

**SEDIMENT CONTROL NOTES**

- 1) 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)
- 2) 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.
- 3) Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- 4) 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.
- 5) 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 seeding (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.
- 6) 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.
- 7) Site Analysis:
 

Total Area of Site	10.38 Acres
Area Disturbed	4.61 Acres
Area to be roofed or paved	1.7 Acres
Area to be vegetatively stabilized	2.91 Acres
Total Cut	7150 Cu. yds
Total Fill	7400 Cu. yds
Offsite waste/borrow area location	
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9) Additional sediment controls must be provided, if deemed necessary by the Howard County D/W sediment control inspector.
- 10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

**PERMANENT SEEDING NOTES**

- Seedbed Preparation:** Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.
- Soil Amendments:** Use one of the following schedules:
- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 square ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 square ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 square ft.)
  - 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 square ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq. ft.) 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 50 lbs. per acre (1.4 lbs./1000 sq. ft.) 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 (.05 lbs./1000 square ft.) of seeding legumes. 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. per 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 mulchified 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 reseedings.

**TEMPORARY SEEDING NOTES**

- Seedbed Preparation:** Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.
- Soil Amendments:** Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.)
- Seeding:** For periods March 1 through April 30 and from August 15 through November 15, seed with 2 1/2 lbs. per acre of annual ryegrass (0.2 lbs./1000 sq. ft.) For the period May 1 through August 15, seed with 3 lbs. per acre of seeding legumes (.07 lbs./1000 sq. ft.) For the period November 16 through February 28, protect the 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 mulchified asphalt on flat areas. On slopes, 8 ft. or higher use 348 gal. per acre (8 gal./1000 sq. ft.) for anchoring.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

*James M. ...* 10/16/89  
SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John P. ...* 10/16/89  
DISTRICT DATE  
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS.

*William S. ...* 10-25-89  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS.

*Paul D. ...* 10/24/89  
CHIEF, LAND DEVELOPMENT DIVISION DATE

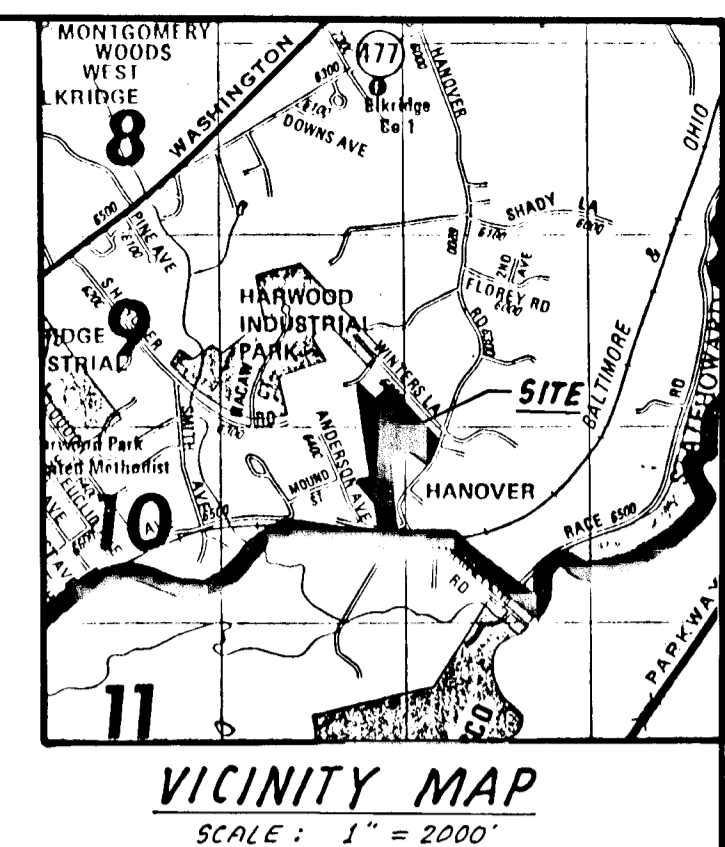
APPROVED: DEPT. OF PLANNING AND ZONING.

*Charles J. ...* 10/19/89  
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

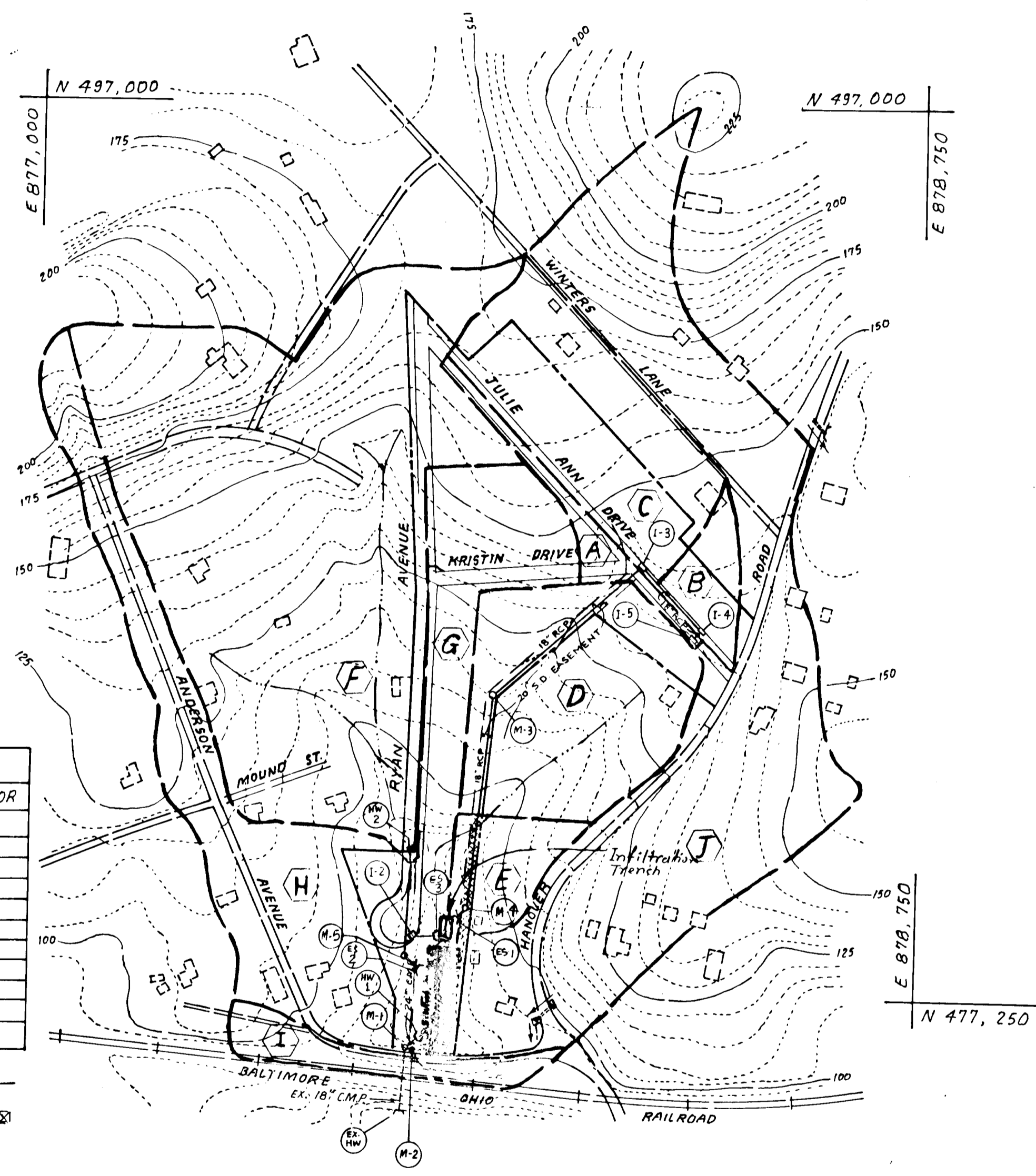
*Drumville W. ...* 10/19/89  
Chief, Bureau of Highways Date

# HANOVERVILLE



**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 CONTRACTORS 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.



DRAINAGE AREA		
AREA	ACRE	C FACTOR
A	0.75	0.77
B	0.65	0.49
C	3.34	0.49
D	4.04	0.30
E	1.01	0.30
F	13.56	0.36
G	3.00	0.49
H	4.63	0.46
I	1.06	0.34
J	8.84	0.43
TOTAL	40.90	

**DRAINAGE AREA MAP**  
SCALE: 1" = 200'

**INFILTRATION TRENCH**

- A. MATERIAL**
  1. Aggregate - The aggregate material shall consist of a clean aggregate with a maximum diameter of 3" and a minimum diameter of 1-1/2".
  2. Filter Fabric - Filter fabric shall be Mirafix 140 N or approved equal.
- B. CONSTRUCTION SPECIFICATIONS**
  1. The infiltration trench shall not be constructed or placed in service until all of the contributing drainage area has been stabilized and approved by the inspector.
  2. Excavate the trench to the design dimensions. Excavated materials shall be placed away from the trench. Slopes of the trench shall be 1:1. Large tree roots must be trimmed flush with the trench sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side walls of the trench shall be roughened where sheared and sealed by heavy equipment.
  3. The filter fabric roll must be cut to the proper width prior to installation. The cut width must include sufficient material to conform to trench perimeter irregularities and for a six (6) inch minimum top overlap. Place the fabric roll over the trench and fabric sufficient length to allow placement of the stone aggregate shall be placed on the fabric and anchored to the trench to keep the lined trench open during windy periods. When overlaps are required between rolls, the upstream roll should lap a minimum of two (2) feet over the downstream roll in order to provide a whinged effect.
  4. The stone aggregate shall be placed in 12" lifts and compacted using plate compactors.
  5. Following the stone aggregate placement, the filter fabric shall be folded over the stone aggregate to form a six (6) inch minimum longitudinal lap. The stone aggregate shall be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.
  6. Care shall be exercised to prevent soils from intermixing with the stone aggregate. All contaminated stone aggregate shall be removed and replaced with uncontaminated stone aggregate.
  7. Voids created between the fabric and excavation sides and shall be avoided. Natural soils shall be placed in these voids at the most convenient time during the excavation sides. Ensure fabric conformity to the excavation sides.
  8. Vertically excavated walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive or cohesionless soils predominate. These conditions may require laying back of the side slopes to maintain stability.
  9. Heavy equipment and traffic shall be restricted from traveling over the infiltration areas to minimize compaction of the soil.
  10. An observation well shall be provided. The depth of the well at the time of installation will be clearly marked on the well cap.
- C. MAINTENANCE**
  1. The observation well shall be monitored periodically. For the first year after completion of construction, the well shall be monitored on a quarterly basis and thereafter every six months. It is recommended that a log book be maintained indicating the date at which the facility is monitored, the water level, and the general characteristics of the structure. Once the performance of the structure is determined, the frequency of monitoring should be reduced to provide adequate support, unless the performance data indicate that a more frequent schedule is required.
  2. Sediment buildup in the top foot of stone aggregate shall be monitored on the same schedule as the observation well. Sediment deposit shall not be allowed to build up to the point where it will reduce the rate of infiltration into the trench.

**POND SPECIFICATIONS (EXCAVATED)**

- I. SITE PREPARATION**

Areas designated for borrow areas, embankment, and structural works shall be cleared, graded 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 pond area be cleared of all brush and trees.
- II. EARTH FILL**

**Material**  
The fill material shall be taken from approved designated borrow areas 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.

**III. 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.
- IV. PIPE CONDUITS**

**A. CORRUGATED METAL PIPE**

  1. Materials - Metal Pipe - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211, with watertight coupling bands.
  2. Connections - All connections with pipes must be completely watertight. The structural connection to the control structure shall be mortared all around. Watertight coupling bands shall be used at all joints.
  3. 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.
  4. Laying pipe - The pipe shall be placed with inside circumferential lips pointing downstream and with the longitudinal lips at the sides. Sediment shall not be allowed to build up to the point where it will reduce the rate of infiltration into the trench.
  5. Backfilling shall conform to structural backfill as shown above.

**V. 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.

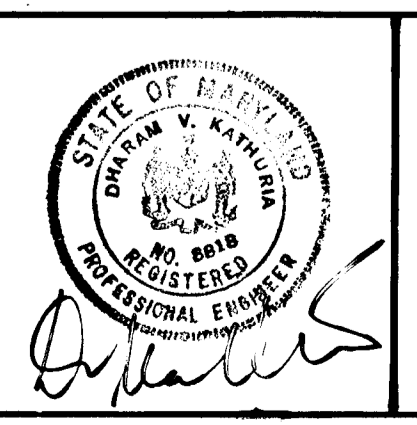
**VI. STABILIZATION**  
All borrow areas shall be graded to provide proper drainage and left in a highly condition. All exposed surfaces of the embankment, spillway and borrow areas shall be stabilized by seeding and applying straw mulch in accordance with Standards and Specifications for Soil Erosion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

All exposed areas of the embankment and pond shall be stabilized by:

  - a. Spreading 4" topsoil
  - b. Working in 1 ton of ground limestone and 1,000 pounds of 10-10-10 fertilizer per acre.
  - c. Seed with 40 lbs./acre of "Kentucky 31" tall fescue, and 15 lbs./acre of Crownvetch inoculated.
  - d. Mulch with 1-1/2 tons straw per acre.
  - e. Tie down mulch with emulsified asphalt @ 348 gallons/acre.

DESIGNED		DATE		BY		DESCRIPTION	
K.A.P.							
DRAWN		DATE		BY		DESCRIPTION	
K.A.P.							
CHECKED		DATE		BY		DESCRIPTION	
D.V.K.							
APPROVED		DATE		BY		DESCRIPTION	

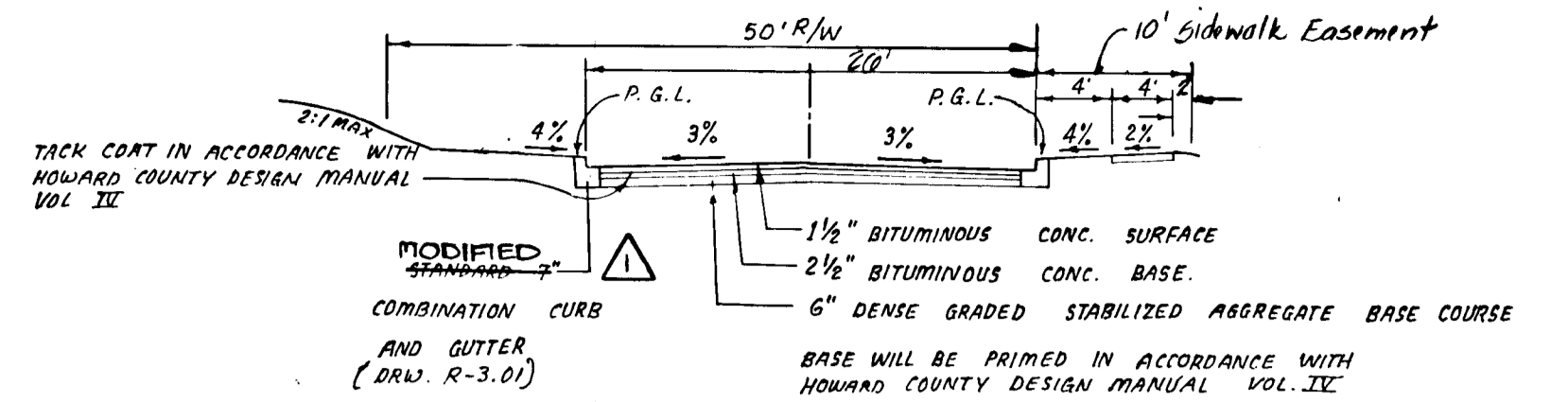
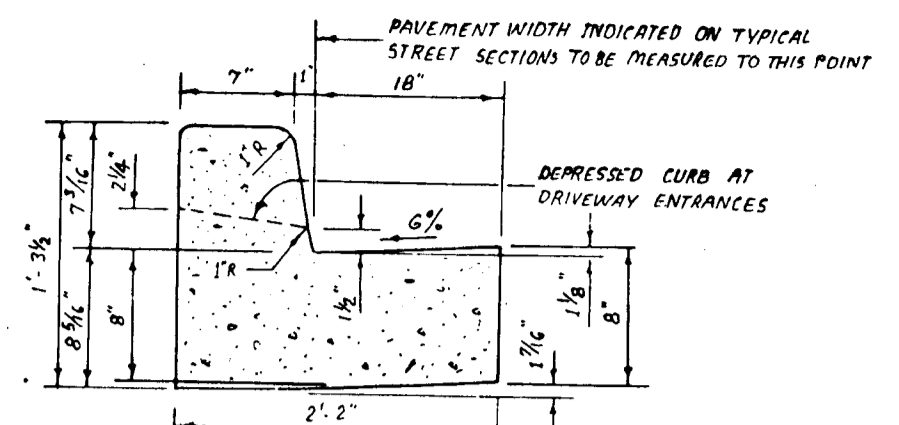
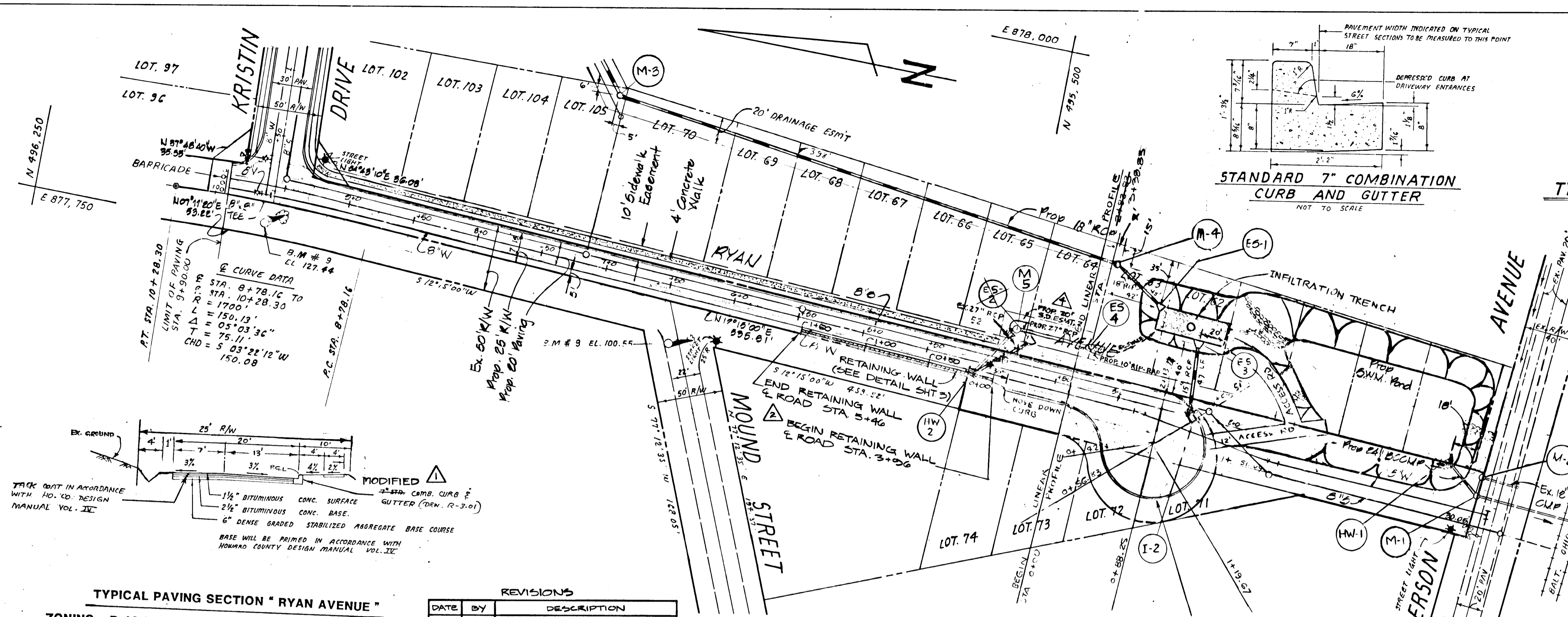
**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
ENGINEERS, PLANNERS, SURVEYORS  
3458 ELLICOTT CENTER DRIVE, SUITE 101  
ELLICOTT CITY, MD. 21043  
(301) 461-9920



**OWNER / DEVELOPER**  
CHARLES ATAS  
1706 TRINITY LANE  
ANNAPOLIS, MARYLAND. 21401  
(410) 569-9400

**ROADS AND STORM DRAIN**  
**HANOVERVILLE**  
LOTS 58-74 AND 93-128  
PARCEL 641, TAX MAP 38  
1<sup>ST</sup> ELECTION DISTRICT, HOWARD COUNTY, MARYLAND.  
SCALE: AS SHOWN CONTRACT NO. REVISED F-85-108 DATE: FEB 1989 SHEET: 1 OF 7





**TYPICAL PAVING SECTION "RYAN AVENUE" ZONING - R 12 LOCAL**  
**STREET DESIGN SPEED 30 M.P.H.**  
 (FROM STATION 2+00.0 TO 3+26.0)

APPROVED: DEPT. OF PUBLIC WORKS  
*Camille W. Wehland* 10/24/89  
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John J. ...* 10-25-89  
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPT. OF PLANNING AND ZONING  
*John J. ...* 11/19/89  
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

**PLAN AND PROFILE "RYAN AVENUE"**  
**HANOVERVILLE (LOTS 5A-7A AND 93-129)**  
 1<sup>ST</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND. REVISED F-85-168

**OWNER / DEVELOPER**  
 CHARLES ATAS  
 1706 TRINITY LANE  
 ANNAPOLIS, MARYLAND, 21401  
 (301) 565-9800

SCALE: AS SHOWN DATE: FEB '1989 SHEET NO: 2 OF 7  
 DESIGNED BY: K.A.P. DRAWN BY: K.A.P. CHECKED BY: D.V.K.

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS  
 3488 ELLICOTT CENTER DRIVE, SUITE 101  
 ELLICOTT CITY, MD 21114  
 (301) 451-9500

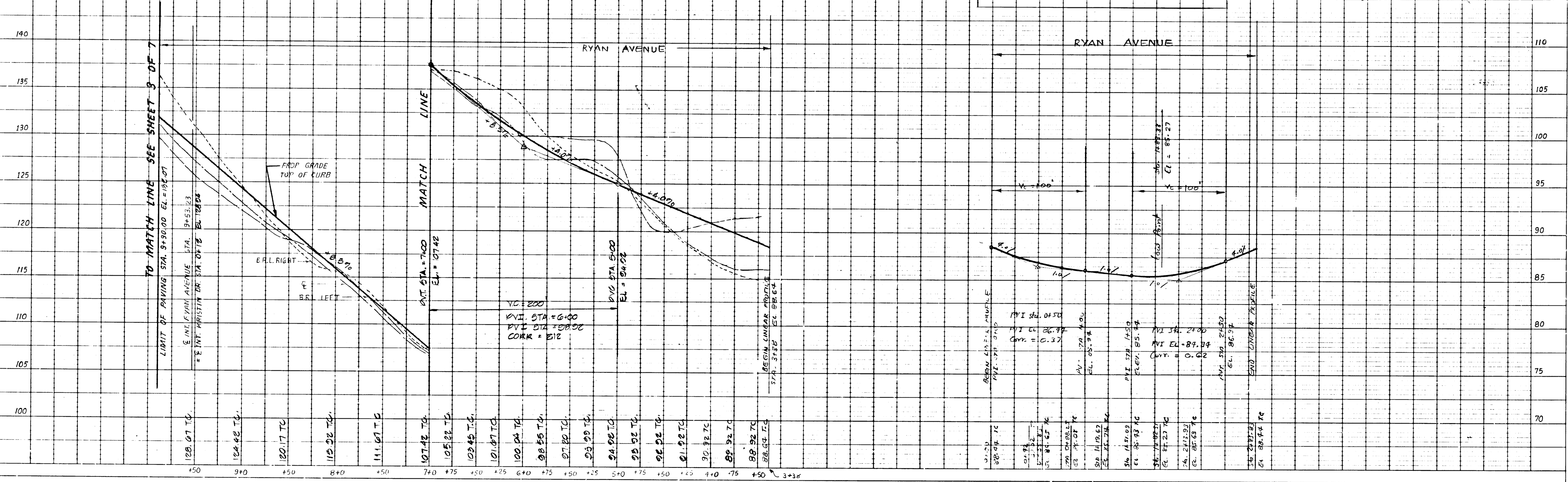
REVISIONS

DATE	BY	DESCRIPTION
3-19-91	MCR	Changed Std. Comb. Curb & Gutter to Modified " " "
3-19-91	MCR	Retaining Wall is added
3-19-91	MCR	Note for Std. Curb & Gutter is added
1-11-75	PKM	ADD MANHOLE, EXTEND S.O. PIPE

**PLAN**  
 SCALE: 1" = 50'

**BENCH MARKS:**  
 (1) B.M. # 8 CUT NAIL & FLASHER S.W. SIDE 18" OAK EL. = 100.55  
 (2) B.M. # 9 CUT NAIL & FLASHER S.E. SIDE 20" OAK EL. = 127.44

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Camille W. Wehland* 10/19/89  
 Chief, Bureau of Highways Date



**PROFILE** SCALE: 1" = 50' HORIZ  
 1" = 5' VERT

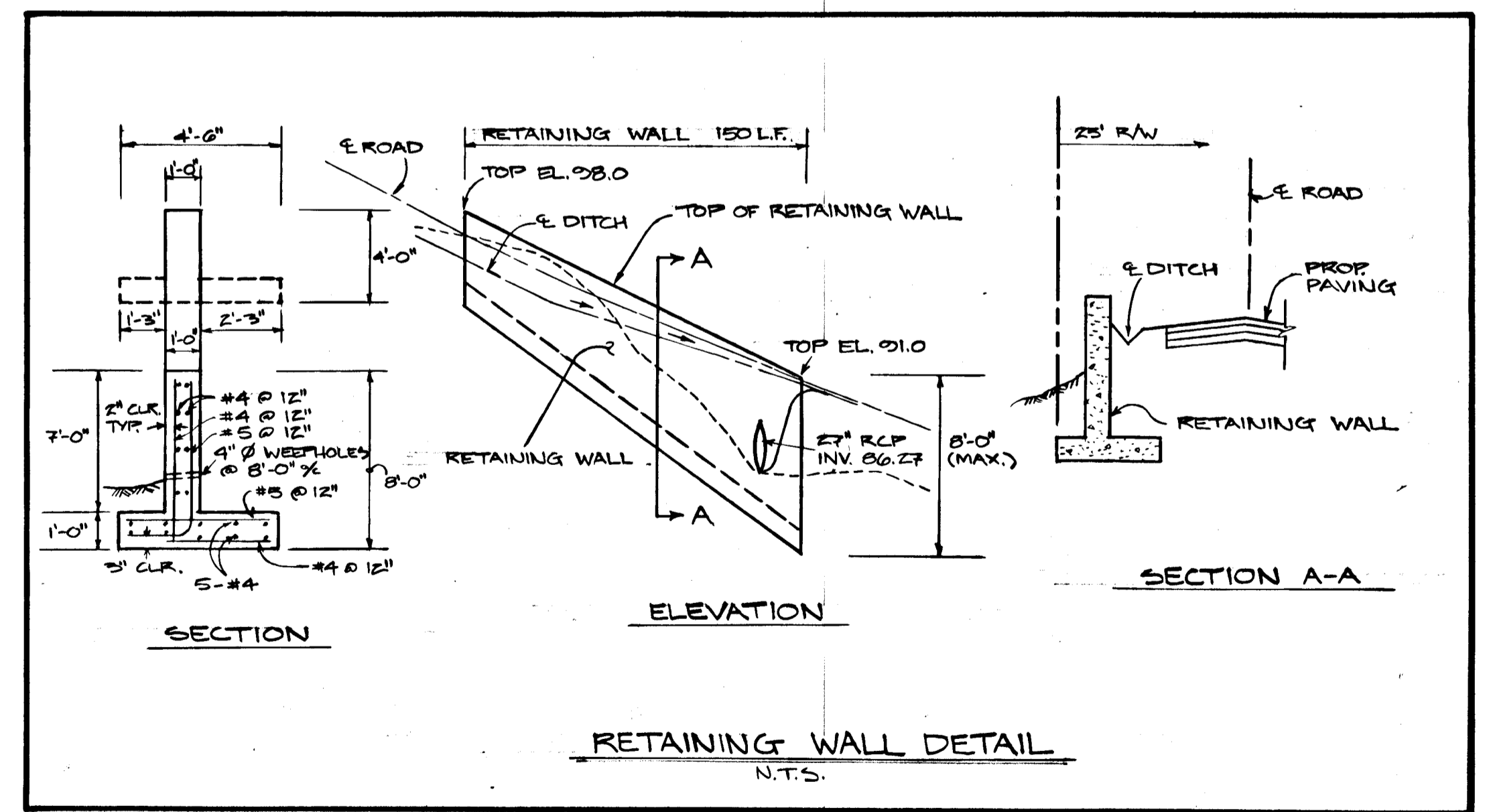
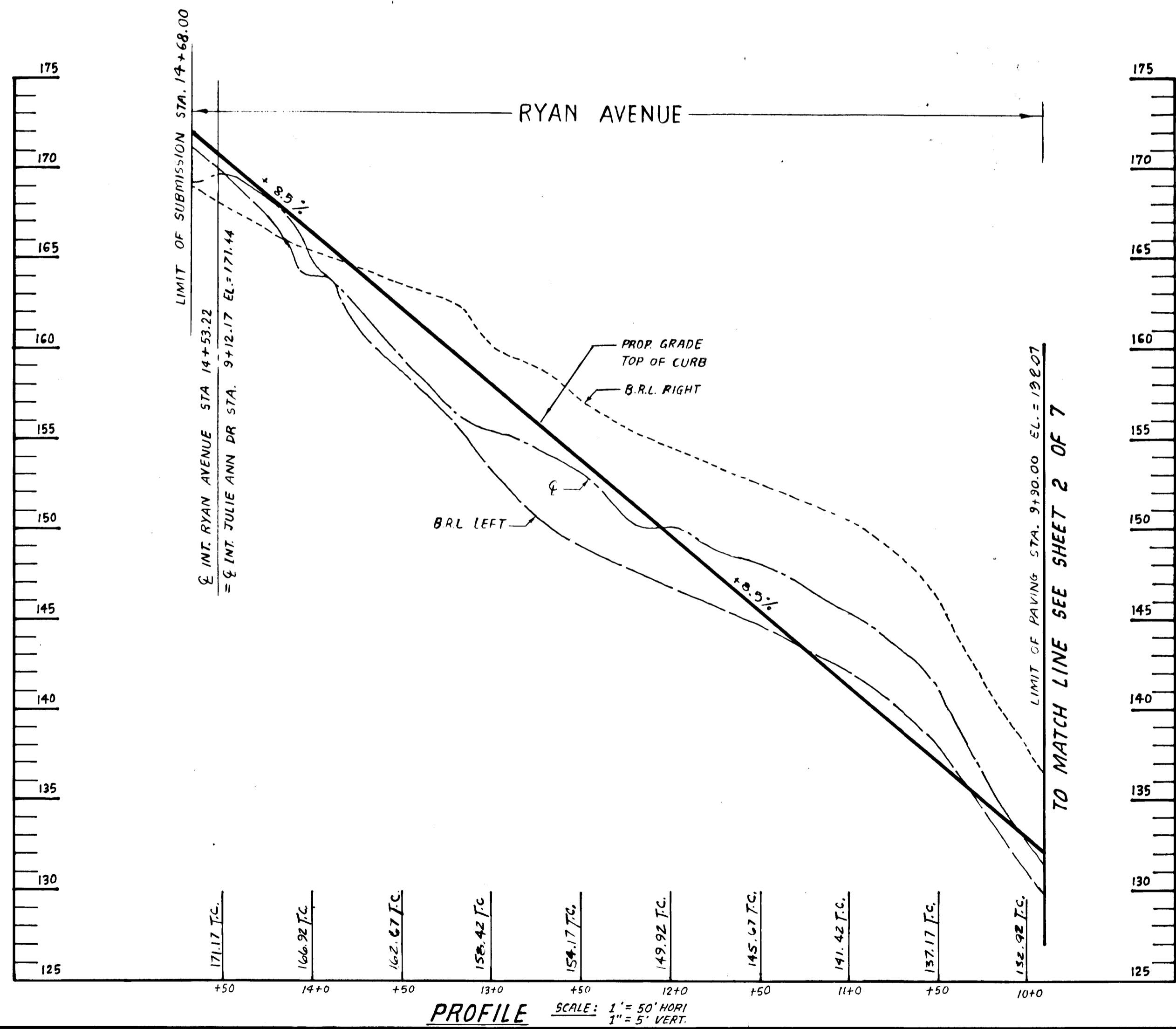
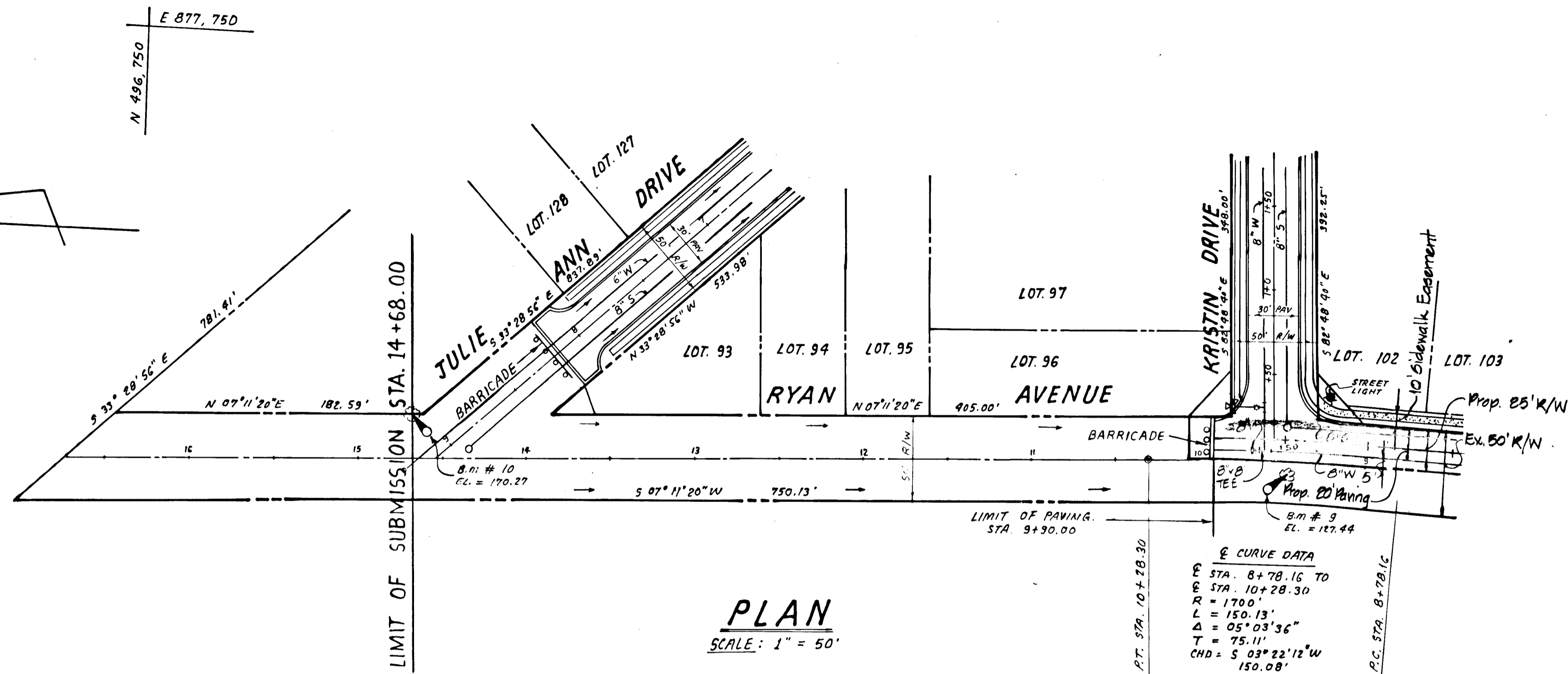
**LINEAR PROFILE**

**F-85-168**

PLATE 1 PLAN PROFILE OF P.R.A.E. STANDARD NATIONAL TRACING PAPER DIVISION

PLAN  
 SURVEYED  
 NOTED  
 CHECKED  
 NO. 1

PROFILE  
 SURVEYED  
 NOTED  
 CHECKED  
 NO. 1



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 10/24/89  
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 10/19/89  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 10-25-89  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPT. OF PLANNING AND ZONING  
*[Signature]* 11/10/89  
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PLAN AND PROFILE "RYAN AVENUE"

DESIGNED		DATE		BY		DESCRIPTION	
K. A. P.		3-19-81		MCR		Retaining Wall Detail is added	
D. V. K.							

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**  
ENGINEERS, PLANNERS, SURVEYORS  
3458 ELLICOTT CENTER DRIVE, SUITE 101  
ELLICOTT CITY, MD. 21043  
(301) 461-9920

**OWNER / DEVELOPER**  
CHARLES ATAS  
1706 TRINITY LANE  
ANNAPOLIS, MARYLAND. 21401  
(301) 569-9400

**ROADS AND STORM DRAIN**  
**HANOVERVILLE**  
LOTS 58-74 AND 93-128  
PARCEL 641, TAX MAP 38  
1<sup>ST</sup> ELECTION DISTRICT, HOWARD COUNTY, MARYLAND.  
SCALE: AS SHOWN CONTRACT NO. REVISED F-85-186 DATE: FEB 1989 SHEET: 3 OF 7



PLAN AND PROFILE  
KRISTIN DRIVE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Paul D. Span* 10/28/89  
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Drummond W. Wehrend* 10/19/89  
CHIEF, Bureau of Highways DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Richard S. Brey* 10-23-89  
CHIEF, BUREAU OF ENGINEERING DATE

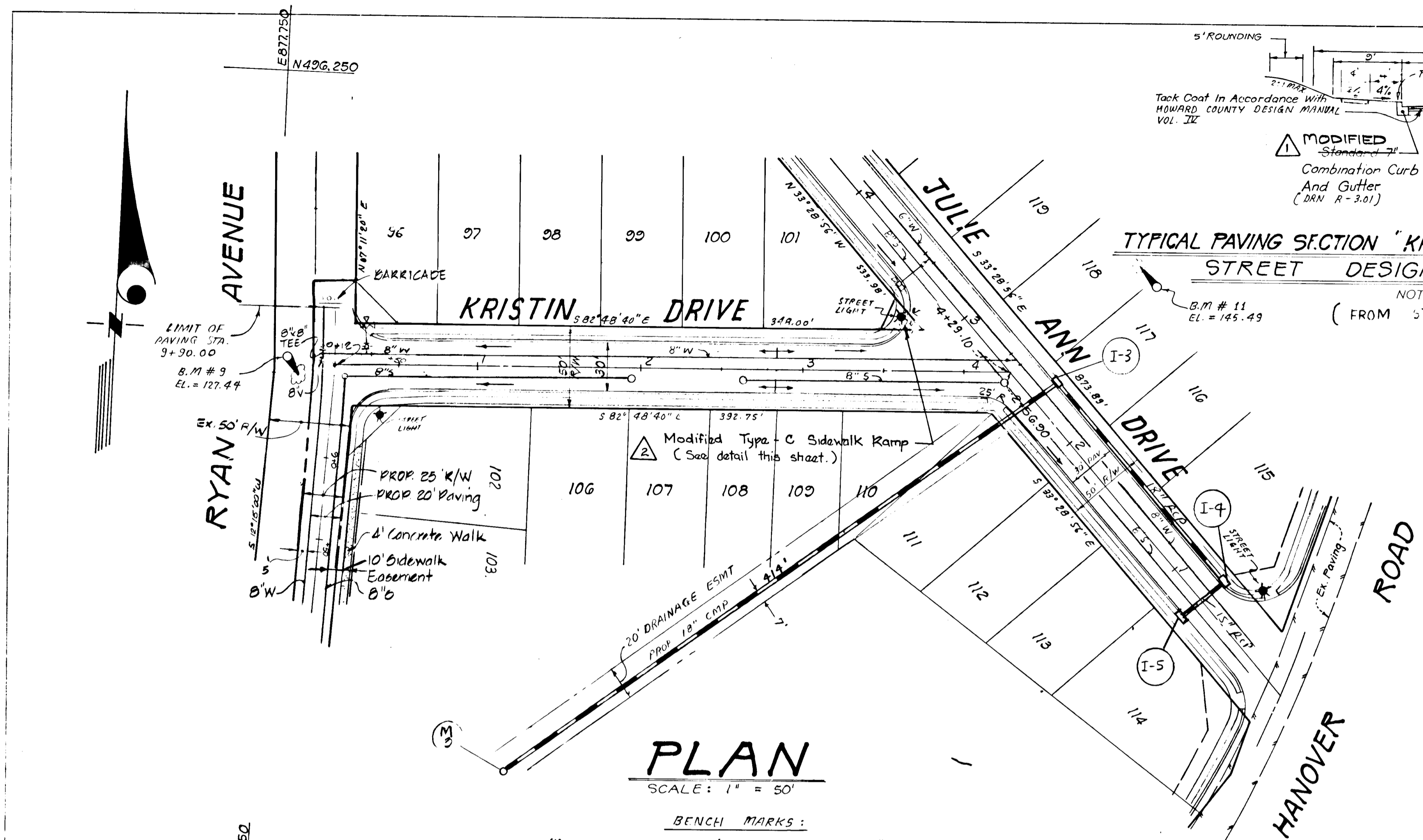
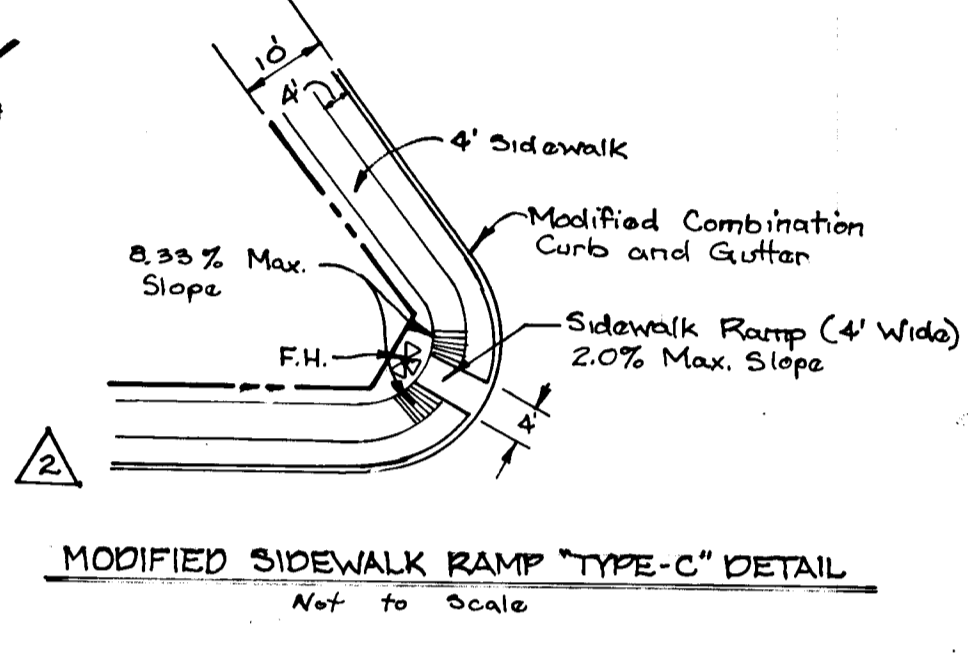
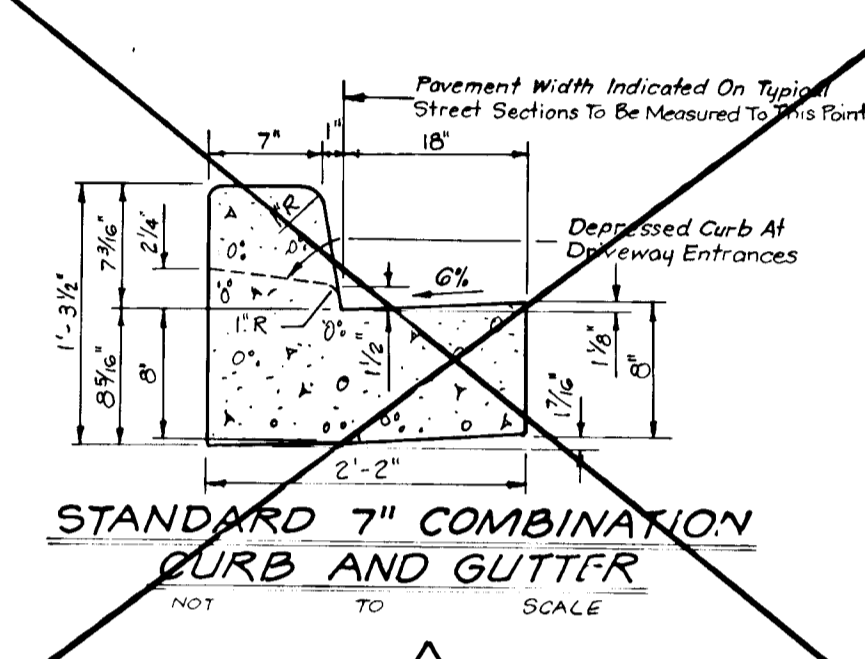
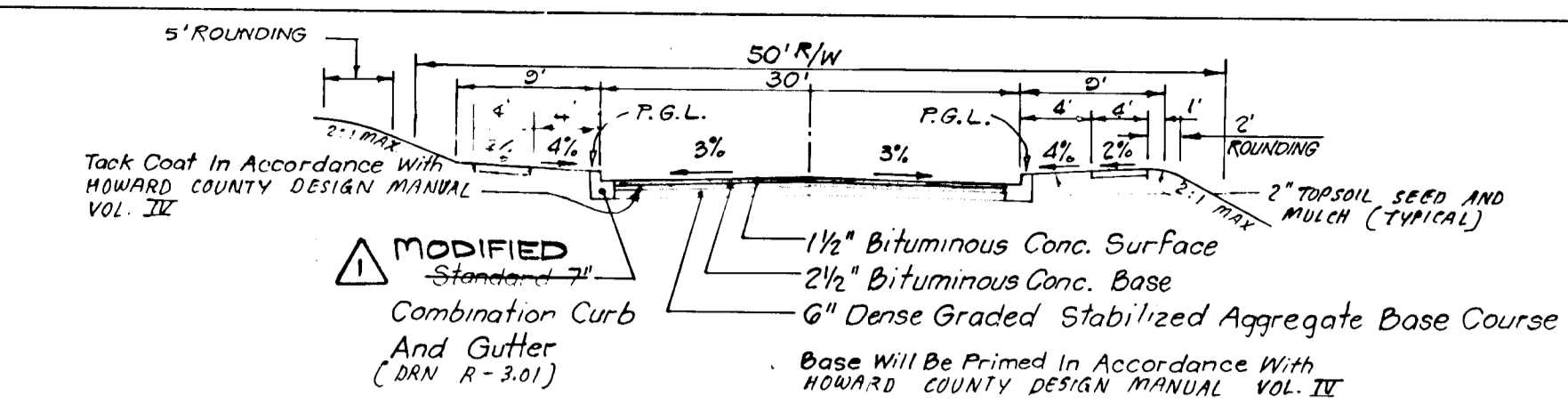
APPROVED: DEPT. OF PLANNING AND ZONING  
*Daniel S. Zanger* 11/12/89  
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

HANOVERVILLE (LOTS: 58-74 AND 93-128)  
1<sup>ST</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND. REVISED F-85-168

OWNER / DEVELOPER  
CHARLES ATAS  
1706 TRINITY LANE  
ANNAPOLIS, MARYLAND. 21401  
(301) 569-9400

SCALE: AS SHOWN DATE: FEB 1989 SHEET NO: 4 OF 7  
DESIGNED BY: K.A.P. DRAWN BY: K.A.P. CHECKED BY: D.V.K.

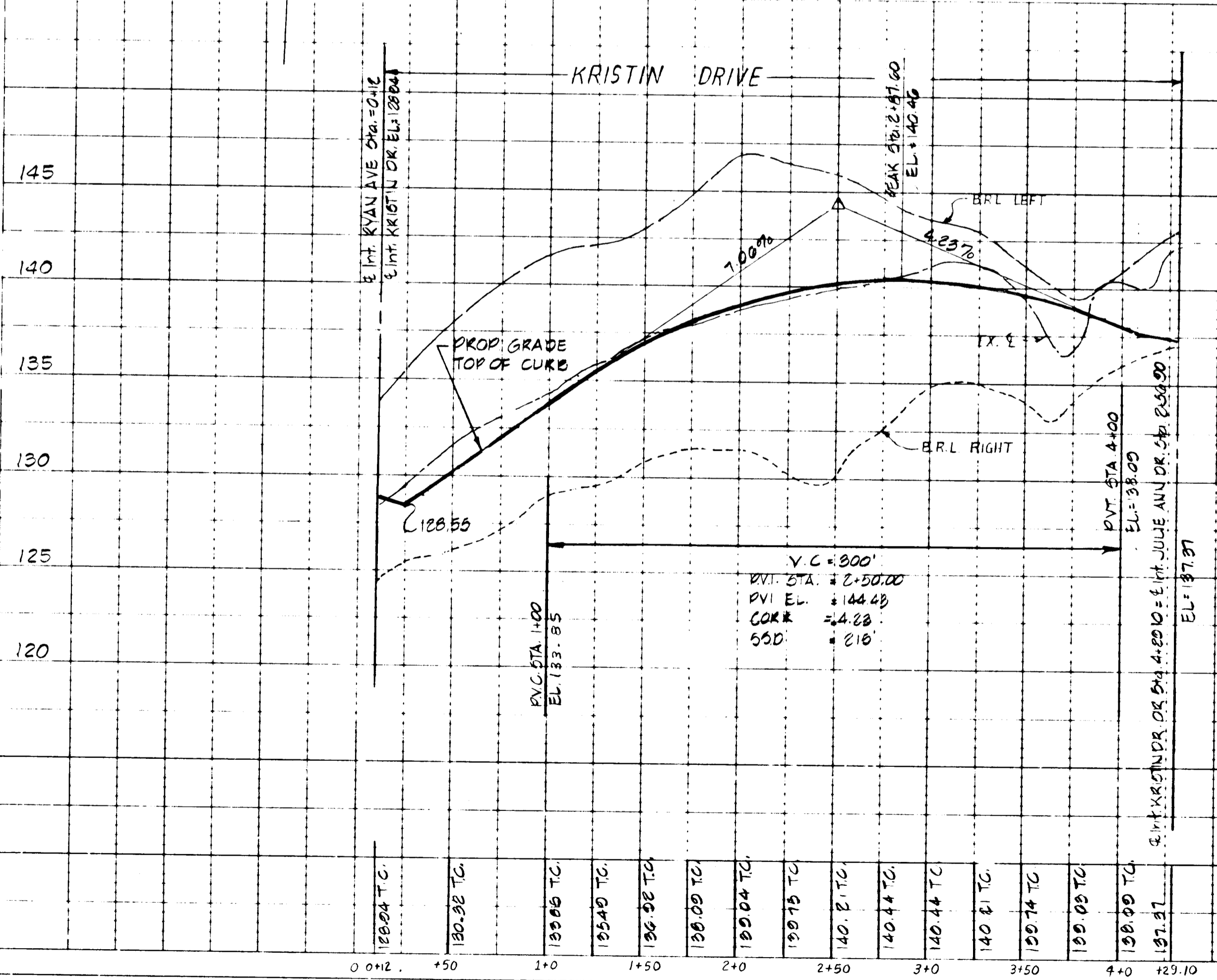
ENGINEERING TECHNOLOGIES ASSOCIATES, INC.  
ENGINEERS, PLANNERS, SURVEYORS  
3448 ELLICOTT CENTER DRIVE, SUITE 101  
ELLICOTT CITY, MD 21043  
(301) 481-9200



PLAN  
SCALE: 1" = 50'

- BENCH MARKS:
- (1). B.M. # 9 CUT NAIL & FLASHER S.E. SIDE 20" OAK EL = 127.44
  - (2). B.M. # 11 CUT NAIL & FLASHER S SIDE 18" OAK EL = 145.49
  - (3). B.M. # 10 CUT NAIL & FLASHER S.F. SIDE 40" B.O.L. OAK EL = 170.27

DATE	BY	DESCRIPTION
3-19-89	MCR	Changed Std. Comb. Curb & Gutter to Modified
6-15-89	SAP	Revised Sidewalk Ramp and Provided Detail for Same.



PROFILE SCALE: 1" = 40' HORIZ  
1" = 5' VERT

PLATE 1-PLAN PROFILE OF P.A.R.E. STANDARD  
100% P.A.C. - MADE AND PRINTED IN U.S.A.  
NATIONAL TRACING PAPER DIVISION  
INDIANAPOLIS, INDIANA

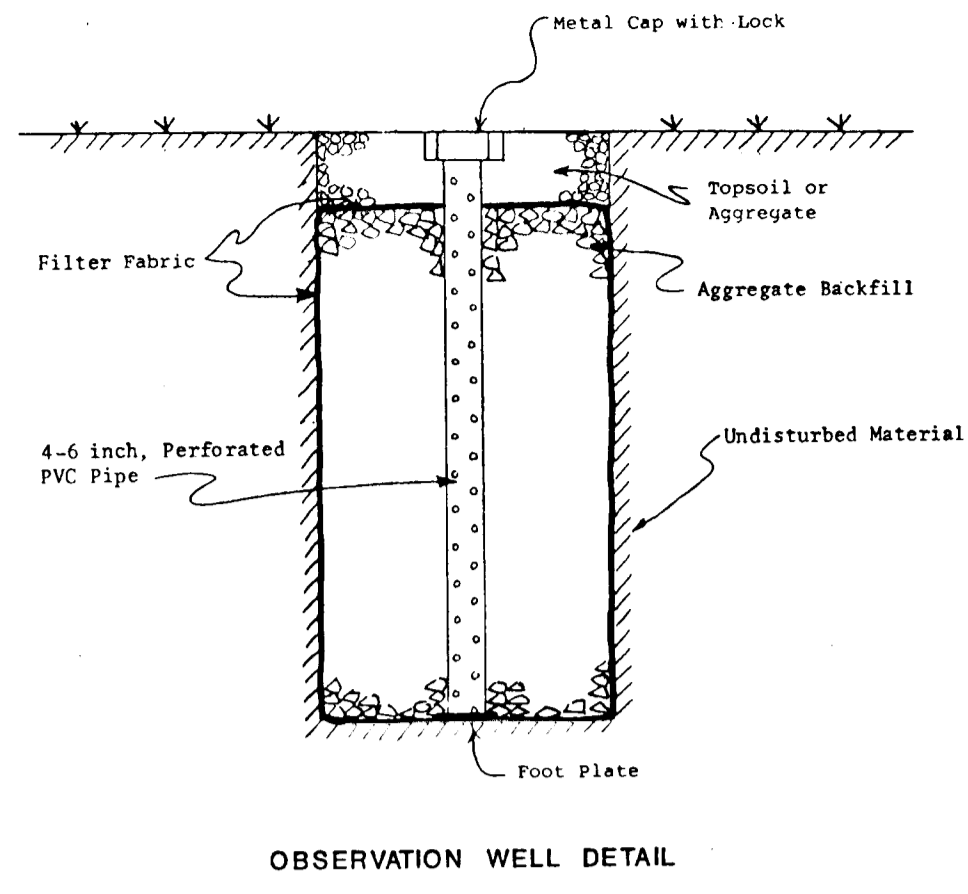
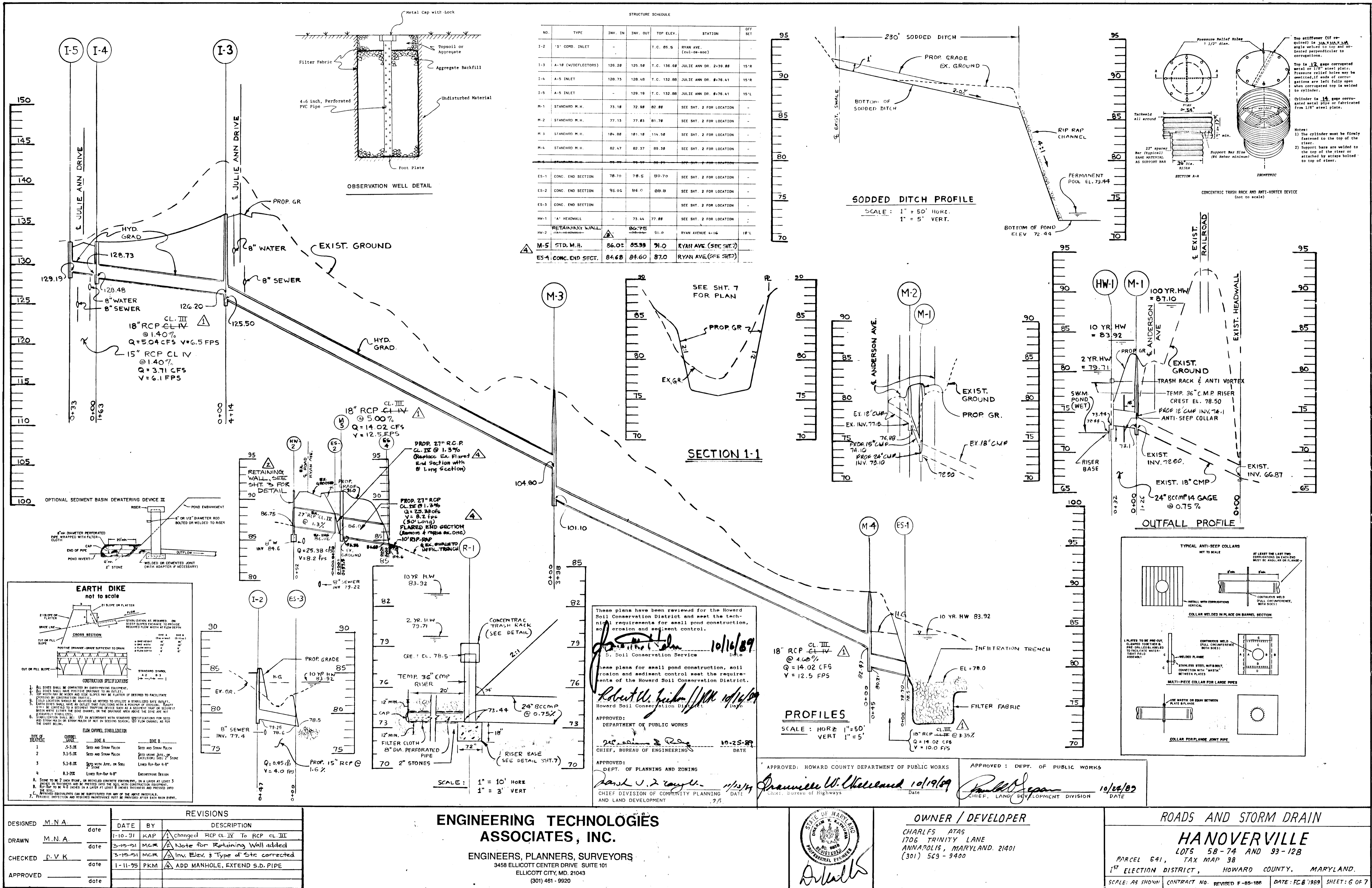
F-85-168

PLAN SURVEYED  
NOTE BOOK NO. OF ALIGNMENT CHECKED  
No.

PROFILE SURVEYED  
NOTE BOOK NO. OF VERT. CURVE  
No.

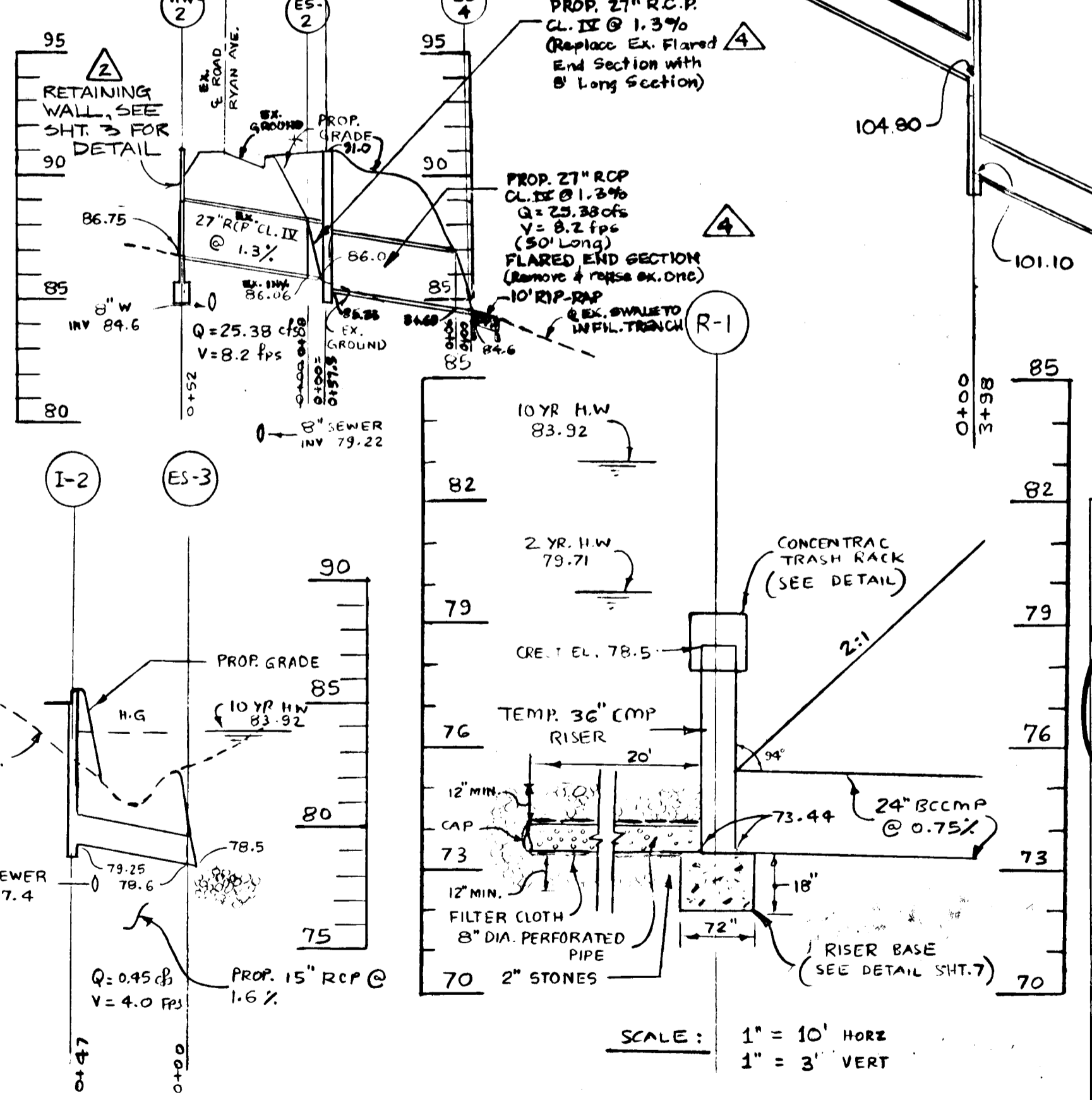
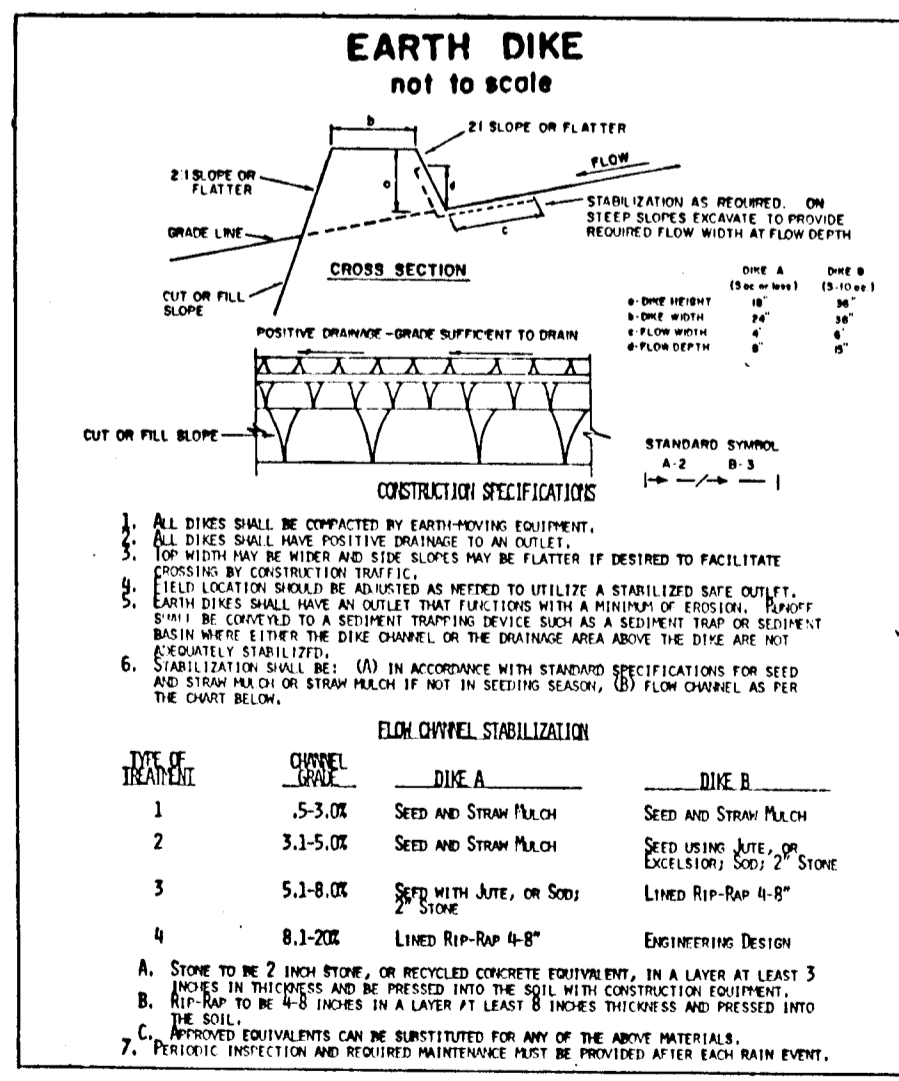
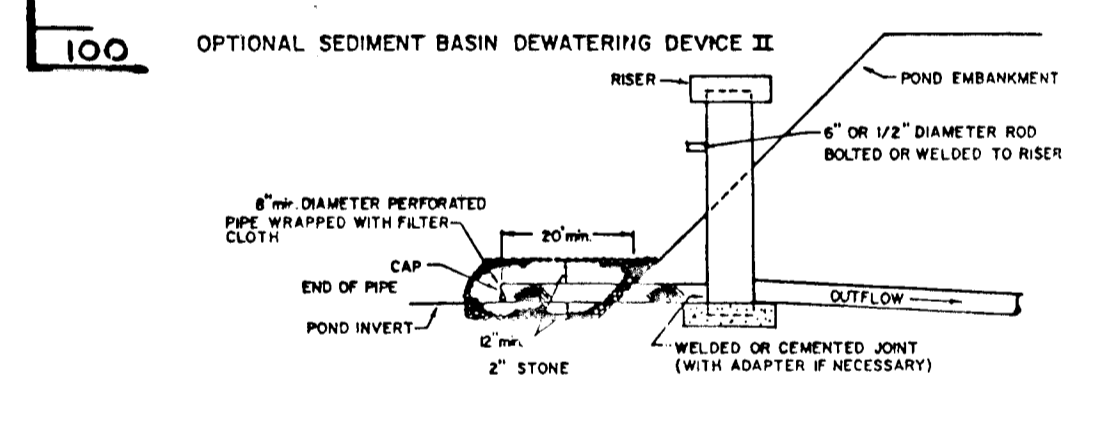
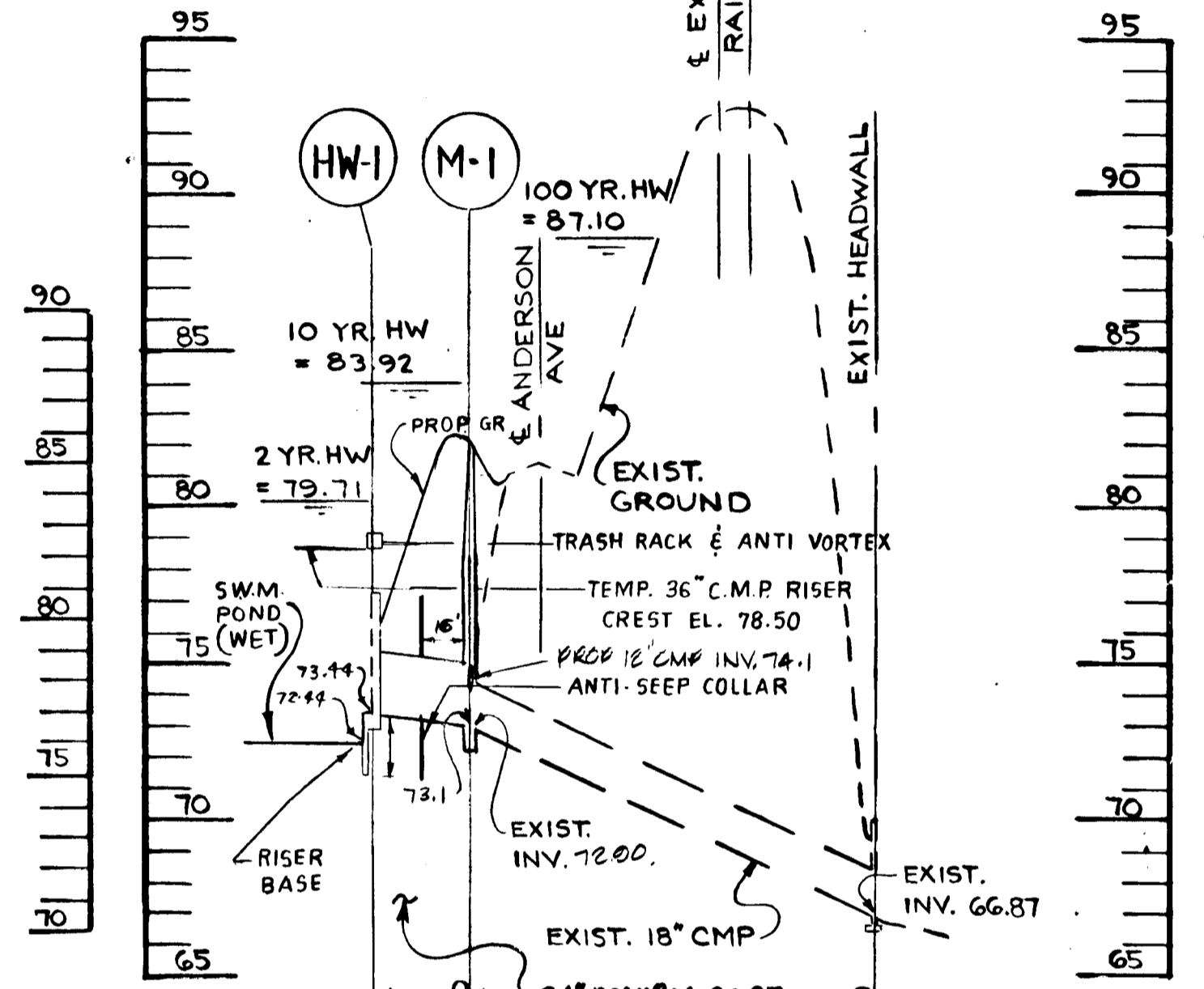
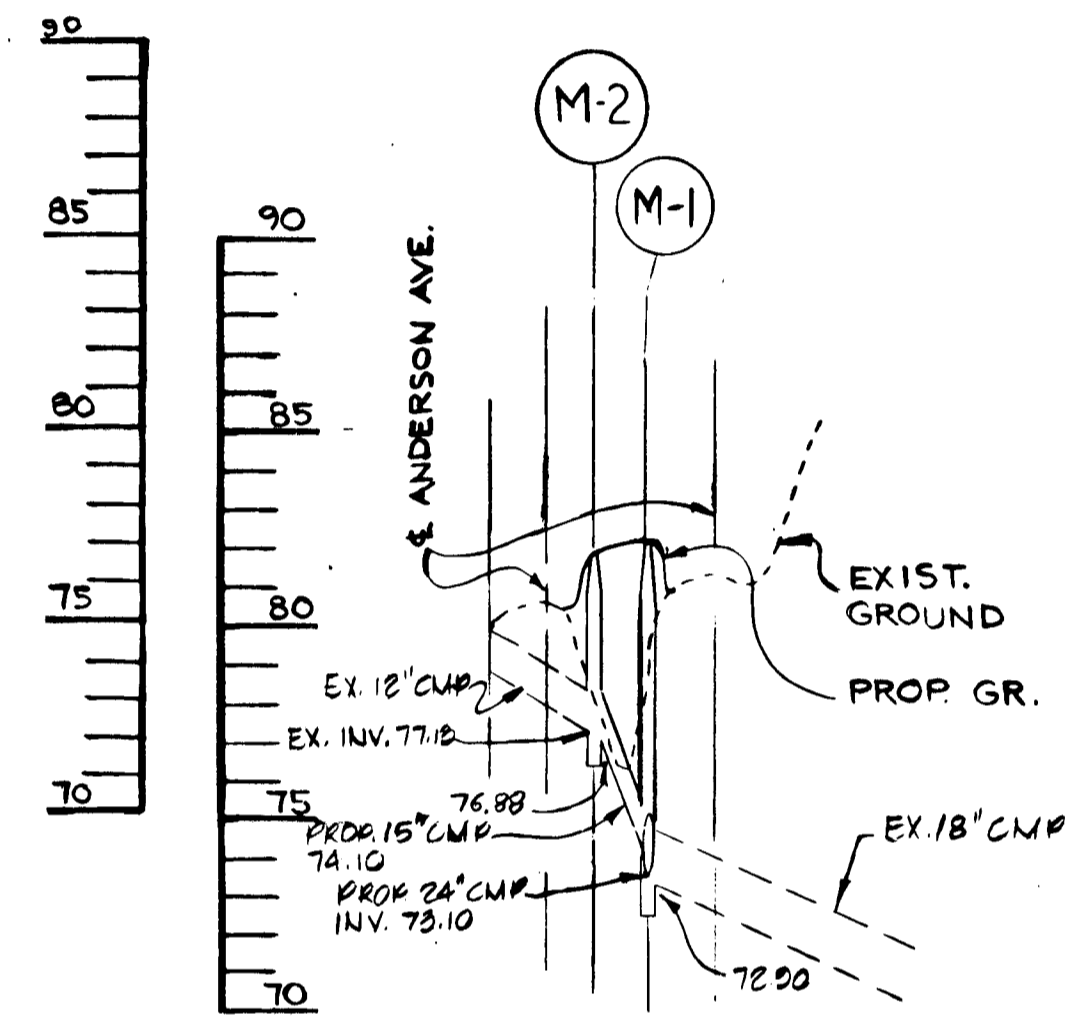
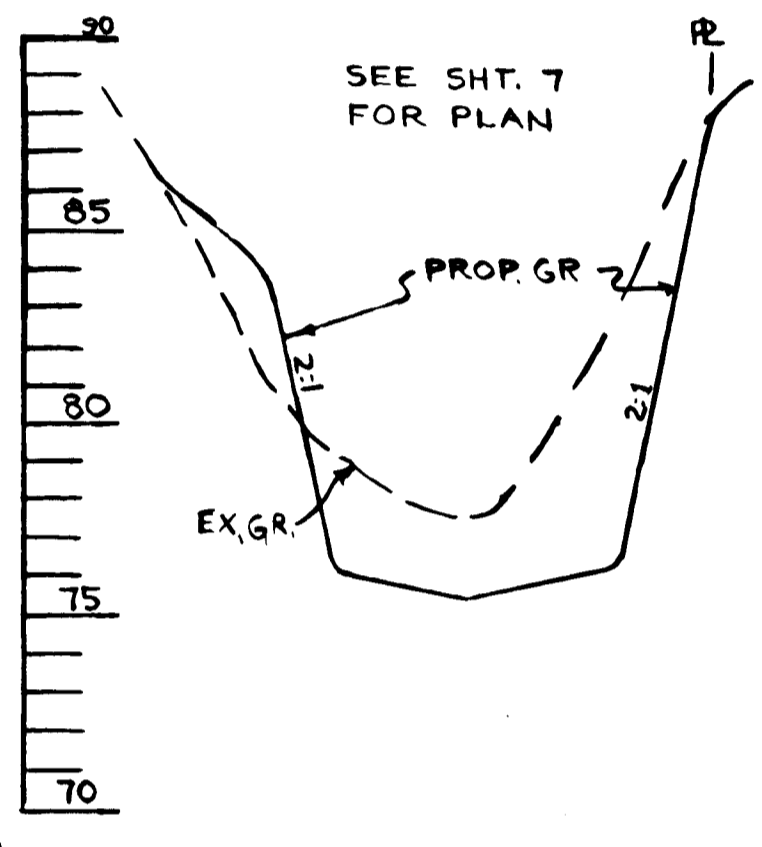
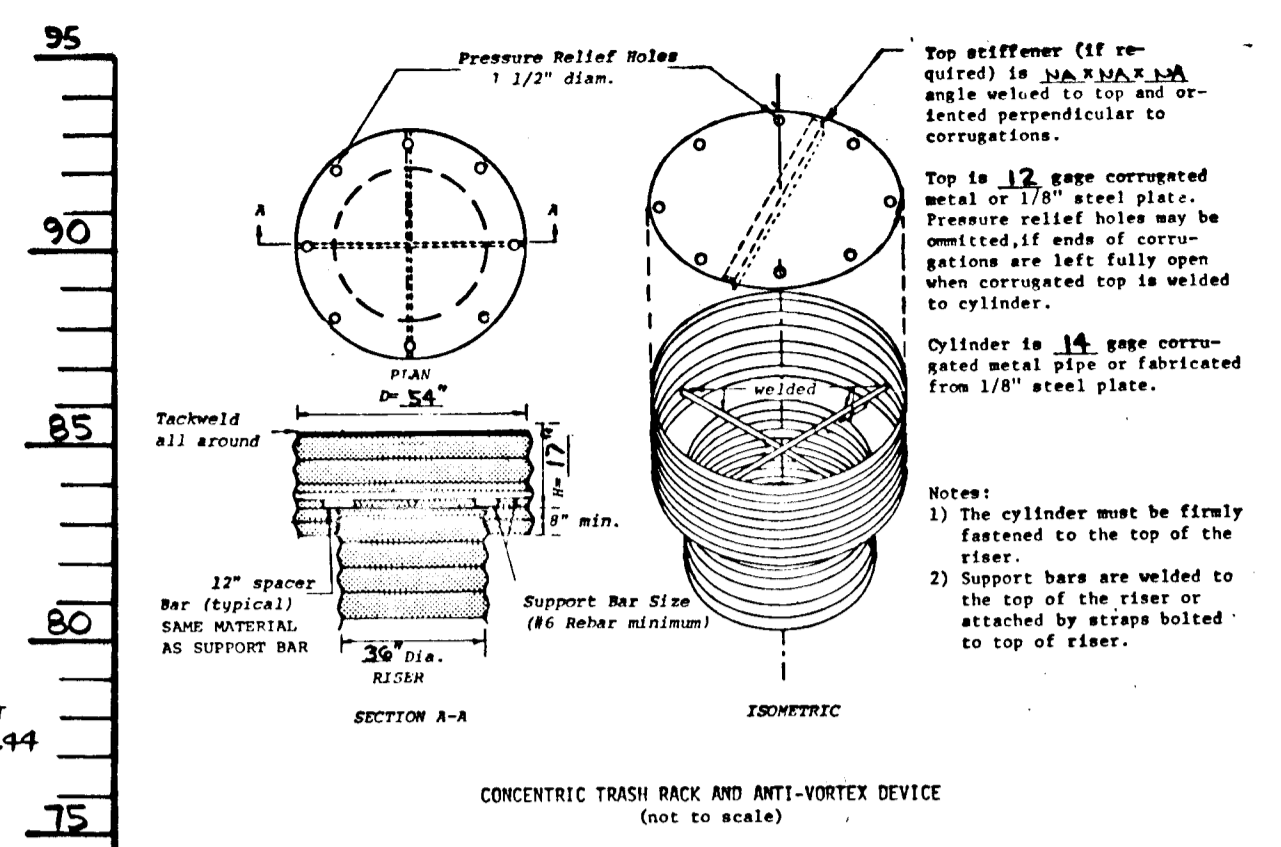
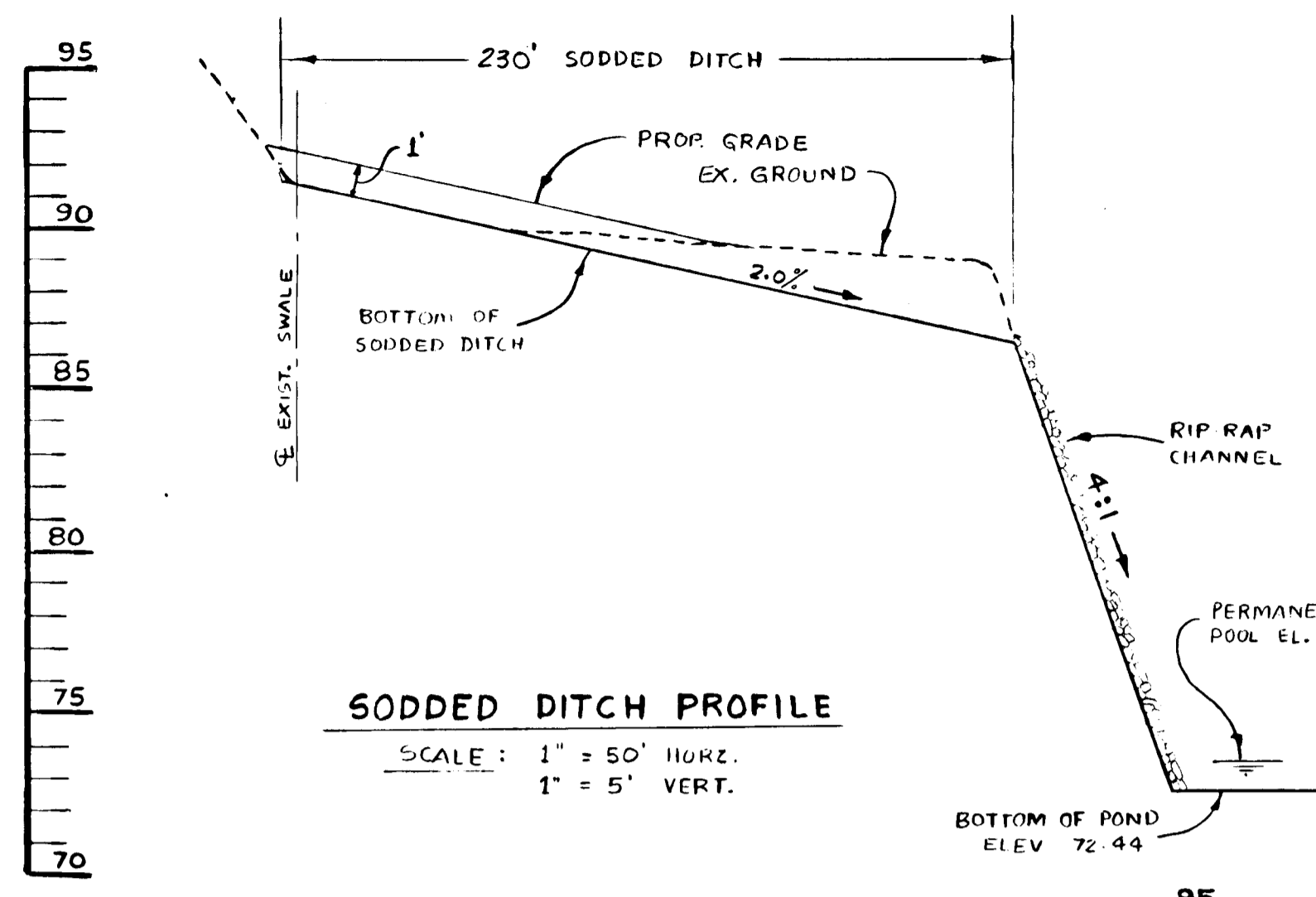






STRUCTURE SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.	STATION	OFF SET
I-2	'S' COMD. INLET	-	-	T.C. 85.5	RYAN AVE. (CUL-DE-SAC)	
I-3	A-10 (W/DEFLECTORS)	126.20	125.58	T.C. 136.68	JULIE ANN DR. 2439.88	15'R
I-4	A-5 INLET	128.73	128.48	T.C. 132.80	JULIE ANN DR. 8-76.41	15'R
I-5	A-5 INLET	-	129.19	T.C. 132.80	JULIE ANN DR. 8-76.41	15'L
M-1	STANDARD M.H.	73.18	72.98	82.88	SEE SHT. 2 FOR LOCATION	
M-2	STANDARD M.H.	77.13	77.83	81.78	SEE SHT. 2 FOR LOCATION	
M-3	STANDARD M.H.	184.88	181.18	114.58	SEE SHT. 2 FOR LOCATION	
M-4	STANDARD M.H.	82.47	82.37	89.38	SEE SHT. 2 FOR LOCATION	
ES-1	CONC. END SECTION	78.70	78.5	80.70	SEE SHT. 2 FOR LOCATION	
ES-2	CONC. END SECTION	96.05	86.0	88.8	SEE SHT. 2 FOR LOCATION	
ES-3	CONC. END SECTION	-	-	-	SEE SHT. 2 FOR LOCATION	
M-1	'A' HEADWALL	-	73.44	77.88	SEE SHT. 2 FOR LOCATION	
M-2	RETAINING WALL	86.75	51.0	-	RYAN AVENUE 4+16	18'L
M-5	STD. M.H.	86.02	85.98	91.0	RYAN AVE. (SEE SHT. 2)	
ES-4	CONC. END SECT.	84.68	84.60	87.0	RYAN AVE. (SEE SHT. 2)	



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.

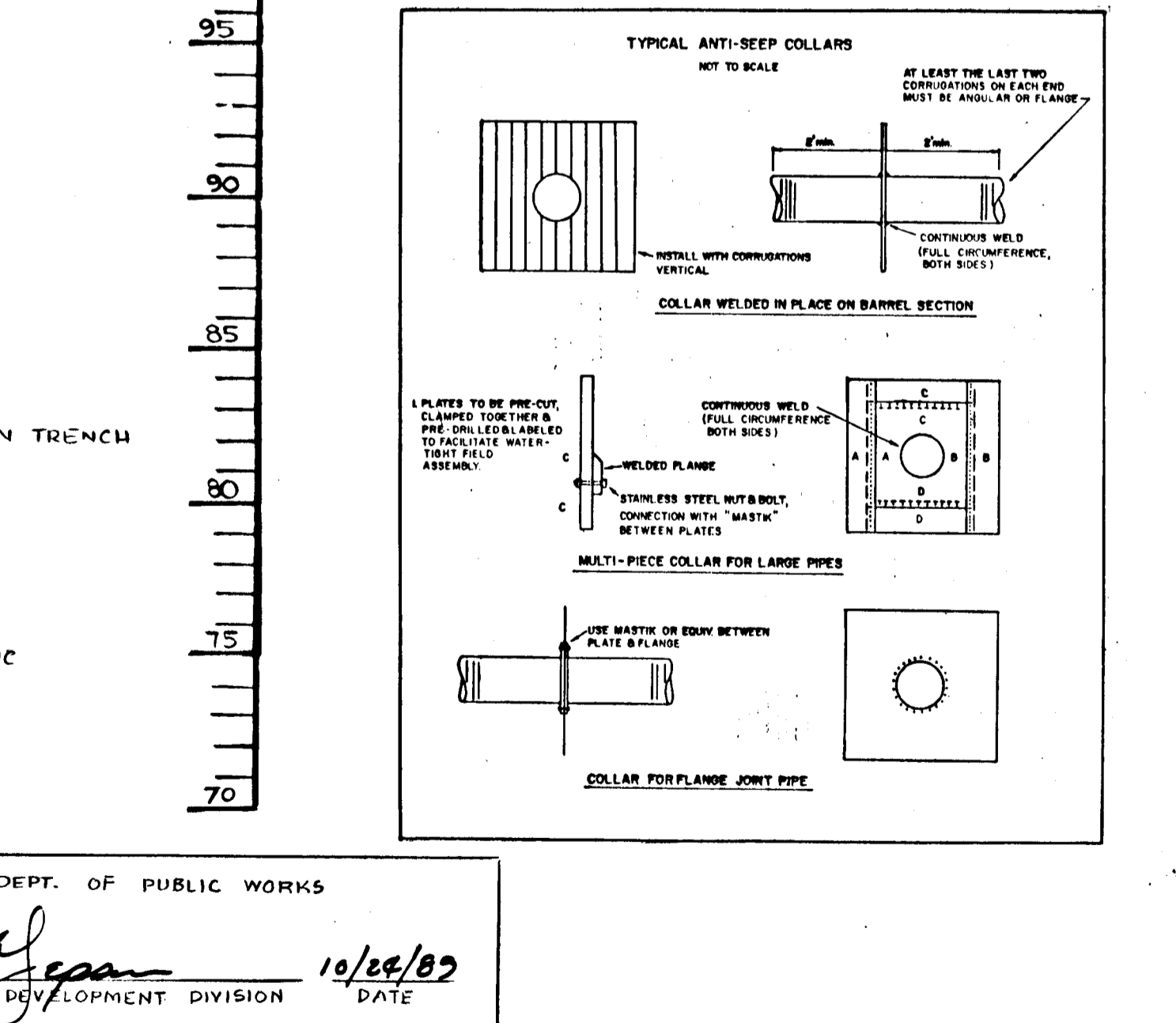
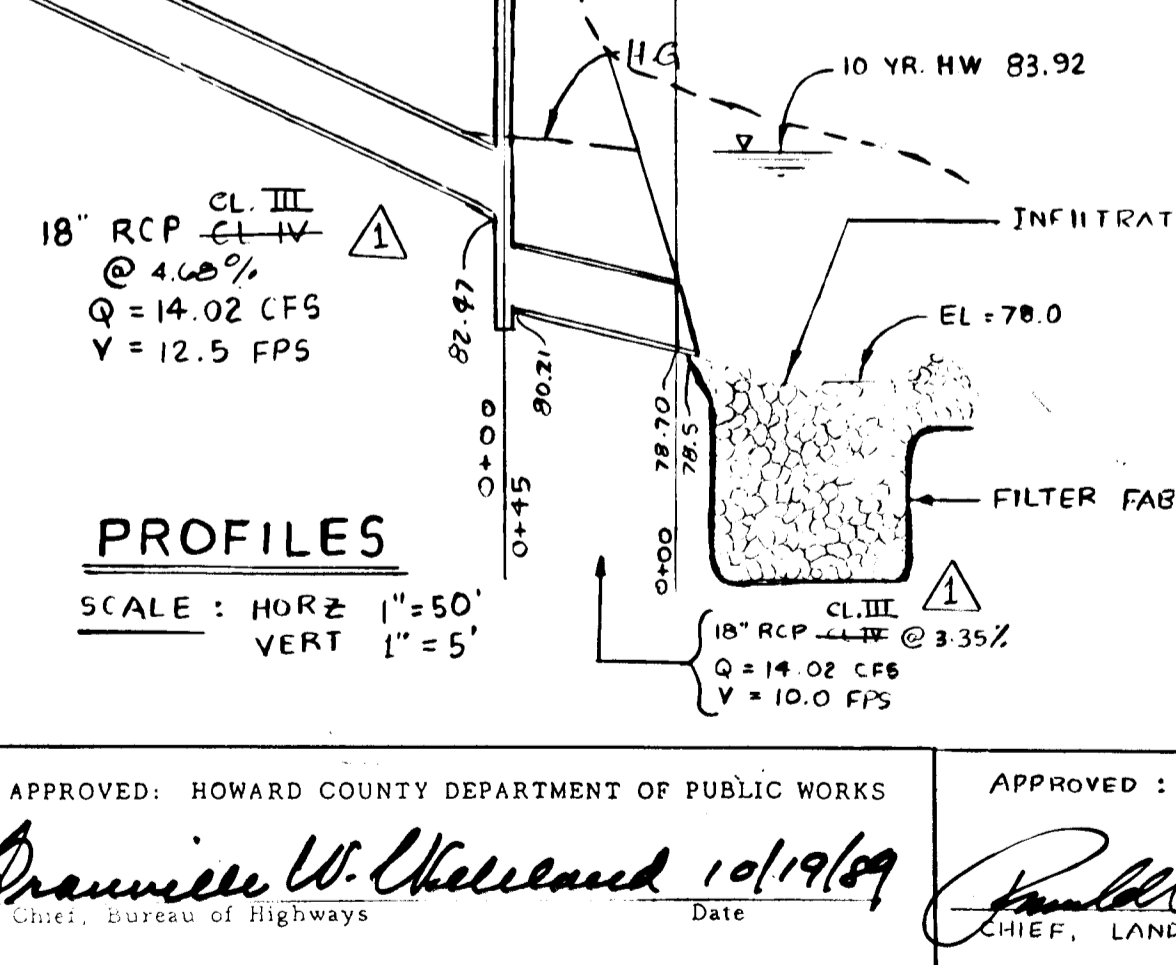
*Robert W. Fisher* 10/16/89  
S. Soil Conservation Service

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*Robert W. Fisher* 10/16/89  
Howard Soil Conservation District

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Paul J. Ryan* 10-25-89  
CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPT. OF PLANNING AND ZONING  
*Paul J. Ryan* 11/23/89  
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT



DESIGNED M.N.A.

DRAWN M.N.A.

CHECKED P.V.K.

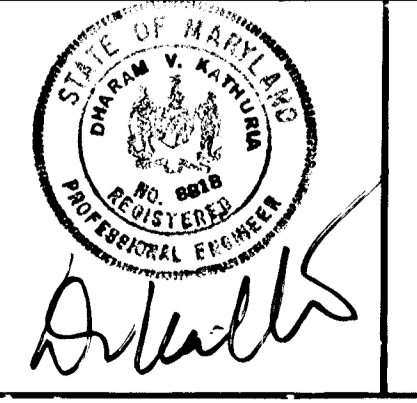
APPROVED

DATE	BY	DESCRIPTION
1-10-91	KAP	changed RCP CL. IV To RCP CL. III
2-10-91	MGR	Note for Retaining Wall added
3-19-91	MGR	Inv. Elev. & Type of Str. corrected
1-11-95	PKM	ADD MANHOLE, EXTEND S.D. PIPE

**ENGINEERING TECHNOLOGIES ASSOCIATES, INC.**

ENGINEERS, PLANNERS, SURVEYORS

3458 ELLICOTT CENTER DRIVE SUITE 101  
ELLICOTT CITY, MD. 21043  
(301) 481-9920



**OWNER / DEVELOPER**

CHARLES ATAS  
1706 TRINITY LANE  
ANNAPOLIS, MARYLAND. 21401  
(301) 563-9400

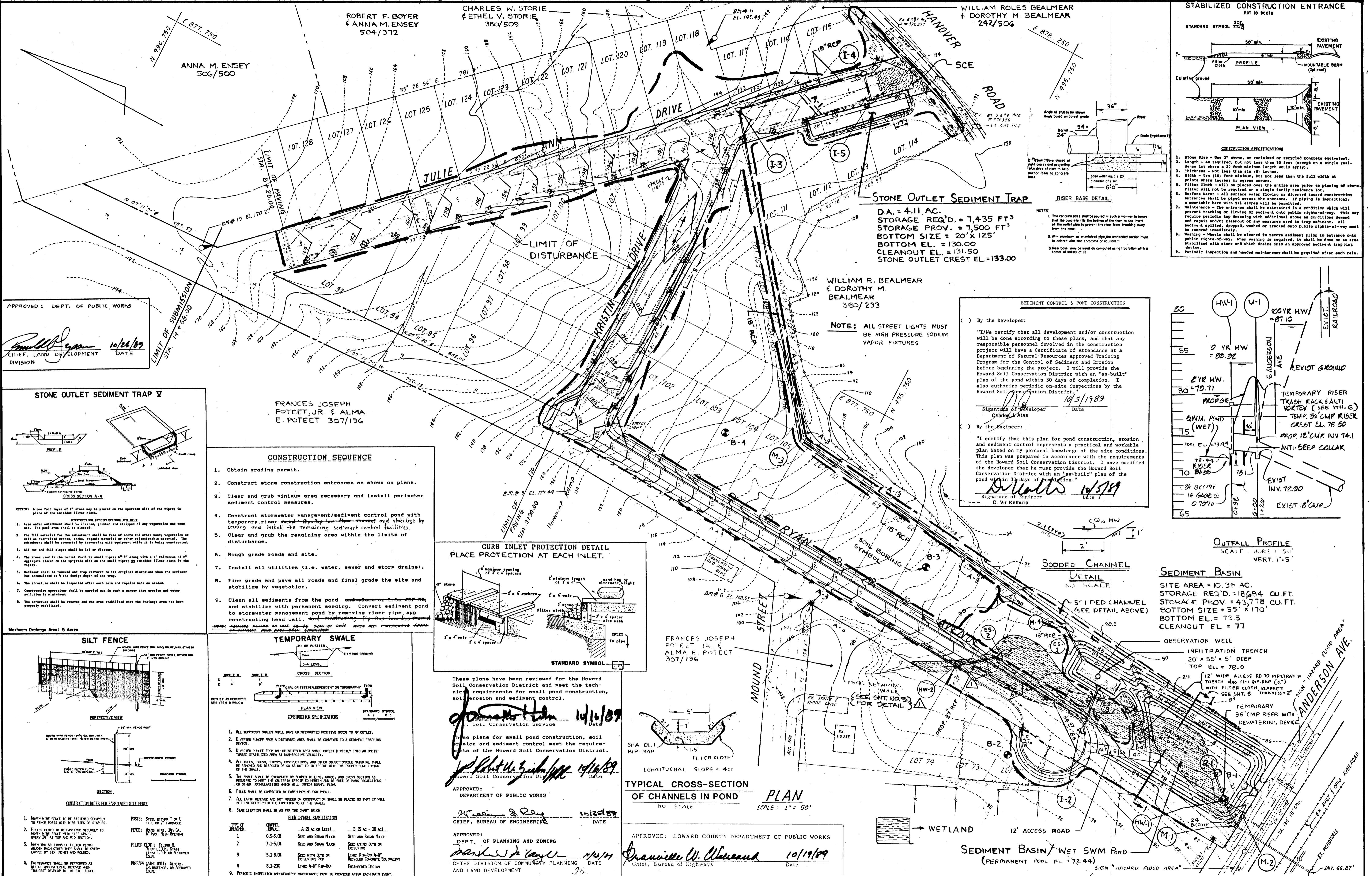
**ROADS AND STORM DRAIN**

**HANOVERVILLE**

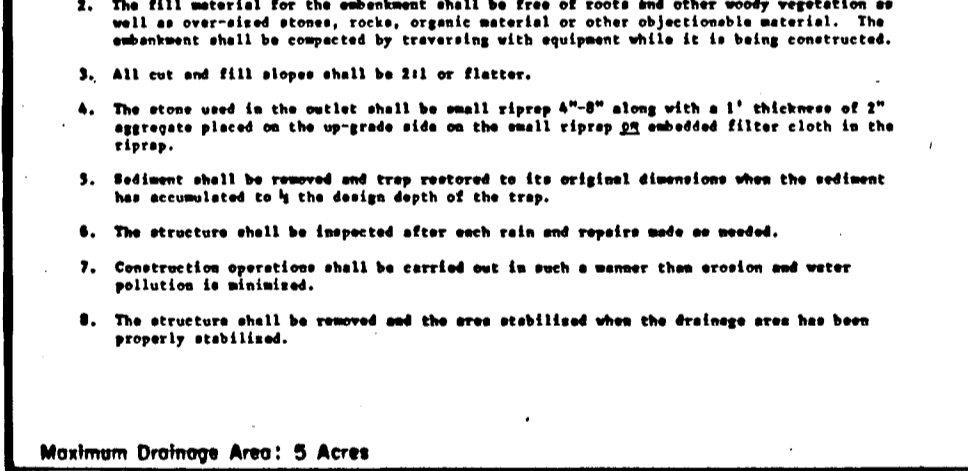
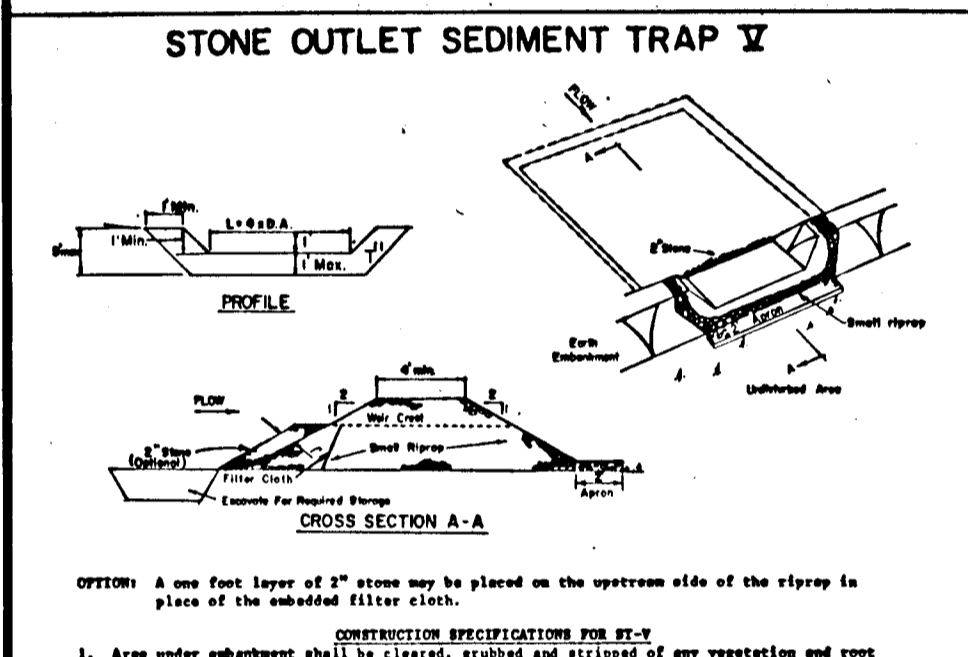
LOTS 58-74 AND 93-128  
PARCEL 641, TAX MAP 38  
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND.

SCALE: AS SHOWN CONTRACT NO. REVISED F-85-168 DATE: FEB 1989 SHEET: 6 OF 7



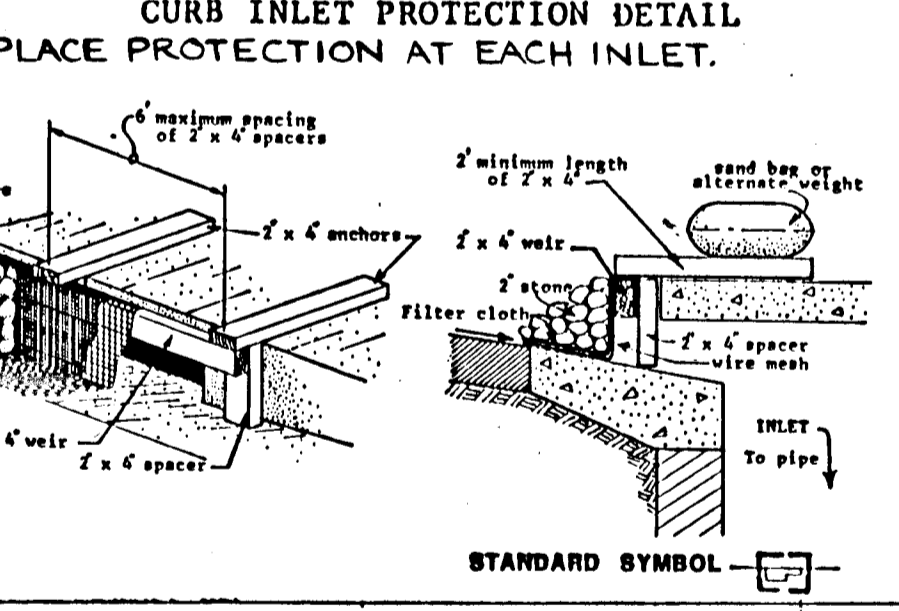


APPROVED: DEPT. OF PUBLIC WORKS  
 10/28/89  
 CHIEF, LAND DEVELOPMENT DIVISION



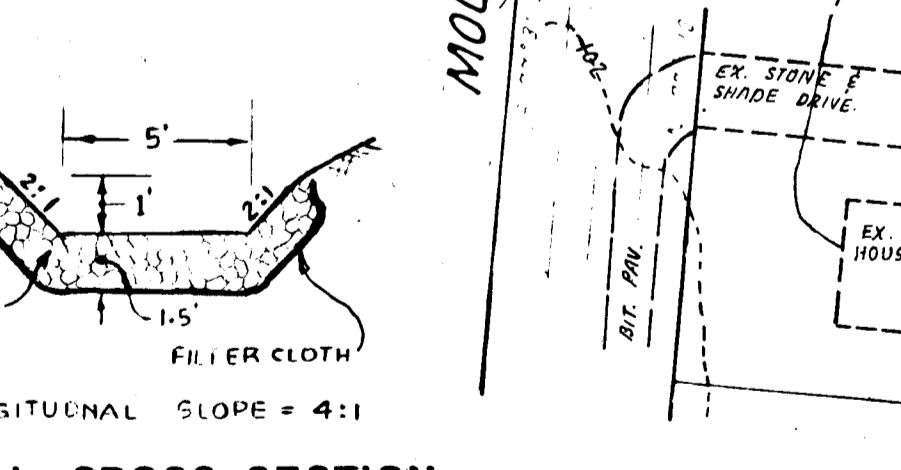
### CONSTRUCTION SEQUENCE

- Obtain grading permit.
- Construct stone construction entrances as shown on plans.
- Clear and grub minimum area necessary and install perimeter sediment control measures.
- Construct stormwater management/sediment control pond with temporary riser, trash rack, and anti-vortex and stabilize by seeding and install the remaining sediment control facilities.
- Clear and grub the remaining area within the limits of disturbance.
- Rough grade roads and site.
- Install all utilities (i.e. water, sewer and storm drains).
- Fine grade and pave all roads and final grade the site and stabilize by vegetation.
- Clean all sediments from the pond and place on lots 92-96, and stabilize with permanent seeding. Convert sediment pond to stormwater management pond by removing riser pipe, and constructing head wall.



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.

APPROVED: *[Signature]* 10/16/89  
 Howard Soil Conservation District



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DEPT. OF PLANNING AND ZONING  
 10/19/89  
 Chief, Bureau of Highways

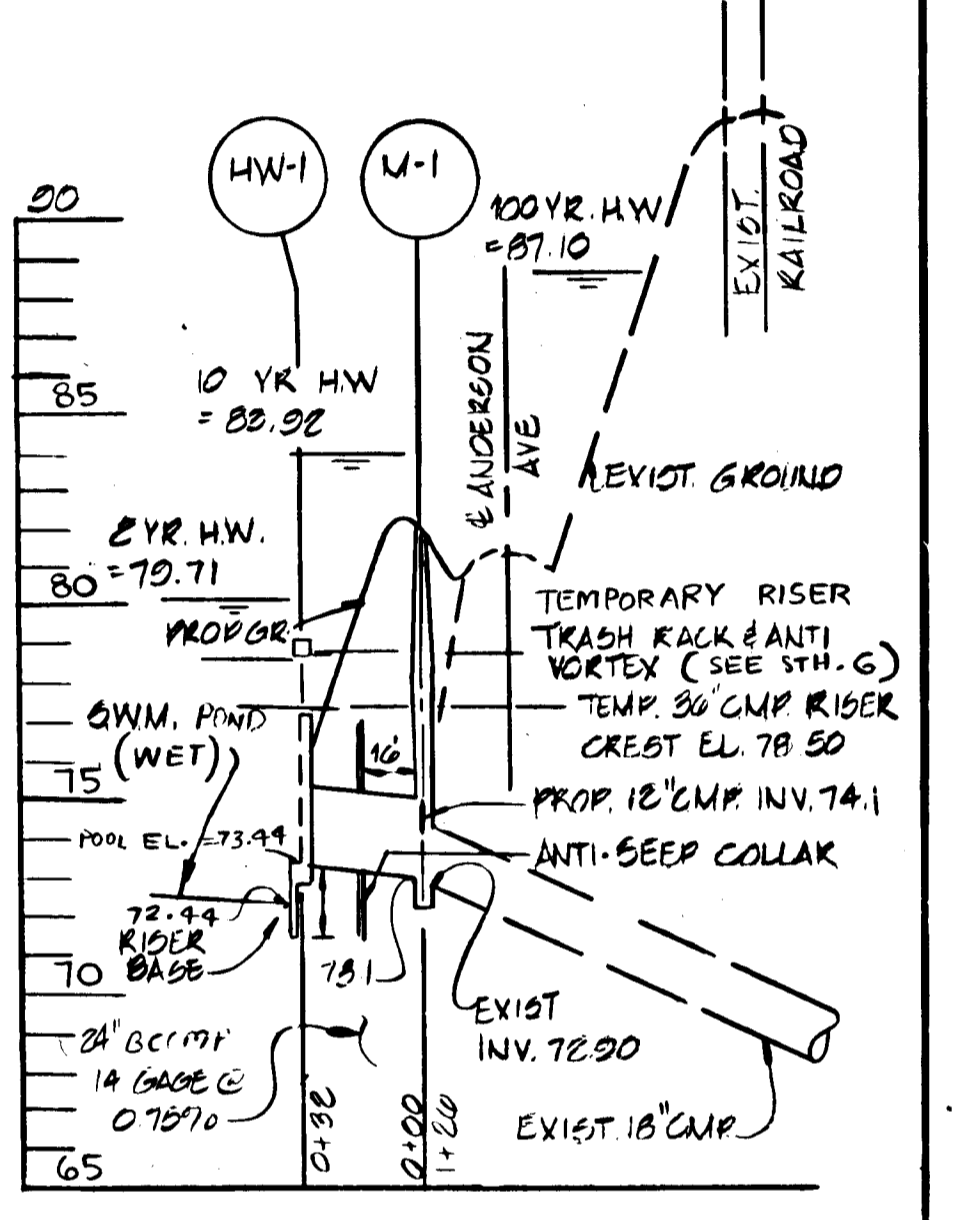
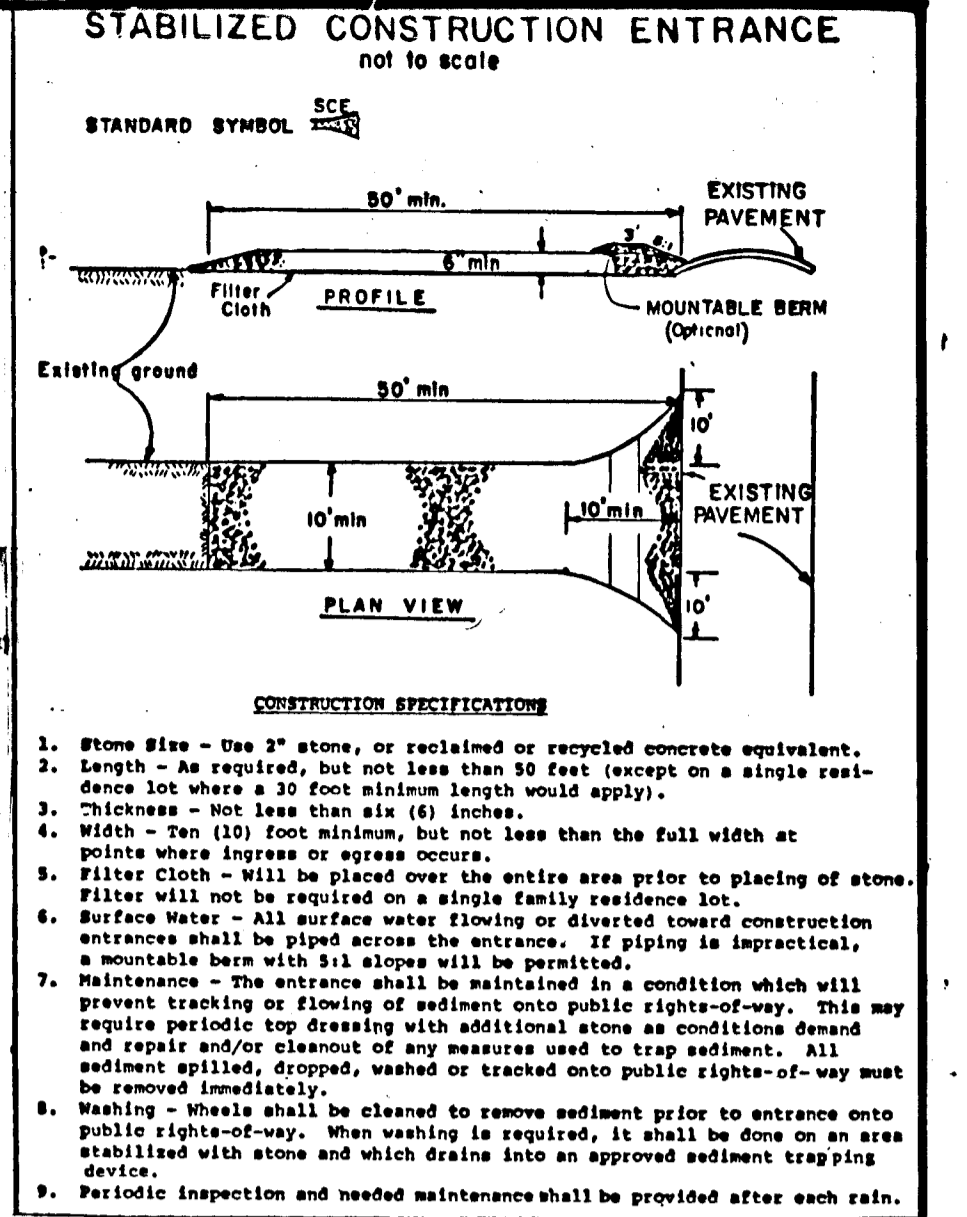
### STONE OUTLET SEDIMENT TRAP

D.A. = 4.11 AC.  
 STORAGE REQ'D. = 7,435 FT<sup>3</sup>  
 STORAGE PROV. = 7,500 FT<sup>3</sup>  
 BOTTOM SIZE = 20" X 125"  
 BOTTOM EL. = 130.00  
 CLEANOUT EL. = 131.50  
 STONE OUTLET CREST EL. = 133.00

### SEDIMENT CONTROL & POND CONSTRUCTION

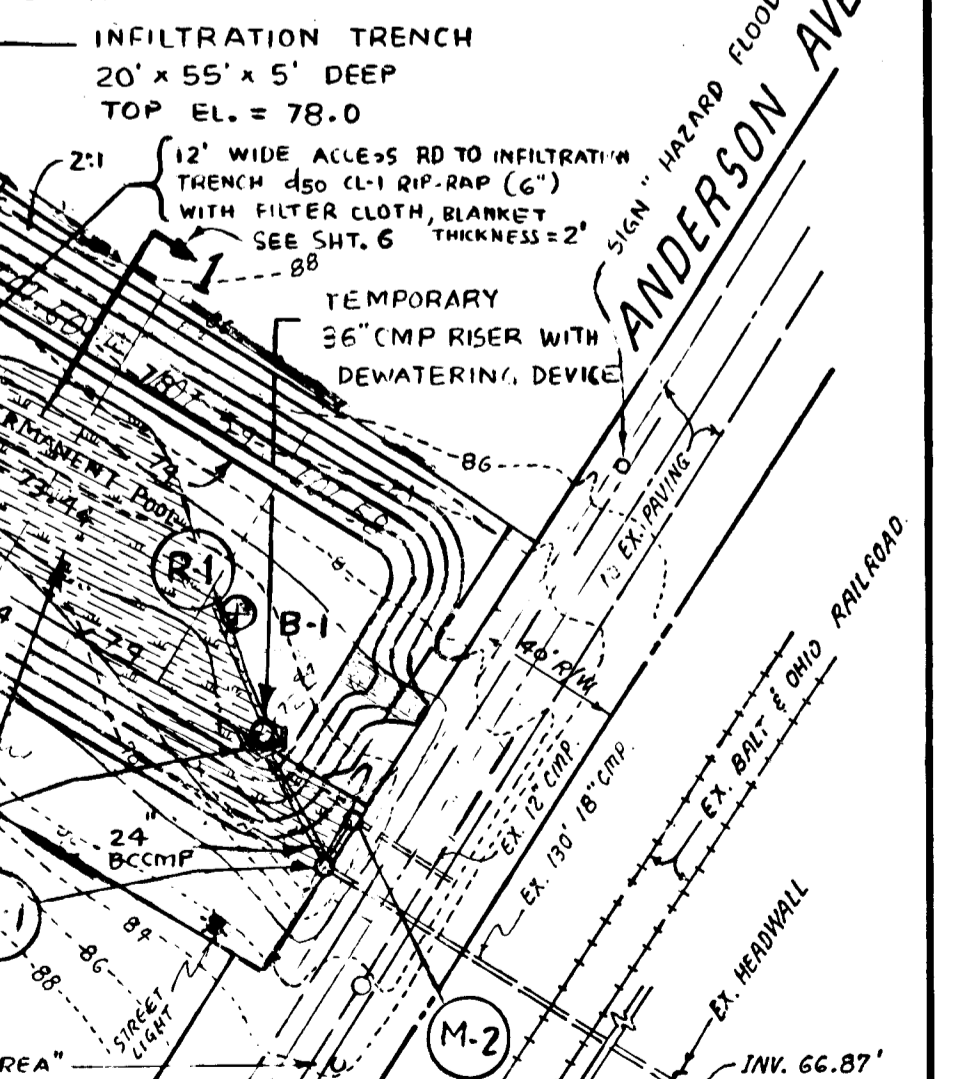
By the Developer:  
 "I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Approval from a Department of Natural Resources Approved Training Program for the Control 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. I also authorize periodic on-site inspections by the Howard Soil Conservation District."  
 Signature: Charles A. Atas  
 Date: 10/5/89

By the Engineer:  
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."  
 Signature: D. Vir Kalthra  
 Date: 10/5/89



### SEDIMENT BASIN

SITE AREA = 10.38 AC.  
 STORAGE REQ'D. = 18,694 CU. FT.  
 STORAGE PROV. = 43,778 CU. FT.  
 BOTTOM SIZE = 55' X 170'  
 BOTTOM EL. = 73.5  
 CLEANOUT EL. = 77



DESIGNED	M. N. A.	DATE	BY	REVISIONS
DRAWN	K. A. P.	10/28/89	M. K. R.	Retaining Wall is extended & note for detail is provided.
CHECKED	D. V. K.			
APPROVED				

## ENGINEERING TECHNOLOGIES ASSOCIATES, INC.

ENGINEERS, PLANNERS, SURVEYORS  
 3458 ELLICOTT CENTER DRIVE SUITE 101  
 ELLICOTT CITY, MD. 21043  
 (301) 461-9920

APPROVED: *[Signature]* 10/28/89  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: *[Signature]* 10/19/89  
 Chief, Bureau of Highways

### OWNER / DEVELOPER

CHARLES ATAS  
 1706 TRINITY LANE  
 ANNAPOLIS, MARYLAND 21401  
 (301) 569-9400

### GRADING AND SEDIMENT CONTROL PLAN

HANOVERVILLE  
 LOTS 58-74, AND 93-128  
 PARCEL 641, TAX MAP 38  
 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND.  
 SCALE: AS SHOWN CONTRACT NO. REVISED F-85-186 DATE: 10/28/89 SHEET: 7 OF 7