

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPORT IS A WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITES AND CONDITIONS THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 CHARLES J. CROVO SR. 7/6/84 DATE

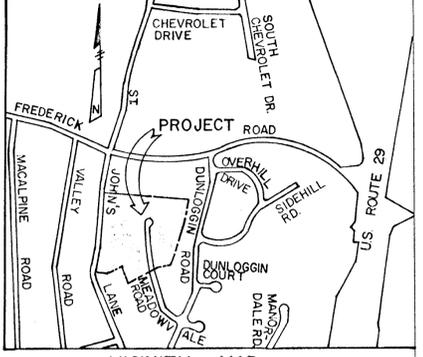
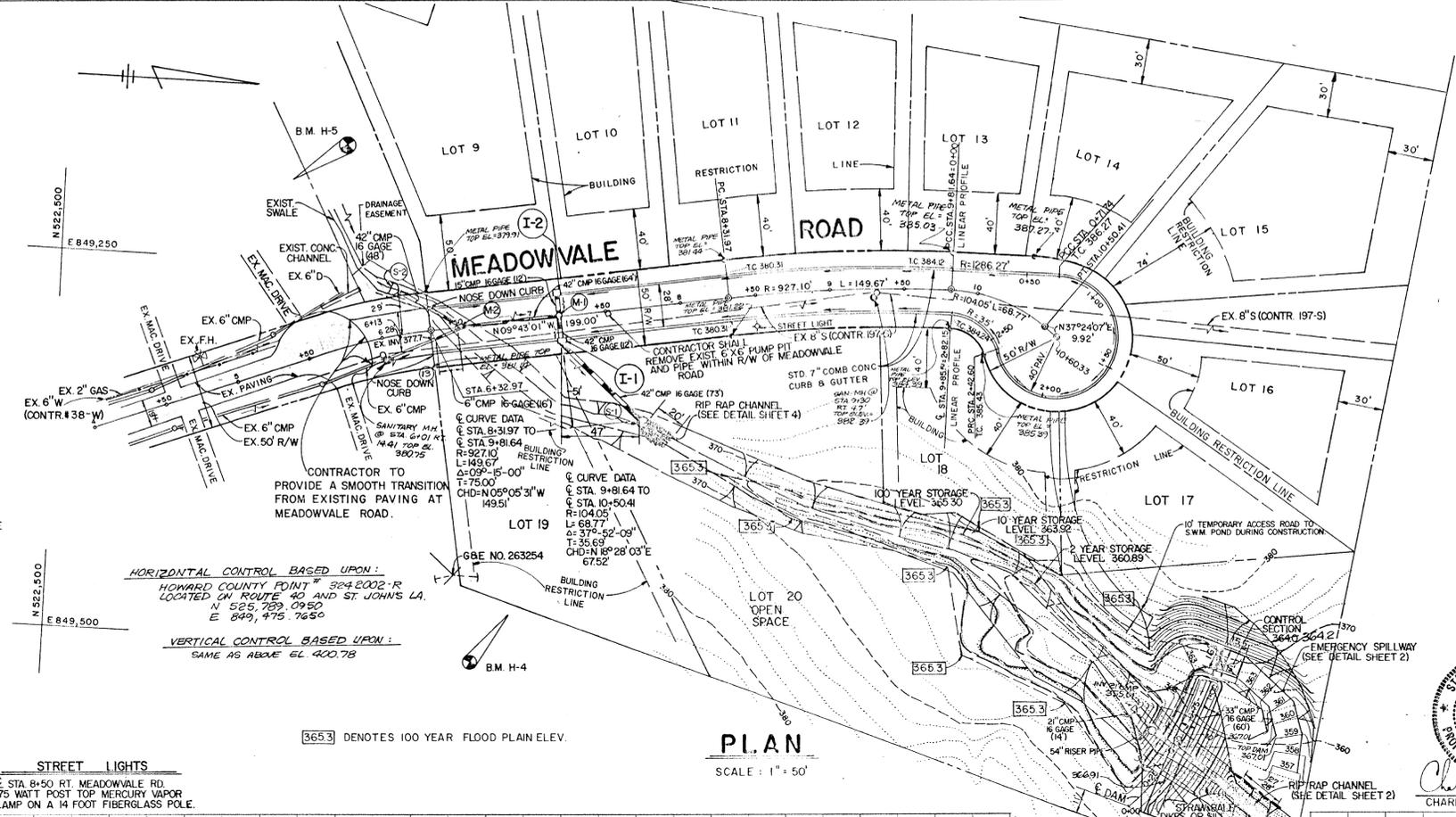
DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.
 Cornelius F. Sybert, Jr. July 13, 1984 DATE
 CORNELIUS F. SYBERT, JR.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 James Helms 10-4-84 DATE
 Robert J. Ziem 10-4-84 DATE
 HOWARD COUNTY SOIL CONSERVATION DISTRICT

GENERAL NOTES
 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
 2. ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HRS. IN ADVANCE OF ANY CONSTRUCTION.
 3. STORM DRAINAGE TRENCHES WITHIN ROAD RIGHTS-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
 4. ANY DAMAGE TO PUBLIC RIGHTS-OF-WAYS, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
 5. CONTRACTOR TO NOTIFY THE HOWARD COUNTY INSPECTION AND SURVEY DIVISION AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS - TELEPHONE: 792-7272
 6. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.

APPROVED
 DEPARTMENT OF PUBLIC WORKS
 Charles J. Crovo 10-8-84 DATE
 CHIEF, BUREAU OF ENGINEERING

APPROVED
 OFFICE OF PLANNING AND ZONING
 [Signature] 10-4-84 DATE
 DIVISION OF LAND DEVELOPMENT
 NO ZONING ADMINISTRATION



BEDFORD SQUARE
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

MEADOWVALE ROAD
 PLAN, PROFILE, AND
 STORM WATER MANAGEMENT POND

OWNER AND DEVELOPER
 P&N PARTNERSHIP
 SUITE L
 9025 CHEVROLET DRIVE
 ELLICOTT CITY, MD 21043

SCALE AS SHOWN DATE JULY 6, 1984 DWG. NO. 1 OF 5
 DES. C. CROVO SR. DWN. A. STEINBERG CHK. R. CARTER

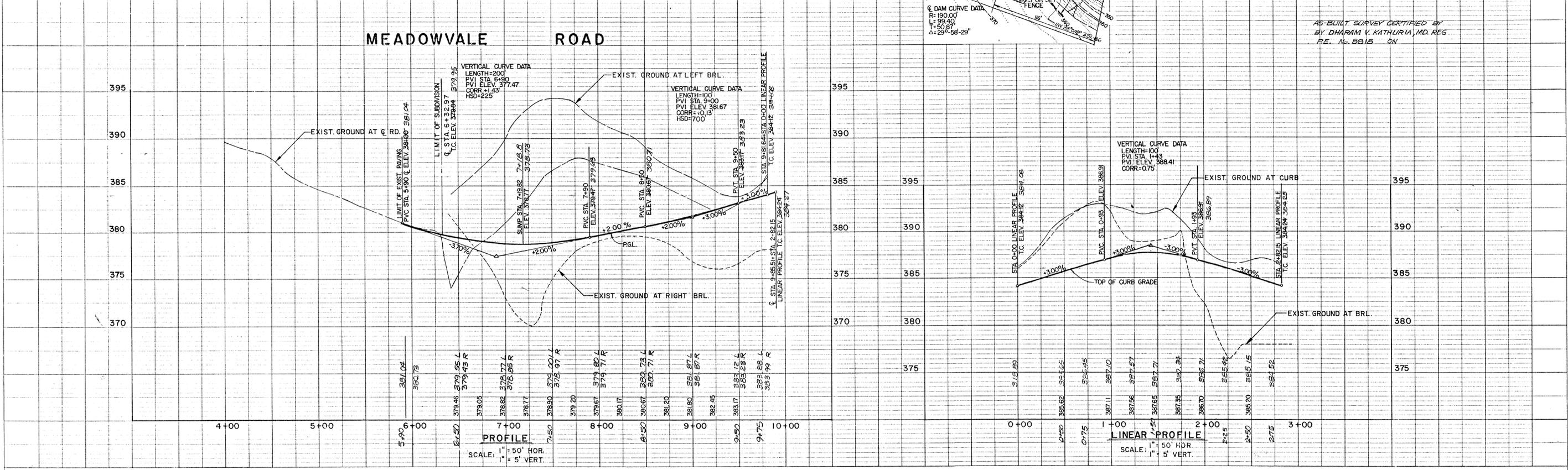
FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043



DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 NOTE BOOK: _____
 NO. _____

DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 NOTE BOOK: _____
 NO. _____

1099



AS-BUILT SURVEY CERTIFIED BY
 BY DHARAM V. KATHURIA, MD. REG.
 P.E. NO. 8813 ON

POND SPECIFICATIONS

- SITE PREPARATION**
Areas under the embankment and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, roots or other objectionable material. To facilitate clean out and restoration, it is recommended that the permanent pool area be cleared of all brush and trees.
- EARTH FILL Material**
The fill material shall be taken from approved designated borrow area or areas. It shall be free from roots, stumps, wood, rubbish, over-size stones, frozen or other objectionable materials. 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 at least 5 percent above the design elevation (including freeboard) unless otherwise shown on the plans.
Placement
Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch 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.

Core Trench
Where specified, a core trench shall be excavated 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 or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the core trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

- STRUCTURAL BACKFILL**
Backfill material 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 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 the contractor drive equipment over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

- PIPE CONDUITS**
 - CORRUGATED METAL PIPE**
 - Materials - METAL** - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211, with watertight coupling bands.
 - Connections** - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the control structure shall be mortared 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.
 - Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted 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.
 - Backfilling** shall conform to structural backfill as shown above.
 - Other details** (anti-seep collars, valves, etc.) shall be as shown on the drawings.

- CONCRETE**
Concrete shall meet minimum requirements set forth in Maryland State Highway Administration Specifications for Materials, Highways, Bridges, and Incidental Structures, Article 20.07 (Portland Cement Concrete Mixtures), Mix No. 3.

- STABILIZATION**
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway and borrow areas shall be stabilized by seeding and applying straw mulch in accordance with Standards and Specifications for Soil Erosion and Sediment Control in Urbanizing Areas immediately after finish grading.

- All exposed areas of the embankment and pond shall be stabilized by:
- Spreading 4" topsoil
 - Working in 1 ton of ground limestone and 1,000 pounds of 10-10-10 fertilizer per acre.
 - Seed with 40 lbs./acre of "Kentucky 31" tall fescue, and 15 lbs./acre of Crownvetch inoculated.
 - Mulch with 1-1/2 tons straw per acre.
 - Tie down mulch with emulsified asphalt @ 348 gallons/acre.

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.

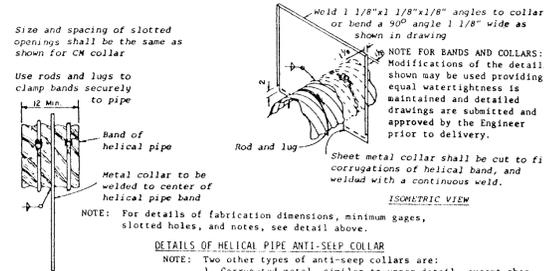
James Helm 10-4-84
U.S. Soil Conservation Service Date

Robert W. Zimm 10-4-84
Howard Soil Conservation District Date

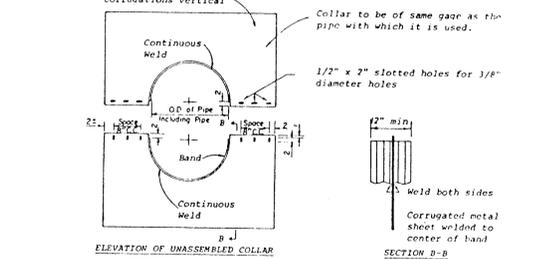
APPROVED: DEPARTMENT OF PUBLIC WORKS
Melvin K. P... 10-8-84
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: OFFICE OF PLANNING AND ZONING
John W. ... 10-1-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8368 COURT AVENUE
ELICOTT CITY, MARYLAND 21043



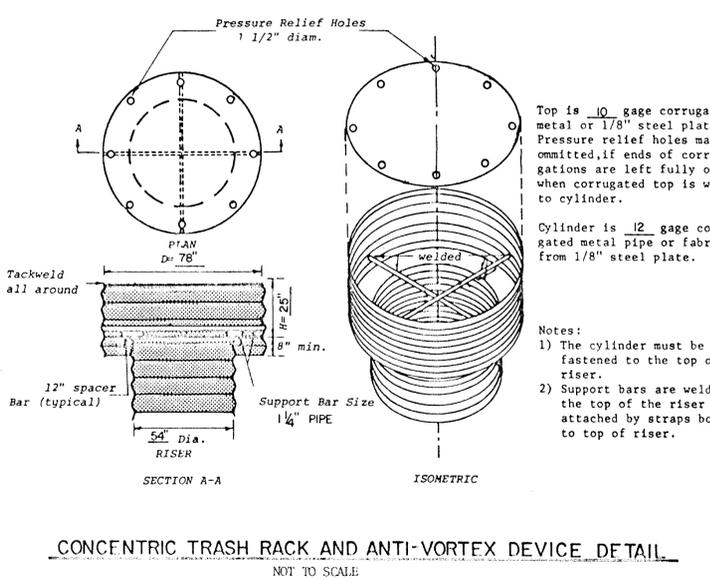
DETAILS OF HELICAL PIPE ANTI-SEEP COLLAR
NO SCALE



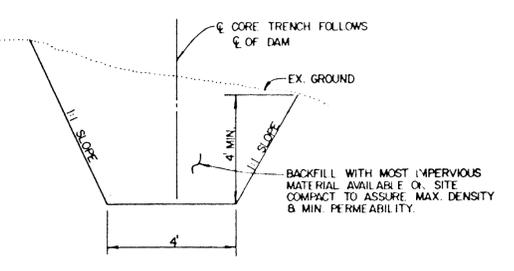
CORRUGATED METAL ANTI-SEEP COLLAR DETAIL
NOT TO SCALE

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."
Conuelio T. S... July 12, 1984
SIGNATURE OF DEVELOPER DATE

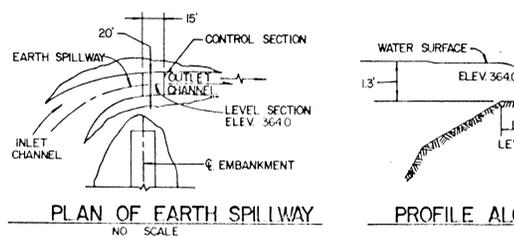
ENGINEER'S CERTIFICATE
"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."
Charles J. Crovo, Sr. 7/6/84
SIGNATURE OF ENGINEER DATE



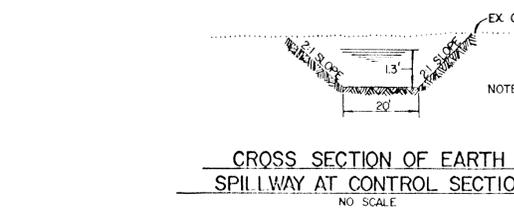
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE DETAIL
NOT TO SCALE



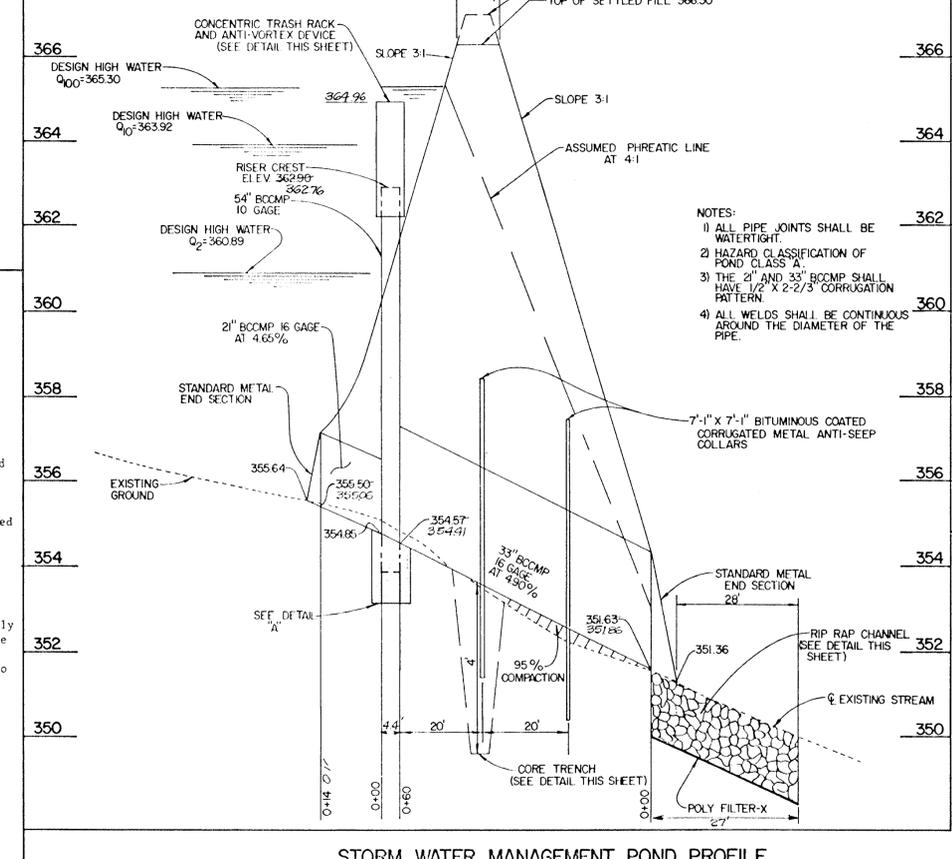
CORE TRENCH DETAIL
NO SCALE



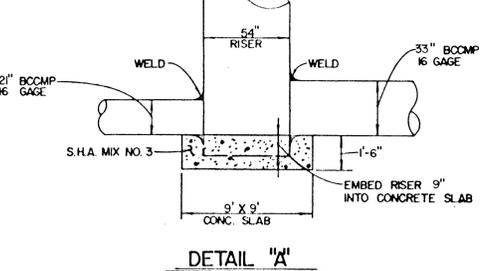
EMERGENCY SPILLWAY DETAILS
NO SCALE



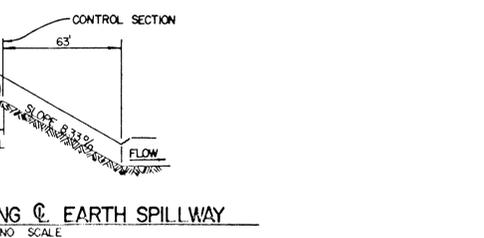
CROSS SECTION OF EARTH SPILLWAY AT CONTROL SECTION
NO SCALE



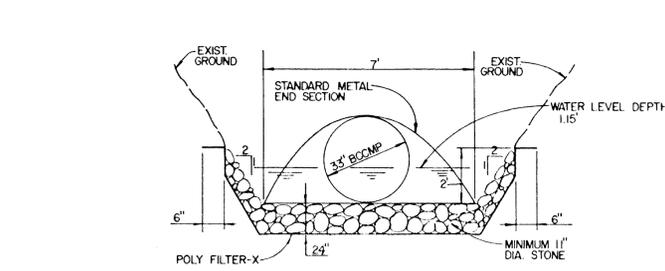
STORM WATER MANAGEMENT POND PROFILE
SCALE: 1"=20' HOR, 1"=2' VERT.



RIP RAP CHANNEL DETAIL AT STORM WATER MANAGEMENT POND
NO SCALE



CHANNEL DESIGN DATA AT S.W.M. OUTFALL



PROFILE ALONG CENTERLINE OF DAM
SCALE: 1"=20' HOR, 1"=2' VERT.

OWNER & DEVELOPER
P. B. N. PARTNERSHIP
9025 CHEVROLET DRIVE
SUITE 100
ELICOTT CITY, MARYLAND 21043

STORM WATER MANAGEMENT POND PROFILES AND DETAILS

BEDFORD SQUARE

2 ND ELECTION DISTRICT HOWARD COUNTY, MD
SCALE: AS SHOWN JULY 6, 1984
SHIFF 2 OF 5

AS-BUILT SURVEY CERTIFIED BY
DHARAM V. KATHURIA, MD, REG.
P.E. # 8618

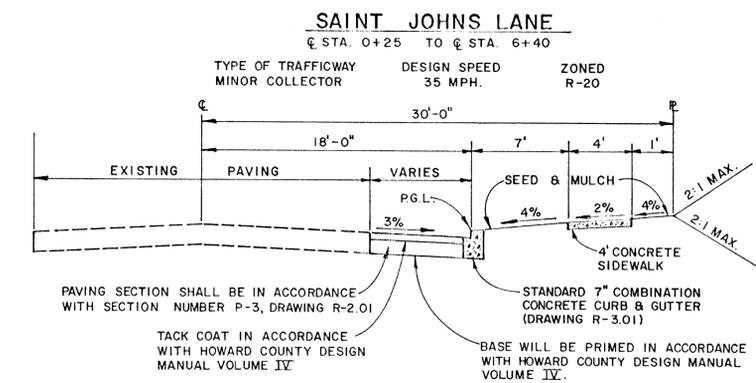
DATE: 7/6/84

CHARLES J. CROVO, SR.

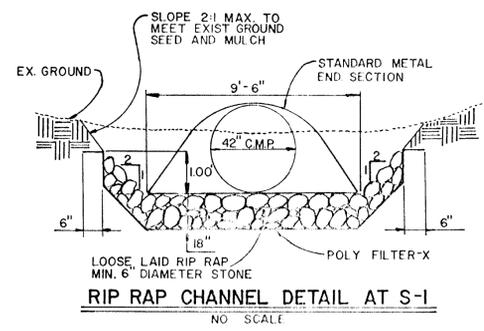
DATE: 7/6/84

DATE
BY
REVISIONS
NO. DATE
1. SURVEYED
2. GRAPHS CHECKED
3. PLAN CHECKED
4. CALCULATIONS CHECKED
5. EST. OF AMOUNT CHECKED
6. EST. OF DATE CHECKED

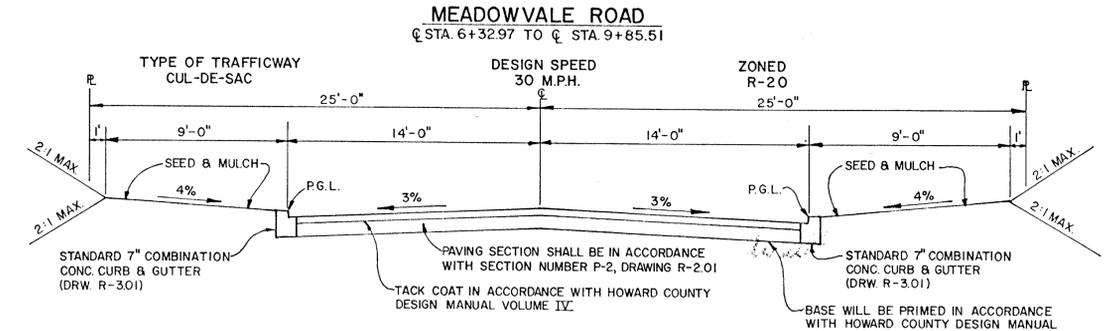
DATE
BY
REVISIONS
NO. DATE
1. SURVEYED
2. GRAPHS CHECKED
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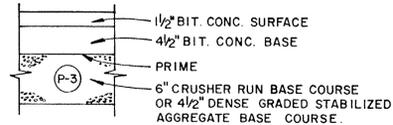
TYPICAL WIDENING SECTION
NO SCALE



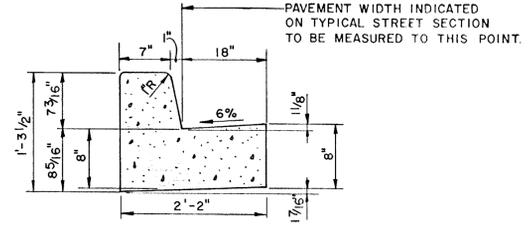
CHANNEL DESIGN DATA
 $A = 7.14 \text{ sq. ft.}$ $S = 4.85\%$
 $P = 12.46 \text{ ft.}$ $S1/2 = 0.2202$
 $R = 0.5730$ $n = 0.04$
 $R2/3 = 0.6899$ $\text{WATER LEVEL} = 0.66'$
 $V = 1.486 \times 0.6899 \times 0.2202 = 5.64 \text{ fps}$
 $Q = 7.14 \text{ sq. ft.} \times 5.64 \text{ fps} = 40.3 \text{ cfs}$



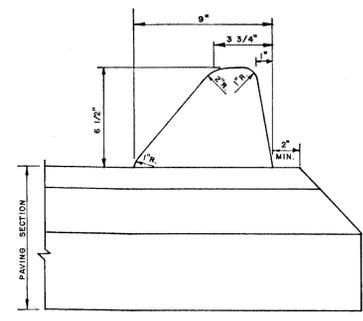
TYPICAL ROADWAY SECTION
NO SCALE



PAVING SECTION P-2 & P-3
NO SCALE



STANDARD SLOPE 7" COMB. CONC. CURB & GUTTER
NO SCALE



STANDARD BITUMINOUS CURB
NO SCALE

APPROVED
DEPARTMENT OF PUBLIC WORKS
Charles J. Crovo 10-8-84
CHIEF, BUREAU OF ENGINEERING
DATE

APPROVED
OFFICE OF PLANNING AND ZONING
John W. Hirschman 10-4-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
DATE

SEAL OF THE ENGINEER
CHARLES J. CROVO SR.
DATE 7/1/84

BEDFORD SQUARE
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

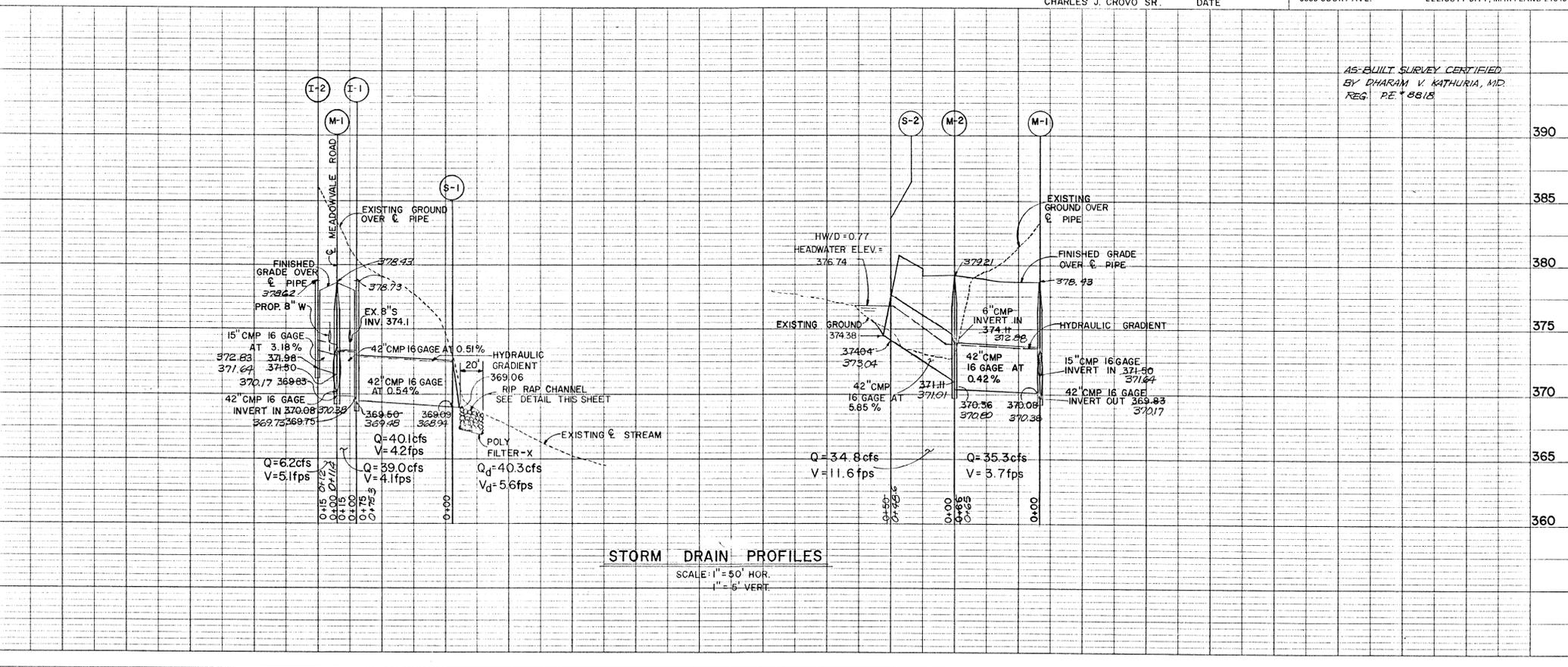
ROAD SECTIONS, DETAILS,
AND STORM DRAIN PROFILES

OWNER AND DEVELOPER
P & N PARTNERSHIP
9025 CHEVROLET DRIVE
SUITE L
ELLCOTT CITY, MD. 21043

SCALE AS SHOWN DATE JULY 6, 1984 DWG NO. 4 OF 5
DES. C. CROVO SR. DRN. A. STEINBERG CHK. R. B. CARTER

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLCOTT CITY, MARYLAND 21043

NO.	TYPE	STRUCTURE		SCHEDULE		REMARKS
		INVERT IN	INVERT OUT	TOP ELEV.	STATION	
I-1	A-5	369.75	369.73	378.77	7+19.82	DRAWING SD 4.01
I-2	A-5	---	371.98	378.77	7+19.82	DRAWING SD 4.01
M-1	STANDARD MANHOLE	371.50	371.04	369.65	7+19.82	DRAWING G 5.03
M-2	STANDARD MANHOLE	371.11	371.01	370.36	6+53.82	DRAWING G 5.03
S-1	STANDARD METAL END SECTION	---	369.03	372.59	---	DRAWING SD 5.61
S-2	STANDARD METAL END SECTION	374.04	373.04	377.54	---	DRAWING SD 5.61



STORM DRAIN PROFILES
SCALE: 1" = 50' HOR.
1" = 5' VERT.

