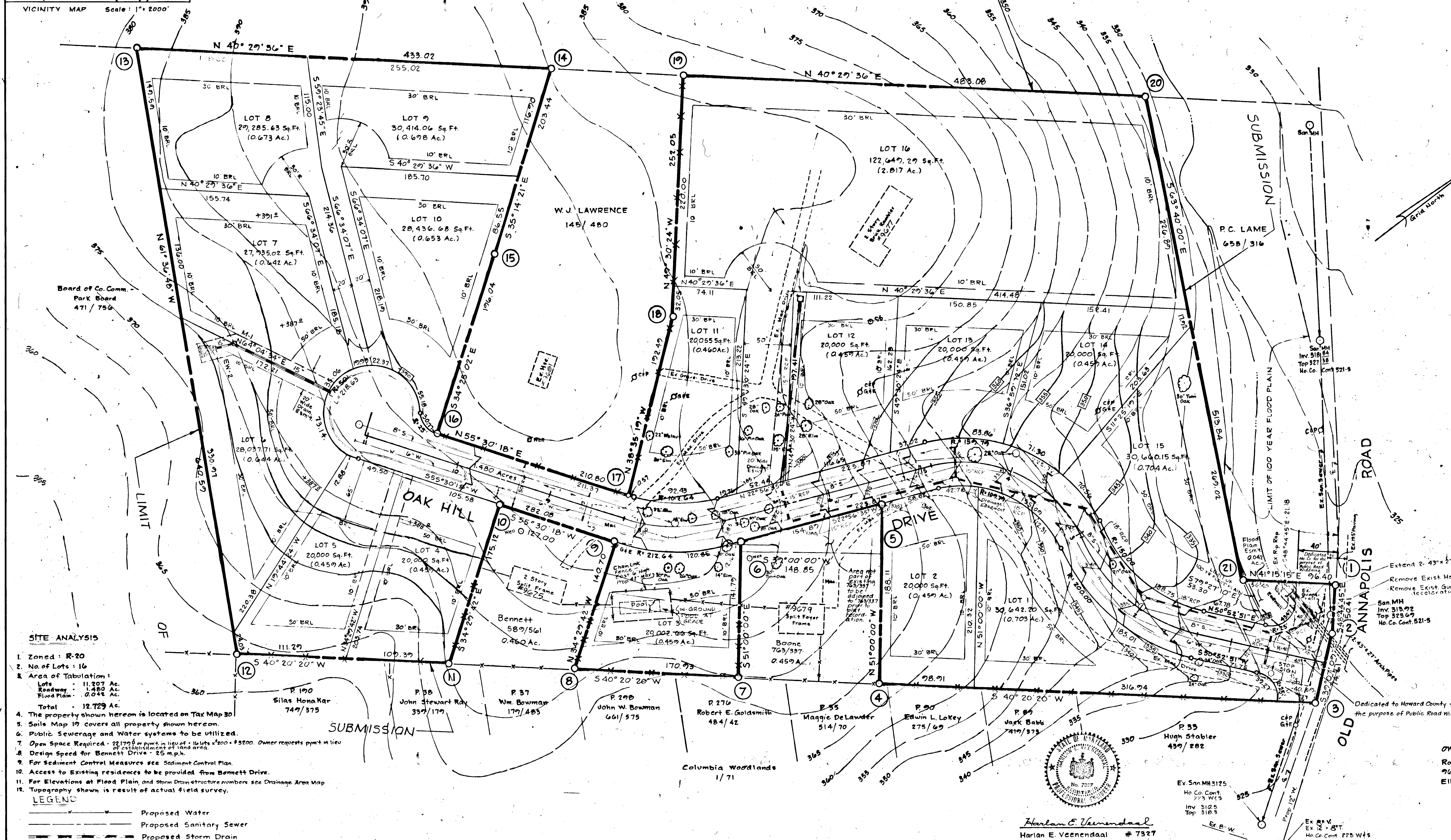


COORDINATE		SCHEDULE
Nos.	North	East
1	10,646.84	11,209.15
2	10,619.60	11,247.05
3	10,555.71	11,294.12
4	10,207.73	10,998.60
5	10,326.11	10,852.41
6	10,183.47	10,792.03
7	10,094.24	10,902.23
8	9,963.96	10,791.58
9	10,075.92	10,711.90
10	10,007.99	10,607.23
11	9,863.66	10,706.41
12	9,695.45	10,563.56
13	10,000.00	10,000.00
14	10,329.30	10,281.19
15	10,163.14	10,398.57
16	10,001.42	10,509.38
17	10,120.80	10,683.11
18	10,271.26	10,563.05
19	10,434.93	10,371.38
20	10,802.30	10,685.07
21	10,574.37	11,145.58

Datum Assumed



SITE ANALYSIS

1. Zoned: R-20
2. No. of Lots: 16
3. Area of Tabulation:
 Lots: 11,207 Ac.
 Roadway: 1,480 Ac.
 Flood Plain: 0.048 Ac.
 Total: 12,729 Ac.
4. The property shown hereon is located on Tax Map 30.
5. Soils Map 19 covers all property shown hereon.
6. Public Sewerage and Water systems to be utilized.
7. Open Space Required: 28,179 sq. ft. or more, in lieu of 16 lots x 200' x 3200'. Owner requests pymt. in lieu of establishment of land area.
8. Design Speed for Bennett Drive: 25 m.p.h.
9. For Sediment Control Measures see Sediment Control Plan.
10. Access to Existing residences to be provided from Bennett Drive.
11. For Elevations at Flood Plain, and Storm Drain structure numbers see Drainage Area Map.
12. Topography shown is result of actual field survey.

LEGEND

	Proposed Water
	Proposed Sanitary Sewer
	Proposed Storm Drain
	Boundary Line
	Existing Contours @ 5' Intervals
	Proposed Contours

APPROVED: Howard County Office of Planning and Zoning
[Signature]
 Chief, Div. of Land Dev. Date

APPROVED: Howard County Department of Public Works
[Signature]
 Chief, Bureau of Engineering Date

Richard P. Browne
 Assoc.
 Wilde Lake Village
 Green
 Suite 207
 Columbia, Md. 21044

rba richard browne associates
 professional design & planning consultants
 wayne, new jersey - columbia, maryland

DRAWN: MK CHKD: RV SHFT: 1 OF 6

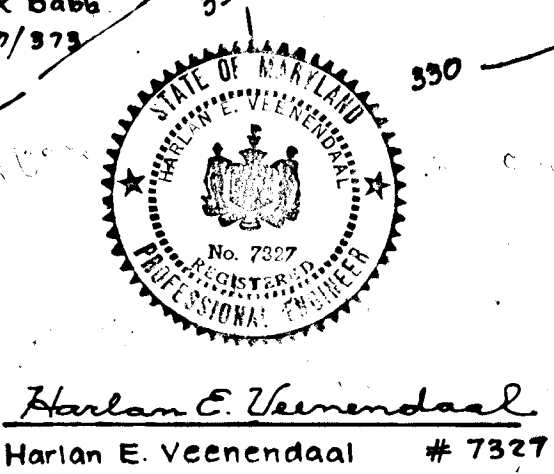
FINAL SUBDIVISION PLAN
 OAK HILL ESTATES

Tax Map 30
 2nd Election District

Parcels 288 and 285
 Howard County, Md.

SCALE: 1" = 50' DATE: 11-14-77 PROJECT NO: 4228

OWNER:
 Roy E. Bennett
 7677 Old Annapolis Rd.
 Ellicott City, Md. 21043



Harlan E. Veendaal # 7327

Extend 2'-4 1/2" x 27" Arch Pipes
 Remove Exist. Headwall and Construct 50 Manhole
 Remove Exist. Guardrail and relocate beyond acceleration lane.

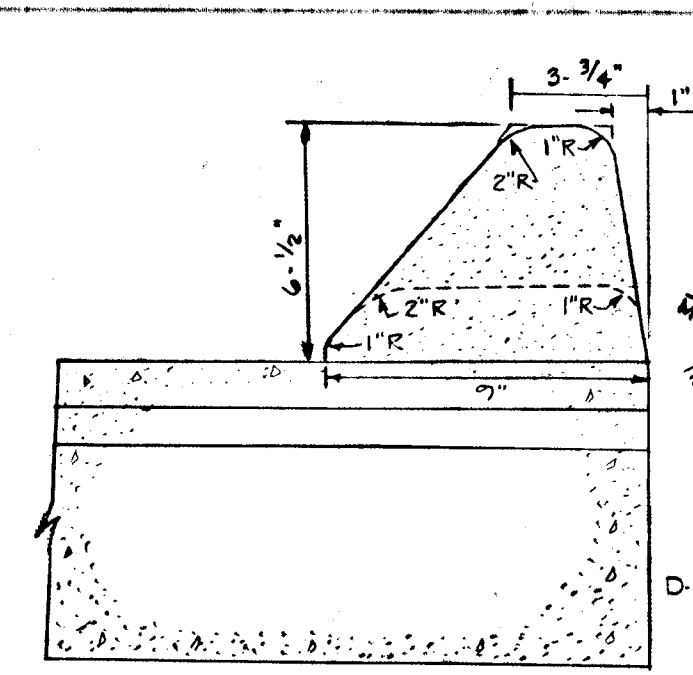
San MH
 Inv. 318.92
 Top 323.67
 Ho. Co. Cont. 521-5

Dedicated to Howard County for the purpose of Public Road Widening

Ex. San MH 3125
 Ho. Co. Cont. 273 WES
 Inv. 312.5
 Top 318.3

Ex. San MH 3125
 Ho. Co. Cont. 273 WES
 Inv. 312.5
 Top 318.3

#691

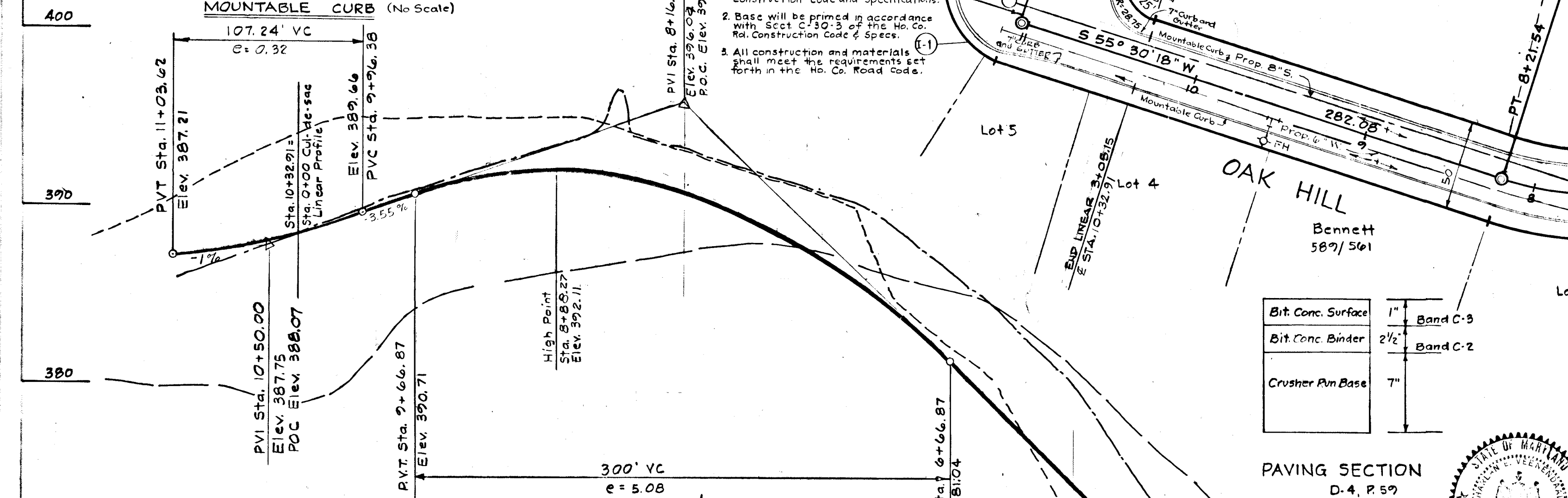


*** TYP. SECTION - OAK HILL DRIVE**
(No Scale)
D-16, P. 71

- NOTES:**
1. A tack coat is to be applied in accordance with Sect. C-31.4 of the Ho. Co. Rd. Construction Code and Specifications.
 2. Base will be primed in accordance with Sect. C-10.3 of the Ho. Co. Rd. Construction Code & Specs.
 3. All construction and materials shall meet the requirements set forth in the Ho. Co. Road Code.

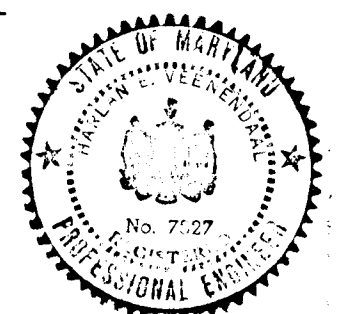
APPROVED: Howard County Office of Planning and Zoning
William M. ... 9-13-78
Chief, Div. of Land Dev. Date

APPROVED: Howard County Department of Public Works
W. O. ... 9-19-78
Chief, Bureau of Engineering Date



PAVING SECTION
D.4, P.59

Bit Conc. Surface	1"	Band C-3
Bit Conc. Binder	2 1/2"	Band C-2
Crusher Run Base	7"	



Harlan E. Veendael
Harlan E. Veendael #7327

rbpa richard p. browne associates
professional design & planning consultants
wayne, new jersey · columbia, maryland

Richard P. Browne Assoc.
Wilde Lake Village Green
Suite 207
Columbia, Md. 21044

PLAN & PROFILE - Oak Hill Drive
OAK HILL ESTATES

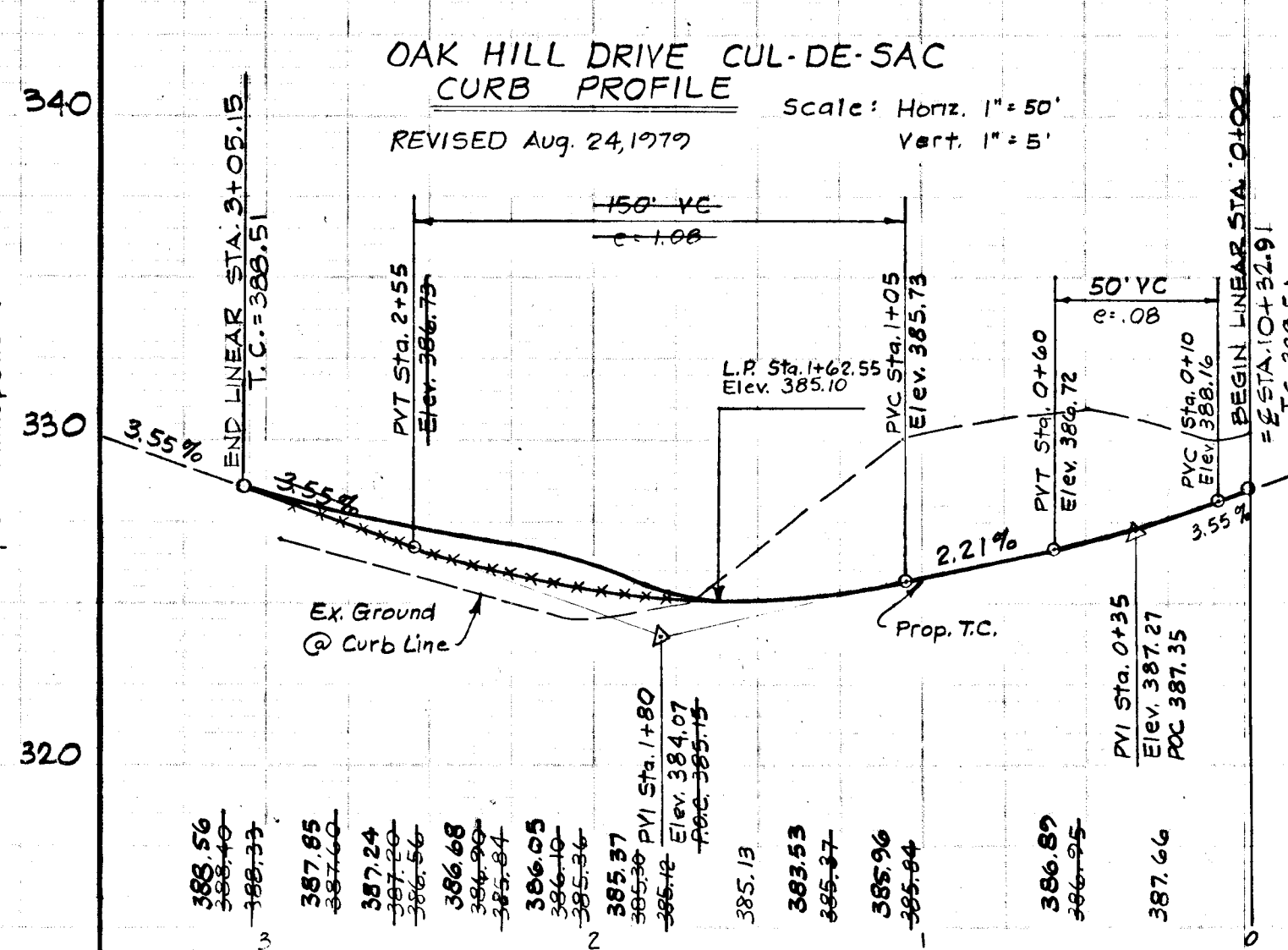
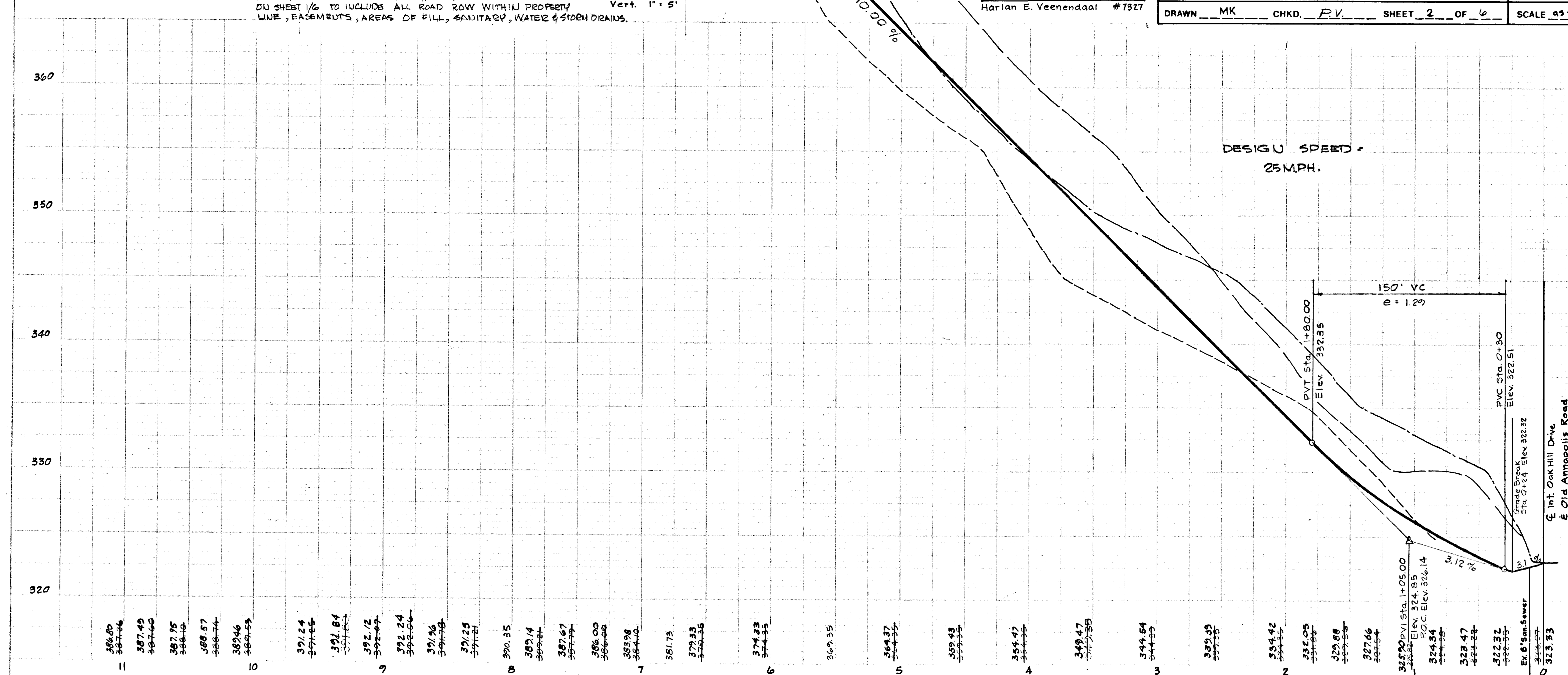
Tax Map 30
2nd Election District
Howard County, Md.

SCALE as shown DATE 11-14-77 PROJECT NO. 4228

LEGEND:
--- Ex. Ground @ BRL Right
--- Ex. Ground @ BRL Left
--- Ex. Ground @ E

PROFILE
Scale: Horiz. 1"=50'
Vert. 1"=5'

NOTE: LIMITS OF WORK - OAK HILL DRIVE IS SHOWN ON SHEET 1/6 TO INCLUDE ALL ROAD ROW WITH PROPERTY LINE, EASEMENTS, AREAS OF FILL, SANITARY, WATER & STORM DRAINS.



NOTE: OLD ANNAPOLIS ROAD HAS BEEN RECAPPED

15" x 18" CUT IN MANHOLE RIM ELEV. 327.28

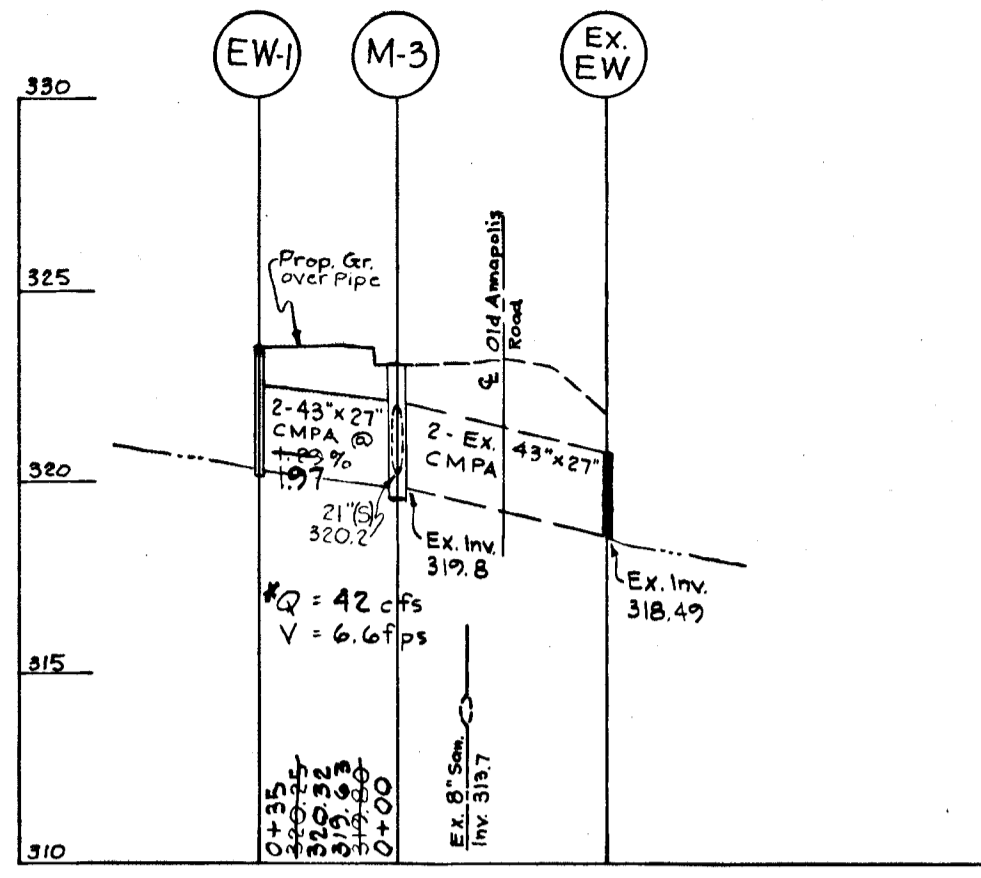
Ex. MH 100
Ho. Co. Cont. 521-5
Top 327.38
Inv. 318.84

Ex. MH 99
Ho. Co. Cont. 521-5
Top 323.69
Inv. 319.92

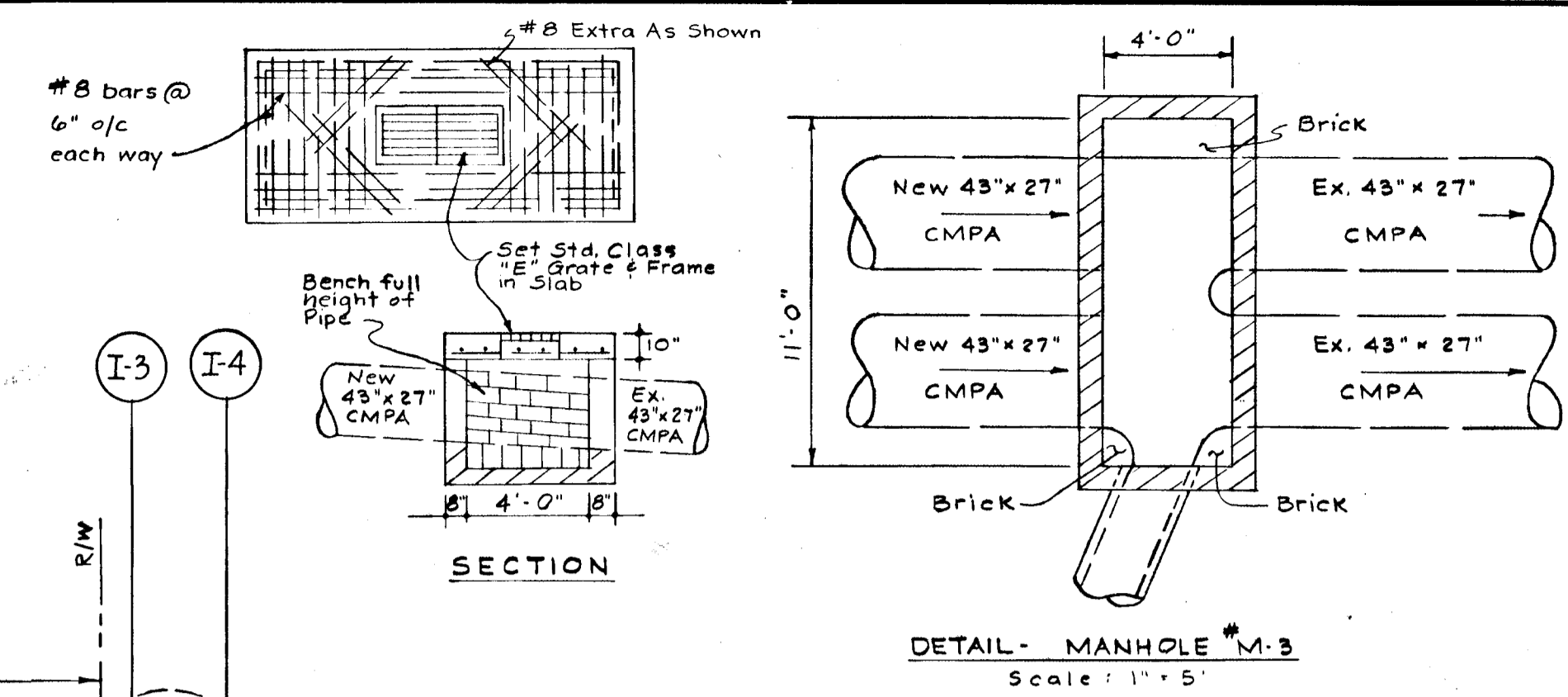
Ex. MH 3125
Ho. Co. Cont. 223 W 4 S
Top 318.3
Inv. 310.5

OWNER:
Roy E. Bennett
7611 Old Annapolis Rd.
Ellicott City, Md. 21042

#691

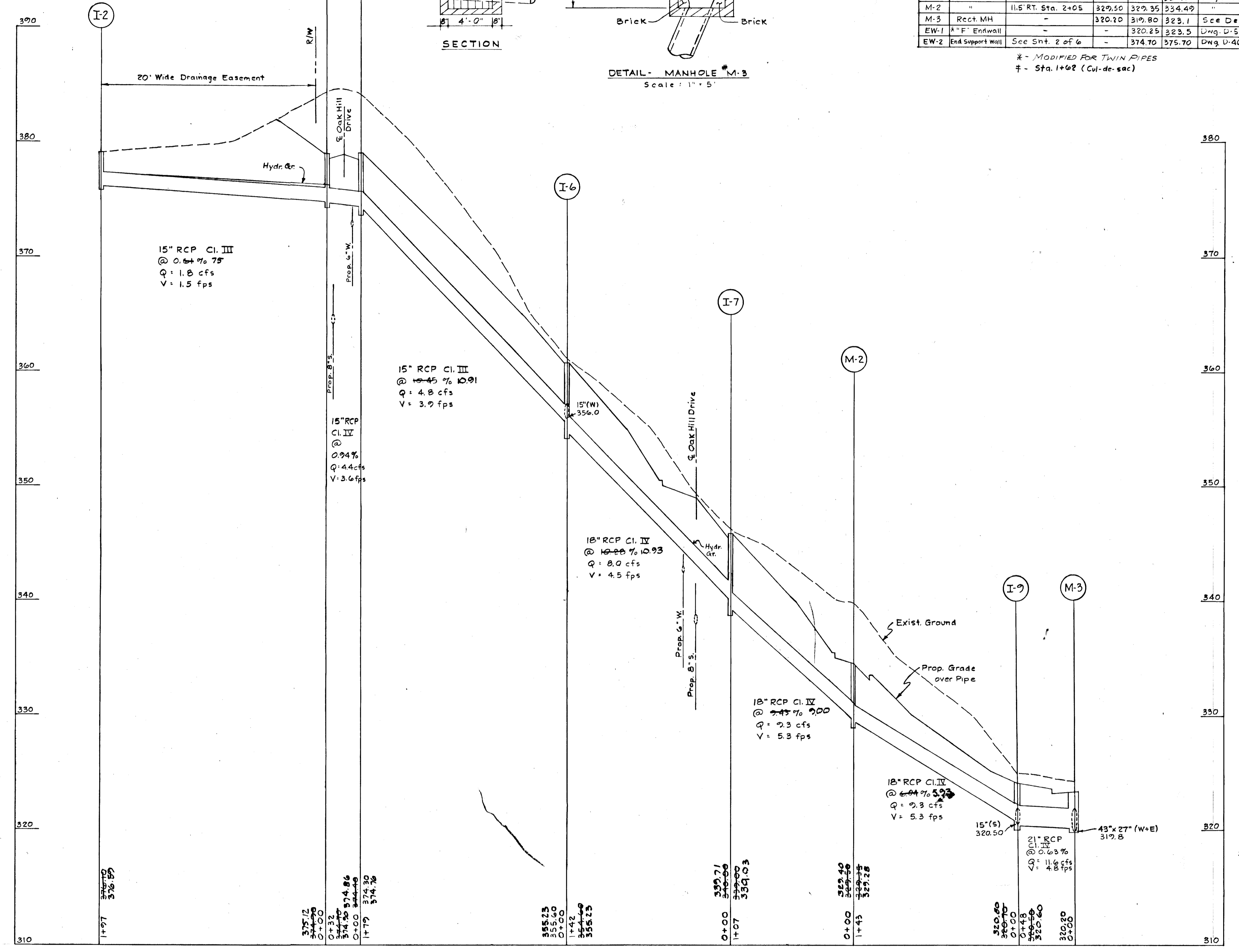
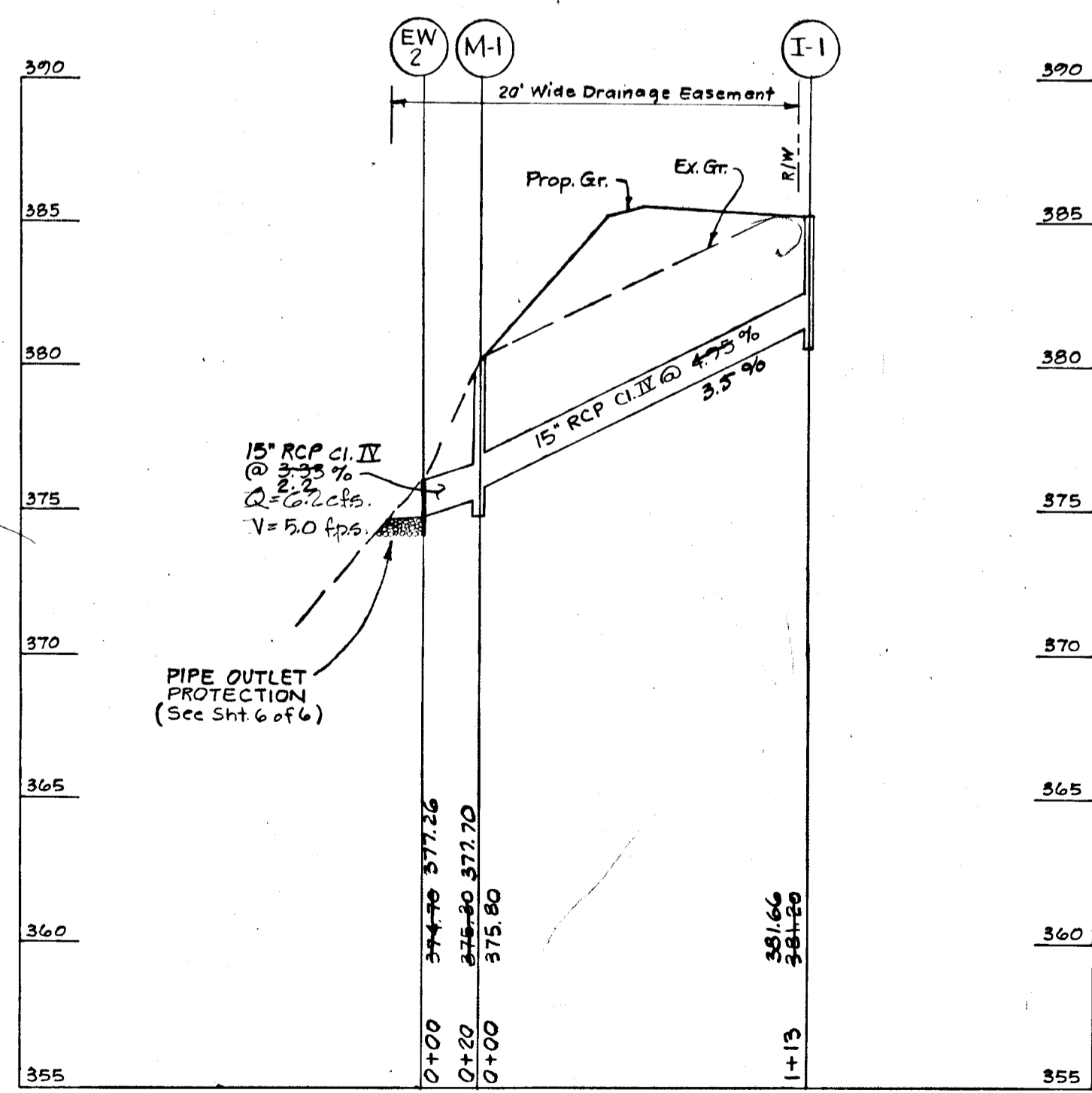
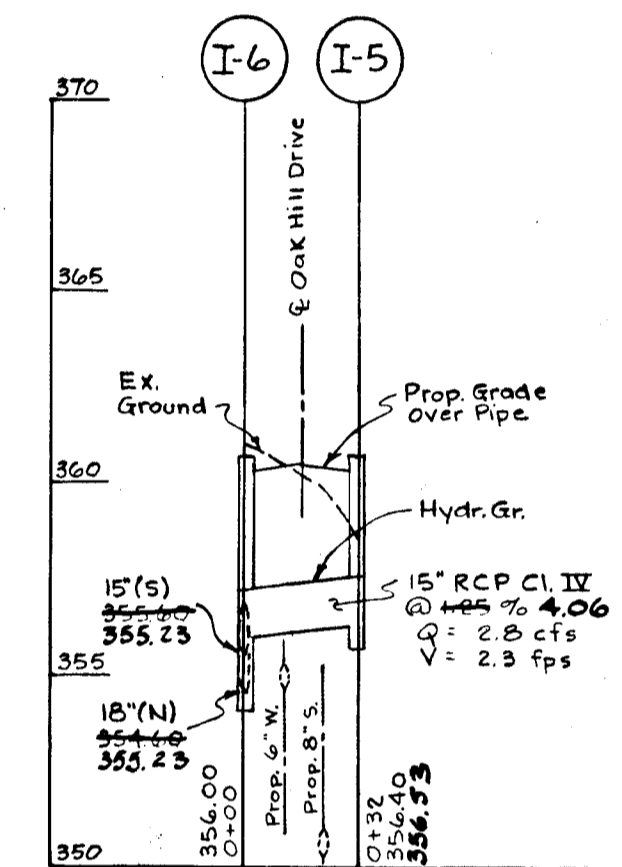
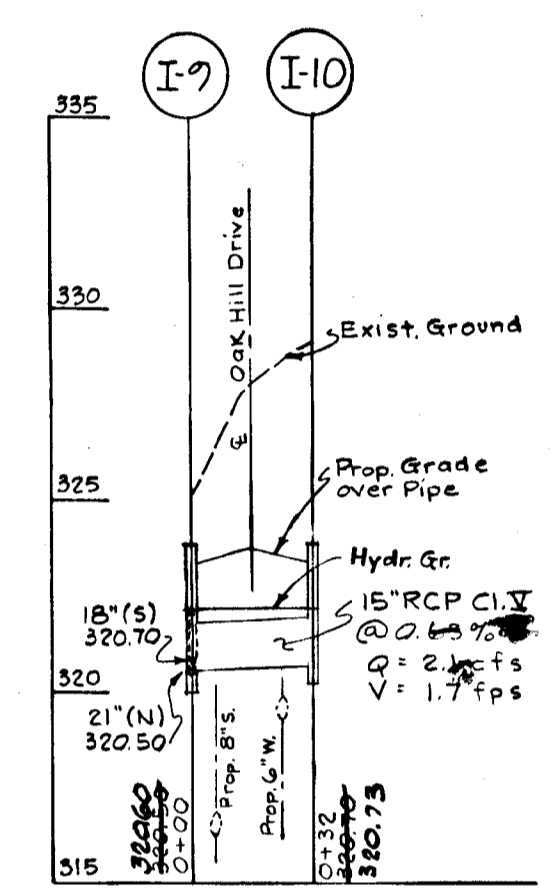


* SEE FLOODPLAIN COMPUTATIONS



STRUCTURE SCHEDULE						
No.	Type	Location	Inv. In	Inv. Out	Top El.	Remarks
I-1	A-5	#	-	381.20	385.10	Dwg. 64-A, Pg. 119-A
I-2	"C"	203 RT. Sta. 5+78	-	376.10	379.2	Dwg. 64-C, Pg. 119-C
I-3	A-5 w/bch	14 RT. Sta. 6+46	374.90	374.70	379.05	Dwg. 64-A, Pg. 119-A
I-4	"	14 RT. Sta. 6+46	374.40	374.30	379.05	"
I-5	"	14 RT. Sta. 4+64	-	356.40	360.85	"
I-6	"	14 LT. Sta. 4+64	355.80	354.60	360.85	"
I-7	"	14 RT. Sta. 3+19	340.00	339.00	345.75	"
I-9	"	14 RT. Sta. 0+61	320.50	320.50	323.80	"
I-10	"	14 LT. Sta. 0+61	-	320.70	323.80	"
M-1	Std. MH	See Sht. 2 of 6	375.80	375.30	380.00	Dwg. D-103, Pg. 158
M-2	"	11.5 RT. Sta. 2+05	329.50	329.35	334.49	"
M-3	Rect. MH	-	320.70	319.80	323.1	See Detail
EW-1	"F" Endwall	-	-	320.25	323.5	Dwg. D-57, Pg. 112
EW-2	End Support Wall	See Sht. 2 of 6	-	374.70	375.70	Dwg. D-46, Pg. 101

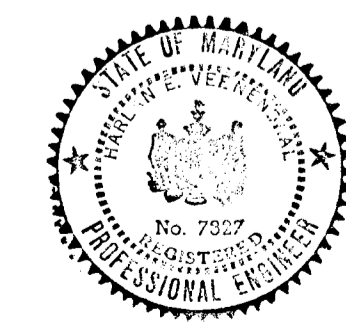
* - MODIFIED FOR TWIN PIPES
- Sta. 1+62 (Cul-de-sac)



APPROVED:
Howard County Office of Planning and Zoning
[Signature] 9-13-78
Chief, Div. of Land Dev. Date

APPROVED:
Howard County Dept. of Public Works
[Signature] 9-19-78
Chief, Bureau of Engineering Date

[Signature]
Harlan E. Veendaal # 7327



rba richard browne associates
professional design & planning consultants
wayne, new jersey • columbia, maryland

STORM DRAIN PROFILES
DAK HILL ESTATES
Tax Map 30
2nd Election District
Howard County, Md.
SCALE: Horiz. 1"=50'
Vert. 1"=5'
DATE: 5-15-78 PROJECT NO. 4228

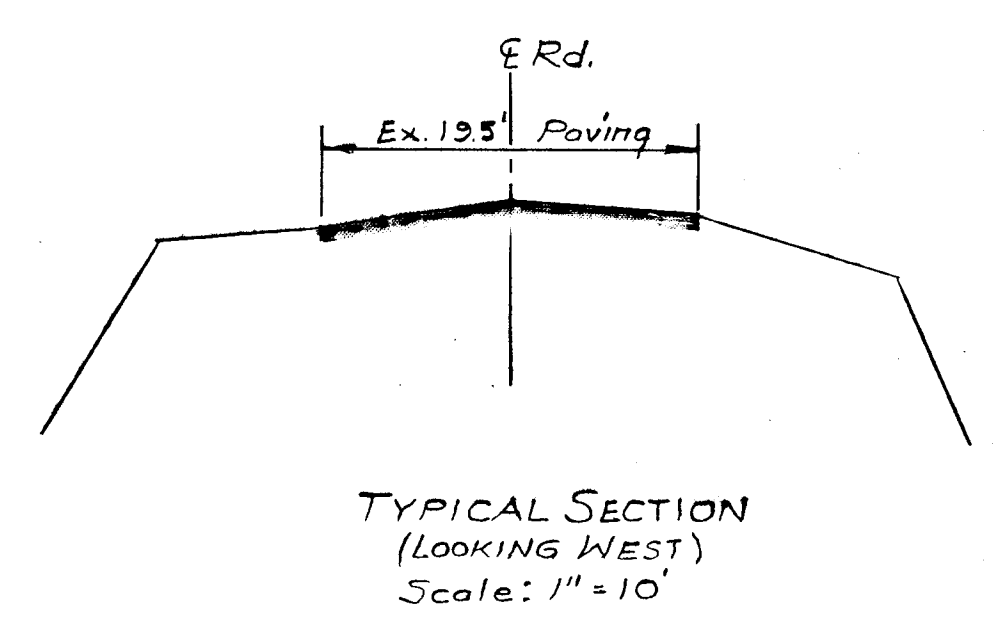
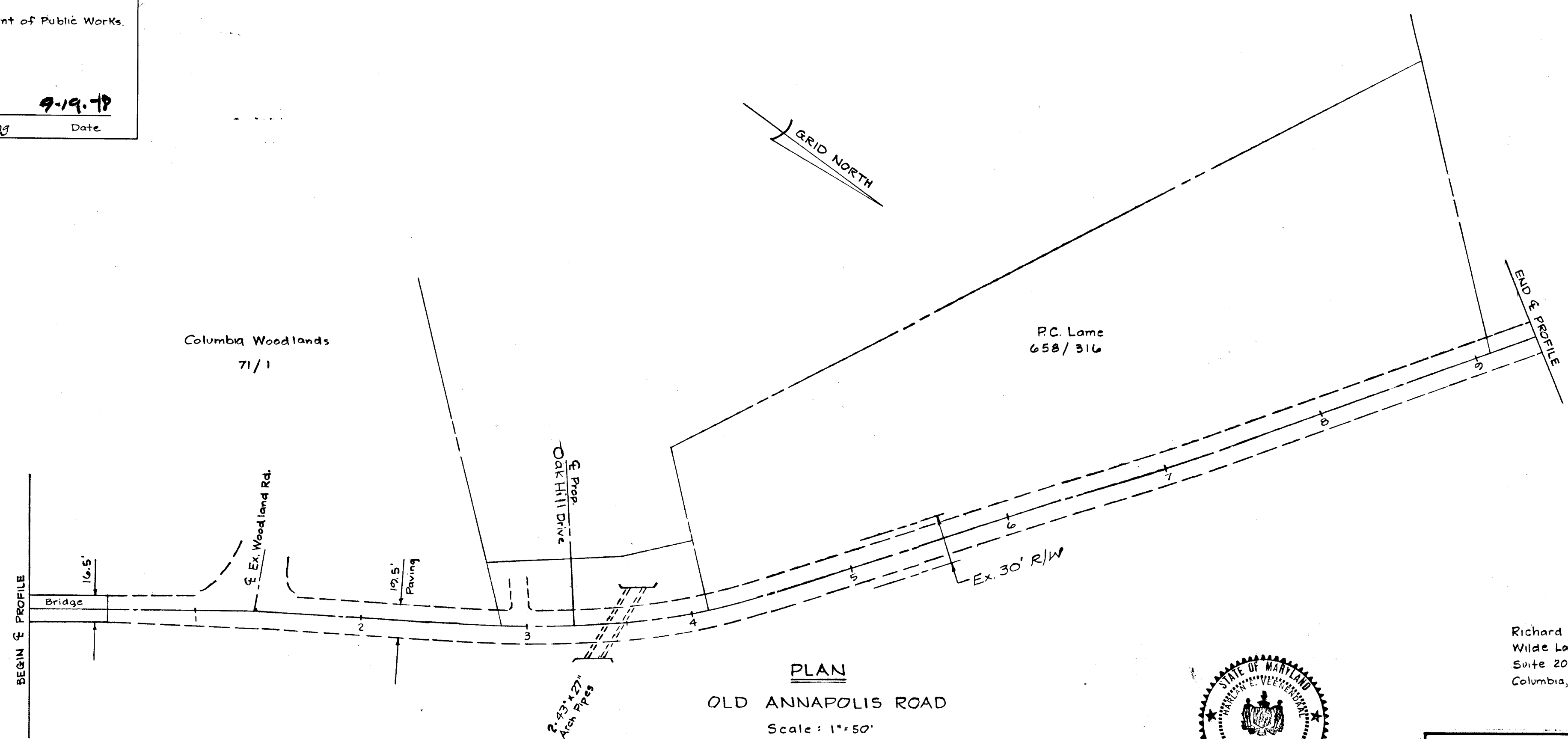
DRAWN: MK CHKD: RV. SHEET 3 OF 6

APPROVED:
Howard County Office of
Planning and Zoning.

APPROVED:
Howard County Department of Public Works.

John W. ... 9-13-78
Chief, Div. of Land Dev. Date

W O ... 9-19-78
Chief, Bureau of Engineering Date



OWNER:
Roy E. Bennett
7677 Old Annapolis Rd.
Ellicott City, Md. 21043

Richard B. Browne Assoc.
Wilde Lake Village Green
Suite 207
Columbia, Md. 21044

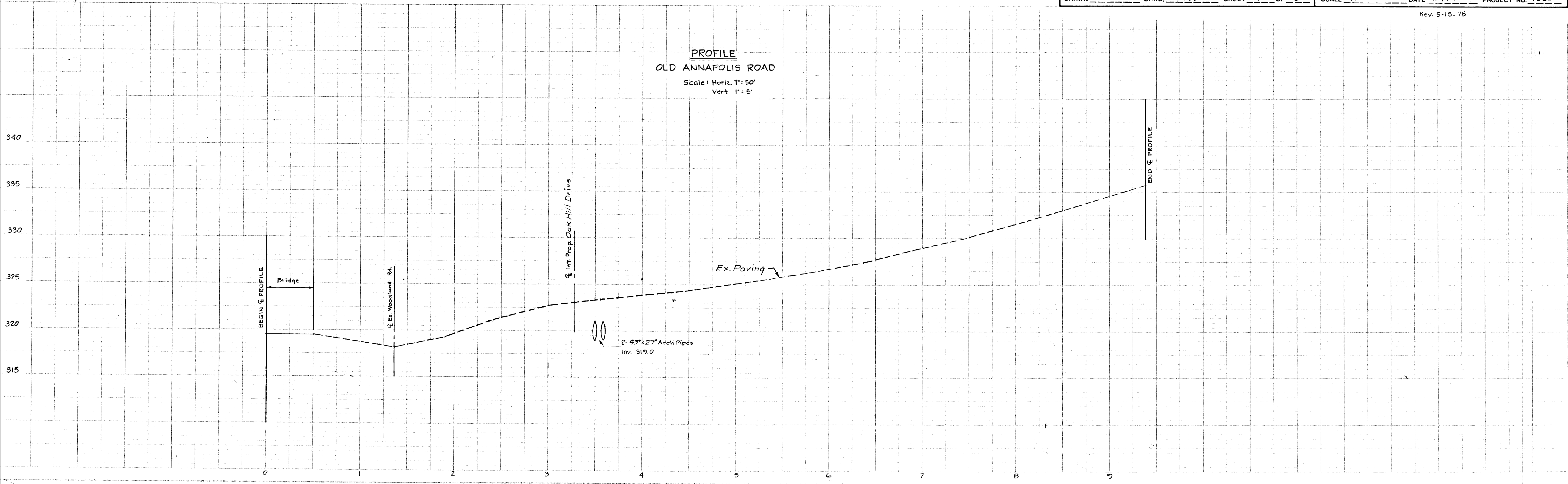


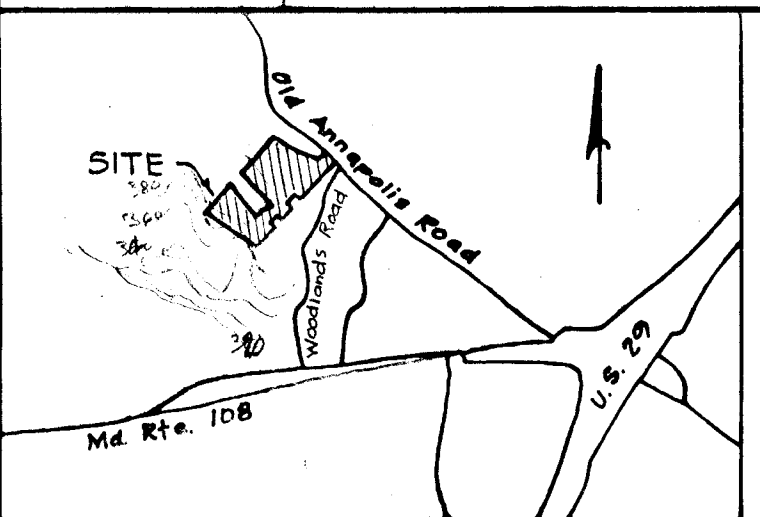
Harlan E. Veerendaal
Harlan E. Veerendaal # 7327

richard browne associates professional design & planning consultants wayne, new jersey · columbia, maryland	PLAN & PROFILE - Old Annapolis Road OAK HILL ESTATES	
	Tax Map 30 2nd Election District	Howard County, Md.
DRAWN MK _____ CHKD. <i>P.V.</i> _____	SHEET 4 OF 6	SCALE as shown DATE 11-14-77 PROJECT NO. 4228

Rev. 5-15-78

PROFILE
OLD ANNAPOLIS ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'



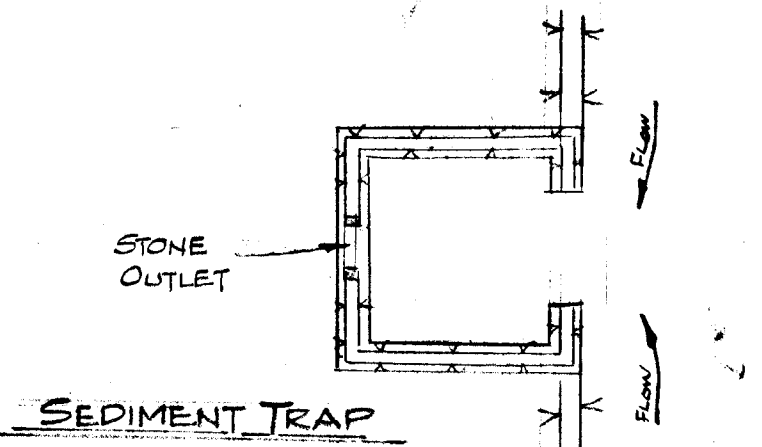
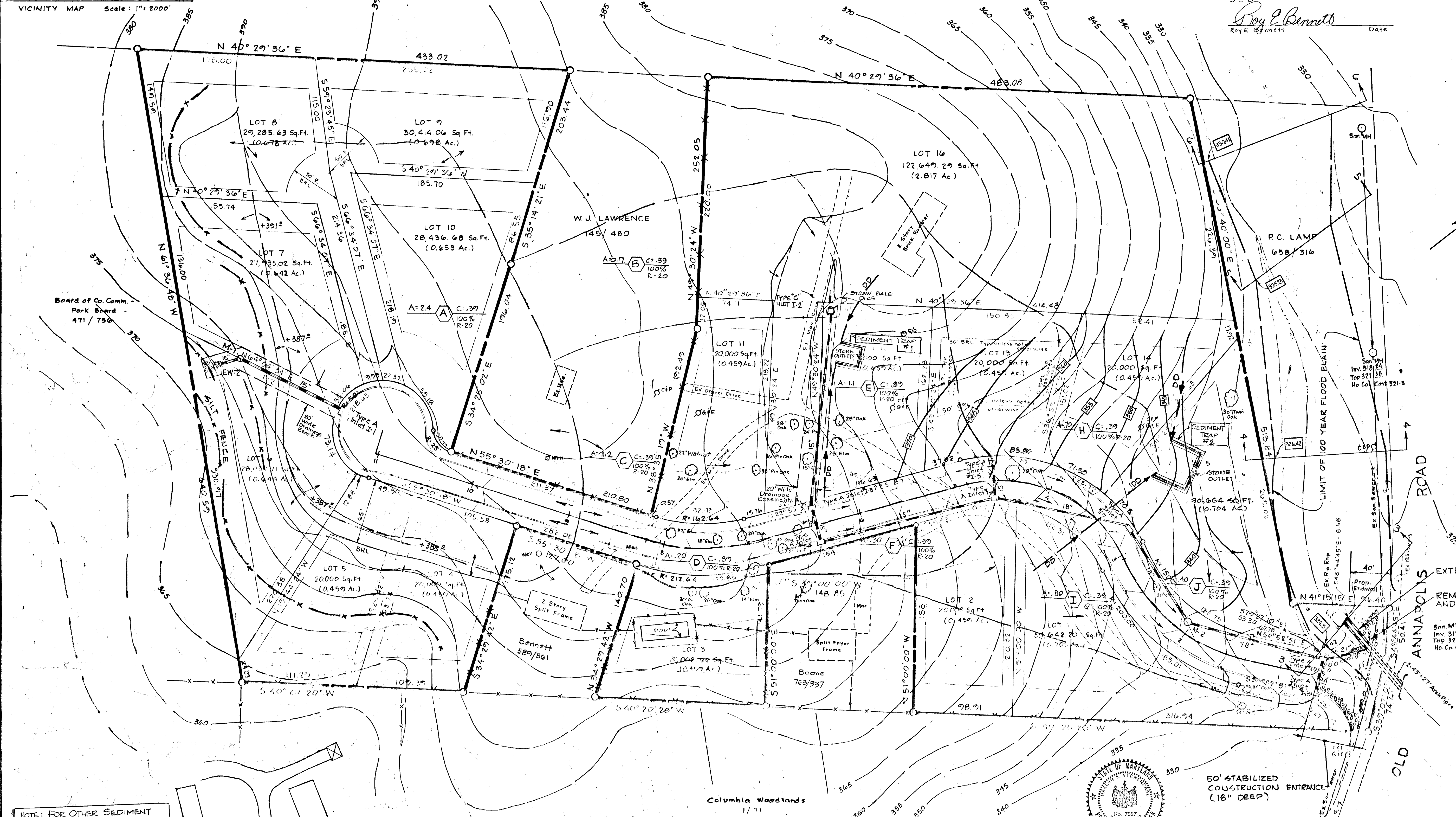


BY THE DEVELOPER:
 I certify that all development and/or construction will be done according to this plan of Development and for Erosion and Sediment Control, and also authorize periodic on site inspection by the Ho Co S.C.D. or other authorized agents as are deemed necessary. Elevation from this plan will not be made unless authorized by Ho Co S.C.D.

Roy E. Bennett
 Roy E. Bennett Date

BY THE ENGINEER:
 I certify that this plan of 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 Ho Co S.C.D.

Harlan E. Verendaal
 Harlan E. Verendaal Date



SEDIMENT TRAP #1
 AREA = 1.0 AC.
 VOL. REQ'D = 67 cu yds.
 SIZE REQ'D = 25' x 25' x 3'
 VOL. PROV. = 69' + 2 cu yds.
 STONE OUTLET L = 12'-0"

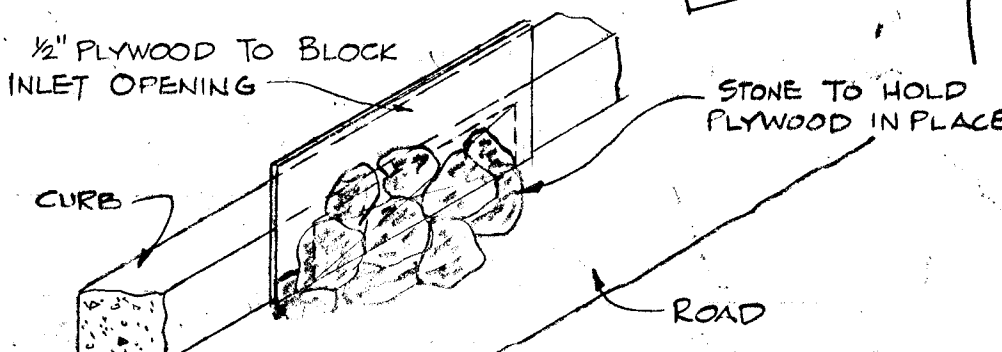
SEDIMENT TRAP #2
 AREA = 2.19 AC.
 VOL. REQ'D = 140.75 cu yds.
 SIZE REQ'D = 34' x 39' x 3'
 VOL. PROV. = 149' + 2 cu yds.
 STONE OUTLET L = 22'-0"

NOTE: DIVERSION DIKES SHALL BE REMOVED AFTER SLOPES ARE SEDED AND PRIOR TO PAVING OF THE ROADWAY.

EXTEND 2-43"x27" Arch Pipes
 REMOVE EX. ENDWALL AND CONSTRUCT SD MANHOLE #M-3

OWNER:
 Roy E. Bennett
 9677 Old Annapolis Rd.
 Ellicott City, Md. 21043

NOTE: FOR OTHER SEDIMENT CONTROL DETAILS SEE SHT. 6 OF 6



BLOCKED INLET DETAIL (FOR CURB INLET)
 NO SCALE

- NOTES:
- For Sediment Control Details see Sheet 6 of 6
 - All Storm Water Inlets to be blocked with 1/2" Plywood held in place with Stone until road construction is complete.

APPROVED:
 For Soil Erosion & Sediment Control
 Howard Soil Conservation District

Robert W. Zichew 9-7-78 Date
 How. S.C.D.
 Reviewed for HOWARD S.C.D. and meets technical requirements

R. Wayne Ray 9-7-78 Date
 U.S. SOIL CONSERVATION SERVICE

APPROVED:
 Howard County Office of Planning and Zoning

Richard P. Browne 9-19-78 Date
 Chief, Div. of Land Use

APPROVED:
 Ho. Co. Dept. of Public Works

W. O. Lambert 9-19-78 Date
 Chief, Bureau of Engineering



Harlan E. Verendaal
 Harlan E. Verendaal

Richard P. Browne
 Assoc.
 Wilde Lake Village
 Green
 Suite 207
 Columbia, Md. 21044

Richard Browne Associate
 professional design & planning consultants
 Wayne, New Jersey • Columbia, Maryland

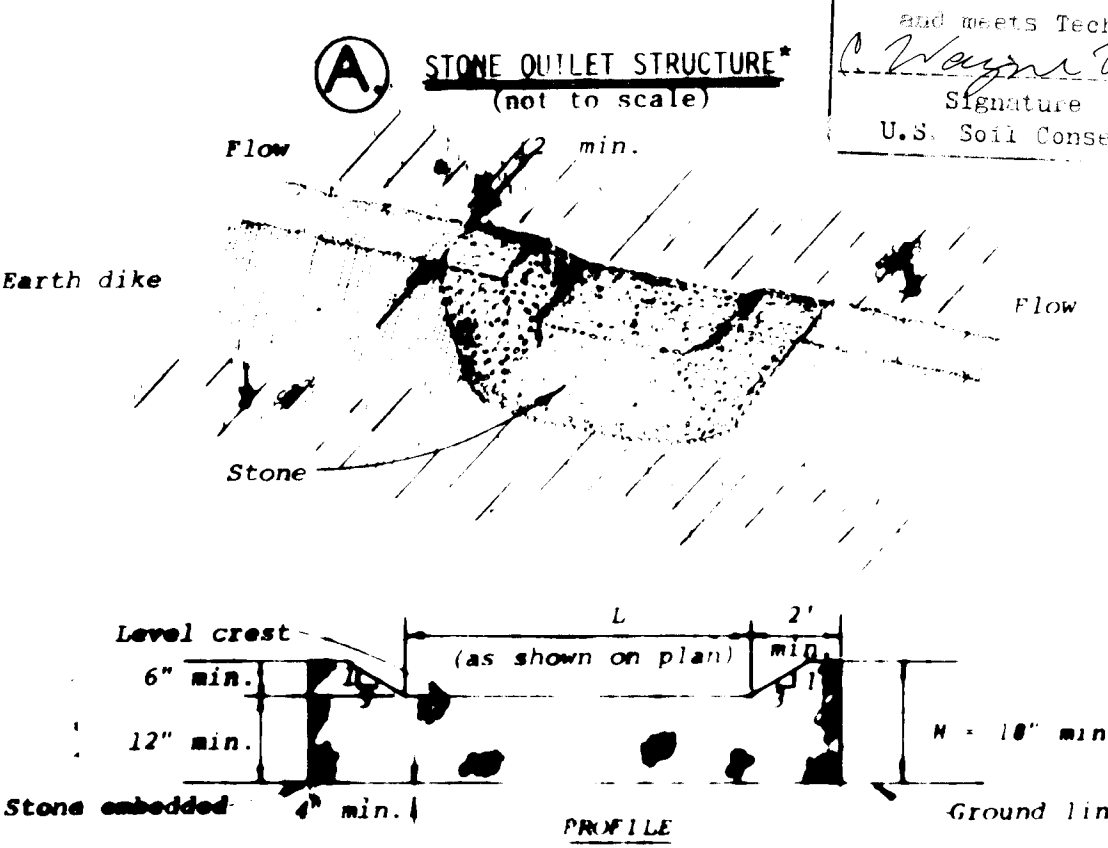
DRAINAGE AREA MAP & SEDIMENT CONTROL PLAN
 OAK HILL ESTATES
 Tax Map 50
 2nd Election District
 Howard County, Md.
 SCALE: 1" = 50' DATE: 11-14-77 PROJECT NO. 77-10
 REVISION: 5-15-78

Reviewed for 11/20/78 S.C.D.
 and meets Technical Requirements
C. Wagner Date 11-7-78
 Signature
 U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED
 FOR 11/20/78 AND SEDIMENT
 CONTROL BY THE FORWARD SOIL
 CONSERVATION DISTRICT
 Approved Richard E. Browne Date 9-7-78
 Signature
 S.C.D.

1. GENERAL NOTES:

1. **Grassed Terraces (or Furrows)** will be utilized to reduce slope erosion where possible, during land clearing operations.
2. **Permanent Vegetation** will be established as rapidly as possible on all exposed faces of cuts and fills and other areas following grading operations.
3. **Temporary Vegetation** will be applied upon completion of rough grading on all other disturbed areas where such areas will not be built on within a period of ninety (90) days.
4. **Storm Sewer Inlets** located below high silt producing areas will be protected by the use of adequate silt traps during construction.
5. **Storm Sewer Inlets** shall be blocked by 1/2" Plywood held in place with stone during construction.



- Construction Specifications**
1. The stone shall be crushed stone. Gravel may be used if crushed stone is not available. The stone shall meet MSHA Size No. 2 or AASHTO designation M43 Size No. 2 or 24.
 2. The crest of the stone dike shall be at least six inches lower than the lowest elevation of the top of the earth dike and shall be level.
 3. The stone outlet structure shall be embedded into the soil a minimum of four inches.
 4. The minimum length, in feet, of the crest of the stone outlet structure shall be equal to six times the number of acres of contributing drainage area.
 5. The stone outlet structure shall be inspected after each rain, and the stone shall be replaced when the structure ceases to function as intended due to silt accumulation among the stone, washout, construction traffic damage, etc.

2. PERMIT AND Silt EROSION CONTROL NOTES:

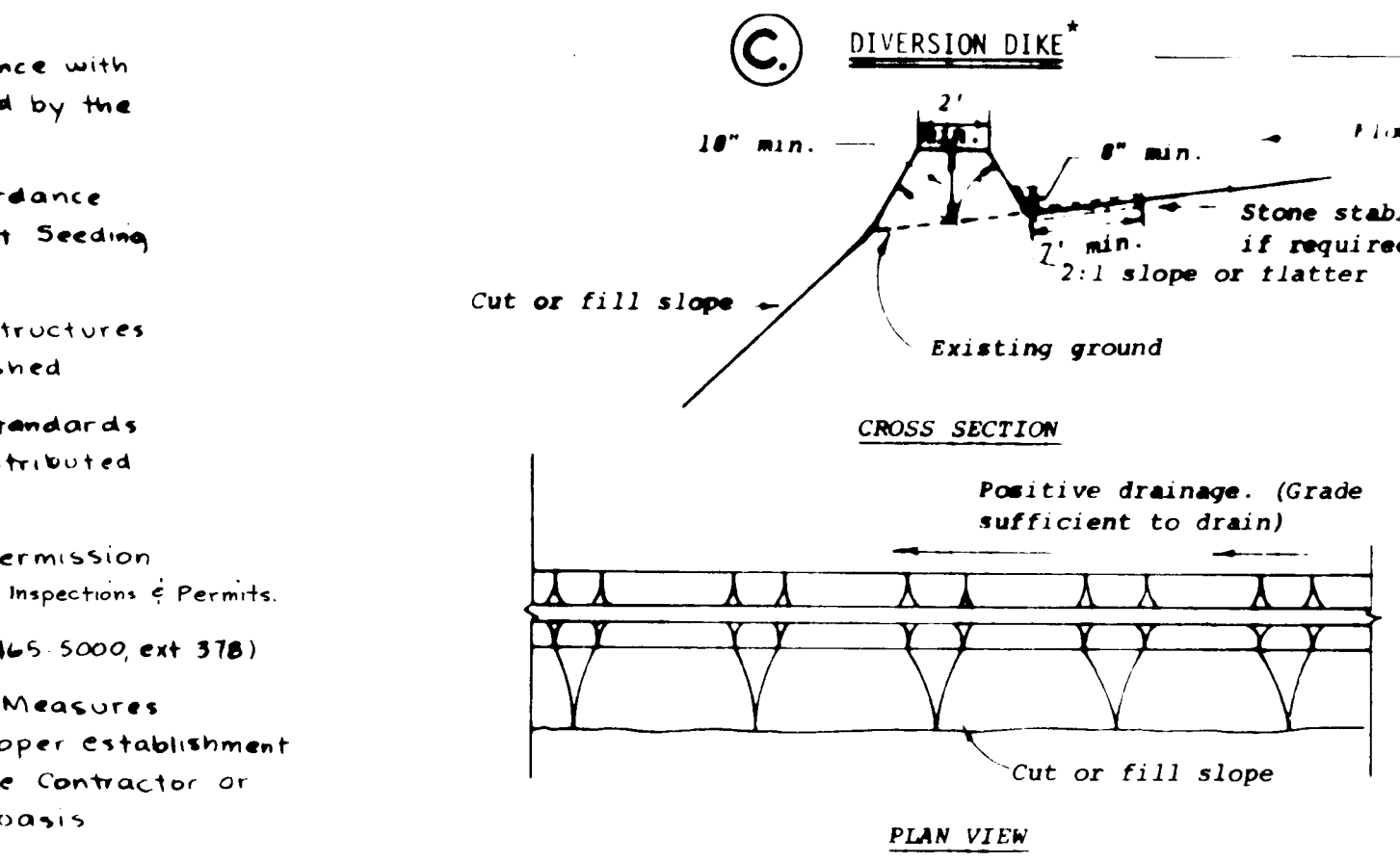
1. All **Sediment Control Measures** to be adjusted to meet field conditions at time of construction and be constructed prior to any grading or disturbance of existing surface material.
2. All **Sediment Measures** shall be undertaken in strict accordance with the approved plans and the criteria specifications approved by the Howard County Soil Conservation District (HO Co SCD).
3. All **Seeding on Sediment Control Facilities** to be done in accordance with the HO Co SCD, see Temporary Seeding Specs, this sheet. Seeding to be done immediately upon construction.
4. **Periodic inspection and maintenance** of all Sediment Control Structures must be provided to insure the intended purpose is accomplished.
5. **Contractor installing the above** shall obtain and follow the Standards and Specifications for soil erosion in urbanizing areas, as distributed by the HO Co SCD.
6. All **Sediment Control Measures** are to remain in place until permission for their removal has been obtained from the HO Co Office of Inspection & Permits.
7. **Notify the HO Co Office of Inspection & Permits** prior to starting any work (465 5000 ext 378).
8. **On site inspection and maintenance** of all Sediment Control Measures including cleanout of all Sediment Traps and Drains and proper establishment of all vegetation measures will be the responsibility of the Contractor or his representative on the site on a continuing day to day basis.
9. **Grading Permit** will be obtained prior to any clearing, grubbing or grading.

3. TURFING SEEDING SPECIFICATIONS:

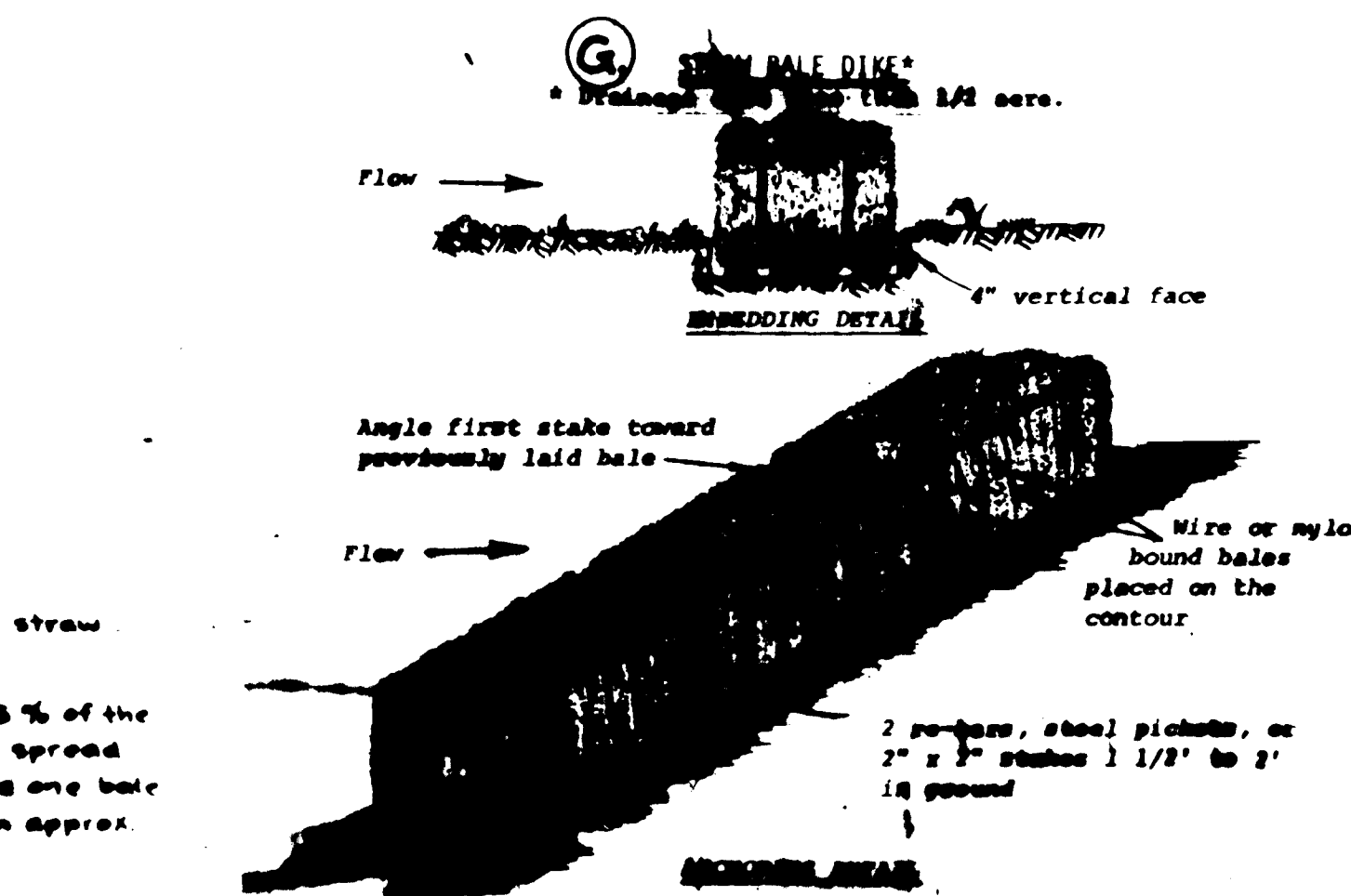
1. Apply ground agricultural limestone at the rate of two tons per acre.
2. Apply a minimum of 500 lbs. per acre of 10-20-10 or equivalent fertilizer.
3. Incorporate both lime and fertilizer into the top 3/4" of surface soil by mixing or other suitable means.
4. Seed out of the following mixtures at the rate shown per acre (August 1 to November 1):
 50 lbs. Tall fescue grass or
 50 lbs. ryegrass (small grain) or
 3 lbs. clover oats
5. Mulch according to Mulching notes, this sheet.

4. PERMANENT SEEDING SPECIFICATIONS:

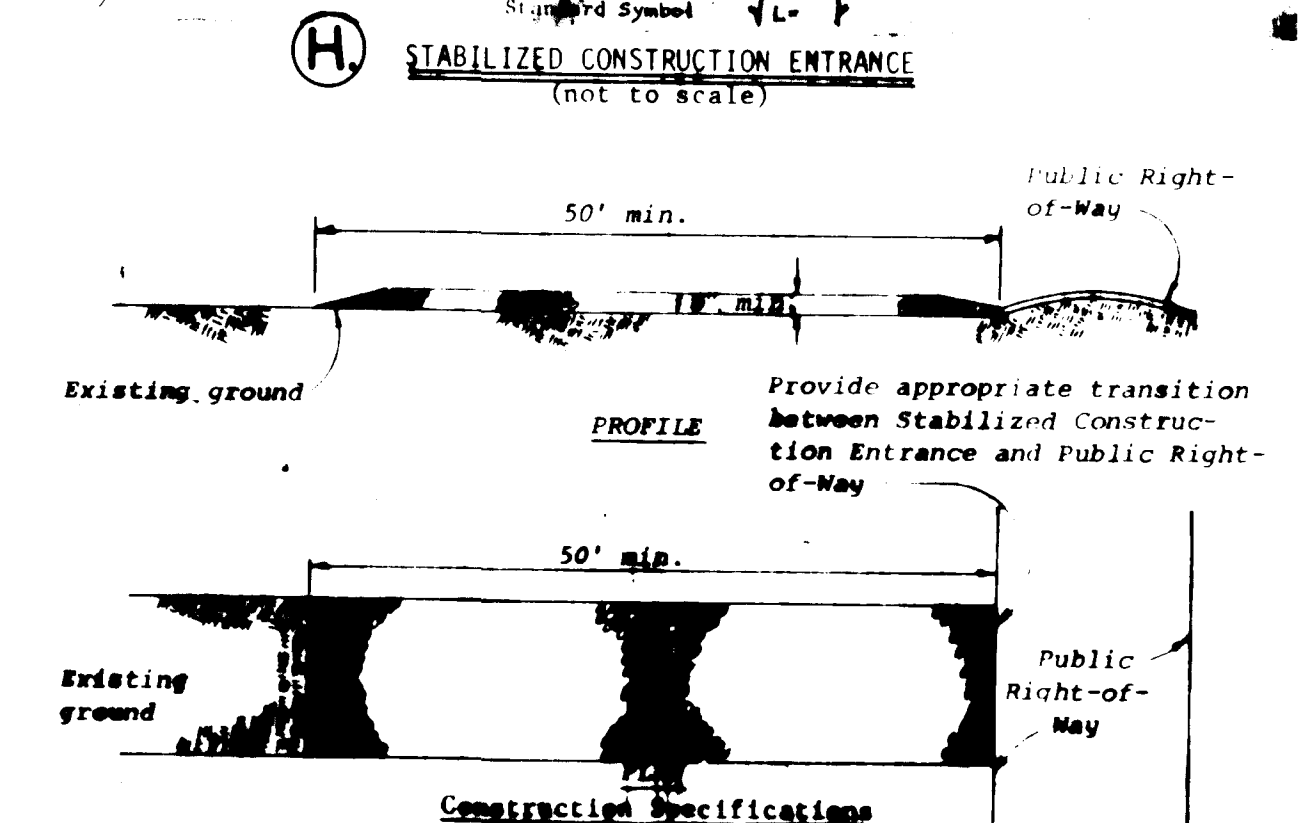
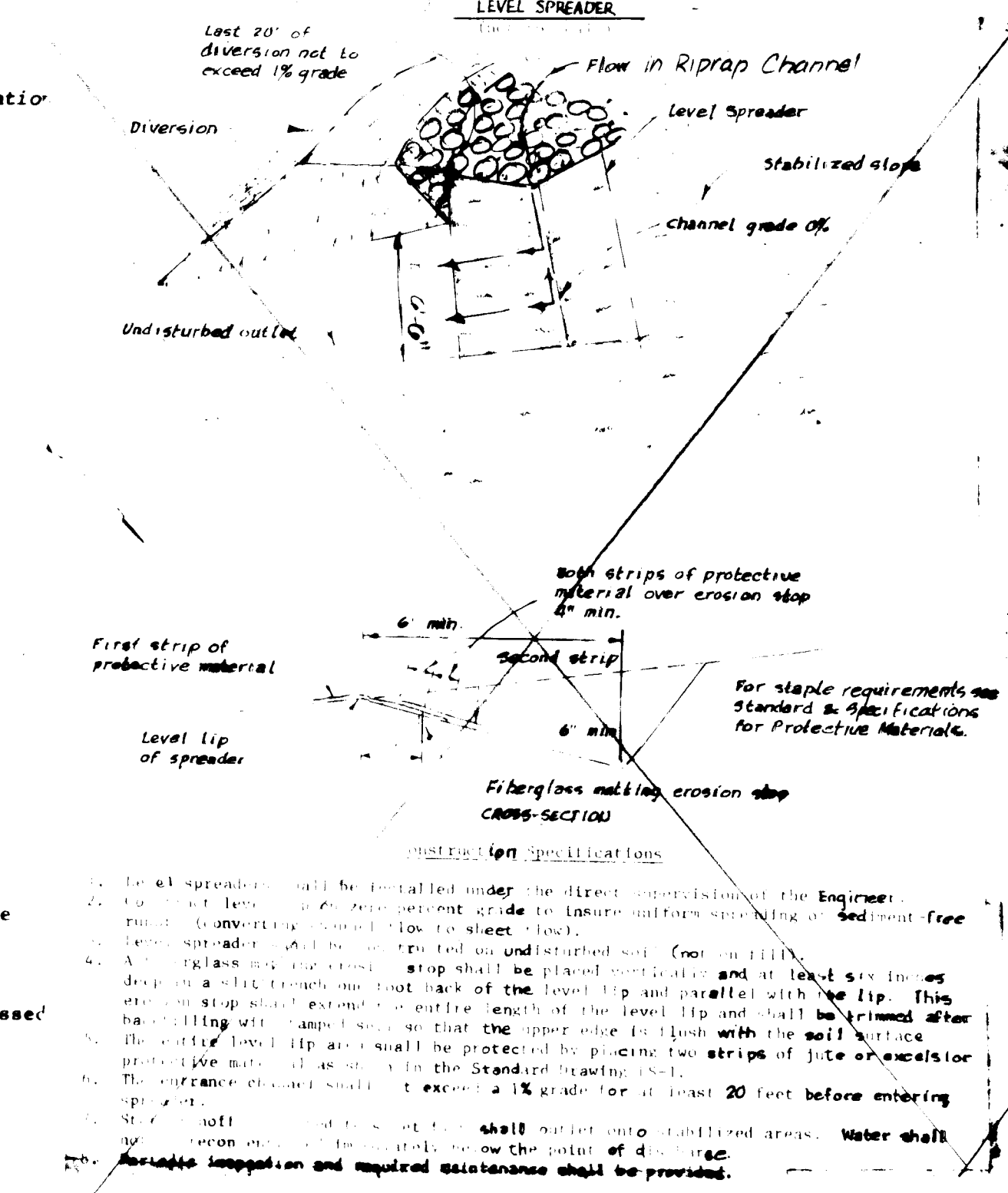
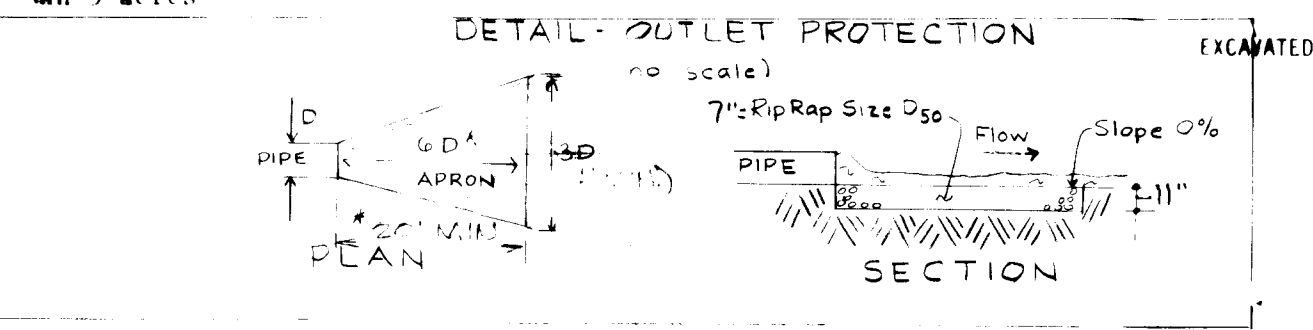
1. Before seeding apply the following:
 1000# Ground Agricultural Limestone
 1000# 5-10-10 Fertilizer
2. Distribute into the soil to a depth of 2-3"
3. Then seed the following mixture at the rate shown per acre to the Kentucky 31 Tall Fescue or the Green fescue
 50 lbs. Tall fescue
 50 lbs. ryegrass
 3 lbs. clover
4. Seed & mulch under mulching rates, this sheet.
5. Slopes flatter than 3:1 in lawns.
6. Use and fertilizer as above.
7. Seed to the Kentucky Blue Grass and 60# Red Fescue as above.
8. Turfing materials should be mulched, unchopped small grain straw spread at the rate of 1 1/2 to 2 tons per acre.
9. Turfing materials by hand or mechanically to meet at least 75% of the area with grass. The uniform distribution of seed spread over the area with approx. 1,000 sq. ft. section and place one bale of straw per 500 sq. ft. of area for distribution within each section approx. 45-50 lbs. bales will be required.



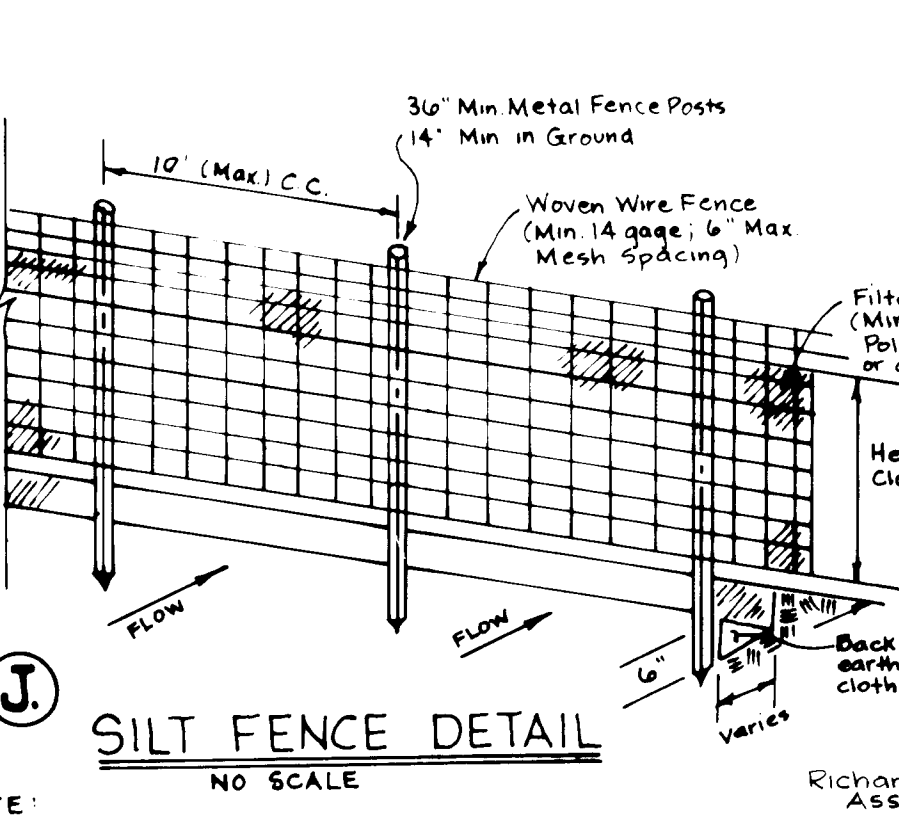
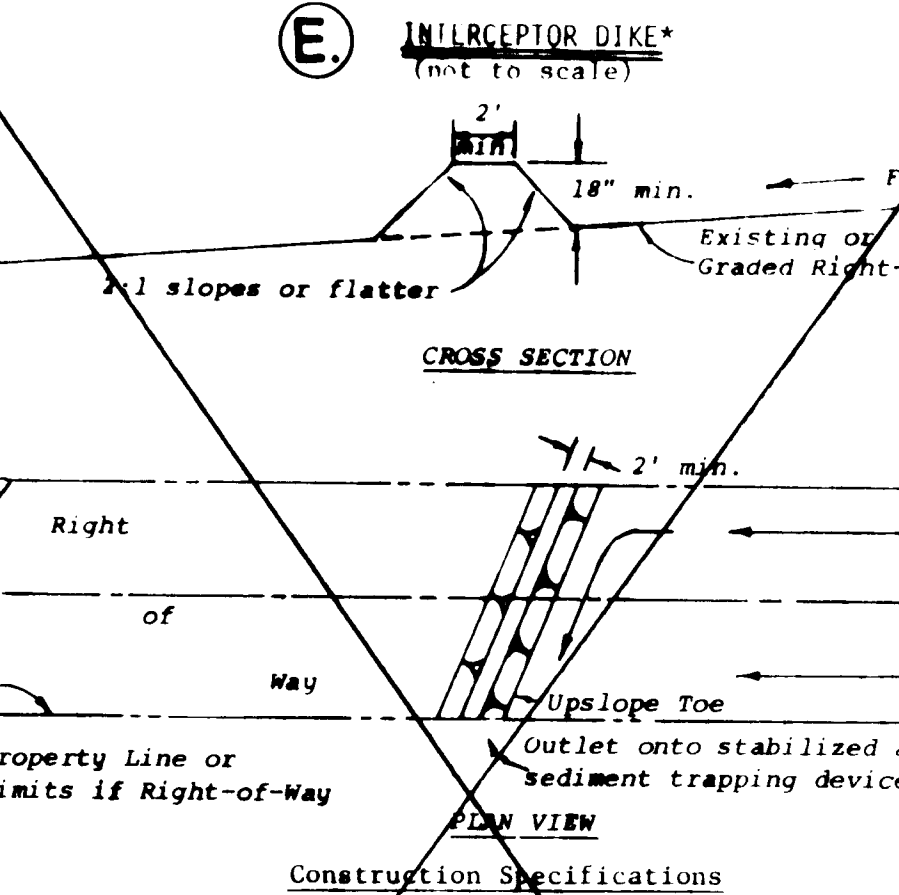
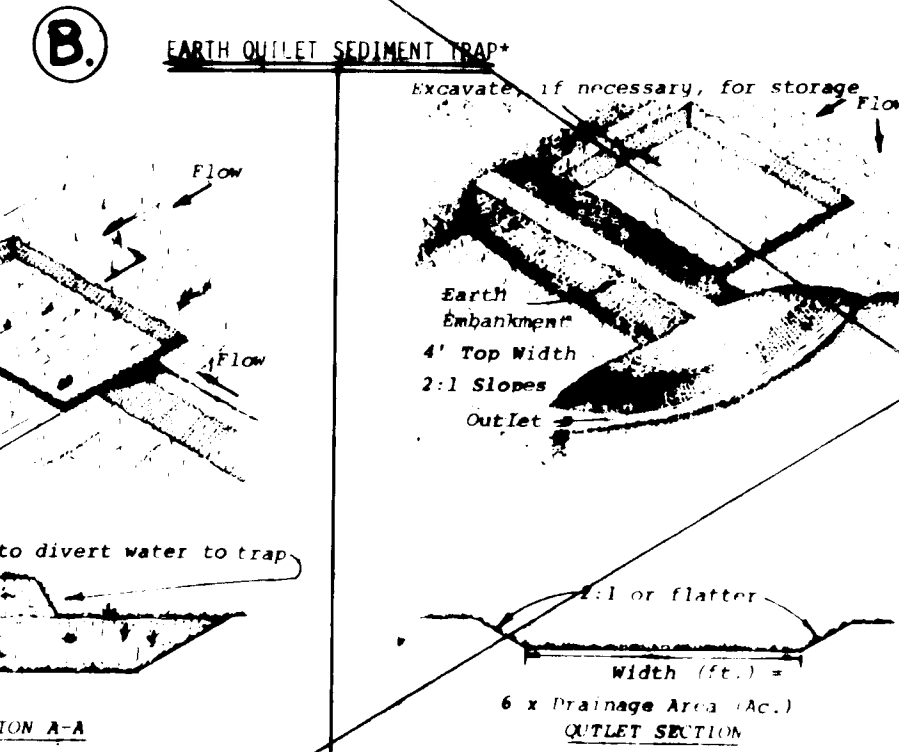
- Construction Specifications**
1. All dikes shall be machine compacted.
 2. All diversion dikes shall have positive drainage to an outlet.
 3. A. Diverted runoff from a protected or stabilized area shall outlet directly to an undisturbed stabilized area or into a level spreader or grade stabilization structure.
 B. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as a sediment trap or a sediment basin or to an area protected by any of these practices.
 4. **Stabilization**, as specified by the plans, shall be: (1) in accordance with Standard and Specifications for Grassed Waterway, and the area to be stabilized shall be the channel (flow area); or (2) the flow area shall be lined with stone that meets MSHA size No. 2 or AASHTO M43 size No. 2 or 24 which is placed in a 3 inch thick layer and pressed into the soil. The area covered by the stone shall be as shown on the drawing above.
 5. **Periodic inspection and required maintenance** shall be provided.



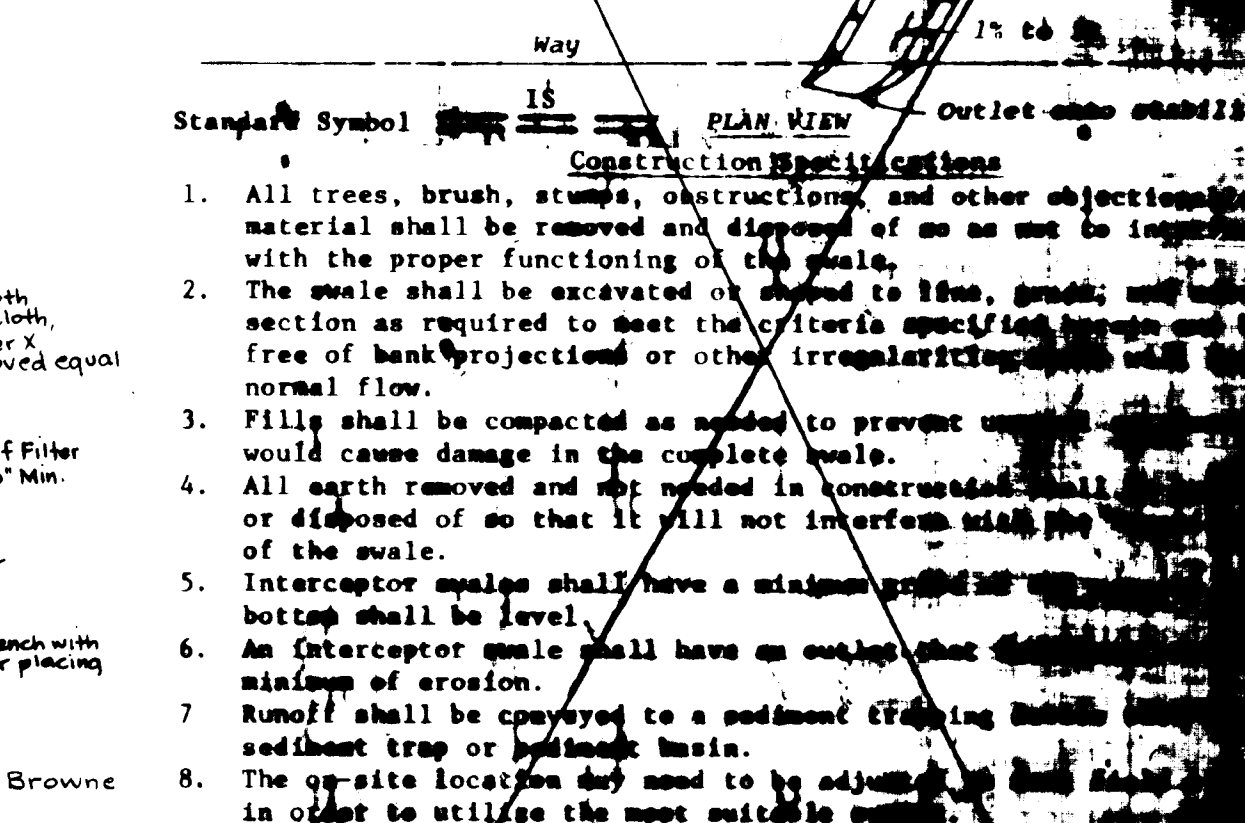
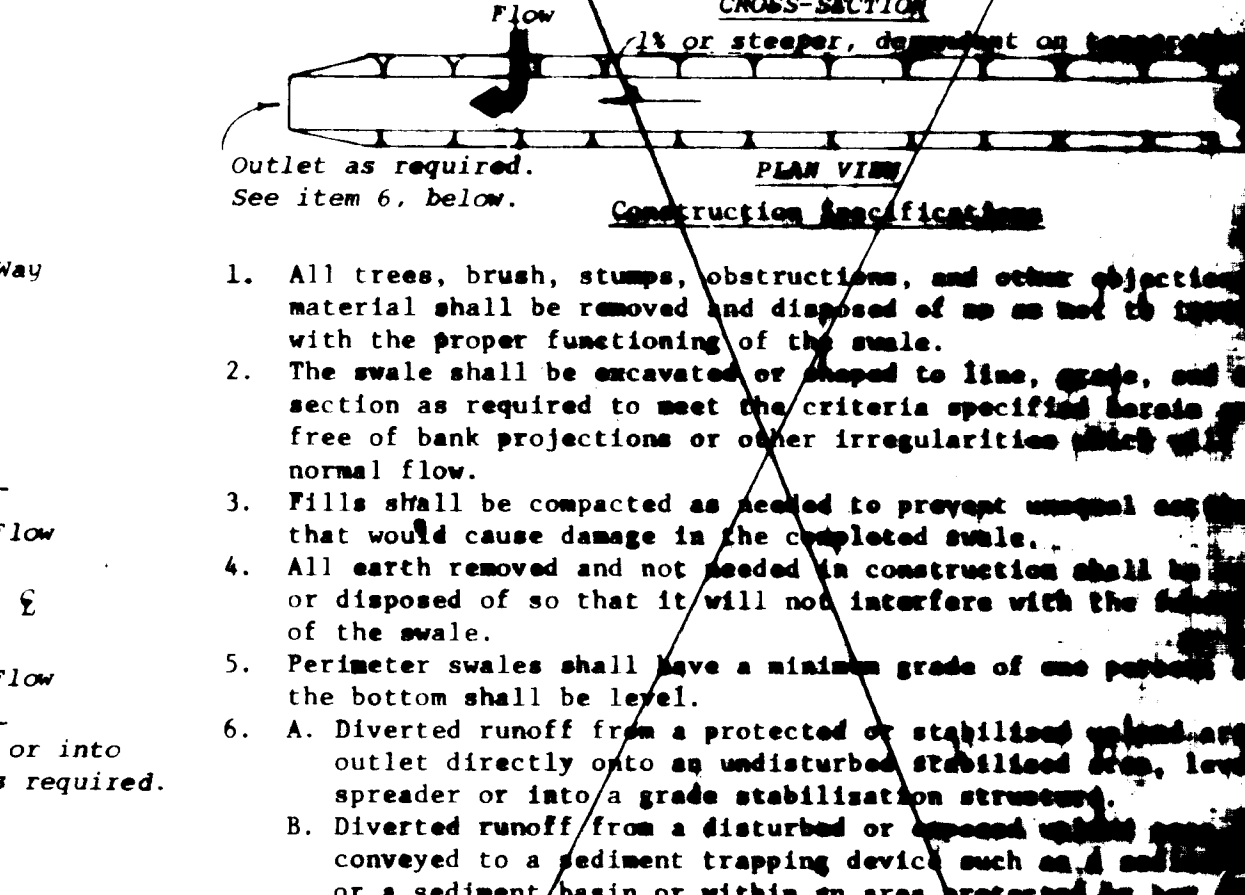
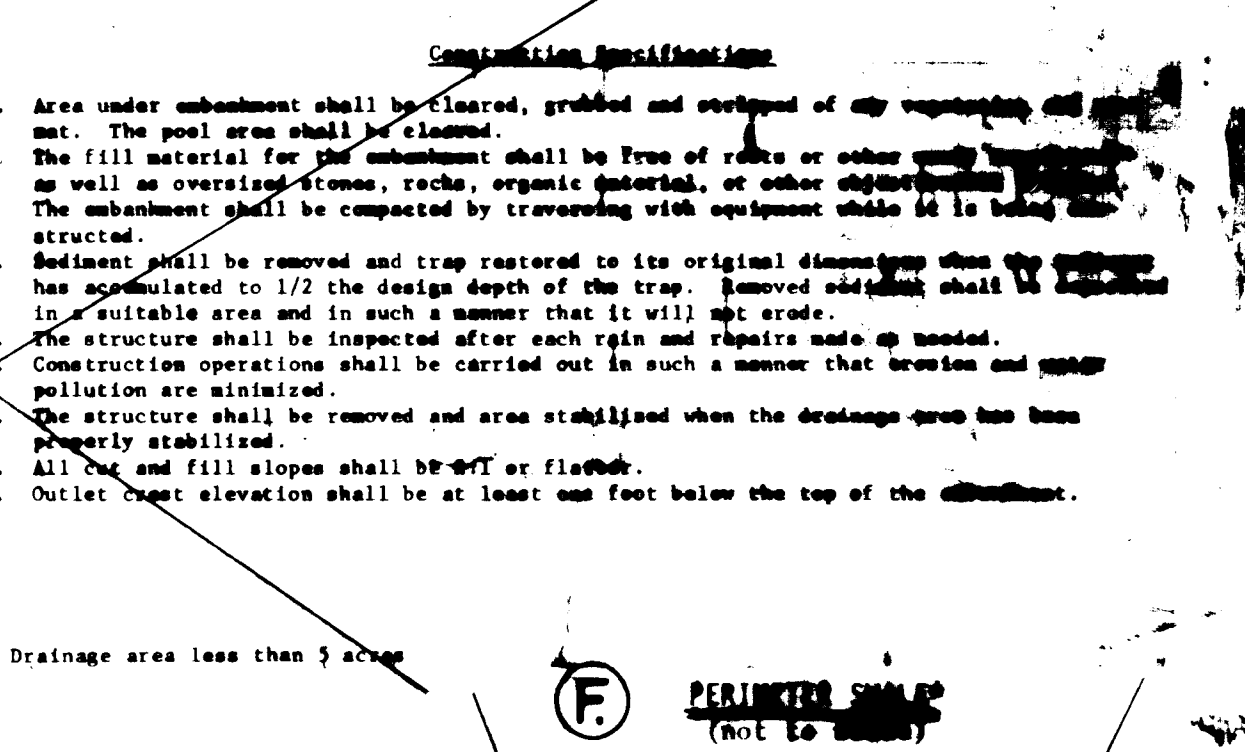
- Construction Specifications**
1. **Stake** shall be placed in a row with ends slightly offsetting the other stake.
 2. **Stake** shall be embedded in the soil a minimum of 12"
 3. **Stake** shall be spaced 12 inches apart by center to center.
 4. **Stake** shall be made of 2" x 2" stake 1 1/2" to 2" in diameter.
 5. **Stake** shall be made of 2" x 2" stake 1 1/2" to 2" in diameter.
 6. **Stake** shall be made of 2" x 2" stake 1 1/2" to 2" in diameter.



- Construction Specifications**
1. **Stone** - Use MSHA size No. 2 (2-1/2" to 1") or AASHTO designation M43, size No. 2 (2-1/2" to 1-1/2"). Use crushed stone.
 2. **Length** - No effective, but not less than 50 feet.
 3. **Thickness** - Not less than 18 inches (18) inches.
 4. **Grade** - Not less than full width of all points of ingress or egress.
 5. **Stake** - When necessary, stakes shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch, or watercourse through use of such traps, ditches, basins or other approved methods.
 6. **Inspection** - The entrance shall be inspected in a condition which will insure that the entrance is free of sediment and debris. The entrance shall be inspected on a regular basis and cleaned as necessary. All sediment, silt, sand, or other material shall be removed from the entrance.



- Construction Specifications**
1. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
 2. The swale shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein and free of bank projections or other irregularities which would impede normal flow.
 3. Fills shall be compacted as needed to prevent erosion which would cause damage in the completed swale.
 4. All earth removed and not needed in construction shall be stored or disposed of so that it will not interfere with the function of the swale.
 5. Perimeter swales shall have a minimum grade of one percent to the bottom shall be level.
 6. A. Diverted runoff from a protected or stabilized area shall outlet directly onto an undisturbed stabilized area, level spreader or into a grade stabilization structure.
 B. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as a sediment trap or a sediment basin or within an area protected by any of these practices.
 7. **Stabilization** shall be: (1) in accordance with the Standard and Specifications for Grassed Waterway; or (2) by lining the area with stone that meets MSHA size No. 2 or AASHTO M43 size No. 2 or 24 in a layer at least 3 inches in thickness and pressed into the soil. The lining shall extend across the width and the bottom of the channel a height of at least 3 inches vertically to the bottom.
 8. **Periodic inspection and required maintenance** shall be provided.



- Construction Specifications**
1. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
 2. The swale shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein and free of bank projections or other irregularities which would impede normal flow.
 3. Fills shall be compacted as needed to prevent erosion which would cause damage in the completed swale.
 4. All earth removed and not needed in construction shall be stored or disposed of so that it will not interfere with the function of the swale.
 5. Interceptor swales shall have a minimum grade of one percent to the bottom shall be level.
 6. An interceptor swale shall have an outlet that conveys runoff to a sediment trapping device such as a sediment trap or a sediment basin.
 7. Runoff shall be conveyed to a sediment trapping device such as a sediment trap or a sediment basin.
 8. The on-site location and required maintenance shall be provided.
 9. **Stabilization** shall be: (1) in accordance with the Standard and Specifications for Grassed Waterway; or (2) by lining the area with stone that meets MSHA size No. 2 or AASHTO M43 size No. 2 or 24 in a layer at least 3 inches in thickness and pressed into the soil. The lining shall extend across the width and the bottom of the channel a height of at least 3 inches vertically to the bottom.
 10. **Periodic inspection and required maintenance** shall be provided.

APPROVED: HO Co. Office of Planning and Zoning
 APPROVED: HO Co. Dept. of Public Works
 Chief of Land Devel. Div.
 Chief of Engineering

Richard B. Browne Associates
 professional design & planning consultants
 wayne, new jersey . columbia, maryland
 Richard B. Browne Assoc.
 Columbia, Md. 21044

DETAIL SHEET
 OAK HILL ESTATES
 Tax Map 30
 2nd Election District
 SCALE AS SHOWN
 SHEET 2 OF 6
 REV 5-15-78