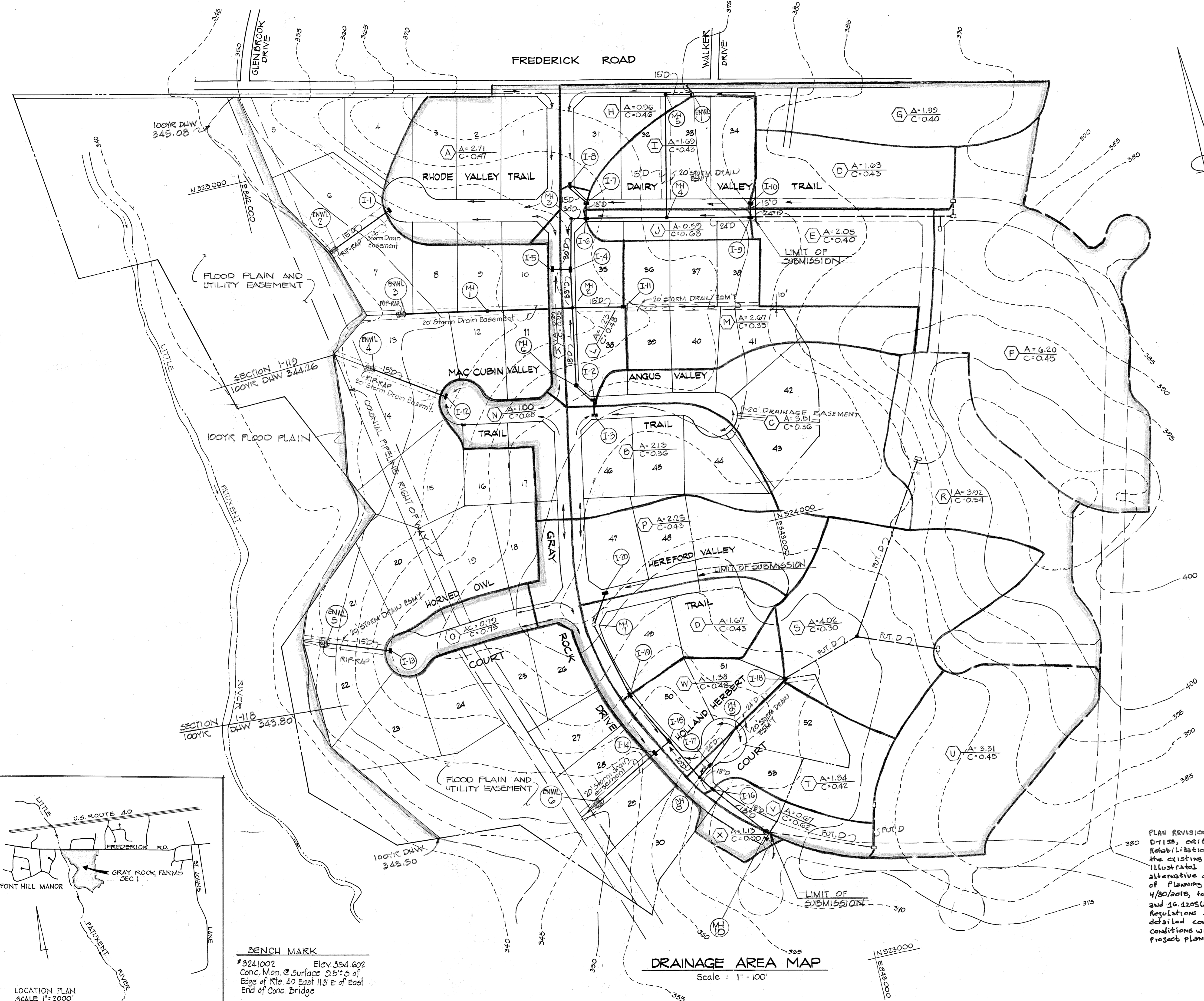


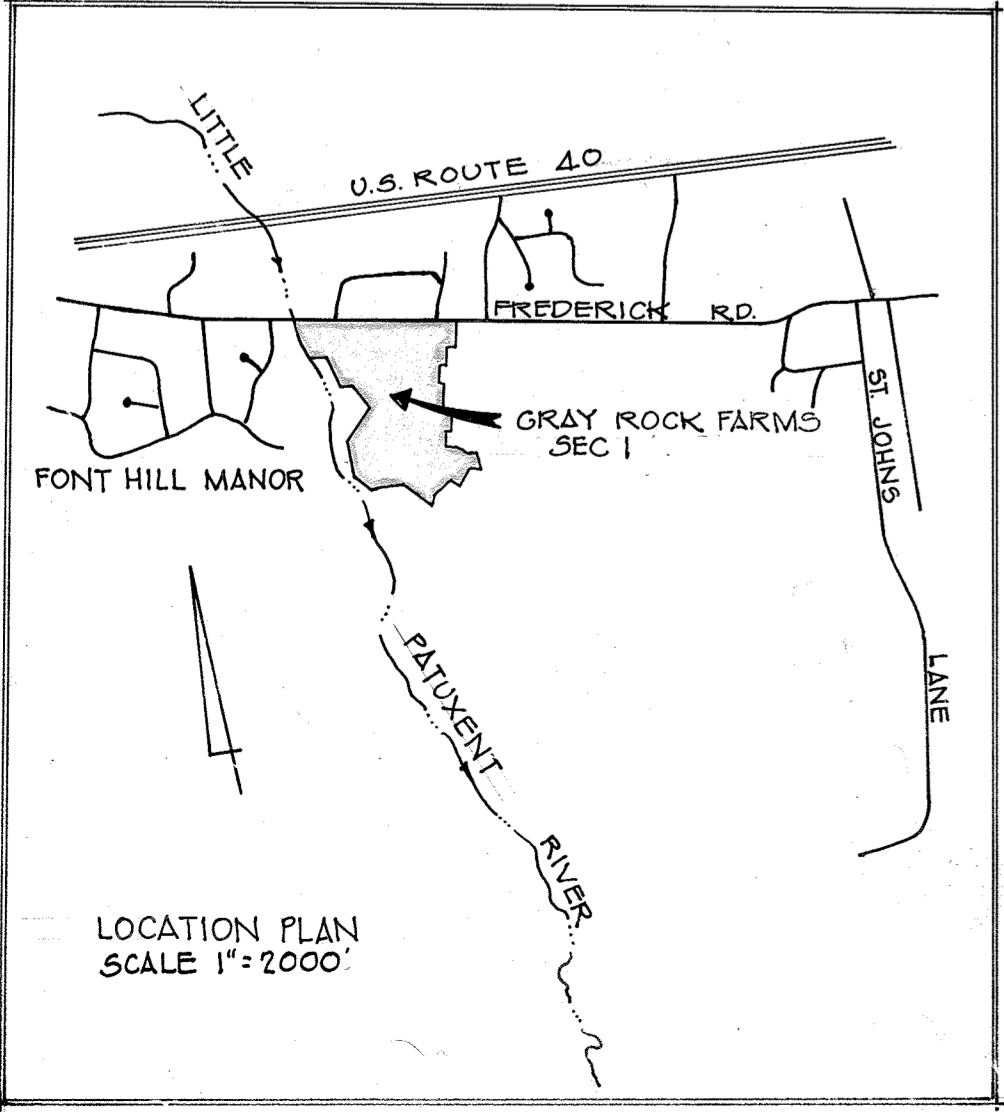
REV. DATE	REV. NO.	REVISION DESCRIPTION
		2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER & DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD. 21043
		PROJECT AREA GRAY ROCK FARM SECTION 1
		PROJECT TITLE DRAINAGE AREA MAP & LOCATION PLAN
		SCALE: AS SHOWN DATE
		ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD 21204
		<i>George Lambros</i> REGISTERED PROFESSIONAL ENGINEER NO. 0510

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	DRAINAGE AREA MAP & LOCATION PLAN
2.	TYPICAL CROSS SECTIONS & DETAILS
3.	PLAN & PROFILE: FREDERICK RD
4.	PLAN & PROFILE: GRAY ROCK DRIVE 0100 TO 10100
5.	PLAN & PROFILE: GRAY ROCK DRIVE 10100 TO 11700
6.	PLAN & PROFILE: RHODE VALLEY TRAIL DAIRY VALLEY TRAIL 0400 TO 4435
7.	PLAN & PROFILE: MAC CUBIN VALLEY TRAIL ANGUS VALLEY TRAIL
8.	PLAN & PROFILE: HORNED OWL COURT HEREFORD VALLEY TRAIL
9.	STORM DRAIN PROFILES
10.	STORM DRAIN PROFILES
11.	SEDIMENT CONTROL
12.	SEDIMENT CONTROL
13.	STORM WATER MANAGEMENT PLAN POND #1
14.	STORM WATER MANAGEMENT PROFILES POND #1
15.	STORM WATER MANAGEMENT PLAN POND #2
16.	STORM WATER MANAGEMENT PROFILES POND #2
17.	LANDSCAPE PLAN



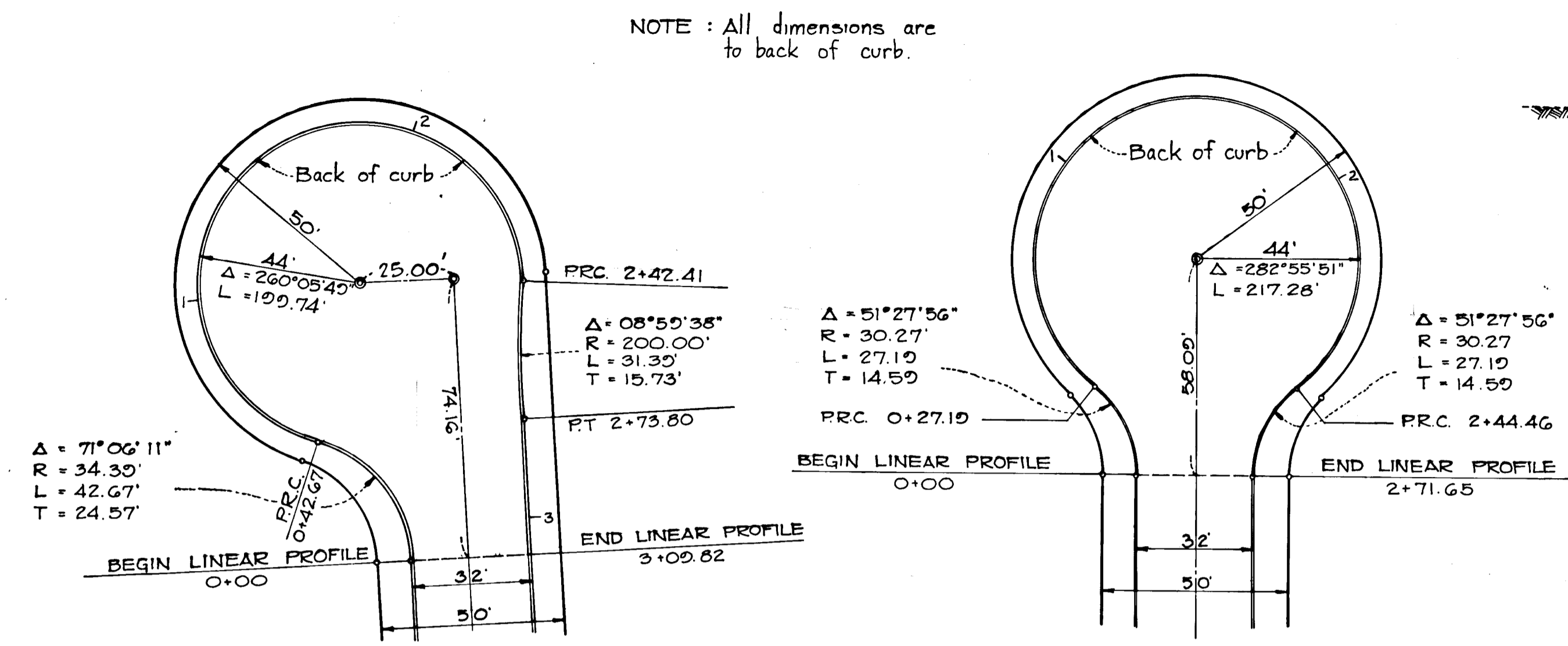
PLAN REVISION NOTE: On or around 12/1/18 Capital Project D-115, entitled Little Patuxent At Frederick Road Stream Rehabilitation Project, was created to grade and stabilize the existing stream banks along the Little Patuxent River illustrated within the limits of this site plan. An alternative compliance use processed through the Department of Planning and Zoning under WR-18-163, approved on 4/30/2018, to cover Sections 26.185(a)(3)(ii), 26.1201(N), and 26.1205(a)(7) of the subdivision and Land Development Regulations subject to six approval conditions. For the detailed conditions of approval and the current site conditions within the disturbed area, please see the capital project plans.



BENCH MARK
 #3241002 Elev. 354.602
 Conc. Mon. @ Surface 25' S of
 Edge of Rte. 40 East 11.5' E of East
 End of Conc. Bridge

DRAINAGE AREA MAP
 Scale: 1" = 100'

REV. DATE	REV. NO.	REVISION DESCRIPTION
		2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER: THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MD 21043
		PROJECT AREA GRAY ROCK FARM SECTION 1
		PROJECT TITLE TYPICAL SECTIONS & DETAILS
		SCALE: AS SHOWN DATE
		ENGINEER: KIDDE CONSULTANTS, INC. 1020 CROMWELL BRIDGE ROAD TOWSON, MD. 21204
		<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. 6510

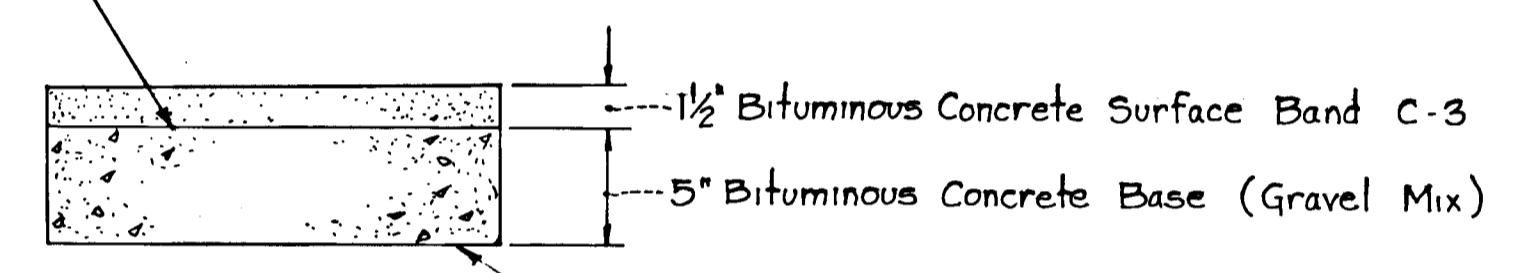


OFFSET CUL DE SAC **SYMMETRICAL CUL DE SAC**
CUL DE SAC DETAILS

Scale: 1" = 30'

A Track Coat is required in accordance with Section C-31.4 of Howard County Road Construction Code and Std. Specs.

- Clearing & Grading Article C-1
- Subgrade Article C-2
- Base Course Article C-33
- Surface Course Article C-31

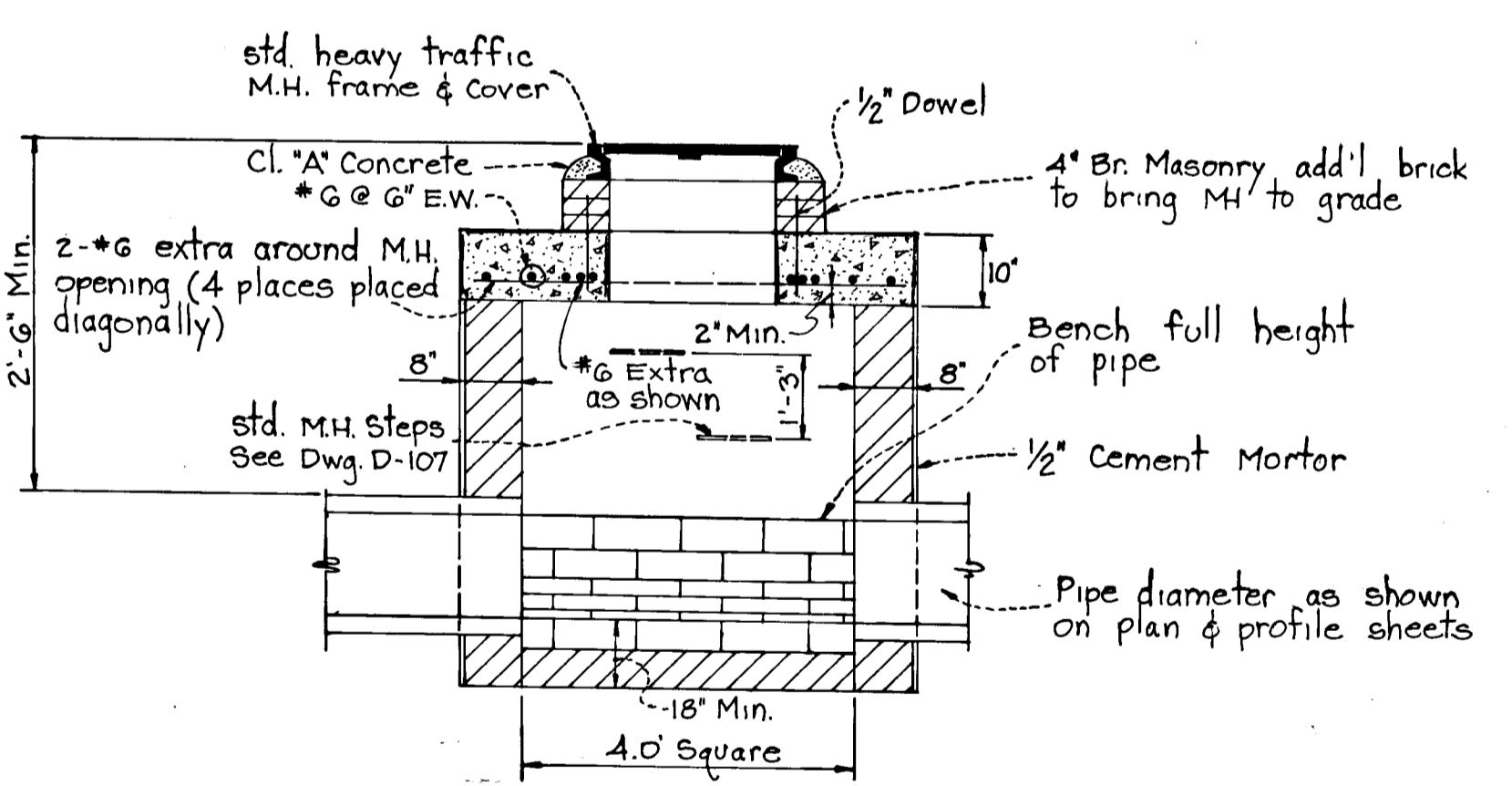


* NOTE: See road profile for top of curb grades from Sta. -1+00 to Sta. 0+50

To be constructed in accordance with the Howard County Road Construction Code & Specifications.

The Base will be primed in accordance with Section C-30.3 as provided in the Howard County Road Construction Code and Std. Specs.

PAVING DETAIL
 Not to Scale



SHALLOW MANHOLE DETAIL
 Not to scale

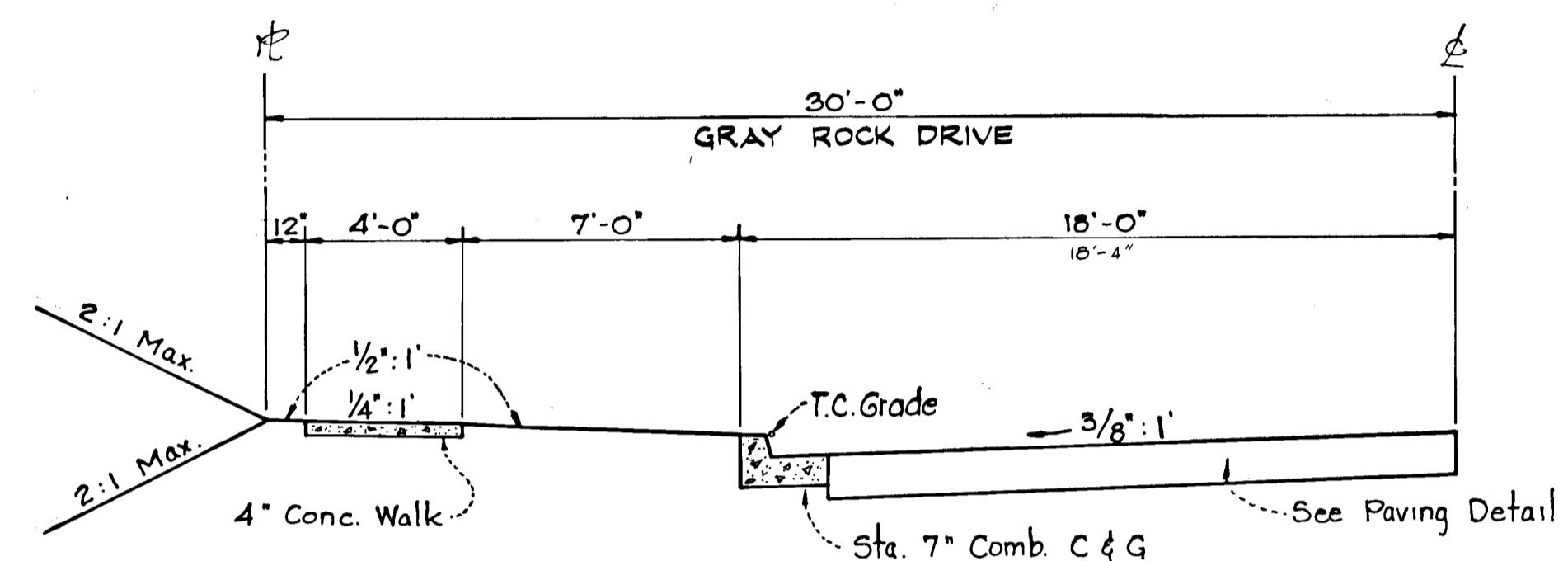
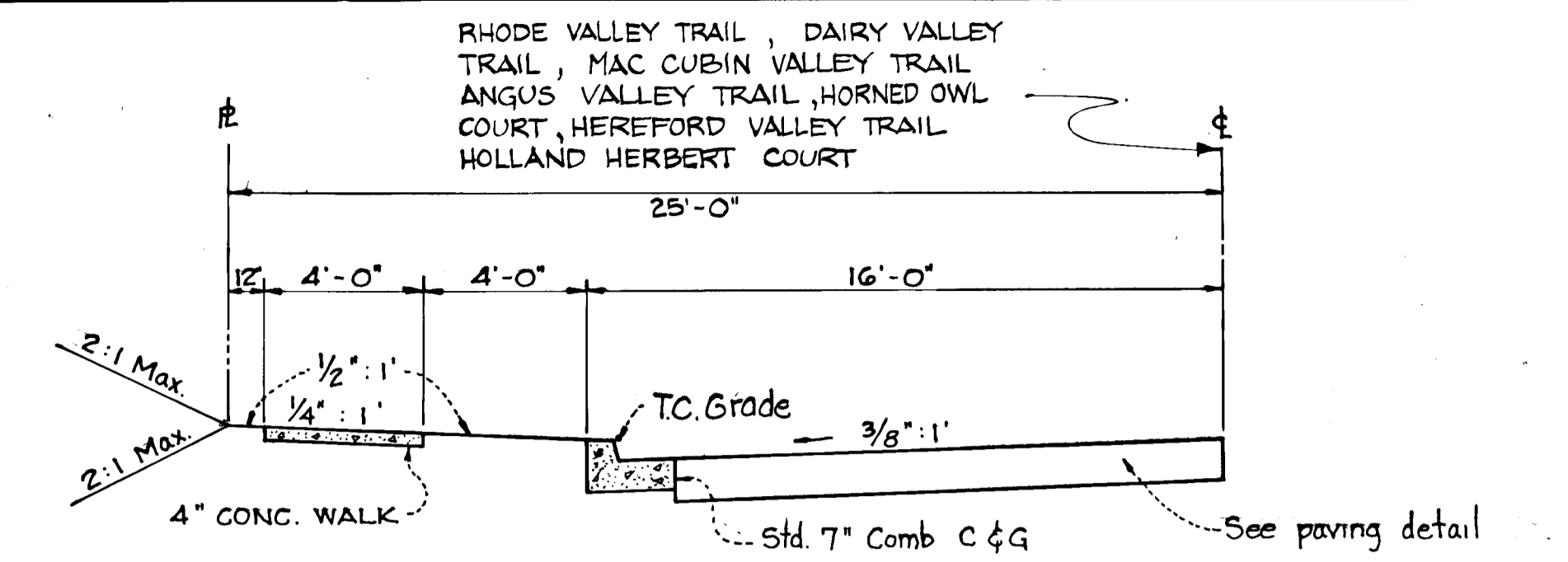
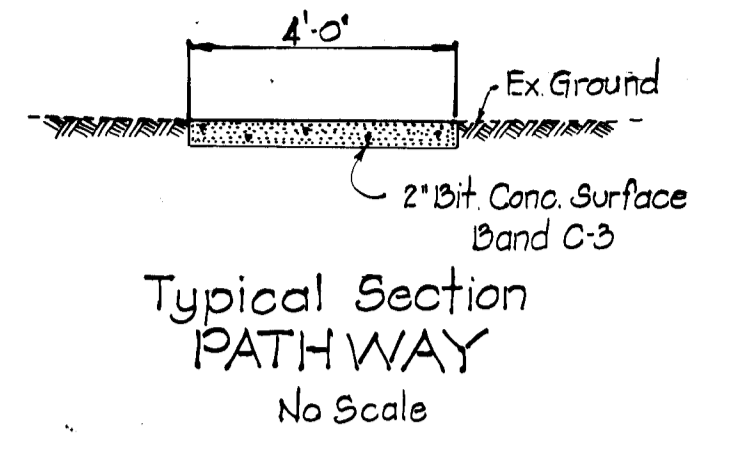
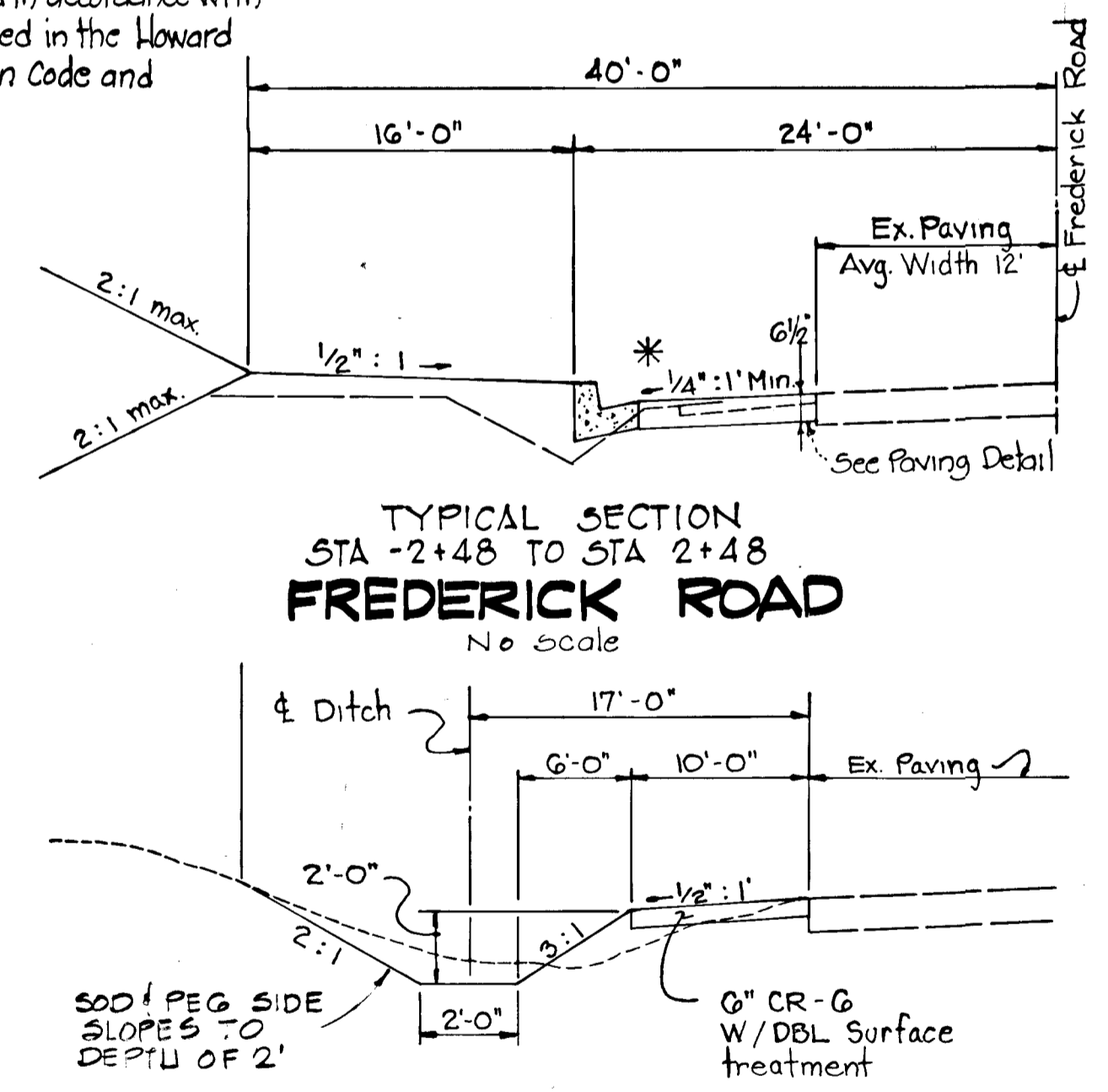
GENERAL NOTES

- Traffic Control Devices and their installation shall be in accordance with the Manual on Uniform Traffic Control Devices, 1971 Revised Edition.
- All reinforced concrete for storm drain structures shall have minimum 28 days strength of 3500 p.s.i.
- A 7"-inch curb shall be used on all cul-de-sacs on a descending grade.
- Existing utility poles shall be relocated at developers expense. They shall be notified 24 hours in advance before starting work.

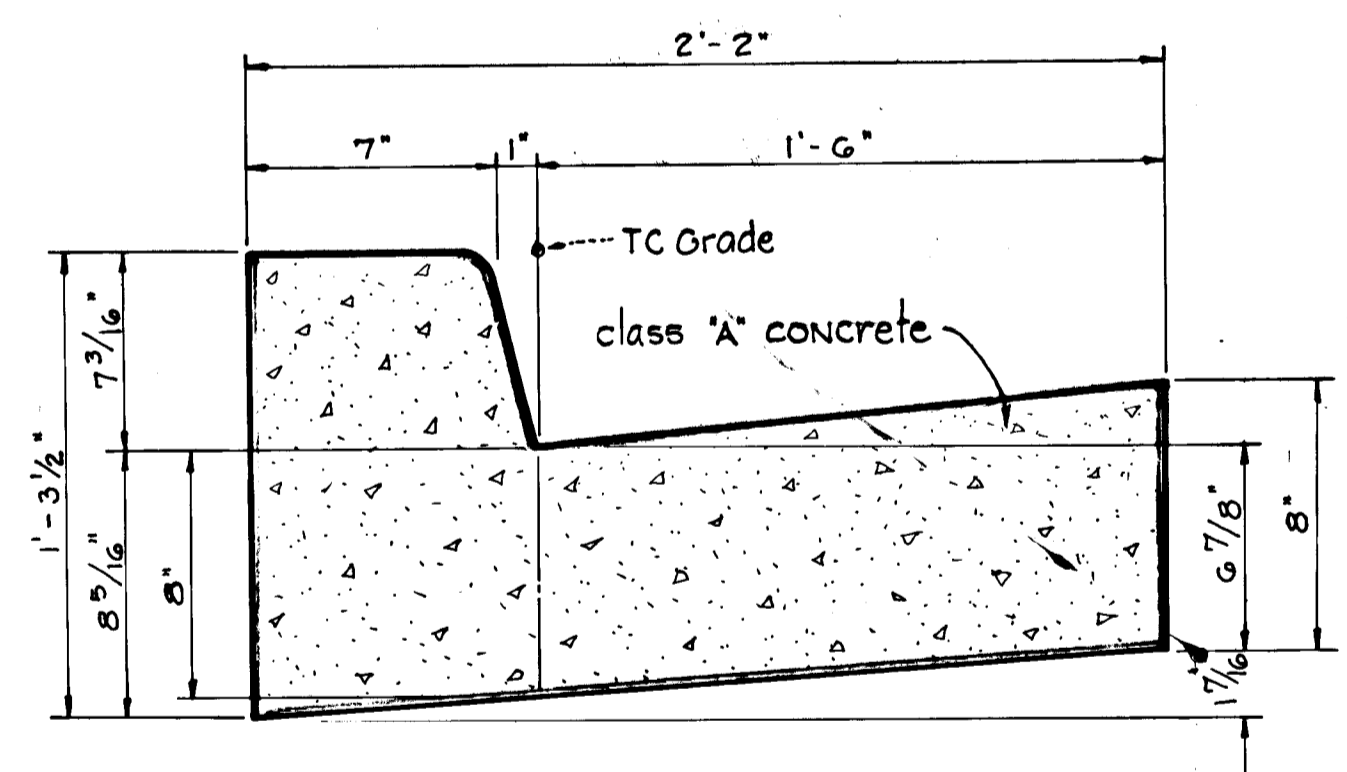
DITCH SECTION CAPACITY

- D = 2.0'
- A = 16"
- WP = 14.64'
- R = 1.00'
- S = 2.00% AVG
- D = 0.025
- Q = 161.3CFS

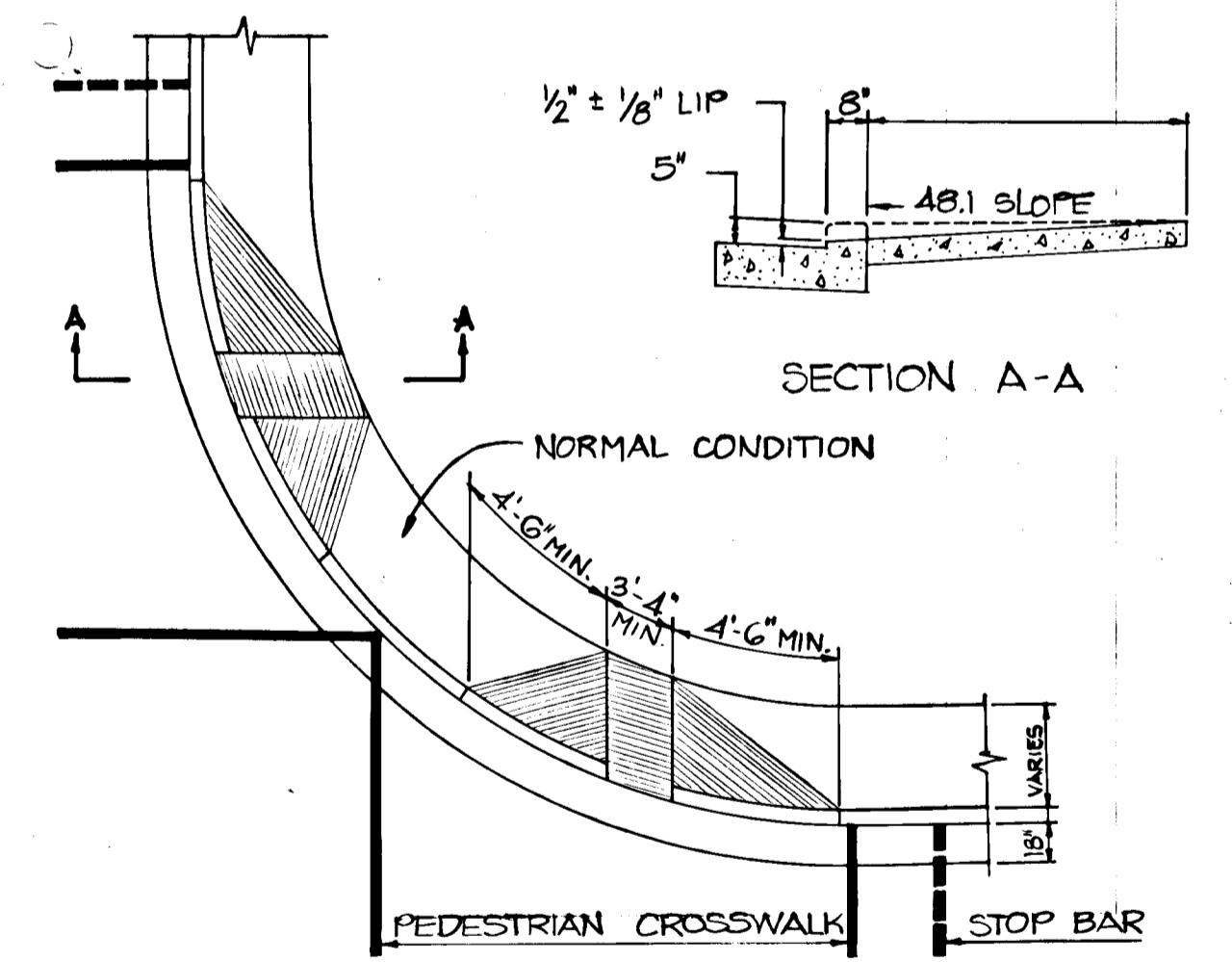
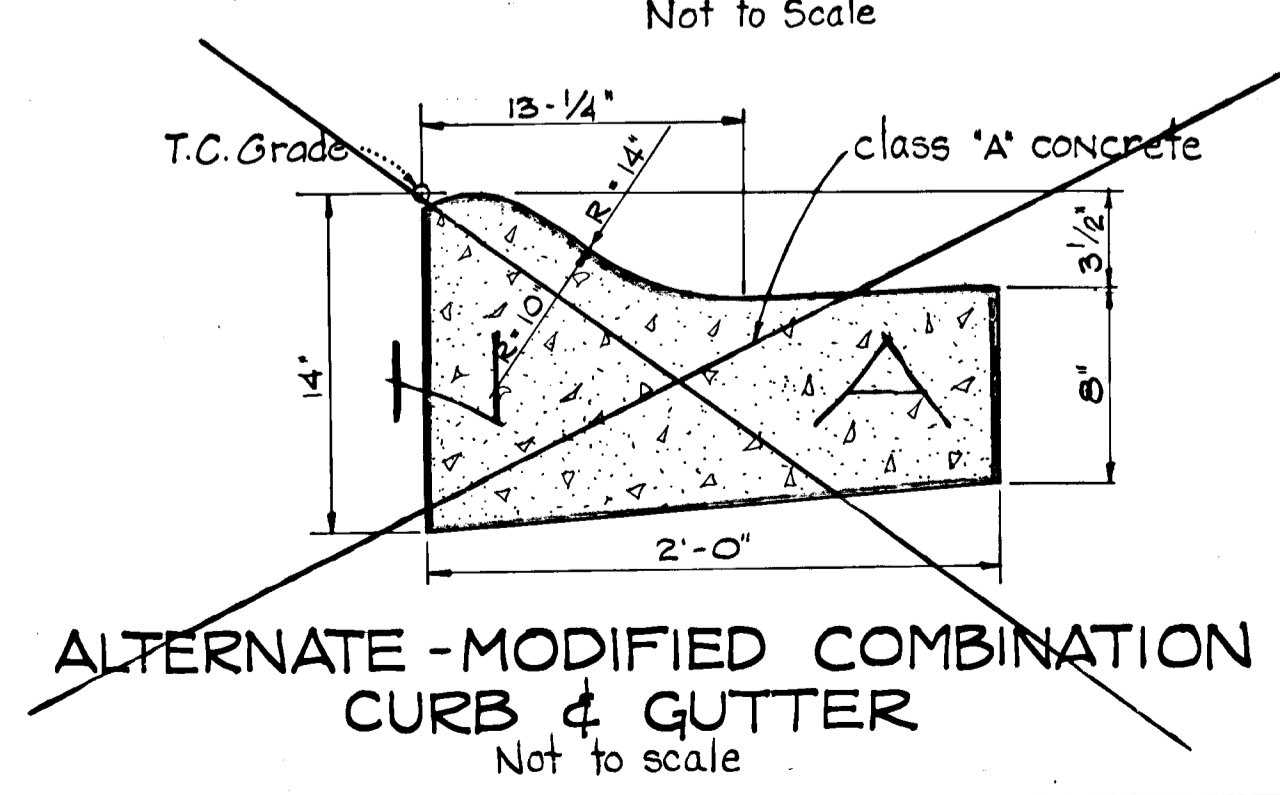
TYPICAL SHOULDER SECTION FREDERICK ROAD
 No Scale



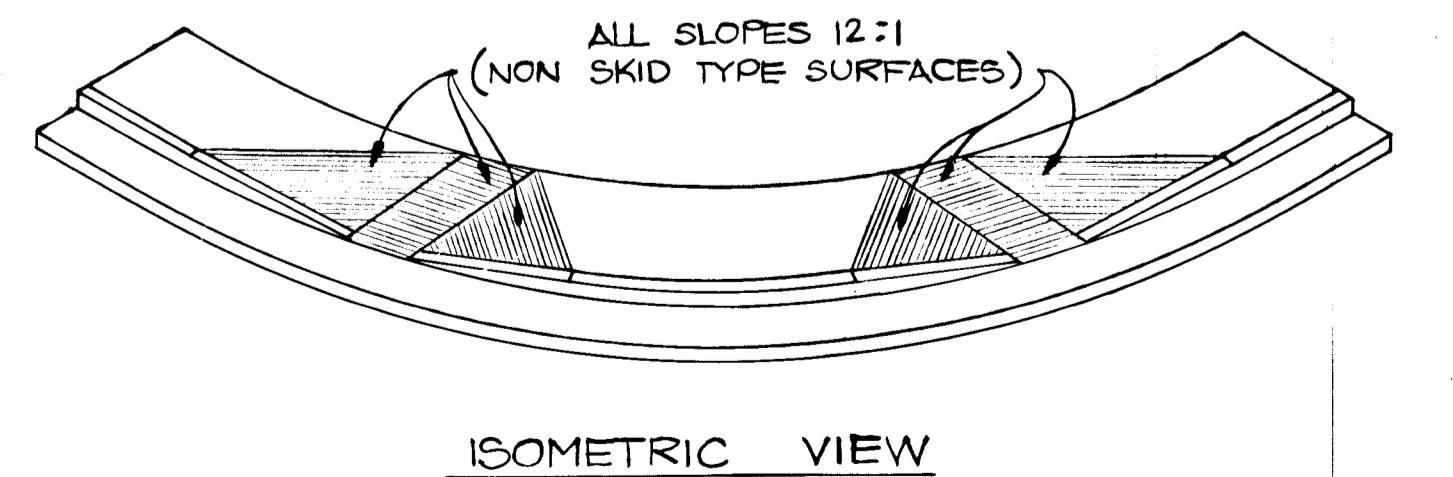
TYPICAL ROADWAY SECTIONS

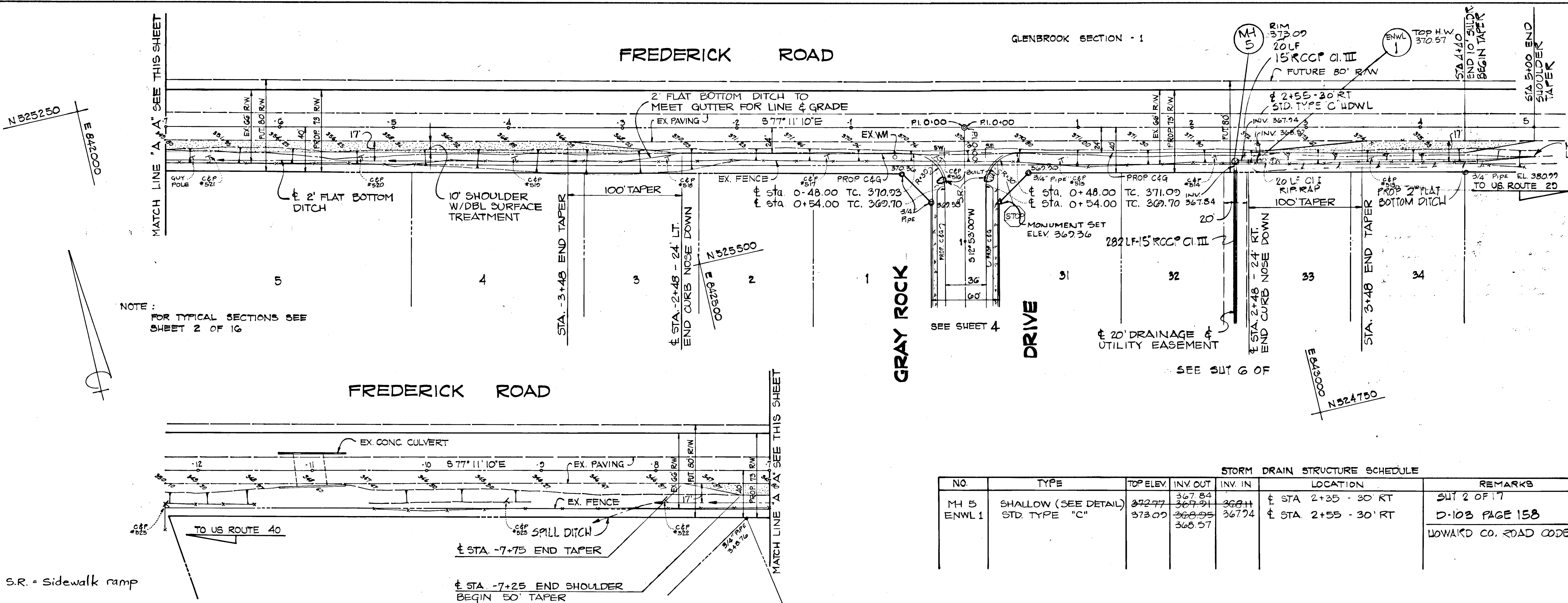


ALTERNATE - MODIFIED COMBINATION CURB & GUTTER
 Not to scale

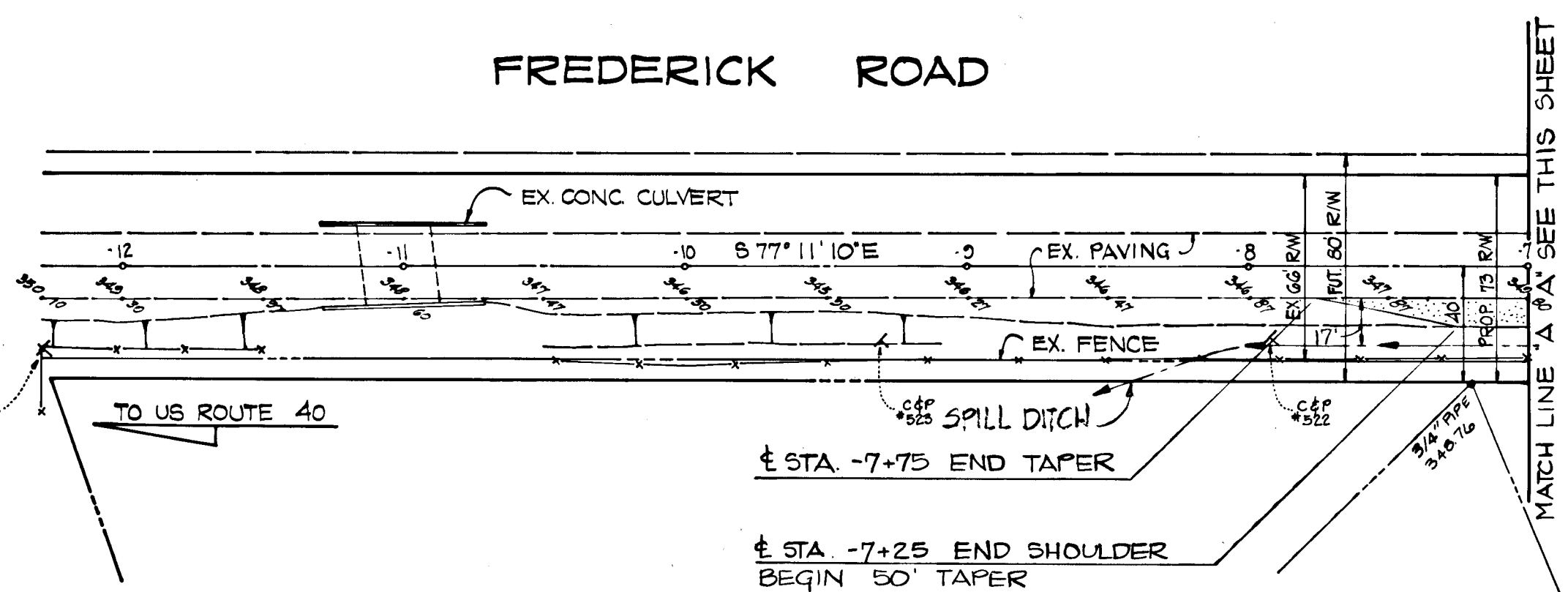


SIDEWALK RAMP DETAILS





NOTE:
FOR TYPICAL SECTIONS SEE
SHEET 2 OF 16



STORM DRAIN STRUCTURE SCHEDULE						
NO.	TYPE	TOP ELEV.	INV. OUT.	INV. IN.	LOCATION	REMARKS
MH 5	SHALLOW (SEE DETAIL)	372.97	367.84	368.44	± STA 2+35 - 30 RT	SUT 2 OF 17
ENWL 1	STD. TYPE "C"	373.03	368.95	367.74	± STA 2+55 - 30 RT	D-103 PAGE 158 HOWARD CO. ROAD CODE

DEPARTMENT OF PUBLIC WORKS
W.O. Peltier 3-27-79
 CHIEF, BUREAU OF ENGINEERING DATE
 OFFICE OF PLANNING AND ZONING
John W. Marshall 5-16-79
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

REV. DATE REV. NO. REVISION DESCRIPTION

2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
THE MILLER LAND COMPANY
9035 BALTIMORE NATIONAL PIKE
ELLICOTT CITY MD. 21043

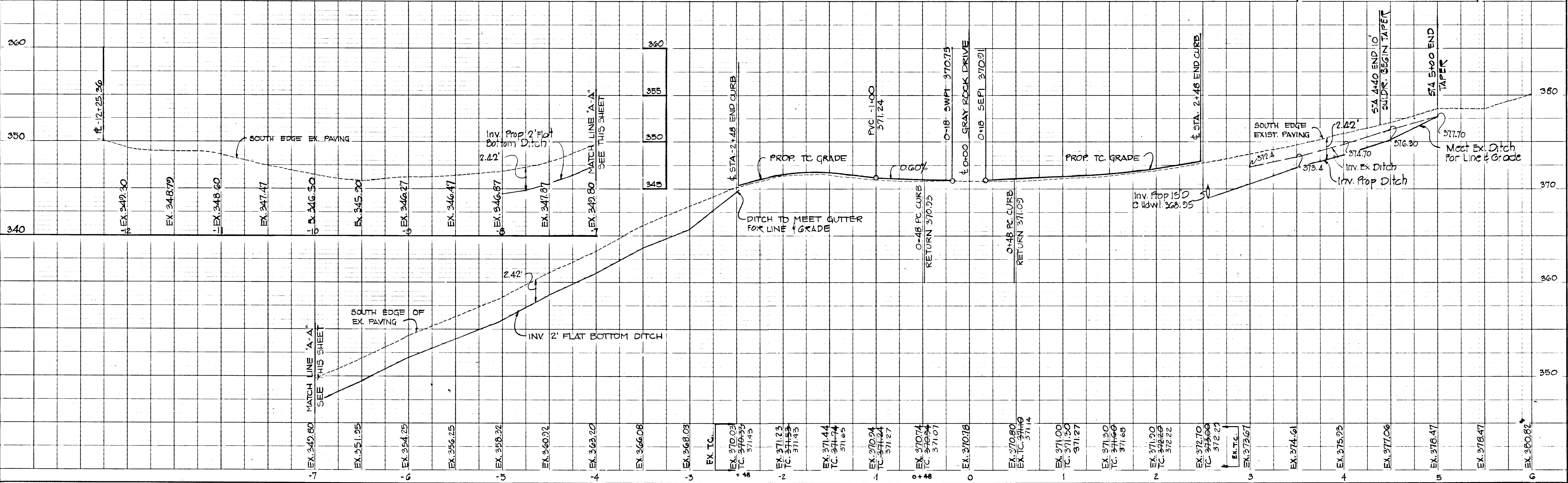
PROJECT AREA
GRAY ROCK FARM
SECTION 1 AREA 1

PROJECT TITLE
PLAN & PROFILE
FREDERICK ROAD

SCALE: AS SHOWN DATE

ENGINEER
KIDDE CONSULTANTS, INC.
1020 CROMWELL BRIDGE RD.
TOWSON, MD. 21204

George Lambrose
GEORGE LAMBROSE
REGISTERED PROFESSIONAL ENGINEER
NO. 6510



PLAN
SURVEYED: _____
NOTED: _____
NOTE BOOK NO. _____
BY _____
DATE _____

PROFILE
SURVEYED: _____
NOTED: _____
NOTE BOOK NO. _____
BY _____
DATE _____

#242

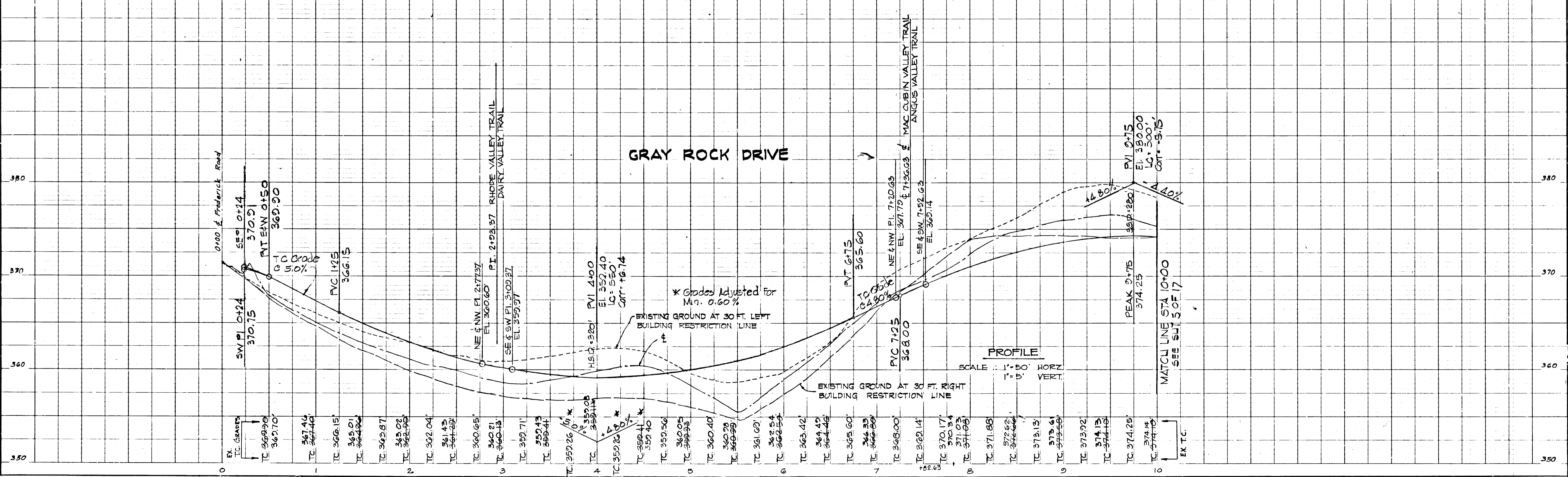
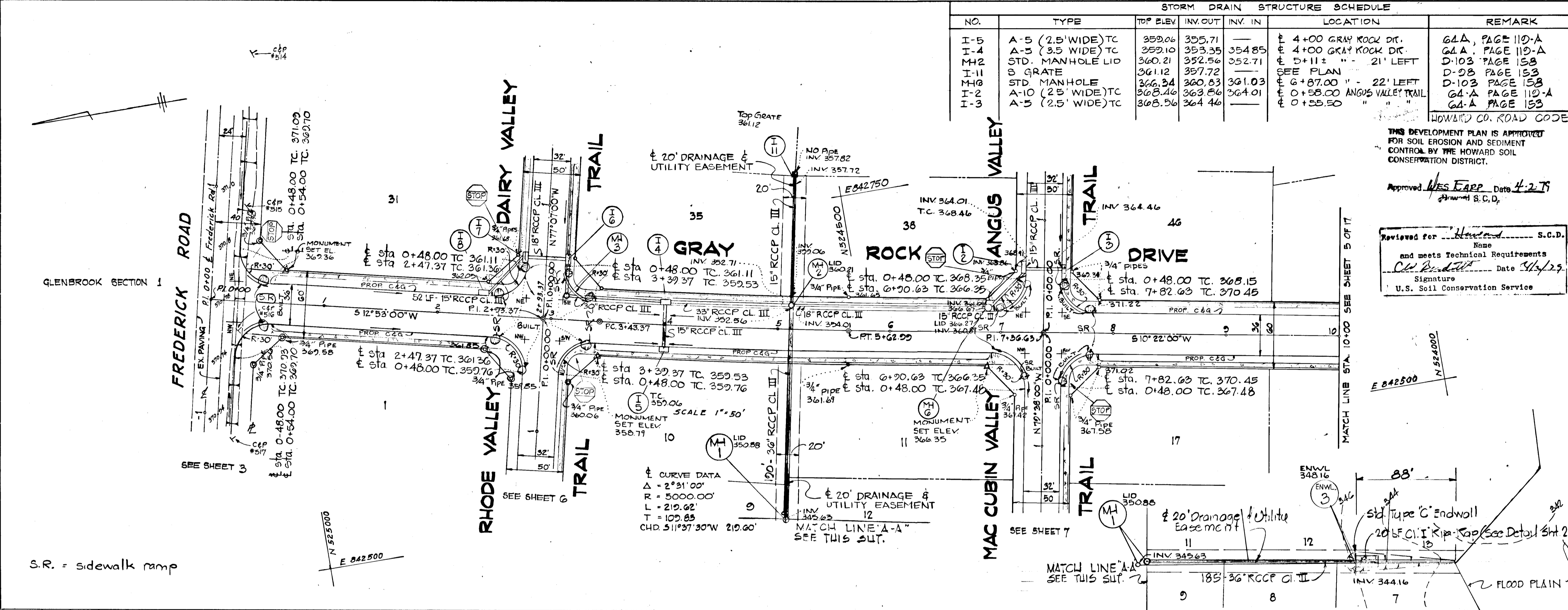
STORM DRAIN STRUCTURE SCHEDULE						
NO.	TYPE	TOP ELEV.	INV. OUT.	INV. IN.	LOCATION	REMARK
H-5	A-5 (2.5' WIDE) TC	359.06	355.71		± 4+00 GRAY ROCK DR.	6A-A, PAGE 110-A
H-4	A-5 (3.5' WIDE) TC	359.10	353.35	354.85	± 4+00 GRAY ROCK DR.	6A-A, PAGE 110-A
MH-2	STD. MANHOLE LID	360.21	352.56	352.71	± 5+11 ± 21' LEFT	D-103 PAGE 158
H-11	B GRATE	361.12	357.72		SEE PLAN	D-108 PAGE 158
H-10	STD. MANHOLE	366.34	360.83	361.03	± 6+87.00 ± 22' LEFT	D-103 PAGE 158
H-2	A-10 (2.5' WIDE) TC	368.46	363.86	364.01	± 0+58.00 ANGUS VALLEY TRAIL	6A-A PAGE 110-A
H-3	A-5 (2.5' WIDE) TC	368.56	364.46		± 0+55.50 "	6A-A PAGE 153

DEPARTMENT OF PUBLIC WORKS
W.O. Albert 3-29-79
 CHIEF, BUREAU OF ENGINEERING DATE
 OFFICE OF PLANNING & ZONING
Shallie Matheson 3-16-79
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Approved *WES FAPP* Date 4-2-79
 Howard S. C. D.

Reviewed for *Howard* S.C.D. Name
 and meets Technical Requirements
Ch. R. Smith Date 3/14/79
 Signature
 U.S. Soil Conservation Service

REV. DATE	REV. NO.	REVISION	DESCRIPTION
			2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
			OWNER AND DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MD. 21043
			PROJECT AREA: GRAY ROCK FARM SECTION 1
			PROJECT TITLE PLAN AND PROFILE GRAY ROCK DRIVE STA. 0+00 TO 10+00
			SCALE AS SHOWN DATE
			ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204
			<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER No. 6519



PLAN	DATE
BY	
NO.	

PROFILE	DATE
BY	
NO.	

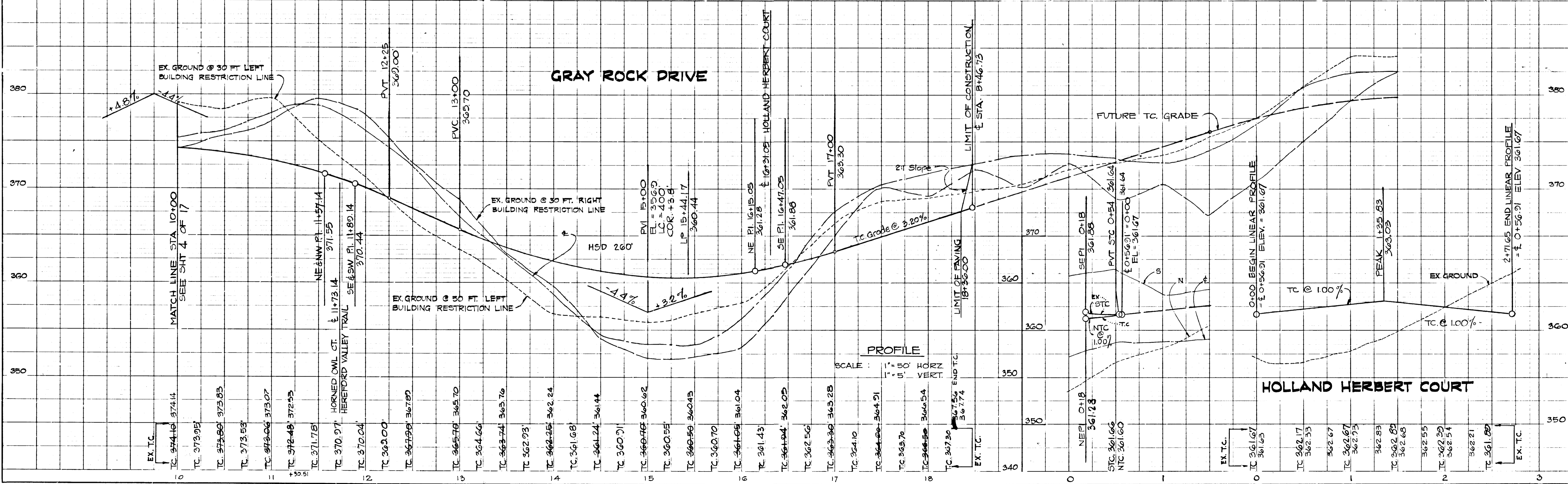
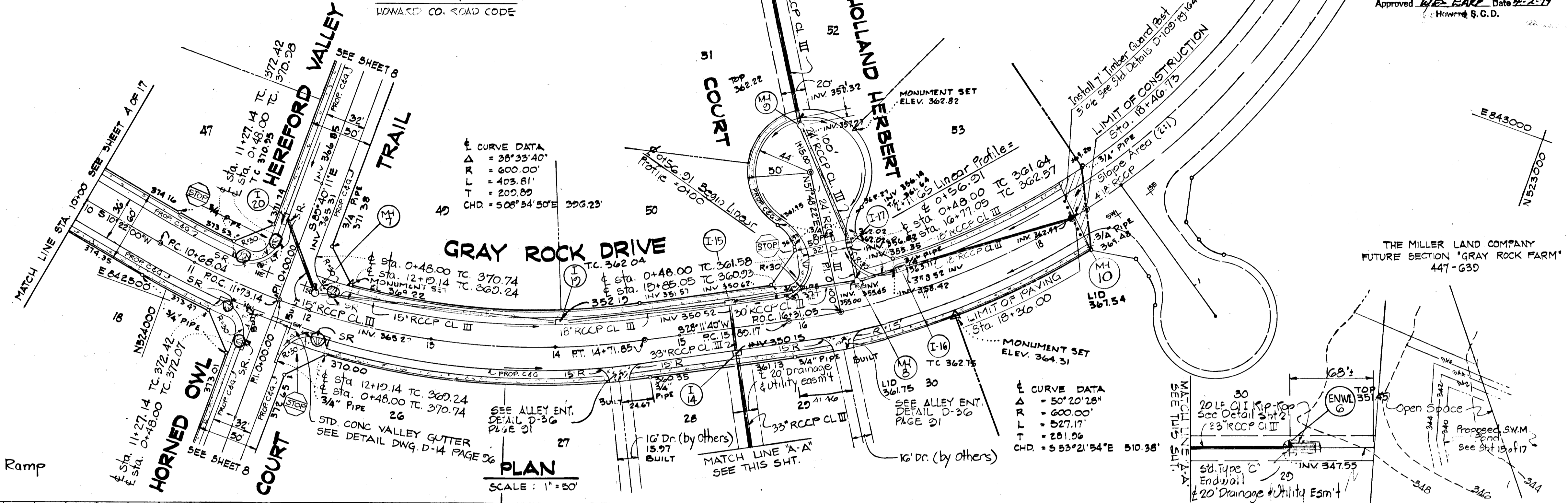
NO.	TYPE	TOP ELEV.	INV. OUT.	INV. IN.	LOCATION	REMARKS
I-14	A-5 (2.5' WIDE) T.C.	360.21	350.15	350.35	± 15+44.17 GRAY ROCK DR	G4-A PAGE 110-A
I-15	A-5 (3.5' WIDE) LID	360.41	350.32	350.82	± 15+44.17	G4-A PAGE 110-A
M-8	SHALLOW (SEE DETAIL)	360.39	355.00	356.05	± 0+21 HOLLAND HERBERT 18" RCP	SUIT 2 OF 17
I-16	A-10 (2.5' WIDE) T.C.	362.36	350.42	358.52	± 16+87	G4-A PAGE 110-A
I-17	A-5 (3.0' WIDE) T.C.	361.64	355.04	356.14	± 0+54.00 HOLLAND HERBERT	G4-A PAGE 110-A
M-9	SHALLOW (SEE DETAIL)	362.00	357.27	357.32	SEE PLAN	SUIT 2 OF 17
I-18	S-GRATE TOP	365.88	360.84	361.24	SEE PLAN	D-38 PAGE 153
I-19	A-10 (2.5' WIDE) T.C.	361.04	357.19	357.39	± 14+06 OLD GRAY ROCK	G4-A PAGE 110-A
M-7	SHALLOW (SEE DETAIL)	362.78	365.30	365.38	± 12+00 20" RCP HERFORD TR.	SUIT 2 OF 17
I-20	A-5 (2.5' WIDE) T.C.	370.28	368.85	368.85	± 0+22.50 HERFORD V.T.R.	G4-A PAGE 110-A
ENWL 6	STD TYPE "C" Top	351.45	348.65	348.65	SEE PLAN	D-32 PAGE 107
M-10	SHALLOW (SEE DETAIL)	367.54	361.99	363.09	± 18+11.50 OLD GRAY ROCK	SUIT 2 OF 17

Reviewed for Howard and meets Technical Requirements
 Signature: [Signature] Date: 4/4/79
 U.S. Soil Conservation Service

DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF ENGINEERING
 DATE: 3-29-79
 OFFICE OF PLANNING & ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 2/16/79

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Approved: [Signature] Date: 4-2-79
 Howard S.G.D.

REV. DATE	REV. NO.	REVISION DESCRIPTION
2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER THE MILLER LAND COMPANY 8035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD 21043		
PROJECT AREA: GRAY ROCK FARM SECTION 1		
PROJECT TITLE PLAN & PROFILE GRAY ROCK DRIVE HOLLAND HERBERT COURT STA. 10+00 to STA. 18+27		
SCALE AS SHOWN DATE		
ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204		
<u>[Signature]</u> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. G519		

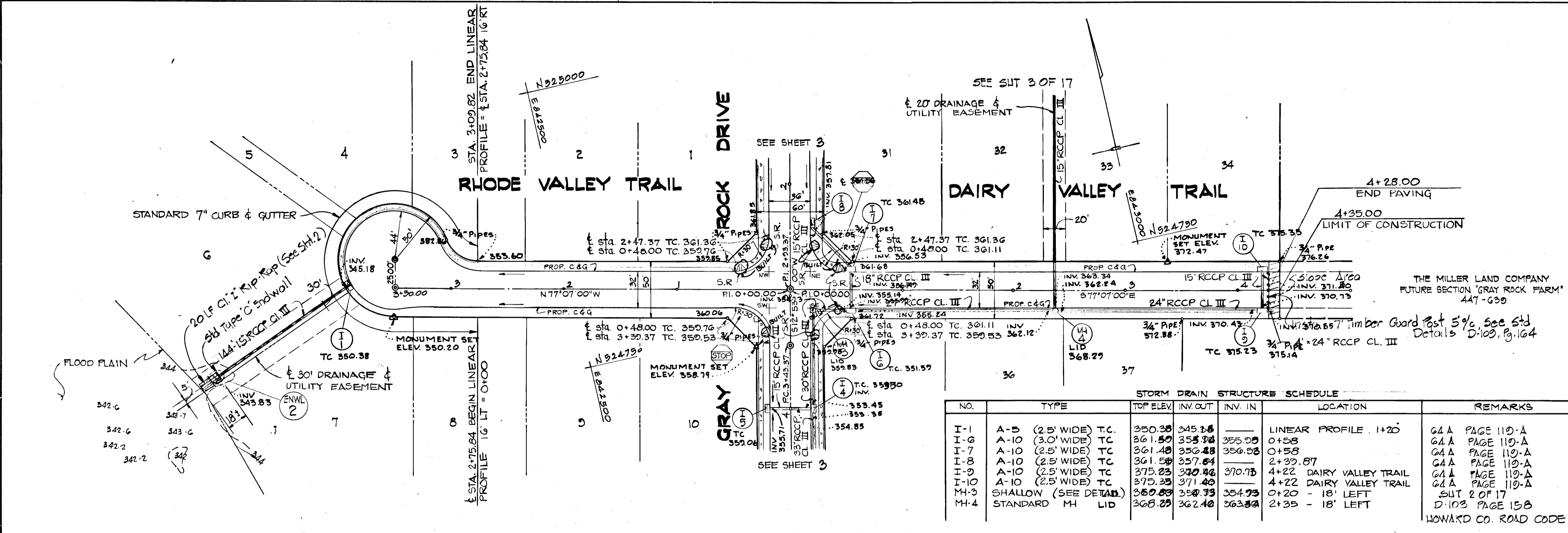


PLAN
 SURVEYED BY: _____
 CHECKED BY: _____
 DATE: _____

PROFILE
 SURVEYED BY: _____
 CHECKED BY: _____
 DATE: _____

DEPARTMENT OF PUBLIC WORKS
W O Pickett 3-29-79
 CHIEF, BUREAU OF ENGINEERING DATE
 OFFICE OF PLANNING AND ZONING
John W. Mammian 3-16-79
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

PLAN
 SURVEYED, PLOTTED, CHECKED, REVISIONS CHECKED, DATE, BY, NO.



STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP ELEV.	INV. OUT.	INV. IN.	LOCATION	REMARKS
I-1	A-5 (2.5' WIDE) T.C.	350.35	245.15		LINEAR PROFILE 1+20	G&A PAGE 110-A
I-6	A-10 (3.0' WIDE) T.C.	361.50	355.30	355.00	0+58	G&A PAGE 110-A
I-7	A-10 (2.5' WIDE) T.C.	361.40	356.48	356.58	0+58	G&A PAGE 110-A
I-8	A-10 (2.5' WIDE) T.C.	361.50	357.04		2+39.87	G&A PAGE 110-A
I-9	A-10 (2.5' WIDE) T.C.	375.23	370.46	370.75	4+22 DAIRY VALLEY TRAIL	G&A PAGE 110-A
I-10	A-10 (2.5' WIDE) T.C.	375.35	371.40		4+22 DAIRY VALLEY TRAIL	G&A PAGE 110-A
M-3	SHALLOW (SEE DETAIL)	360.83	350.33	354.73	0+20 - 18' LEFT	SUT 2 OF 17
M-4	STANDARD M.H. LID	368.23	362.40	363.30	2+35 - 18' LEFT	D-103 PAGE 158 HOWARD CO. ROAD CODE

2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER:
 THE MILLER LAND COMPANY
 2035 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MD, 21043

PROJECT AREA:
GRAY ROCK FARM
 SECTION 1

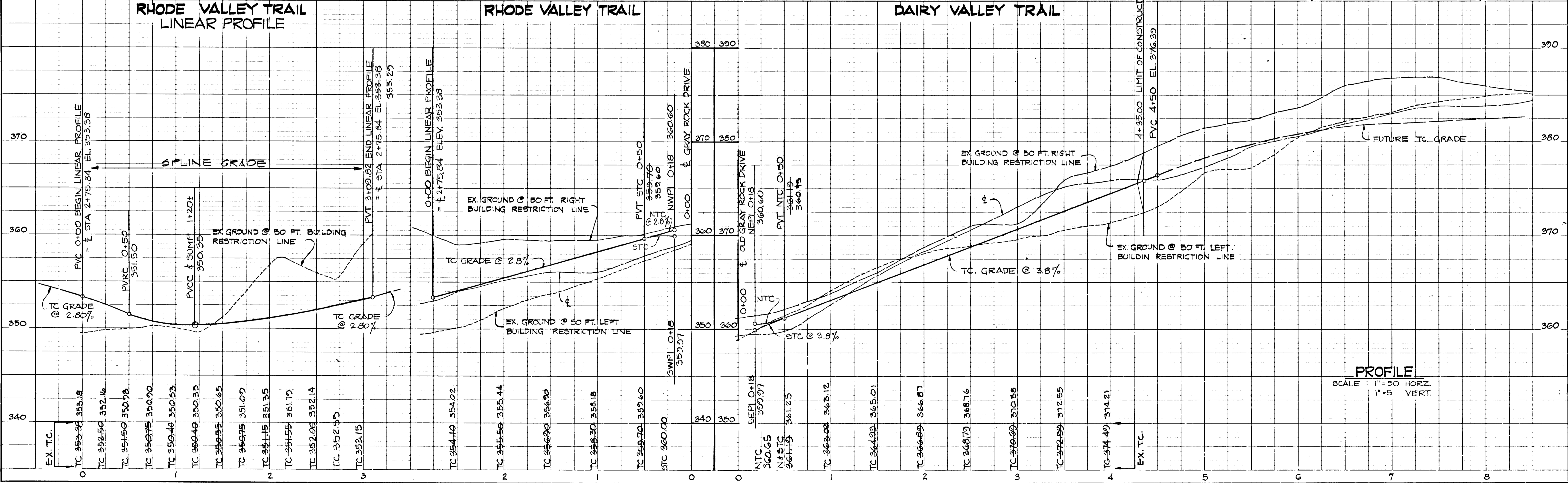
PROJECT TITLE:
PLAN AND PROFILE
RHODE VALLEY TR. - DAIRY VALLEY TR.
 STA. 0+00 TO 4+35 STA. 0+00 TO 3+50

SCALE: AS SHOWN DATE

ENGINEER:
KIDDE CONSULTANTS, INC.
 1020 CROMWELL BRIDGE ROAD
 TOWSON, MD, 21284

George Lampros
 GEORGE LAMPROS
 REGISTERED PROFESSIONAL ENGINEER
 N&B510

PROFILE
 SURVEYED, PLOTTED, CHECKED, REVISIONS CHECKED, DATE, BY, NO.



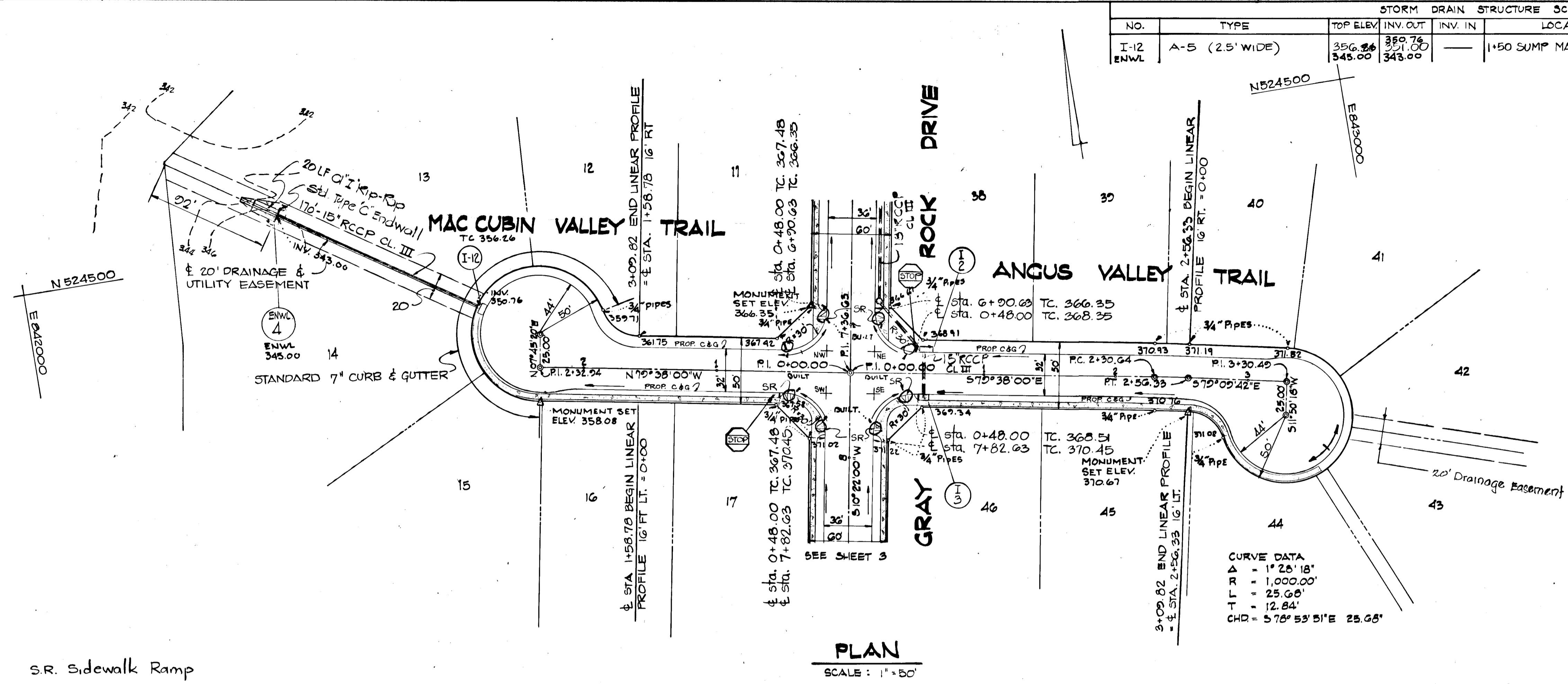
PROFILE
 SCALE: 1" = 50' HORIZ.
 1" = 5' VERT.

DATE	
BY	
NO.	
NO.	
NO.	

DATE	
BY	
NO.	
NO.	
NO.	

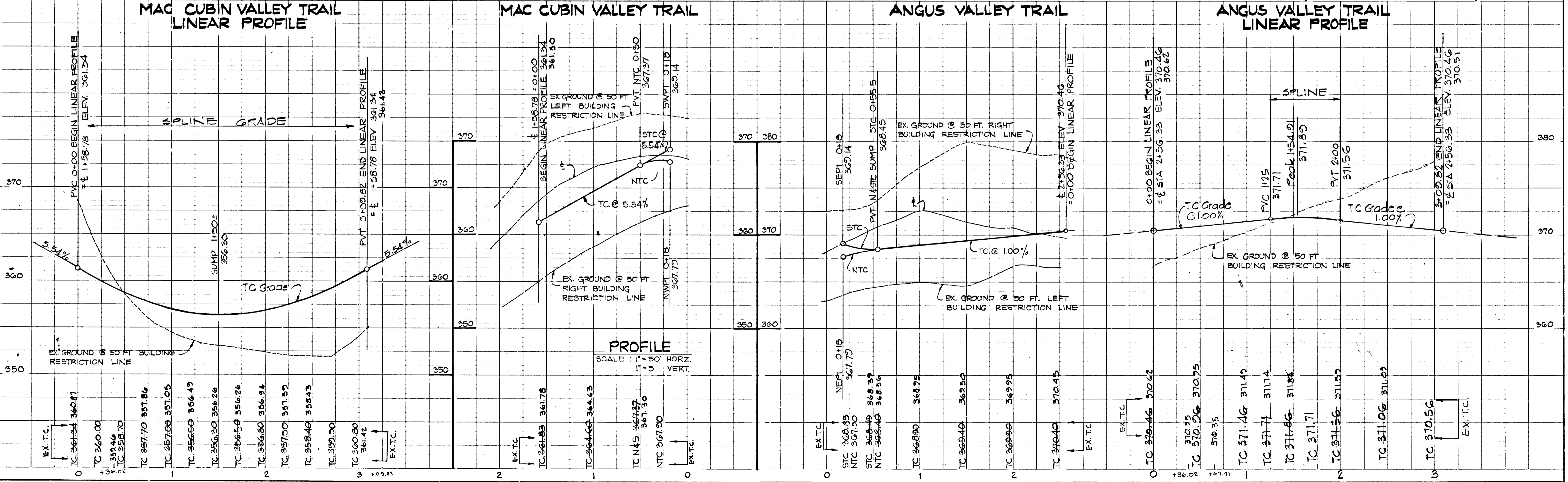
NO.	TYPE	TOP ELEV.	INV. OUT.	INV. IN.	LOCATION	REMARKS
I-12	A-5 (2.5' WIDE)	356.86	350.76	348.00	150 SUMP MAC CUBIN VALLEY TR	64-A PAGE 110-A HOWARD CO. ROAD CODE

DEPARTMENT OF PUBLIC WORKS
W. Falbat 3-29-79
 CHIEF, BUREAU OF ENGINEERING DATE
 OFFICE OF PLANNING AND ZONING
John W. Mudderman 3-16-79
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



REV. DATE	REV. NO.	REVISION DESCRIPTION
		2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER: THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD 21045
		PROJECT AREA: GRAY ROCK FARM SECTION 1
		PROJECT TITLE: PLAN & PROFILE MAC CUBIN VALLEY TRAIL ANGUS VALLEY TRAIL
		SCALE: AS SHOWN DATE
		ENGINEER: KIDDE CONSULTANTS, INC. 1020 CROMWELL BRIDGE ROAD TOWSON, MD, 21204

George Lambros
 GEORGE LAMBROS
 REGISTERED PROFESSIONAL ENGINEER
 No. 6519

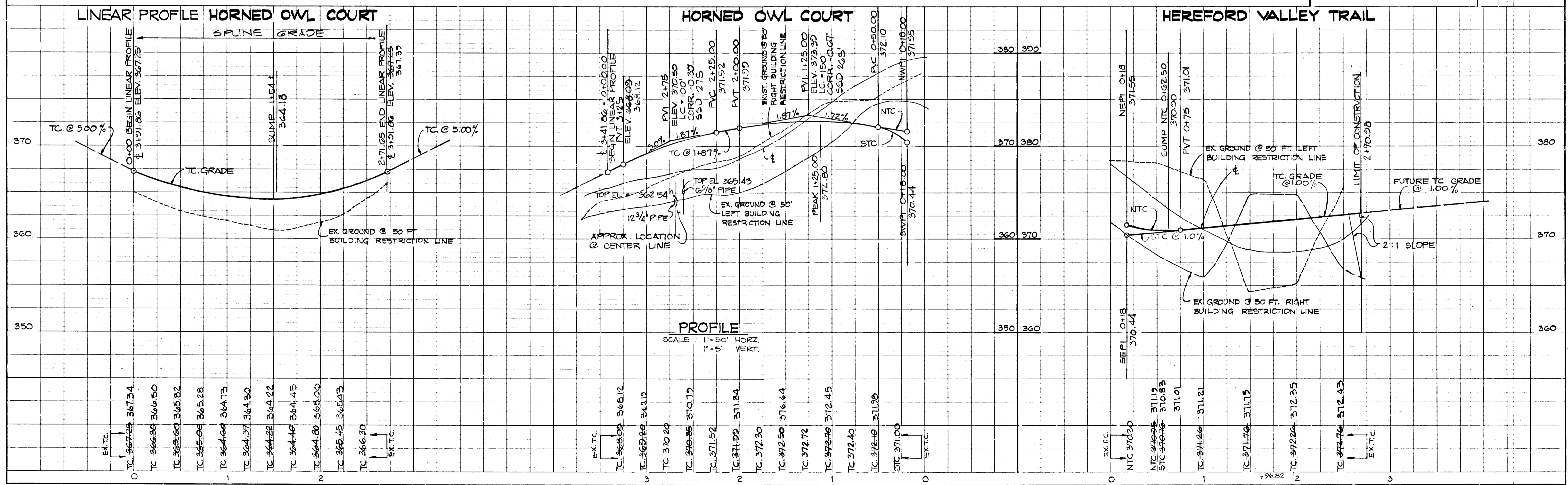
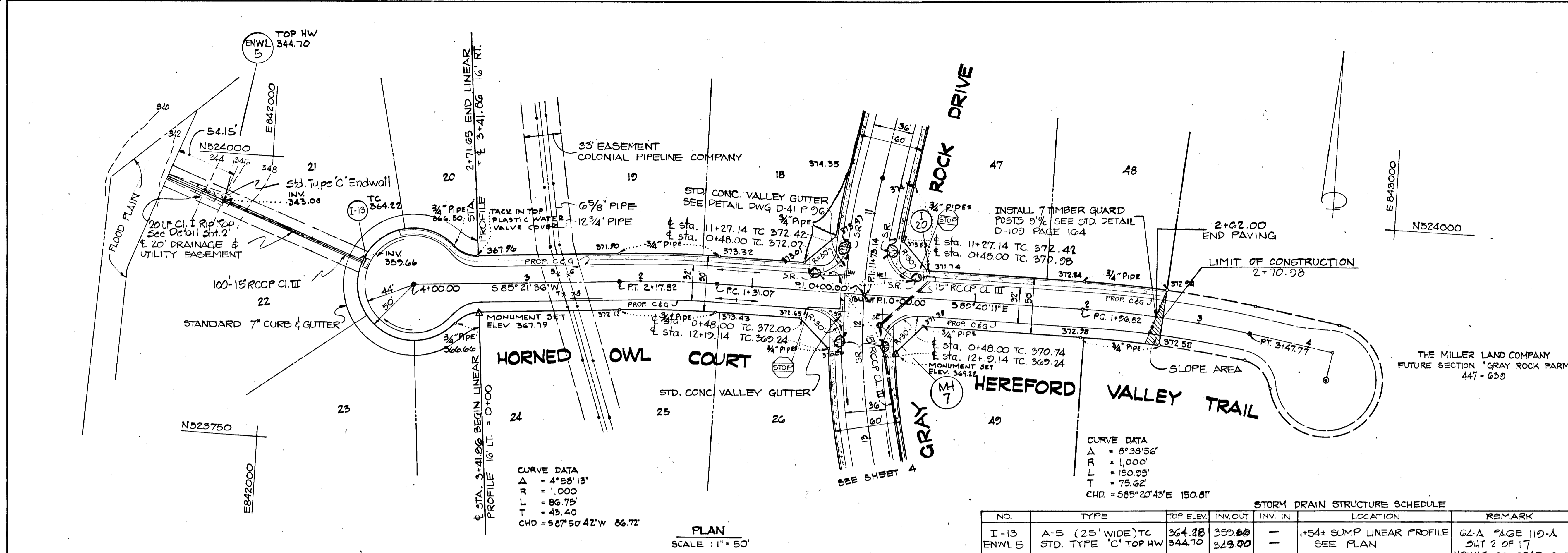


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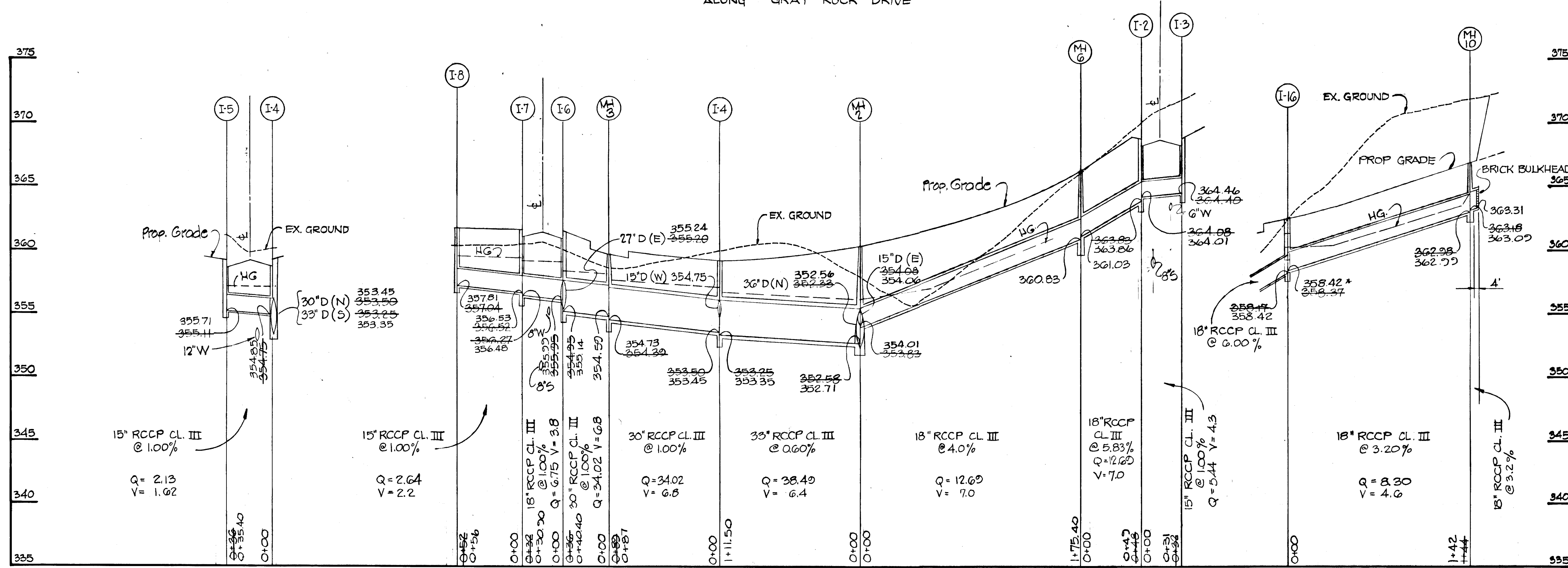
REV. DATE	REV. NO.	REVISION DESCRIPTION
		2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER THE MILLER LAND COMPANY 2025 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MD. 21043
		PROJECT AREA: GRAY ROCK FARM SECTION 1
		PROJECT TITLE PLAN AND PROFILE HORNED OWL COURT HEREFORD VALLEY TRAIL
		SCALE AS SHOWN DATE
		ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204
		<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. 6519

DATE	BY	NO.

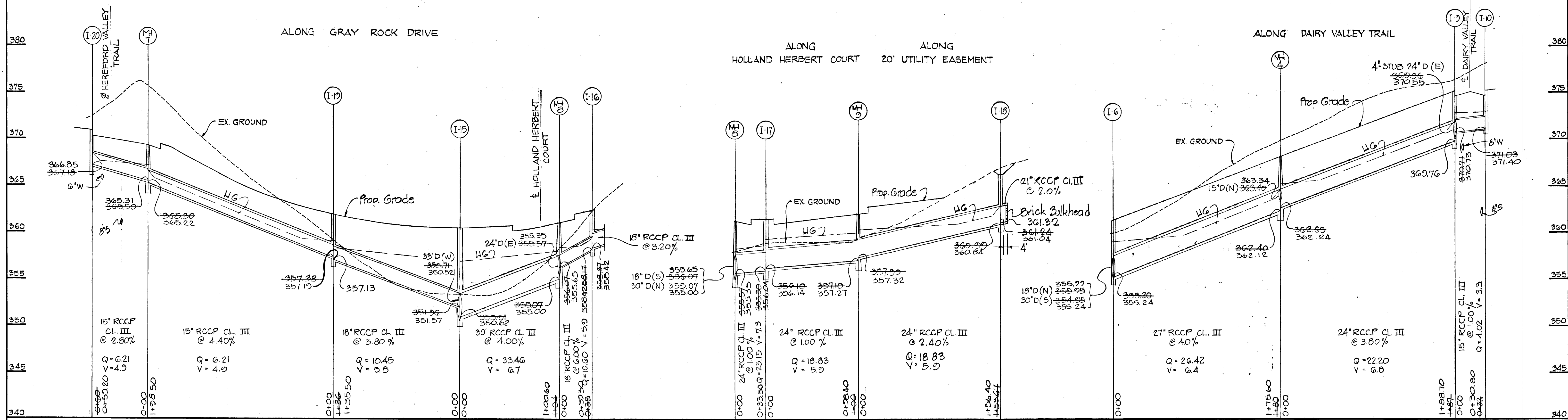
DATE	BY	NO.



ALONG GRAY ROCK DRIVE

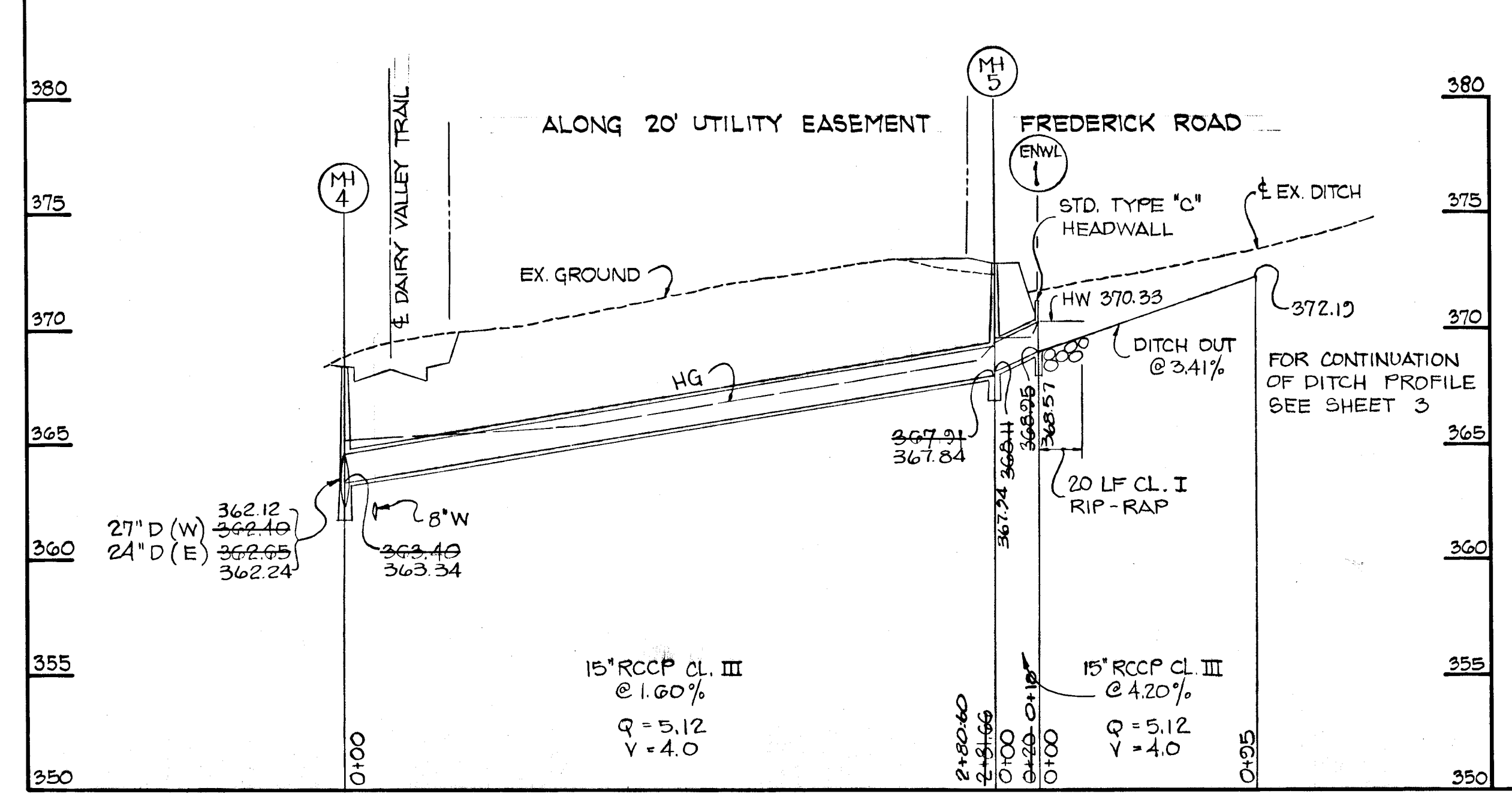
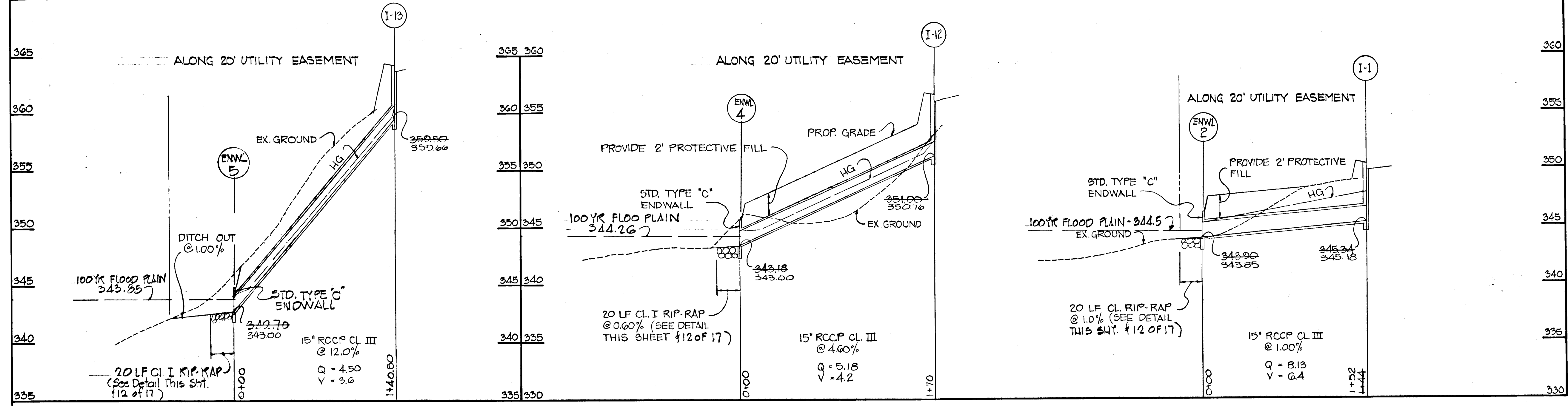
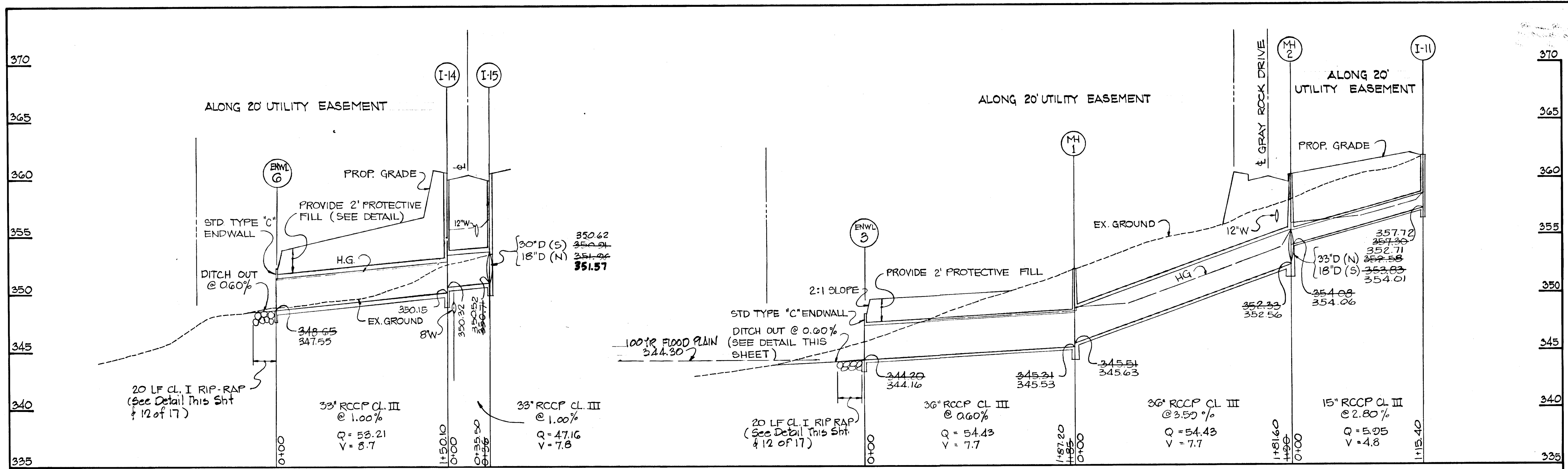


REVDATE	REV. NO.	REVISION DESCRIPTION
2 ND ELECTION DISTRICT HOWARD COUNTY MARYLAND		
OWNER & DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD 21043		
PROJECT AREA : GRAY ROCK FARM SECTION 1		
PROJECT TITLE : STORM DRAIN PROFILES		
SCALE : AS SHOWN		DATE
ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE ROAD TOWSON, MD. 21204		
<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. 6519		



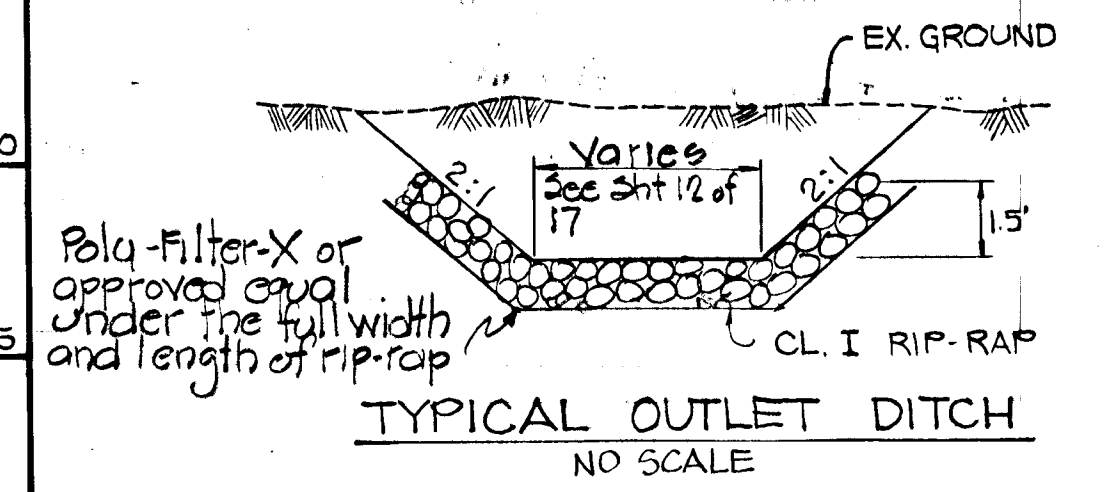
PROFILE
 SCALE : HORZ. 1"=50'
 VERT. 1"=5'

#242



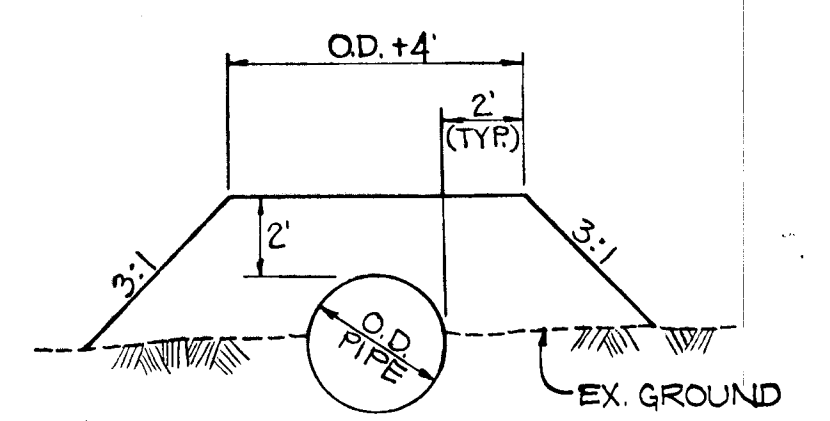
PROFILE
 SCALE: HORIZ 1"=50'
 VERT 1"=5'

REV. DATE	REV. NO.	REVISION	DESCRIPTION
2ND ELECTION DISTRICT HOWARD COUNTY MARYLAND			
OWNER & DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD. 21043			
PROJECT AREA: GRAY ROCK FARM SECTION 1			
PROJECT TITLE: STORM DRAIN PROFILES			
SCALE: AS SHOWN		DATE	
ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE ROAD TOWSON, MD. 21204			
<i>George Lambrose</i> REGISTERED PROFESSIONAL ENGINEER NO. 6518			




THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Approved: *Wes EARP* Date: 4-2-79
 Howard S.C.D.

Reviewed for: *Shirley Markman* S.C.D.
 Name
 and meets Technical Requirements
Carl Ben dett Date: 4/2/79
 Signature
 U.S. Soil Conservation Service



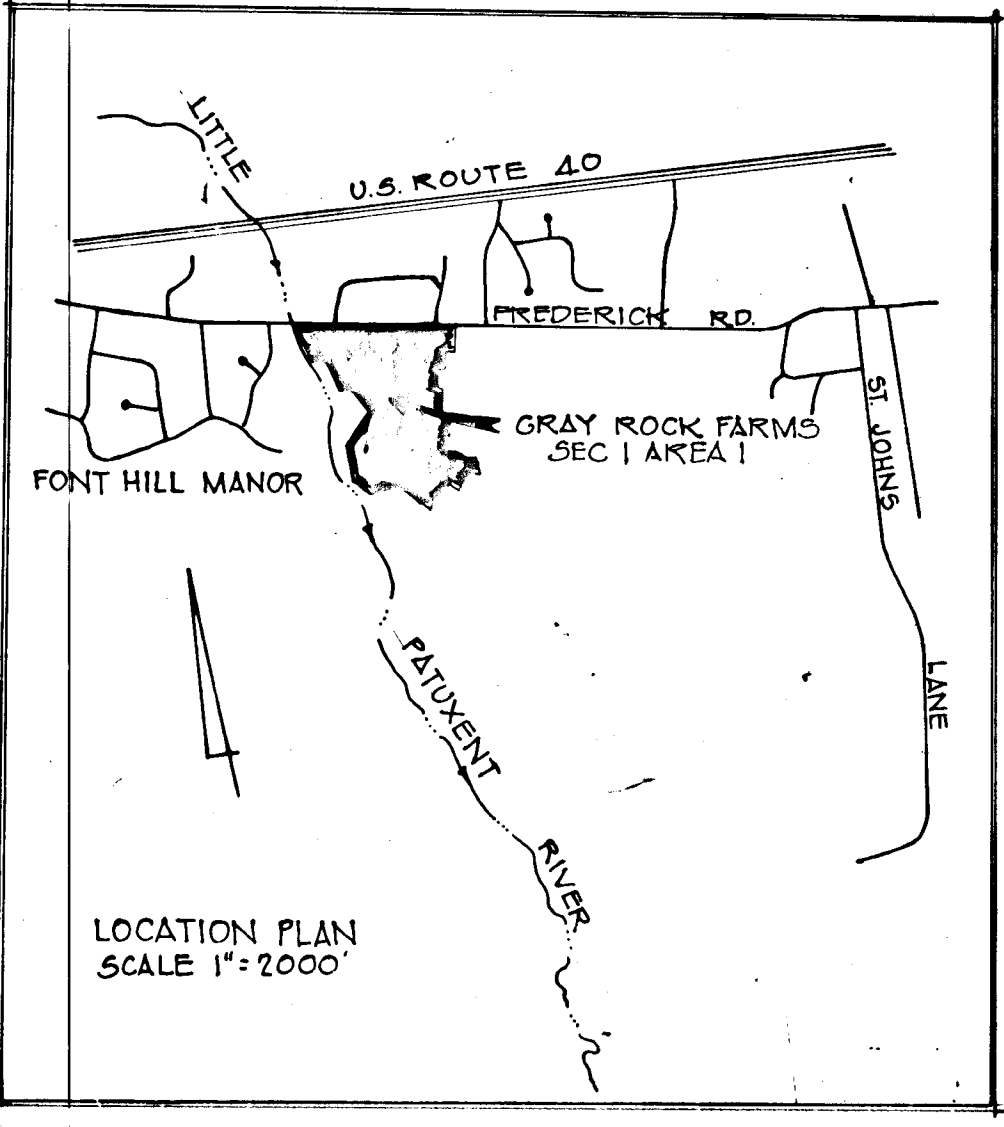
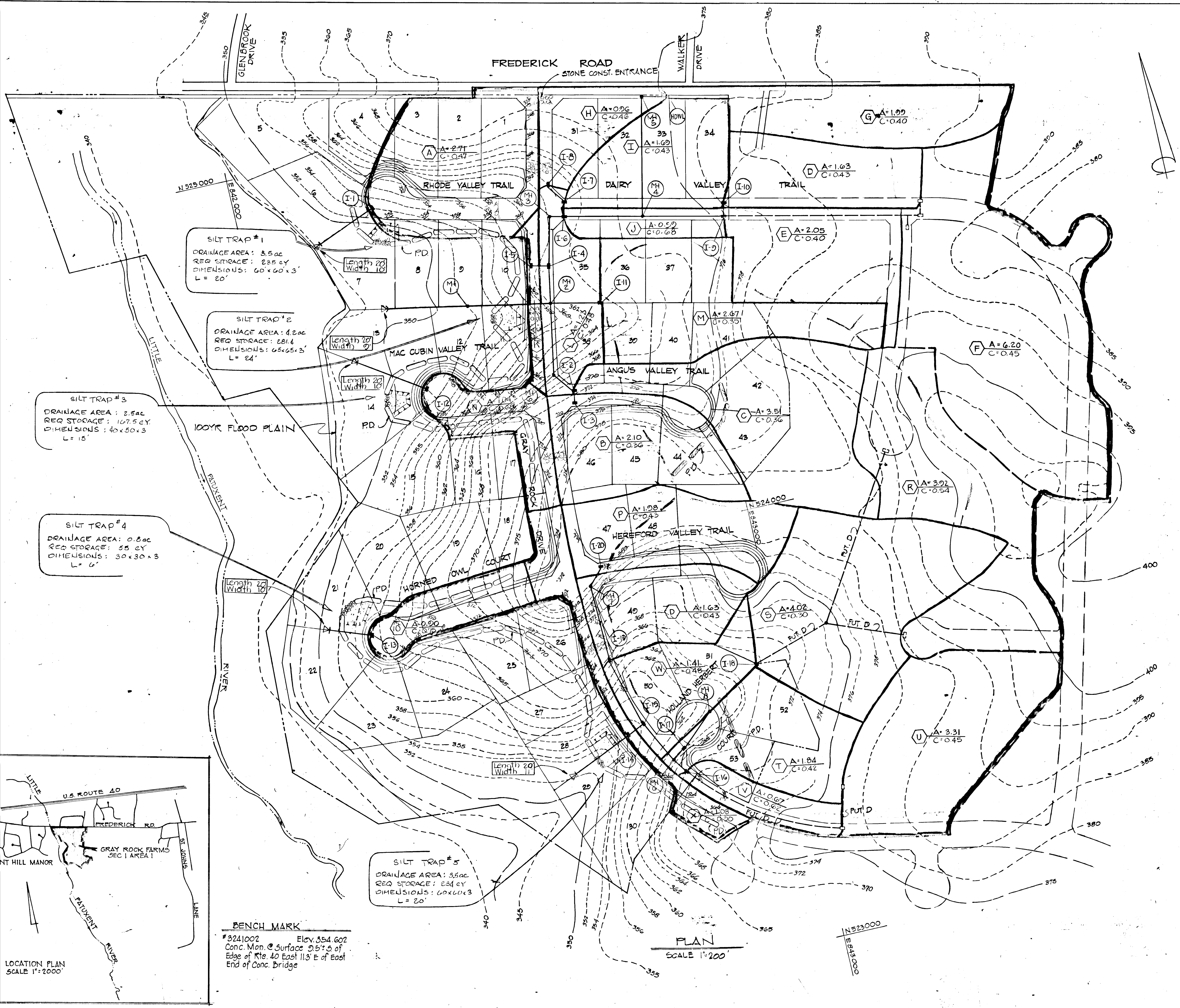
#242

REV. DATE	REV. NO.	REVISION DESCRIPTION
2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER & DEVELOPER THE MILLER LAND COMPANY 2035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD. 21043		
PROJECT AREA GRAY ROCK FARM SEC 1		
PROJECT TITLE SEDIMENT CONTROL		
SCALE: AS SHOWN		DATE
ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD 21204		
<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. 0510		

Reviewed for Howard S.C.D.
 Name
 and meets Technical Requirements
Ch. Bennett Date 4/2/79
 Signature
 U.S. Soil Conservation Service

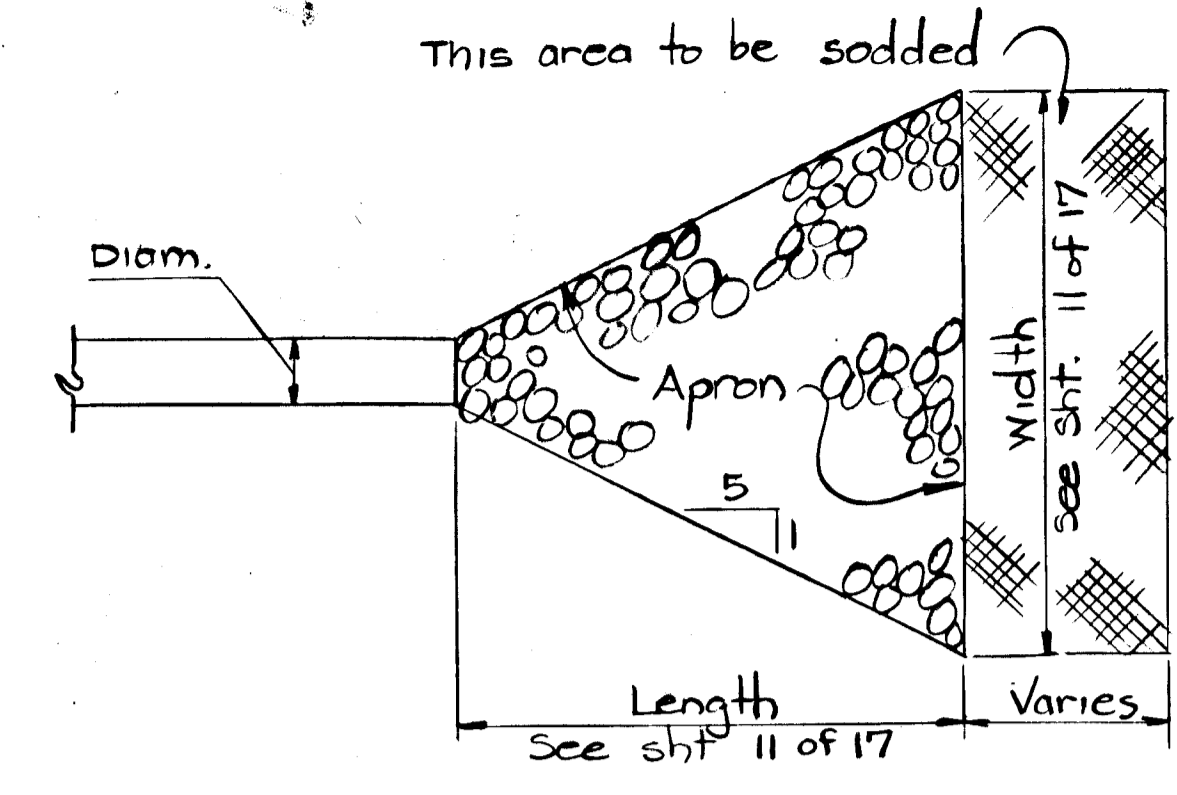
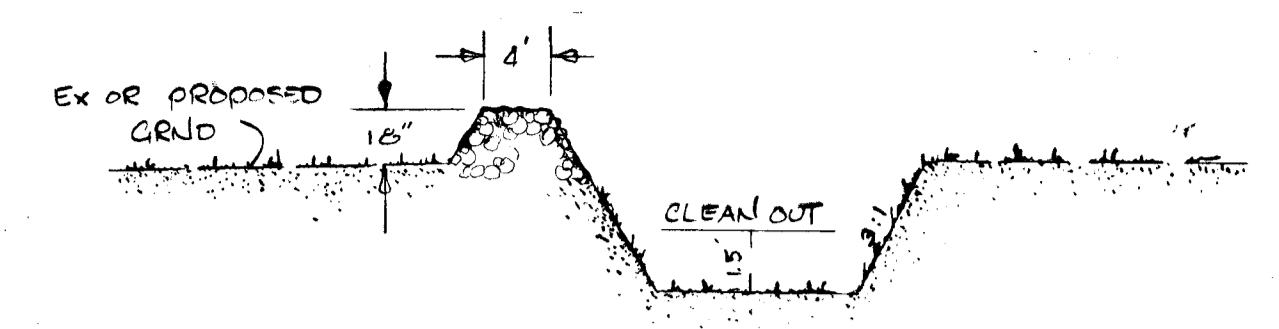
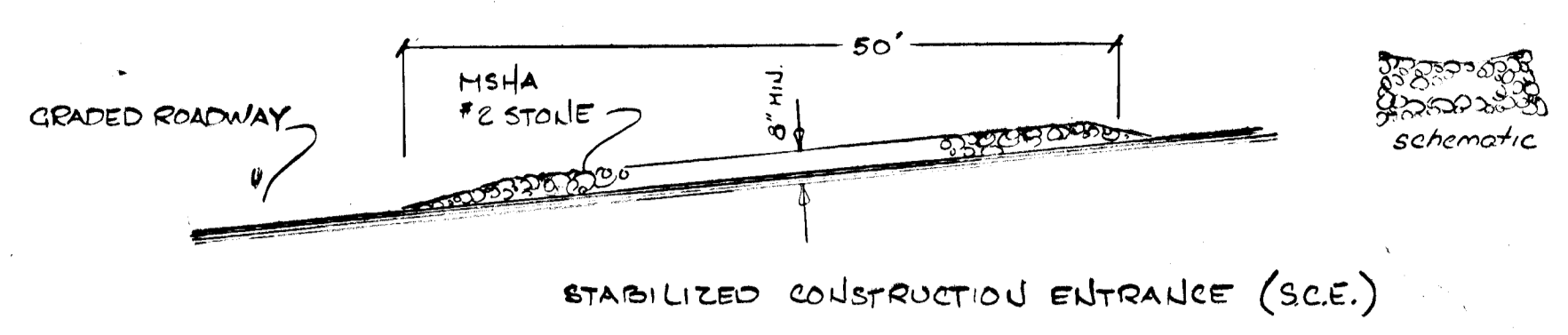
THIS DEVELOPMENT PLAN IS APPROVED
 FOR SOIL EROSION AND SEDIMENT
 CONTROL BY THE HOWARD SOIL
 CONSERVATION DISTRICT.
 Approved Ch. Bennett Date 4-2-79
 Howard S.C.D.

NOTE:
 STORM DRAIN INLETS # 10, 11, 15
 TO REMAIN OPEN TO CARRY RUNOFF
 FROM UNDISTURBED AREAS.
 ALL OTHER INLETS TO BE SEALED (SHEET 12)

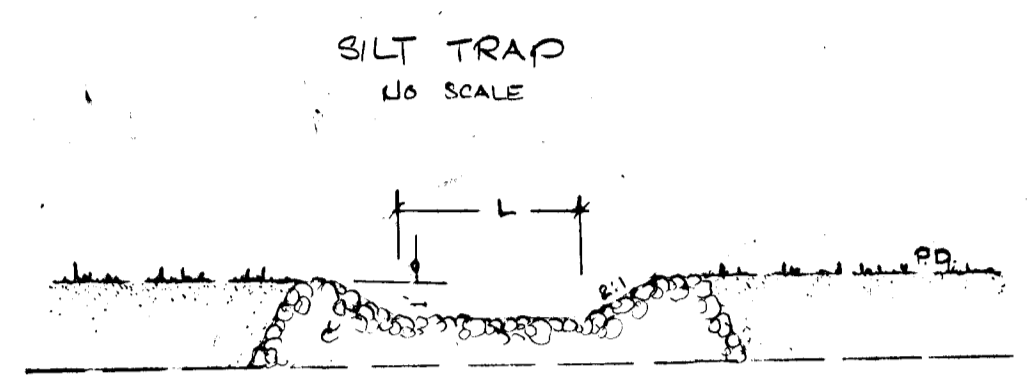
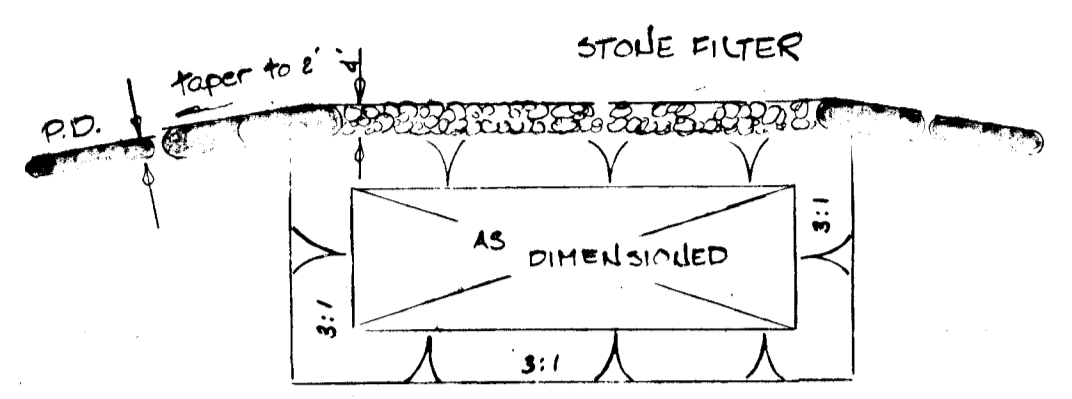
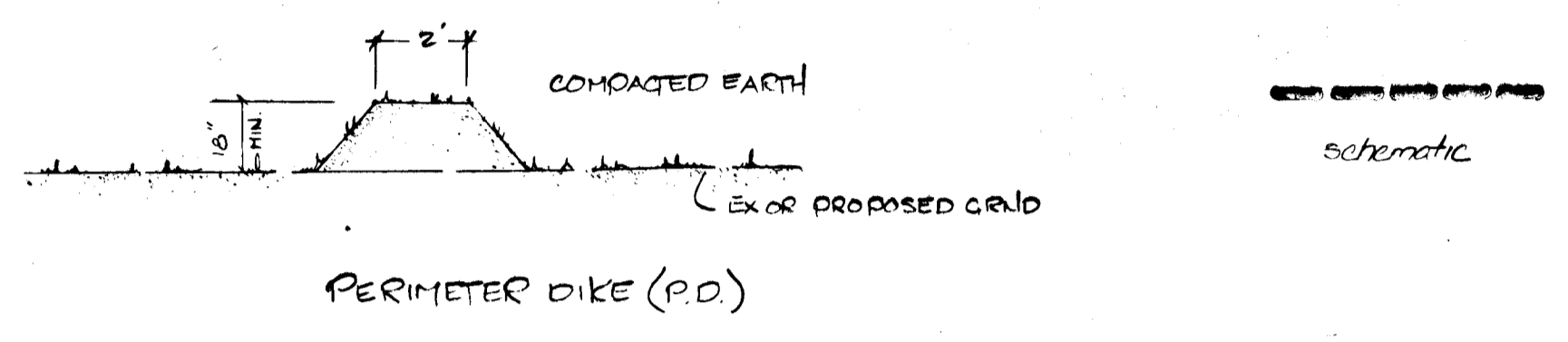


BENCH MARK
 #3241002 Elev. 354.602
 Conc. Mon. @ Surface 9.5' S of
 Edge of Rte. 40 East 11.3' E of East
 End of Conc. Bridge

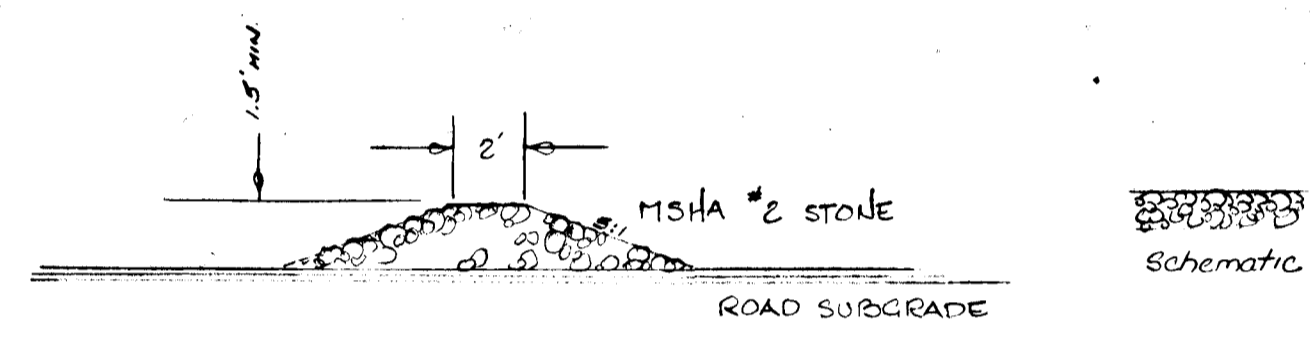
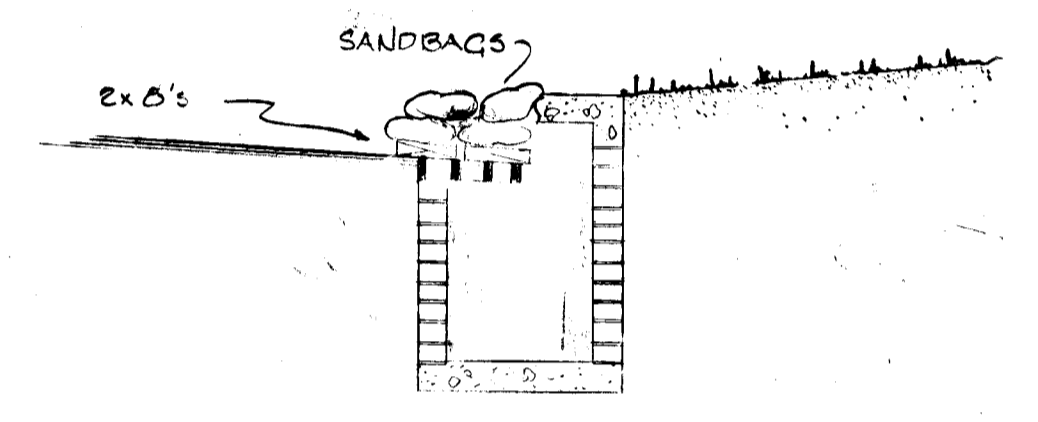
PLAN
 SCALE 1"=200'



OUTLET PROTECTION
 No scale



STONE FILTER



SEDIMENT CONTROL NOTES:

- CONTRACTOR TO NOTIFY HOWARD COUNTY SOIL CONSERVATION DISTRICT & HOWARD COUNTY BUREAU OF LICENSES, INSPECTIONS & PERMITS 24 HRS PRIOR TO STARTING GRADING OPERATIONS.
 - AFTER CLEARING CONTRACTOR TO STRIP TOPSOIL WITHIN THE R/W & ADDITIONAL AREA BEYOND R/W FOR SLOPES & STOCKPILE TOPSOIL IN THE AREA DESIGNATED ON THE PLAN OR OTHER LOCATIONS AS DIRECTED BY FIELD ENGINEER. ALL TOPSOIL STOCKPILED SHALL BE SURROUNDED WITH PERIMETER DIKE WITH STONE FILTERS PLACED EVERY 100' (10' HIGH). ALL STOCKPILES TO BE UNDISTURBED FOR 3 MONTHS OR LONGER SHALL IMMEDIATELY BE FERTILIZED, LIMED & SEEDED WITH ANNUAL RYE GRASS @ 11-15/1000 sq ft.
 - BEFORE GRADING OPERATIONS START CONTRACTOR TO CONSTRUCT STONE FILTER BERMS & STABILIZED CONSTRUCTION ENTRANCE ACROSS ROADWAY IN LOCATIONS SHOWN. AS EACH SECTION IS BROUGHT TO SUBGRADE, THESE STONE FILTER BERMS ARE TO BE LEFT IN PLACE & MAINTAINED UNTIL STORM DRAIN SYSTEM HAS BEEN CONSTRUCTED IN EACH SECTION AFFECTED. STABILIZED CONSTRUCTION ENTRANCE TO REMAIN IN PLACE UNTIL SUBBASE HAS BEEN LAID OUT ROADWAYS.
 - BEFORE GRADING OPERATIONS STARTS CONTRACTOR TO CONSTRUCT PERIMETER DIKES & STONE FILTER TRAPS.
 - AS STORM DRAINS ARE CONSTRUCTED EACH INLET SHALL BE SANDBAGGED & BOARDED CLOSED & POSITIVE DRAINAGE TO NEARBY STONE FILTERS MAINTAINED UNTIL FINAL STABILIZATION, EXCEPT I 10, I 11, I 15 WHICH ARE TO BE ESTABLISHED AS SOON AS POSSIBLE TO CARRY RUNOFF.
 - SHOULDERS & SLOPES SHALL IMMEDIATELY BE SEEDED & MULCHED AS EACH SECTION OR AREA HAS BEEN BROUGHT TO SUBGRADE.
- SEEDING PREPARATION (SEE ABOVE)
 2 TONS LIMESTONE (IF REQUIRED)
 600#/ACRE 10-10-10 WORKED 3" DEPTH
- SEED
 2:1 SLOPES - KENTUCKY 31 TALL FESCUE @ 40#/ACRE AND 15#/AC CROWN VETCH
 SHOULDERS - KENTUCKY 31 TALL FESCUE @ 60#/ACRE
 MULCH - MULCH WITH UNWEATHERED SMALL GRAIN STRAW @ 1.5 TONS/AC
 ASPHALT - ASPHALT TIE DOWN (RC 70, RC 250, RC 800) @ 0.1 GAL/SY
- OTHER SEDIMENT CONTROL MEASURES MAY BE NECESSARY IN ADDITION TO THOSE OUTLINED IF INSPECTOR SO DEEMS.
 - ALL SEDIMENT CONTROL MEASURES TO BE BUILT ACCORDING TO "STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS" ALL SEDIMENT CONTROL STRUCTURES ARE TO BE IMMEDIATELY STABILIZED WITH RYE @ 3.2#/1000 SF, 600#/ACRE 10-10-10 WORKED 3" DEPTH PER ACRE. SEE NOTE G FOR MULCH AND ASPHALT TIE DOWN.
 - A GRADING PERMIT WILL BE REQUIRED PRIOR TO ANY EARTH MOVING.
 - ALL DISTURBED AREAS OTHER THAN SLOPES OR SHOULDERS SHALL BE SEEDED WITH KENTUCKY 31 TALL FESCUE @ 60#/AC. FOR MULCH AND ASPHALT TIE DOWN SEE NOTE #6.

CONSTRUCTION SCHEDULE

- NOTIFY HOWARD COUNTY BUREAU OF UTILITIES, INSPECTIONS & PERMITS 24 HRS IN ADVANCE OF ANY CONSTRUCTION START.
- CLEAR & STRIP TOPSOIL
- CONSTRUCTION OF PERIMETER DIKE & SILT TRAPS
- ROUGH GRADING OF ROADWAYS & CONSTRUCTION OF STONE ROADWAY FILTERS ACROSS ROADWAYS AS ROADS ARE BROUGHT TO SUBGRADE.
- CONSTRUCTION OF UTILITIES
- PLACEMENT OF SUBBASE STONE ON ROADWAYS AS UTILITIES ARE CONSTRUCTED.
- STABILIZE DISTURBED AREAS AS SAID AREAS ARE BROUGHT TO GRADE
- REMOVAL OF SILT TRAPS AFTER ALL CONTRIBUTING AREAS ARE STABILIZED & INLETS ARE OPERABLE, & WITH PERMISSION OF HOWARD COUNTY.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

Wendell Bennett 4-2-79
 U.S. SOIL CONSERVATION SERVICE date

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

Hester 4-2-79
 APPROVED HOWARD S.C.D. date

ENGINEER'S CERTIFICATION

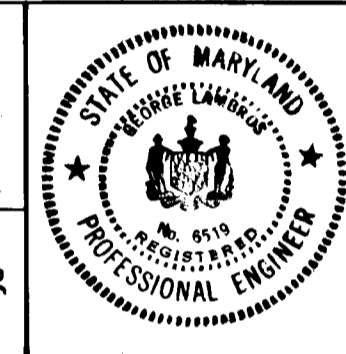
I CERTIFY THAT THIS PLAN FOR EROSION & SEDIMENT CONTROL REPRESENTS A PRACTICAL & WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD CO SOIL CONSERVATION DISTRICT.

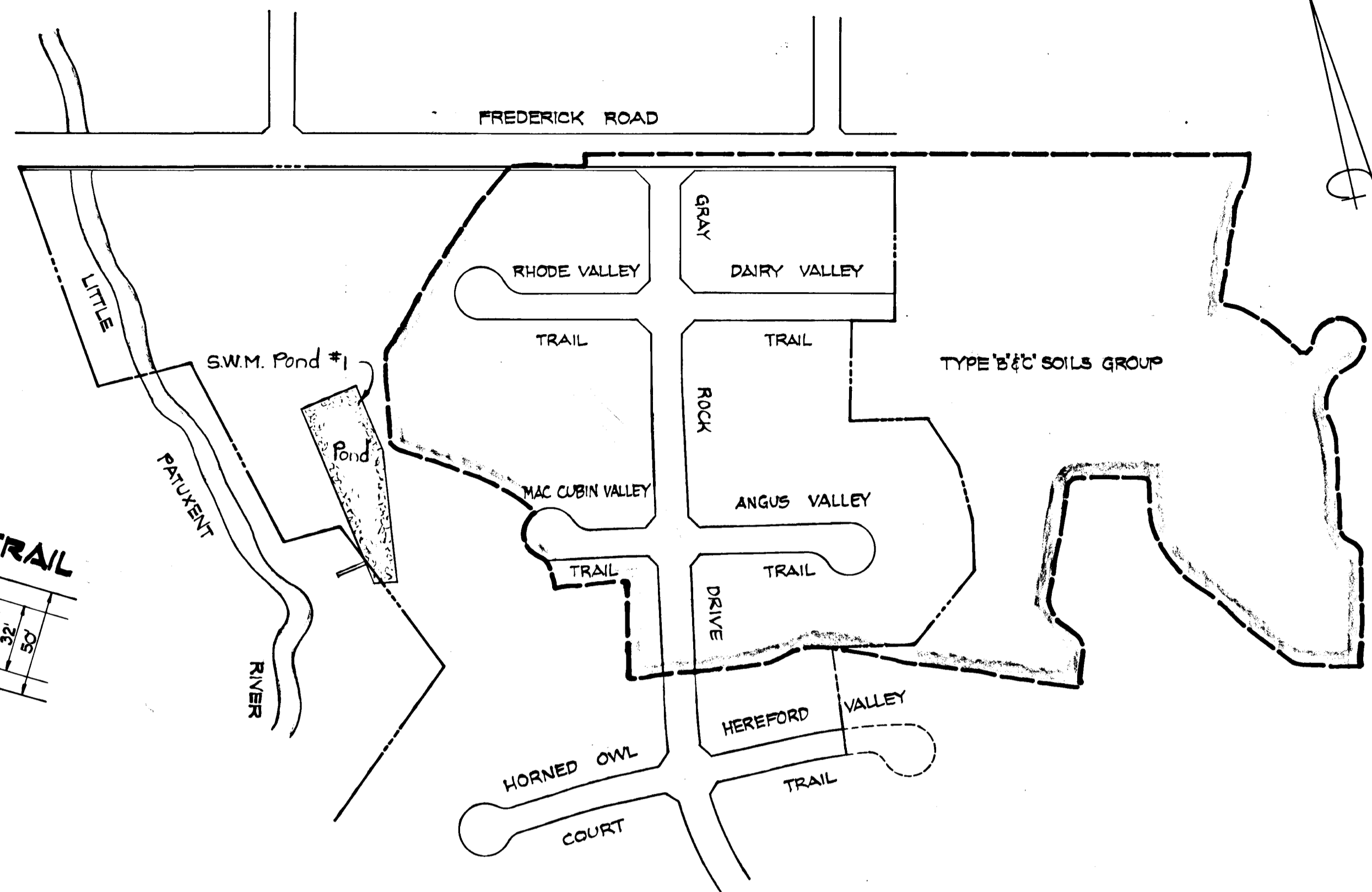
George Sander 9-22-78
 DATE

DEVELOPER'S CERTIFICATION

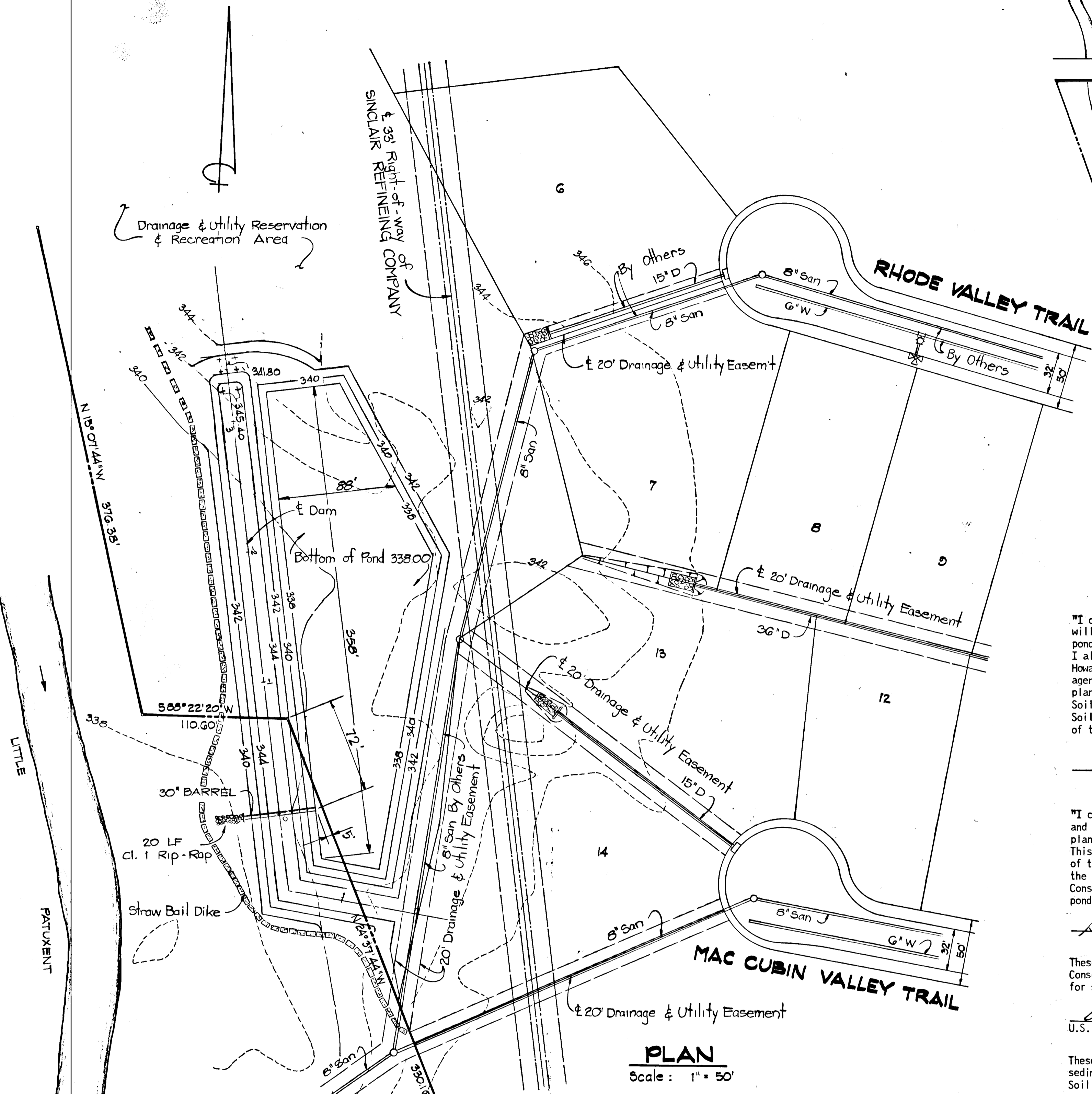
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT & PLAN FOR EROSION & SEDIMENT CONTROL & I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD CO SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD CO SOIL CONSERVATION DISTRICT.

Charles E. Miller, Pres. Sept 25, 1978
 DATE
 MILLER LAND CO.
 2025 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND
 21043

REV. DATE	REV. NO.	REVISION DESCRIPTION
2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD. 21043		
PROJECT AREA: GRAY ROCK FARM SECTION 1		
PROJECT TITLE STORM WATER MANAGEMENT PLAN - POND #1		
SCALE AS SHOWN	DATE	
ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204		
<u>George Lambros</u> REGISTERED PROFESSIONAL ENGINEER NO. 6519		



DRAINAGE AREA MAP
Scale: 1" = 200'



PLAN
Scale: 1" = 50'

STRUCTURE CLASSIFICATION

Structure class : _____ a
 Storage x height product : _____ 12.56 Ac.ft²
 Watershed Area : _____ 32.41
 Normal Surface Area : _____ None
 Structure Location : _____ Urban
 Embankment height : _____ 6'

HYDROLOGIC CRITERIA

Eng. Memo Md. - 2 table 1
 Principal Spillway Routing _____ 2 year
 Spillway Routing _____ 50 year
 Freeboard _____ 2.0'

OWNERS CERTIFICATION

"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."

Charles E. Miller, Sr. 2/8/79
Date

PLAN CERTIFICATION

"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."

George Lambros 1/14/79
P.E. 6519 Date

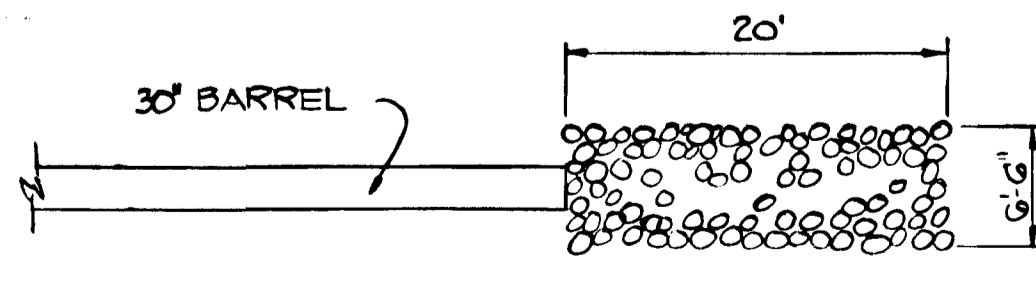
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Wanted Benditt 3/30/79
U.S. Soil Conservation Service Date

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

Approved Robert W. Zickler 4-5-79
Howard S.C.D. Date

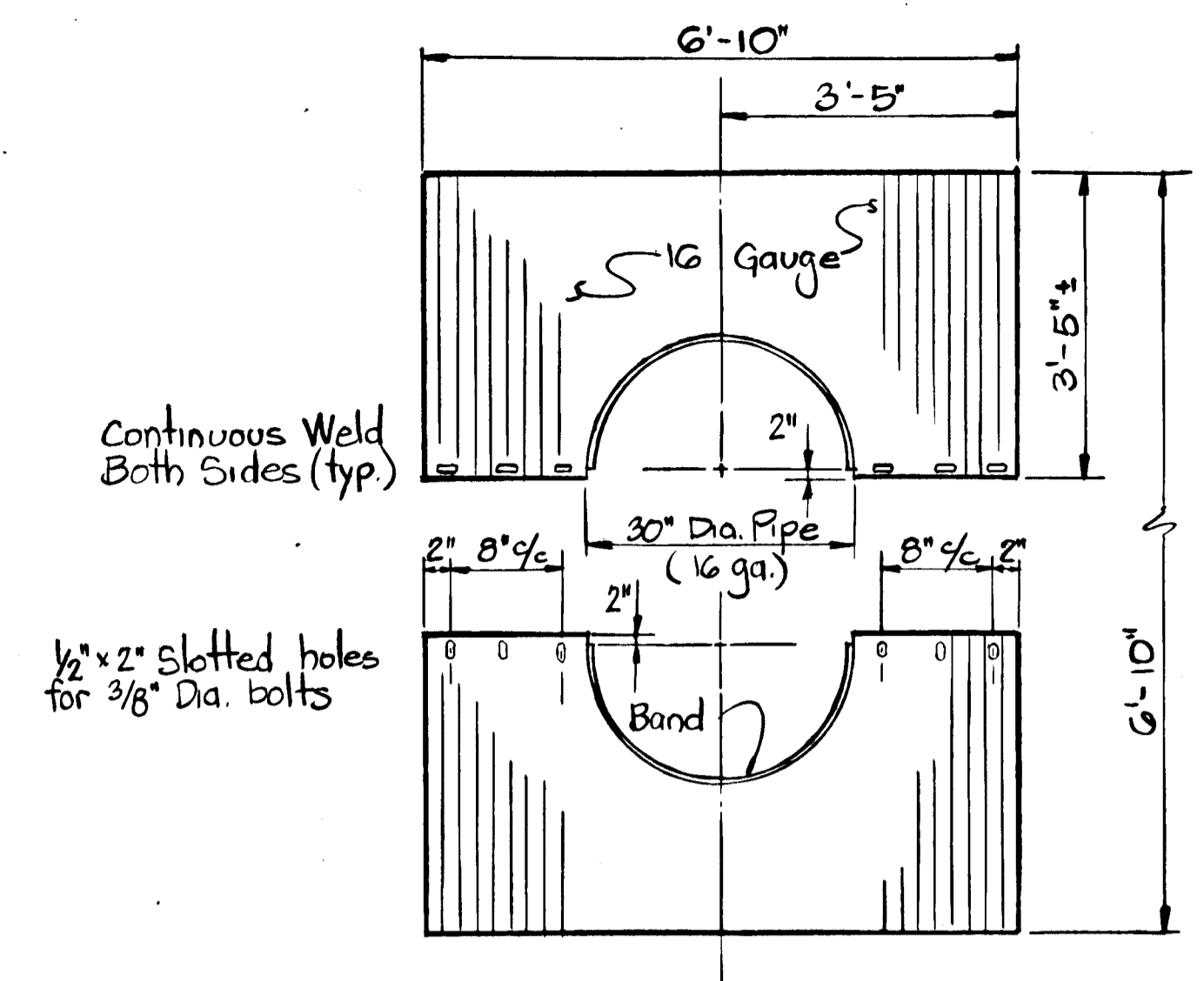
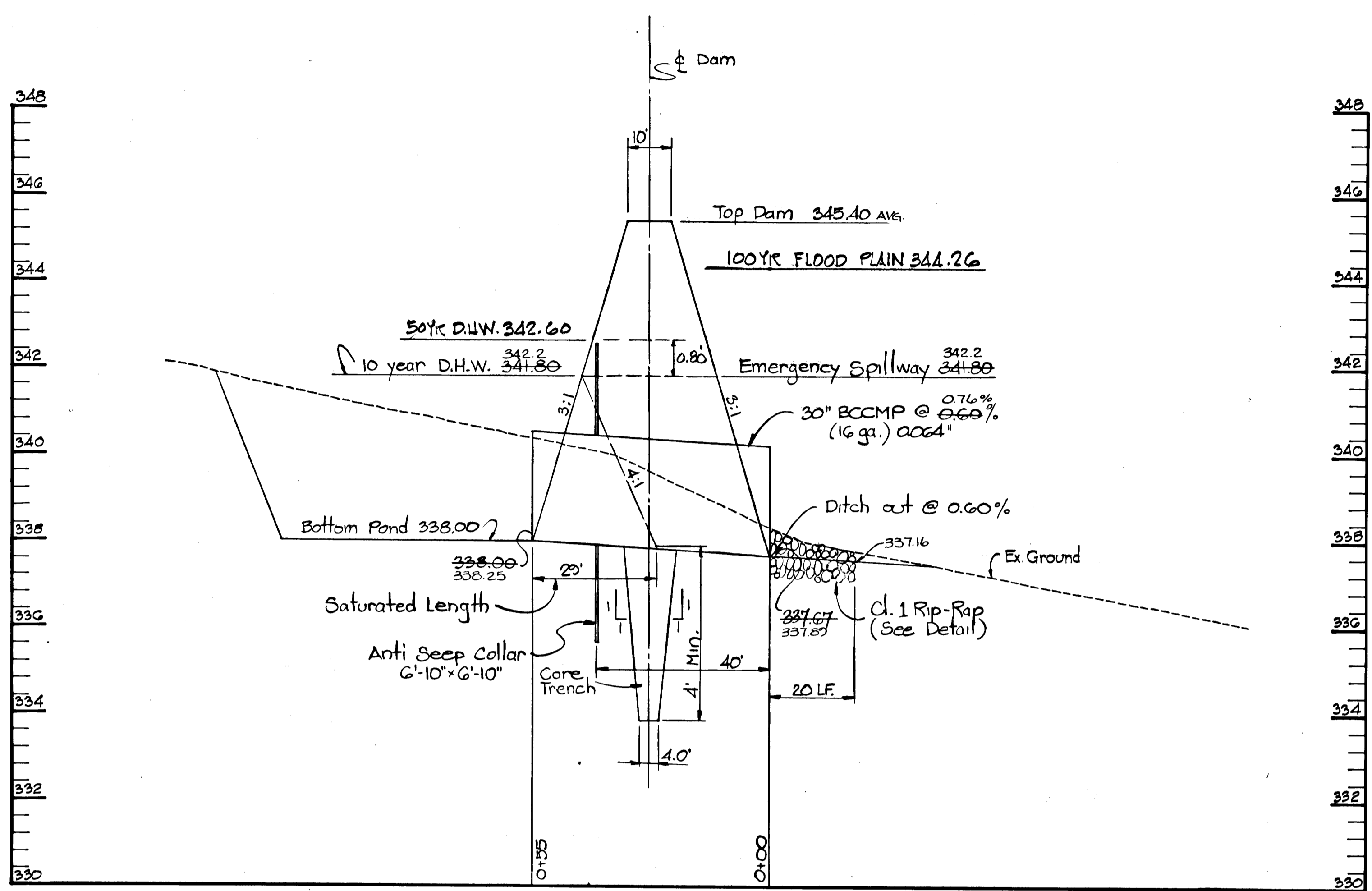
Plan Number _____



RIP-RAP OUTLET DETAIL
No Scale

CONSTRUCTION SPECIFICATION

- The backfill material for the cutoff trench and upstream side of the dam shall be the most impervious material available. The movement of the hauling and spreading equipment over the fill shall be controlled so that entire surface of each 8" maximum thickness layer shall be compacted to not less than 95% of the maximum density. See A.S.T.M. Spec's - G28.
- The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or other unstable soil is encountered under the pipe, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Concrete shall have a minimum of 6 bags of cement per cubic yard and water content not to exceed 6 gal. per bag of cement. Slump shall range 3"-4". All concrete shall be transit mix and internally vibrated during placement.
- Connection bands to be one of the following:
 - Standard band utilizing 3/8"x7" rubber gasket.
 - Hugger band, w/2" O rings.
 - Flanges continuously welded and bolted together.
 - Flange band w/gasket.
- All exposed surfaces of the embankment, 3:1 or flatter (shall be stabilized) by:
 - Spreading 4" of topsoil.
 - Working in 1 ton of ground lime and 1000 lbs. of 10-10-10 fertilizer per acre.
 - Seeding with mixture of 60 lbs. "Kentucky" 31" tall Fescue and 20 lbs. Korean Lespedeza per acre.
 - Mulching with 1/2 tons straw per acre, asphalt tiedown with liquid RC 70, RC 250 or RC 300 @ 0.1 gal per sq. yard.
- Riser assembly to be shop fabricated. Continuously weld base plate, drain stub, and barrel stub and coat with asphalt after welding.
- The pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Spec. M-190 type "A" with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. All connections with pipes must be completely watertight. The drain pipe or barrel connections to the riser shall be welded all around. Watertight coupling bands shall be used at all joints.
- The movement of hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment, or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.
- The contractor shall be responsible for ditches in the lake borrow area to provide drainage for fill material.
- Area under the embankment shall be cleared and grubbed to remove all trees, vegetation, roots or other objectionable material and top soil stripped and stockpiled.

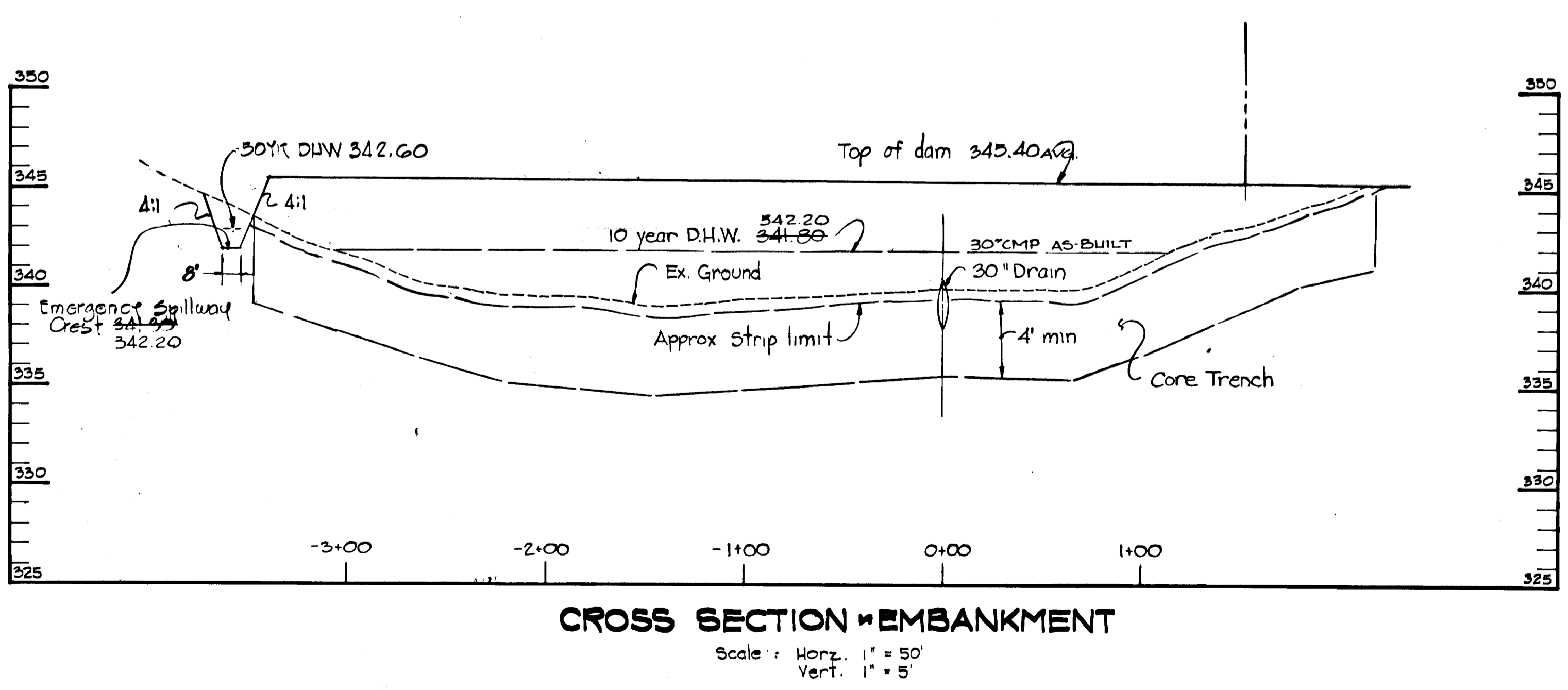


REV. DATE	REV. NO.	REVISION DESCRIPTION
		2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MD 21043
		PROJECT AREA: GRAY ROCK FARM SECTION 1
		PROJECT TITLE STORM WATER MANAGEMENT PROFILES - POND # 1
		SCALE AS SHOWN DATE
		ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204
		<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. 6510

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

Approved: *L. Zichow* Date 4-5-79
 Howard S.C.D.

Reviewed for: <i>Howard</i>	S.C.D.
Name	
and meets Technical Requirements	
Signature	Date 4/5/79
U.S. Soil Conservation Service	



STORM WATER MANAGEMENT CRITERIA

Peak flows resulting from a two year frequency storm prior to development will not be exceeded during recurring two-year frequency storms after development.

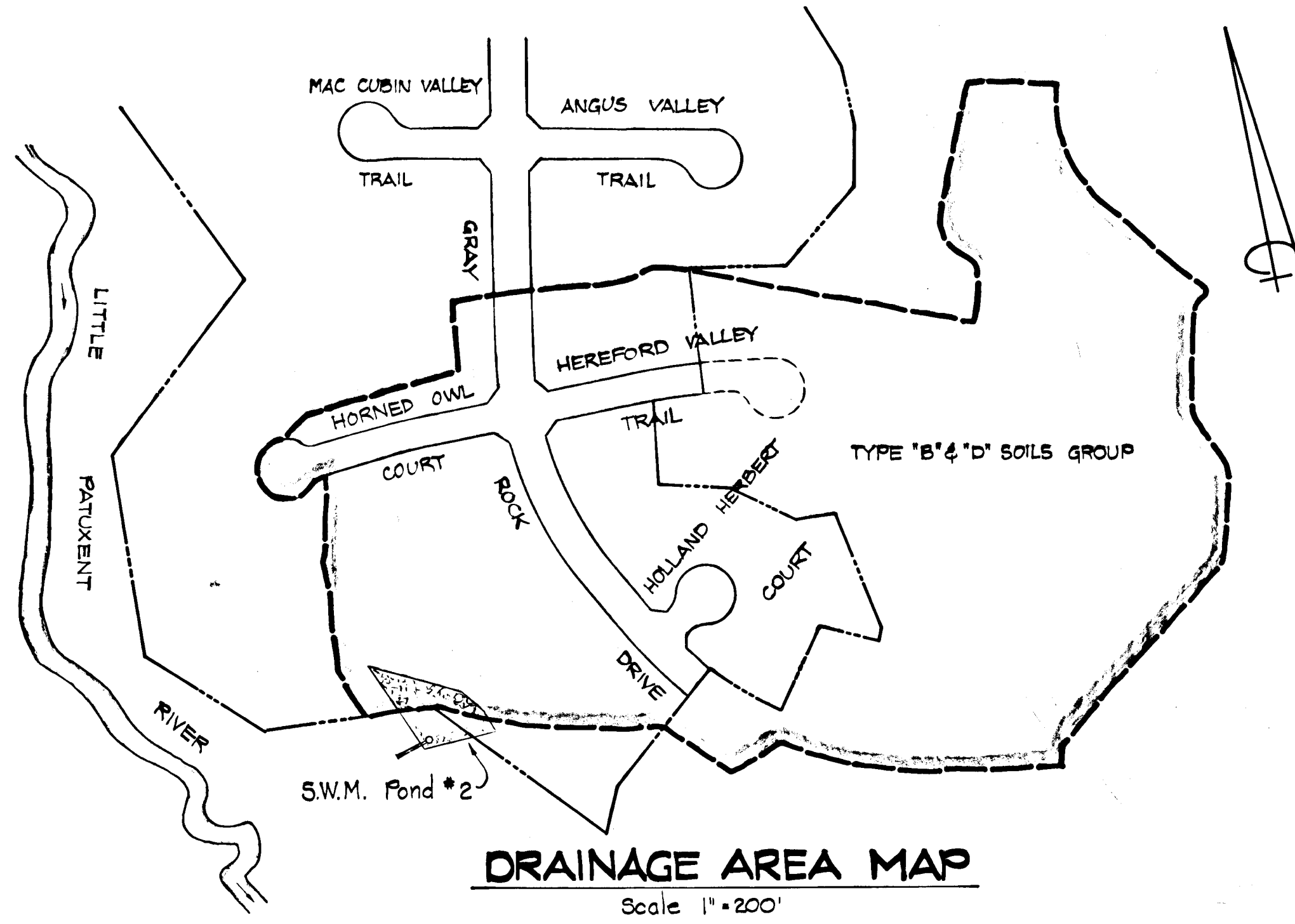
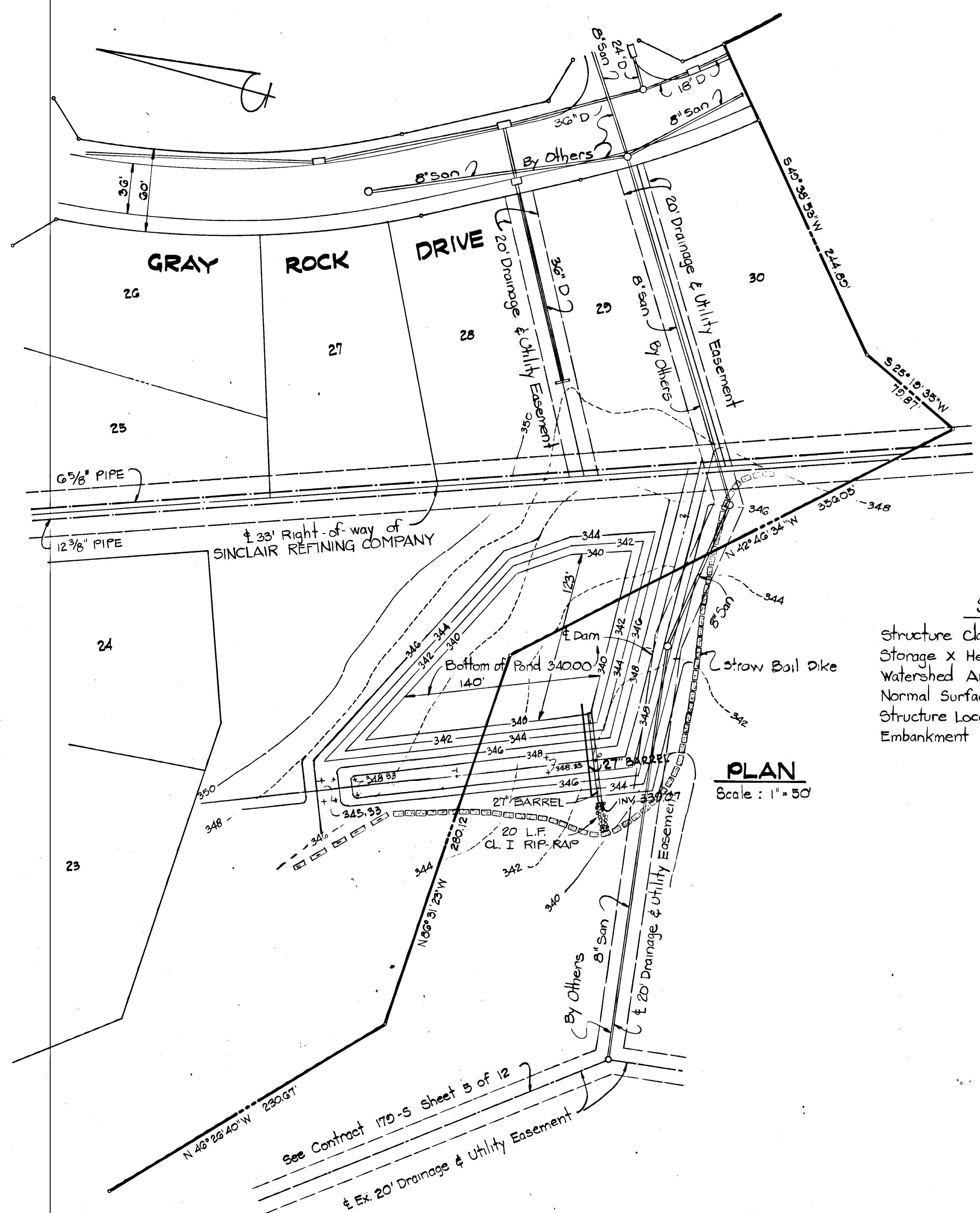
SMALL POND CRITERIA

Principal spillway will be designed to contain 10yr. storm below the crest of the emergency spillway.
 The emergency spillway is designed to pass a 50 yr. storm.

#242

REV. DATE	REV. NO.	REVISION DESCRIPTION
2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MD. 21043		
PROJECT AREA: GRAY ROCK FARM SECTION 1		
PROJECT TITLE STORM WATER MANAGEMENT PLAN - POND #2		
SCALE AS SHOWN		DATE
		ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204

George Lambros
 REGISTERED PROFESSIONAL ENGINEER
 NO. 6519



STRUCTURE CLASSIFICATION

Structure Class : _____ a
 Storage x Height Product : _____ 3.29 Ac. Ft.²
 Watershed Area : _____ 25.23 Acres
 Normal Surface Area : _____ None
 Structure Location : _____ Urban
 Embankment height : _____ 7'

HYDROLOGIC CRITERIA

Eng. Memo Md. - 2 Table 1
 Principle Spillway Routing _____ 2 year
 Spillway Routing _____ 50 year
 Freeboard _____ 2.0 ft.

OWNERS CERTIFICATION

"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."

Charles E. Miller, Sr. 2/8/79
 Date

PLAN CERTIFICATION

"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."

George Lambros 1/4/79
 PE 6519 Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
Walter Bond III 4/2/79
 U.S. Soil Conservation Service Date

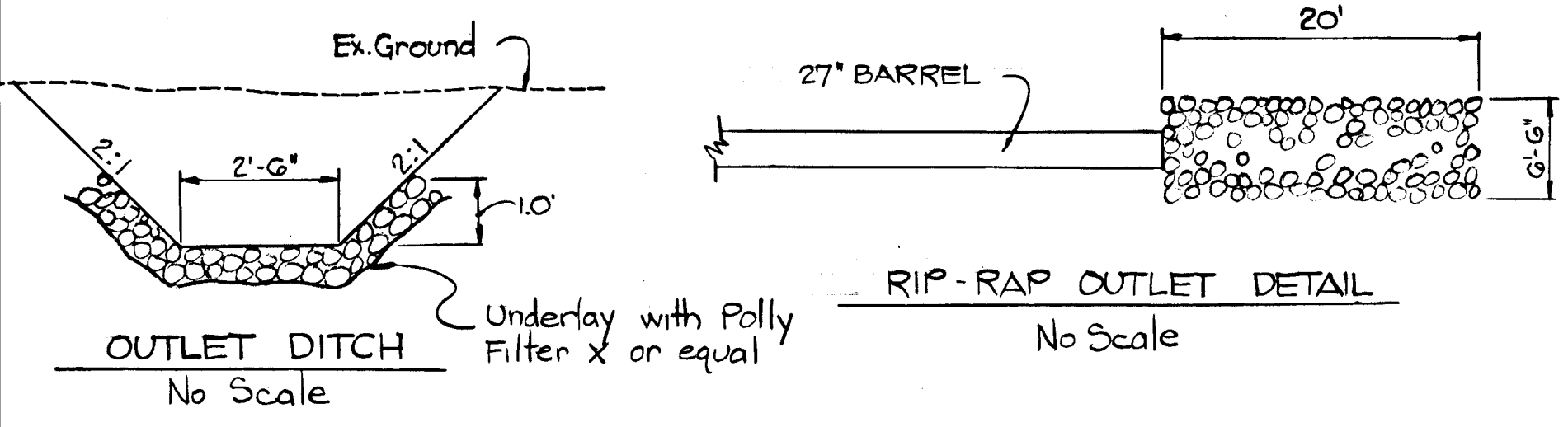
These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved *Robert Zibner* 4-5-79
 Howard S.C.D. Date

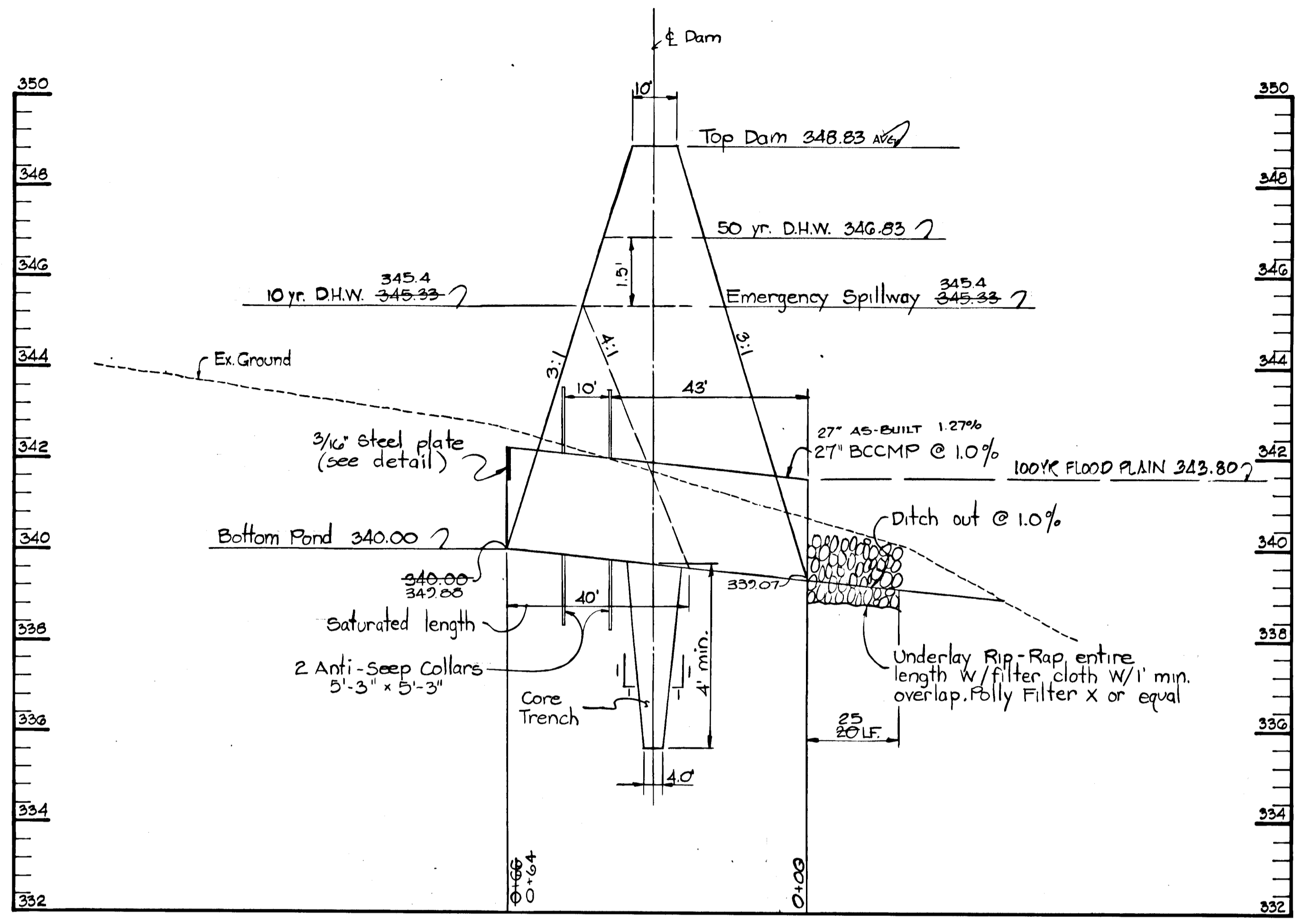
Plan Number _____

CONSTRUCTION SPECIFICATIONS

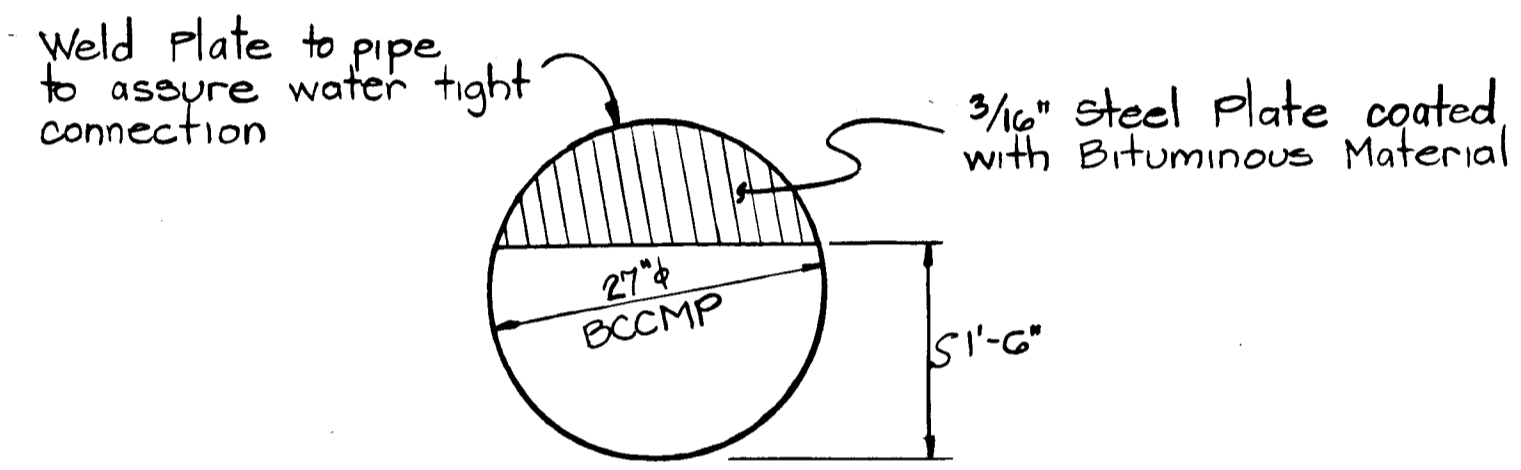
- The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or other unstable soil is encountered under the pipe, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Concrete shall have a minimum of 6 bags of cement per cubic yard and water content not to exceed 6 gal. per bag of cement. Slump shall be 3"-4". All concrete shall be transit mix and internally vibrated during placement.
- Connection bands to be one of the following:
 - Standard band utilizing 3/8" x 7" rubber gasket.
 - Hugger band w/ 2 "O" rings
 - Flanges continuously welded and bolted together.
 - Flange band w/ gasket
- All exposed surfaces of the embankment, 3:1 or flatter (shall be stabilized) by:
 - Spreading 4" of topsoil
 - Working in 1 ton of ground lime and 1,000 lbs. of 10-10-10 fertilizer per acre.
 - Seeding with mixture of 60 lbs. "Kentucky" 31" tall Fescue and 20 lbs. Korean lespedeza per acre
 - Mulching with 1/2 tons straw per acre, asphalt tiedown w/ liquid RC 70, RC 250 or RC 800 @ .01 gal. per sq. yard.
- Riser assembly to be shop fabricated. Continuously weld base plate, drain stub, and barrel stub and coat with asphalt after welding. (Not Applicable) N/A
- The pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO spec. M-100 type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced cold applied bituminous coating compound. All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around. Watertight coupling bands shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight.
- The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment, or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tire or vibratory roller fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.
- The contractor shall be responsible for ditches in the lake borrow area to provide drainage for fill material.
- Area under the embankment shall be cleared and grubbed to remove all trees, vegetation, roots or other objectionable material and top soil, stripped and stockpiled.
- The backfill material for the cutoff trench and upstream side of the dam shall be the most impervious material available. The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each 8" maximum thickness layer shall be compacted is not less than 95% of the maximum density. See A.S.T.M. Spec's - G28.



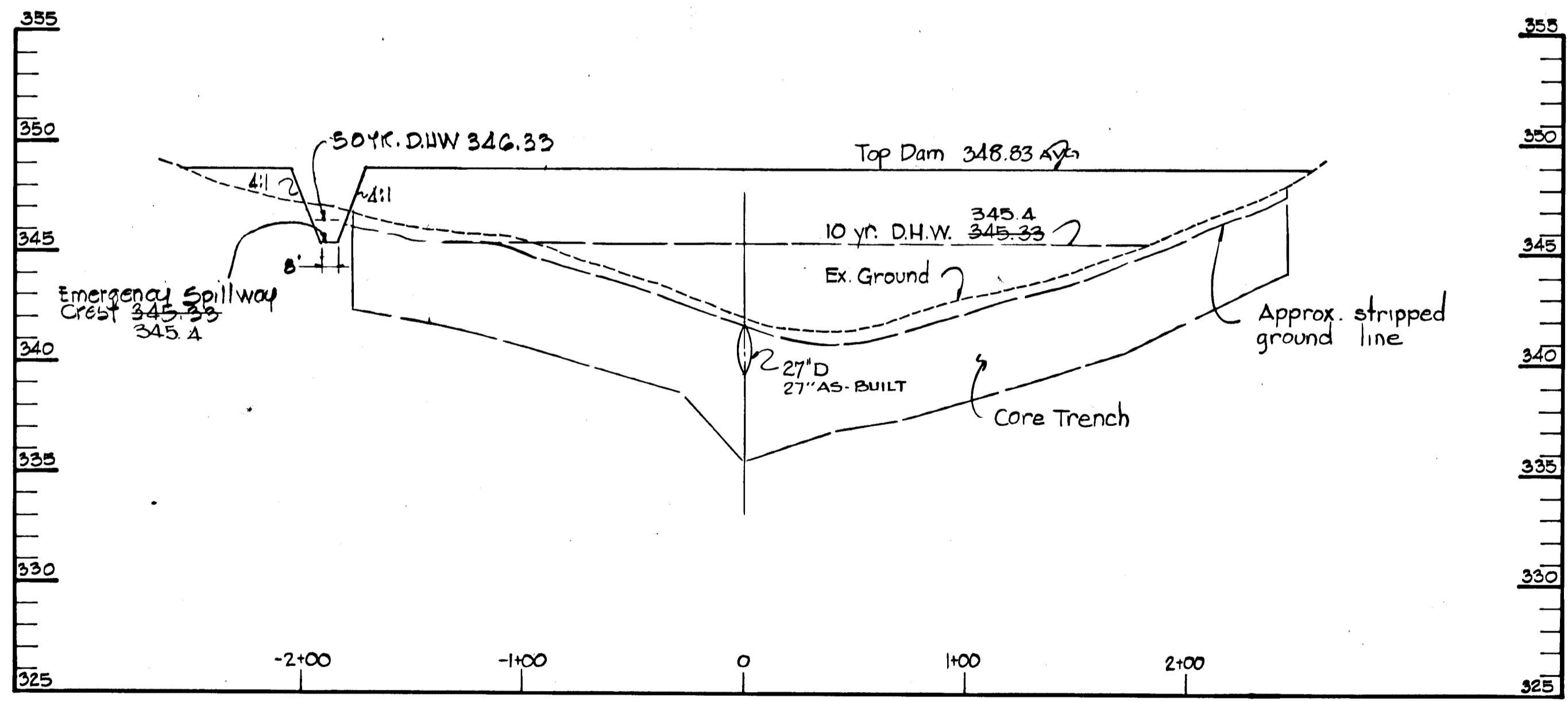
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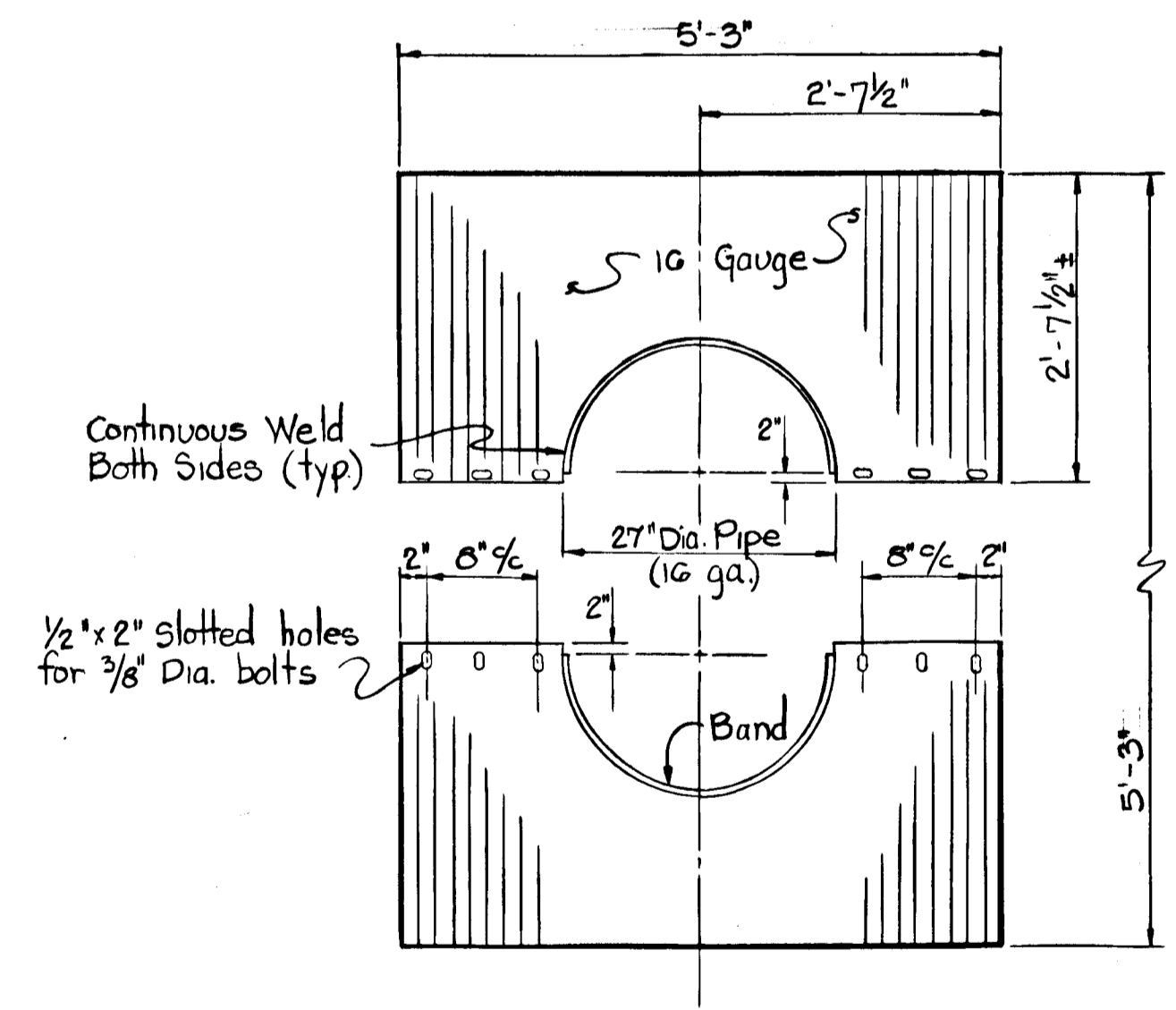
PIPE PROFILE
 Scale: Horz. 1"=20'
 Vert. 1"=2'



ORIFICE DETAIL
 No Scale



CROSS SECTION - EMBANKMENT
 Scale: Horz. 1"=50'
 Vert. 1"=5'



DETAIL OF ANTI-SEEP COLLAR
 (Unassembled - No Scale)

REV. DATE	REV. NO.	REVISION DESCRIPTION
		2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD. 21043
		PROJECT AREA: GRAY ROCK FARM SECTION 1
		PROJECT TITLE STORM WATER MANAGEMENT PROFILES - POND #2
		SCALE AS SHOWN DATE
		ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204
		<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. G519

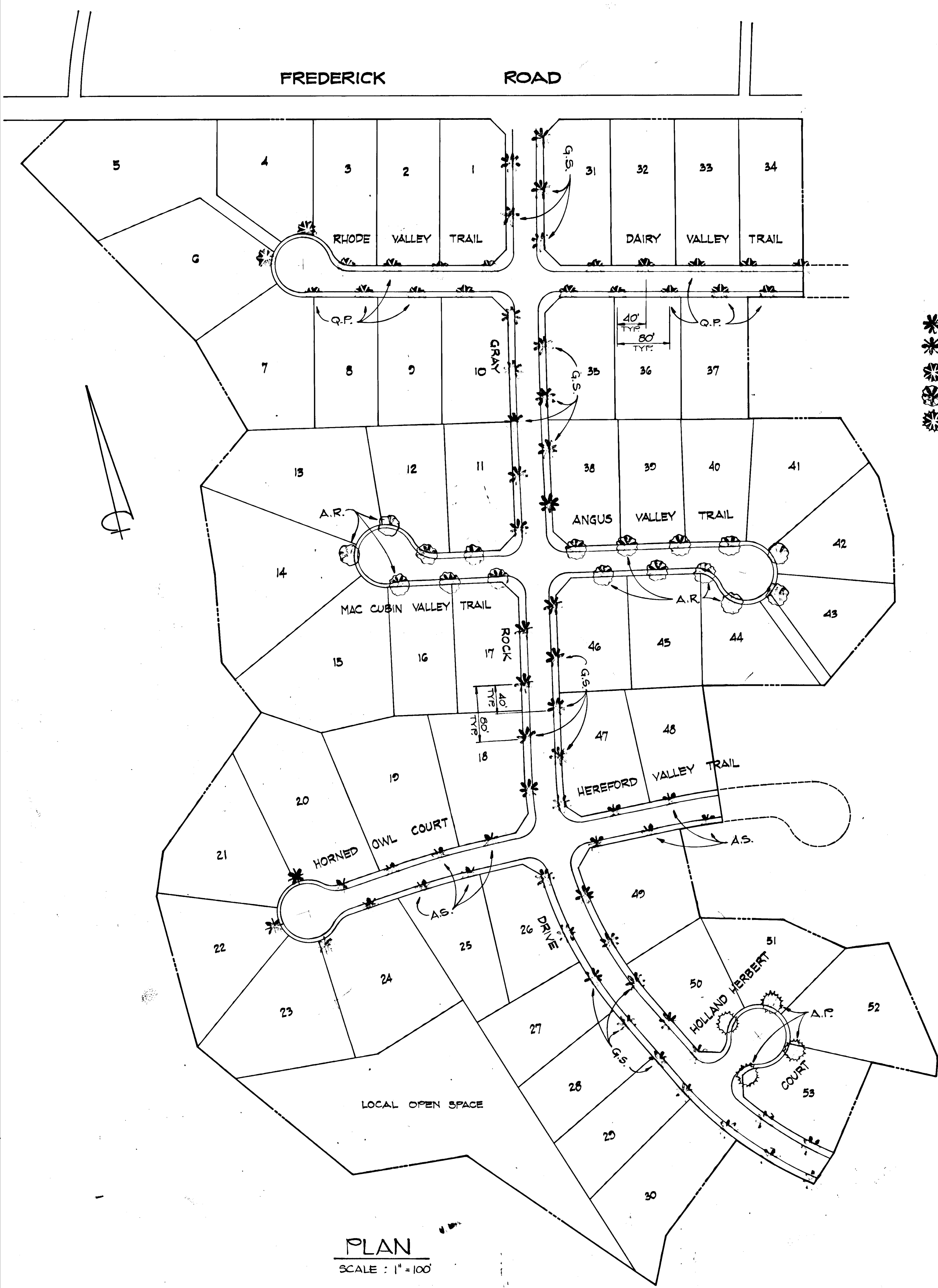
Reviewed for
 Revised for *H. ...* 3-8-79
 Name
 and meets Technical Requirements
... Date 4/1/79
 Signature
 U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED
 FOR SOIL EROSION AND SEDIMENT
 CONTROL BY THE HOWARD SOIL
 CONSERVATION DISTRICT.
 Approved *Richard W. ...* 4-5-79
 Howard B. D. D.

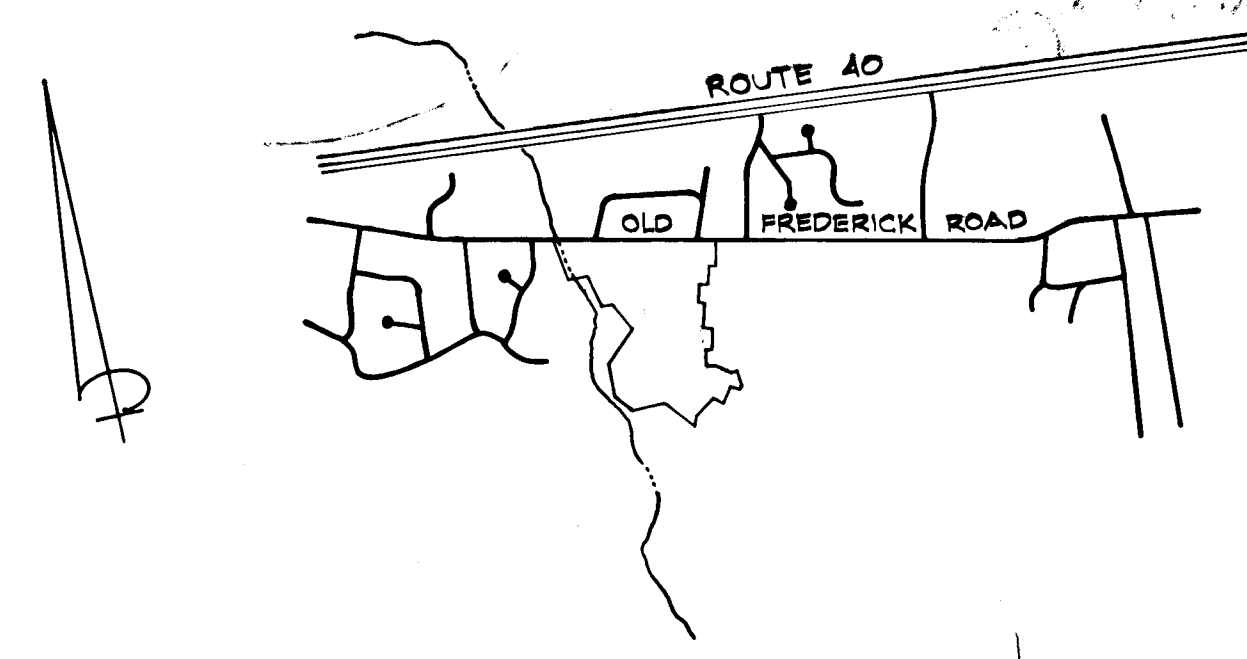
STORM WATER MANAGEMENT CRITERIA
 Peak flows resulting from a two year frequency storm prior to development, will not be exceeded during reoccurring two-year frequency storms after development.

SMALL POND CRITERIA
 Principal spillway will be designed to contain 10yr. storm below the crest of the emergency spillway.
 The emergency spillway is designed to pass a 50 yr. storm.

#12/2



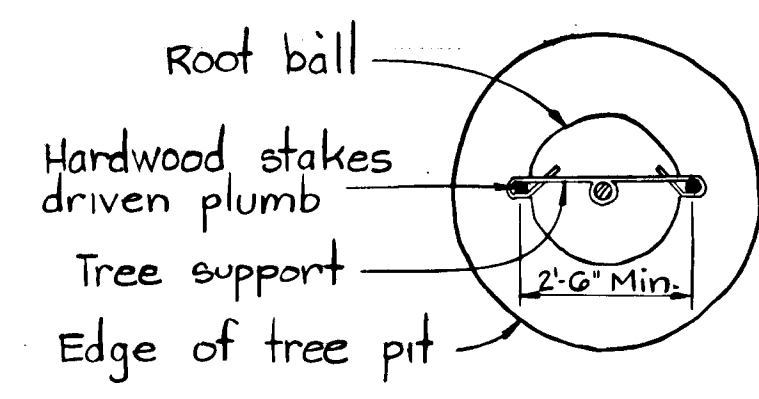
PLAN
 SCALE: 1" = 100'



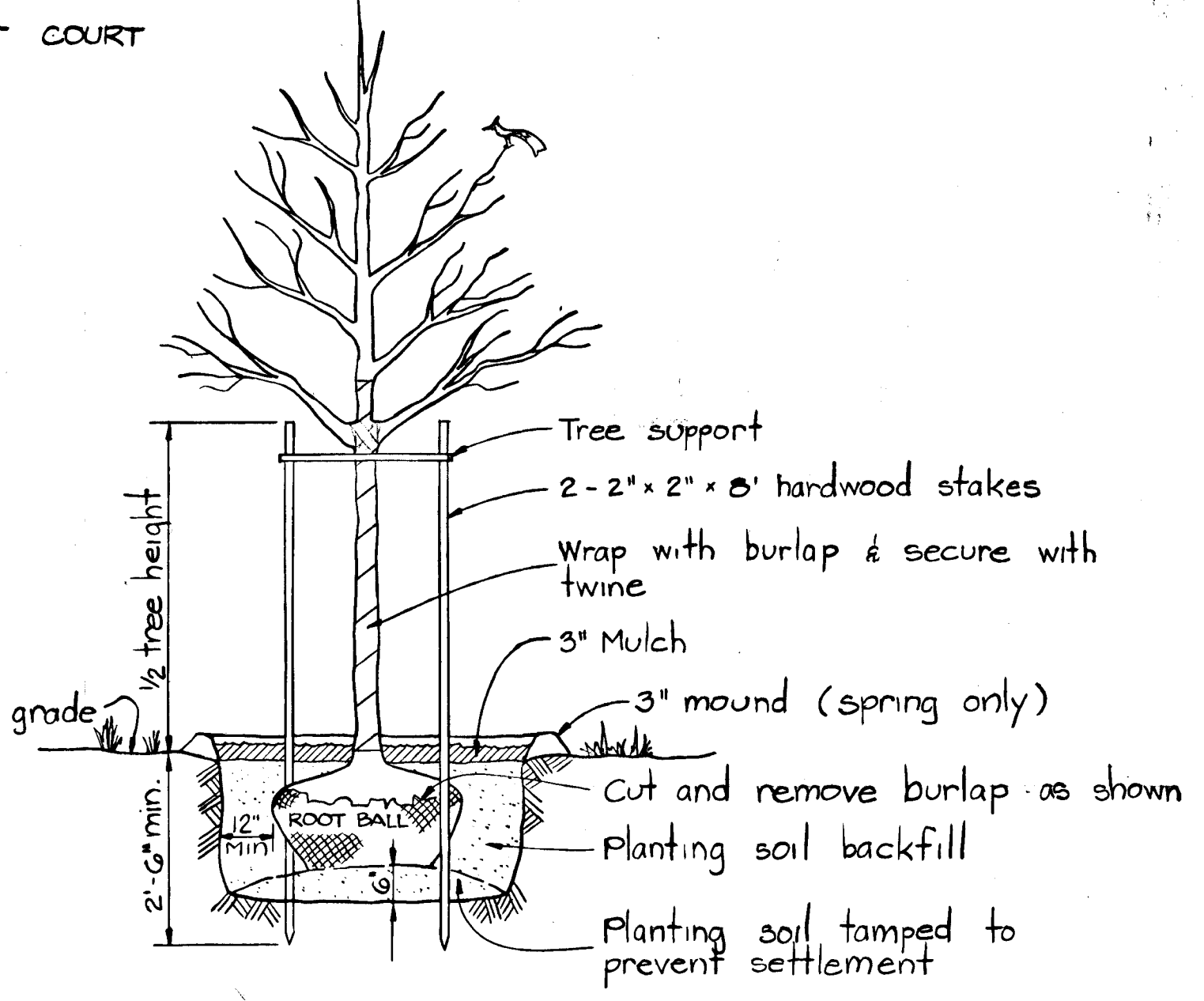
VICINITY MAP
 Scale: 1" = 2000'

KEY

- * SHADEMASTER HONEYLOCUST 30 GRAY ROCK DRIVE
- * SUGAR MAPLE 15 HORNED OWL COURT & HEREFORD VALLEY TRAIL
- * WILLOW OAK 20 RHODE VALLEY TRAIL & DAIRY VALLEY TRAIL
- * RED MAPLE 17 MAC CUBIN VALLEY TRAIL & ANGUS VALLEY TRAIL
- * NORWAY MAPLE 4 HOLLAND HERBERT COURT



PLAN
 NO SCALE

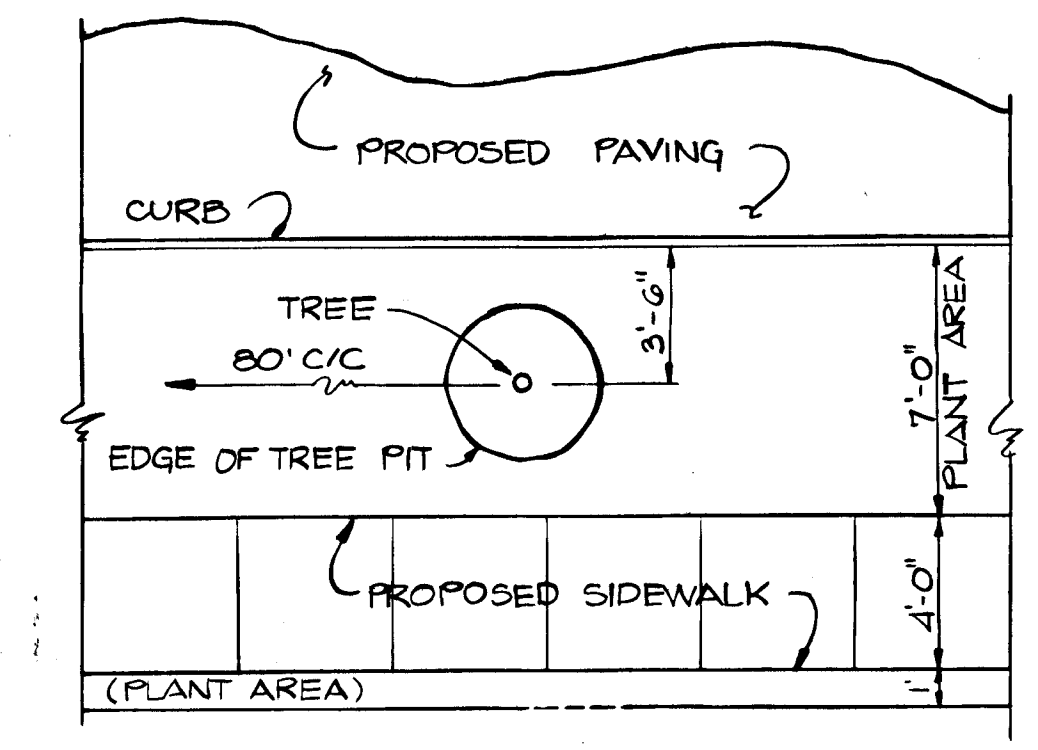


DECIDUOUS TREE STAKING
 NO SCALE

QUAN	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
DECIDUOUS TREES						
17	A.R.	ACER RUBRUM	RED MAPLE	1 1/2" CAL MIN	B & B	MIN 8' HEIGHT ABOVE GROUND
39	G.S.	QUERCUS TRIA. SHADEMASTER	SHADEMASTER HONEYLOCUST	1 1/2" CAL MIN	B & B	"
15	A.S.	ACER SACCHARUM	SUGAR MAPLE	1 1/2" CAL MIN	B & B	"
20	Q.P.	QUERCUS PHELLOUS	WILLOW OAK	1 1/2" CAL MIN	B & B	"
4	A.P.	ACER PLATANOIDES	NORWAY MAPLE	1 1/2" CAL MIN	B & B	"

NOTE :

- The county may require the developer to provide for trees to be planted in the right-of-way or on private property.
- The developer shall replace any tree that dies within one (1) year after initial planting



PLANTING WITHIN R/W
 NO SCALE

REV. DATE	REV. NO.	REVISION DESCRIPTION
2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER THE MILLER LAND COMPANY 9035 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD. 21043		
PROJECT AREA : GRAY ROCK FARM SECTION 1		
PROJECT TITLE LANDSCAPE PLAN		
SCALE AS SHOWN	DATE	
ENGINEER KIDDE CONSULTANTS INC. 1020 CROMWELL BRIDGE RD. TOWSON, MD. 21204		
<i>George Lambros</i> GEORGE LAMBROS REGISTERED PROFESSIONAL ENGINEER NO. 6319		

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