

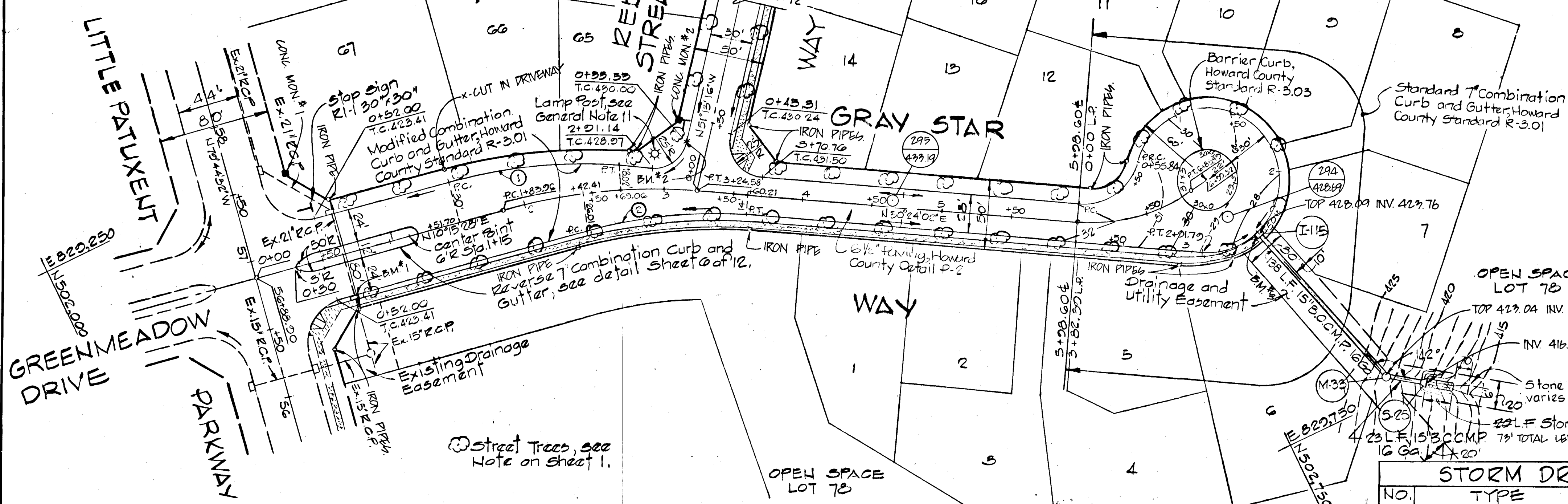
NOTE: FOR EXISTING LITTLE PATUXENT PARKWAY PLAN AND PROFILE, SEE CONSTRUCTION DRAWINGS FOR VILLAGE OF HICKORY RIDGE SECTION 3 AREA 3 (F-84-29).

CURVE DATA

PC 1+83.96 to PT 3+24.58	PC 5+78.60 to PT 6+85.49
$\Delta = 20^{\circ}08'34''$	$\Delta = 37^{\circ}59'32''$
$R = 400.00'$	$R = 124.48'$
$Arc = 140.62'$	$Arc = 86.89'$
$Tan = 71.04'$	$Tan = 45.30'$
$Chd. = 139.90'$	$Chd. = 85.14'$
$Chd. Brg. = N20^{\circ}19'45''E$	$Chd. Brg. = N10^{\circ}24'16''E$

Note: Bearing of Tangent between Sta. 6+85.49 and Sta. 6+77.32 is $N07^{\circ}35'30''W$.

DEPARTMENT OF PUBLIC WORKS
 3-4-85
 CHIEF, BUREAU OF ENGINEERING
 OFFICE OF PLANNING & ZONING
 John W. Muschler 2-28-85
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE AND ZONING ADMINISTRATION



NOTE:
 PAVING WIDTH - 2'-24" & 28"
 LENGTH OF ROAD 699'
 2 GENER. M+1/6 IN ROAD R/W

"AS-BUILT" ELEVATIONS AS OF JANUARY 12, 1987
 BY: KENNETH A. McCORD P.E. 1974

1/23/85	1	As Per DPW and S.C.S. Comments
REV. DATE	REV. NO.	REVISION DESCRIPTION
COLUMBIA 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORPORATION		
PROJECT AREA VILLAGE OF HICKORY RIDGE SECTION 3 AREA 3		
PROJECT TITLE PLAN AND PROFILE GRAY STAR WAY		
SCALE: AS SHOWN		DATE:
WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218		

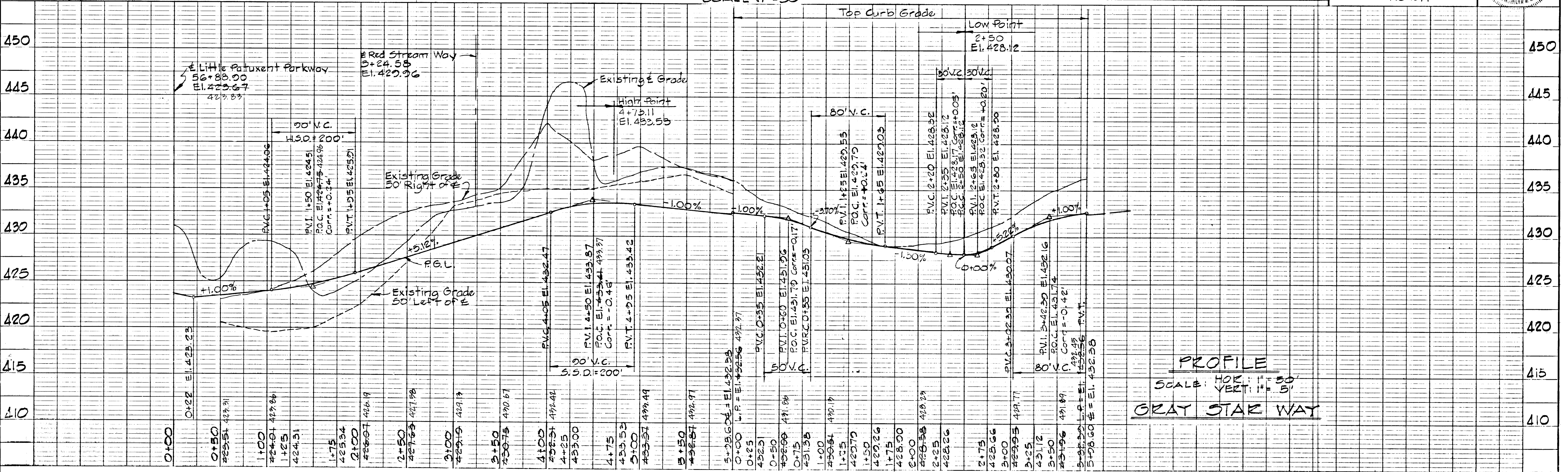
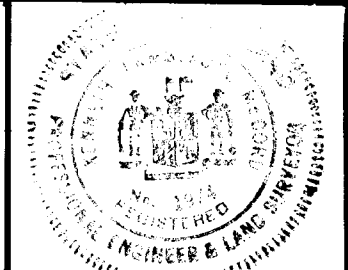
CURB TRANSITION CURVE DATA

Chd. = 122.41'	Chd. Brg. = N20°19'45"E	Chd. = 113.67'	Chd. Brg. = N20°19'45"E
Arc = 123.05'	$\Delta = 20^{\circ}08'34''$	Arc = 114.26'	$\Delta = 20^{\circ}08'34''$
R = 350.00'	Tan. = 62.16'	R = 325.00'	Tan. = 57.72'

STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOPEL.	INV. IN	INV. OUT	LOCATION
I-115	A-5 Inlet (main 25') S.D. 40'	428.12		423.58	Inlet 1.02' back L.P. Sta. 2+50
M-33	Standard Manhole 65.01	423.00	417.22	417.02	See Plan & Profile
G-25	Type 'A' Headwall 50.51	419.00	416.00	416.88	See Plan & Profile

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



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

DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF ENGINEERING DATE 3-4-85
 OFFICE OF PLANNING & WORKS
 FOR: MURKIN 2-288
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE AND ZONING ADMINISTRATION

NO.	TYPE	TOP EL.	INV. IN	INV. OUT	LOCATION
I-14	A-5 Inlet (width 2.5') 5D 4.01	402.62	402.08	402.08	Inlet 1.22' back of L.P. Sta. 1+70.92
M-32	Standard Manhole 65.01	407.60	401.93	401.73	See Plan & Profile
S-21	Type "A" Headwall 5D 5.11	392.60	392.60	392.53	See Plan & Profile

"AS-BUILT" ELEVATION AS OF JANUARY 12, 1987
 BY: KENNETH A. McCORD PE #1974

REV. DATE	REV. NO.	REVISION DESCRIPTION
3/4/80	2	Revised Sidewalk on Gul-De-Sac
1/23/85	1	As Per D.P.W. and S.C.S. Comments
		REVISION DESCRIPTION

COLUMBIA
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION

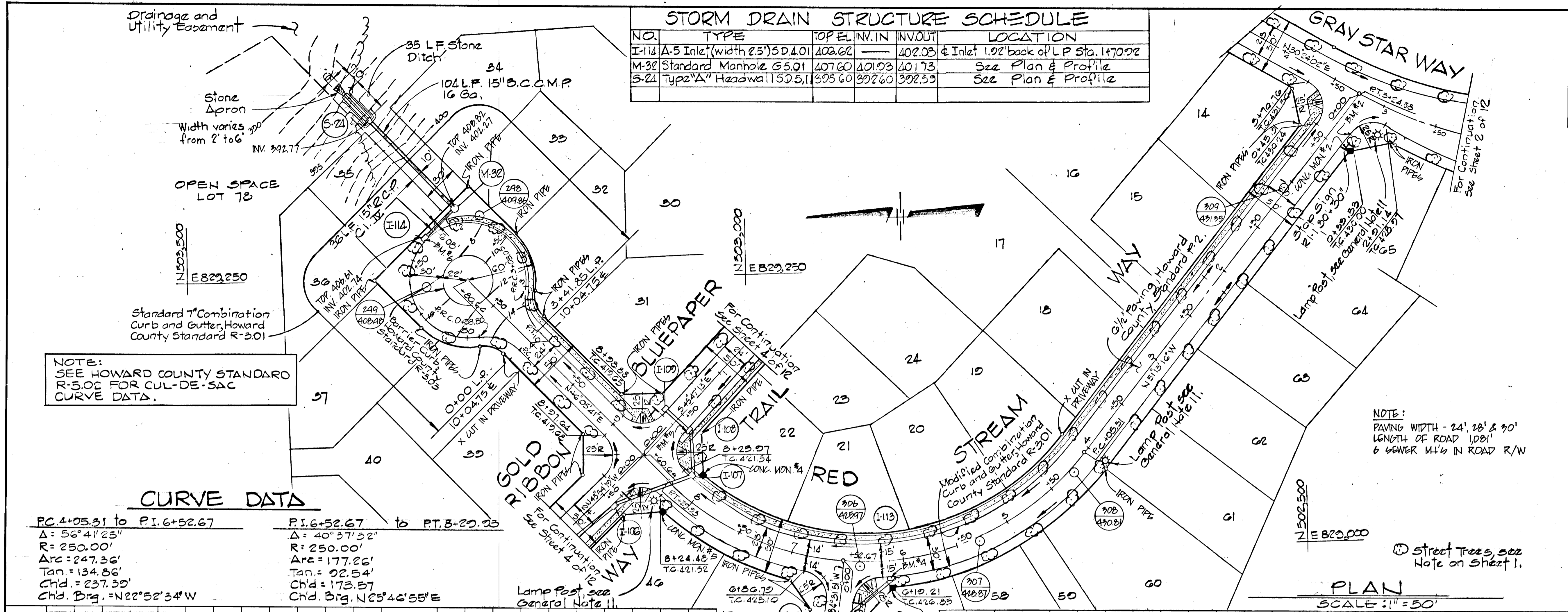
PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2

PROJECT TITLE
 PLAN AND PROFILE
 RED STREAM WAY

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218

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



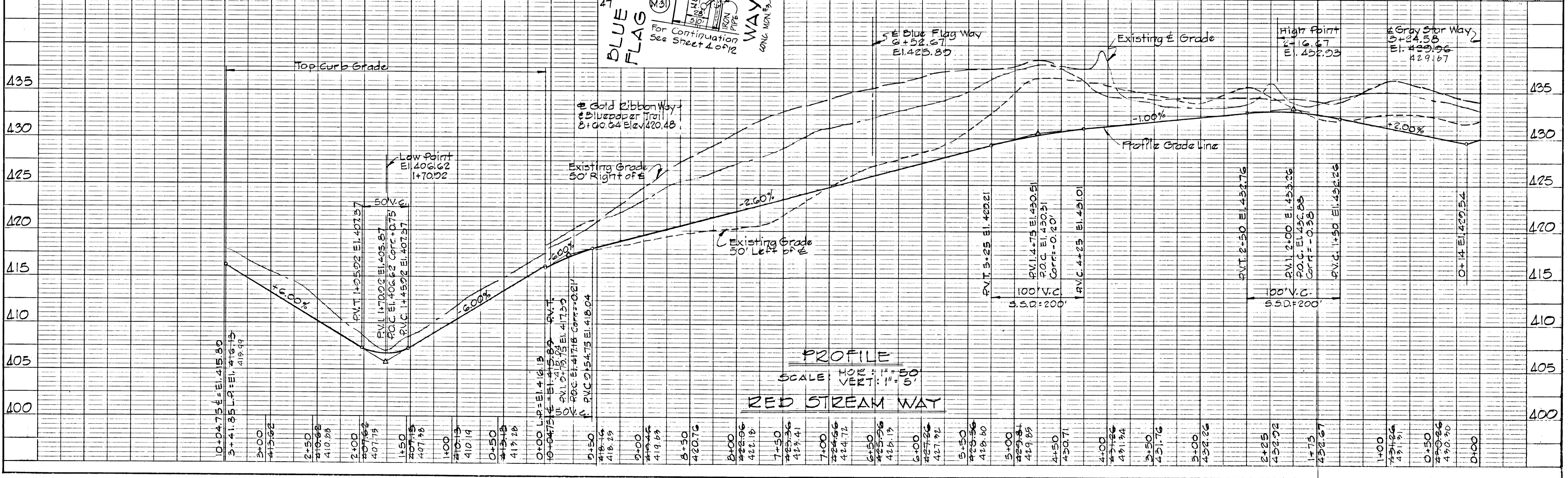
NOTE:
 SEE HOWARD COUNTY STANDARD
 R-5.02 FOR CUL-DE-SAC
 CURVE DATA.

CURVE DATA

Stationing	Delta	Radius	Arc Length	Tangent	Chord	Chord Bearing
PC 4+05.31 to PI 6+52.67	56°41'25"	250.00'	247.36'	134.86'	237.39'	N22°52'34"W
PI 6+52.67 to PT 8+29.93	40°57'32"	250.00'	177.26'	92.54'	173.57'	N25°46'55"E

NOTE:
 PAVING WIDTH - 24' 28' & 30'
 LENGTH OF ROAD 1081'
 6' GENER. M'S IN ROAD R/W

PLAN
 SCALE: 1" = 50'



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

RED STREAM WAY

DATE	BY	NO.

DATE	BY	NO.

CURVE DATA

PC: 0+21.00 to PT: 1+23.49
 $\Delta = 14^\circ 40' 02''$ Tan: 51.48
 $R = 400.00'$ Ch: 102.12'
 Arc = 102.40'
 Ch. Org. = $N77^\circ 11' 50'' W$

NOTE:
 PAVING WIDTH 24' & 28'
 LENGTH OF ROAD 623'
 5' SEWER 14 1/2" IN ROAD R/W

NOTE:
 SEE HOWARD COUNTY STANDARD
 R-5.02 FOR CUL-DE-SAC
 CURVE DATA.

STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP EL	INV IN	INV OUT	LOCATION
I-105	A-5 Inlet (width 25) 5D 4.01	405.53	400.81	400.61	Inlet 12' back of L.P. Sta. 1+70.97
I-102	A-5 Inlet (width 25) 5D 4.01	418.77	419.46	413.25	Inlet 13.92' left of Sta. 0+50
I-107	A-5 Inlet (width 25) 5D 4.01	421.76	415.48	415.24	Inlet 15.02' right of Sta. 0+15
I-108	A-5 Inlet (width 25) 5D 4.01	420.32	415.94	415.74	Inlet 13.92' right of Sta. 0+15
I-109	A-5 Inlet (width 25) 5D 4.01	420.52	415.24	416.08	Inlet 13.92' left of Sta. 0+15
M-103	Standard Manhole G.5.01	405.40	395.25	395.15	See Plan & Profile
I-112	A-5 Inlet (width 25) 5D 4.01	402.97	398.45	398.45	Inlet 12' back L.P. Sta. 1+68.48
I-113	A-5 Inlet (width 25) 5D 4.01	427.01	427.75	427.75	Inlet 16.92' left of Sta. 0+12
M-20	Standard Manhole G.5.01	408.00	395.23	398.03	See Plan & Profile
M-31	Standard Manhole G.5.01	423.92	418.43	418.25	Inlet 4.0' left of Sta. 0+50

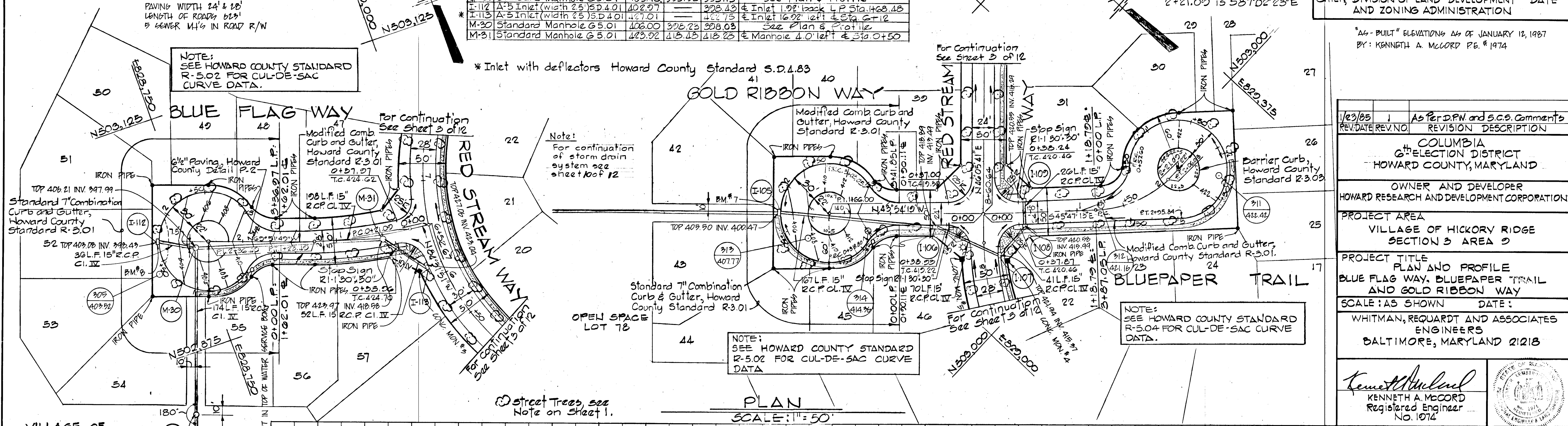
* Inlet with deflectors Howard County Standard S.D.4.83

CURVE DATA

PC: 1+18.79 to PT: 2+06.03
 $\Delta = 41^\circ 13' 10''$ Tan: 45.51'
 $R = 121.17'$ Ch: 85.57'
 Arc = 87.24'
 Ch. Org. = $S56^\circ 24' 48'' E$
 Note: Bearing of Tangent Between
 Sta. 2+06.03 and Sta.
 2+21.00 is $S87^\circ 02' 23'' E$

DEPARTMENT OF PUBLIC WORKS
 Price: \$ 2,000
 CHIEF, BUREAU OF ENGINEERING / 3-4-85
 OFFICE OF PLANNING & WORKS
 John W. Muschman
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 AND ZONING ADMINISTRATION 2-28-85

* "AS-BUILT" ELEVATIONS AS OF JANUARY 12, 1987
 BY: KENNETH A. MCCORD P.E. #1974



PLAN
 SCALE: 1" = 50'

REV. DATE	REV. NO.	AS PER D.P.W. and S.C.S. COMMENTS	REVISION DESCRIPTION
1/23/85	1	As Per D.P.W. and S.C.S. Comments	

COLUMBIA
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2

PROJECT TITLE
 PLAN AND PROFILE
 BLUE FLAG WAY, BLUEPAPER TRAIL
 AND GOLD RIBBON WAY

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218

Kenneth A. McCord
 Registered Engineer
 No. 1074

PROFILES

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

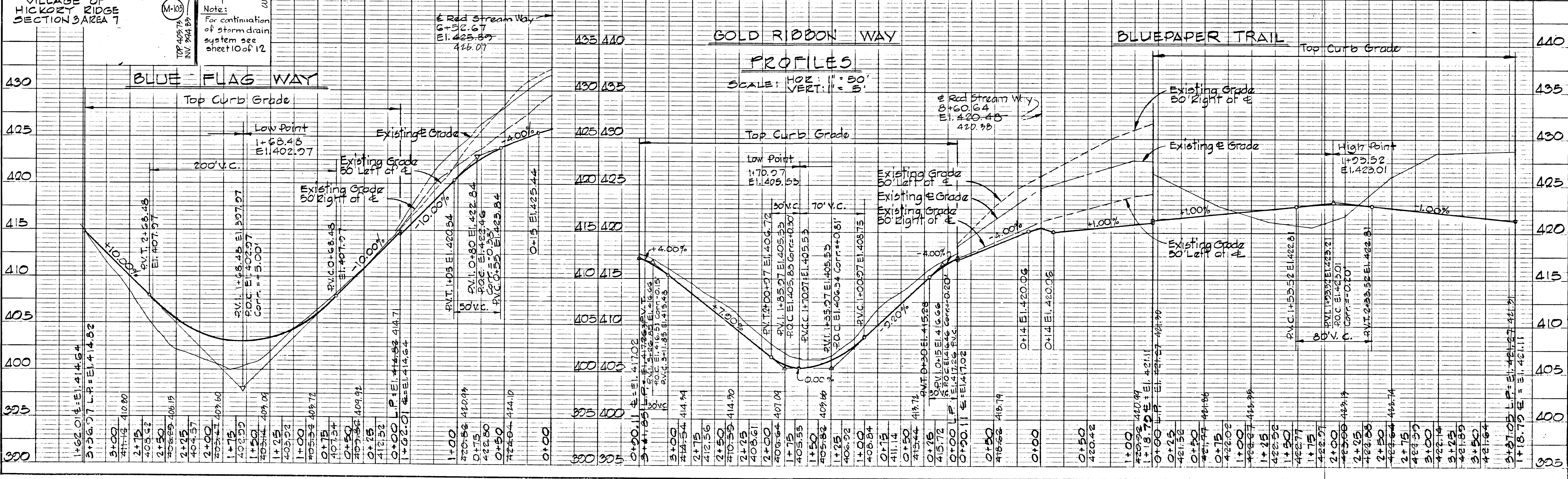


PLATE 1, PLAN PROFILE
 KEUFEL & ESSIG CO.

AS BUILT 01-12-87

F-85-68

10/1/84

SHEET 4 OF 12

AS-BUILT ELEVATIONS AS OF JANUARY 12, 1987
 BY: KENNETH A. MCCORD P.E. #1974

11/5/85	2	Added Junction Box Between M-18 & I-77
1/23/85	1	As Per D.P.W. and SCS Comments
REV. DATE	REV. NO.	REVISION DESCRIPTION

COLUMBIA
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION

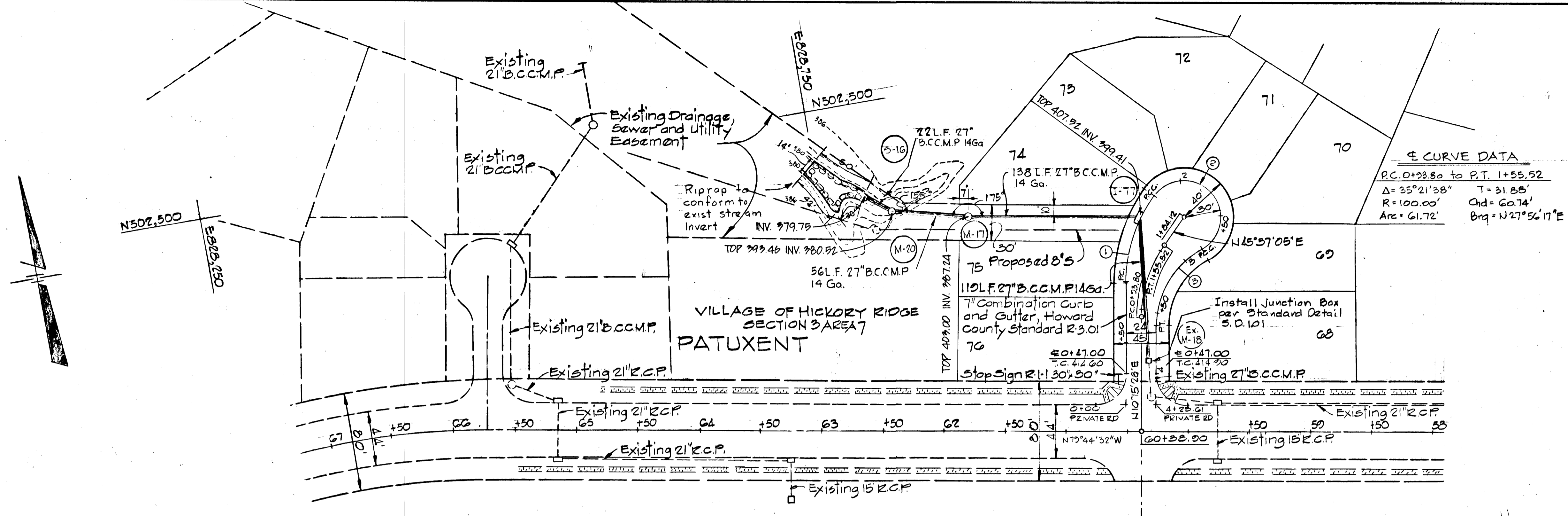
PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2

PROJECT TITLE
 PLAN AND PROFILE
 PRIVATE ROAD

SCALE: AS SHOWN DATE

WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218

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



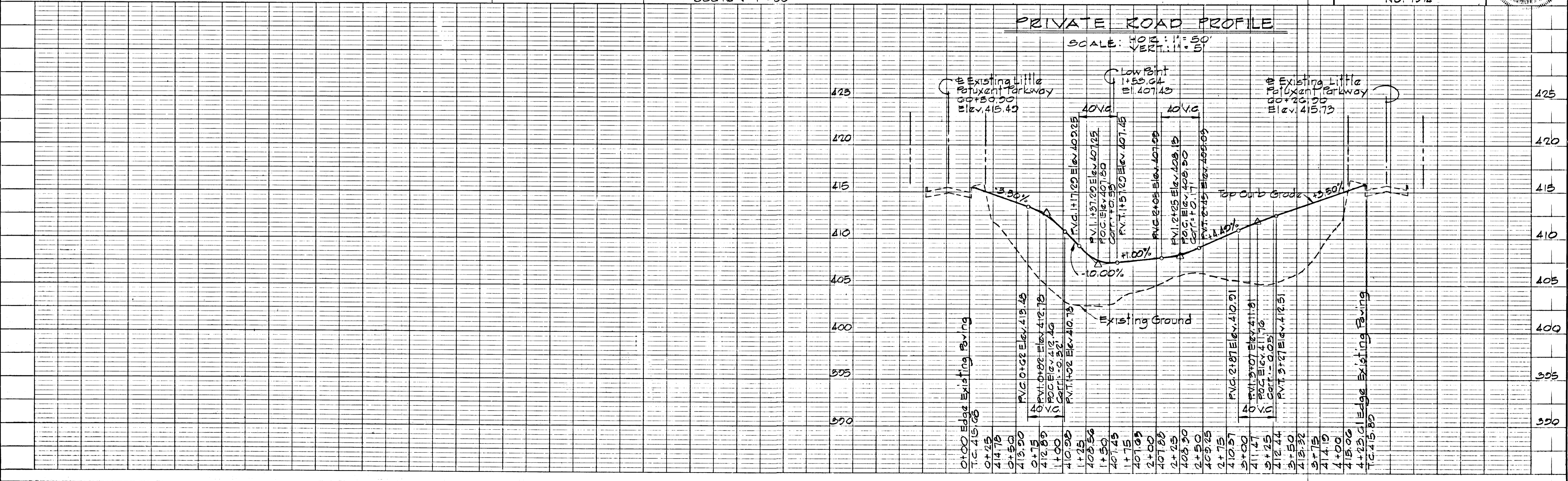
STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOPEL.	INV. IN	INV. OUT	LOCATION
I-77	A-10 Inlet (width 25) S.D. 4.02	407.43	400.25	400.65	± Inlet 192 back L.P. Sta. 1+53.64
M-17	Standard Manhole G 5.02	403.00	387.70	387.50	See Plan & Profile
M-20	Standard Manhole G 5.05	386.50	380.61	380.41	See Plan & Profile
S-16	Type 'A' Headwall S.D. 5.11	383.73	379.98	379.95	See Plan & Profile

PLAN
 Scale: 1" = 50'

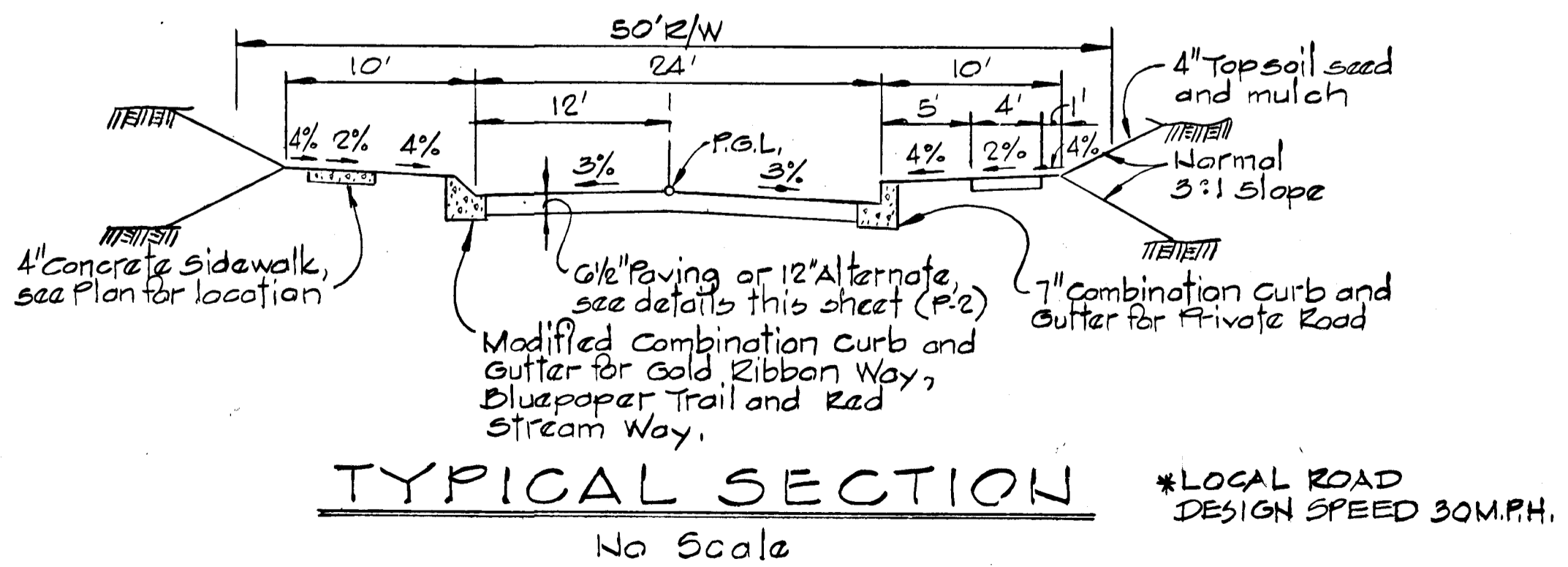
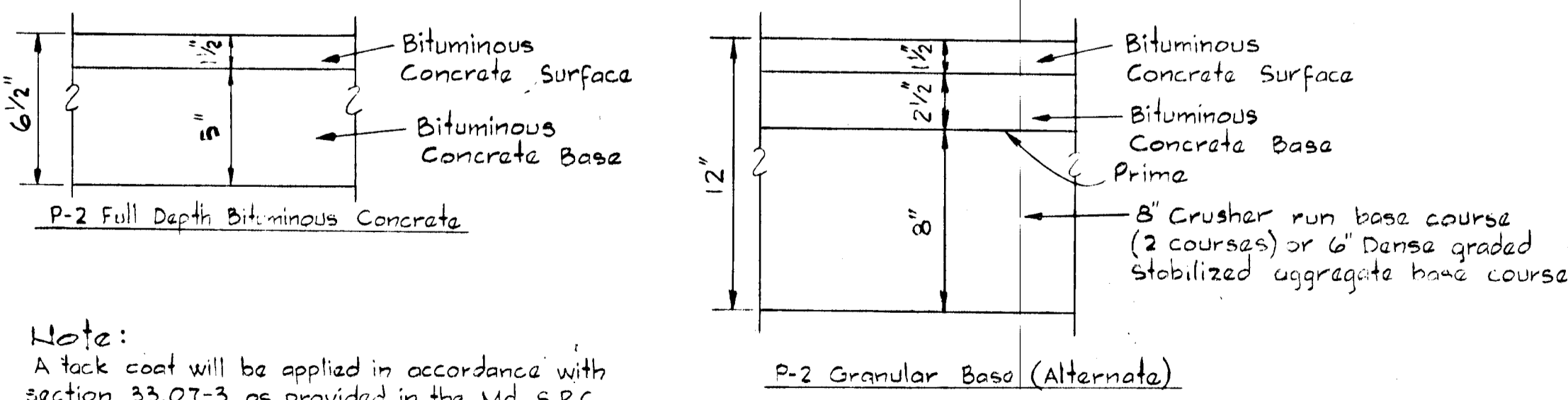
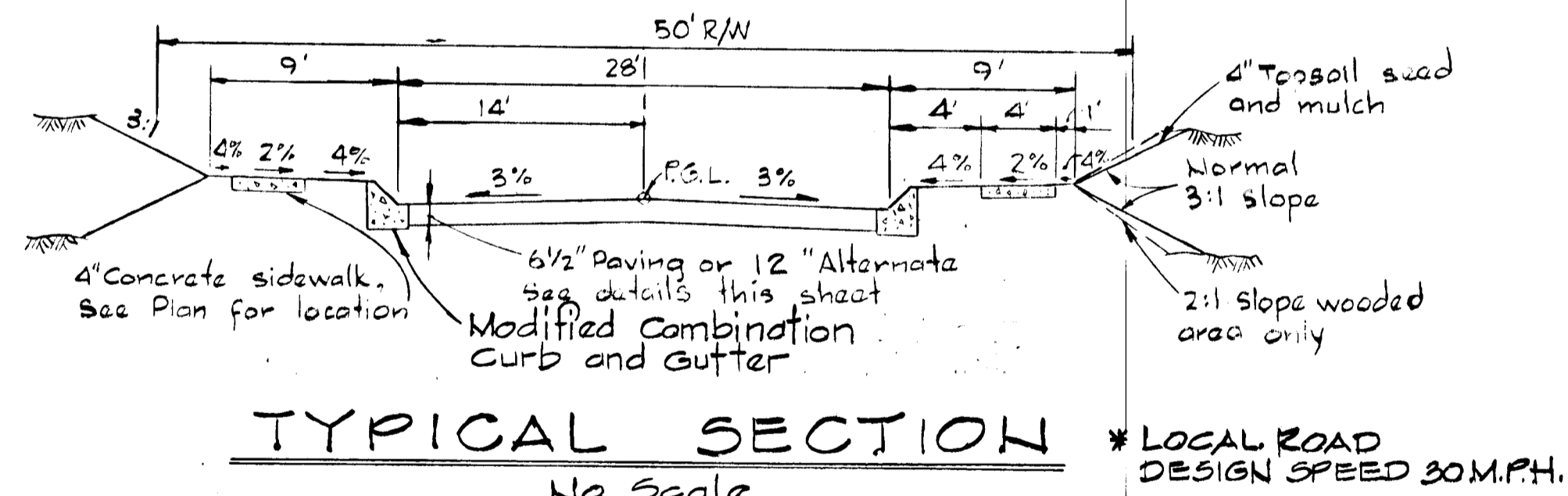
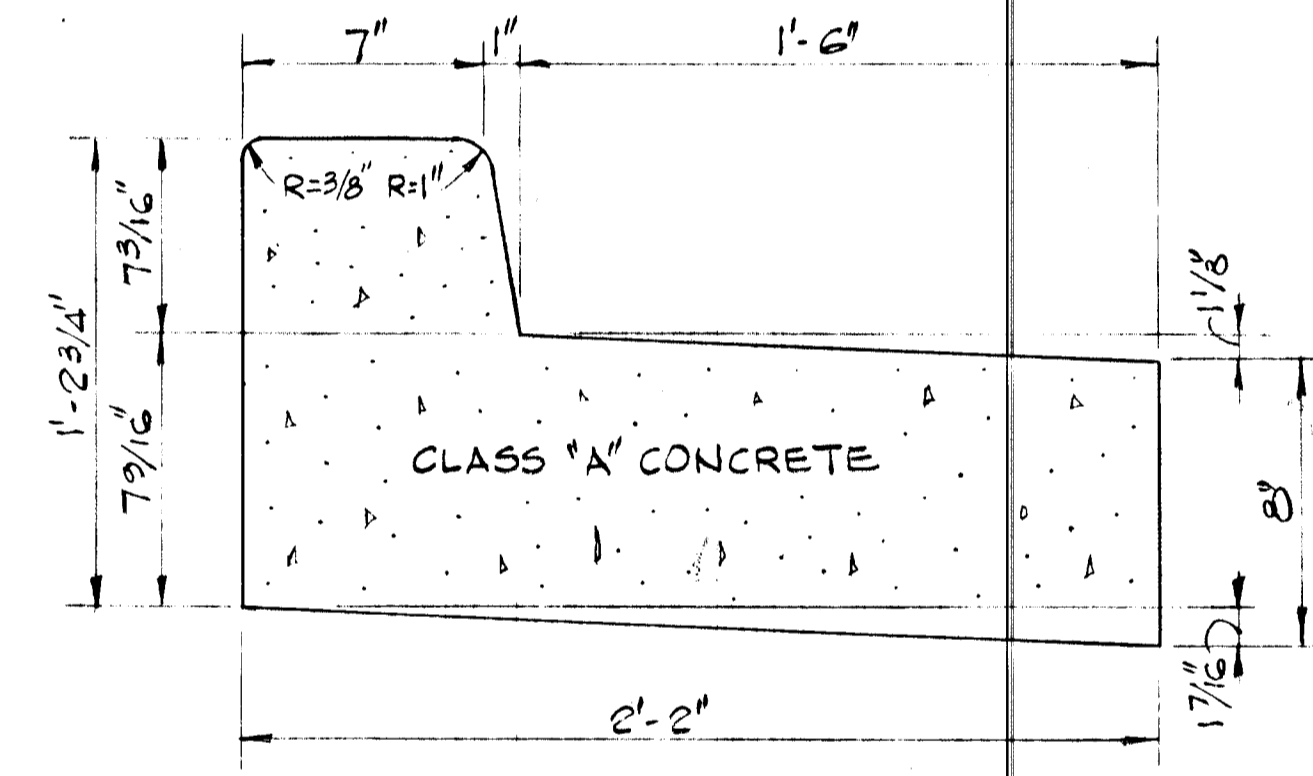
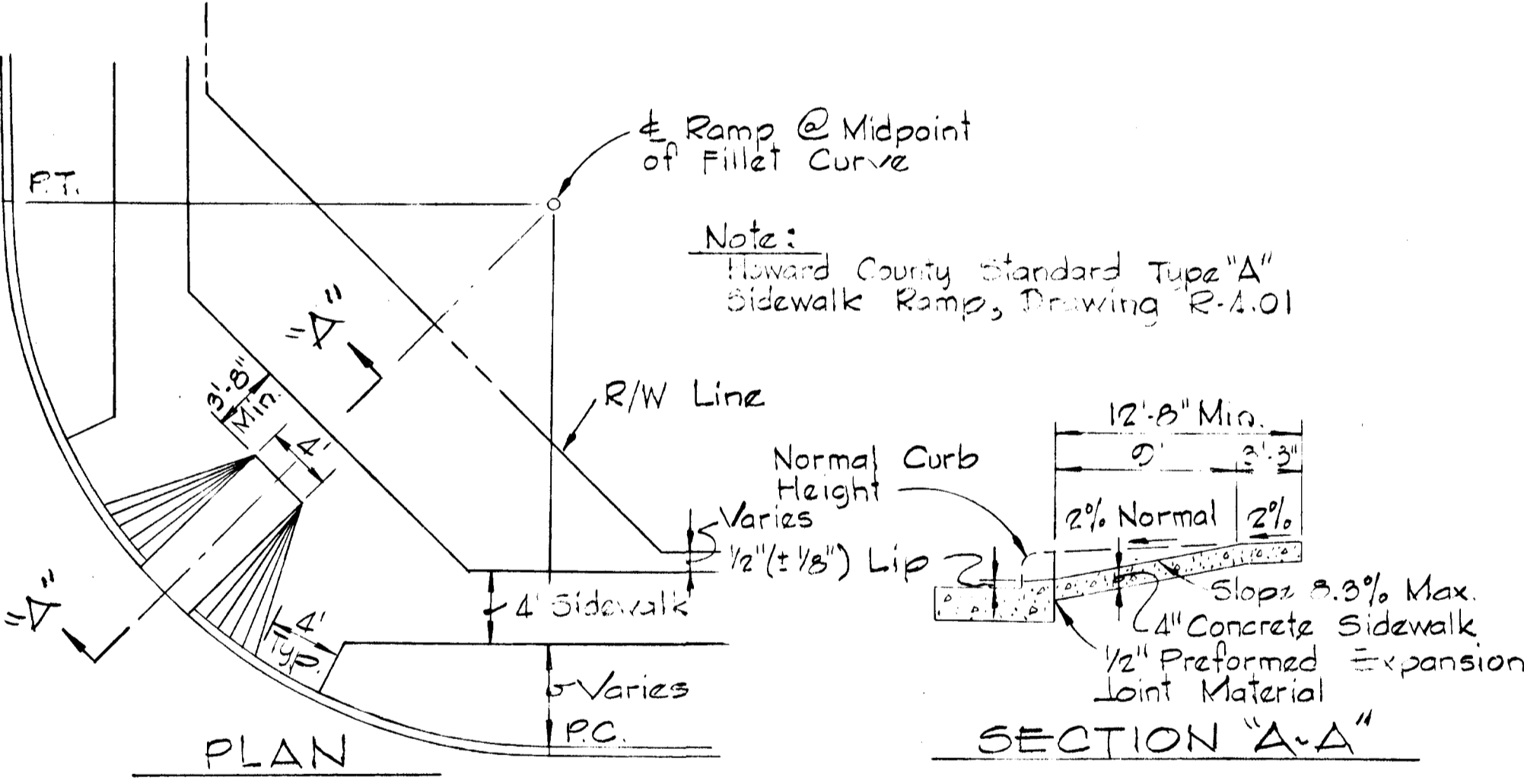
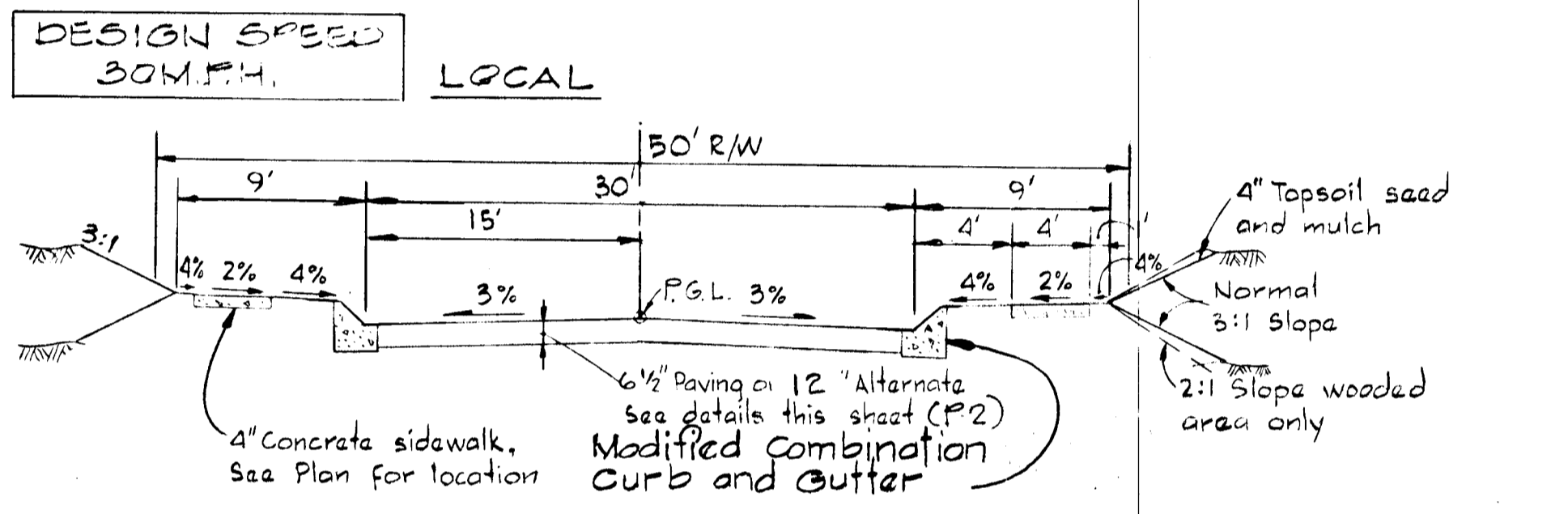
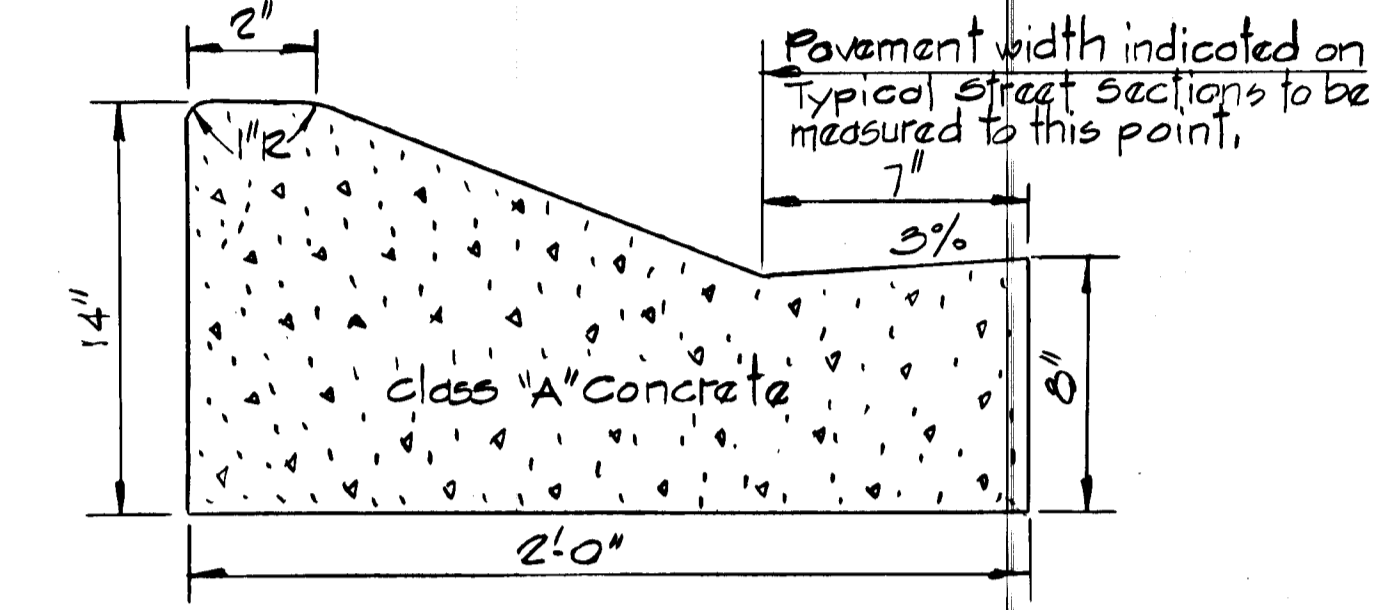
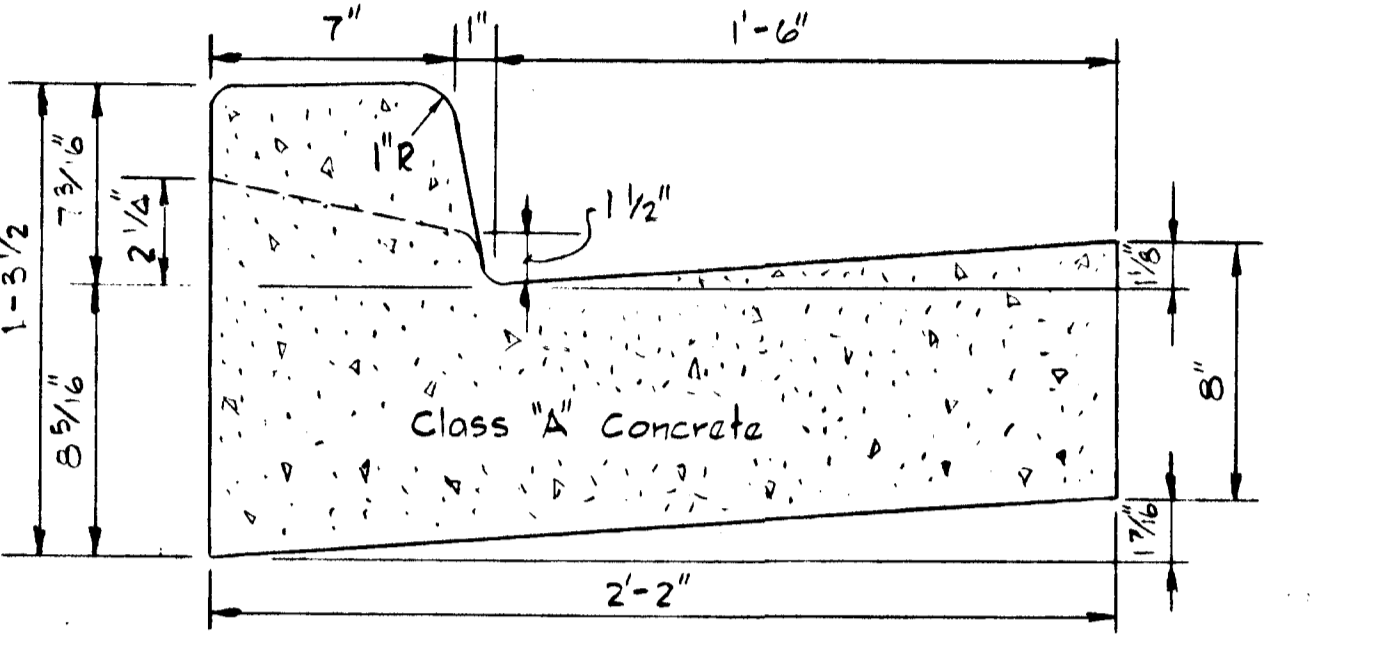
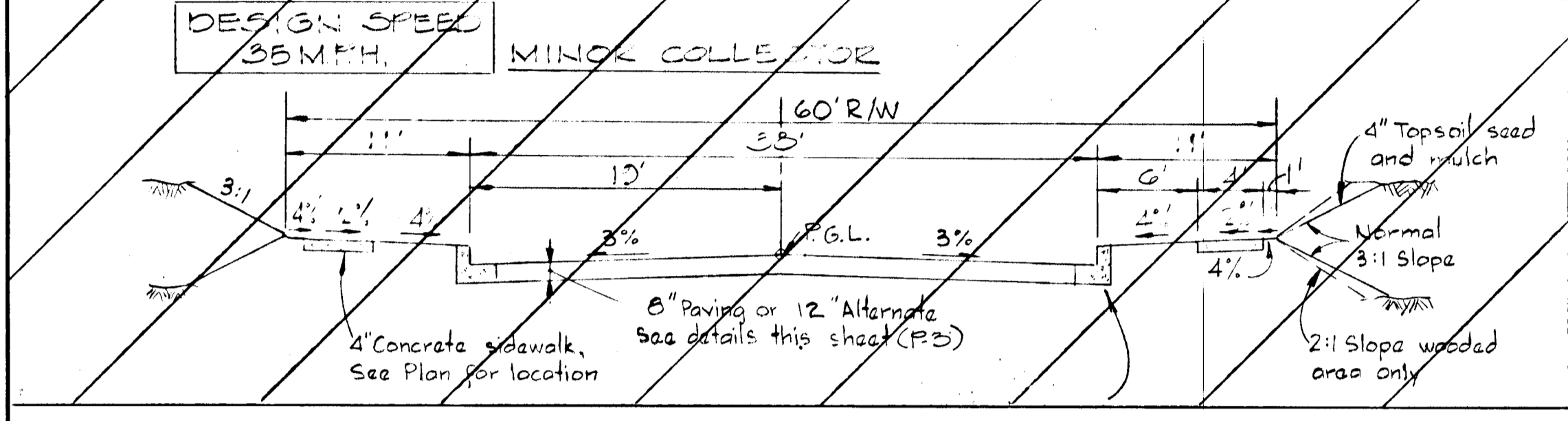
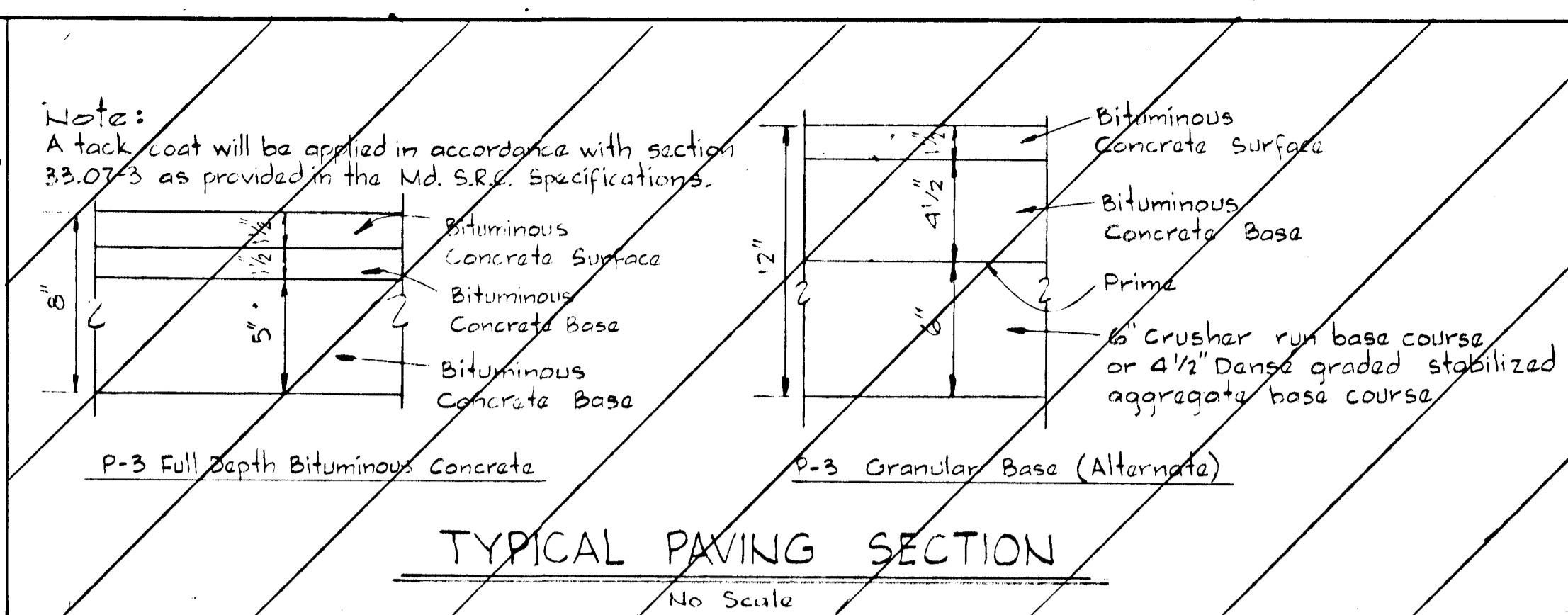
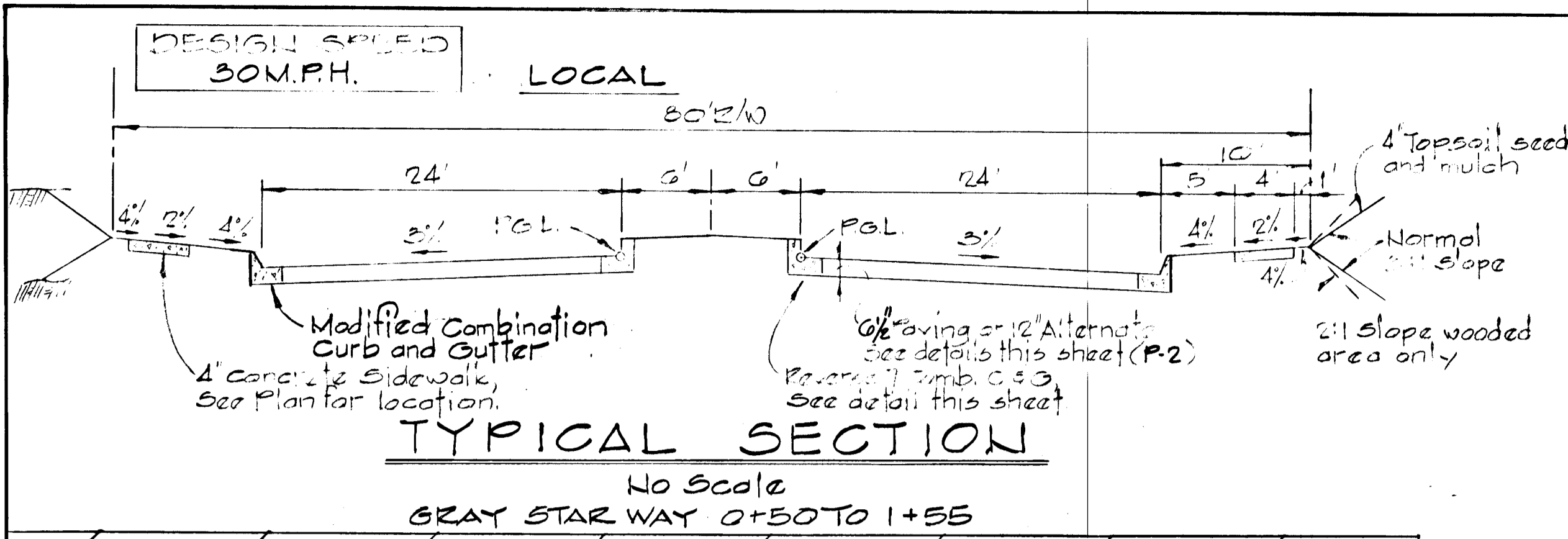
PRIVATE ROAD PROFILE

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

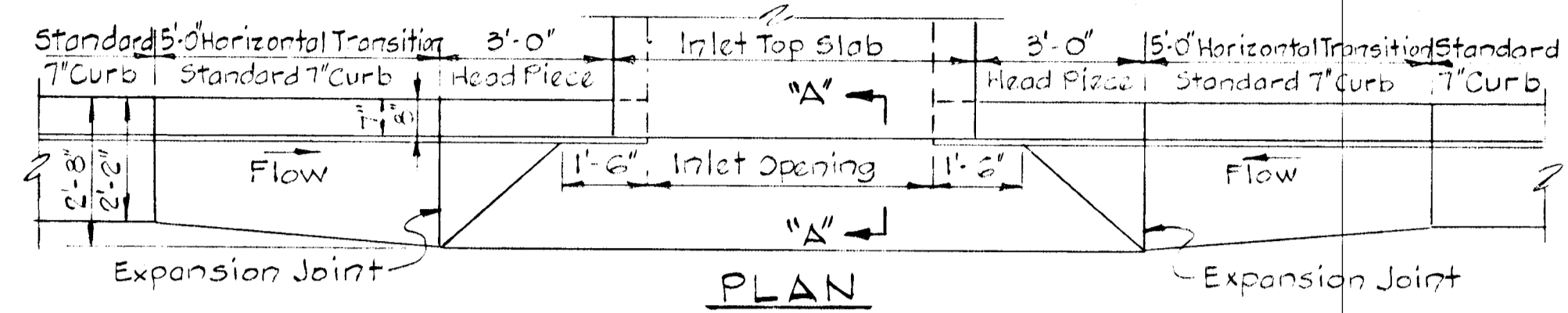
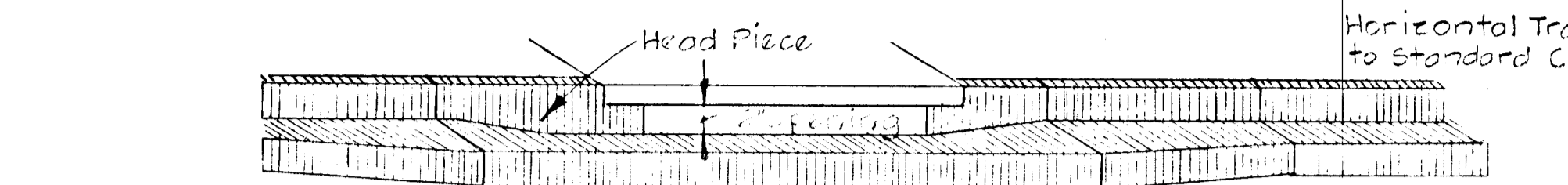


DATE
 BY
 SUPERVISOR
 NOTE BOOK
 NO. OF WAY CHECKED

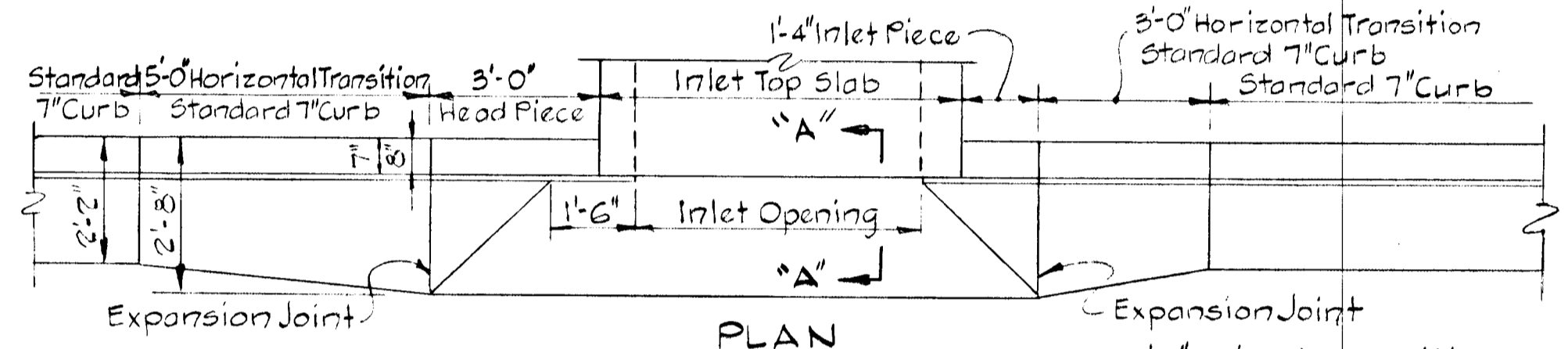
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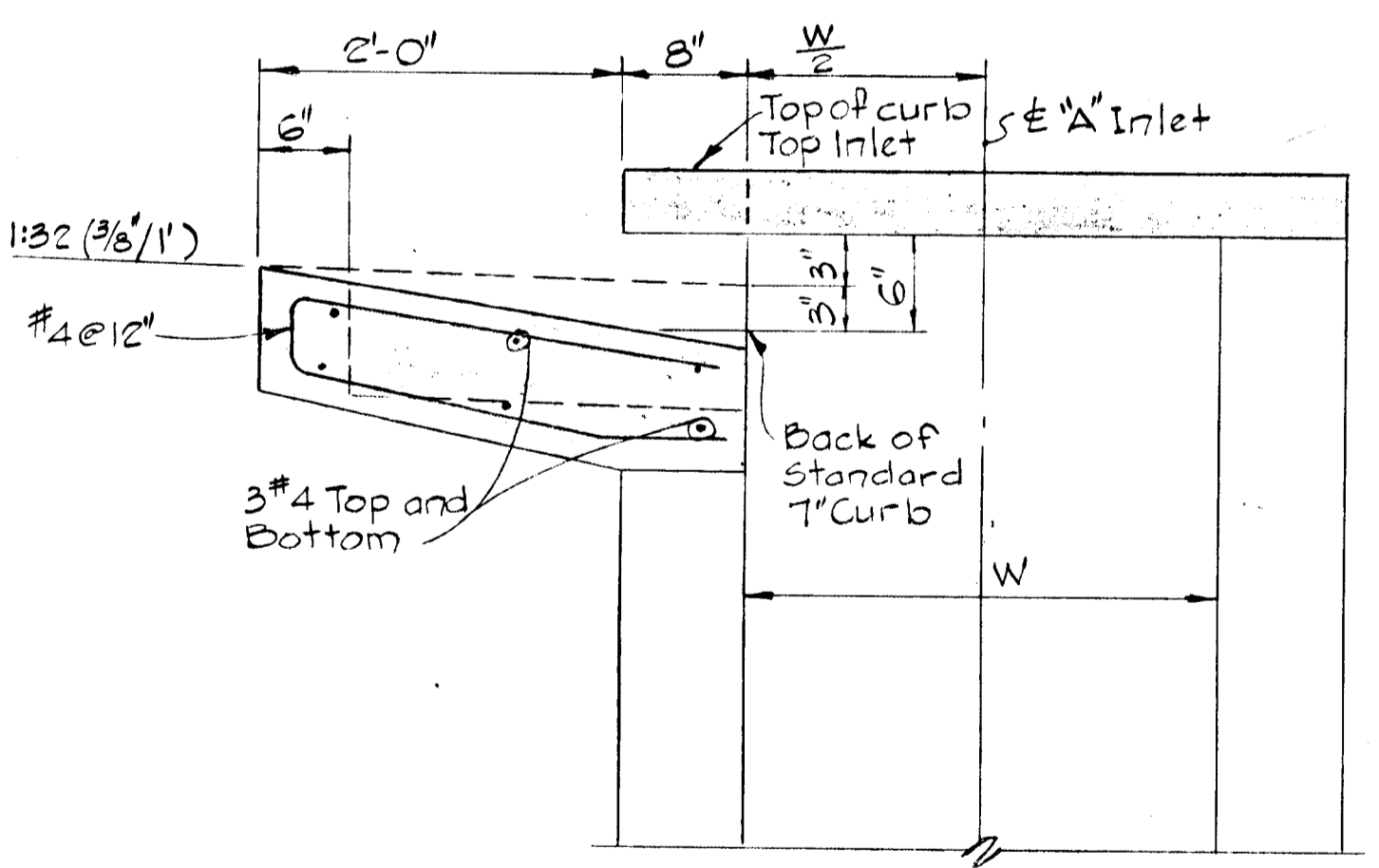
REV. DATE	REV. NO.	REVISION DESCRIPTION
COLUMBIA 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING COLUMBIA, MARYLAND 20144		
PROJECT AREA VILLAGE OF HICKORY RIDGE SECTION 3 AREA D		
PROJECT TITLE ROADWAY DETAILS		
SCALE: AS SHOWN		DATE
WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST. PAUL STREET BALTIMORE, MARYLAND 21218		
Kenneth A. McCord Registered Engineer No. 1974		



SECTION ALONG FLOW LINE
SUMPED "A" INLETS - STANDARD CURB

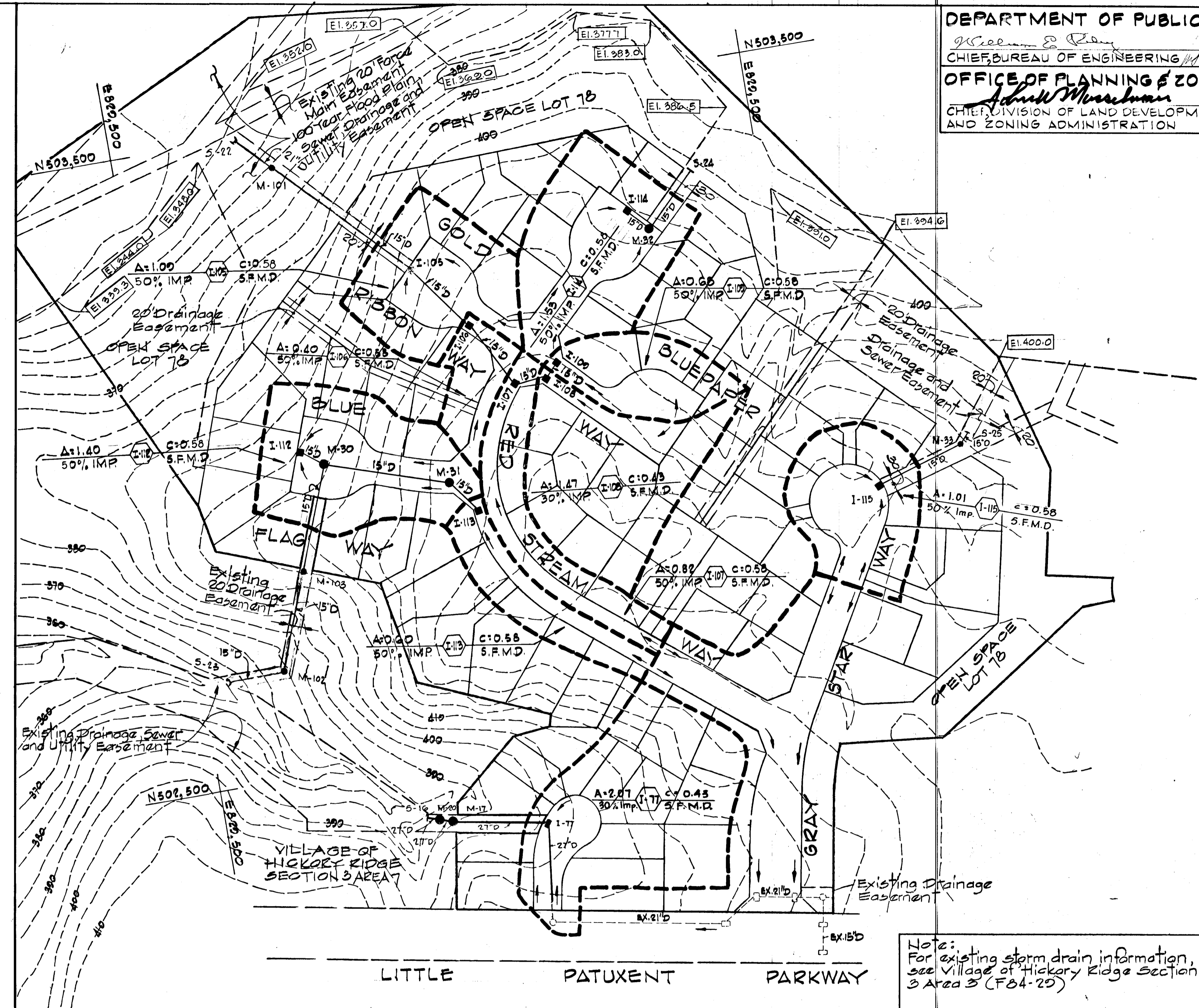


SECTION ALONG FLOW LINE
"A" INLETS - STANDARD CURB



SECTION "A-A"
"A" INLET - STANDARD CURB

Note: For "A" Inlet dimensions and structural details, see standard Howard County Standard S.D. 4.01 & S.D. 4.02.



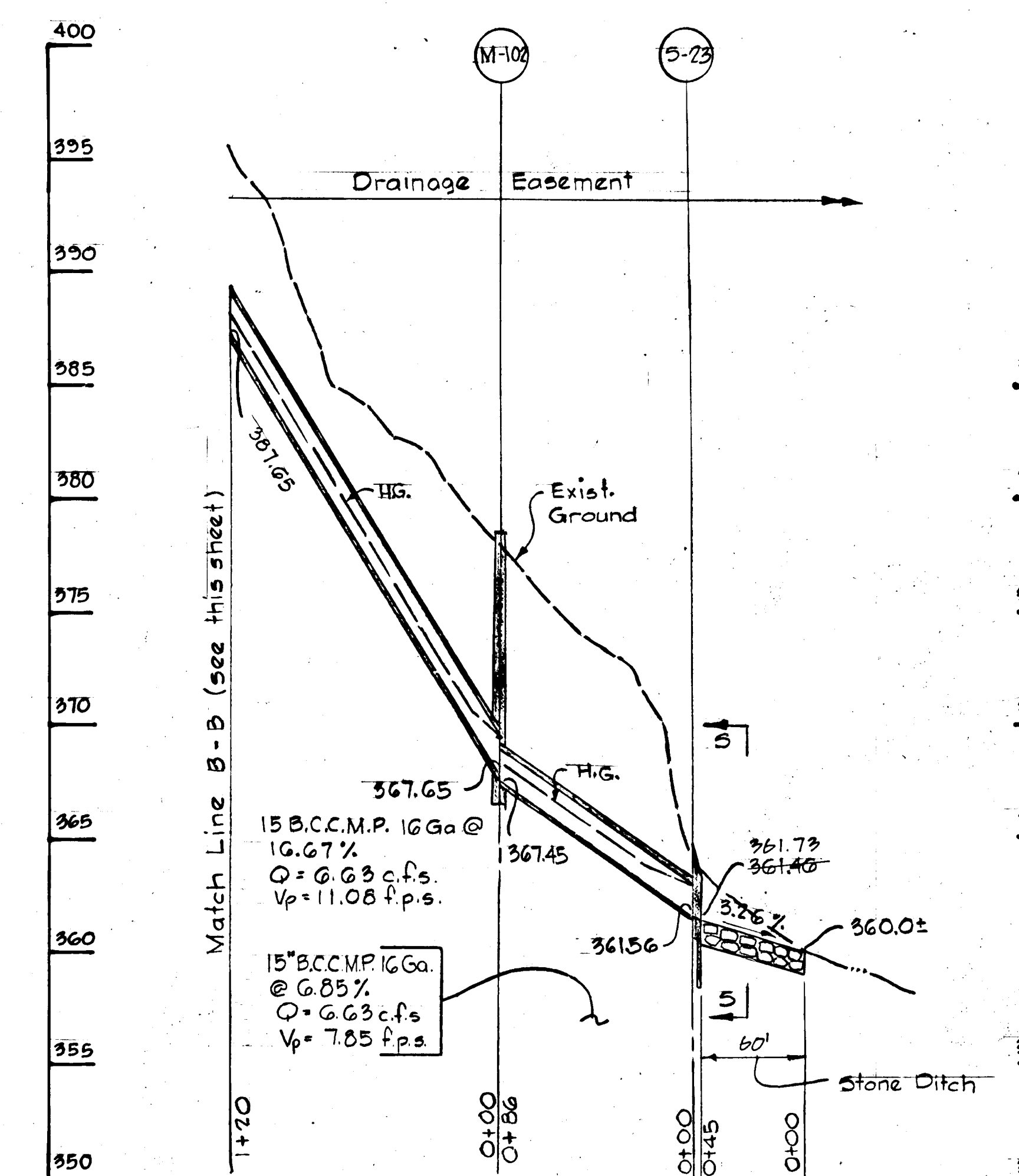
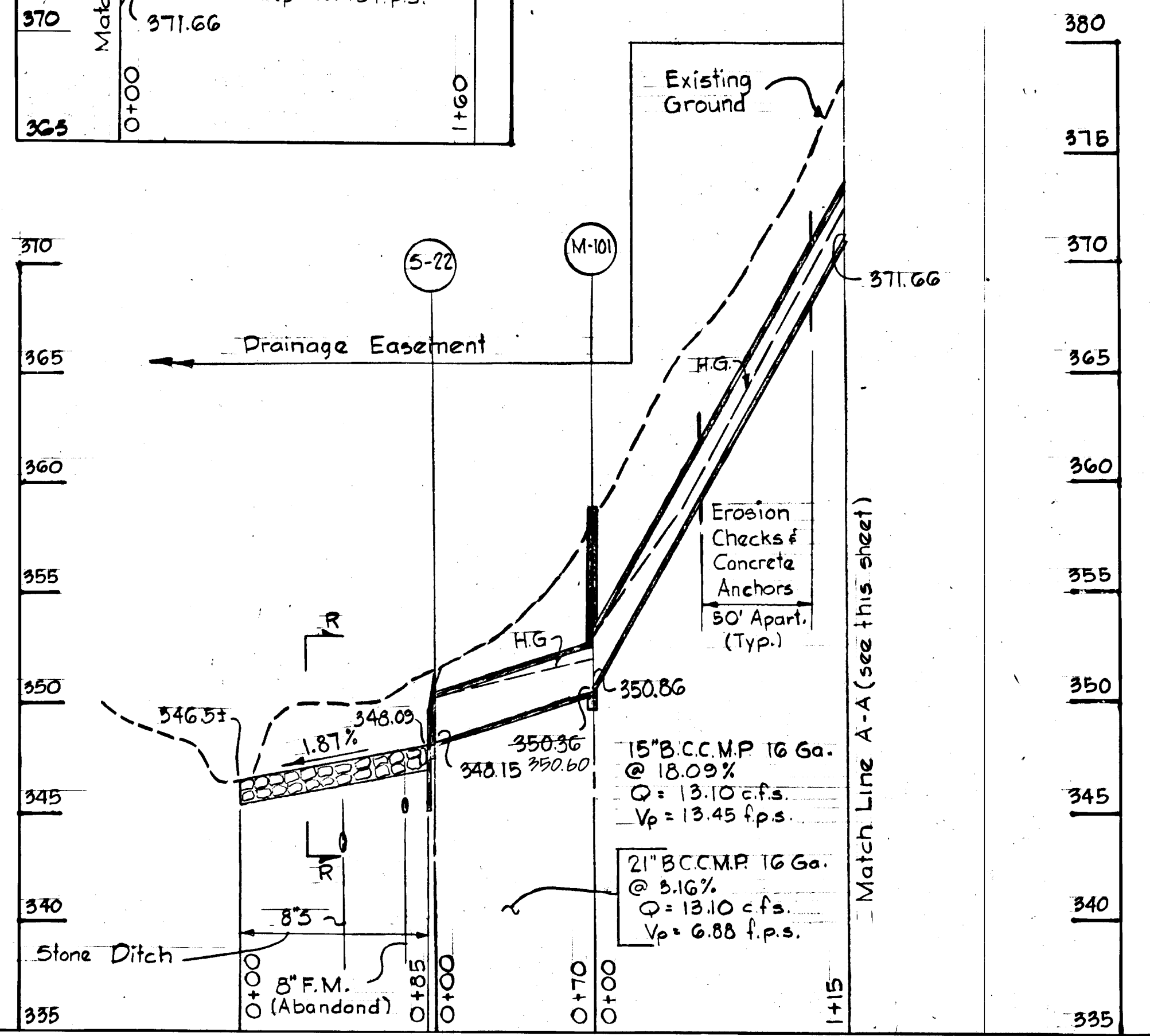
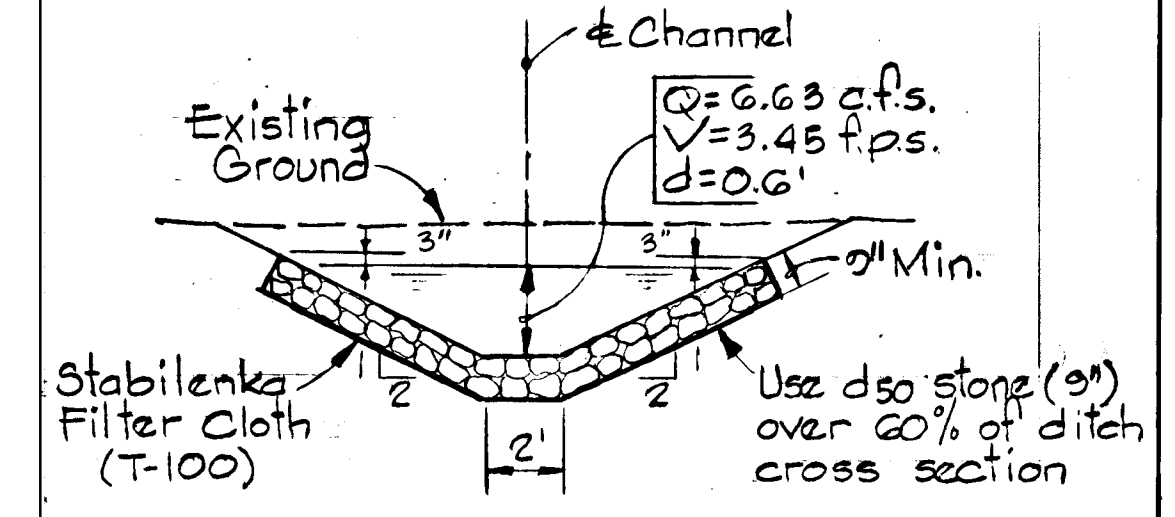
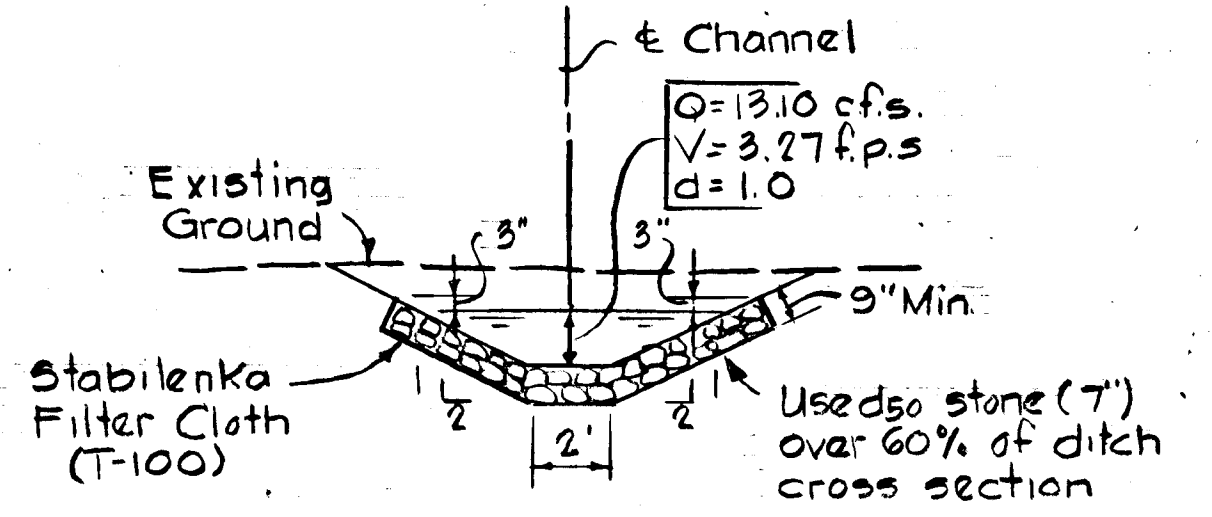
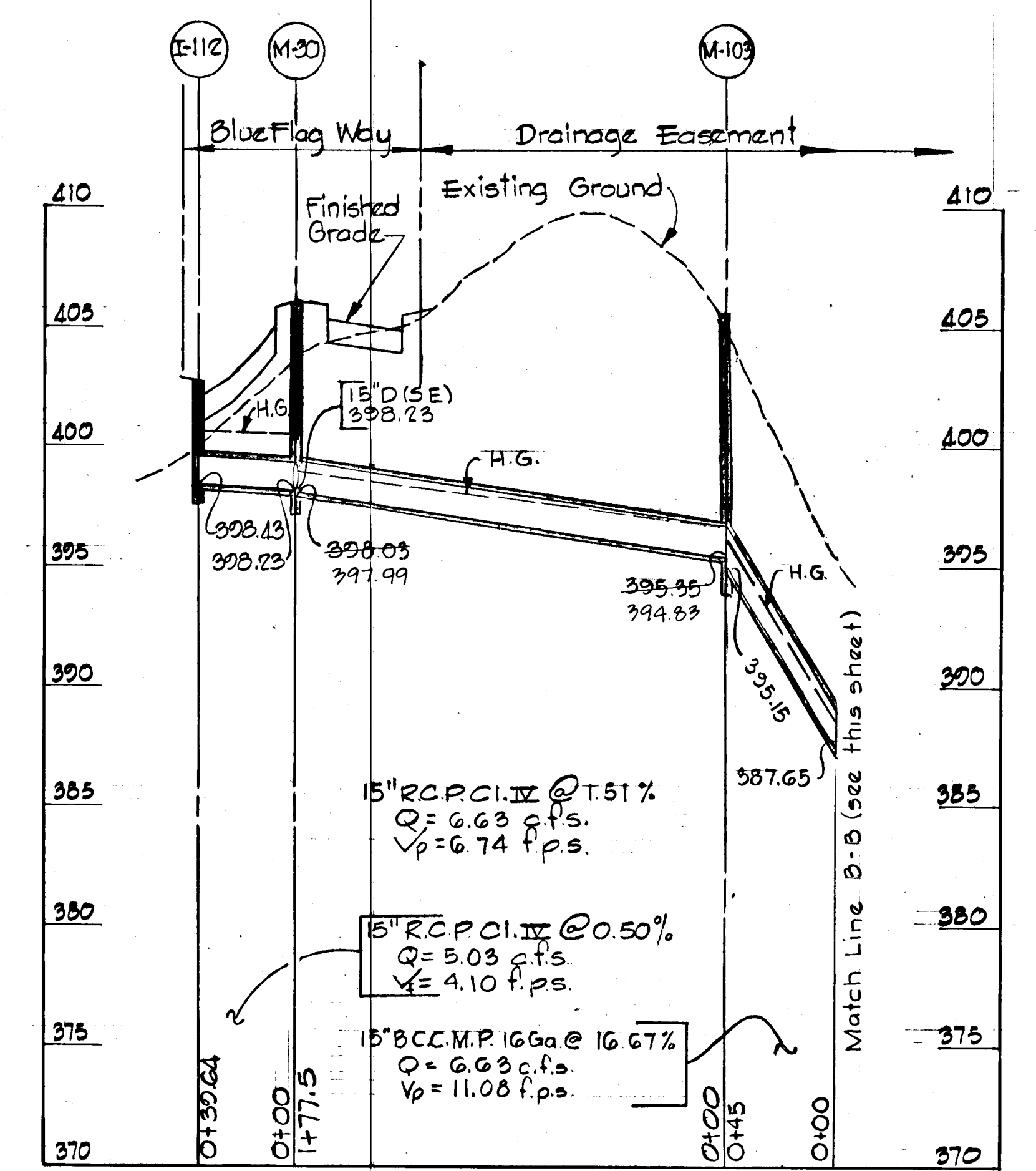
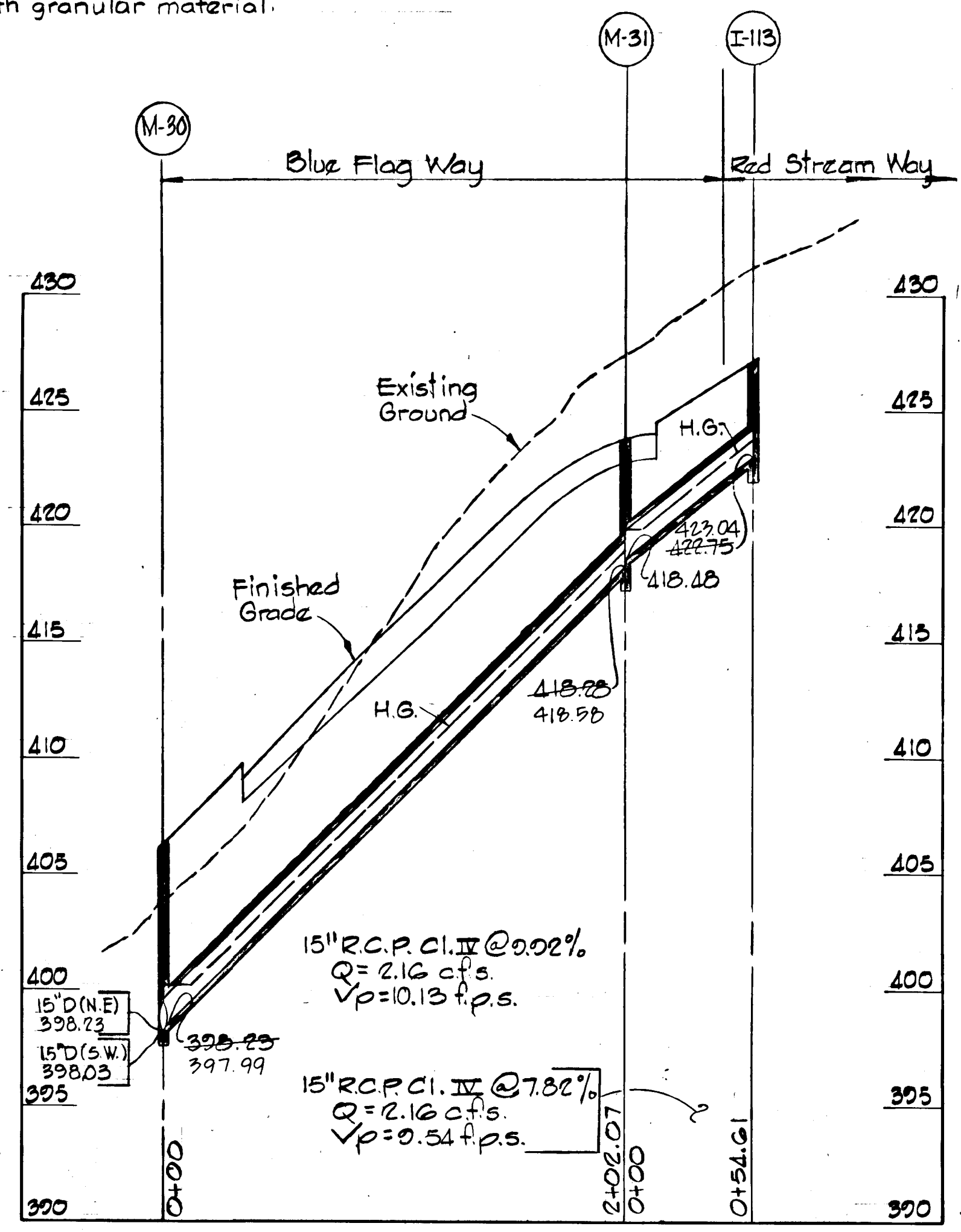
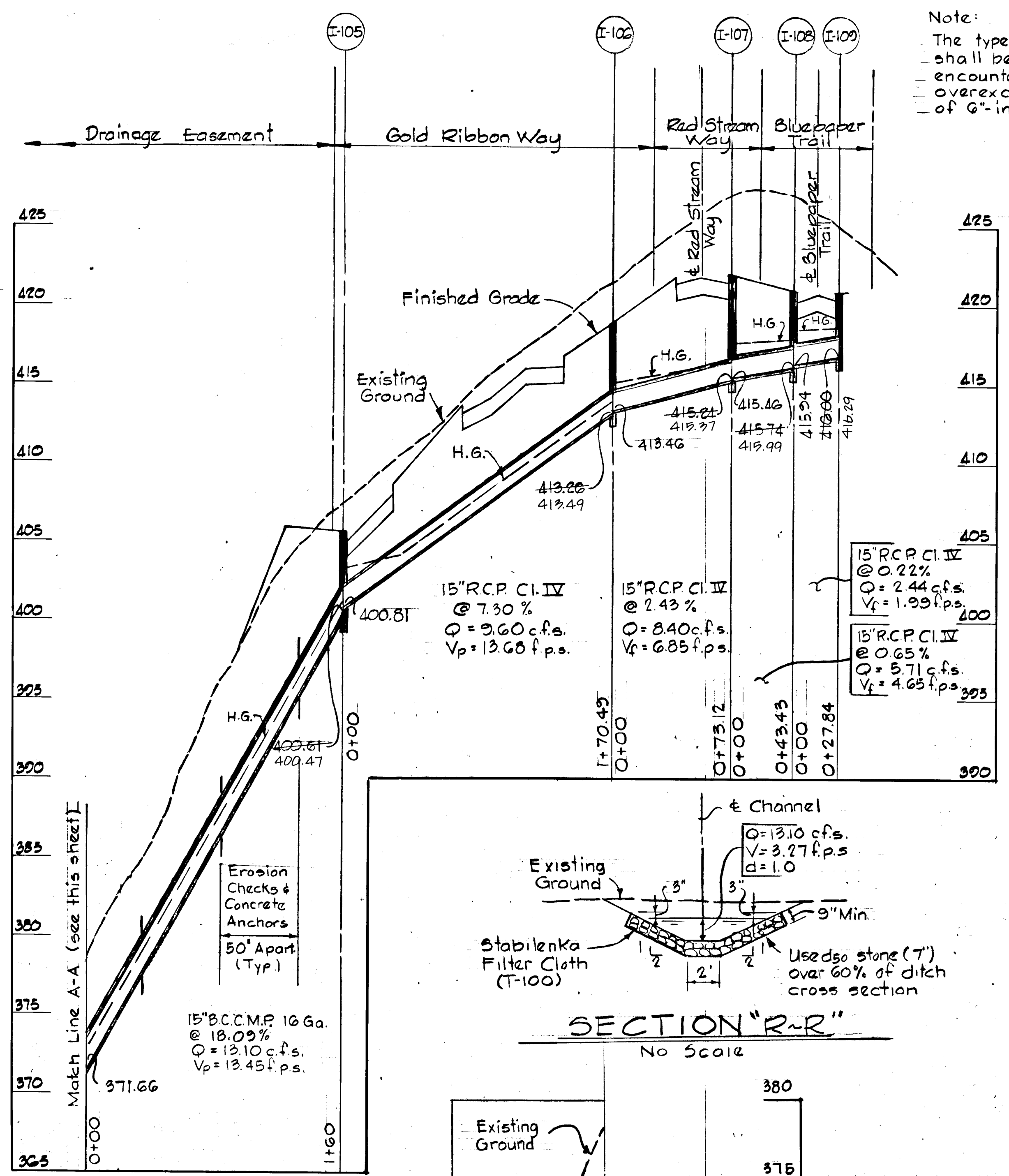
DRAINAGE AREA MAP
 Scale: 1"=100'

Note: For existing storm drain information, see Village of Hickory Ridge Section 3 Area 3 (FB4-25)

Rev. Date	Rev. No.	Revision Description
		COLUMBIA 5 th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORPORATION
		PROJECT AREA VILLAGE OF HICKORY RIDGE SECTION 3 AREA 3
		PROJECT TITLE STORM DRAIN DETAILS DRAINAGE AREA MAP
		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

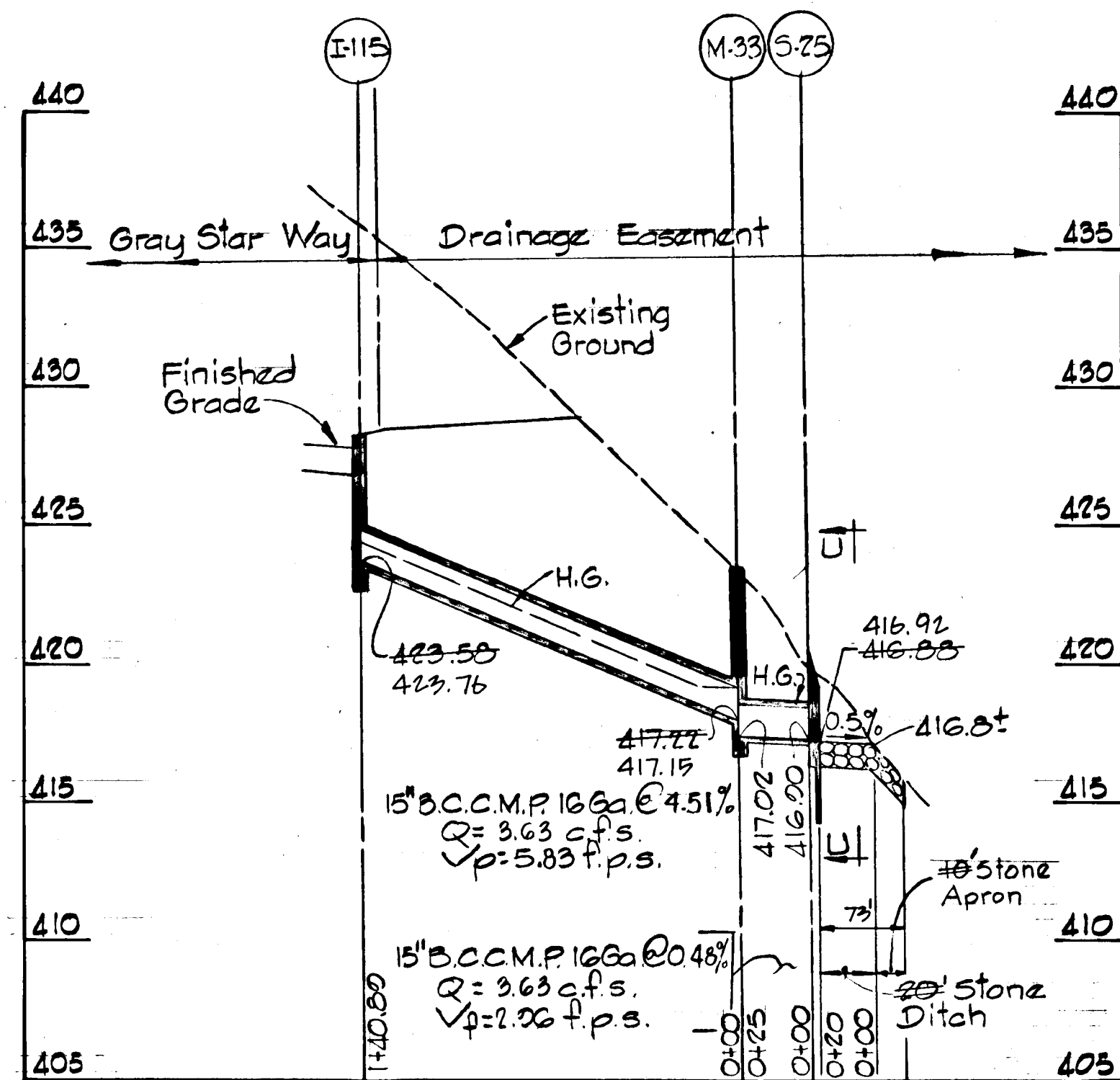
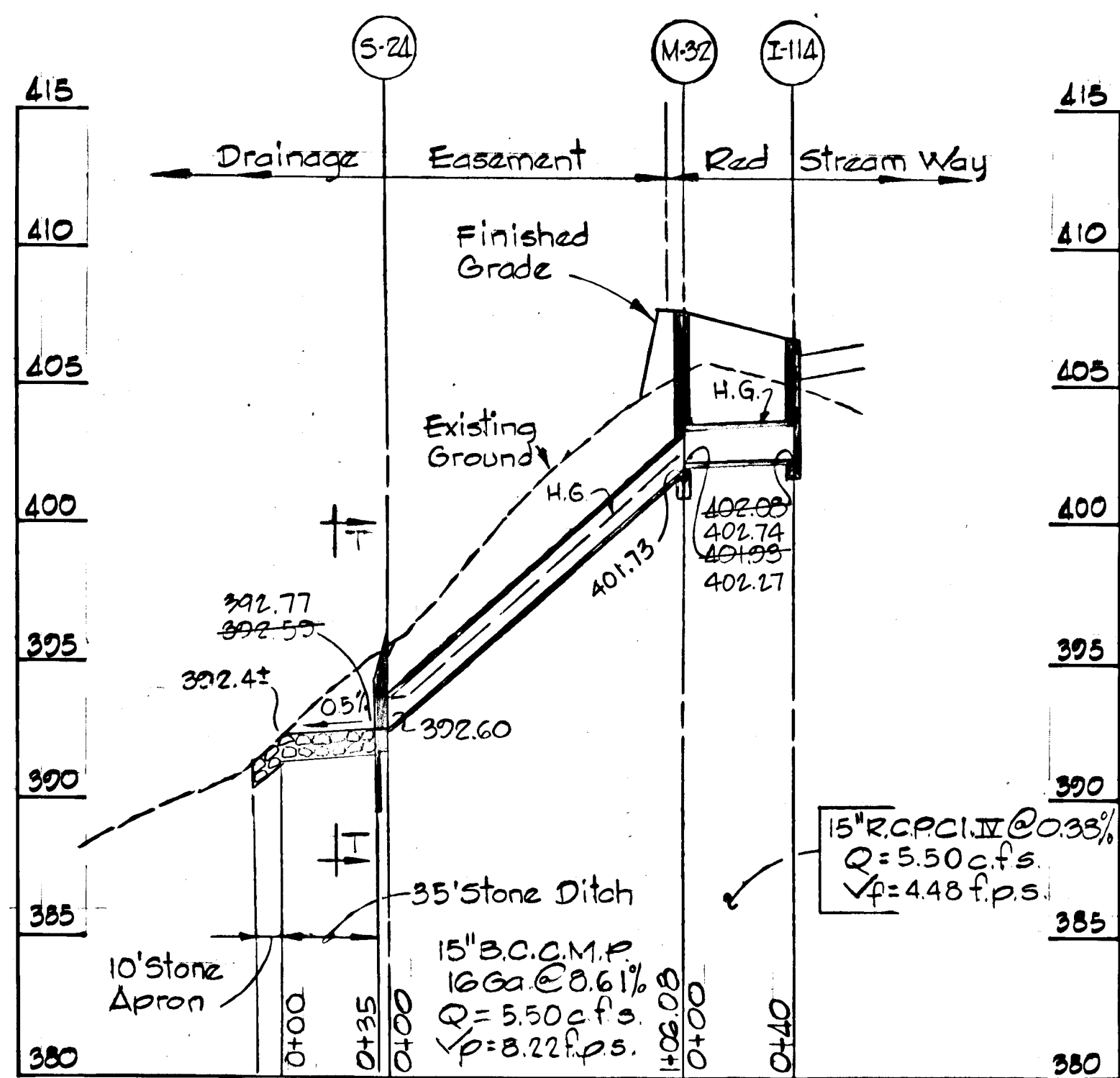
"AS-BUILT" ELEVATIONS AS OF JANUARY 12, 1987
 BY: KENNETH A. McCORD P.E. #1974

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.

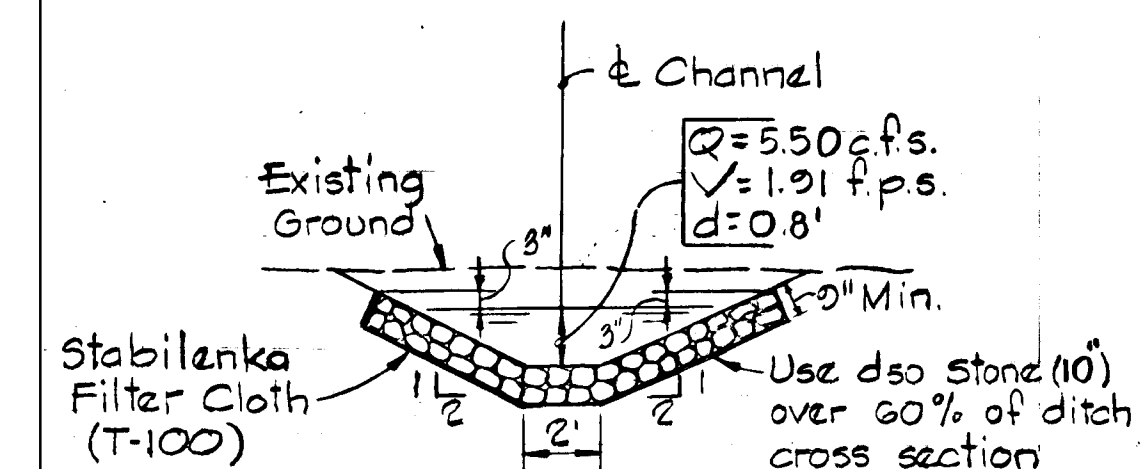


SECTION "S-S"
 No Scale

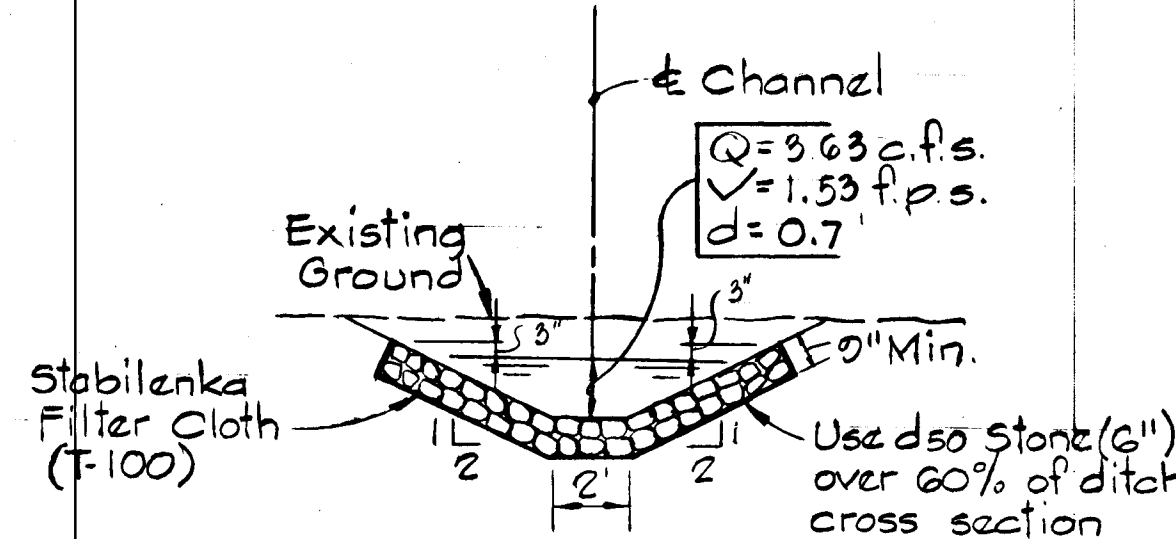
REV. DATE	REV. NO.	REVISION DESCRIPTION
		COLUMBIA 6 th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORPORATION
		PROJECT AREA VILLAGE OF HICKORY RIDGE SECTION 3 AREA 2
		PROJECT TITLE STORM DRAIN PROFILES
		SCALE: AS SHOWN DATE:
		WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218
		Kenneth A. McCord Registered Engineer No. 1974



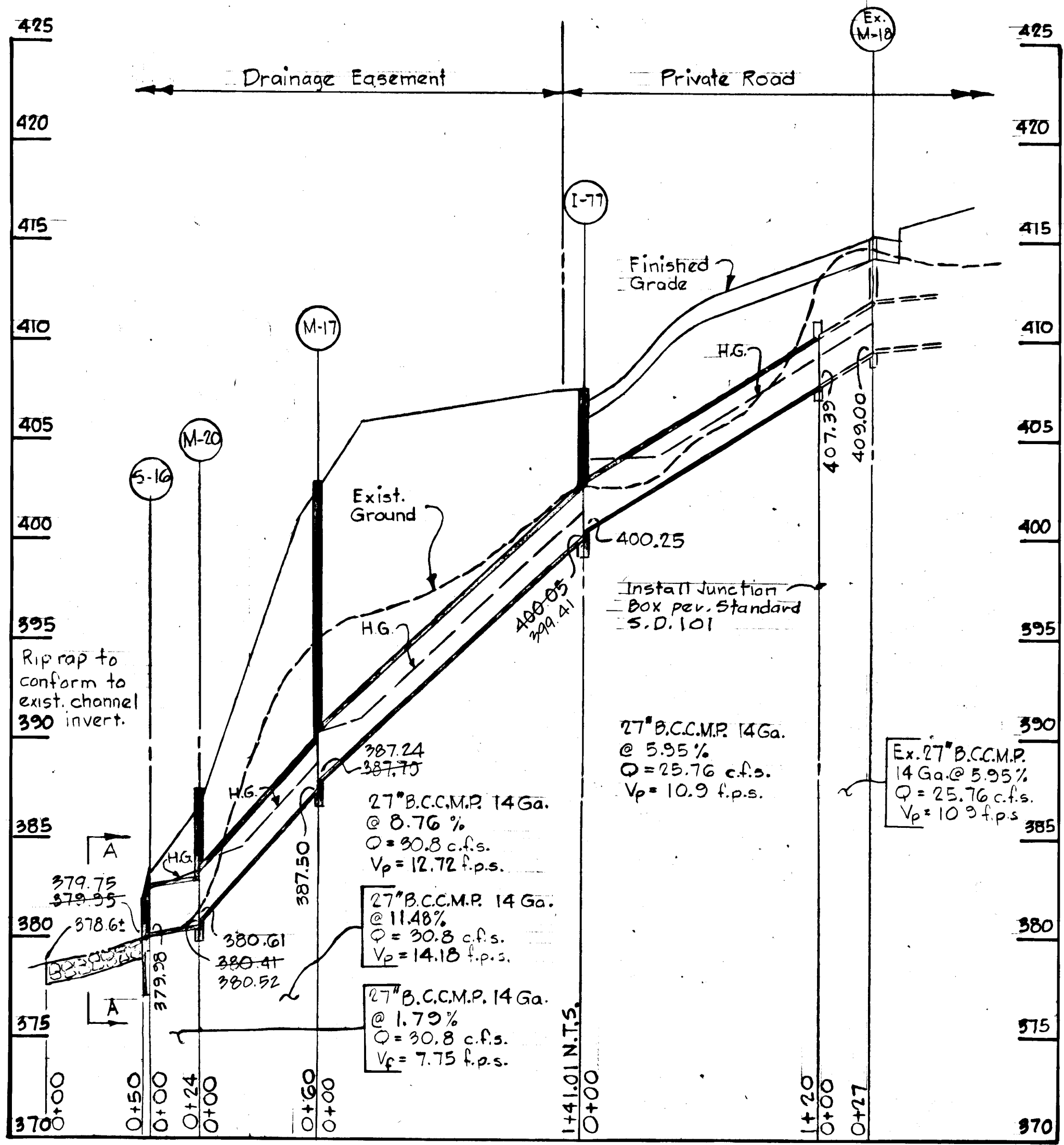
DEPARTMENT OF PUBLIC WORKS
 CHIEF BUREAU OF ENGINEERING
 OFFICE OF PLANNING & WORKS
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION



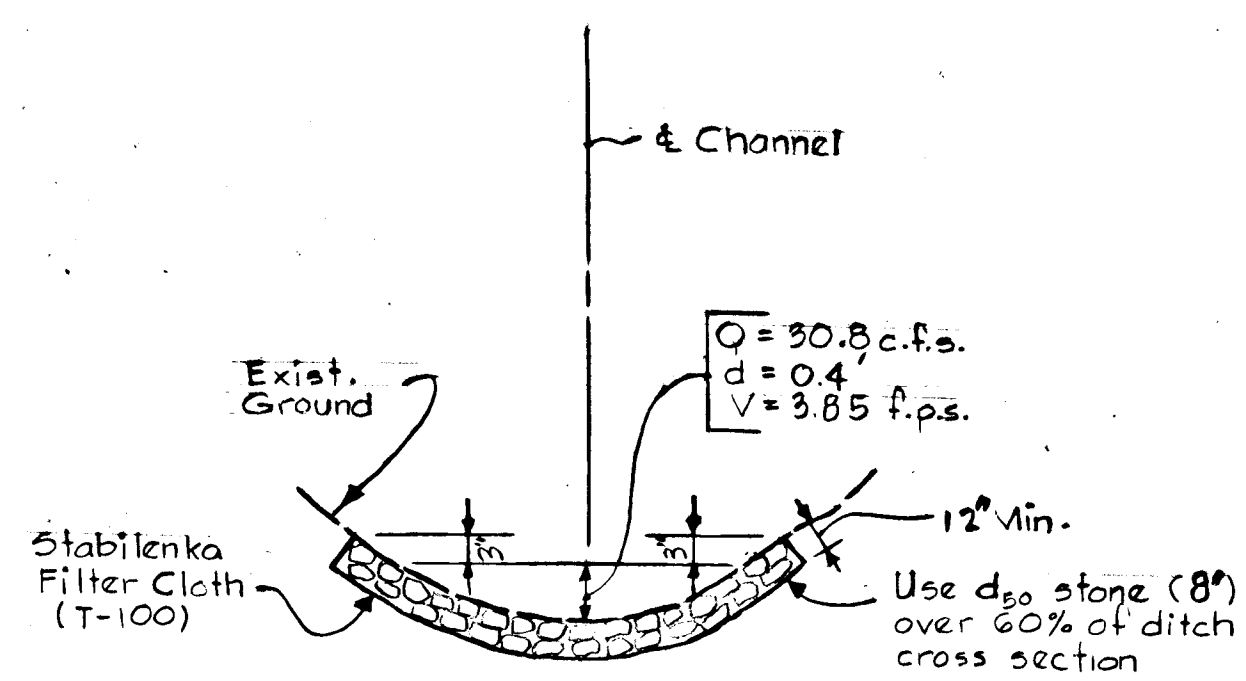
SECTION "T-T"
 No Scale



SECTION "U-U"
 No Scale

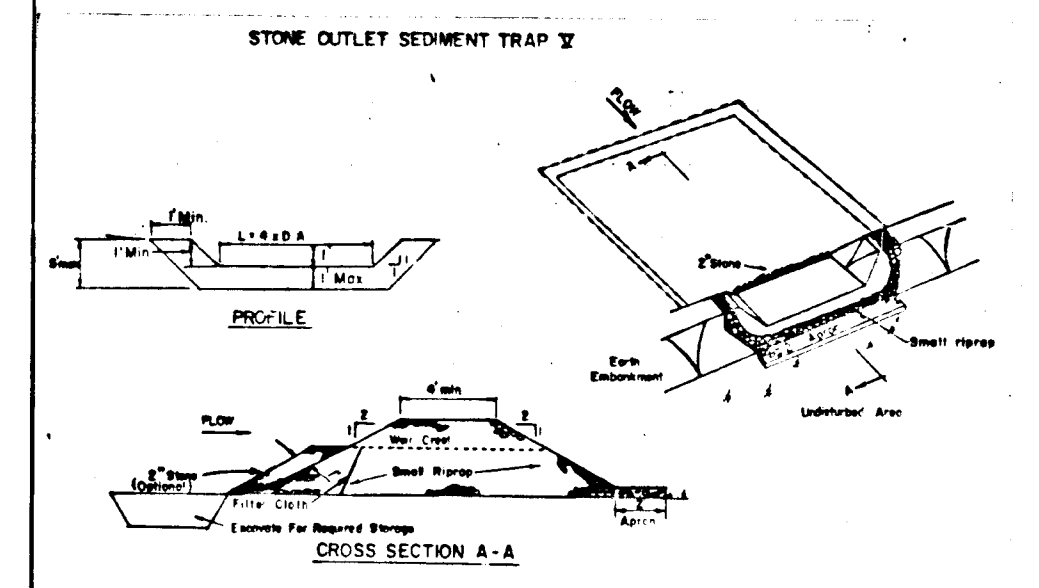
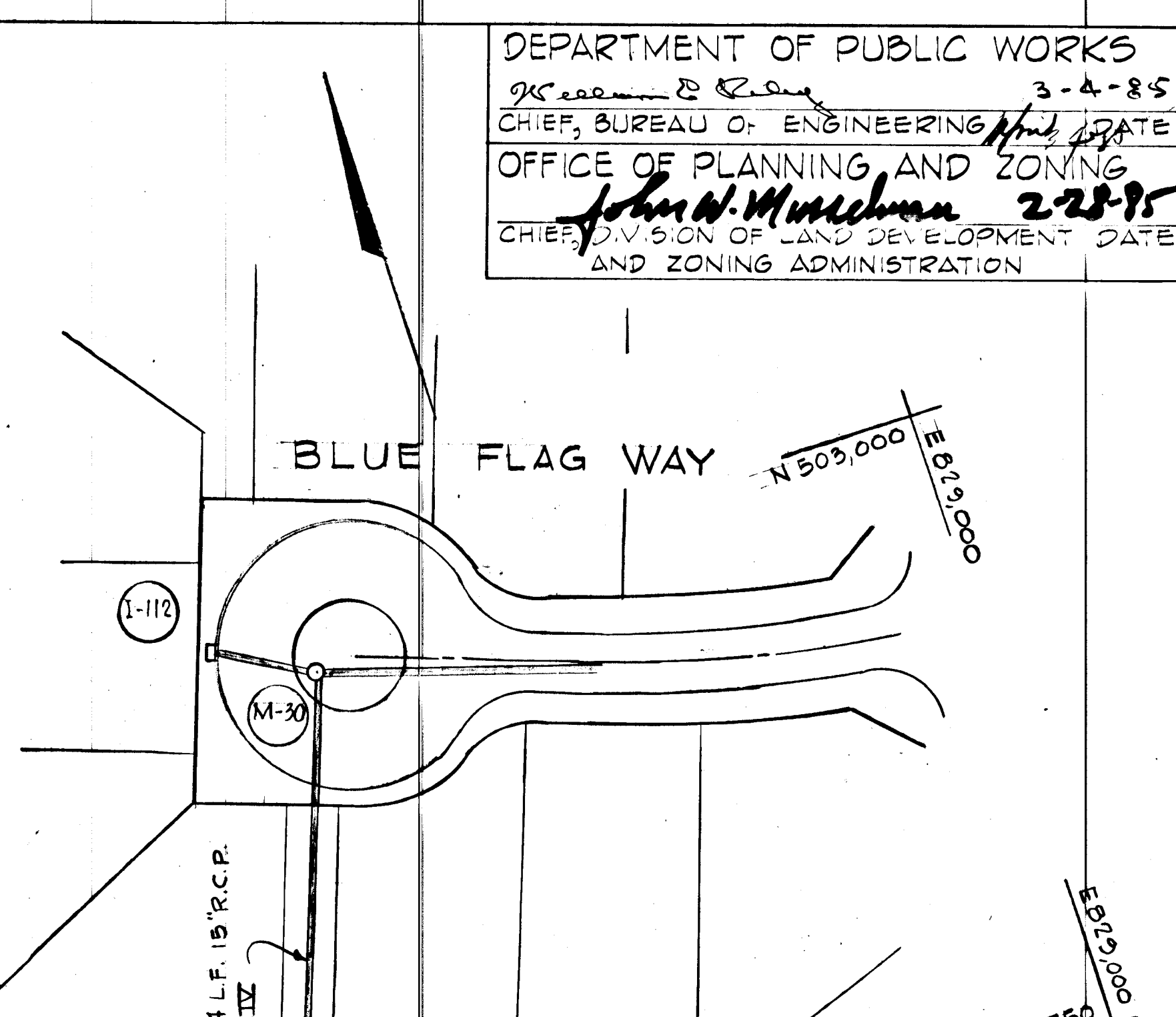
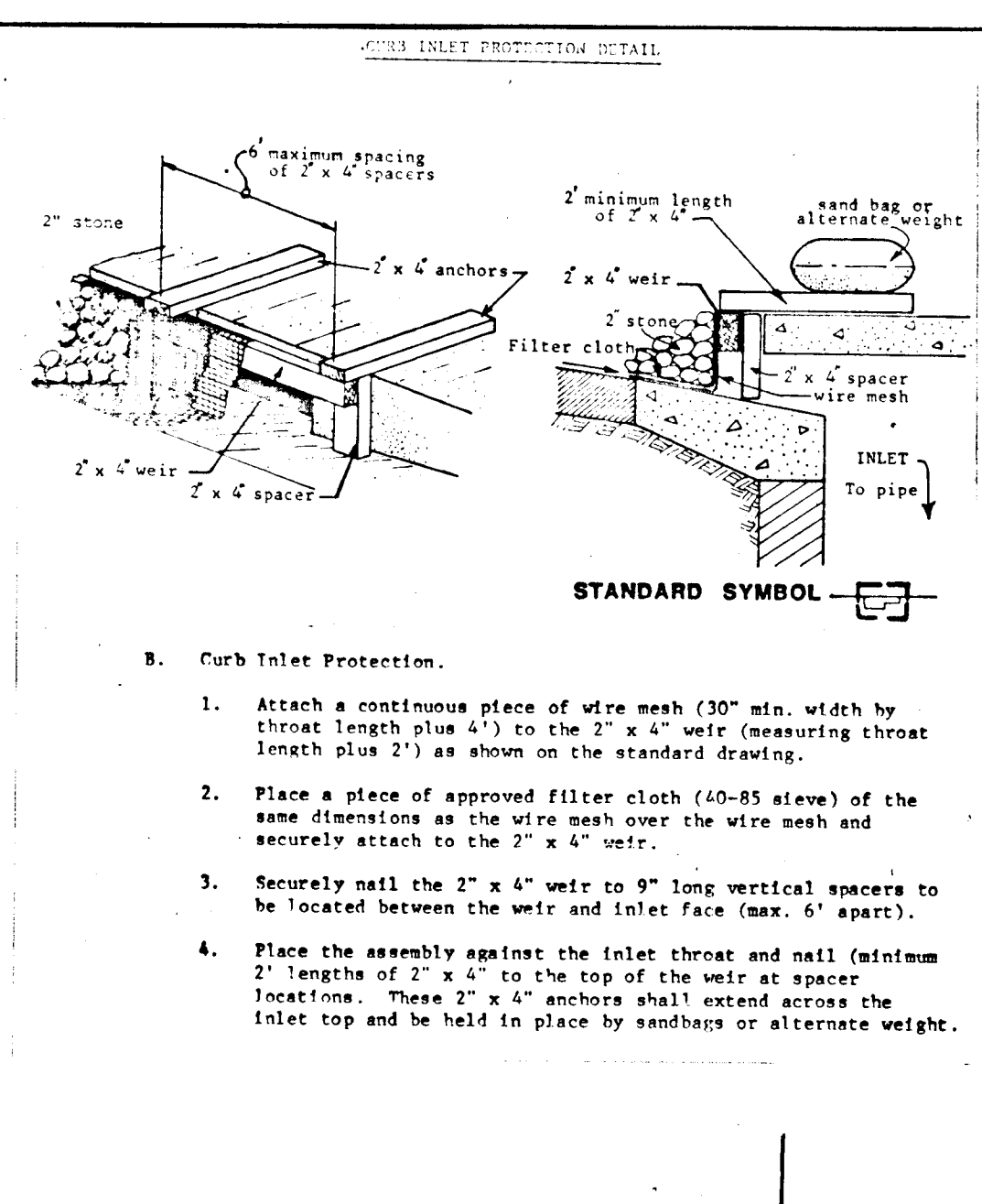
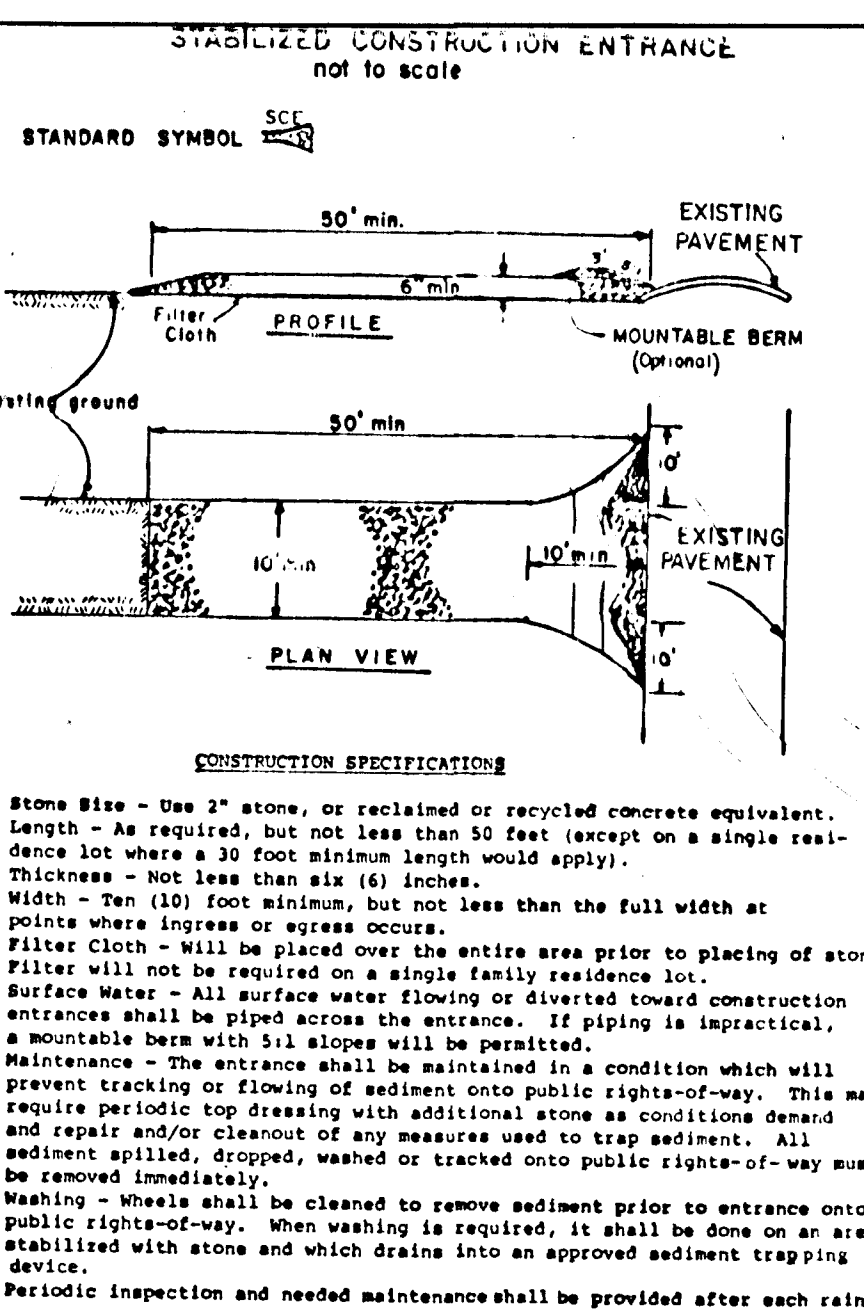
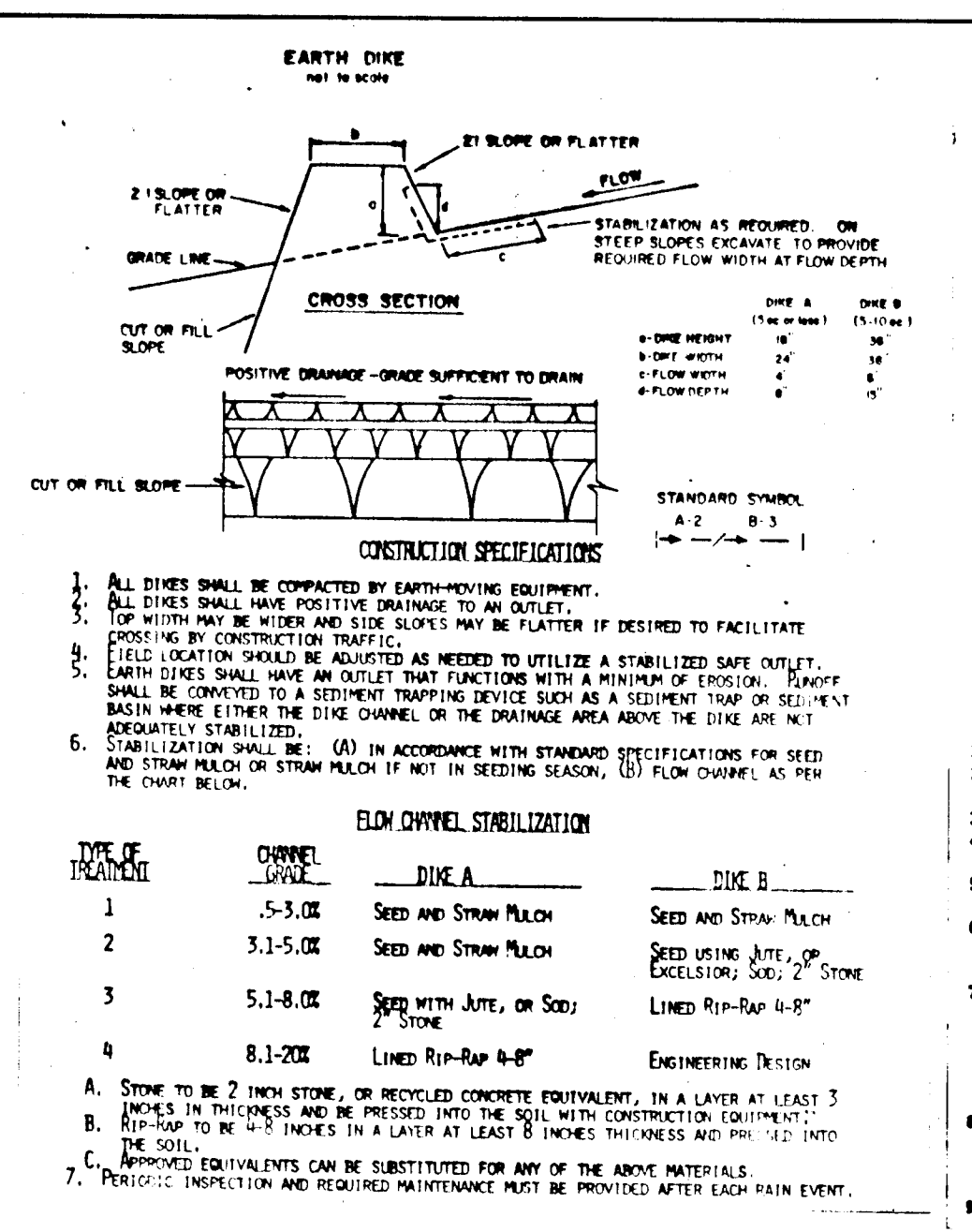
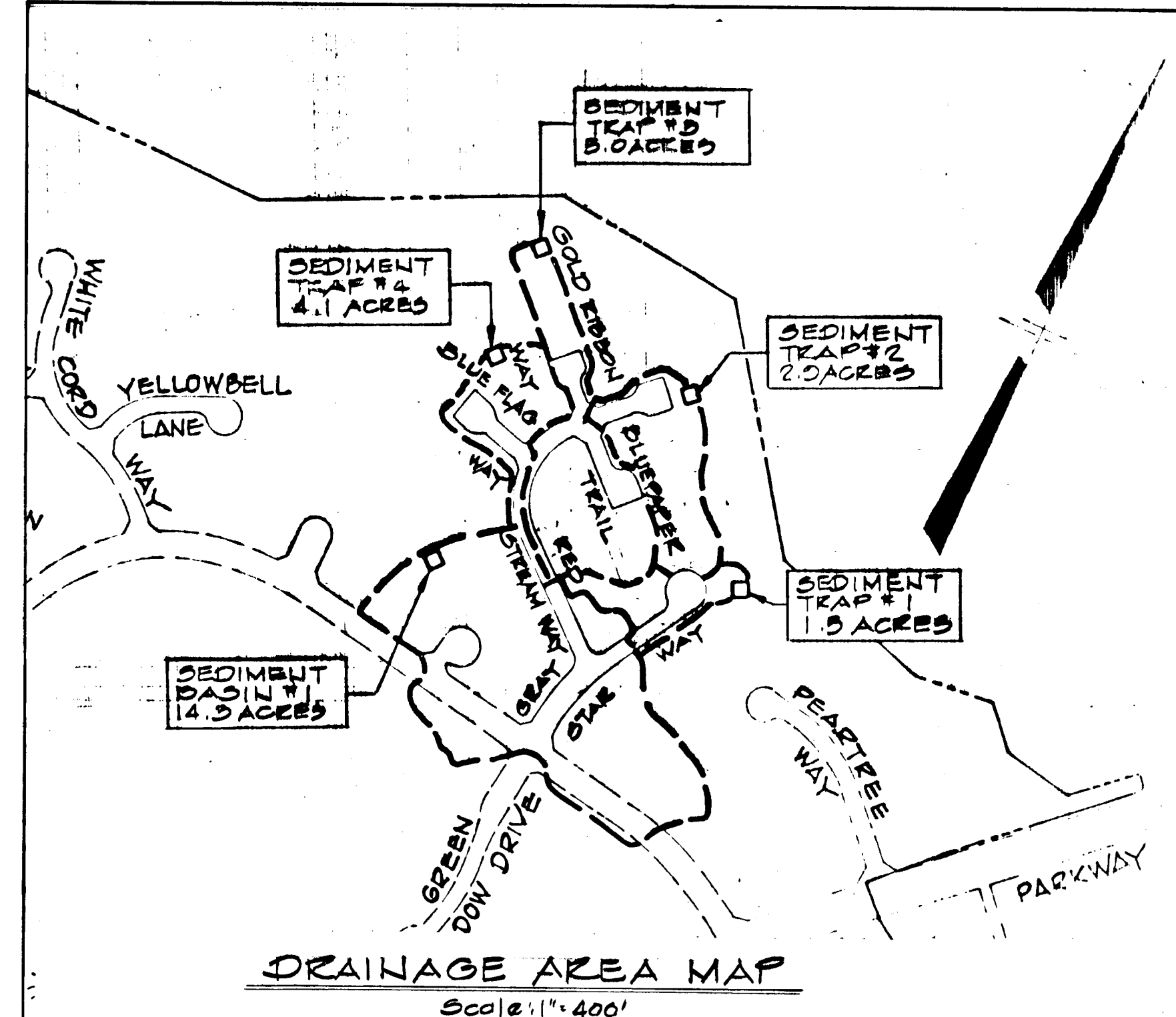


Note:
 The type of bedding used for storm drain pipe shall be class C shaped subgrade. If rock is encountered, the trench invert should be overexcavated 6-inches and the overexcavation of 6-inches refilled with granular material.



SECTION A-A
 No Scale

11/18/85	1	Added Junction Box between M-18-T-7
REV. DATE	REV. NO.	REVISION DESCRIPTION
COLUMBIA 6 th ELECTION DISTRICT HOWARD COUNTY, MARYLAND OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORPORATION PROJECT AREA VILLAGE OF HICKORY RIDGE SECTION 3 AREA 2 PROJECT TITLE STORM DRAIN PROFILES SCALE: AS SHOWN DATE: WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218		
Kenneth A. McCord KENNETH A. McCORD Registered Engineer No. 1974		



SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Publics prior to the start of any construction (1992-2437).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 HARTLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter erodible control structures, dikes, perimeter slopes and all slopes greater than 3:1; b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the 1983 HARTLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) and (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 Total Area of Site: 248 acres
 Area Disturbed: 16.2 acres
 Area to be roofed or paved: 16.2 acres
 Total Cut: 50,000 cu yds
 Total Fill: 50,000 cu yds
 Off-site waste/borrow area location: None
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeding Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding.
 2) Alternative - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding.
 3) Alternative - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding.

Seeding: For periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (14 lbs/1000 sq ft) of Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.45 lbs/1000 sq ft) of creeping 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 seed. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Maint. of Site: - Inspect all seeded areas and make needed repairs, replacements and reseed.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seeding Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding.

Soil Amendments: Apply 600 lbs per acre 10-10-10 Fertilizer (14 lbs/1000 sq ft)

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 24 bushel per acre annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use seed.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 HARTLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

SEQUENCE OF CONSTRUCTION

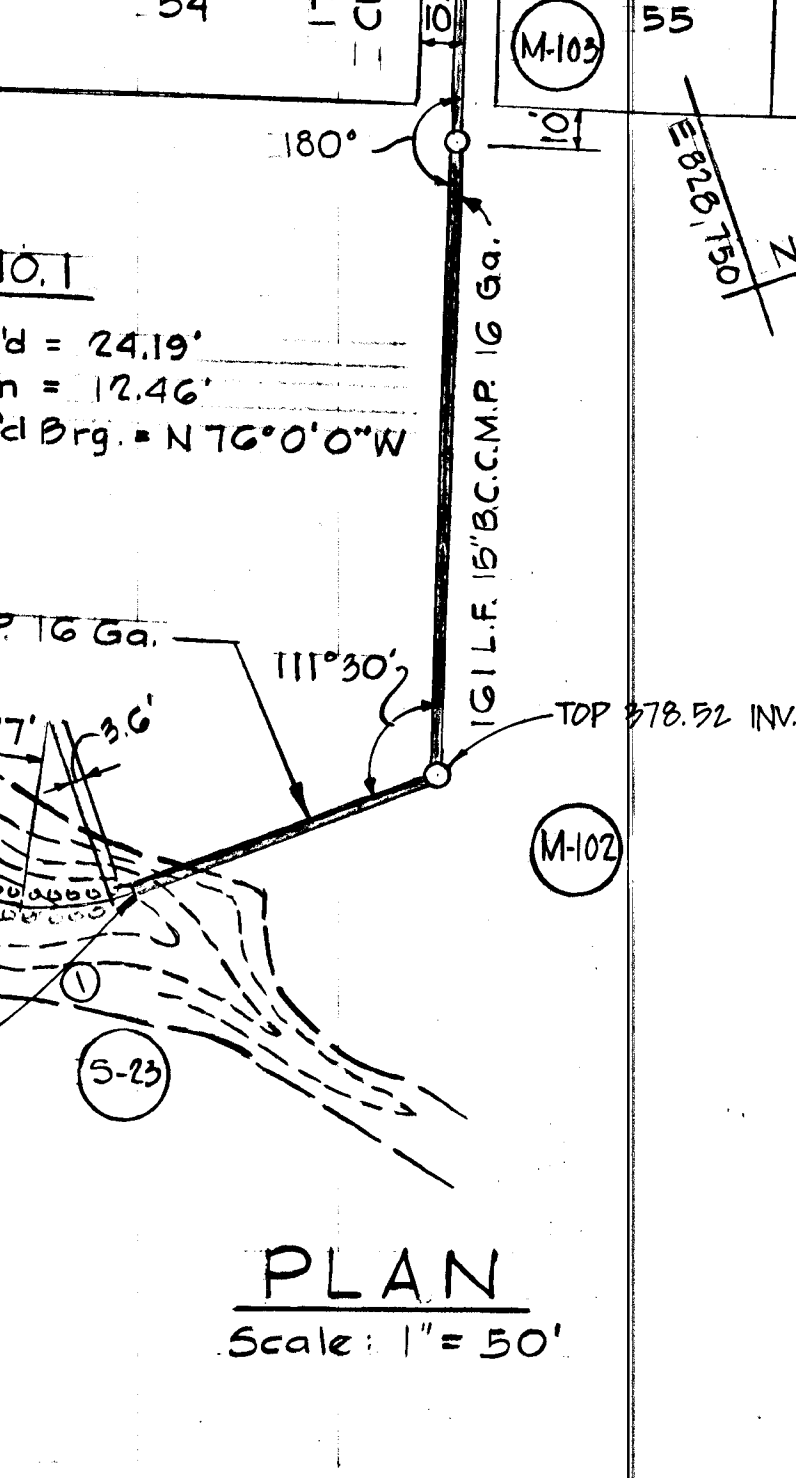
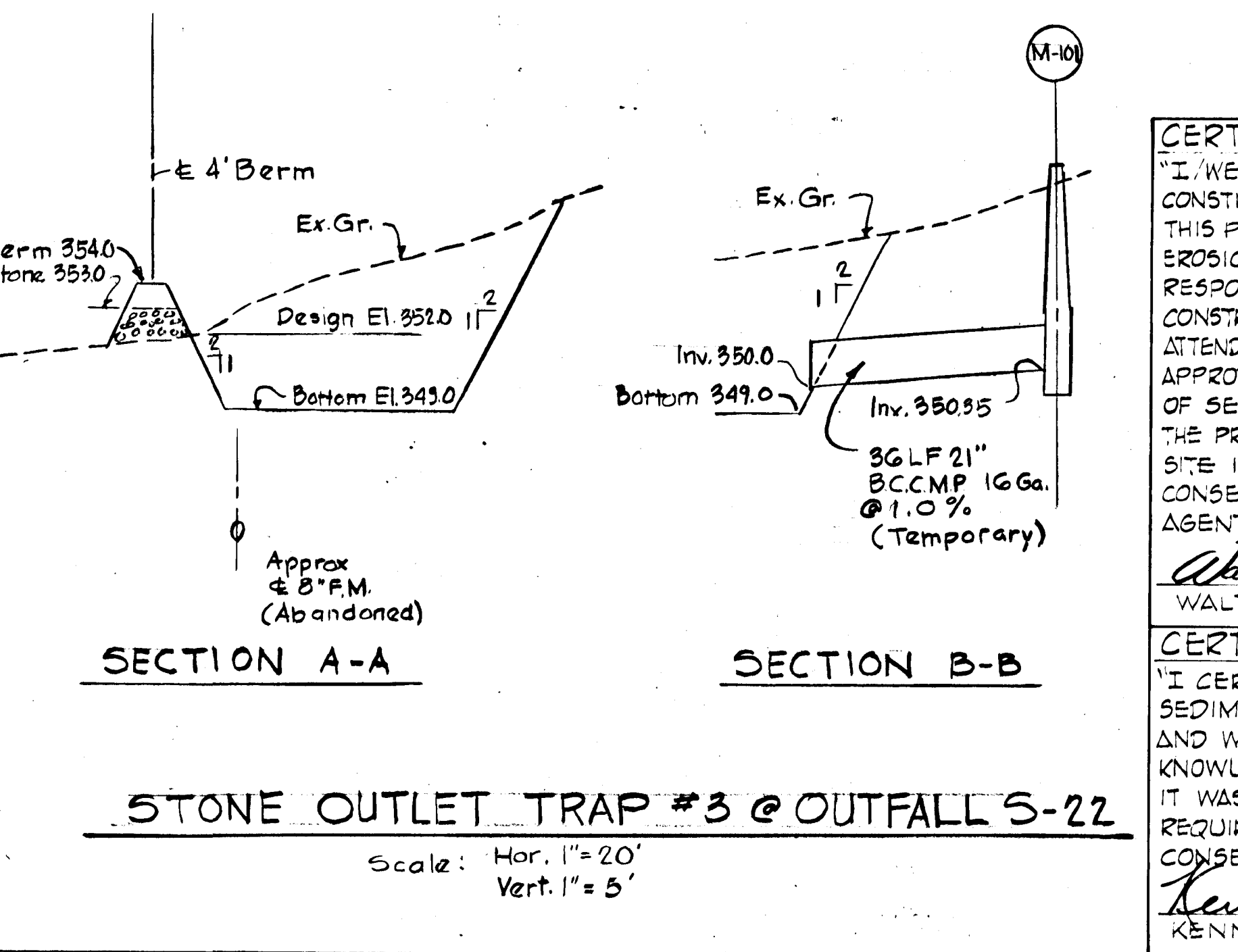
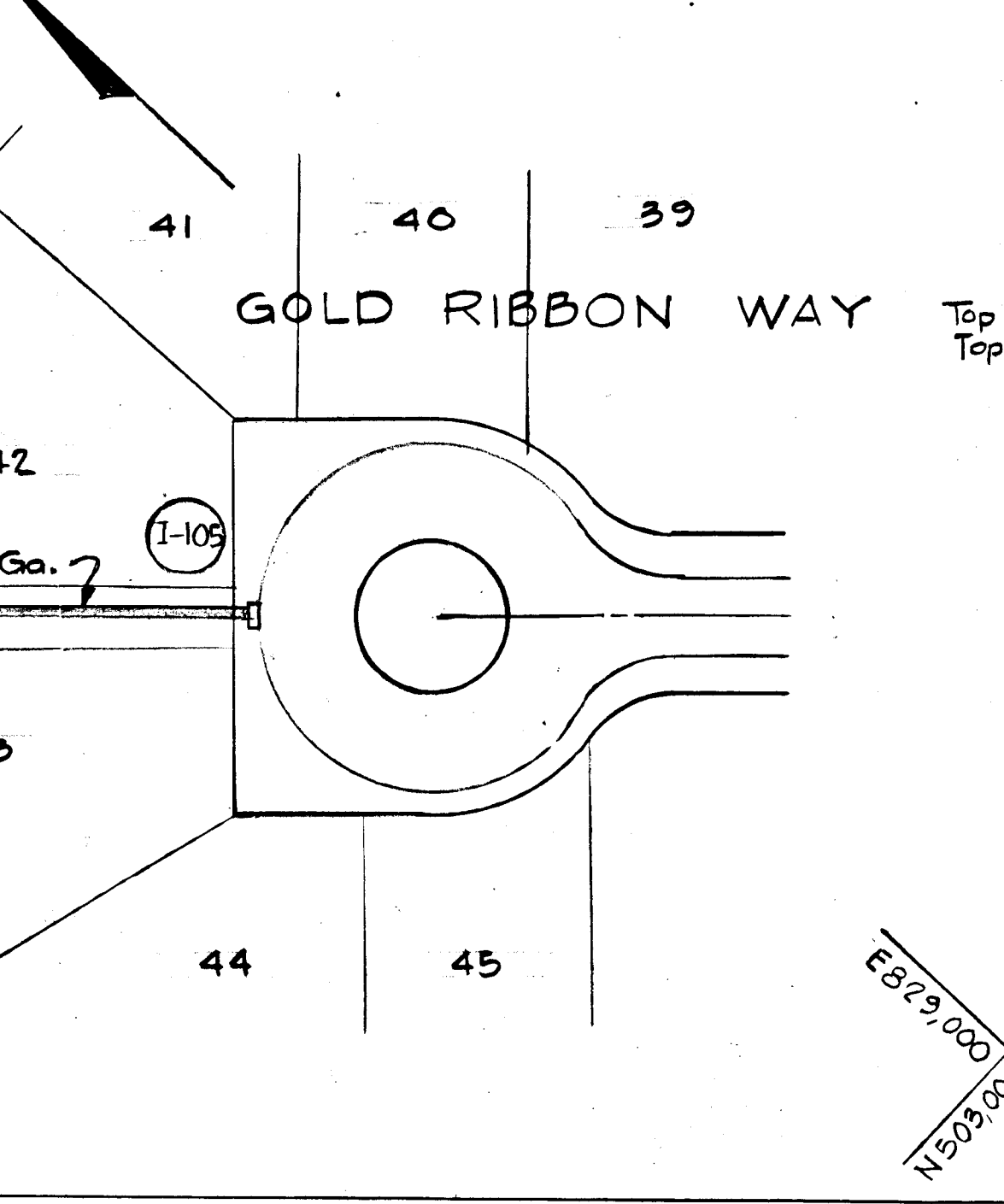
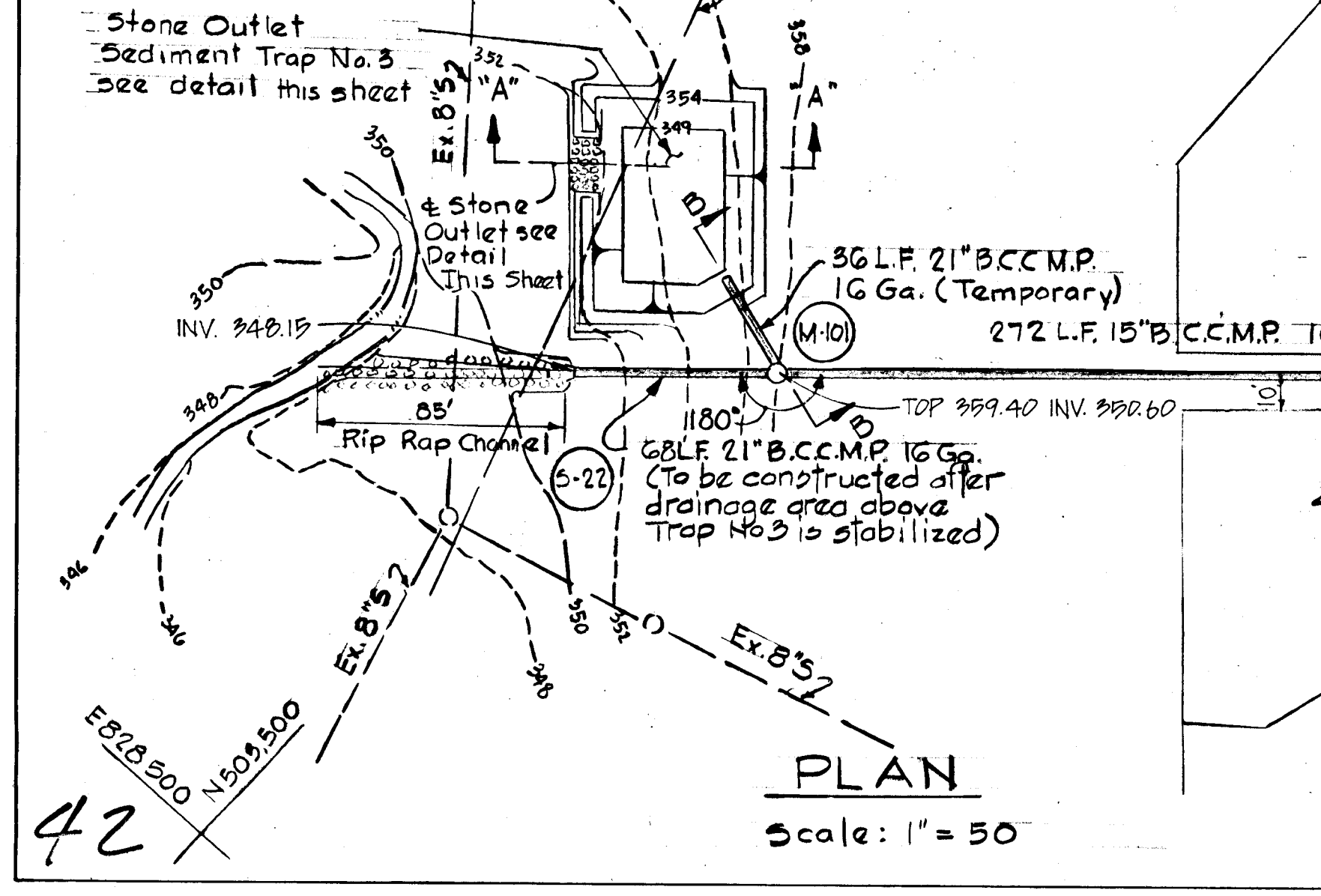
- Obtain Grading Permit.
- Construct stabilized construction entrance on Gray Star Way.
- Clear and grub areas for sediment control facilities only.
- Construct sediment traps, earth dikes and sediment basins.
- Stabilize earth dikes with temporary seeding, see specifications.
- Strip and rough grade limits of construction.
- Construct all utilities.
- Final grade roads, construct curb and gutter, sidewalks and seed disturbed areas.
- Pave roads.
- Remove all sediment control facilities after grass is established in the contributing drainage areas. Stabilize sediment trap removal area, see permanent seeding notes.

STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP EL.	INV. IN	INV. OUT	LOCATION
M-101	Standard Manhole G.5.01	328.80	320.80	320.80	See Plan & Profile
M-102	Standard Manhole G.5.01	328.80	327.65	327.45	See Plan & Profile
S-22	Type "A" Headwall S.D.5.11	351.15	346.15	348.09	See Plan & Profile
S-23	Type "A" Headwall S.D.5.11	324.56	321.56	321.46	See Plan & Profile

SEDIMENT TRAP #3 DESIGN DATA

DRAINAGE AREA = 5.0 ACRES
 VOLUME REQUIRED = 50 x G7 = 335 C.Y.
 VOLUME AVAILABLE = 335 C.Y.
 TOP BERM ELEV. = 354.0
 WEIR CREST ELEV. = 353.0
 DESIGN CAPACITY ELEV. = 352.0
 BOTTOM TRAP ELEV. = 349.0
 STONE OUTLET WIDTH = 20'



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 7-3-84 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 7-3-84 DATE
 Registered Engineer
 No. 1074

REVIEWED FOR HOWARD SOIL CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENTS

James M. Kuhn 2/27/85 DATE
 SOIL CONSERVATION SERVICE

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

APPROVED Howard S. Fisher 3/27/85 DATE
 HOWARD SOIL CONSERVATION DISTRICT

REV. DATE	REV. NO.	REVISION DESCRIPTION
2/21/85	2	As Per S.C.S. Comments
1/23/85	1	As Per DPW and S.C.S. 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 2

PROJECT TITLE
 SEDIMENT CONTROL DETAILS

SCALE: As Shown DATE:

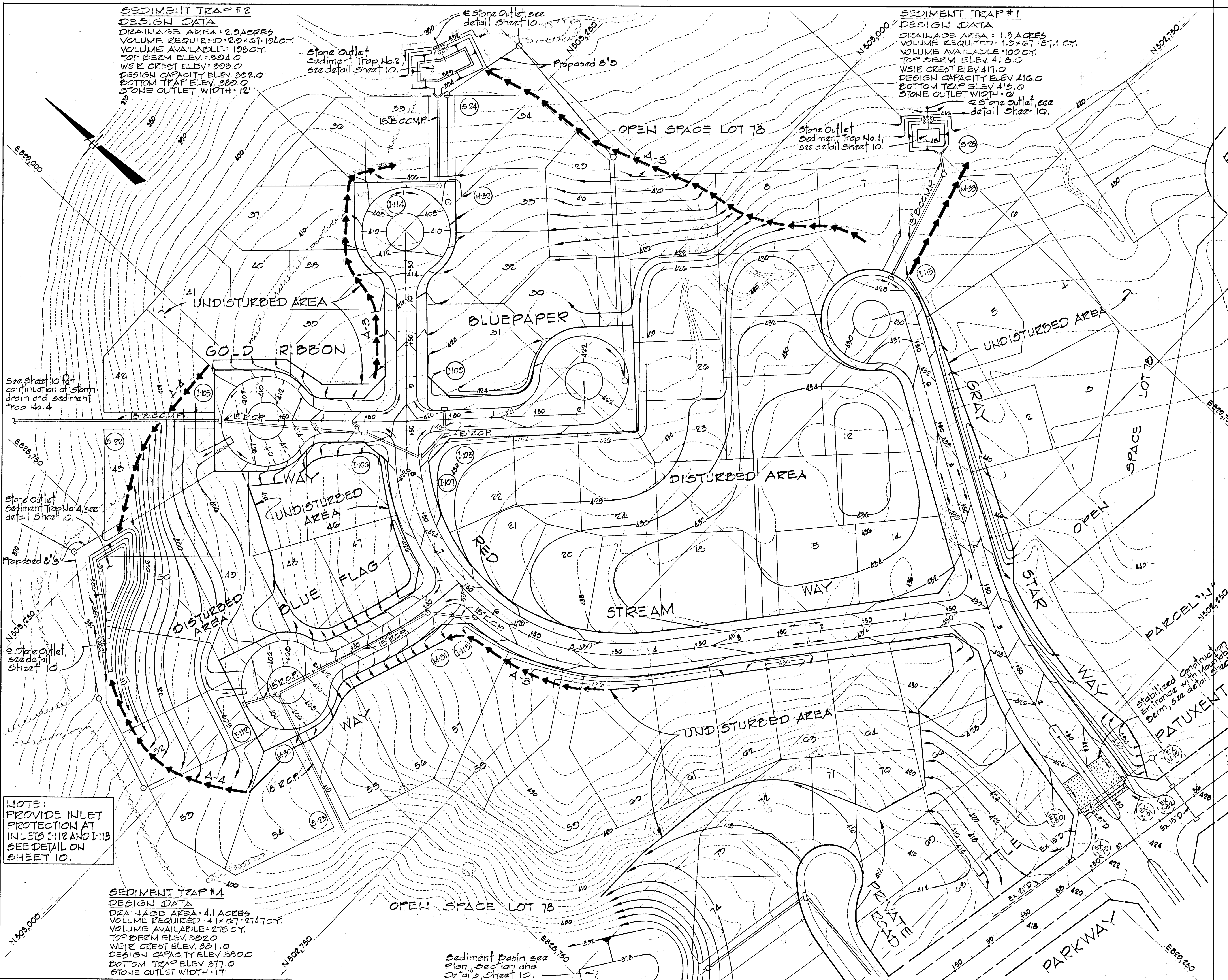
WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS
 BALTIMORE, MARYLAND 21215

Kenneth A. McCord
 Registered Engineer
 No. 1074

SEDIMENT TRAP #2
DESIGN DATA
 DRAINAGE AREA: 2.9 ACRES
 VOLUME REQUIRED: 229 x 67.194 CT.
 VOLUME AVAILABLE: 105 CT.
 TOP BEEM ELEV.: 304.0
 WEIR CREST ELEV.: 302.0
 DESIGN CAPACITY ELEV.: 302.0
 BOTTOM TRAP ELEV.: 300.0
 STONE OUTLET WIDTH: 12"

SEDIMENT TRAP #1
DESIGN DATA
 DRAINAGE AREA: 1.3 ACRES
 VOLUME REQUIRED: 1.3 x 67.1 CT.
 VOLUME AVAILABLE: 100 CT.
 TOP BEEM ELEV.: 415.0
 WEIR CREST ELEV.: 417.0
 DESIGN CAPACITY ELEV.: 416.0
 BOTTOM TRAP ELEV.: 415.0
 STONE OUTLET WIDTH: 6"

DEPARTMENT OF PUBLIC WORKS
 W. E. Woodford, 3-4-85
 CHIEF, BUREAU OF ENGINEERING
 OFFICE OF PLANNING AND ZONING
 John W. Musselwhite, 2-23-85
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 AND ZONING ADMINISTRATION



See sheet 10 for continuation of storm drain and sediment trap No. 4

Stone outlet Sediment Trap No. 4, see detail sheet 10.

Stone outlet, see detail sheet 10.

NOTE:
 PROVIDE INLET PROTECTION AT INLETS I-112 AND I-113
 SEE DETAIL ON SHEET 10.

SEDIMENT TRAP #4
DESIGN DATA
 DRAINAGE AREA: 4.1 ACRES
 VOLUME REQUIRED: 4.1 x 67.2747 CT.
 VOLUME AVAILABLE: 275 CT.
 TOP BEEM ELEV.: 302.0
 WEIR CREST ELEV.: 301.0
 DESIGN CAPACITY ELEV.: 300.0
 BOTTOM TRAP ELEV.: 377.0
 STONE OUTLET WIDTH: 17"

Sediment Basin, see Plan, Section and Details, sheet 10.

REVIEWED FOR HOWARD S.C.D.
 AND MEETS TECHNICAL REQUIREMENTS
 James M. John, 2/27/85
 DATE
 U.S. SOIL CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED Stephen L. Fisher
 HOWARD S.C.D. DATE
 2/27/85

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 DEPARTMENT 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, 7-3-84
 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. Mozdor, 7-3-84
 KENNETH A. MOZDOR PE 1974 DATE
 2-21-85 2 As per S.C.S. Comments
 1-18-85 1 As per D.P.W. and S.C.S. Comments
 REV DATE REV NO. REVISION DESCRIPTION

COLUMBIA
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2
 PROJECT TITLE
 SEDIMENT CONTROL PLAN
 SCALE: 1"=50' DATE:
 WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218
 Kenneth A. Mozdor
 KENNETH A. MOZDOR
 Registered Engineer
 No. 1974

Site Preparation

Areas under the embankment shall be cleared, grubbed, and stripped of topsoil to remove trees, stumps, roots or other objectionable material. In order to facilitate clean-out and restoration, the pool area (measured at the top of the pipe spillway) will be cleared of all brush, trees, and other objectionable materials.

Embankment

The fill material shall be taken from approved areas shown on the plans. It shall be clean mineral soil free of roots, woody vegetation, oversized stones, rocks, or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW & SP) shall not be placed in the embankment. Areas on which fill is to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed six-inch to eight-inch thick continuous layers over the entire length of the fill. Compaction shall be obtained by routing and hauling the construction equipment over the fill so that the entire surface of each layer of the fill is traversed by at least one wheel or tread track of the equipment or by the use of a compactor. The embankment shall be constructed to an elevation 10 percent higher than the design height to allow for settlement.

Pipe Spillways

The riser shall be securely attached to the barrel or barrel stub by welding the full circumference making a watertight structural connection. The barrel stub must be attached to the riser at the same percent (angle) of grade as the outlet conduit. The connection between the riser and the riser base shall be watertight. All connections between barrel sections must be achieved by approved watertight band assemblies. (See page 18.22 for details.) The barrel and riser shall be placed on a firm, smooth foundation of impervious soil. Pervious materials such as sand, gravel, or crushed stone shall not be used as backfill around the pipe or anti-seep collars. The fill material around the pipe spillway shall be placed in four inch layers and compacted under and around the pipe to at least the same density as the adjacent embankment.

A minimum depth of two feet of hand compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment. Steel base plates on risers shall have at least 2-1/2 feet of compacted earth, stone or gravel placed over it to prevent flotation.

Emergency Spillway

The emergency spillway shall be installed in undisturbed ground. The achievement of planned elevations, grades, design width, entrance and exit channel slopes are critical to the successful operation of the emergency spillway and must be constructed within a tolerance of ± 0.2 feet.

Vegetative Treatment

Stabilize the embankment and emergency spillway in accordance with the appropriate vegetative Standard and Specifications immediately following construction. In no case shall the embankment remain unstabilized for more than seven(7) days.

Erosion and Pollution Control

Construction operations shall be carried out in such a manner that erosion and water pollution will be minimized. State and local laws shall be complied with concerning pollution abatement.

Safety

State and local requirements shall be met concerning fencing and signs, warning the public of hazards of soft sediment and floodwater.

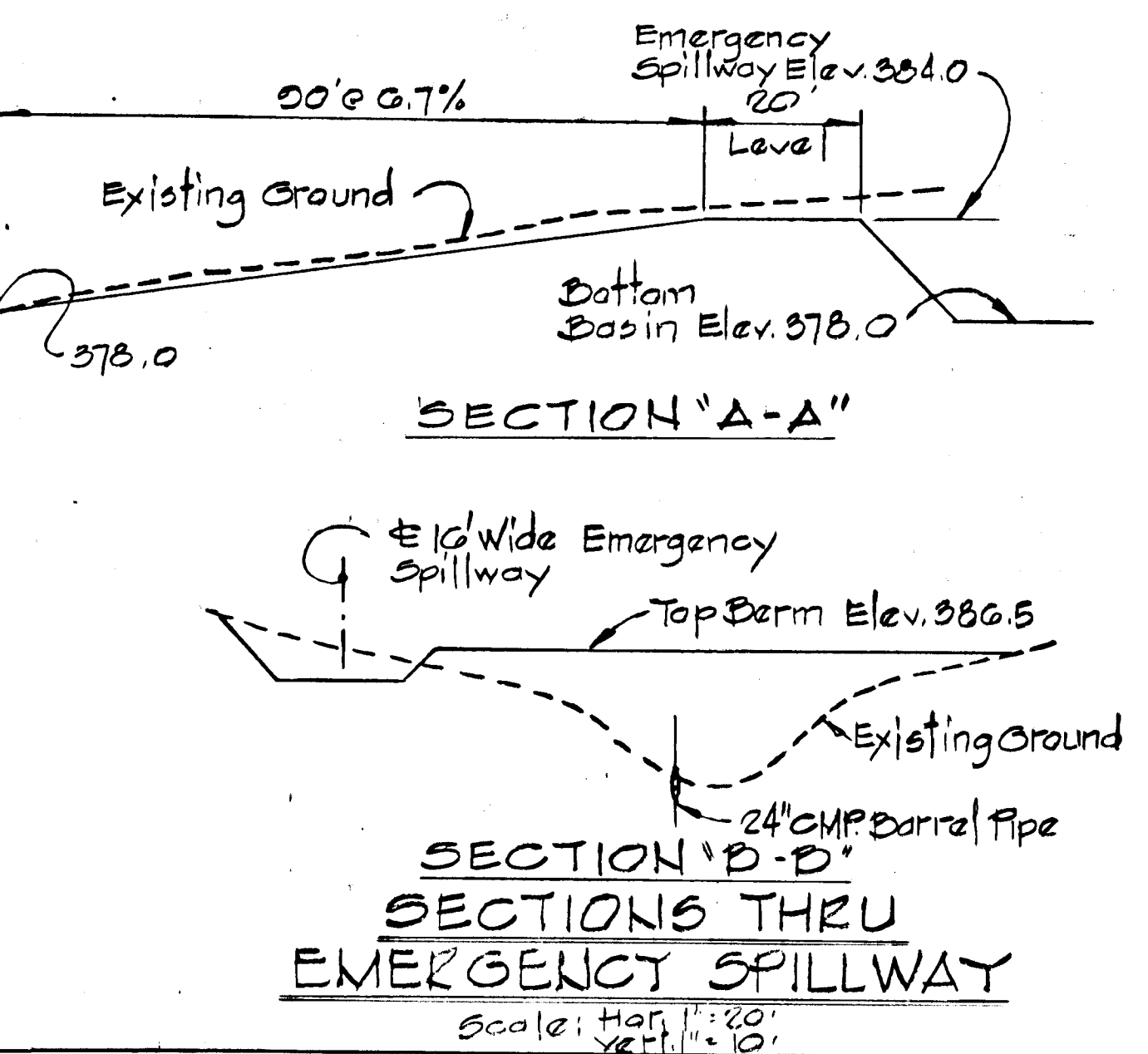
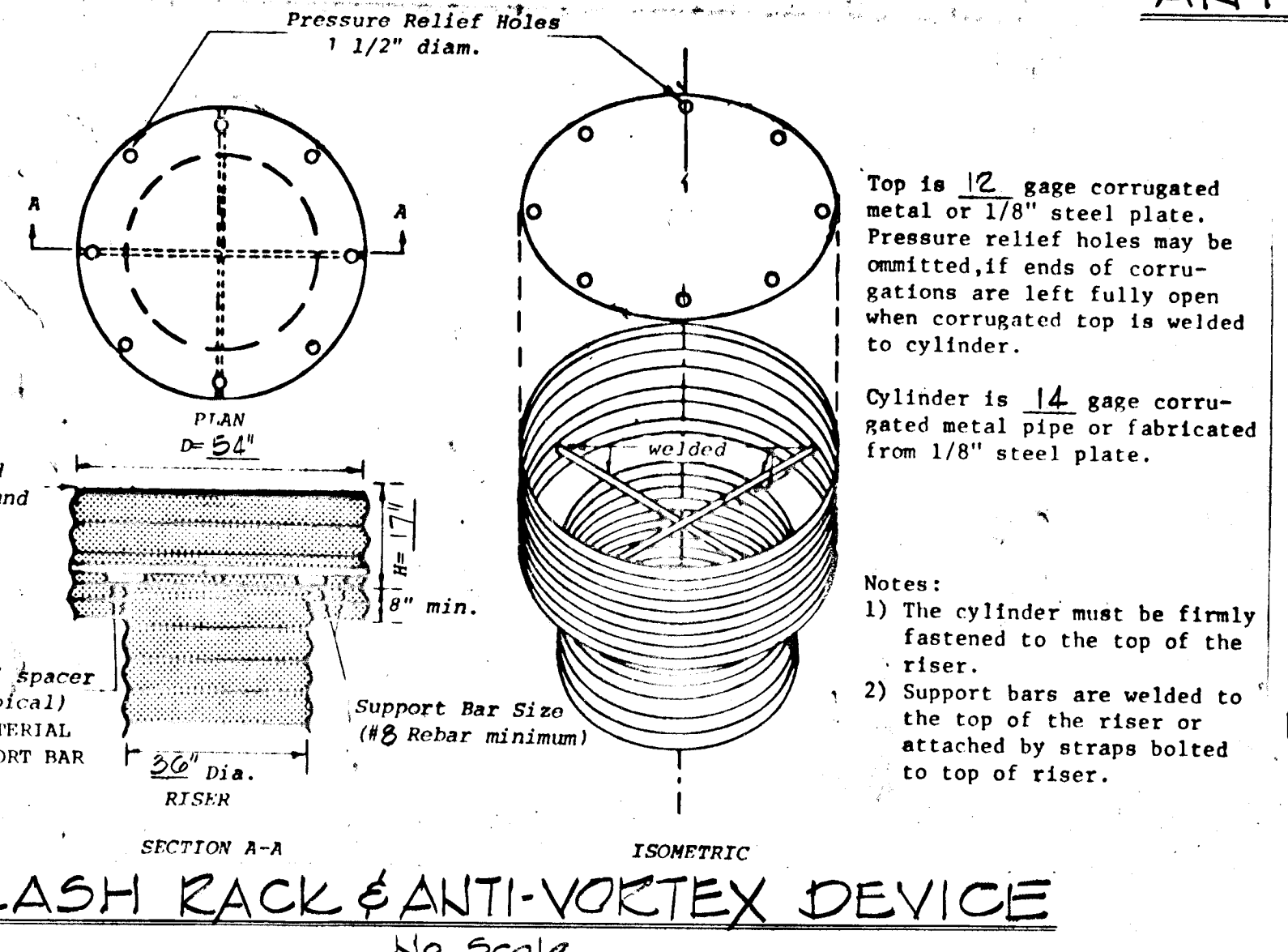
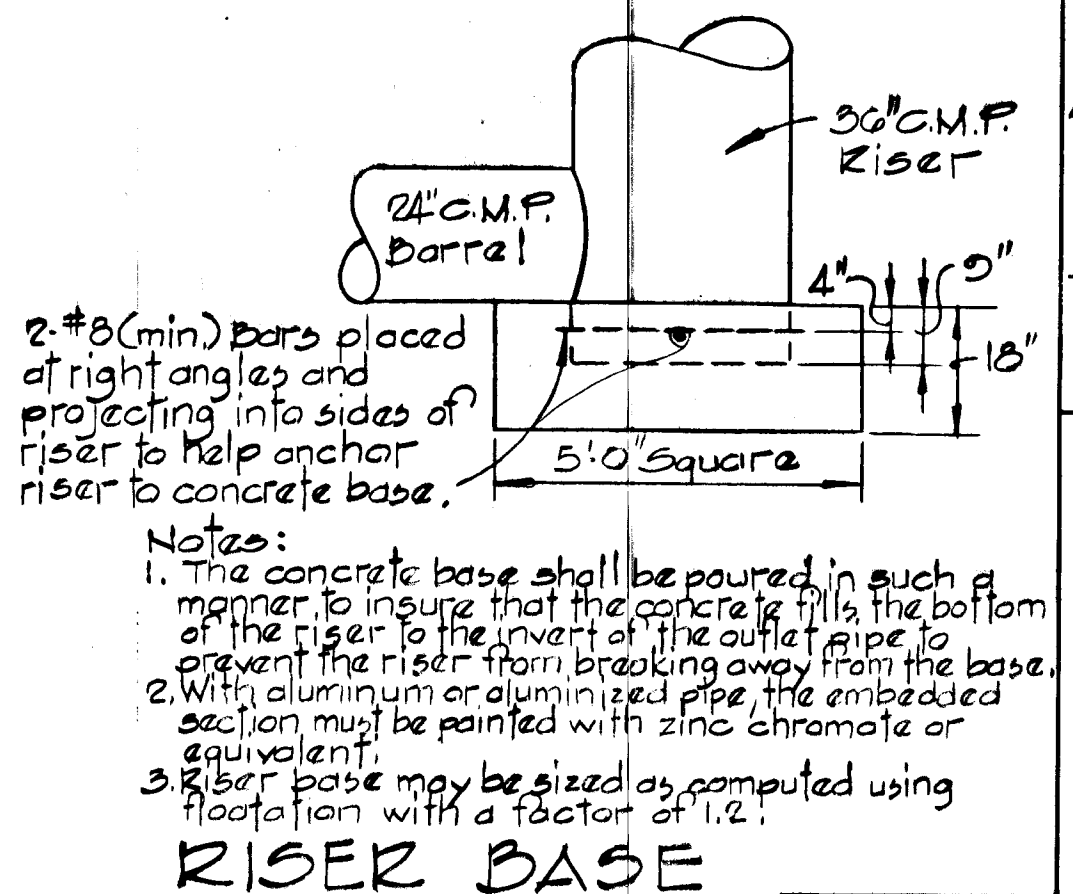
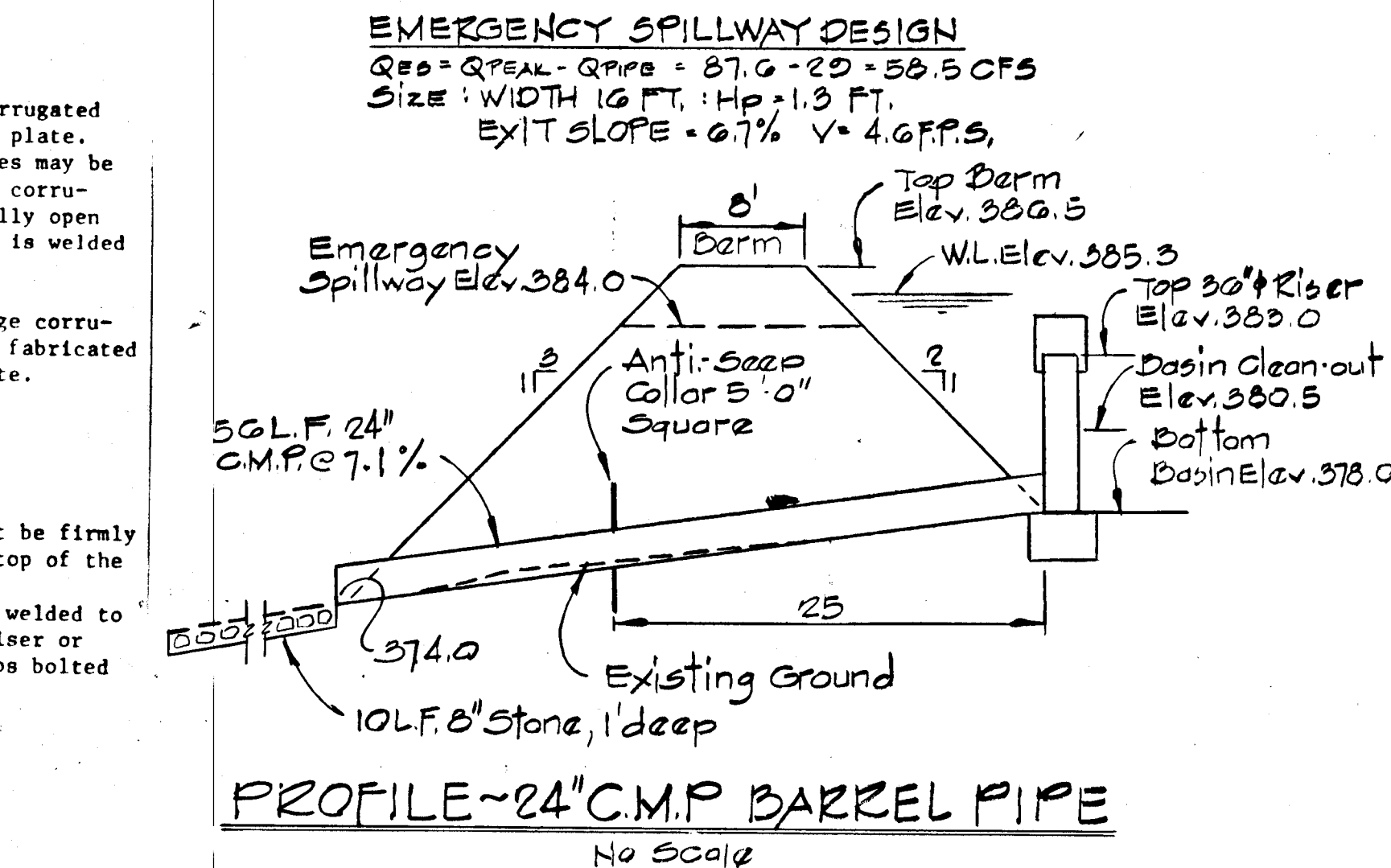
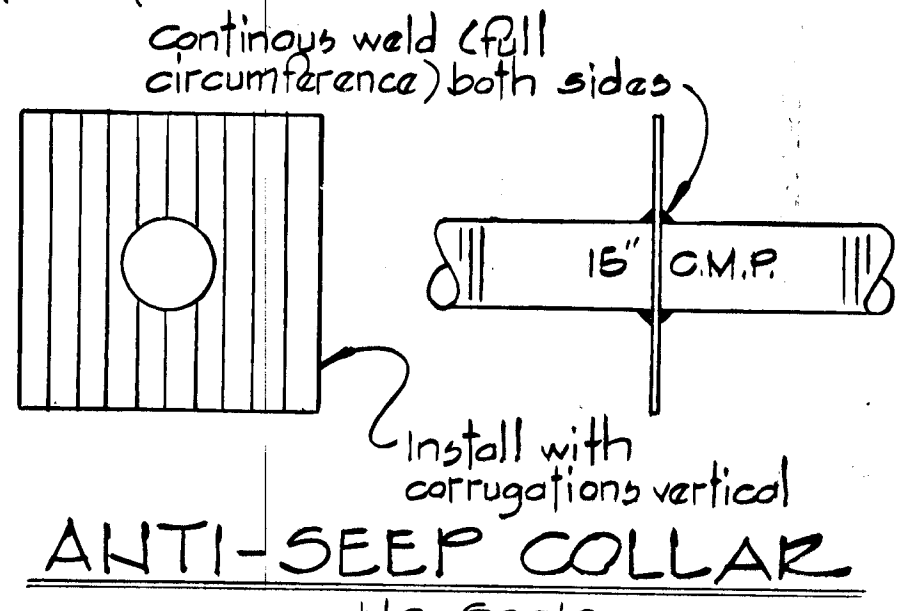
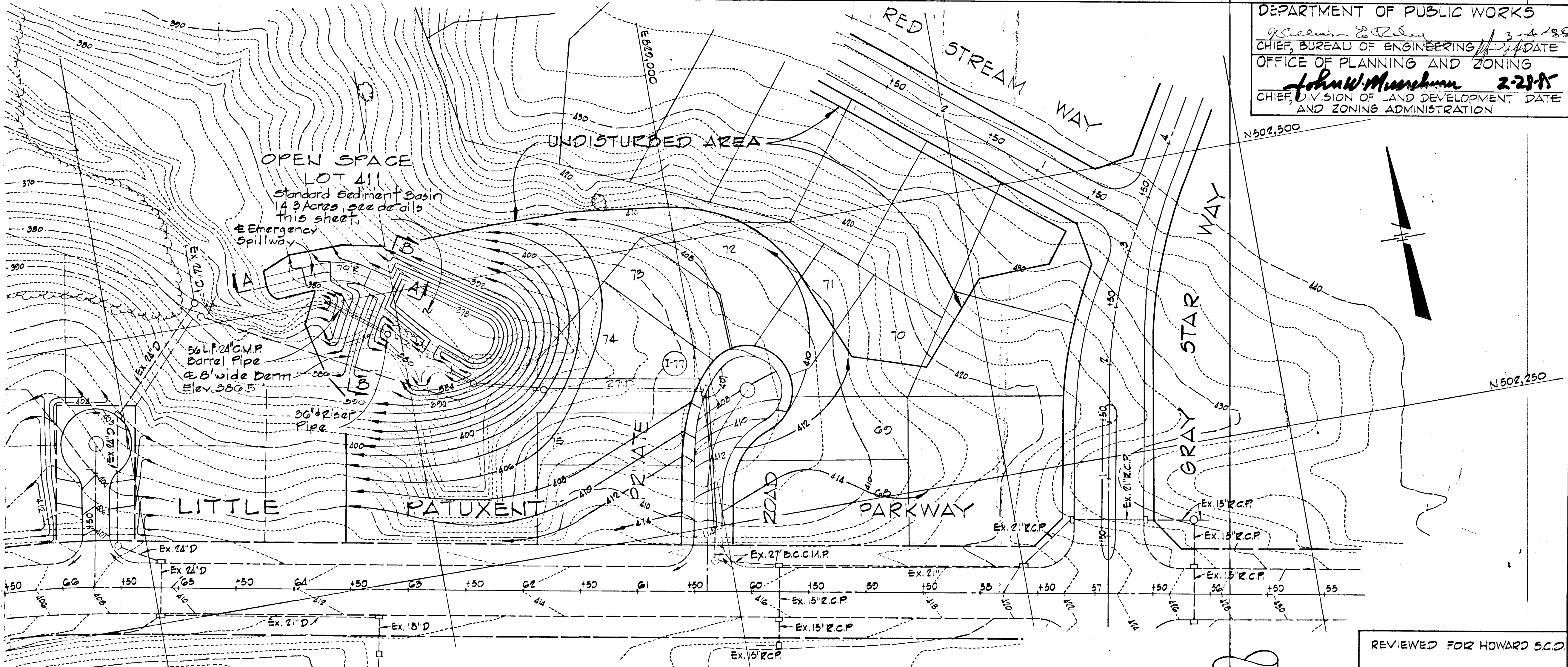
Maintenance

1. Repair all damages caused by soil erosion and construction equipment at or before the end of each working day.
2. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser. This sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the embankment, adjacent to a stream or flood plain.

Final Disposal

When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits are to be leveled or otherwise disposed of in accordance with the approved sediment control plan. The proposed use of a sediment basin site will often dictate final disposition of the basin and any sediment contained therein. If the site is scheduled for future construction, then the basin material and trapped sediments must be removed, safely disposed of, and backfilled with a structural fill. When the basin area is to remain open space the pond may be pumped dry, graded and back filled.

DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF ENGINEERING
 OFFICE OF PLANNING AND ZONING
 John W. Murchman
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION



REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 John W. Murchman 2/27/85
 DATE
 U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED: Stephen L. Fisher
 HOWARD SCD DATE 2/27/85

REV. NO.	REVISION DESCRIPTION
1-18-85	As Per DPW and S.C.S. Comments

COLUMBIA
 3rd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION

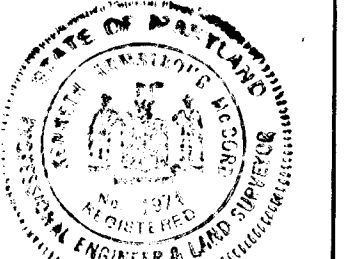
PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2

PROJECT TITLE
SEDIMENT CONTROL PLAN

SCALE: 1"=50' DATE:

WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218

Kenneth A. McCord
 Registered Engineer
 No. 1074



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 7-3-84
 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 7-3-84
 KENNETH A. MCCORD DATE