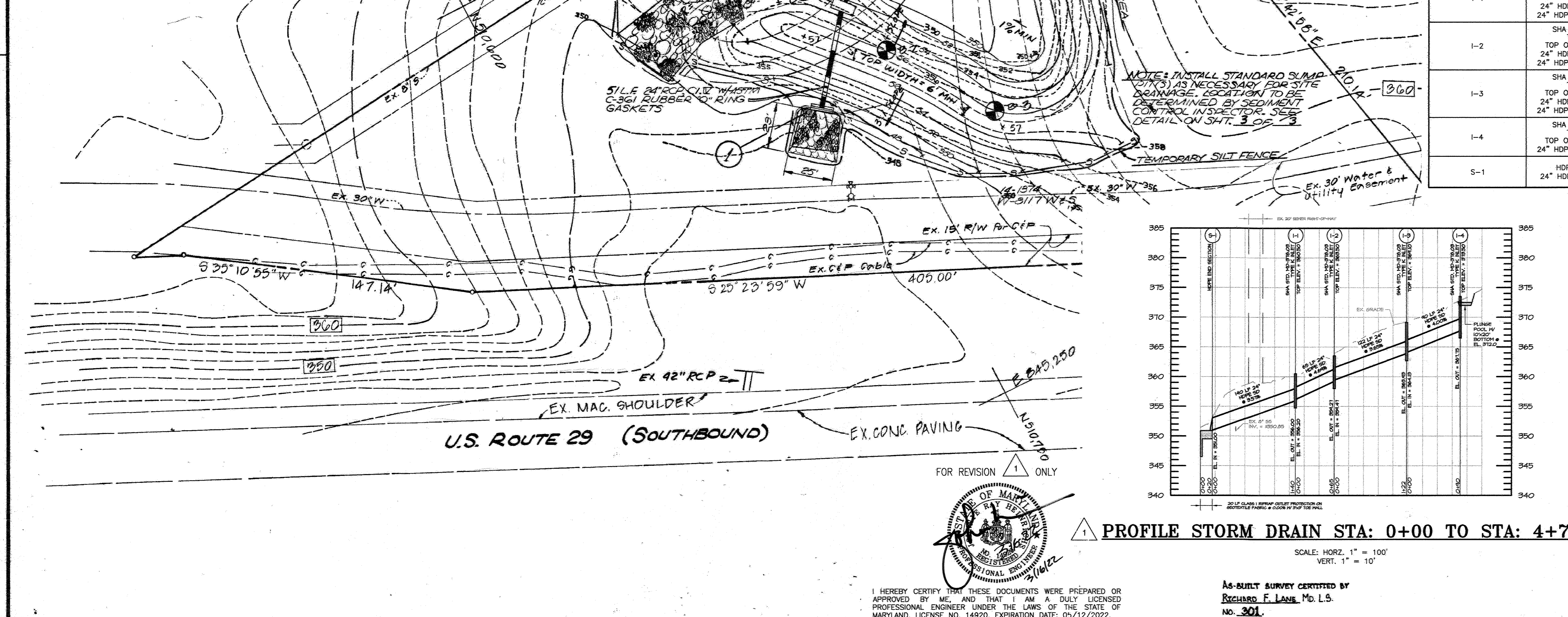
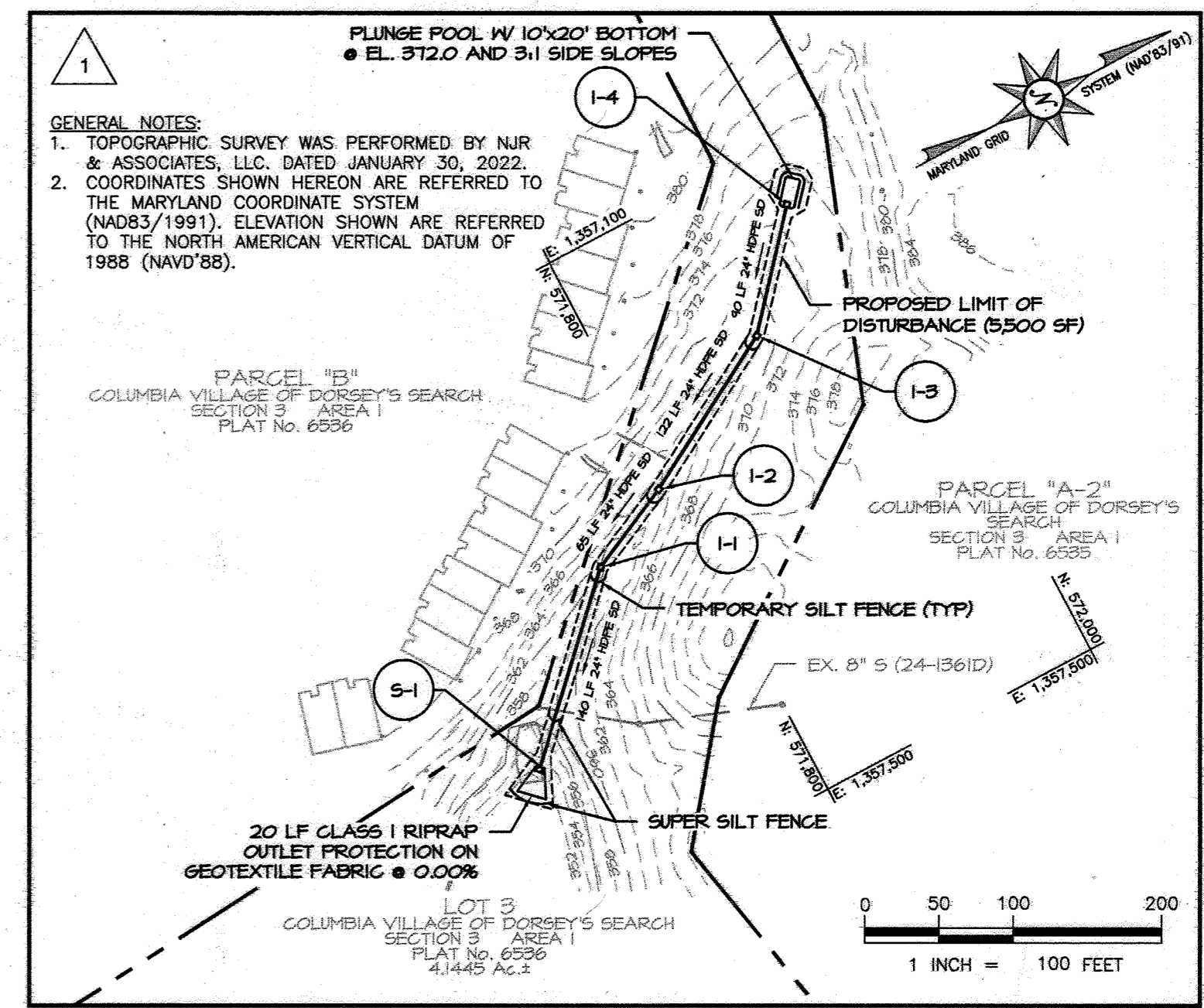
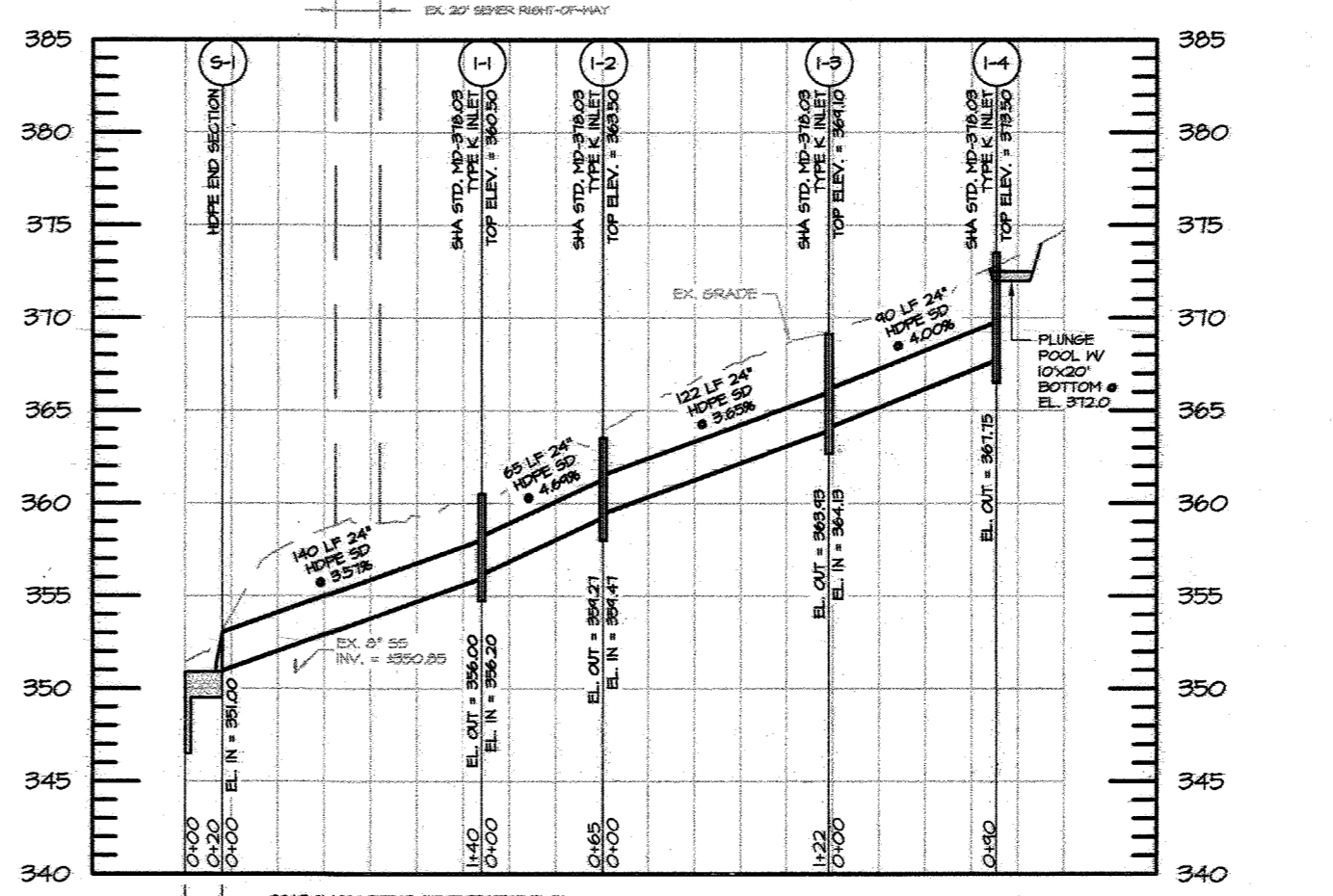


B-1				B-2				B-3			
MAT'L. DESCRIPTION	SYTRA DEPTH	DEPTH SCALE	NOTES	MAT'L. DESCRIPTION	SYTRA DEPTH	DEPTH SCALE	NOTES	MAT'L. DESCRIPTION	SYTRA DEPTH	DEPTH SCALE	NOTES
BROWN, GREY & WHITE, MOIST TO WET, LOOSE TO VERY DENSE TO DENSE, MICACEOUS FINE SANDY SILT WITH FINE TO COARSE RESIDUAL QUARTZ GRAVEL IN S-S (MLS) RESIDUAL SOIL	0	0		BROWN & GRAY, MOIST TO WET, VERY COARSE, SLIGHTLY ORGANIC, FINE TO MED. MICACEOUS SILTY SAND WITH WHITE BEAMS OF CLAYEY SILT (SMT) (ALLUVIUM)	0	0		BROWN, GREY & WHITE, MOIST TO WET, MEDIUM DENSE, MICACEOUS FINE SANDY SILT OCCASIONAL TRACE TO LITTLE CLAY (MLS) (POSSIBLE ALLUVIUM)	0	0	
	1	3-4	WATER ON ROAD @ 6.0'		1	2-2	WATER ON ROAD @ 3.0'		1	10-7-10	WATER ON ROAD @ 14.0'
	2	6-6	SAMPLE # IS CONSIDERED TO BE DE-COMPOSED ROCK		2	2-1	COMPLETION WATER: 9.5' GIVE-IN: 9.6'		2	5-8	COMPLETION WATER: 14.5' GIVE-IN: 14.5'
	3	15-26	COMPLETION WATER: 15.0' GIVE-IN: 6.5' 24 HRS.: 4.4'		3	2	24 HRS.: WATER: 2.5'		3	25-32-42	24 HRS.: WATER: 6.9'
	4	26-25			4	21			4	41-36-25	
	5	16-28			5	38			5	32-64	
	6	21-15			6	100/4			6	100/3	
TERMINATED @ 20 FT.	20.0	20		TERMINATED @ 20 FT.	20.0	20		TERMINATED @ 20 FT.	20.0	20	

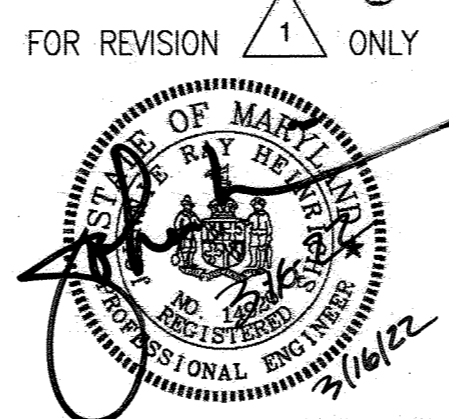
B-4			
MAT'L. DESCRIPTION	SYTRA DEPTH	DEPTH SCALE	NOTES
BROWN, GREY, WET, VERY LOOSE, MICACEOUS CLAYEY SILT (LITTLE FINE SAND (MLC) (POSSIBLE ALLUVIUM)	0	0	
BROWN, GREY & BLACK, MOIST TO WET, MEDIUM DENSE TO VERY DENSE, MICACEOUS FINE TO COARSE SAND & SILT OCCASIONAL TRACE FINE TO COARSE QUARTZ GRAVEL (SM) RESIDUAL SOIL IN DECOMPOSED ROCK	3.0	3	WATER ON ROAD @ 6.0'
	5	12-7	COMPLETION WATER: 14.8' GIVE-IN: 14.8' 24 HRS.: WATER: 2.0'
	8	14-5	AUGER REFUSAL @ 15.0'
	10	17-18	
	15	100/5	
TERMINATED @ 15 FT.	15.0	15	



STORM STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE DETAILS	COORDINATES
I-1	SHA STD. MD-378.03 TYPE K INLET TOP OF GRATE = 360.50 24\"/>	N: 571734.60 E: 1357296.44
I-2	SHA STD. MD-378.03 TYPE K INLET TOP OF GRATE = 363.50 24\"/>	N: 571793.88 E: 1357268.61
I-3	SHA STD. MD-378.03 TYPE K INLET TOP OF GRATE = 369.10 24\"/>	N: 571900.37 E: 1357208.43
I-4	SHA STD. MD-378.03 TYPE K INLET TOP OF GRATE = 373.50 24\"/>	N: 571959.67 E: 1357140.16
S-1	HDPE END SECTION 24\"/>	N: 571635.73 E: 1357395.55



PROFILE STORM DRAIN STA: 0+00 TO STA: 4+75



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 14920, EXPIRATION DATE: 05/12/2022.

AS-BUILT SURVEY CERTIFIED BY  
Richard F. Lane, Md. L.S.  
No. 301.

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:  
I CERTIFY THAT ALL DEVELOPMENT AND / OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature of Developer: Gregory Klar  
Date: 5-25-86

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature of Engineer: Robert H. Marmor  
Date: 5-17-86

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.

Signature of U.S. Soil Conservation Service: Robert W. Zehner  
Date: 8-15-86

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Howard Soil Conservation District: Robert W. Zehner  
Date: 8-15-86

DEPARTMENT OF PUBLIC WORKS

Signature: [Signature]  
Date: 8-18-86  
CHIEF, BUREAU OF ENGINEERING

OFFICE OF PLANNING & ZONING

Signature: [Signature]  
Date: 8-15-86  
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMIN.

SEDIMENT CONTROL NOTES:

- INSTALL SUPER SILT FENCE AT TOP OF STORMWATER MANAGEMENT POND DURING HOPE INSTALLATION TO PREVENT SEDIMENT FROM ENTERING THE FACILITY.
- INSTALL SUPER SILT FENCE AT STORMWATER MANAGEMENT POND AFTER END SECTION CONSTRUCTION. REMOVE ACCUMULATED SEDIMENT AT THE END OF CONSTRUCTION.
- ADD SILT FENCE AS NEEDED AFTER HOPE INSTALLATION UNTIL STABLE.
- OPEN ONLY AS MUCH TRENCH AS CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORK DAY.

OWNER/DEVELOPER  
HOWARD RESEARCH & DEVELOPMENT CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

No.	REVISION	DATE	BY
1	ADD 475 LF 24\"/>	3/16/2022	



ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS • PHOTOGRAMMETRISTS  
**GREENHORNE & O'MARA, INC.**  
2 RESEARCH PLACE, ROCKVILLE, MARYLAND 20850  
(301) 948-0900  
ANNAPOLIS, MD • ATLANTA, GA • BECKLEY, WV • CULPEPER, VA • DENVER, CO • EXPORT, PA • FAIRFAX, VA  
GREENBELT, MD • MONROE, MI • RALEIGH, NC • TAMPA, FL • WILLISTON PARK, NY

STORMWATER MANAGEMENT, LOT #3  
**COLUMBIA VILLAGE OF DORSEY'S SEARCH**  
SECTION 3, AREA 1  
TAX MAP 30 - PARCEL B-1  
5TH ELECTION DISTRICT-HOWARD COUNTY, MARYLAND

JWC DESIGN	SCALE 1"=30'
GW/JDP DRAWN	1 OF 4
RHM CHECKED	SHEET
MAY '86 DATE	JOB No. R1258 X
	FILE No.

BY THE DEVELOPER:  
 I CERTIFY THAT ALL DEVELOPMENT AND / OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Gregory Klar*  
 SIGNATURE OF DEVELOPER  
 GREGORY KLAR  
 5-25-86  
 DATE

BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Robert H. Marston*  
 SIGNATURE OF ENGINEER  
 ROBERT H. MARSTON  
 5-15-86  
 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.

*James W. Johnson*  
 U.S. SOIL CONSERVATION SERVICE  
 8-15-86  
 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

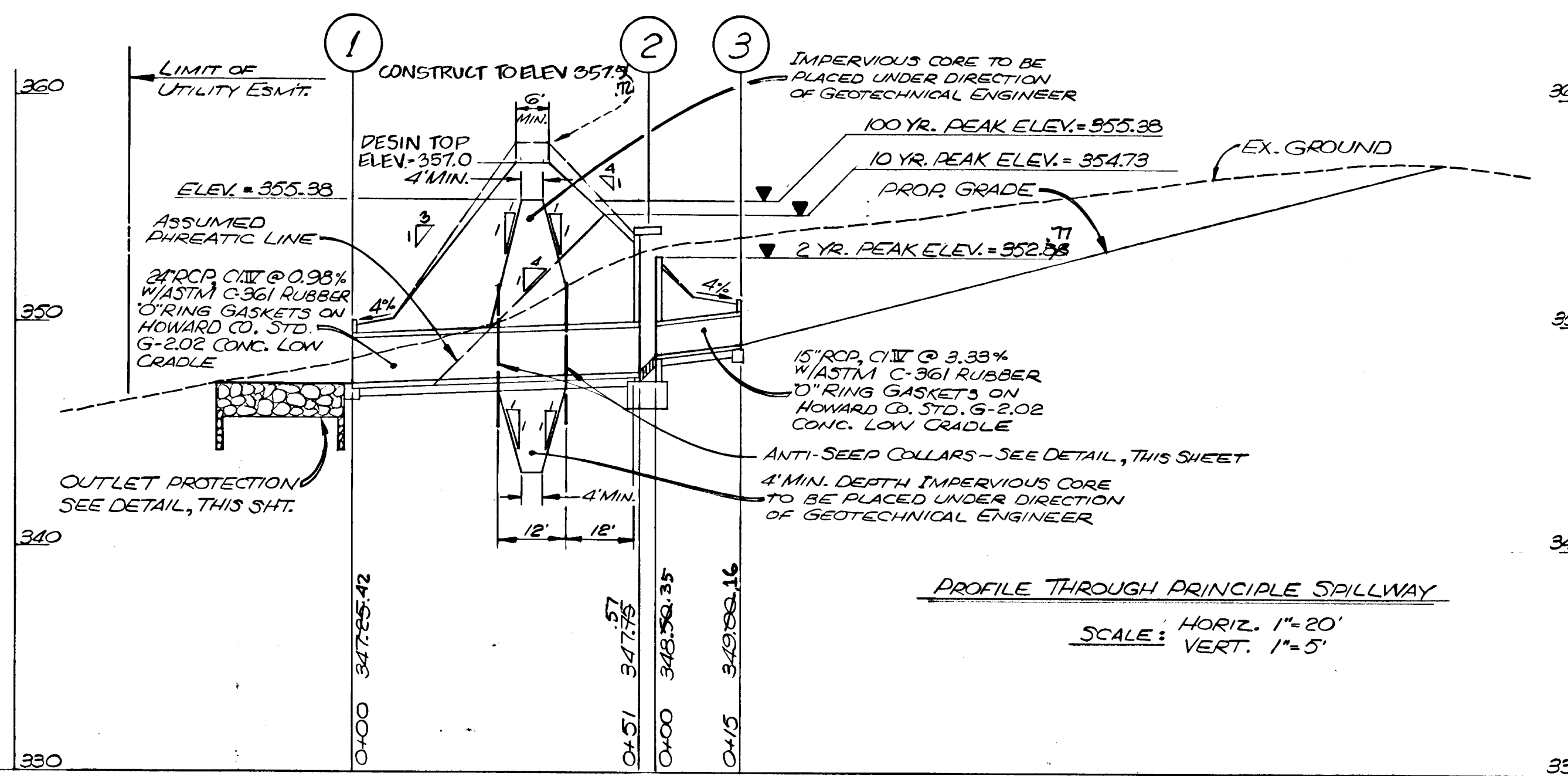
*Robert Johnson*  
 HOWARD SOIL CONSERVATION DISTRICT  
 8-15-86  
 DATE

DEPARTMENT OF PUBLIC WORKS

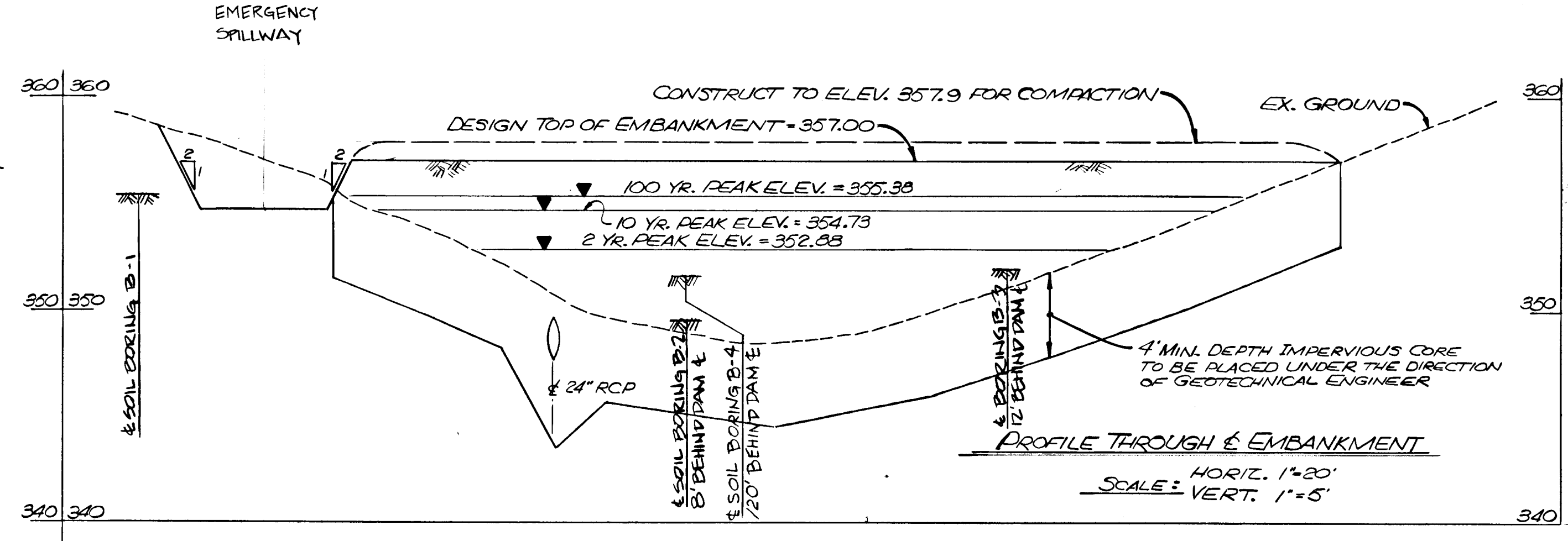
*Richard F. Lane*  
 CHIEF, BUREAU OF ENGINEERING  
 8-18-86  
 DATE

OFFICE OF PLANNING & ZONING

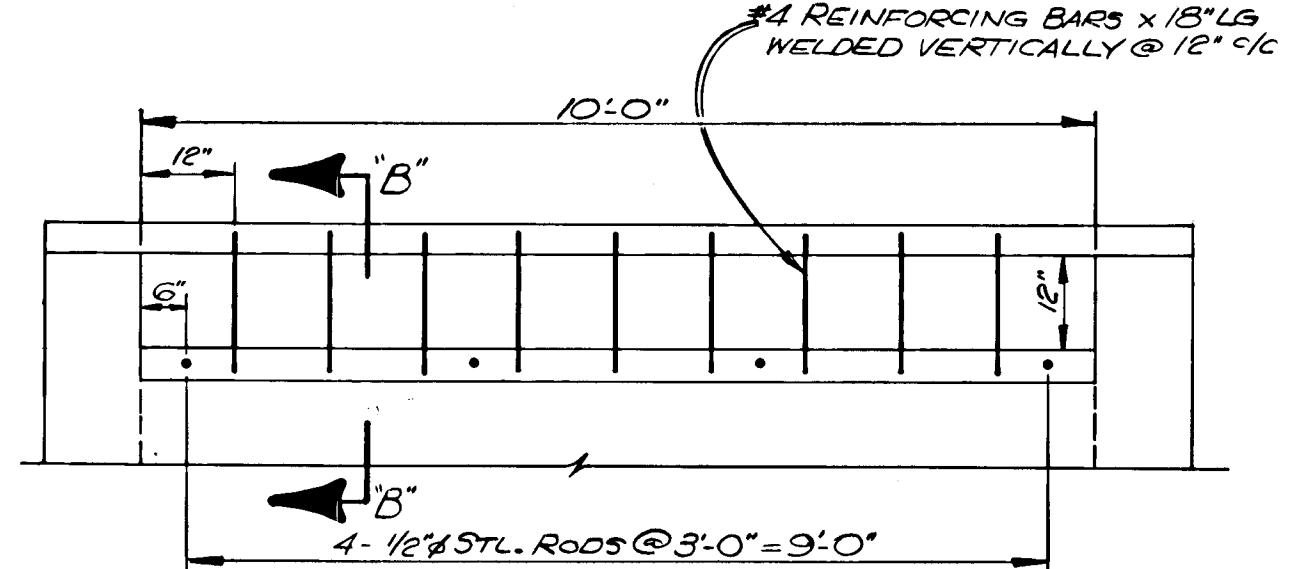
*Shirley M. ...*  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMIN.  
 8-15-86  
 DATE



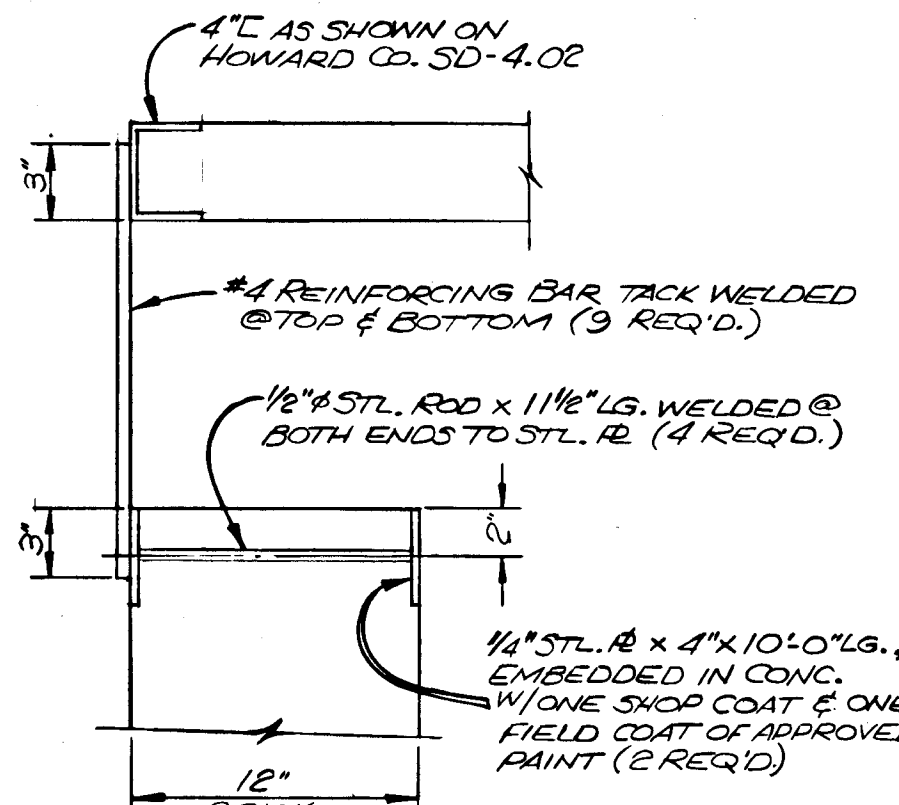
PROFILE THROUGH PRINCIPLE SPILLWAY  
 SCALE: HORIZ. 1"=20'  
 VERT. 1"=5'



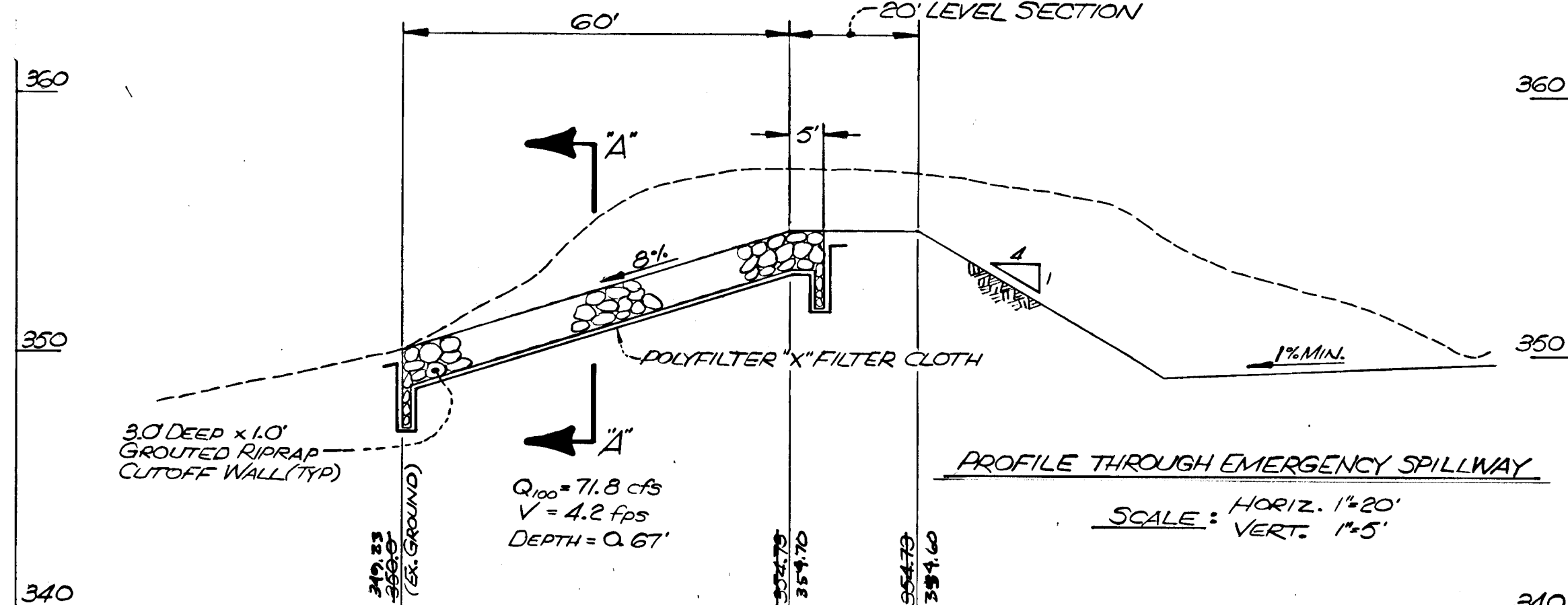
PROFILE THROUGH EMBANKMENT  
 HORIZ. 1"=20'  
 SCALE: VERT. 1"=5'



ELEVATION  
 SCALE: 1/2"=1'-0"  
 STRUCTURE #2 - THROAT MODIFICATIONS



SECTION "B-B"  
 SCALE: 1/2"=1'-0"

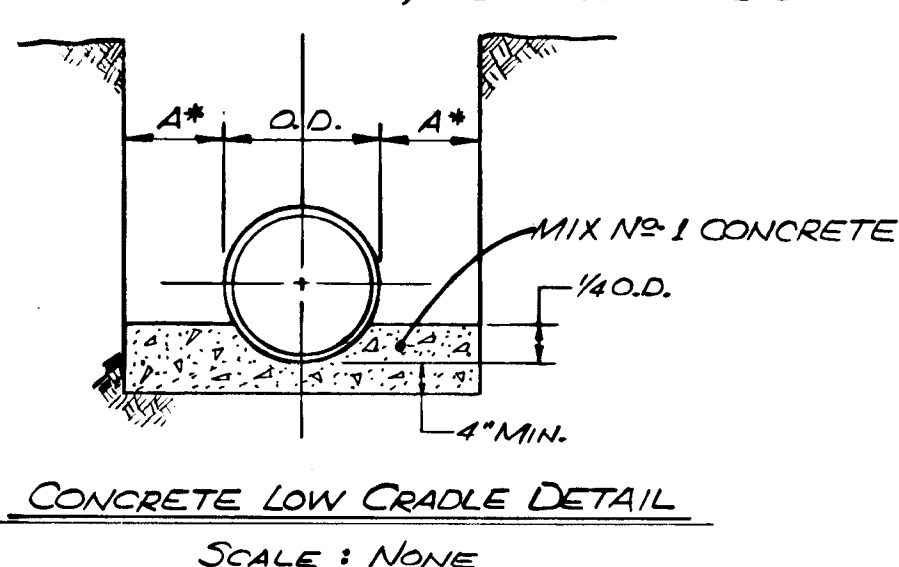


PROFILE THROUGH EMERGENCY SPILLWAY  
 HORIZ. 1"=20'  
 SCALE: VERT. 1"=5'

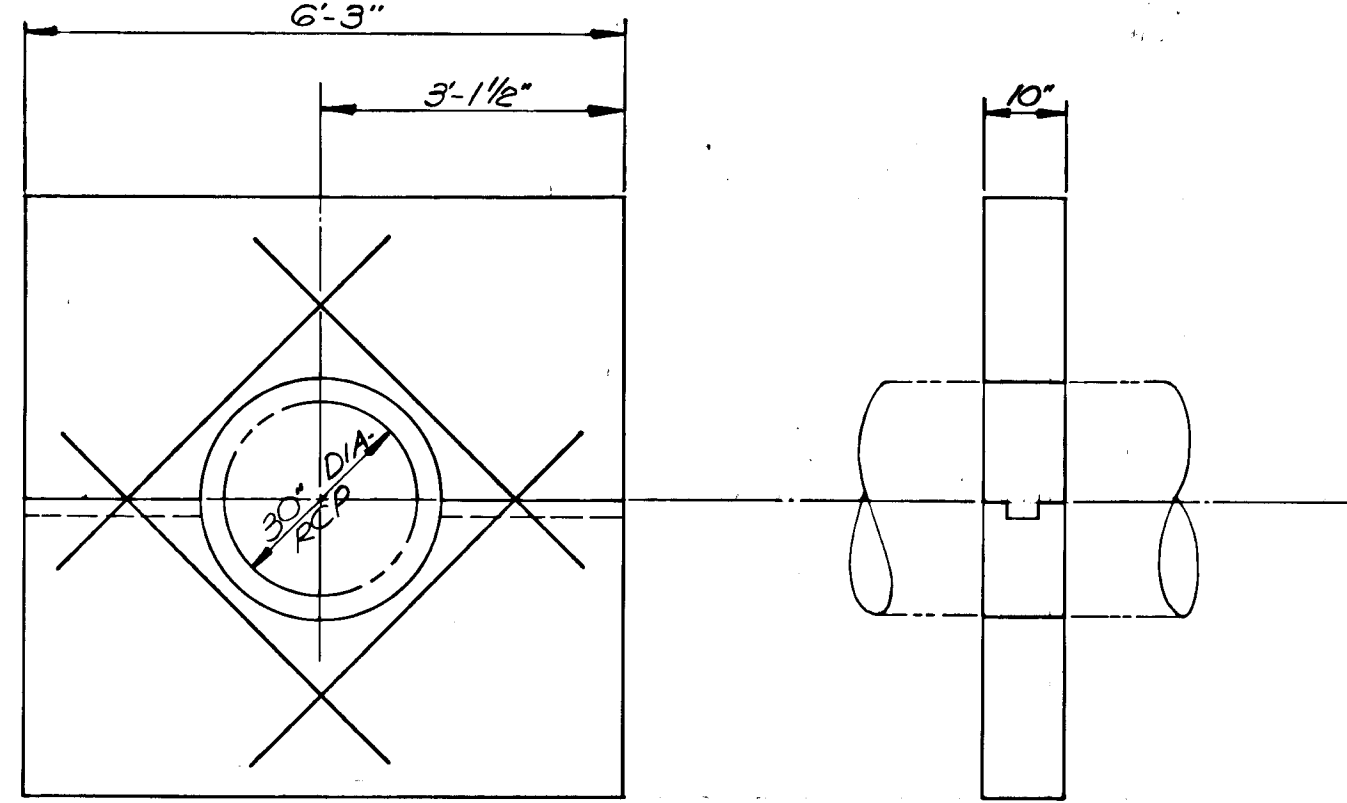
STRUCTURE SCHEDULE					
NO.	TYPE	INVERT		TOP ELEV.	STANDARD, NO.
		IN	OUT		
1	24" TYPE "C" CONC. ENDWALL	—	347.25	350.00	HOWARD CO. STD. SD-5.21
2	12'-10" INLET, MODIFIED *	349.25	347.75	354.73	HOWARD CO. STD. SD-4.02
3	15" TYPE "C" CONC. ENDWALL	349.25	—	351.25	HOWARD CO. STD. SD-5.21

\* WALLS TO BE CONSTRUCTED OF BRICK, 12" THICK. INSIDE DIMENSIONS OF BOX TO BE 3'-0" x 10'-0". BASE DIMENSIONS TO BE 14'-0" x 7'-0" x 1'-3", CLASS "A" CONCRETE. THROAT TO BE MODIFIED ACCORDING TO DETAIL SHOWN ON THIS SHEET. SEE HOWARD CO. STD. SD-4.02 FOR ANY DETAILS NOT SHOWN.  
 \* FOR VALUES OF "A", SEE "CRADLE DIMENSIONS" TABLE

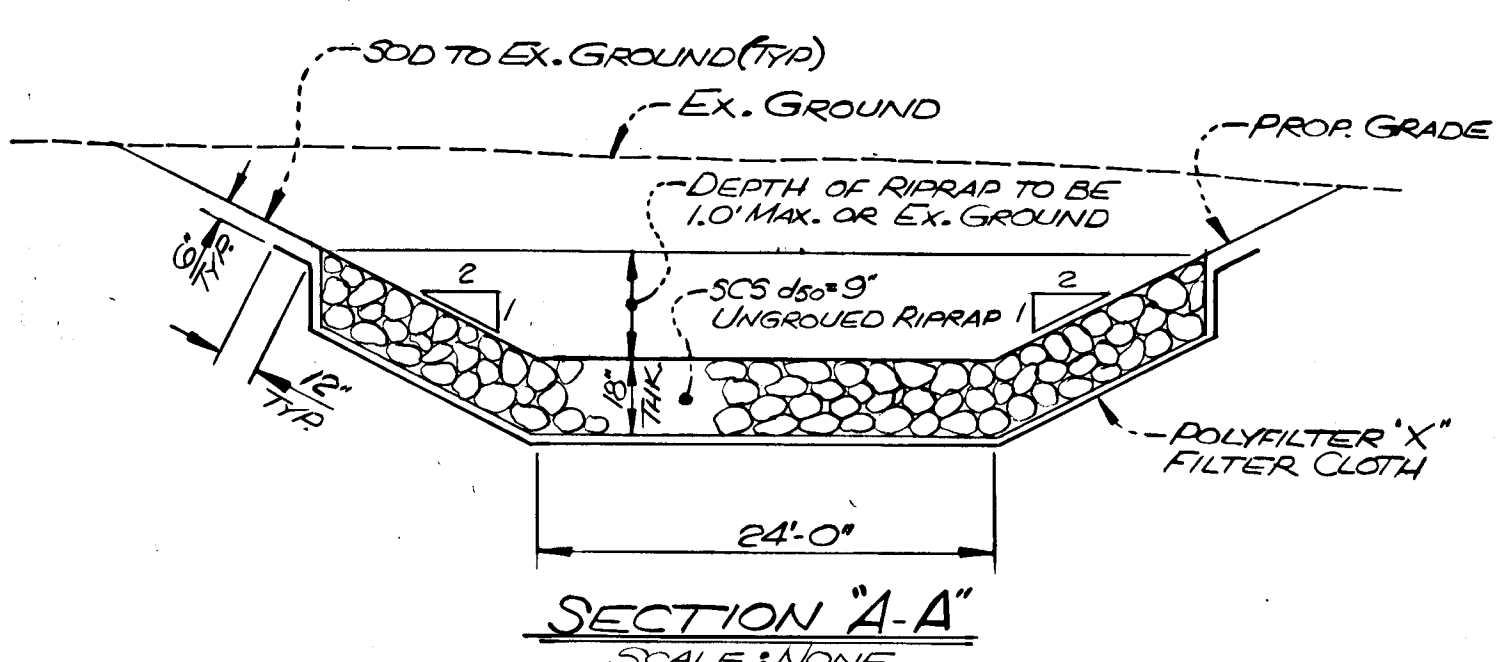
CRADLE DIMENSIONS		
SIZE	"A"	O.D.
5"	8"	1.63'
15"	12"	2.50'



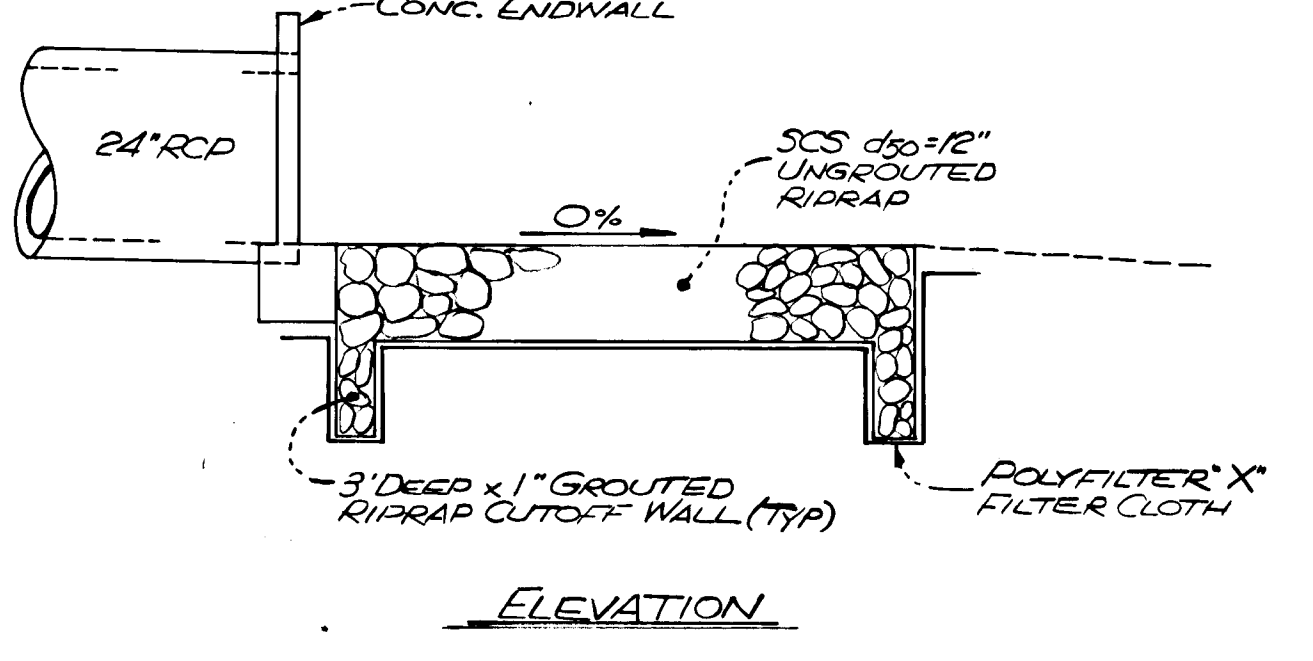
CONCRETE LOW CRADLE DETAIL  
 SCALE: NONE



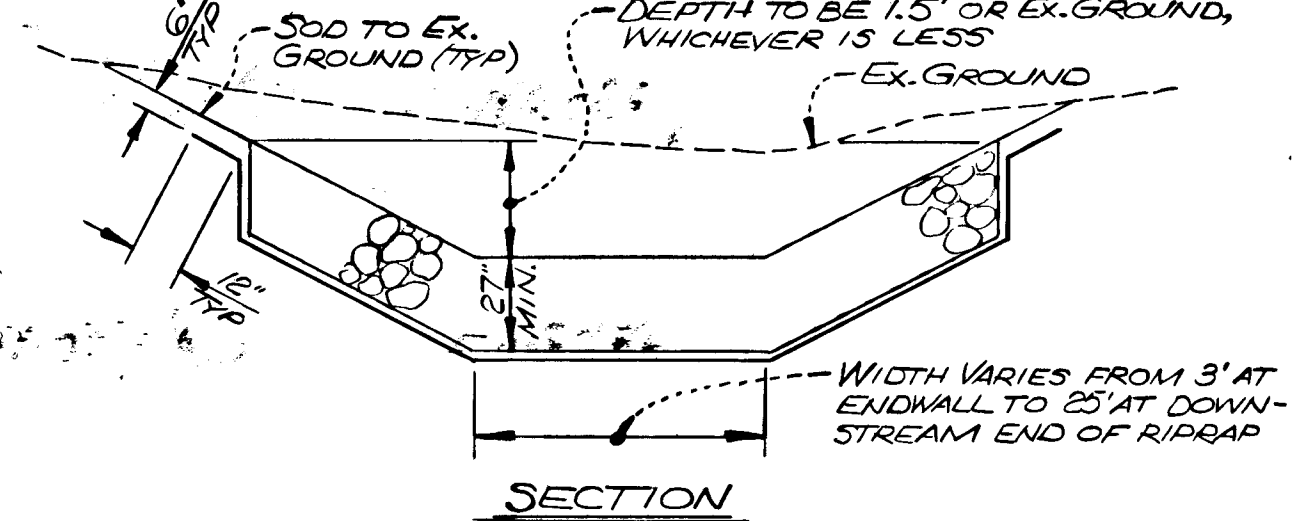
CONCRETE ANTI-SEEP COLLAR  
 SCALE: 1/2"=1'-0"



SECTION "A-A"  
 SCALE: NONE



ELEVATION



SECTION  
 OUTLET PROTECTION  
 SCALE: NONE

NOTES:  
 1. POUR CONCRETE TO UNDISTURBED EARTH. REMOVE SHEETINGS BEFORE POURING CONCRETE OR LEAVE LOWER PORTION OF SHEETING IN PLACE.  
 2. WHEN USING SOLID SHEETING OR TRENCH SHIELDS, "A" SHALL NOT EXCEED 30'.



AS-BUILT SURVEY CERTIFIED BY  
 RICHARD F. LANE, Md. L.S.  
 No. 301

F-86-226

OWNER/DEVELOPER  
 HOWARD RESEARCH & DEVELOPMENT CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

No.	REVISION	DATE	BY



ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS • PHOTOGRAMMETRISTS  
**GREENHORNE & O'MARA, INC.**  
 2 RESEARCH PLACE, ROCKVILLE, MARYLAND 20850  
 (301) 948-0900  
 ANNAPOLIS, MD • ATLANTA, GA • BECKLEY, WV • CULPEPER, VA • DENVER, CO • EXPORT, PA • FAIRFAX, VA  
 GREENBELT, MD • MONROE, MI • RALEIGH, NC • TAMPA, FL • WILLISTON PARK, NY

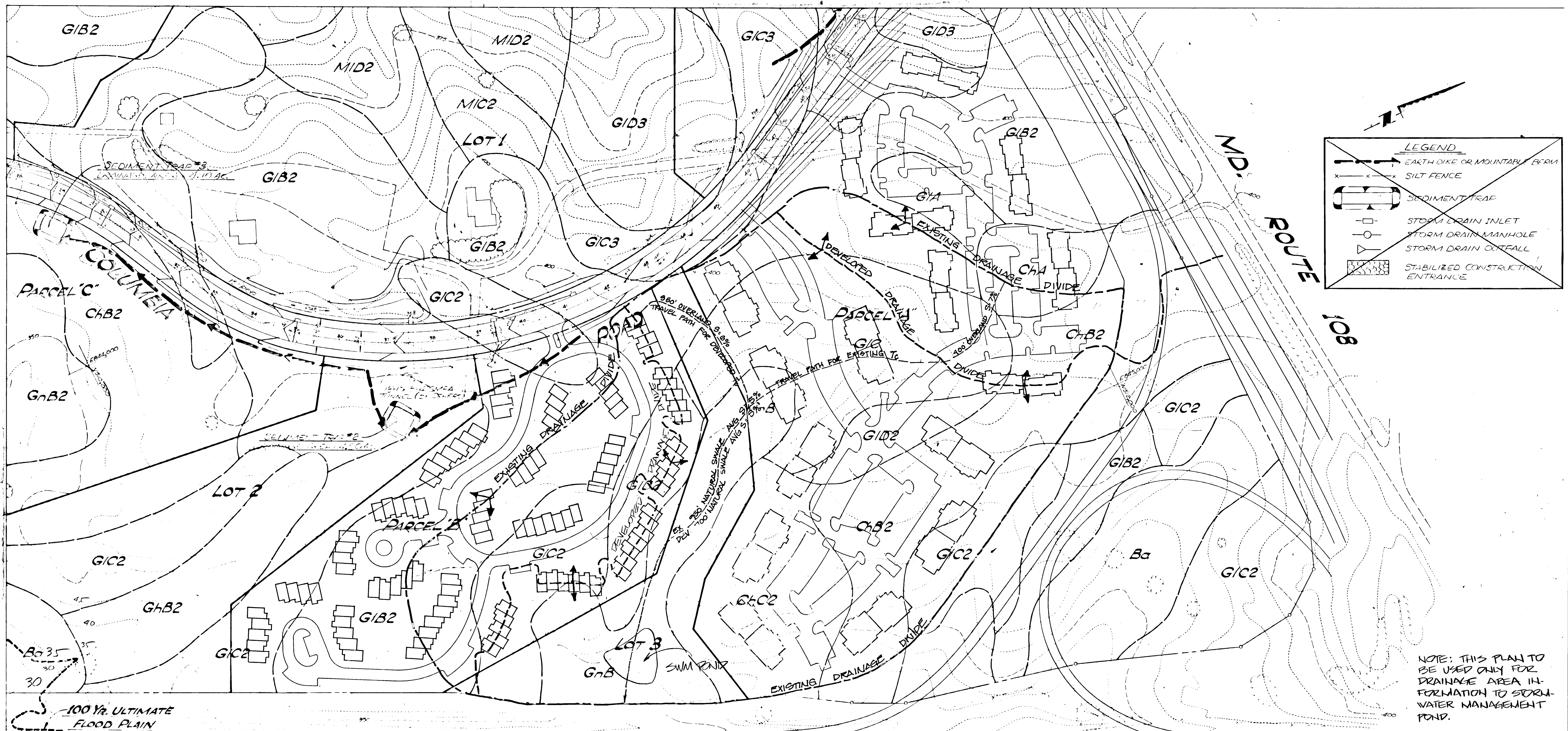
STORMWATER MANAGEMENT, LOT #3  
**COLUMBIA**  
 VILLAGE OF DORSEY'S SEARCH  
 SECTION 3, AREA 1  
 TAX MAP 30 - PARCEL B-1  
 5TH ELECTION DISTRICT-HOWARD COUNTY, MARYLAND

JWC DESIGN	SCALE AS SHOWN
JDP DRAWN	2 OF 4
RHM CHECKED	SHEET
MAY, '86 DATE	FILE No.

AS-BUILT F-86-226

1159





**LEGEND**

- EARTH DIKE OR MOUNTABLE BERM
- SILT FENCE
- SEDIMENT TRAP
- STORM DRAIN INLET
- STORM DRAIN MANHOLE
- STORM DRAIN OUTFALL
- STABILIZED CONSTRUCTION ENTRANCE

NOTE: THIS PLAN TO BE USED ONLY FOR DRAINAGE AREA INFORMATION TO STORM WATER MANAGEMENT POND.

DEPARTMENT OF PUBLIC WORKS  
 DESIGN & CONSTRUCTION 8-18-86  
 CHIEF BUREAU OF ENGINEERING DATE

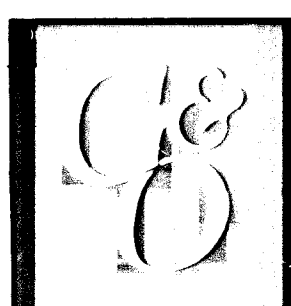
OFFICE OF PLANNING & ZONING  
 DATE 8-15-86  
 CHIEF DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION

U.S. ROUTE 29

**DRAINAGE AREA MAP**

OWNER/DEVELOPER  
 HOWARD RESEARCH & DEVELOPMENT CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

No.	REVISION	DATE	BY



**GREENHORNE & O'MARA, INC.**  
 ENGINEERS • ARCHITECTS • PLANNERS • SURVEYORS  
 2 RESEARCH PLACE ROCKVILLE, MD.  
 (301) 948 - 0900 20850  
 GRIFFIN, MD • ANNAPOLIS, MD • FAIRFAX, VA • MD. HUNTINGTON, PA

SWM POND LOT #3  
 COLUMBIA  
 VILLAGE OF DORSEY'S SEARCH  
 SECTION 3, AREA 1, PHASE 191  
 TAX MAP 30 ~ PARCELS B-1  
 5TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

JWC	SCALE 1"=100'
DESIGN	
DATE 1/28/86	
DRAWN	4 OF 4
KHM	
CHECKED	SHEET
DATE 8/15/86	
FILE No. R-1287-X	
JOB No.	

1159