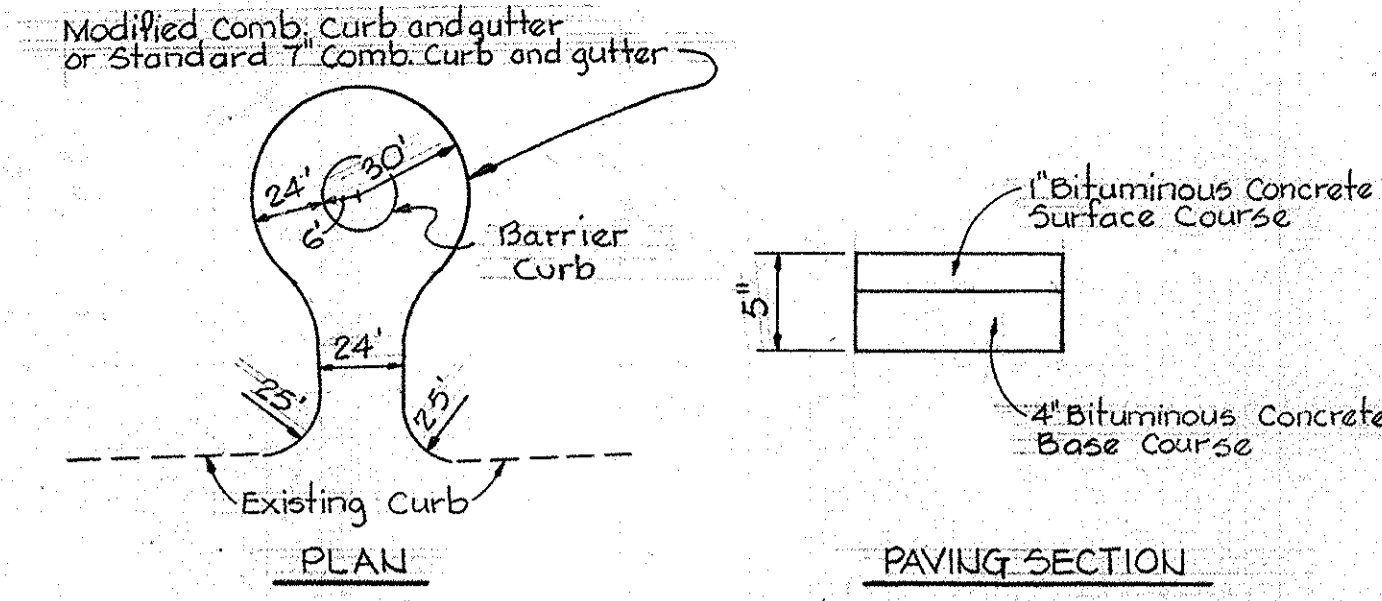


STORM DRAIN STRUCTURE SCHEDULE					
	No.	Typ.	Top El.	Inv. Out.	Location
ADDED	I-70	G4-A 9" A-5 Inlet width 2.5'	347.80	343.32	& Inlet 125' Back of L.R. Sta. 0+91.55
	I-71	G4-A 9" A-5 Inlet width 2.5'	352.20	355.50	& Inlet 125' Back of L.R. Sta. 1+10.00
	I-72	G4-A 9" A-5 Inlet width 2.5'	371.00	367.00	& Inlet 125' Back of L.R. Sta. 1+59.89
	I-75	G4-A 9" A-5 Inlet width 2.5'	364.50	360.70	& Inlet 125' Back of L.R. Sta. 1+49.84
	MH-30	D-10B 9" Manhole	370.20	366.55	& MH 25' left of Sta. 19+36.00
MODIFIED	I-18	G4-C 9" Class 'C' Inlet 2.5' x 2.5'	355.83	354.19	See Plan and Profile
	I-19	G4-A 9" A-5 Inlet width 2.5'	367.89	360.95	& Inlet 15.92' left of Sta. 37+12.00
	I-19A	G4-A 9" A-5 Inlet width 2.5'	367.99	360.23	& Inlet 15.92' left of Sta. 37+00.00
	I-20	G4-A 9" A-5 Inlet width 2.5'	360.95	355.54	& Inlet 15.92' right of Sta. 34+64.78
	I-21	G4-A 9" A-5 Inlet width 2.5'	362.00	353.54	& Inlet 15.92' left of Sta. 35+59.00
	I-22	G4-A 9" A-5 Inlet width 2.5'	360.95	356.19	& Inlet 15.92' left of Sta. 34+64.78
	I-23	G4-C 9" Class 'C' Inlet 2.5' x 2.5'	362.89	356.29	See Plan and Profile
	I-24	G4-A 9" A-5 Inlet width 2.5'	365.15	358.72	& Inlet 15.92' left of Sta. 33+10.00
	MH-20	D-10B 9" Manhole	360.50	349.08	See Plan and Profile
	I-18	Special Headwall	348.08	348.08	See Plan, Profile and Detail Sheet 11



TYPICAL DETAILS OF COMMON OPEN AREA CUL-DE-SACS (PRIVATE)  
 No Scale

\* Standard Detail in Howard County Road Code

NOTES:  
 1. THESE SUPPLEMENTAL PLANS, SHEETS I THRU 18 COVER THE CLUSTER ROADS WITHIN COMMON OPEN AREA LOTS 316 THRU 321, ADDITIONS AND MODIFICATIONS TO THE STORM DRAIN SYSTEMS, SELECTED LOT GRADING, PERMANENT PONDS #2 AND #3, AND SEDIMENT BASIN #5.  
 2. FOR SEDIMENT CONTROL MEASURES, SEE APPROVED ROAD CONSTRUCTION PLANS (F-74-99C).

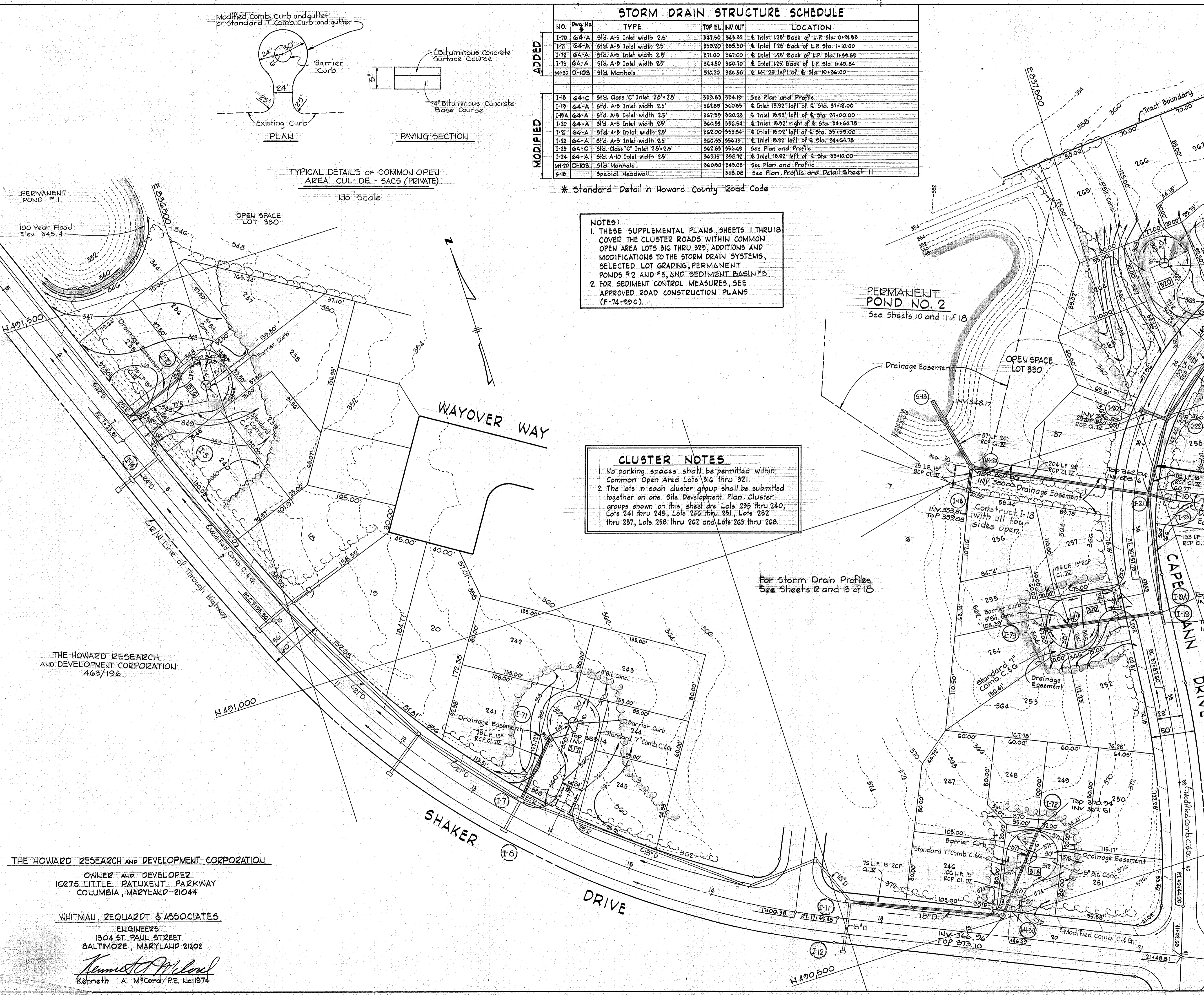
CLUSTER NOTES  
 1. No parking spaces shall be permitted within Common Open Area Lots 316 thru 321.  
 2. The lots in each cluster group shall be submitted together on one Site Development Plan. Cluster groups shown on this sheet are Lots 235 thru 240, Lots 241 thru 245, Lots 246 thru 251, Lots 252 thru 257, Lots 258 thru 262 and Lots 263 thru 268.

For Storm Drain Profiles See Sheets 12 and 13 of 18

MODIFIED STORM DRAIN SYSTEM SEE SHEET 10 OF 45 OF ROAD CONSTRUCTION PLANS APPROVED 11/15/74, FOR SYSTEM PRIOR TO MODIFICATION.

- LEGEND
- 340--- Existing Contours (2' Intervals)
  - 340- Proposed Contours (1' Intervals)
  - Storm Drain (As Approved 11/15/74)
  - Storm Drain (Added or Modified)
  - Existing Woods
  - Woods Clearing Line
  - (I-3) Storm Drain Structure (As Approved 11/15/74)
  - (I-10) Storm Drain Structure (Added or Modified)

NO.	DATE	DESCRIPTION OF REVISIONS
<b>COLUMBIA</b> SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION I AREA I CLUSTER ROADS AND STORM DRAINS WITHIN LOTS 316 THRU 321 MODIFIED STORM DRAINS-CAPE ANN DRIVE BETWEEN STATIONS 33+00 & 37+00 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND DATE: SHEET 1 OF 12 SCALE: 1"=50'		



THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202

Kenneth A. M'CORD/PE No. 1974



- LEGEND**
- 340 -- Existing Contours (2' Intervals)
  - - - 340 - - Proposed Contours (1' Intervals)
  - Storm Drain (As Approved 11/15/74)
  - Storm Drain (Added or Modified)
  - (I-74) Storm Drain Structure (Approved 11/15/74)
  - (I-74) Storm Drain Structure (Added or Modified)

STORM DRAIN STRUCTURE SCHEDULE					
NO.	Desc. No.	TYPE	TOP EL.	INV. OUT.	LOCATION
I-74	64-A	Std. A-5 Inlet width = 2.5'	338.50	334.16	± Inlet 1.25' Back of L.P. Sta. 2+02
I-75	64-A	Std. A-5 Inlet width = 2.5'	338.50	334.00	± Inlet 1.25' Back of L.P. Sta. 0+86
MH-31	D-103	Standard Manhole	337.25	323.28	± MH 25' Right of ± Sta. 40+98
MH-32	D-103	Standard Manhole	334.85	332.30	± MH 22' Right of ± Sta. 41+50
I-79	64-C	Std. Class "C" Inlet 2.5' x 2.5'	303.00	326.66	See Plan and Profile
MH-44	D-103	Standard Manhole	330.00	322.55	See Plan and Profile
S-44		Std. 30" Concrete End Section		322.36	See Plan and Profile

\* Standard Detail in Howard County Road Code

**CLUSTER NOTES**

- No parking spaces shall be permitted within Common Open Area Lots 326 and 327.
- The lots in each cluster group shall be submitted together on one Site Development Plan. Cluster groups shown on this sheet are Lots 293 thru 298, and Lots 299 thru 303.

DEPARTMENT OF PUBLIC WORKS  
 D. M. Ireland 7/5/77  
 CHIEF, BUREAU OF HIGHWAYS  
 OFFICE OF PLANNING & ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT



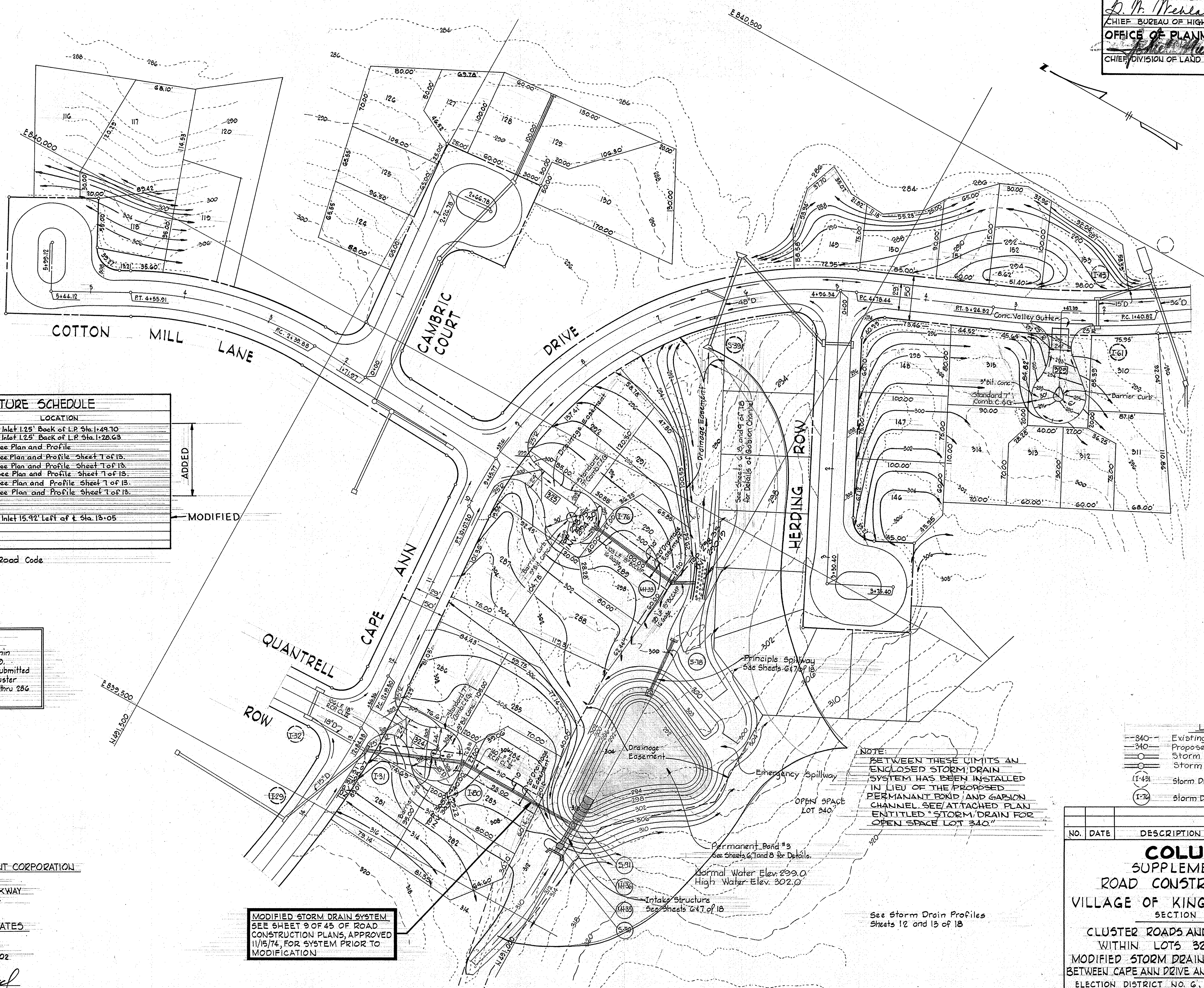
For Storm Drain Profiles  
 See Sheets 12 and 13 of 18

**MODIFIED STORM DRAIN SYSTEM**  
 SEE SHEET 14 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR SYSTEM PRIOR TO  
 MODIFICATION

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044  
 WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202  
 Kenneth A. McCard PE No. 1974

NO.	DATE	DESCRIPTION OF REVISIONS
<b>COLUMBIA</b> SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION I AREA I CLUSTER ROADS AND STORM DRAINS WITHIN LOTS 326 AND 327 MODIFIED STORM DRAINS-GOODIN CIRCLE BETWEEN MH-44 AND S-44 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND DATE: SHEET 2 OF 18 SCALE: 1" = 50' 7/10/77 77 110 SHEET 2 OF 18		





NO.	Dwg. No.	TYPE	TOP EL.	INLET	LOCATION
I-76	G4-A	Std. A-5 Inlet width = 2.5'	299.00	294.39	1/2 Inlet 1.25' Back of L.P. Sta. 1+49.10
I-80	G4-A	Std. A-5 Inlet width = 2.5'	308.25	302.45	1/2 Inlet 1.25' Back of L.P. Sta. 1+28.63
MH-33	D-103	Standard Manhole	298.50	292.09	See Plan and Profile
MH-35	-	Type 'B' Manhole	318.80	299.45	See Plan and Profile Sheet 1 of 13.
MH-36	-	Type 'B' Manhole	305.40	299.13	See Plan and Profile Sheet 1 of 13.
S-18	D-52	Modified Type 'C' Endwall	-	293.60	See Plan and Profile Sheet 1 of 13.
S-40	D-48	Std. Type 'A' Headwall	-	308.40	See Plan and Profile Sheet 1 of 13.
S-91	-	Special Endwall	-	299.09	See Plan and Profile Sheet 1 of 13.
I-31	G4-A	Std. A-10 Inlet width = 2.5'	311.35	305.11	1/2 Inlet 15.92' Left of 1/2 Sta. 13+05

ADDED  
 MODIFIED

\* Standard Detail in Howard County Road Code

**CLUSTER NOTES**  
 1. No parking spaces shall be permitted within Common Open Area Lots 324, 325 and 329.  
 2. The lots in each cluster group shall be submitted together on one site Development Plan. Cluster groups shown on this sheet are Lots 281 thru 286, Lots 287 thru 292 and Lots 310 thru 315.

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044  
 WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202  
*Kenneth A. McKeand*  
 Kenneth A. McKeand P.E. No. 1974

MODIFIED STORM DRAIN SYSTEM  
 SEE SHEET 9 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR SYSTEM PRIOR TO  
 MODIFICATION

NOTE:  
 BETWEEN THESE LIMITS AN  
 ENCLOSED STORM DRAIN  
 SYSTEM HAS BEEN INSTALLED  
 IN LIEU OF THE PROPOSED  
 PERMANENT ROAD AND GARDEN  
 CHANNEL. SEE ATTACHED PLAN  
 ENTITLED "STORM DRAIN FOR  
 OPEN SPACE LOT 340."

**LEGEND**

-340-	Existing Contours (2' Intervals)
-340-	Proposed Contours (1' Intervals)
○	Storm Drain (As Approved 11/15/75)
○	Storm Drain (Added or Modified)
(I-43)	Storm Drain Structure (As Approved 11/15/74)
(I-76)	Storm Drain Structure (Added or Modified)

NO.	DATE	DESCRIPTION OF REVISIONS

**COLUMBIA**  
 SUPPLEMENT TO  
 ROAD CONSTRUCTION PLANS  
 VILLAGE OF KINGS CONTRIVANCE  
 SECTION 1 AREA 1  
 CLUSTER ROADS AND STORM DRAINS  
 WITHIN LOTS 324, 325 AND 329  
 MODIFIED STORM DRAINS - QUANTRELL ROW  
 BETWEEN CAPE ANN DRIVE AND PERMANENT POND #3  
 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND  
 DATE: SHEET 8 OF 18 SCALE: 1" = 50'



**STORM DRAIN STRUCTURE SCHEDULE**

No.	Dist. Sta.	TYPE	TOP ELEV.	INVERT	LOCATION
I-77	64-A	Std. A-5 Inlet width = 2.5'	337.50	333.44	4 Inlet 1.25' Back of L.P. Sta. 2+12
M25A	**	Type B Manhole	328.30	324.82	See Plan and Profile
M25B	D-103	Std. Manhole	332.50	326.65	See Plan and Profile
I-25	64-A	Std. A-10 Inlet width = 2.5'	340.05	333.00	4 Inlet 15.92' Right of 4 Sta. 18+53
I-27	64-A	Std. A-5 Inlet width = 2.5'	337.04	331.32	4 Inlet 15.92' Right of 4 Sta. 1+09
S-25	D-52	Std. C Endwall	324.74		See Plan and Profile
I-28	64-A	Std. A-10 Inlet width = 2.5'	331.94	328.09	4 Inlet 1.25' Back of L.P. Sta. 2+18.98

\* Standard Detail in Howard County Road Code  
 \*\* See Detail on Sheet 25 of 45, Road Dwg.  
 for Village of Kings Contrivance, Section I Area I

DEPARTMENT OF PUBLIC WORKS  
 S. W. Murrell 7/5/77  
 CHIEF, BUREAU OF HIGHWAYS  
 OFFICE OF PLANNING & ZONING  
 J. H. Murrell 6/29/77  
 CHIEF, DIVISION OF LAND DEVELOPMENT

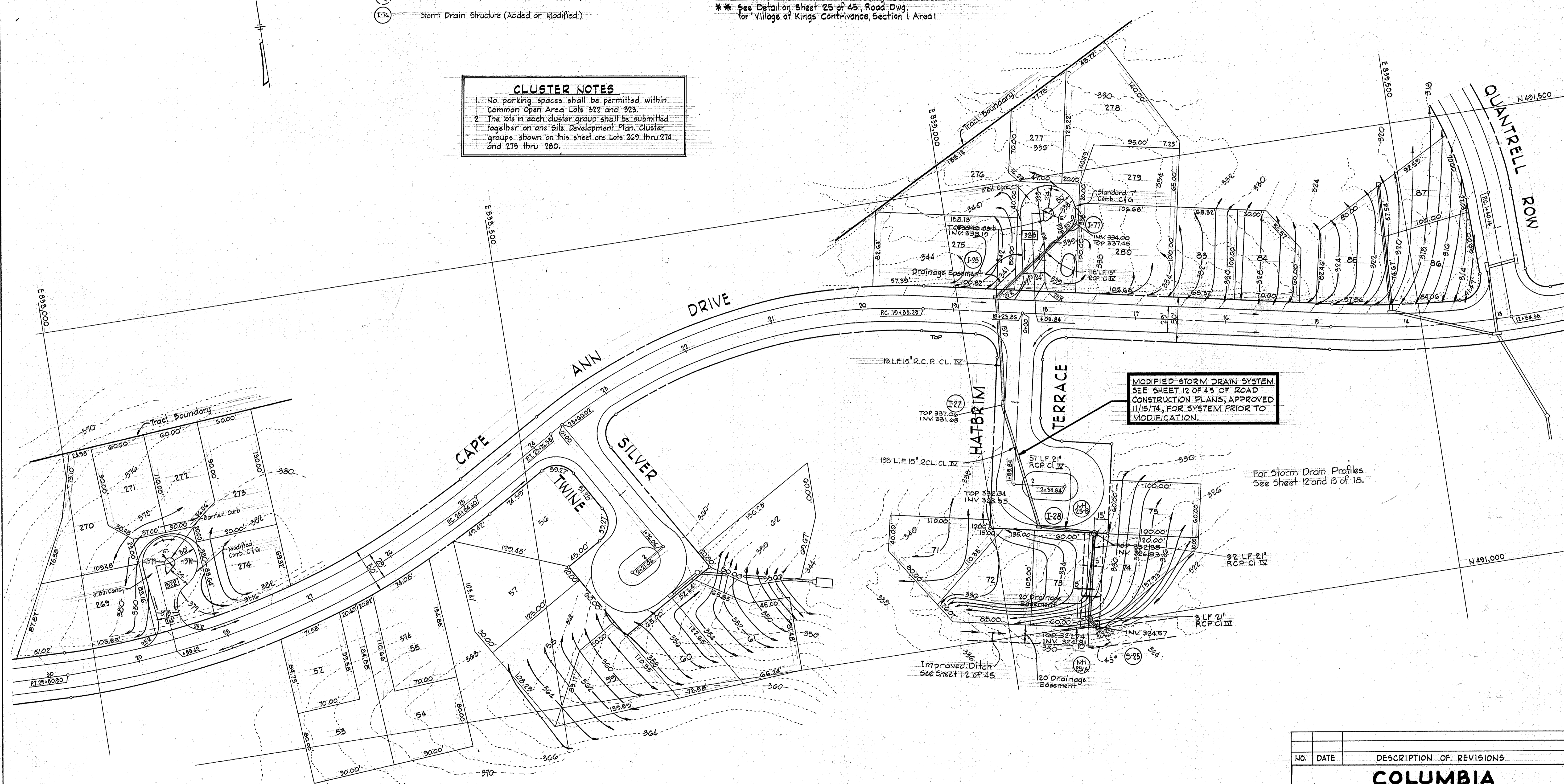
**LEGEND**

- 340- Existing Contours (2' Intervals)
- 340- Proposed Contours (1' Intervals)
- Storm Drain (As Approved 11/15/74)
- Storm Drain (Added or Modified)
- (I-42) Storm Drain Structure (As Approved 11/15/74)
- (I-76) Storm Drain Structure (Added or Modified)

ADDED  
 MODIFIED

**CLUSTER NOTES**

1. No parking spaces shall be permitted within Common Open Area Lots 322 and 323.
2. The lots in each cluster group shall be submitted together on one Site Development Plan. Cluster groups shown on this sheet are Lots 269 thru 274 and 275 thru 280.



**MODIFIED STORM DRAIN SYSTEM**  
 SEE SHEET 12 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR SYSTEM PRIOR TO  
 MODIFICATION.

For Storm Drain Profiles  
 See Sheet 12 and 13 of 18.

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION

OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202

*Kenneth A. McCord*  
 Kenneth A. McCord, P.E. No. 1974

NO.	DATE	DESCRIPTION OF REVISIONS
<b>COLUMBIA</b> SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION I AREA I CLUSTER ROADS AND STORM DRAINS WITHIN LOTS 322 AND 323 MODIFIED STORM DRAINS- HATBRIM TERRACE BETWEEN I-25 AND S-25 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND DATE: SHEET 4 OF 18 SCALE: 1"=50'		



MODIFIED STORM DRAIN SYSTEM  
 SEE SHEET 16 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR SYSTEM PRIOR TO  
 MODIFICATION

For Storm Drain Profiles  
 See Sheet 12 of 18

Note:  
 For 30" RCP outfall ditch and storm drain,  
 Cape Ann Drive, see Road  
 Construction Dwg. for Village  
 of King's Contrivance Section I  
 Area I, sheet B of 45.

MODIFIED STORM DRAIN SYSTEM  
 SEE SHEETS 7 & 8 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR SYSTEM PRIOR TO  
 MODIFICATION

STORM DRAIN STRUCTURE SCHEDULE				
NO.	Dwg. No.	TYPE	TOPEL INV. OUT	LOCATION
I-78	64-C	Std. Class "C" Inlet 4.0x4.0'	290.55 284.25	See Plan and Profile
M-34		Type "B" Manhole	293.50 288.40	See Plan and Profile and Detail Sheet 25 of 45.
M-52A	D-108	Standard Manhole	311.50 311.49	See Plan and Profile
S-52	D-52	Standard "C" Endwall	311.26	See Plan and Profile
S-61		Type "A" Endwall	292.50	See Plan and Profile and Detail Sheet 25 of 45.
S-54		Type "A" Headwall	297.41	See Plan, Profile and Detail sheets
S-55		Type "A" Headwall	296.00	13 and 14 of 18 and sheet 25 of 45.

\* Standard Detail in Howard County Road Code

**CLUSTER NOTES**

- No parking spaces shall be permitted within Common Open Area Lot 340.
- Cluster lots 304 thru 309 shall be submitted together on one Site Development Plan.

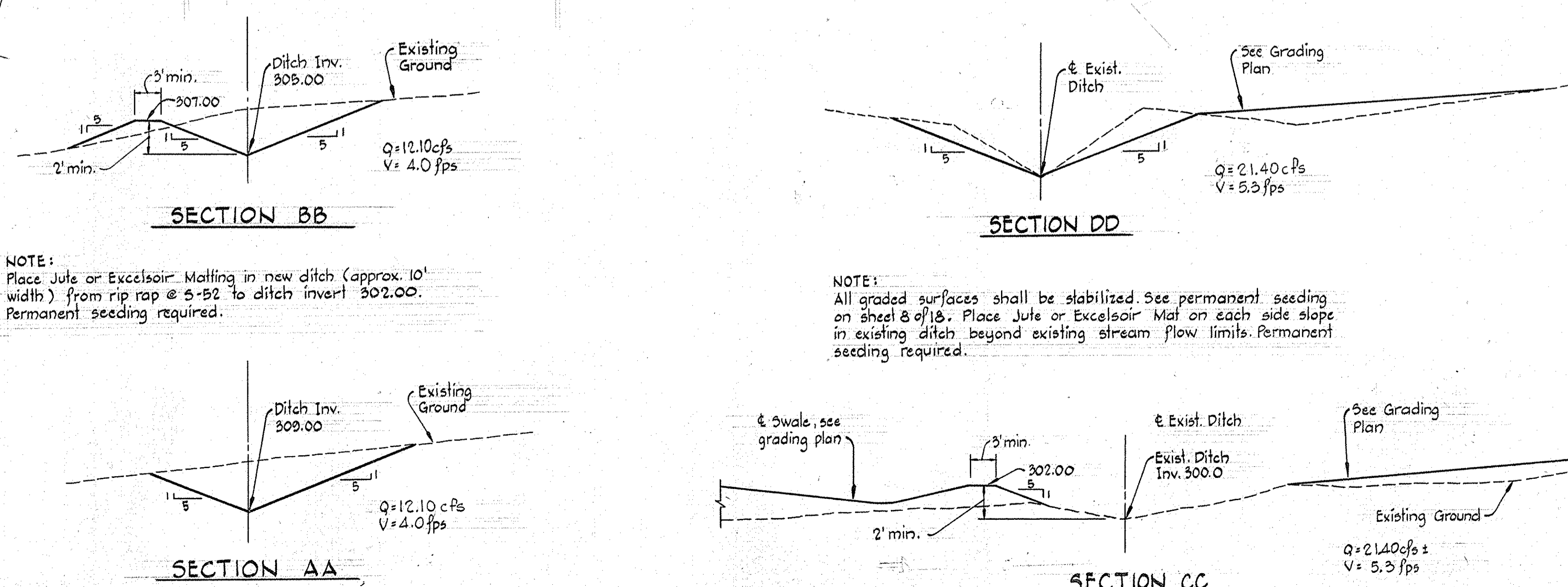
MODIFIED STORM DRAIN SYSTEM  
 SEE SHEET 6 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR SYSTEM PRIOR TO  
 MODIFICATION.

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION

OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

WHITMAN, DEQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202

*Kenneth A. McCloud*  
 Kenneth A. McCloud P.E. No. 1974



**LEGEND**

- 340 --- Existing Contours (2' Intervals)
- 340 --- Proposed Contours (1' Intervals)
- Storm Drain (As Approved 11/15/74)
- Storm Drain (Added or Modified)
- (I-54) Storm Drain Structure (As Approved 11/15/74)
- (I-78) Storm Drain Structure (Added or Modified)

NO.	DATE	DESCRIPTION OF REVISIONS

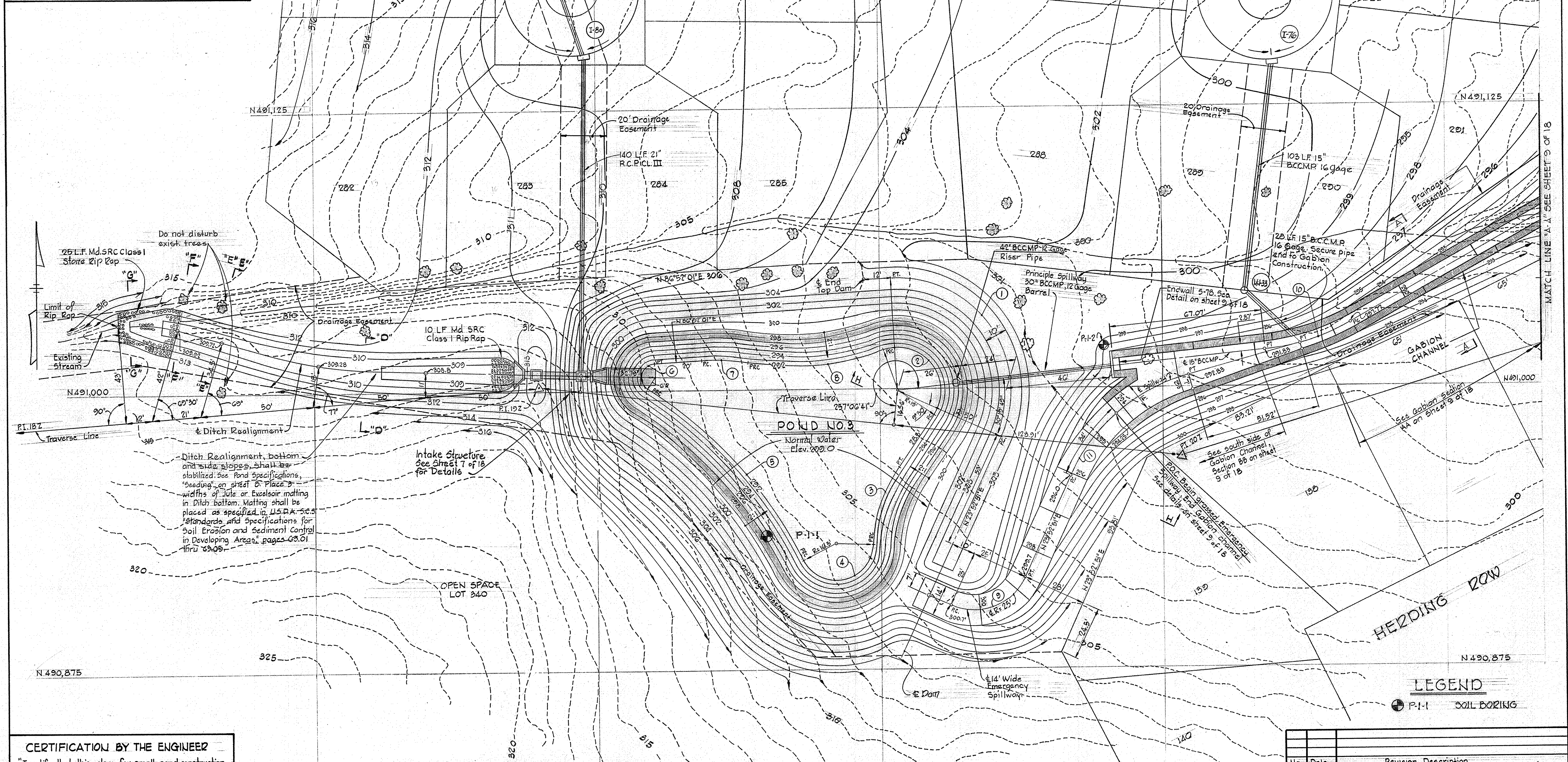
**COLUMBIA**  
 SUPPLEMENT TO  
 ROAD CONSTRUCTION PLANS  
 VILLAGE OF KING'S CONTRIVANCE  
 SECTION I AREA I

CLUSTER ROAD WITHIN LOT 328  
 ADDED AND MODIFIED STORM DRAINS - LOT 340  
 BETWEEN FAIR BEAUTY AND CAPE ANN DRIVE  
 MODIFIED CULVERT ON SHAKER DRIVE - STATION 50+10  
 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND

DATE: SHEET 5 OF 18 SCALE: 1"=50'  
 3-10-77 77-143 SHEET 5 OF 18



DEPARTMENT OF PUBLIC WORKS  
*R. M. Keenan* 7/5/77  
 CHIEF BUREAU OF HIGHWAYS  
 OFFICE OF PLANNING & ZONING  
*William Woodford* 6-29-77  
 CHIEF DIVISION OF LAND DEVELOPMENT



**CERTIFICATION BY THE ENGINEER**  
 I certify that this plan for small pond construction 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* 11-23-76  
 Kenneth A. McCord P.E. 1974 Date

**Notes:**  
 1. For details and geometry of Pond No. 3, Earth Dam Embankment, Spillways, Gable Channel, Ditches, Intake Structure, etc. see sheets 7, 8 & 9 of 18.  
 2. For soil boring logs, see sheet 8 of 18.

**OWNER'S CERTIFICATION FOR POND CONSTRUCTION**  
 I certify that the development and construction of Pond No. 3 will be done according to these plans. I also authorize periodic on-site evaluation by the Howard Soil Conservation District or its authorized agents as deemed necessary. Deviation from these plans will not be made unless authorized in writing by the Howard Soil Conservation District.  
*William Woodford* 11-23-76  
 SIGNATURE DATE

THIS PLAN HAS BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION.  
*Robert W. Zahn* 6-21-77  
 APPROVED HOWARD S.C.D. DATE

THIS PLAN FOR SMALL POND CONSTRUCTION MEETS THE REQUIREMENT OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Robert W. Zahn* 6-21-77  
 APPROVED HOWARD S.C.D. DATE  
 PLAN NUMBER F-74-93C

**ALL NEW**

**HOWARD RESEARCH AND DEVELOPMENT CORP.**  
 OWNER AND DEVELOPER  
 10215 Little Patuxent Parkway  
 Columbia, Maryland

**WHITMAN, REQUARDT & ASSOCIATES ENGINEERS**  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202  
*Kenneth A. McCord*  
 KENNETH A. McCord P.E. 1974

**LEGEND**  
 P-1-1 SOIL BORING

No.	Date	Revision Description

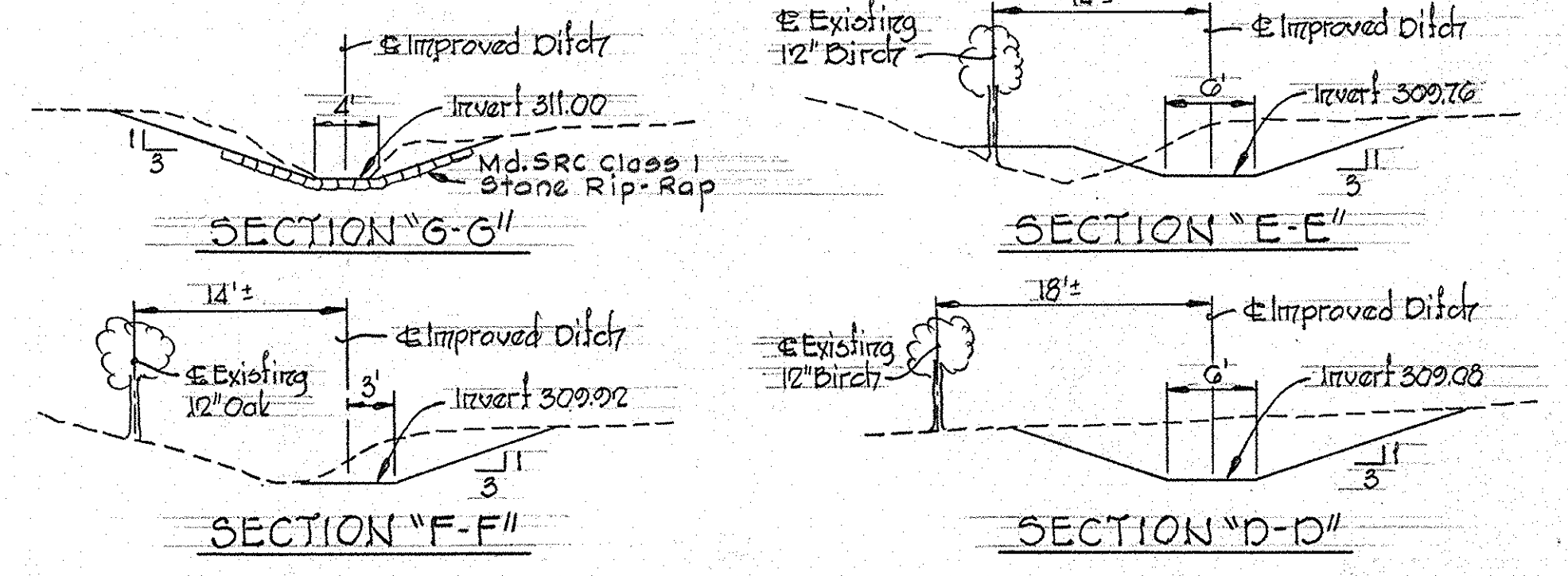
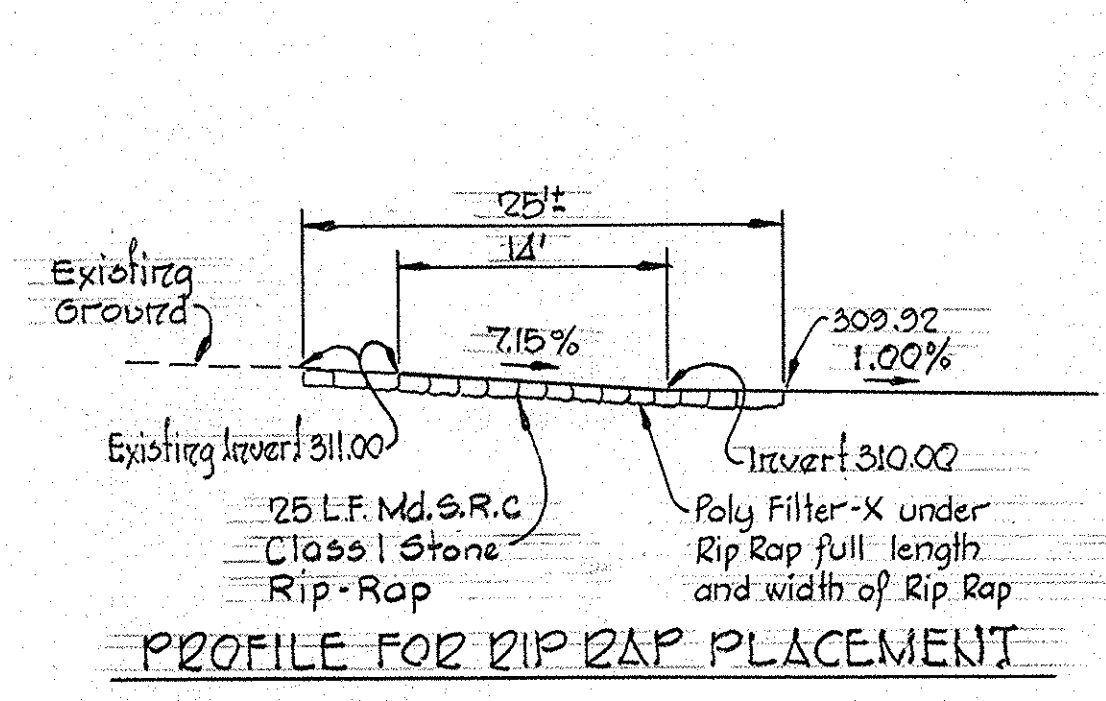
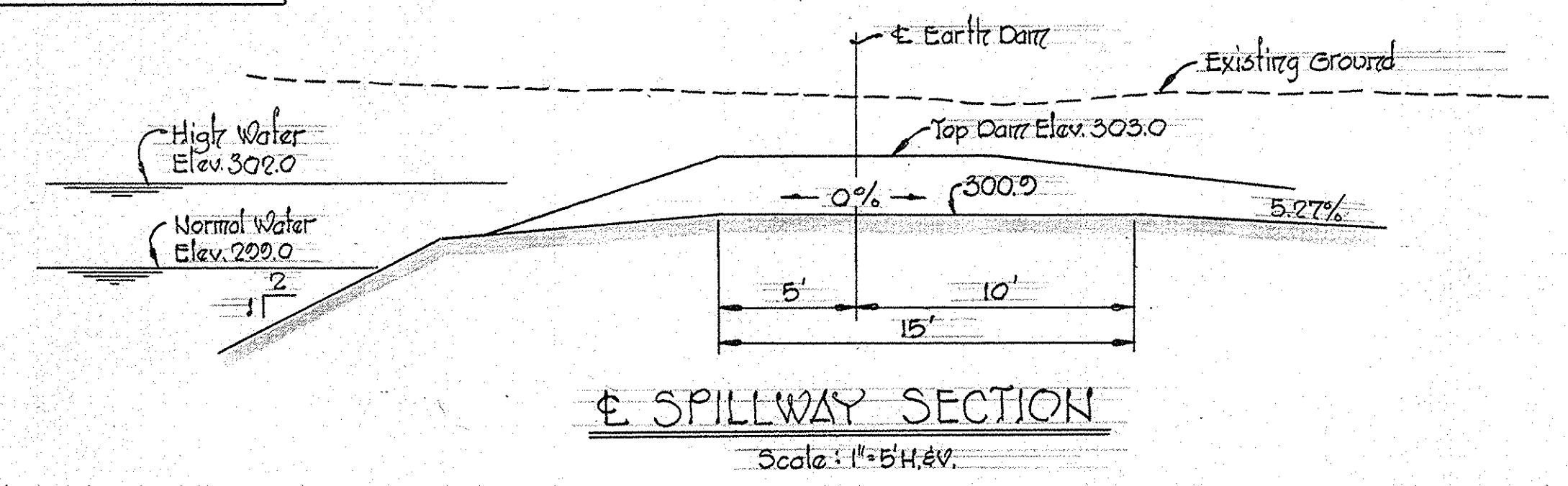
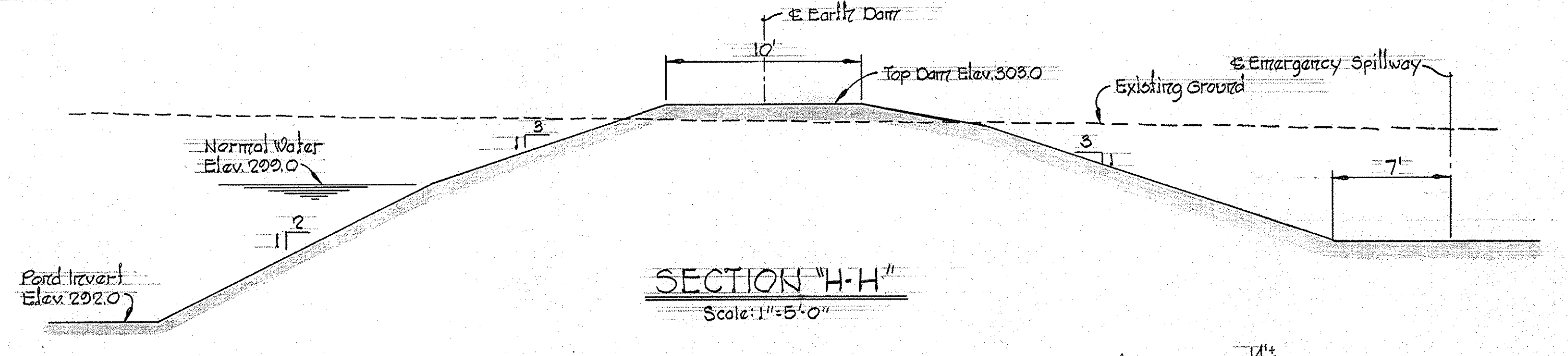
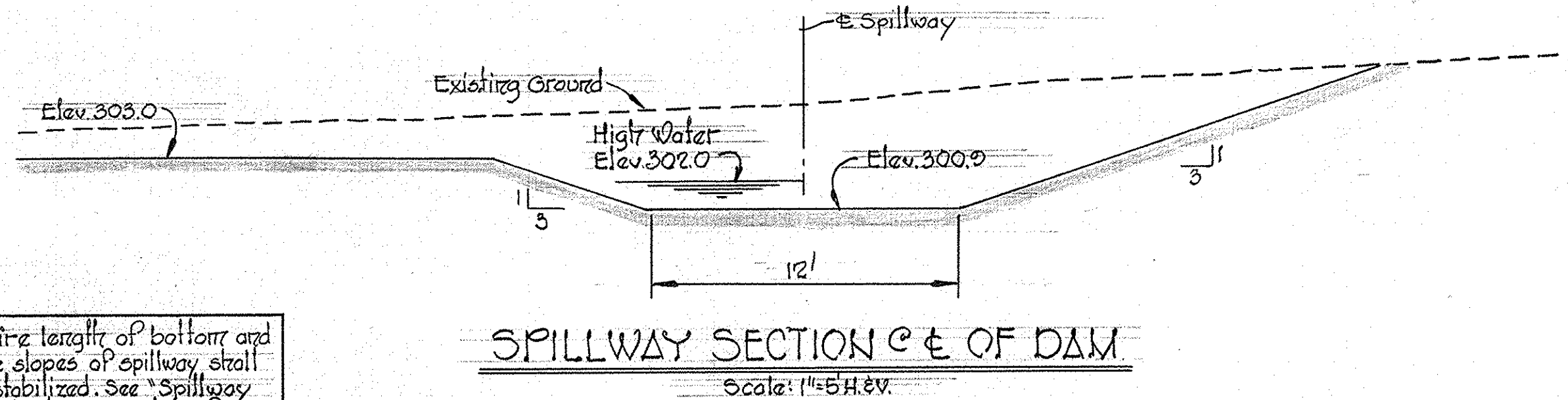
**COLUMBIA**  
 SUPPLEMENT TO  
 ROAD CONSTRUCTION PLANS  
**VILLAGE OF KINGS CONTRIVANCE**  
 SECTION 1, AREA 1

**PERMANENT POND #3 PLAN**

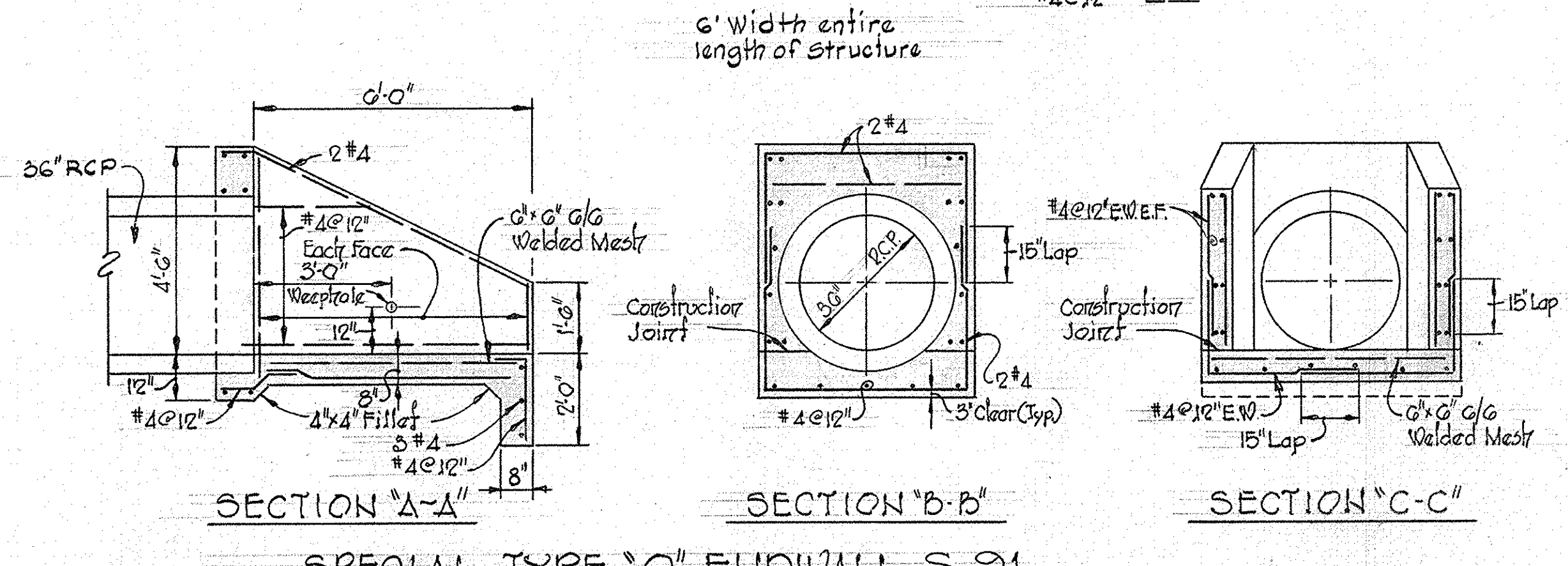
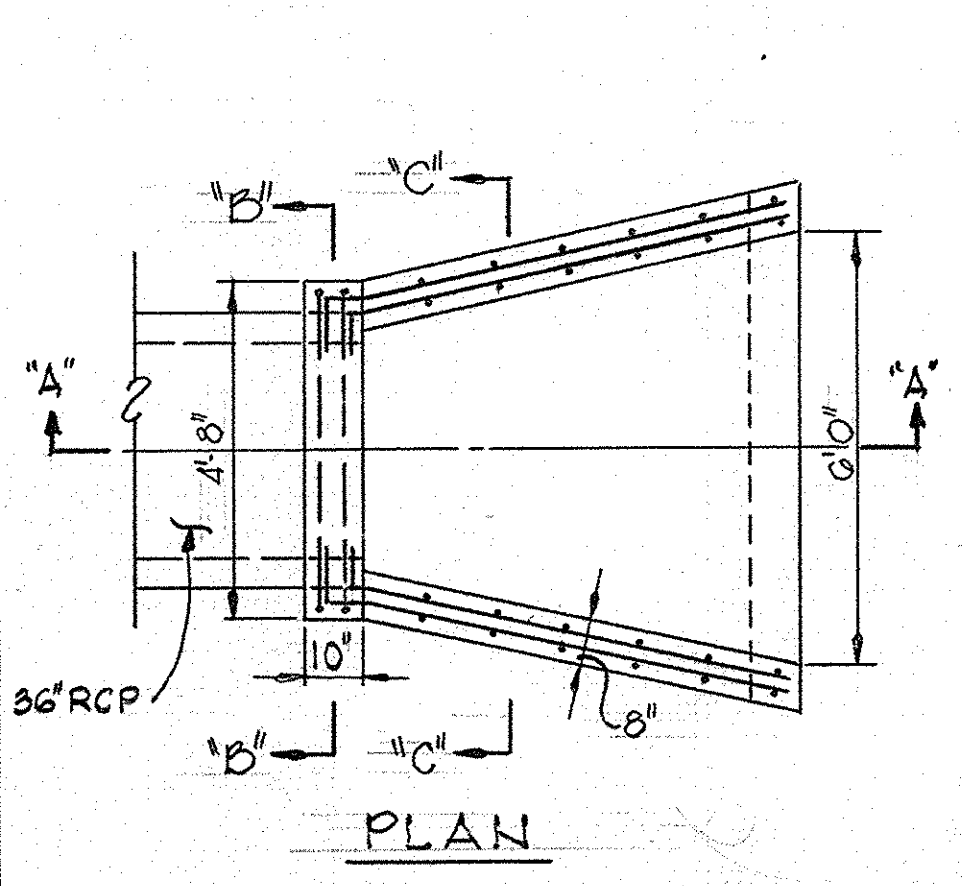
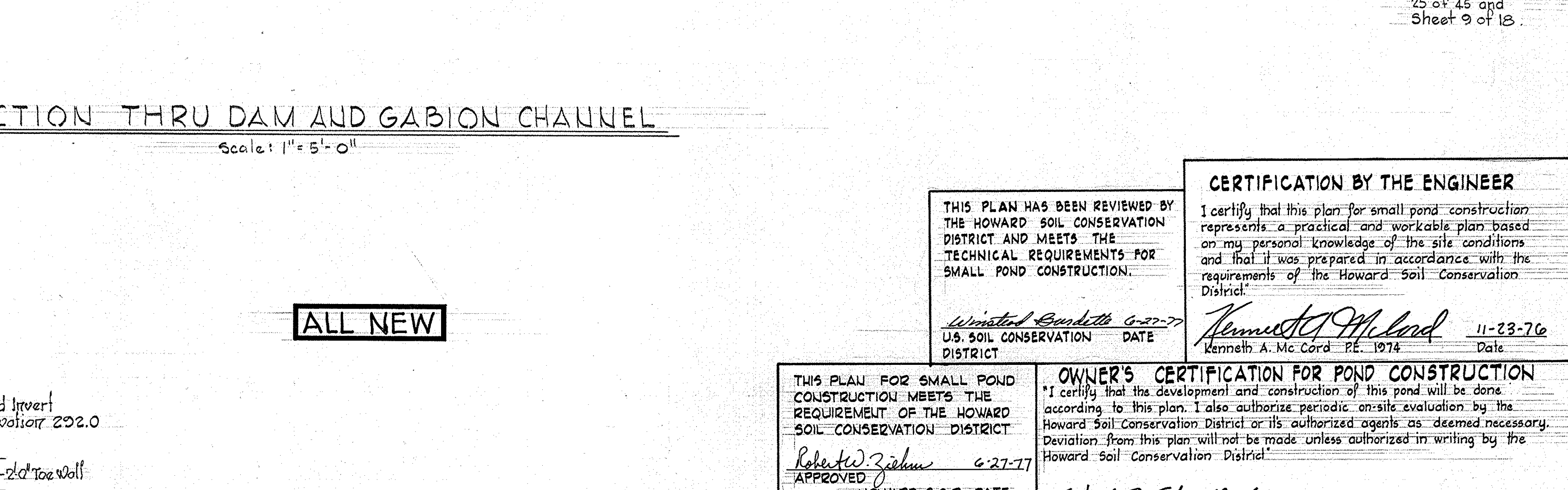
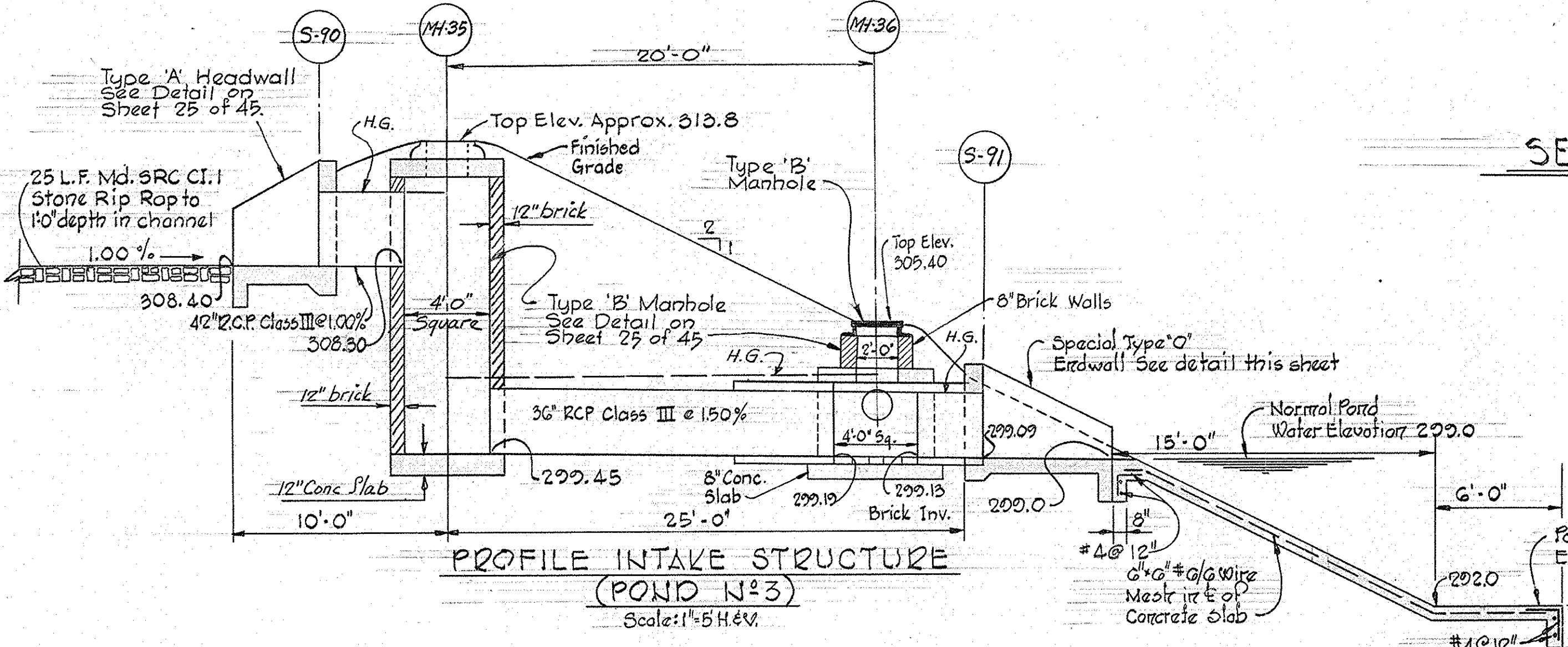
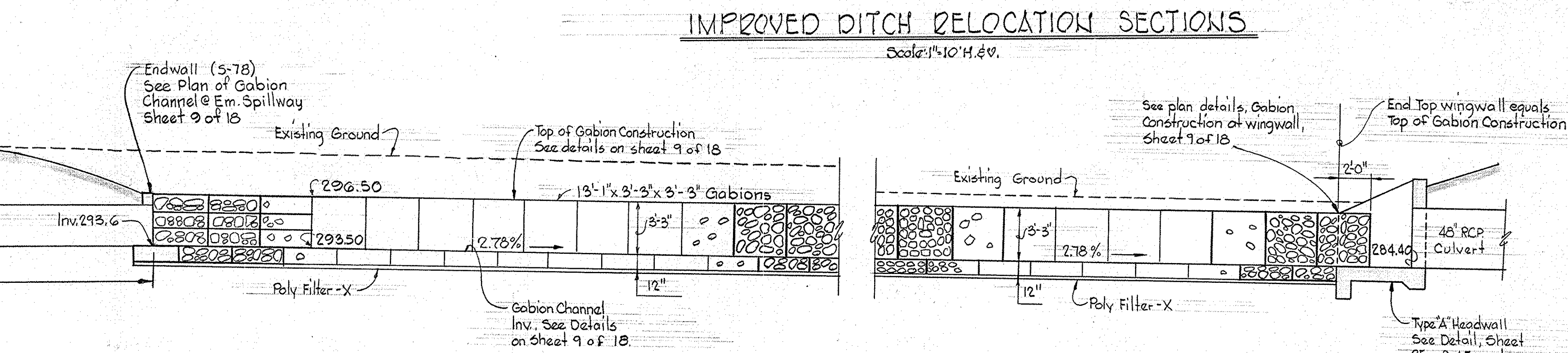
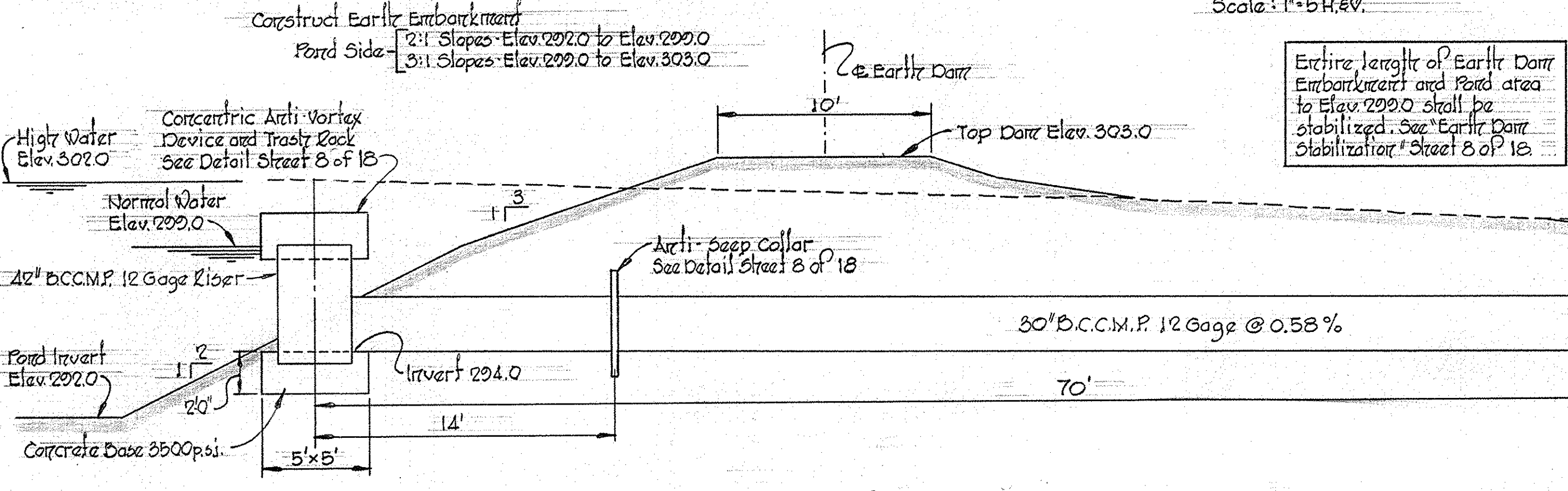
ELECTION DISTRICT No. 6: HOWARD COUNTY, MARYLAND  
 DATE: SHEET 6 of 18 SCALE: 1" = 20'  
 3-10-77 77-143 SHEET 6 OF 18



Entire length of bottom and side slopes of spillway shall be stabilized. See Spillway Stabilization Sheet 8 of 18.



Note:  
 For Earth Dam Embankment  
 See Notes on Sheet 8 of 18



**ALL NEW**

**CERTIFICATION BY THE ENGINEER**  
 THIS PLAN HAS BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION.  
*Winston Gaudette 6-27-77*  
 U.S. SOIL CONSERVATION DISTRICT DATE  
 I certify that this plan for small pond construction 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 11-23-76*  
 Kenneth A. McCord P.E. 1974 Date

**OWNER'S CERTIFICATION FOR POND CONSTRUCTION**  
 I certify that the development and construction of this pond will be done according to this plan. I also authorize periodic on-site evaluation by the Howard Soil Conservation District or its authorized agents as deemed necessary. Deviation from this plan will not be made unless authorized in writing by the Howard Soil Conservation District.  
*Robert W. Ziehm 6-27-77*  
 APPROVED HOWARD S.C.D. DATE  
 PLAN NUMBER F-74-99C  
*Walter E. Claffordy*  
 Signature DATE 11-23-76

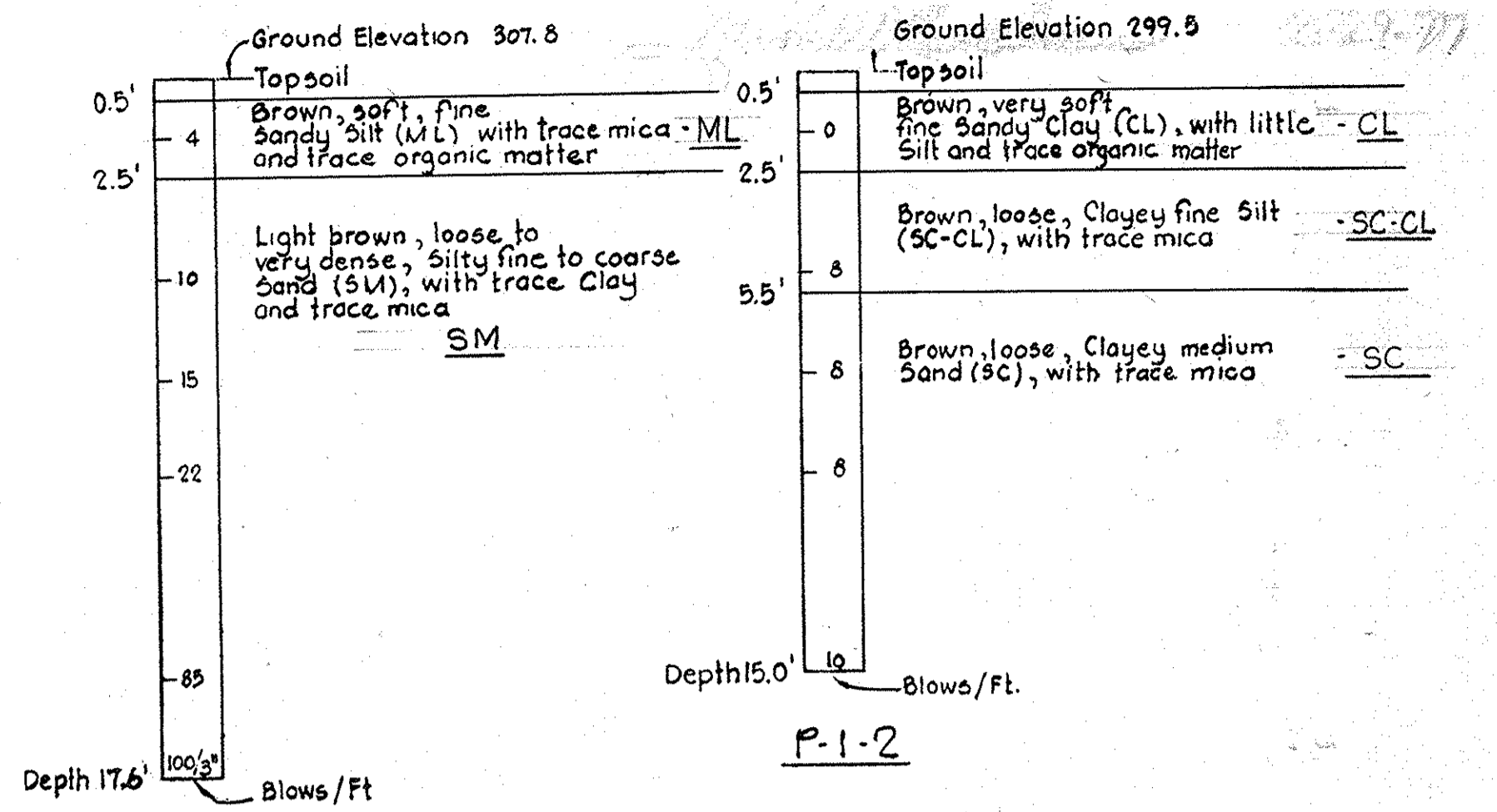
HOWARD RESEARCH AND DEVELOPMENT CORP.  
 OWNER AND DEVELOPER  
 10275 Little Patuxent Parkway  
 Columbia, Maryland

WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202  
*Kenneth A. McCord*  
 KENNETH A. MCCORD P.E. 1974

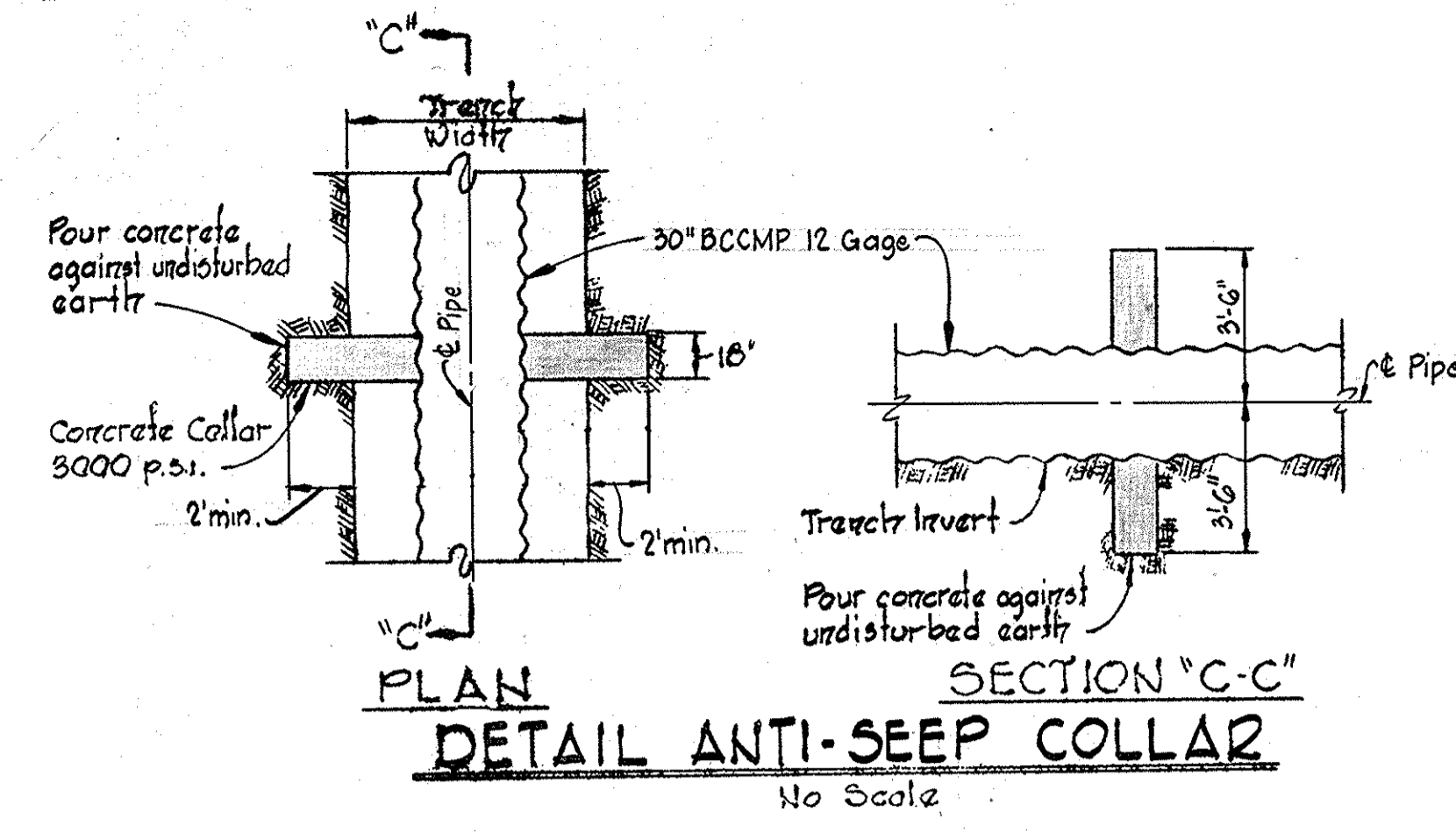
No.	Date	Revisor Description
<b>COLUMBIA</b>		
SUPPLEMENT TO ROAD CONSTRUCTION PLANS		
<b>VILLAGE OF KINGS CONTRIVANCE</b>		
SECTION I, AREA 1		
<b>PERMANENT POND #3 DETAILS</b>		
ELECTION DISTRICT No. 6,		HOWARD COUNTY, MARYLAND
DATE:	SHEET 7 OF 18	SCALE AS SHOWN



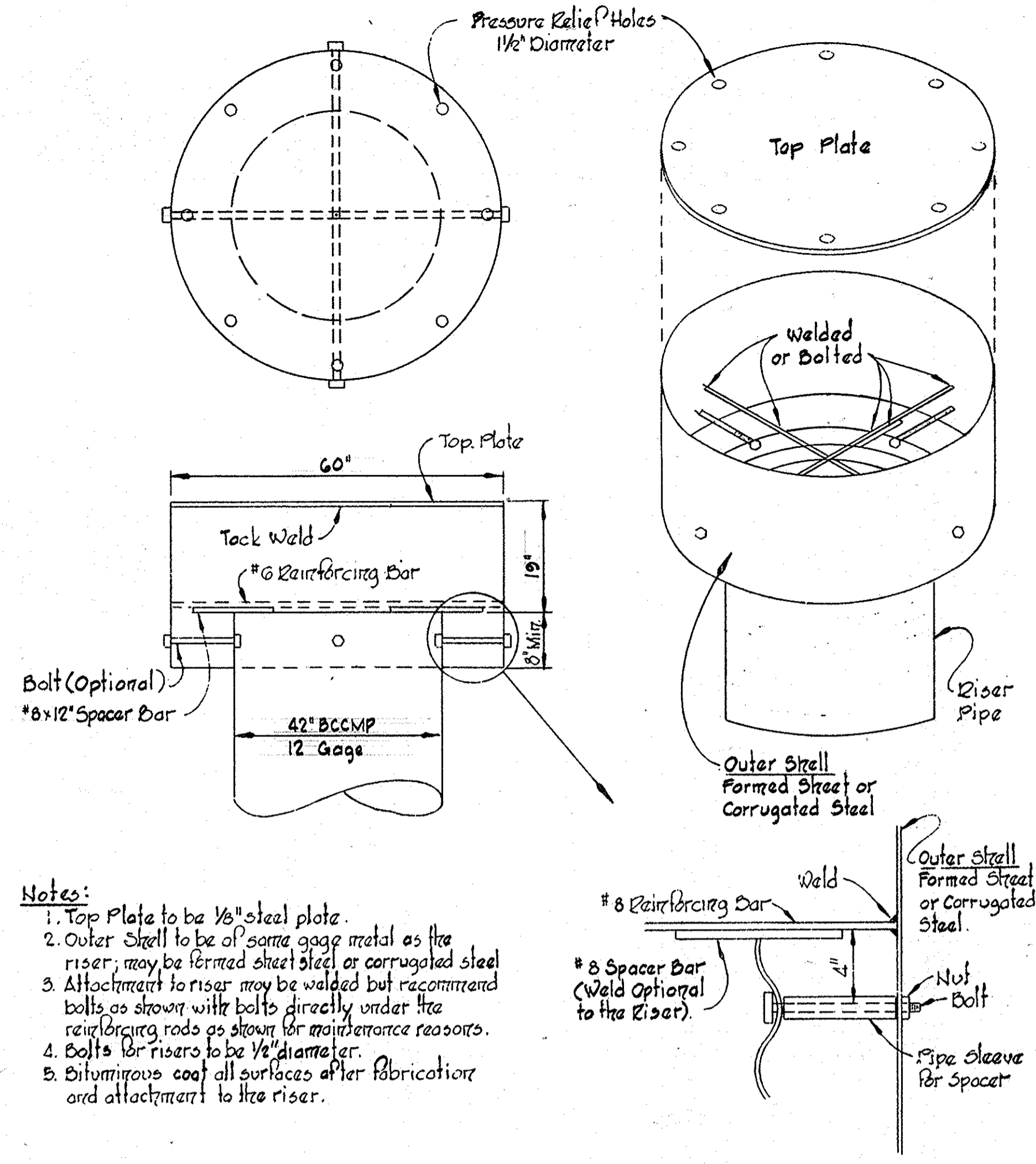
SOIL BORINGS



NOTE: Blow counts obtained using standard 2" sampling spoon on a 140 pound weight dropped 30".



PLAN  
 SECTION "C-C"  
 DETAIL ANTI-SEEP COLLAR  
 No Scale



Notes:  
 1. Top Plate to be 1/8" steel plate.  
 2. Outer Shell to be of same gage metal as the riser; may be formed sheet steel or corrugated steel.  
 3. Attachment to riser may be welded but recommend bolts as shown with bolts directly under the reinforcing rods as shown for maintenance reasons.  
 4. Bolts for riser to be 1/2" diameter.  
 5. Discontinuous coat all surfaces after fabrication and attachment to the riser.

DETAIL  
 CONCENTRIC ANTI-VORTEX DEVICE  
 AND TRASH RACK  
 No Scale

GENERAL NOTES

- The owner shall submit an 'As Built' drawing of this pond to the Howard Soil Conservation District in Ellicott City, Maryland.
- All ground surfaces of the earth dam embankment, emergency spillway side slopes, outfall ditch side slopes shall receive seeding stabilization. See pond specifications for sod limits for emergency spillway.

POND SPECIFICATIONS

SEEDING

- Lime = 2 tons/acre agricultural ground limestone
- Fertilizer = 1000 lbs/acre (10-10-10)
- Seeding = 100 lbs/acre of the following:  
 20% Kentucky Blue Grass  
 20% Merion Blue Grass  
 55% Creeping Red Fescue  
 5% Ryegrass

Mulch required - Mulch areas with straw at the rate of 75 lbs./1000 s.f. or 1.5 tons/acre. Anchor with asphalt at the rate of 480 gallons/acre. Stabilization of slopes steeper than 3:1 shall be planted with crownvetch including 15 lbs./acre (0.34 lbs./1000 s.f.), Kentucky 31 tall Fescue 40 lbs./acre (11 lbs./1000 s.f.)

SOD

- The emergency spillway shall be sodded and pegged full width of bottom and 5 foot width each side slope.
- (a) Ground limestone - 46 lbs. per 1000 s.f.
- (b) Fertilizer (10-10-10) - 11.5 lbs. per 1,000 s.f.
- (c) Sod - Kentucky 31 tall fescue

EARTH DAM EMBANKMENT

- Suitable material from the pond excavation may be used for the embankment.
- Suitable material shall be placed in 8 inch loose layers and compacted to 90% of A55H0 T-100.
- Moisture content of the suitable material shall be within the range of 2% below optimum moisture to 2% above optimum moisture.
- Area under the embankment shall be cleared and grubbed to remove all trees, vegetation, roots or other objectionable material and topsoil stripped.
- The fill material shall be free from roots, stumps, wood, rubbish, overize stones, frozen or other objectionable materials. The fill height all along the length of the embankment shall be increased by 10%.
- Fill material shall be placed in 8" maximum (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.
- Compaction shall be by multiple wheel pneumatic 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.

PRINCIPLE SPILLWAY

- Backfill around the 30" BCCMP 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 backfilling operation shall construction equipment be allowed to operate closer than 4 feet to any part of the 30" BCCMP.
- The 30" BCCMP 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.

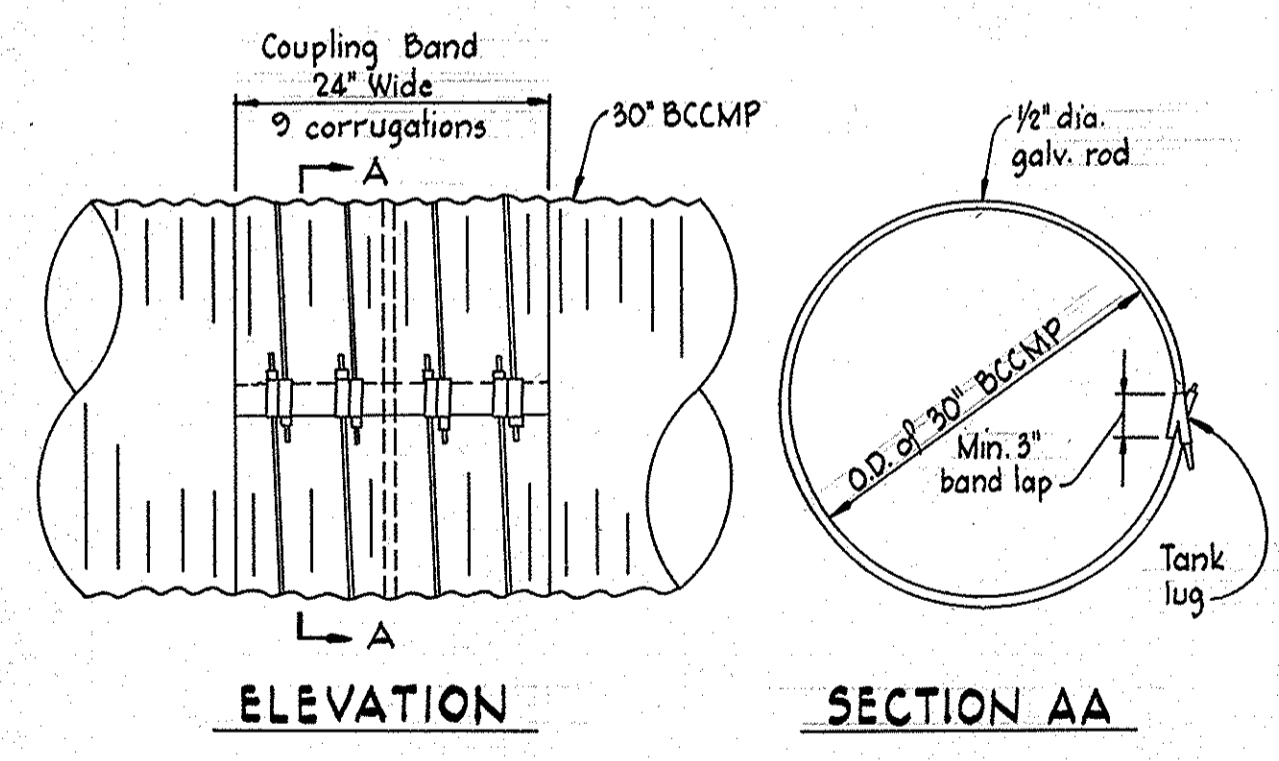
CONCRETE

- Concrete shall have a minimum of 6 bags of cement per cubic yard and water content not to exceed 6 gallons per bag of cement. Slump shall range 3"-4". All concrete shall be transit mix.

ALL NEW

POND CURVE DATA

CURVE	Δ	R	T	L	Ch	Ch Brg
1	117° 00' 49"	50.00'	81.61'	102.11'	85.27'	5 34° 37' 33"E
2	142° 30' 00"	19.00'	55.97'	47.26'	35.98'	5 37° 52' 09"E
3	32° 30' 00"	65.00'	18.25'	36.87'	36.38'	5 17° 07' 51"W
4	152° 41' 19"	16.50'	67.91'	43.97'	32.07'	5 77° 15' 27"W
5	30° 00' 17"	200.00'	59.60'	104.74'	103.54'	N 41° 26' 05"W
6	143° 18' 15"	6.00'	18.09'	15.01'	11.39'	N 15° 12' 54"E
7	12° 00' 50"	100.00'	10.82'	20.97'	20.95'	5 87° 07' 34"E
8	28° 00' 00"	125.00'	31.17'	61.09'	60.48'	N 84° 52' 51"E
9	90° 00' 00"	25.00'	25.00'	39.27'	35.36'	5 68° 52' 51"W
10	22° 44' 35"	100.00'	20.11'	39.69'	39.45'	N 72° 10' 46"E
11	50° 29' 52"	80.00'	37.75'	70.51'	68.25'	N 49° 07' 43"E
12						
13						



DETAIL - WATERTIGHT JOINT  
 No Scale

NOTES:

- Galvanized rods shall be 1/2" dia. 110 inches long & threaded 9 inches at both ends.
- The coupling band shall have sufficient length to give a minimum 3 inch band lap.
- The coupling band shall be 16 gage.
- Rivets in the longitudinal seam under the collar to be omitted and seam stitch welded.
- The coupling band shall be asphalt coated - Type A.
- Field application of asphalt base shall be cement coated with asbestos fibers (roof cement) applied at top of the coupling bands.

**OWNER'S CERTIFICATION FOR POND CONSTRUCTION**  
 I certify that the development and construction of this pond will be done according to this plan. I also authorize periodic on-site evaluation by the Howard Soil Conservation District or its authorized agents as deemed necessary. Deviation from this plan will not be made unless authorized in writing by the Howard Soil Conservation District.  
*Walter E. Woodford* 11-23-76  
 Signature Date

**CERTIFICATION BY THE ENGINEER**  
 I certify that this plan for small pond construction 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* 9-15-76  
 Signature Date  
 Kenneth A. McCord, P.E. 1974

THIS PLAN HAS BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION  
*Wendell B. Gault* 6-27-77  
 U.S. SOIL CONSERVATION DISTRICT

THIS PLAN FOR SMALL POND CONSTRUCTION MEETS THE REQUIREMENT OF THE HOWARD SOIL CONSERVATION DISTRICT  
*Robert W. Ziehm* 6-27-77  
 APPROVED HOWARD S.C.D. DATE  
 PLAN NUMBER F-74-29C

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202

*Kenneth A. McCord*  
 Kenneth A. McCord, P.E. 1974

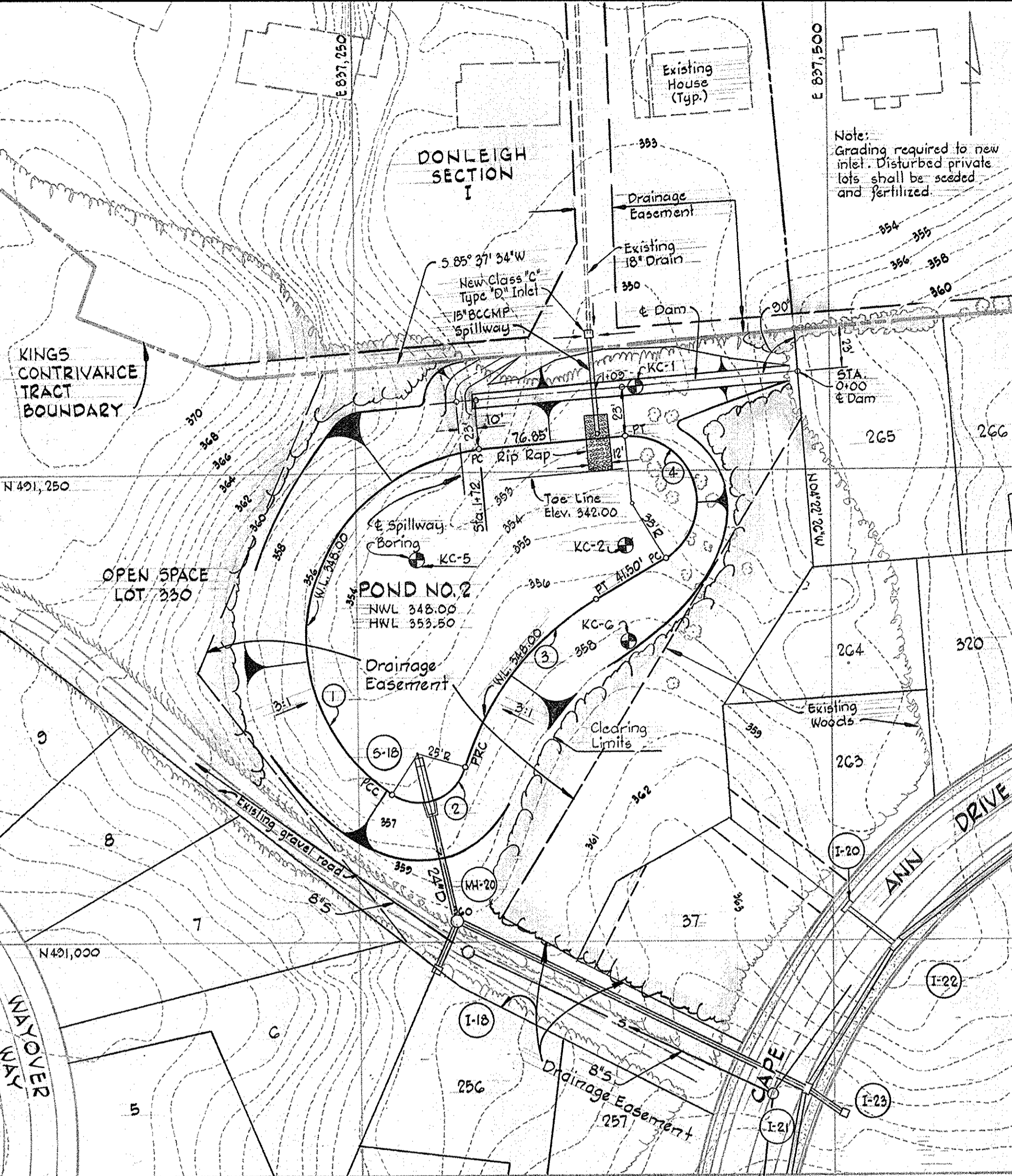
No.	Date	Revision Description

**COLUMBIA**  
 SUPPLEMENT TO  
 ROAD CONSTRUCTION PLANS  
 VILLAGE OF KINGS CONTRIVANCE  
 SECTION 1, AREA 1  
**PERMANENT POND #3**  
**DETAILS AND SPECIFICATIONS**  
 ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND  
 DATE: SHEET 8 OF 18 SCALE: AS SHOWN

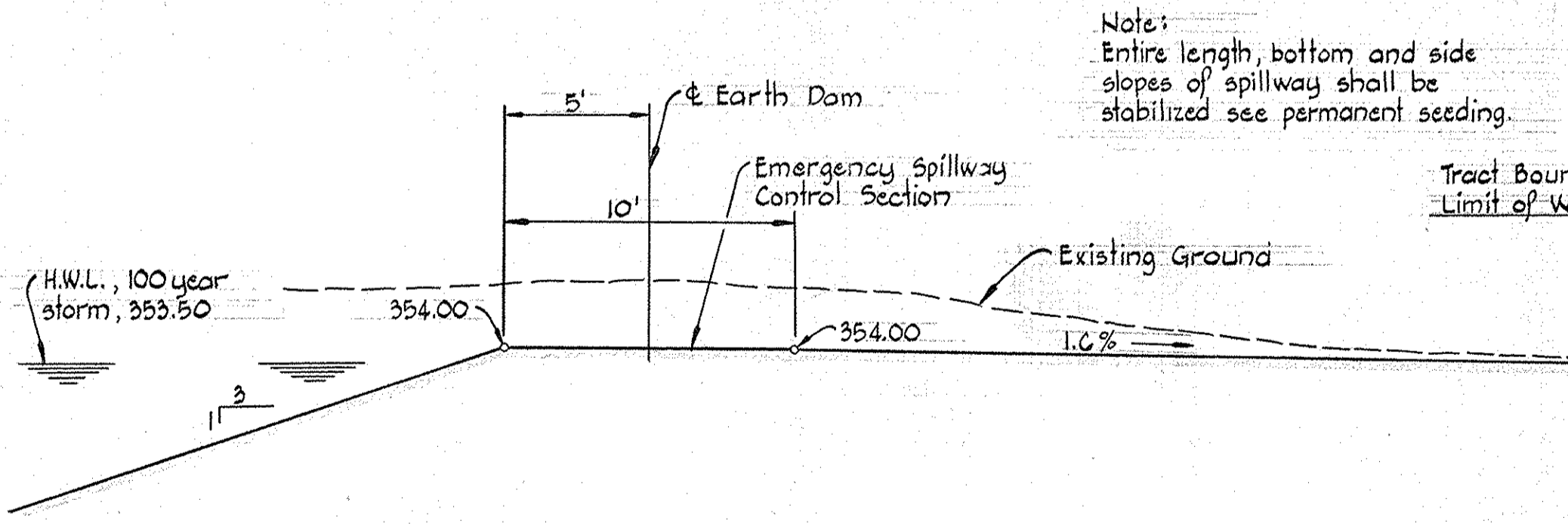








PLAN - POND NO. 2  
 Scale: 1" = 50'



PROFILE - EMERGENCY SPILLWAY  
 Scale: 1" = 5'-0"

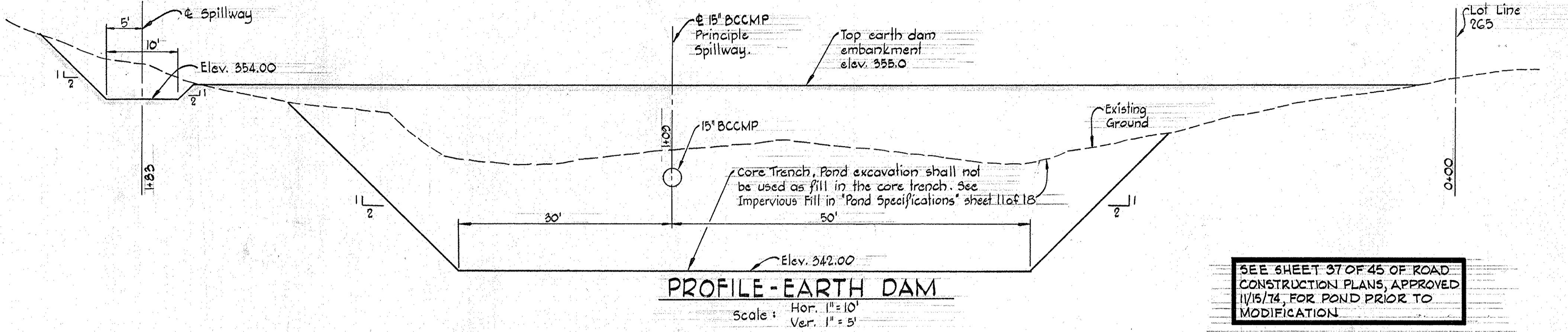
**OWNER'S CERTIFICATION FOR POND CONSTRUCTION**  
 I certify that the development and construction of this pond will be done according to this plan. I also authorize periodic on-site evaluation by the Howard Soil Conservation District or its authorized agents as deemed necessary. Deviation from this plan will not be made unless authorized in writing by the Howard Soil Conservation District.  
*Walter E. Woodford*  
 Signature Date: 11-22-76

**CERTIFICATION BY THE ENGINEER**  
 I certify that this plan for small pond construction 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*  
 Signature Date: 9-15-76  
 Kenneth A. McCord, P.E. 1974

THIS PLAN HAS BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION.  
*Wendell Embette* 6-27-77  
 U.S. SOIL CONSERVATION DISTRICT DATE

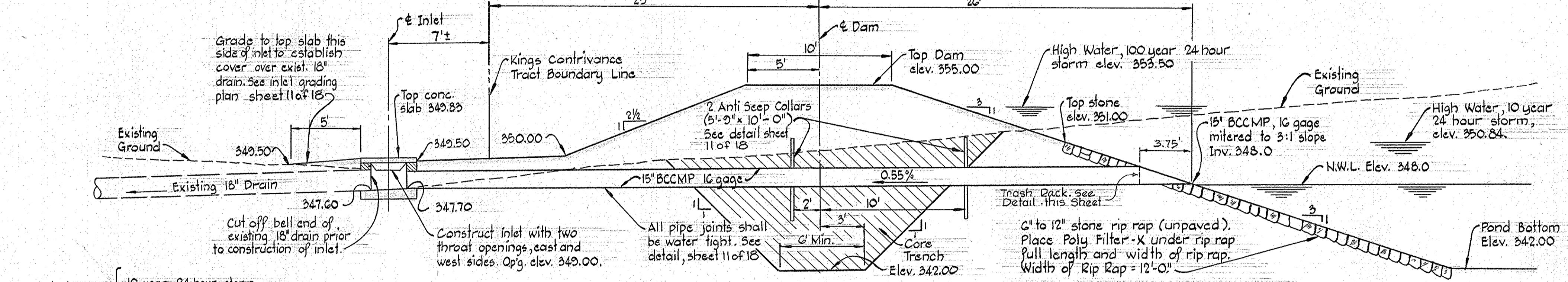
THIS PLAN FOR SMALL POND CONSTRUCTION MEETS THE REQUIREMENT OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Robert W. Zichner* 6-27-77  
 APPROVED HOWARD S.C.D. DATE  
 PLAN NUMBER F-74-29C

- NOTES:  
 1. Pond and core trench excavation including stripping in fills equals cubic yards.  
 2. Fill required for the earth dam embankment equals 790 cubic yards.  
 3. Tree clearing required equals 1.20 acres.  
 4. See Sheet 11 for General Notes, Pond Specifications, and Details.  
 5. Impervious Fill required for Core Trench equals 450 cubic yards.



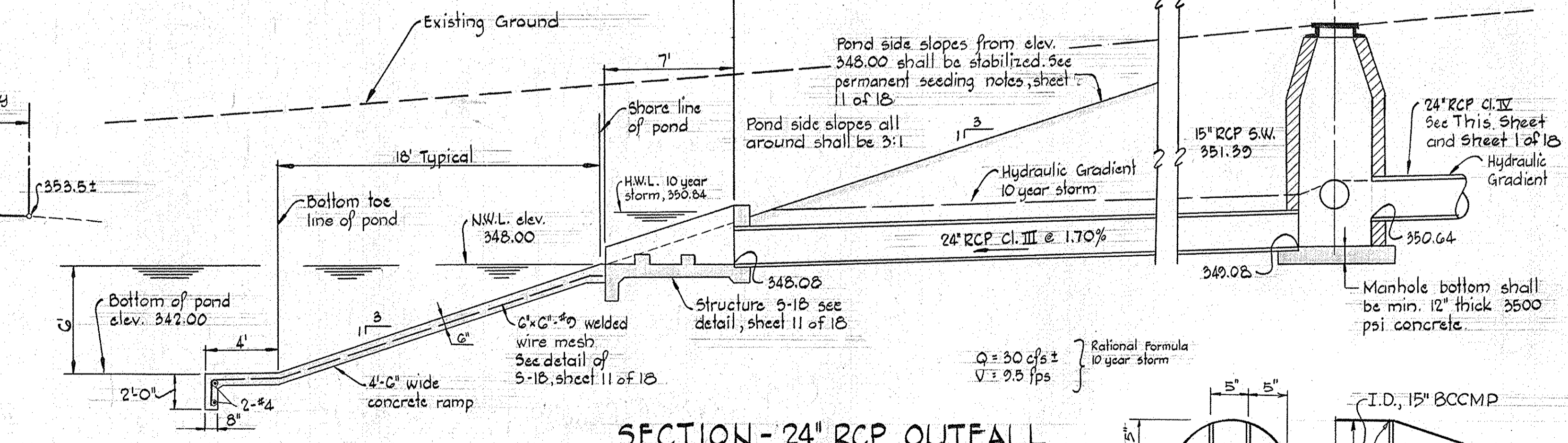
PROFILE - EARTH DAM  
 Scale: Hor. 1" = 10'  
 Ver. 1" = 5'

SEE SHEET 37 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR POND PRIOR TO MODIFICATION.

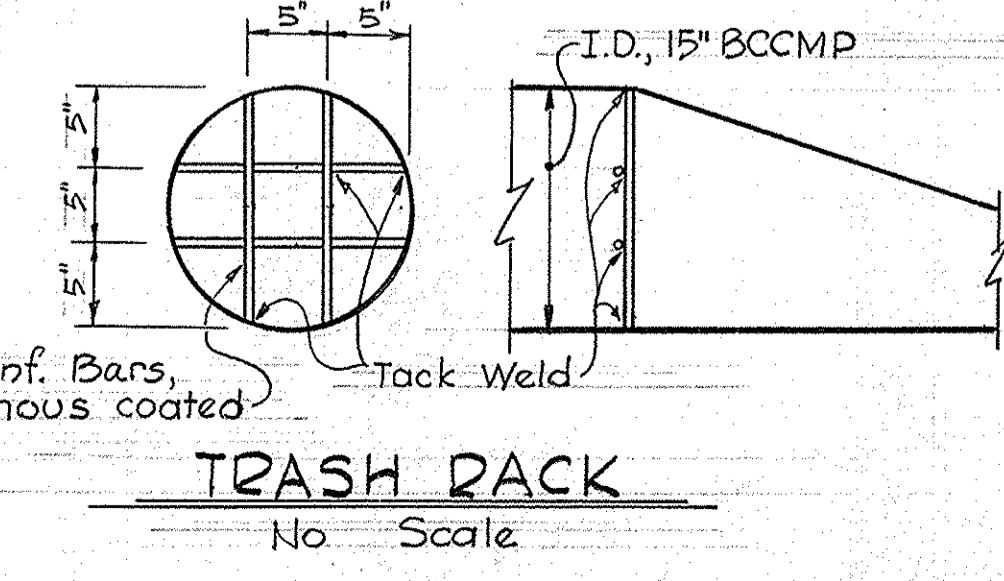


SECTION - PRINCIPLE SPILLWAY  
 Scale: 1" = 5'-0"

Pond design according to U.S.D.A. Soil Conservation Service criteria for ponds:  
 10 year 24 hour storm  
 Release = 6.1 cfs  
 100 year 24 hour storm  
 Release = 9.0 cfs



SECTION - 24" RCP OUTFALL  
 No Scale



TRASH RACK  
 No Scale

Rev. Date	Rev. No.	Revision Description

**COLUMBIA**  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER  
 THE HOWARD RESEARCH AND DEVELOPMENT CORP.

SUPPLEMENT TO ROAD CONSTRUCTION PLANS  
 VILLAGE OF KINGS CONTRIVANCE  
 SECTION I AREA I  
**PERMANENT POND NO. 2**

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 BALTIMORE, MARYLAND 21202

*Kenneth A. McCord*  
 KENNETH A. MCCORD  
 Registered Engineer  
 No. 1974



**POND SPECIFICATIONS**

**PERMANENT SEEDING** (See General Note No. 5)  
 Lime = 2 tons/acre agricultural ground limestone  
 Fertilizer = 1000 lbs/acre (10-10-10)  
 Seeding = 100 lbs/acre of the following:  
 20% Kentucky Blue Grass  
 20% Merion Blue Grass  
 55% Creeping Red Fescue  
 5% Redtop

Mulch required - Mulch areas with straw at the rate of 75 lbs/1000 sq. ft. or 15 tons/acre.  
 Anchor with asphalt at the rate of 480 gallons/acre.  
 Stabilization of slopes steeper than 3:1 shall be planted with crownvetch including 15 lbs/acre (0.34 lbs/1000 sq. ft.), Kentucky 31 tall Fescue 40 lbs/acre (11b/1000 sq. ft.)

**IMPERVIOUS FILL (Core Trench)**

- Impervious fill material shall be obtained from specified areas. See Map and Test Pit logs on sheets 42 and 44 of 45, Road Construction Drawings for Village of Kings Contrivance, Section I, Area I.
- Impervious fill material shall be placed in 8" loose layers and compacted to 90% of A55HO T-180.
- Moisture content of impervious fill material shall be within the range of 1% below optimum moisture to 3% above optimum moisture.

**EARTH DAM EMBANKMENT**

- Suitable material from the pond excavation may be used for the embankment except where impervious material is required.
- Suitable material shall be placed in 8 inch loose layers and compacted to 90% of A55HO T-180.
- Moisture content of the suitable material shall be within the range of 2% below optimum moisture to 2% above optimum moisture.
- Area under the embankment shall be cleared and grubbed to remove all trees, vegetation, roots or other objectionable material and topsoil stripped.
- The fill material shall be free from roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The fill height all along the length of the embankment shall be increased by 10%.
- 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.
- Compaction shall be by multiple wheel pneumatic 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.

**PRINCIPLE SPILLWAY**

- Backfill around the 15" BCCMP 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 backfilling operation, shall construction equipment be allowed to operate closer than 4 feet to any part of the 15" BCCMP. Under no circumstances shall the contractor drive equipment over any part of the 15" BCCMP unless there is a compacted fill to a depth of 24 inches or greater over the 15" BCCMP.
- The 15" BCCMP 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.

**CONCRETE**

- Concrete shall have a minimum of 6 bags of cement per cubic yard and water content not to exceed 6 gallons per bag of cement. Slump shall range 3"-4". All concrete shall be transit mix.

**GENERAL NOTES**

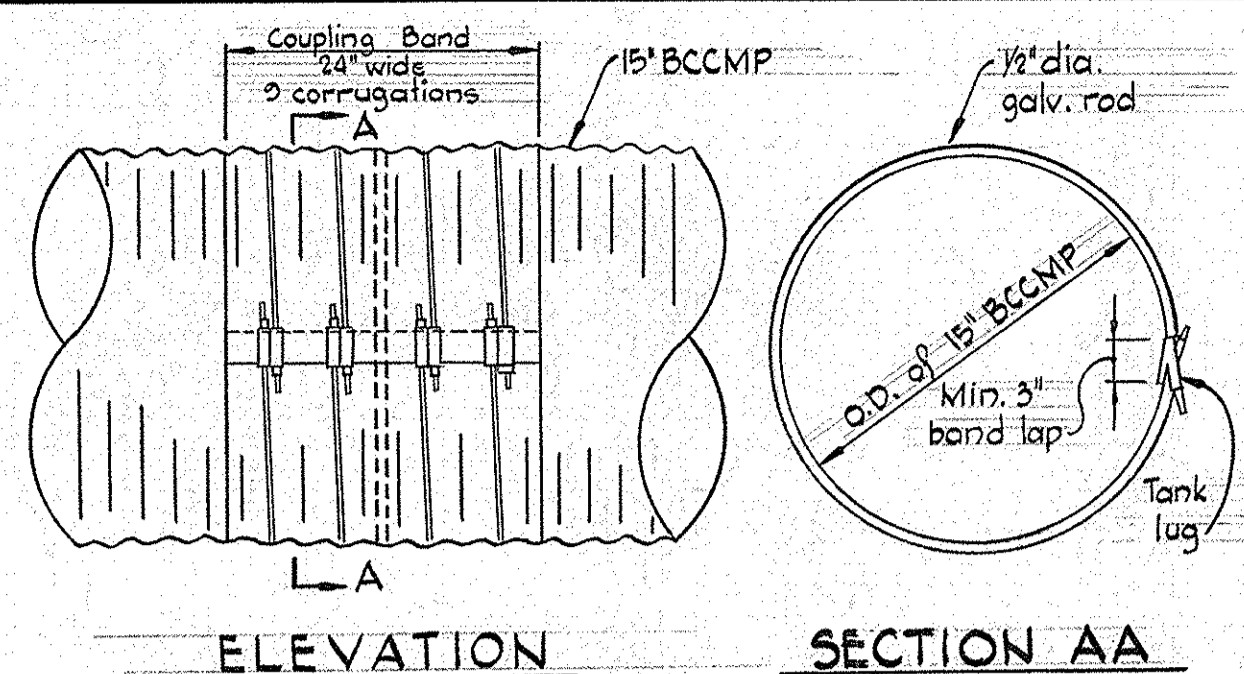
- These drawings of POND NO. 2, (sheets 10 of 18) supercede sheet No. 37 of 45, Road Construction Drawing for the Village of Kings Contrivance, Section I, Area I.
- Pond No. 2 must be constructed prior to any other construction work intended within the ponds' drainage area. See drainage area map on sheet 45 of 45, Road Drawing for the Village of Kings Contrivance, Section I, Area I.
- After final cleanup and refurbishing of Pond No. 2, the owner shall submit an "As Built" drawing of Pond No. 2 to the Howard Soil Conservation District in Ellicott City, Maryland.
- Program cleanup of the pond at elevation 347.00. Two stakes shall be placed, one each side of the embankment Rip Rap at elevation 346.00. Mark stakes at cleanup elevation 347.00.
- All ground surfaces of the earth dam embankment, emergency spillway and the pond side slopes from elevation 348.00 shall receive permanent seeding stabilization.

**POND CURVE DATA**

CURVE	Δ	L	R	Ch	Ch Brg
①	141° 20' 00"	246.67'	100.00'	188.72'	S 14° 57' 34" W
②	108° 00' 00"	47.12'	25.00'	40.45'	N 70° 17' 34" E
③	44° 30' 00"	116.50'	150.00'	119.60'	N 30° 32' 34" E
④	135° 10' 00"	94.79'	35.00'	68.36'	N 16° 47' 26" W

SEE SHEET 37 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR POND PRIOR TO MODIFICATION

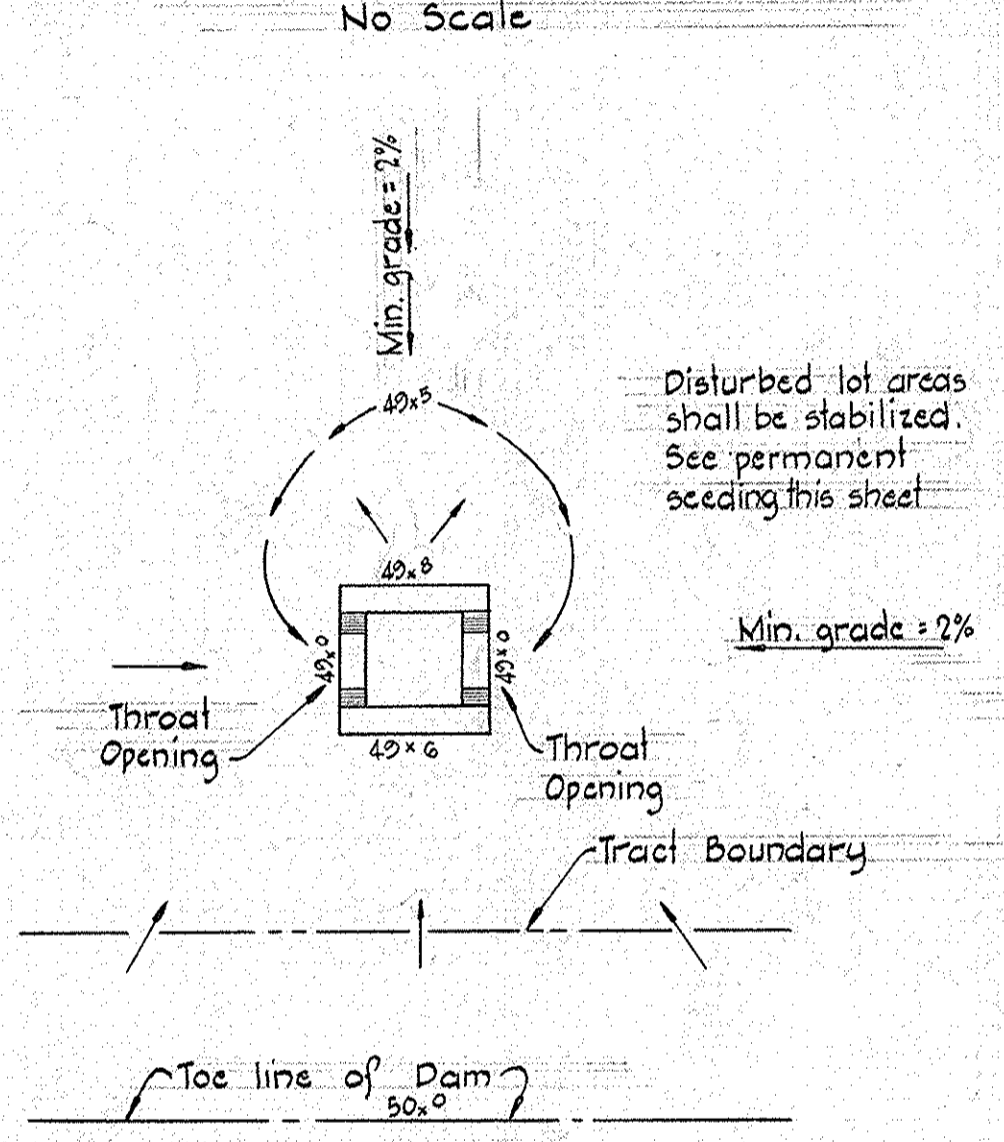
Rev. Date	Rev. No.	Revision	Description
<b>COLUMBIA</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORP. SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION I AREA I <b>PERMANENT POND NO. 2</b>			
SCALE: AS SHOWN DATE:			
WHITMAN, REARDY & ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21202			
<i>Kenneth A. McLeod</i> KENNETH A. MC LEOD Registered Engineer No. 1974			



**NOTES**

- Galvanized rods shall be 1/2" dia., 63 inches long and threaded 3 inches at both ends.
- The coupling band shall have sufficient length to give a minimum 3 inch band lap.
- The coupling band shall be 16 gage.
- Rivets in the longitudinal seam under the collar to be omitted and seam stitch welded.
- The coupling band shall be asphalt coated - Type A.
- Field application of asphalt base shall be cement coated with asbestos fibers (roof cement) applied at lap of the coupling bands.

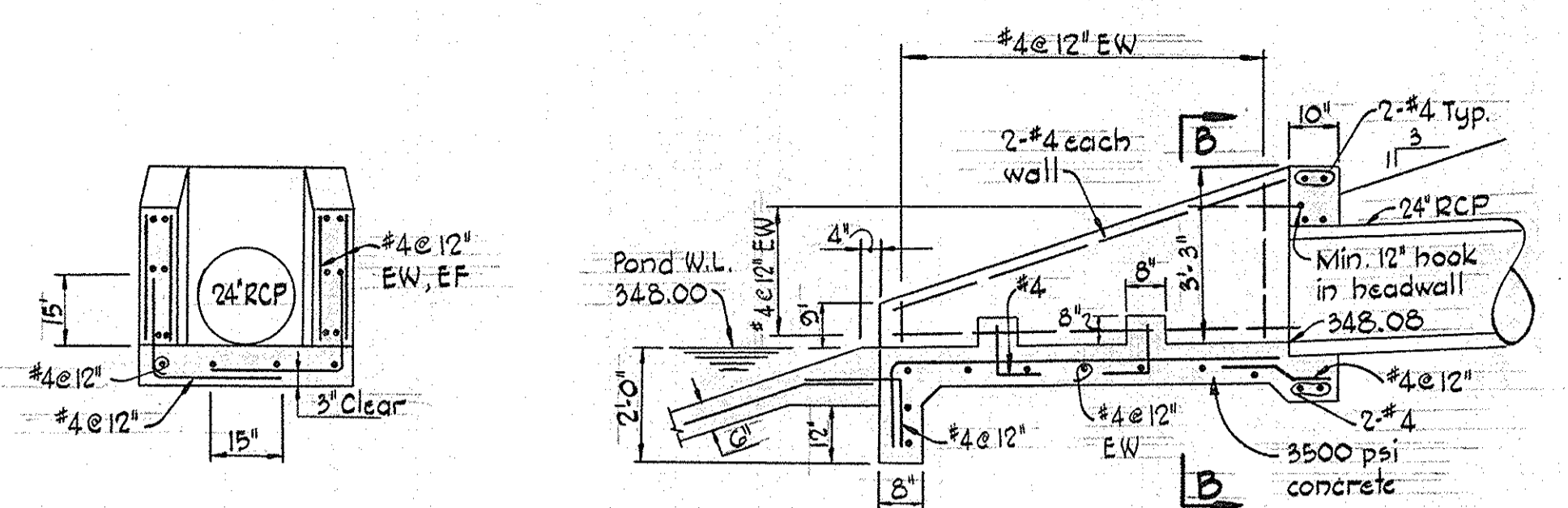
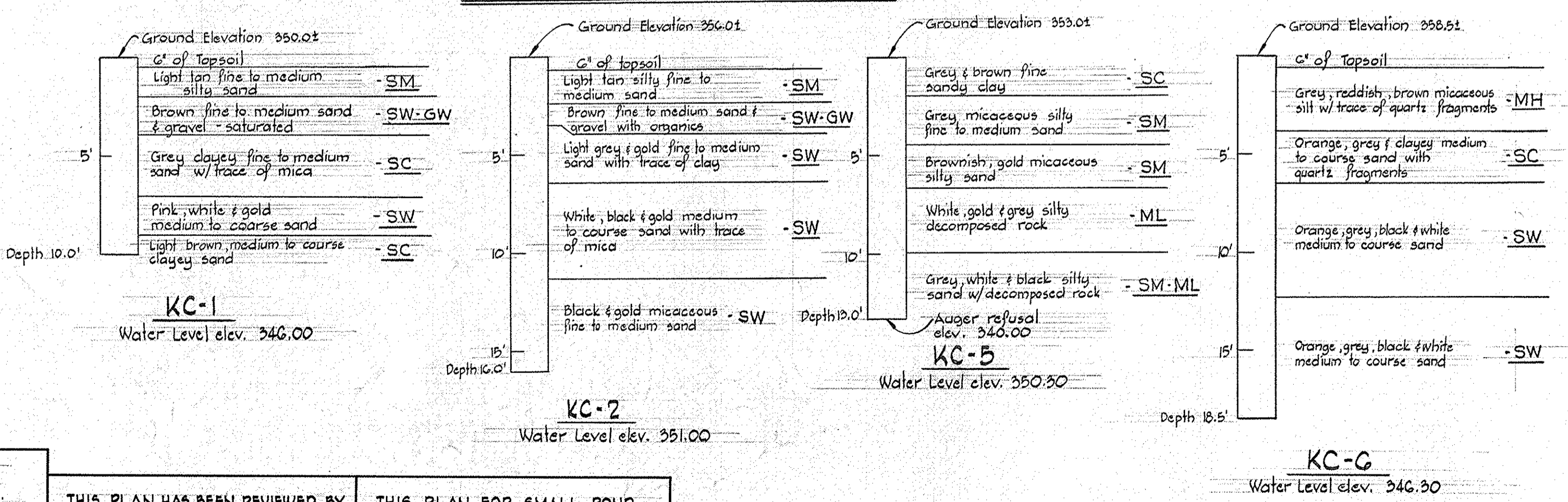
**DETAIL - WATERTIGHT JOINT**



**INLET GRADING PLAN**

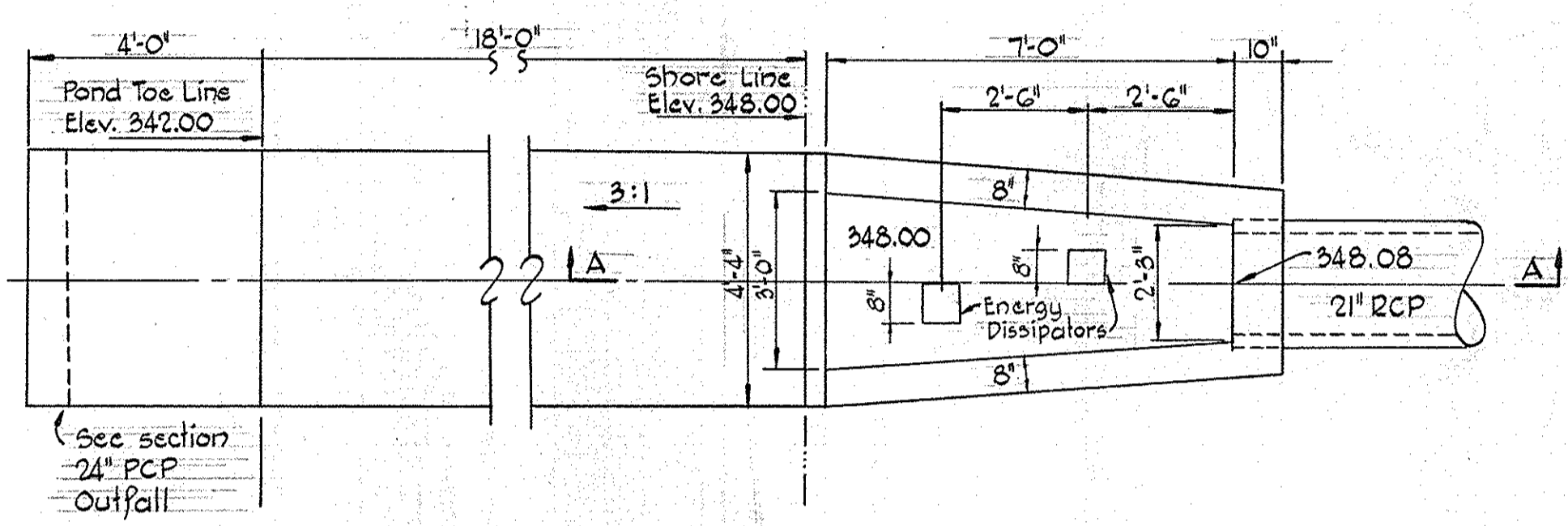
Scale: 1" = 5'-0"

**SOIL BORINGS**



**SECTION - BB**

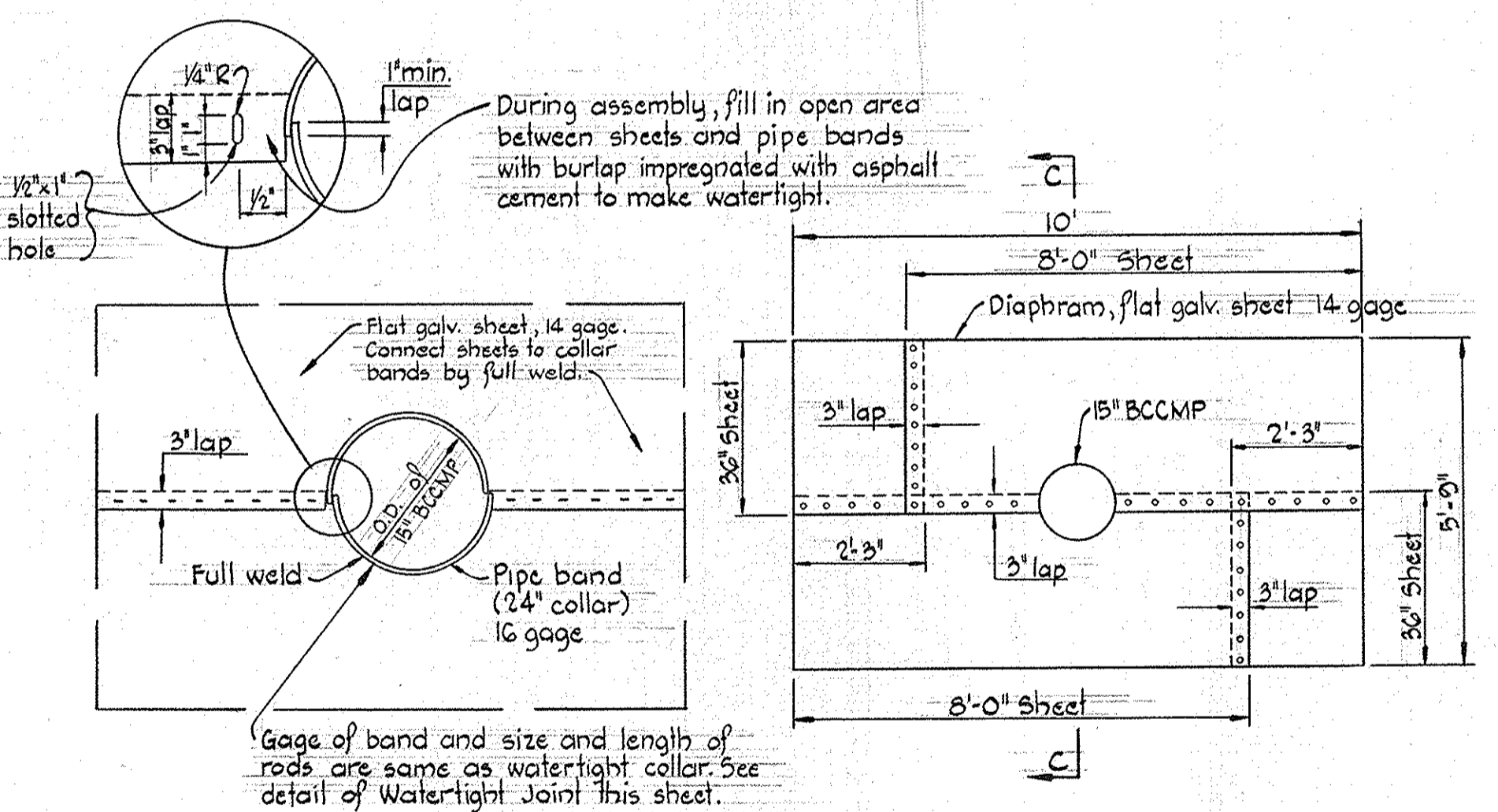
**SECTION - AA**



**PLAN**

**DETAIL - STRUCTURE S-18**

Scale: 3/8" = 1'-0"



**NOTES:**

- Diaphragm shall be located at other than pipe joints.
- 1/2" x 1" slotted holes for 3/8" x 1" bolts in one half (upper or lower) of diaphragm only. Use 1/2" holes in other matching holes.
- All bolts, nuts, rivets and washers shall be galvanized, cadmium plated or stainless steel.
- Lap of the 2'-3" pieces to be with either 3/8" x 1 3/4" rivets or with 3/8" x 1" bolts or by stitch weld all on 6" centers. Paint facing surfaces of laps with asphalt cement before shop assembly.
- After welding, damaged zinc coating shall be repaired by thoroughly cleaning on both sides of the metal and painting with 2 coats of zinc oxide/zinc dust paint.

**DETAIL - ANTI-SEEP COLLAR**

No Scale

**OWNER'S CERTIFICATION FOR POND CONSTRUCTION**

"I certify that the development and construction of this pond will be done according to this plan; I also authorize periodic on-site evaluation by the Howard Soil Conservation District or its authorized agents as deemed necessary. Deviation from this plan will not be made unless authorized in writing by the Howard Soil Conservation District."

*Walter Woodford*  
 Signature Date 11-22-76

**CERTIFICATION BY THE ENGINEER**

"I certify that this plan for small pond construction 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. McLeod*  
 Signature Date 9-23-76  
 Kenneth A. McLeod P.E. 1974

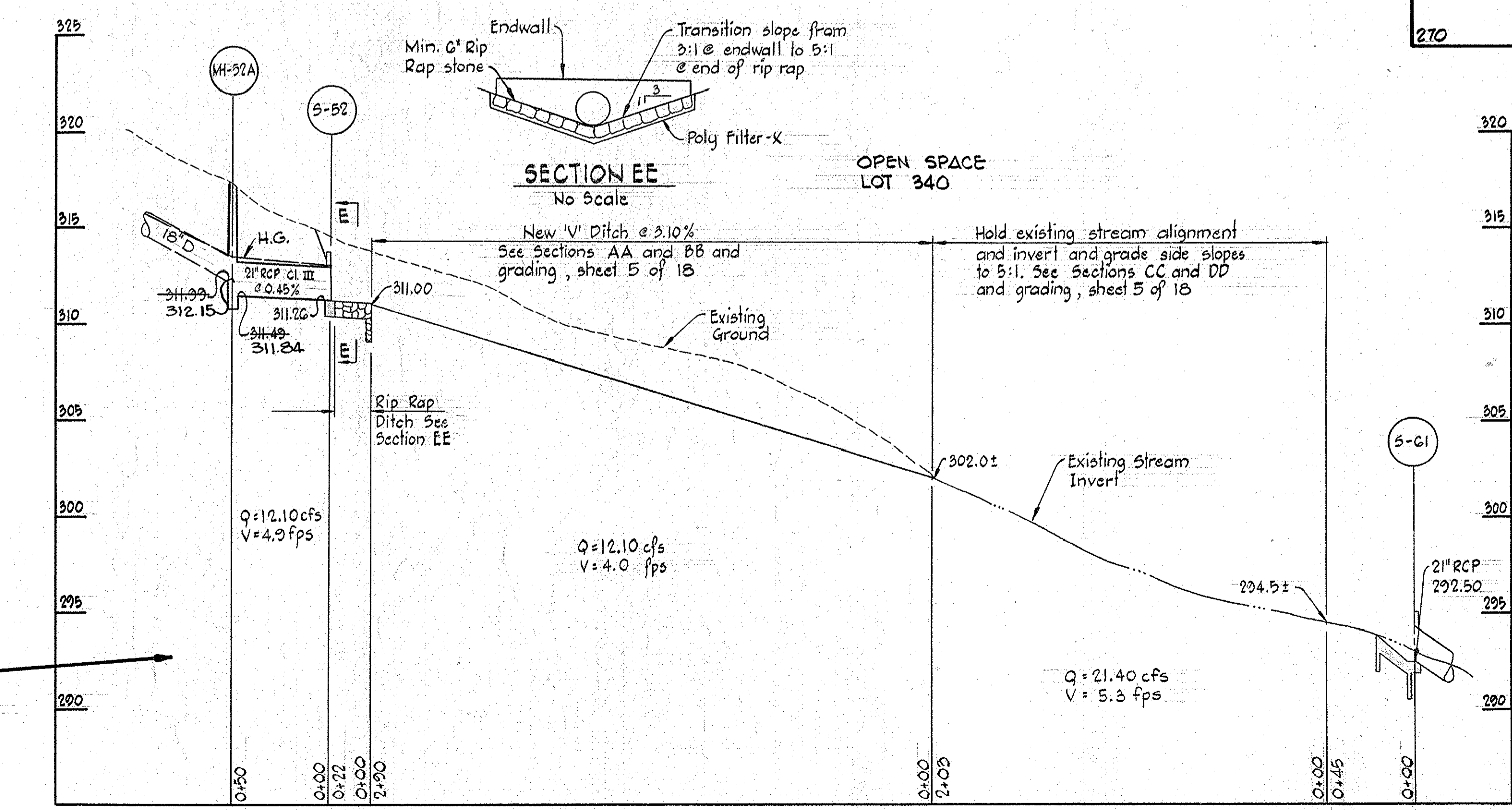
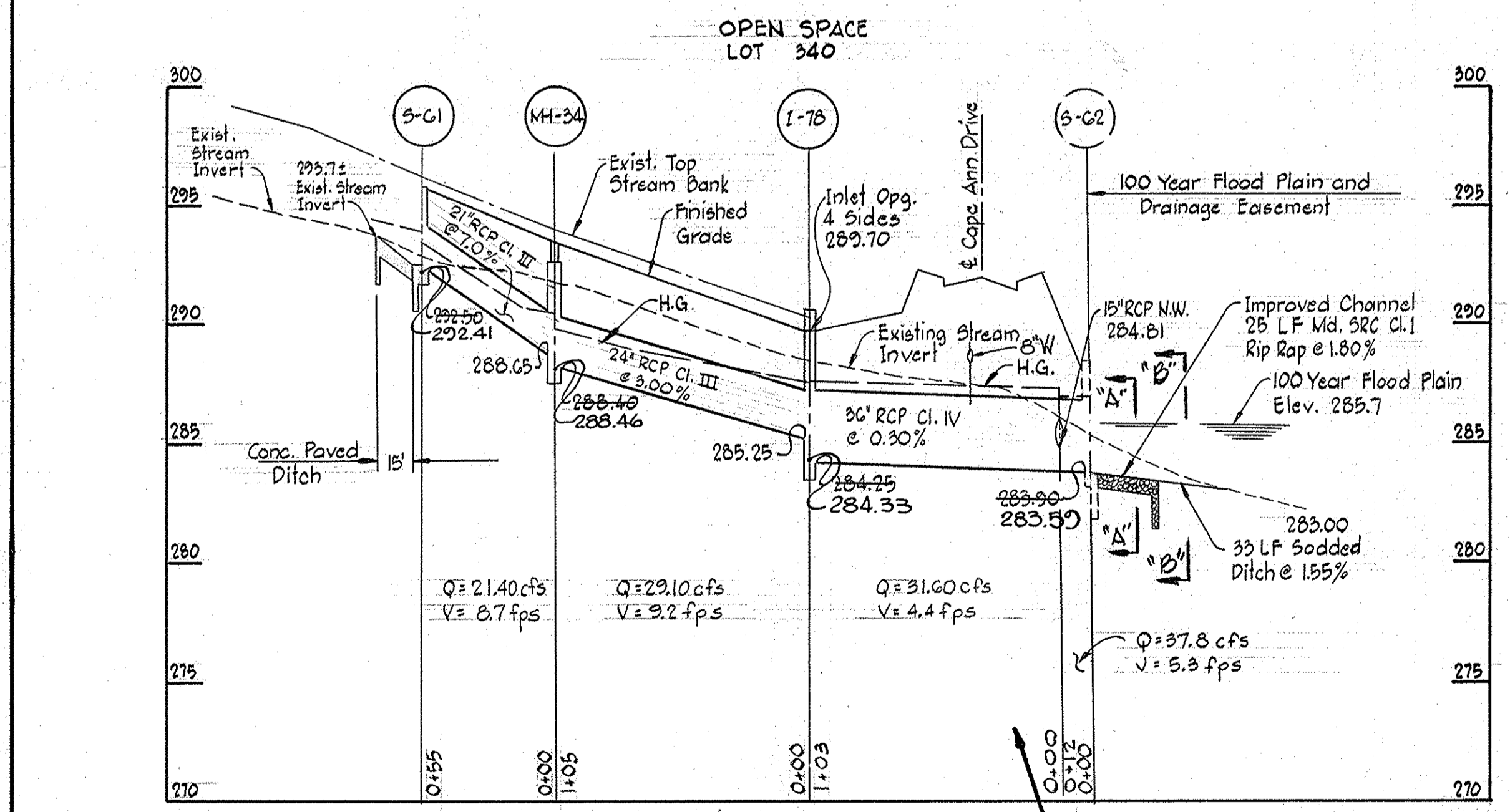
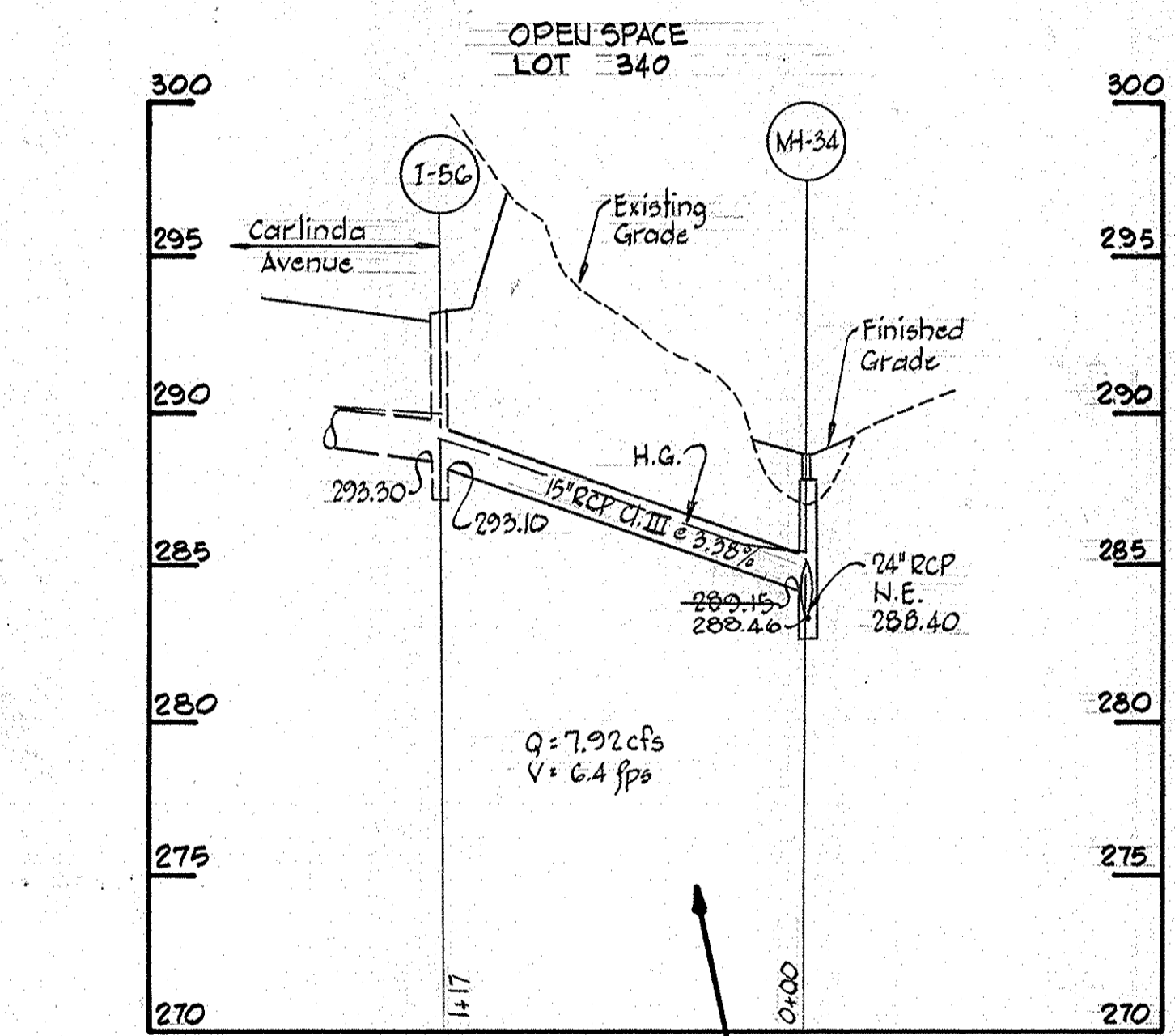
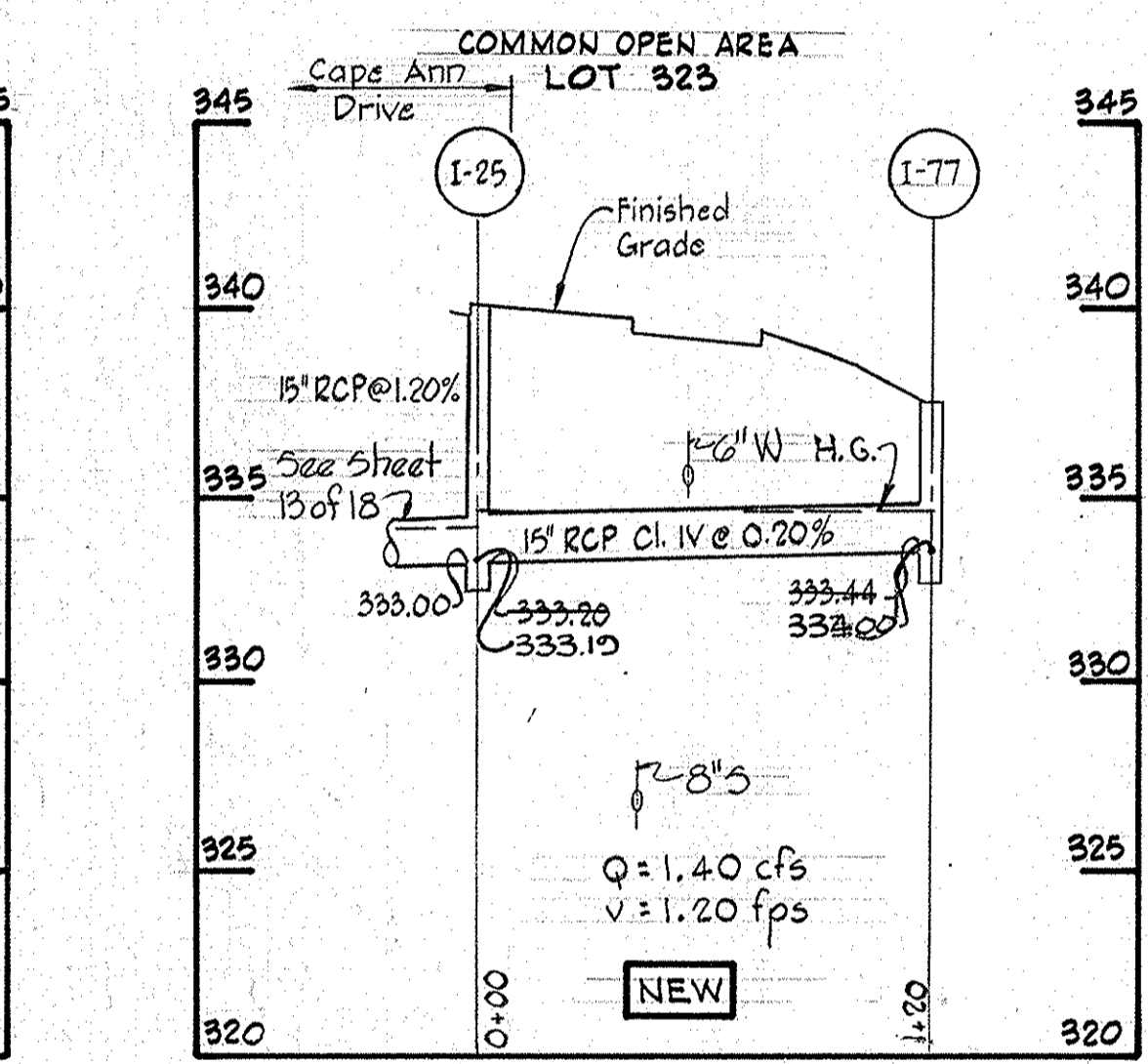
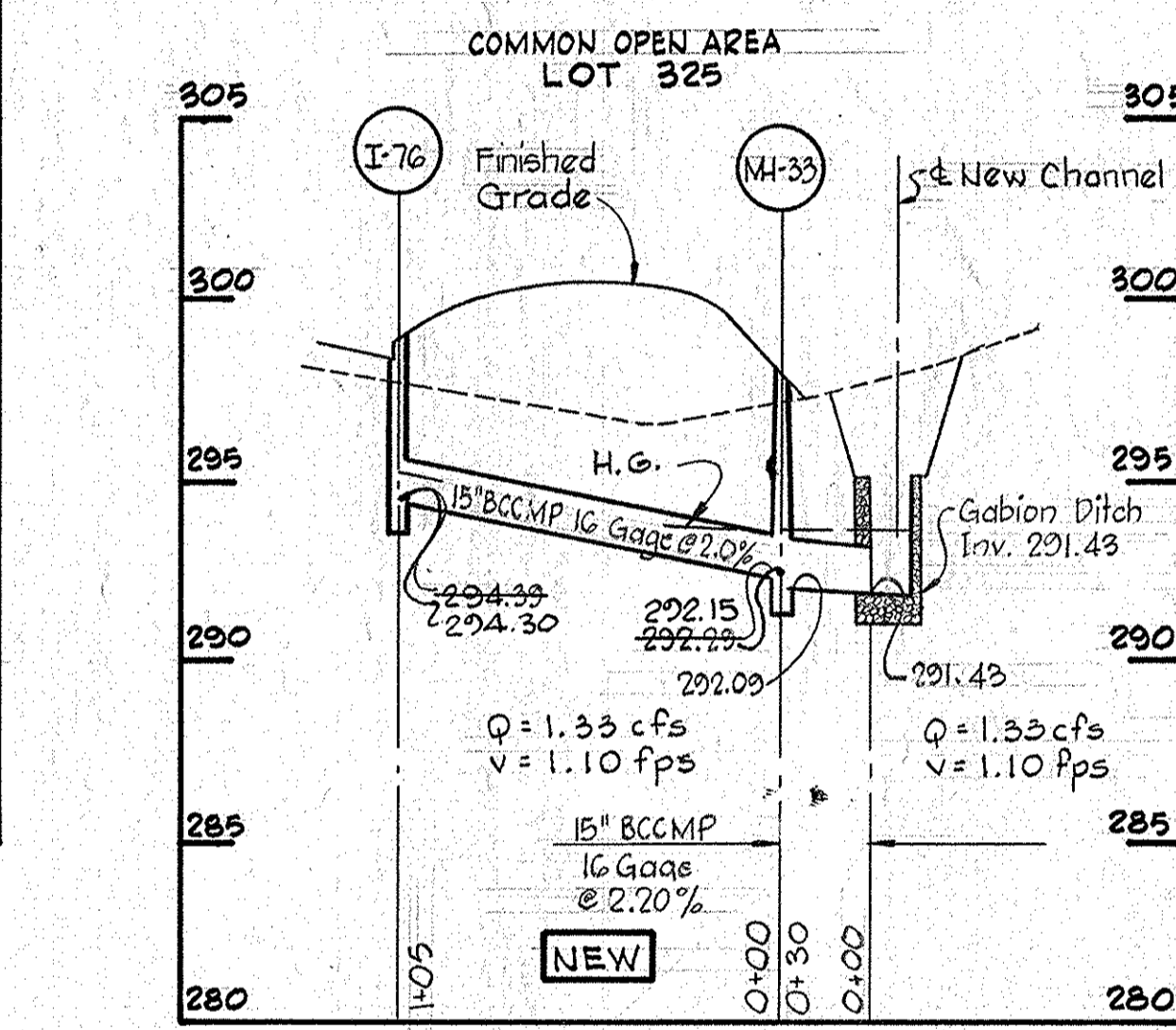
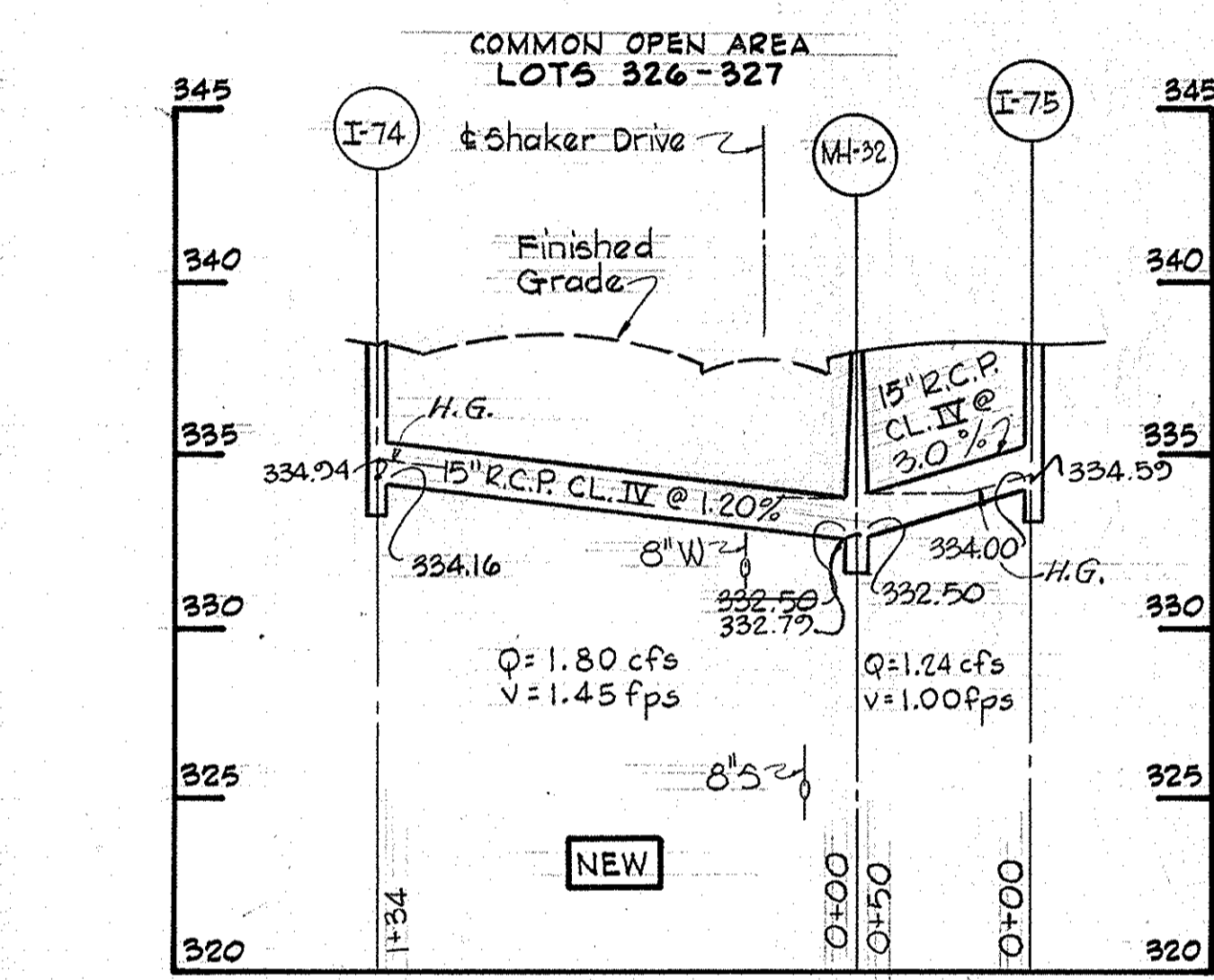
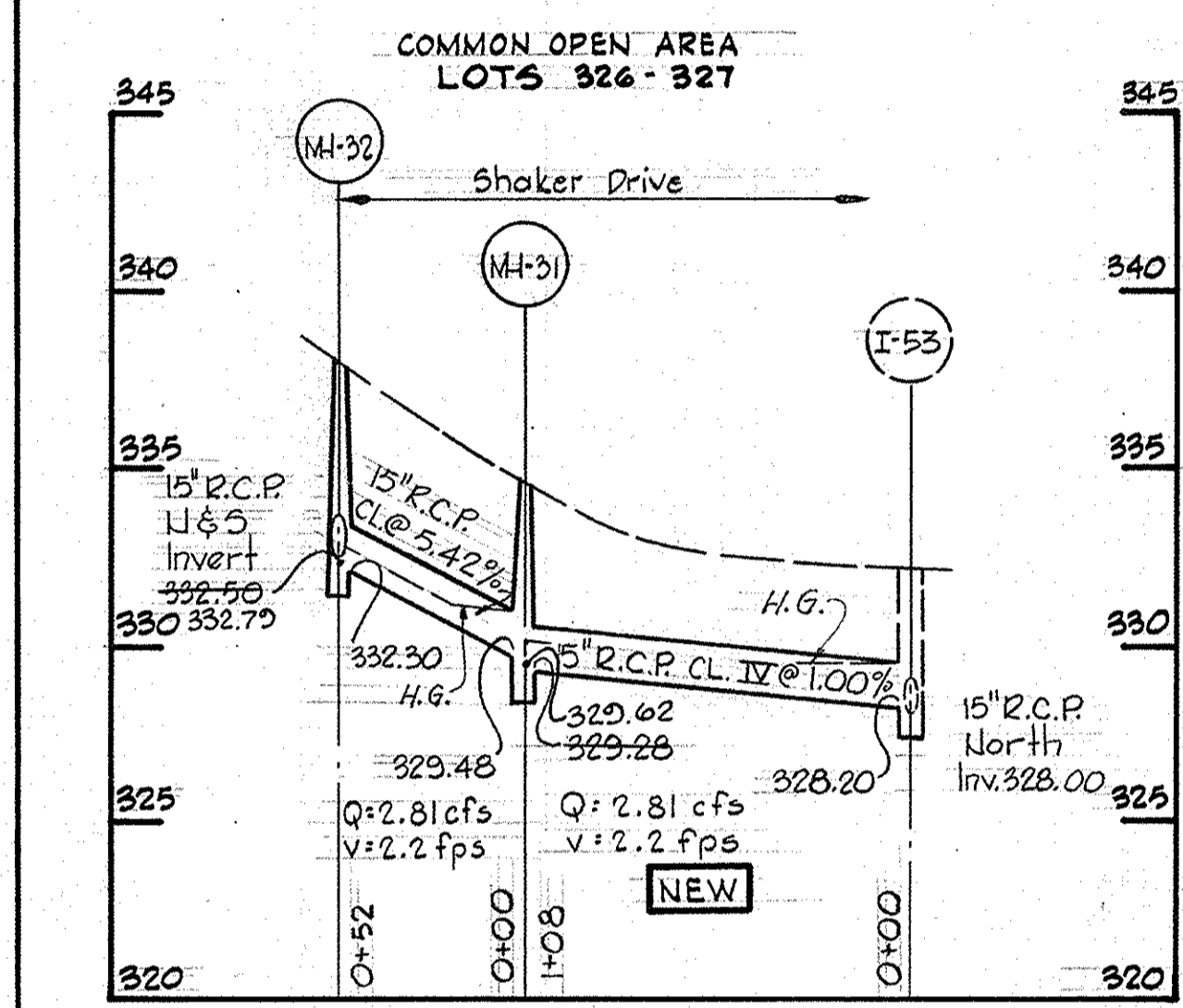
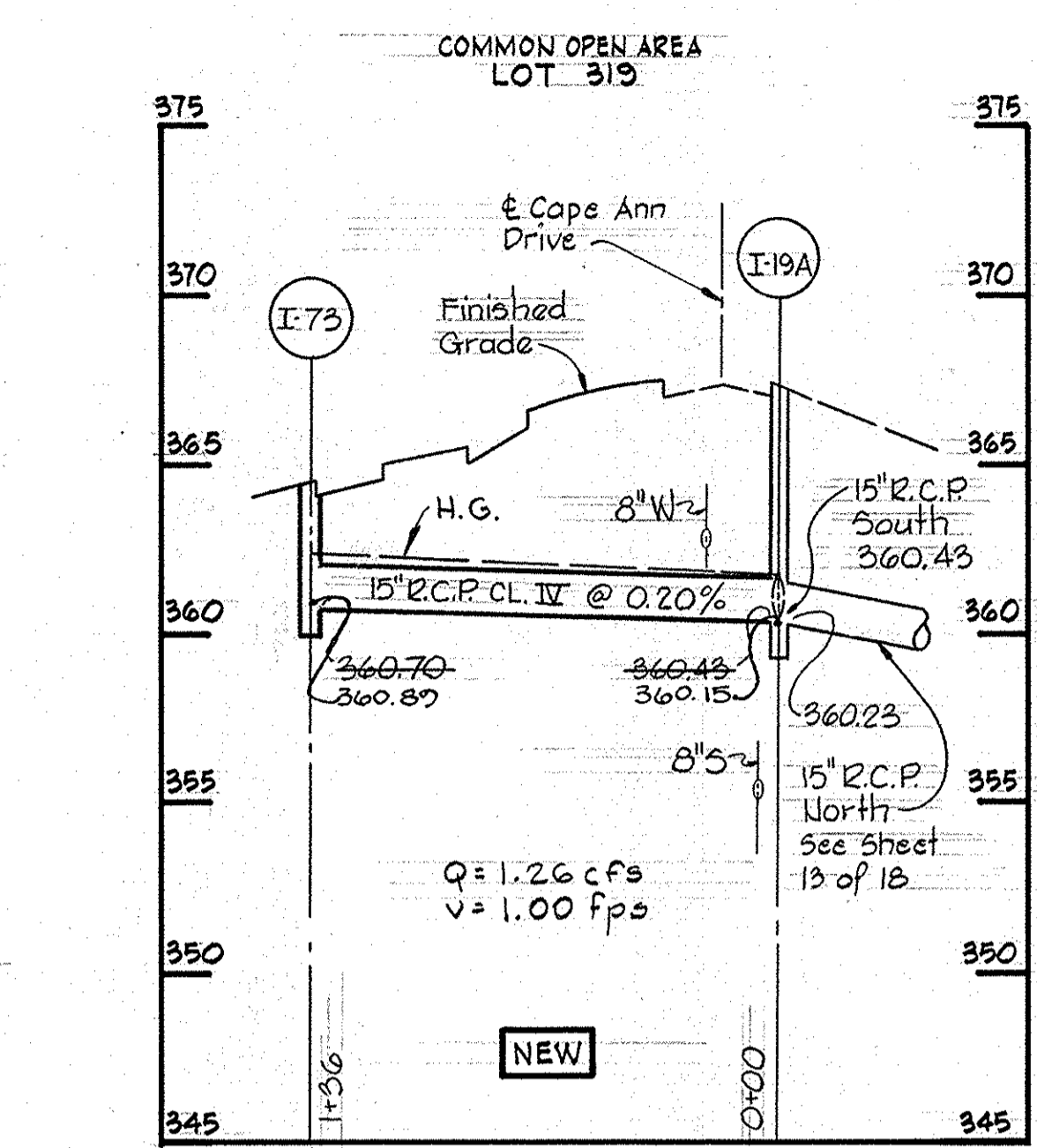
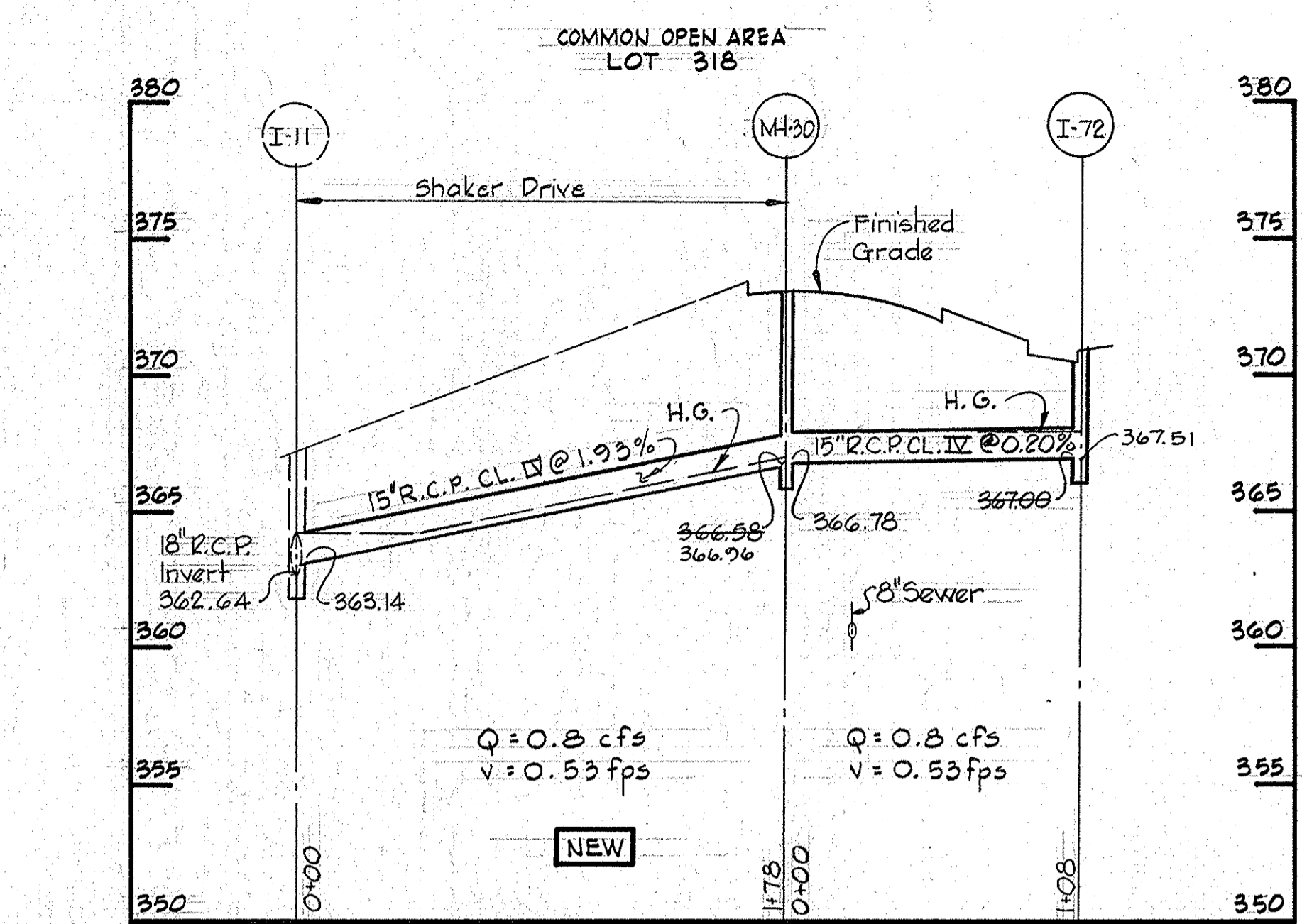
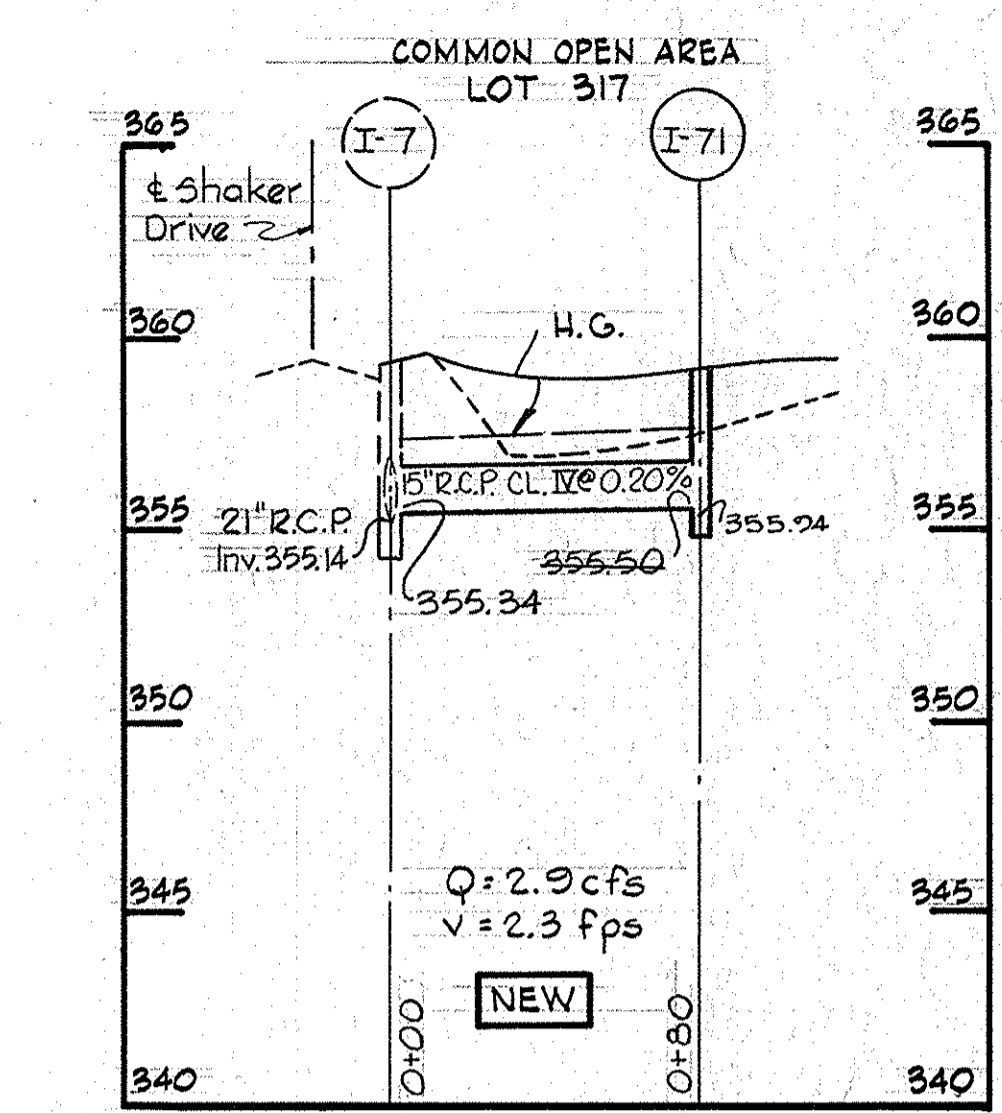
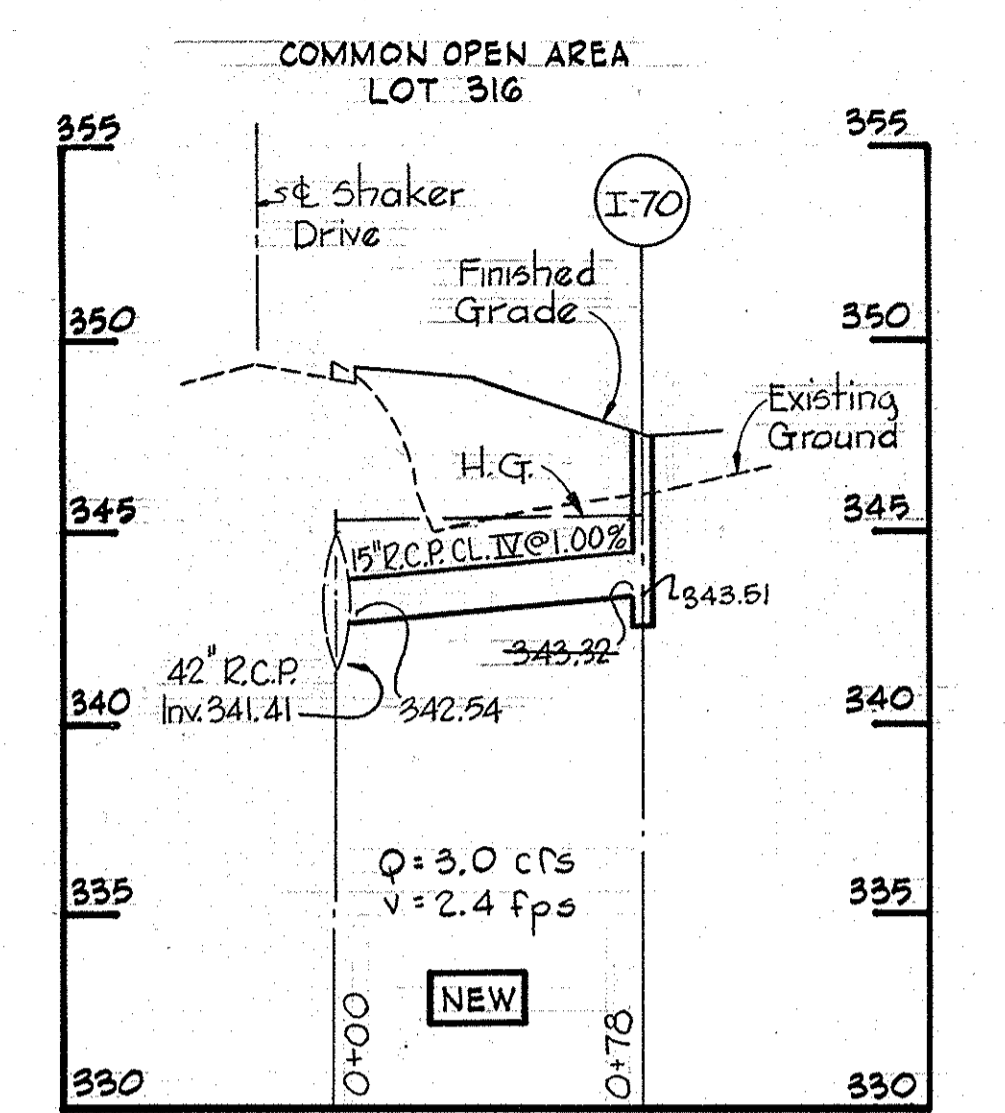
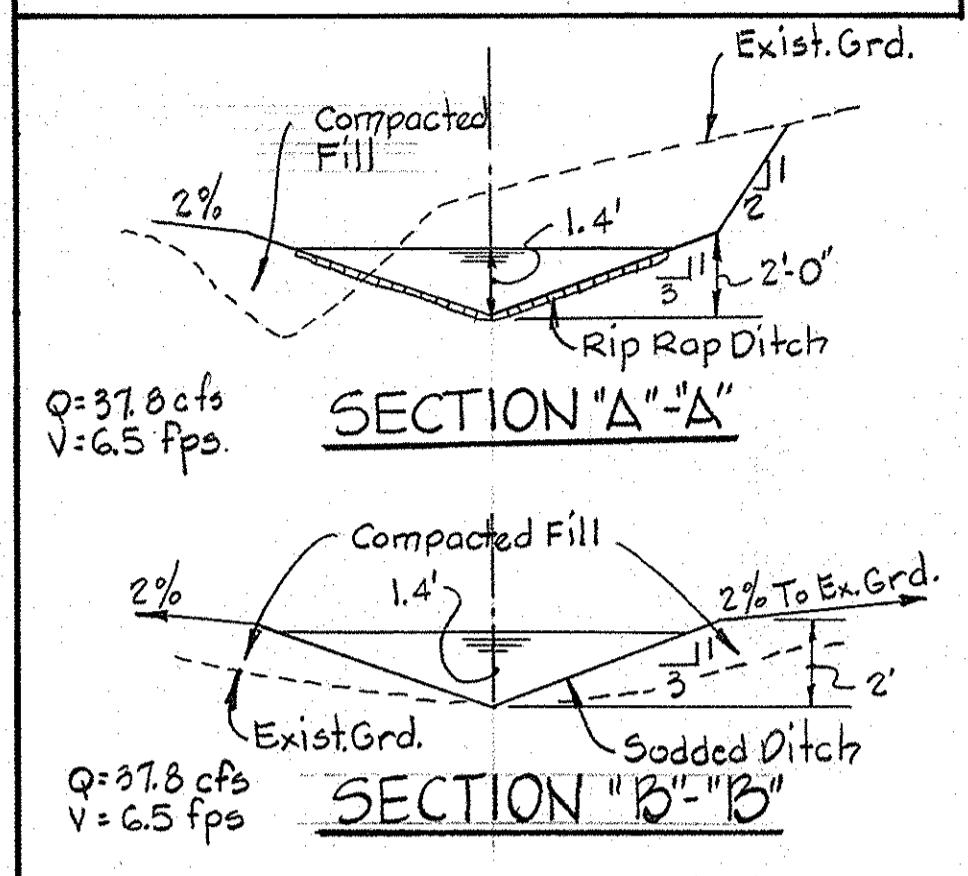
THIS PLAN HAS BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION

*Winston Boudette* 6-27-77  
 U.S. SOIL CONSERVATION DISTRICT DATE

THIS PLAN FOR SMALL POND CONSTRUCTION MEETS THE REQUIREMENT OF THE HOWARD SOIL CONSERVATION DISTRICT

*Kenneth A. McLeod* 6-27-77  
 APPROVED HOWARD S.C.D. DATE  
 PLAN NUMBER F-74-29C





MODIFIED STORM DRAIN SYSTEM  
 SEE SHEET 20 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR PROFILE PRIOR TO  
 MODIFICATION

MODIFIED STORM DRAIN SYSTEM  
 SEE SHEET 20 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR PROFILE PRIOR TO  
 MODIFICATION.

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202

*Kenneth A. McLeod*  
 Kenneth A. McLeod P.E. No. 1974

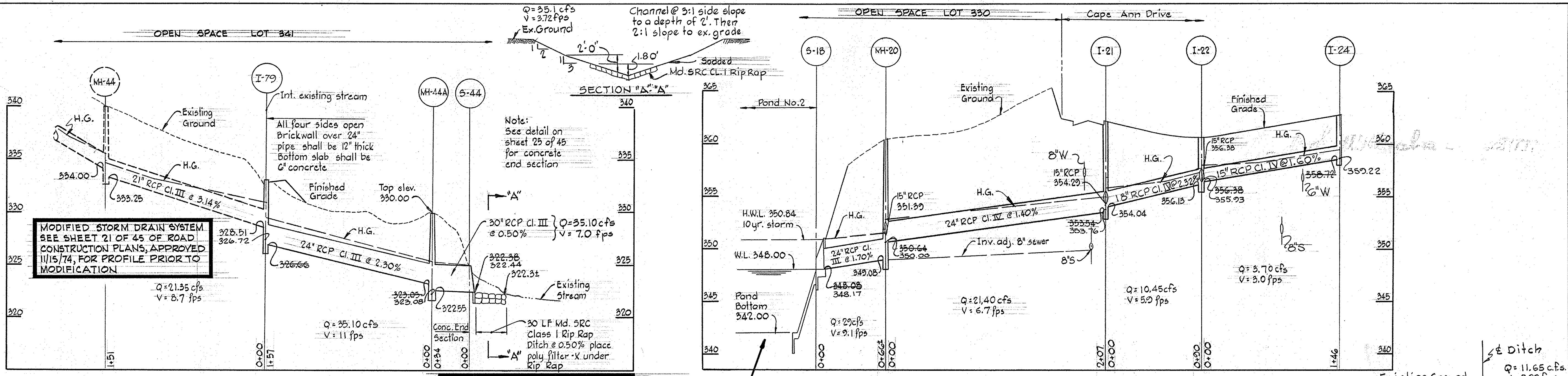
NO.	DATE	DESCRIPTION OF REVISIONS

**COLUMBIA**  
 SUPPLEMENT TO  
 ROAD CONSTRUCTION PLANS  
 VILLAGE OF KINGS CONTRIVANCE  
 SECTION I AREA I

**STORM DRAIN PROFILES**

SHEET 12 OF 18  
 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND  
 DATE: *3-10-77* SCALE: *1"=50'*





**MODIFIED STORM DRAIN SYSTEM**  
 SEE SHEET 21 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR PROFILE PRIOR TO MODIFICATION.

**MODIFIED STORM DRAIN SYSTEM**  
 SEE SHEET 23 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR PROFILE PRIOR TO MODIFICATION.

**MODIFIED STORM DRAIN SYSTEM**  
 SEE SHEET 22 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR PROFILE PRIOR TO MODIFICATION.

**MODIFIED STORM DRAIN SYSTEM**  
 SEE SHEET 19 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR PROFILE PRIOR TO MODIFICATION.

**MODIFIED STORM DRAIN SYSTEM**  
 SEE SHEET 23 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR PROFILE PRIOR TO MODIFICATION.

**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
 OWNER AND DEVELOPER  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

**WHITMAN, REQUARDT & ASSOCIATES**  
 ENGINEERS  
 1304 ST. PAUL STREET  
 BALTIMORE, MARYLAND 21202  
*Kenneth A. McLeod*  
 Kenneth A. McLeod PE No. 1974

**COLUMBIA**  
 SUPPLEMENT TO  
 ROAD CONSTRUCTION PLANS  
 VILLAGE OF KINGS CONTRIVANCE  
 SECTION I AREA I  
**STORM DRAIN PROFILES**

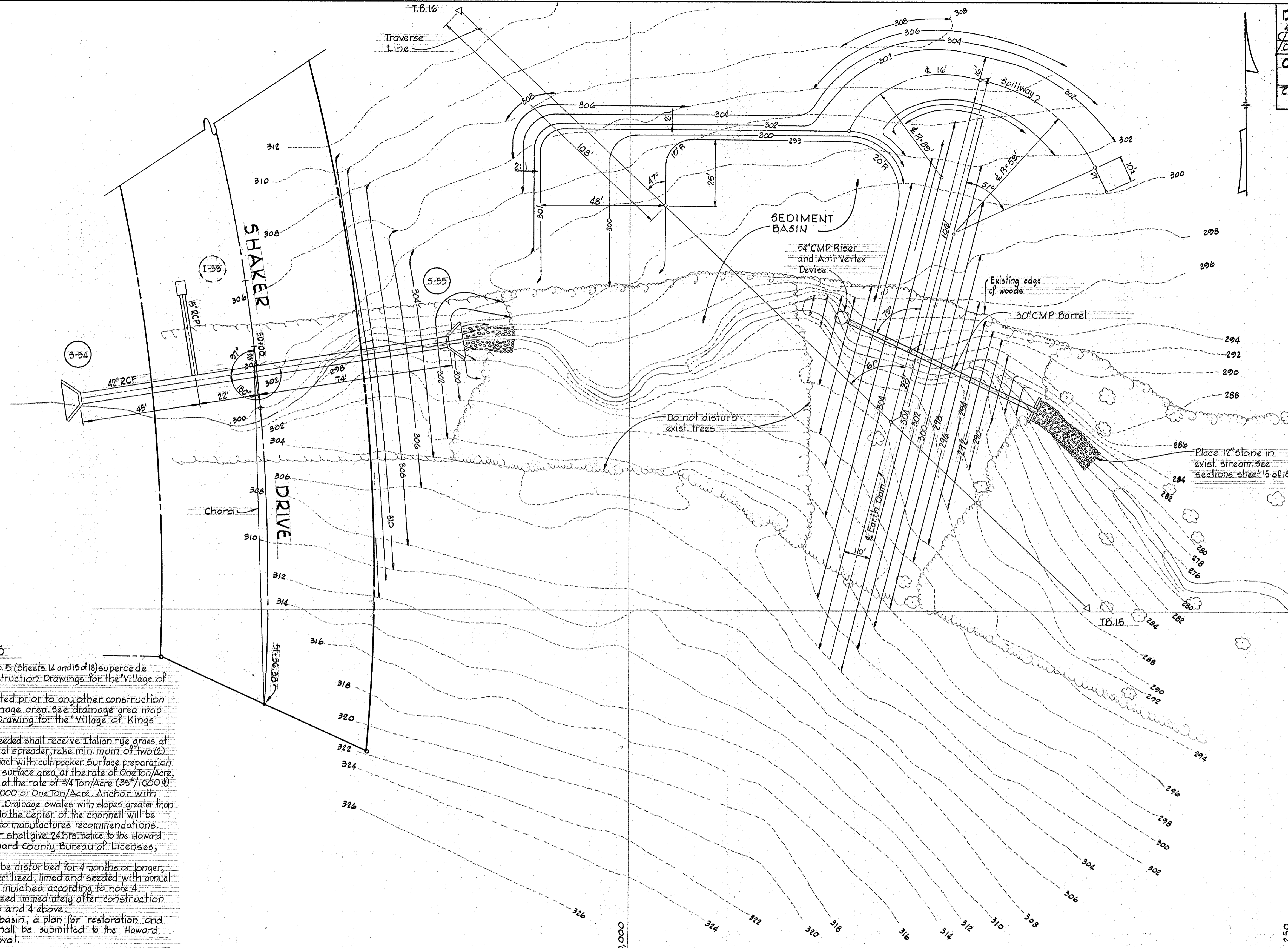
SHEET 13 OF 18  
 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND  
 DATE: 11/15/74  
 SCALE: H:1"=50'  
 V:1"=5'



DEPARTMENT OF PUBLIC WORKS  
*Drewville W. Peckard* 7/5/77  
 CHIEF, BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING & ZONING  
*John H. ...* 6-27-77  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SEE SHEETS 41 THRU 44 OF 45 OF ROADS CONSTRUCTION PLANS, APPROVED 11/15/74, FOR BASIN PRIOR TO MODIFICATION.



**GENERAL NOTES**

- These drawings of Sediment Basin No. 5 (sheets 14 and 15 of 18) supersede sheets 41, 42, 43 and 44 of 45, Road Construction Drawings for the Village of Kings Contrivance Section I Area 1.
- Sediment Basin No. 5 must be constructed prior to any other construction work intended within the basin's drainage area. See drainage area map on sheet 45 of 45, Road Construction Drawing for the Village of Kings Contrivance Section I Area 1.
- TEMPORARY SEEDING - All areas to be seeded shall receive Italian rye grass at the rate of 40#/acre. Sow with mechanical spreader, rake minimum of two (2) passes with "York Rake", cover and compact with cultipacker. Surface preparation to include ground limestone over topsoil surface area at the rate of One Ton/Acre, (50#/1000#) commercial fertilizer (10-10-10) at the rate of 3/4 Ton/Acre (35#/1000#)
- Mulch area with straw at the rate of 50#/1000 or One Ton/Acre. Anchor with asphalt at the rate of 400 Gallons/Acre. Drainage swales with slopes greater than 2% will be mulched as stated but the mulch in the center of the channel will be anchored with plastic netting 1/2" according to manufacturer's recommendations.
- Prior to starting grading the contractor shall give 24 hrs. notice to the Howard Soil Conservation District and the Howard County Bureau of Licenses, Inspections, and Permits.
- All earthwork stockpiles that will not be disturbed for 4 months or longer, shall immediately after piling shall be fertilized, limed and seeded with annual rye grass at the rate of 1#/1000#, and mulched according to note 4.
- Sediment Basin No. 5 shall be stabilized immediately after construction of Basin No. 5 according to notes 3 and 4 above.
- Prior to removal of the sediment basin, a plan for restoration and stabilization of the stream valley shall be submitted to the Howard Soil Conservation District for approval.

**PLAN - SEDIMENT BASIN NO. 5**

Scale: 1" = 20'

**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. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District.

*Walter E. Dordick* 11-22-76  
 Signature of Developer 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* 9-20-76  
 Kenneth A. McCord, P.E. 1974 Date

THIS PLAN HAS BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

*Wm. ...* 6-27-77  
 U.S. SOIL CONSERVATION DISTRICT Date

THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL MEETS THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *Robert W. Ziemer* 6-27-77  
 HOWARD S.C.D. Date

PLAN NUMBER

Rev. Date	Rev. No.	Revision Description
<b>COLUMBIA</b> 6 <sup>TH</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER HOWARD HOMES DEVELOPMENT CORP.		
SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION I AREA 1		
<b>SEDIMENT BASIN NO. 5</b>		
SCALE: 1" = 20'		DATE
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21202		
<i>Kenneth A. McCord</i> KENNETH A. McCORD Registered Engineer No. 1974		

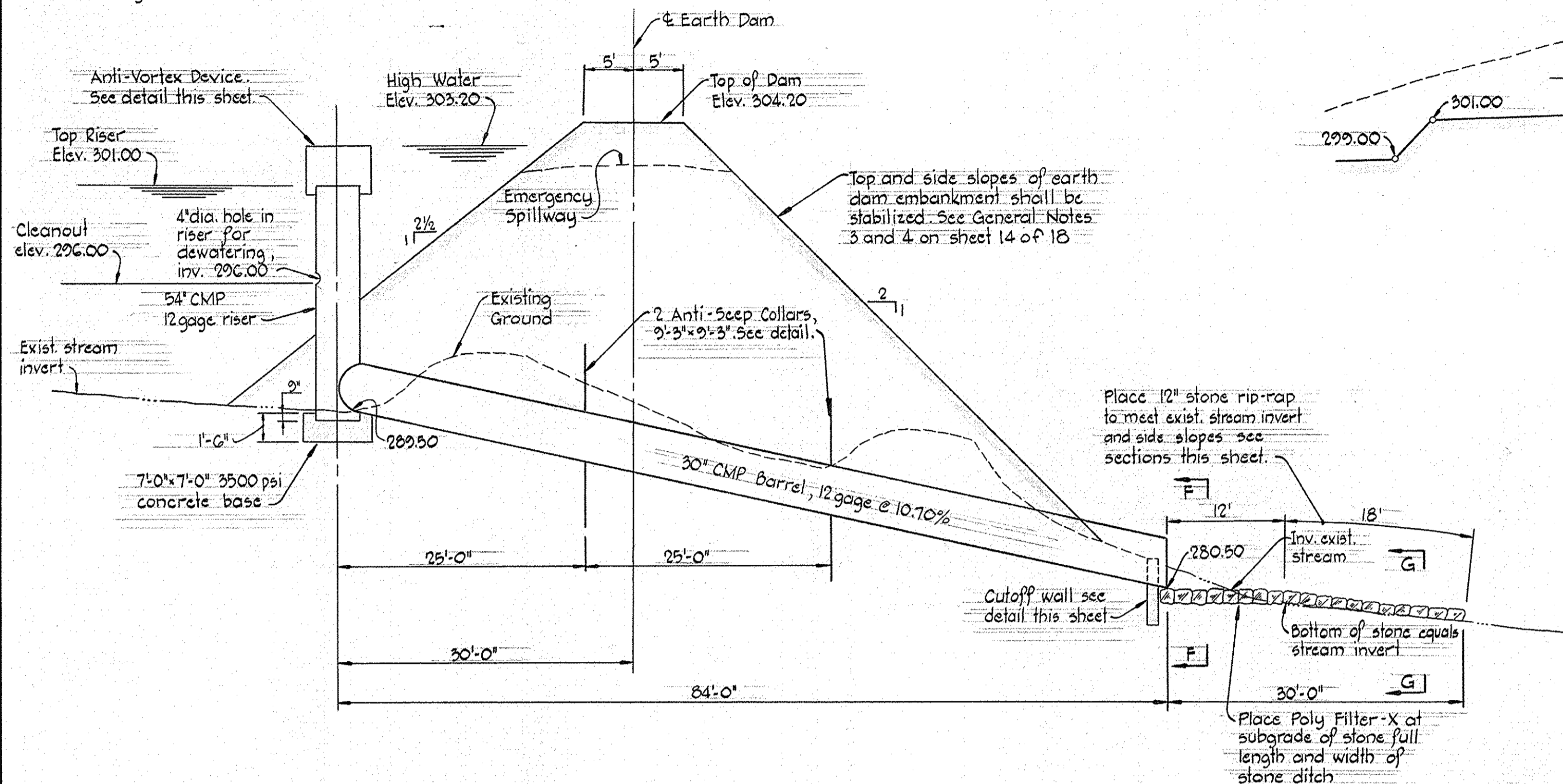
SHEET 14 OF 18

3-10-77 SHEET 14 OF 18

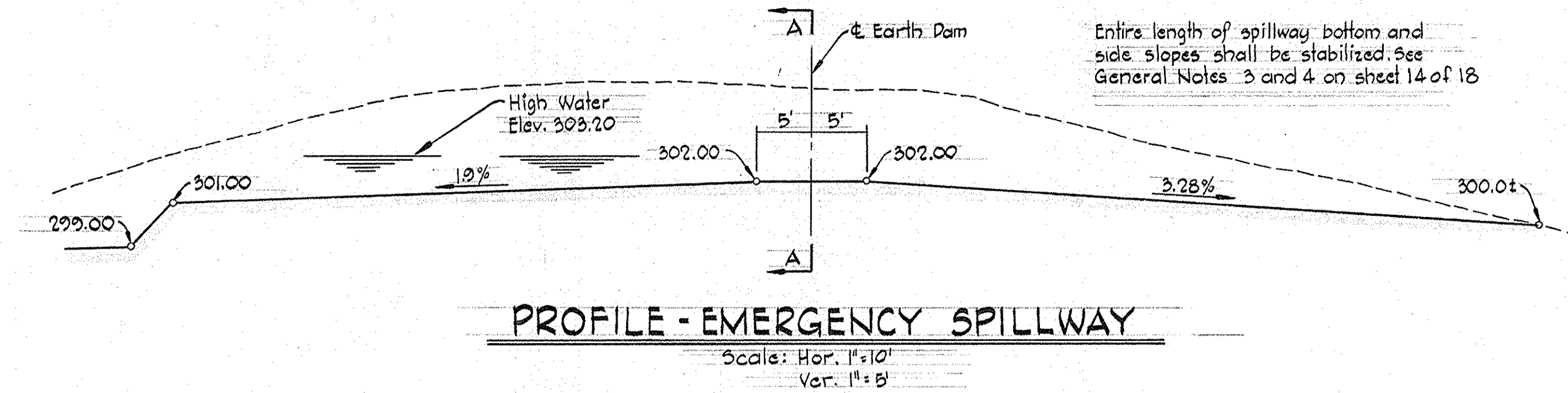
77-143



- NOTES:  
 1. Sediment basin excavation including stripping in fill equals 1920 cubic yards.  
 2. Fill for the earth dam embankment equals 2360 cubic yards.  
 3. Program cleanout of basin @ elev. 296.00.

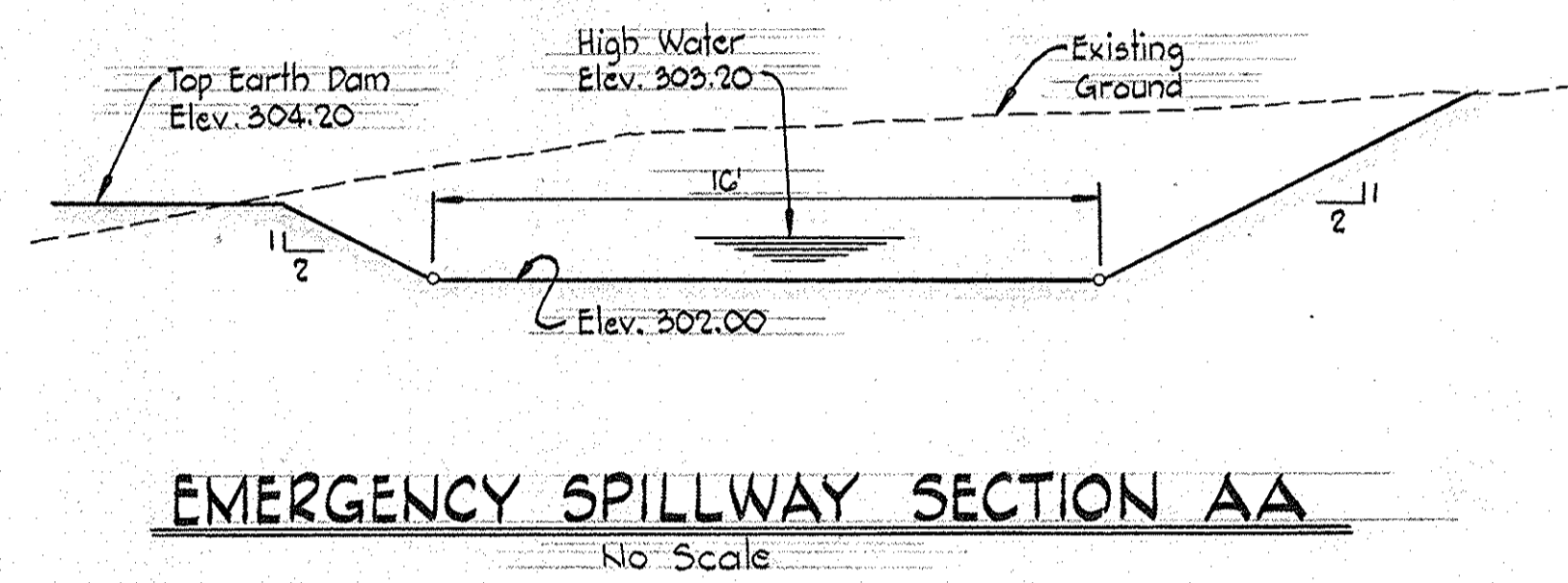


SECTION - PRINCIPLE SPILLWAY  
 Scale: Hor. 1"=50'  
 Ver. 1"=5'



PROFILE - EMERGENCY SPILLWAY

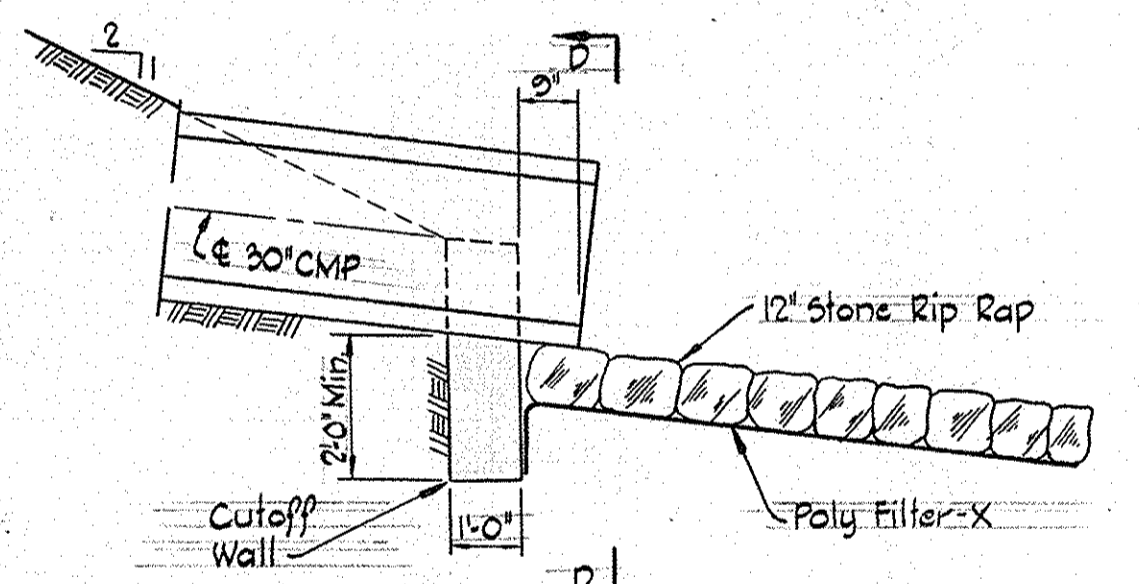
Scale: Hor. 1"=10'  
 Ver. 1"=5'



EMERGENCY SPILLWAY SECTION AA

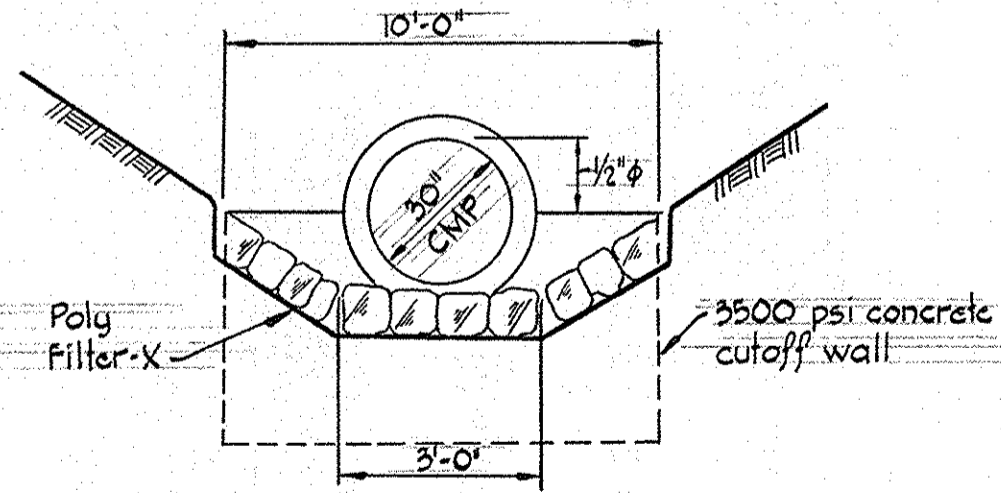
No Scale

SEE SHEETS 41 THRU 44 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74 FOR BASIN PRIOR TO MODIFICATION.



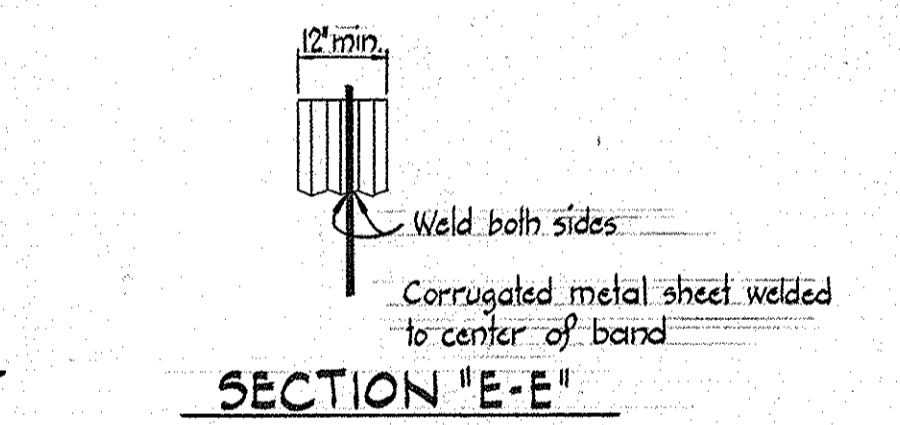
SECTION 'C-C'

No Scale



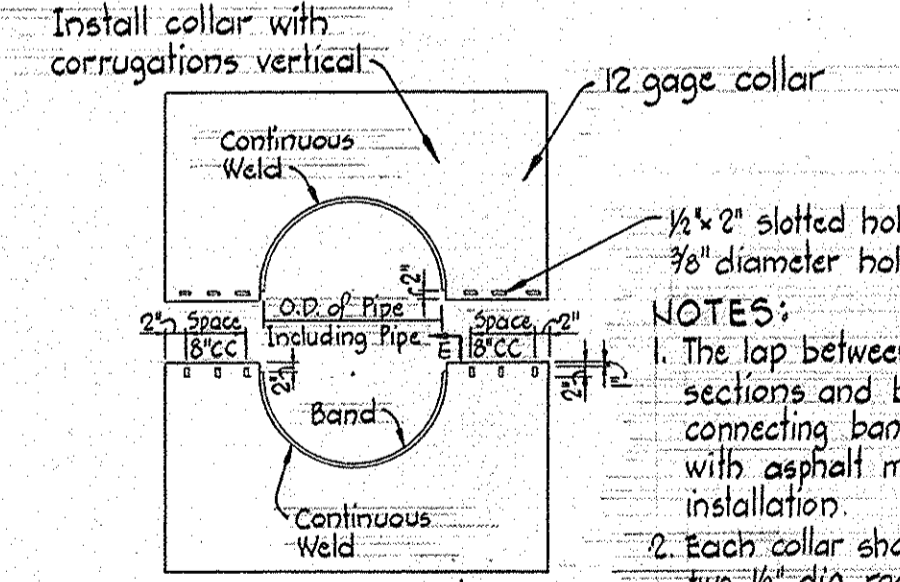
SECTION 'D-D'

No Scale



SECTION 'E-E'

No Scale

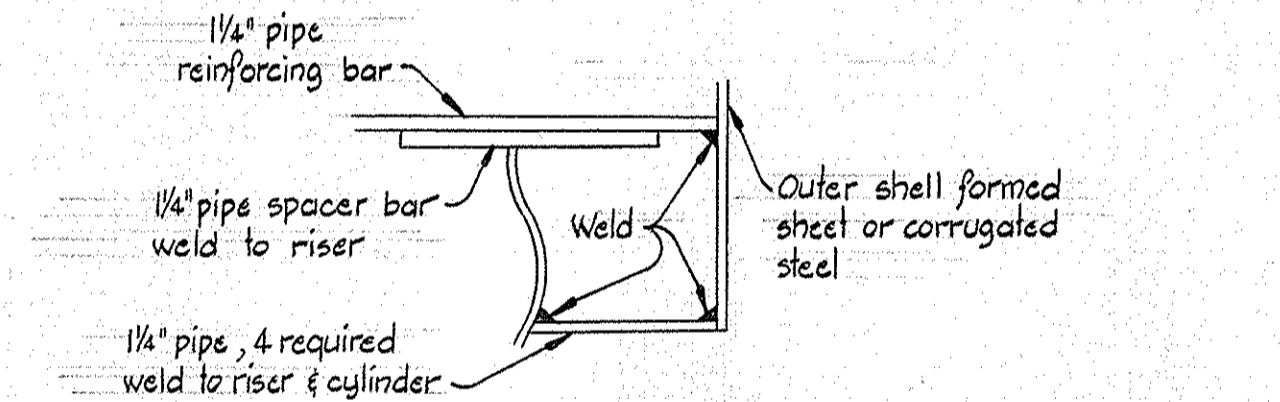


ELEVATION OF UNASSEMBLED COLLAR

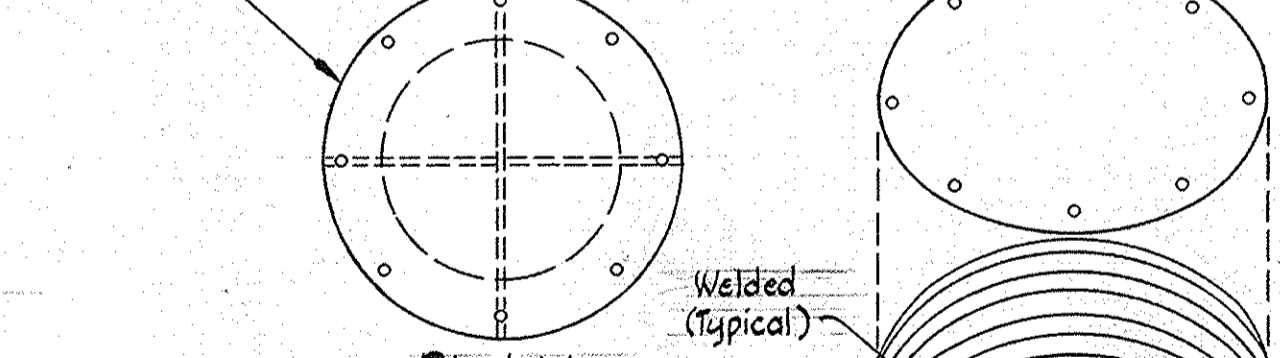
No Scale

ANTI-SEEP COLLAR

No Scale

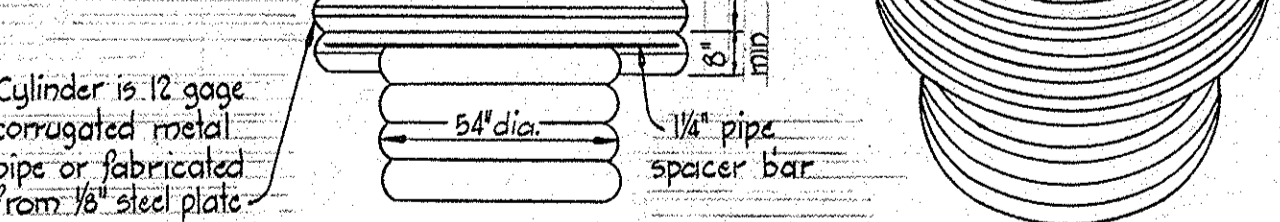


NOTES:  
 1. The cylinder must be firmly fastened to the top of the riser bar.  
 2. Support bars are welded to the top of the riser or attached by straps bolted to the top of the riser.



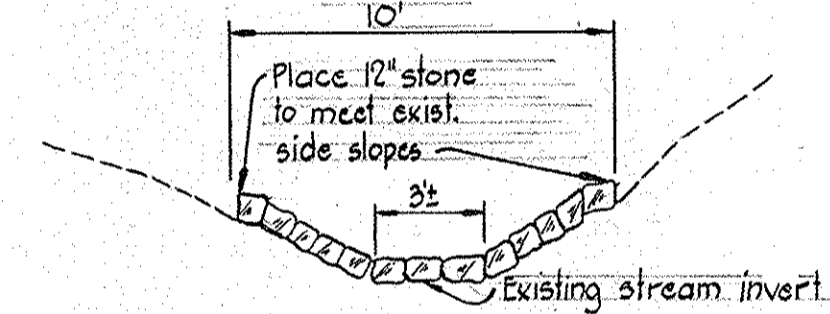
PLAN CONCENTRIC TRASH RACK ANTI-VORTEX DEVICE

No Scale



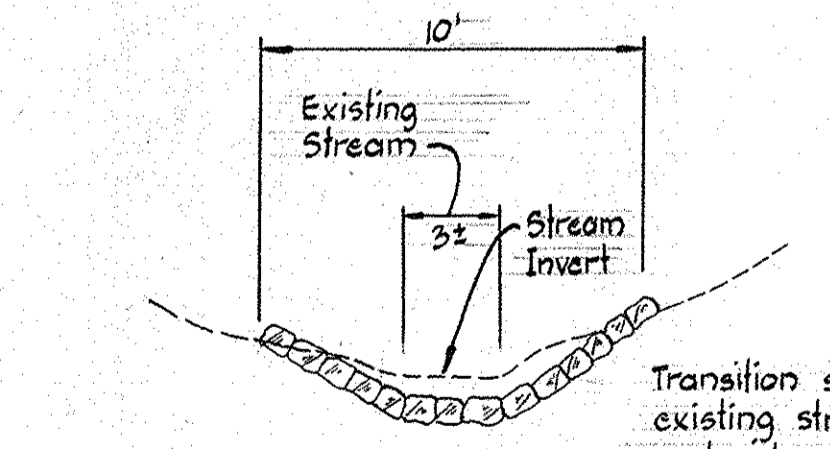
ELEVATION CONCENTRIC TRASH RACK ANTI-VORTEX DEVICE

No Scale



SECTION 'G-G'

No Scale



SECTION 'F-F'

No Scale

**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. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District."  
*Walter E. Woodford* 11-22-76  
 Signature of Developer 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* 9-23-76  
 Signature Date

THIS PLAN HAS BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
*W. ...* 6-27-77  
 U.S. SOIL CONSERVATION DISTRICT Date

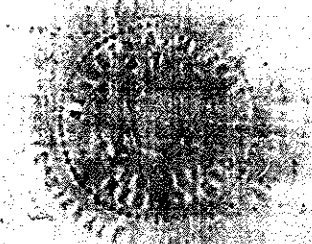
THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL MEETS THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 APPROVED: *Robert W. Ziehm* 6-27-77  
 HOWARD S.C.D. Date  
 PLAN NUMBER

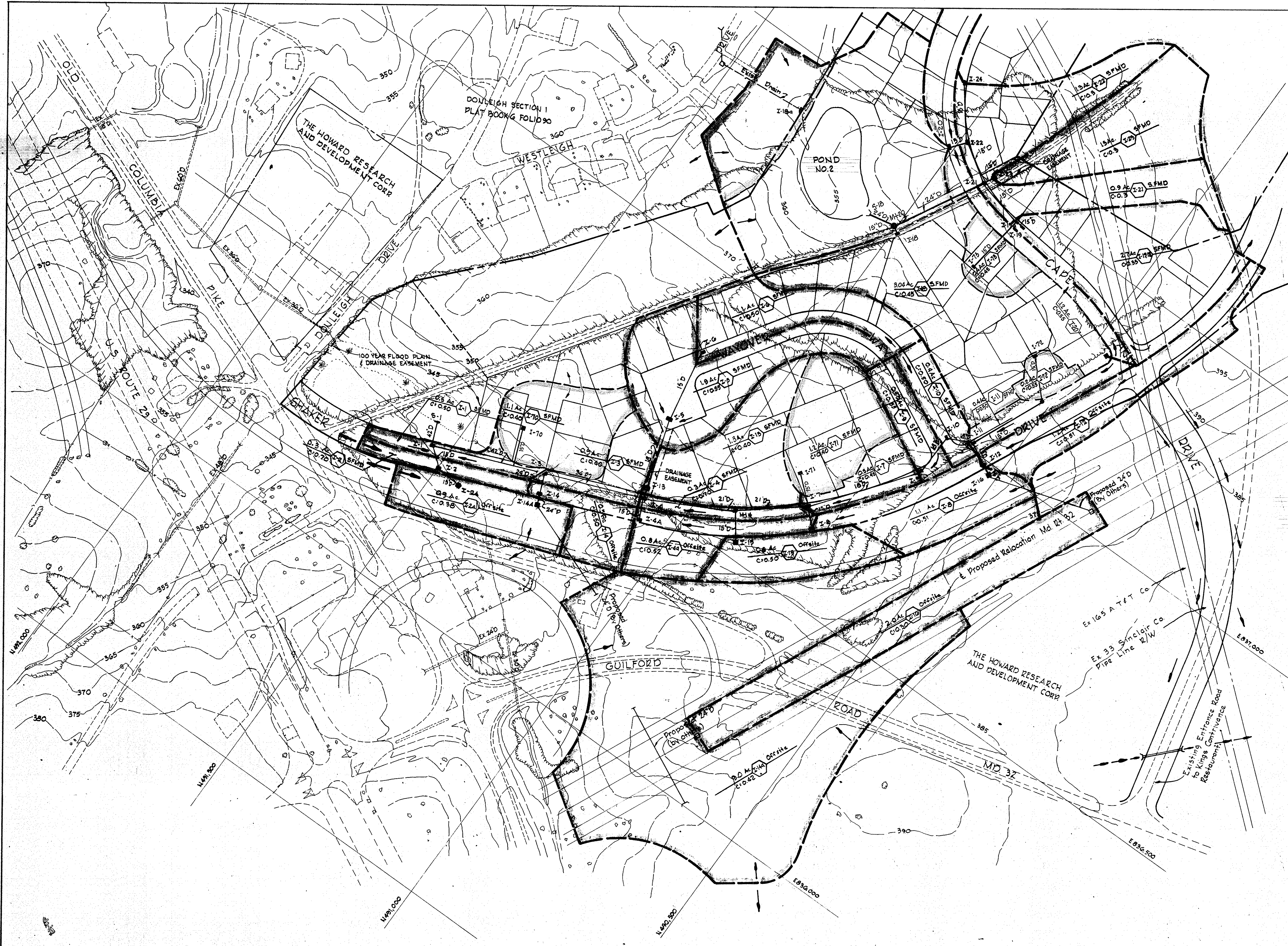
Rev. Date	Rev. No.	Revision Description
<b>COLUMBIA</b> 6 <sup>TH</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER HOWARD HOMES DEVELOPMENT CORP.		
SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION 1 AREA 1		
<b>SEDIMENT BASIN NO. 5</b>		
SCALE: 1"=20'		DATE:
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21202		
<i>Kenneth A. McCord</i> KENNETH A. McCORD Registered Engineer No. 1974		



AREA	ACRES	"C"	ZONING
I-70	1.1	0.40	SFMD
I-71	1.2	0.40	SFMD
I-72	0.2	0.45	SFMD
I-73	0.4	0.45	SFMD
I-74	0.6	0.45	SFMD
I-75	0.4	0.45	SFMD
I-76	0.73	0.45	SFMD
I-77	0.40	0.50	SFMD
I-78	1.2	0.40	SFMD
I-79	0.1	0.30	SFMD
I-80	0.35	0.55	SFMD
S-90	22.70	0.40	SFMD

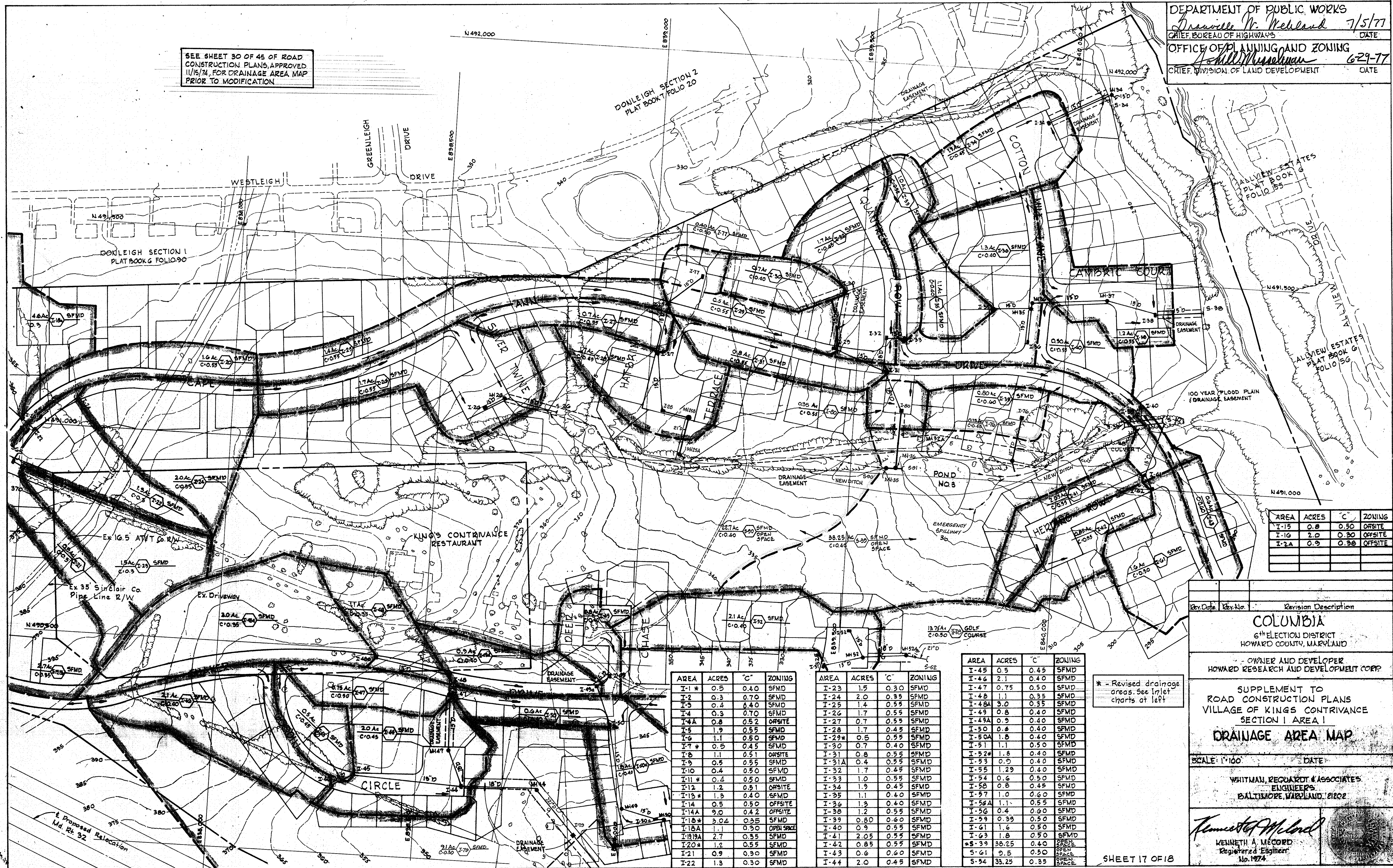
SEE SHEET 29 OF 45 OF ROAD CONSTRUCTION PLANS, APPROVED 11/15/74, FOR DRAINAGE AREA PRIOR TO MODIFICATION

Rev. Date	Rev. No.	Revision Description
<b>COLUMBIA</b> 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION 1 AREA 1 <b>DRAINAGE AREA MAP</b>		
SCALE: 1"=100'		DATE:
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21202		
<i>Kenneth A. McCord</i> KENNETH A. MCCORD Registered Engineer No. 1974		





SEE SHEET 30 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR DRAINAGE AREA MAP  
 PRIOR TO MODIFICATION



AREA	ACRES	C	ZONING
I-15	0.8	0.50	OFFSITE
I-16	2.0	0.30	OFFSITE
I-2A	0.9	0.35	OFFSITE

AREA	ACRES	C	ZONING
I-1*	0.5	0.40	SFMD
I-2	0.3	0.70	SFMD
I-3	0.4	0.40	SFMD
I-4	0.3	0.70	SFMD
I-4A	0.8	0.52	OFFSITE
I-5	1.9	0.55	SFMD
I-6	1.1	0.50	OFFSITE
I-7*	0.5	0.45	SFMD
I-8	1.1	0.51	OFFSITE
I-9	0.5	0.55	SFMD
I-10	0.4	0.50	SFMD
I-11	0.4	0.50	SFMD
I-12	1.2	0.51	OFFSITE
I-13*	1.3	0.40	SFMD
I-14	0.5	0.50	OFFSITE
I-14A	9.0	0.42	OFFSITE
I-15*	3.04	0.35	SFMD
I-15A	1.1	0.50	OPEN SPACE
I-15A	2.7	0.55	SFMD
I-20*	1.2	0.55	SFMD
I-21	0.9	0.30	SFMD
I-22	1.3	0.30	SFMD

AREA	ACRES	C	ZONING
I-23	1.5	0.30	SFMD
I-24	2.0	0.35	SFMD
I-25	1.4	0.55	SFMD
I-26	1.7	0.55	SFMD
I-27	0.7	0.55	SFMD
I-28	1.7	0.45	SFMD
I-29*	0.5	0.55	SFMD
I-30	0.7	0.40	SFMD
I-31	0.8	0.55	SFMD
I-31A	0.4	0.55	SFMD
I-32	1.7	0.45	SFMD
I-33	1.0	0.55	SFMD
I-34	1.9	0.45	SFMD
I-35	1.1	0.40	SFMD
I-36	1.3	0.40	SFMD
I-38	1.2	0.55	SFMD
I-39	0.80	0.40	SFMD
I-40	0.9	0.55	SFMD
I-41	2.05	0.55	SFMD
I-42	0.85	0.55	SFMD
I-43	0.6	0.50	SFMD
I-44	2.0	0.45	SFMD

AREA	ACRES	C	ZONING
I-45	0.5	0.45	SFMD
I-46	2.1	0.40	SFMD
I-47	0.75	0.50	SFMD
I-48	1.1	0.35	SFMD
I-48A	3.0	0.35	SFMD
I-49	0.8	0.40	SFMD
I-49A	0.9	0.40	SFMD
I-50	0.6	0.40	SFMD
I-50A	1.8	0.40	SFMD
I-51	1.1	0.50	SFMD
I-52*	1.8	0.40	SFMD
I-53	0.9	0.40	SFMD
I-55	1.29	0.40	SFMD
I-54	0.6	0.50	SFMD
I-56	0.8	0.45	SFMD
I-57	1.0	0.60	SFMD
I-56A	1.1	0.55	SFMD
I-56	0.4	0.60	SFMD
I-59	0.39	0.50	SFMD
I-61	1.6	0.50	SFMD
I-63	1.8	0.50	SFMD
*S-39	38.25	0.40	OPEN SPACE
S-61	2.5	0.50	OPEN SPACE
S-54	33.25	0.35	OPEN SPACE

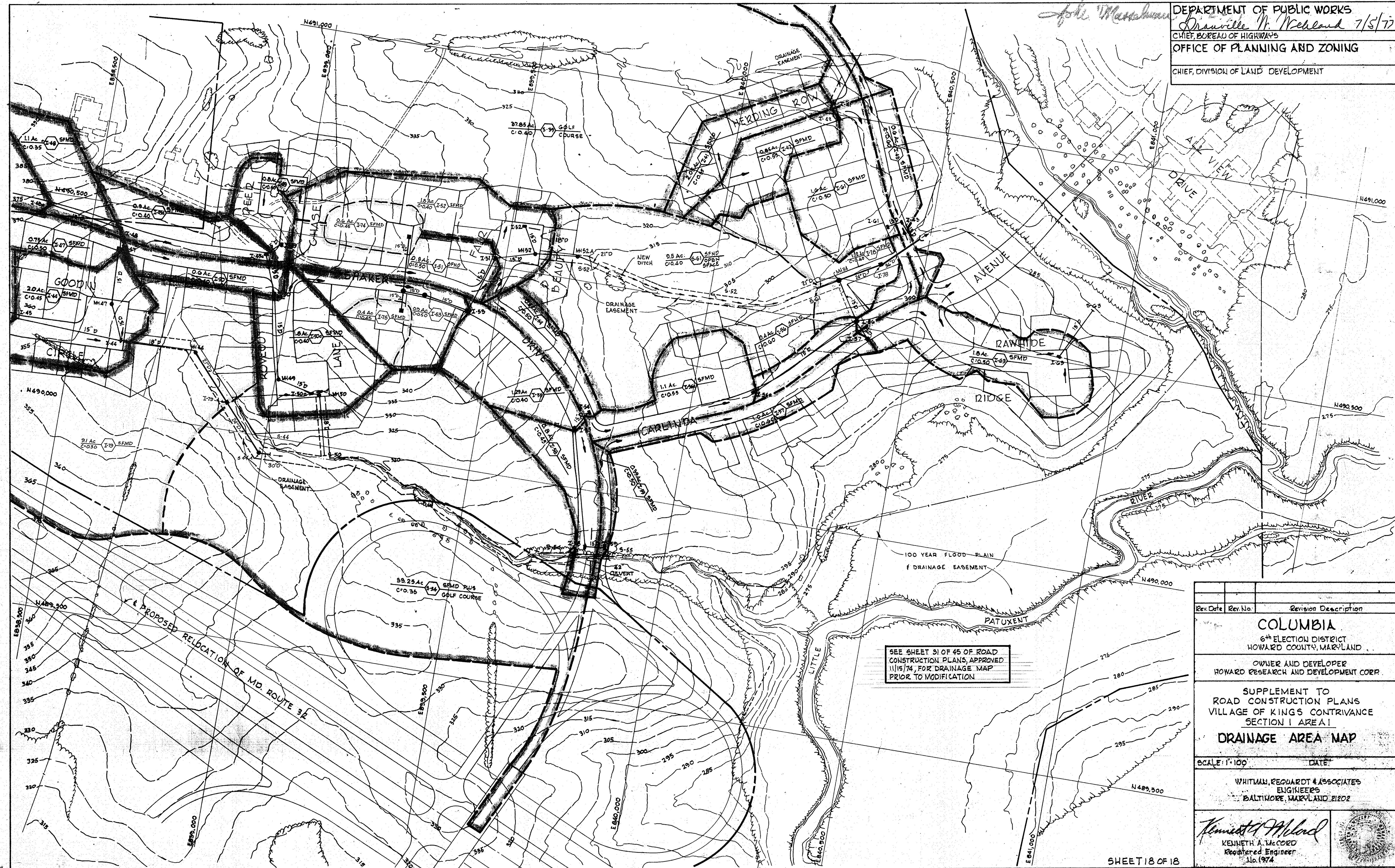
\* - Revised drainage areas. See Inlet charts at left

Rev. Date	Rev. No.	Revision Description
		<b>COLUMBIA</b> 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
		OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP.
		SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KINGS CONTRIVANCE SECTION I AREA I <b>DRAINAGE AREA MAP</b>
SCALE: 1"=100'		DATE
		WHITMAN, REQUARDT & ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21202
		<i>Kenneth A. Record</i> KENNETH A. RECORD Registered Engineer No. 12774



*John Marshall*

DEPARTMENT OF PUBLIC WORKS  
*Drayville W. Weiland 7/5/77*  
 CHIEF, BUREAU OF HIGHWAYS  
 OFFICE OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT



SEE SHEET 31 OF 45 OF ROAD  
 CONSTRUCTION PLANS, APPROVED  
 11/15/74, FOR DRAINAGE MAP  
 PRIOR TO MODIFICATION

Rev. Date	Rev. No.	Revision Description
<b>COLUMBIA</b>		
6 <sup>th</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP.		
SUPPLEMENT TO ROAD CONSTRUCTION PLANS VILLAGE OF KING'S CONTRIVANCE SECTION I AREA I		
<b>DRAINAGE AREA MAP</b>		
SCALE: 1"=100'	DATE:	
WHITMAN, REEDHART & ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21202		
<i>Kenneth A. Weiland</i> KENNETH A. WEILAND Registered Engineer No. 1974		

SHEET 18 OF 18