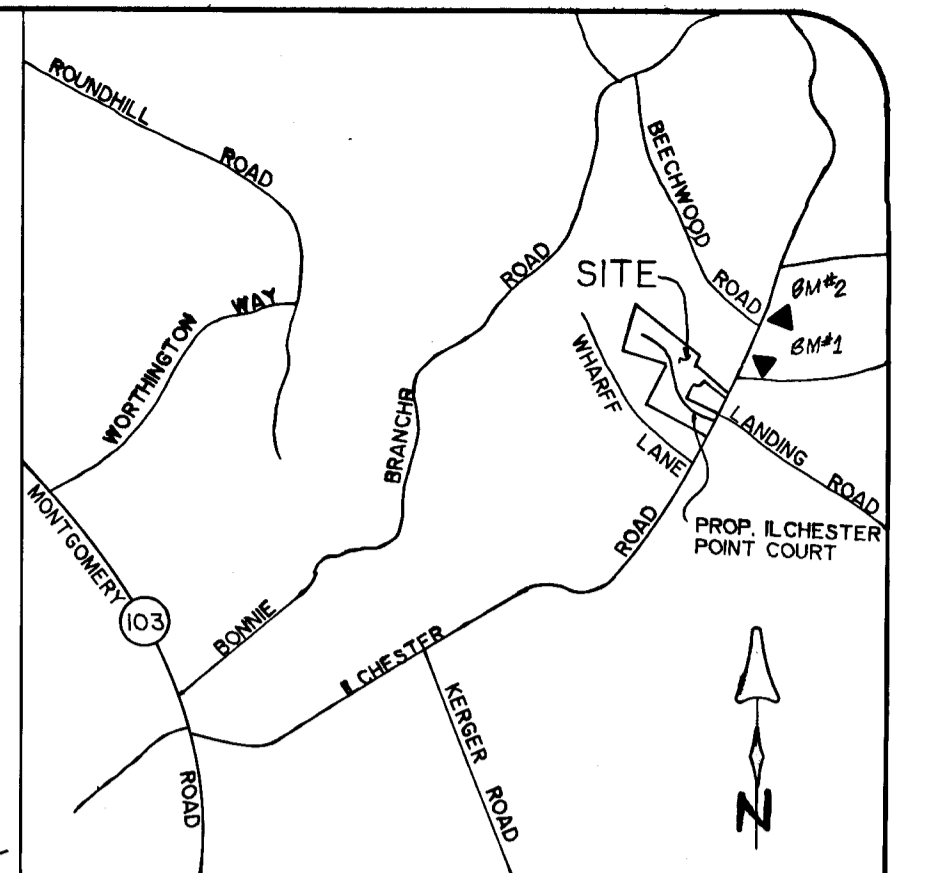


CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
CURVE 1	150.00'	145.44'	79.01'	139.81'	N76°11'58"W	55°33'16"
CURVE 2	300.00'	236.30'	124.67'	230.24'	N70°59'16"W	45°07'51"

BM 1 Ho. Co. No. 2845007
ELEV. = 478.24
N 511586.1990
E 865085.329

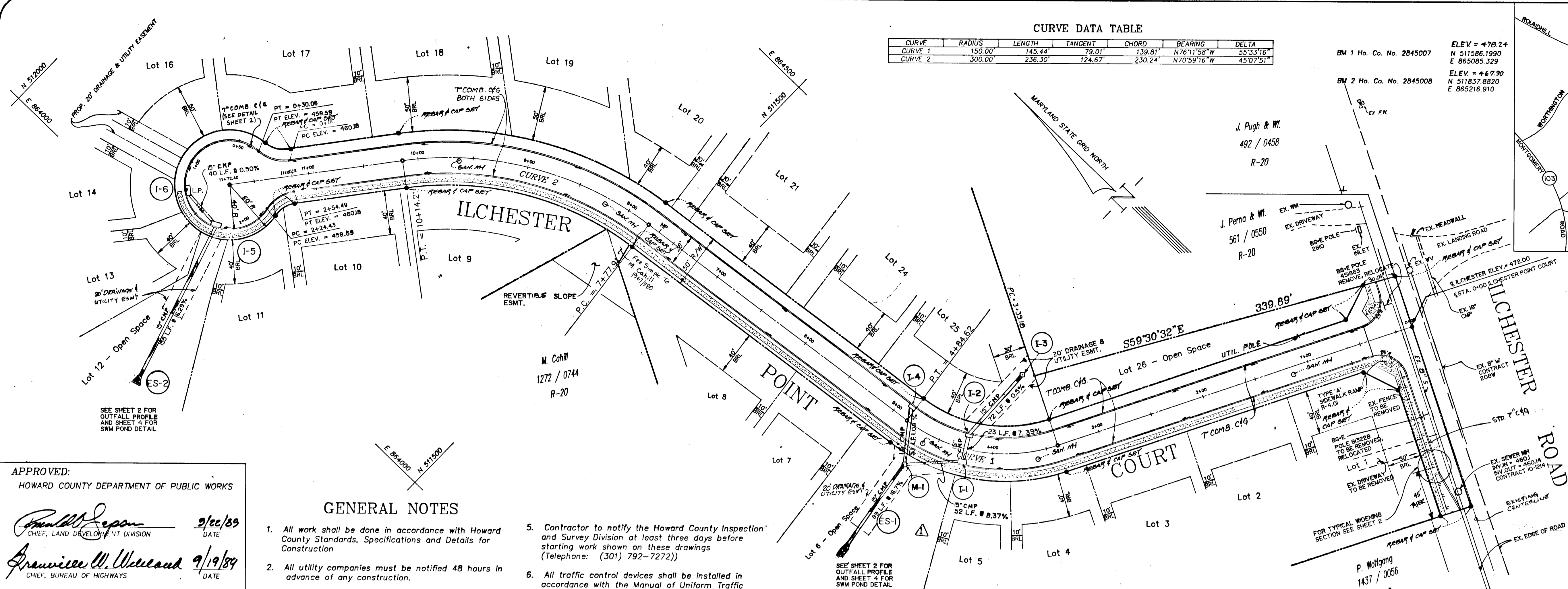
BM 2 Ho. Co. No. 2845008
ELEV. = 447.90
N 511837.8820
E 865216.910



VICINITY MAP
SCALE: 1" = 2000'

OWNER/DEVELOPER
Ilchester Road Property Partnership
c/o Land Design and Development
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. John Reuer

ENGINEER
Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078
ATTN: Robert M. Mochi, P.E.



APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Howard W. Wilson 9/22/89
CHIEF, LAND DEVELOPMENT DIVISION
DATE

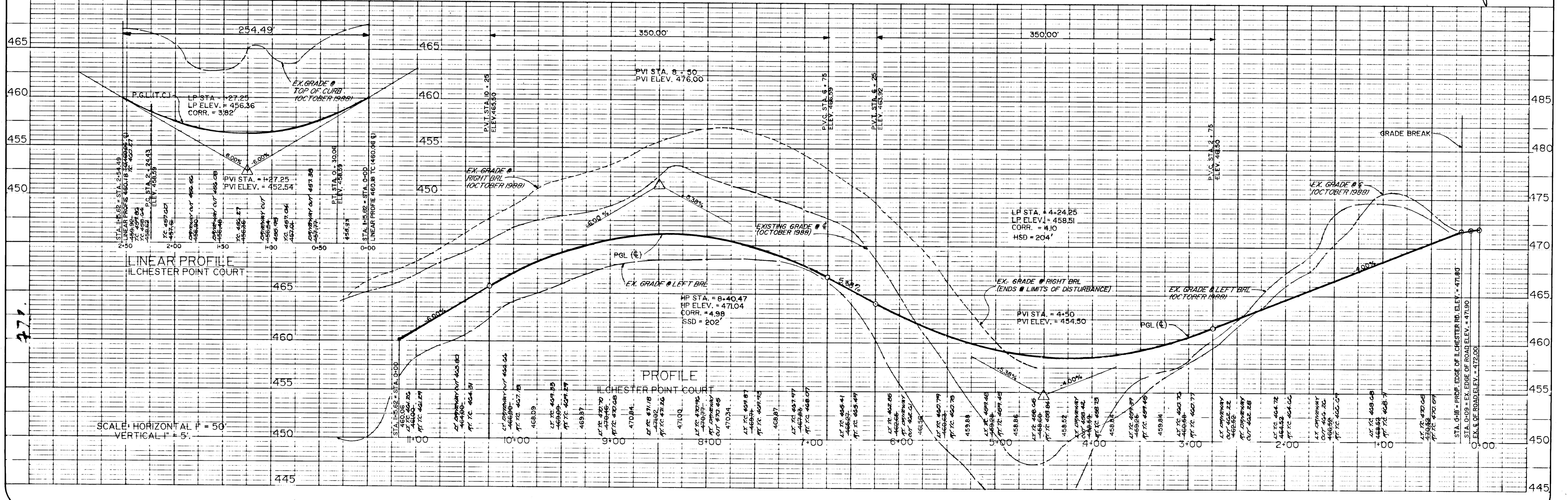
Francis W. Wallace 9/19/89
CHIEF, BUREAU OF HIGHWAYS
DATE

Maxim & Ray 9-25-89
CHIEF, BUREAU OF ENGINEERING
DATE

APPROVED: DEPT. OF PLANNING AND ZONING
Paula S. Vaughn 11/1/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
DATE

GENERAL NOTES

- All work shall be done in accordance with Howard County Standards, Specifications and Details for Construction.
- All utility companies must be notified 48 hours in advance of any construction.
- Storm drainage trenches within road rights-of-way shall be backfilled and compacted in accordance with Howard County Road Code.
- Any damage to public rights-of-way or paving will be corrected at the contractor's expense.
- Contractor to notify the Howard County Inspection and Survey Division at least three days before starting work shown on these drawings (Telephone: (301) 792-7272).
- All traffic control devices shall be installed in accordance with the Manual of Uniform Traffic Control Devices, 1984 Revised Edition.
- Location of existing utilities shall be verified by the contractor prior to starting any work shown on these drawings. Any damage to existing utilities will be corrected at the contractor's expense.



1473

PROJECT: 88046.00
DATE: 2/89
ILLUSTRATION: 7/19/90
ENGINEERING: 8/22/89
CAM: 9/12/89
CAM/REV: 7/16/89
APPROVAL: 6/6/89
SCALE: 1" = 50'
REVISIONS:

1. REVISED CIV TYPE
2. CHANGE CONCRETE STRUCTURES TO METAL
3. SUGGEST FOR SIGNATURES
4. REVISED PER SCS COMMENTS 6/19/89 - CAM
5. FIRST SUBMISSION TO HOWARD CO. OF E

ILCHESTER LANDING
TAX MAP 31 PARCELS 583 & 150
ELECTION DISTRICT No. 1 HOWARD COUNTY, MARYLAND
ILCHESTER POINT COURT PLAN & PROFILE

MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3330
(301) 461-0078 D.C. Metro, (301) 671-5768

1 of 7

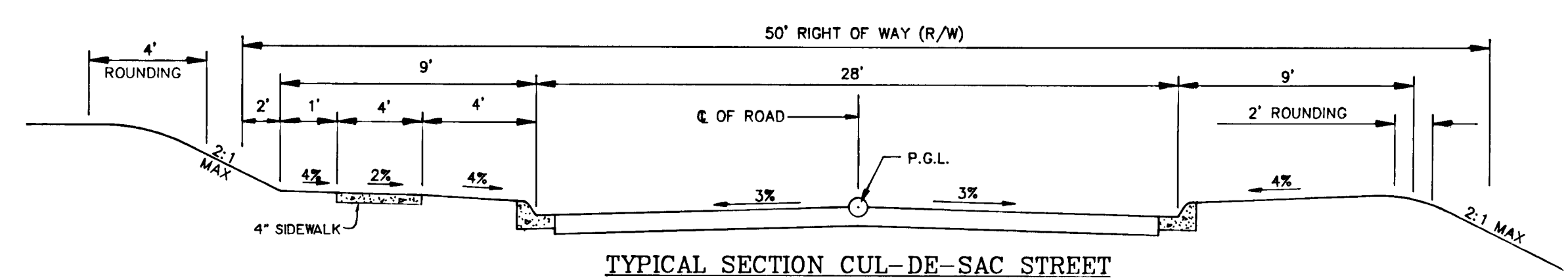
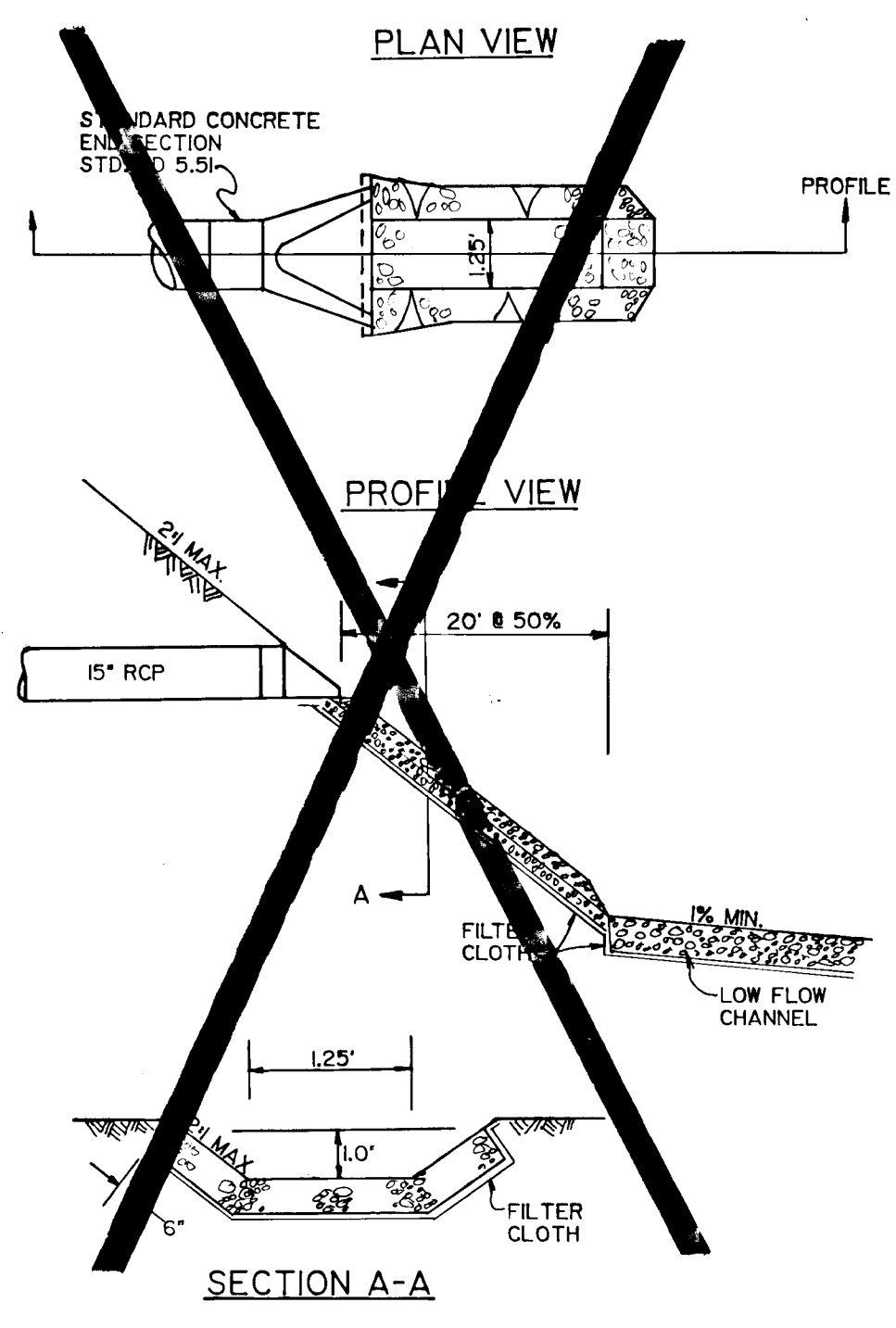
PROJECT	88046.00	DATE	3/89
ILLUSTRATION	LSM	ENGINEERING	CAM
SCALE	AS SHOWN	APPROVAL	RMM
REV.	1	DATE	1/27/89
REV.	2	DATE	9/22/89
REV.	3	DATE	7/17/89
REV.	4	DATE	6/15/89

CHANGE CONCRETE STRUCTURES TO METAL CURBS FOR DRIVEWAYS
 REVISION FOR SCS COMMENTS 6/1/89 - CAM
 FIRST JOB/ISSUE TO REMARKS CO. OF E

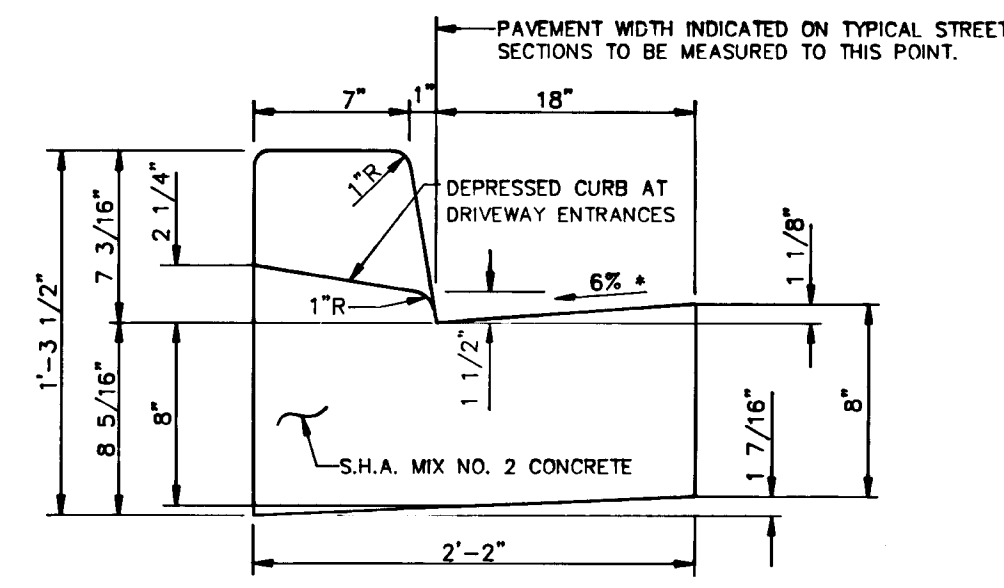
ILCHESTER LANDING
 TAX MAP No. 31 PARCEL 583 & 150
 ELECTION DISTRICT No. 1 HOWARD COUNTY, MARYLAND
 STORM DRAIN PROFILES AND DETAILS

LOENBERG, JOCH & ASSOCIATES, INC.
 ENGINEERS - PLANNERS - ARCHITECTS
 3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
 (301) 461-0078 D.C. Metro. (301) 627-5788

DETAIL NO. 1
NOT TO SCALE

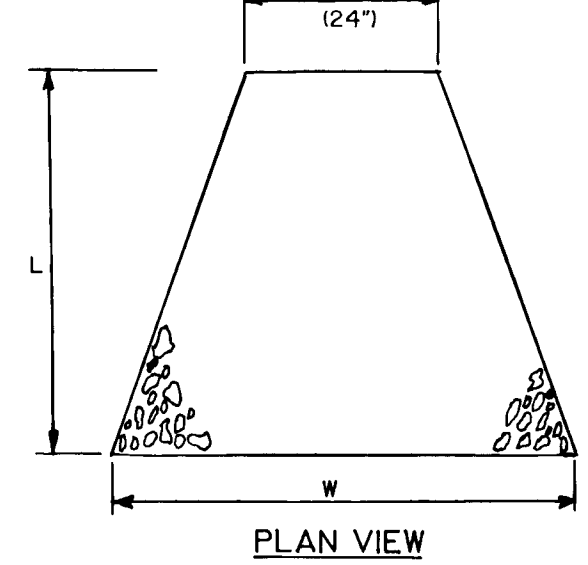


TYPICAL SECTION CUL-DE-SAC STREET
 50' RIGHT OF WAY
 DESIGN SPEED = 30 MPH
 ILCHESTER POINT COURT
 STA. 0+00 TO STA. 11+15.62
 NOT TO SCALE
 ZONING DISTRICT: R-20

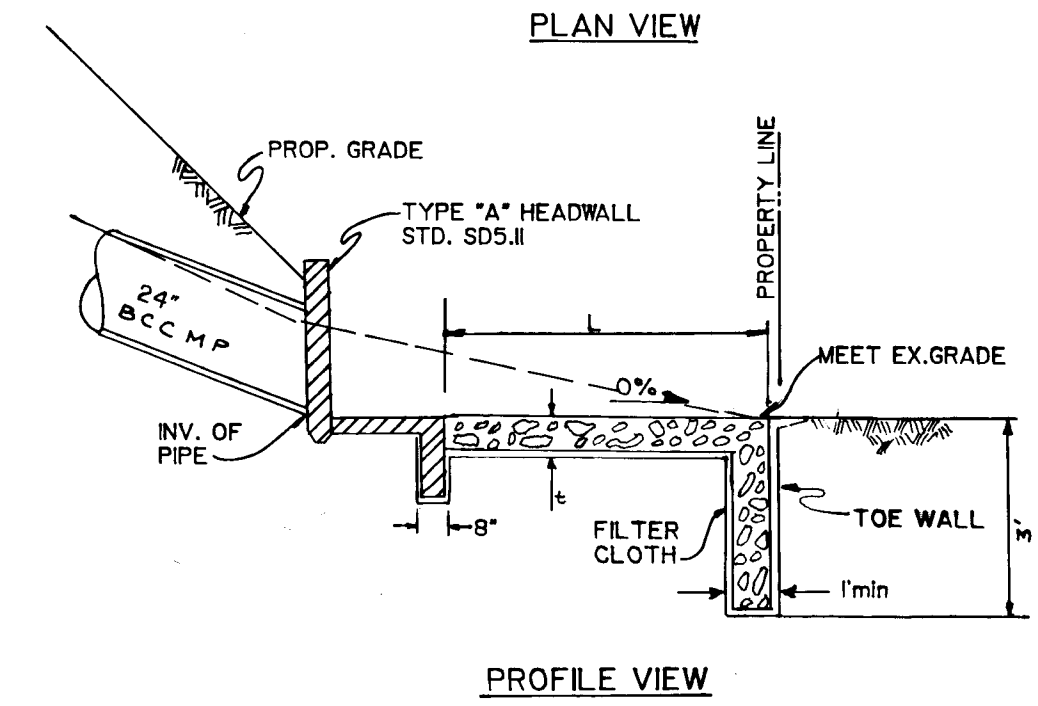


STANDARD 7" COMBINATION CURB AND GUTTER

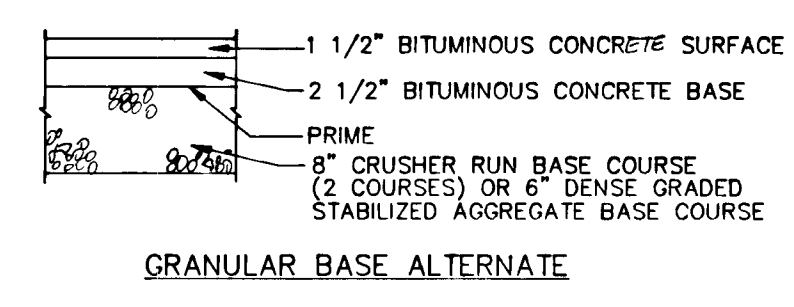
SWM DETAIL NO. 2
NOT TO SCALE
(SEE SHEET 8 OF 7 FOR PLAN VIEW)



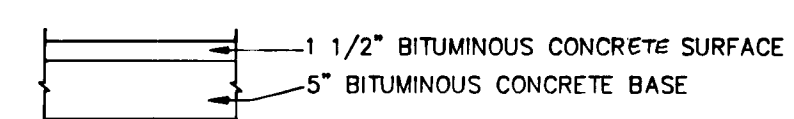
PLAN VIEW



PROFILE VIEW

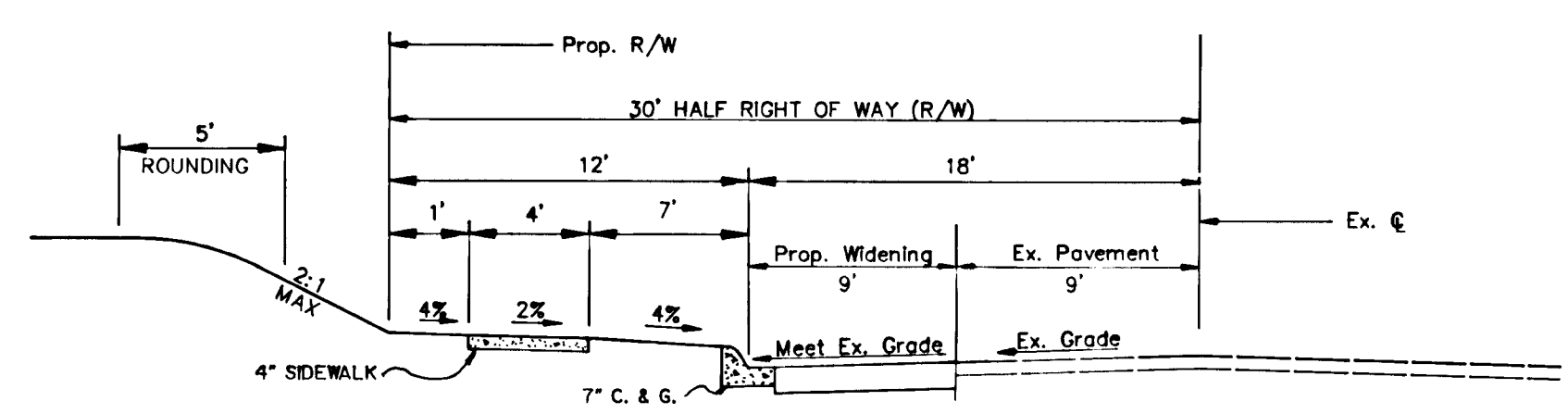


GRANULAR BASE ALTERNATE

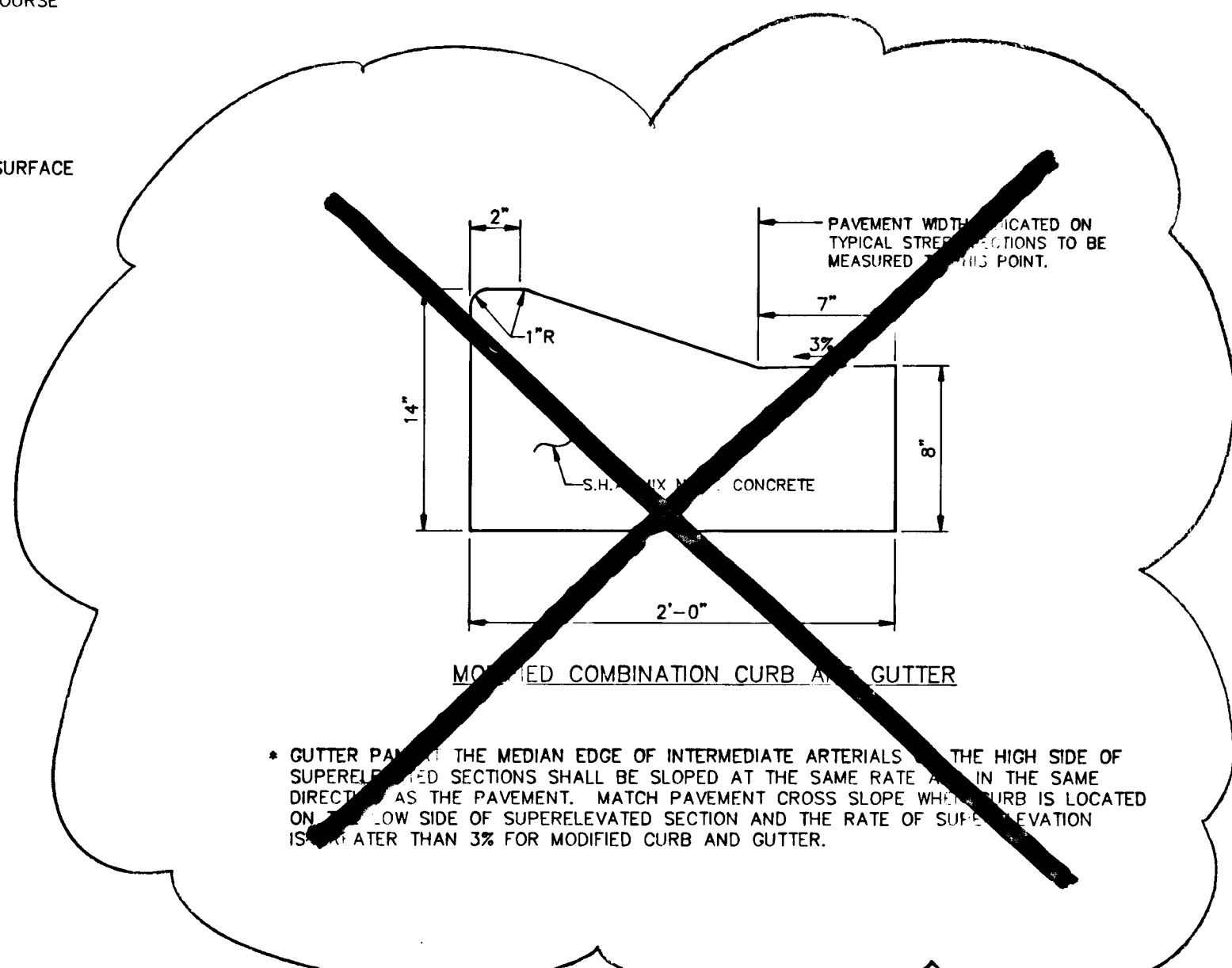


FULL DEPTH BITUMINOUS CONCRETE ALTERNATE

PAVING SECTION P-2
NOT TO SCALE



TYPICAL SECTION FOR WIDENING OF ILCHESTER ROAD
 MINOR COLLECTOR
 60' HALF RIGHT OF WAY
 DESIGN SPEED = 35 MPH
 NOT TO SCALE
 ZONING DISTRICT: R-20



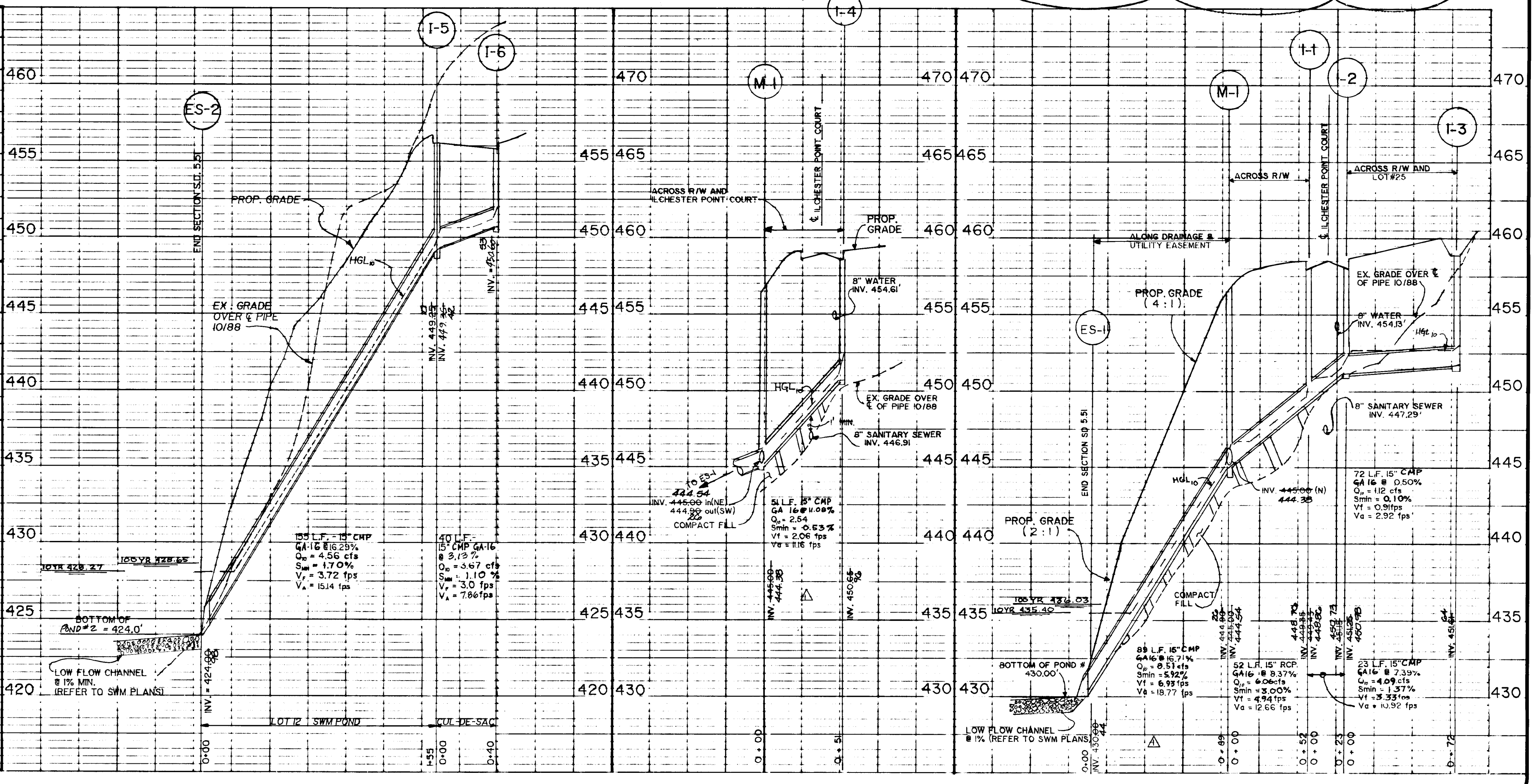
* GUTTER PAVED TO THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS. THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Donald Egan 9/22/89
 CHIEF, LAND DEVELOPMENT DIVISION
Francisco H. Weiland 9/19/89
 CHIEF, BUREAU OF HIGHWAYS
William J. Riley 9-25-89
 CHIEF, BUREAU OF ENGINEERING
 APPROVED: DEPT. OF PLANNING AND ZONING
John S. Ziegler 11/16/85
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

STRUCTURE NUMBER	TYPE	INV. IN	INV. OUT	* TOP	€ STA. O/S	REMARKS (DRWGS.)
I-1	WR INLET	448.85	448.75	450.10	4+25.14L	S.D. 4.34
I-2	WR INLET	451.25	451.15	450.10	4+25.14R	S.D. 4.34
I-3	YARD INLET	450.95	450.85	450.00	3+49.18 70R	S.D. 4.14
I-4	WR INLET	450.95	450.85	450.00	4+87.62 14R	S.D. 4.34
I-5	WR INLET	440.35	440.25	450.00	L.P. 1+70	S.D. 4.34
I-6	WR INLET	444.35	444.25	450.00	L.P. 1+27.25	S.D. 4.34
M-1	PRECAST MANHOLE	444.35	444.25	457.00	4+67.35L	G. 5.11
ES-1	METAL END SECT.	430.00	430.00	430.00	4+70.89L	S.D. 5.61
ES-2	METAL END SECT.	424.75	424.75	424.75	L.P. 1+63	S.D. 5.61

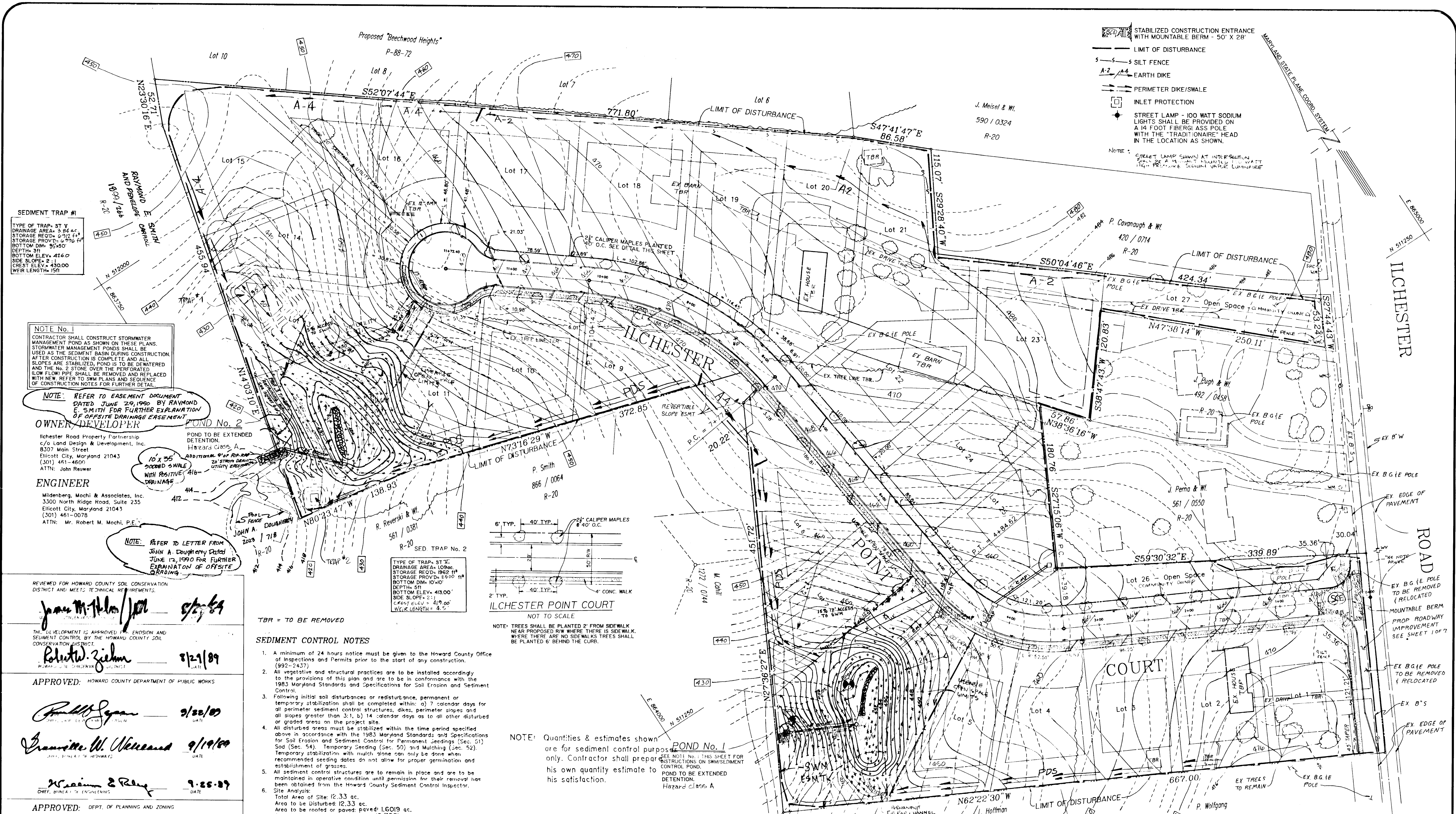
* TOP OF INLET = STREET GRADE ELEV.

OUTFALL POINT	STONE SIZE (d ₅₀)	WIDTH (W)	LENGTH (L)	THICKNESS
POND #1	6 inches	12 feet	10 feet	14 inches
POND #2	6 inches	12 feet	10 feet	14 inches



PROFILES
 SCALE: 1" = 50' HORIZ.
 1" = 5' VERT.
 SEE SHEET 1 FOR PLAN VIEW

1472



SEDIMENT TRAP #1
 TYPE OF TRAP: ST V
 DRAINAGE AREA: 3.84 ac.
 STORAGE REQUIRED: 672 cu ft
 STORAGE PROVIDED: 672 cu ft
 BOTTOM DIA: 35' x 50'
 SIDE SLOPE: 2:1
 CREST ELEV.: 430.00
 WEIR LENGTH: 15ft

NOTE No. 1
 CONTRACTOR SHALL CONSTRUCT STORMWATER MANAGEMENT POND AS SHOWN ON THESE PLANS. STORMWATER MANAGEMENT PONDS SHALL BE USED AS THE SEDIMENT BASIN DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETE AND ALL SLOPES ARE STABILIZED, POND IS TO BE DEMONTERED AND THE NO. 2 STONE OVER THE PERFORATED LOW FLOW PIPE SHALL BE REMOVED AND REPLACED WITH NEW. REFER TO SWM PLANS AND SEQUENCE OF CONSTRUCTION NOTES FOR FURTHER DETAIL.

NOTE: REFER TO EASEMENT DOCUMENT DATED JUNE 29, 1990 BY RAYMOND E. SMITH FOR FURTHER EXPLANATION OF OFFSITE DRAINAGE EASEMENT.

OWNER/DEVELOPER
 Ilchester Road Property Partnership
 c/o Land Design & Development, Inc.
 8307 Main Street
 Ellicott City, Maryland 21043
 (301) 451-4600
 ATTN: John Reuver

ENGINEER
 Mildenberg, Mochi & Associates, Inc.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (301) 461-0078
 ATTN: Mr. Robert M. Mochi, P.E.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
John M. Helm 8/2/89

THE DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
Robert W. Ziehm 8/2/89

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Paul W. Ryan 9/22/89

Granville W. Weiland 9/19/89

William E. Reilly 9-25-89

APPROVED: DEPT. OF PLANNING AND ZONING
David J. Zanger 9/1/89

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

John M. Helm June 5 '89
 Date

DEVELOPER'S CERTIFICATE
 I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this project will have a certificate of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.

Donald R. R. J. 6/2/89
 Signature of Developer Date

TBR = TO BE REMOVED

SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction. (892-2437)
- 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) 7 calendar days for all perimeter stabilization control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 calendar days as to all other disturbed or graded areas on the project site.
- 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 Landings (Sec. 51) Sod (Sec. 54), Temporary Seeding (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 Total Area of Site: 12.33 ac.
 Area to be Disturbed: 12.33 ac.
 Area to be seeded or paved: 16,019 sq. ft.
 Area to be vegetatively stabilized: 10,728 sq. ft.
 Total Cut: 46,000 cu. yd.
 Total Fill: 35,640 cu. yd.
 Off-Site Waste/Borrow Area Location: N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. Additional sediment controls must be provided, if deemed necessary by the Howard County SWM Sediment Control Inspector.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
 Seeding Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened).
 Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf).
 Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs/1000 sf). For the period May 1 through July 31, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through 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 sf) 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 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.
 Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rates and methods not covered.

ILCHESTER POINT COURT
 NOT TO SCALE

NOTE: Quantities & estimates shown are for sediment control purposes only. Contractor shall prepare his own quantity estimate to his satisfaction.

PERMANENT SEEDING NOTES

Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
 Seeding Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened).
 Soil Amendments: In lieu of soil test recommendations, use the following schedule:
 1) Preferred - Apply 2 tons per acre diomictic limestone (92 lbs/1000 sf) and 500 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 granular fertilizer (8 lbs/1000 sf).
 2) Acceptable - Apply 2 tons per acre diomictic limestone (92 lbs/1000 sf) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil.
 Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1 1/2 bushels/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through 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 sf) 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 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.
 Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

SEQUENCE OF CONSTRUCTION

- Obtain grading permit.
- Construct stabilized construction entrance, with mountable berm.
- Construct permanent stormwater management ponds, sediment traps and silt fences. All sediment control devices shall remain in place until final inspection. **DEWATERING DEVICES AT SWM SEDIMENT TRAPS.**
- Construct silt fences and earth dikes. Stabilize earth dikes with temporary seeding.
- Clear Ilchester Point Court.
- Construct storm drain systems as shown on plan. Place straw bale dikes or silt fences down grade of daily construction activities before commencing work.
- DO NOT PLACE SILT FENCE PROTECTION PER SEC. 50.6.2.
- Grade roads, construct base course and concrete curb and gutter and stabilize side slopes with permanent seed and mulch.
- Upon stabilization of graded areas, all accumulated sediment shall be removed from the storm drain system.
- During construction, sediment shall be removed from the stormwater management pond and traps when the elevation has been reached. (See SWM profile for elevations.)
- Stabilized construction entrance may be removed with approval of Sediment Control Inspector to facilitate paving activities.
- Clean base course. Apply tack coat to base course and lay surface course. Stabilize all shoulders using permanent seeding method.
- Inspect all sediment control devices daily and after each rainfall. Repair as necessary.
- When all contributing areas to sediment control devices have been permanently stabilized, remove sediment control devices, grade area disturbed, and provide permanent seed and mulch.
- Contractor shall remove sediment and flush storm drain system at end of construction period.
- Contractor shall remove the stormwater management pond and remove accumulated sediment. **The Dewatering Devices shall be removed.** **Install Headwalls as shown on Profiles. The pond shall be graded in accordance with this plan and stabilized using permanent seeding method.**
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter stabilization control structures, dikes, perimeter slopes and all slopes greater than 3:1, or b) 14 days for all other disturbed graded areas on the project site.
- Notify Howard County Office of Inspection and Permits for final inspection at duration of project.

- STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM - 50' X 28'
 - LIMIT OF DISTURBANCE
 - SILT FENCE
 - EARTH DIKE
 - PERIMETER DIKE/SWALE
 - INLET PROTECTION
 - STREET LAMP - 100 WATT SODIUM LIGHTS SHALL BE PROVIDED ON A 14 FOOT FIBERGLASS POLE WITH THE "TRADITIONAIRE" HEAD IN THE LOCATION AS SHOWN.
- NOTE:** STREET LAMP SHOWN AT INTERSECTION SHALL BE A 14 FOOT FIBERGLASS LIGHT POLE WITH 100 WATT SODIUM VAPOR LUMINAIRE

Project	date	3/89
88046.00	illustration	CAM
88046.00	description	CAM
88046.00	scale	1" = 50'

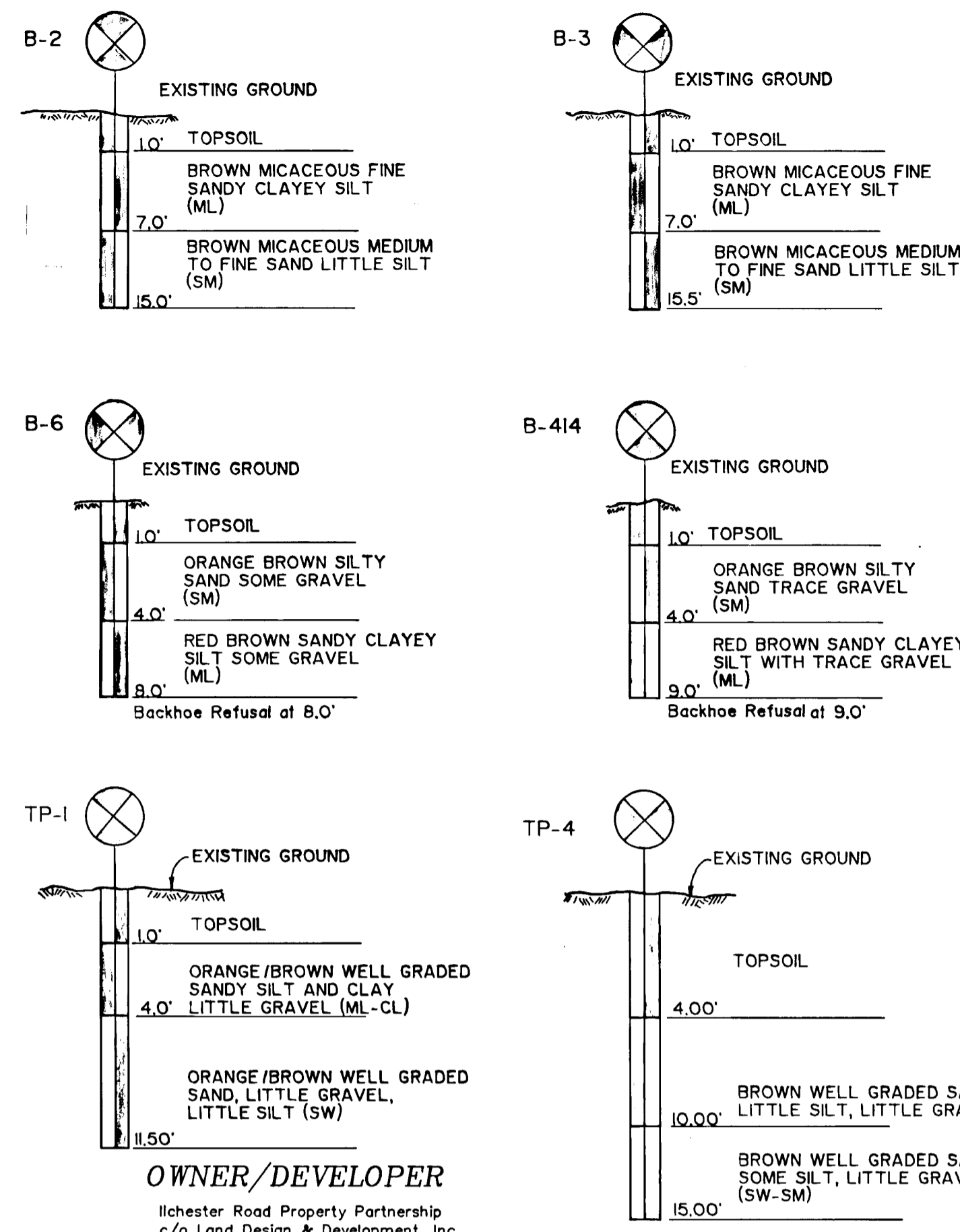
1	REVISION TO ADD BARRIERS AT CURB	5/22/89
2	REVISION TO ADD BARRIERS AT CURB	9/12/89
3	REVISIONS PER BUREAU OF HIGHWAYS	8/12/89
4	REVISIONS PER S.C.S. COMMENTS	7/15/89
5	REVISIONS PER S.C.S. COMMENTS	6/19/89
6	FIRST SUBMISSION TO HO. CO. OFE	6/16/89

ILCHESTER LANDING
 TAX MAP 31 PARCELS 583 & 150
 ELECTION DISTRICT No. 1 HOWARD COUNTY, MARYLAND
GRADING & SEDIMENT CONTROL PLAN

MILDENBERG, MOCHI & ASSOCIATES, INC.
 ENGINEERS & ARCHITECTS
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043-3150
 (301) 461-0078
 FAX: (301) 461-0079



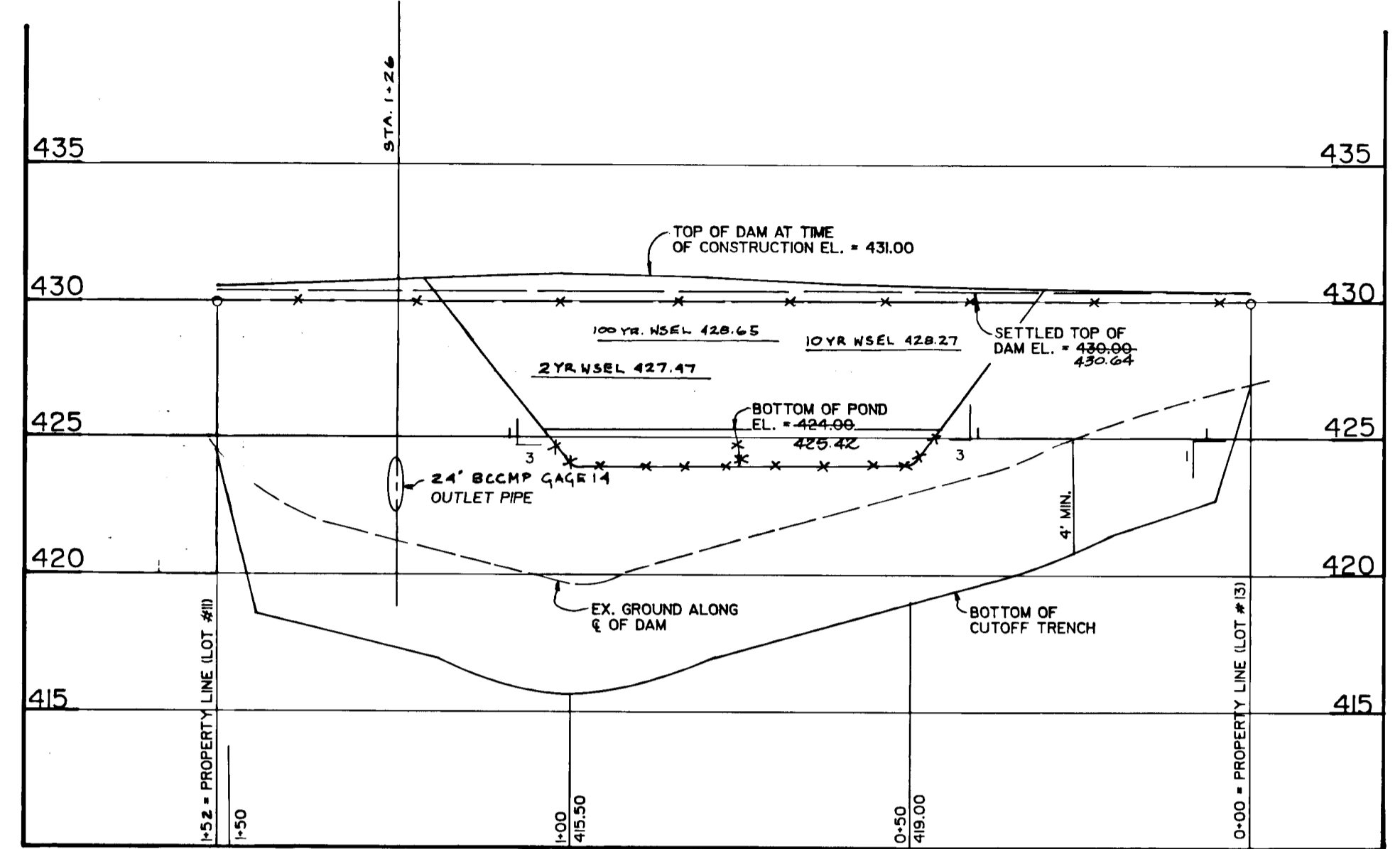
147B



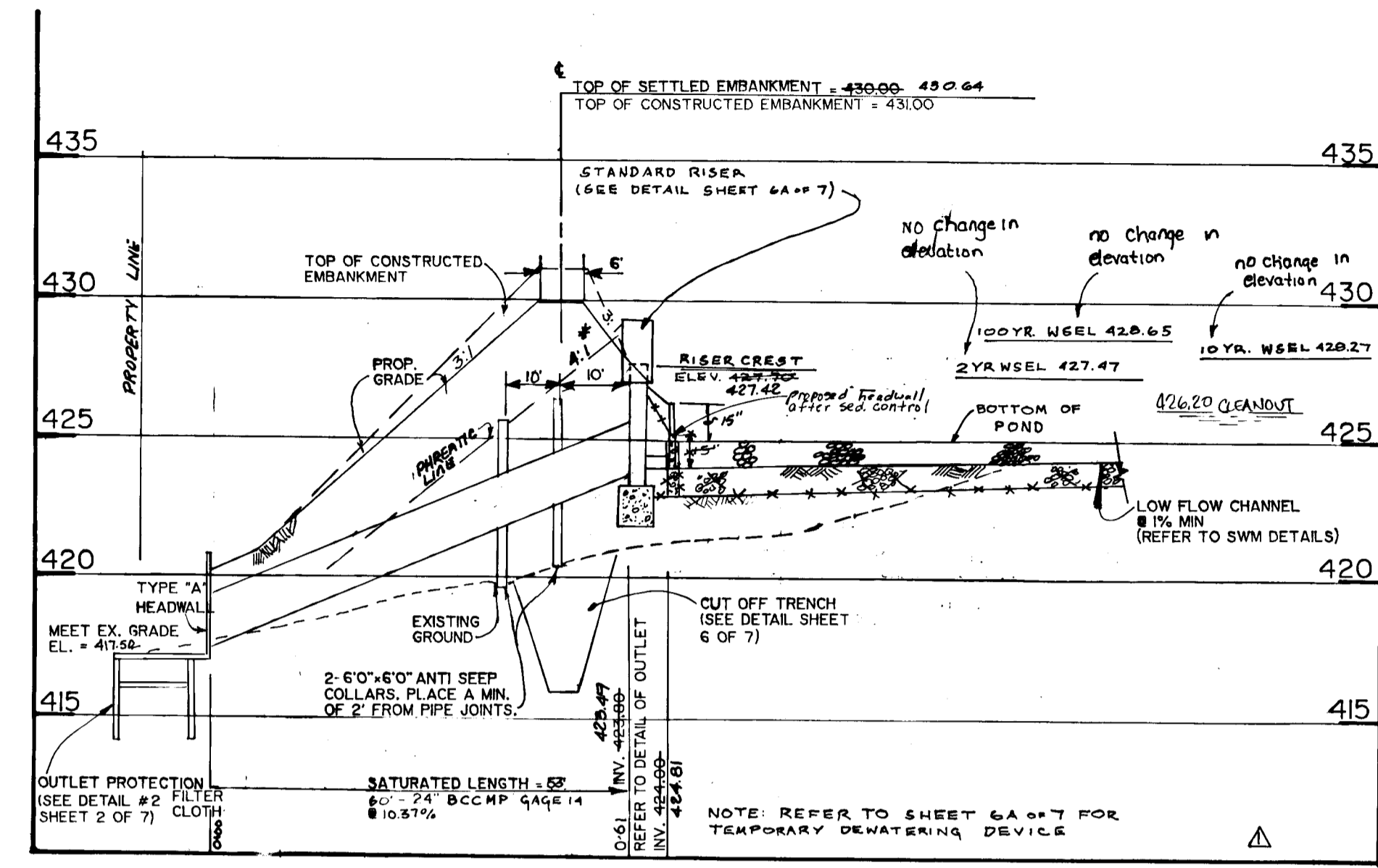
* NOTE: SOIL BORINGS B-2, B-3, B-6, B-414 EXCAVATED 7/18/89
SOIL BORINGS TP-1 & TP-4 EXCAVATED 12/88

OWNER/DEVELOPER
Ilchester Road Property Partnership
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4800
ATTN: Mr. JOHN REUWER

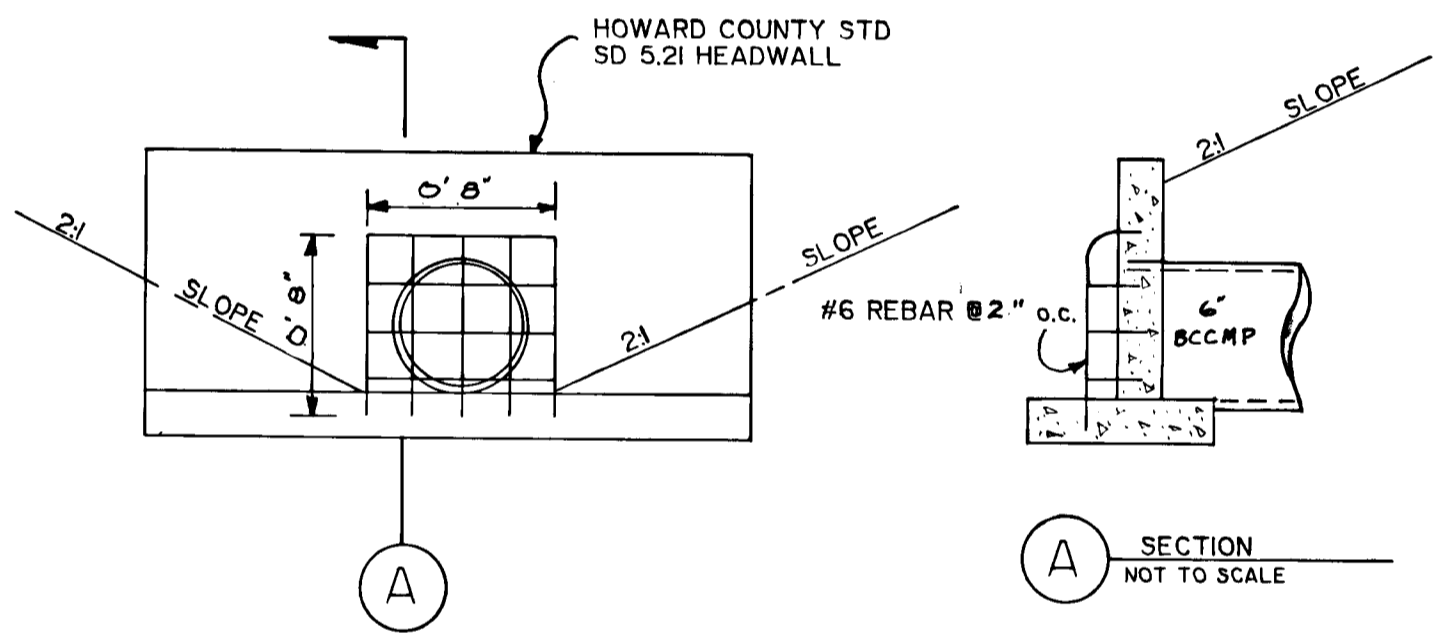
ENGINEER
Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078
ATTN: Mr. Robert M. Mochi, P.E.



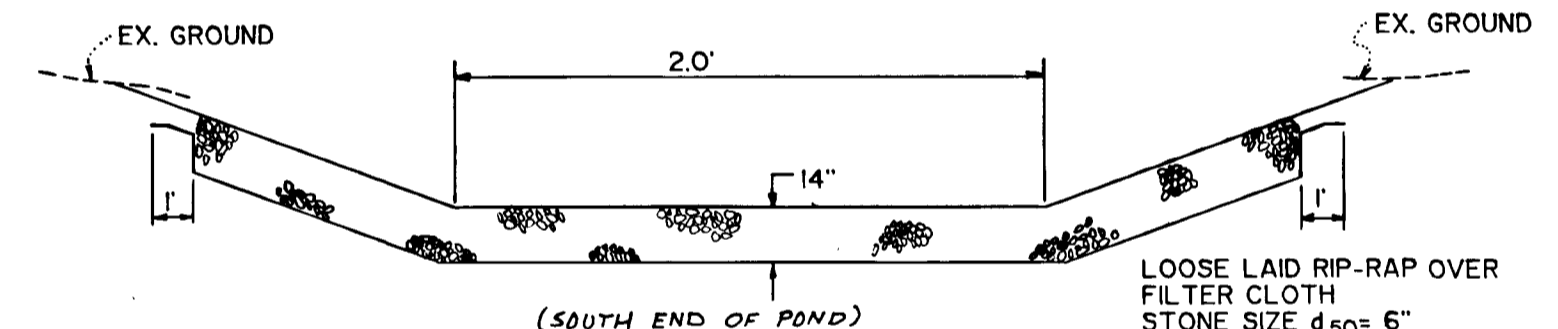
POND No. 2
PROFILE - ϕ OF DAM
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



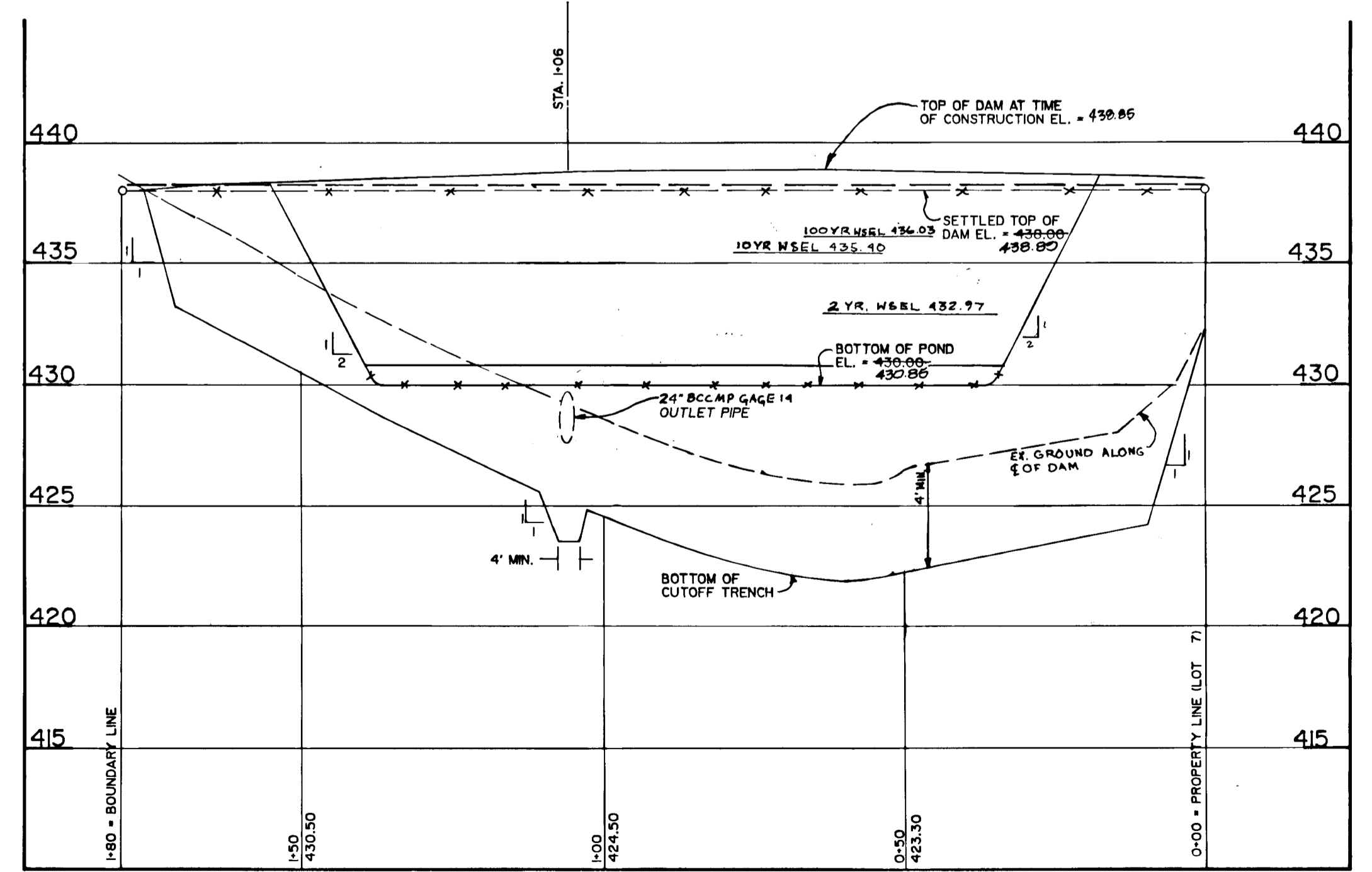
SWM PRINCIPAL SPILLWAY POND No. 2
(PROFILE FROM ϕ OF PIPE)
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



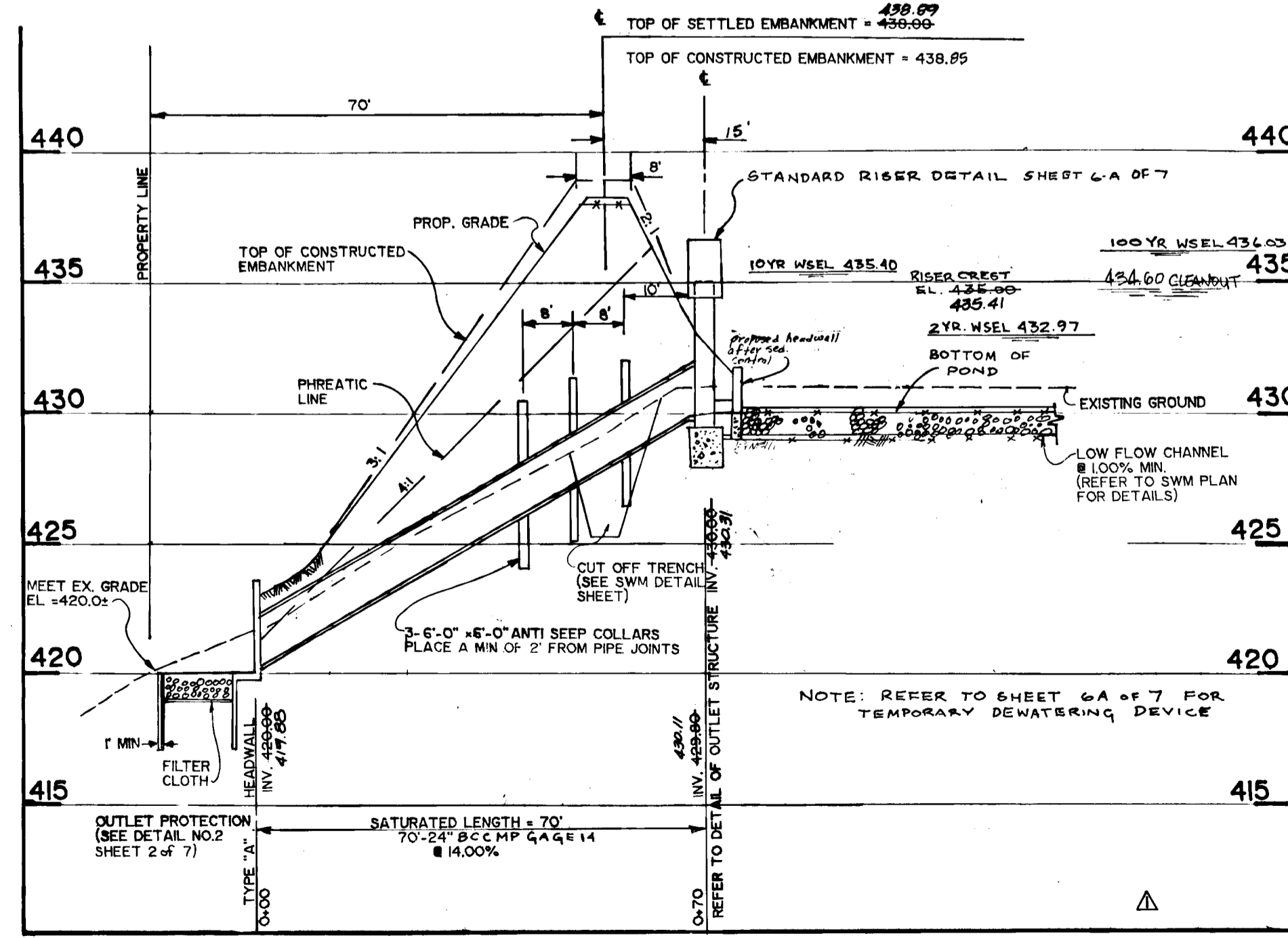
HEADWALL WITH TRASH RACK DETAIL
NOT TO SCALE



RIP-RAP CHANNEL @ POND #1
NOT TO SCALE
NOTE: SEE SHEET 6 OF 7 FOR LOW FLOW CHANNEL FROM OUTFALL PIPE ON NORTH SIDE OF POND #1



POND No. 1
PROFILE - ϕ OF DAM
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



SWM PRINCIPAL SPILLWAY POND No. 1
(PROFILE FROM ϕ OF PIPE)
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

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 M. Helm / JMH 8/24/89
SOIL CONSERVATION SERVICE

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

Robert W. Ziehm 8/21/89
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Frank H. Seaton 9/20/89
CHIEF, LAND DEVELOPMENT DIVISION

Francis W. Weiland 9/19/89
CHIEF, BUREAU OF HIGHWAYS

William E. Riley 9-25-89
CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPT. OF PLANNING AND ZONING

Charles A. Langley 11/6/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

ENGINEER'S CERTIFICATE
I CERTIFY 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.

John M. Kelly June 5 '89
Date

DEVELOPER'S CERTIFICATE
I HEREBY 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.

Robert R. Kelly 4/2/89
Signature of Developer Date



Project	88048.00	Date	4/89
Illustration	JHW/LSM	Engineering	CAM
Scale	AS SHOWN	Approval	RMM

Revisions	5/25/89	Date	5/25/89
1	REVISION PER REQUEST OF DISTRICT (AWWA)	Description	CHANGE CONCRETE STRUCTURES TO LETT...
2	REVISIONS PER BUREAU OF HIGHWAYS	Description	REVISIONS PER BUREAU OF HIGHWAYS
3	REVISIONS PER PCS COMMENTS 6/18/89 - CAM	Description	REVISIONS PER PCS COMMENTS 6/18/89 - CAM
4	First Submission to Howard Co. Dept.	Description	First Submission to Howard Co. Dept.

ILCHESTER LANDING
TAX MAP 31 PARCELS 583 & 150
ELECTION DISTRICT No. 1 HOWARD COUNTY, MARYLAND
STORMWATER MANAGEMENT PROFILES

MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS - ARCHITECTS - PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3300
(301) 461-0078 D.C. Metro: (301) 601-0768

147B

STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS

1. GENERAL

Unless otherwise noted, all materials and construction shall conform to these plans and specifications, and to the following:

"Standard Specifications and Details for Construction" of the Howard County, Maryland, Department of Public Works, 1986 and as amended.

"Standard Specifications for Construction and Materials" of the Maryland State Highway Administration, 1982 and as amended.

"Standards and Specifications for Ponds" of the Soil Conservation Service of Maryland (MD-378), July 1981 and as amended.

2. 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 pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on these plans. Trees, brush and stumps shall be cut approximately level with the ground surface.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam or reservoir as directed by the Developer 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.

3. EARTHWORK AND EARTH FILL

3.1 Material

The earth fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable material. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased ten (10) percent above the design elevation (including freeboard) unless otherwise shown on the plans. All fill material shall meet the requirements of the Unified Soil Classifications CL or ML unless otherwise noted.

3.2 Placement

Areas on which earth fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in eight (8) inches maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

3.3 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 a minimum of four (4) complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture so that it can be formed into a ball without crumbling. If water can be squeezed out of the ball, it is too wet to compact properly. Each layer of fill shall be compacted as necessary to obtain ninety-five (95) percent of ASSHTO T-99 and is to be certified by the Geotechnical Engineer.

3.4 Cutoff Trench

Where specified, a Cutoff Trench shall be excavated along or parallel to the centerline of the embankment as shown on these plans. The bottom width of the Trench shall be as shown on the drawings, with the minimum width being four (4) feet. The depth shall be as shown on the plans and shall be at least four (4) feet below existing grade. The side slopes of the Trench shall be 1:1 or flatter. The backfill material for the Cutoff Trench shall be compacted with equipment or rollers to assure maximum density and minimum permeability. Compact as outlined above to ninety-five (95) percent of ASSHTO T-99 density. All Cutoff Trench backfill material shall meet the requirements of Unified Soil Classification ML, CL, MH or CH.

3.5 Structural Backfill

Backfill material to be placed adjacent to structures shall be of the type and quality conforming to that specified for the adjoining fill material. The backfill shall be placed in horizontal layers not to exceed four (4) inches in thickness and compacted by hand tampers or other 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 (4) 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 compacted fill of twenty-four (24) inches or greater over the structure pipe.

4. PIPE CONDUITS

4.1 Corrugated Metal Pipe

Materials - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to all of 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.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around. Watertight coupling bands shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered watertight.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unsuitable soil is encountered, all such material shall be removed and replaced with suitable earth to provide adequate support.

Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

4.2 Reinforced Concrete Pipe

Materials - Reinforced concrete pipe conduits shall have a rubber gasket joint and shall equal or exceed ASTM Specifications C-361. An approved equivalent is AWWA Specification C-301.

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 the sides of the pipe at least ten (10) percent of its outside diameter with a minimum thickness of three (3) inches or as shown on the drawings.

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.

4.3 Backfilling and Other Details

Backfilling shall conform to Structural Backfill as shown above. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

5. STRUCTURES

Concrete structures shall meet minimum requirements set forth in the Maryland State Highway Administration "Standards and Specifications for Construction and Materials," 1982, as amended, including:

5.1 Concrete

Section 918 (Portland Cement Concrete Mixtures), Mix No. 3

5.2 Reinforcement

Section 610 (Reinforcing for Concrete Structures)
Section 911 (Reinforcing Steel, Wire Rope and Wire Fabric)

In addition, reinforcing steel shall meet ASTM Specification A615, Grade 60. Steel angles, anchor bars and appurtenances shall be ASTM A36.

6. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spoil and borrow areas, and berms shall be stabilized in accordance with the specifications shown hereon and with the "1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control" as amended, immediately after finishing grading. All 2:1 slopes shall be sodded. Unless otherwise noted, all other disturbed areas shall be stabilized with permanent seeding.

Fertilizer: 10-10-10
Seed: Crownvetch inoculated
XY-31 Tall Fescue
Mulch: Straw
Asphalt Tie-down: Slopes
Flat areas:

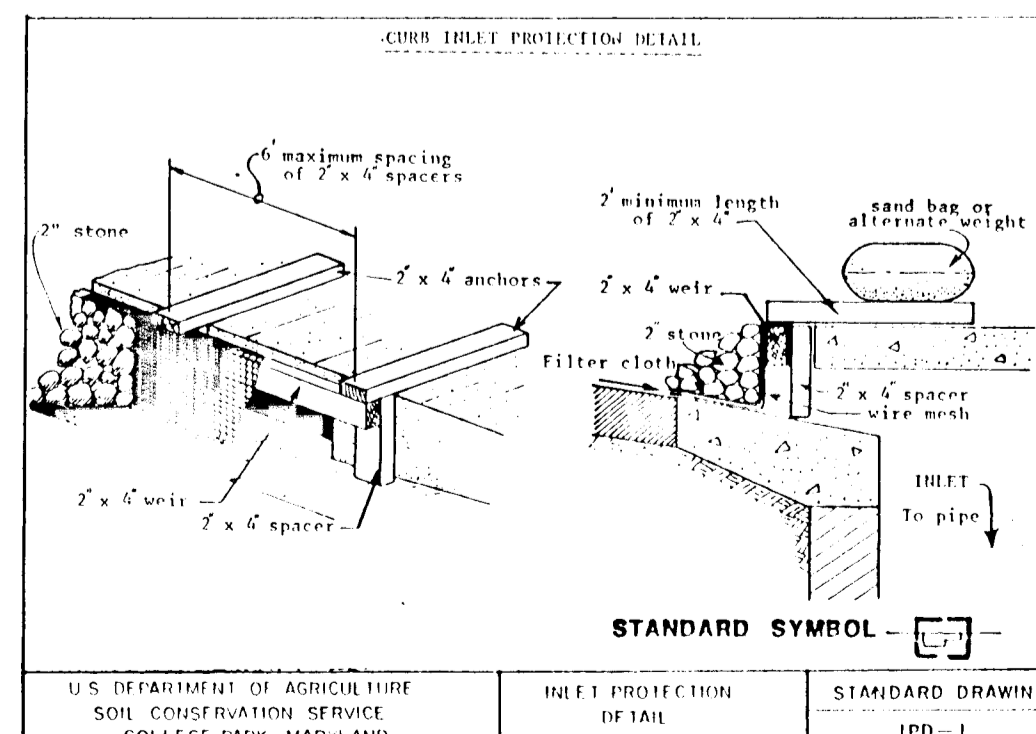
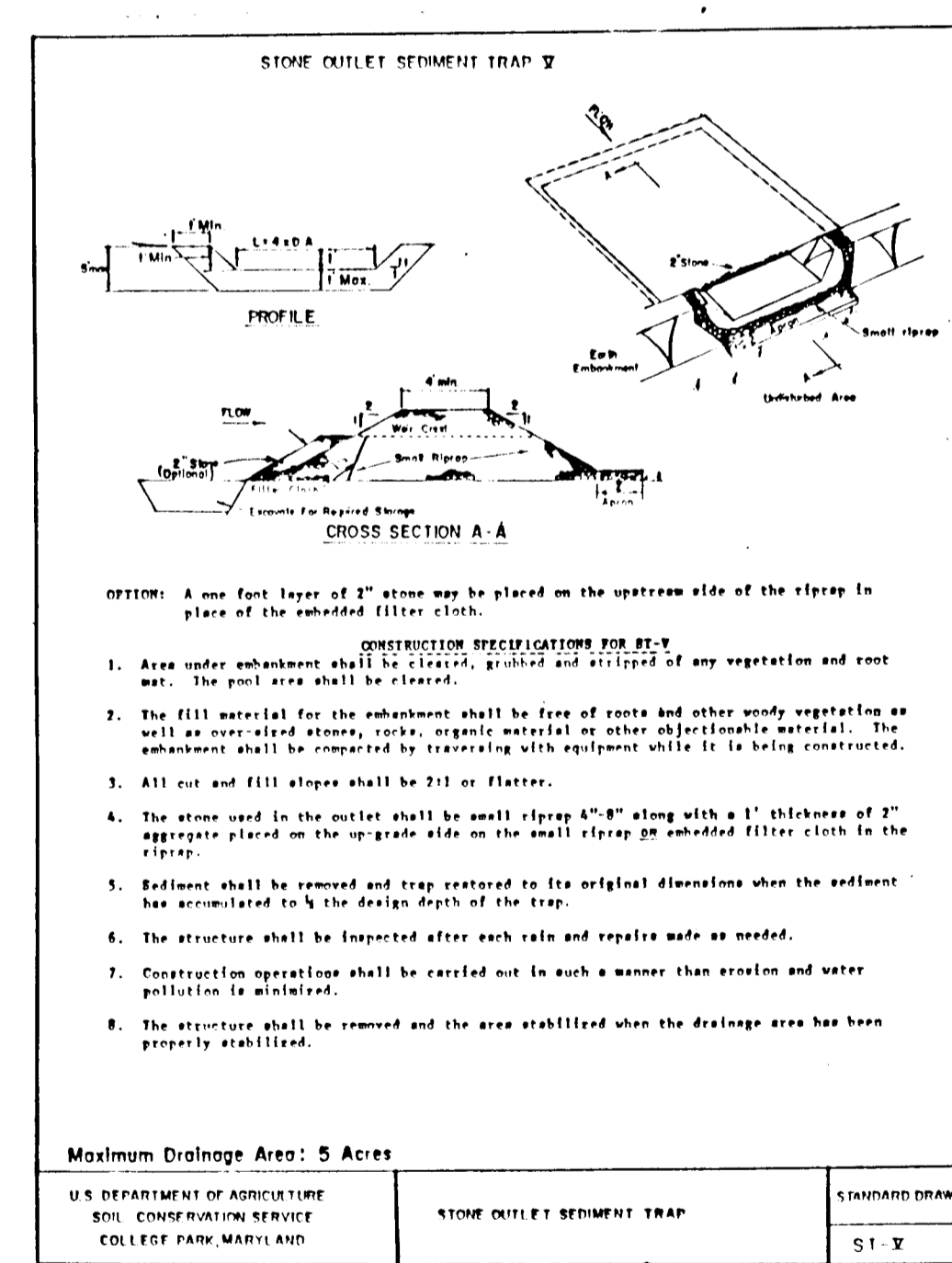
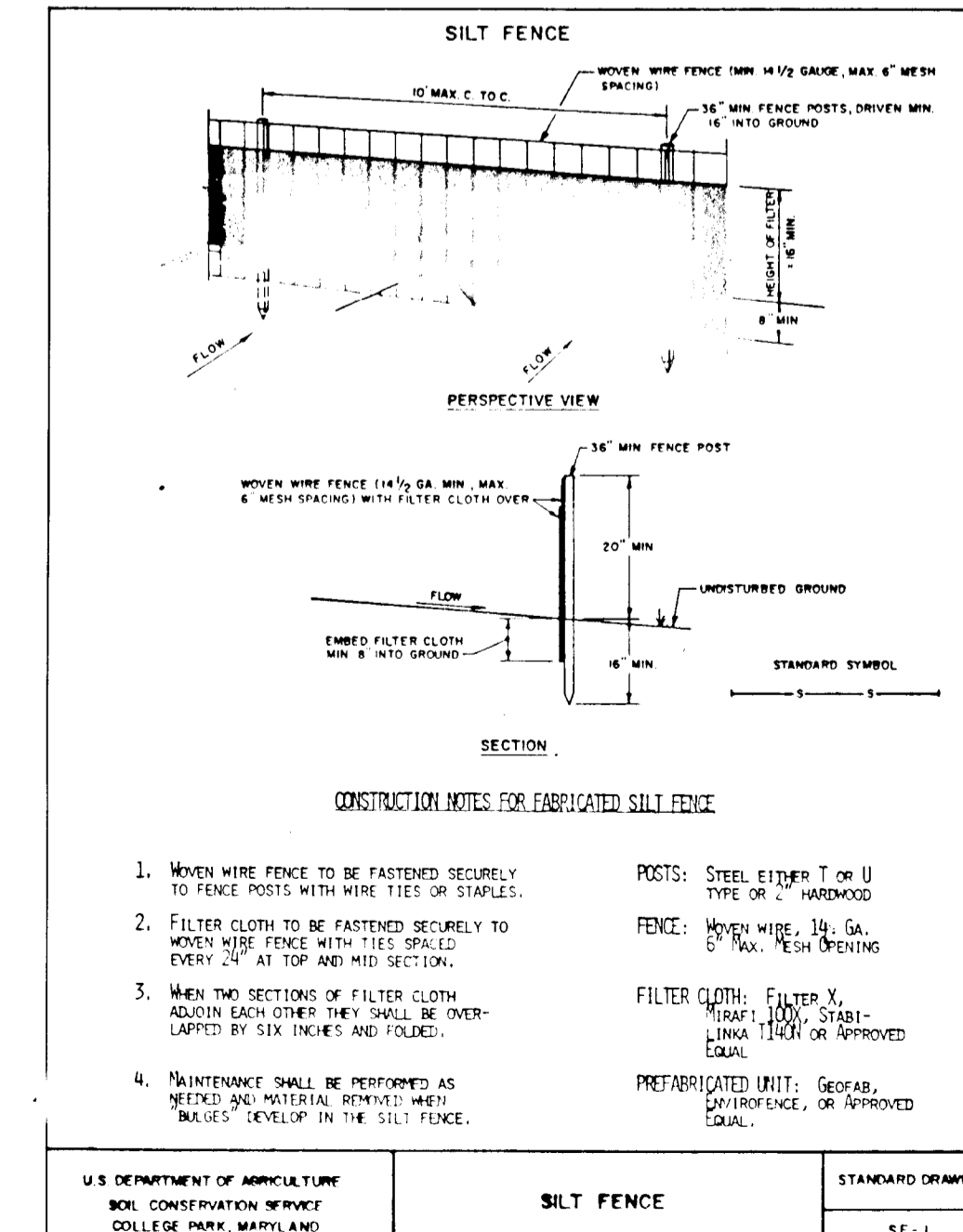
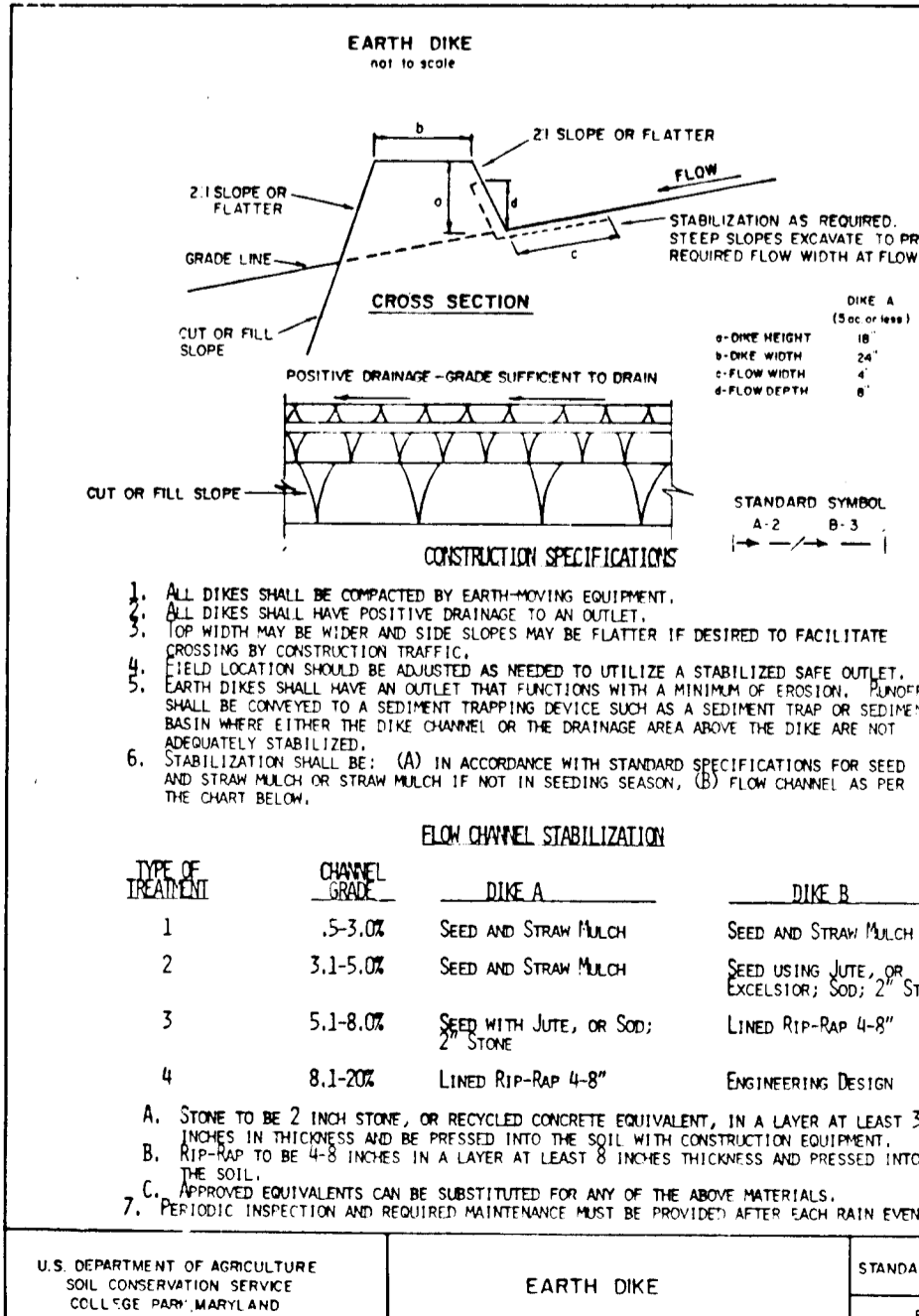
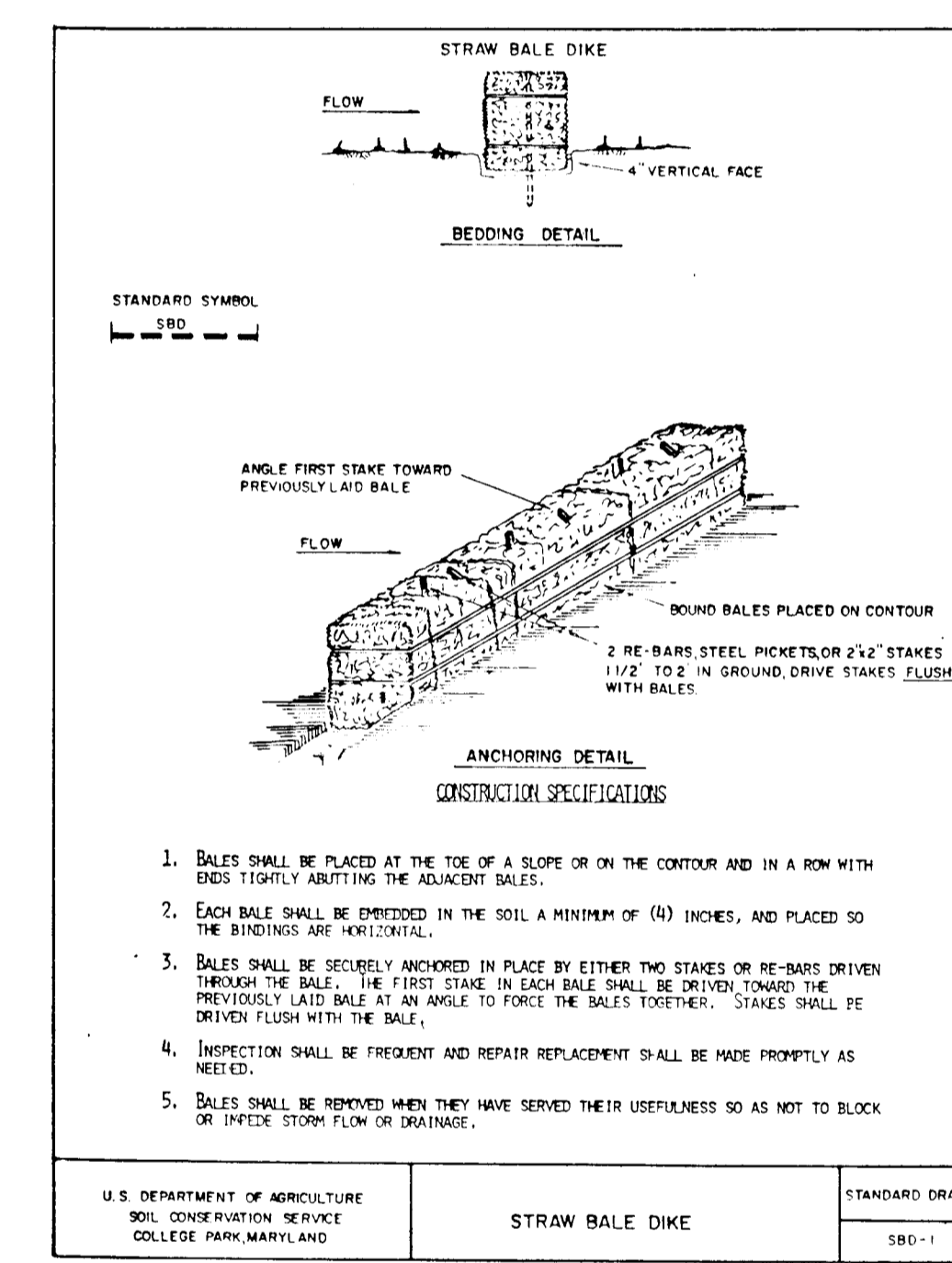
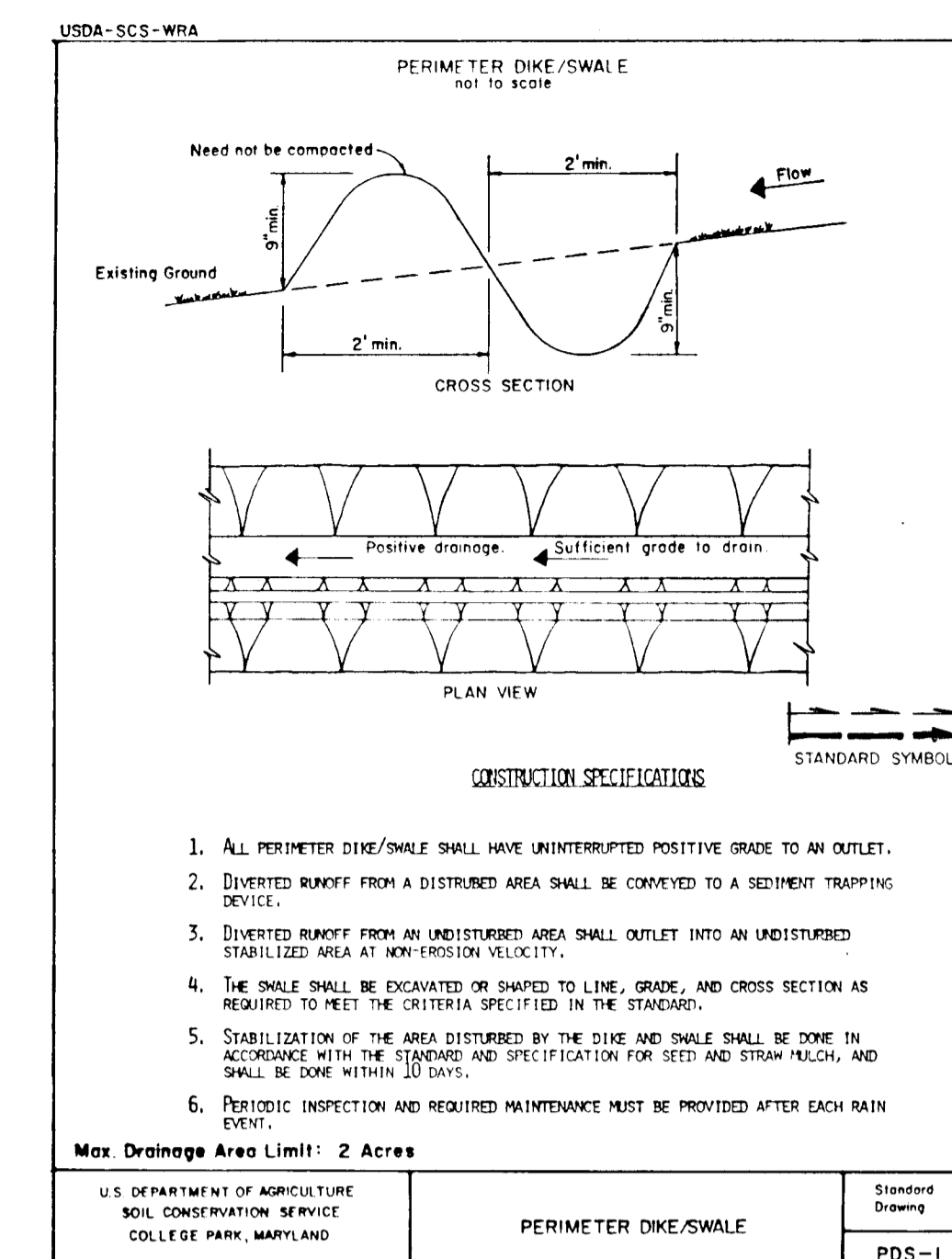
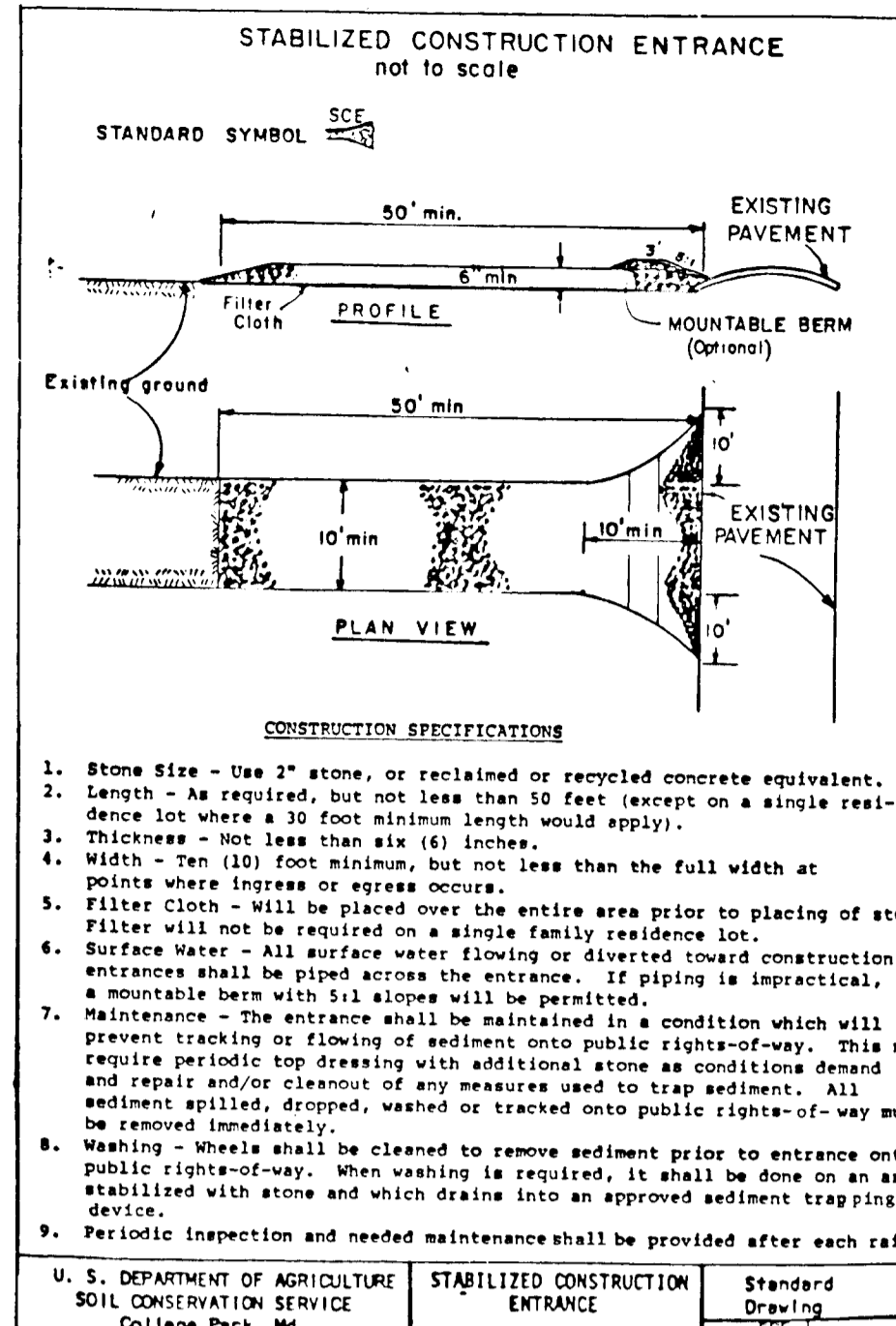
● 11.5 lbs./1000 sq. ft.
● 0.5 lbs./1000 sq. ft.
● 1.5 lbs./1000 sq. ft.
● 80 lbs./1000 sq. ft.
● 8 gal./1000 sq. ft.
● 5 gal./1000 sq. ft.

7. 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, as shown on these plans and as set forth in the "1983 Standards and Specifications for Soil Erosion and Sediment Control" of the Soil Conservation Service of Maryland, Howard County Soil Conservation District, as amended (see SHEET 3 OF 7 FOR FURTHER DETAILS)

8. FILTER FABRIC

Where specified, MIRAFI 1405 or equivalent shall be used.



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 M. Helm / JMH 8/29/89

Robert Ziehm 8/29/89

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Paul J. Ryan 9/22/89

Travis W. Workman 9/19/89

Michael S. Rely 9-25-89

APPROVED: DEPT. OF PLANNING AND ZONING

David S. Taylor 1/16/89

ENGINEER'S CERTIFICATE

I CERTIFY 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.

John Mellich 1 June 5 '89

DEVELOPER'S CERTIFICATE

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David R. Taylor 6/2/89

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
No. 10000

OWNER/DEVELOPER
Ilchester Road Property Partnership
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. John Reuser

ENGINEER
Wilderberg, Mechi & Associates, Inc.
2300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078
ATTN: Mr. Robert M. Mechi, F.E.

4/89
88046.00
Engineering
Illustration
LSM
Scale
AS SHOWN
CAM
Approval
RMM

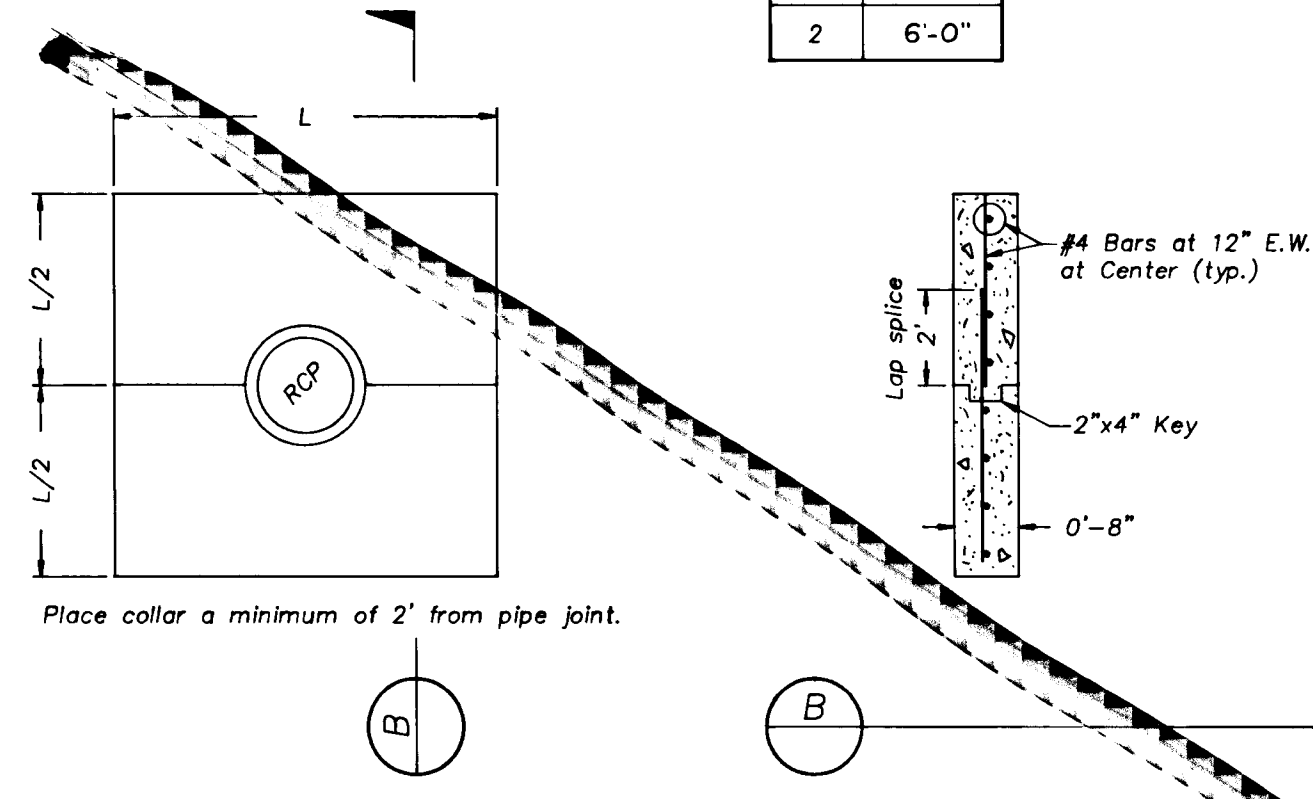
CHANGE CONCRETE STRUCTURES TO METAL
CANTONMENT SIGNATURES
FIRST SUBMISSION TO H.H. CO.
9/24/89
6/6/89
date
description
revisions

ILCHESTER LANDING
TAX MAP 31 PARCELS 583 & 150
ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
STORMWATER MANAGEMENT NOTES
AND SEDIMENT CONTROL DETAILS

WILDERBERG, MECCHI & ASSOCIATES, INC.
REGISTERED PROFESSIONAL ENGINEERS
3300 North Ridge Road, Suite 235, Ellicott City, MD 21043-3350
(301) 461-0078

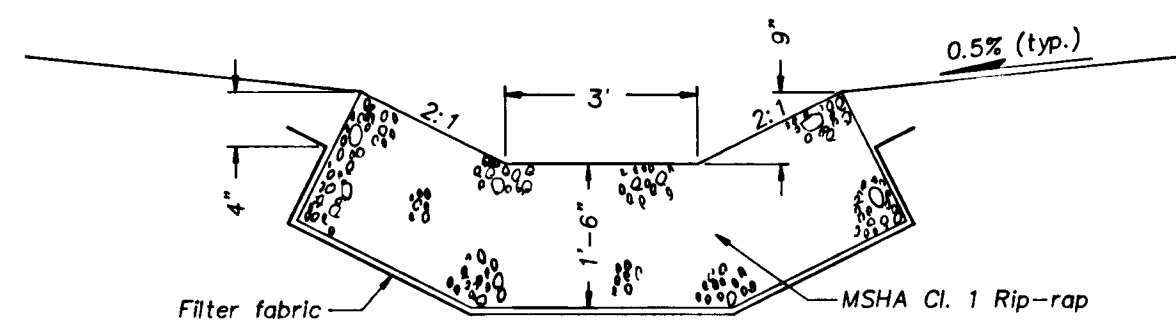
5 of 7

Pond	L
1	6'-0"
2	6'-0"



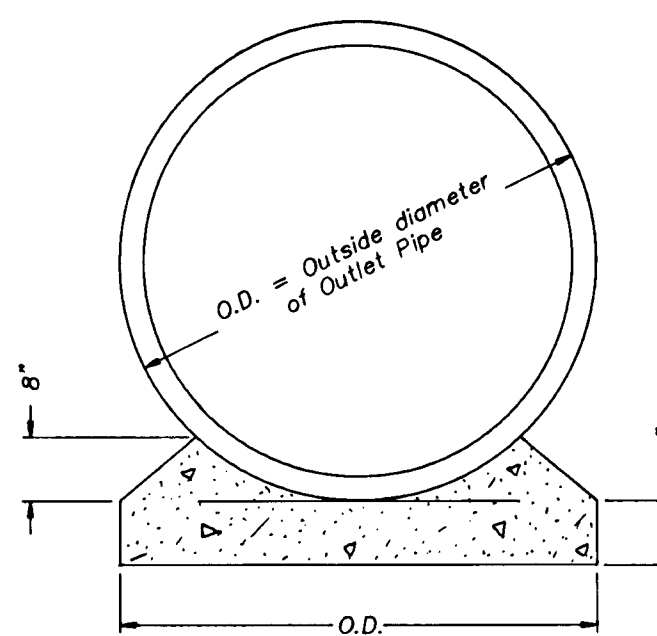
ANTI-SEEP COLLAR DETAILS

Not to scale



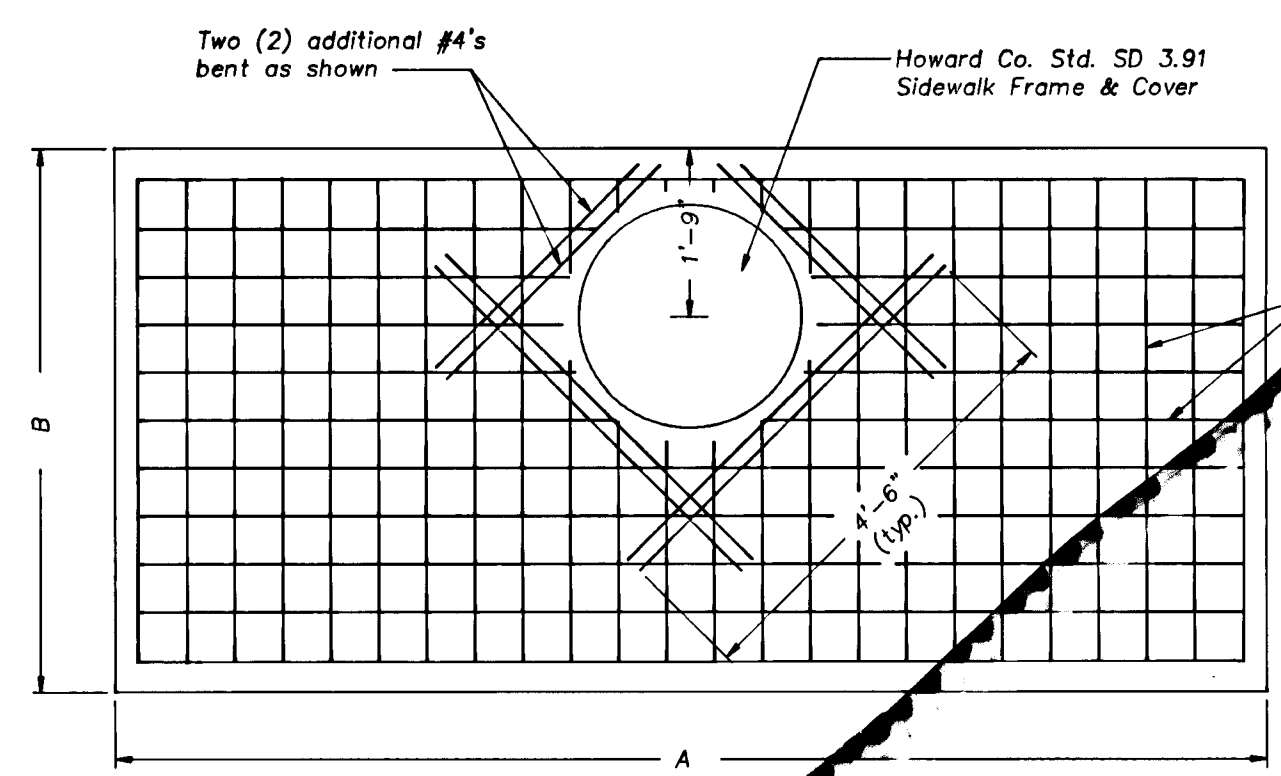
LOW FLOW CHANNEL

Not to scale



PIPE BEDDING DETAIL

Not to scale



TOP SLAB DETAIL

Not to scale

Pond	A	B
1	12'-0"	5'-8"
2	12'-0"	5'-8"

GENERAL NOTES:

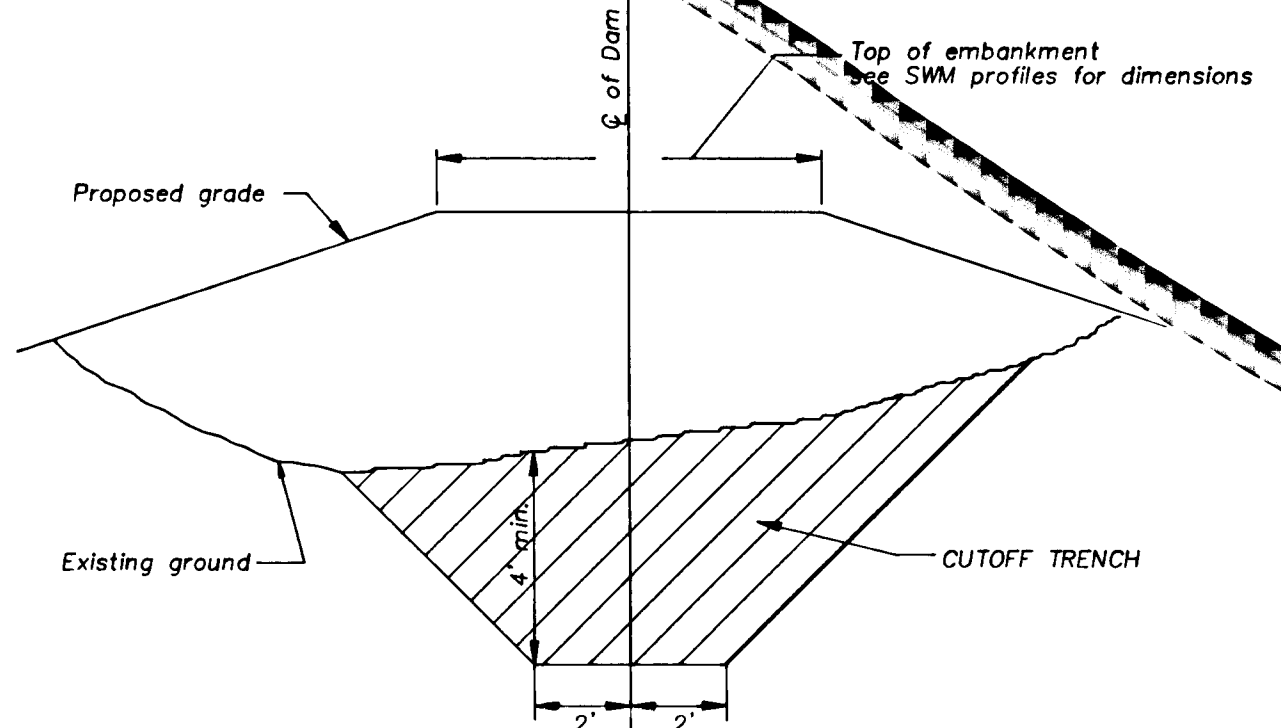
- Concrete shall be MSHA Mix #3 (fc \geq 3,000 psi)
- Reinforcing steel: Grade 60
- Face forms for walls of outlet structure shall utilize L.M. Scofield Co. T-9055 form liners (Random split-face rock)
- Provide rough broom finish on top of slab.
- Anchor bolts shall be installed in accordance with Sect. 6.07.03.59 of the MSHA Stds. and Specs.
- All exposed metal surfaces shall be painted in accordance with Sect. 6.07.03.60 of the MSHA Stds. and Specs.
- All reinforcing splices shall be lap splices of 30 bar diameters unless shown otherwise.
- All filter fabric shall be Poly-filter X or equivalent, and shall meet Howard County Requirements.

OWNER/DEVELOPER

ENGINEER

Ilchester Road Property Partnership
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. John Reuwer

Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078
ATTN: Mr. Robert M. Mochi, P.E.

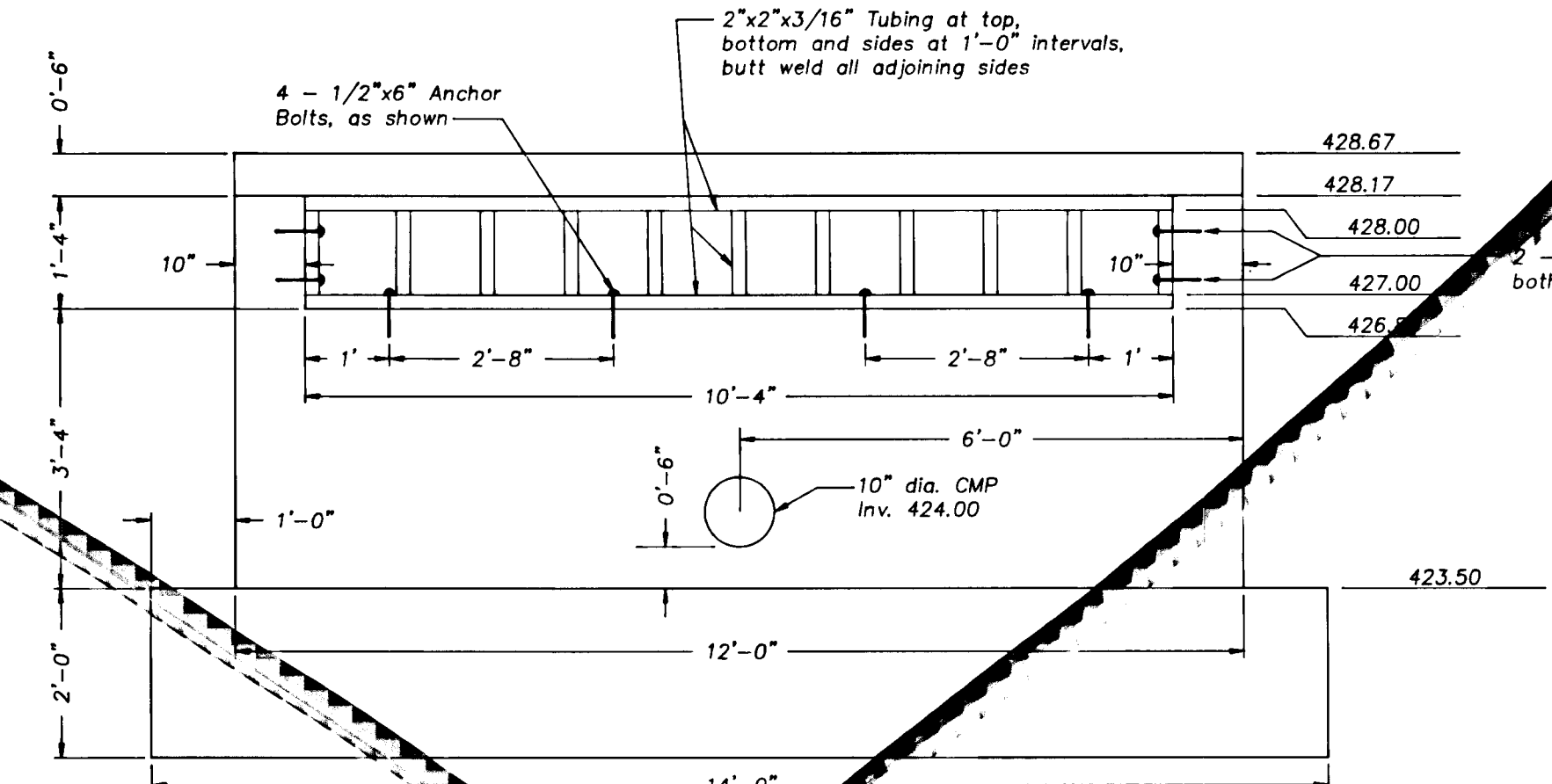


CUTOFF TRENCH DETAIL

Not to scale

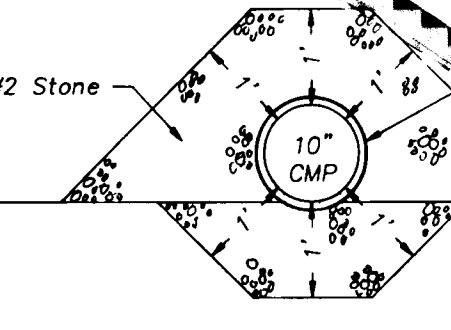
- Center of impervious fill on centerline of dam.
- Impervious fill shall meet U.S. Classification CL or SC.
- Compact to 95% of AASHTO T-99 density.
- Side slopes shall be 1 to 1 (1:1) or flatter.
- Trench shall extend along centerline of fill to minimum depth of 4 feet below existing grade.
- Cutoff trench to extend 4 feet below all pipes, structures, etc.

VOID THIS SHEET ONLY
SEE SHEET 6A of 7
FOR REPLACEMENT
PER REDLINE REVISIONS
APPROVED 2/2/90



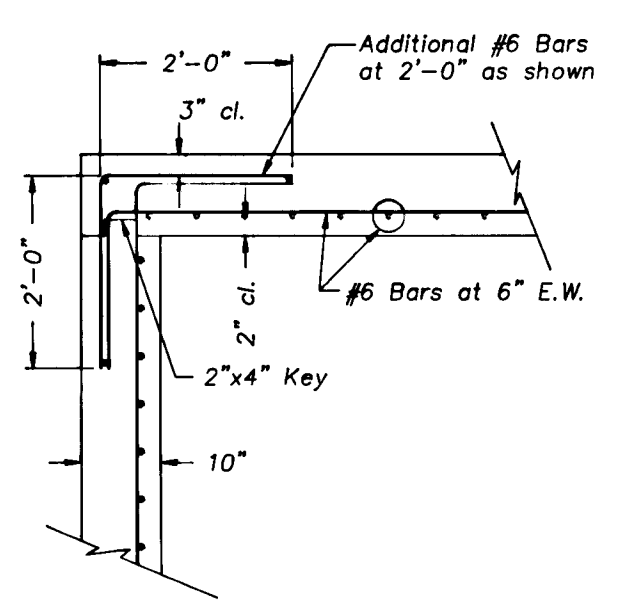
OUTLET STRUCTURE ELEVATION POND No. 2

Scale: 1/2" = 1'-0"



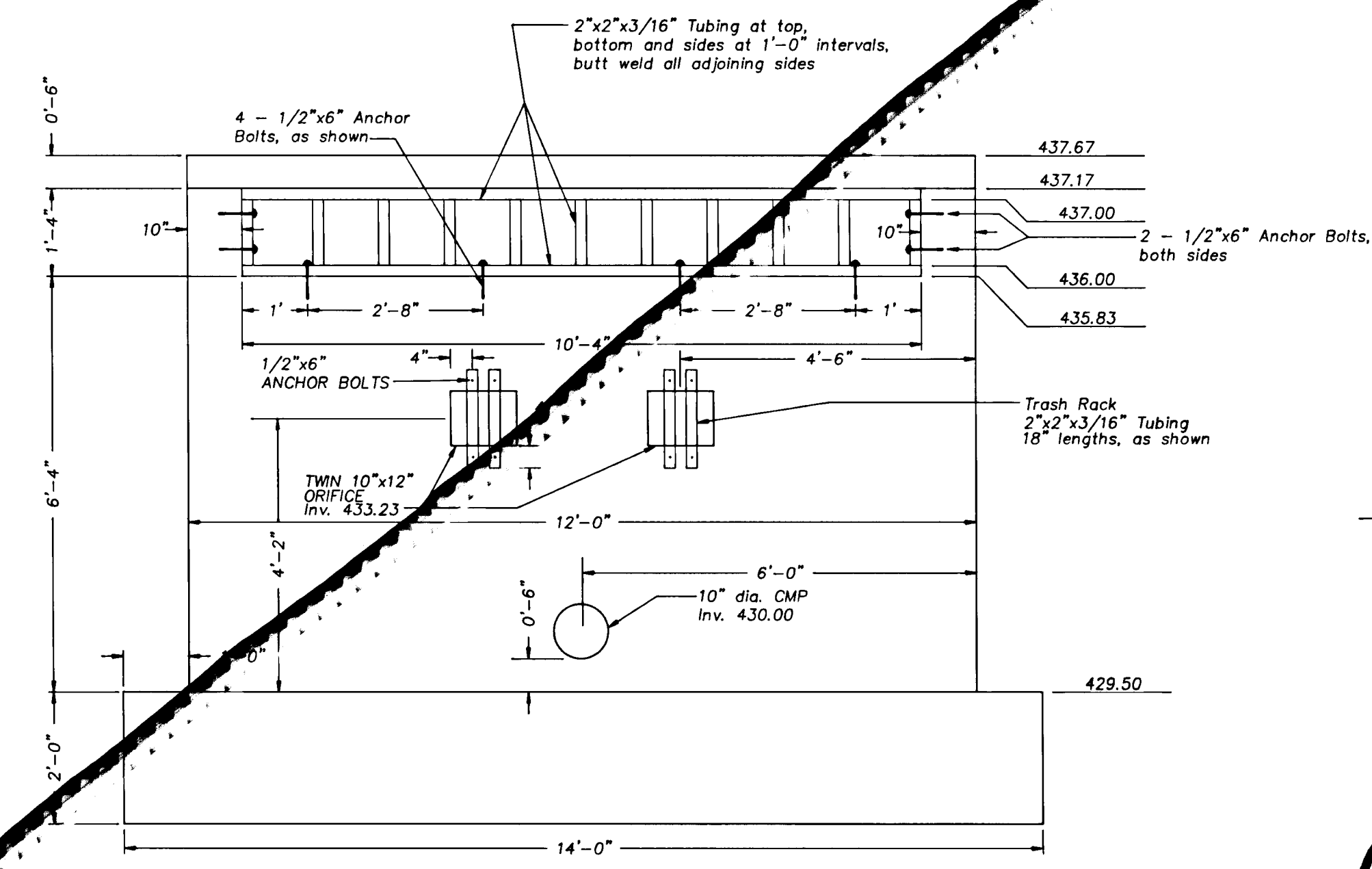
SECTION

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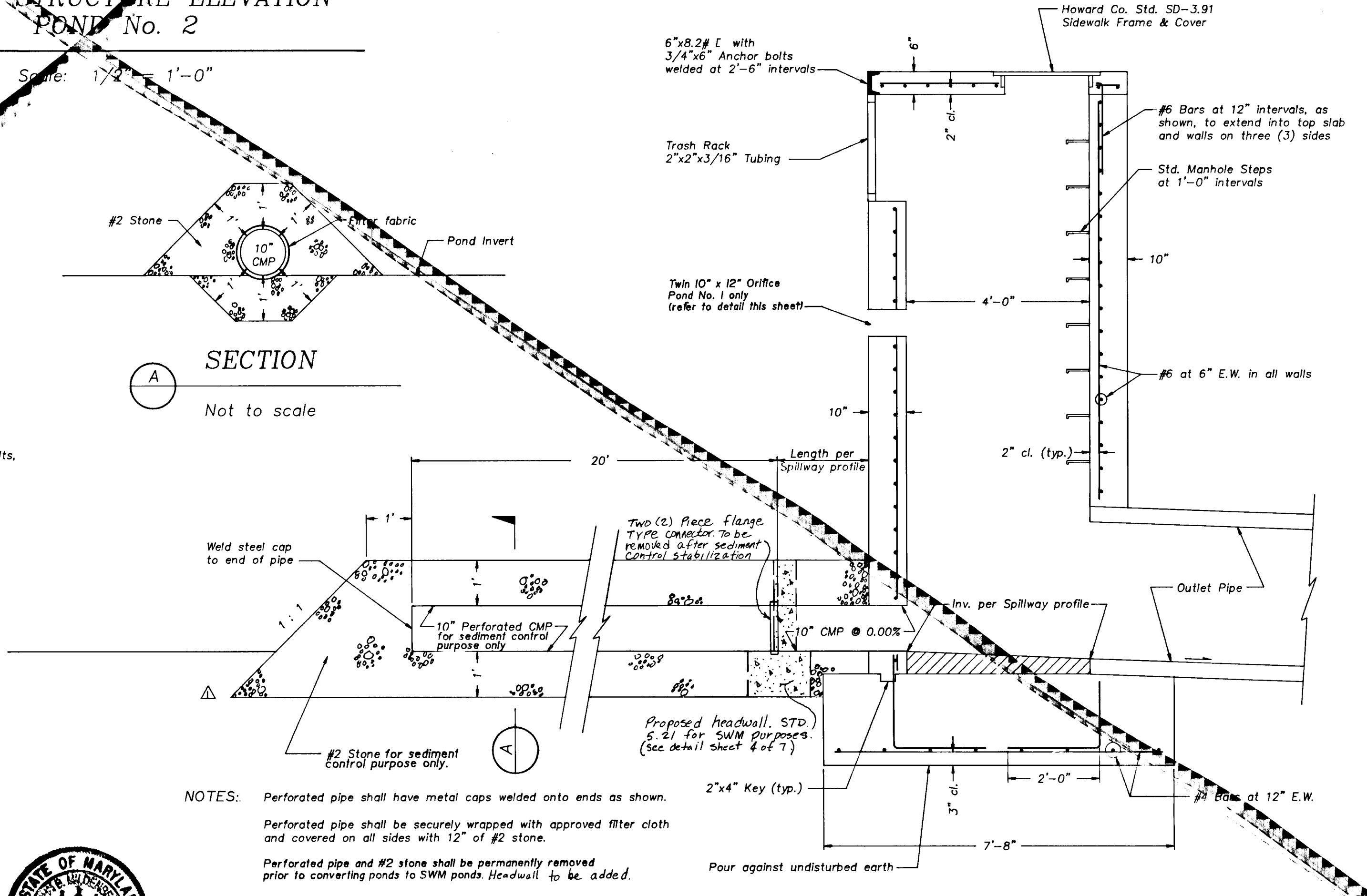
CORNER TREATMENT DETAIL

Not to scale



OUTLET STRUCTURE ELEVATION POND No. 1

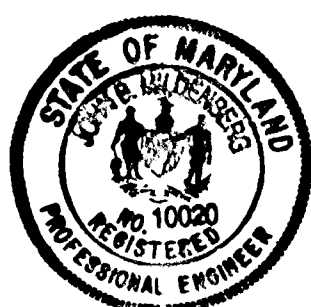
Scale: 1/2" = 1'-0"



OUTLET STRUCTURE DETAIL POND Nos. 1 & 2

Not to scale

- NOTES:
- Perforated pipe shall have metal caps welded onto ends as shown.
 - Perforated pipe shall be securely wrapped with approved filter cloth and covered on all sides with 12" of #2 stone.
 - Perforated pipe and #2 stone shall be permanently removed prior to converting ponds to SWM ponds. Headwall to be added.



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 M. Helm 8/27/89
U.S. SOIL CONSERVATION SERVICE

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

Robert W. Zichner 8/29/89
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Paul H. Spang 9/22/89
CHIEF, LAND DEVELOPMENT DIVISION

Ernestine W. Weiland 9/19/89
CHIEF, BUREAU OF HIGHWAYS

Debra Ann R. Riley 9/25/89
CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPT. OF PLANNING AND ZONING

Mark V. Z. Angell 10/1/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

ENGINEER'S CERTIFICATE

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John M. Kelly June 5, 89
Date

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John M. Kelly 6/2/89
Signature of Developer Date

Project	date	engineering	approval
88046.00	4/89	LSM	CAM
		LSM	CAM
		LSM	CAM
		LSM	CAM

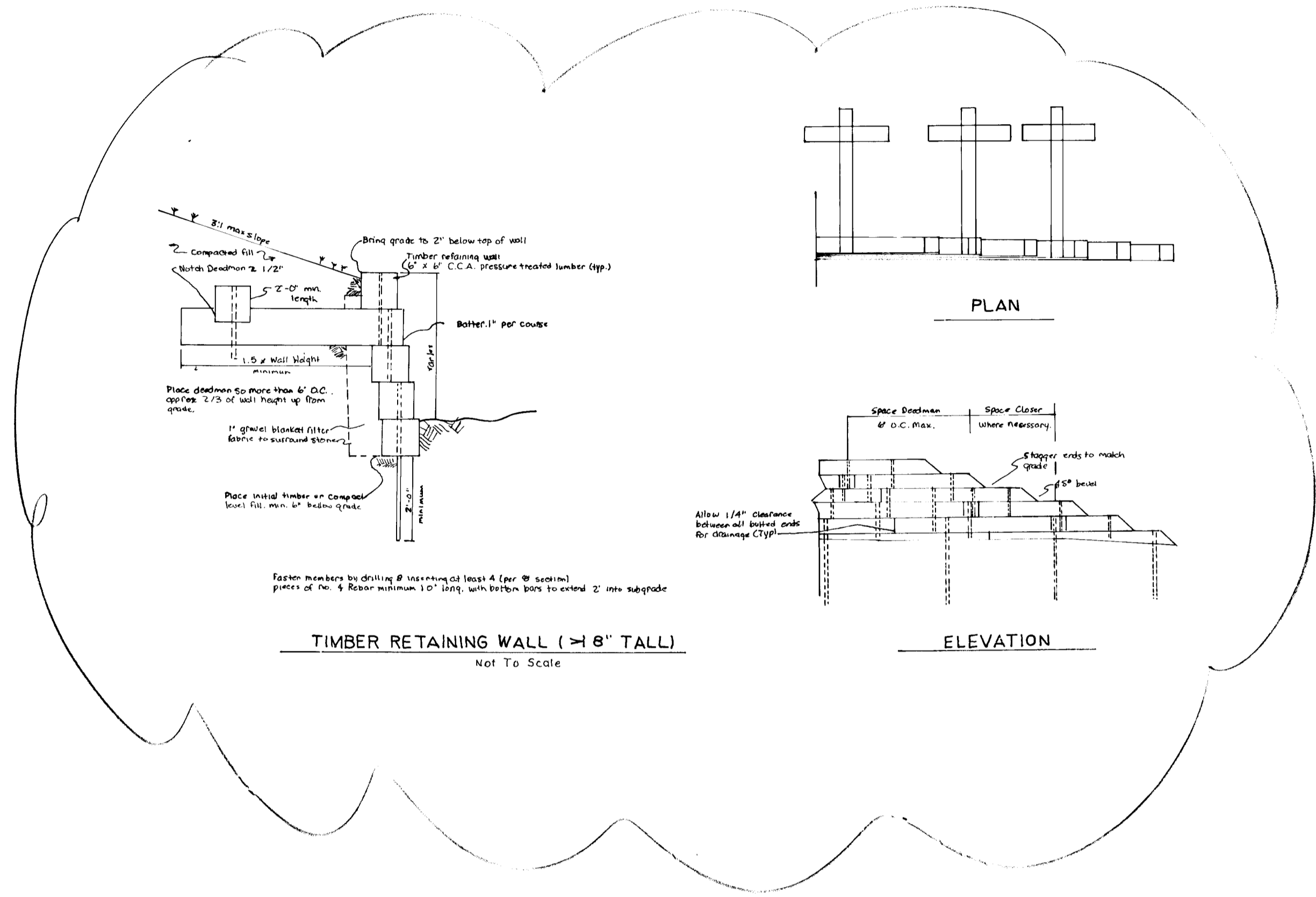
Project	date	description	revisions
2	6/22/89	REVISIONS PER PCS COMMENTS	6/18/89 - CAM
1	6/16/89	FIRST SUBMISSION TO MD. CO.	

ILCHESTER LANDING
TAX MAP 31 PARCELS 583 & 150
ELECTION DISTRICT No. 1 HOWARD COUNTY, MARYLAND
STORMWATER MANAGEMENT DETAILS

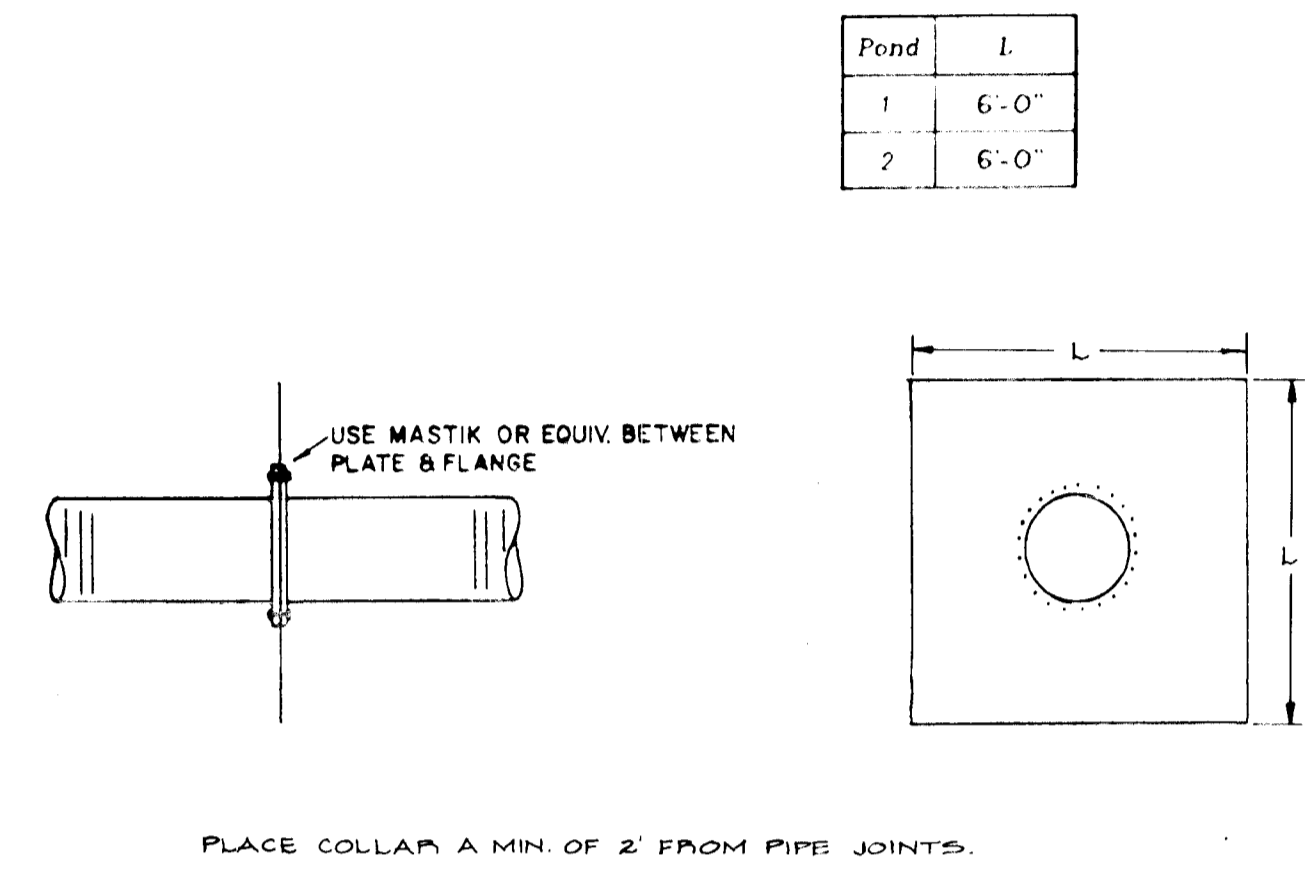
MILDENBERG, MOCHI & ASSOCIATES, INC.
CONSULTING ENGINEERS - STORMWATER MANAGEMENT
3300 North Ridge Road, Suite 235 Ellicott City, Maryland, 21043-3350
(301) 461-0078 D.C. Metro: (301) 671-5768

TOTAL DISCHARGE FROM SITE			DISCHARGE FROM SWM POND #1			DISCHARGE FROM SWM POND #2		
STORM	EXISTING	DEVELOPED	Q _{max}	VOLUME	ELEVATION	Q _{max}	VOLUME	ELEVATION
2 YR.	8.37 cfs	1.06 cfs	1.54 cfs	0.19 Ac. Ft.	432.97	4.30 cfs	0.11 Ac. Ft.	427.47
10 YR.	29.98 cfs	29.06 cfs	15.93 cfs	0.53 Ac. Ft.	435.40	17.16 cfs	0.16 Ac. Ft.	428.29
100 YR.	59.44 cfs	68.56 cfs	37.16 cfs	0.50 Ac. Ft.	436.03	30.49 cfs	0.20 Ac. Ft.	428.69

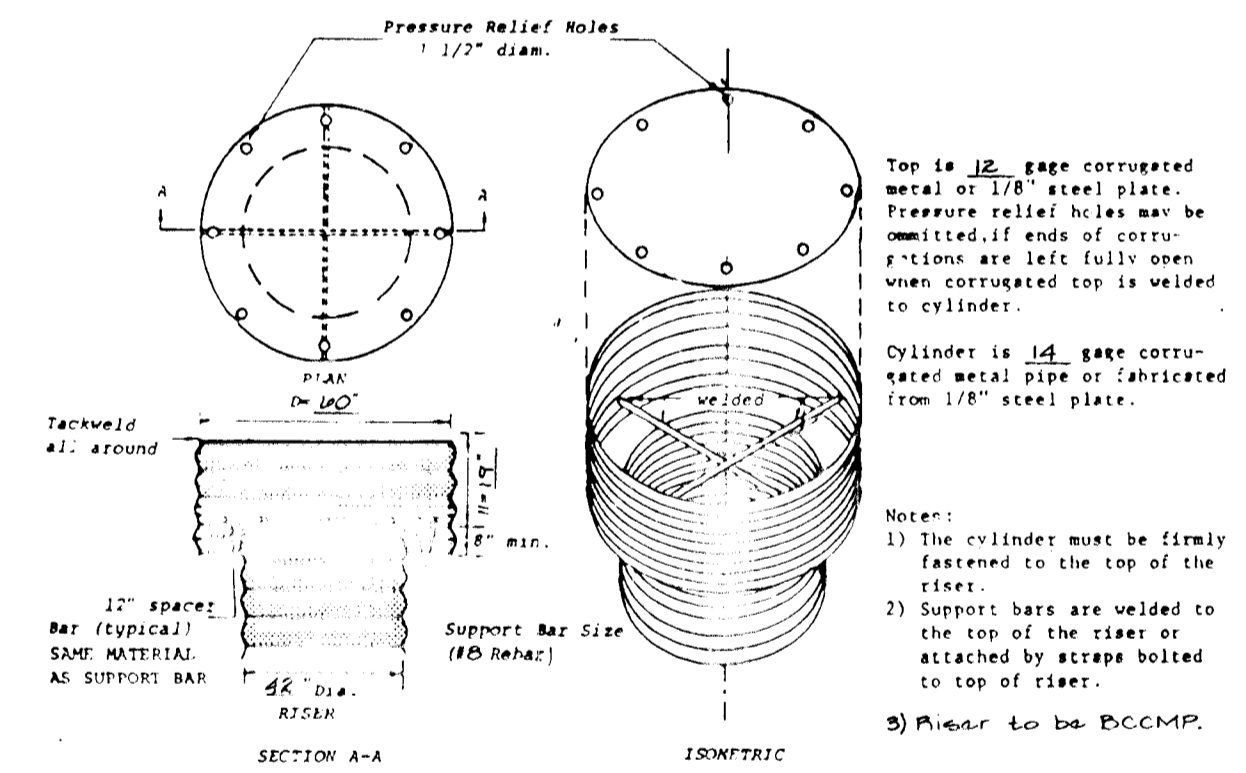
HYDROLOGIC CRITERIA		
PRINCIPAL SPILLWAY		2, 10 & 100
EMERGENCY SPILLWAY		N/A
FREEBOARD		1.00'



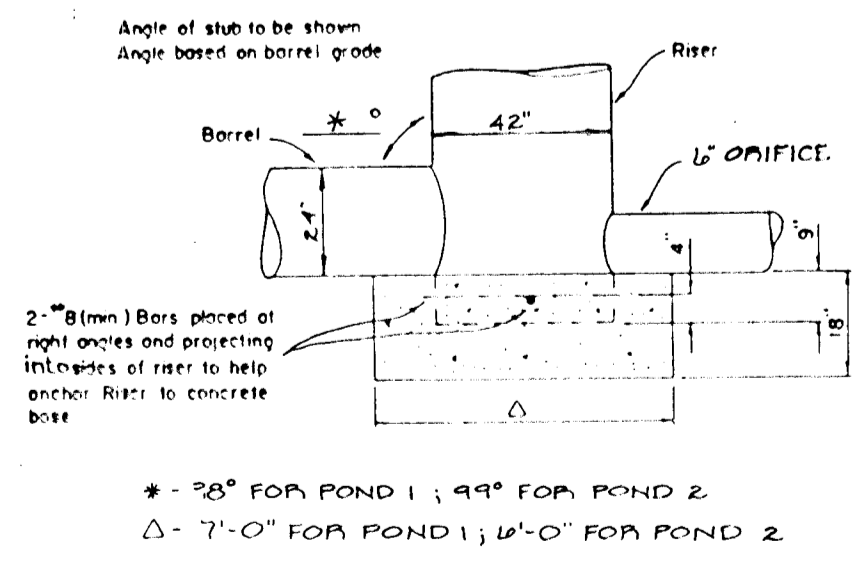
TIMBER RETAINING WALL (> 8" TALL)
Not To Scale



ANTI-SEEP COLLAR DETAILS
Not to scale

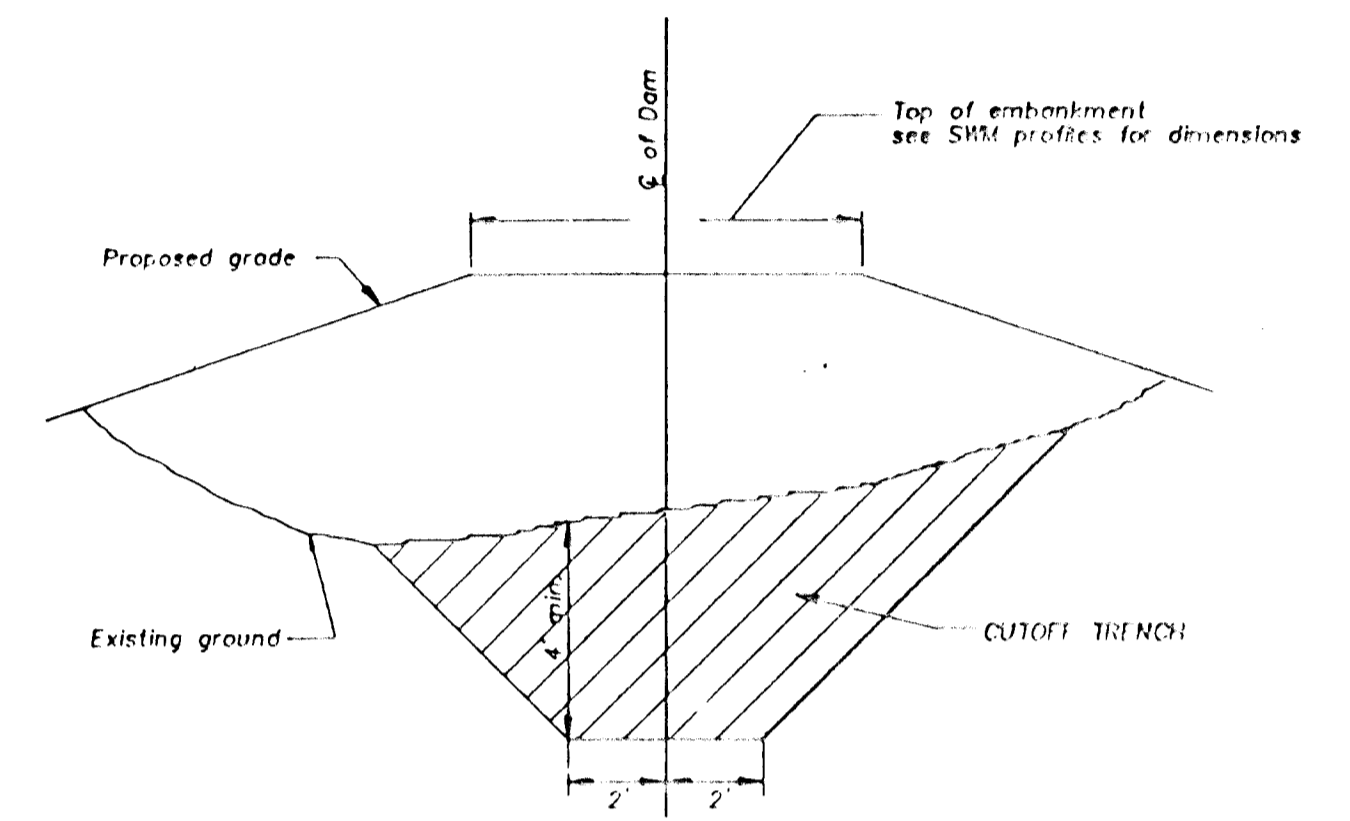
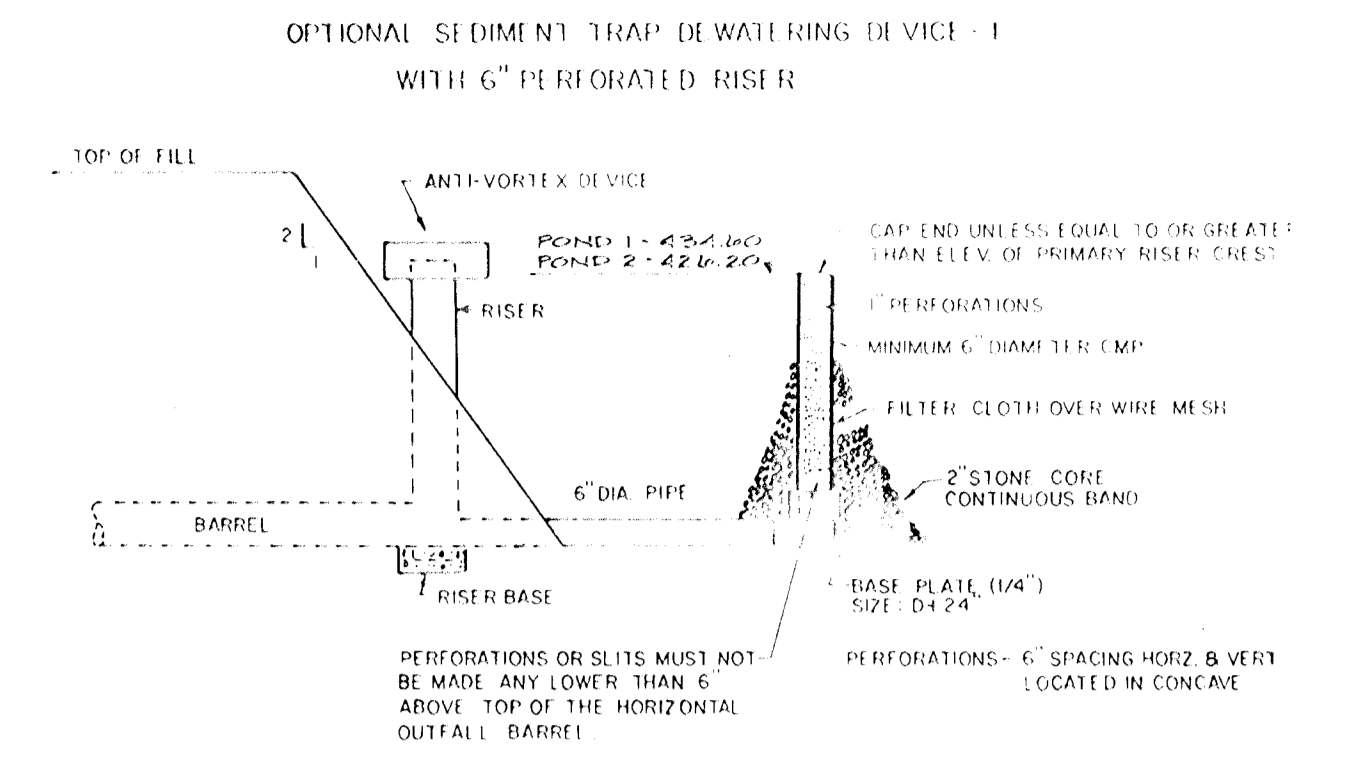


SWM POND #1 & SWM POND #2
RISER DETAIL
NOT TO SCALE



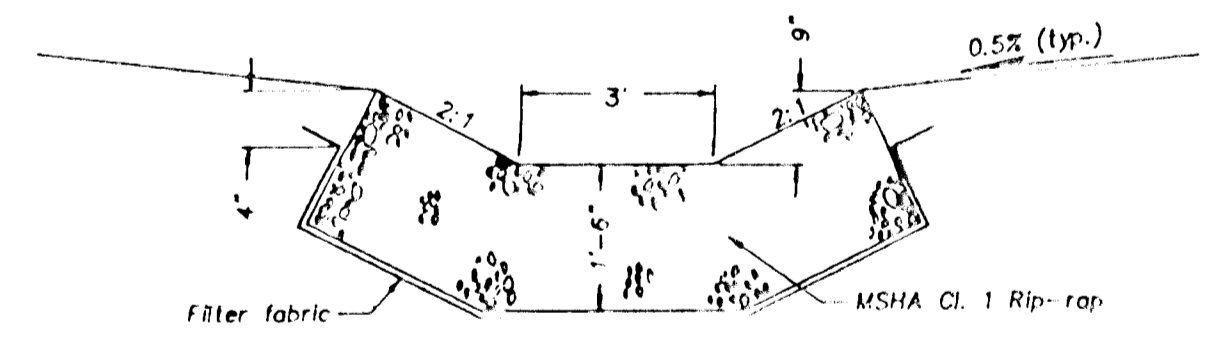
NOTES
1 The concrete base shall be poured in such a manner to assure that the concrete fills the bottom of the riser to the level of the outlet pipe to prevent the riser from breaking away from the base.
2 With aluminum or aluminum pipe the embedded section must be painted with zinc chromate or equivalent.

RISER BASE DETAIL
NOT TO SCALE



- Center of impervious fill on centerline of dam.
- Impervious fill shall meet U.S. Classification ML, CL, MLT or CH.
- Compact to 95% of AASHTO T-99 density.
- Side slopes shall be 1 to 1 (1:1) or flatter.
- Trench shall extend along centerline of fill to minimum depth of 4 feet below existing grade.
- Cutoff trench to extend 4 feet below all pipes, structures, etc.

CUTOFF TRENCH DETAIL
Not to scale



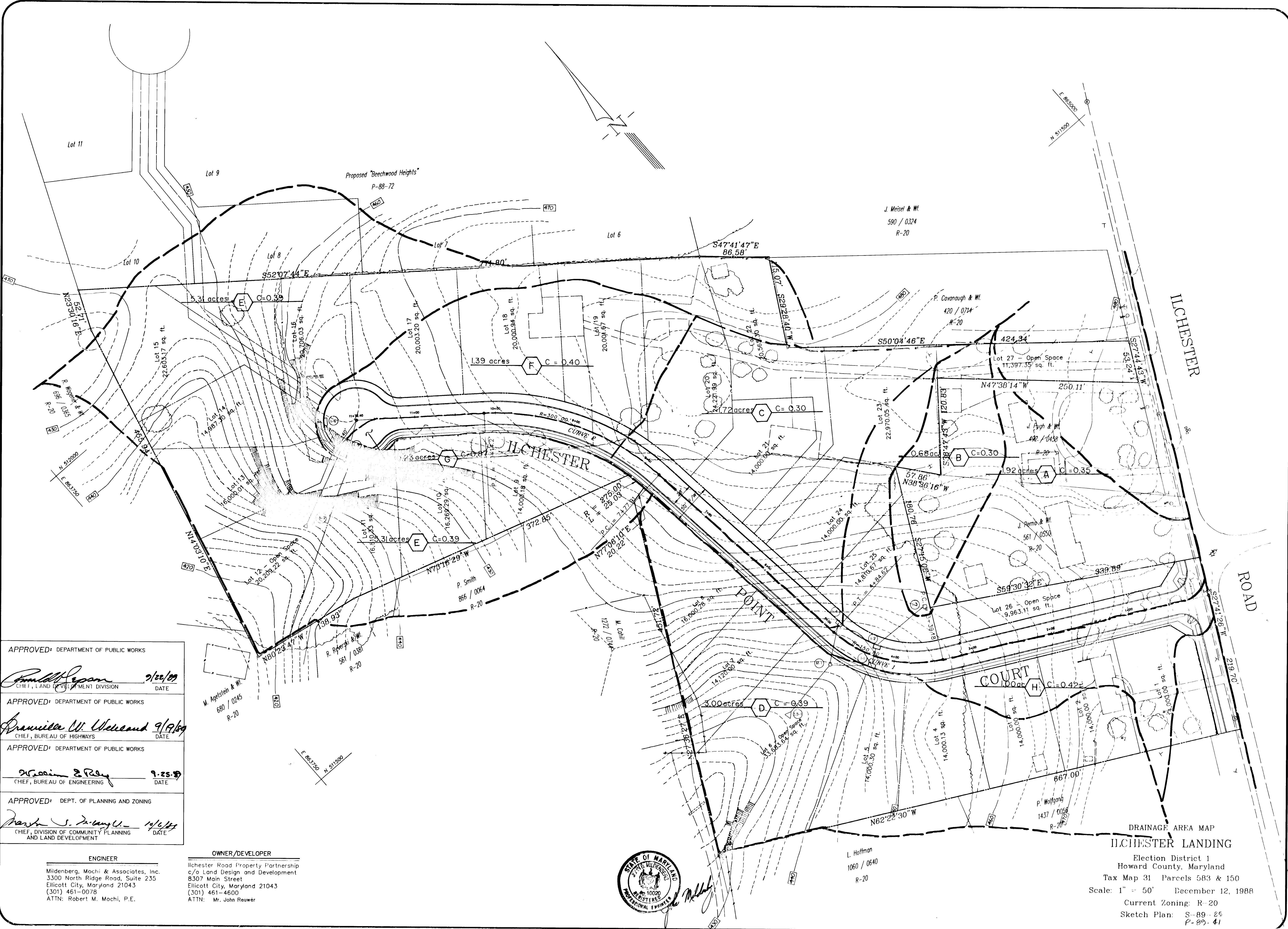
LOW FLOW CHANNEL
Not to scale

OWNER/DEVELOPER
Hochester Road Property Partnership
c/o Land Design and Development
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(301) 461-4600
ATTN: Mr. John Reuver

ENGINEER
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(301) 461-0078
ATTN: Robert M. Mochi, P.E.



HILDBERG, MOCHI & ASSOCIATES, INC.
 3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043
 (301) 461-0078
 FOLDER LANDING
 TAX MAP 31 PARCELS 588 & 150
 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
 2/13/06
 5/15/06
 5/15/06
 5/15/06



APPROVED: DEPARTMENT OF PUBLIC WORKS
Samuel Egan 9/22/89
 CHIEF, LAND DEVELOPMENT DIVISION DATE

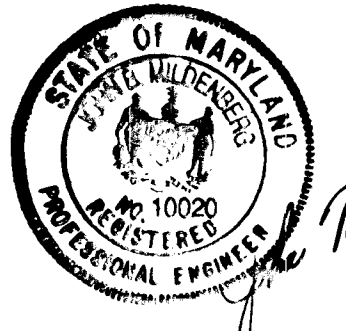
APPROVED: DEPARTMENT OF PUBLIC WORKS
Francis W. Ueland 9/19/89
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
William E. Reay 9-25-89
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPT. OF PLANNING AND ZONING
Martha S. DeLong 10/6/89
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

ENGINEER
 Mildenberg, Mochi & Associates, Inc.
 3300 North Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (301) 461-0078
 ATTN: Robert M. Mochi, P.E.

OWNER/DEVELOPER
 Ilchester Road Property Partnership
 c/o Land Design and Development
 8307 Main Street
 Ellicott City, Maryland 21043
 (301) 461-4600
 ATTN: Mr. John Reuwer



DRAINAGE AREA MAP
 ILCHESTER LANDING
 Election District 1
 Howard County, Maryland
 Tax Map 31 Parcels 583 & 150
 Scale: 1" = 50' December 12, 1988
 Current Zoning: R-20
 Sketch Plan: S-89-25
 P-89-41

PROJECT	DATE
88046.02	5/89
Illustration	engineer
JLM	C.A.M.
SCALE	DATE
1" = 50'	5/89

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ILCHESTER LANDING
 ELECTION DISTRICT No. 1
 HOWARD COUNTY, MARYLAND
 DRAINAGE AREA MAP

MILDENBERG, MOCHI & ASSOCIATES, INC.
 ENGINEERS • ARCHITECTS • PLANNERS
 3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-1380
 (301) 461-0078 F.C. Metro: (301) 521-5788