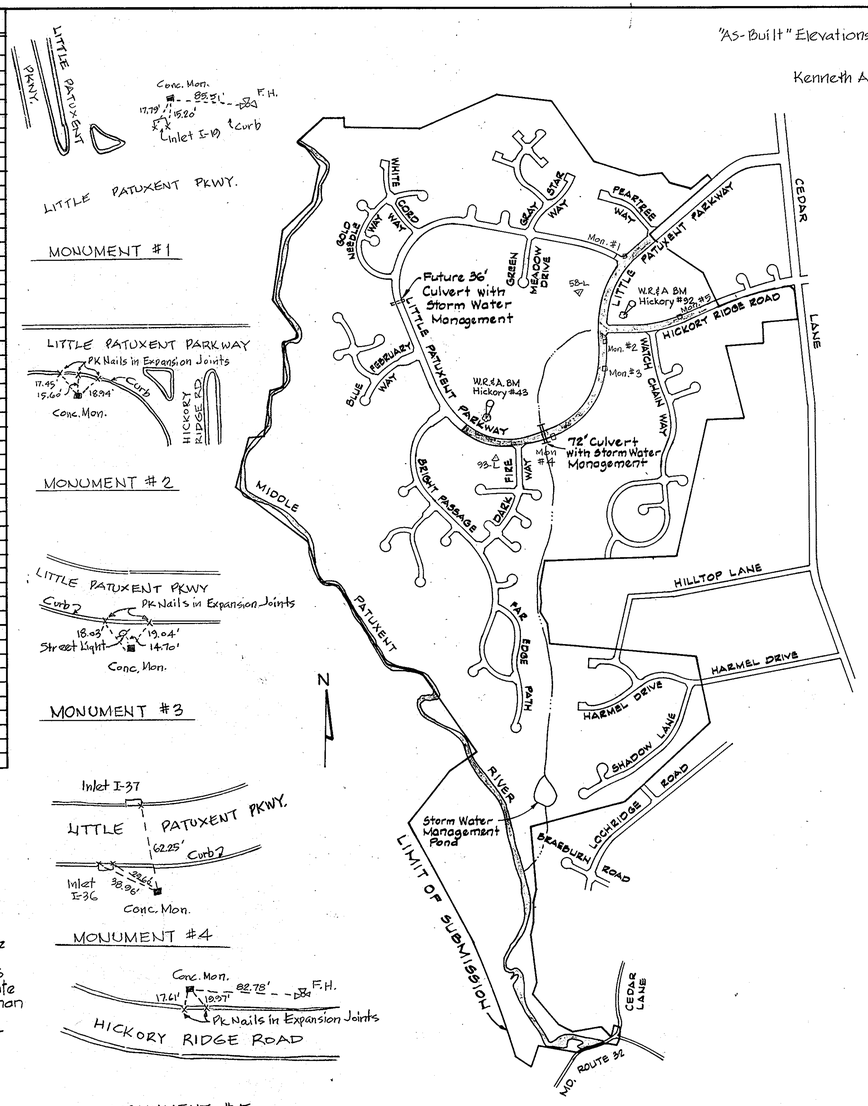
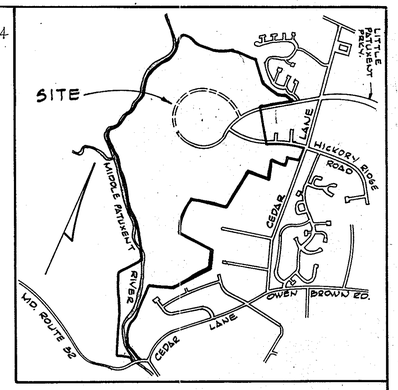
ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITIES

SHEET INDEX





VICINITY MAP
Scale: 1" = 2,000'

GENERAL NOTES

1. All work shall be performed in accordance with Howard County Standards, Specifications and Details for Construction.
2. All utility companies shall be notified 24 hours in advance of construction.
3. All inlets shall be Howard County Standards unless otherwise shown.
4. All street curb returns shall have a 30.0' radii unless otherwise noted.
5. Storm Drain Trenches within road rights-of-way shall be backfilled and compacted in accordance with Howard County Rode Code.
6. 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.
7. The Contractor shall test pit existing utilities where directed by the Engineer a minimum of two weeks in advance of any construction.
8. Temporary compacted 18' high earth fill diversion dikes shall be constructed above the tips of fill slopes on the R.O.W. concurrently with the initial grading and directed to undisturbed sod areas at the end of each day.
9. 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.
10. All disturbed slope areas to be stabilized as soon as grading is completed.
11. All reinforced concrete for storm drain structures shall have a minimum of 28 days strength of 3500 P.S.I..
12. All swales and slopes shall be permanently seeded. See the seed specifications on this sheet.
13. Traffic control devices and their installation shall be in accordance with the manual on uniform traffic control devices, 1971 revised edition.
14. Poly Filter-X (Filter Cloth Blanket) or equal shall be placed under all stone rip-rap (full width and length of stone).
15. Stone shall be Maryland S.H.A. Class 1 Medium Rip-Rap Stone from on site rock excavation may be substituted for the Maryland S.H.A. Class 1 Medium Rip-Rap. Rip-Rap shall be unpaved unless otherwise noted.
16. Stubs for 6" P.V.C. underdrain pipe to be installed at center of each wall of every inlet.
17. a. 250-W - Mercury vapor lamp pendant mounted fixtures on a 30-foot galvanized steel "break-away" pole at Sta. 126+00 and Sta. 131+30 Lt. Little Patuxent Parkway.
    b. 250-W - Mercury vapor lamp pendant mounted fixtures on a 30-foot galvanized steel pole at Sta. 97+00 Rt. Sta. 101+15 Rt. Sta. 105+35 Rt. Sta. 110+10 Rt. Sta. 115+00 Rt. Sta. 120+00 Rt. Little Patuxent Parkway.

SEQUENCE OF CONSTRUCTION

1. Obtain Grading Permit.
2. Construct Stabilized Construction Entrance on Hickory Ridge Road and Little Patuxent Parkway.
3. Construct Sediment Traps, Diversion Dikes, Stone Outlets, Silt Fence and Temporary Pipes and Ditch. See Sediment Control for Temporary Pipe and Ditch on Sheet 18 of 25.
4. Stabilize Sediment Control Facilities.
5. Clear and Grub Limits of Construction.
6. Strip and rough grade Limits of Construction. Construct Interceptor Swales.
7. Construct 72" Culvert. At Hickory Ridge Road and Little Patuxent Parkway complete Storm Drain Systems except Inlets I-8, I-9, I-10, I-11 and Structure S-5. After completion of 72" Culvert and road backfill complete Storm Drain System in Little Patuxent Parkway.
8. Divert existing stream to Structure S-2.
9. Remove Temporary 24" C.M.P. Pipes. Remove Temporary Ditch and Stabilize
10. Complete Storm Drain Systems Inlets I-8, I-9, I-10, I-11 and Structure S-5.
11. Fine grade, construct curb and gutter, pave roads.
12. Stabilize all disturbed areas with Permanent Seeding, see "Permanent Seeding Notes" this sheet.
13. Remove all Sediment Control Devices after grass is established in the contributing drainage areas.

PERMANENT SEEDING NOTES

LIME - 2tons/acre agricultural ground limestone.
FERTILIZER - 1000 lbs/acre (10-10-10).
SEEDING - 100 lbs/acre of the following:
20% Kentucky Blue Grass, 20% Marion Blue Grass, 55% Creeping Red Fescue, 5% Redtop.
Mulch Required - Mulch area with straw at the rate of 75 lbs/1000 ft² or 1.5tons/acre. Anchor with asphalt at the rate of 480 gallons/acre. Stabilization of slopes steeper than 3:1 shall be planted with crownvetch at 15lbs./acre or 0.34 lbs/1000 ft² and Kentucky 31 Tall Fescue at 40lbs/acre or 1lb/1000 ft².

SEDIMENT CONTROL NOTES

1. See "Sequence of Construction" this sheet.
2. The sediment control measures shall be construction on these drawings.
3. All temporary sediment control devices shall be seeded as specified in Notes 4 and 5. All other surfaces to be permanently seeded. See Specifications this sheet.
4. The temporary sediment control devices shall be hydroseeded as follows:
   a. Ground Limestone (50lbs/1000 ft²)
   b. Fertilizer 10-10-10 (25lbs/1000 ft²)
   c. Seed Italian Rye Grass (40lbs/acre
5. Mulch with straw at the rate of 50lbs/1000 ft² or one ton/acre. Anchor with asphalt at the rate of 480 gallons/acre.
6. Prior to starting any work the contractor shall notify Howard County Sediment Control Division at least 24hours in advance.

BENCH MARKS

W.R.&A. BM Hickory #43 - RR Spike in base of 15" Hickory 125' left of ℄ Sta. 95+10 Little Patuxent Pkwy. Elev. 431.66

W.R.&A. BM Hickory #92 - RR Spike in base of 30" Hickory 80' right of ℄ Sta. 21+15 Hickory Ridge Road Elev. 421.93

REFERENCES

▽58-L Iron Pipe 320'± left of ℄ Sta. 122+40± Little Patuxent Parkway (N501489.952 E829629.722)

▽93-L Iron Pipe 160'± right of ℄ Sta. 99+70± Little Patuxent Parkway (N499693.751 E828815.818)

CERTIFICATION BY THE DEVELOPER

"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 ARE DEEMED NECESSARY."

Walter E. Woodford — 5-10-83
WALTER E. WOODFORD — DATE

CERTIFICATION 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".

Kenneth A. McCord — 5-4-83
KENNETH A. McCORD P.E. 1974 — DATE

RESPONSIBLE PERSONNEL CERTIFICATION

"I HEREBY CERTIFY 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".

Walter E. Woodford — 5-10-83
WALTER E. WOODFORD — DATE

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND 21218
Kenneth A. McCord
KENNETH A. McCORD
REGISTERED ENGINEER
NO. 1974

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — 7-27-83 DATE
OFFICE OF PLANNING AND ZONING
CHIEF, DIV. OF LAND DEV. AND ZONING & ADM. — 7-22-83 DATE

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORP.
COLUMBIA, MARYLAND

REVIEWED FOR HOWARD S.C.D.
AND MEETS TECHNICAL REQUIREMENTS
James M. Wilcox — DATE 7/21/83
SIGNATURE
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Wm T Rowe — 7-21-83
HOWARD S.C.D. — DATE

Rev. Date	Rev. No.	Revision Description
7/1/83	1	As Per DPW & Sediment Control Comments

COLUMBIA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

ROAD CONSTRUCTION PLANS

5TH ELECTION DISTRICT OF HOWARD COUNTY MARYLAND

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORP.
COLUMBIA MARYLAND

DATE: — SCALE: AS SHOWN

#47

F-83-120 5/4/83 SHEET 1 OF 25

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E. # 1974

CURVE DATA

℄ INT. 17+09.91 TO P.T. 18+45.49		P.C. 13+89.85 TO ℄ INT. 17+09.91	
Δ = 07°46'05"	Tan. = 67.89'	Δ = 18°20'16"	Tan. = 161.41'
R = 1000.00'	Ch. = 135.48'	R = 1000.00'	Ch. = 318.69'
Arc = 135.58'	Ch. Brg. = S87°24'52"W	Arc = 320.06'	Ch. Brg. = S74°21'41"W

NOTE: FOR EXISTING HICKORY RIDGE ROAD PLAN AND PROFILE, SEE CONSTRUCTION DRAWINGS FOR VILLAGE OF CLARY'S FOREST SECTION 1 AREA 1 (F-73-79)

Notes:
1. A-5 Inlet Howard County Standard S.D. 4.01
2. A-10 Inlet Howard County Standard S.D. 4.02
3. All stubs are sloped up at 1.00%
4. Provide 8" Brick Bulkhead at the end of each stub

STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP El.	INV. IN	INV. OUT	LOCATION
I-5	Standard A-5 Inlet (width 5.5)	415.52	407.81	406.81	39.42' Right of ℄ Sta. 20+00
I-6	Standard A-5 Inlet (width 4.5)	416.90	410.24	408.97	27.32' Right of ℄ Sta. 18+62.5
I-7	Standard A-5 Inlet (width 3.5)	418.09	412.00	411.54	24.42' Right of ℄ Sta. 17+65
* I-8	Standard A-10 Inlet (width 2.5)	422.06	416.97	416.77	23.92' Right of ℄ Sta. 16+35
* I-9	Standard A-10 Inlet (width 2.5)	422.06	418.48	418.48	23.92' Left of ℄ Sta. 16+35
* I-10	Standard A-5 Inlet (width 2.5)	419.83	414.78	414.58	31.92' Right of ℄ Sta. 0+67
* I-11	Standard A-10 Inlet (width 2.5)	420.35	—	415.62	31.92' Left of ℄ Sta. 0+67
I-25	Standard A-5 Inlet (width 2.5)	415.53	410.58	410.33	37.92' Right of ℄ Sta. 20+00
I-26	Standard A-5 Inlet (width 2.5)	416.90	—	412.01	26.13' Right of ℄ Sta. 18+62.5
M-3	Special MH See Detail Sht. 15 of 25	419.60	414.00	413.50	23.20' Right of ℄ Sta. 16+80.91
S-2	Special See Detail Sht. 14 of 25	419.50	416.00	416.00	End Pipe 59.95' Left ℄ Sta. 16+70

* Inlet with Deflectors

NOTE:
PAVING WIDTH = 44' & 2-24' LANES
LENGTH OF ROAD = 1,307'
3 SEWER MH'S IN ROAD R/W

PLAN
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS
William E. Riley 7-27-83
CHIEF, BUREAU OF ENGINEERING DATE
OFFICE OF PLANNING & ZONING
7-22-83
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

REV. DATE	REV. NO.	REVISION DESCRIPTION
11/7/83	2	Relocated M-3 & S-2, Revised Private Road
7/1/83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
PLAN AND PROFILE
HICKORY RIDGE ROAD
STA. 9+02.60 TO STA. 22+26.93

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND 21218

Kenneth A. McCord
KENNETH A. McCORD
Registered Engineer
No. 1974

CURVE DATA FOR PAVING

No.			No.			No.		
③	Δ = 12°17'15" R = 300.00' Arc = 64.34'	Tan. = 32.29' Ch. = 64.21' Ch. Brg. = N82°33'29"W	②	Δ = 13°51'35" R = 300.00' Arc = 72.57'	Tan. = 36.46' Ch. = 72.39' Ch. Brg. = N83°20'38"W	①	Δ = 03°39'24" R = 978.00' Arc = 62.42'	Tan. = 31.22' Ch. = 62.40' Ch. Brg. = S87°53'52"W
⑥	Δ = 12°28'19" R = 300.00' Arc = 65.30'	Tan. = 32.78' Ch. = 65.17' Ch. Brg. = S85°03'46"W	⑤	Δ = 11°35'02" R = 300.00' Arc = 60.65'	Tan. = 30.43' Ch. = 60.55' Ch. Brg. = S84°37'06"W	④	Δ = 03°36'38" R = 1022.00' Arc = 64.40'	Tan. = 32.21' Ch. = 64.39' Ch. Brg. = S88°36'18"W

PROFILE
SCALE: HOR. 1" = 50'
VERT. 1" = 5'

HICKORY RIDGE ROAD

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
No.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'s NOTED
STRUCTURE NOTATIONS CHECKED
NOTE BOOK
No.
BY
DATE

#42

AS-BUILT NOV. 19-84

5/4/83

F-83-120

CURVE DATA

P.C. 120+23.12 to ℄ INT. 126+70.97
Δ=37°07'08" Tan=335.75'
R=1000.00' Ch=636.58'
Arc=647.85' Ch. Brg.=N19°51'29"E

℄ INT. 12+70.97 to P.T. 128+42.58
Δ=09°49'57" Tan=86.02'
R=1000.00' Ch=171.40'
Arc=171.61' Ch. Brg.=N43°20'01"E

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E.# 1974

SEE SHEET 7 FOR STAKEOUT DETAILS OF MEDIANS, CURB TRANSITIONS, ETC.

STORM DRAIN STRUCTURE SCHEDULE

	NO.	TYPE	TOP EL.	INV. IN	INV. OUT	LOCATION
	I-13	Standard A-5 Inlet (width 3.5)	418.28	412.48	411.94	℄ Inlet 24.42' Right ℄ Sta. 122+31
	I-14	Standard A-5 Inlet (width 3.5)	421.12	414.66	414.16	℄ Inlet 24.42' Right ℄ Sta. 124+20
*	I-15	Standard A-5 Inlet (width 3.0)	424.88	419.14	418.89	℄ Inlet 27.75' Right ℄ Sta. 126+10.45
*	I-16	Standard A-5 Inlet (width 2.5')	430.00	423.85	422.94	℄ Inlet 40.71' Right ℄ Sta. 127+38.29
*	I-17	Standard A-10 Inlet (width 2.5')	438.80	432.75	432.50	℄ Inlet 45.92' Right ℄ Sta. 129+50
*	I-18	Standard A-10 Inlet (width 2.5')	438.80	433.87	433.67	℄ Inlet 45.92' Left ℄ Sta. 129+50
*	I-19	Standard A-5 Inlet (width 2.5')	431.50	427.20	427.00	℄ Inlet 49.77' Left ℄ Sta. 127+85.36
*	I-20	Standard A-5 Inlet (width 2.5')	427.80	422.59	422.39	℄ Inlet 37.92' Left ℄ Sta. 48+60.75
	I-21	Standard A-5 Inlet (width 2.5')	428.75	424.22	423.97	℄ Inlet 58.55' Right ℄ Sta. 48+79.64
*	I-23	Standard A-5 Inlet (width 2.5')	421.12	——	416.49	℄ Inlet 23.92' Left ℄ Sta. 124+20
	I-24	Standard A-5 Inlet (width 2.5)	418.28	——	413.97	℄ Inlet 23.92' Left ℄ Sta. 122+31

*Inlet with Deflectors, Howard County Standard S.D. 4.83

Note:
1. A-5 Inlet Howard County Standard S.D. 4.01
2. A-10 Inlet Howard County Standard S.D. 4.02
3. All stubs are sloped up at 1.00%
4. Provide 8" Brick Bulkhead at the end of each stub

Note: For top curb stations and elevations for this intersection, see sheet 7 of 25.

NOTE:
PAVING WIDTH = 44' & 2-26' LANES
LENGTH OF ROAD = 1,100'
0 SEWER MH'S IN ROAD R/W

PLAN
SCALE: 1"=50'

N501,750 E830,500

131+31.17 LIMIT OF SUBMISSION

Future ℄ Intersection Peartree Way 132+82.51

DEPARTMENT OF PUBLIC WORKS
William E. Riley 7.27.83
CHIEF, BUREAU OF ENGINEERING 7/31/83 DATE
OFFICE OF PLANNING & ZONING
John W. Musselman 7-22-83
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

NOTE: FOR EXISTING LITTLE PATUXENT PARKWAY PLAN AND PROFILE, SEE CONSTRUCTION DRAWINGS FOR THE VILLAGE OF CLARY'S FOREST, SECTION 1 AREA 1 (F-73-79)

REV. DATE	REV. NO.	REVISION DESCRIPTION
11/7/83	2	Added Deflectors Removed Stubs Revised Private Road
7/1/83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
PLAN AND PROFILE
LITTLE PATUXENT PARKWAY
STA. 120+23.12 TO STA. 131+31.17

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND 21218

Kenneth A. McCord
KENNETH A. McCORD
Registered Engineer
No. 1974

PLAN
NOTE BOOK
No.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK
No.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE

#42

K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO.
46 7024 Made in U.S.A.

AS-BUILT NOV 19, 84   5/4/83

SHEET 3 OF 25

F-83-120

DEPARTMENT OF PUBLIC WORKS	
CHIEF, BUREAU OF ENGINEERING	DATE 7-27-83
OFFICE OF PLANNING & ZONING	
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION	DATE 7-22-83

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E. # 1974

REV. DATE	REV. NO.	REVISION DESCRIPTION
11/7/83	2	Removed Stub, Added Entrance Road
7/1/83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
PLAN AND PROFILE
LITTLE PATUXENT PARKWAY
STA. 111+00 TO STA. 120+23.12

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND 21218

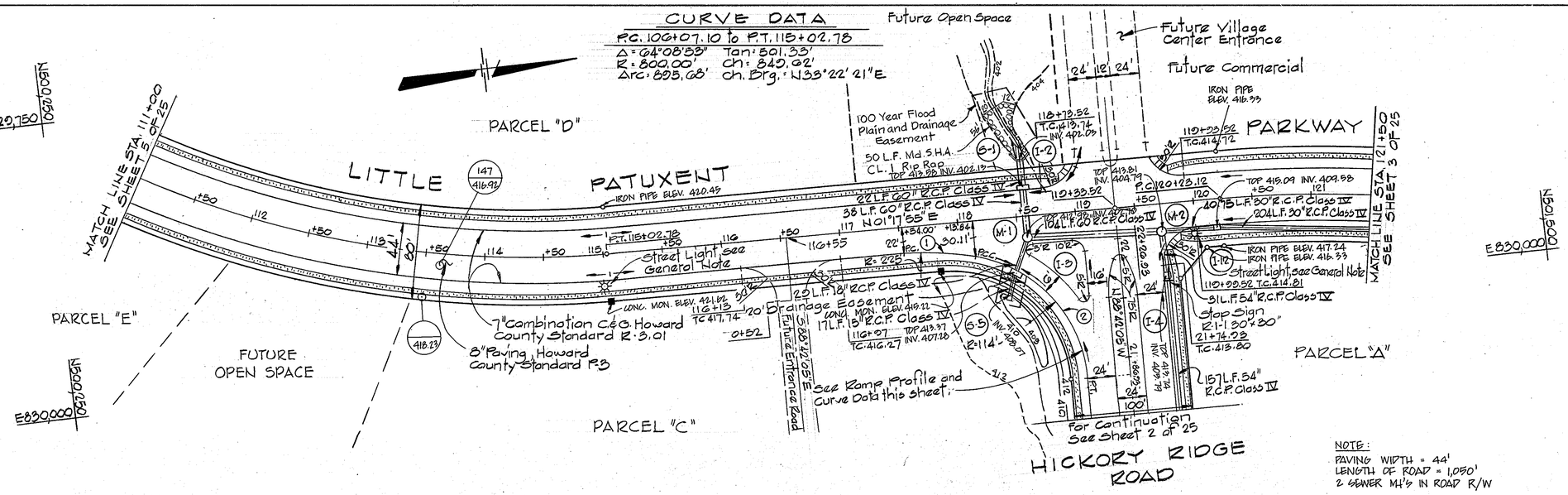
KENNETH A. McCORD
Registered Engineer
No. 1974

PLAN
SURVEYED
DRAWN
NOTE BOOK
No.
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
SURVEYED
DRAWN
NOTE BOOK
No.
GRADES CHECKED
R. W.'s NOTED
STRUCTURE FOUNDATIONS CHECKED
BY
DATE

CURVE DATA

P.C. 106+07.10 to P.T. 118+02.78
Δ = 64°08'59" Tan: 501.33'
R = 800.00' Ch: 849.92'
Arc: 895.68' Ch. Brg.: N33°22'21"E



NOTE:
PAVING WIDTH = 44'
LENGTH OF ROAD = 1,050'
2 SEWER MH's IN ROAD R/W

STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP EL.	INV. IN	INV. OUT	LOCATION
I-2	Standard A-10 Inlet, Width 2.5	413.03	402.43	402.23	℄ Inlet 25.22' Left ℄ Sta. 118+57
I-3	Standard A-10 Inlet, Width 2.5	413.23	407.79	407.54	℄ Inlet 46.49' Right ℄ Sta. 118+45.31
I-4	Standard A-5 Inlet, Width 6.0	413.70	405.95	405.75	℄ Inlet 30.61' Right ℄ Sta. 121+07
I-12	Standard A-5 Inlet, Width 4.0	415.08	409.64	409.15	℄ Inlet 24.61' Right ℄ Sta. 120+18
M-1	Special, see Detail Sheet 15	413.15	402.89	402.69	℄ Manhole 16.0' Right ℄ Sta. 118+57
M-2	Special, see Detail Sheet 15	413.82	405.02	404.82	℄ Manhole 23.0' Right ℄ Sta. 119+71
S-1	Standard Type A Headwall	408.34	402.08	402.00	℄ Headwall 47.48' Left ℄ Sta. 118+57
S-5	Standard Conc. End Section	411.00	408.00	407.97	℄ Outfall 63.47' Left ℄ Sta. 118+39.32

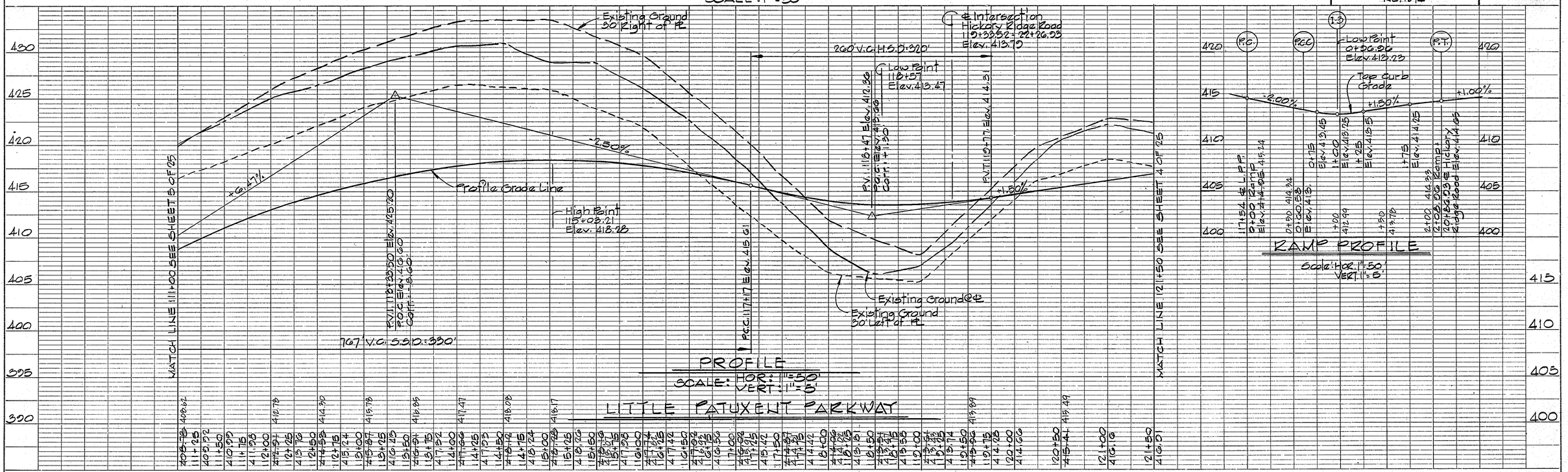
Notes:
1. A-5 Inlet, Howard County Standard S.D. 4.01.
2. A-10 Inlet Howard County Standard S.D. 4.02.
3. Type A Headwall, Howard County Standard
4. All stubs are sloped up at 1.00%
5. Provide 8" Brick Bulkhead at the end of each stub

CURVE DATA FOR RAMP

① Δ = 15°25'25" Tan: 30.47'
R: 225.00' Ch: 60.40'
Arc: 60.58' Ch. Brg.: N09°00'43"E

② Δ = 74°34'24" Tan: 86.80'
R: 114.00' Ch: 138.12'
Arc: 148.38' Ch. Brg: N54°00'42"E

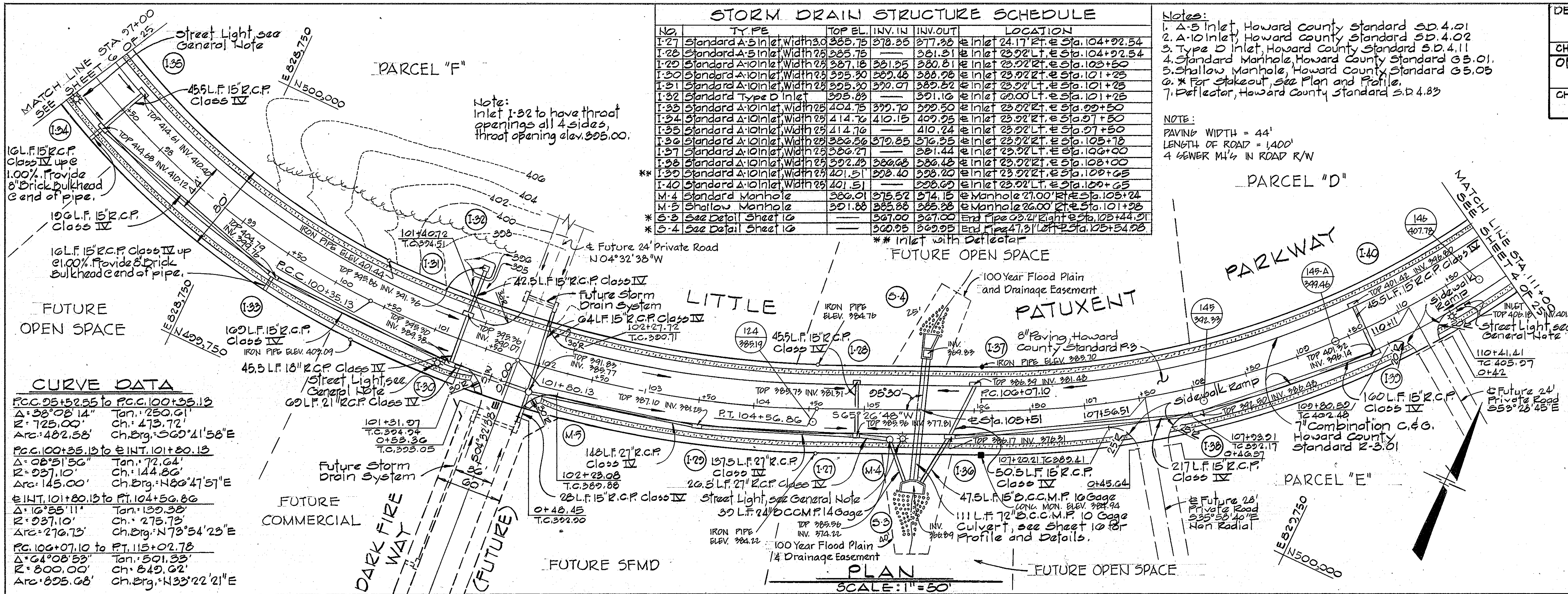
PLAN
SCALE: 1" = 50'



K&E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO.
48 7024 MADE IN U.S.A.

AS-BUILT NOV-19-84 5/4/83 SHEET 4 OF 25

F-83-120



STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP EL.	INV. IN	INV. OUT	LOCATION
I-27	Standard A-5 Inlet, Width 3.0	385.75	378.35	377.38	℄ Inlet 24.17' Rt. ℄ Sta. 104+92.54
I-28	Standard A-5 Inlet, Width 2.5	385.75	—	381.31	℄ Inlet 23.92' Lt. ℄ Sta. 104+92.54
I-29	Standard A-10 Inlet, Width 2.5	387.18	381.35	380.81	℄ Inlet 23.92' Rt. ℄ Sta. 103+50
I-30	Standard A-10 Inlet, Width 2.5	395.30	389.48	388.98	℄ Inlet 23.92' Rt. ℄ Sta. 101+25
I-31	Standard A-10 Inlet, Width 2.5	395.30	390.07	389.82	℄ Inlet 23.92' Lt. ℄ Sta. 101+25
I-32	Standard Type D Inlet	395.83	—	391.16	℄ Inlet 60.00' Lt. ℄ Sta. 101+25
I-33	Standard A-10 Inlet, Width 2.5	404.75	399.70	399.50	℄ Inlet 23.92' Rt. ℄ Sta. 99+50
I-34	Standard A-10 Inlet, Width 2.5	414.76	410.15	409.95	℄ Inlet 23.92' Rt. ℄ Sta. 97+50
I-35	Standard A-10 Inlet, Width 2.5	414.76	—	410.24	℄ Inlet 23.92' Lt. ℄ Sta. 97+50
I-36	Standard A-10 Inlet, Width 2.5	386.56	379.85	376.35	℄ Inlet 23.92' Rt. ℄ Sta. 105+78
I-37	Standard A-10 Inlet, Width 2.5	386.27	—	381.44	℄ Inlet 23.92' Lt. ℄ Sta. 106+00
I-38	Standard A-10 Inlet, Width 2.5	392.43	386.68	386.48	℄ Inlet 23.92' Rt. ℄ Sta. 108+00
** I-39	Standard A-10 Inlet, Width 2.5	401.51'	398.40	398.20	℄ Inlet 23.92' Rt. ℄ Sta. 109+65
I-40	Standard A-10 Inlet, Width 2.5	401.51	—	398.69	℄ Inlet 23.92' Lt. ℄ Sta. 109+65
M-4	Standard Manhole	386.01	375.52	374.15	℄ Manhole 27.00' Rt. ℄ Sta. 105+24
M-5	Shallow Manhole	391.88	385.88	385.38	℄ Manhole 26.00' Rt. ℄ Sta. 101+98
* S-3	See Detail Sheet 16	—	367.00	367.00	End Pipe 63.21' Right ℄ Sta. 105+44.91
* S-4	See Detail Sheet 16	—	369.95	369.95	End Pipe 47.31' Left ℄ Sta. 105+54.98

** Inlet with Deflector

Notes:

1. A-5 Inlet, Howard County Standard S.D. 4.01
2. A-10 Inlet, Howard County Standard S.D. 4.02
3. Type D Inlet, Howard County Standard S.D. 4.11
4. Standard Manhole, Howard County Standard G 5.01.
5. Shallow Manhole, Howard County Standard G 5.05
6. * For Stakeout, see Plan and Profile.
7. Deflector, Howard County Standard S.D. 4.83

NOTE:
PAVING WIDTH = 44'
LENGTH OF ROAD = 1,400'
4 SEWER MH'S IN ROAD R/W

CURVE DATA

P.C.C. 95+52.55 to P.C.C. 100+35.13
Δ = 38°08'14" Tan. = 250.61'
R = 725.00' Ch. = 473.72'
Arc = 482.58' Ch. Brg. = S69°41'58"E

P.C.C. 100+35.13 to ℄ INT. 101+80.13
Δ = 08°51'56" Tan. = 72.64'
R = 937.10' Ch. = 144.86'
Arc = 145.00' Ch. Brg. = N80°47'57"E

℄ INT. 101+80.13 to P.T. 104+56.86
Δ = 16°55'11" Tan. = 139.38'
R = 937.10' Ch. = 275.73'
Arc = 276.73' Ch. Brg. = N73°54'23"E

P.C. 106+07.10 to P.T. 115+02.78
Δ = 64°08'53" Tan. = 501.33'
R = 800.00' Ch. = 849.62'
Arc = 895.68' Ch. Brg. = N33°22'21"E

DEPARTMENT OF PUBLIC WORKS

[signature] 7-27-83
CHIEF, BUREAU OF ENGINEERING DATE

OFFICE OF PLANNING & ZONING

[signature] 7-22-83
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E. # 1974

REV DATE	REV. NO.	REVISION DESCRIPTION
11/7/83	2	Revised I-39 & I-40, Added Deflectors, Added Private Roads
7/1/83	1	As per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
PLAN AND PROFILE
LITTLE PATUXENT PARKWAY
STA. 97+00 TO STA. 111+00

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND 21218

[signature]
KENNETH A. McCORD
Registered Engineer
No. 1974

K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO. 48 7024 MADE IN U.S.A.

AS-BUILT NOV. 19, 1984 5/4/83 SHEET 5 OF 25

F-83-120

#42

CURVE DATA

P.C. 89+87.76 to ℄ INT. 92+68.13
Δ = 13°08'20"
R = 1222.64'
T = 140.80'
Arc = 280.37'
Ch. = 279.76'
Ch. Brg. = N 30°43'58" W

℄ INT. 92+68.13 to P.C.C. 95+52.55
Δ = 13° 15'42"
R = 1222.64'
T = 142.85'
Arc = 284.42'
Ch. = 283.75'
Ch. Brg. = N43°57'50" W

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E. # 1974

REV. DATE	REV. NO.	REVISION DESCRIPTION
7/1/83	1	As Per DPW & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
PLAN AND PROFILE
LITTLE PATUXENT PARKWAY
STA. 95+52.55 TO STA. 97+00

SCALE: AS SHOWN — DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 1974

PLAN
NOTE BOOK — SURVEYED — ALIGNMENT CHECKED — R/W CHECKED — No. — DATE — BY

PROFILE
NOTE BOOK — SURVEYED — PLOTTED — CHECKED — R. & L. NOTES — No. — STRUCTURE NOTATIONS CHECKED — DATE — BY

FUTURE OPEN SPACE

FUTURE SFA

N 501,000
E 828,000

LITTLE PATUXENT PARKWAY

PARCEL "F"

MATCH SEE LINE SHEET 5 OF 25 STA. 97+00

Temporary Tee Turn-Around
Howard County Standard R-5.05

Temporary Type "B" Dead End Barricade, Howard County Standard R-7.11

IRON PIPE ELEV. 421.97

IRON PIPE ELEV. 421.81

LIMIT OF SUBMISSION
STA. 95+52.55

P.C.C. 95+52.55

P.C. 89+87.76

85+86.30

92+68.13

N24°00'48" W

FUTURE OPEN SPACE
(SCHOOL)

N 500,000
E 828,250

FUTURE SFA

NOTE:
PAVING WIDTH = 44'
LENGTH OF ROAD = 147'
0 SEWER MH'S IN ROAD R/W

BLUE FEBRUARY WAY (FUTURE)

PASSAGE (FUTURE)

BRIGHT

N 501,000
E 827,750

PLAN
SCALE: 1" = 50'

PROFILE
SCALE: HOR: 1" = 50'
VERT: 1" = 5'

Future ℄ Intersection Blue February Way 85+86.30

℄ Intersection Bright Passage 92+68.13

Existing Ground 30' Right of ℄

Existing Ground 30' Left of ℄

Existing Ground ℄

Profile Grade Line (Future)

MATCH LINE STA. 83+25 SEE SHEET

MATCH LINE STA. 87+00 SEE THIS SHEET

MATCH LINE STA. 97+00 SEE SHEET 5 OF 25

+6.00%

-1.41%

Seed and Mulch

Limit of Paving

Sod Curb and Gutter and Sidewalk

P.V.I. 95+10.00 Elev. 418.40
P.C.C. Elev. 420.17
Sta. 95+52.55

High Point 96+97.33 Elev. 420.35

700' V.C. Sag

LIMIT OF SUBMISSION
ELEV. 419.75

F.V.C. 91+60 Elev.

AS-BUILT NOV. 19, 1984 5/4/83 SHEET 6 OF 25

F-83-120

#42

DEPARTMENT OF PUBLIC WORKS

Kenneth E. Day 7-27-83
CHIEF, BUREAU OF ENGINEERING DATE

OFFICE OF PLANNING AND ZONING

John W. Marshall 7-22-83
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

N502,250
E830,250

N502,250
E830,000

NOTE: FOR EXISTING LITTLE PATUXENT PARKWAY PLAN AND PROFILE SEE CONSTRUCTION DRAWINGS FOR VILLAGE OF CLARY'S FOREST SECTION 1, AREA 1 (F-73-79C)

FUTURE PUBLIC ROAD

FUTURE SINGLE FAMILY ATTACHED PARCEL

LITTLE PATUXENT PARKWAY

PATUXENT PARKWAY

FUTURE OPEN SPACE LOT 2/W TRANSIT R/W

Existing Paving

FUTURE VILLAGE CENTER ENTRANCE (PRIVATE)

FUTURE COMMERCIAL PARCEL

PARCEL "A"

FUTURE APARTMENT ROAD (PRIVATE)

LITTLE PATUXENT PARKWAY

No Scale

CURVE DATA

NO.	RADIUS	Δ	ARC	TAN.	CHORD	CRD. BRG.
1	300.00'	08°24'51"	44.04'	22.06'	44.00'	S52°27'18"W
2	114.00'	67°43'46"	134.76'	76.50'	127.05'	N88°28'30"W
3	130.00'	31°12'47"	70.82'	36.31'	69.95'	S60°33'00"W
4	200.00'	07°24'25"	25.85'	12.94'	25.84'	S44°32'47"W
5	200.00'	07°24'25"	25.85'	12.95'	25.84'	S44°32'48"W
6	664.58'	09°49'57"	114.05'	57.16'	113.91'	S43°20'01"W
7	30.00'	99°49'57"	52.27'	35.65'	45.91'	S01°30'59"E
8	30.00'	87°41'56"	45.92'	28.82'	41.56'	S34°34'14"W
9	586.34'	11°46'09"	120.44'	60.43'	120.23'	S34°50'22"W
10	30.00'	80°32'17"	42.17'	25.41'	38.78'	N1°18'49"W
11	75.00'	25°42'46"	33.66'	17.12'	33.38'	S64°34'27"E
12	5.00'	128°19'01"	11.20'	10.32'	9.00'	N38°24'40"E
13	75.00'	25°59'16"	34.02'	17.31'	33.73'	N38°44'28"W
14	1012.00'	10°16'15"	181.41'	90.95'	181.17'	N56°52'13"W
15	1036.00'	06°23'44"	115.64'	57.88'	115.58'	N58°48'29"W
16	741.46'	16°14'19"	210.14'	105.78'	209.44'	N70°07'31"W
17	717.46'	12°31'25"	156.82'	78.72'	156.51'	S68°16'04"E
18	5.00'	172°41'30"	15.07'	78.20'	9.98'	S15°07'29"W
19	707.46'	05°12'56"	64.40'	32.22'	64.38'	N64°26'58"W
20	988.00'	10°17'17"	177.41'	88.94'	177.17'	S56°51'46"E
21	964.00'	10°25'24"	175.37'	87.93'	175.13'	S56°47'39"E
22	683.46'	07°15'57"	86.67'	43.39'	86.61'	N65°38'25"W
23	6.67'	100°45'42"	19.76'	74.45'	13.29'	S46°39'58"E
24	5.00'	147°44'21"	12.89'	17.29'	9.61'	S22°17'13"W
25	15.00'	90°00'00"	23.56'	15.00'	21.21'	N88°25'03"E
26	5.00'	153°28'26"	13.39'	21.21'	9.73'	N38°19'10"W
27	30.00'	96°53'25"	50.73'	33.84'	44.90'	S62°17'00"W
28	30.00'	92°04'51"	48.21'	31.11'	43.19'	N32°12'11"W
29	30.00'	86°25'10"	45.25'	28.18'	41.08'	S57°02'52"W
30	30.00'	93°34'50"	49.00'	31.24'	43.73'	S32°57'08"E

REV. DATE	REV. NO.	REVISION DESCRIPTION
7/1/83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
COLUMBIA, MARYLAND 20144

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
ROAD STAKEOUT PLAN
LITTLE PATUXENT PARKWAY AND LITTLE PATUXENT PARKWAY INTERSECTION

SCALE: 1" = 30' DATE

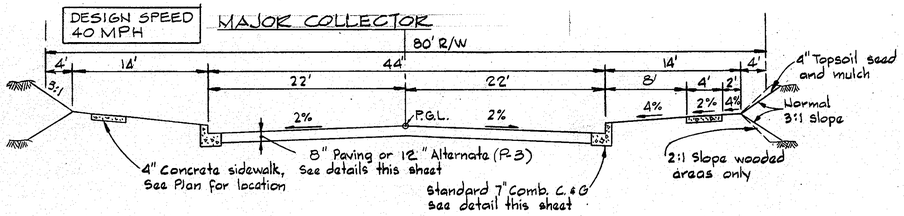
WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

Kenneth A. McCord
KENNETH A. McCORD
Registered Engineer
No. 1974

#42

AS-BUILT F-83-120 5/4/83

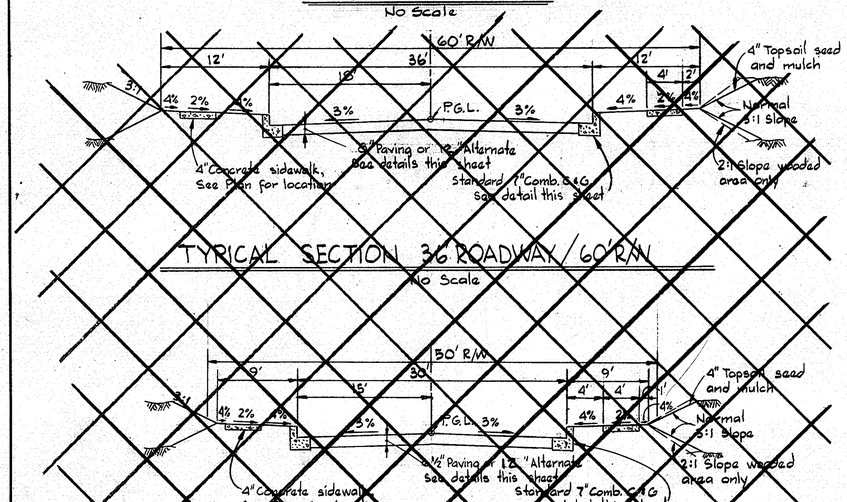
DESIGN SPEED 40 MPH — MAJOR COLLECTOR



STA. 8+98 TO STA. 18+40
HICKORY RIDGE ROAD

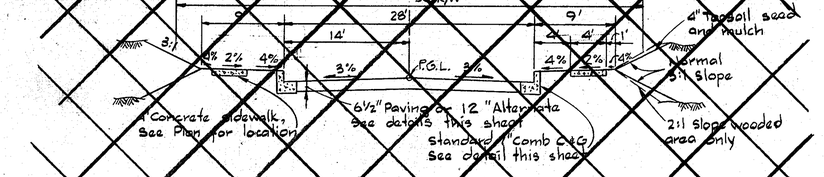
STA. 96+00 TO STA. 125+05.82
LITTLE PATUXENT PARKWAY

TYPICAL SECTION
No Scale

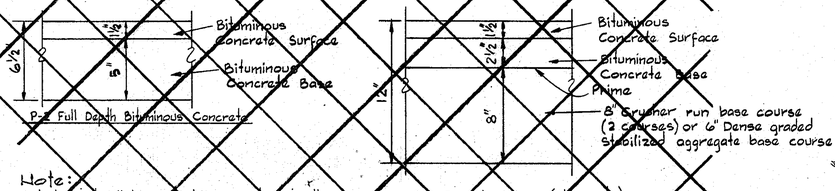


TYPICAL SECTION 36' ROADWAY / 60' R/W
No Scale

TYPICAL SECTION 30' ROADWAY / 50' R/W
No Scale



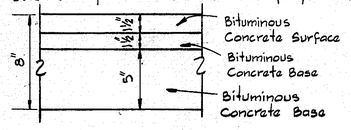
TYPICAL SECTION 28' ROADWAY / 50' R/W
No Scale



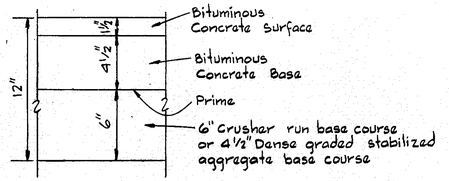
Note:
A tack coat will be applied in accordance with section 33.0T3 as provided in the Md. S.R.C. Specifications.

TYPICAL PAVING SECTION
No Scale

Note:
A tack coat will be applied in accordance with section 33.07-3 as provided in the Md. S.R.C. Specifications.

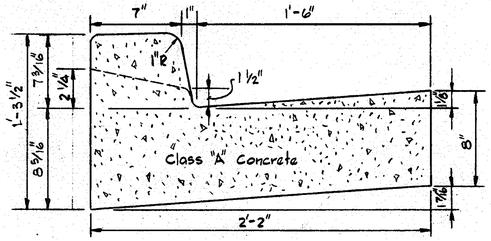


P-3 Full Depth Bituminous Concrete

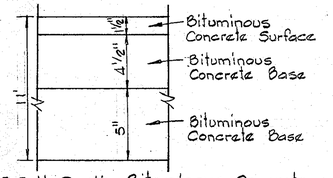


P-3 Granular Base (Alternate)

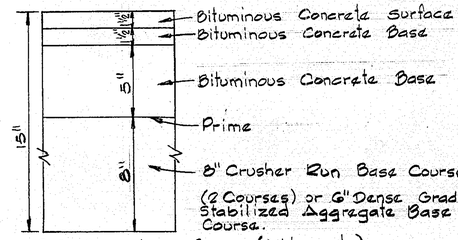
TYPICAL PAVING SECTION
No Scale



STANDARD 7" COMBINATION CURB & GUTTER
No Scale

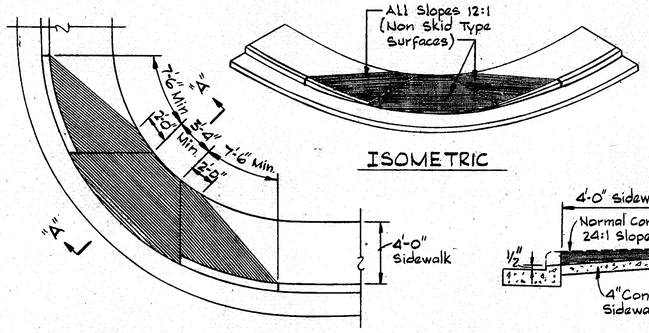


P-5 Full Depth Bituminous Concrete



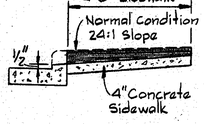
P-5 Granular Base (Alternate)

TYPICAL PAVING SECTION
No Scale



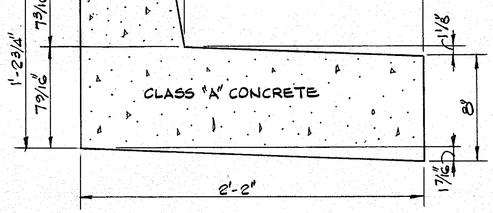
ISOMETRIC

PLAN



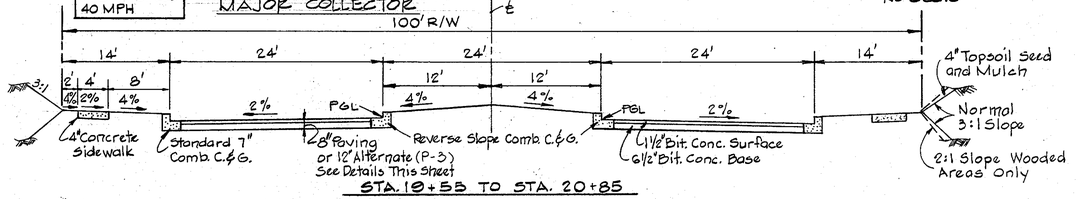
SECTION "A-A"

WHEEL CHAIR RAMP DETAIL
No Scale



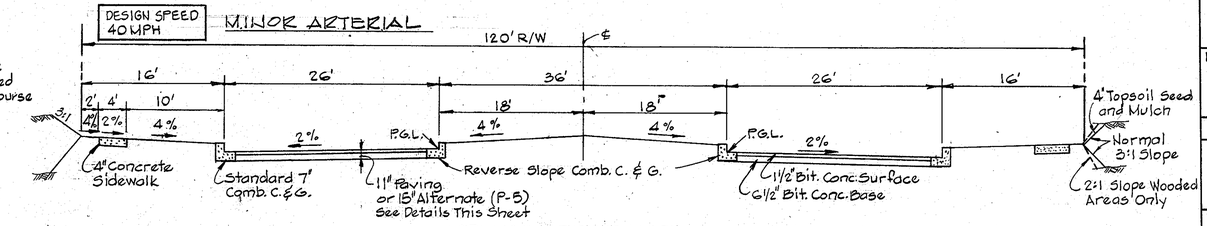
REVERSE 7" COMBINATION CURB & GUTTER
No Scale

DESIGN SPEED 40 MPH — MAJOR COLLECTOR



STA. 19+55 TO STA. 20+85
TYPICAL SECTION - HICKORY RIDGE ROAD
No Scale

DESIGN SPEED 40 MPH — MINOR ARTERIAL



STA. 130+05.52 TO STA. 131+61.34
TYPICAL SECTION - LITTLE PATUXENT PARKWAY
No Scale

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83

REV. DATE	REV. NO.	REVISION DESCRIPTION
7/1/84	1	As Per D.P.W.& Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
COLUMBIA, MARYLAND 20144

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
ROADWAY DETAILS

SCALE: AS SHOWN — DATE

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 1974

#42

AS-BUILT — F-83-120 — 5/4/83 — SHEET 8 OF 25


BILLINGSGATE ROAD
SWANSFIELD ROAD
VILLAGE OF HARPER'S CHOICE SECTION 4 AREA 1 15/55
OPEN SPACE - LOT 134
PATUXENT PARKWAY
POWDER RUN
CRYSTAL RUN
FUTURE OPEN SPACE
PARCELS "A", "B" AND "C" VILLAGE OF CLARY'S FOREST SECTION 1 AREA 1 23/1
PARCEL "D-1" AND "D-2" VILLAGE OF CLARY'S FOREST SECTION 1 AREA 1 23/2
OPEN SPACE LOT 1
AVALANCHE WAY
SNOWFLAKE COURT
SKILIFT CT.
CEDAR LANE
HICKORY RIDGE ROAD
Possible Future Roads
Katie Mae Kohler 174/478
Howard County Teachers Association 627/101
C.K. McKinnon 224/268
L.E. Starry 224/400
PARCEL "B"
PARCEL "A"
PARCEL "C"
PEARTREE WAY (FUTURE)
FUTURE OPEN SPACE
LITTLE WILLOW LANE
Drainage Easement
FUTURE SFA
FUTURE COMMERCIAL
(FUTURE) PARKWAY
GREEN MEADOW (FUTURE) DRIVE
LITTLE PATUXENT
WATCH
IRON FRAME WAY
FLYWHEEL (FUTURE) COURT
CHAIN WAY
FUTURE OPEN SPACE
N502,000
E829,500
N500,500
E832,000

DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING 7-27-83 DATE

OFFICE OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION 7-22-83 DATE

Rev. Date	Rev. No.	Revision Description
7/1/83	1	As per DPW Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE SECTION 3 AREA 1

PROJECT TITLE
DRAINAGE AREA MAP

SCALE: 1" = 100' DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 1974

#42

AS-BUILT F-83-120 5/4/83 SHEET 9 OF 25

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83

OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83

LEGEND

El.360.0 – 100 Year Flood Plain Elevation

PARCEL "A"
PARCEL "C"
PARCEL "D"
PARCEL "E"
PARCEL "F"
FUTURE COMMERCIAL
FUTURE APARTMENTS
FUTURE APARTMENTS
FUTURE OPEN SPACE
FUTURE OPEN SPACE
FUTURE OPEN SPACE
FUTURE OPEN SPACE
FUTURE OPEN SPACE (SCHOOL)
FUTURE SFA
FUTURE COMM.
100 YEAR FLOOD PLAIN
100 YEAR FLOOD PLAIN
Existing Stream 'X'
72" BCCMP CULVERT
72" BCCMP CULVERT DRAINAGE AREA EQUALS 100 ACRES SEE STORM WATER MANAGEMENT STUDY
LITTLE PATUXENT PARKWAY
HICKORY RIDGE ROAD
GREEN MEADOW (FUTURE) DRIVE
Future System
DARK FIRE WALE-LAP WAY
BRIDGEHEAD WAY (FUTURE)
COURT
SUN CIRCLE (FUTURE) WAY
(FUTURE) BRIGHT PASSAGE (FUTURE)
Future Drain
Future 15" D
N499,500
E830,000
N502,000
E828,500
N500,000
E828,500

A:0.04 I:90 C:0.61 55% IMP. Open Space Apts., S.F.A.
A:0.66 I:40 C:0.65 60% IMP. Apts.
A:0.78 I:35 C:0.73 70% IMP. Apts. S.F.A.
A:0.25 I:36 C:0.73 70% IMP. Apts.
A:0.40 I:37 C:0.73 70% IMP. Apts.
A:0.27 I:27 C:0.73 70% IMP. S.F.L.D.
A:0.80 I:22 C:0.73 70% IMP. Apts.
A:0.02 I:22 C:0.65 60% IMP. Apts., S.F.L.D.
A:0.48 I:20 C:0.65 S.F.M.D.
A:0.91 I:20a C:0.58 50% IMP. S.F.M.D.
A:0.47 I:20c C:0.65 60% IMP. Open Space S.F.M.D.
A:2.02 I:20a C:0.58 50% IMP. Apts., S.F.A.
A:0.91 I:30 C:0.73 70% IMP. Open Space Comm. S.F.M.D.
A:0.41 I:20b C:0.73 70% IMP. Comm. S.F.M.D.
A:0.34 I:21 C:0.73 70% IMP. S.F.M.D.
A:0.83 I:20 C:0.65 60% IMP. Open Space S.F.M.D.
A:2.60 I:32 C:0.58 50% IMP. Apts., S.F.A.
A:0.54 I:29 C:0.73 70% IMP. Open Space S.F.M.D.
A:0.84 I:33 C:0.65 60% IMP. Open Space
A:0.16 I:30 C:0.73 70% IMP. Open Space S.F.M.D.
A:0.58 I:35 C:0.65 60% IMP. Apts., S.F.A. S.F.M.D.
A:0.70 I:24 C:0.30 25% IMP. Open Space
A:0.62 I:34 C:0.58 50% IMP. Open Space S.F.M.D.

Rev.Date	Rev.No.	Revision Description
7/1/83	1	As per DPW Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
DRAINAGE AREA MAP

SCALE: 1"=100' DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

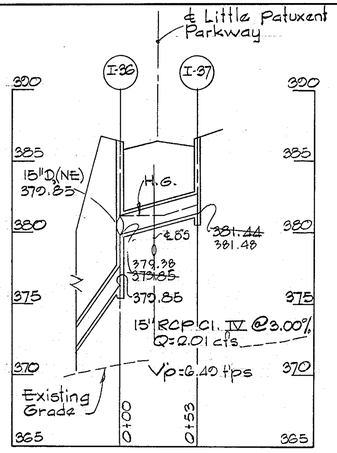
KENNETH A. McCORD
Registered Engineer
No. 10741

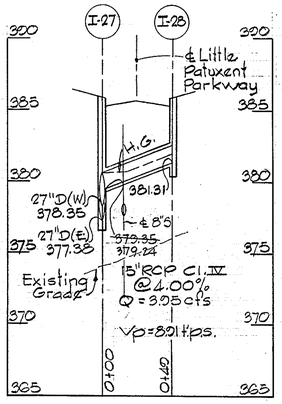
#92

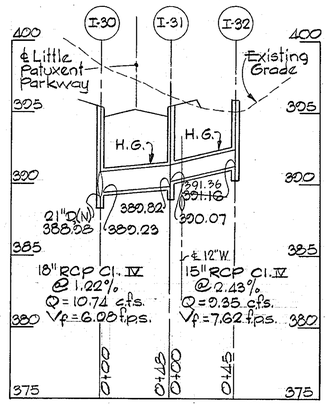
AS-BUILT F-83-120 5/4/83 SHEET 10 OF 25

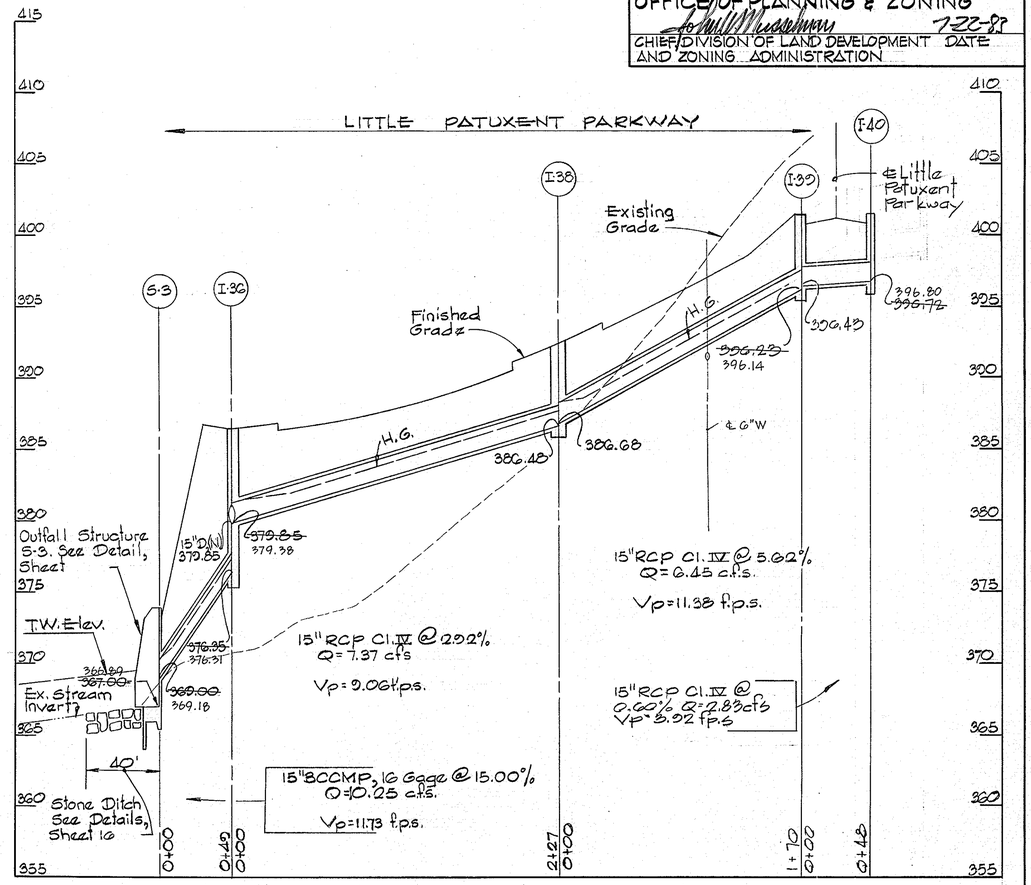
"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E. # 1974

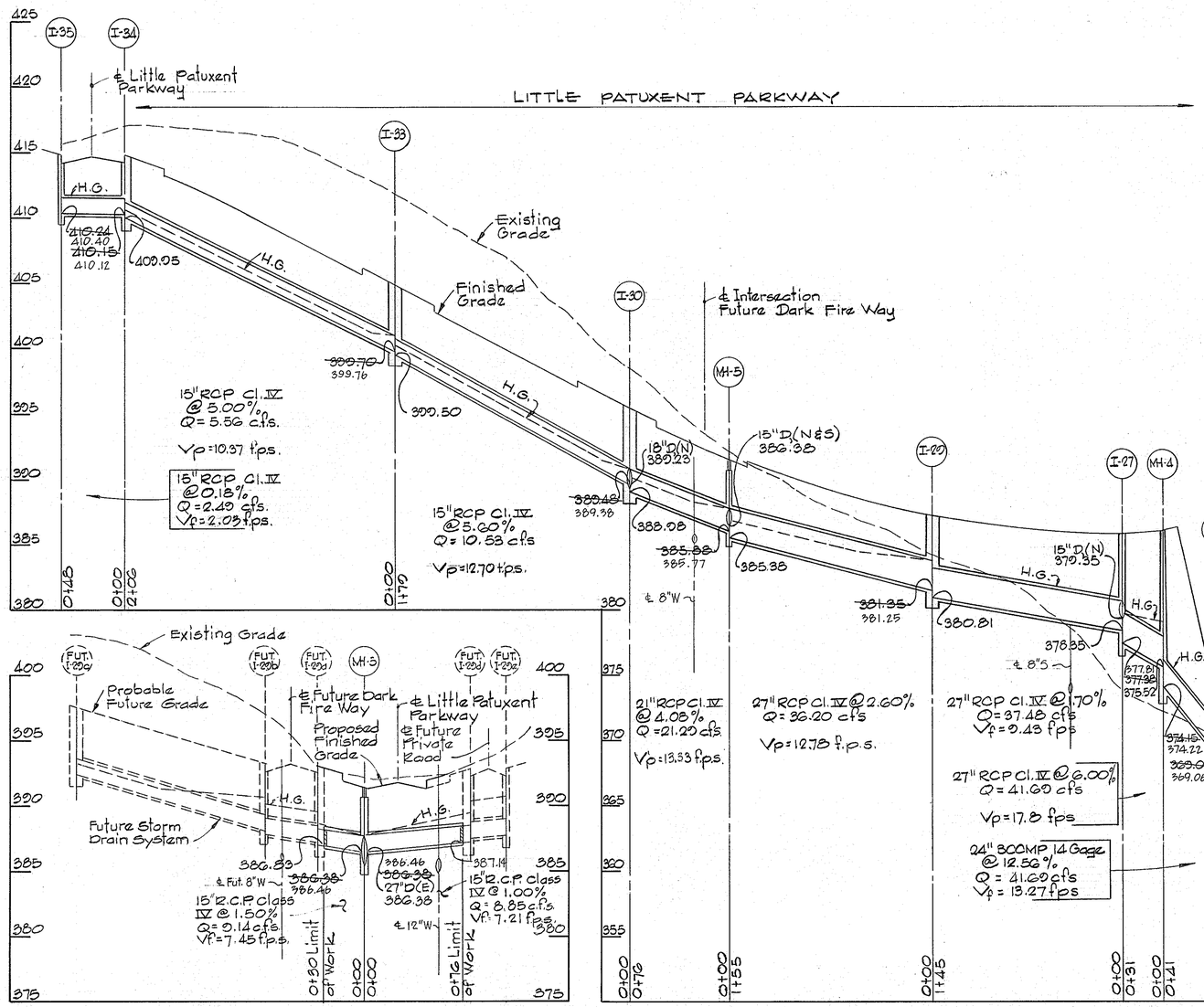
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83











Note:
The type of bedding used for storm drain pipe shall be, class C, shaped subgrade. If rock is encountered, the trench invert should be overexcavted 6 inches and the overexcavation of 6 inches refilled with granular material.

REV. DATE	REV. NO.	REVISION DESCRIPTION
11/7/83	4	Revised I-33 & I-40
10/18/83	3	As Per Health Dept. Comments
8/31/83	2	Revised Note
7/1/83	1	As Per DPW. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

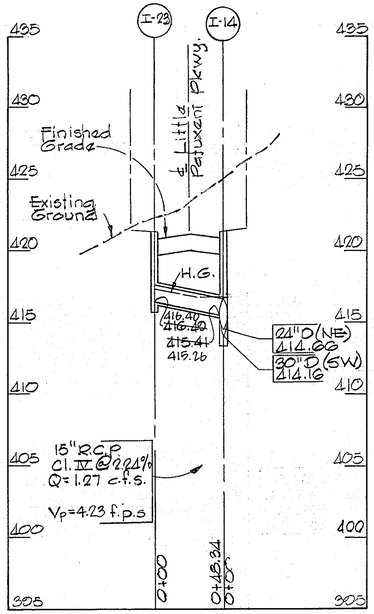
PROJECT TITLE
STORM DRAIN PROFILES

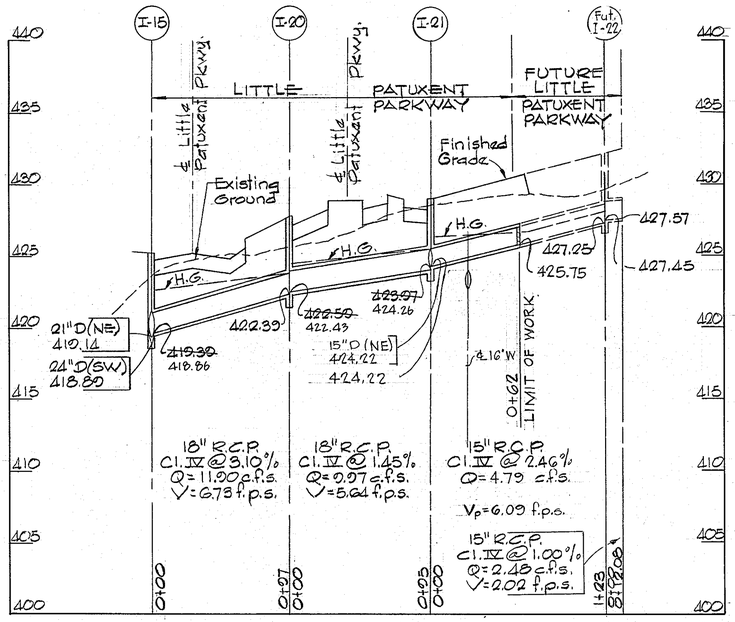
SCALE: Hor. 1"=50', Vert. 1"=5' DATE:

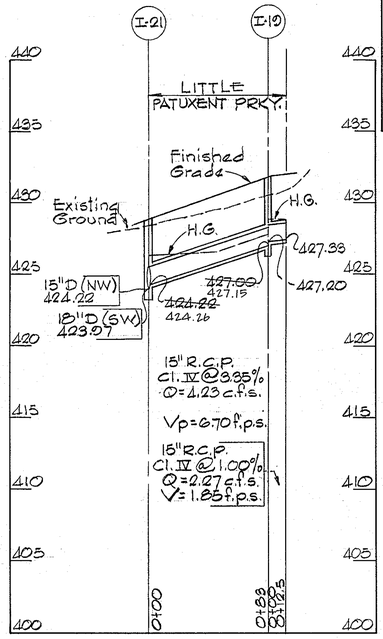
WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 1974

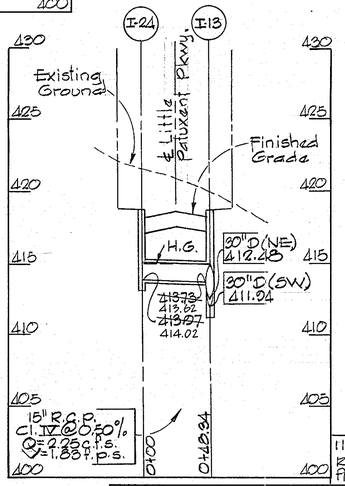
#42

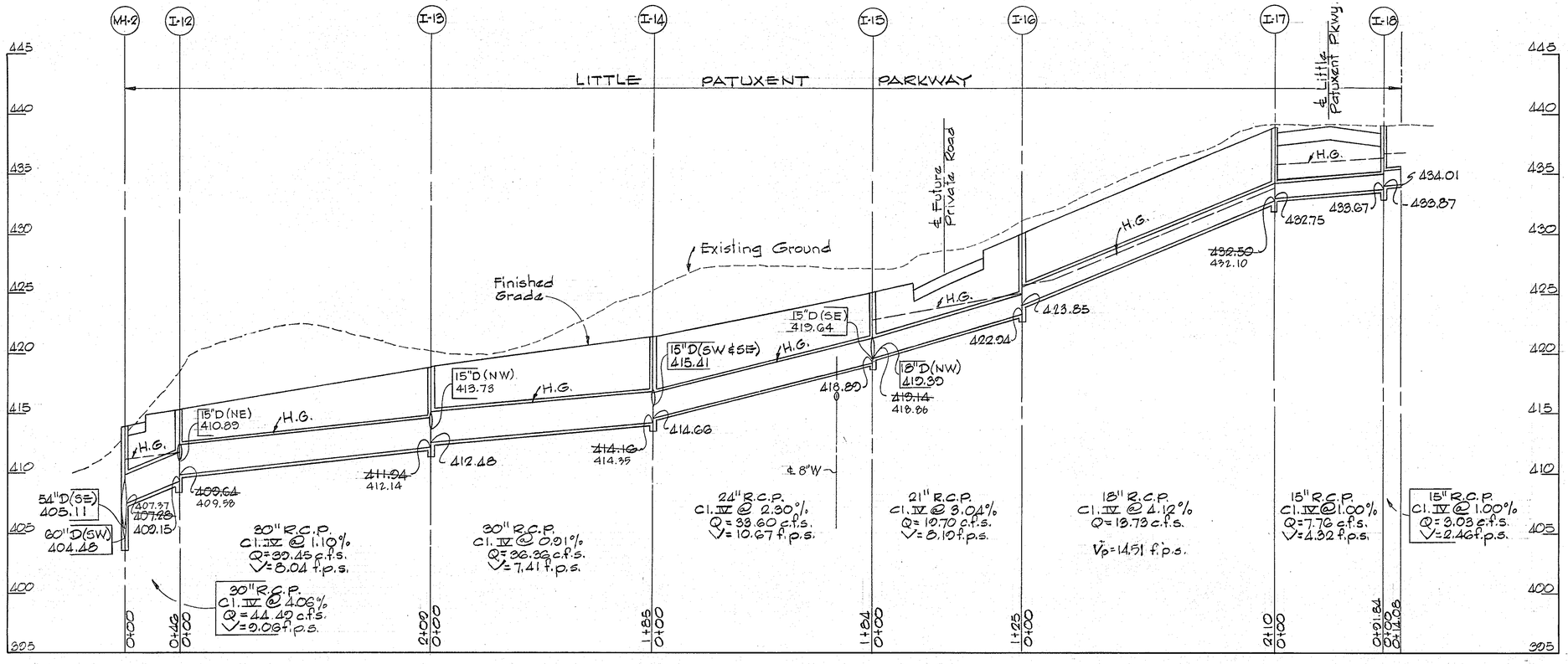






Note:
The type of bedding used for storm drain pipe shall be Class C, shaped subgrade. If rock is encountered, the trench invert should be overexcavated 6 inches and the overexcavation of 6 inches refilled with granular material.





#42

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E. #1974

11/7/83 Revision 4 Removed Stub from I-14

Rev. Date	Rev. No.	Revision Description
8/18/83	3	As Per Health Dept. Comments
8/01/83	2	Revised Note
7/1/83	1	As Per DPW & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE SECTION 5 AREA 1

PROJECT TITLE
STORM DRAIN PROFILES

SCALE: Hor. 1"=50', Vert. 1"=5' DATE: 5/4/83

WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

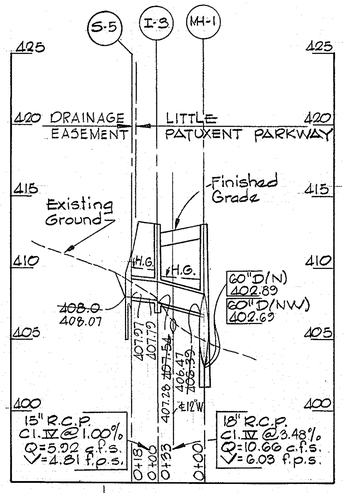
KENNETH A. McCORD
Registered Engineer
No. 1974

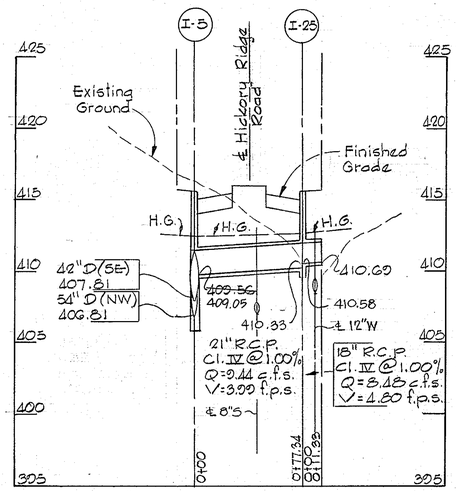
AS-BUILT NOV. 19, 1984

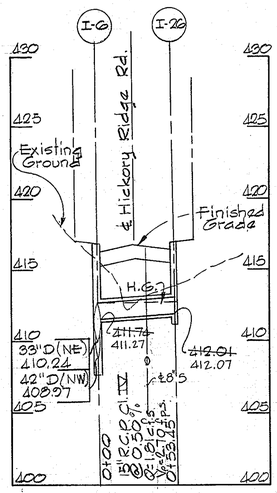
F-83-120

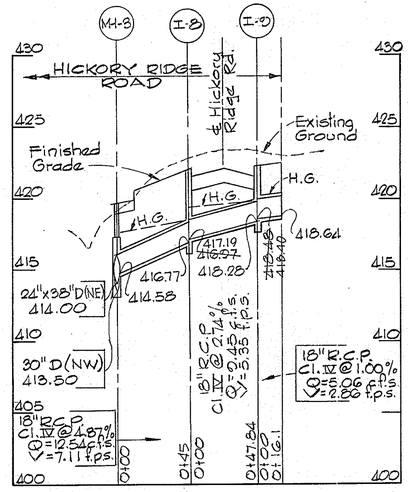
"As-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E. # 1974

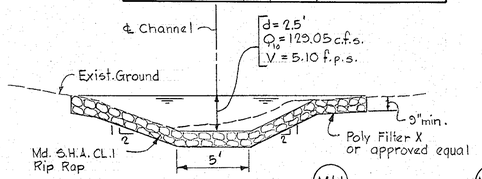
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83

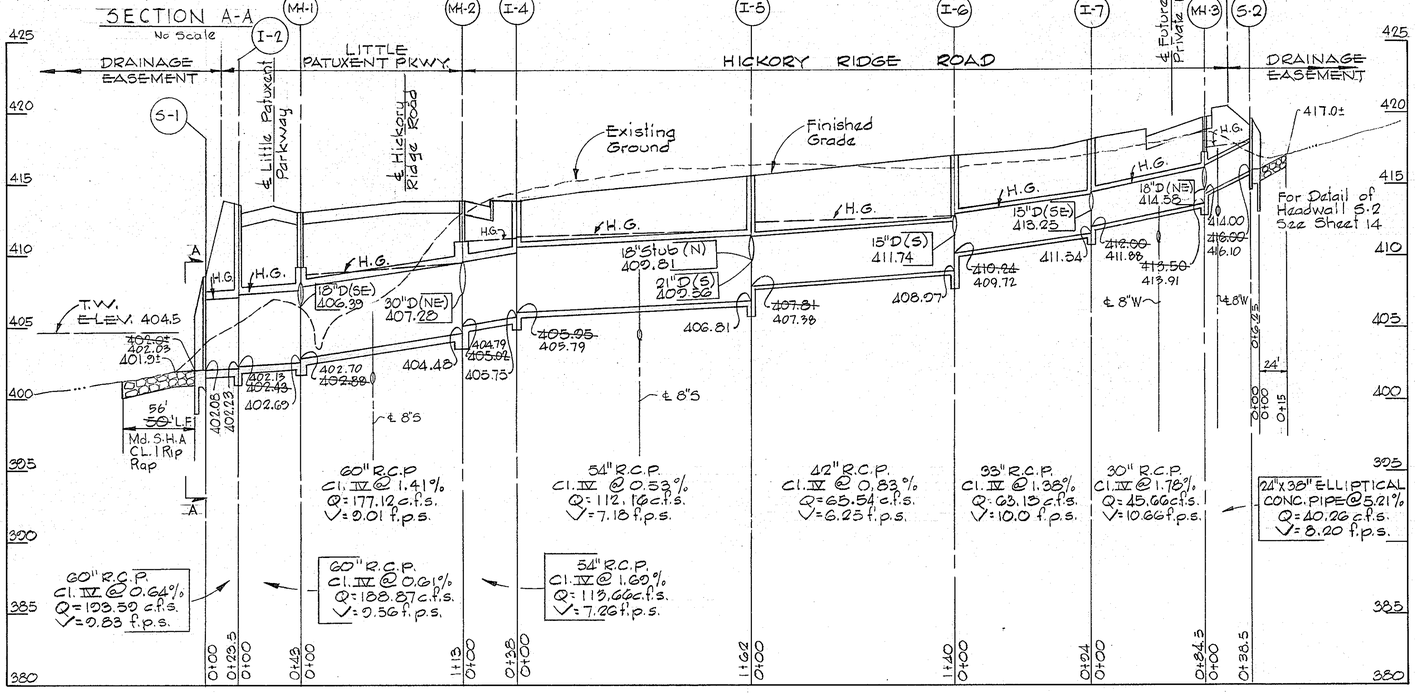


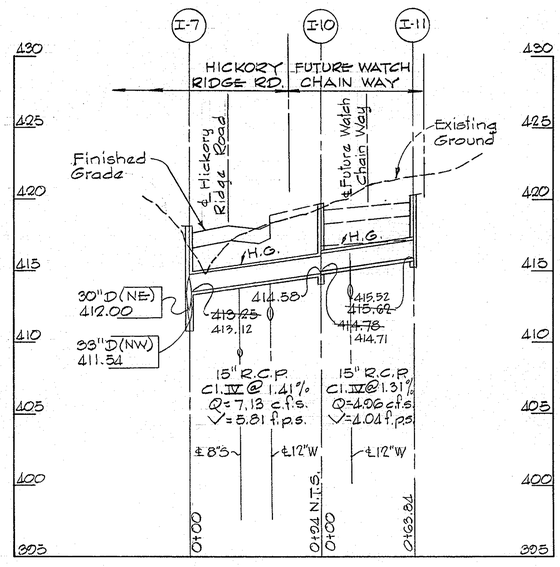












Note:
The type of bedding used for storm drain pipe shall be Class C, shaped subgrade. If rock is encountered, the trench invert should be overexcavated 6-inches and the overexcavation of 6-inches refilled with granular material.

Rev Date	Rev. No.	Revision Description
11/7/83	3	Removed Stub, Revised Distance, %'s & Q's
8/8/83	2	Added Note
7/1/83	1	As per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM DRAIN PROFILES

SCALE: Hor. 1"=50', Vert. 1"=5' DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 1974

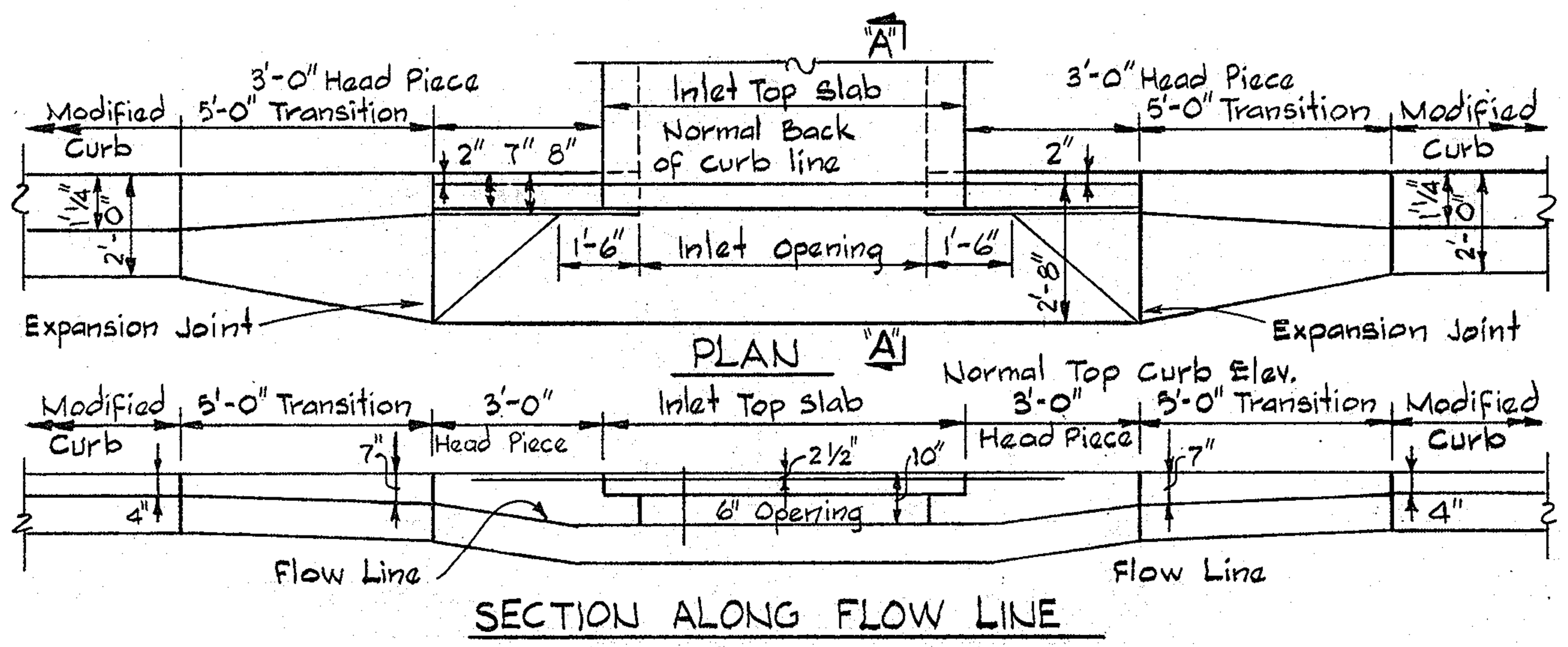
AS-BUILT NOV. 19, 1984

#42

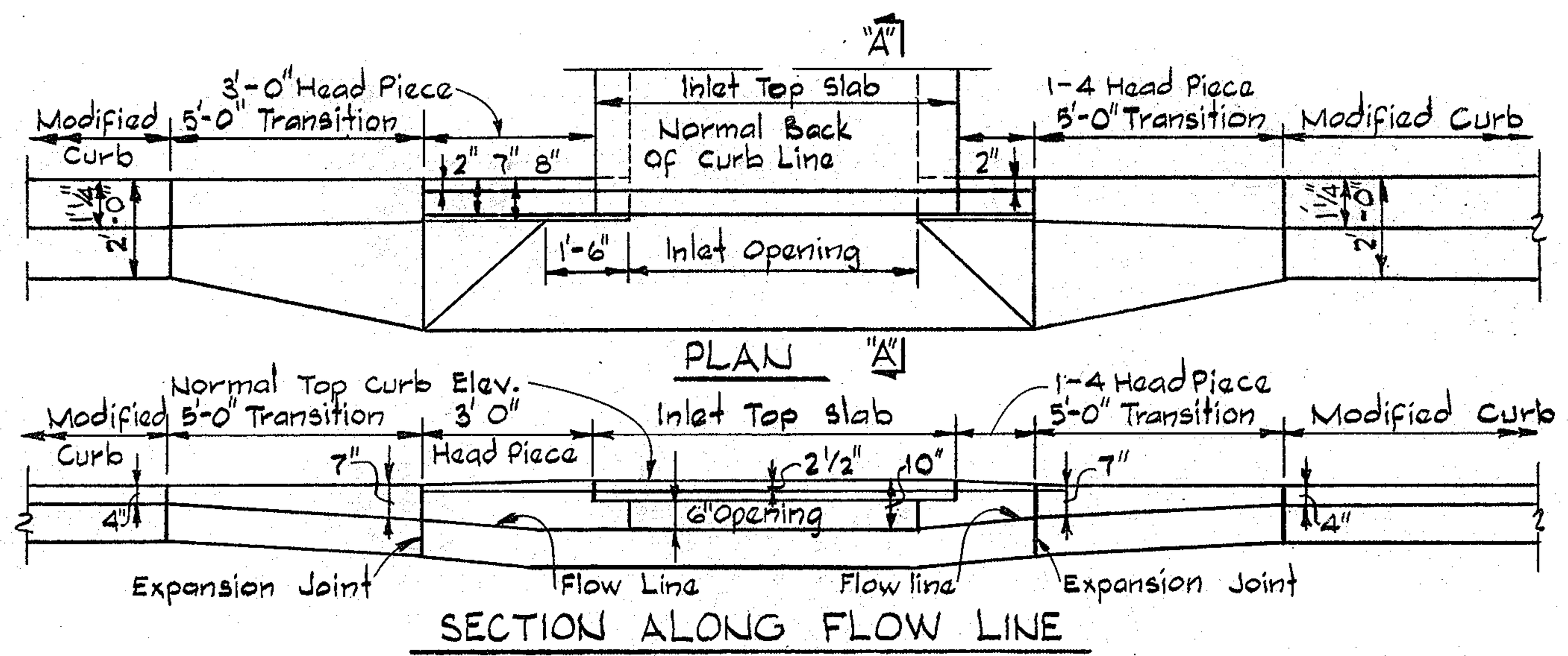
F-83-120

5/4/83

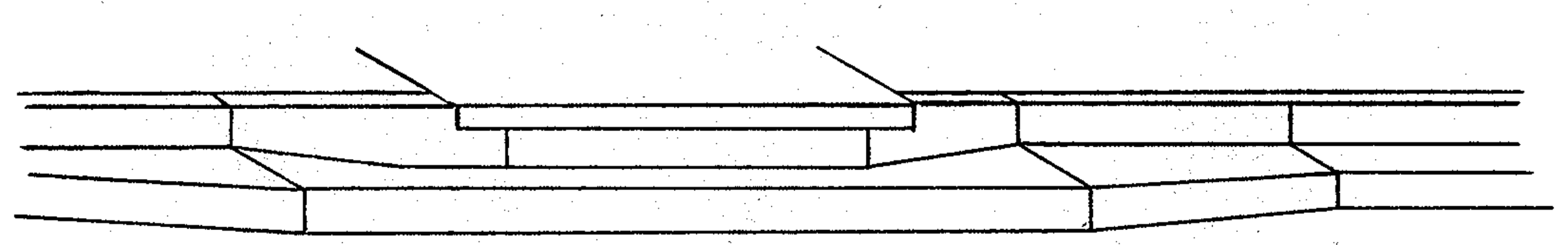
DEPARTMENT OF PUBLIC WORKS
[signature] 7-27-83
CHIEF, BUREAU OF ENGINEERING DATE
OFFICE OF PLANNING AND ZONING
[signature] 7-22-83
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

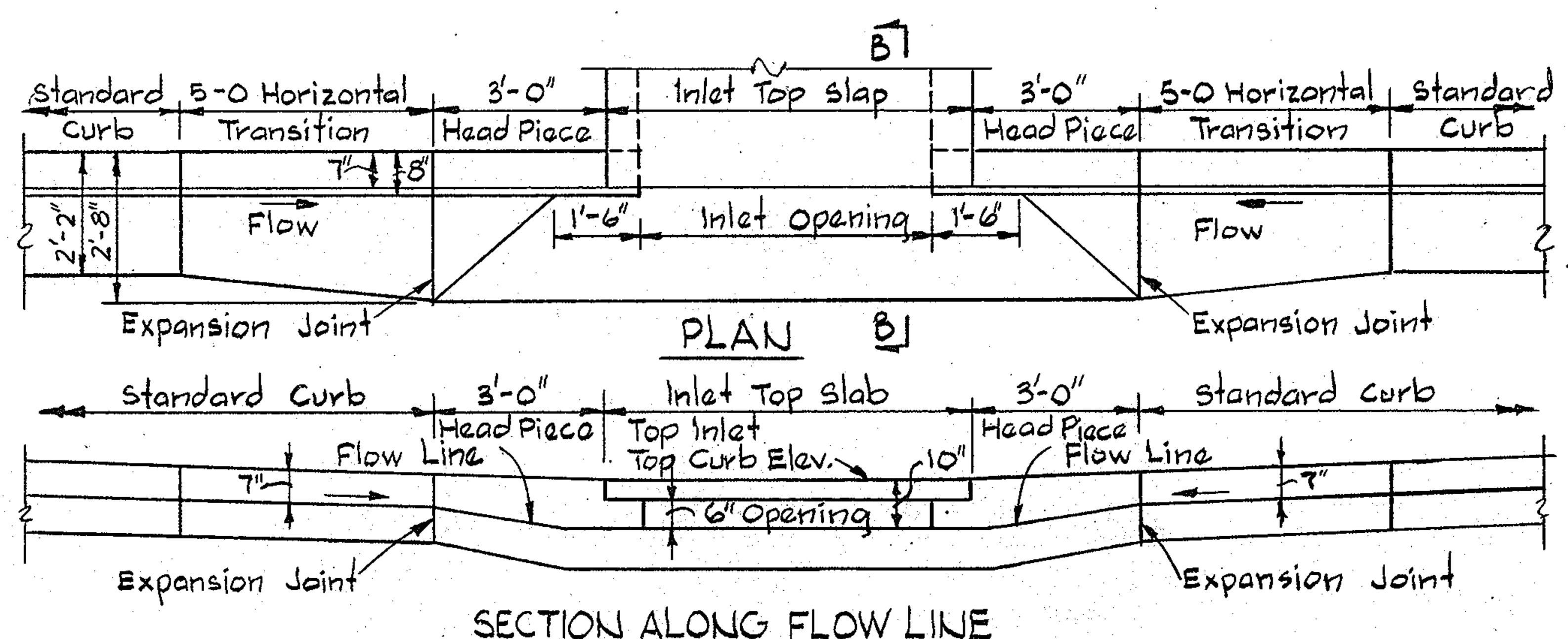


SUMPED "A" INLETS - MODIFIED CURB

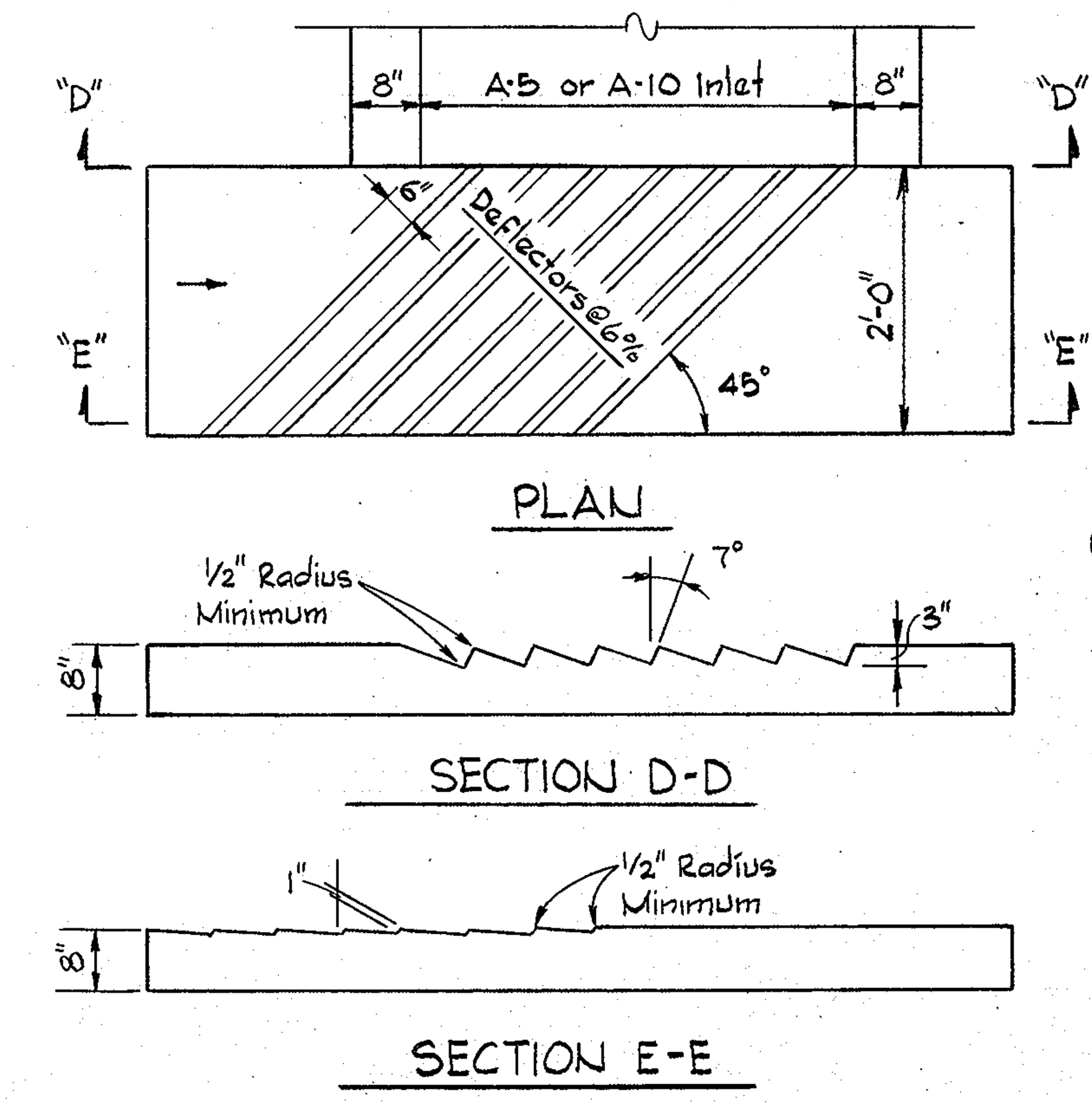


"A" INLETS - MODIFIED CURB



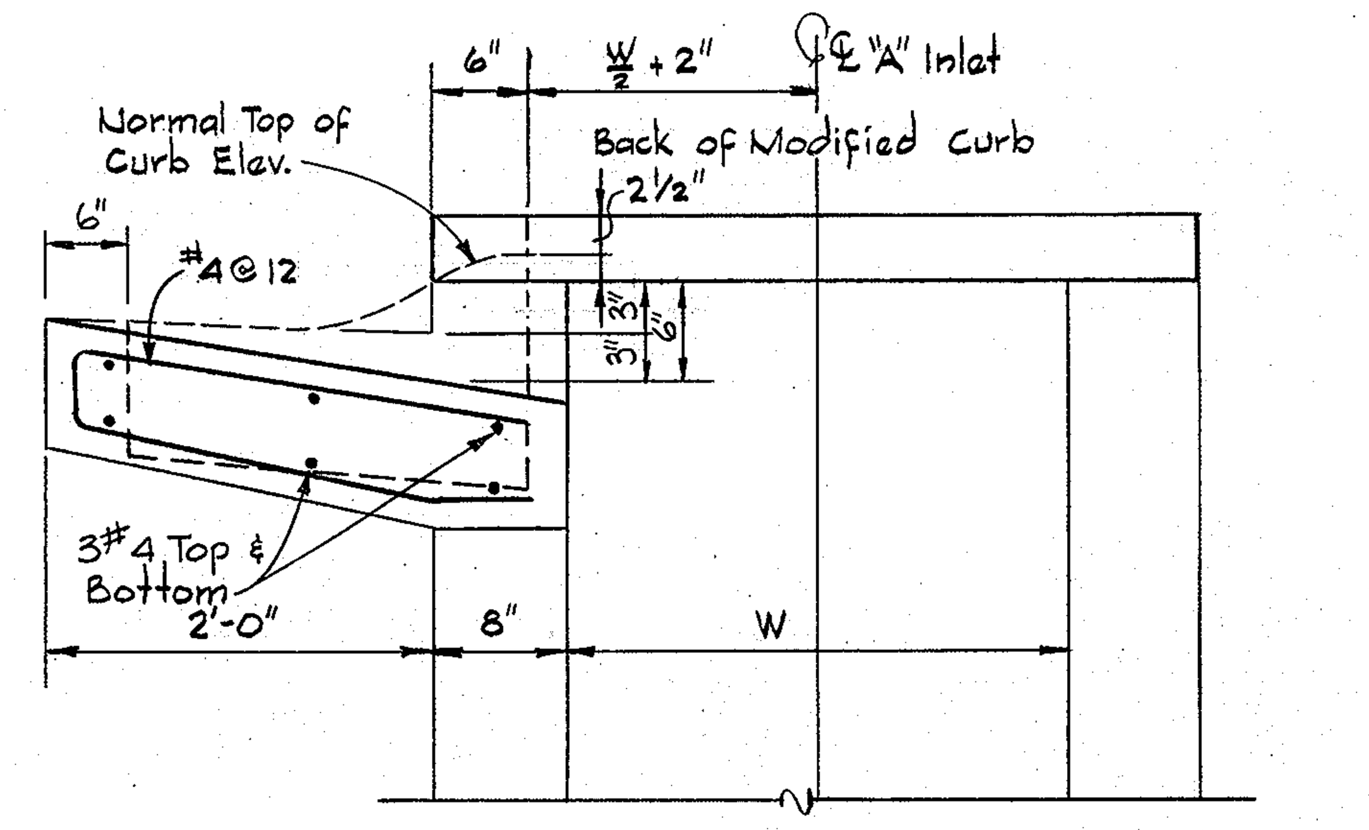


SUMPED "A" INLETS - STANDARD CURB



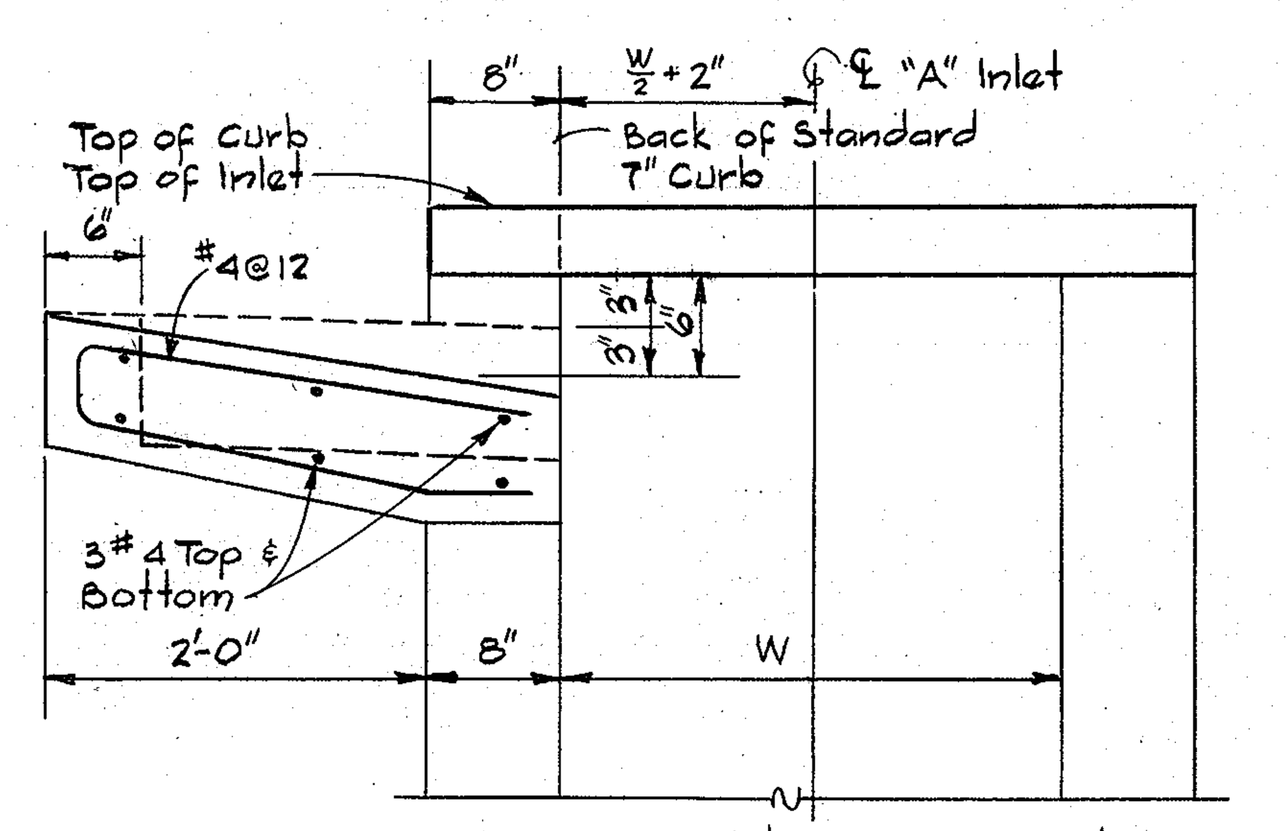
DEFLECTOR DETAIL

No Scale



SECTION "A-A"

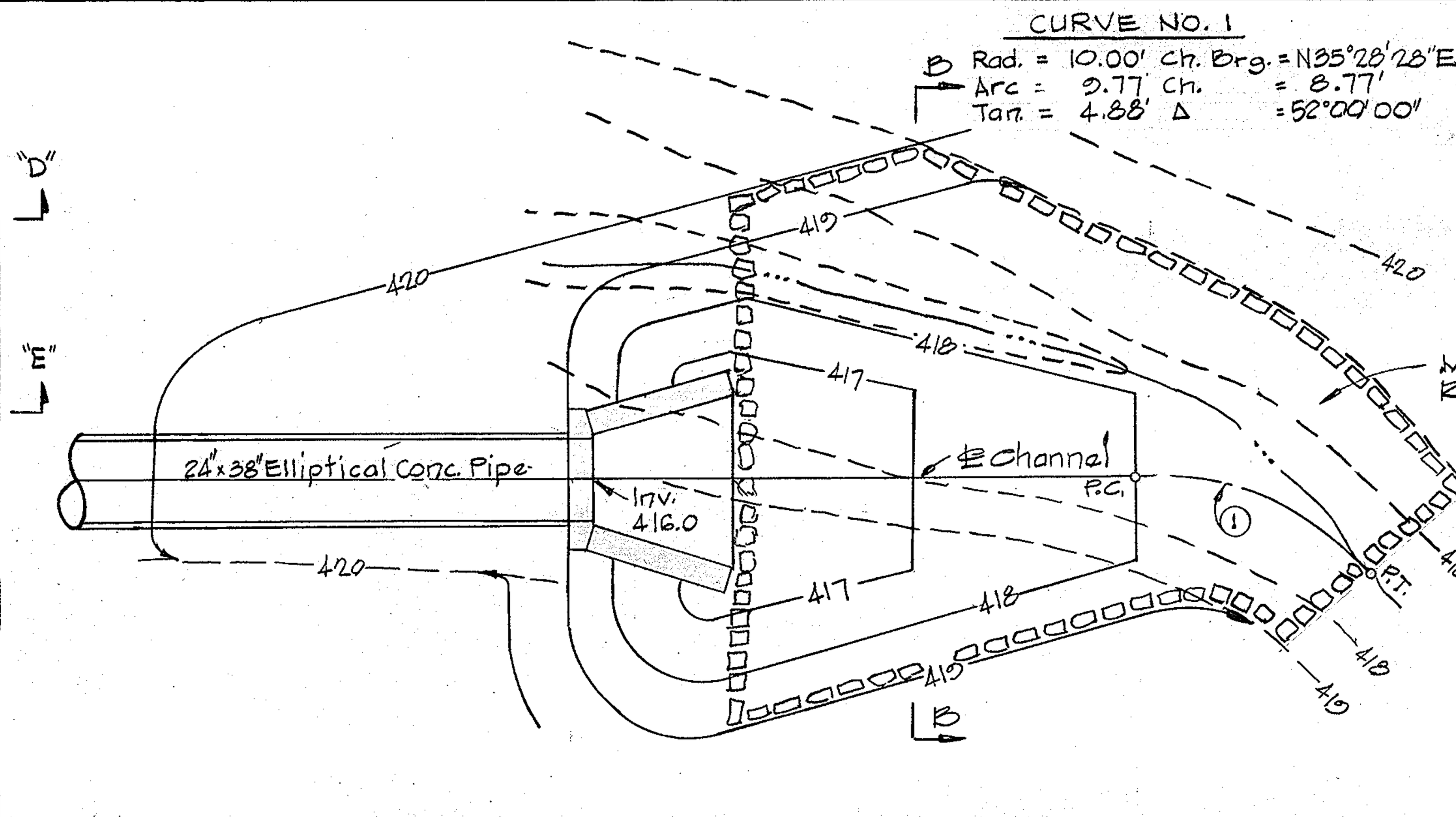
"A" INLET - MODIFIED CURB



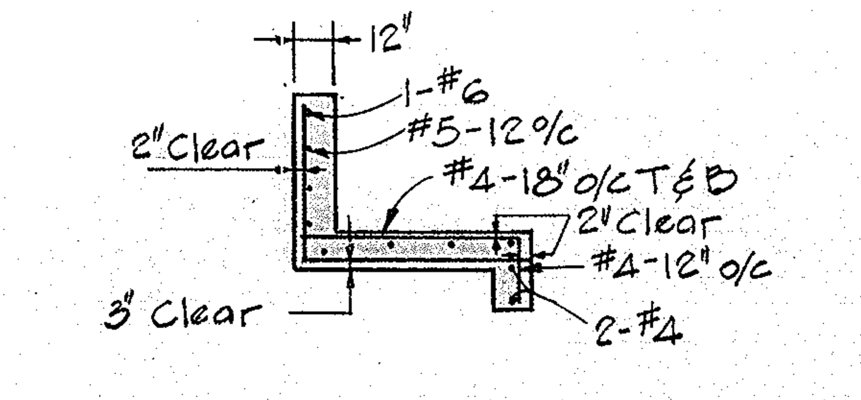
Note: For "A" Inlet dimensions and structural details see standard Howard County Drawing 64A page 119A

SECTION "B-B"

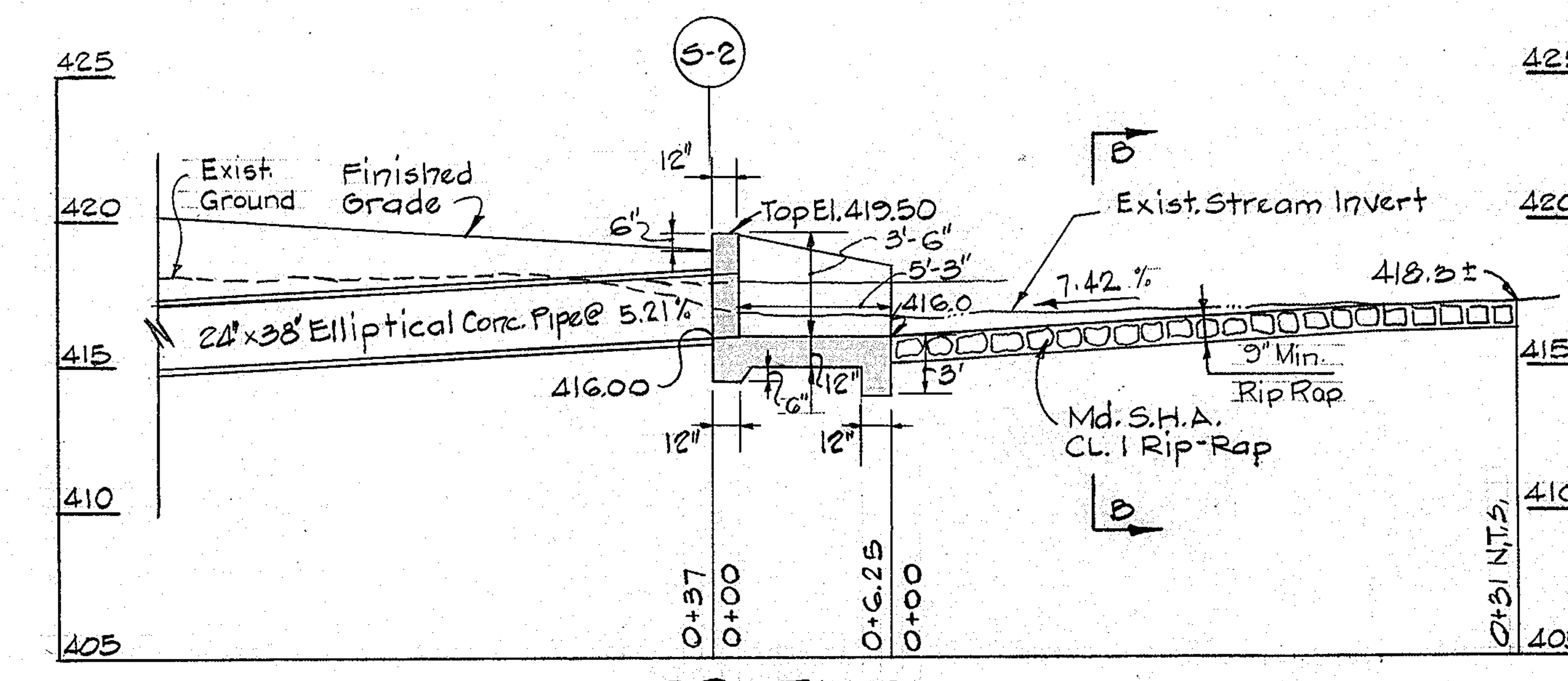
"A" INLET - STANDARD CURB



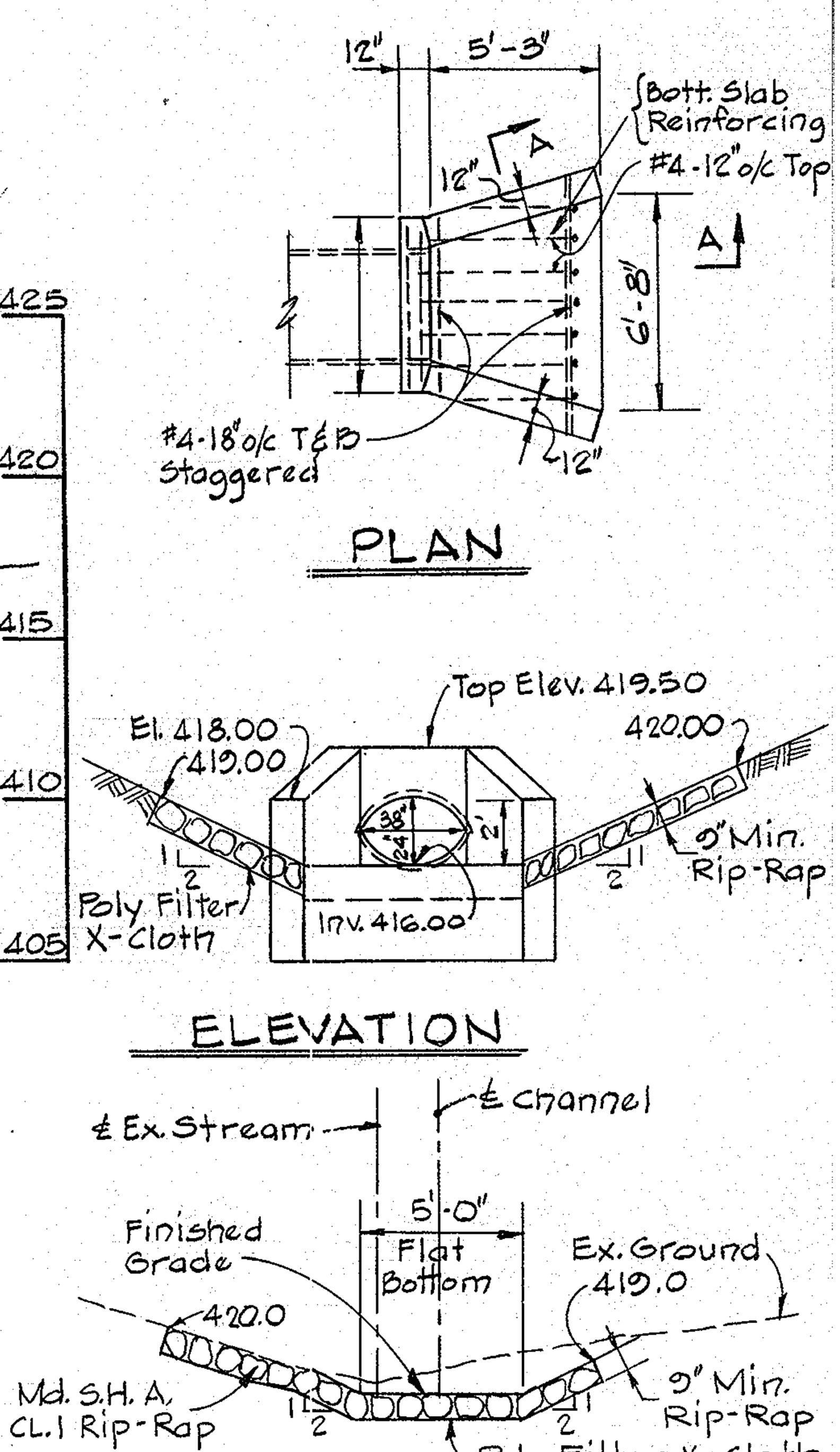
GRADING PLAN



SECTION A-A



PROFILE



DETAIL STRUCTURE S-2

Scale 1" = 5'

REV. DATE	REV. NO.	REVISION DESCRIPTION
11/7/83	2	Revised Structure S-2 Details
7/1/83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
COLUMBIA, MARYLAND 20144

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM DRAIN DETAILS

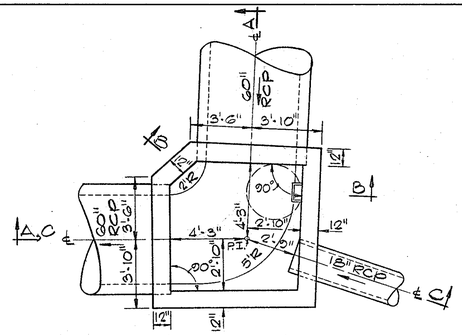
SCALE: AS SHOWN DATE

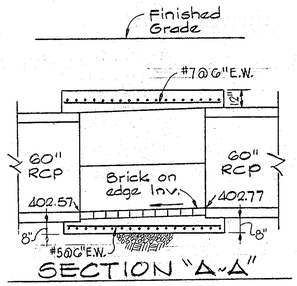
WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

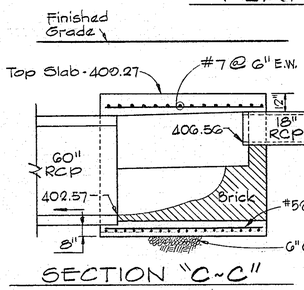
[signature]
KENNETH A. McCORD
Registered Engineer
No. 1974

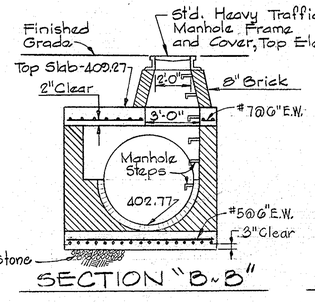
AS-BUILT NOV. 19, 1984

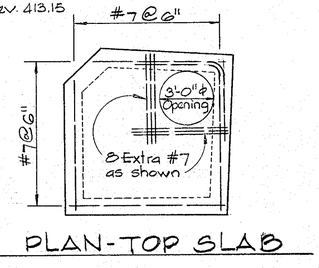
#42





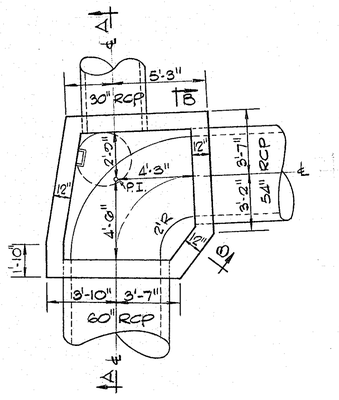


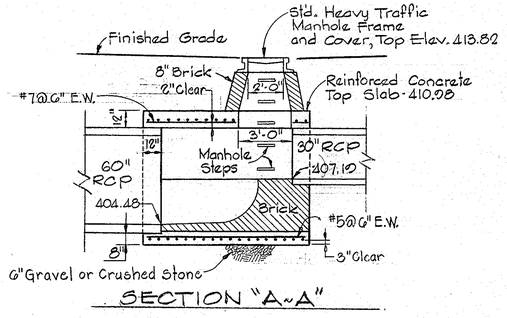


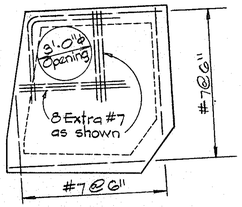


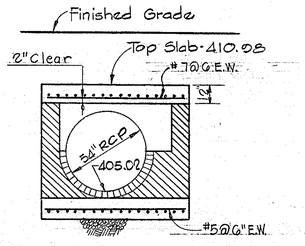
SPECIAL MANHOLE #1

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



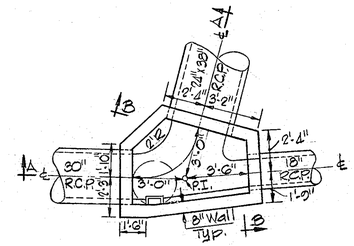


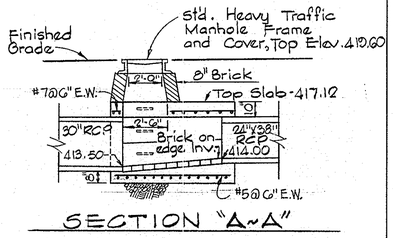


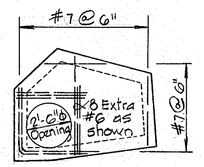


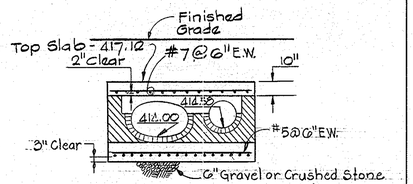
SPECIAL MANHOLE #2

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









SPECIAL MANHOLE #3

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

AS-BUILT NOV. 19, 1984

DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83

OFFICE OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83

Rev. Date	Rev. No.	Revision Description
7/1/83	1	As Per DPW & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM DRAIN DETAILS

SCALE: As Shown DATE:

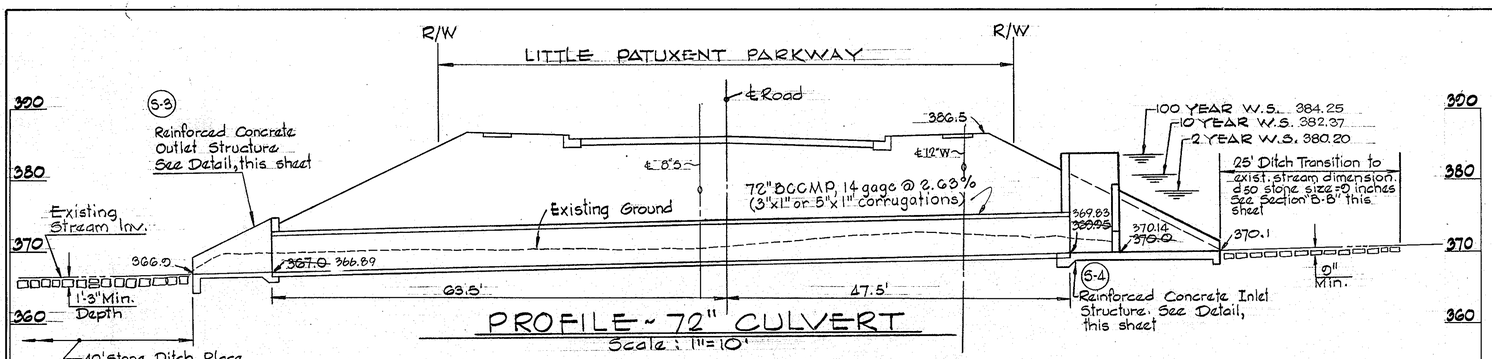
WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 1974

#42

F-83-120

5/4/83

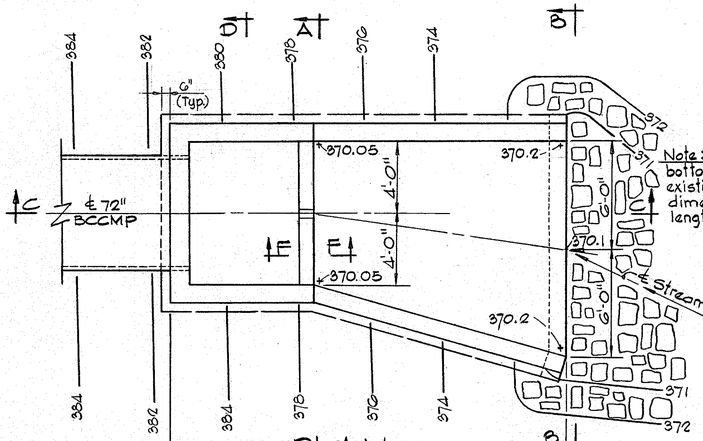


PROFILE ~ 72" CULVERT

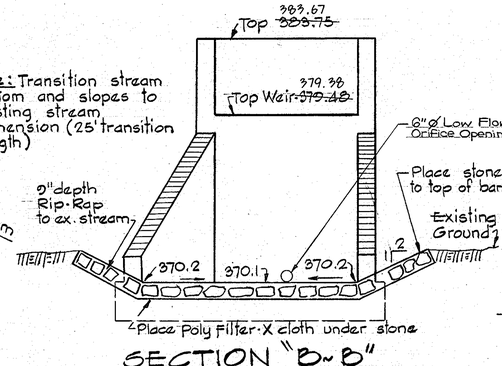
Scale : 1"=10'

HYDRAULICS ~ 72" CULVERT (Ultimate Land Use)

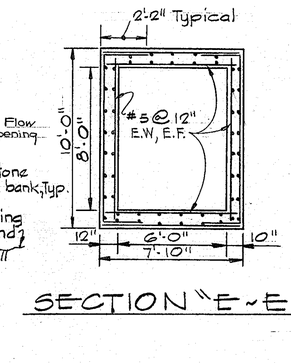
FREQUENCY FLOOD EVENT	PEAK INFLOW CFS	PEAK OUTFLOW CFS	STORAGE AC. FT.
2 YEAR	140	24	5.7
10 YEAR	295	134	9.9
100 YEAR	474	284	14.7



PLAN



SECTION "B-B"



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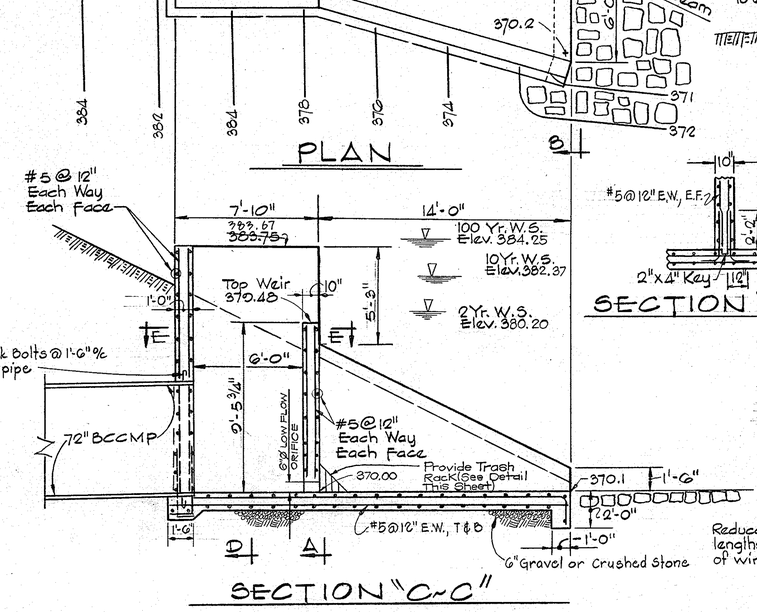

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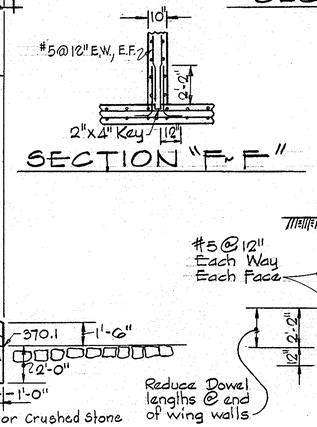
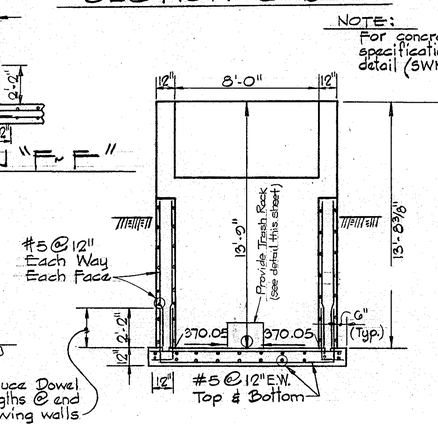
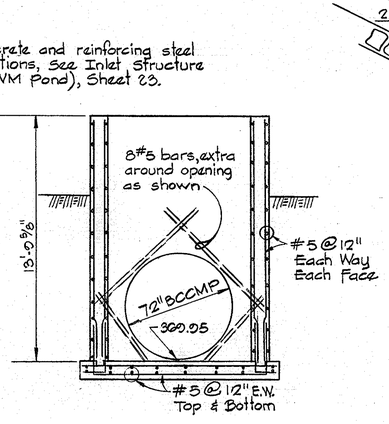


SECTION "F-F"

NOTE:
For concrete and reinforcing steel specifications, See Inlet Structure detail (SWM Pond), Sheet 23.



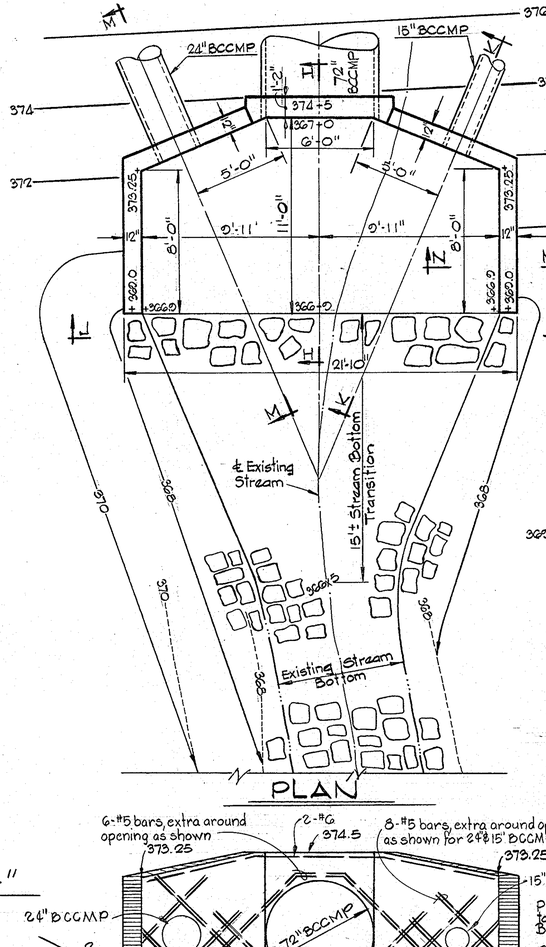
SECTION "A-A"



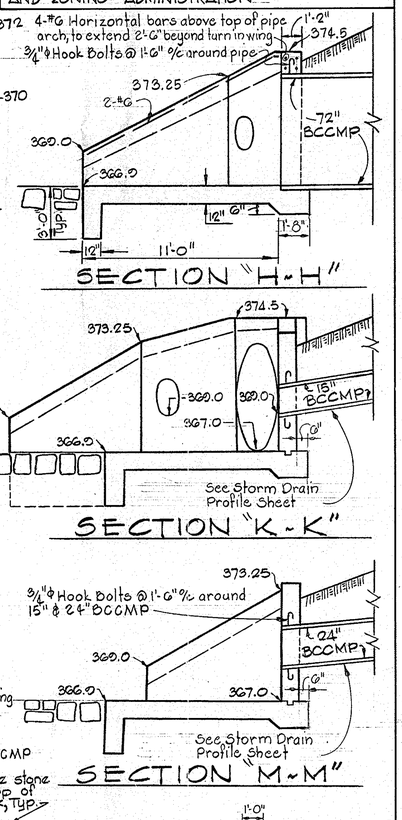
SECTION "D-D"

Notes for Outlet Structure :

1. For reinforcing steel see Howard County Department of Public Works Standards, Type 'A' Headwall.
2. Strut 72" BCCMP while pouring concrete.



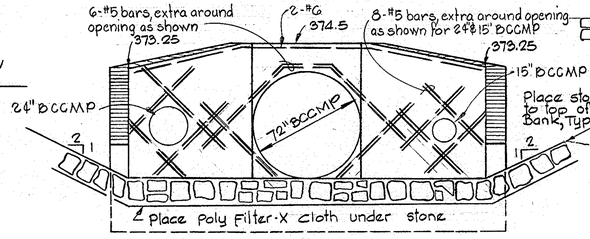
PLAN



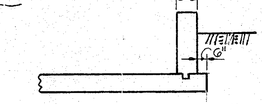
SECTION "H-H"

SECTION "K-K"

SECTION "M-M"



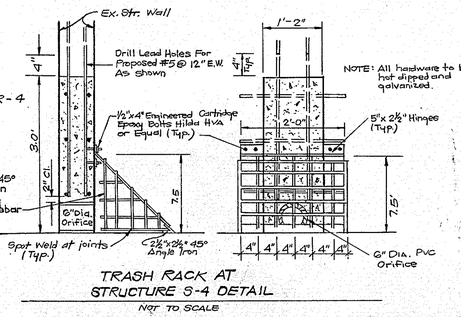
SECTION "J-J"



SECTION "N-N"

OUTLET STRUCTURE ~ 72" CULVERT (S-3)

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



TRASH RACK AT STRUCTURE S-4 DETAIL

NOT TO SCALE

INLET STRUCTURE ~ 72" CULVERT (S-4)

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

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY : KENNETH A. McCORD P.E. # 1974

STATE OF MARYLAND — KENNETH ALAN McCORD — No. 1974 — REGISTERED PROFESSIONAL ENGINEER

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-27-83

Rev. Date	Rev. No.	Revision Description
7/12/83	2	Rev. Low Flow Orifice Str. S-4 and Trash Rack Detail
7/1/83	1	As per DPW & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
72-INCH CULVERT PROFILE AND DETAILS

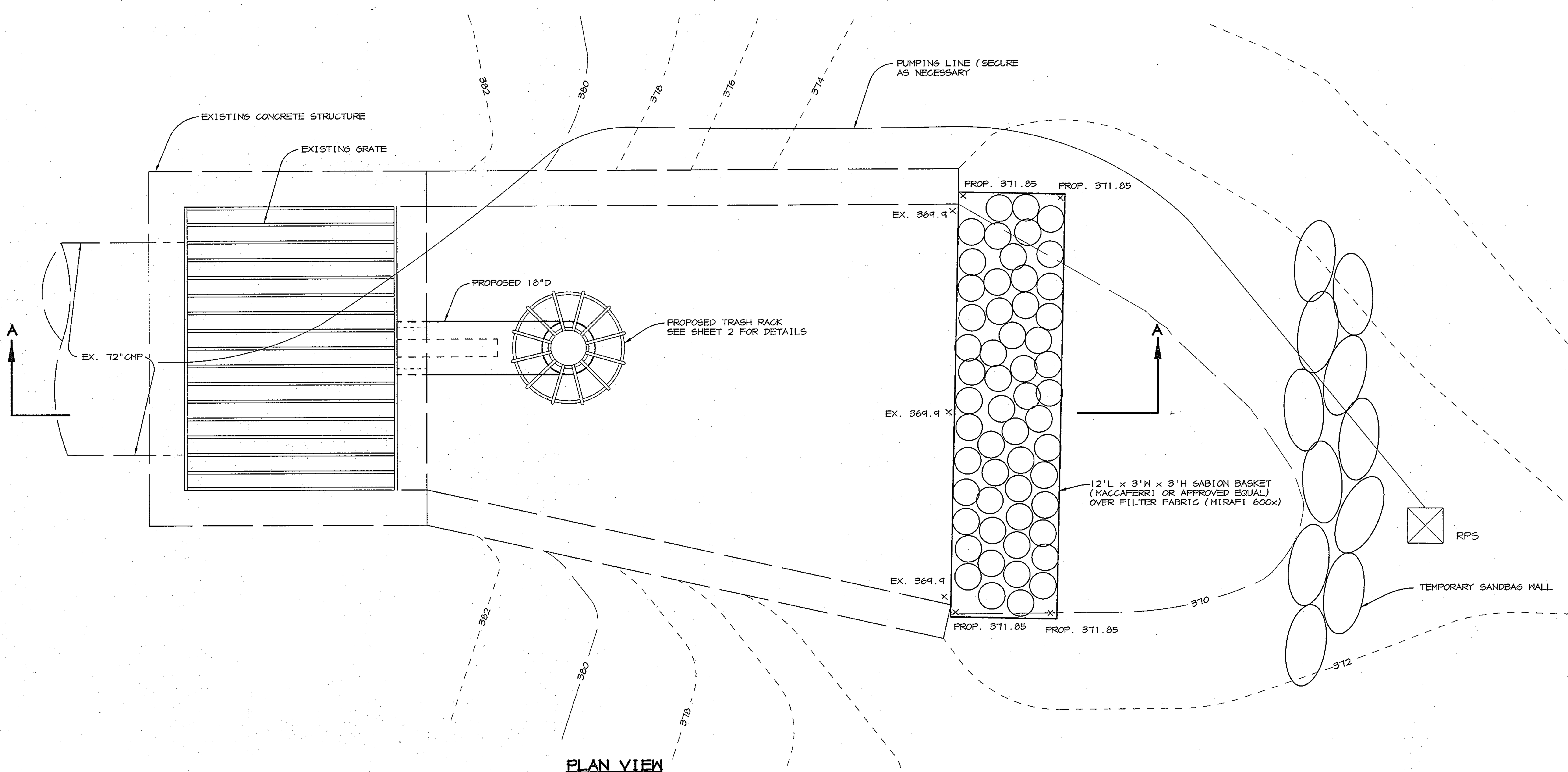
SCALE: As Shown DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

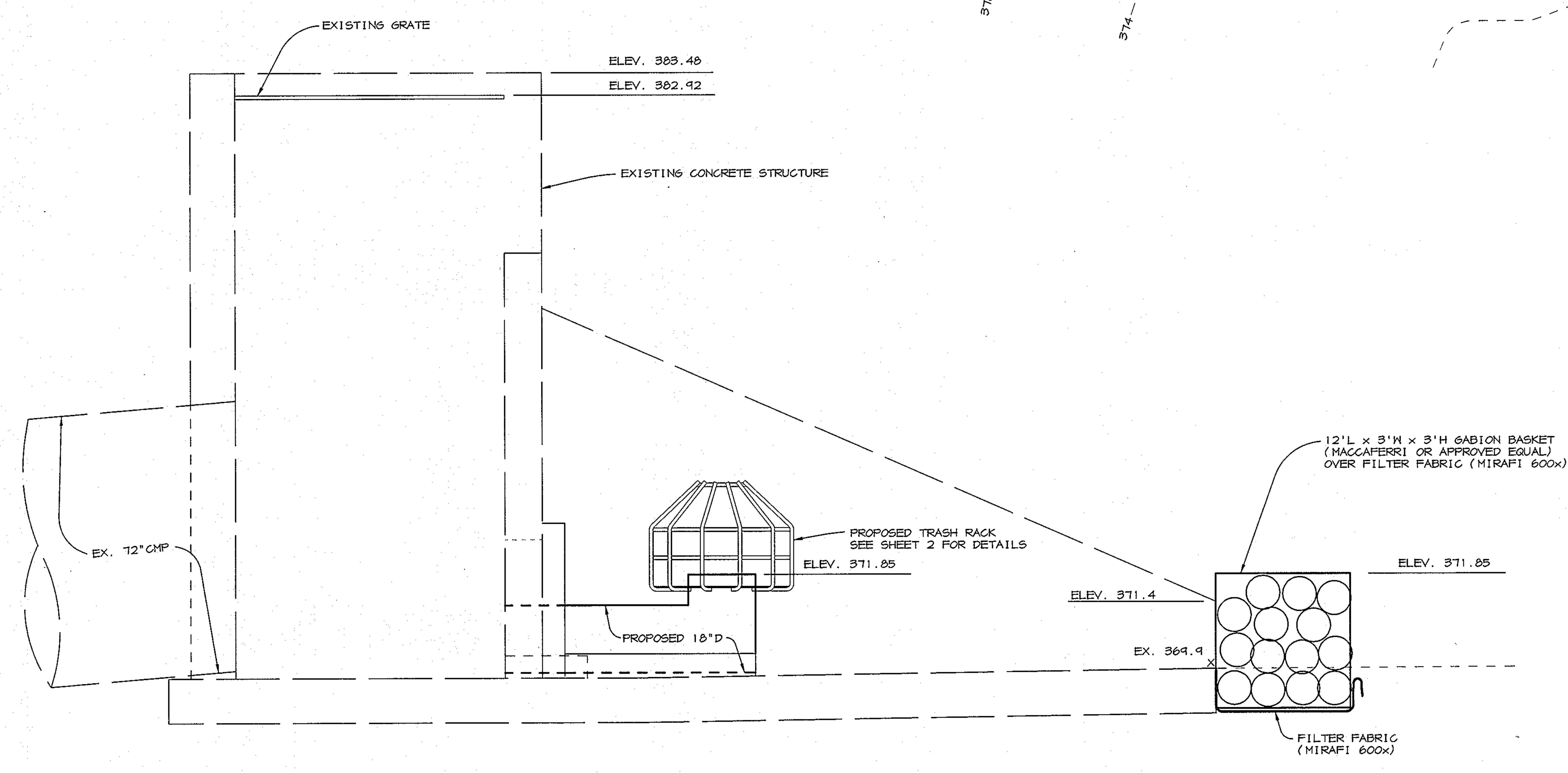
KENNETH A. McCORD
Registered Engineer
No. 1974

#42

F-83-120 AS-BUILT NOV. 19, 84 — 5/4/83 — SHEET 16 OF



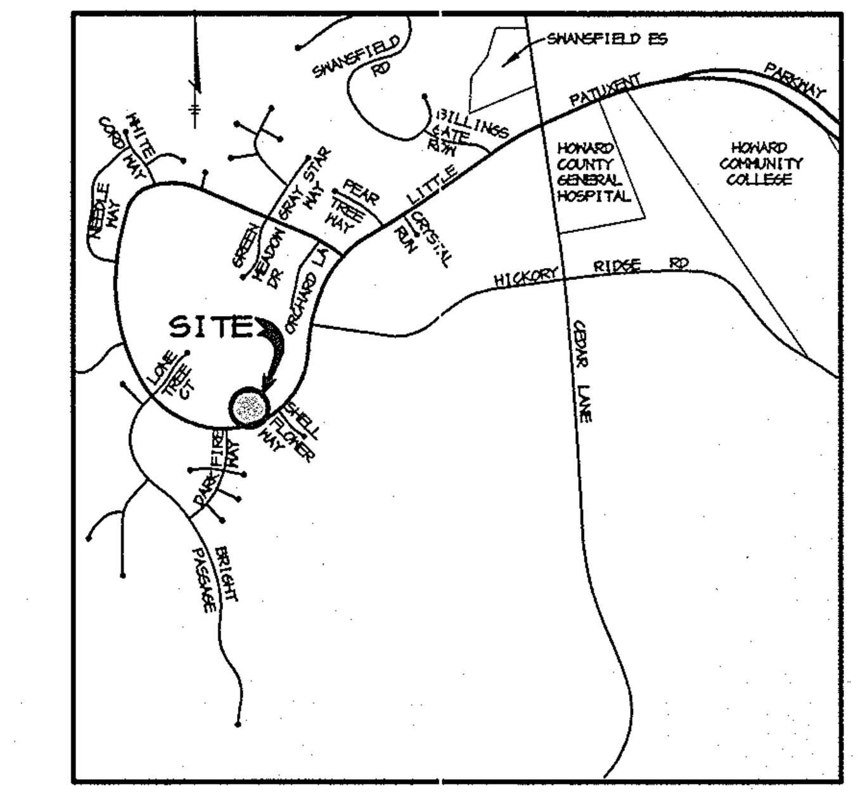
PLAN VIEW
NO SCALE



SECTION A-A
NO SCALE

SEQUENCE OF CONSTRUCTION

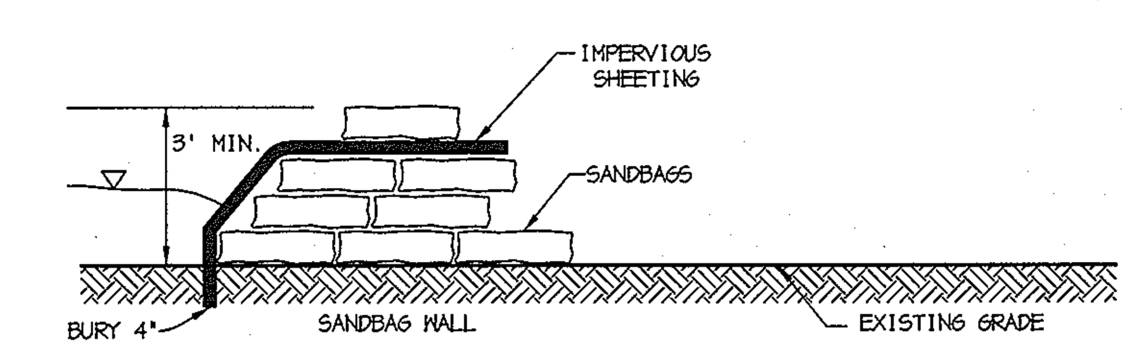
1. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR THIS PROJECT.
2. USING SANDBAGS, REMOVABLE PUMPING STATION AND AN ADEQUATELY SIZED PUMP, CONTRACTOR SHALL BLOCK STREAM TO 2' HEIGHT AND PUMP WATER TO THE 72" CMP.
3. AT THE END OF EACH WORKING DAY, THE WORK AREA SHALL BE STABILIZED TO PREVENT EROSION AND A PORTION OF THE SANDBAGS SHALL BE REMOVED. NO OVERNIGHT PUMPING IS ALLOWED.



VICINITY MAP
SCALE: 1"=2000'

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE HOWARD CO. DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AND MISS UTILITY AT 1-800-257-777 AT LEAST (5) FIVE WORKING DAYS BEFORE STARTING WORK.
2. SUBJECT PROPERTY AND THE COMMUNITY IS ZONED NT PER THE 10-18-93 COMPREHENSIVE ZONING PLAN.
3. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
5. ALL WORK SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ISSUED BY THE WATER RESOURCES ADMINISTRATION AND THE NATURAL RESOURCES CONSERVATION SERVICE.
6. TOPOGRAPHY WAS FIELD SURVEYED BY RIEMER MUEGGE & ASSOCIATES, INC. IN OCTOBER, 1997.
7. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
8. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES AND SAFETY PRECAUTIONS AND PROGRAMS.
9. APPROXIMATE UTILITIES ARE SHOWN FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
10. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.



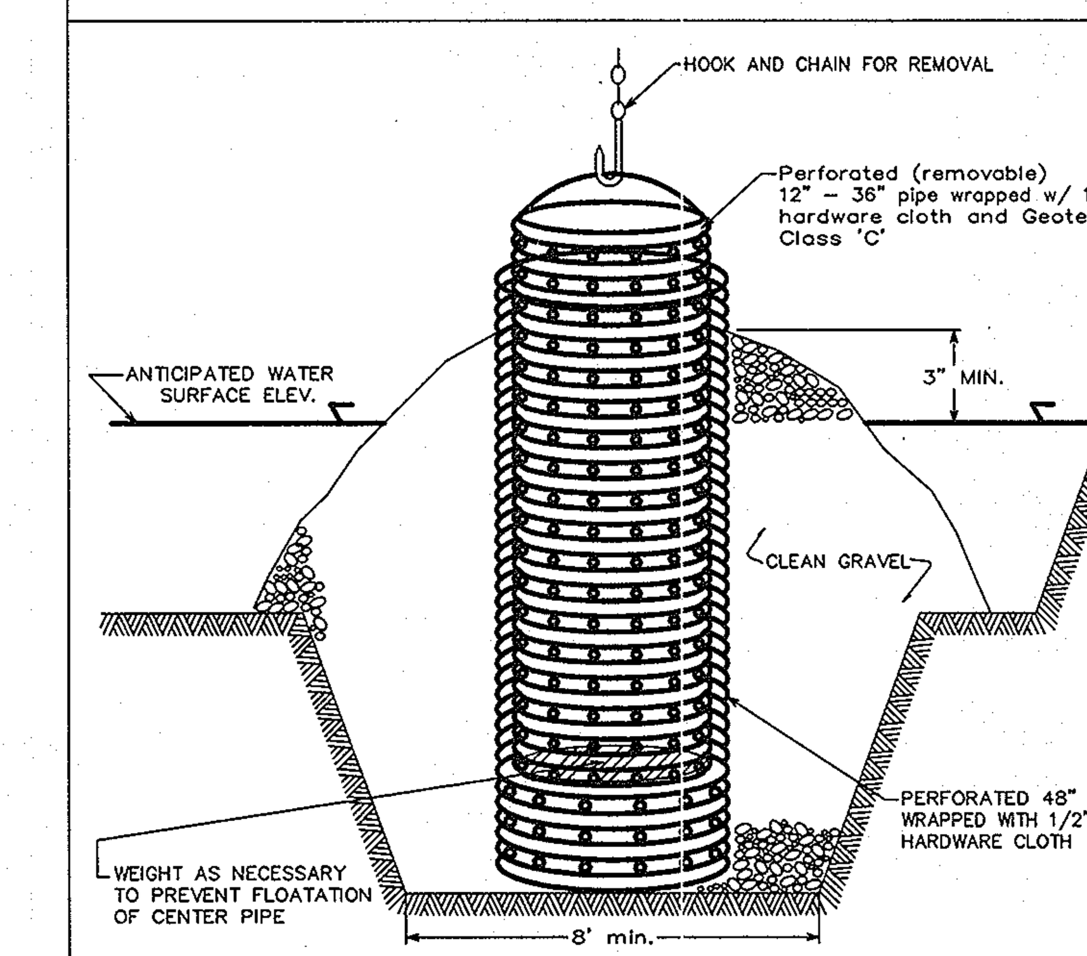
DESCRIPTION
THE WORK SHALL CONSIST OF INSTALLING A FLOW DIVERSION STRUCTURE WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS CULVERT CONSTRUCTION OR STORM DRAIN CONSTRUCTION.

MATERIAL SPECIFICATIONS
1. SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (i.e., SAND, FINE GRAVEL, ETC.).
2. SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.

CONSTRUCTION REQUIREMENTS
1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK
2. THE WALL STRUCTURE SHALL BE INSTALLED FROM UPSTREAM TO DOWNSTREAM.
3. THE TOP WIDTH OF DIKE IS TO BE FROM 2 - 4 FEET.
4. THE HEIGHT OF THE DIVERSION STRUCTURE SHALL BE TWO TIMES THE DIVERSION PIPE DIAMETER.
5. ALL EXCAVATED MATERIALS SHALL BE DISPOSED OF IN A SCD APPROVED DISPOSAL AREA OUTSIDE THE 100-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS BY THE WRA.
6. ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED FROM A SUMP PIT PRIOR TO RE-ENTERING THE SYSTEM.
7. SHEETING SHALL BE OVERLAPPED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST AN 18 - INCH OVERLAP.
8. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTING AUTHORITY APPROVES THE REMOVAL.

TEMPORARY SANDBAG WALL
NO SCALE

DETAIL 20A - REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 12 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE — CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE
CHIEF, BUREAU OF HIGHWAYS — DATE — CHIEF, STORMWATER MANAGEMENT DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ENVIRONMENTAL SERVICES PLANNING SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282
97329/SHT1.DWG

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

DES: AAP
DRN: MAD
CHK: AAP
DATE: 10/1/99

BY	NO.	REVISION	DATE

GABION DETAILS

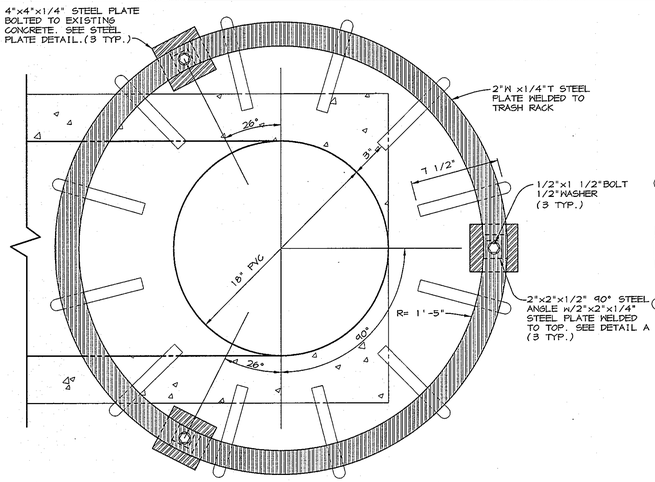
600' SCALE MAP NO. 35 BLOCK NO. 10

LITTLE PATUXENT PARKWAY
STORMWATER MANAGEMENT RETROFIT
VILLAGE OF HICKORY RIDGE
SECTION 3, AREA 1
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
PROJECT No.

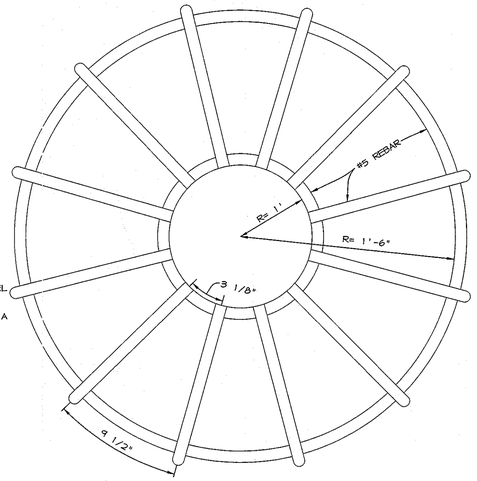
SCALE AS SHOWN

SHEET 16 OF

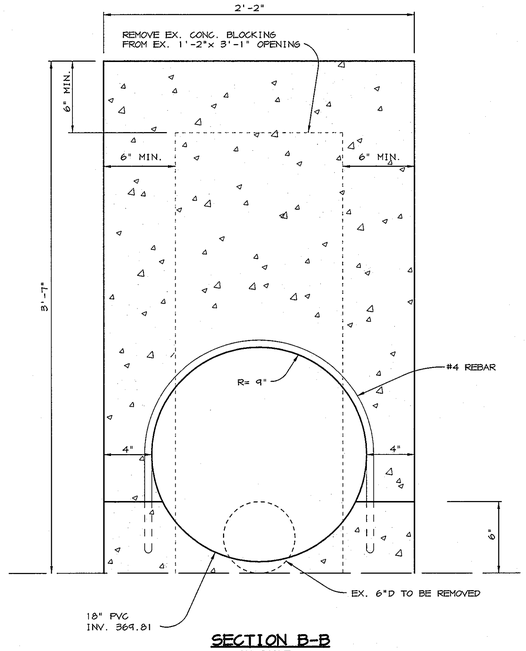
F-83-120



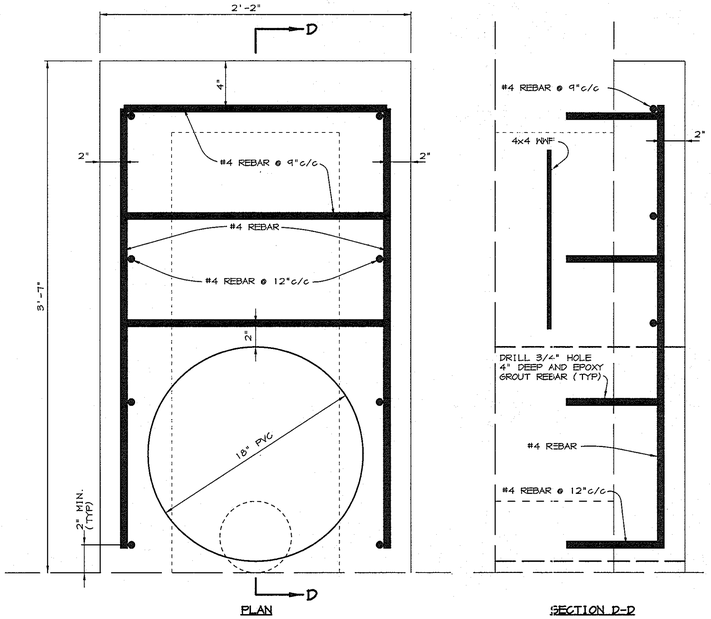
SECTION C-C
NO SCALE



TRASH RACK PLAN VIEW
NO SCALE



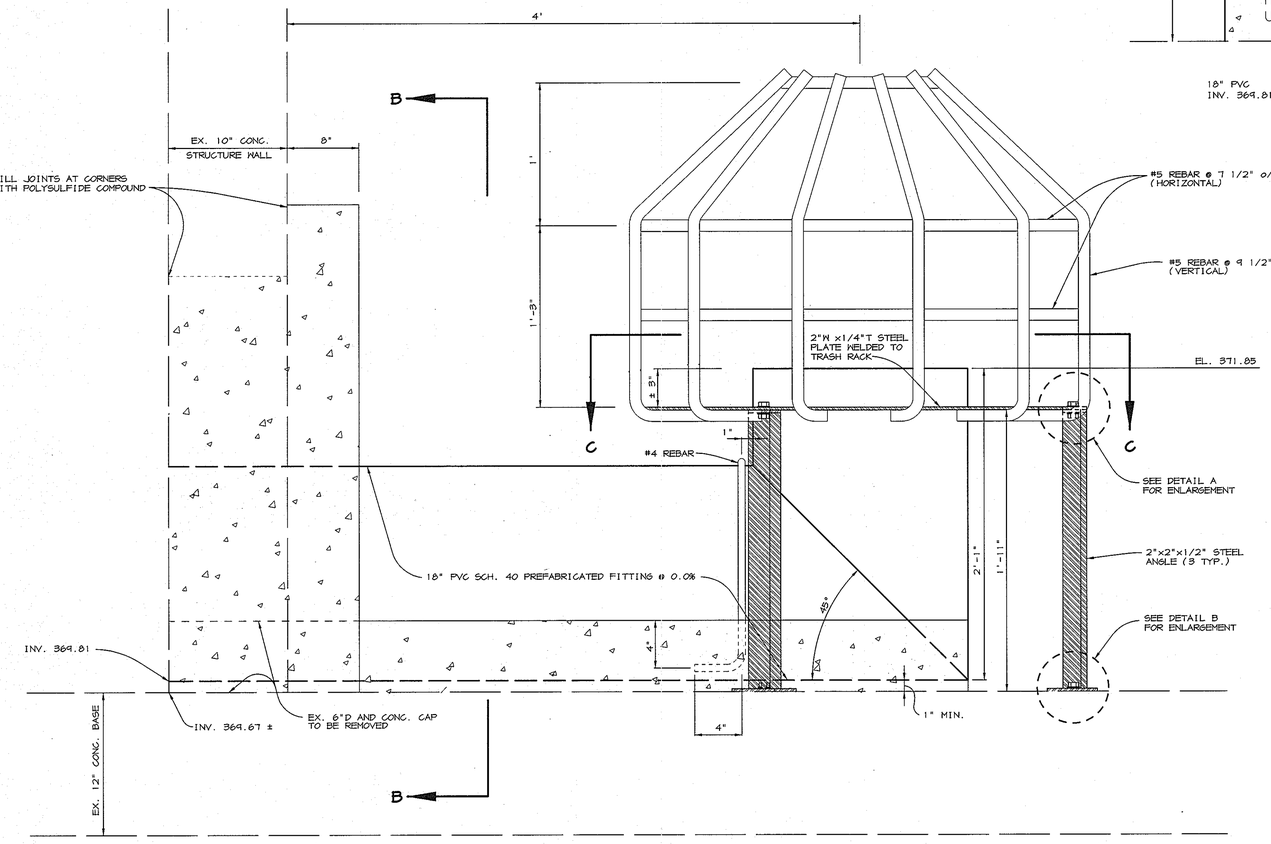
SECTION B-B
NO SCALE



PLAN

SECTION D-D

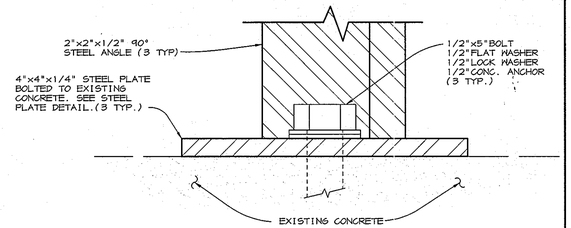
REINFORCEMENT DETAIL
NO SCALE



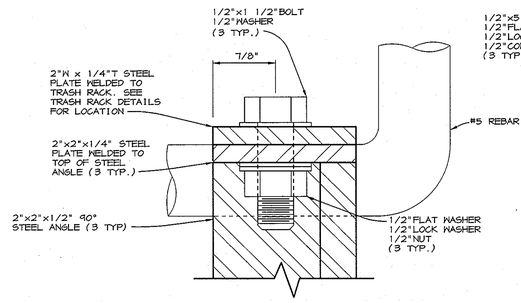
TRASH RACK SIDE VIEW
NO SCALE

NOTES:

1. ALL HARDWARE TO BE STAINLESS STEEL.
2. TRASH RACK AND STEEL PLATE SHALL BE HOT DIPPED GALVANIZED AND PAINTED BATTLESHIP GRAY.
3. THE GIVEN DIMENSIONS OF THE STRUCTURE AND REBAR ARE APPROXIMATE. FABRICATOR SHALL FIELD MEASURE THE EXISTING STRUCTURE. MINOR ADJUSTMENTS MAY BE MADE TO FABRICATE A STURDY AND DURABLE TRASH RACK TO FIT THE EXISTING STRUCTURE.
4. STEEL TO CONFORM TO ASTM A-36. BARS TO BE SMOOTH FOR TRASH RACK AND DEFORMED FOR CONCRETE REINFORCEMENT.
5. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS. ALL BENDS FOR #5 REBAR TO BE 1" RADIUS.
6. ALL CONCRETE TO BE MSHA MIX NO.3.
7. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL MEET HOWARD COUNTY STANDARD SPECIFICATIONS.



DETAIL B
NO SCALE



DETAIL A
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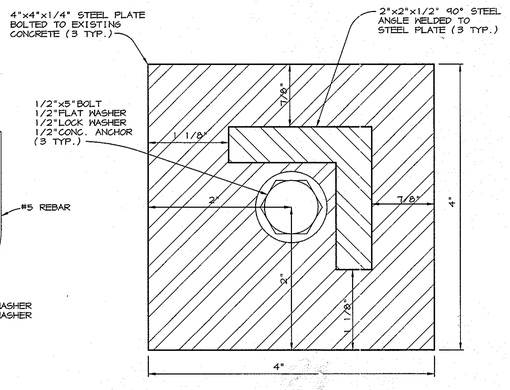

STEEL PLATE DETAIL
NO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES — DATE
CHIEF, BUREAU OF HIGHWAYS — DATE
CHIEF, STORMWATER MANAGEMENT DIVISION — DATE

RIEMER MUEGGE & ASSOCIATES, INC.
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8818 Centre Park Drive, Columbia, Maryland 21045
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STATE OF MARYLAND — ARTHUR E. MUEGGE No. 8707 REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

DES: AAP	DRN: MAD	CHK: AAP	DATE: 10/1/99

BY	NO.	REVISION	DATE

TRASH RACK DETAILS

600' SCALE MAP NO. 35 BLOCK NO. 10

LITTLE PATUXENT PARKWAY
STORMWATER MANAGEMENT RETROFIT
VILLAGE OF HICKORY RIDGE
SECTION 3, AREA 1
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HOWARD COUNTY, MARYLAND
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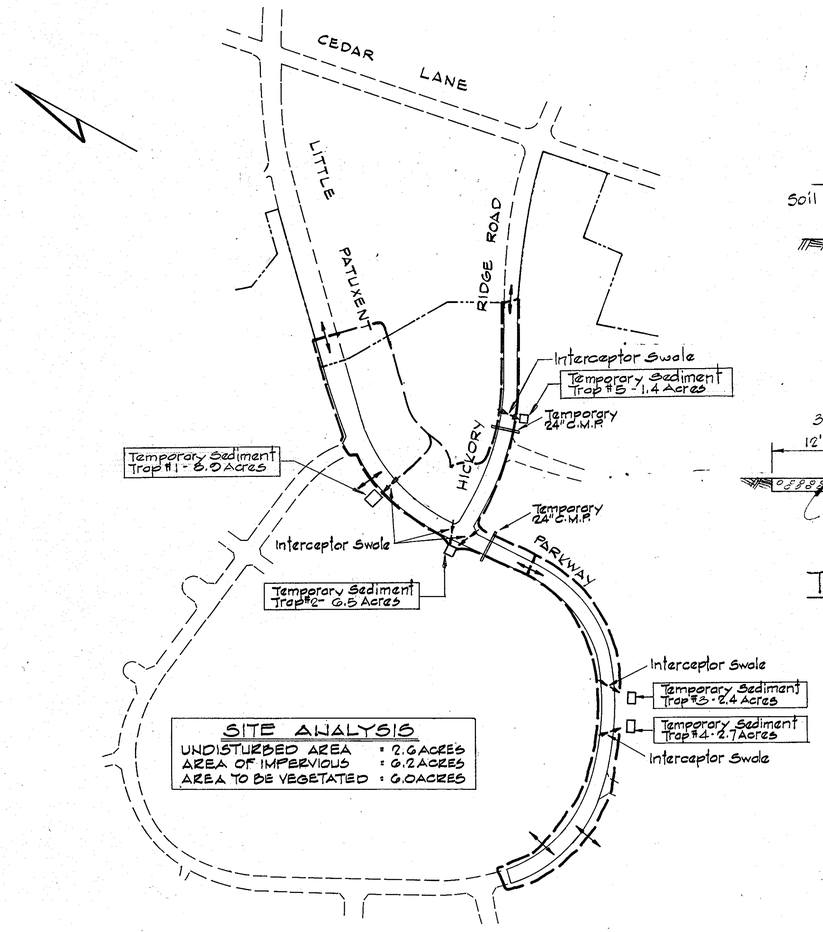
SCALE AS SHOWN

SHEET 16 OF

F-83-120

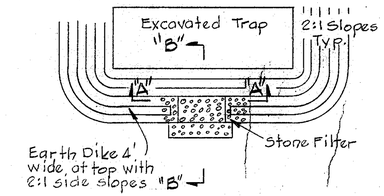


SITE ANALYSIS

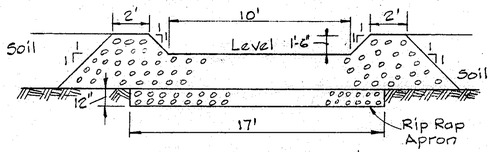
UNDISTURBED AREA	= 2.0 ACRES
AREA OF IMPERVIOUS	= 6.2 ACRES
AREA TO BE VEGETATED	= 6.0 ACRES

DRAINAGE AREA MAP

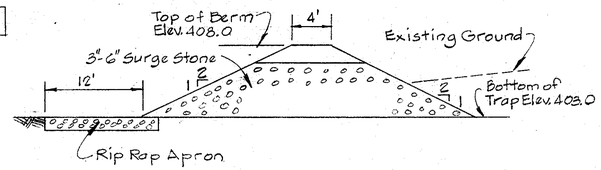
Scale: 1" = 400'



TYPICAL PLAN-EXCAVATED TRAP



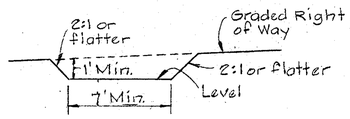
SECTION "A-A"



SECTION "B-B"

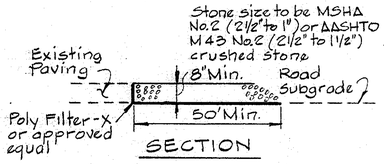
TRAPS 1 & 2 - STONE OUTLET STRUCTURE

No Scale



INTERCEPTOR SWALE

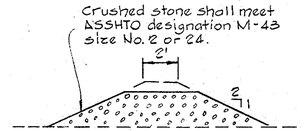
No Scale



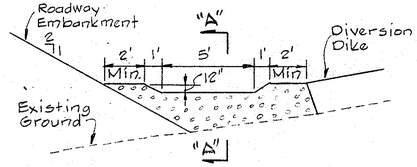
SECTION

STABILIZED CONSTRUCTION ENTRANCE DETAIL

No Scale

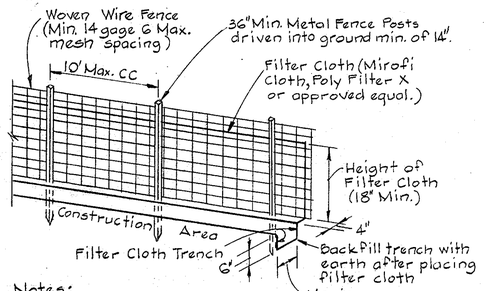


SECTION "A-A"



DETAIL-STONE OUTLET STRUCTURE

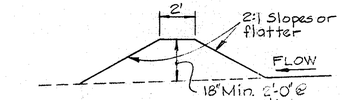
No Scale



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".

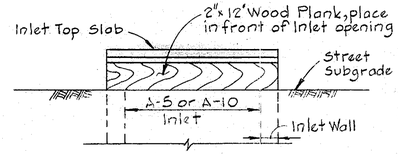
SILT FENCE DETAIL

No Scale

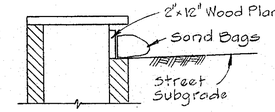


DIVERSION DIKE OR INTERCEPTOR DIKE

No Scale



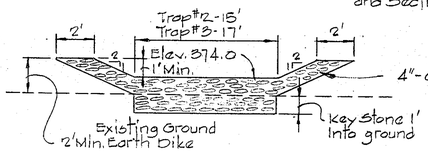
FRONT ELEVATION



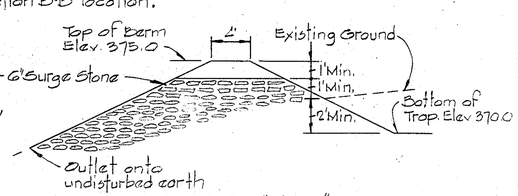
SECTION

BLOCKED INLET DETAIL

Note: See Typical Plan-Excavated Trap (above) for Section A-A and Section B-B location.



SECTION "A-A"



SECTION "B-B"

SECTIONS THRU STONE FILTER SEDIMENT TRAPS 3,4&5

No Scale

CERTIFICATION 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. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

KENNETH A. McCORD P.E. No. 1974 — 5-4-83 Date

CERTIFICATION BY THE DEVELOPER

"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

WALTER WOODFORD — 5-10-83 Date

#42

RESPONSIBLE PERSONNEL CERTIFICATION

"I hereby certify 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."

WALTER WOODFORD — 5-10-83 Date

DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — 7-29-83 DATE

OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 7-22-83 DATE

REVIEWED FOR HOWARD S.C.D.

AND MEETS TECHNICAL REQUIREMENTS

U.S. SOIL CONSERVATION SERVICE — 7/4/83 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED — HOWARD S.C.D. DATE 7-21-83

REV. DATE	REV. NO.	REVISION DESCRIPTION
7/1/83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA

5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
COLUMBIA, MARYLAND 20144

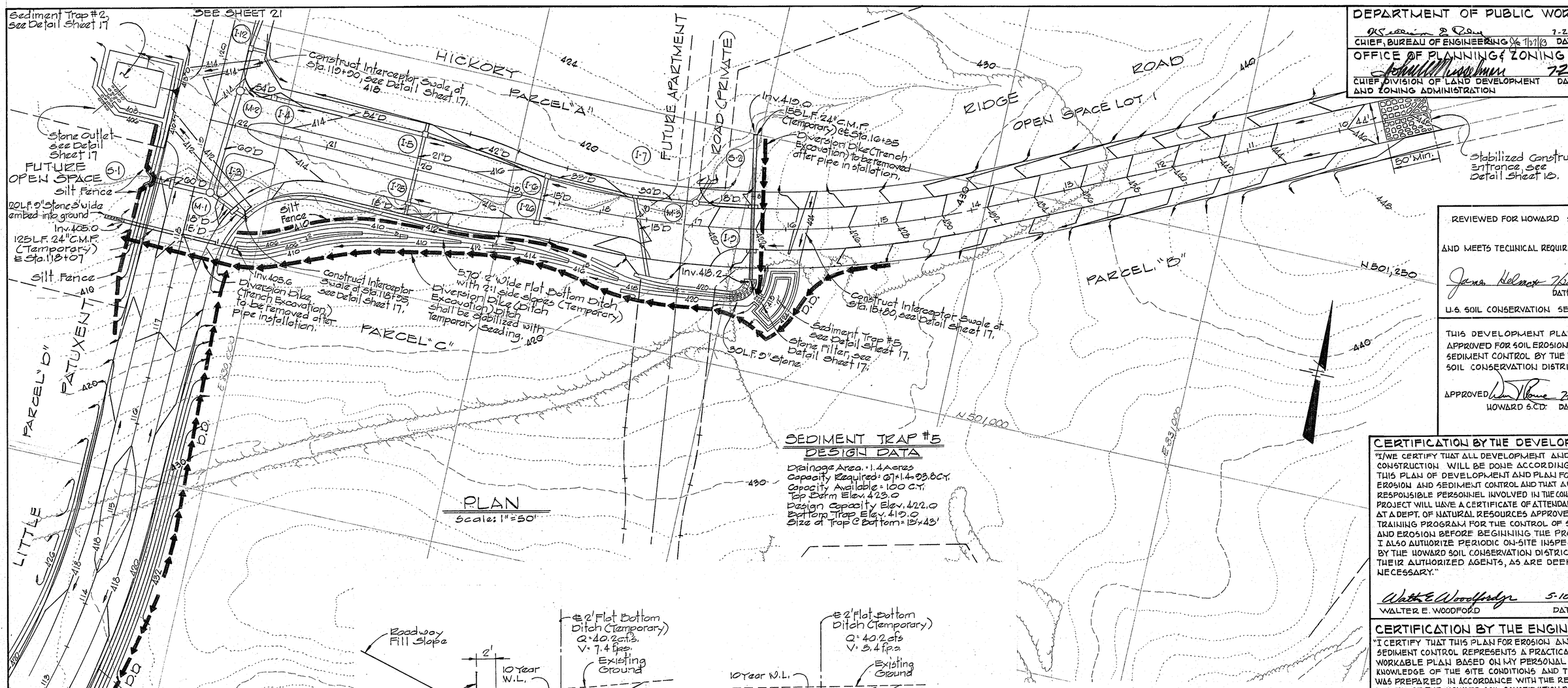
PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
SEDIMENT CONTROL
DRAINAGE AREA MAP AND DETAILS

SCALE: AS SHOWN — DATE

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

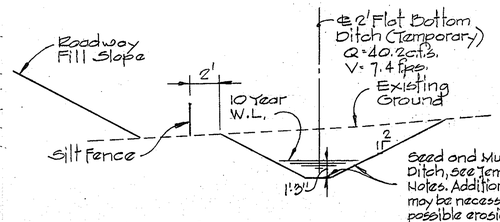
KENNETH A. McCORD
Registered Engineer
No. 1974



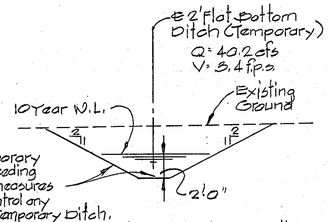
PLAN
Scale: 1" = 50'

SEDIMENT TRAP #5 DESIGN DATA

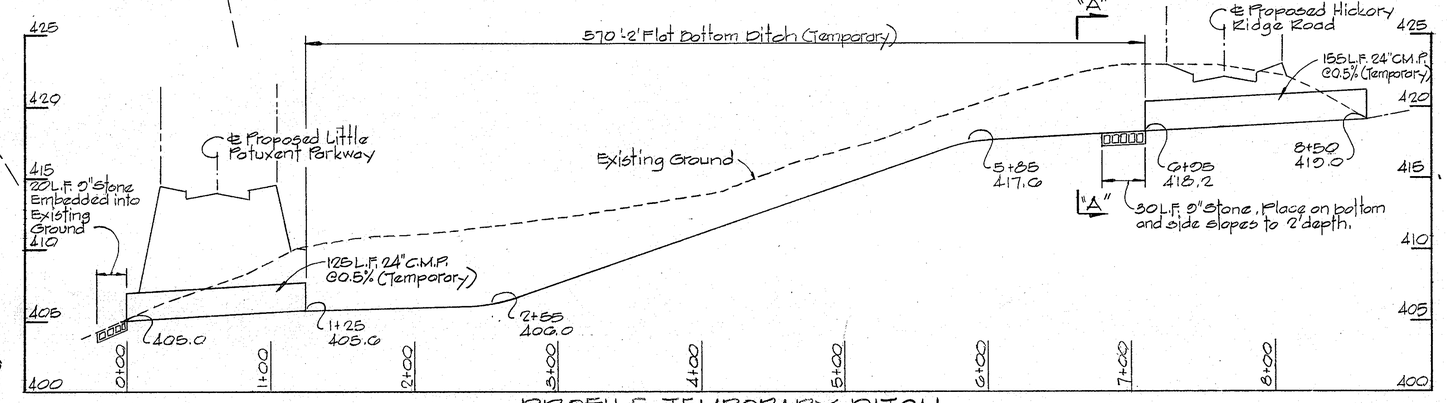
Drainage Area = 1.4 Acres
Capacity Required = 67 × 1.4 = 93.8 C.Y.
Capacity Available = 100 C.Y.
Top Berm Elev. 423.0
Design Capacity Elev. 422.0
Bottom Trap Elev. 419.0
Size of Trap @ Bottom = 13' × 43'



TEMPORARY DITCH SECTION
No Scale



SECTION "A-A"
Scale: 1" = 5' H. & V.



PROFILE-TEMPORARY DITCH
Scale: Hor. 1" = 50'
Vert. 1" = 5'

SEDIMENT CONTROL FOR TEMPORARY PIPE AND TEMPORARY DITCH

1. Install temporary 24" C.M.P. @ Sta. 118+07 Little Patuxent Parkway. Place trench excavation as temporary diversion dike.
2. Construct temporary ditch from Sta. 1+25 to Sta. 6+05. Place ditch excavation as temporary diversion dike. Temporary seed ditch and Diversion Dike.
3. Install temporary 24" C.M.P. @ Sta. 116+35 Hickory Ridge Road. Place trench excavation as temporary diversion dike.
4. Contractor to maintain flow in existing ditch until temporary ditch is seeded and mulched.

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — 7-27-83 DATE

OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 7-22-83 DATE

REVIEWED FOR HOWARD S.C.D.
AND MEETS TECHNICAL REQUIREMENTS
U.S. SOIL CONSERVATION SERVICE — 7/21/83 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED — HOWARD S.C.D. — 7-21-83 DATE

CERTIFICATION BY THE DEVELOPER

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Walter E. Woodford — 5-10-83
WALTER E. WOODFORD — DATE

CERTIFICATION 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."

Kenneth A. McCord — 5-4-83
KENNETH A. McCORD P.E. 1974 — DATE

Rev. Date	Rev. No.	Revision Description
7/1/83	1	As Per Dir. W's Sediment Control Comments

COLUMBIA
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
SEDIMENT CONTROL

RESPONSIBLE PERSONNEL CERTIFICATION

"I hereby certify 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."

Walter E. Woodford — 5-10-83
WALTER E. WOODFORD — Date

SCALE: AS SHOWN — DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21202

Kenneth A. McCord
KENNETH A. McCORD
Registered Engineer
No. 1974

#42

SEDIMENT TRAP # 2
DESIGN DATA

Drainage Area = 6.5 acres
Capacity Required = 6.5 x 65 = 436 C.Y.
Capacity Available = 450 C.Y.
Top Berm Elev. 408.0
Design Capacity = 406.5
Bottom Elev. = 402.0

SEDIMENT TRAP # 1
DESIGN DATA

Drainage Area = 8.7 Acres
Capacity Required 67 x 8 = 536 C.Y.
Capacity Available = 600 C.Y.
Top Berm Elev. 419.0
Design Capacity Elev. 418.0
Bottom Elev. 415.0

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — 7-27-83 DATE

OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 7-22-83 DATE

REVIEWED FOR HOWARD S.C.D.
AND MEETS TECHNICAL REQUIREMENTS
DATE
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED — HOWARD S.C.D. DATE

CERTIFICATION BY THE DEVELOPER

"WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Walter E. Woodford — 5-10-83
WALTER E. WOODFORD — DATE

CERTIFICATION 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."

Kenneth A. McCord — 5-4-83
KENNETH A. McCORD P.E. 1974 — DATE

Rev. Date	Rev. No.	Revision Description
7/1/83	1	As Per D.P.W. & Sediment Control Comments

Note: Install Stabilized Construction Entrance on Little Patuxent Parkway from Sta. 130+85.34 to Sta. 131+35.34, 88' wide, see Detail Sheet 17.

COLUMBIA
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
SEDIMENT CONTROL

SCALE: 1"=50' DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2316 ST. PAUL STREET
BALTIMORE, MARYLAND 21202

RESPONSIBLE PERSONNEL CERTIFICATION

"I HEREBY CERTIFY 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."

Walter E. Woodford — 5-10-83
WALTER E. WOODFORD — DATE

Kenneth A. McCord
KENNETH A. McCORD
Registered Engineer
No. 1974

#42

F-83-120 AS-BUILT 5/4/83 SHEET 19 OF 25

DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — 7-27-83 DATE

OFFICE OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 7-22-83 DATE

REVIEWED FOR HOWARD S.C.D.

AND MEETS TECHNICAL REQUIREMENTS

U.S. SOIL CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED — HOWARD S.C.D. — DATE

CERTIFICATION BY THE DEVELOPER

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Walter E. Woodford — 5-10-83

WALTER E. WOODFORD — DATE

CERTIFICATION 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 REQUIRMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Kenneth A. McCord — 5-4-83

KENNETH A. McCORD P.E. 1974 — DATE

Rev Date	Rev No.	Revision Description
7/1/83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA

5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT CORP

PROJECT AREA

VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE

SEDIMENT CONTROL

SCALE: 1"=50' — DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST PAUL STREET
BALTIMORE, MARYLAND 21202

Kenneth A. McCord
KENNETH A. McCORD
Registered Engineer
No. 1974

RESPONSIBLE PERSONNEL CERTIFICATION

"I hereby certify 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."

Walter E. Woodford — 5-10-83

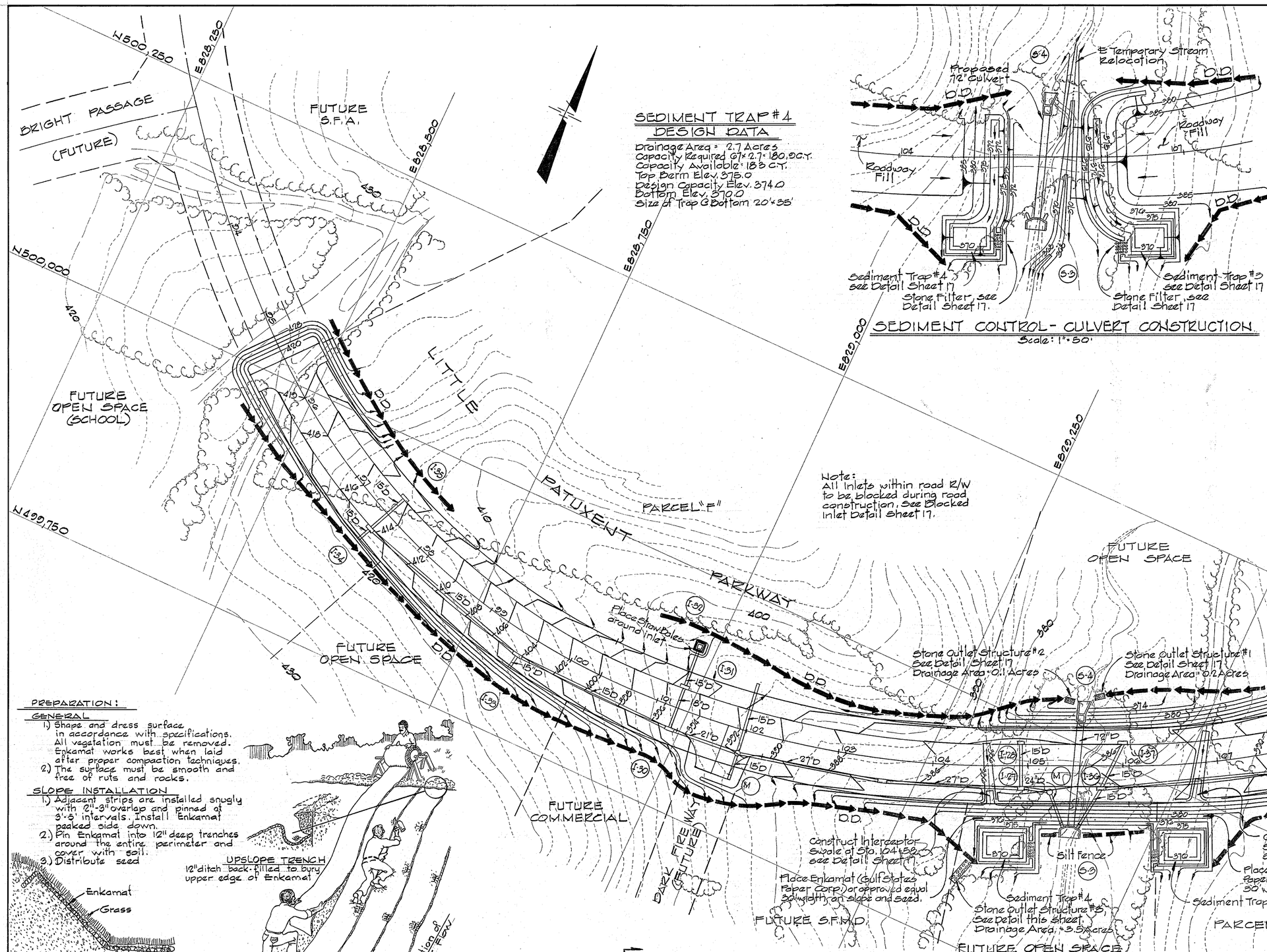
WALTER E. WOODFORD — Date

SEDIMENT TRAP #4 DESIGN DATA

Drainage Area = 2.7 Acres
Capacity Required 67 x 2.7 = 180.9 C.Y.
Capacity Available = 183 C.Y.
Top Berm Elev. 375.0
Design Capacity Elev. 374.0
Bottom Elev. 370.0
Size of Trap @ Bottom 20'x35'

SEDIMENT TRAP #3 DESIGN DATA

Drainage Area = 2.4 Acres
Capacity Required 67 x 2.4 = 160.8 C.Y.
Capacity Available = 162 C.Y.
Top Berm Elev. 375.0
Design Capacity Elev. 374.0
Bottom Elev. 370.0
Size of Trap @ Bottom 30'x20'



SEDIMENT CONTROL - CULVERT CONSTRUCTION

Scale: 1"=50'

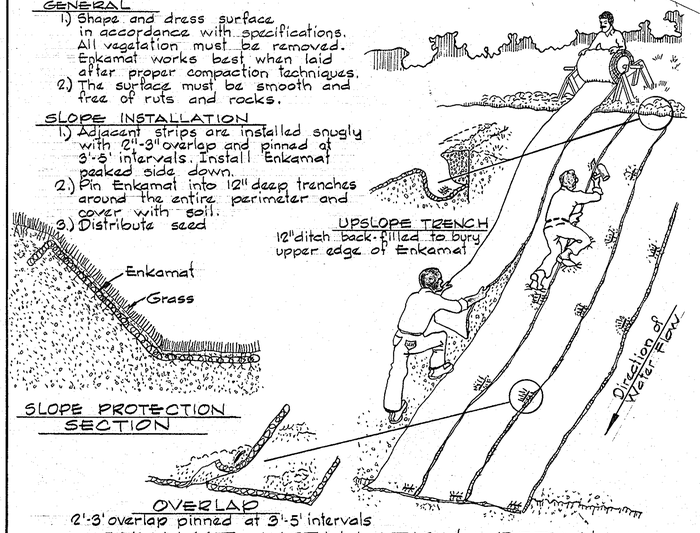
PREPARATION:

GENERAL

1) Shape and dress surface in accordance with specifications. All vegetation must be removed. Enkamat works best when laid after proper compaction techniques.
2) The surface must be smooth and free of ruts and rocks.

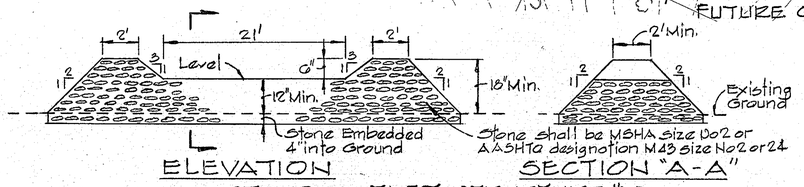
SLOPE INSTALLATION

1) Adjacent strips are installed snugly with 2"-3" overlap and pinned at 3'-5' intervals. Install Enkamat peaked side down.
2) Pin Enkamat into 12" deep trenches around the entire perimeter and cover with soil.
3) Distribute seed



ENKAMAT INSTALLATION DETAIL

No Scale

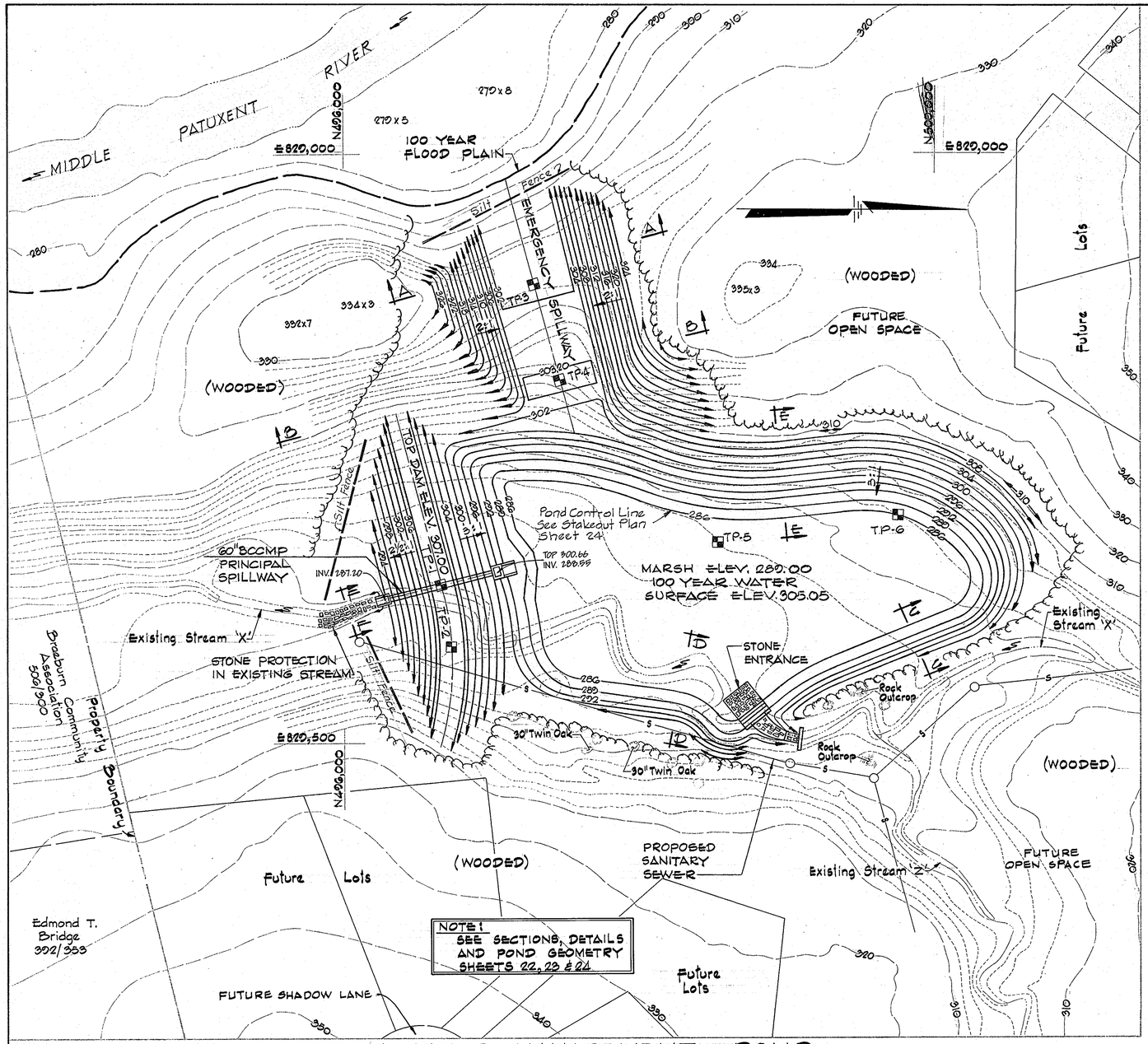


STONE OUTLET STRUCTURE #3

No Scale

#42

F-83-120 AS-BUILT 7/1/83 SHEET 20 OF 25



STORM WATER MANAGEMENT POND

Scale: 1"=50'

"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E.# 1974

-SPECIFICATIONS-

GENERAL

1. For construction specifications not covered herein, the contractor shall refer to the "Soil Conservation Service of Maryland Construction Specifications for Ponds, Code 378", pages 378-14 through 378-19 dated July 1981.

EARTH DAM-EMBANKMENT

1. Suitable material from the pond excavation may be used for the embankment.
2. Suitable material shall be placed in 8" loose layers and compacted to 95% of Standard Proctor ASTM T-99.
3. Moisture content of the suitable material shall be within the range of 3% below optimum moisture to 3% above optimum moisture.
4. Area under the embankment shall be cleared and grubbed to remove all trees, vegetation, roots or other objectionable material and topsoil stripped.
5. The fill material shall be free from roots, stumps, wood, rubbish, oversize stones, frozen earth or other objectionable materials. The fill height all along the length of the embankment shall be increased by 10%.
6. Fill materials shall be placed in 8" maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous material shall be placed in the downstream portions of the embankment. Backfill for the Cutoff Trench and the upstream side of the Dam shall be the most impervious material available."
7. Compaction shall be by multiple wheel pneumation tired roller, vibratory roller or other types of acceptable rollers. Rolling of each layer shall be continuous over its entire area and the roller shall make sufficient coverages to insure that the required density has been obtained.

60" BCCMP

1. Backfill around B.C.C.M.P. pipe shall be placed in horizontal layers not to exceed 4 inches in thickness and compacted by hand tampers or other compaction equipment. At no time during the back filling operation, shall construction equipment be allowed to operate closer than 4 feet to any part of the B.C.C.M.P. pipe. Under no circumstances shall the contractor drive equipment over any part of the B.C.C.M.P. pipe unless there is a compacted fill to a depth of 24 inches or greater over the B.C.C.M.P. pipe.
2. The B.C.C.M.P. pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or other unsuitable soil is encountered under the pipe, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

PERMANENT SEEDING

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

1. SEEDED PREPARATION: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.
2. SOIL AMENDMENTS: Apply 2 tons per acre dolomitic limestone (92 lbs. /1,000 sq. ft.) and 600 lbs. per acre 0-20 fertilizer (14 lbs/1,000 sq.ft.). Harrow or disc lime and fertilizer into upper three inches of soil. At time of seeding, apply 400 lbs. per acre (9.2 lbs./1,000 sq.ft.) of 38-0-0 ureaform fertilizer and 500 lbs. per acre (11.5 lbs./1,000 sq.ft.) of 10-20-20 fertilizer.
3. SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 45 lbs. per acre (1.4 lbs./1,000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 40 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1,000 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.
4. EROSION CONTROL FABRIC: "Hold Gro", Gulf State Paper Corporation, P.O.B. No.3199 Tuscaloosa, Alabama, 35404, or an approved equal. Install as recommended by the Manufacturer.
5. MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements, and reseedings.
6. Add Crown Vetch lequminous seed to mixture on 2:1 slopes. Seed mixture shall be sown at the rate of 45 pound/acre with Crown Vetch sown at 15 pound/acre. Inoculant for Crown Vetch shall be at the rate of 6.7 oz. powder or liquid culture per 20 pounds Crown Vetch. Seed inoculated with liquid culture shall be sown within 24 hours after treatment; seed inoculated with powdered culture shall be sown within 48 hours after treatment. The seeding contractor may elect to apply the inoculated lequme seed dry and in a separate operation prior to applying an aqueous mixture, or he may apply them in the aqueous mixture with the seed and commercial fertilizer using four times the quantity of inoculum recommended for dry leguminous seed application.

DEPARTMENT OF PUBLIC WORKS
William E Ray 7-27-83
CHIEF, BUREAU OF ENGINEERING DATE

OFFICE OF PLANNING & ZONING
7-22-83
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

SITE HYDROLOGY

FREQUENCY FLOOD EVENT	* PRESENT LAND USE DISCHARGE - CFS	* ULTIMATE LAND USE DISCHARGE - CFS	* ULTIMATE LAND USE, WITH MANAGEMENT DISCHARGE - CFS
2 YEAR	114	330	118
10 YEAR	460	843	462
100 YEAR	970	1486	1157

* DESIGN POINT - CONFLUENCE OF FLOWS, MIDDLE PATUXENT RIVER AND STREAM "X"

POND HYDRAULICS (Ultimate Land Use)

FREQUENCY FLOOD EVENT	* PEAK INFLOW CFS	* PEAK OUTFLOW CFS	* STORAGE AC.FT.
2 YEAR	211	43	15.7
10 YEAR	535	261	30.4
100 YEAR	975	814	38.5

SPECIAL NOTES

STORM WATER MANAGEMENT (POND DRAINAGE AREA - 417 ACRES)

The Storm Water Management construction drawings, (Sheets 21 thru 25); Hydrologic and Hydraulic computations and a pond permit application have been submitted to the Maryland State Dept. of Natural Resources for review.

SEDIMENT CONTROL

The final pond bottom elevation is 286.00 which is several feet below existing stream invert. The pond has been designed to provide approximately 4.0 acre feet of permanent sediment storage. During construction the contractor shall provide a natural earth diversion berm along the immediate perimeter of the existing and or redirected stream. See Detail, Sheet 24. The Contractor shall also provide a silt fence on the downstream side of the proposed earth dam embankment. See Plan this Sheet. See silt fence detail, Sheet 17

Rev.Date	Rev.No.	Revision Description
7-1-83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM WATER MANAGEMENT POND

SCALE: As Shown DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

Kenneth A McCord
KENNETH A. McCORD
Registered Engineer
No. 1974

Technical Review by Water Resources Administration Permit 83-PD-0818

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for soil erosion and sediment control.

James Hilmyer 7/21/83
U.S. Soil Conservation Service Date

#42

These plans for soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Approved William E Ray 7-27-83
Howard S.C.D. Date

F-83-120
Plan Number

CERTIFICATION BY THE ENGINEER

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

Kenneth A McCord
KENNETH A. McCORD P.E. No. 1974 5-4-83 Date

CERTIFICATION BY THE DEVELOPER

"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

Walter E Woodford
WALTER WOODFORD 5-10-83 Date

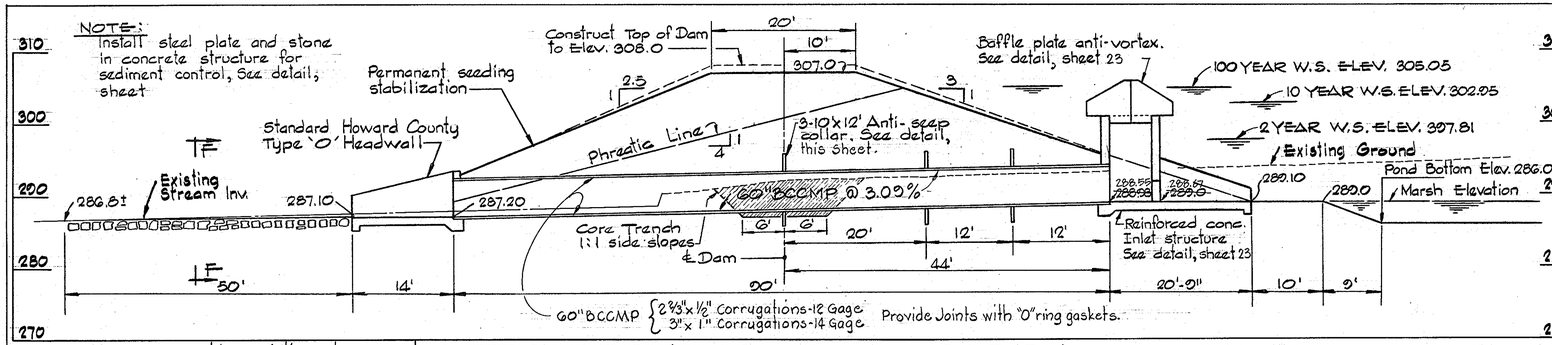
RESPONSIBLE PERSONNEL CERTIFICATION

"I hereby certify 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."

Walter E Woodford
WALTER WOODFORD 5-10-83 Date

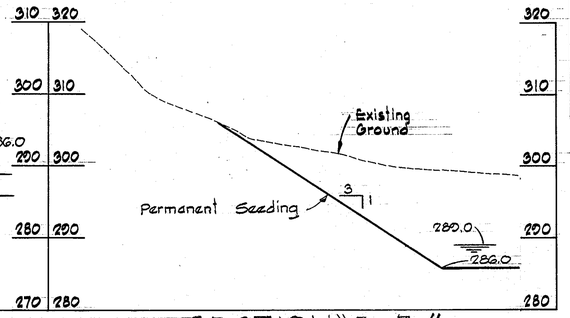
AS-BUILT NOV. 19, 84 F-83-120 5/4/83 SHEET 21 OF 25

NOTE: Install steel plate and stone in concrete structure for sediment control, See detail, sheet



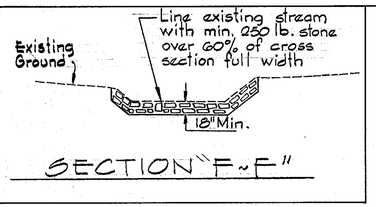
PRINCIPAL SPILLWAY SECTION

SCALE: 1"=10'



SECTION "E-E"

SCALE: HOR. 1"=20'
VERT. 1"=10'



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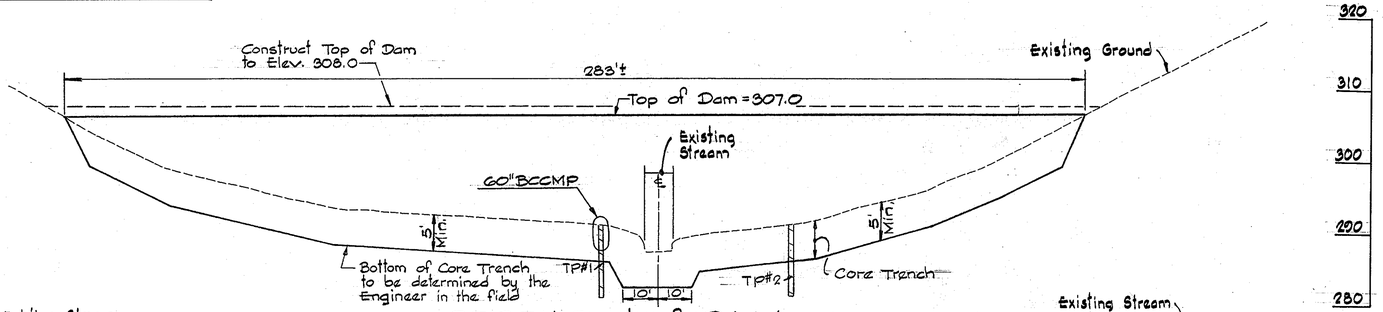
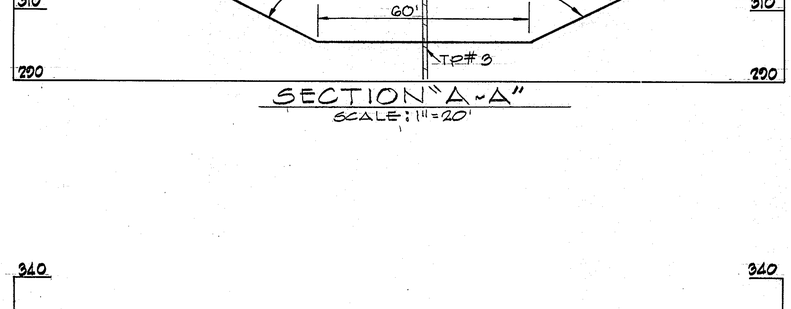


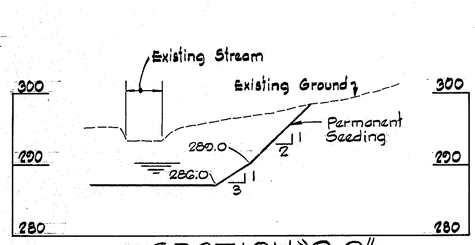
PROFILE - ℄ of DAM

SCALE: HOR. 1"=20'
VERT. 1"=10'



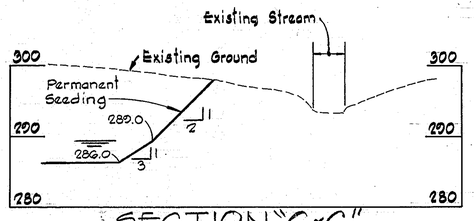
SECTION "A-A"

SCALE: 1"=20'



SECTION "D-D"

SCALE: HOR. 1"=20'
VERT. 1"=10'



SECTION "C-C"

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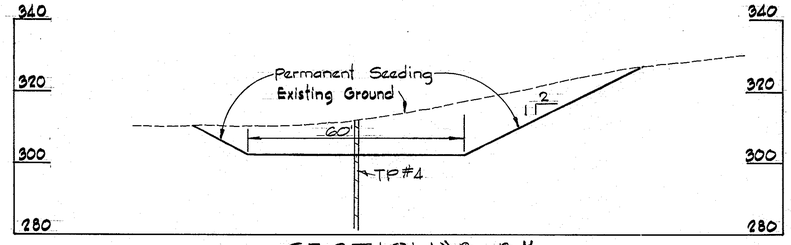
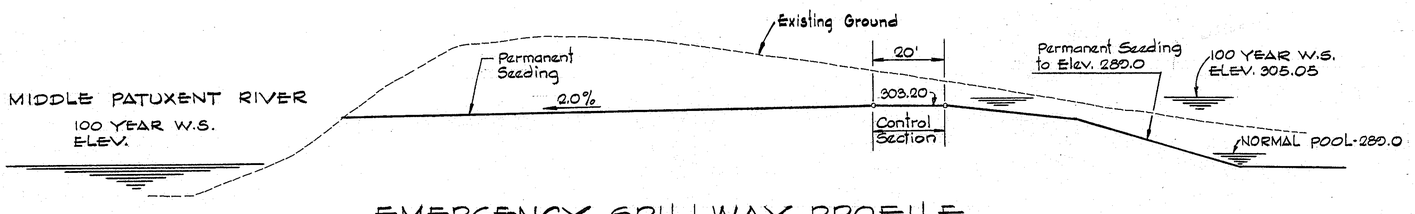
VERT. 1"=10'



SECTION "B-B"

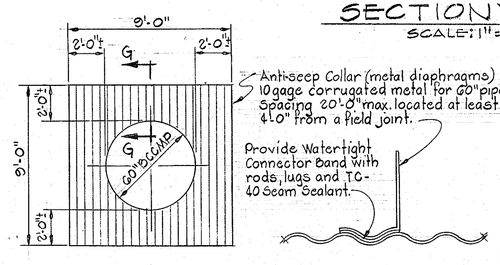
SCALE: 1"=20'



"AS-BUILT" ELEVATIONS AS OF NOV. 19, 1984
BY: KENNETH A. McCORD P.E.# 1974

EMERGENCY SPILLWAY PROFILE

SCALE: 1"=20'



ELEVATION SECTION G-G

ANTI-SEEP COLLAR DETAILS

Not to Scale

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83

Rev. Date	Rev. No.	Revision Description
7-1-83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM WATER MANAGEMENT POND

SCALE: As Shown DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

Kenneth A. McCord
KENNETH A. McCORD
Registered Engineer
No. 1074

Technical Review by Water Resources Administration Permit 83-PD-0868

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for soil erosion and sediment control.

James Helmyt 7/21/83
U.S. Soil Conservation Service Date

These plans for soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved Howard S.C.D. 7-21-83 Date
F-83-120 Plan Number

CERTIFICATION BY THE ENGINEER

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

Kenneth A. McCord
KENNETH A. McCORD P.E. No. 1074 Date

CERTIFICATION BY THE DEVELOPER

"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

Walter Woodford
WALTER WOODFORD Date

RESPONSIBLE PERSONNEL CERTIFICATION

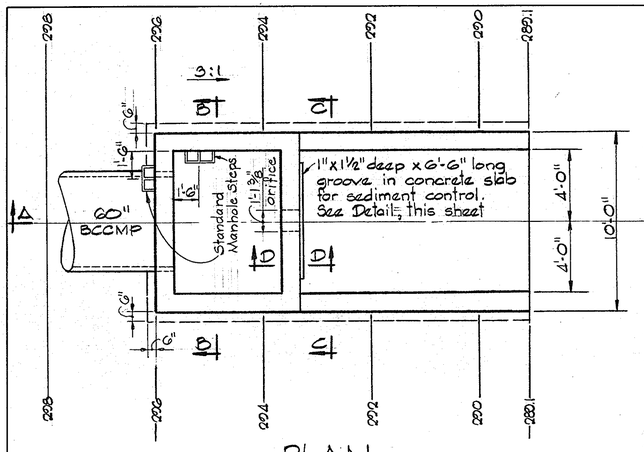
"I hereby certify that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project."

Walter Woodford
WALTER WOODFORD Date

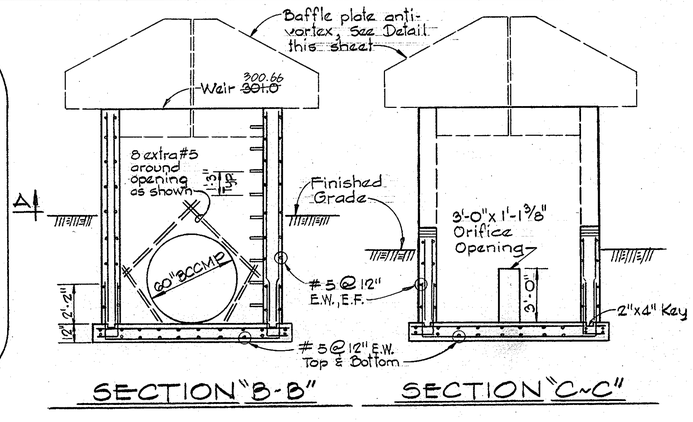
#42

NOV. 19, 84 AS-BUILT F-83-120 5/4/83 SHEET 22 OF 25

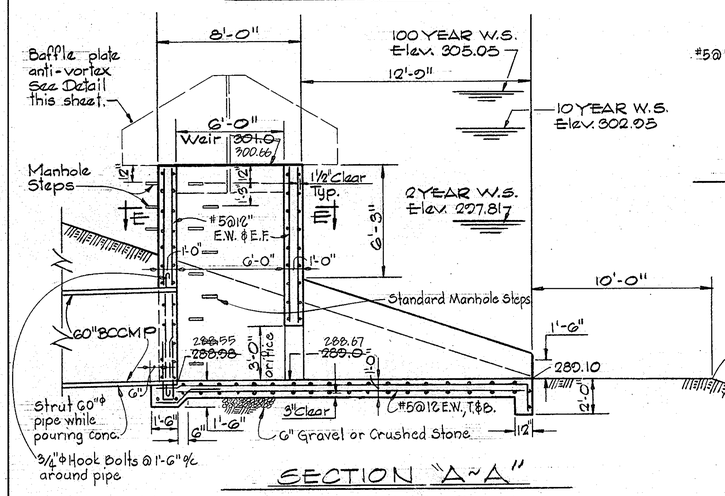
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 12283



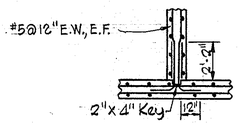
PLAN



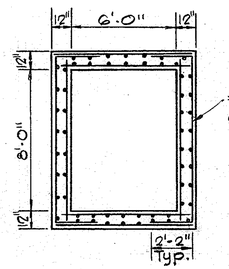
SECTION "B-B" SECTION "C-C"



SECTION "A-A"



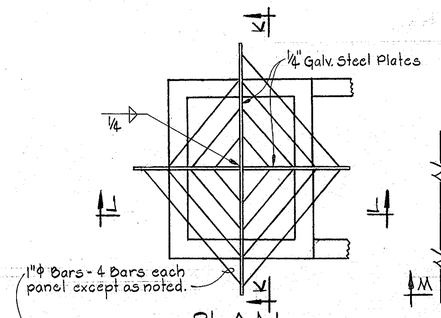
SECTION "D-D"

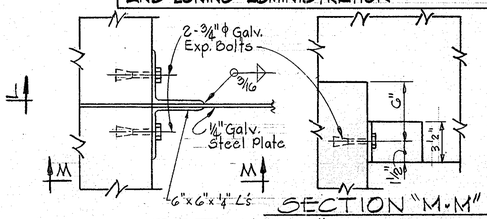


SECTION "E-E"

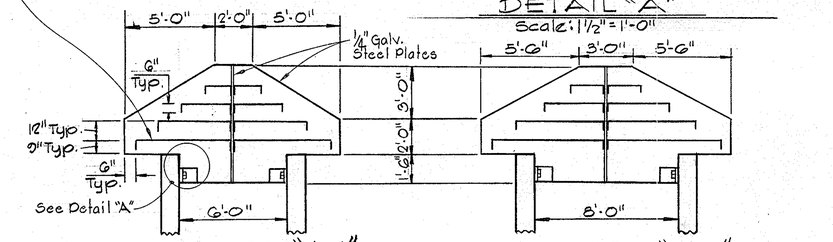
NOTES:
1. All concrete shall have a minimum compression strength of 4000 psi @ 28 days.
2. Reinforced concrete shall be constructed in accordance with current "A.C.I. 301-72 (revised 81) STANDARD BUILDING CODE" requirement.
3. Reinforcing steel shall be detailed in accordance with A.C.I. 315-80, A.C.I. 315R-80 & A.C.I DETAILING MANUAL-1980.
4. All reinforcement shall conform to A.S.T.M. specification A-615-81 Grade 60.
5. All exposed concrete edges shall be chamfered ¾".

DETAIL - CONCRETE INLET STRUCTURE
Scale: ¼"=1'-0"

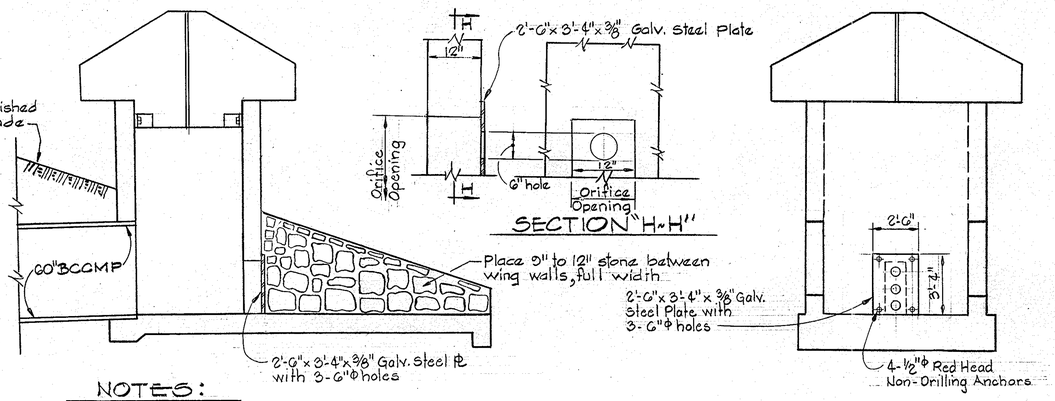




DETAIL "A"
Scale: 1½"=1'-0"

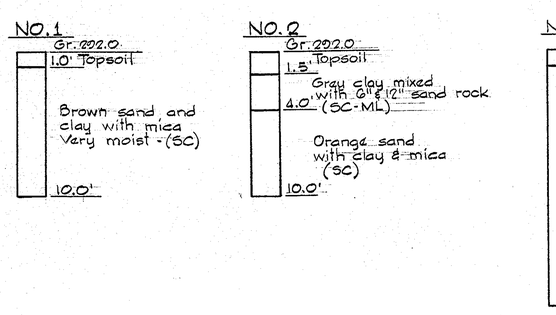


BAFFLE PLATES, ANTI-VORTEX & TRASH RACK
Scale: ¼"=1'-0"



NOTES:
1. Bolt steel plate in place as shown.
2. Place stone between wing walls.
3. After sediment control, remove stone and steel plate.

DETAIL - POND DEWATERING
No Scale



TEST PITS

Rev. Date	Rev. No.	Revision Description
7-1-83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM WATER MANAGEMENT POND

SCALE: As Shown DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 10774

Technical Review by Water Resources Administration Permit 83-PD-0868

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for soil erosion and sediment control.

U.S. Soil Conservation Service — Date 7/21/83

These plans for soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved — Howard S.C.D. — Date 7-21-83

F-83-120
Plan Number

CERTIFICATION BY THE ENGINEER

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

KENNETH A. McCORD P.E. No. 10774 — Date

CERTIFICATION BY THE DEVELOPER

"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

WALTER WOODFORD — Date

RESPONSIBLE PERSONNEL CERTIFICATION

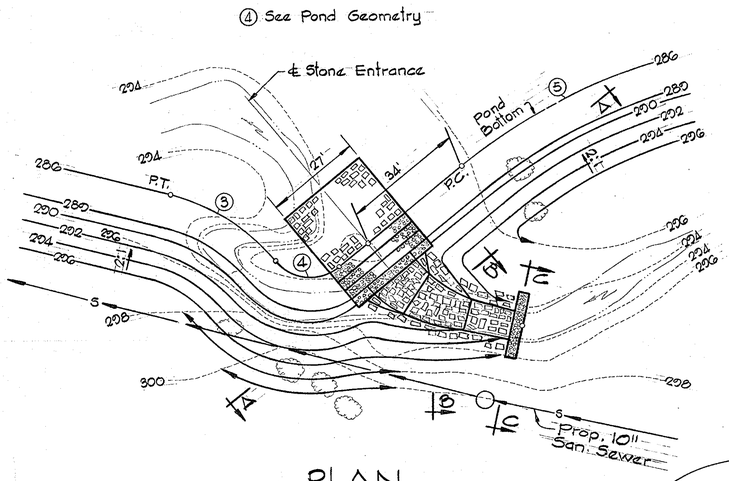
"I hereby certify that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project."

WALTER WOODFORD — Date

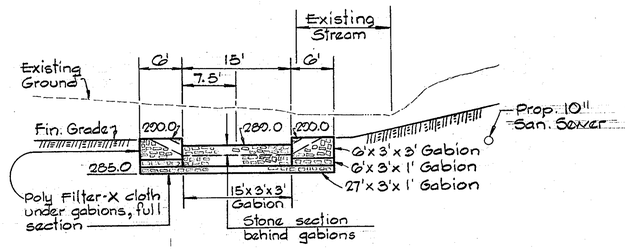
F-83-120 AS-BUILT NOV. 19, 1984 5/4/83 SHEET 23 OF 25

DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83

OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83



PLAN
Scale: 1"=20'



SECTION "A-A"
Scale: 1"=10'

CURVE DATA

CURVE #1
R=400.00' Δ=07°40'00"
L=53.52' Ch'd. Br.=N79°10'36"E
Tan.=26.80' Ch'd. Lgth.=53.48'

CURVE #2
R=35.50' Δ=72°58'50"
L=45.22' Ch'd. Br.=N46°31'08"E
Tan.=26.26' Ch'd. Lgth.=42.22'

CURVE #3
R=55.00' Δ=36°41'40"
L=35.22' Ch'd. Br.=S18°07'20"E
Tan.=18.24' Ch'd. Lgth.=34.63'

CURVE #4
R=12.50' Δ=90°00'00"
L=19.64' Ch'd. Br.=S05°34'20"W
Tan.=12.50' Ch'd. Lgth.=17.68'

CURVE #5
R=150.00' Δ=17°15'00"
L=45.16' Ch'd. Br.=N 30°48'13"W
Tan.=22.75' Ch'd. Lgth.=44.99'

CURVE #6
R=25.00' Δ=100°25'00"
L=43.82' Ch'd. Br.=N72°23'13"W
Tan.=30.01' Ch'd. Lgth.=38.42'

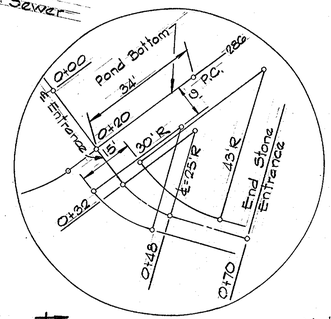
CURVE #7
R=100.00' Δ=63°45'00"
L=111.27' Ch'd. Br.=S25°31'47"W
Tan.=62.18' Ch'd. Lgth.=105.61'

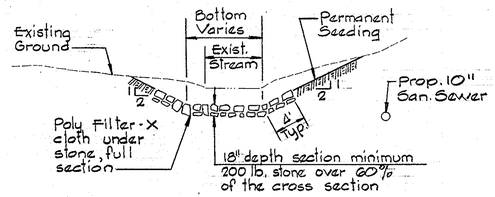
CURVE #8
R=250.00' Δ=26°41'18"
L=116.45' Ch'd. Br.=S06°50'57"W
Tan.=59.30' Ch'd. Lgth.=115.40'

CURVE #9
R=250.00' Δ=23°30'00"
L=102.54' Ch'd. Br.=N08°35'36"E
Tan.=52.00' Ch'd. Lgth.=101.82'

CURVE #10
R=7.50' Δ=101°30'00"
L=13.29' Ch'd Br.=N53°54'24"W
Tan=9.18' Ch'd. Lgth=11.62'

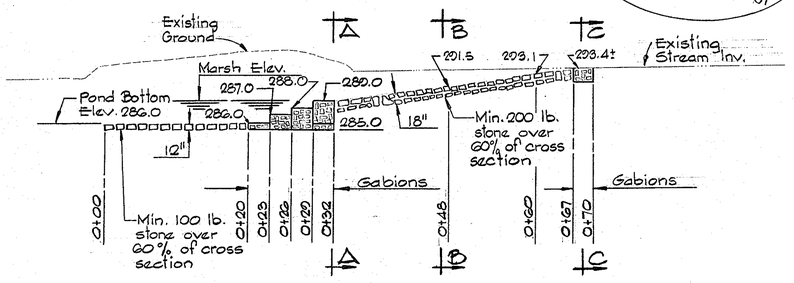
CURVE #11
R=250.00' Δ=30°30'00"
L=133.08' Ch'd. Br.=S80°24'25"E
Tan.=68.16' Ch'd. Lgth.=131.52'



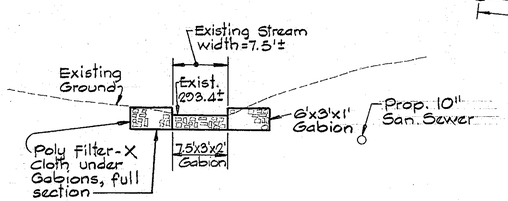


SECTION "B-B"
Scale: 1"=10'

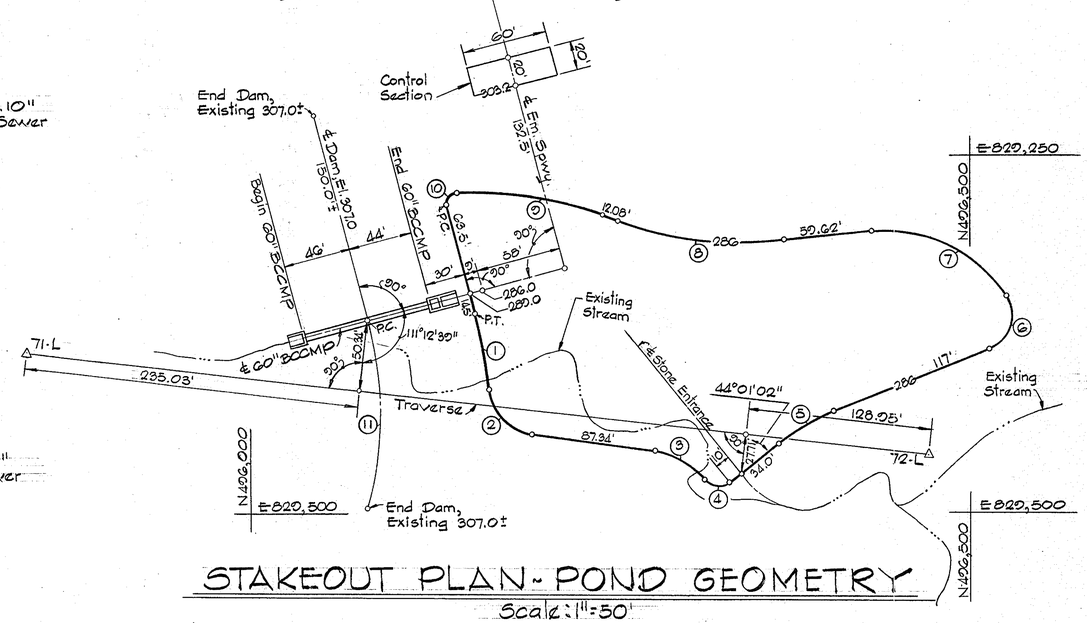
Note:
200 lb. stone, d_{50} size = 20"
100 lb. stone, d_{50} size = 10"



PROFILE
Scale: 1"=10'

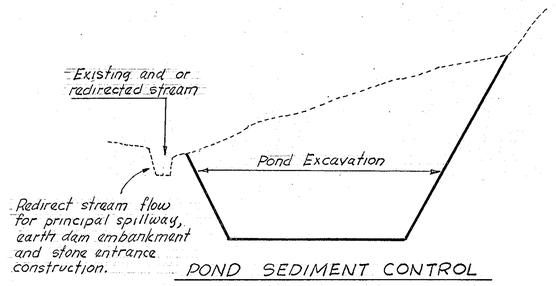


SECTION "C-C"
Scale: 1"=10'



STAKEOUT PLAN - POND GEOMETRY
Scale: 1"=50'

STONE ENTRANCE DETAIL
Scale: As Shown



POND SEDIMENT CONTROL

Rev. Date	Rev. No.	Revision Description
7-1-83	1	As Per D.P.W. & Sediment Control Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM WATER MANAGEMENT POND

Technical Review by Water Resources Administration Permit #83-PD-0868

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for soil erosion and sediment control.

U.S. Soil Conservation Service — Date 2/24/83

These plans for soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved — Howard S.C.D. — Date 7-21-83

F-83-120
Plan Number

CERTIFICATION BY THE ENGINEER
"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 90 days of completion."

KENNETH A. McCORD P.E. No. 1074 — Date 5-4-83

CERTIFICATION BY THE DEVELOPER
"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a red-lined "as-built" of the pond within 30 days of completion."

WALTER WOODFORD — Date 5-10-83

RESPONSIBLE PERSONNEL CERTIFICATION
"I hereby certify 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."

WALTER WOODFORD — Date 5-10-83

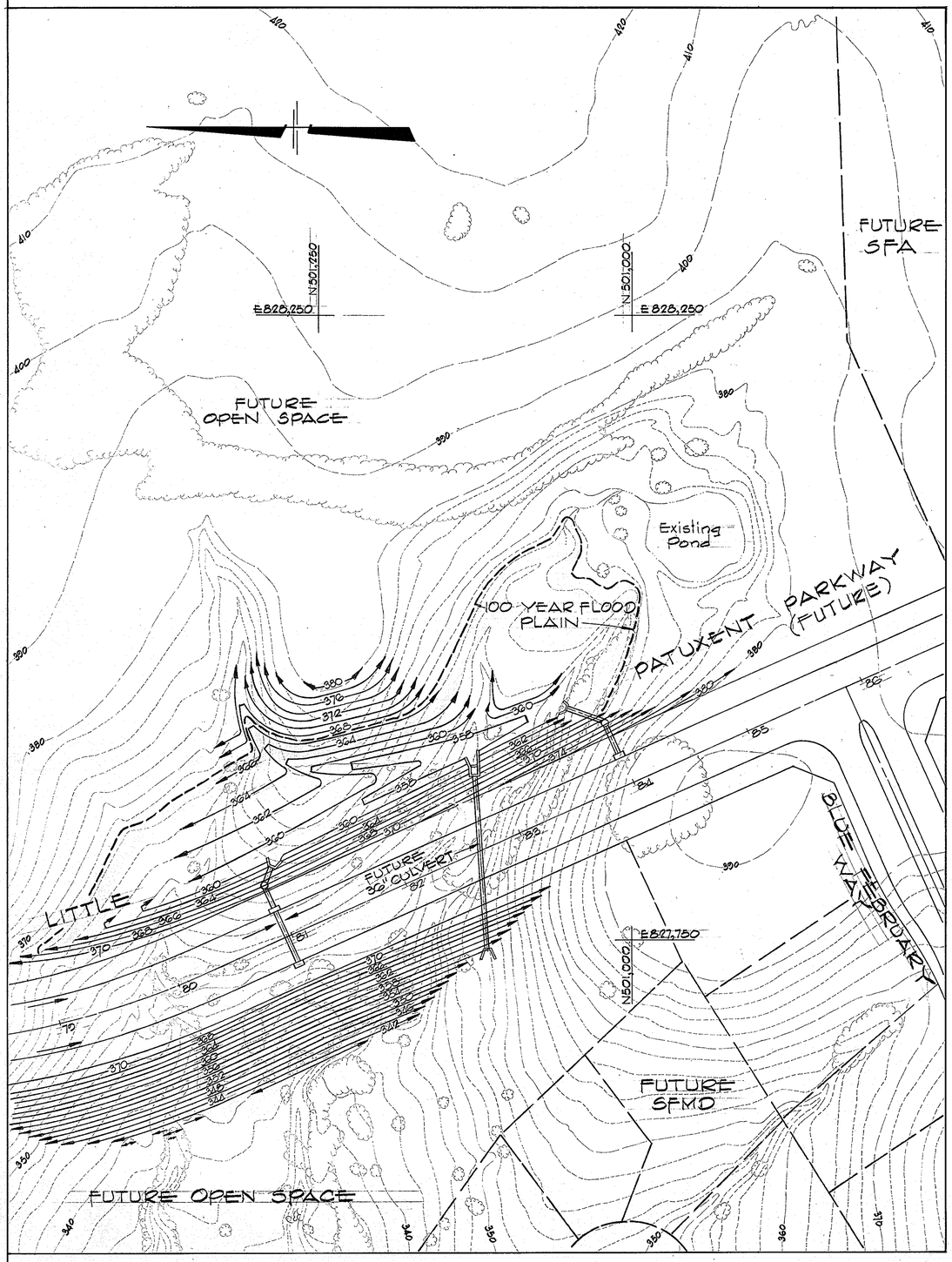
SCALE: As Shown DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
7315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 1074

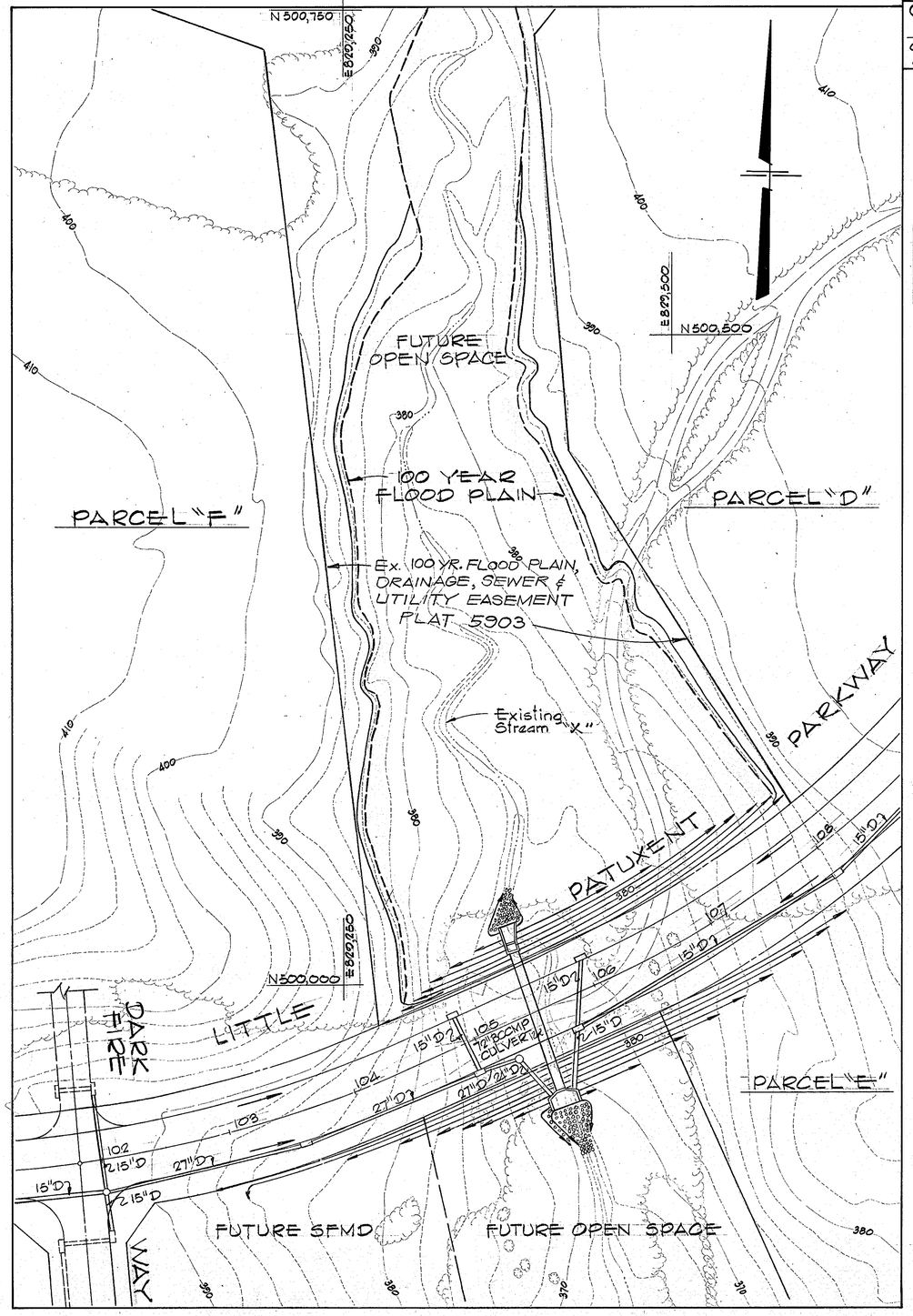
#42

AS-BUILT F-83-120 5/4/83



PLAN

FUTURE 36" CULVERT RESERVOIR, 100 YEAR FLOOD PLAIN



PLAN

72" CULVERT RESERVOIR, 100 YEAR FLOOD PLAIN

DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 7-27-83 / 7/27/83

OFFICE OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 7-22-83

NOTE:
SEE SHEET 16 FOR TABULATION OF 72" CULVERT HYDRAULICS FOR 2, 10 AND 100 YEAR STORMS

STATE OF MARYLAND — KENNETH A. McCORD — No. 10741 — PROFESSIONAL ENGINEER

For Rev 2
Clark, Fisher & Jackett, Inc.

Rev. Date	Rev. No.	Revision Description
7/12/83	2	Rev. 100 Yr. Floodplain Easement
7/1/83	1	As per DPW Comments

COLUMBIA
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 1

PROJECT TITLE
STORM WATER MANAGEMENT
72" CULVERT — 36" CULVERT

SCALE: 1"=50' DATE:

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

KENNETH A. McCORD
Registered Engineer
No. 10741

#90

F-83-120 AS-BUILT 5/4/83 SHEET 25 OF 25