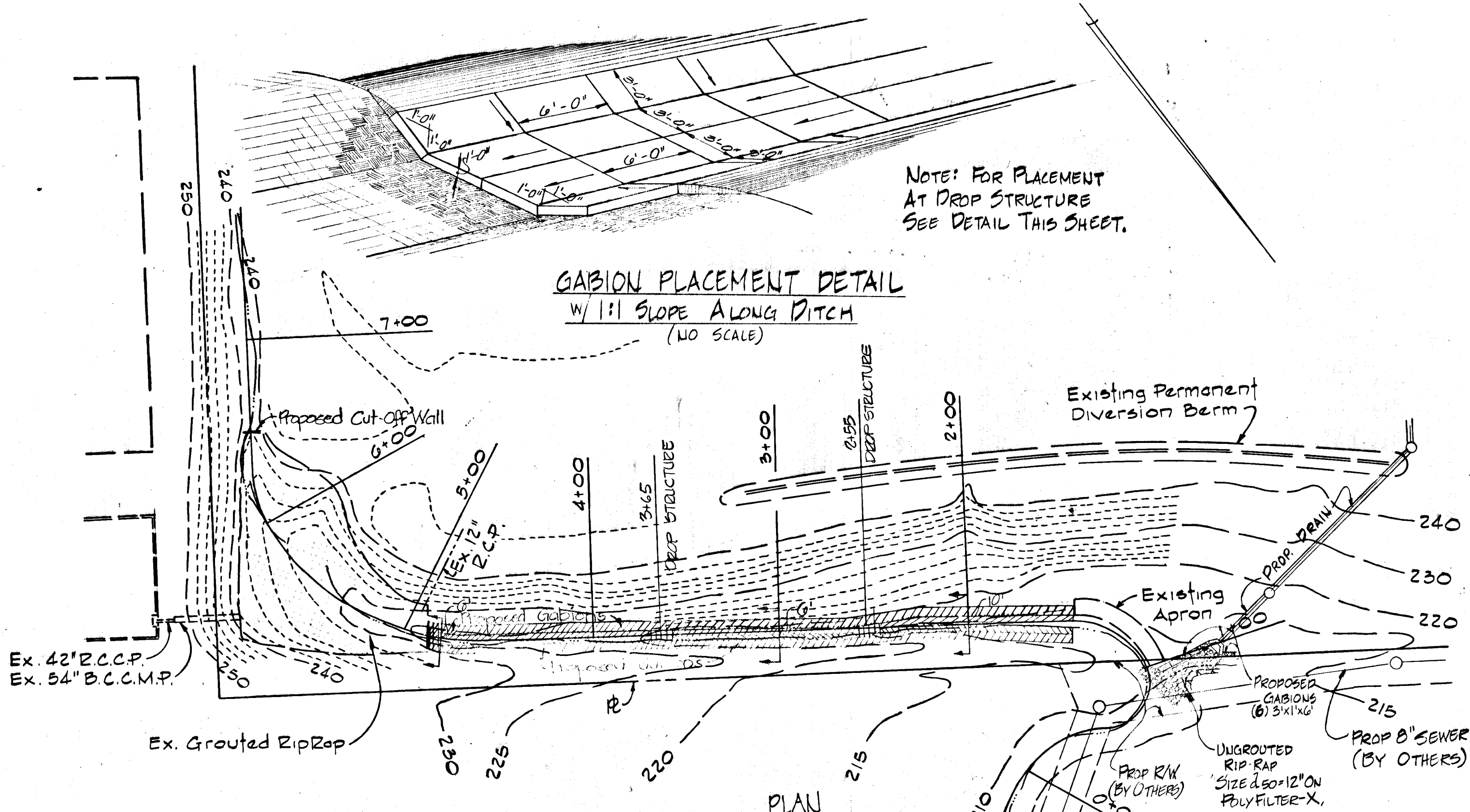


REVISION NO.	DATE	DESCRIPTION
1	2-3-81	STORM DRAIN M-6 TO M-5

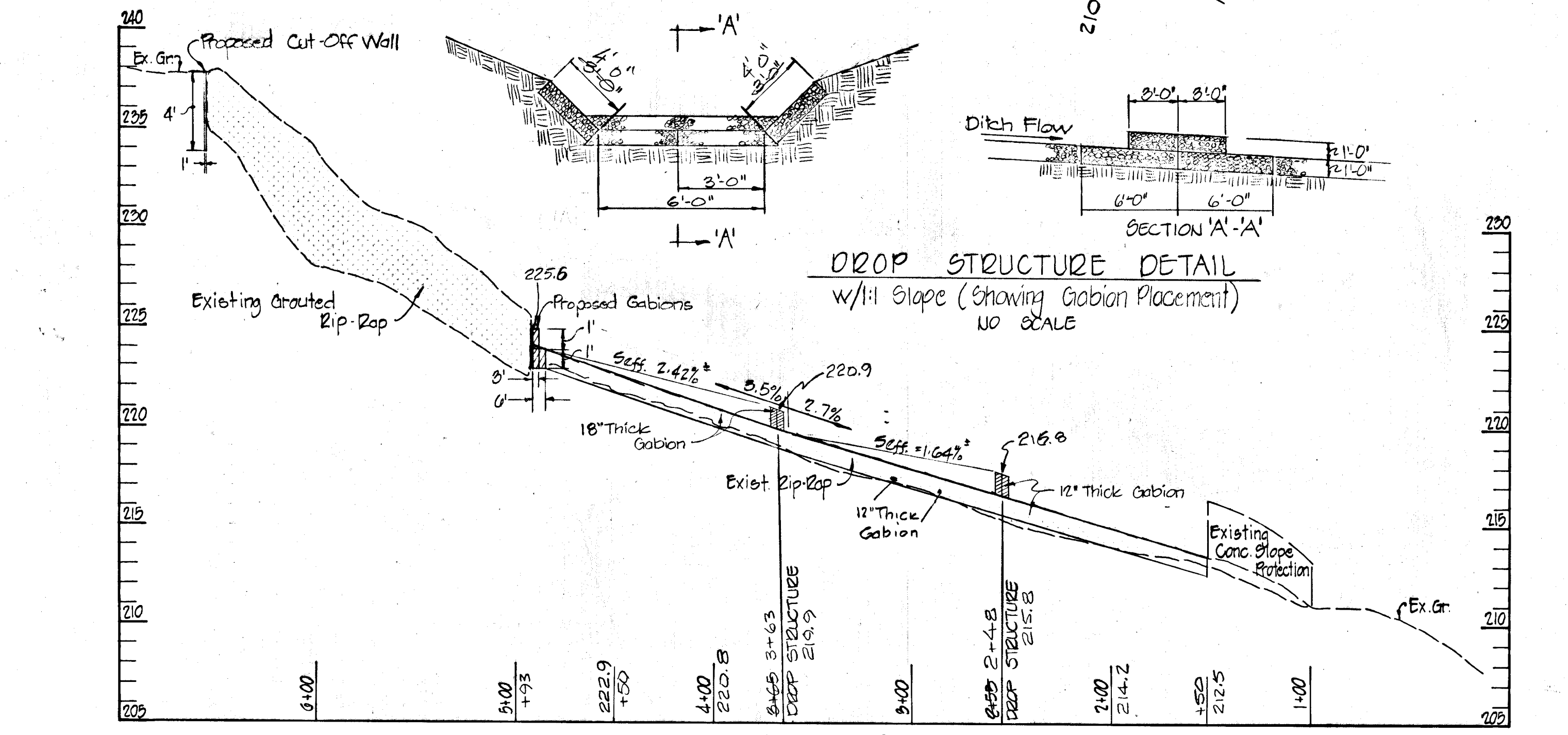
AS-BUILT CERTIFICATION BY
 C. ROBERT SHINHAM, P.E. # 8717
 12/27/83



DESIGNED W.S.H.	STATE OF MARYLAND PROFESSIONAL ENGINEER	ENGINEER G.W. STEPHENS JR. & ASSOC. INC. 203 ALLEGHENY AVE. TOWSON, MARYLAND 21284	OWNER & DEVELOPER B.W.I.P. INC. 110 WEST ROAD TOWSON, MARYLAND 21204	OFFICE OF PLANNING & ZONING CHIEF DIVISION OF LAND DEVELOPMENT DATE 2-15-80	DEPARTMENT OF PUBLIC WORKS CHIEF BUREAU OF ENGINEERING DATE 2-26-80	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING BALTIMORE - WASHINGTON INDUSTRIAL PARK ELECTION DIST # 6	DATE REVISIONS BY 7-15-77	SHEET NO. 2 OF 3
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GABION PLACEMENT DETAIL
W/1:1 SLOPE ALONG DITCH
(NO SCALE)



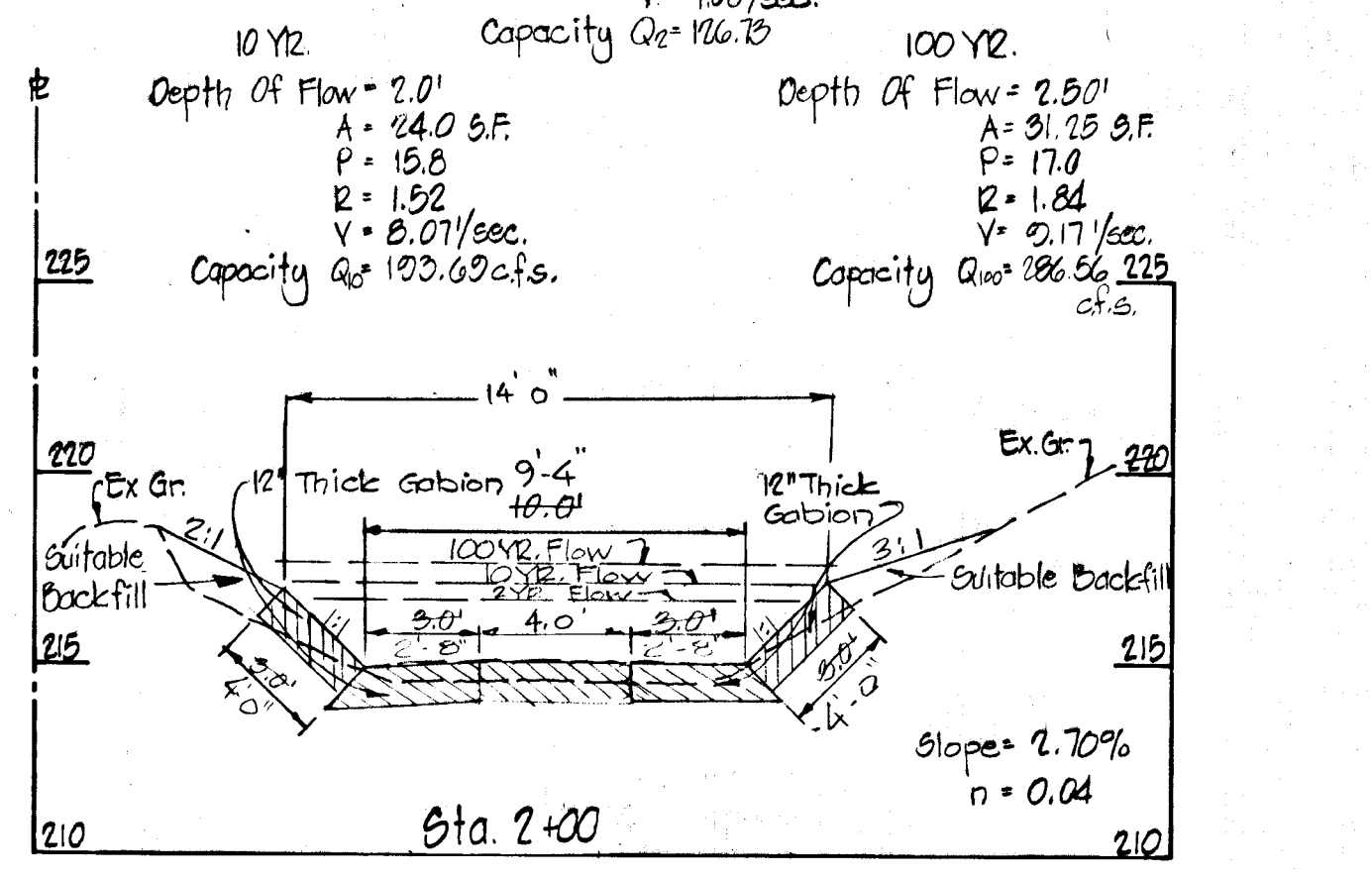
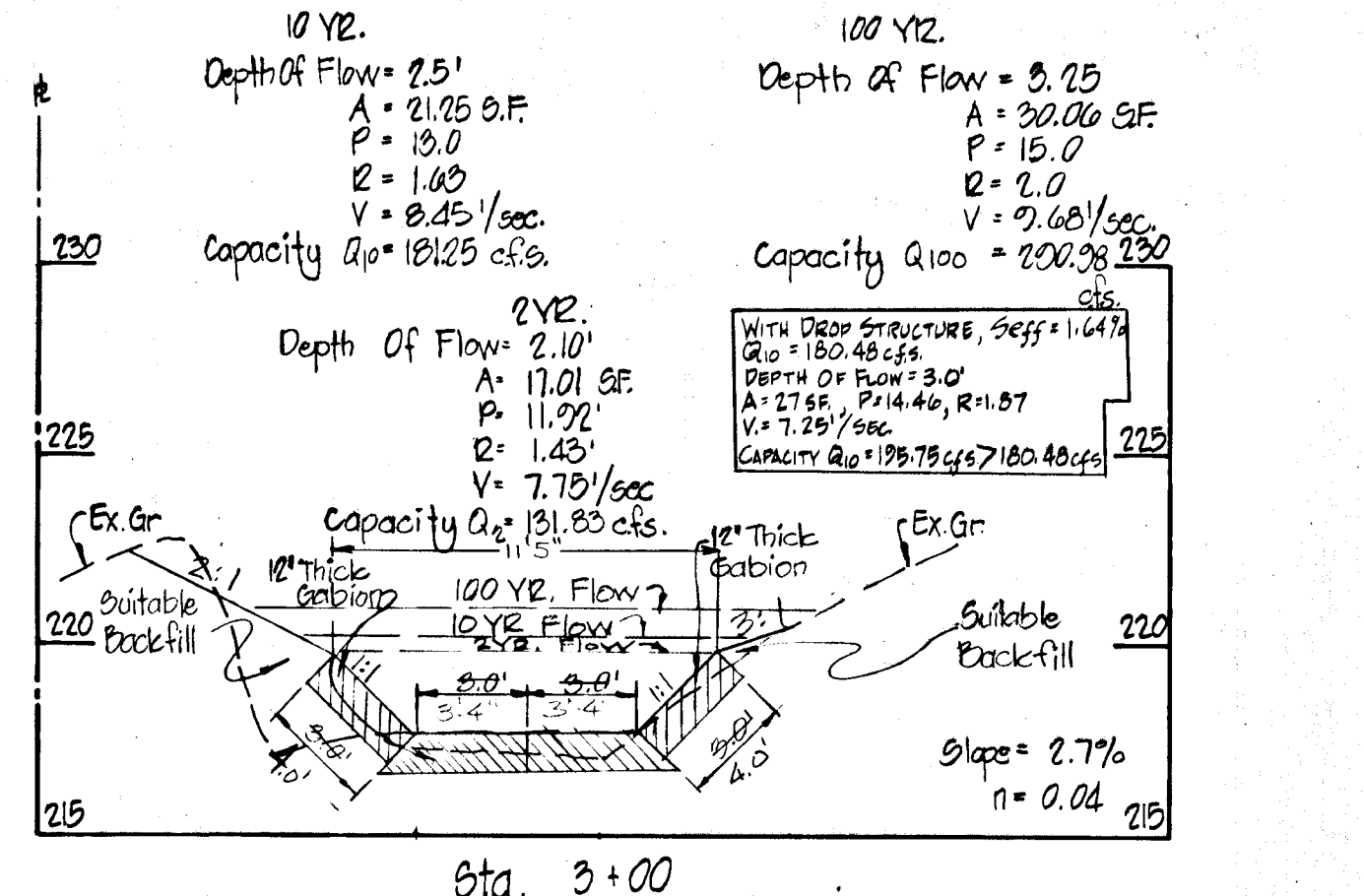
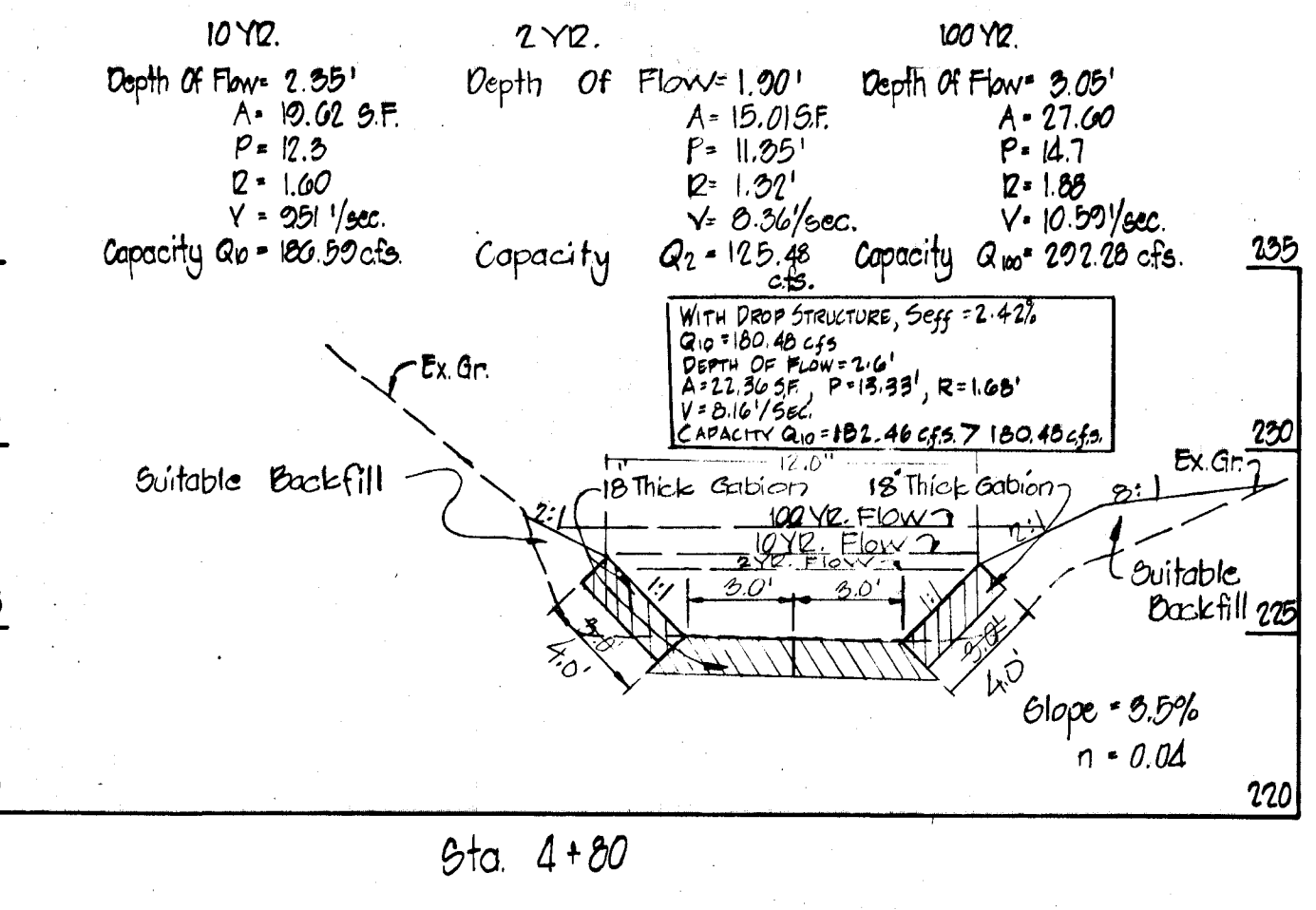
DITCH PROFILE
SCALE: HORIZ: 1" = 50'
VERT: 1" = 5'

GENERAL NOTES

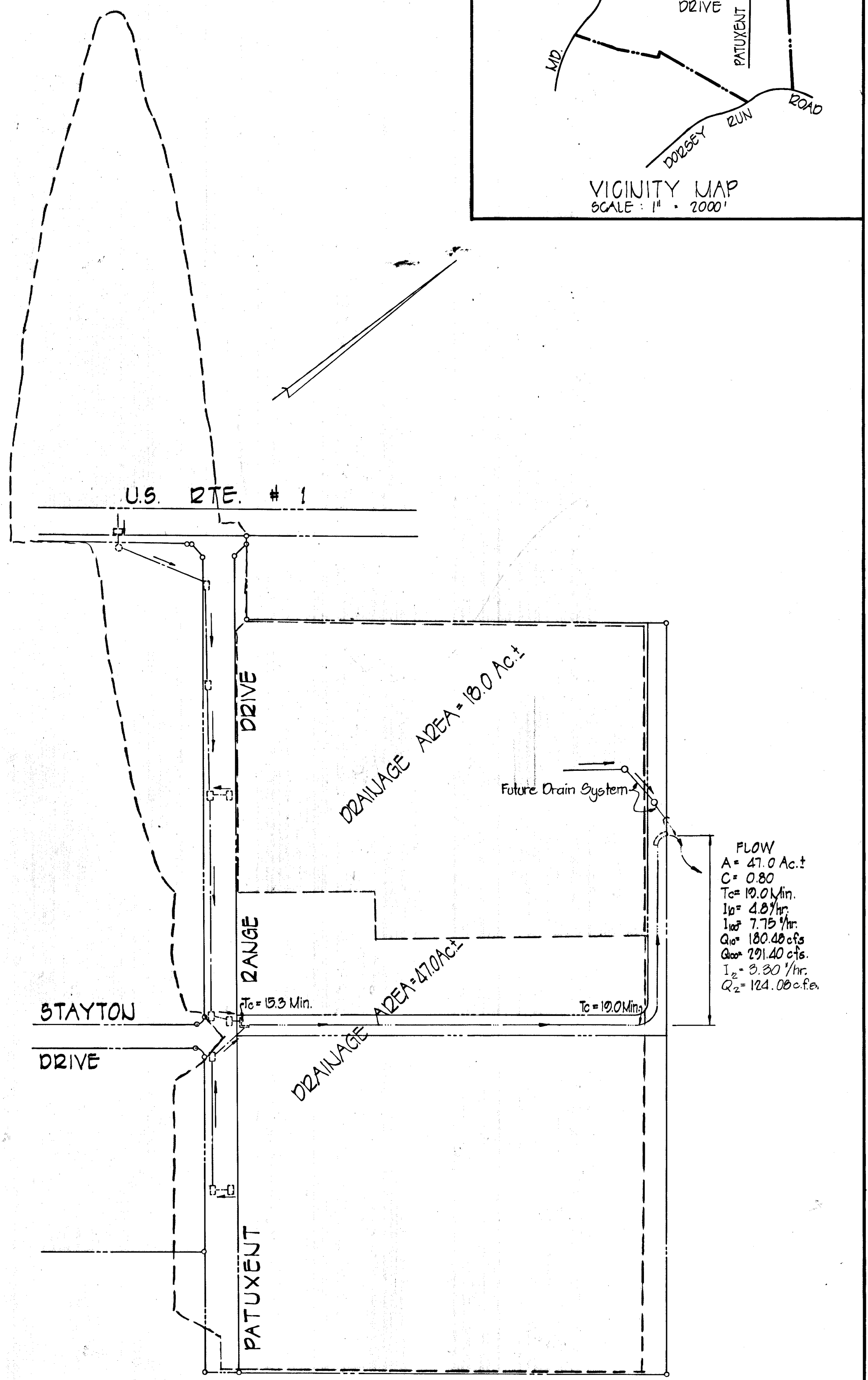
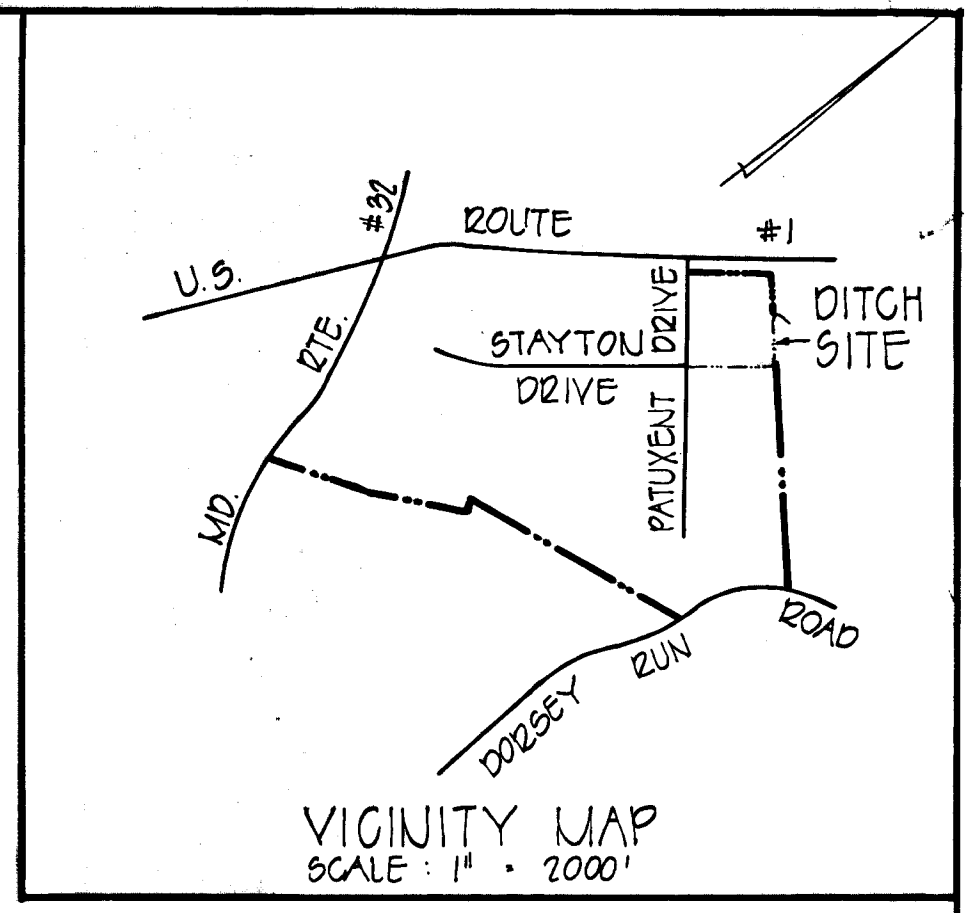
- Repair Washouts And Stabilize All Disturbed Slopes With Permanent Slope Seeding As Outlined Below: Seed Shall Be A Mixture Of:
 - Kentucky 31 Tall Fescue @ 60 lbs./Ac.
 - Inoculated Crown Vetch @ 20 lbs./Ac.
 - Inoculated Korean Lespedeza @ 15 lbs./Ac.
 - Red Canary Grass @ 6 lbs./Ac.
- Fertilizer Shall Be An Analysis 10-10-10 Plus Superphosphate, And Applied At A Rate Of 25# Per 1,000 S.F. Lime Shall Be Applied At A Rate Of 50# Per 1,000 S.F. Uniformly. Mulch Areas With Unweathered Small Grain Straw (Preferably Wheat) At The Rate Of 1/2 Ton Per Acre, And Anchor With Asphalt Mulch Tie Down Using Liquid Asphalt Rapid Curing (RC-70, RC-250, Or RC-800) At A Rate Of 61 Gal/250 S.F.
- Suitable Material Shall Be Used As Backfill. Fill Material Shall Be Thoroughly Compacted To Not Less Than 95% Of The Dry Maximum Density As Determined By A.S.T.M. D 698.
- Gabions Shall Be A Product Of "Maccaferri Gabions Of America Inc." New York, Or Approved Equal, To Be P.V.C. Coated. Fill Material May Be Any Hard Durable Stone Being Not Less Than 4" Nor More Than 10" In Any Dimension.

- Install Gabion Mattress As Shown On Plan, (Size To Be 6' x 9' x 1') On Polyfilter-X
- Side Slope Of Ditch Above Gabion Height Shall Not Be Greater Than 2:1.
- Any Space Between Gabions On The Ditch Bottom Shall Be Filled With Md. SHA Class-I Rip Rap (To Existing Concrete Apron.)

AS-BUILT CERTIFICATION BY
C. ROBERT SHINHAM, PE. #8717
12-27-83



DITCH SECTIONS
SCALE: HORIZ: 1" = 5'
VERT: 1" = 5'

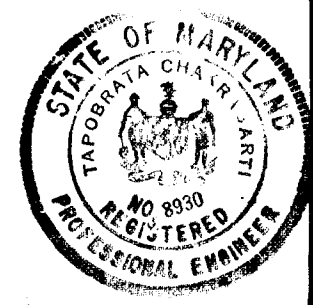


DRAINAGE AREA MAP
SCALE: 1" = 200'

FLOW
A = 47.0 Ac.
C = 0.80
Tc = 19.0 Min.
I₁₀ = 4.0"/hr.
I₂ = 7.75"/hr.
Q₁₀ = 180.48 cfs
Q₂ = 291.40 cfs
I₁ = 3.30"/hr.
Q₁ = 124.08 cfs

DEVELOPER'S CERTIFICATE
"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THE PLAN OF DEVELOPMENT AND THE PLAN FOR EROSION AND SEDIMENT CONTROL, AND I ALSO AUTHORIZE PERIODIC ON SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY."
John H. Hedberg
10/14/77

ENGINEER'S CERTIFICATE
"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 COUNTY SOIL CONSERVATION DISTRICT."
Joseph A. Cherkov
REG. NO. 8930
10/14/77



THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
APPROVED: [Signature]
HOWARD COUNTY SOIL CONSERVATION DISTRICT
DATE: 2-13-80

OFFICE OF PLANNING & ZONING
CHIEF DIVISION OF LAND DEVELOPMENT
[Signature]
DEPARTMENT OF PUBLIC WORKS
CHIEF BUREAU OF ENGINEERING
[Signature]
OWNER & DEVELOPER
B. W. I. P. INC.
110 WEST 2000
TOWSON, MARYLAND 21204
ENGINEER
GEORGE WILLIAM STEPHENS, JR.
AND ASSOCIATES INC.
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
APPROVED: [Signature]
U.S. SOIL CONSERVATION SERVICE
DATE: 2-13-80

EROSION CONTROL PLAN
BALTIMORE-WASHINGTON INDUSTRIAL PARK
6th ELECTION DISTRICT
SCALE: AS SHOWN
SHEET 2 OF 3
OCTOBER 11, 1977
PN 2557