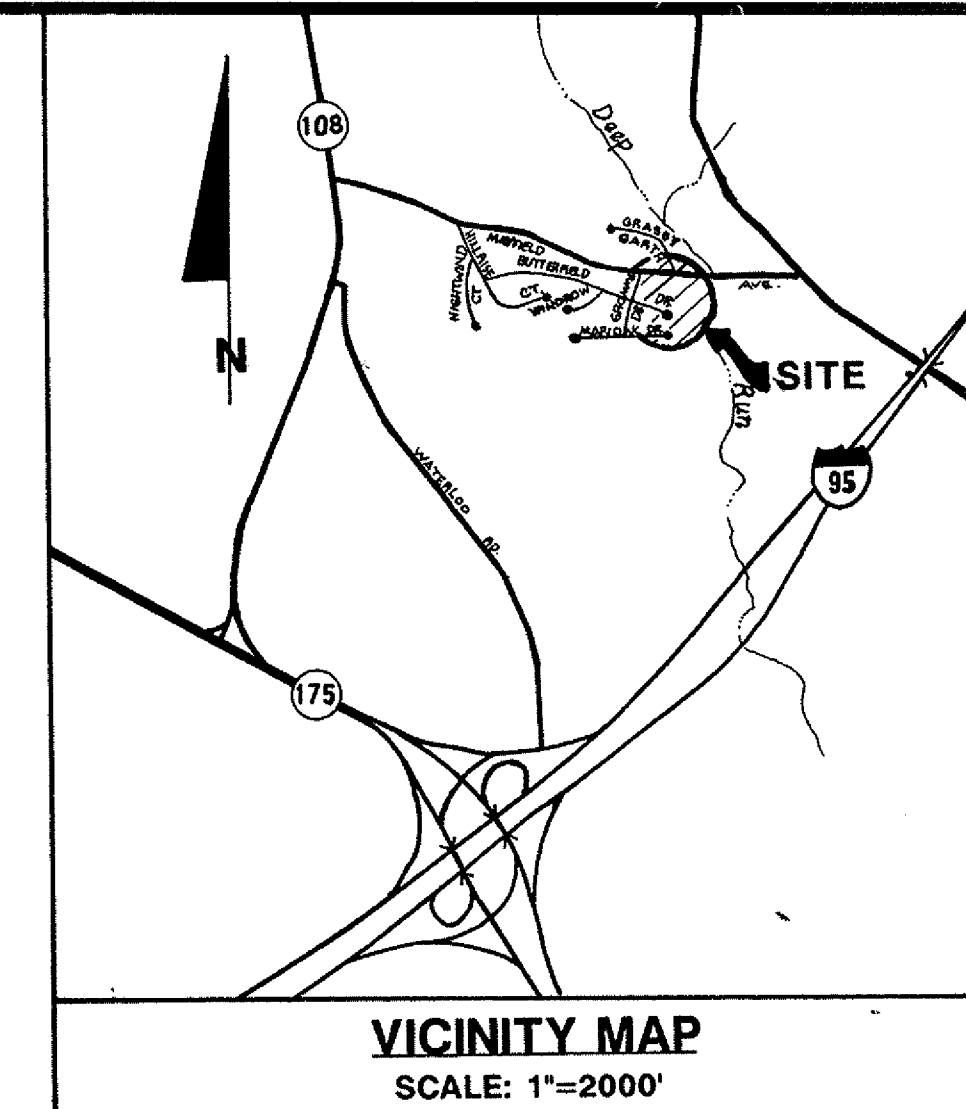


HOWARD COUNTY

Department of Public Works

3430 Courthouse Drive

Ellicott City, Maryland 21043



INDEX OF SHEETS

SHT. No.	TITLE
1	TITLE SHEET
2	DRAINAGE AREA MAPS
3	GRADING PLAN
4	STORM WATER MANAGEMENT PROFILES
5	RISER DETAILS STRUCTURE S-1
6	PIPE PROFILES AND DETAILS
7	MISCELLANEOUS DETAILS
8	EROSION AND SEDIMENT CONTROL PLAN
9	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
10	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
11	LANDSCAPE PLAN
12	LANDSCAPE PLAN PLANT LIST SPECIFICATIONS AND DETAILS

NOTE: CERTIFICATIONS ONLY APPLY TO WORK RELATED TO THESE DRAWINGS AND DO NOT CERTIFY ANY PREVIOUS WORK/TECHNICAL REQUIREMENTS OF EXISTING POND SUCH AS EMBANKMENT, CORE TRENCH, PRINCIPAL SPILLWAY AND ANTI SEEP COLLARS.

DEVELOPER & ENGINEER CERTIFICATES

() BY THE DEVELOPER

"I/WE 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Ronald G. Lepson 10/17/94
SIGNATURE OF DEVELOPER DATE
RONALD G. LEPSON CHIEF, BUREAU OF ENGINEERING

() BY THE ENGINEER

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT PLAN 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Stuart J. Robinson 10/10/94
SIGNATURE OF ENGINEER DATE
STUART J. ROBINSON MD. LICENSE NO. 17636

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.

Patricia Engle Jas. 10/10/94
U.S. SOIL CONSERVATION SERVICE DATE

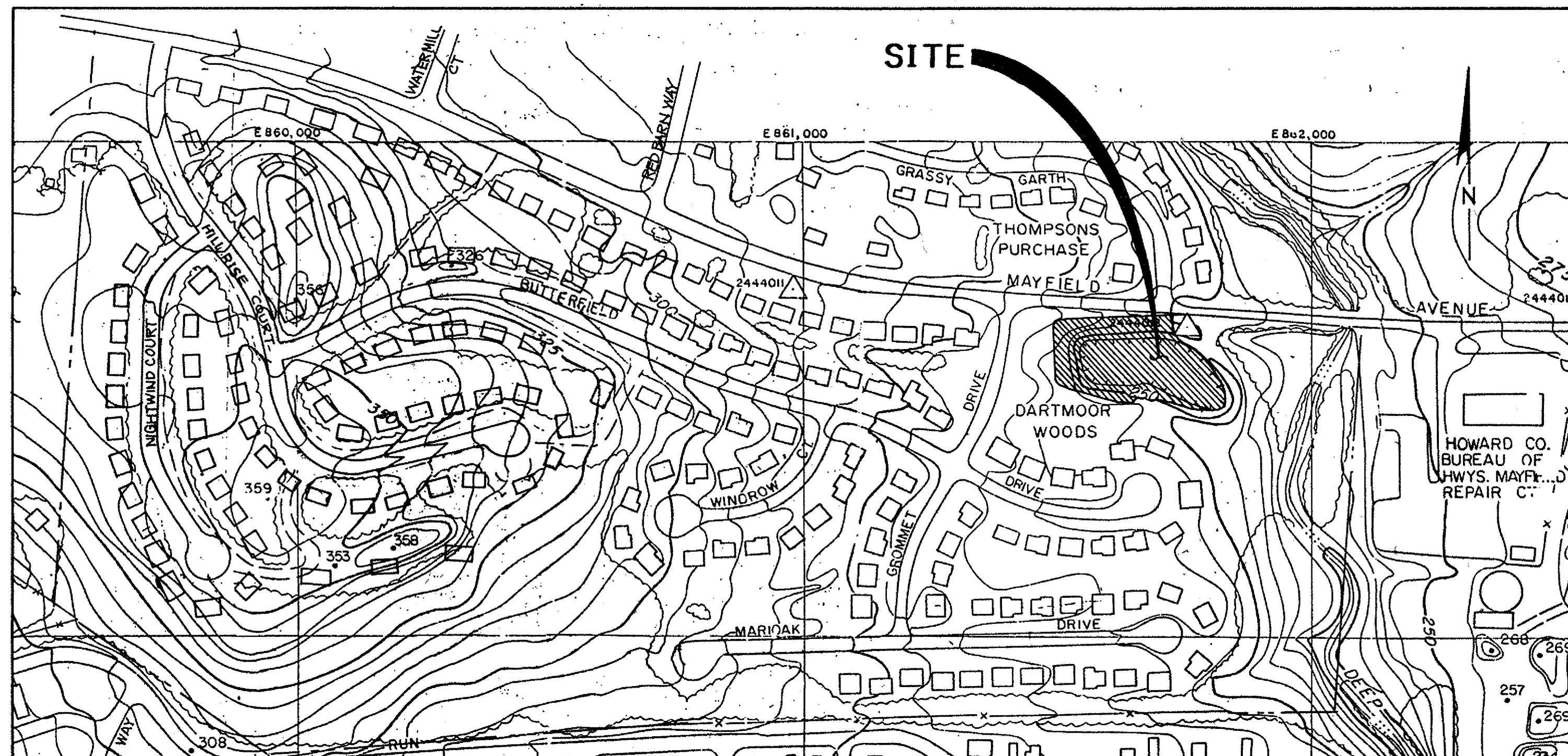
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert W. Zehn Jas. 10/10/94
HOWARD SOIL CONSERVATION DISTRICT DATE

MAYFIELD AVENUE

POND RETROFIT

CAPITAL PROJECT NO. D-1110



ENVIRONMENTAL INFORMATION
DNR/WRA PERMIT: 92-NT-0272/199264398

DEEP RUN CLASSIFICATION: CLASS I WATERS
CLASS I WATERS: IN STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15 INCLUSIVE, DURING ANY YEAR.

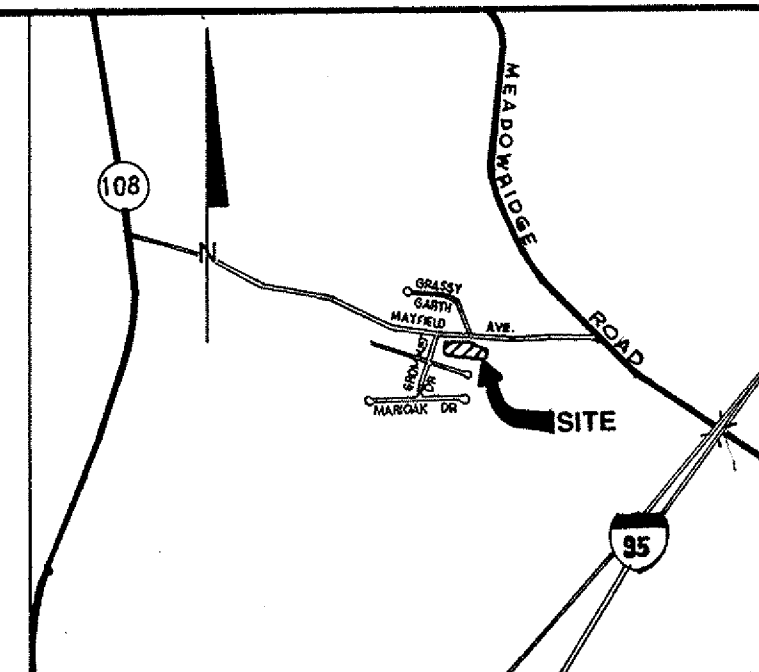
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE, AND SCS POND 378 STANDARDS.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF CONSTRUCTION INSPECTION AT (410) 313-1870 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION.
- ALL TOP ELEVATIONS FOR THE PROPOSED MANHOLES ARE APPROXIMATE, AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND ENGINEER.
- TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED OUTSIDE THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE ENGINEER NOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT OR GUARANTEE THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION SHOWN.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. CLEAR UTILITIES BY A MINIMUM OF 6-INCHES.
- ALL UTILITY POLES MUST BE CLEARED BY 6-FEET. IF THE STORM DRAIN PIPING OR STRUCTURE WORK IS WITHIN FIVE FEET OF A UTILITY POLE, THE POLE MUST BE BRACED.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" AND THE SPECIAL PROVISIONS. IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE TWO SOURCES, THE LATTER SHALL GOVERN.
- ALL SLOPES AND/OR DISTURBED AREAS SHALL RECEIVE 2-INCH DEPTH OF TOPSOIL AND SODDING EXCEPT WHERE OTHERWISE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- LOCATIONS POINTS FOR INLETS, MANHOLES AND STRUCTURES"

ITEM	HORIZONTAL LOC:	VERTICAL LOC:
MANHOLES	CENTER OF COVER	TOP OF COVER
END SECTION	Inlet of END SECTION	INVERT OF END SECTION
- THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES. COST SHALL BE INCLUDED IN THE UNIT PRICES BID FOR STORM DRAIN ITEMS.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING THE WORK SHOWN HEREON:
MISS UTILITY 1-800-357-7777
BALTIMORE GAS & ELECTRIC CO., UNDERGROUND ELECTRICAL DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-6313
BALTIMORE GAS & ELECTRIC CO., UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5333
CHESAPEAKE AND POTOMAC TELEPHONE CO. 725-9976
COLONIAL PIPELINE COMPANY 781-4641
HOWARD COUNTY BUREAU OF UTILITIES 313-4900
HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION 313-1870
HOWARD COUNTY TRAFFIC DIVISION 313-2430
HOWARD COUNTY SURVEYING AND DRAFTING DIVISION 313-2417
- ALL INVERTS SHALL BE FULLY DEVELOPED.
- ALL HORIZONTAL CONTROL IS IN MARYLAND STATE PLANE DATUM (NAD 1927) AND ALL VERTICAL CONTROL IS IN U.S.G.S. DATUM (NGVD 1929) BASED ON HOWARD COUNTY CONTROL MONUMENT'S 2444011 AND 2444012 FOUND AND OCCUPIED.
- DUE TO THE PROXIMITY OF LIVE UNDERGROUND AND OVERHEAD UTILITIES, A. MORTON THOMAS AND ASSOCIATES, INC. IS NOT RESPONSIBLE FOR ANY DAMAGE OR INJURY SUSTAINED DURING CONSTRUCTION BY ANY PERSON, VEHICLES OR EQUIPMENT USED ON OR ADJACENT TO THE SITE.

1713

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James J. ...</i> 10/10/94 <i>Ronald G. Lepson</i> 10/17/94 DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE <i>Andrew M. ...</i> 10-20-94 <i>Elizabeth Anderson ...</i> 10/17/94 CHIEF, BUREAU OF HIGHWAYS DATE CHIEF, TRANSPORTATION/WATERSHED PROJECTS DATE		A. MORTON THOMAS and ASSOCIATES, INC. ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS 12750 TWINBROOK PARKWAY - ROCKVILLE, MARYLAND 20852 - (301) 881-2545 		DES. SJR DRN. WDL CHK. JCK DATE OCT. 94 BY NO. REVISION DATE		ADDENDUM 1 - REVISED NOTES AND PROJECT No. 11/4/94 TITLE SHEET 600' SCALE MAP NO. 37 BLOCK NO. 15		MAYFIELD AVENUE POND RETROFIT (CAPITAL PROJECT NO. D-1110)		SCALE SHEET 1 OF 12 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
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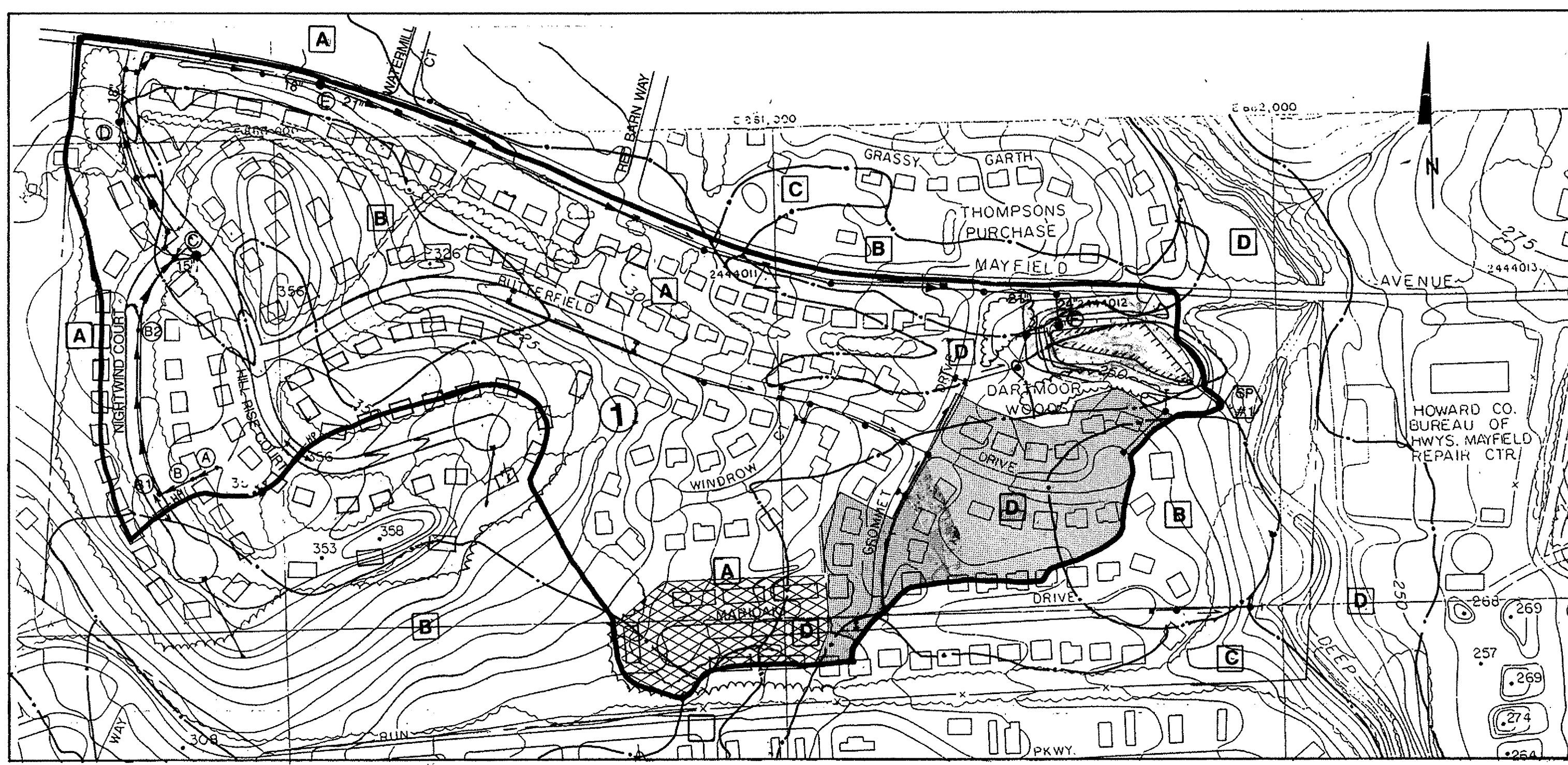
VICINITY MAP
(SCALE: 1"=2000')

SUMMARY OF DISCHARGES PRESENT CONDITION					
STUDY POINT	LOCATION	CONTRIBUTING AREA (ACRES)	DISCHARGES (CFS)		
			Q2	Q10	Q100
1	INTO POND	36.4	31.95	85.80	153.90
	RELEASE FROM POND	—	3.81	60.00	142.38

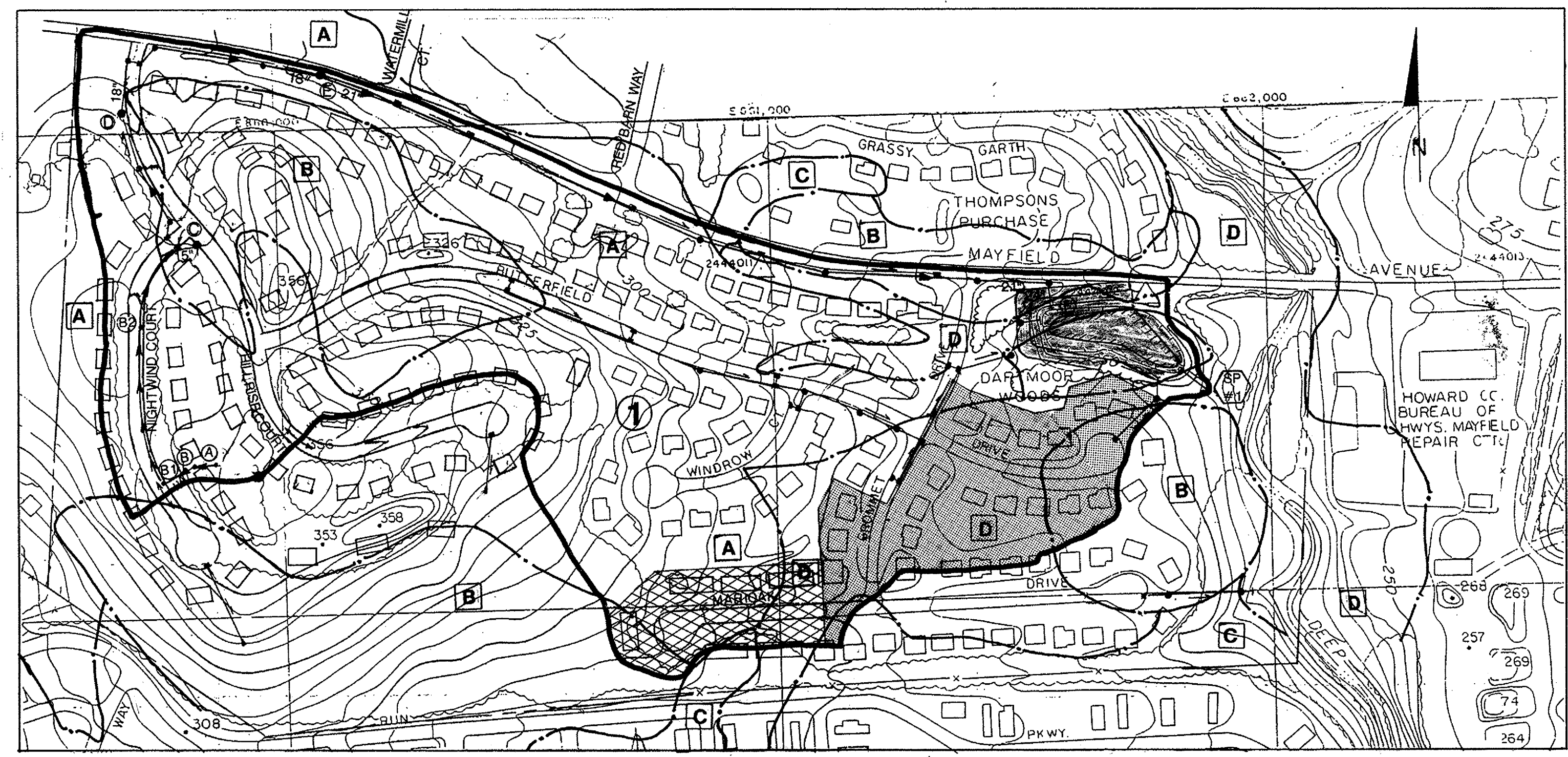
SUMMARY OF DISCHARGES ULTIMATE CONDITON (PRESENT ZONING)					
STUDY POINT	LOCATION	CONTRIBUTING AREA (ACRES)	DISCHARGES (CFS)		
			Q2	Q10	Q100
1	INTO POND	36.4	35.44	90.99	160.19
	RELEASE FROM POND	—	4.03	68.86	153.20

LEGEND:

- STUDY POINT NUMBER
- STUDY AREA DRAINAGE BOUNDARY
- DRAINAGE AREA DIVIDE
- DRAINAGE AREA
- SOIL BOUNDARY
- SOIL TYPE
- EXISTING PIPES
- RETROFIT SWM FACILITY
- 1/8 ACRE RESIDENTIAL LOTS
- TOWN HOUSE LOTS
- 1/4 ACRE RESIDENTIAL LOTS
- WOODS
- TIME OF CONCENTRATION PATH



PRESENT CONDITION
(SCALE: 1"=200')



ULTIMATE CONDITION (PRESENT ZONING)
(SCALE: 1"=200')

1713

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James J. ...</i> 10/21/94 Chief, Bureau of Engineering: <i>Elizabeth Anderson</i> 10/17/94 Chief, Bureau of Highways: <i>...</i> 10-20-94		A. MORTON THOMAS AND ASSOCIATES, INC. ENGINEERS • SURVEYORS • PLANNERS • LANDSCAPE ARCHITECTS 12750 TWINBROOK PARKWAY - SUITE 200 - ROCKVILLE, MARYLAND 20852 TELEPHONE: (301) 881-2545 FAX: (301) 881-0814				DES: SJR DRN: WDL C.K: JCK DATE: OCT. 94		DRAINAGE AREA MAPS SCALE MAP NO. 37 BLOCK NO. 15		MAYFIELD AVENUE POND RETROFIT (CAPITAL PROJECT NO. D-1110)		SCALE AS SHOWN SHEET 2 OF 12	
						DATE: OCT. 94		1st ELECTION DISTRICT		HOWARD COUNTY, MARYLAND			

END CONSTRUCTION

STRUCTURE SCHEDULE							
NO.	TYPE	STATION	OFFSET	TOP ELEV.	INV. ELEV.	REQUIRED	STANDARD DETAIL OPTION
MH-1	5' STANDARD PRECAST MH	0+75	70' RT	258.5	245.37	G 5.13	G 5.03 *
E-1	CONC. END SECT.	1+06	70' RT	—	245.00	SD 5.51	SD 5.52
E-2	CONC. END SECT.	1+34	56' RT	—	242.50	SD 5.51	SD 5.52
MH-2	4' STANDARD PRECAST MH	3+67	183 RT	247.0	242.35	G 5.12	G 5.01 *
E-3	CONC. END SECT.	3+64	151' RT	—	242.20	SD 5.51	SD 5.52
S-1	RISER	3+99	157' RT	—	—	—	SEE DETAILS SHT.

PIPE SCHEDULE				PIPE SUMMARY			
FROM	TO	SIZE	TYPE	LENGTH	SIZE	TYPE	LENGTH
MH-1	E-1	36"	RCP CL. 3	29LF	15"	RCP CL. 3	14LF
EX.EW	E-2	24"	RCP CL. 3	16LF	24"	RCP CL. 3	16LF
EX.MH	MH-2	15"	RCP CL. 3	4LF	36"	RCP CL. 3	29LF
MH-2	E-3	15"	RCP CL. 3	10LF	6"	PVC	34LF
					10"	PVC	14 LF
					6"x6"	PVC TEE	1 EA.

NOTES:

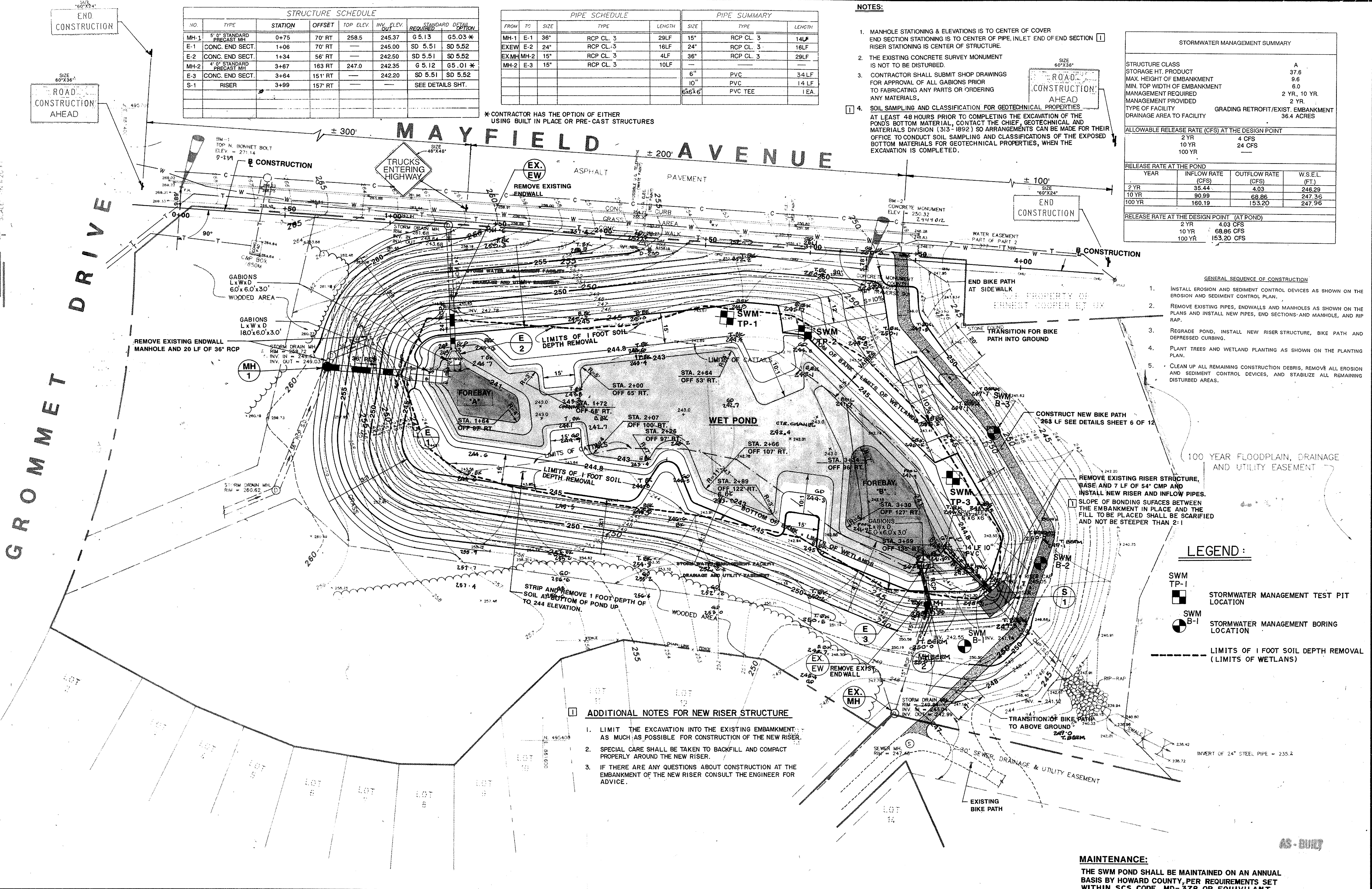
- MANHOLE STATIONING & ELEVATIONS IS TO CENTER OF COVER. END SECTION STATIONING IS TO CENTER OF PIPE, INLET END OF END SECTION. RISER STATIONING IS CENTER OF STRUCTURE.
- THE EXISTING CONCRETE SURVEY MONUMENT IS NOT TO BE DISTURBED.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF ALL GABIONS PRIOR TO FABRICATING ANY PARTS OR ORDERING ANY MATERIALS.
- SOIL SAMPLING AND CLASSIFICATION FOR GEOTECHNICAL PROPERTIES AT LEAST 48 HOURS PRIOR TO COMPLETING THE EXCAVATION OF THE POND'S BOTTOM MATERIAL, CONTACT THE CHIEF, GEOTECHNICAL AND MATERIALS DIVISION (313-1892) SO ARRANGEMENTS CAN BE MADE FOR THEIR OFFICE TO CONDUCT SOIL SAMPLING AND CLASSIFICATIONS OF THE EXPOSED BOTTOM MATERIALS FOR GEOTECHNICAL PROPERTIES, WHEN THE EXCAVATION IS COMPLETED.

STORMWATER MANAGEMENT SUMMARY			
STRUCTURE CLASS	A		
STORAGE HT. PRODUCT	37.6		
MAX. HEIGHT OF EMBANKMENT	9.6		
MIN. TOP WIDTH OF EMBANKMENT	6.0		
MANAGEMENT REQUIRED	2 YR., 10 YR.		
MANAGEMENT PROVIDED	2 YR.		
TYPE OF FACILITY	GRADING RETROFIT/EXIST. EMBANKMENT		
DRAINAGE AREA TO FACILITY	36.4 ACRES		
ALLOWABLE RELEASE RATE (CFS) AT THE DESIGN POINT			
2 YR	4 CFS		
10 YR	24 CFS		
100 YR	—		
RELEASE RATE AT THE POND			
YEAR	INFLOW RATE (CFS)	OUTFLOW RATE (CFS)	W.S.E.L. (FT.)
2 YR	35.44	4.03	246.29
10 YR	90.99	68.86	247.36
100 YR	160.19	153.20	247.96
RELEASE RATE AT THE DESIGN POINT (AT POND)			
2 YR	4.03 CFS		
10 YR	68.86 CFS		
100 YR	153.20 CFS		

- GENERAL SEQUENCE OF CONSTRUCTION
- INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.
 - REMOVE EXISTING PIPES, ENDWALLS AND MANHOLES AS SHOWN ON THE PLANS AND INSTALL NEW PIPES, END SECTIONS AND MANHOLE, AND RIP RAP.
 - REGRADE POND, INSTALL NEW RISER STRUCTURE, BIKE PATH AND DEPRESSED CURBING.
 - PLANT TREES AND WETLAND PLANTING AS SHOWN ON THE PLANTING PLAN.
 - CLEAN UP ALL REMAINING CONSTRUCTION DEBRIS, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES, AND STABILIZE ALL REMAINING DISTURBED AREAS.

GROMMET DRIVE

MAYFIELD AVENUE



- ADDITIONAL NOTES FOR NEW RISER STRUCTURE
- LIMIT THE EXCAVATION INTO THE EXISTING EMBANKMENT AS MUCH AS POSSIBLE FOR CONSTRUCTION OF THE NEW RISER.
 - SPECIAL CARE SHALL BE TAKEN TO BACKFILL AND COMPACT PROPERLY AROUND THE NEW RISER.
 - IF THERE ARE ANY QUESTIONS ABOUT CONSTRUCTION AT THE EMBANKMENT OF THE NEW RISER CONSULT THE ENGINEER FOR ADVICE.

LEGEND:

	STORMWATER MANAGEMENT TEST PIT LOCATION
	STORMWATER MANAGEMENT BORING LOCATION
	LIMITS OF 1 FOOT SOIL DEPTH REMOVAL (LIMITS OF WETLANDS)

MAINTENANCE:
 THE SWM POND SHALL BE MAINTAINED ON AN ANNUAL BASIS BY HOWARD COUNTY, PER REQUIREMENTS SET WITHIN SCS CODE MD-378 OR EQUIVILANT.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. Lee 10/17/94
 DIRECTOR OF PUBLIC WORKS DATE

Robert M. Gandy 10-20-94
 CHIEF BUREAU OF HIGHWAYS DATE

Michael J. Gannon 10/17/94
 CHIEF, BUREAU OF ENGINEERING DATE

Elizabeth Anderson-Palmer 10/17/94
 CHIEF TRANSPORTATION/WATERSHED PROJECTS DATE

A. MORTON THOMAS and ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS
 12780 THIMBROOK PARKWAY - ROCKVILLE, MARYLAND 20852 - (301) 881-2545

DES.	SJR	ADDENDUM 1 - ADDED NOTES	11/4/94
DRN.	RML	ADD TOPD	6/95
CHK.	JCK		
DATE	OCT. 94	BY	NO.

600' SCALE MAP NO. 37
 BLOCK NO. 15

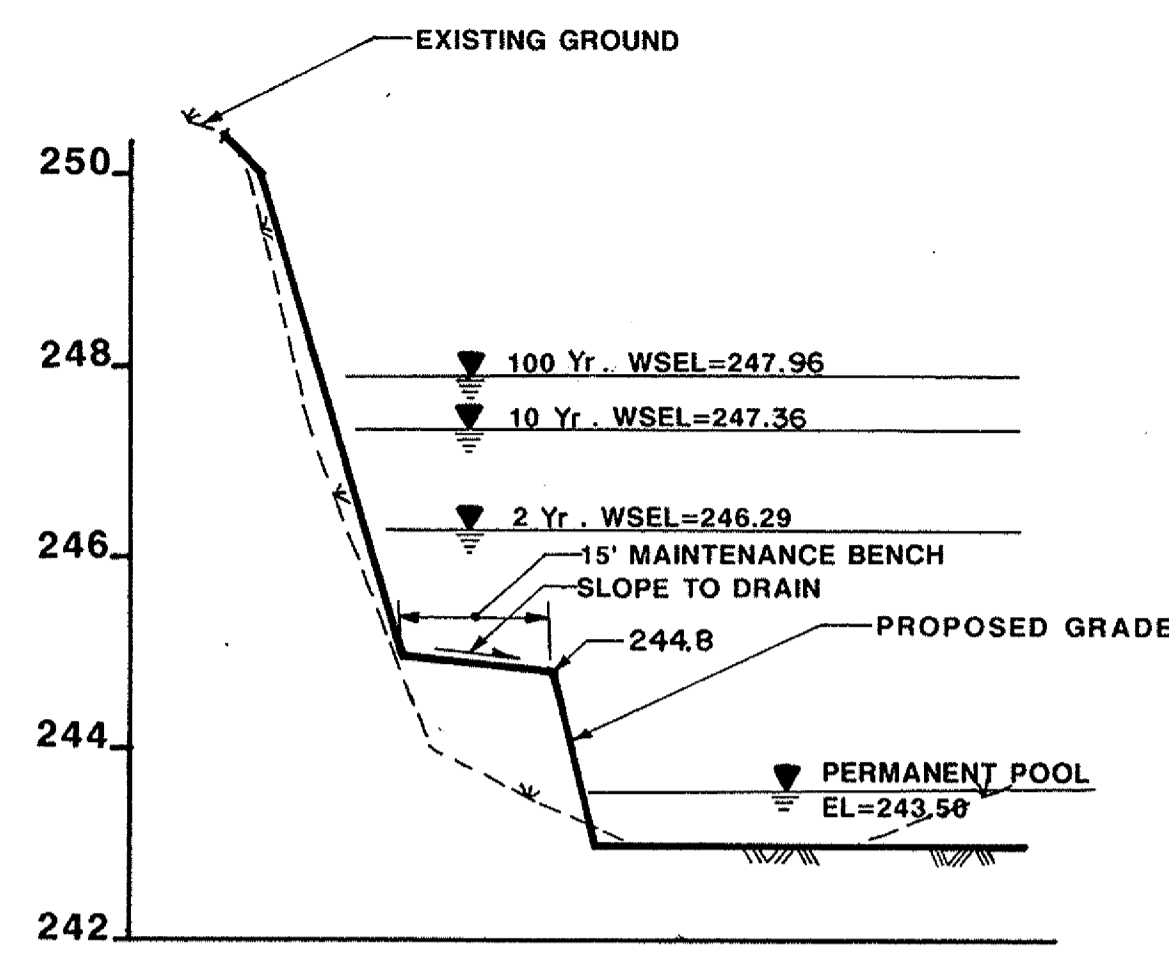
MAYFIELD AVENUE POND RETROFIT
 (CAPITAL PROJECT NO. D-1110)

1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE
 1" = 20'

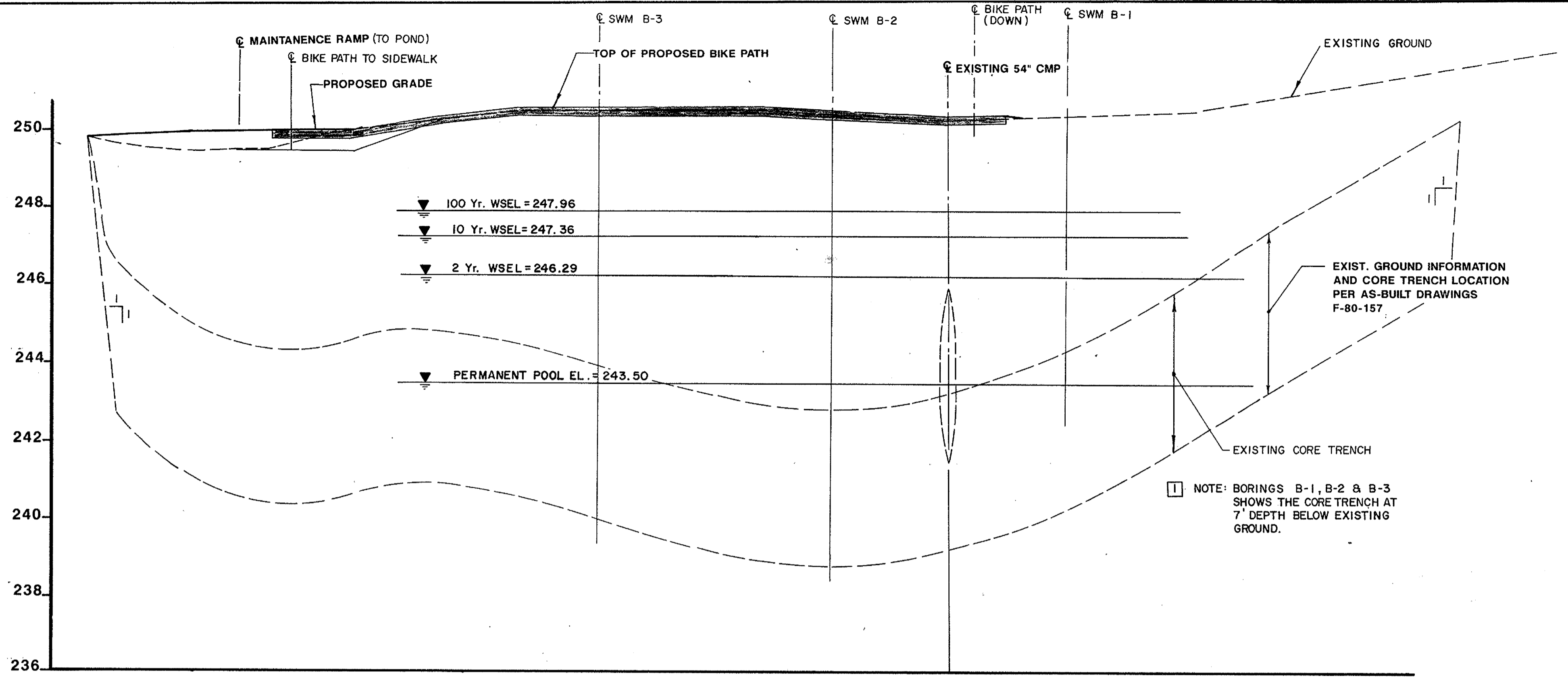
SHEET
 3 OF 12

1713



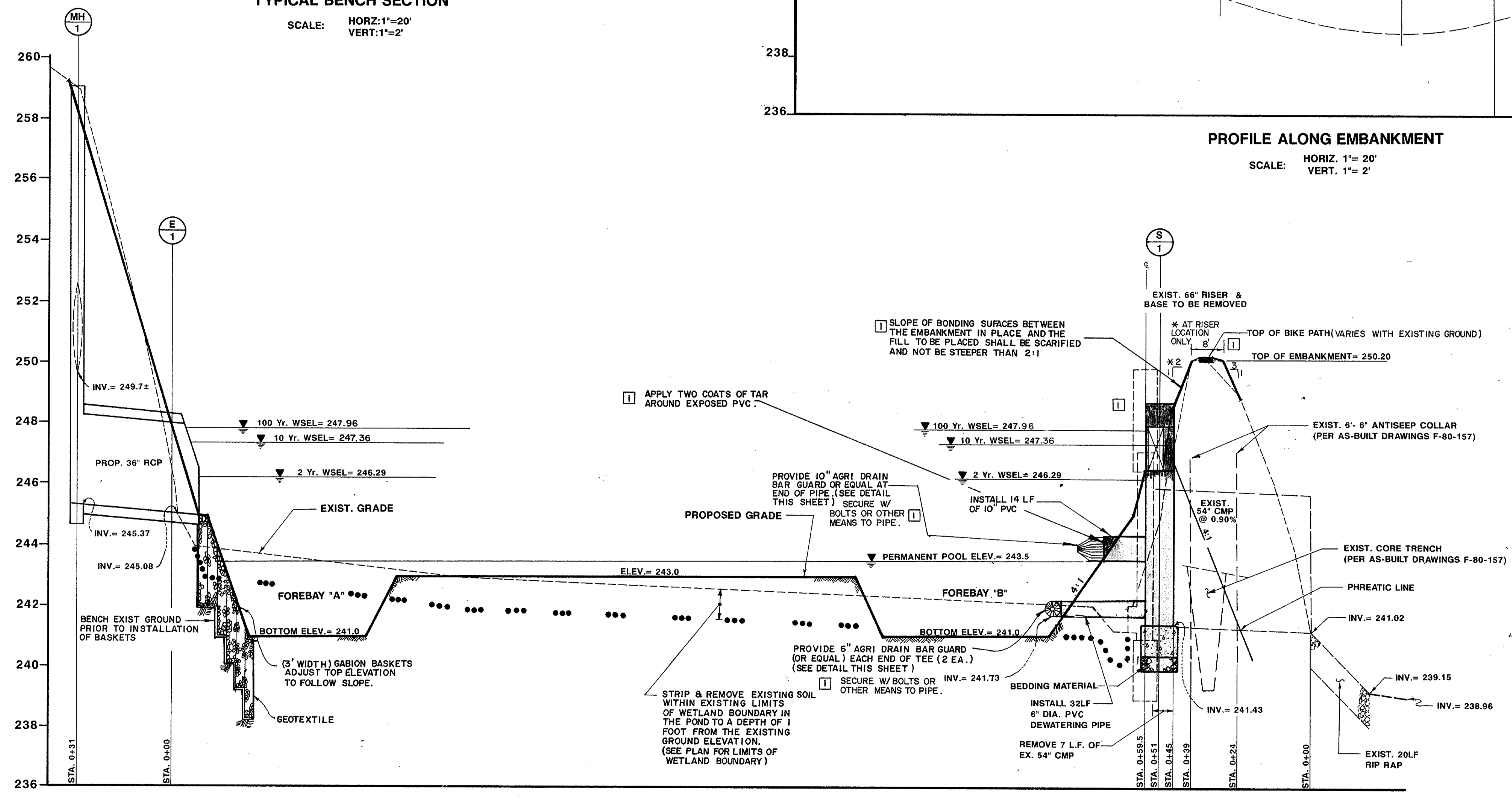
TYPICAL BENCH SECTION

SCALE: HORIZ: 1"=20'
VERT: 1"=2'



PROFILE ALONG EMBANKMENT

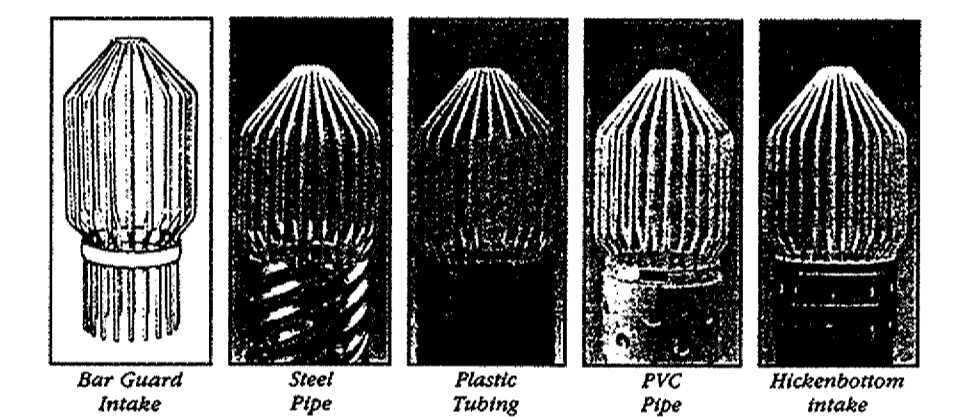
SCALE: HORIZ. 1"= 20'
VERT. 1"= 2'



PROFILE THRU CENTERLINE OF POND

SCALE: HORIZ. 1"= 20'
VERT. 1"= 2'

BAR GUARDSTM
ELIMINATE PLUGGED INLETS
WITH BAR GUARD INTAKES



NEW Brighter Color—Traffic Marker Yellow!

- The "Bar Guard Intake" is used in any situation where a low profile, high capacity intake is required.
- Due to its unique design and shape, the "Bar Guard Intake" is an excellent choice where crop residue or any type of trash could plug other types of intake structures.
- The "Bar Guard Intake" will fit any material with an internal diameter of approximately 4", 5", 6", 8", etc.
- This guard may also be used to protect a pond tube from rodent intrusion.
- New color is "traffic marker" YELLOW. Brighter than ever for even better visibility!
- The "Bar Guard Intake" is constructed of 1/4" diameter steel bars and is very sturdy and durable.
- Powder coated for super durability.

Select from one of 12 sizes:

Size	Price	Size	Price	Size	Price
4"	\$16	8"-H"	\$19	15"	\$36
5"	\$17	10"	\$22	18"	\$44
6"	\$18	10"-H"	\$22	21"	\$52
8"	\$19	12"	\$28	24"	\$60
		12"-H"	\$32		

*Special size which fits 8", 10" or 12" Hickensbottom Intakes. (See Hickensbottom Intakes on page 14.)

DETAIL-AGRI DRAIN BAR GUARD
N.T.S.

OR APPROVED EQUIVALENT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James P. ...* DATE: 10-20-94
 Chief, Bureau of Engineering: *Paul ...* DATE: 10/17/94
 Chief, Transportation/Watershed Projects: *Robert ...* DATE: 10/17/94

A. MORTON THOMAS AND ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS
12760 TOWNBROOK PARKWAY • ROCKVILLE, MARYLAND 20852 • (301) 381-2545 • FAX (301) 801-0814



DES: SJR	SJR	ADDENDUM - I REVISED RISER OPENING, TOP ELEVATIONS 11/4/94 AND ADD NOTE.
DRN: DJ		
CHK: JCK		
DATE: OCT. 94	BY NO.	REVISION

SWM POND PROFILES

600' SCALE MAP NO. 37 BLOCK NO. 15

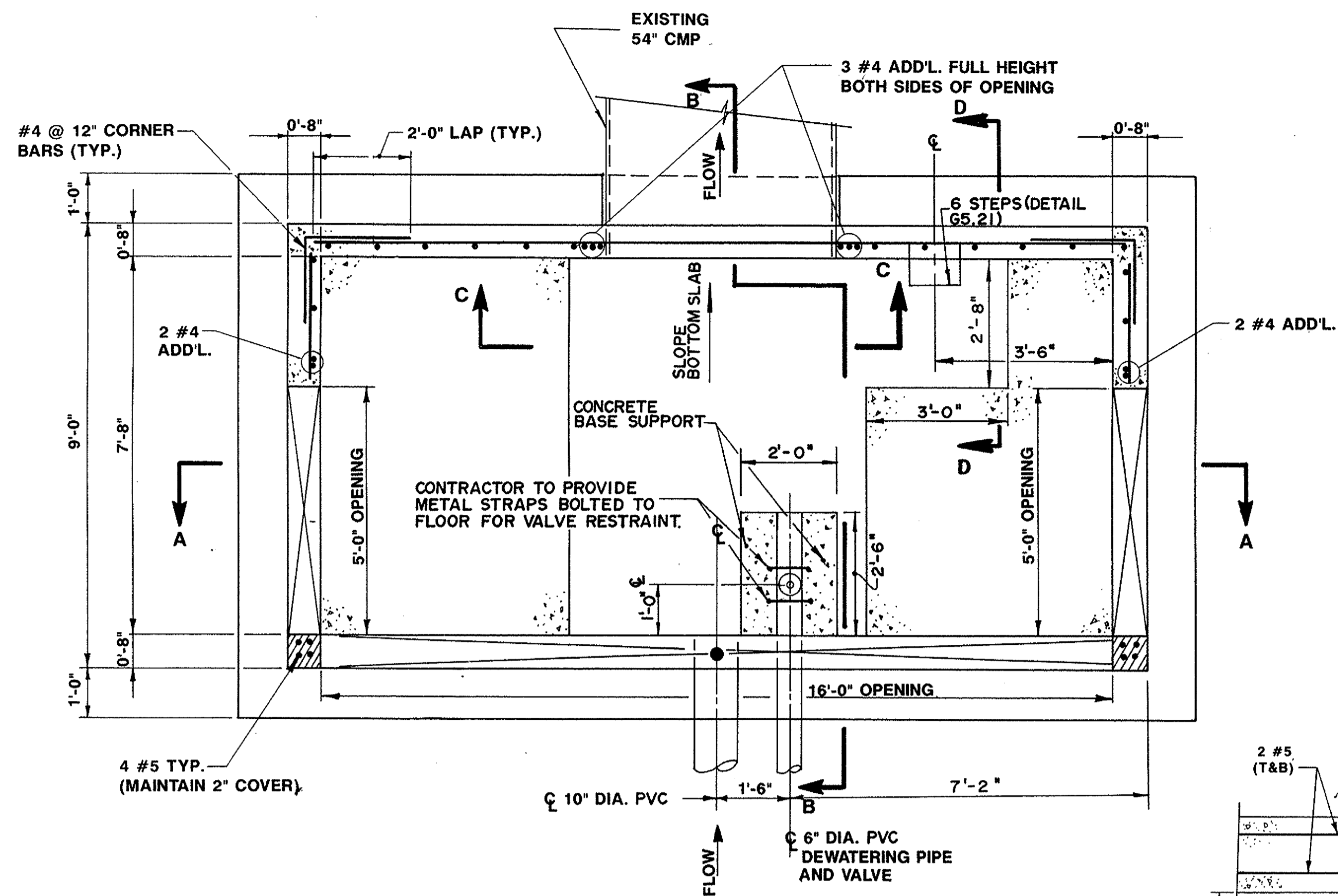
MAYFIELD AVENUE POND RETROFIT

(CAPITAL PROJECT NO. D-1110)

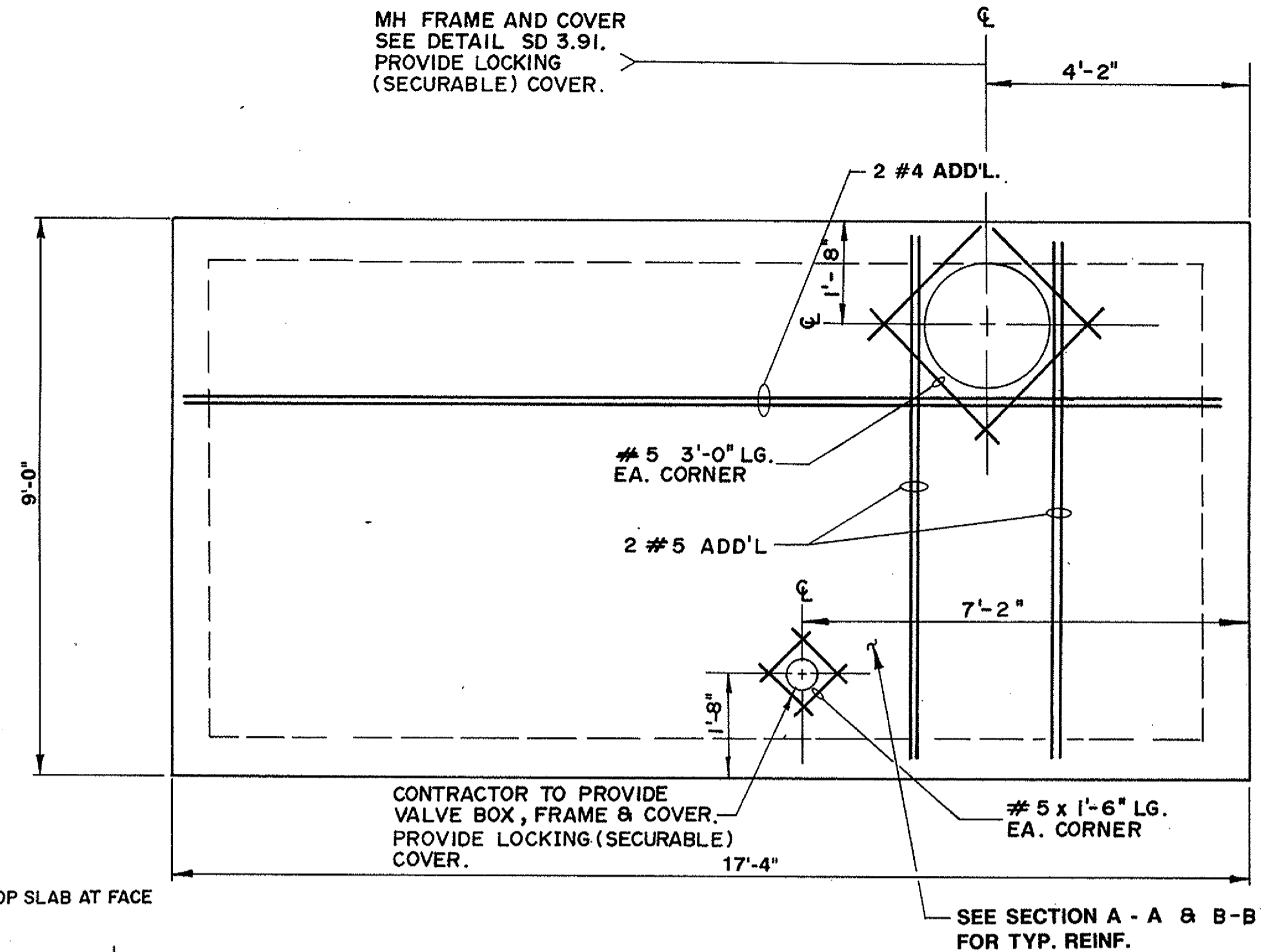
1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 12

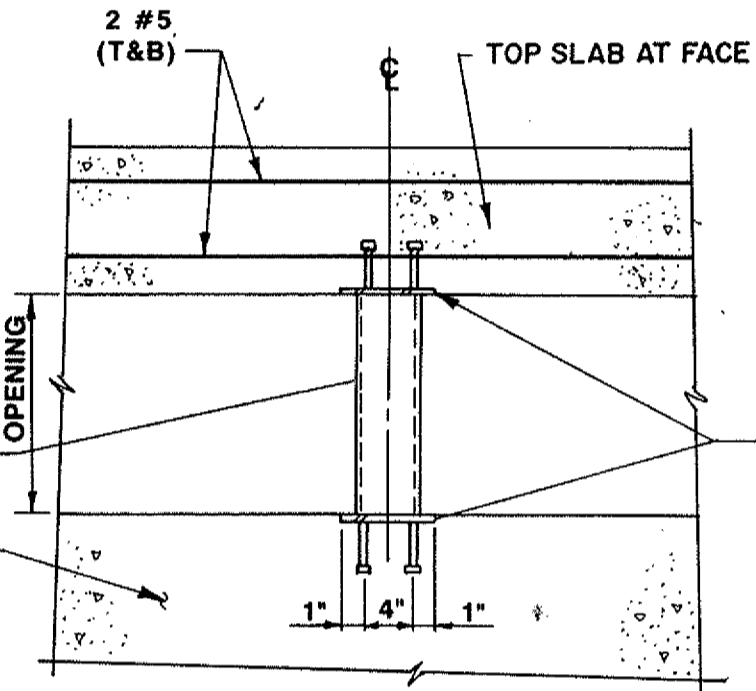
1713



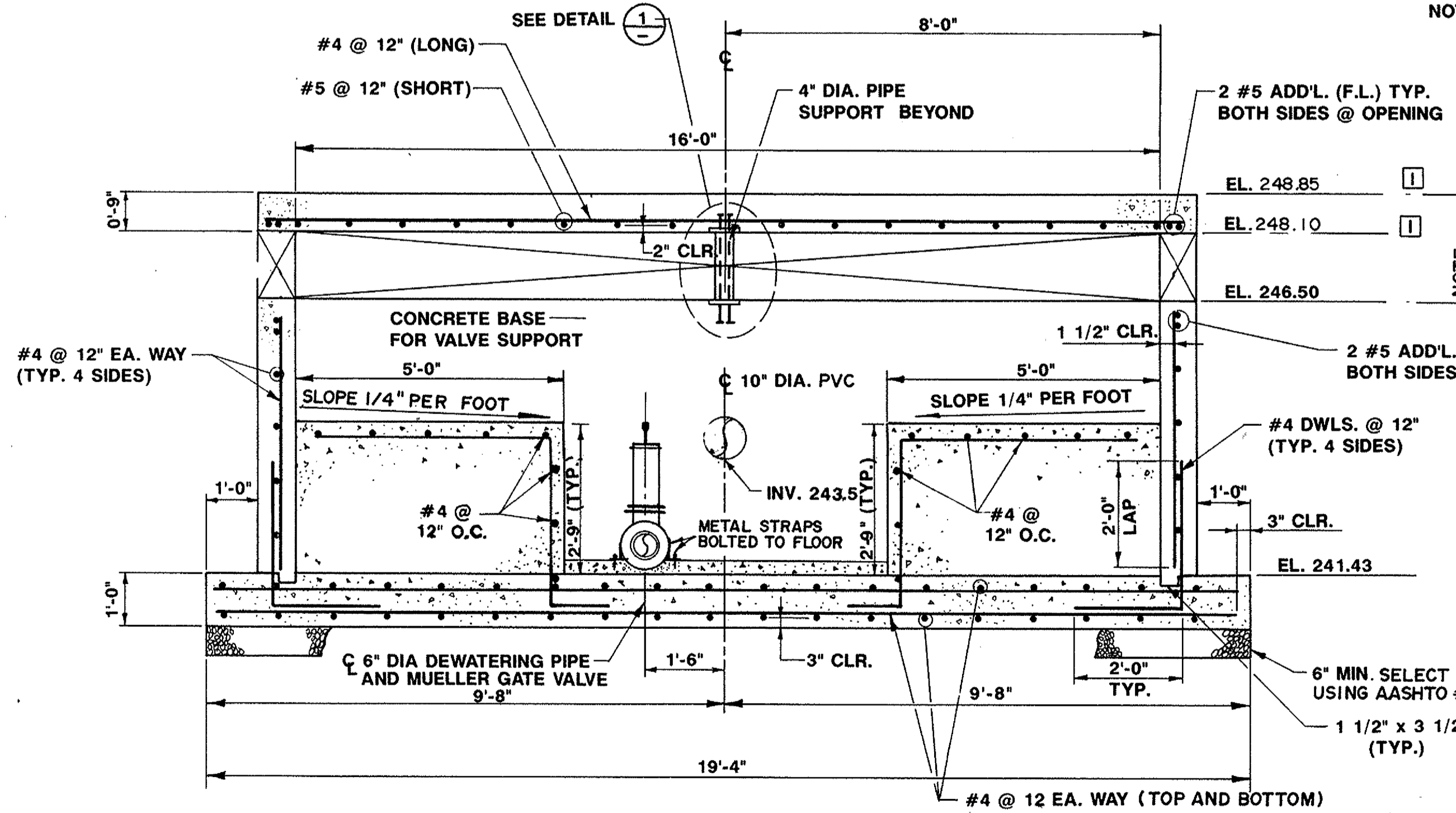
PLAN VIEW
SCALE: 1/2" = 1'-0"



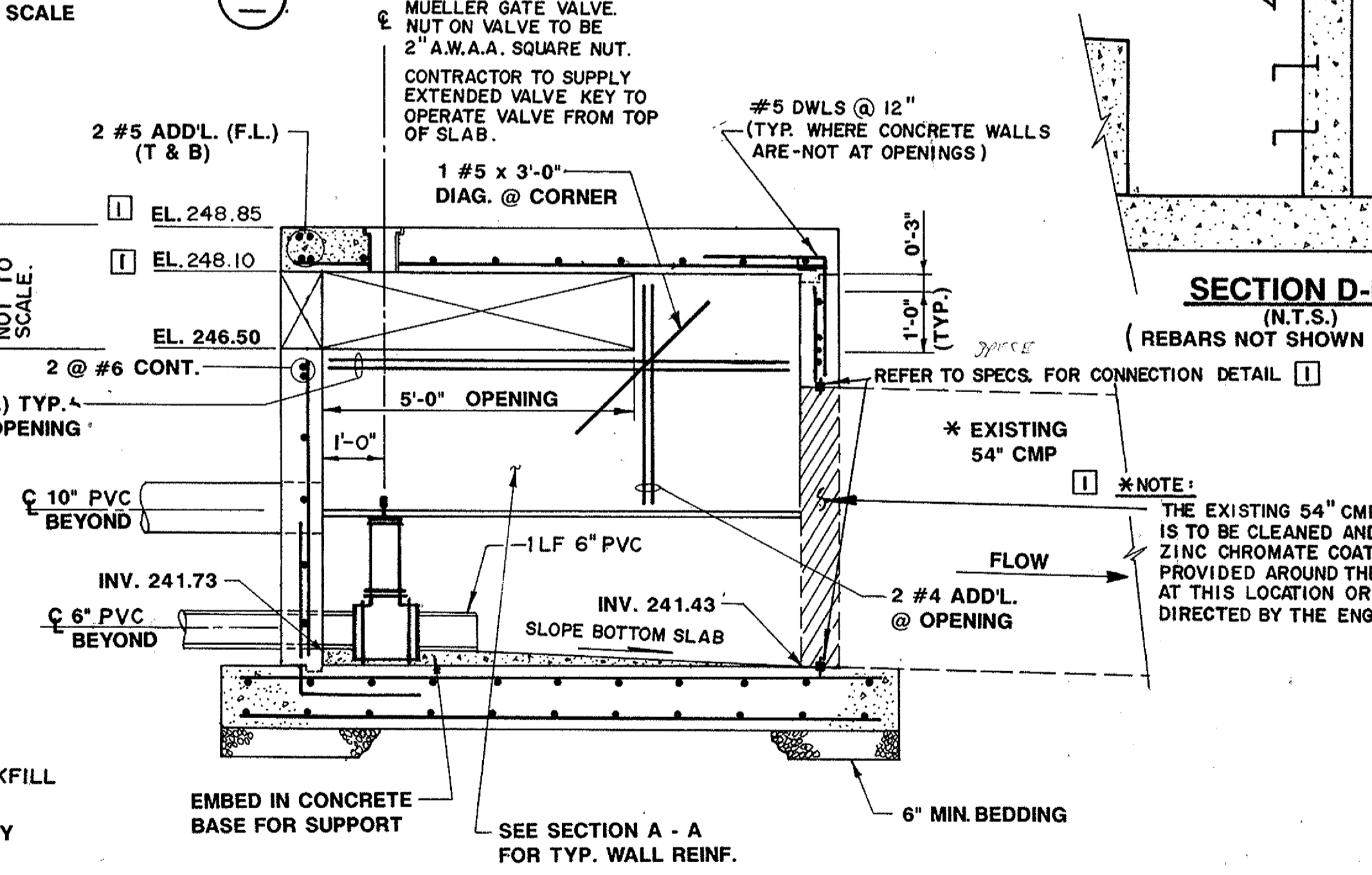
PLAN OF COVER SLAB
SCALE: 1/2" = 1'-0"



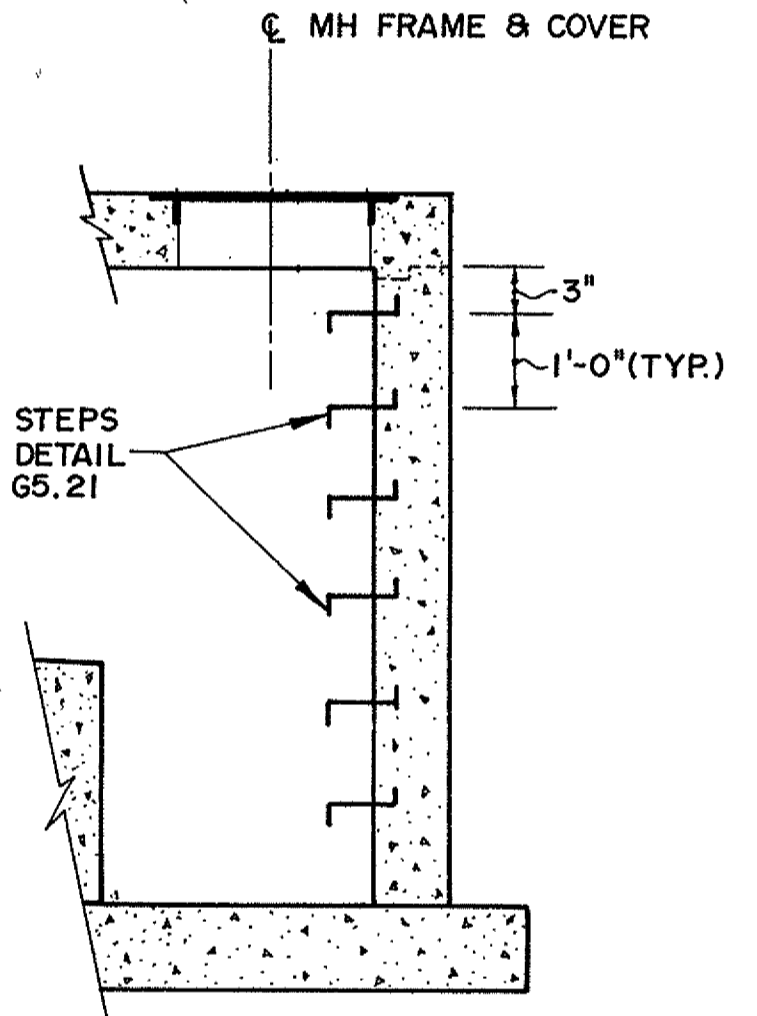
DETAIL @ PIPE SUPPORT
NOT TO SCALE



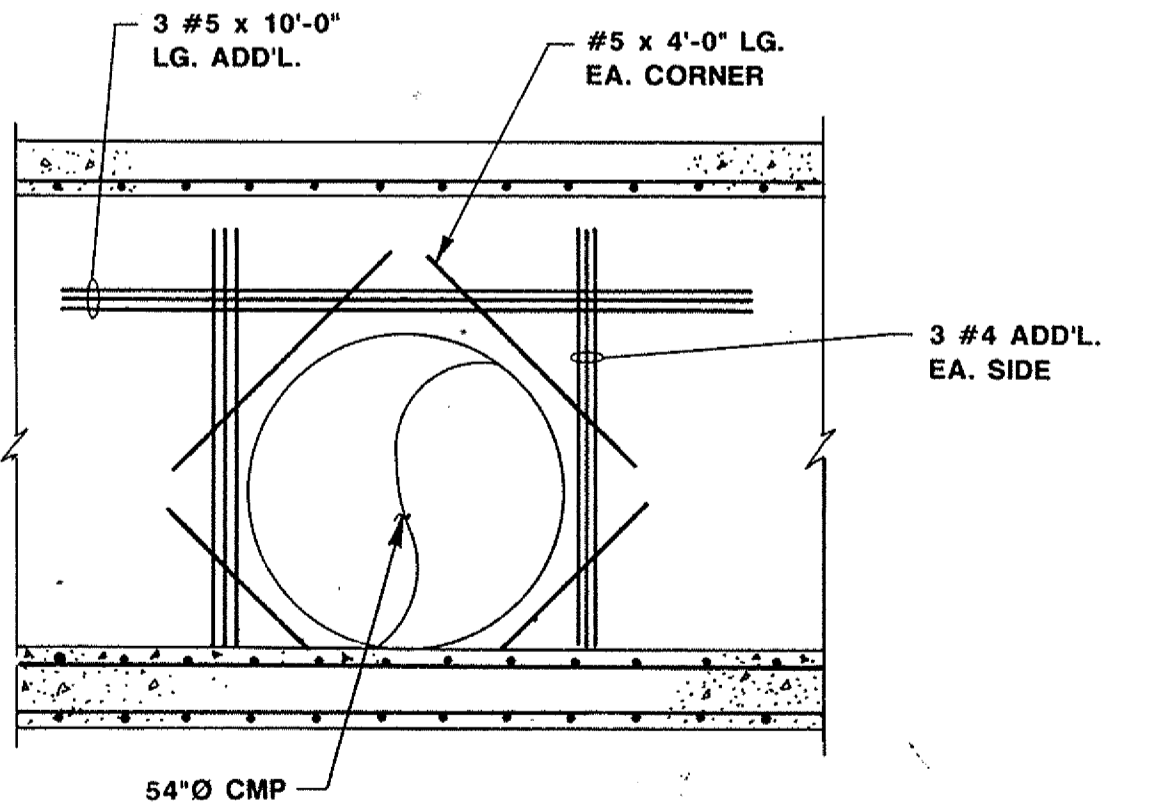
SECTION A-A
SCALE: 1/2" = 1'-0"



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



SECTION D-D
(N.T.S.)
(REBARS NOT SHOWN FOR CLARITY)



SECTION C - C
NOT TO SCALE

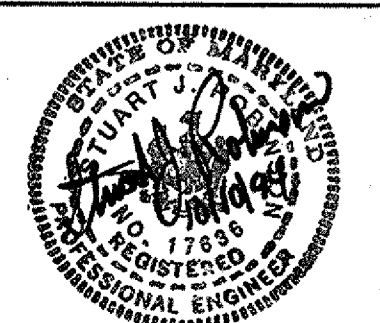
- DESIGN NOTES**
- GENERAL**
 - ALL REFERENCES TO ASTM, ACI AND AASHTO SPECIFICATIONS APPLY TO THE LATEST VERSIONS.
 - ASSUMED SOIL BEARING PRESSURE IS 2,000 PSF. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED, BOTTOM OF SLAB SHALL BE OVEREXCAVATED AND REPLACED WITH LEAN CONCRETE, F'C = 2500 PSI.
 - THE CONTRACTOR SHALL MEASURE AND PROVIDE ALL DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE JOB SITE PRIOR TO CONSTRUCTION AND THE SUBMISSION OF SHOP DRAWINGS, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. VERIFICATION AND NOTIFICATION SHALL PROCEED 4 WEEKS PRIOR TO THE START OF WORK SO THAT ANY NECESSARY CHANGES CAN BE MADE WITHOUT DELAYING THE PROJECT SCHEDULE.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY BRACING AND SHORING, AS REQUIRED, TO ENSURE VERTICAL AND LATERAL STABILITY OF THE ENTIRE STRUCTURE OR PORTION THEREOF DURING CONSTRUCTION.
 - DETAILS, SECTIONS, AND NOTES SHOWN ON THESE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE UNLESS OTHERWISE SHOWN OR NOTED.
 - ALL WALLS ARE DESIGNED AS LATERALLY BRACED BY THE COVER SLAB. CONTRACTOR SHALL ENSURE THAT WALLS ARE ADEQUATELY BRACED DURING CONSTRUCTION.
 - TEMPORARY BRACING SHALL BE PROVIDED FOR ALL WALLS SUBJECT TO UNBALANCED BACKFILL. BRACE WALL PLUMB UNTIL STABILIZING ELEMENT ABOVE IS IN PLACE.
 - CONTRACTOR SHALL NOT REPRODUCE ANY PORTION OF CONTRACT DOCUMENTS IN THE SHOP DRAWINGS.
 - ANY REQUIRED TEMPORARY SHORING SHALL BE IN CONFORMANCE WITH OSHA REGULATIONS. UNBRACED EXCAVATIONS SHALL BE SLOPED NO GREATER THAN (1.5) HORIZONTAL TO (1) VERTICAL.
 - DESIGN LOADS FOR NEW WORK**
 - UNIFORM LIVE LOAD FOR RISER TOP = 150 PSF
 - ASSUMED EQUIVALENT SOIL PRESSURE = 60 H
 - CONCRETE**
 - ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301-84, ACI 318-89 AND ACI 302-80.
 - REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. ALL REINFORCEMENT SPICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS, UNO.
 - CONCRETE SHALL MEET THE REQUIREMENTS OF MIX NO. 3 CONCRETE F'C = 3500 PSI.
 - MINIMUM CONCRETE COVER BETWEEN FACE OF REINFORCING BAR AND FACE OF CONCRETE SHALL BE AS FOLLOWS:
CONCRETE CAST AGAINST EARTH = 3"
FORMED CONCRETE EXPOSED TO WATER, WEATHER OR EARTH:
#5 BAR AND SMALLER = 1 1/2"
#6 BAR = 2"
 - PROVIDE CORNER BARS AT ALL WALL INTERSECTIONS WITH SIZE AND SPACING TO MATCH HORIZONTAL WALL REINFORCEMENT.
 - PROVIDE KEED JOINTS BETWEEN ALL NON-MONOLITHIC INTERSECTION CONCRETE WALLS AND AT ALL CONCRETE JOINTS.
 - STRUCTURAL STEEL**
 - ALL STEEL PLATES SHALL BE ASTM A36.
 - ALL PIPE COLUMNS SHALL CONFORM TO ASTM A53 TYPES E OR S, GRADE B. STANDARD PIPE TO BE USED UNLESS NOTED OTHERWISE.
 - WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE "STRUCTURAL WELDING CODE": AWS D1.1-90. E70XX ELECTRODE.
 - ALL STRUCTURAL STEEL AND CONNECTIONS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A525 GRADE G90.
 - NO FABRICATION SHALL PROCEED PRIOR TO SHOP DRAWINGS APPROVAL.

NOTE:
SEE SECTIONS A - A & B - B FOR REINF. NOT INDICATED

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/21/94
10/17/94
10-20-94

A. MORTON THOMAS AND ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS
12700 THYRWOOD PARKWAY • ROCKVILLE, MARYLAND 20851 • (301) 881-2545 • FAX (301) 881-0814



DES: SJR	SJR	I	ADDEND I - REVISED RISER ELEVATIONS	11/4/94
DRN: RML			ADD NOTE, & REVISE NOTE	
CHK: JCK				
DATE: OCT. 94	BY: NO.		REVISION	DATE

RISER DETAILS
STRUCTURE S-1

MAYFIELD AVENUE POND RETROFIT

(CAPITAL PROJECT D-1110)

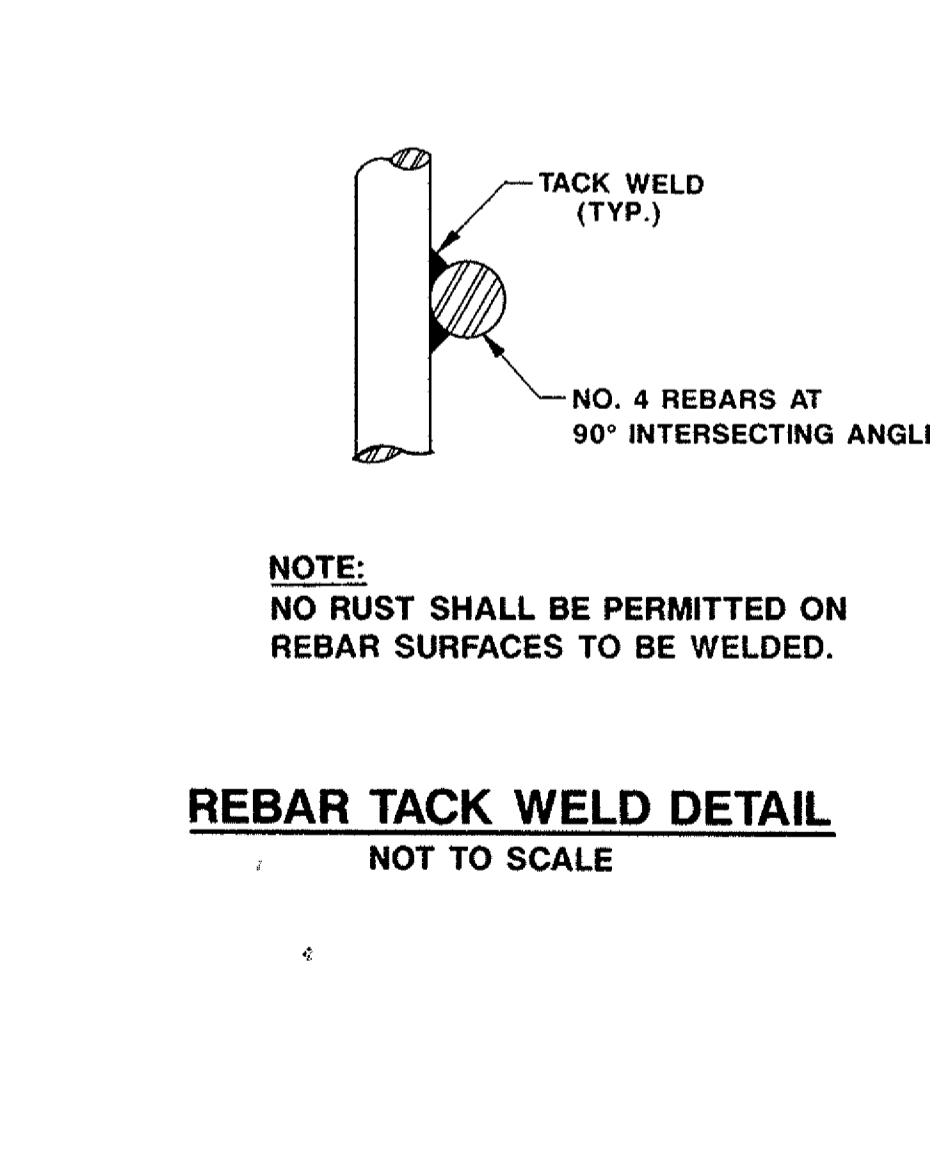
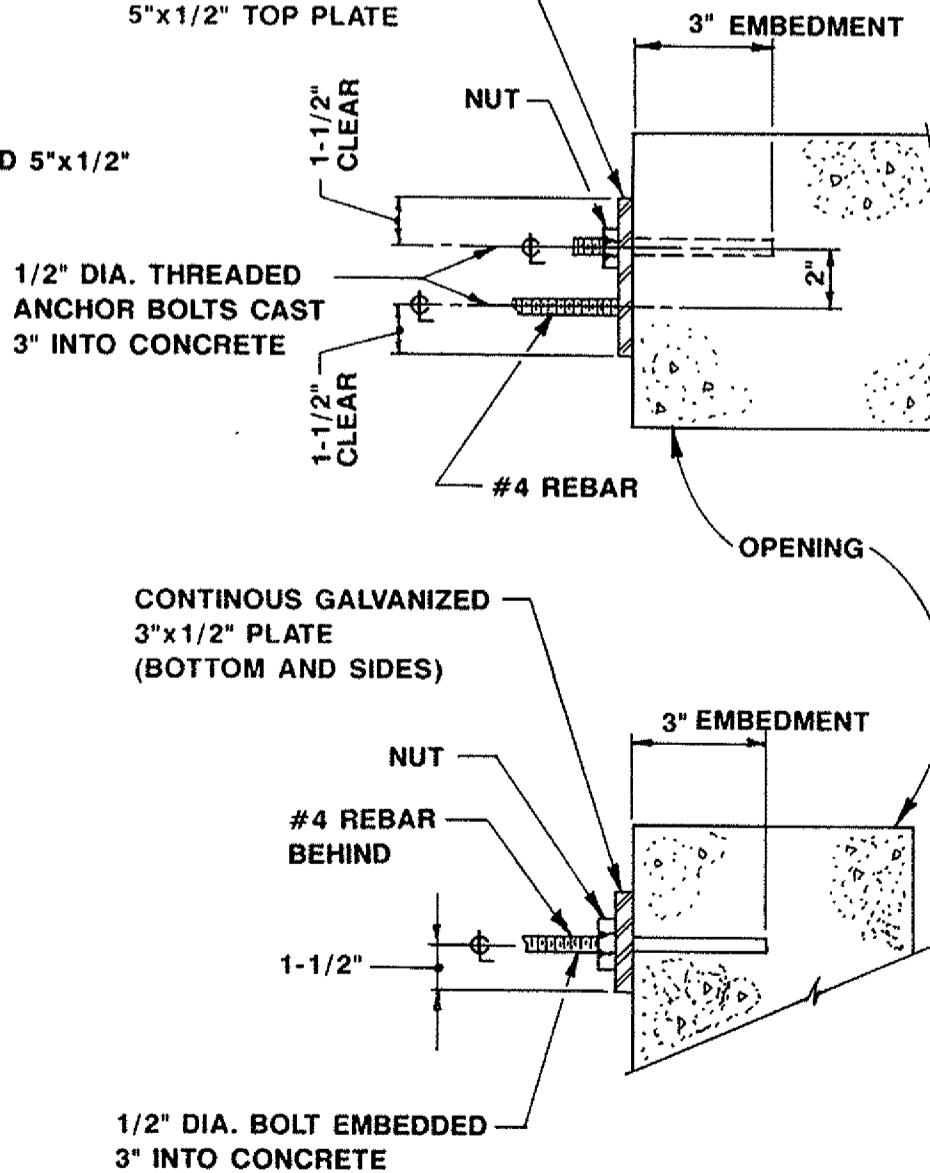
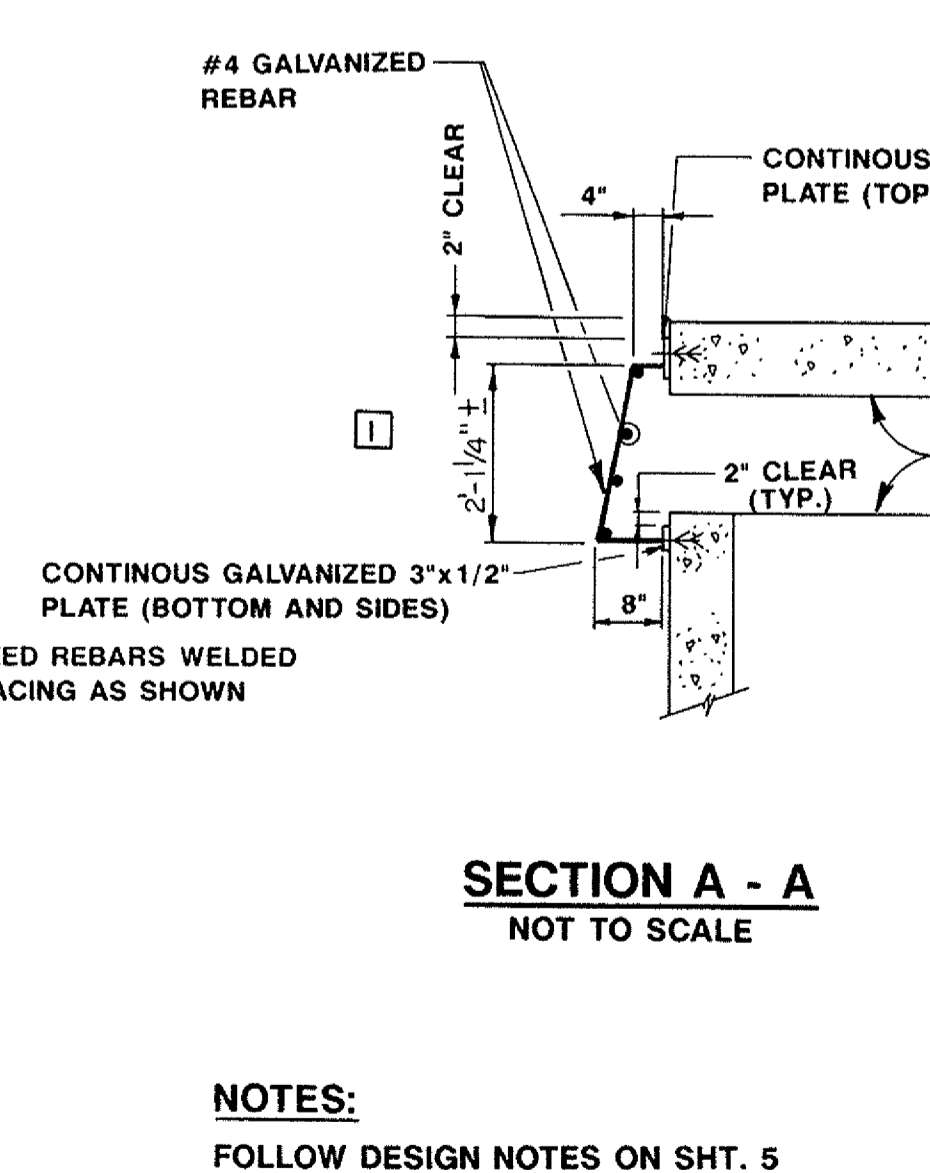
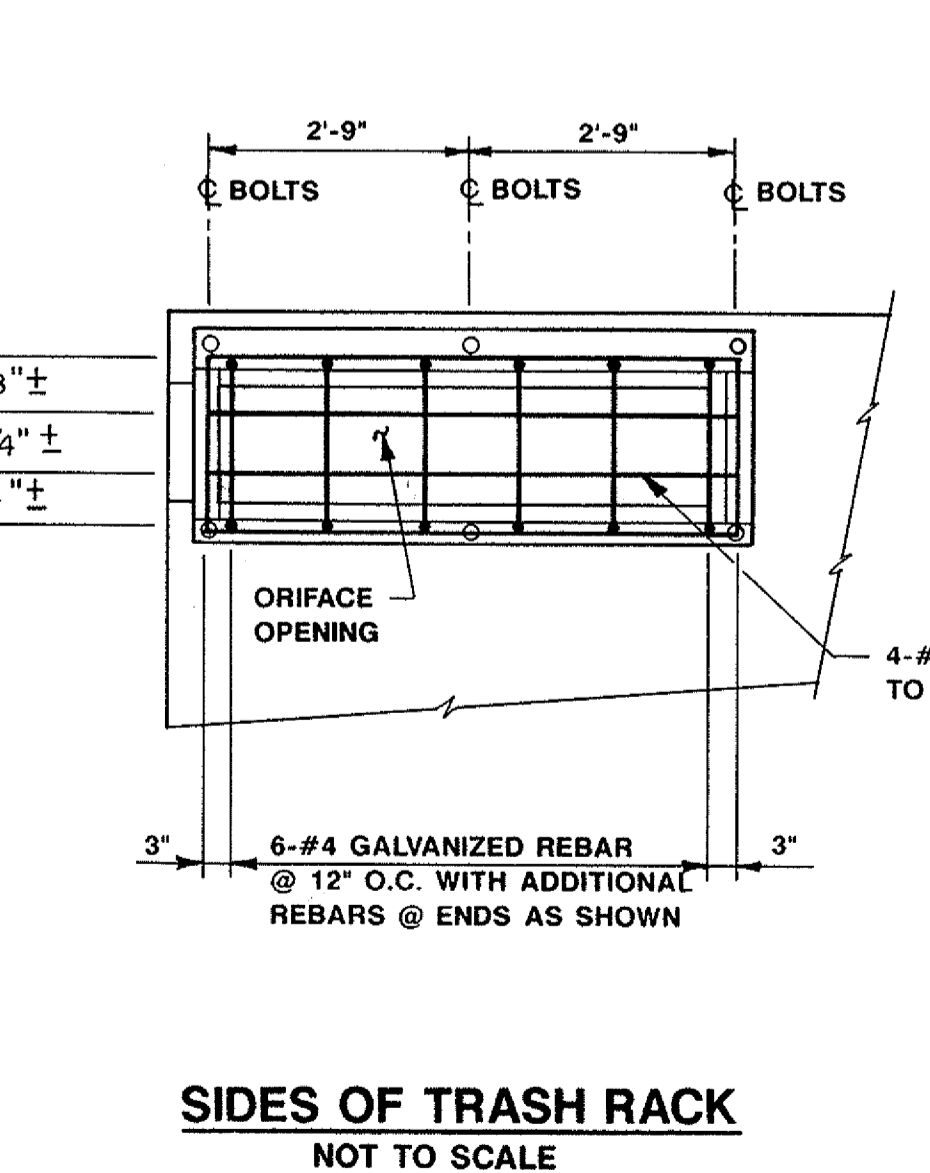
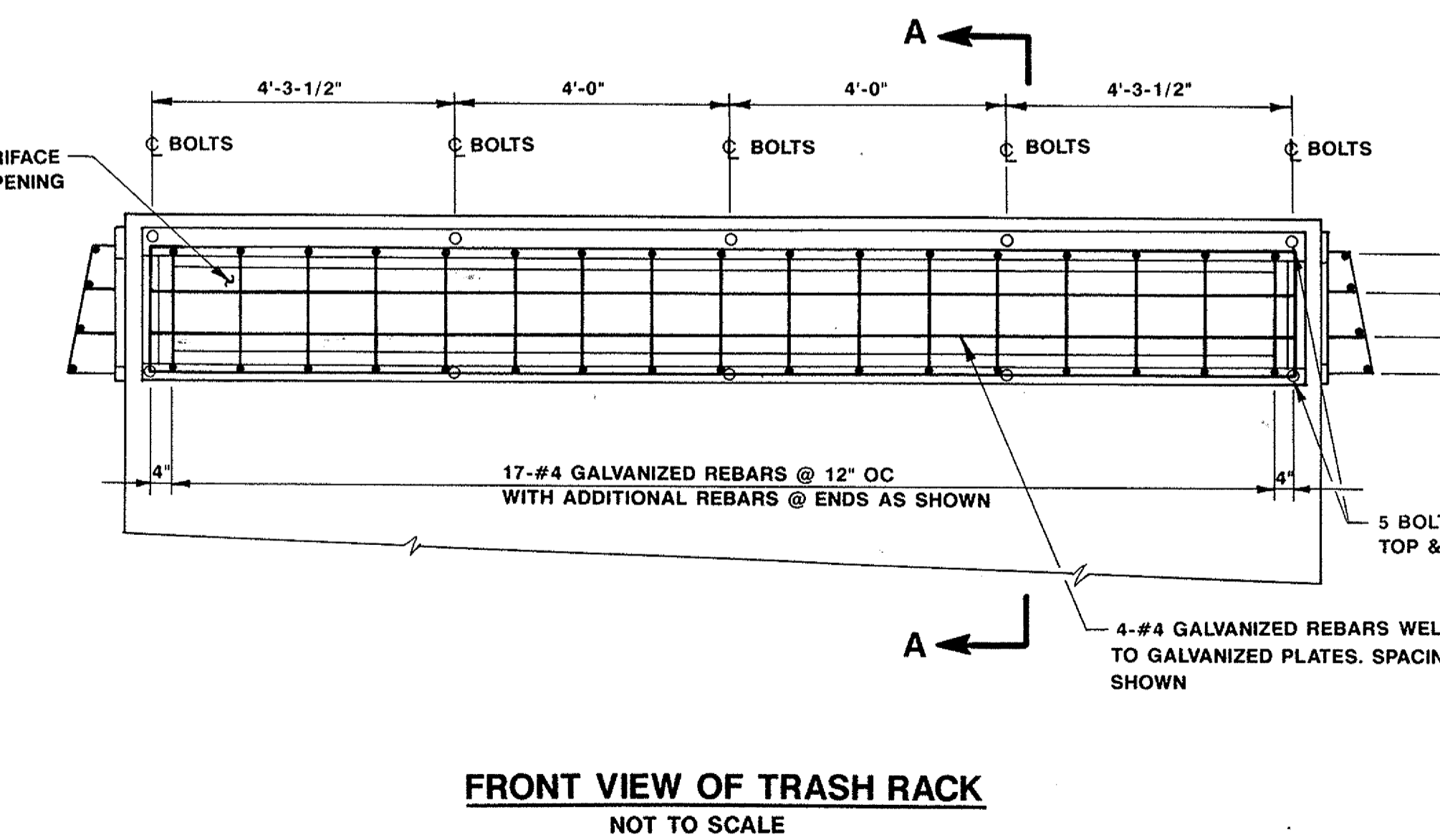
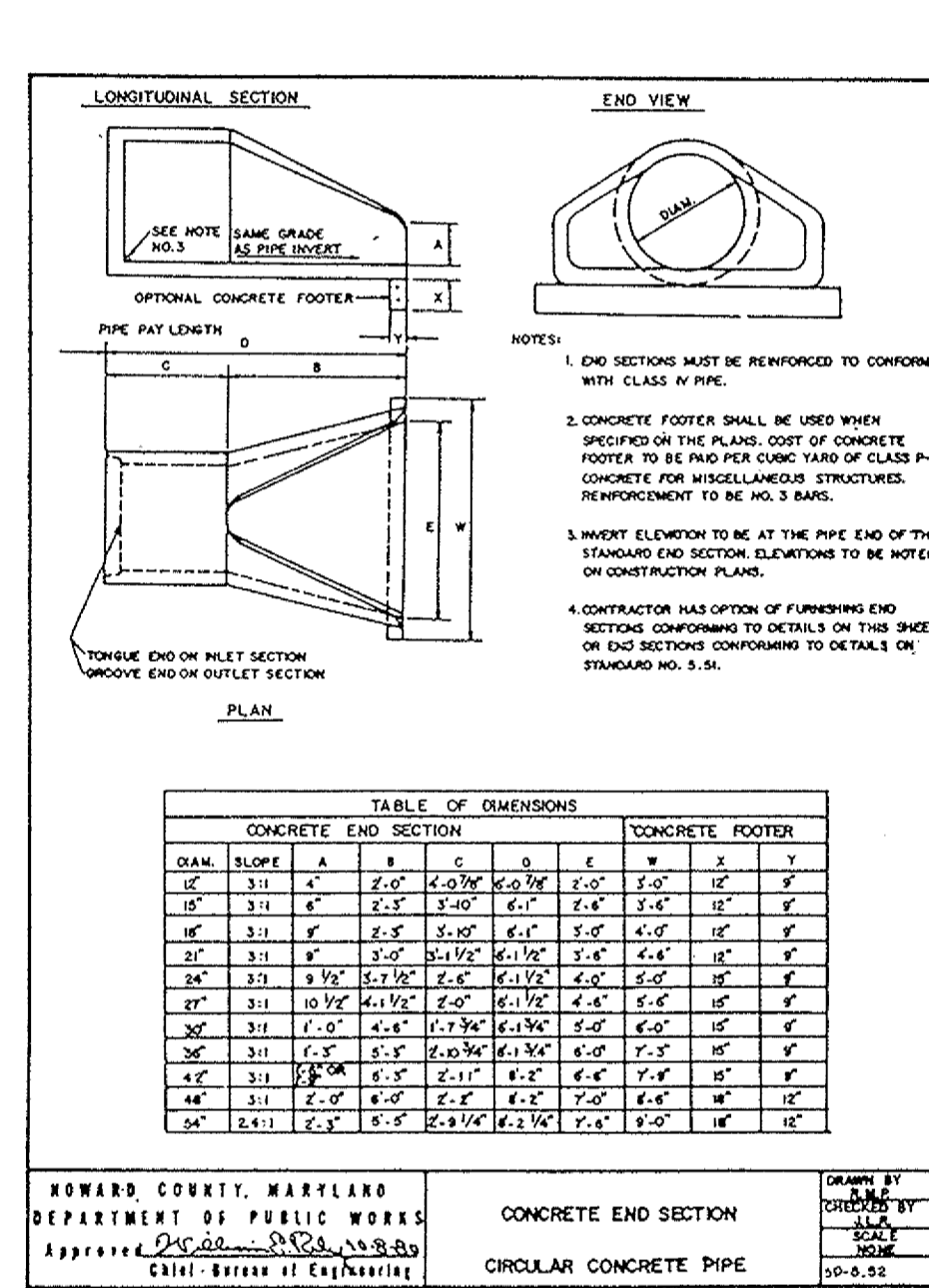
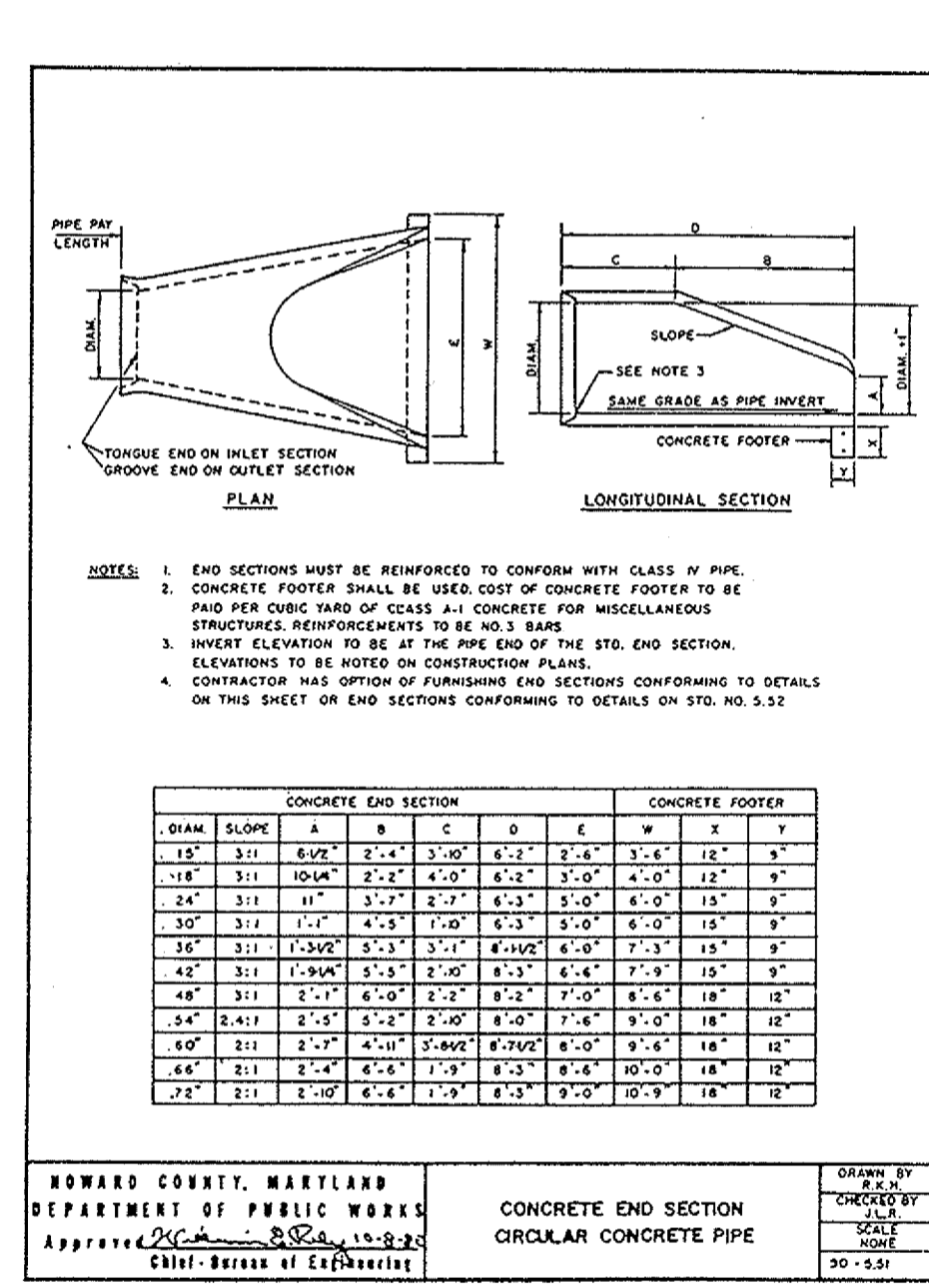
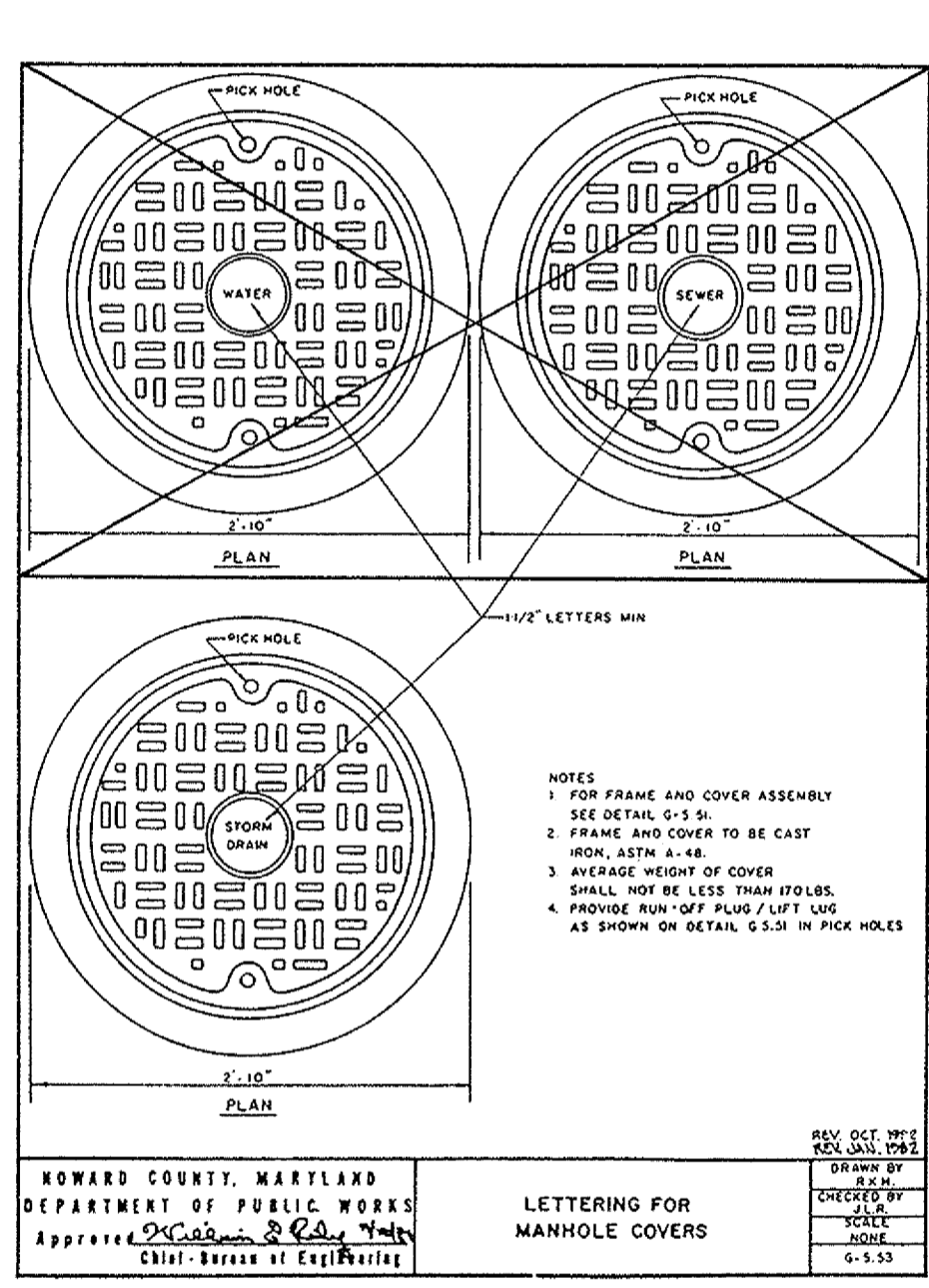
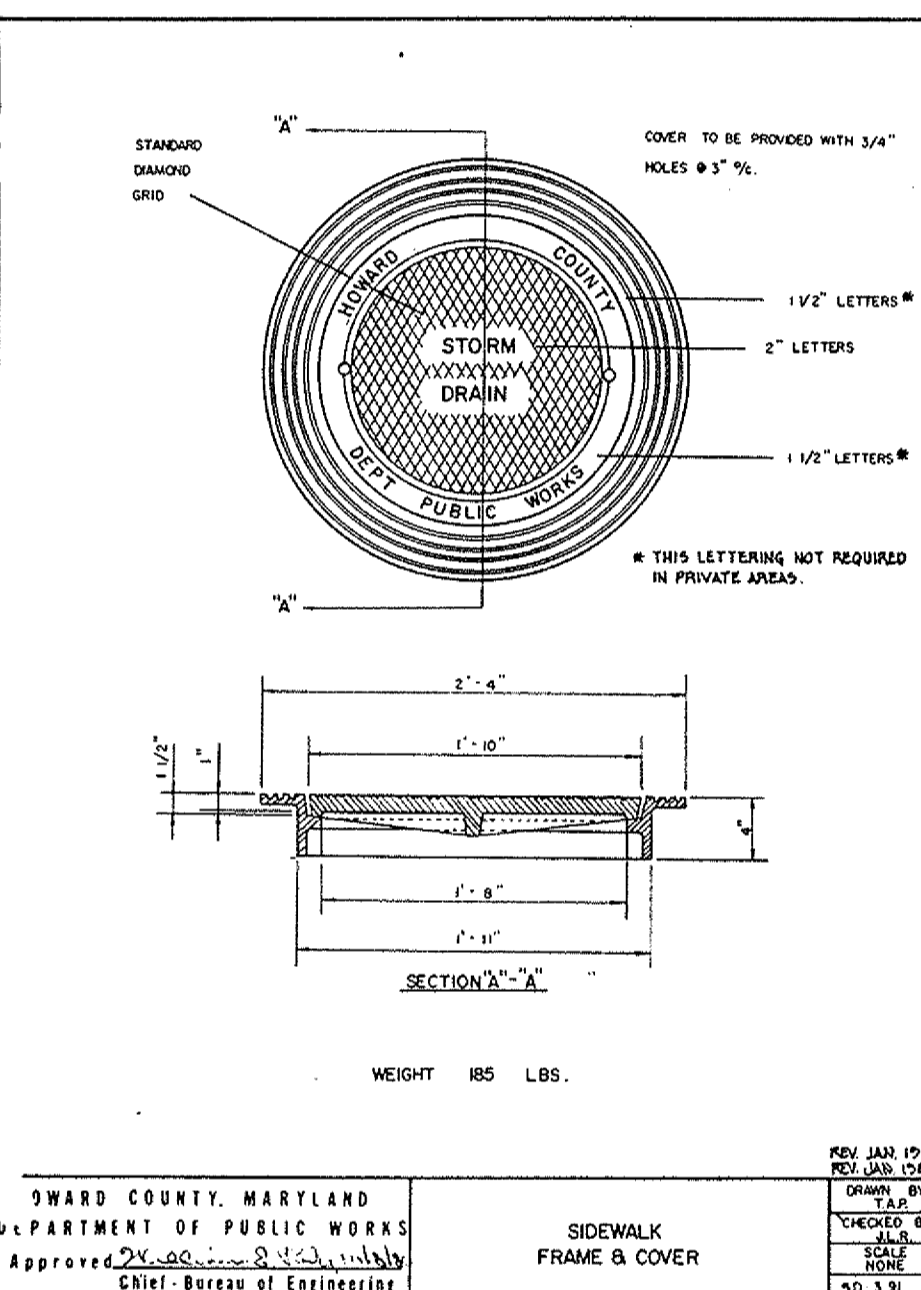
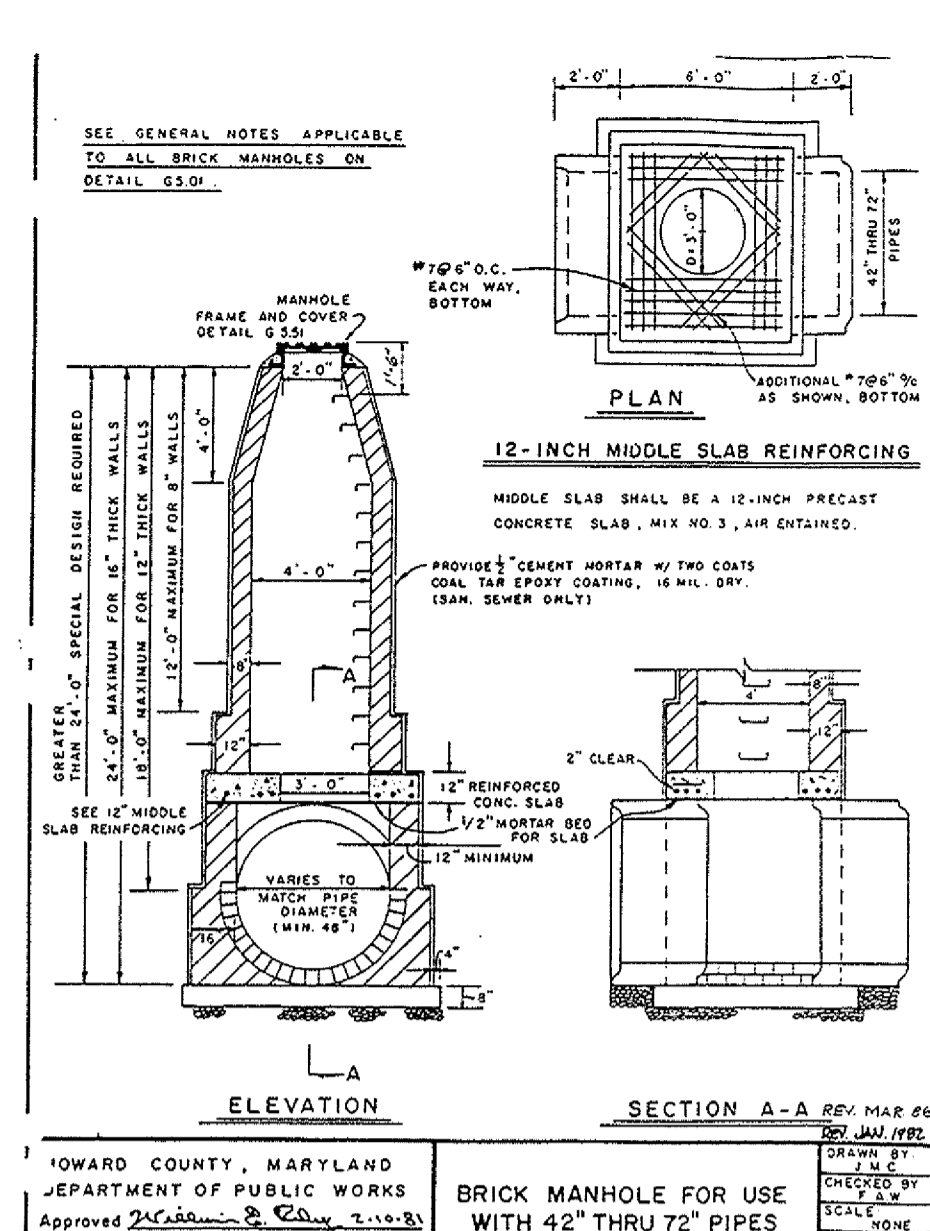
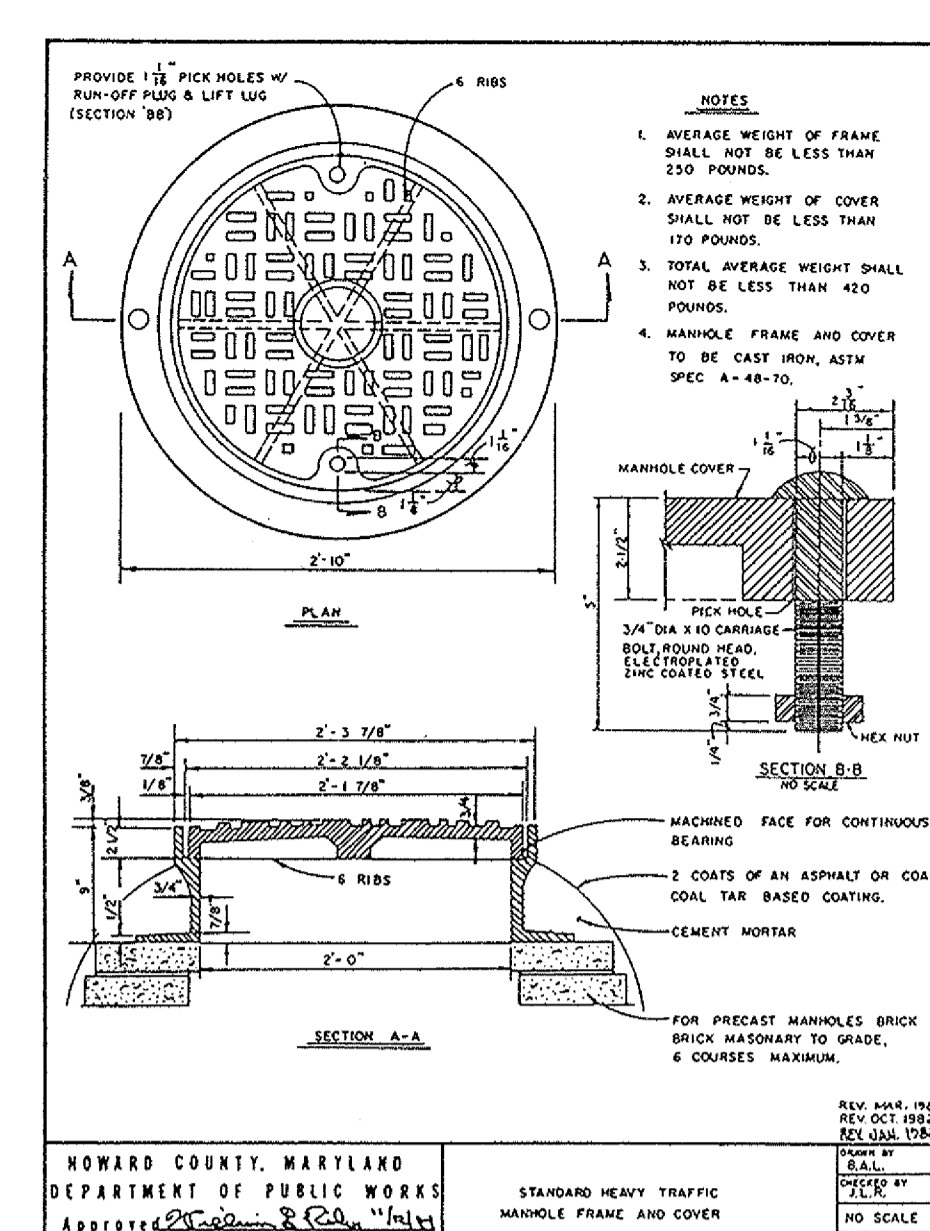
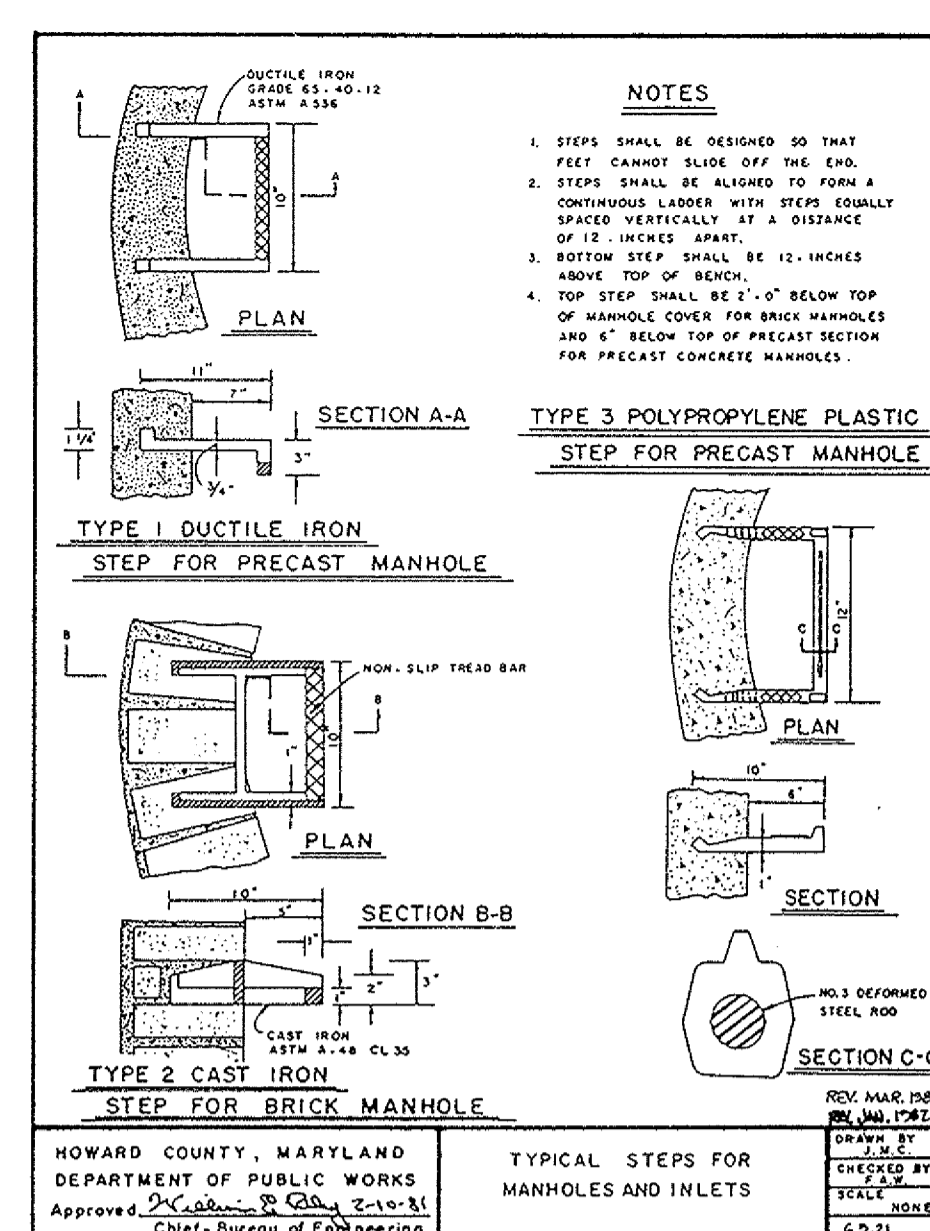
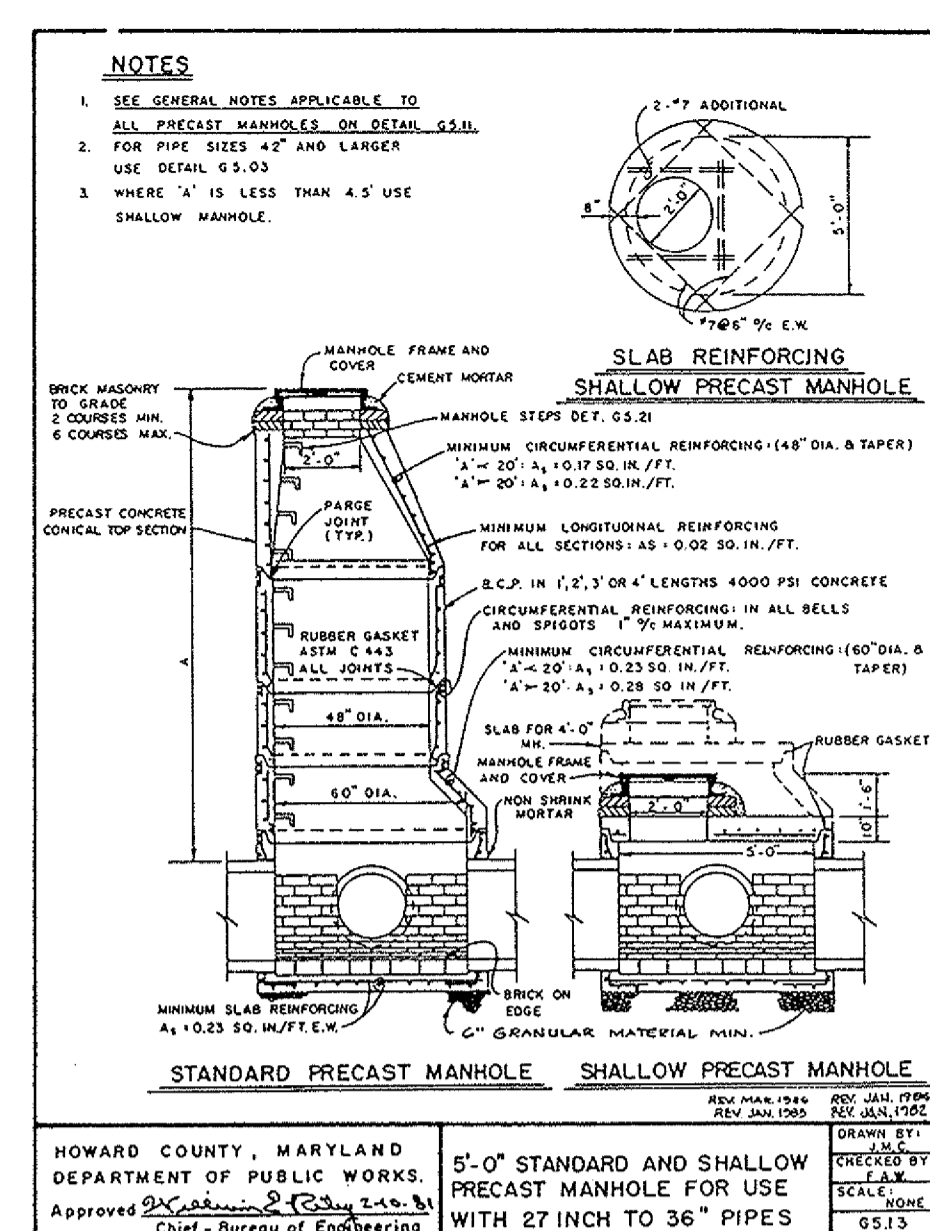
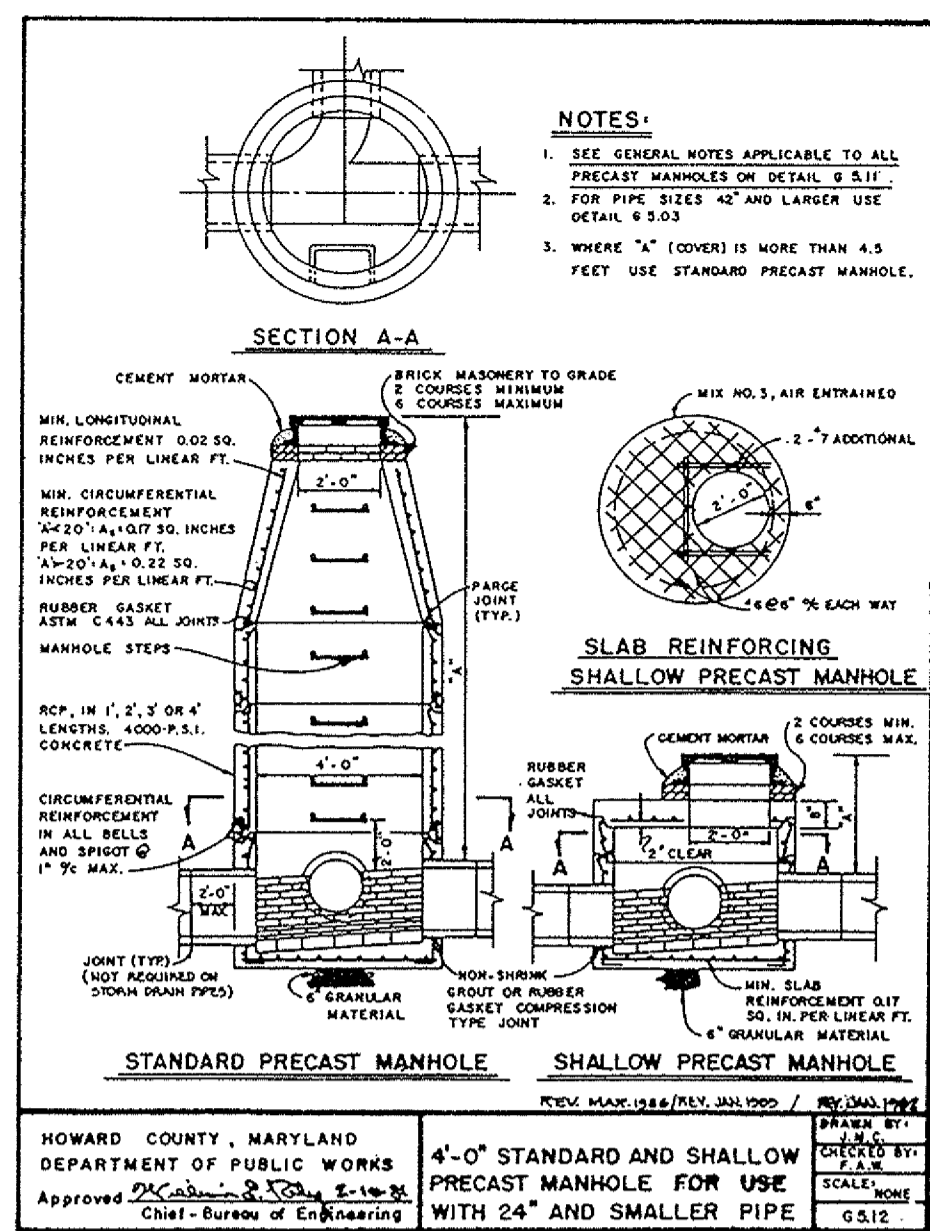
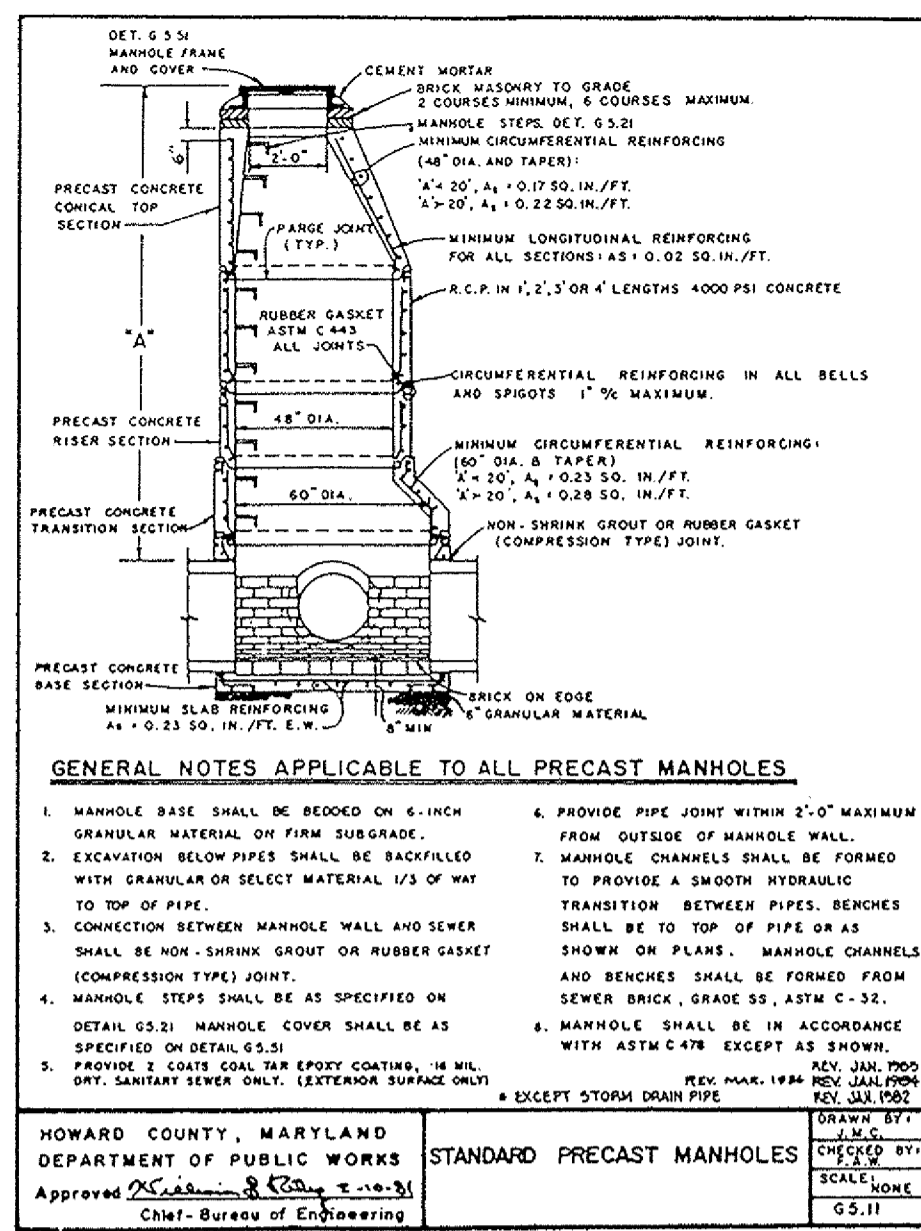
SCALE AS SHOWN

SHEET 5 OF 12

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

1713



1713

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 10/17/94
DIRECTOR OF PUBLIC WORKS

[Signature] 10-17-94
CHIEF BUREAU OF HIGHWAYS

A. THOMAS AND ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS
12700 TIMBERCROFT PARKWAY • ROCKVILLE, MARYLAND 20850 • (301) 881-2545 • FAX (301) 881-0214

PROFESSIONAL ENGINEER
1768
1976

DES: WDL	SJR	ADDENDUM I-REVISED REBAR DIMENSIONS	11/4/94
DRN: RML			
CHK: JCK			
DATE: OCT. 94	BY NO.	REVISION	DATE

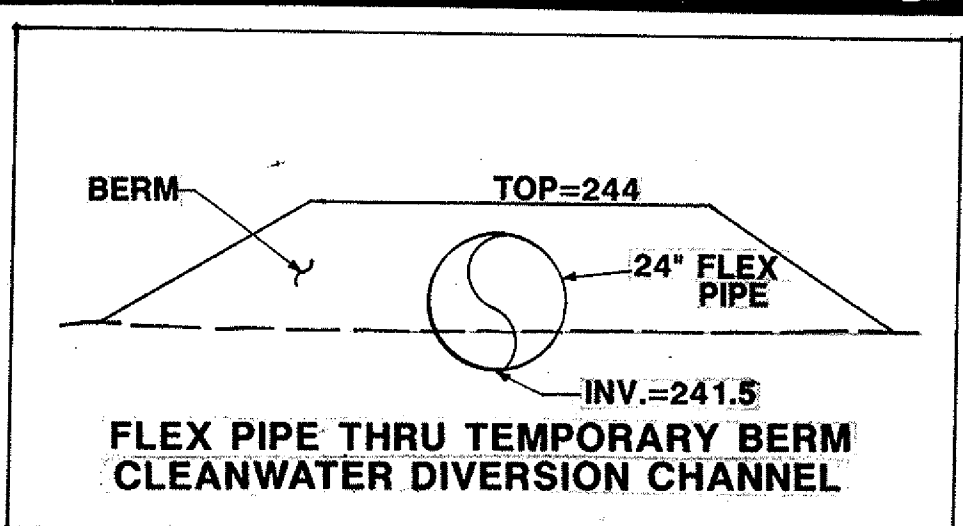
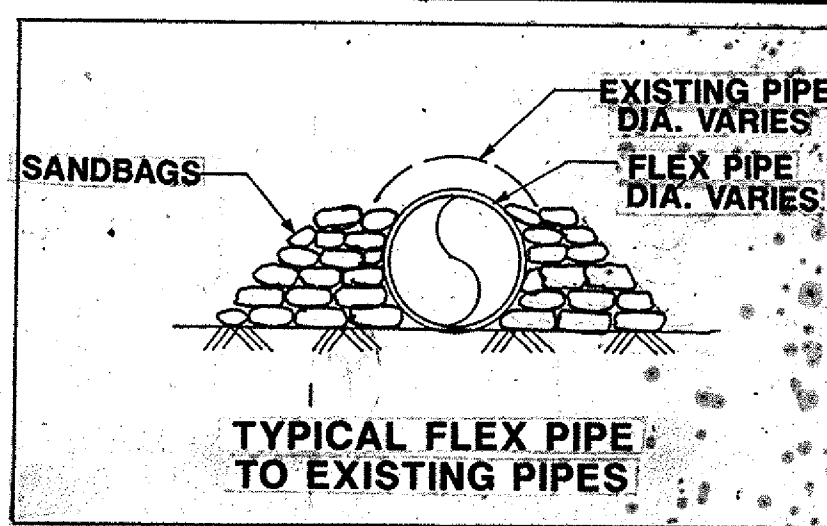
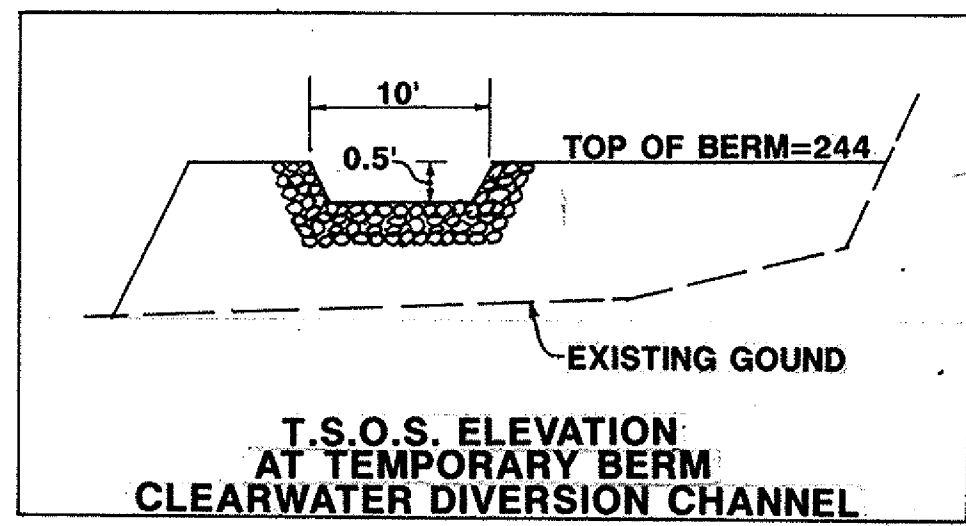
MISCELLANEOUS DETAILS

60' SCALE MAP NO. 37 BLOCK NO. 15

MAYFIELD AVENUE POND RETROFIT
(CAPITAL PROJECT NO. D-1110)

1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 12



NOTES

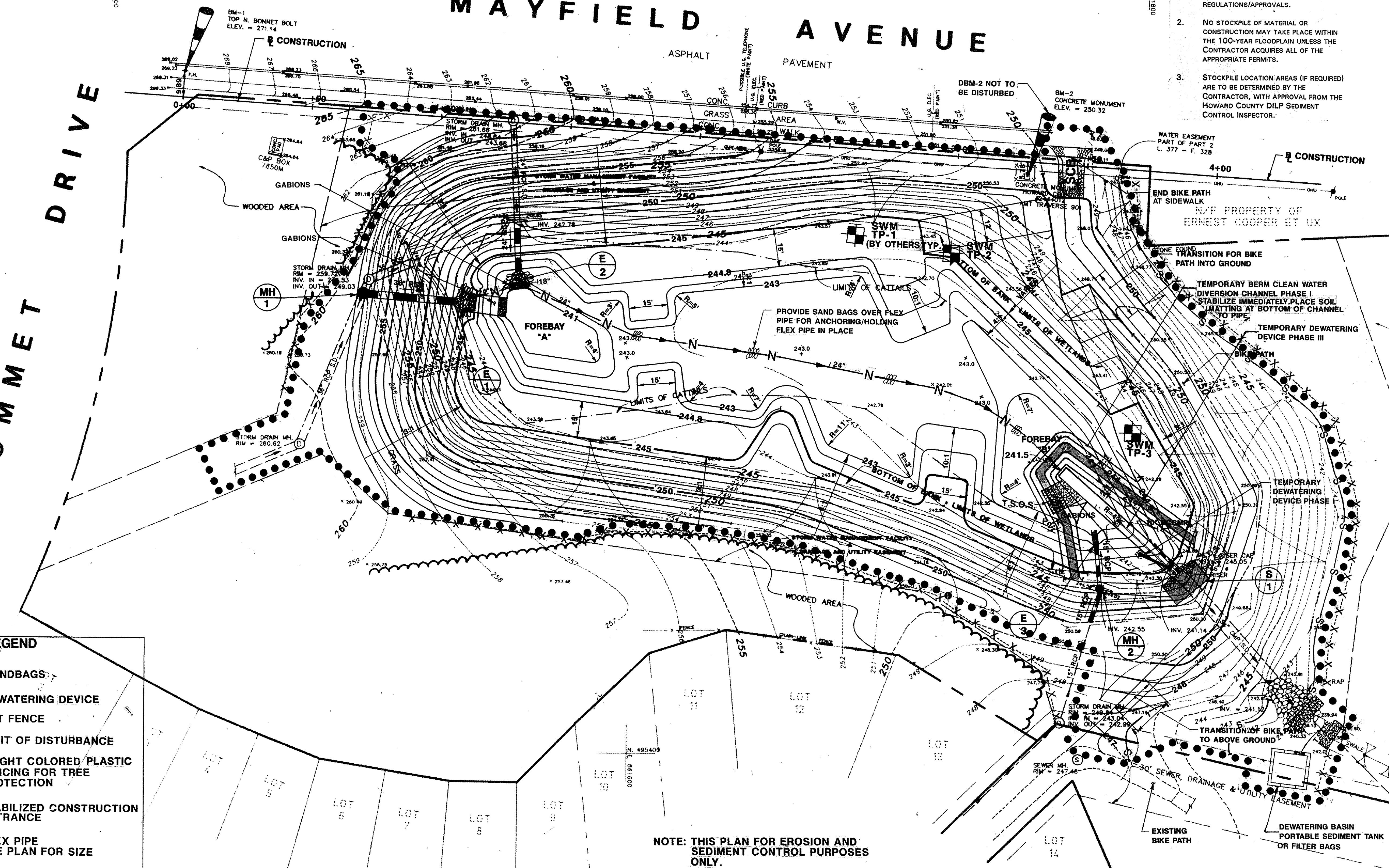
1. THE CONTRACTOR HAS THE OPTION TO USE A DIFFERENT EROSION AND SEDIMENT CONTROL PLAN ONLY IF AN ALTERNATIVE IS FORMALLY APPROVED BY ALL THREE OF THE FOLLOWING: THE LOCAL SCD, THE DILP INSPECTOR, AND THE DIVISION OF CONSTRUCTION INSPECTION REPRESENTATIVES. APPROVAL MAY ALSO BE REQUIRED BY STATE OR FEDERAL AGENCIES IF THE PROPOSED ALTERNATIVE SCHEME DOES NOT COMPLY WITH THE WETLAND ON FLOODPLAIN REGULATIONS/APPROVALS.
2. NO STOCKPILE OF MATERIAL OR CONSTRUCTION MAY TAKE PLACE WITHIN THE 100-YEAR FLOODPLAIN UNLESS THE CONTRACTOR ACQUIRES ALL OF THE APPROPRIATE PERMITS.
3. STOCKPILE LOCATION AREAS (IF REQUIRED) ARE TO BE DETERMINED BY THE CONTRACTOR, WITH APPROVAL FROM THE HOWARD COUNTY DILP SEDIMENT CONTROL INSPECTOR.

STORMWATER MANAGEMENT POND AND EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

- PHASE I (2) DAYS** []
1. THE CONTRACTOR SHALL OBTAIN A GRADING PERMIT.
 2. THE CONTRACTOR SHALL NOTIFY HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS 24 HOURS BEFORE STARTING CONSTRUCTION.
 3. CLEAR AND GRUB THE AREAS NECESSARY, ONLY WITHIN THE LIMITS OF DISTURBANCE, FOR THE INSTALLATION OF PERIMETER SEDIMENT CONTROL DEVICES. PROVIDE BRIGHT COLORED PLASTIC FENCING AROUND PERIMETER OF THE LINES, WHERE SHOWN, TO AVOID DISTURBANCE OF EXISTING TREES DURING CONSTRUCTION. THIS FENCING IS TO REMAIN IN PLACE UNTIL COMPLETION OF THE JOB.
 4. INSTALL THE PERIMETER CONTROL MEASURES (STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE STONE DIKES, AND DEWATERING DEVICES) AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.
 5. INSTALL THE TEMPORARY EROSION AND SEDIMENT DEWATERING DEVICE ONTO EXISTING RISER AND USE THE EXISTING STORMWATER MANAGEMENT POND AS A SEDIMENT BASIN DURING THIS PHASE OF CONSTRUCTION.
 6. DEWATER THE POND TO A DEWATERING BASIN PORTABLE SEDIMENT TANKS OR FILTER BAGS. UNDER NO CIRCUMSTANCES SHALL SEDIMENT LAZER WATER BE ALLOWED TO BE PUMPED OR DISCHARGED DIRECTLY INTO THE OUTFALL CHANNEL WHICH LEADS TO THE STREAM OR THE ITSELF.
 7. REMOVE EXISTING MANHOLES AND CURB WALLS AS NOTED AND CONSTRUCT PROPOSED NEW MANHOLES (MH-1 AND MH-2), PIPES, AND END SECTIONS AND GABIONS AS SHOWN ON THE PLANS AND DETAILS.
- PHASE II (2) DAYS** []
1. CONSTRUCT TEMPORARY BERM CLEARWATER DIVERSION CHANNEL AND INSTALL THE T.S.O.S. DEVICE AT THE TEMPORARY DIVERSION CHANNEL.
 2. DIVERT CLEAN WATER, FROM 36" RCP AND 24" RCP, TOWARD OUTFALL USING FLEXIBLE PIPING AS SHOWN. REMOVE THE (PHASE I) TEMPORARY EROSION AND SEDIMENT DEWATERING DEVICE, CMP RISER, AND BASE, AND USE THE EXISTING 54" CMP RISER OUTFALL PIPE FOR THE CLEARWATER DIVERSION. INSTALL THE TSOS IN FRONT OF THE 54" CMP. SHEET AND/OR SHORE EXPOSED EARTH EMBANKMENT FOR SUPPORT.
 3. BEGIN THE POND GRADING BETWEEN THE WESTERN END OF THE POND AND THE PERIMETER DIVERSION CHANNEL, AND COMPLETE AS MUCH GRADING AS POSSIBLE UP TO THE PERIMETER OF THE CLEARWATER DIVERSION CHANNEL. ANY EXCAVATED MATERIAL NOT STOCKPILED IS TO BE IMMEDIATELY REMOVED FROM THE SITE TO AN APPROVED STOCKPILE AREA. IMMEDIATELY STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORKING DAY.
 4. NO CONTROLS MAY BE REMOVED WITHOUT PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
- PHASE III (2) DAYS** []
1. CONSTRUCT NEW RISER STRUCTURE AND AGAIN INSTALL A TEMPORARY EROSION AND SEDIMENT CONTROL DEWATERING DEVICE TO THE LOW FLOW OPENING. USE THE POND AS A TEMPORARY SEDIMENT BASIN AND CONSTRUCT NEW BIKE PATH. DEWATER AS NECESSARY TO A DEWATERING BASIN OR PORTABLE SEDIMENT TANKS. (REFER TO NOTE 5, PHASE I.)
 2. AFTER RISER STRUCTURE IS COMPLETED, DEWATER POND AND GRADE THE REST OF THE POND AND FOREBAY "B" TO THE FINAL BOTTOM POND ELEVATIONS AND IMMEDIATELY STABILIZE ALL REMAINING DISTURBED AREAS.
 3. 100 YEAR FLOODPLAIN DRAINAGE TO CONTROLS MAY BE REMOVED WITHOUT PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
- PHASE IV (14) DAYS** []
1. INSTALL WETLAND PLANTINGS.
- PHASE V (4) DAYS** []
1. AFTER PHASE IV IS COMPLETED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEWATERING DEVICE AND INSTALL PERMANENT DEWATERING DEVICE AND VALVE.
 2. AFTER CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED, AND WITH APPROVAL OF THE HOWARD COUNTY, DILP SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND BRIGHT COLORED PLASTIC FENCING.

MAYFIELD AVENUE

GROMMET DRIVE



LEGEND

- SANDBAGS
- DEWATERING DEVICE
- SILT FENCE
- LIMIT OF DISTURBANCE
- BRIGHT COLORED PLASTIC FENCING FOR TREE PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- FLEX PIPE SEE PLAN FOR SIZE
- TEMPORARY E/S DEWATERING DEVICE
- TEMPORARY STONE OUTLET STRUCTURE

NOTE: THIS PLAN FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY.

DEEP RUN CLASSIFICATION: CLASS I WATERS
 CLASS I WATERS: IN STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15 INCLUSIVE, DURING ANY YEAR.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

10/17/94
 DATE

10-20-94
 DATE

A. MORTON THOMAS and ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS
 12780 THUNDERBOLT PARKWAY - ROCKVILLE, MARYLAND 20852 - (301) 881-2546

DES. SJR	SJR	ADDENDUM 1- ADDED SEQUENCE DURATIONS	11/4/94
DRN. WDL			
CHK. JCK			
DATE OCT. 94	BY NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL PLAN

600' SCALE MAP NO. 37

BLOCK NO. 15

MAYFIELD AVENUE POND RETROFIT
 (CAPITAL PROJECT NO. D-1110)

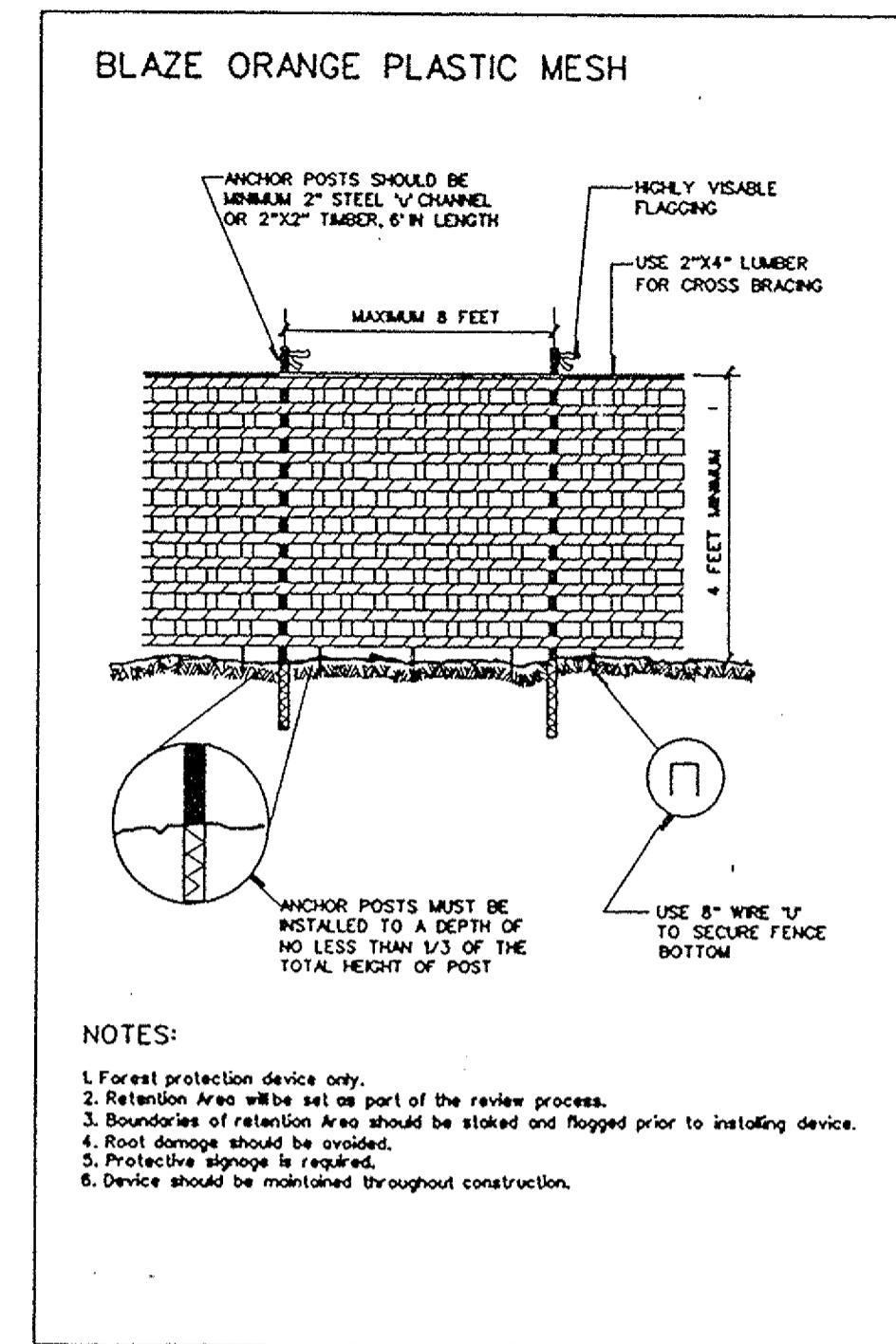
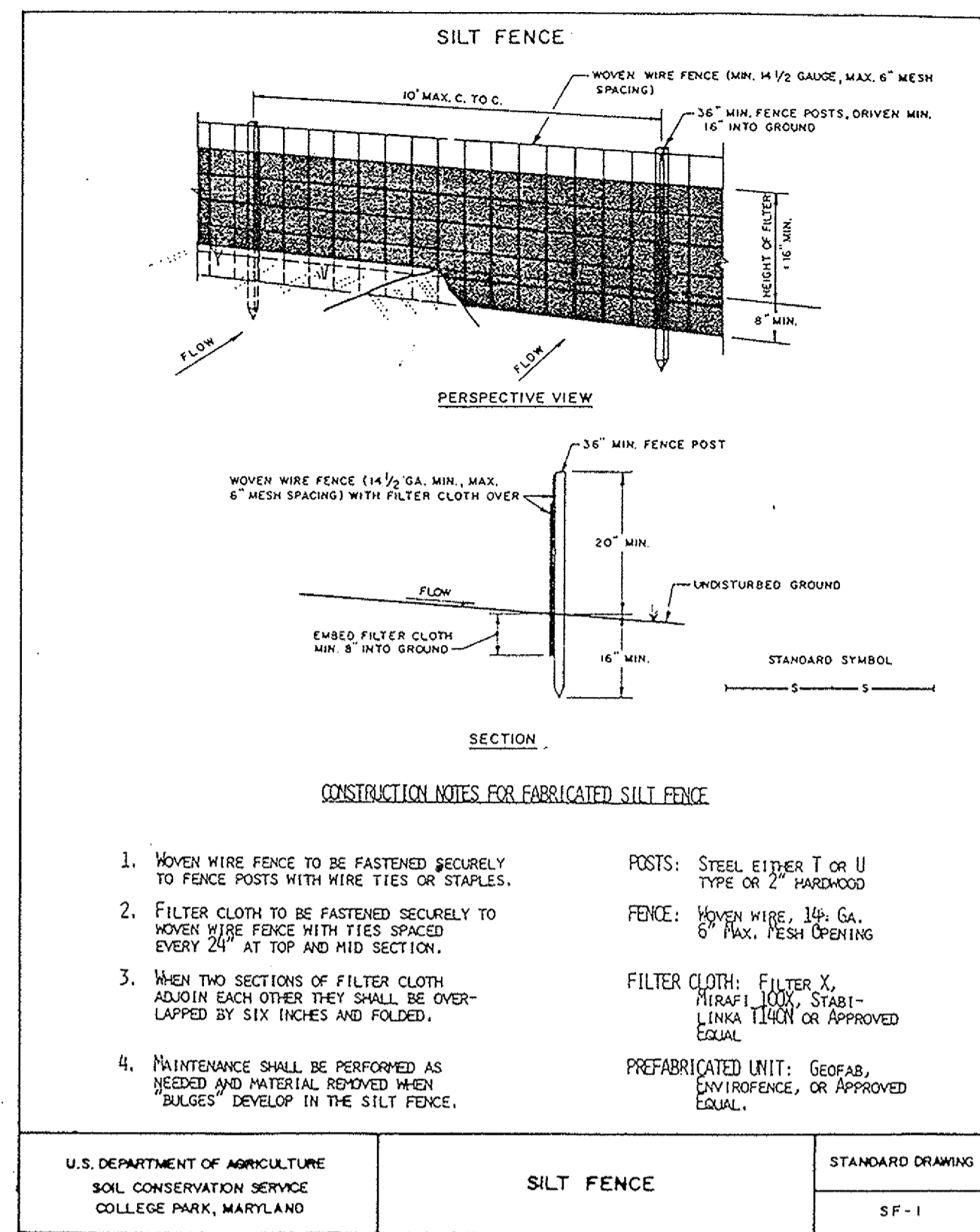
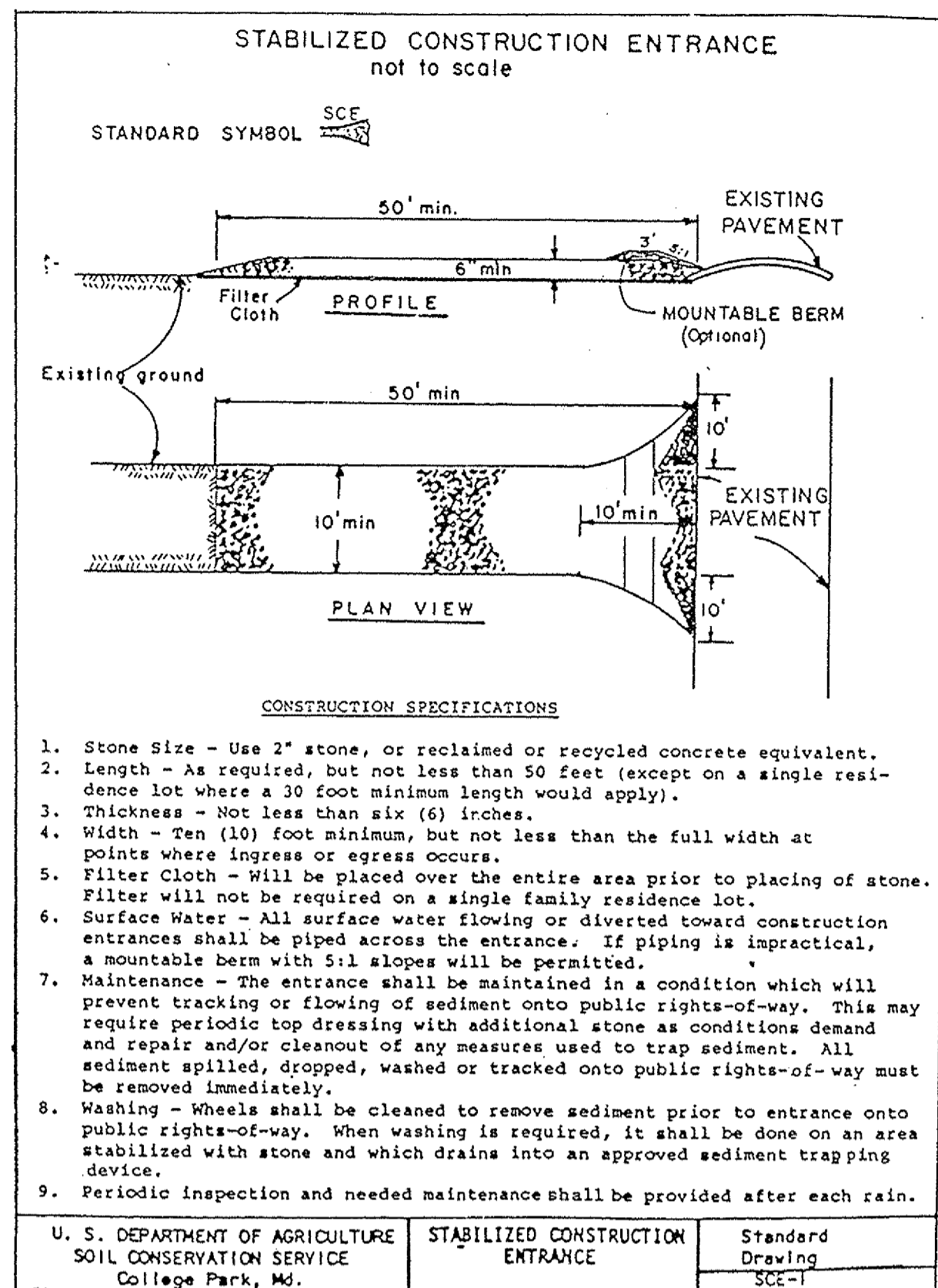
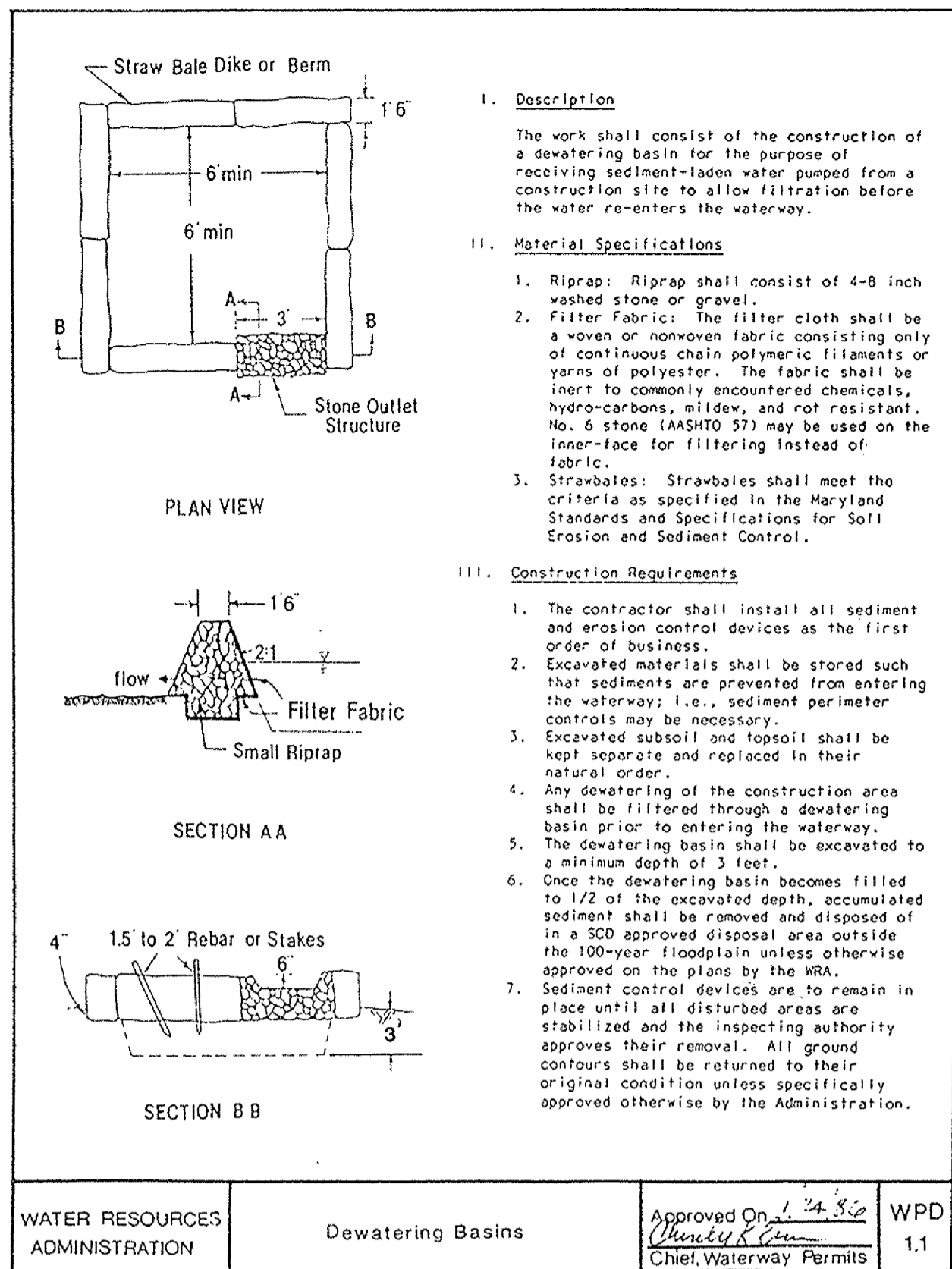
1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE
 1" = 20'

SHEET 8 OF 12

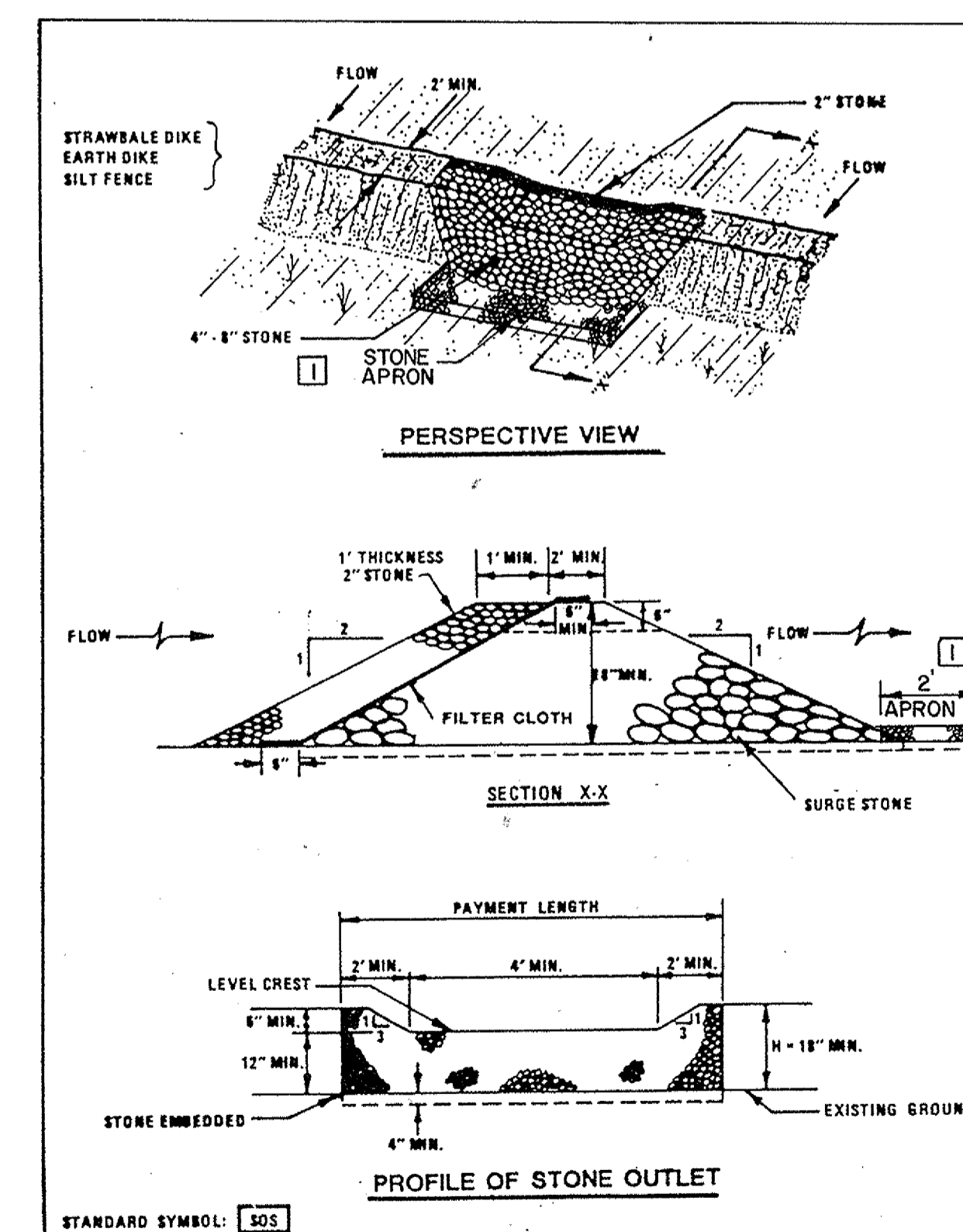
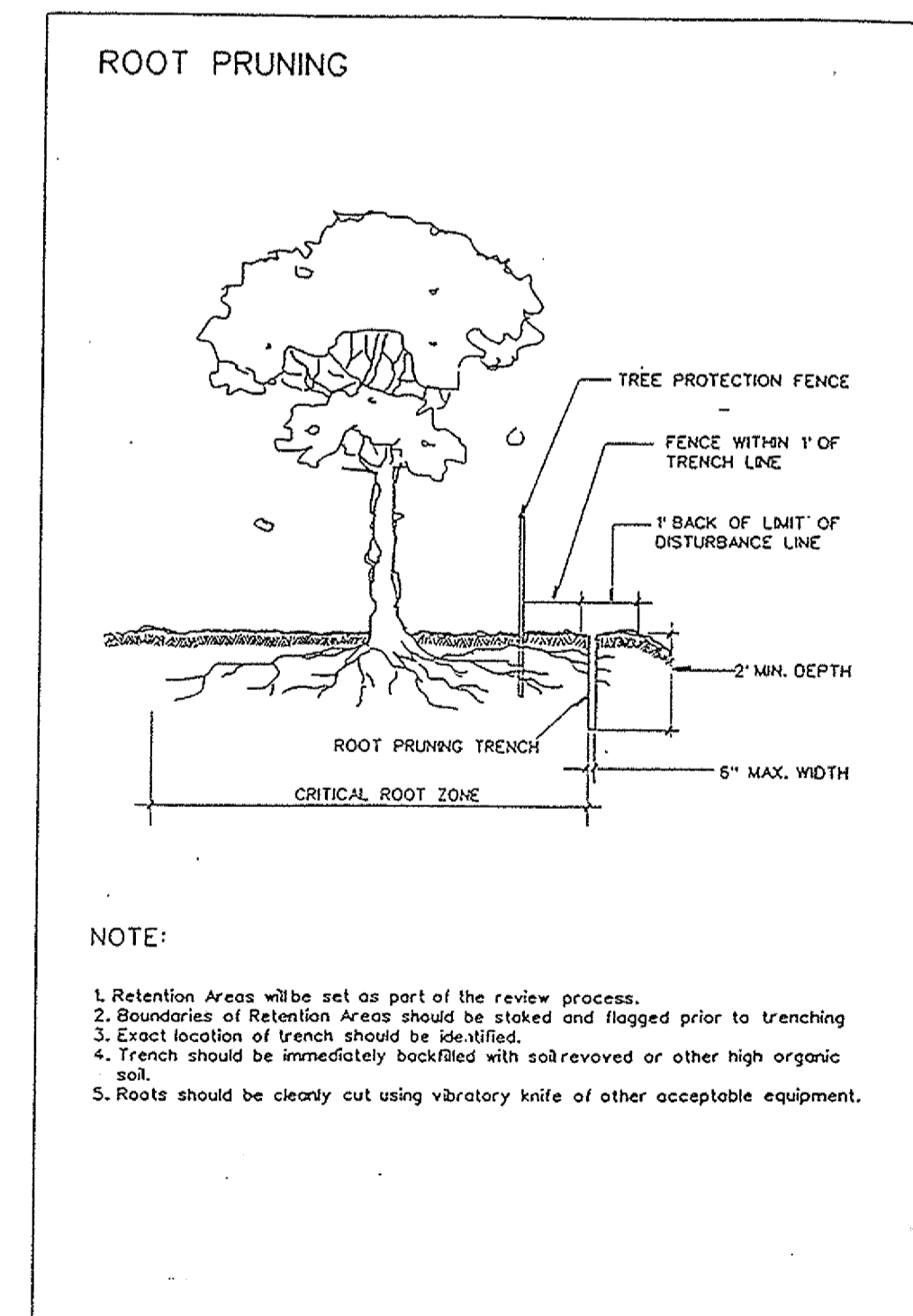
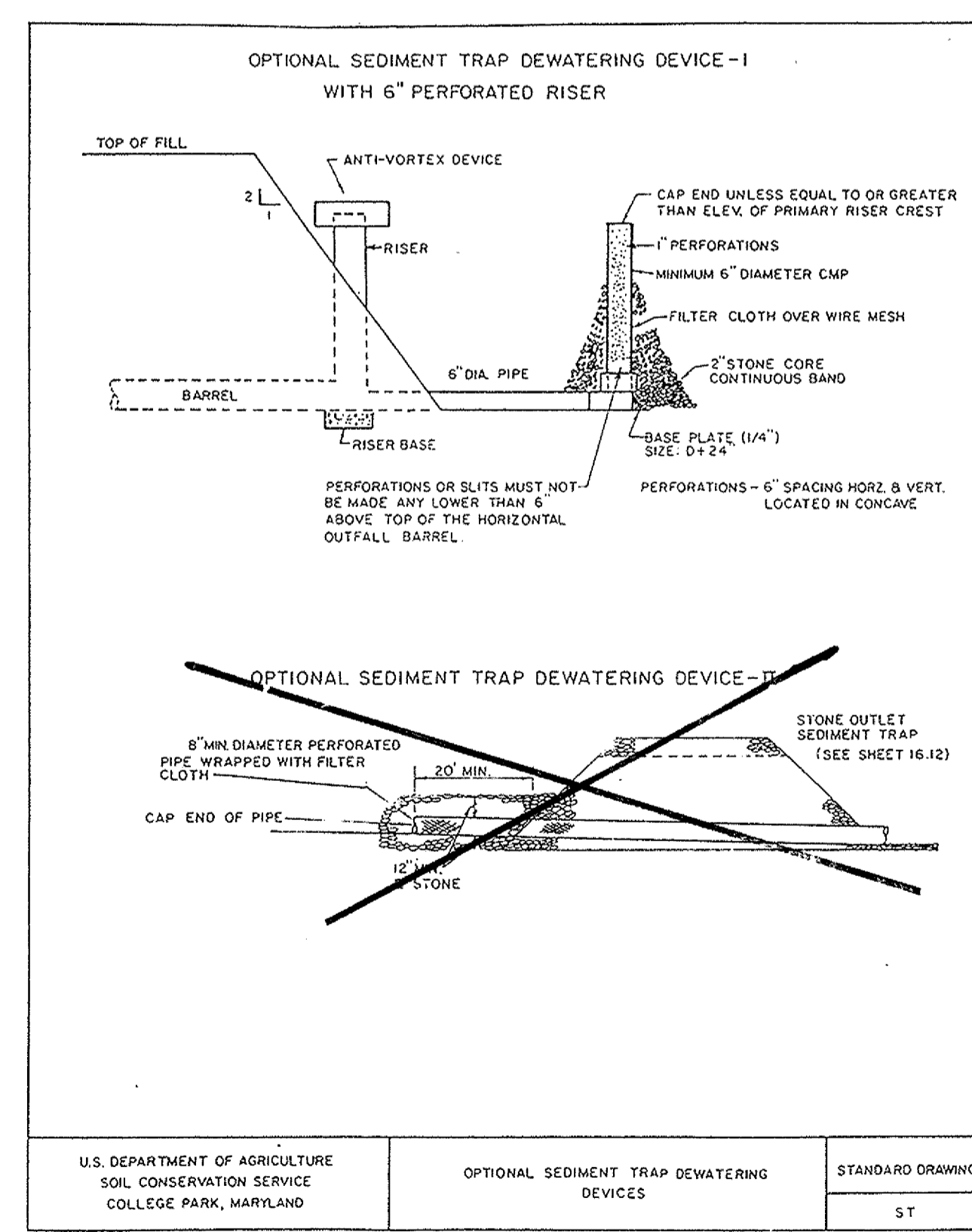
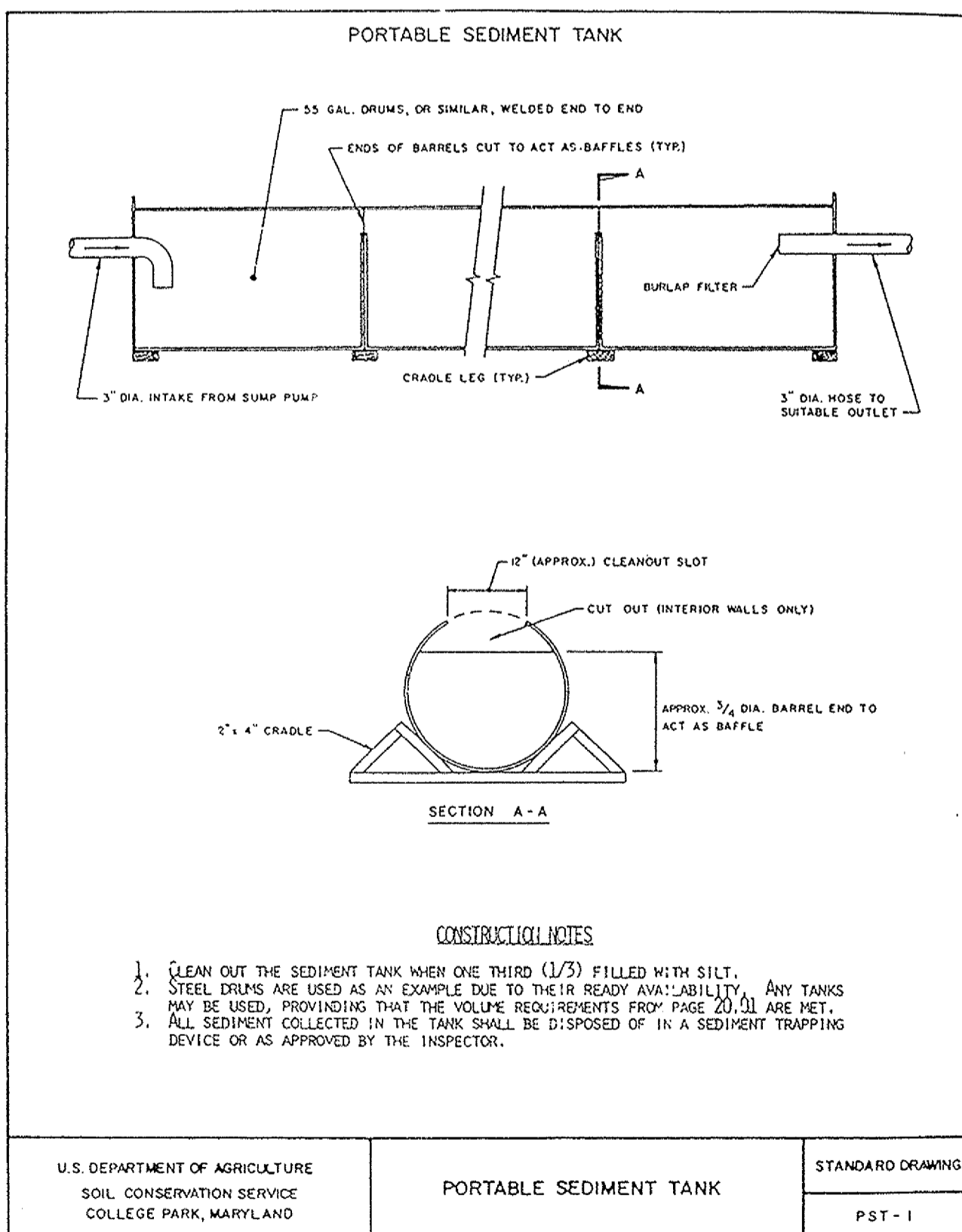
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SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 5 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) and (Sec. 54), temporary seedings (Sec. 50) and mulching (Sec. 52.) Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector
- Site Analysis:
Total Area of Site: 1.55 Acres
Area Disturbed: 1.55 Acres
Area to be roofed or paved: .035 Acres
Area to be vegetatively stabilized: .75 Acres
Total Cut: 1510 Cu. yds
Total Fill: 1940 Cu. yds
Offsite waste/borrow area location: **NOT YET DETERMINED** (SEE NOTE 9)
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- The offsite waste/borrow area location is to be approved by the Howard County Division of Construction Inspection and The Sediment Control Division.

TREE PROTECTION/ SAFETY FENCE

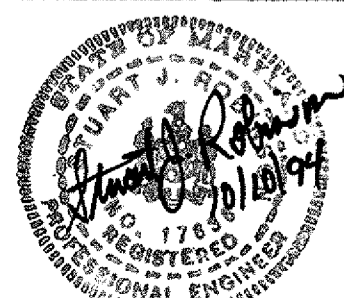


DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 10/17/94
DIRECTOR OF PUBLIC WORKS
[Signature] 10-20-94
CHIEF BUREAU OF HIGHWAYS

[Signature] 10/17/94
CHIEF BUREAU OF ENGINEERING
[Signature] 10/17/94
CHIEF TRANSPORTATION/WATERSHED PROJECTS

A. MORTON THOMAS AND ASSOCIATES, INC.
ENGINEERS - SURVEYORS - PLANNERS - LANDSCAPE ARCHITECTS
12750 TWINBROOK PARKWAY - SUITE 200 - ROCKVILLE, MARYLAND 20852
TELEPHONE: (301) 881-2545 FAX: (301) 881-0814



DES: SJR	SJR	T	ADDENDUM 1- ADDED APRON ONTO STONE OUTLET STRUCTURE	11/4/94
DRN: WDL				
CHK: JCK				
DATE: OCT. 94	BY	NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

600' SCALE MAP NO. 37 BLOCK NO. 15

MAYFIELD AVENUE POND RETROFIT

(CAPITAL PROJECT NO. D-1110)

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 9 OF 12

1713

PERMANENT SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- 1) **Preferred** -- Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square ft) and 500 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
- 2) **Acceptable** -- Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 10 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft) before seeding. Harrow or disk into upper three inches of soil.

Seeding -- For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

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

Maintenance -- Inspect all seeded areas and make needed repairs, replacements and reseeding.

TEMPORARY SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 60 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).
Seeding: -- For periods March 1 thru April 30 and from August 15 thru October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

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

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

POND SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material: The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction: 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 tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cut Off Trench: The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe: All of the following criteria shall apply for corrugated metal pipe:

1. **Materials** - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. **Coupling bands, anti-seep collars, end sections, etc.**, must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
3. **Connections** - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 24" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular

neoprene gasket; and a 12" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24".

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. **Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or otherwise unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
5. **Backfilling** shall conform to "Structure Backfill."

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe: All of the following criteria shall apply for reinforced concrete pipe:

1. **Materials** - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.
2. **Bedding** - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.

3. **Laying pipe** - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

4. **Backfilling** shall conform to "Structure Backfill."
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Polyvinyl Chloride (PVC) Pipe: All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. **Materials** - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
2. **Joints and connections** to anti-seep collars shall be completely watertight.
3. **Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or otherwise unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. **Backfilling** shall conform to "Structure Backfill."
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608 Mix No. 3 [1]

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905. [1]

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12 [1]

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct

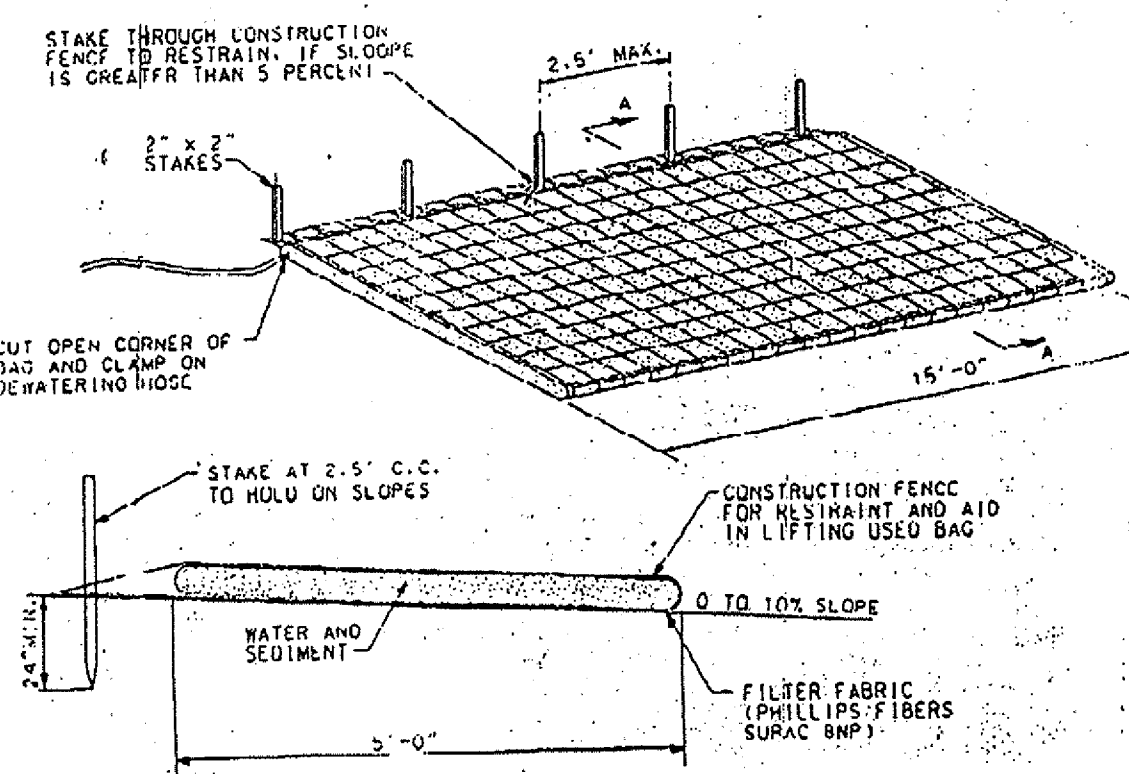
and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to pumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.



SECTION A-A

DETAIL (FB)

FILTER BAG
TEMPORARY EROSION CONTROL MEASURE

- NOTES:
1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL-VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM STRUCTURE AND WORK AREAS.
 2. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
 3. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 CPM.
 4. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.

AVAILABLE FROM: PHILLIPS COMPANY, INC.
425 S. MAIN ST.
MILWAUKEE, WI 53210
(616) 530-8230

SPECIAL PROVISION FOR GEOTEXTILE FILTER BAG

1 of 1

D/GNE/tb

Description

This work shall consist of furnishing, placing, and disposing of a 12' x 16' Geotextile Filter Bag. The Geotextile Filter Bag shall be used to filter out sediments from water pumped from construction activities. Water pumped from construction activities shall be pumped into and allowed to filter through a filter bag or a sediment basin approved by the Engineer before it enters a drainage course. The Geotextile Filter Bag shall be disposed of by the Contractor at an upland site.

Materials

The Geotextile Filter Bag shall be constructed with a needle punched, non-woven fabric meeting the Specification for Geotextile Liner for Riprap, Subsection 8.10.04-L-3 of the Standard Specifications for Construction. At the Contractor's option, a double thickness of a needle punched non-woven drainage geotextile meeting Specification Subsection 8.10.04-L-1 as modified in Supplemental Specification for Geotextiles, 8.10(1), may be substituted.

The seams of the filter bag may be sewn, nailed between 2" x 4"s or connected by some positive method of closure. The filter bag seams shall be strong enough to withstand pumping pressures, sediment loads and transportation by the Contractor to an upland site.

Installation

The location of the filter bags will be determined by the Engineer. The Engineer will select locations for the filter bags that minimize erosion, sedimentation, and damage to vegetation.

Measurement and Payment

The complete work as measured for Geotextile Filter Bag will be paid for at the contract unit price for the following contract item (pay item):

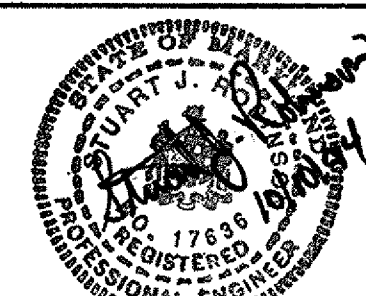
Pay Item	Pay Unit
Geotextile Filter Bag	Each

Payment for the item Geotextile Filter Bag shall be payment in full for furnishing, placing, and disposing of a 12' x 16' Geotextile Filter Bag and disposing of sediments.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ... 10/17/94
Director of Public Works DATE
... 10-20-94
Chief, Bureau of Highways DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS
12260 THUNDERBOLT PARKWAY • ROCKVILLE, MARYLAND 20851 • (301) 981-2515 • FAX (301) 981-0014



DES: SJR	SJR	[1]	ADDENDUM I - REVISED SPEC. SECTION No.5	11/4/94
DRN: WDL				
CHK: JCK				
DATE: 94				
BY	NO.	REVISION	DATE	

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

600' SCALE MAP NO. 37 BLOCK NO. 15

MAYFIELD AVENUE POND RETROFIT

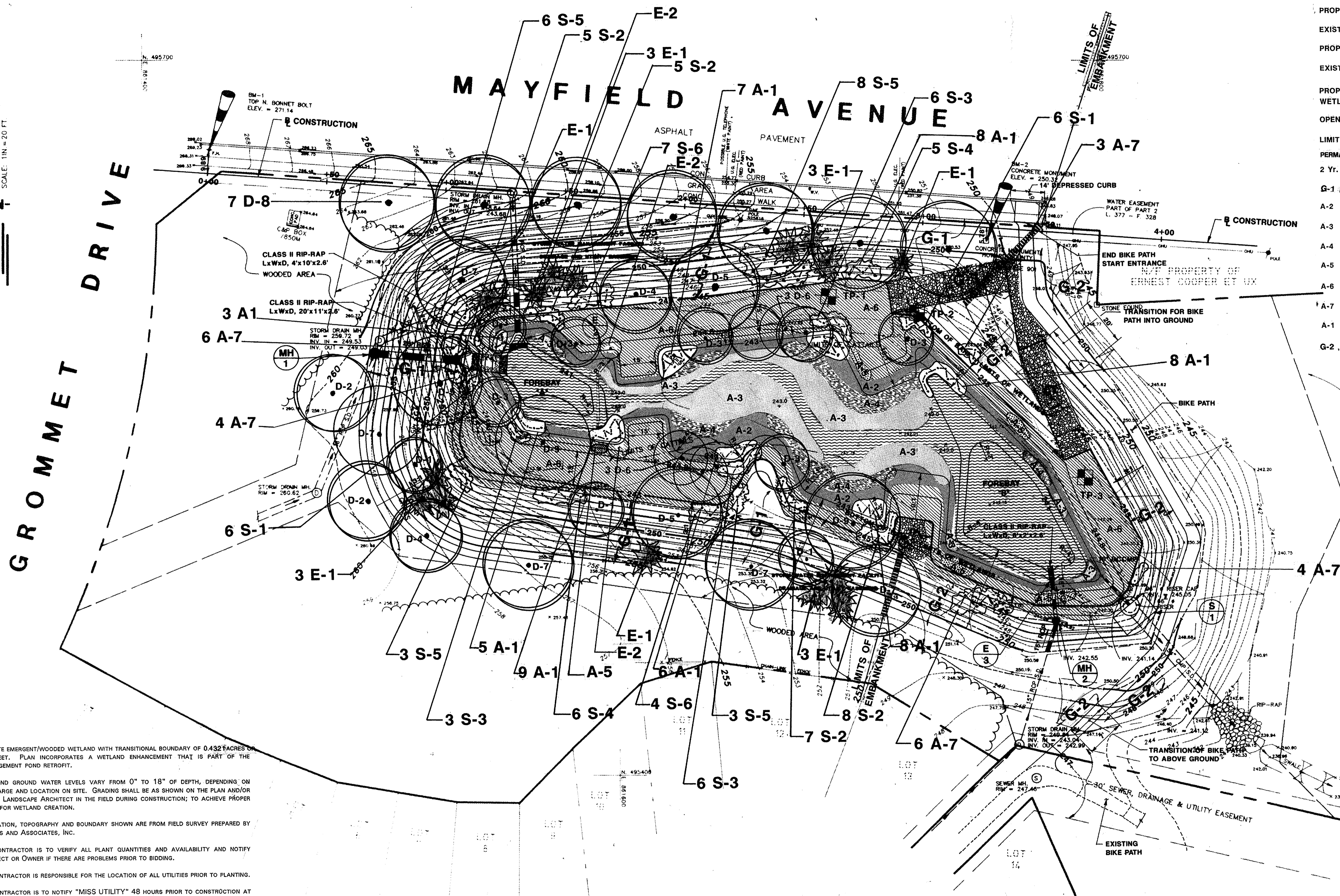
(CAPITAL PROJECT NO. D-1110) [1]

SCALE AS SHOWN

SHEET 10 OF 12

1713

- EXISTING CONTOURS -245-
- PROPOSED CONTOURS -245-
- EXISTING SPOT ELEVATIONS x 251.56
- PROPOSED SPOT ELEVATIONS x 251.14
- EXISTING TREES & CANOPY (Symbol)
- PROPOSED GRASSES/GROUND COVERS/
WETLAND PLANTS (Symbol)
- OPEN WATER (Symbol)
- LIMITS OF WETLAND PLANTINGS 245.0
- PERMANENT POOL ELEVATION 243.5
- 2 Yr. POOL 246.3
- G-1, ACCESS BENCH (Symbol)
- A-2 (Symbol)
- A-3 (Symbol)
- A-4 (Symbol)
- A-5 (Symbol)
- A-6 (Symbol)
- A-7 (Symbol)
- A-1 (Symbol)
- G-2, EMBANKMENT (Symbol)



NOTES

PROPOSAL: CREATE EMERGENT/WOODED WETLAND WITH TRANSITIONAL BOUNDARY OF 0.432 ACRES OR 18,824 SQUARE FEET. PLAN INCORPORATES A WETLAND ENHANCEMENT THAT IS PART OF THE STORMWATER MANAGEMENT POND RETROFIT.

SOIL SATURATION AND GROUND WATER LEVELS VARY FROM 0" TO 18" OF DEPTH, DEPENDING ON PRECIPITATION RECHARGE AND LOCATION ON SITE. GRADING SHALL BE AS SHOWN ON THE PLAN AND/OR AS DIRECTED BY THE LANDSCAPE ARCHITECT IN THE FIELD DURING CONSTRUCTION; TO ACHIEVE PROPER HYDRIC CONDITIONS FOR WETLAND CREATION.

BENCHMARKS, ELEVATION, TOPOGRAPHY AND BOUNDARY SHOWN ARE FROM FIELD SURVEY PREPARED BY A. MORTON THOMAS AND ASSOCIATES, INC.

THE LANDSCAPE CONTRACTOR IS TO VERIFY ALL PLANT QUANTITIES AND AVAILABILITY AND NOTIFY LANDSCAPE ARCHITECT OR OWNER IF THERE ARE PROBLEMS PRIOR TO BIDDING.

THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES PRIOR TO PLANTING.

THE LANDSCAPE CONTRACTOR IS TO NOTIFY "MISS UTILITY" 48 HOURS PRIOR TO CONSTRUCTION AT 1-800-257-7777.

THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING PLANT MATERIALS DURING CONSTRUCTION.

PLEASE SEE SHEET 12 FOR PLANT LIST, SPECIFICATIONS & DETAILS FOR LANDSCAPING.

1713

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 10/17/94
DIRECTOR OF PUBLIC WORKS DATE

Andrew M. ... 10-20-94
CHIEF BUREAU OF HIGHWAYS DATE

... .. 10/17/94
CHIEF TRANSPORTATION/WATERSHED PROJECTS DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS
1230 THURGOOD PARKWAY - ROCKVILLE, MARYLAND 20852 - (301) 981-2845

DES.	NH				
DRN.	DJ				
CHK.	JCK				
DATE	OCT. 94	BY	NO.	REVISION	DATE

LANDSCAPE PLAN

600' SCALE MAP NO. 37 BLOCK NO. 15

MAYFIELD AVENUE POND RETROFIT
(CAPITAL PROJECT D-1110)

1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE
1" = 20'

SHEET
11 OF 12

PROPOSED PLANT MATERIALS

AQUATIC & WETLAND PLANTS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	WATER DEPTH	POND ELEVATIONS	USE	QUANTITY	REMARKS
A-1	CEPHALANTHUS	Buttonbush	18"-24" TALL	Cont.	4' o.c.	0-1.5'	242-243.5	Ornamental Ducks, Birds	54	No Plants embankment side. Emerg.
A-2	SCIRPUS VALIDUS	Soft-stem Bulrush	1 3/4" 12"-18" TALL	Pot	2' o.c.	0-1"	242.5 - 243.5	Habitat	850±	Emergent Aquatic Divide when planting
A-3	PETLANDRA VIRGINICA	Arrow Arum	1 3/4" 12"-18" TALL	Pot	3' o.c.	0-1"	242.5 - 243.5	Showy Value Woodducks	600±	Emergent Aquatic
A-4	SCIRPUS AMERICANUS	Common Tree-Square	1 3/4" 8"-12" TALL	Pot	2' o.c.	0'-6"	243 - 243.5	Waterfowl Birds	300±	Emergent Aquatic
A-5	PHALARIA ARUNDINCES	Reed Canary Grass	5 pt.	Cont.	1' o.c.	0' ± 3'	243.5 - 246.5	Channel Stabilization	400±	Shoreline Fringe
A-6	PANICUM VIRGATUM	Switch Grass	1 3/4" Pot	1' o.c.	0' ± 3'	243.5 - 246.5	Wildlife	9,800±	Shoreline Fringe	
A-7	ANDROPOGON VIRGINIANUS	Broomsedge	1 gal.	Cont.	3'-4' o.c.	+2 ± 7'	245.5 - 250.5	Wildlife Winter food	23	Riparian Fringe Upland

* OVERSEED PLANTING AREA WITH 2.25LB OF SWITCH GRASS SEED INCORPORATE STARTER FERTILIZER 5-15-10 1 LB./1000 S.F. MIN. 70% PLS. STABILIZATION GRASSES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	WATER DEPTH	POND ELEVATIONS	USE	QUANTITY	REMARKS
G-1	FESTUCA ARUNDINACEA	K-31 Tall Fescue	Seed		9 lbs/1,000 s.f.	0' +	243.5 +	Stabilization	2,300 SY	Upland slopes & access, mulch
G-2	FESTUCA ARUNDINACEA & KENTUCKY BLUEGRASS 5% PDA TRIVIALIS	K-31 Tall Fescue 95% Sod and Stake				0' +	243.5 +	Stabilization	700 SY	Embankment Stabilization

SHRUBS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	WATER DEPTH	POND ELEVATIONS	USE	QUANTITY	REMARKS
S-1	ILEX VERTICILLATA	Winterberry	18" - 24"	CONT.	SHOWN	+1'	244.5 +	Ornamental song birds food	12'	Shoreline Riparian Edge 3' - 12' shrub
S-2	VIBURNUM DENTATUM	Southern arrowwood	18" - 24"	CONT.	SHOWN	+1'	244.5 +	Wildlife food	25	Riparian fringe 3' - 10' shrub
S-3	CORNUS STOLONIFERA	Dogwood	18" - 24"	CONT.	SHOWN	+1'	244.5 +	Wildlife food	15	Riparian fringe 3' - 8' shrub
S-4	ARONIA ARBUTIFOLIA	Red Chokeberry	18" - 24"	CONT.	SHOWN	+2'	244.5 +	Song bird food	11	Floodplain Terrace
S-5	VIBURNUM TRILOBUM	American Cranberry Bush	18" - 24"	CONT.	SHOWN	+2'	245.5	Wildlife food	20	Floodplain Terrace
S-6	SAMBUCUS CANADENSIS	Elderberry	18" - 24"	CONT.	SHOWN	+2'	245.5	Wildlife food/cover	11	Floodplain Terrace

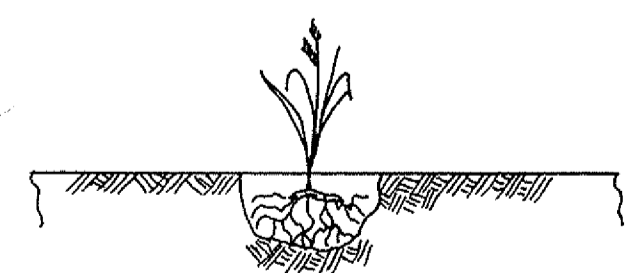
EVERGREEN TREES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	WATER DEPTH	POND ELEVATIONS	USE	QUANTITY	REMARKS
E-1	ILEX OPACA	Female & MALE American Holly	5' - 6'	B&B	SHOWN	+4'	247.5	Wildlife Food/Cover	15	PROVIDE ONE MALE Floodplain terrace above 2 yr. pool
E-2	MAGNOLIA VIRGINIANA	Sweetbay Magnolia	5' - 6'	B&B	SHOWN	+4'	247.5	Ornamental	3	Floodplain terrace above 2 yr. pool

DECIDUOUS TREES

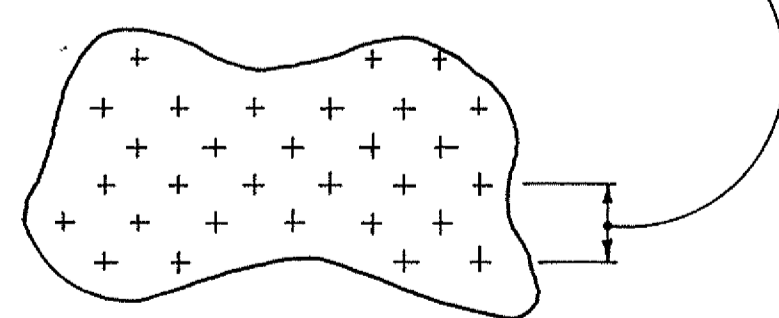
KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	WATER DEPTH	POND ELEVATIONS	USE	QUANTITY	REMARKS
D-1	PRUNUS SEROTINA	Black Cherry	5' - 6'	B&B	SHOWN	+3' ±	246.3	Wildlife Food	3	Floodplain fringe above 2 yr. pool
D-2	JUGLANS NIGRA	Black Walnut	4' - 5'	B&B	SHOWN	+3' ±	246.3	Wildlife Food	2	Floodplain fringe above 2 yr. pool
D-3	SALIX NIGRA	Black Willow	5' - 6'	B&B	SHOWN	+6"	244.0	Cover	6	Riparian Fringe
D-4	FRAXINUS PENNSYLVANICA	Green Ash	5' - 6'	B&B	SHOWN	+2'	245.5	Songbird Food	2	Floodplain Fringe
D-5	ACER RUBRUM	Red Maple	5' - 6'	B&B	SHOWN	+2'	245.5	Songbird Food	3	Floodplain Fringe
D-6	BETULA NIGRA	River Birch	5' - 6'	B&B	SHOWN	+1'	244.5 +	Shoreline Stabilization	6	Shoreline Fringe
D-7	QUERCUS PHELLOS	Willow Oak	1 1/2"-1 3/4"	B&B	SHOWN	+6"	244.0 +	Songbird Food	5	Floodplain Terrace
D-8	QUERCUS RUBRA	Red Oak	1 1/2"-1 3/4"	B&B	SHOWN	+2'	245.5 +	Wildlife Flood/Cover	7	Shoreline Fringe
D-9	PLATANUS OCCIDENTALIS	American Sycamore	1 1/2"-1 3/4"	B&B	SHOWN	+6"	244.0	Cover	2	Floodplain Terrace

DIG HOLE 2 X ROOT IN WIDTH AND DEPTH OF ROOT MASS OR POT PLACE PLANT AND BACKFILL WITH SOIL AND TAMP TO REMOVE AIR VOIDS

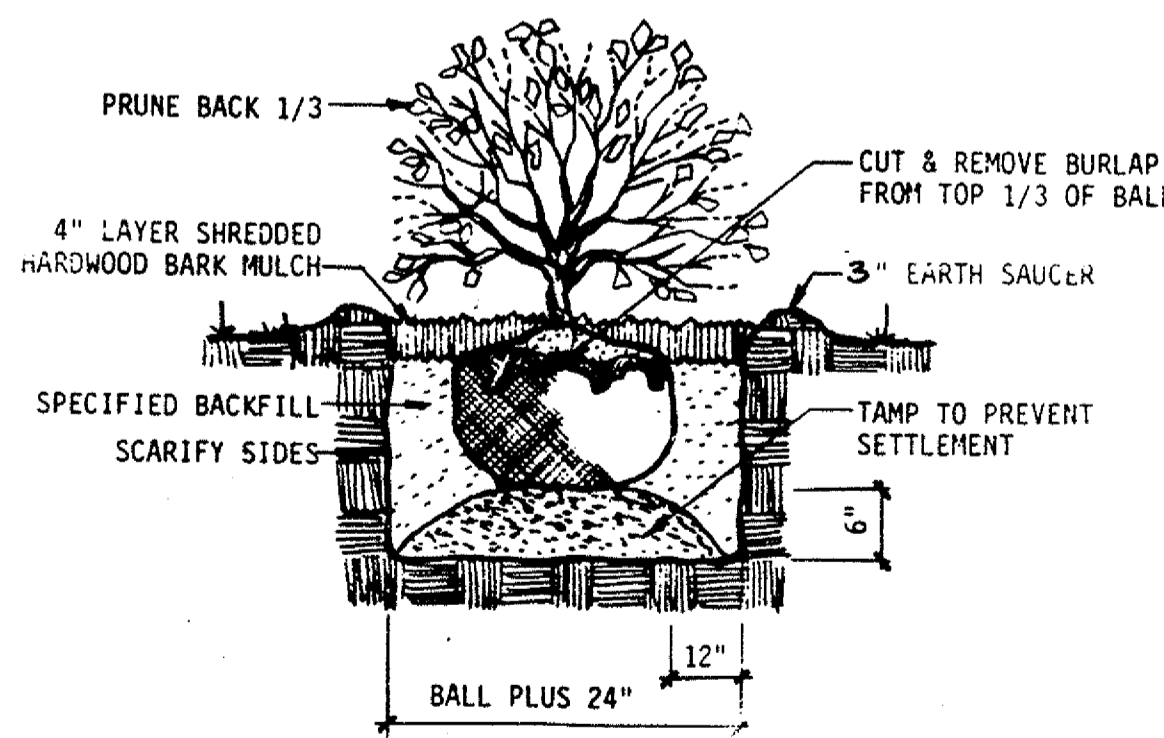


EMERGENT PLANTING DETAIL
NOT TO SCALE

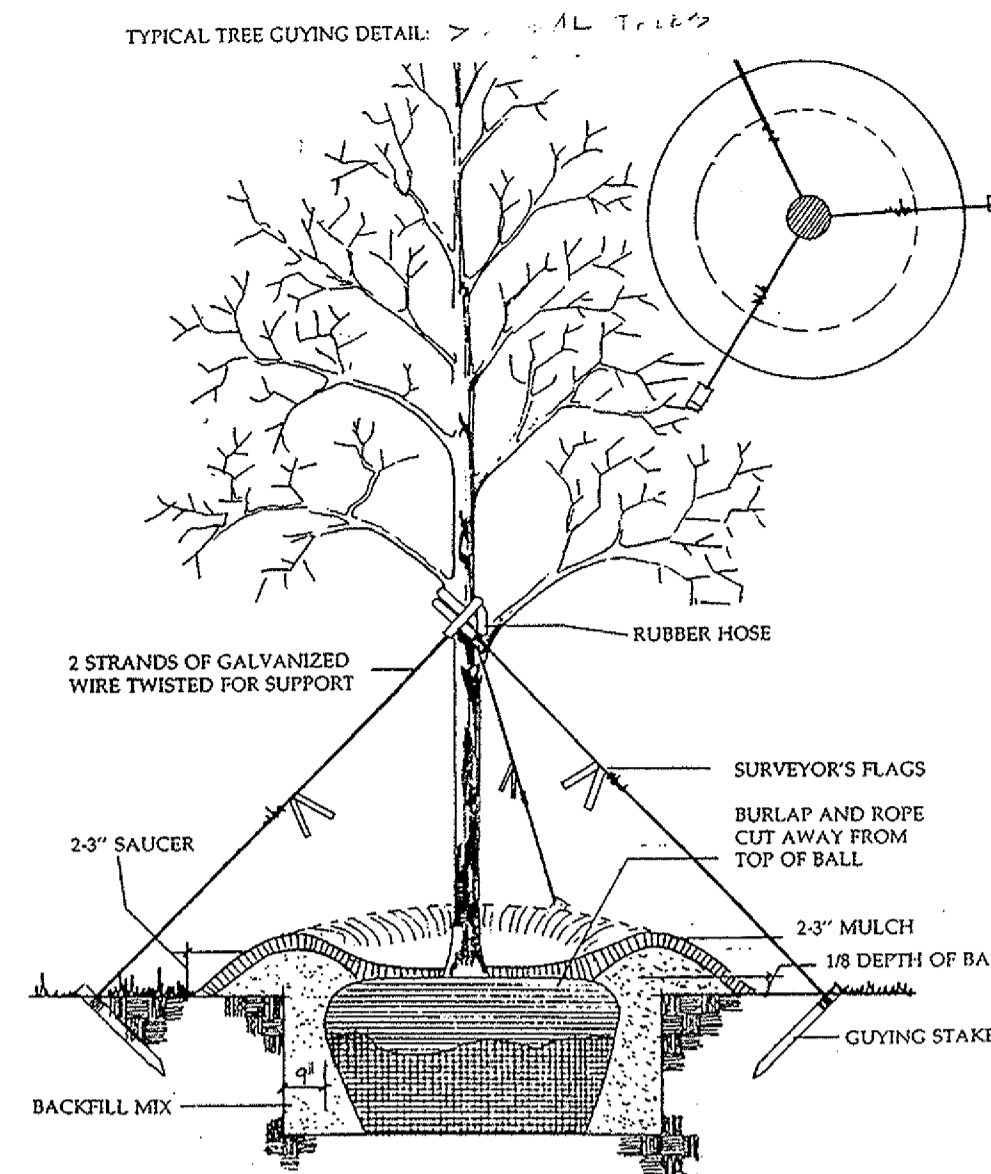
SPACING ACCORDING TO PLANT LIST PLANT AREA AS SHOWN ON PLAN IN EVEN ALTERNATING ROWS.



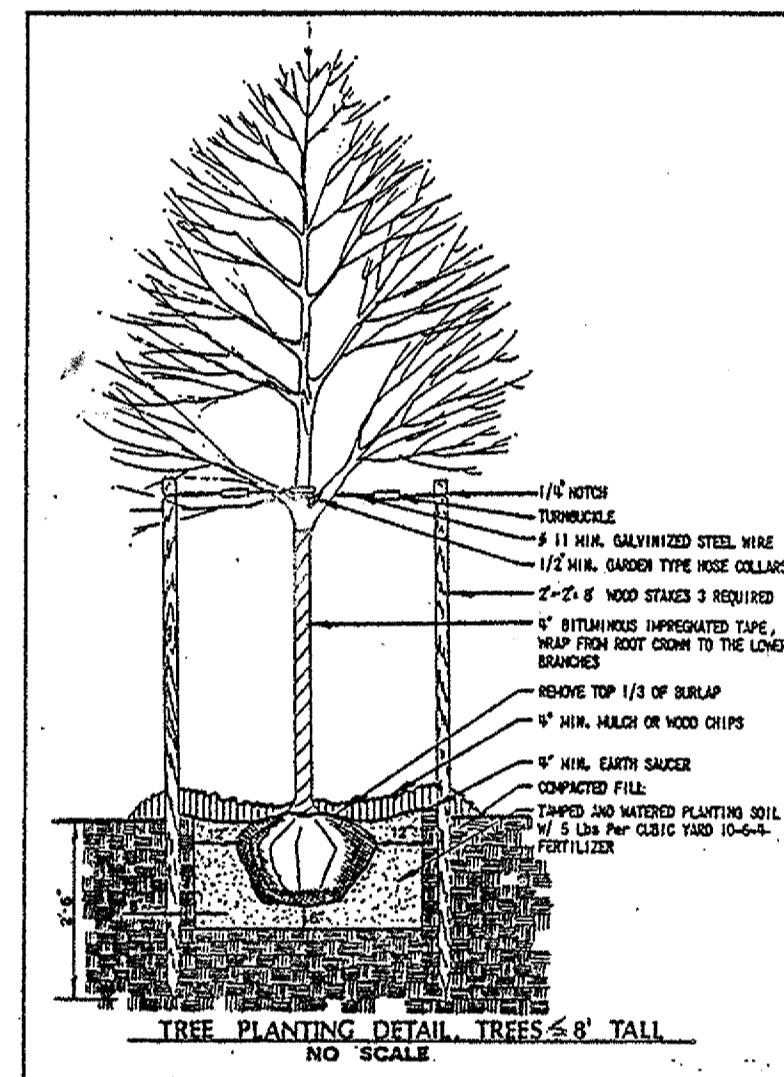
PLANT SPACING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE



2" - 2 1/2" CAL TREE PLANTING DETAIL
NOT TO SCALE



TREE PLANTING DETAIL TREES 6' TALL
NOT TO SCALE

PLANTING SPECIFICATIONS *1

A. SITE PREPARATION

- CONSTRUCT SEDIMENT CONTROL FEATURES AND CLEAN WATER DIVERSION AS SHOWN ON SEDIMENT CONTROL PLAN. CONTRACTOR IS TO CONFORM TO SEDIMENT CONTROL PLAN AND NOTES, UNTIL SITE IS STABILIZED AND HAS BEEN APPROVED BY HOWARD COUNTY DILP. NOTIFY HOWARD COUNTY DILP INSPECTOR, OWNER AND LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- EXCAVATE SITE TO GRADES SHOWN ON PLAN. REMOVE TYPHA (CATTAIL), ROOT MAT AND PLANTS AS MUCH AS POSSIBLE DURING GRADING OPERATIONS. CARE SHOULD BE TAKEN TO PRECLUDE SEDIMENTS, OR SEDIMENT-LADEN RUNOFF FROM ENTERING STREAM.
- REMOVE AND DISPOSE OF EXCESS SOIL IN APPROVED ON-SITE SPOIL AREA. CONTRACTOR IS TO OBTAIN APPROVAL FROM OWNER OF HAUL ROUTE ON SITE. FOLLOWING FINAL GRADING, THE SUBSTRATE SHALL CONSIST OF A MINIMUM ONE FOOT IN DEPTH OF CLEAN, INORGANIC/ORGANIC MATERIAL, OF WHICH 80-90% BY WEIGHT, PASS A NO. 10 SIEVE. CONSTRUCTION RUBBLE, ROCKS, TRASH AND SEDIMENTS COARSER THAN SAND ARE EXCLUDED BY THIS SPECIFICATION.
- IF BOULDERS OR A ROCK OUTCROPPING ARE ENCOUNTERED DURING EXCAVATION OR SUBSTRATE PREPARATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR POSSIBLE INCORPORATE ON SITE.
- AFTER EXCAVATION AND USE OF HEAVY EQUIPMENT, THE GRADED PLANTING AREA SHALL BE TILLED/PLOWED TO A DEPTH OF ONE FOOT FOR A LOOSE, FRIABLE PLANTING SOIL CONDITION.
- DURING THE GRADING OPERATIONS, STOCK PILE SILT LOAM TOP SOILS FOR RE-SPREADING ON SITE, AS THESE SOILS WILL HELP INSURE PLANTING SUCCESS. DO NOT REUSE SOILS WITH CATTAIL ROOTS OR DEBRIS FOR RE-SPREADING.
- CONDUCT SOILS TESTS (REFER TO PLANTING SPECS. 3b) & SUBMIT TO COUNTY FOR RECOMMENDATIONS.

B. PLANTING

- DURING PLANTING OPERATIONS AND EXCAVATIONS FOR PLANTING PITS, EXERCISE CARE TO MAINTAIN EVEN SHEET FLOW OF DRAINAGE ACROSS SITE, AS SHOWN ON GRADING PLAN. AVOID DEPRESSIONS OR MOUNDING AS A RESULT OF PLANTING.
- PLANTING WILL BE DONE BETWEEN APRIL 1 AND JUNE 30; OR SEPTEMBER 1 AND NOVEMBER 30. EXCEPTION: OAKS MUST BE PLANTED IN SPRING.
- EXACT LOCATION OF PLANTS SHALL BE DETERMINED IN THE FIELD BY THE PLANTING CONTRACTOR BASED ON HYDRAULIC TOLERANCES. ANY MAJOR CHANGES TO THE PLANTING SCHEME ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
- FERTILIZER SHALL BE PLACED IN EACH PLANTING PIT AND CONSIST OF Osmocote 19-6-12, 12-14 MONTH RELEASE, AT A RATE OF 1 OZ. PER HERBACEOUS PLANT; 4 OZ. PER SHRUB. TREES USE Agriform 20-10-5, TWO-YEAR RELEASE, 10 GRAM TABLETS AT THE MANUFACTURER'S RECOMMENDED RATE. SEEDED AREAS USE STARTER 5-15-10 FERTILIZER AT A RATE OF 1 LB./1000 S.F. ALSO SEE NOTE 10.
- ALL CONTAINER GROWN PLANTS ARE TO BE PLANTED WITH CROWN OR TOP OF SOIL BALL APPROXIMATELY 1" ABOVE GRADE OF PLANTING SUBSTRATE.
- BACKFILL IN PLANTING PITS IS TO BE OF SAME MATERIAL AS PLANTING SUBSTRATE AND IS TO BE FIRMED AROUND ROOT SYSTEM, NOT EXCESSIVELY COMPACTED.
- ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT FROM THE SOURCE TO THE JOB SITE AND UNTIL PLANTED. SUBSTITUTIONS OF BALLED AND BURLAPPED FOR CONTAINER GROWN STOCK MUST BE APPROVED BY LANDSCAPE ARCHITECT.
- WETLAND PLANTS MUST BE WET CULTURED FOR A MINIMUM OF 3 MONTHS AND SUPPLIED BY A RECOGNIZED WETLAND NURSERY WHICH WILL PROVIDE CERTIFICATION OF THE CULTURE PROCESS. UPLAND PLANTS CAN BE SUPPLIED FROM STANDARD UPLAND GROWN NURSERY OPERATIONS. SEE LIST FOR WETLAND PLANTING SOURCES.
- UPLAND SEED MIXES SHALL BE BROADCAST OR HYDROSEEDING IN UPPER AREAS. MULCH SHALL CONSIST OF STRAW AND BE ANCHORED BY A FIBERTACK. ASPHALT EMULSION WILL NOT BE ACCEPTABLE. THE K-31/ANNUAL RYE SEED MIX SHALL BE A BLEND OF 80% KENTUCKY 31 TALL FESCUE AND 20% ANNUAL RYE.
- LOWLAND (FLOOD PRONE) SEED MIXES SHALL BE CULTIVATED TO A DEPTH OF 0 TO 1/4 INCH, FOLLOWED BY DRAGGING, THEN PACKING OR ROLLING. FERTILIZING OF THESE AREAS SHOULD BE DEFERRED UNTIL SEEDLINGS ARE 2 INCHES TALL.

C. GUARANTEE

THE CONTRACTOR WILL GUARANTEE AN 85% SURVIVAL RATE OF PLANTS (EACH SPECIES) AFTER ONE YEAR. IF AT THIS TIME THE TOTAL NUMBER OF PLANTS HAS FALLEN BELOW THIS THRESHOLD, THE CONTRACTOR WILL MAKE A ONE-TIME REPLACEMENT TO BRING PLANT NUMBERS TO THE 85% LEVELS FOR EACH SPECIES. CARE SHALL BE TAKEN SUCH THAT THE ACTIVITIES INVOLVED IN REPLACEMENT PLANTING DO NOT CAUSE DAMAGE OR DETRIMENTAL EFFECT TO THE SURVIVING FLORA. ANY PLANTS DAMAGED BY THESE ACTIVITIES WILL ALSO BE REPLACED BY THE CONTRACTOR TO THE 85% THRESHOLD.

D. MAINTENANCE

THE CONTRACTOR SHALL CONDUCT MONTHLY INSPECTIONS OF THE SITE DURING THE FIRST YEAR AFTER PLANTING FOR A FULL GROWING SEASON: APRIL - OCTOBER, AND THE MONTHS OF APRIL, MAY AND JUNE OF THE FOLLOWING SEASON. DURING THESE MONTHLY INSPECTIONS, THE CONTRACTOR SHALL:

- REMOVE ALL LITTER AND DEBRIS THROUGHOUT THE SITE.
- REPLANT OR RESEED ALL EROSION CONTROL STABILIZING GRASSES, RUSHES, SEDGES OR GROUND COVERS, AS REQUIRED TO PREVENT EROSION.
- CONDUCT FERTILIZATIONS AS MAY BE REQUIRED OR REQUESTED.
- TAKE APPROPRIATE MEASURES TO EXCLUDE WILDLIFE, IF DESTRUCTIVE DEPREDATION OCCURS.
- CONDUCT SOILS TESTS FOR PH, SUBSTRATE SALINITY AND MOISTURE CONTENT, AND NOTIFY LANDSCAPE ARCHITECT OF CONDITIONS THAT MAY CAUSE PLANT MORTALITY. CORRECT CONDITIONS THAT ARE UNSATISFACTORY, TO INSURE PLANT SUCCESS. NOTE: SALINITY MAY FLUCTUATE, ESPECIALLY IN EARLY SPRING, DUE TO UPHILL RUNOFF FROM ROADS TREATED WITH DE-ICING SALTS.
- MAINTAIN PLANTED AND SEEDED AREAS BY WATERING, MOWING, ROLLING, OR REGRADING, REPLANTING AND IMPLEMENTING EROSION CONTROLS AS REQUIRED TO ESTABLISH VEGETATION, FREE OF BARE OR ERODED AREAS.

E. CLEANUP AND PROTECTION

- DURING LANDSCAPE WORK, STORE MATERIALS AND EQUIPMENT WHERE DIRECTED. KEEP PAVEMENTS CLEAN AND WORK AREAS AND ADJOINING AREAS IN AN ORDERLY CONDITION.
- PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED LANDSCAPE WORK AS DIRECTED BY LANDSCAPE ARCHITECT.

F. INSPECTION AND ACCEPTANCE

- THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT SEEDS AND PLANT MATERIALS, EITHER AT PLACE OF GROWTH OR AT SITE BEFORE PLANTING, FOR COMPLIANCE WITH REQUIREMENTS FOR NAME, VARIETY, SIZE, QUANTITY, QUALITY AND MIX PROPORTION.
- SUPPLY WRITTEN AFFIDAVIT CERTIFYING COMPOSITION OF SEED MIXTURES AND INTEGRITY OF PLANT MATERIALS WITH RESPECT TO SPECIES, VARIETY AND SOURCE.
- NOTIFY THE LANDSCAPE ARCHITECT WITHIN 5 DAYS AFTER COMPLETING INITIAL AND/OR SUPPLEMENTAL PLANTINGS IN WETLAND AREAS.
- WHEN THE LANDSCAPE WORK IS COMPLETED, INCLUDING MAINTENANCE, THE LANDSCAPE ARCHITECT WILL, UPON REQUEST, MAKE A FINAL INSPECTION TO DETERMINE ACCEPTABILITY. AFTER FINAL ACCEPTANCE, THE OWNER WILL BE RESPONSIBLE FOR MAINTENANCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTORY GROWTH OF GRASSES, FORBS AND SEDGE SPECIES ON ALL AREAS SEEDED AND/OR PLANTED UNDER THE CONTRACT UNTIL FINAL ACCEPTANCE OF THE WORK. ACCEPTANCE OF THE WORK WILL BE DETERMINED USING A TIME MEASURER SEARCH. THE SEARCH SHALL BE CONDUCTED AT THE END OF THE FIRST FULL GROWING SEASON (1895 AFTER SEEDING AND/OR PLANTING (NOT TO EXCEED 12 MONTHS)). THE SEARCH WILL RANDOMLY SAMPLE 20% OF THE AREA FOR EACH AREA THAT WAS SEEDED AND/OR PLANTED. IF 85% OF THE SPECIES SEEDED AND/OR PLANTED ARE ALIVE AND APPARENT, AND THE SAME AREA HAS 80% GROUND COVER OF ACCEPTABLE SPECIES, THE WORK WILL BE ACCEPTED.
- WHERE INSPECTED LANDSCAPE WORK DOES NOT COMPLY WITH THE REQUIREMENTS, REPLACE REJECTED WORK AND CONTINUE SPECIFIED MAINTENANCE UNTIL REINSPECTED BY THE LANDSCAPE ARCHITECT AND FOUND TO BE ACCEPTABLE. REMOVE REJECTED PLANTS AND MATERIALS PROMPTLY FROM THE PROJECT SITE. RESOW OR REPLANT DEFICIENT AREAS.

G. PUBLIC UTILITIES

- CARE SHALL BE EXERCISED IN EXCAVATION NEAR UTILITIES. IF AT ANY TIME CONTRACTOR DAMAGES THE UTILITIES IN PLACE THROUGH NEGLIGENCE OR CARELESSNESS, CONTRACTOR SHALL PAY FOR THE FULL COST OF REPAIRING SUCH DAMAGES. CONTRACTOR SHALL NOTIFY THE APPROPRIATE PERSON IN THE OFFICE OF ANY UTILITY WHOSE LINES MAY BE AFFECTED.
- THE LOCATIONS OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATES ONLY AND DO NOT NECESSARILY INDICATE ALL THE UTILITIES THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. THE FAILURE OF A UTILITY TO BE SHOWN ON THE PLANS DOES NOT RELIEVE CONTRACTOR OF THE RESPONSIBILITY FOR ANY INJURIES HE MAY INFLICT ON THE UTILITY, AND IN CASE OF INJURY, IT SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- WHENEVER OTHER UTILITIES ARE ENCOUNTERED WHOSE PRESENT GRADE WOULD CONFLICT WITH THE NEW CONSTRUCTION, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT, WHO SHALL ARRANGE REVISIONS WITHOUT UNREASONABLE DELAY. TRENCHING OR TUNNELING UNDER EXISTING UTILITIES, CULVERTS, ETC., AND PROVIDING TEMPORARY SUPPORT SHALL BE DONE AT NO ADDITIONAL EXPENSE TO OWNER.

H. PROTECTION OF PRIVATE PROPERTY

CONTRACTOR SHALL REPAIR OR REPLACE ALL FENCES, CONCRETE WALLS, CONCRETE CURBS, GRAVEL AND ASPHALT DRIVEWAYS, SIGNS, CULVERTS, AND ALL OTHER MISCELLANEOUS IMPROVEMENTS, AT NO ADDITIONAL EXPENSE TO OWNER, DAMAGED BY CONTRACTOR DUE TO HIS OPERATIONS ON THE PROJECT, TO A CONDITION EQUAL TO OR BETTER THAN THEIR CONDITION BEFORE CONSTRUCTION.

I. JOB CONDITIONS

- EXAMINE AND EVALUATE GRADES, SOILS AND WATER LEVELS, OBSERVE THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED, AND NOTIFY THE LANDSCAPE ARCHITECT OF UNSATISFACTORY CONDITIONS. DO NOT PROCEED WITH THE WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN AN ACCEPTABLE MANNER.
- UTILITIES: REVIEW UNDERGROUND UTILITIES LOCATION MAPS AND PLANS PROVIDED BY OWNER; DEMONSTRATE AN AWARENESS OF UTILITY LOCATIONS, AND CERTIFY ACCEPTANCE OF LIABILITY FOR THE PROTECTION OF UTILITIES DURING COURSE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OR PROPERTY.
- EXCAVATION: WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY LANDSCAPE ARCHITECT BEFORE PLANTING.

WETLAND PLANT SUPPLIERS LIST

Environmental Concern, Inc.
P.O. Box P
210 West Chew Avenue
St. Michaels, Maryland 21663
Tel: (301) 745-9620
Fax: (301) 745-3517

Wicklen's Water Gardens
1820 Cromwell Bridge Road
Baltimore, Maryland 21234
Tel: (301) 823-1335

Environmental Consultants, Inc.
P.O. Box 3198
Suffolk, Virginia 23434
Tel: (804) 539-4833

*1A. PLANTING SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE LANDSCAPE SPECIFICATION GUIDELINES OF THE LANDSCAPE CONSTRUCTION ASSOCIATION OF MD, D.C., AND VA, LATEST EDITION.

*1B. ALL PLANT MATERIALS SHALL CONFORM TO THE AMERICAN NURSERY STANDARDS FOR NURSERY STOCK (ANSI Z60.1-1986 OR MOST CURRENT ISSUE).

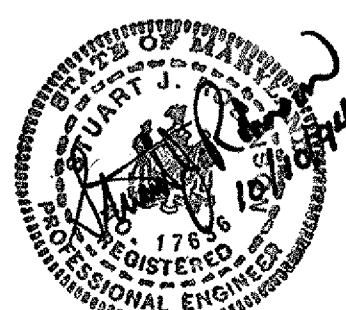
*1C. REFERENCE TO LANDSCAPE ARCHITECT IN THE ABOVE SPECIFICATIONS SHALL BE CONSTRUED AS REFERRING TO THE ENGINEER.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ...
DIRECTOR OF PUBLIC WORKS
DATE 10-20-99

...
CHIEF BUREAU OF HIGHWAYS
DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS
12760 THURGOOD PARKWAY • ROCKVILLE, MARYLAND 20852 • (301) 991-2645 • FAX (301) 991-0914



DES:	NH	SJR	ADDENDUM 1 - CHANGED NOTES AND PLANT TYPES	11/4/94
DRN:	RML			
CHK:	SJR			
DATE:	OCT. 94	BY NO.	REVISION	DATE

LANDSCAPE PLAN PLANT LIST, SPECIFICATIONS AND DETAILS

600' SCALE MAP NO. 37 BLOCK NO. 15

MAYFIELD AVENUE POND RETROFIT

(CAPITAL PROJECT NO. D-111) 01

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 12 OF 22

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