

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN & PROFILE: MD STATE RT. 21G
3	PLAN & PROFILE: CREST DRIVE / WEHLAND COURT
4	PLAN & PROFILE: HAVEN HILL COURT / HONEYHILL ROAD
5	PROFILE: WEHLAND COURT & STORM DRAIN DETAILS
6	STORM DRAIN PROFILES
7	ROADWAY DETAILS
8	DRAINAGE AREA MAP, SWM DETAILS & SEDIMENT CONTROL PLAN
9	STORM WATER MANAGEMENT & SEDIMENT CONTROL DETAIL
10	STORM WATER MANAGEMENT SPECIFICATIONS

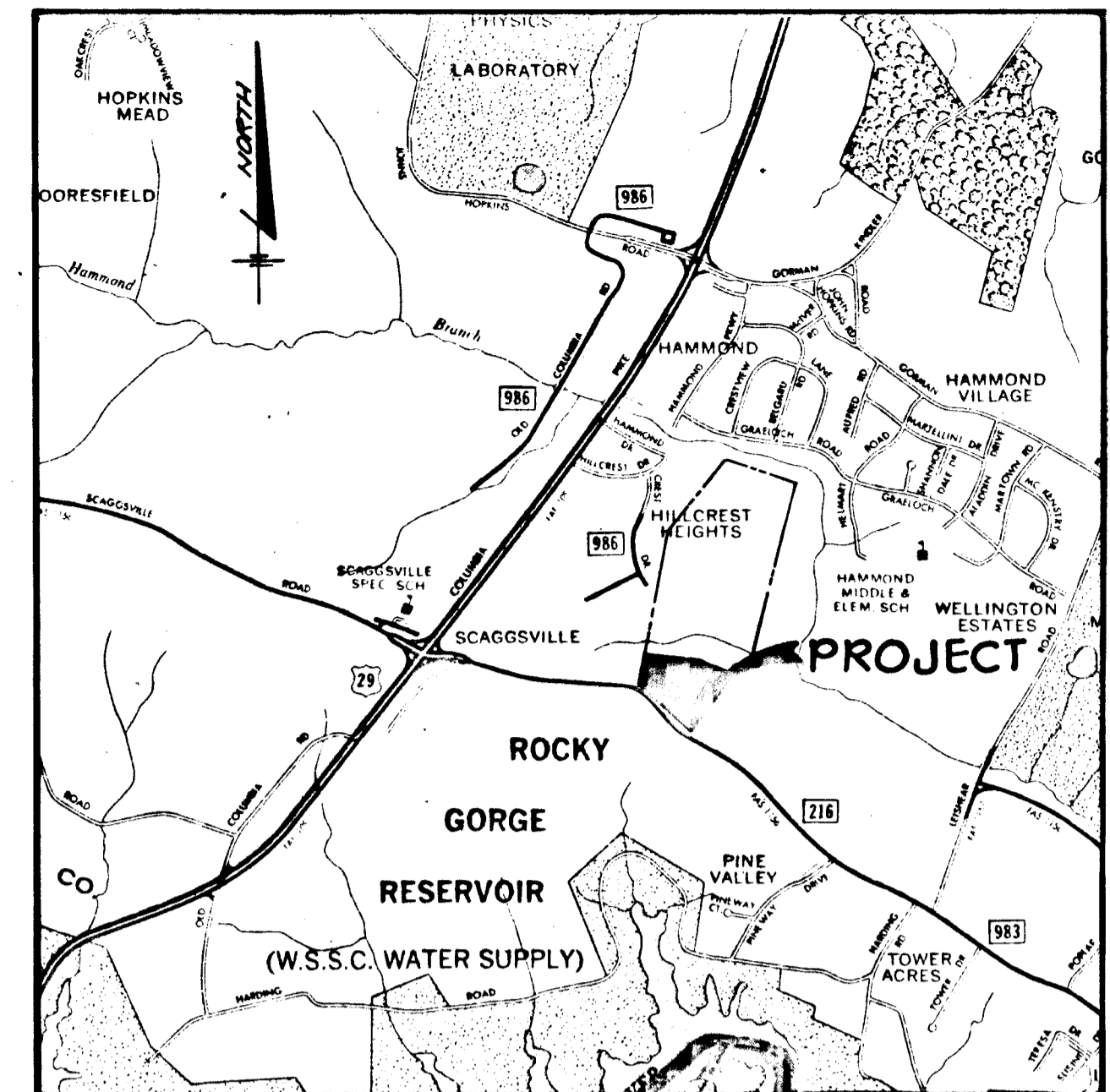
# ROADWAY, STORM DRAIN & STORM WATER MANAGEMENT

# HAMMOND HILLS

## SECTION ONE

### 6TH ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND



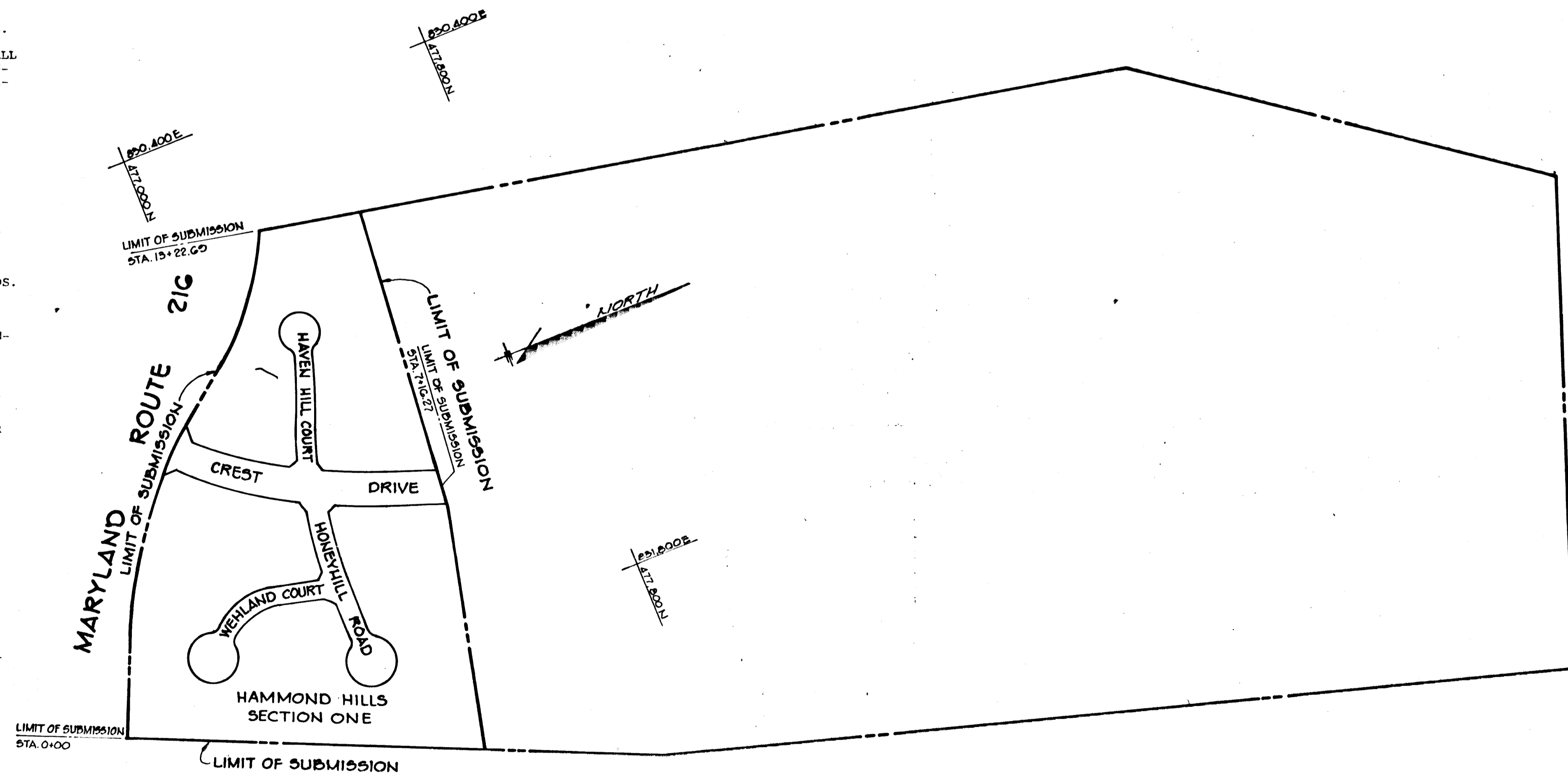
**VICINITY MAP**  
SCALE: 1" = 2,000'

**GENERAL NOTES**

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND CONSTRUCTION DETAILS.
2. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
4. CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
 

BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 OR 3554
BALTIMORE GAS AND ELECTRIC COMPANY	539-8000, EXT. 691
HOWARD COUNTY BUREAU OF UTILITIES	992-2366
HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION	992-2417/2418
5. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS. (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK)
6. ALL STREET CURB RETURNS SHALL HAVE 35.0' RADII UNLESS OTHERWISE NOTED.
7. STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
8. INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1971 EDITION.
9. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
10. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
 

ALL 60' RIGHT-OF-WAYS	40 M.P.H.
ALL 50' RIGHT-OF-WAYS	30 M.P.H.
*NOT APPLICABLE FOR CUL-DE-SACS	
11. ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
12. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM 95% COMPACTION.
13. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
14. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
15. SUBJECT PROPERTY ZONED R-SA PER 10-03-77 COMPREHENSIVE ZONING PLAN.



**PLAN**  
SCALE: 1" = 200'

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING	
<i>John M. ...</i>	3-10-82
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING AND PLANNING	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>William S. ...</i>	
CHIEF, BUREAU OF ENGINEERING	
3-4-82	REV. PER S.C.S. COMMENTS 3-1-82
2-1-82	REVISED AS PER H.C. COMMENTS DATED 1-26-82
DATE	REVISION
OWNER: J.M. ... 5501 TWIN KNOLLS ROAD SUITE 109 COLUMBIA, MARYLAND 21045	
DEVELOPER: E.G. MARKER CO., INC. 5200 PRINCESS GARDEN PKWY LANHAM, MARYLAND 20801	
PROJECT: <b>HAMMOND HILLS SECTION ONE</b>	
AREA: TAX MAP NO. 46 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE: TITLE SHEET	
<b>Riemer - Tracy &amp; Associates, Inc.</b> 8659 Baltimore National Pike Ellicott City, Maryland 21043 (301) 461-2090 Land Planning, Design & Civil Engineering	
11-25-81 DATE	PARCEL 2
<i>James H. Tracy</i> PROFESSIONAL ENGINEER	
DESIGNED BY: L.J.D. DRAWN BY: T.E.S. PROJECT NO: A 2080 DATE: NOVEMBER 25, 1981 SCALE: AS SHOWN DRAWING NO. 1 OF 10	
MARCH 4, 1982 AS-BUILT DEC. 31, 1985	

# 939

← CURVE DATA MD ROUTE #21G  
FROM STA. 11+88.58 TO STA. 13+50.27

Δ = 14° 20' 35"  
R = 640.00'  
L = 161.89'  
T = 81.38'  
D = 08° 57' 00"  
Chd = N 58° 50' 13" W, 161.46'

← CURVE DATA MD ROUTE #21G  
FROM STA. 11+26.52 TO STA. 11+45.42

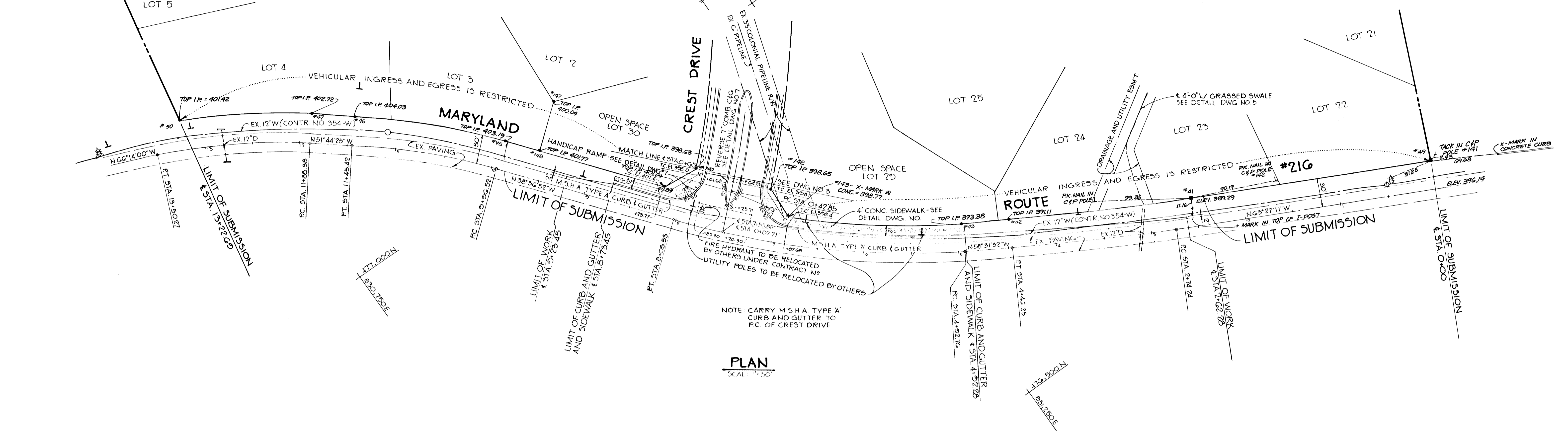
Δ = 13° 07' 33"  
R = 650.00'  
L = 148.91'  
T = 74.78'  
D = 08° 48' 53"  
Chd = N 45° 10' 30" W, 148.58'

← CURVE DATA MD ROUTE #21G  
FROM STA. 4+02.76 TO STA. 8+05.53

Δ = 19° 54' 40"  
R = 900.00'  
L = 312.76'  
T = 157.97'  
D = 06° 21' 58"  
Chd = N 48° 34' 12" W, 311.19'

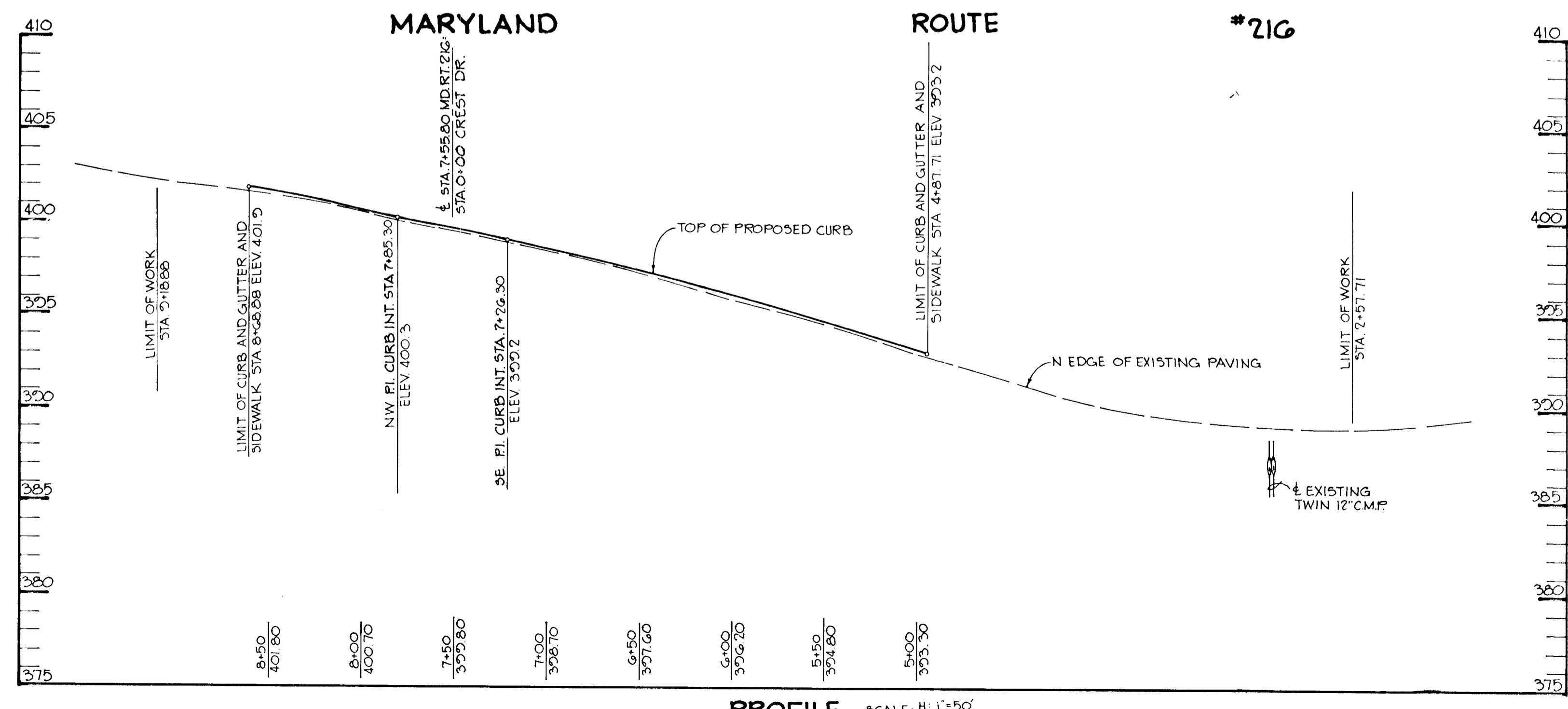
← CURVE DATA MD ROUTE #21G  
FROM STA. 2+74.24 TO STA. 4+46.24

Δ = 04° 55' 30"  
R = 2000.00'  
L = 172.00'  
T = 86.05'  
D = 02° 51' 53"  
Chd = N 60° 59' 22" W, 171.95'



NOTE CARRY M.S.H.A. TYPE 'A' CURB AND GUTTER TO P.C. OF CREST DRIVE

PLAN  
SCALE: 1" = 50'



PROFILE SCALE: 1" = 50'

AS-BUILT SURVEY CERTIFICATION BY  
W. STANLEY MACHEN, MD. REG. P.E.  
No. 2047-DATED 12-31-85

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING	
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE: 3-10-82	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
 CHIEF, DEPARTMENT OF PUBLIC WORKS DATE: 3-15-82	
DATE	REVISION
2-1-82	Δ REVISED AS PER H.C. COMMENTS DATED 1-26-82
OWNER: J.J.M., INC. 5501 TWIN KNOLLS ROAD SUITE 103 COLUMBIA, MARYLAND 21045	
DEVEL: I.G. MARKER CO., INC. 5500 PRINCESS GARDEN PKWY LANHAM, MARYLAND 20801	
PROJECT: HAMMOND HILLS SECTION ONE	
AREA: TAX MAP NO. 46 G <sup>TH</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE: PLAN & PROFILE MD. STATE RT. 21G	
 <b>Riemer-Tracy &amp; Associates, Inc.</b> 8659 Eastmore National Hwy. Ellicott City, Maryland 21043 (301) 461-2690 Land Planning, Design & Civil Engineering	
DATE: 11-25-81	PARCEL: 7
DESIGNED BY: L.J.D.	
DRAWN BY: T.E.S.	
PROJECT NO: A 2080	
DATE: NOVEMBER 25, 1981	
SCALE: AS SHOWN	
DRAWING NO. 2 OF 10	
 W. STANLEY MACHEN PROFESSIONAL ENGR. NO. 9566	

1-82-60 MARCH 4, 1982  
AS-BUILT DEC. 31, 1985

**CURVE DATA CREST DRIVE**

FROM STA. 0+42.85 TO STA. 5+74.33  
 $\Delta = 30^\circ 27' 05''$   
 $R = 1000.00'$   
 $L = 531.47'$   
 $T = 272.27'$   
 $D = 05^\circ 43' 44''$   
 $Chd = 532^\circ 43' 25'' W, 575.42'$

TEST PIT #1  
TOP G PIPELINE ELEV 304.44  
 TEST PIT #2  
TOP G PIPELINE ELEV 303.00  
 TEST PIT #3  
TOP G PIPELINE ELEV 300.43  
 TEST PIT #4  
TOP G PIPELINE ELEV 378.80  
 TEST PIT #5  
TOP G PIPELINE ELEV 301.50

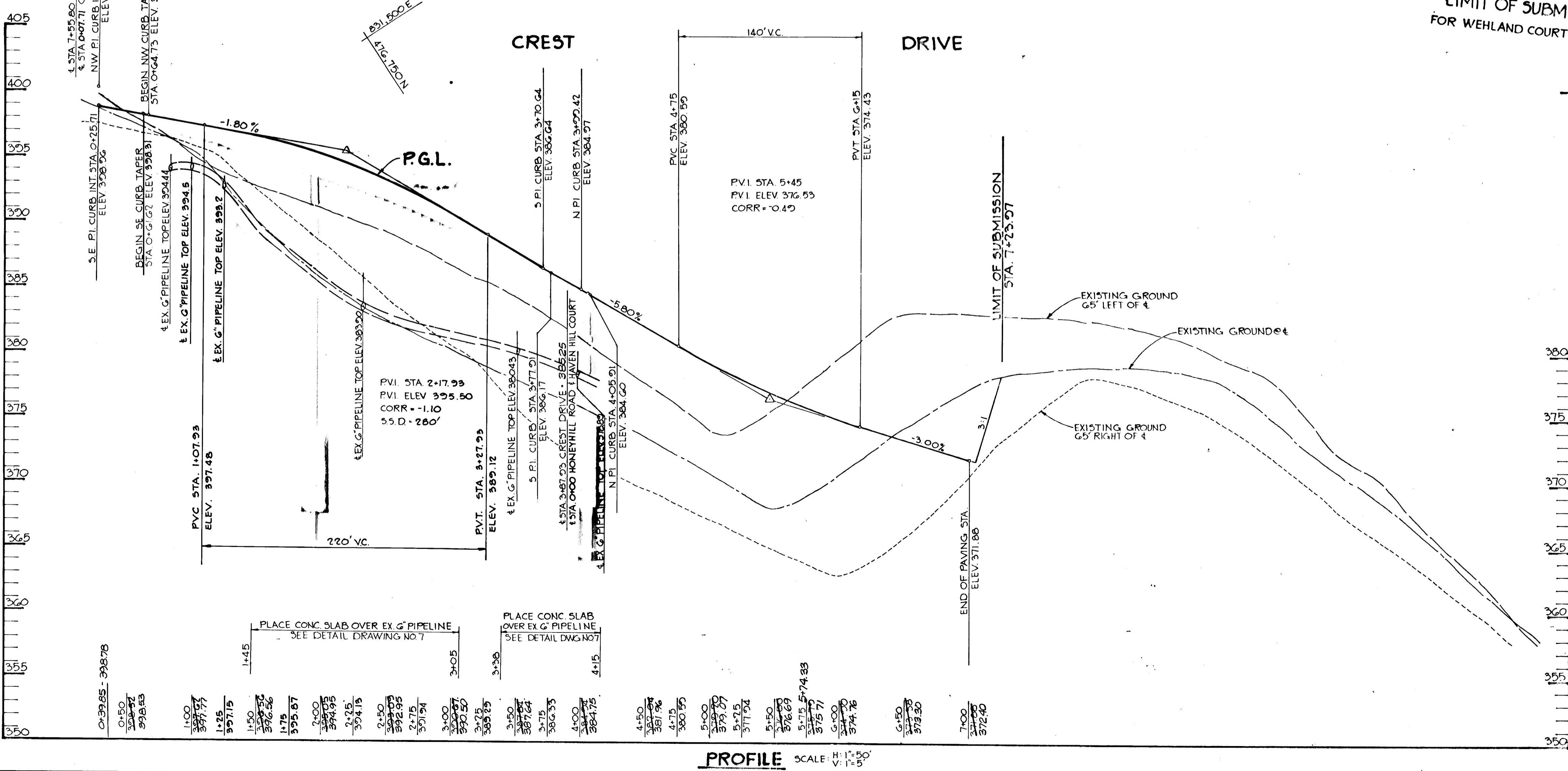
**CURVE DATA WEHLAND COURT**

FROM STA. 1+05.86 TO CUL-DE-SAC  
 $\Delta = 92^\circ 01' 07''$   
 $R = 150.00'$   
 $L = 240.00'$   
 $T = 155.38'$   
 $D = 38^\circ 11' 50''$   
 $Chd = 523^\circ 45' 06'' E, 215.83'$

**CURVE DATA WEHLAND COURT**

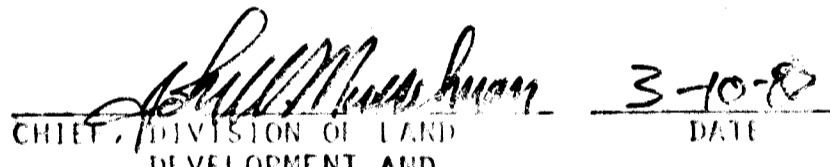
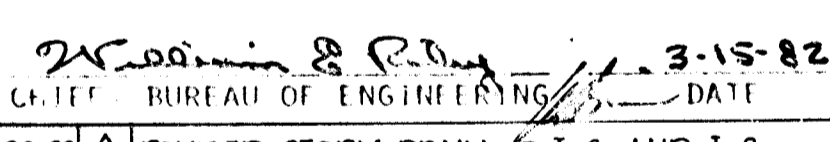

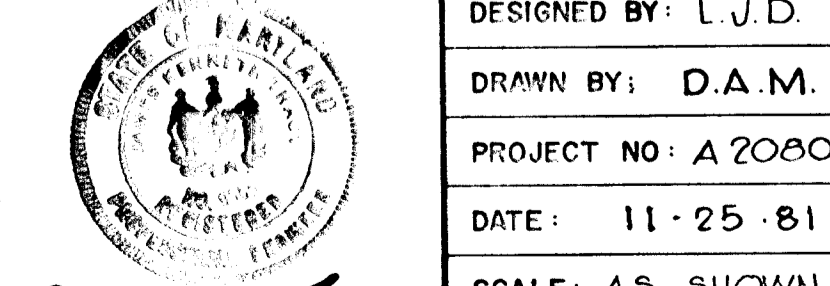
FROM STA. 0+37.64 TO STA. 1+01.63  
 $\Delta = 24^\circ 35' 52''$   
 $R = 150.00'$   
 $L = 64.30'$   
 $T = 32.70'$   
 $D = 38^\circ 15' 50''$   
 $Chd = 303^\circ 57' 32'' W, 63.00'$

CURB TRANSITION SCHEDULE			
HAVEN HILL CT	4+51.00	RIGHT	BEGIN CURB TRANSITION SEE H.C. STD. DETAIL R-3.02
HONEYHILL RD	4+51.00	RIGHT	END CURB TRANSITION SEE H.C. STD. DETAIL R-3.02
HONEYHILL RD	4+51.00	RIGHT	BEGIN CURB TRANSITION SEE H.C. STD. DETAIL R-3.02
HONEYHILL RD	4+51.00	RIGHT	END CURB TRANSITION SEE H.C. STD. DETAIL R-3.02
WEHLAND CT	4+51.00	RIGHT	BEGIN CURB TRANSITION SEE H.C. STD. DETAIL R-3.02
WEHLAND CT	4+51.00	RIGHT	END CURB TRANSITION SEE H.C. STD. DETAIL R-3.02



**PROFILE** SCALE: 1" = 10'

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

0-20-82	REVISOR	REVISOR	REVISOR
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING			
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION			
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS			
 CHIEF, BUREAU OF ENGINEERING			
0-23-82	REVISOR	REVISOR	REVISOR
7-1-82	REVISOR	REVISOR	REVISOR
DATE	NO.	REVISION	
OWNER: J.J.M., INC. 5501 TWIN KNOLLS ROAD SUITE 103 COLUMBIA, MARYLAND 21045			
DEVEL: F.G. MARKER CO., INC. 5900 PRINCESS GARDEN PKWY LANHAM, MARYLAND 20801			
PROJECT: <b>HAMMOND HILLS SECTION ONE</b>			
AREA: TAX MAP NO 46 G <sup>TH</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND			
TITLE: PLAN AND PROFILE - CREST DRIVE PLAN - WEHLAND COURT			
 Riemer-Tracy & Associates, Inc. 8550 Baltimore National Pike Ellicott City, Maryland 21043 (301) 481-2680 Land Planning, Design & Civil Engineering			
DATE: 11-25-81			
PARCEL 2			
DESIGNED BY: L.J.D.			
DRAWN BY: D.A.M.			
PROJECT NO: A 2080			
DATE: 11-25-81			
SCALE: AS SHOWN			
DRAWING NO. 3 OF 10			
 James H. Tracy PROFESSIONAL ENGINEER NO. 11-82-60			
AUGUST 23, 1982 AS-BUILT DEC. 31, 1985			

AS BUILT SURVEY CERTIFICATION BY W. STANLEY MACHEN, MD, REG. P.E. No. 2047 - DATED 12-31-85

# 939

**4 CURVE DATA HAVEN HILL COURT**  
FROM 4 STA. 0+00 TO 4 STA. 0+64.24

$\Delta = 0^{\circ}12'06''$   
R = 400.00'  
L = 64.24'  
T = 32.16'  
D = 14^{\circ}15'22''  
Chd = N66^{\circ}07'41''W, 64.17'

**4 CURVE DATA HONEYHILL ROAD**  
FROM 4 STA. 0+00 TO 4 STA. 1+50.87

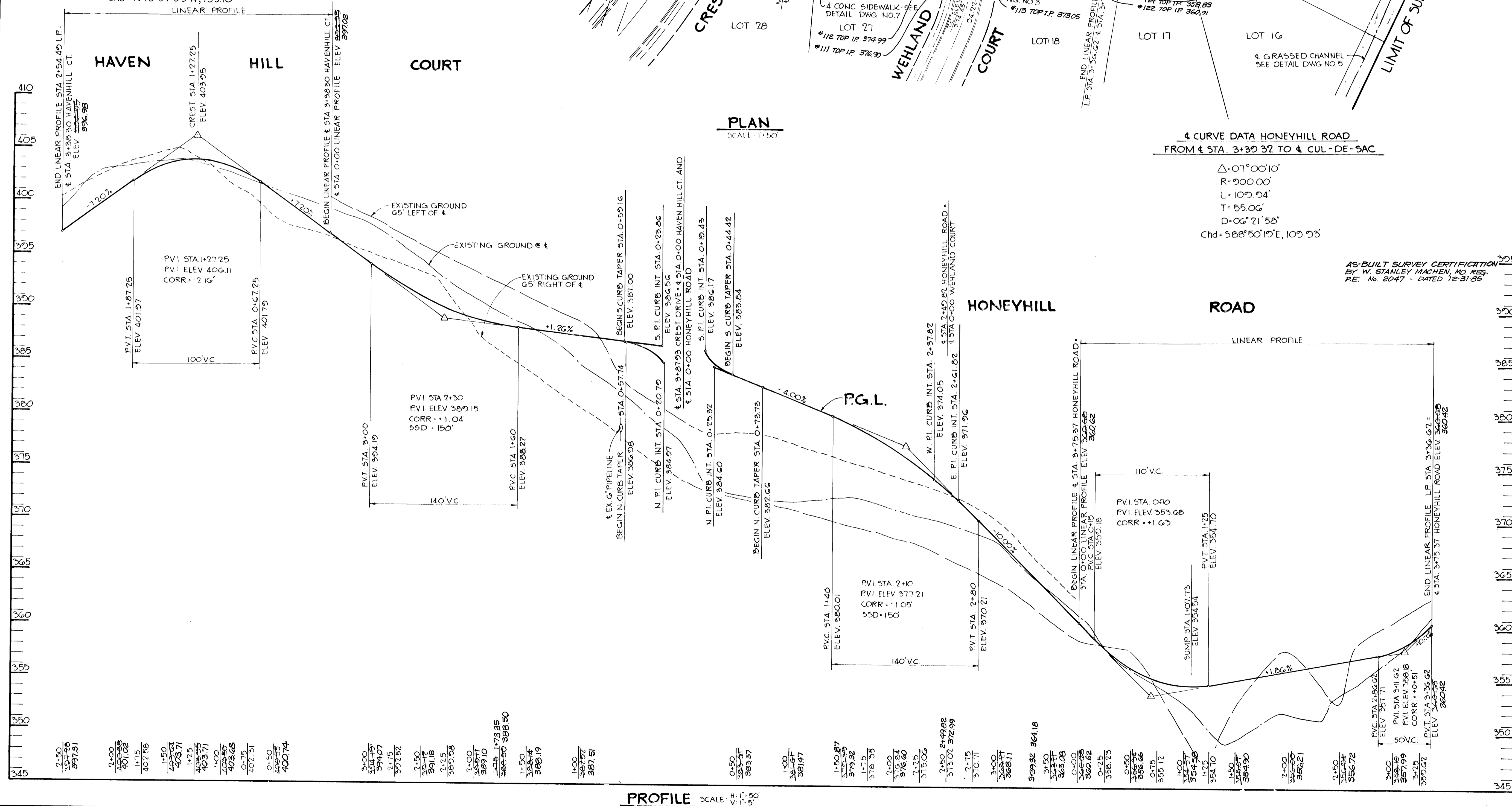
$\Delta = 21^{\circ}36'40''$   
R = 400.00'  
L = 150.87'  
T = 76.34'  
D = 14^{\circ}15'22''  
Chd = S88^{\circ}32'04''E, 140.06'

**4 CURVE DATA HONEYHILL ROAD**  
FROM 4 STA. 3+20.32 TO 4 CUL-DE-SAC

$\Delta = 07^{\circ}00'10''$   
R = 200.00'  
L = 100.04'  
T = 55.06'  
D = 06^{\circ}21'58''  
Chd = S88^{\circ}50'15''E, 100.00'

**4 CURVE DATA HAVEN HILL COURT**  
FROM 4 STA. 1+73.35 TO 4 STA. 3+09.52

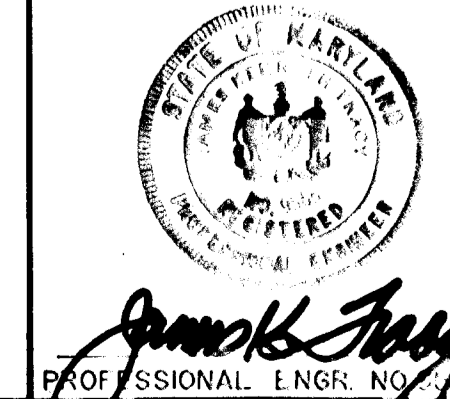
$\Delta = 24^{\circ}46'02''$   
R = 315.00'  
L = 136.16'  
T = 69.16'  
D = 18^{\circ}11'21''  
Chd = N73^{\circ}54'35''W, 135.10'



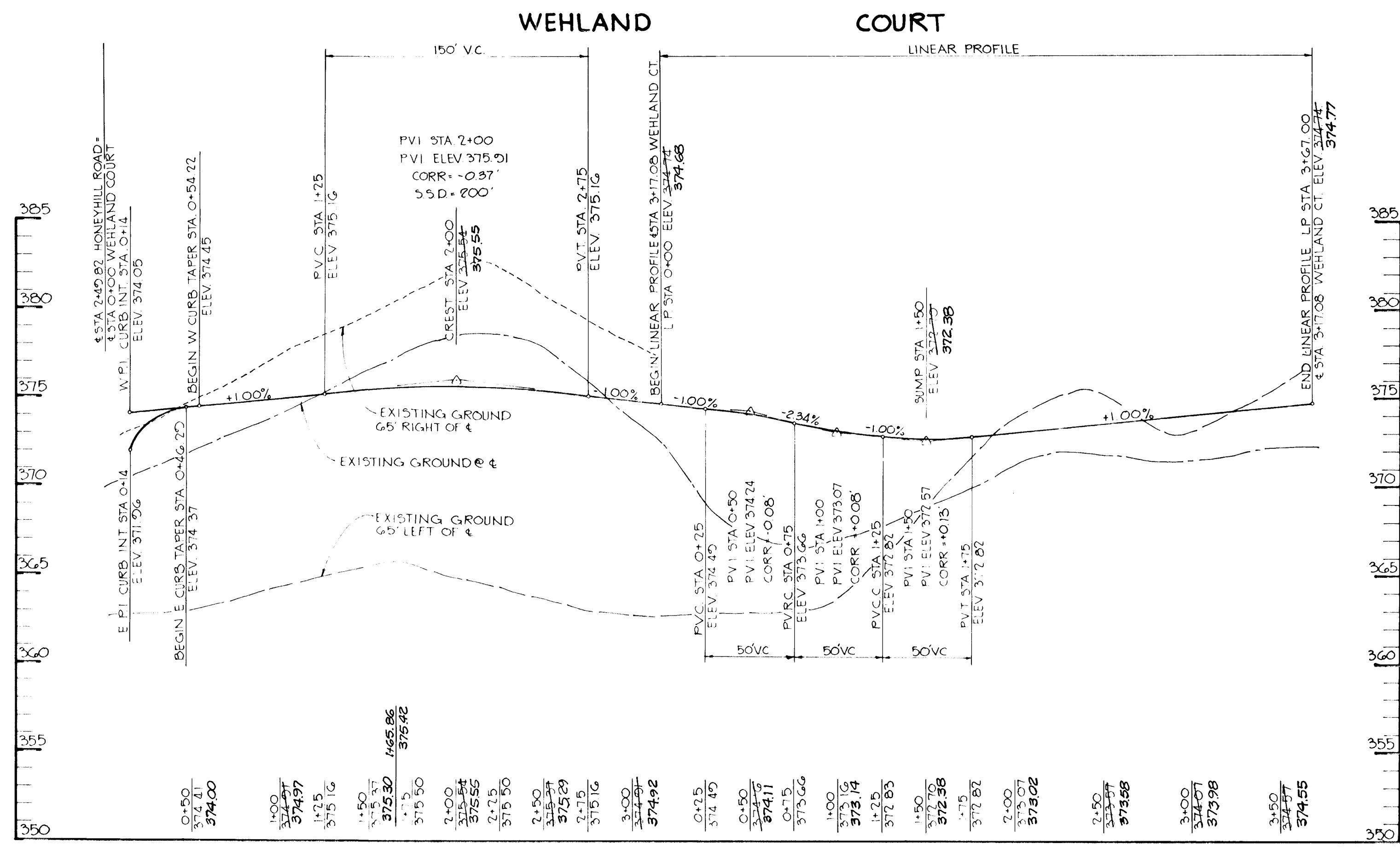
7-30-85	ADDED PILOT CHANNEL & SPOT ELEVATIONS
8-23-82	REVISED STORM DRAIN LENGTH @ 1:1 AND 1:2
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING	
<i>Phillip Madhavan</i>	3-10-82 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>William E. Remy</i>	3-15-82 DATE
3-4-82	REV. PER S.C.S. COMMENTS 3-1-82
2-1-82	REVISED AS PER H.C. COMMENTS DATED 1-26-82
DATE NO.	REVISION
OWNER:	J.M.M., INC. 5501 TWIN KNOLLS ROAD SUITE 103 COLUMBIA, MARYLAND 21045
DEVELOPER:	T.G. MARKER CO. INC. 5900 PRINCESS GARDEN PKWY LANHAM, MARYLAND 20801
PROJECT:	HAMMOND HILLS SECTION ONE
AREA:	TAX MAP NO. 4G 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	PLAN & PROFILE HAVEN HILL COURT / HONEYHILL ROAD
<b>Riemer Tracy &amp; Associates, Inc.</b> 8659 Baltimore National Pike Ellicott City, Maryland 21043 (301) 461-2690 Land Planning, Design & Civil Engineering	
DATE	11-25-81
DATE	11-25-81
DESIGNED BY:	L.J.D.
DRAWN BY:	D.A.M.
PROJECT NO.:	A 2080
DATE:	NOVEMBER 25, 1981
SCALE:	AS SHOWN
DRAWING NO.:	4 OF 9

AS-BUILT SURVEY CERTIFICATION  
BY W. STANLEY MACHEN, MD. REG.  
P.E. No. 2047 - DATED 12-31-85

939

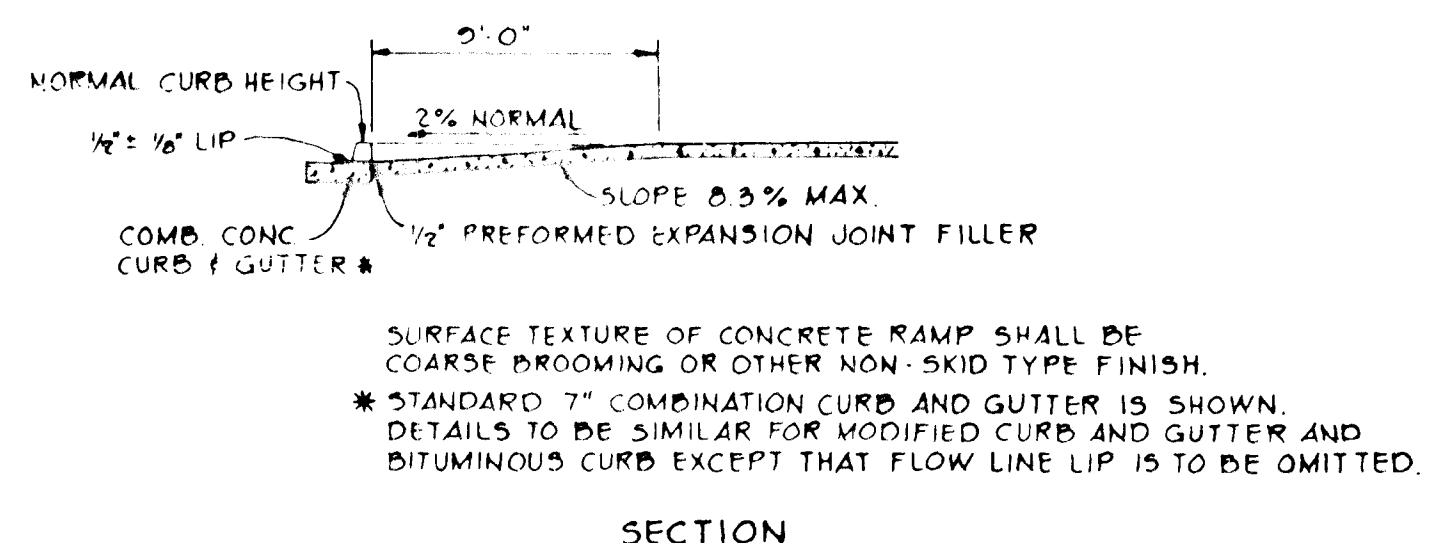
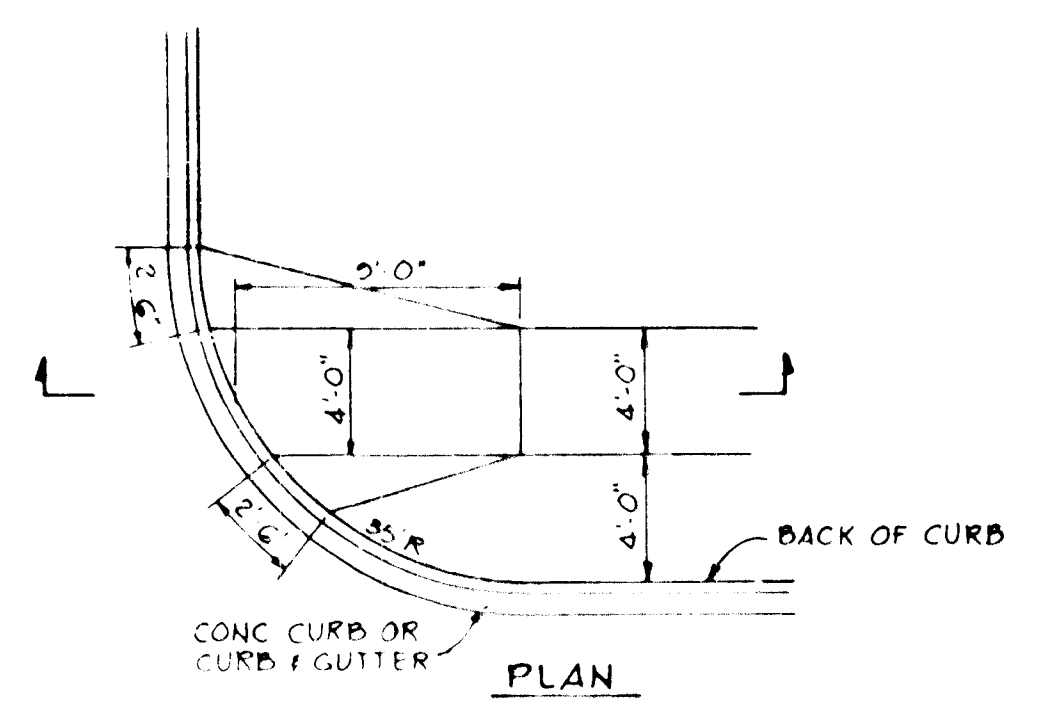


JULY 30, 1985  
AS-BUILT DEC. 31, 1985

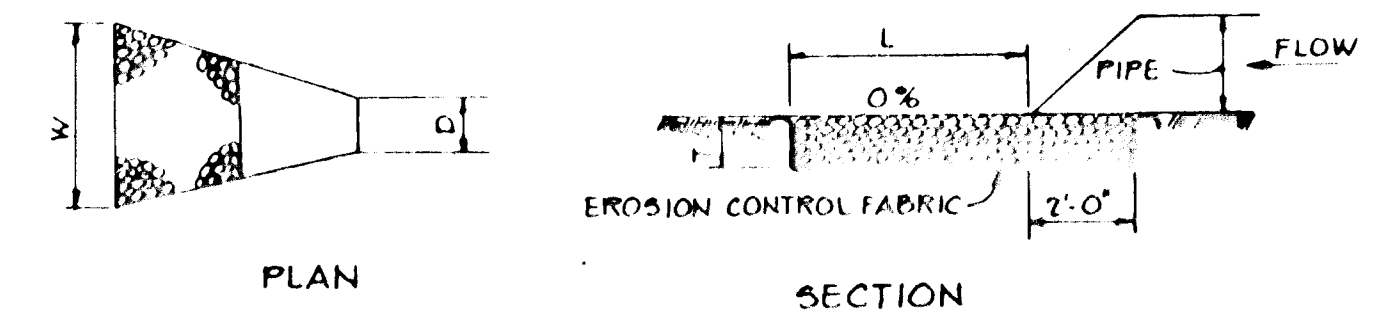


**PROFILE**  
SCALE H 1"=10'  
V 1"=5'

AS-BUILT SURVEY CERTIFICATION  
BY W. STANLEY WACHEN, MD REG.  
PE No. 2047 - DATED 12-31-85

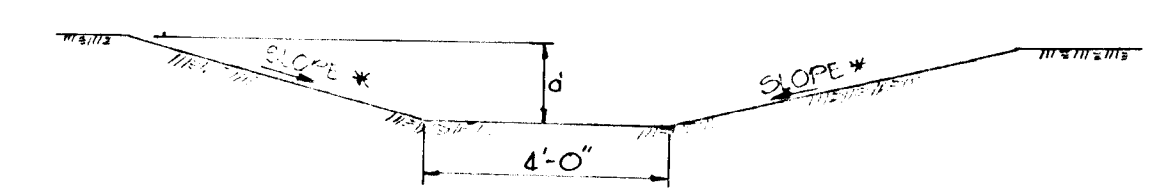


**HANDICAP RAMP**  
(FOR INTERSECTION WITH ONE SIDEWALK)  
No Scale



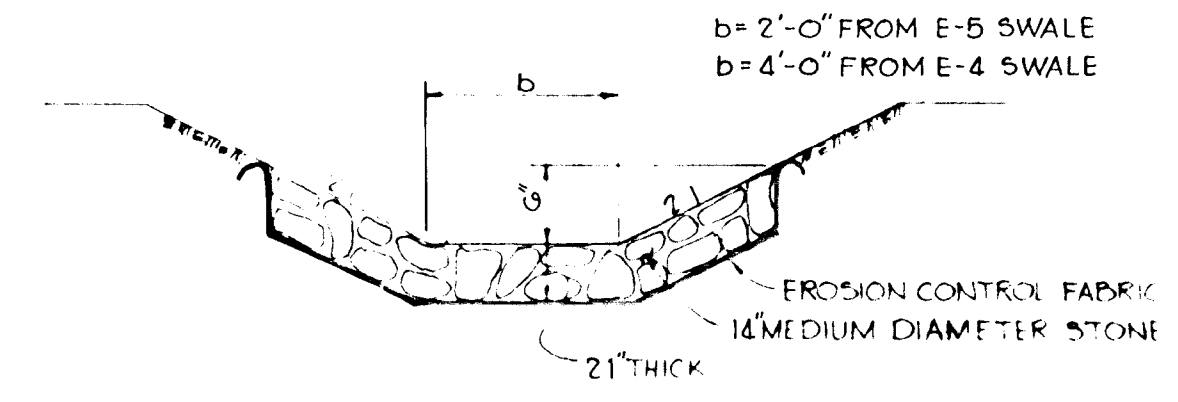
STRUCTURE	MEDIUM STONE DIA	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	6"	6'	8'	9"
E-3	6"	34'	35.5'	9"
E-4	6"	105'	12'	9"
E-6	6"	7'	8.5'	9"

**OUTLET PROTECTION DETAIL**  
No Scale



LIMITS	MAX DEPTH	SIDE SLOPE	STABILIZATION
E-4-SWM	3.5'	2:1	SEEDING & JUTE MATTING
E-5-SWM	4.5'	2:1	SEEDING & JUTE MATTING
E-6-I-B	0.6'	4:1	SEEDING & MULCHING

**GRASSED SWALE / CHANNEL**  
No Scale



**RIP RAP CHANNEL SECTION**  
NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*W. Stanley Wachen* 3-15-82  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

*John K. Tracy* 3-10-82  
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

DATE	NO	REVISION
2-1-82	1	REVISED AS PER H.C. COMMENTS DATED 1-26-82

OWNER: J.J.M., INC.  
5501 TWIN KNOLLS ROAD  
SUITE 103  
COLUMBIA, MARYLAND 21045

DEVELOPER: T.G. MARKER CO. INC.  
5900 PRINCESS GARDEN PKWY  
LANHAM, MARYLAND 20801

PROJECT: **HAMMOND HILLS**  
SECTION ONE

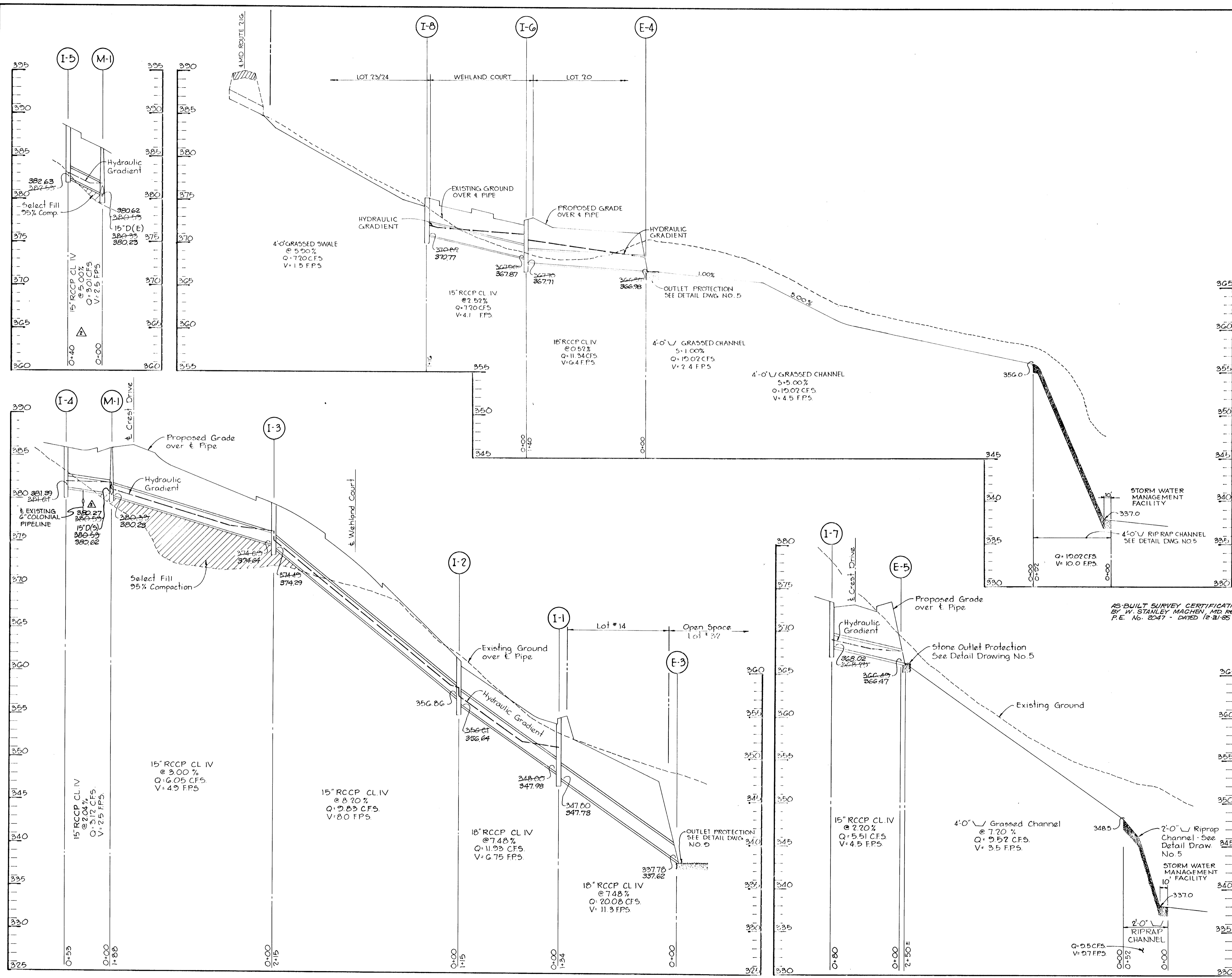
AREA: TAX MAP NO. 4G  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: DETAILS AND PROFILE - WEHLAND COURT

**Rierner - Tracy & Associates, Inc.**  
8659 Baltimore National Pike  
Ellicott City, Maryland 21043  
(301) 461-2690  
Land Planning, Design & Civil Engineering

DATE: 11-25-81  
PARCEL 2  
DESIGNED BY: J.K.T.  
DRAWN BY: D.A.M.  
PROJECT NO.: A 2080  
DATE: NOV. 25, 1981  
SCALE: AS SHOWN  
DRAWING NO. 5 OF 10

*John K. Tracy*  
PROFESSIONAL ENGINEER, No. 19816



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*William E. P. ...* 3-15-82  
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

*John W. ...* 3-10-82  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

8-23-82	REVIS	REVISED PROFILES @ M-1 I-5 AND M-1 I-4
2-1-82	NO	REVISED AS PER H.C. COMMENTS DATED 1-26-82
DATE	NO.	REVISION

OWNER: J.M., INC.  
 5501 TWIN KNOLLS ROAD  
 SUITE 103  
 COLUMBIA, MARYLAND 21045

DEVEL: T.G. MASKEE CO., INC.  
 5900 PRINCESS GARDEN PKWY  
 LANHAM, MARYLAND 20801

PROJECT: **HAMMOND HILLS**  
 SECTION ONE

AREA: TAX MAP NO. 46  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES

**Riemer-Tracy & Associates, Inc.**  
 8659 Baltimore National Pike  
 Ellicott City, Maryland 21043  
 (301) 461-2690  
 Land Planning, Design & Civil Engineering

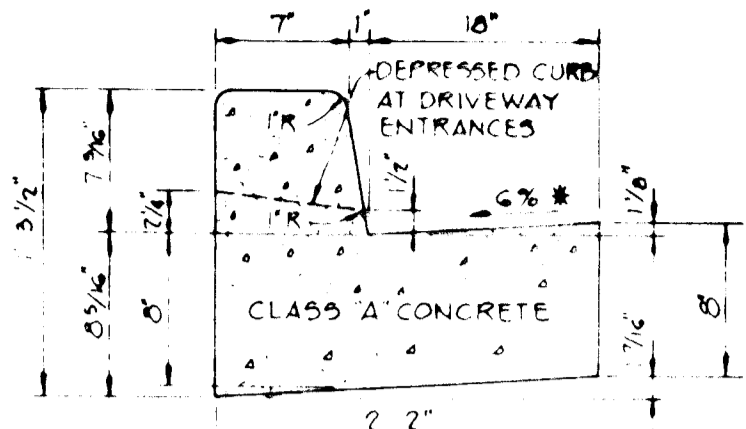
11-25-81  
 DATE

DESIGNED BY: J.K.T.  
 DRAWN BY: R.J.W.  
 PROJECT NO: A 2080  
 DATE: NOVEMBER 25, 1981  
 SCALE: H: 1"=50'  
 V: 1"=5'  
 DRAWING NO: 6 OF 10

PROFESSIONAL ENGINEER 145366

AS-BUILT SURVEY CERTIFICATION  
 BY W. STANLEY MACHEN, MD REG.  
 P.E. No. 2047 - DATED 12-31-85

# 939

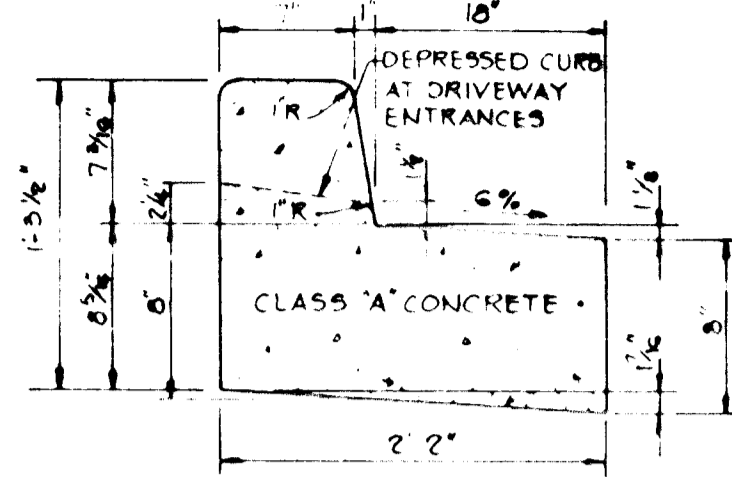


HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-301)

\* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT

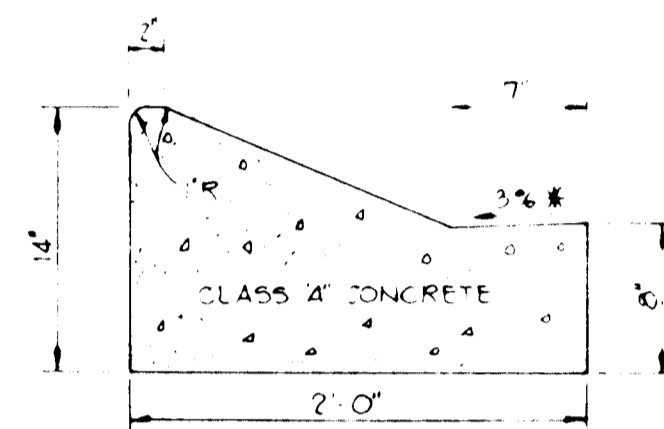
**STANDARD 7" COMBINATION CURB AND GUTTER**

No Scale



**REVERSE 7" COMBINATION CURB AND GUTTER**

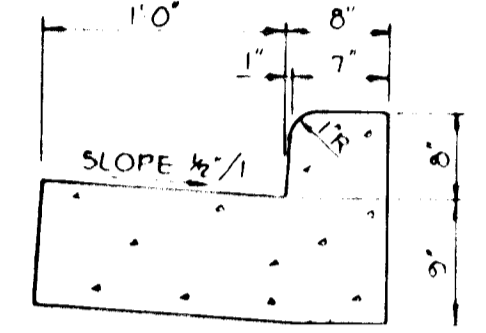
No Scale



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-301)

**MODIFIED COMBINATION CURB AND GUTTER**

No Scale

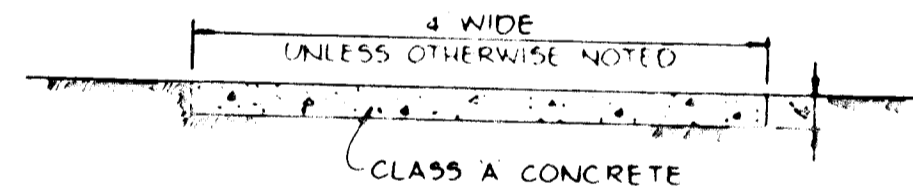


**M.S.H.A. TYPE 'A' CURB AND GUTTER**

No Scale

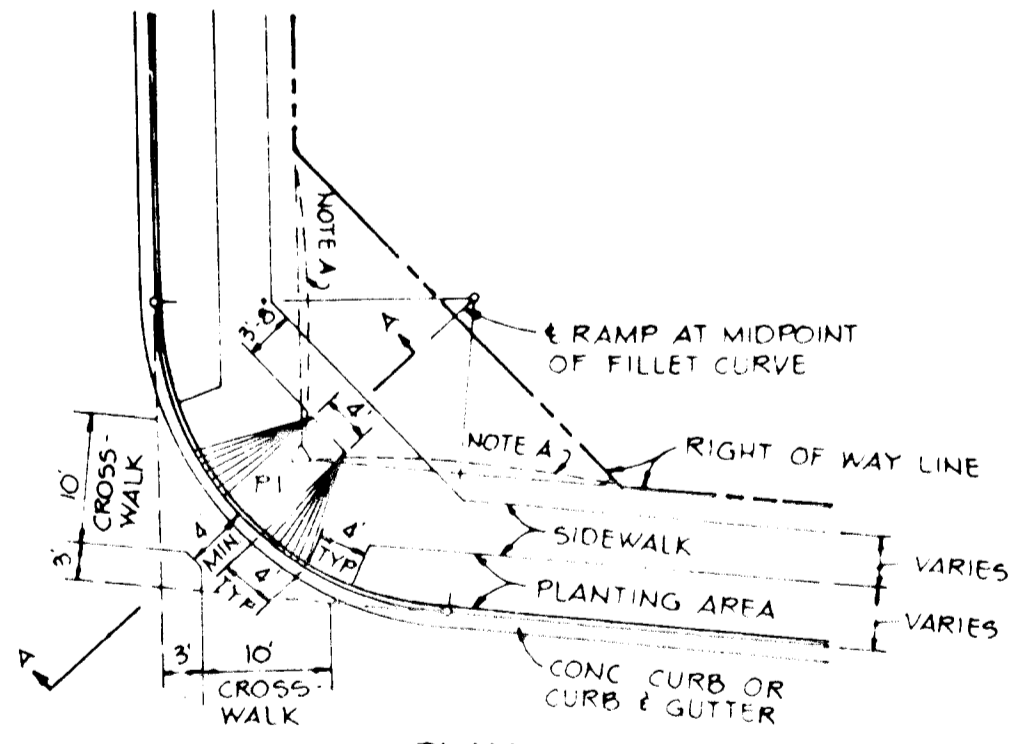
**NOTES**

- A. RIGHT OF WAY LINE TRUNCATION TO BE SET 25' FROM P1 ALONG EACH OF THE INTERSECTING LINES AS SET FORTH IN SECTION 16.15 PAR. 13 OF SUBDIVISION REGULATIONS. MINIMUM DISTANCE BETWEEN BACK OF SIDEWALK AND RIGHT OF WAY LINE TO BE 1 FOOT.
- B. TYPE A RAMP TO BE USED FOR ALL NEW CONSTRUCTION WHERE APPLICABLE UNLESS OTHERWISE DIRECTED BY D.P.W.

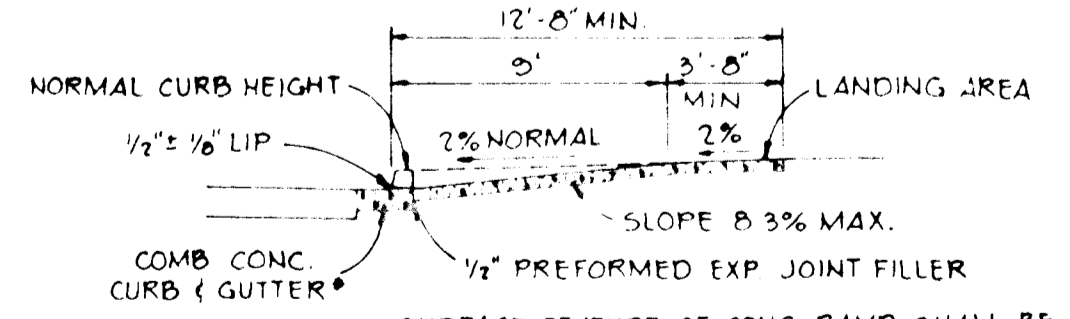


**SIDEWALK DETAIL**

No Scale



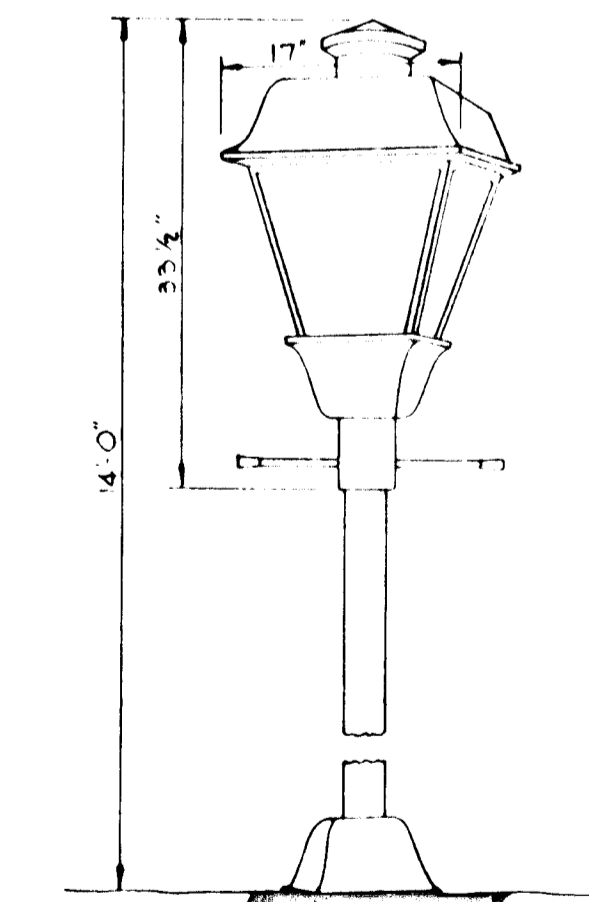
**PLAN**



**SECTION 'A-A'**

**TYPICAL HANDICAP RAMP**

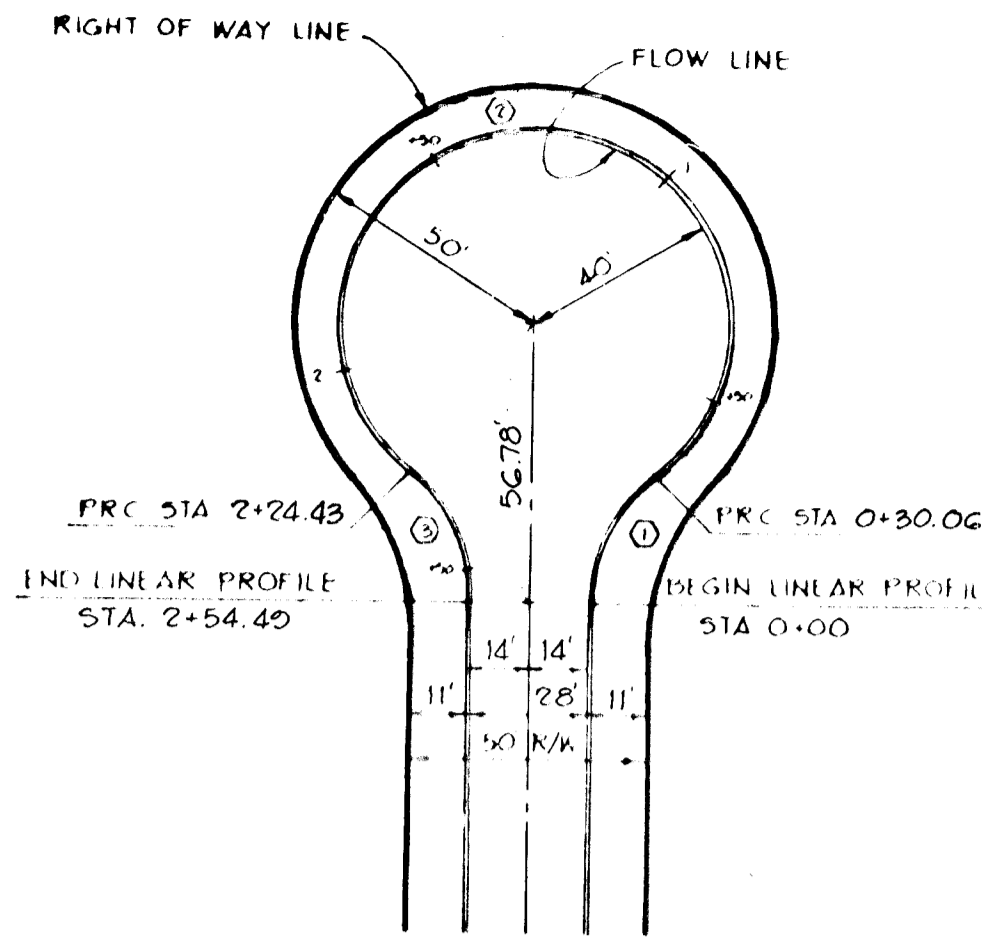
No Scale



NOTE ALL STREET LIGHT FIXTURES TO BE 175 WATT MERCURY TYPE WITH A MINIMUM OF 7000 LUMENS 14" HIGH WITH BLACK FIBERGLASS POLE AND DIRECTED DOWNWARD LOCATIONS OF STREET LIGHT FIXTURES ARE ON THE PLAN AND ARE SHOWN THIS

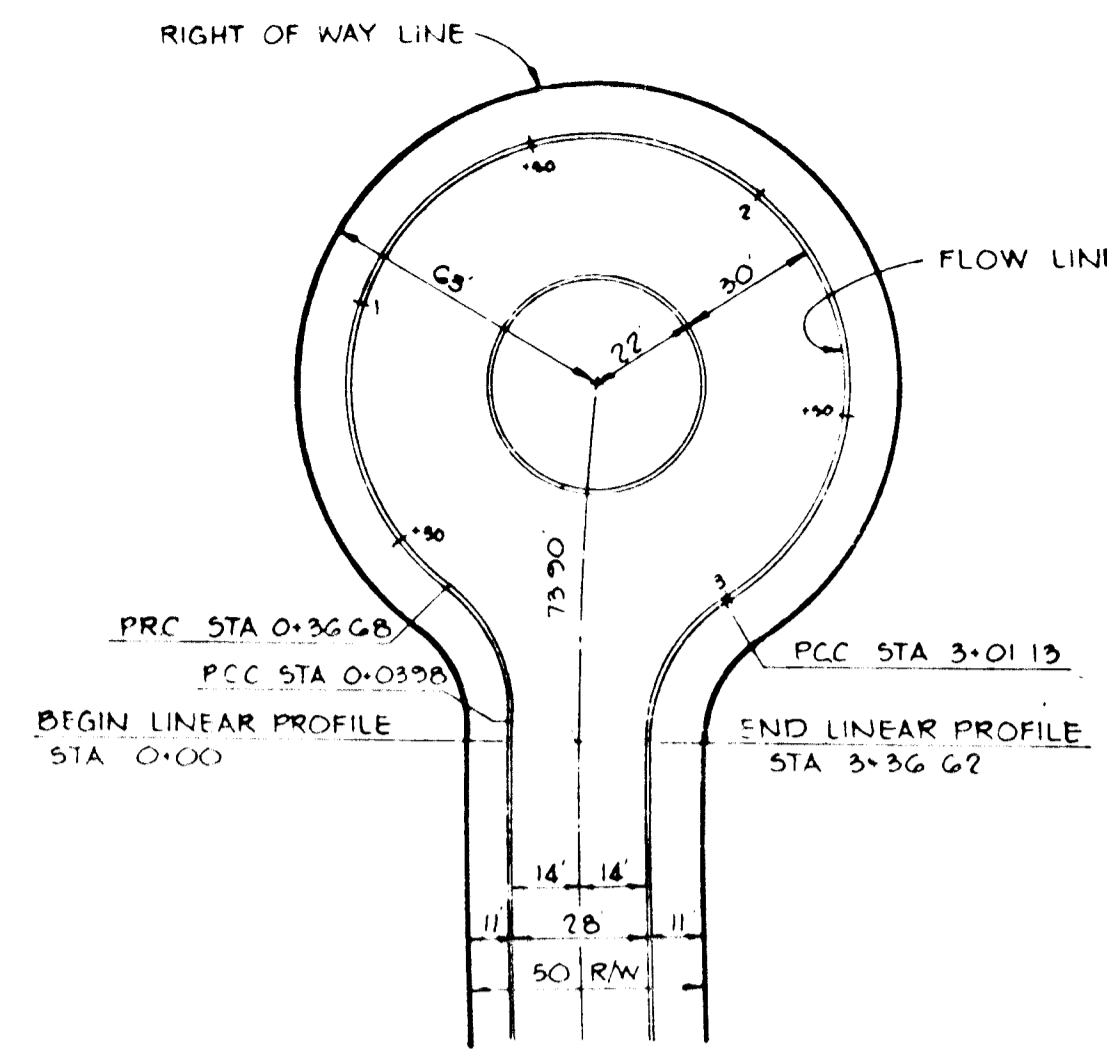
**DETAIL - LIGHTING FIXTURE**

No Scale



FLOW LINE CURVE DATA				
CURVE	RADIUS	LENGTH	Δ	TAN
①	35.00'	30.06'	49°12'24"	16.03'
②	40.00'	194.37'	278°24'47"	-
③	35.00'	30.06'	49°12'24"	16.03'

**HAVEN HILL COURT**

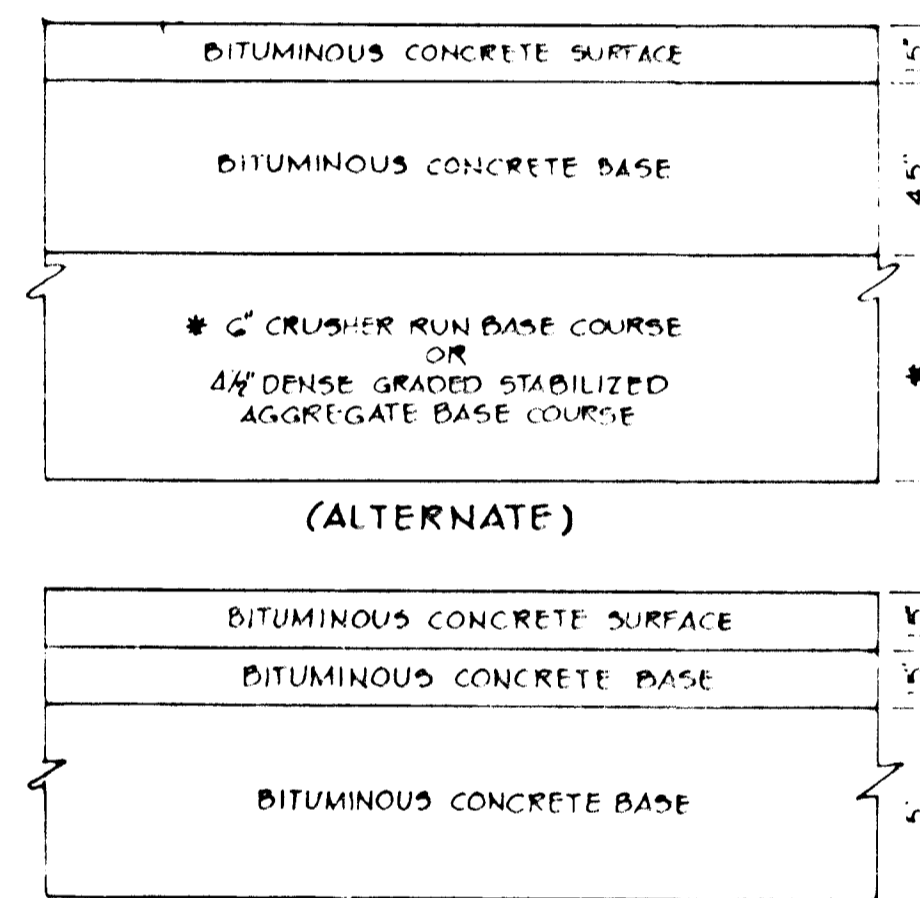


FLOW LINE CURVE DATA				
CURVE	RADIUS	LENGTH	Δ	TAN
①	314.00'	399.8'	00°14'55"	19.9'
②	35.00'	32.70'	53°31'25"	17.65'
③	52.00'	264.45'	291°22'48"	-
④	35.00'	35.50'	58°06'25"	19.44'

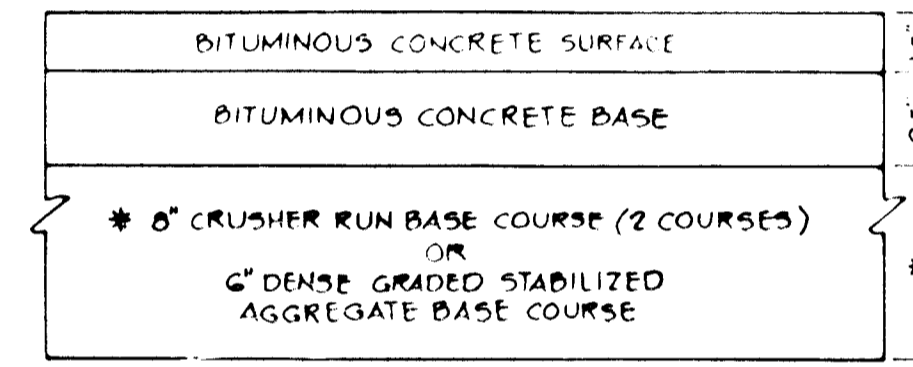
**HONEYHILL ROAD**

**CUL-DE-SAC - DETAILS**

No Scale



**(8" PAVING, P-3)**



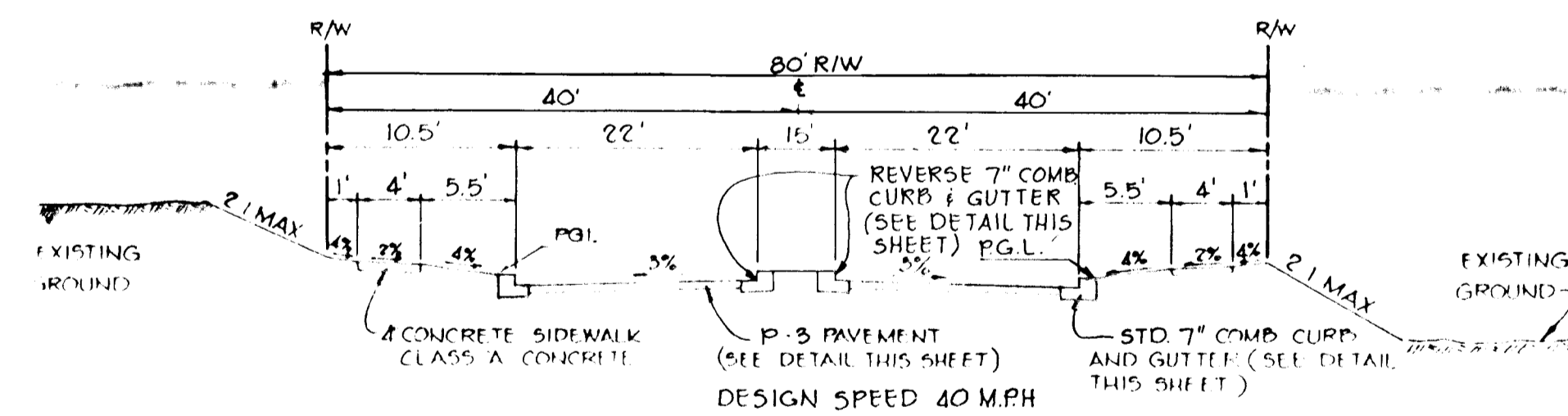
**(6 1/2" PAVING, P-2)**

HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-201)

HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-201)

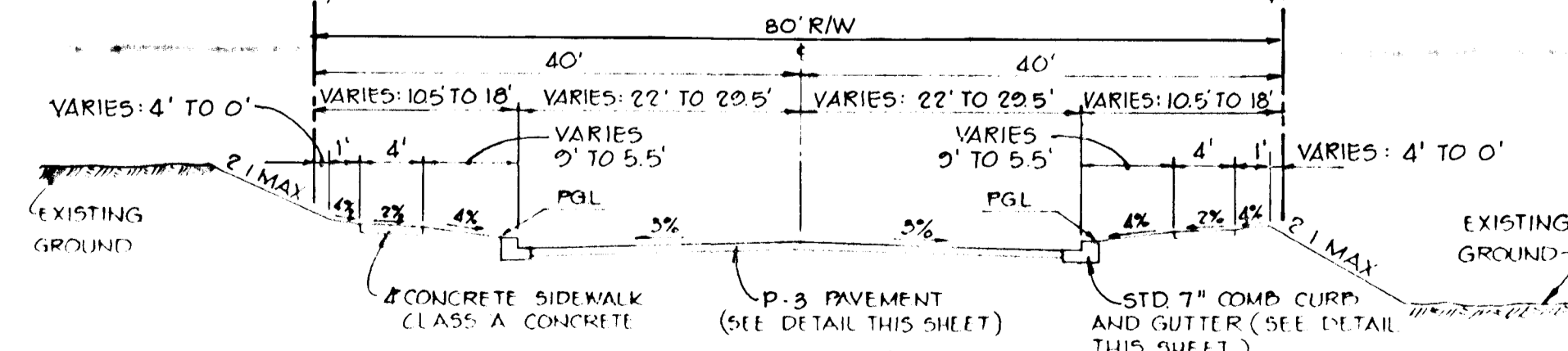
**TYPICAL PAVING SECTIONS**

No Scale



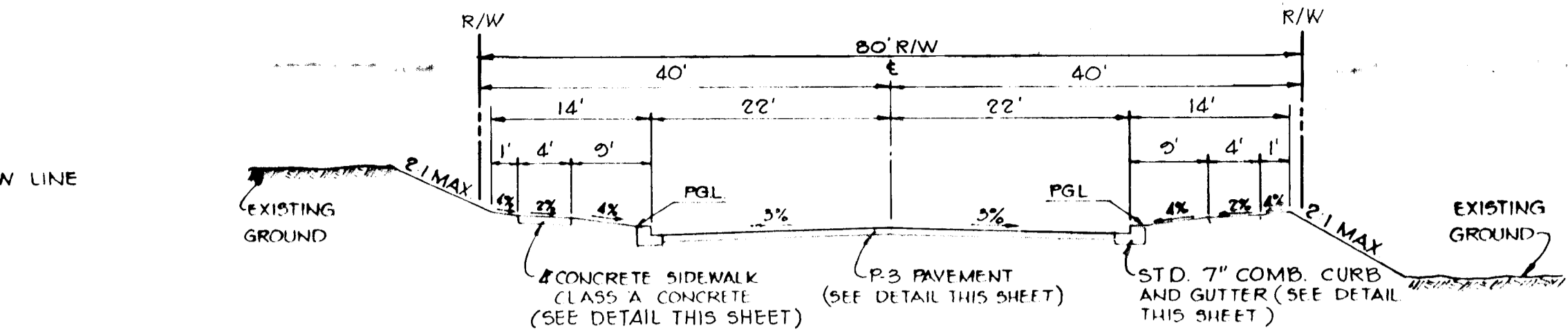
**TYPICAL DIVIDED ROADWAY SECTION**

No Scale



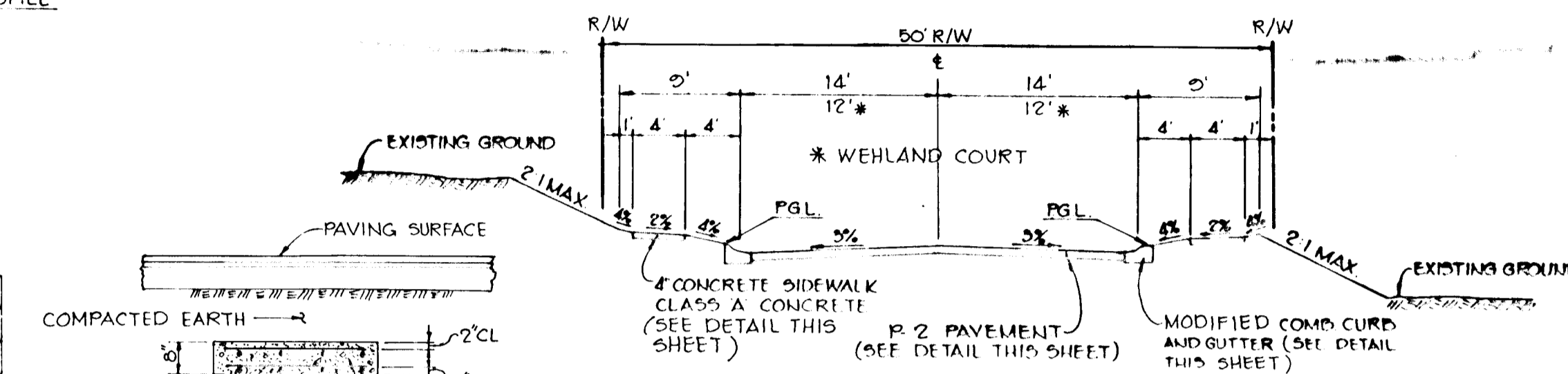
**TYPICAL TRANSITION SECTION**

No Scale



**TYPICAL SECTION - 80' R/W**

No Scale

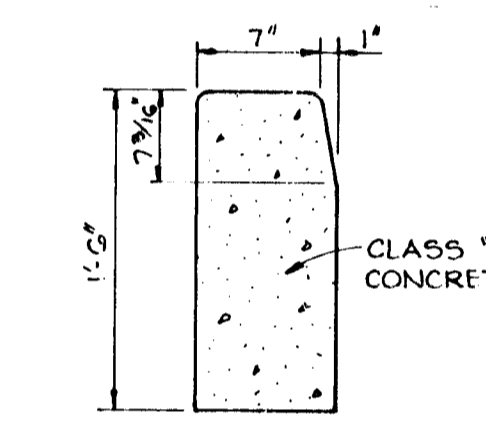


**TYPICAL SECTION - 50' R/W**

No Scale

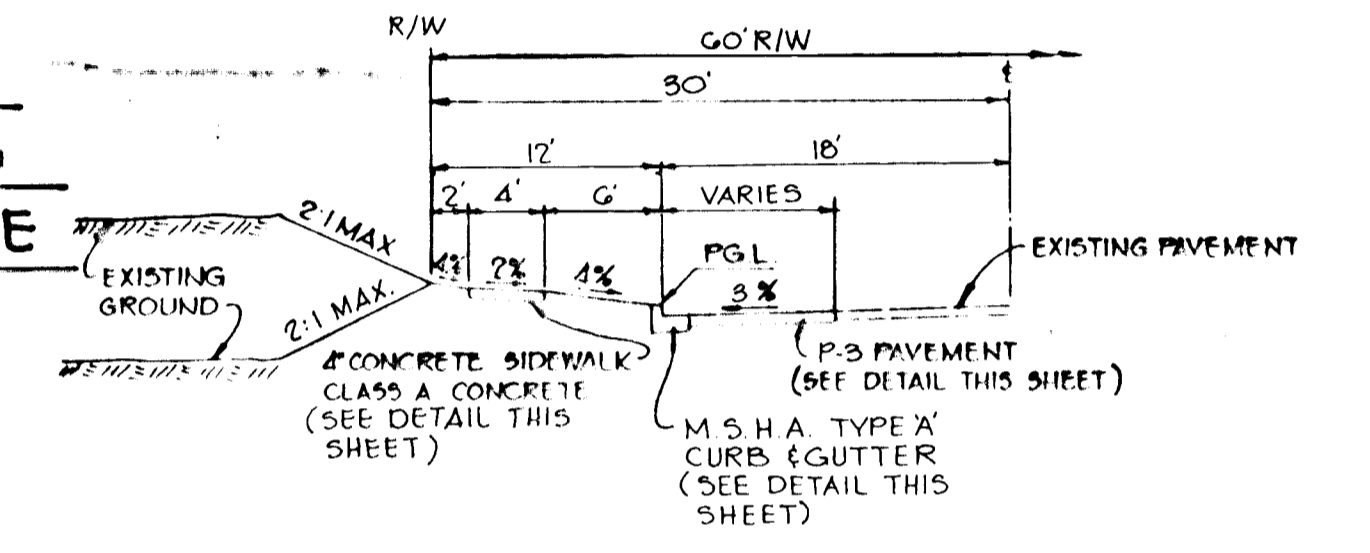
**CONCRETE SLAB @ ROADWAY CROSSING OF COLONIAL PIPELINE**

No Scale



**STANDARD BARRIER CURB**

No Scale



**MD. ROUTE 216 ROAD WIDENING**

No Scale

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING ADMINISTRATION  
 DATE: 3-10-82  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DATE: 3-15-82  
 CHIEF, BUREAU OF ENGINEERING

2-1-82 REVISAS PER H.C. COMMENTS DATED 1-26-82

OWNER: J.M. INC. 5501 TWIN KNOLLS ROAD SUITE 109 COLUMBIA, MARYLAND 21045

DEVELOPER: F.G. MARKER CO. INC. 5500 PRINCESS GARDEN PKWY. LANHAM, MARYLAND 20801

PROJECT: HAMMOND HILLS SECTION ONE

AREA: TAX MAP NO. 46 2<sup>ND</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: ROADWAY DETAILS

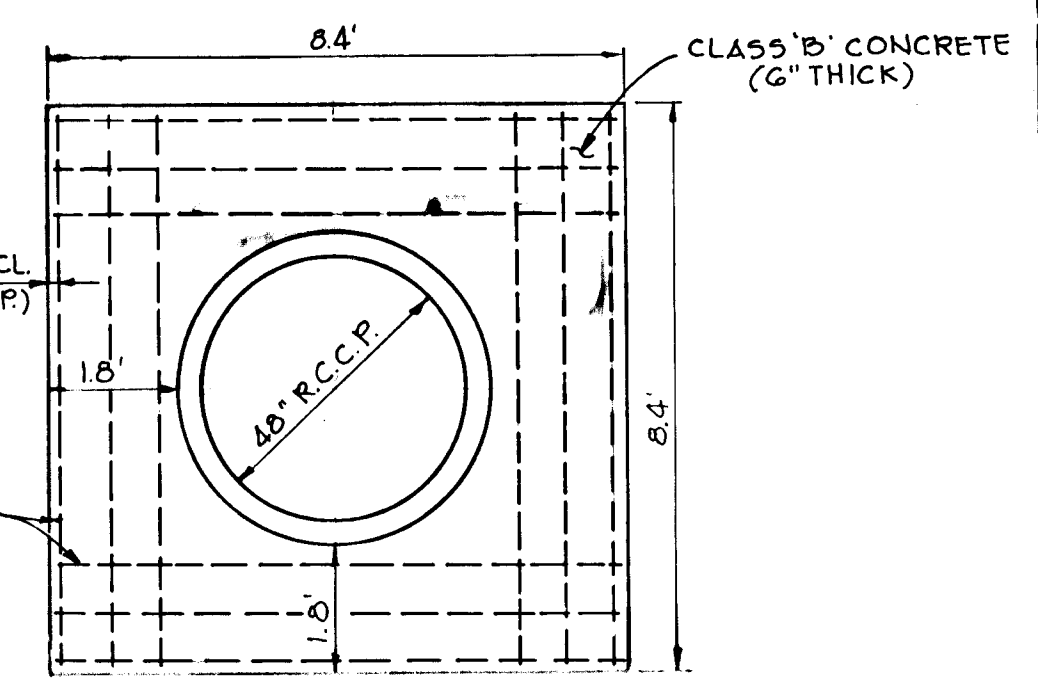
**Riemer - Tracy & Associates, Inc.**  
 8659 Baltimore National Pike  
 Ellicott City, Maryland 21043  
 (301) 461-2690  
 Land Planning, Design & Civil Engineering

DATE: 11-25-81  
 PARCEL 2  
 DESIGNED BY: R.J.W.  
 DRAWN BY: T.E.S.  
 PROJECT NO.: A 2080  
 DATE: NOV. 25, 1981  
 SCALE: AS SHOWN  
 DRAWING NO. 7 OF 10

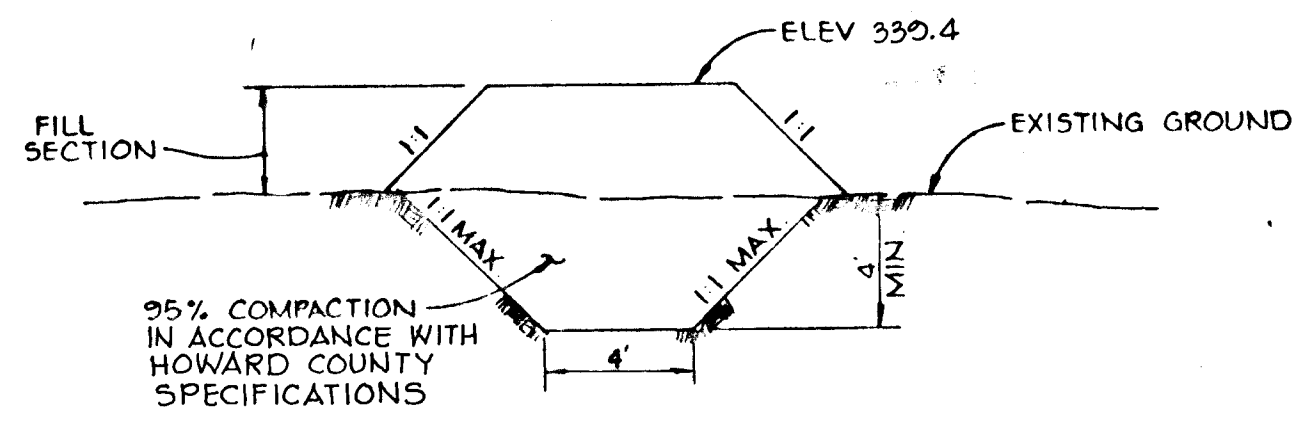
F-82-60 MARCH 4, 1982 AS-BUILT DEC 31, 1985

STORM DRAIN STRUCTURE SCHEDULE

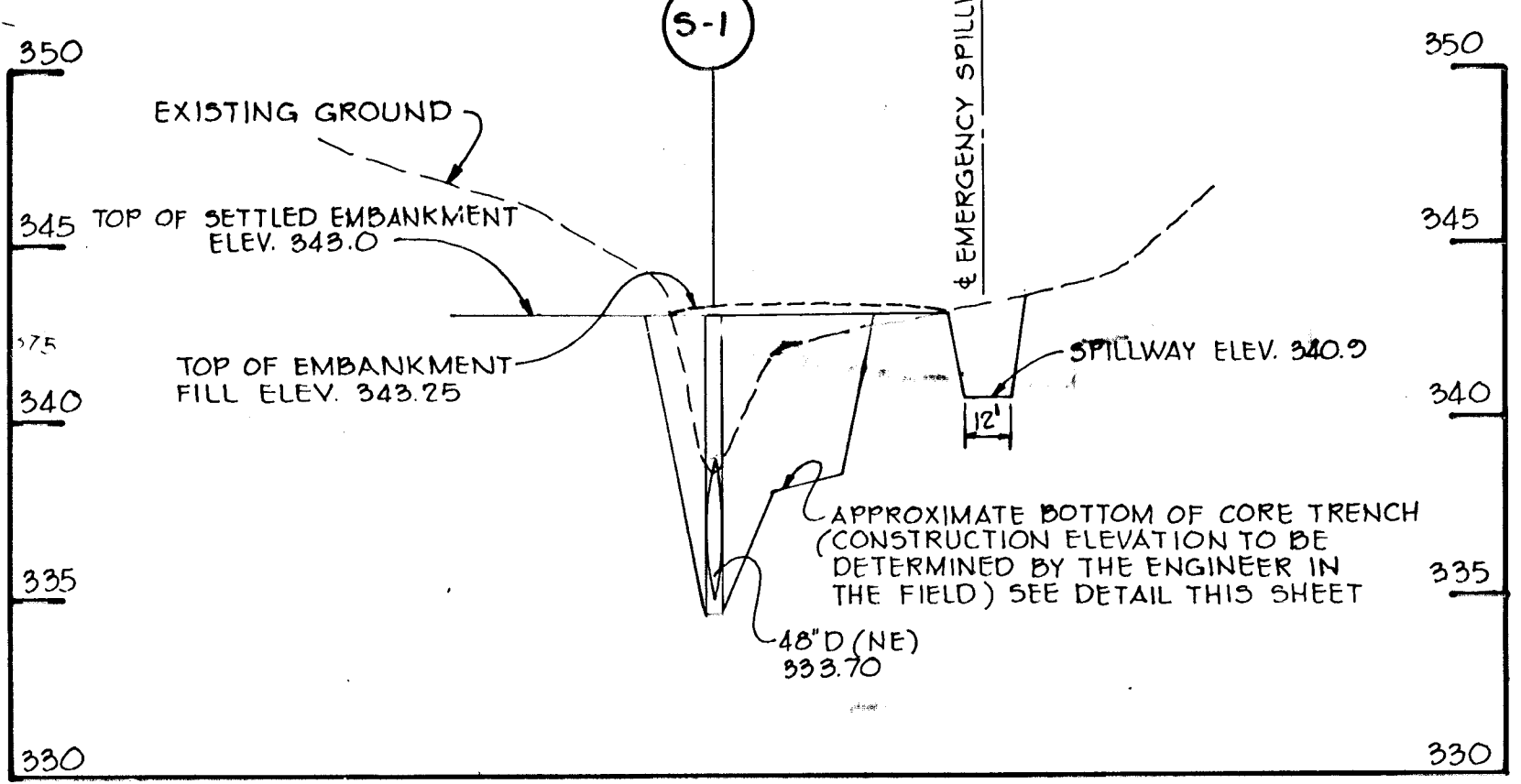
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEVATION	DESCRIPTION
1-1	A-10	L.P. Sta. 1+07.73	347.98	347.73	354.66	H.C. SD-4.02
1-2	A-5 w/defl.	Sta. 3+72.5; 15.5' Lt.	356.74	356.64	360.60/361.33	H.C. SD-4.01
1-3	A-5 w/defl.	Sta. 1+60; 15.5' Lt.	374.04	374.87	378.76/379.07	H.C. SD-4.01
1-4	A-5 w/defl.	Sta. 0+78; 15.5' Lt.	381.39	381.39	387.13	H.C. SD-4.01
1-5	A-5 w/defl.	Sta. 3+28; 23.5' Lt.	382.63	382.63	388.97/389.39	H.C. SD-4.01
1-6	A-5	L.P. Sta. 1+50	367.81	367.81	372.33	H.C. SD-4.02
1-7	A-10 w/defl.	Sta. 6+50; 23.5' Lt.	368.02	368.02	373.30/373.54	H.C. SD-4.01
1-8	"d" Inlet (OPEN 3 SIDES)	L.P. Sta. 2+63	370.77	370.77	374.09	H.C. SD-4.11
M-1	Type A-3 Manhole	Crest Drive	380.27	380.27	384.44	H.C. SD-4.02
S-1	S.W.M. Control Structure	See Plan	320.23	320.23	326.16	See Detail Dwg. No. 2
E-1	48" Conc. End Section	See Plan	333.65		344.94	H.C. SD-5.51
E-2	48" Conc. End Section	See Plan		337.45		H.C. SD-5.51
E-3	48" Conc. End Section	See Plan	337.68			H.C. SD-5.51
E-4	48" Conc. End Section	See Plan	366.98			H.C. SD-5.51
E-5	15" Conc. End Section	See Plan	366.47			H.C. SD-5.51



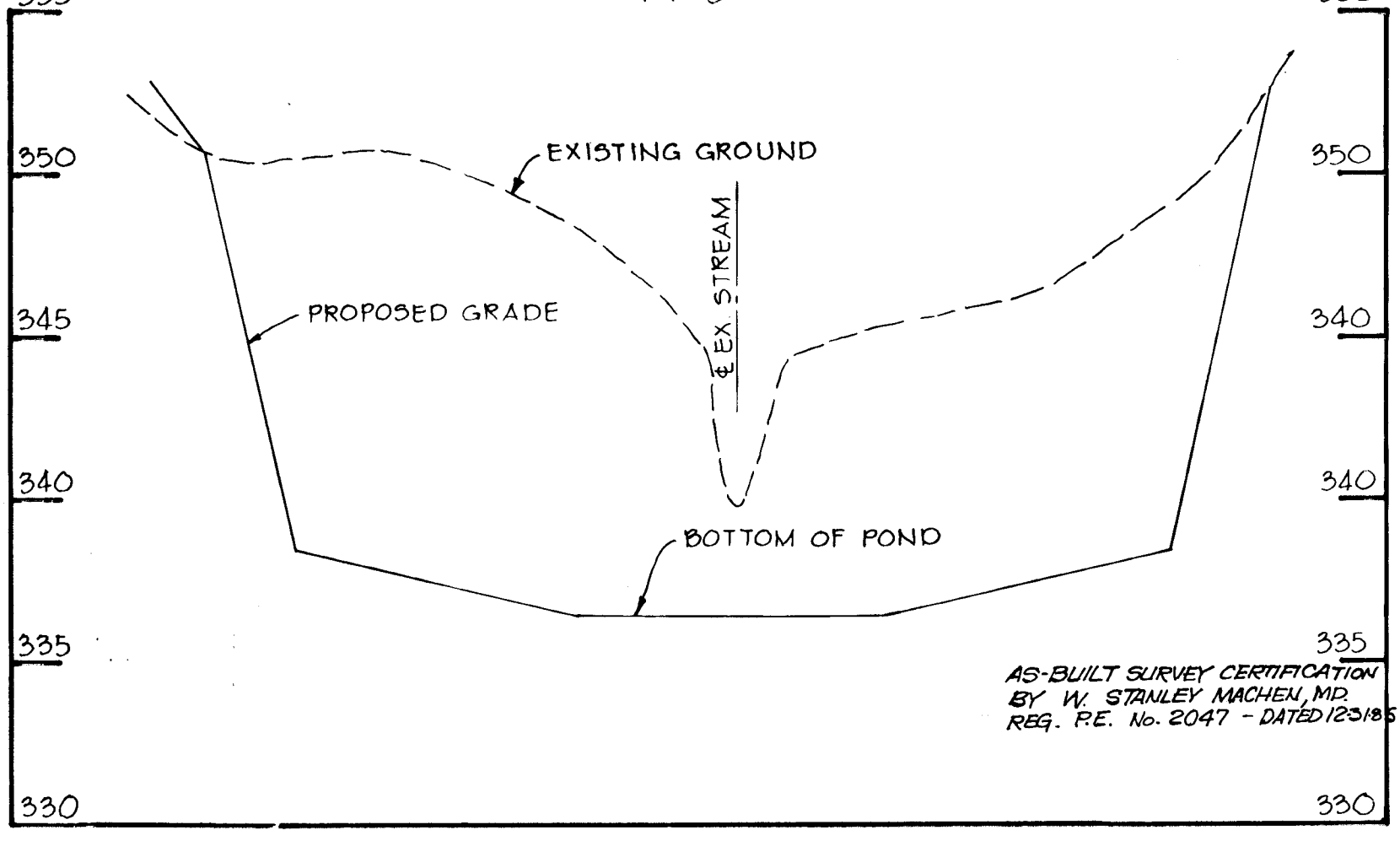
ANTI-SEEP COLLAR  
NO SCALE



CORE TRENCH SECTION  
NO SCALE



EMBANKMENT PROFILE  
SCALE: H: 1"=50' V: 1"=5'



POND SECTION  
SCALE: H: 1"=50' V: 1"=5'

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 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.

*Fred G. Markler*  
FRED G. MARKLER 2-9-82  
DATE

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.

*James K. Fry*  
JAMES K. FRY, P.E. 11-25-81  
DATE

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

APPROVED: *Robert J. Ziemer*  
HOWARD S.C.D. 3-10-82  
DATE

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. Nelson*  
JAMES M. NELSON 3-10-82  
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*William E. Ryan*  
WILLIAM E. RYAN 3/15/82  
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

*William M. Leachman*  
WILLIAM M. LEACHMAN 3-10-82  
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

3-4-82 2 REV. PER S.C.S. COMMENTS 3-1-82  
2-1-82 1 REVISED AS PER H.C. COMMENTS DATED 1-26-82

OWNER: J.J.W., INC.  
5501 TWIN KNOLLS ROAD  
SUITE 103  
COLUMBIA, MARYLAND 21045

DEVEL: J.G. MARKLER CO., INC.  
5900 PRINCESS GARDEN PKWY  
LANHAM, MARYLAND 20801

PROJECT: HAMMOND HILLS  
SECTION ONE

AREA: TAX MAP NO. 46  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: DRAINAGE AREA MAP, S.W.M. DETAILS  
AND SEDIMENT CONTROL PLAN

**RT** Riemer-Tracy & Associates, Inc.  
8654 Business National Pkwy.  
Ellicott City, Maryland 21043  
(301) 461-2600  
Land Planning Design & Civil Engineering

DATE: 11-25-81  
PARCEL: 2

DESIGNED BY: RJW  
DRAWN BY: DAM

PROJECT NO: A 2080  
DATE: NOVEMBER 25, 1981  
SCALE: 1"=100'  
DRAWING NO: 8 OF 10

MARCH 4, 1982  
F-82-60 AS-BUILT DEC. 31, 1985

# 939

MARYLAND SURVEYING CO., INC.



SEDIMENT CONTROL CONSTRUCTION NOTES  
GENERAL 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 (922-2070).
2. ALL SEDIMENT CONTROL STRUCTURES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
3. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
4. ALL DISTURBED AREAS ARE TO BE DRESSED AND STABILIZED ACCORDING TO THE TEMPORARY OR PERMANENT SEEDING SCHEDULES AS SOON AS PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER.
5. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN THE DEPTH REACHES THE CLEAN OUT ELEVATION SHOWN ON THE PLANS.
6. FERTILIZER AND LIME RATES MAY BE CHANGED THROUGH AUTHORIZATION BY THE HOWARD SOIL CONSERVATION DISTRICT IF SOIL TESTS DETERMINE A REDUCTION IN THE SPECIFIED RATES IS JUSTIFIED.
7. 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.
8. REFERENCES CALLED FOR ON THE SEDIMENT CONTROL CONSTRUCTION PLAN AND DETAILS ARE MADE TO "THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS".
9. SEDIMENT CONTROL WILL BE INSTALLED BEFORE CLEARING AND GRUBBING REMAINDER OF SITE.

TEMPORARY SEEDING

AREA TO BE SEEDD SHALL BE RECENTLY LOOSENEED. IF THE GROUND IS PACKED, CRUSTED OR HARD, THE TOP LAYER OF SOIL SHALL BE LOOSENEED BY DISCING, RACKING OR OTHER ACCEPTABLE MEANS.

- A. APPLY 10-20-10 FERTILIZER (OR EQUIVALENT) AT THE RATE OF 600 LBS. PER ACRE OR 15 LBS. PER 1000 SQ. FT.
- B. WHERE SOIL IS KNOWN TO BE HIGHLY ACID, APPLY DOLOMITIC LIMESTONE AT THE RATE OF 1 TON PER ACRE.
- C. WORK BOTH INTO SOIL AND SEED WITH CYCLONE SEEDER, DRILL, CULTIPAKER SEEDER OR HYDROSEEDER (SLURRY WILL INCLUDE SEED AND FERTILIZER) AT THE RATE OF 40 LBS. PER ACRE OF ITALIAN OR PERENNIAL BLYGRASS.
- D. MULCH WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT OR EMULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.

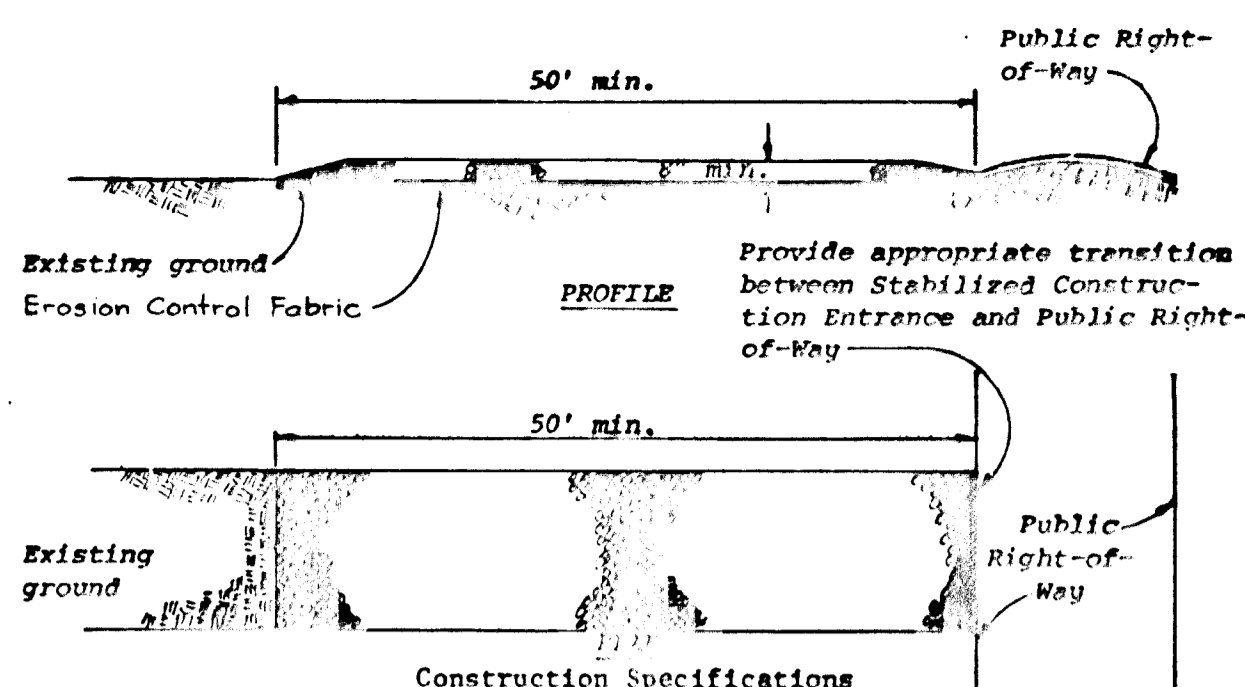
PERMANENT SEEDING

FINAL STABILIZATION WILL TAKE PLACE AS SOON AS POSSIBLE AS WEATHER CONDITIONS PERMIT. AS FOLLOWS:

- A. APPLY DOLOMITIC LIMESTONE AT THE RATE OF 2 TONS PER ACRE (ONE TON PER ACRE IF APPLICATION OF TON PER ACRE WAS MADE FOR TEMPORARY SEEDING).
- B. APPLY 0-20-20 FERTILIZER AT THE RATE OF 600 LBS. PER ACRE HARROW OR DISC LINE AND 0-20-20 FERTILIZER INTO THE SOIL TO A MINIMUM DEPTH OF 3" LAWNS OR HIGH MAINTENANCE AREAS WILL BE DRAGGED AND LEVELED WITH A YORK RAKE. AT THE TIME OF SEEDING APPLY 400 POUNDS OF 38-0-0 UREAFORM FERTILIZER AND 500 LBS. OF 10-20-20 OR EQUIVALENT FERTILIZER PER ACRE.
- C. SEED WITH A MIXTURE OF CERTIFIED "MERION" KENTUCKY BLUEGRASS - 40 LBS. PER ACRE; COMMON KENTUCKY BLUEGRASS @ 40 LBS. PER ACRE; RED FESCUE, PENNANTN OR JAMESSTON @ 20 LBS. PER ACRE.
- D. MULCH WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT OR EMULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.
- E. SEED ALL SLOPES WITH A MIXTURE OF CERTIFIED KENTUCKY 31 TALL FESCUE @ 50 LBS. PER ACRE AND INOCULATED KOREAN LESPEDEZA @ 15 LBS. PER ACRE.

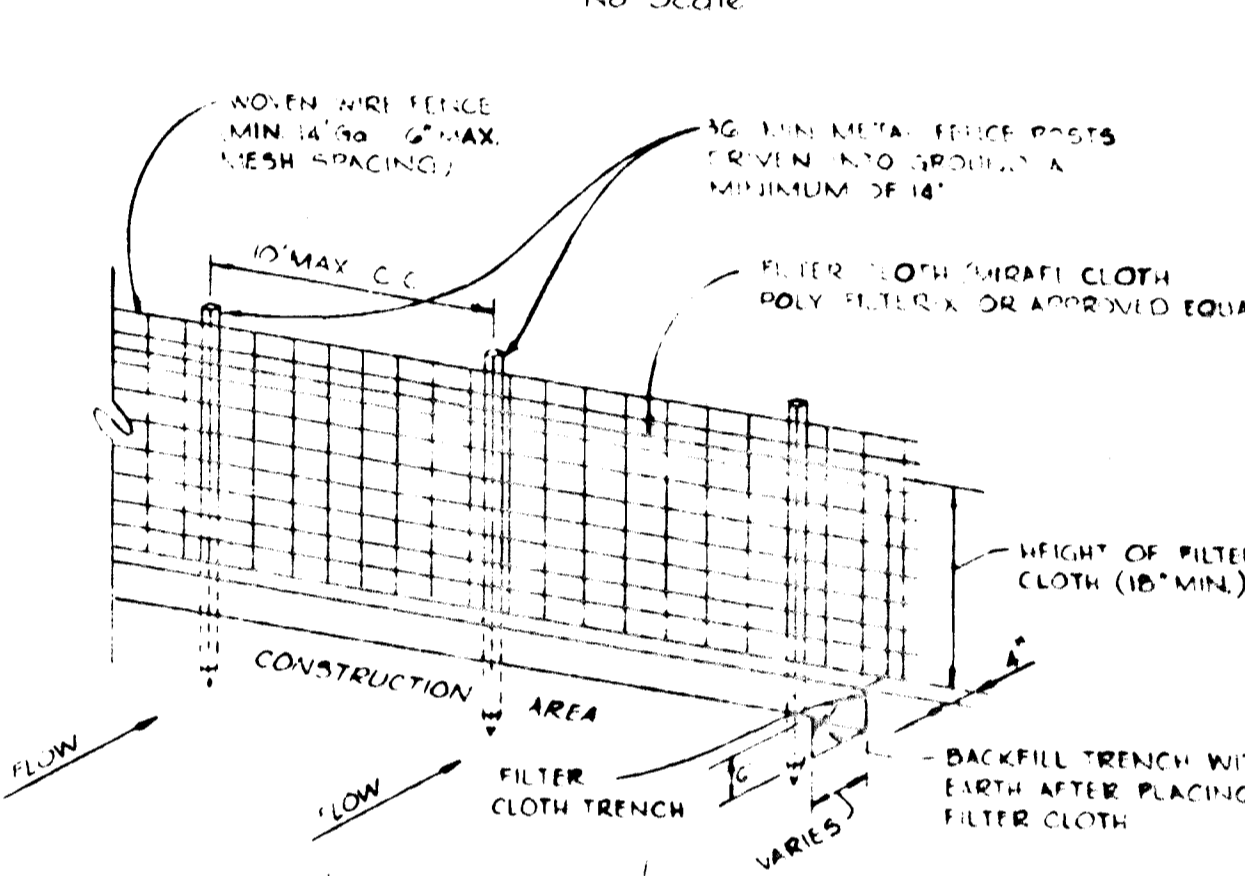
SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
3. INSTALL SILT FENCE.
4. CONSTRUCT STORM WATER MANAGEMENT/SEDIMENT CONTROL POND AND STABILIZE SLOPES IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
5. GRADE SITE IN ACCORDANCE WITH GRADING PLAN.
6. INSTALL WATER MAINS, SEWER MAINS AND STORM DRAINS. BLOCK ALL STORM DRAIN INLETS IN ACCORDANCE WITH INLET BLOCKING DETAIL.
7. INSTALL CURB AND GUTTER AND PAVING.
8. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
9. UPON APPROVAL OF THE SOIL CONSERVATION INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND CONVERT THE SEDIMENT POND INTO A PERMANENT STORM WATER MANAGEMENT FACILITY AS FOLLOWS:
  - (A) PUMP OUT ANY IMPOUNDED WATER.
  - (B) REMOVE SILT AND STONE FILTER AND RESTORE BASIN TO ORIGINAL DIMENSIONS.
  - (C) REMOVED SILT SHALL BE SPREAD IN THE AREA EAST OF AND ADJACENT TO THE INTERSECTION OF CREST DRIVE AND ROUTE 216 (LOT 29) AND STABILIZED IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.



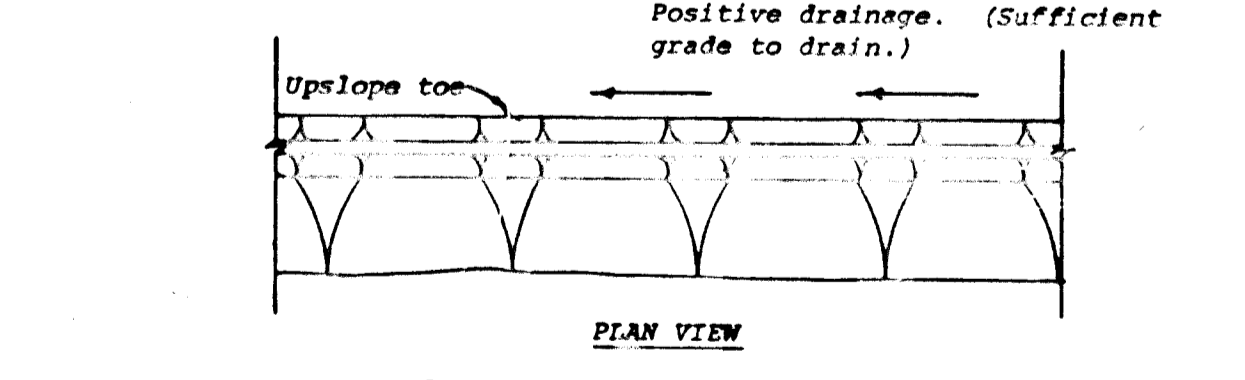
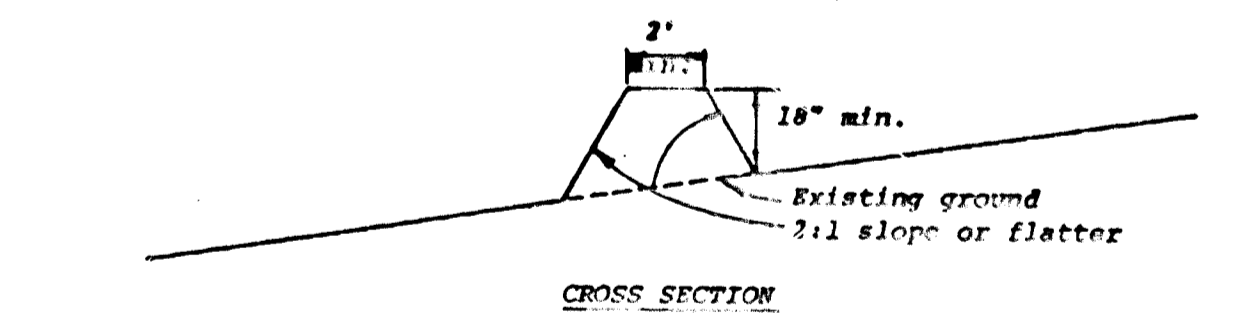
1. Stone size - Use MSHA size No. 2 (2-1/2" to 1") or AASHTO designation M43, size No. 2 (2-1/2" to 1-1/2"). Use crushed stone.
2. Length - As effective, but not less than 50 feet.
3. Thickness - Not less than eight (8) inches.
4. Width - Not less than full width of all points of ingress or egress.
5. Washing - When necessary, wheels 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 sand bags, gravel, boards or other approved methods.
6. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flooding of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.

STABILIZED CONSTRUCTION ENTRANCE  
No Scale



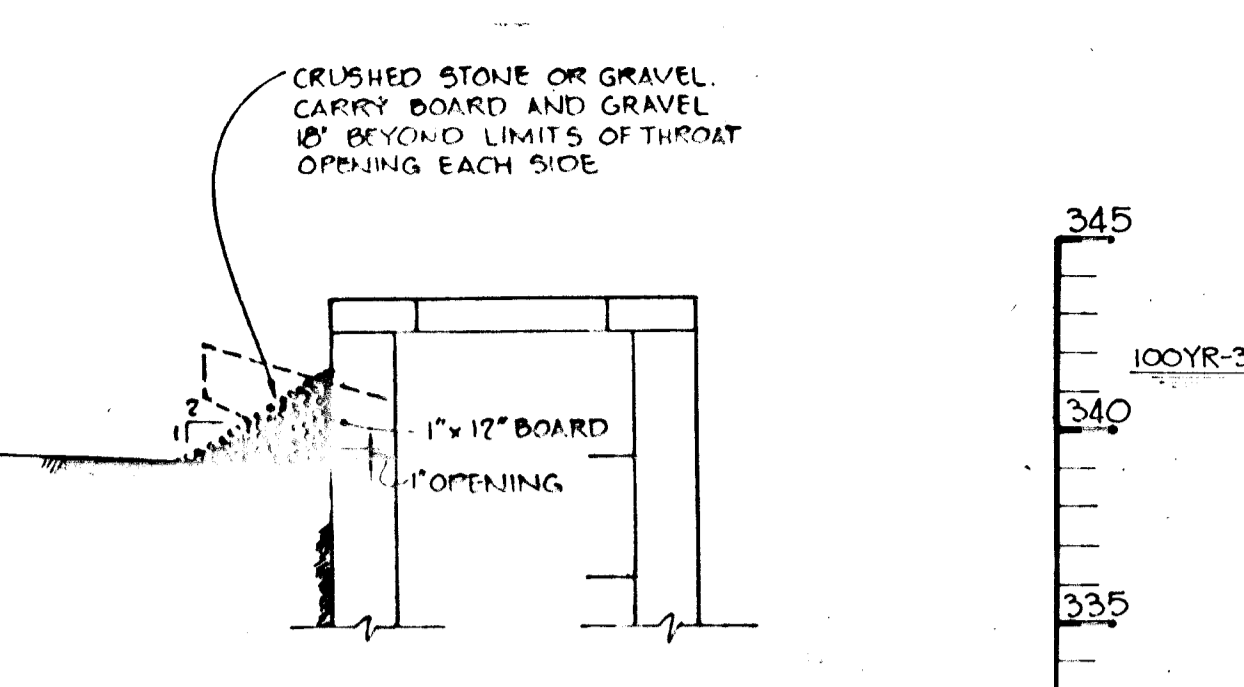
- NOTES:
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS BY USE OF WIRE TIES.
  2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE BY USE OF WIRE TIES SPACED EVERY 24" TO 24".
  3. SILT FENCE TO BE PLACED IN LINE OF STRAW BALS AND OR DIVERSION DIKES AT THE OPTION OF THE DEVELOPER.

SILT FENCE  
No Scale

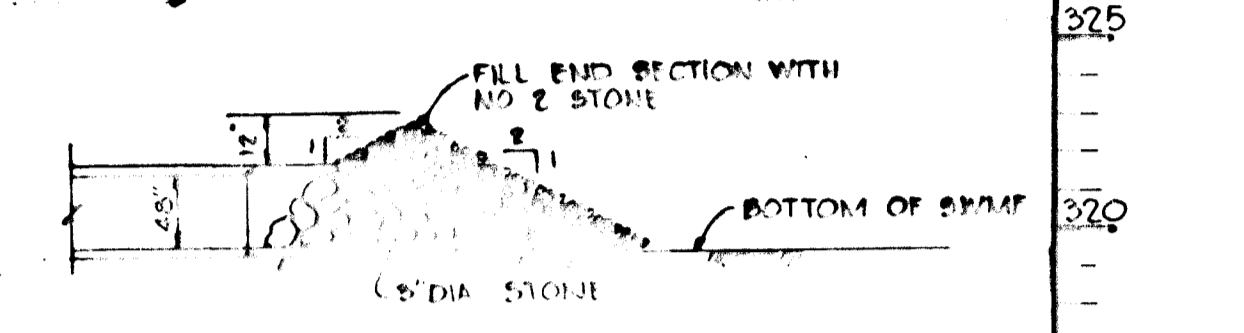


1. All dikes shall be machine compacted.
2. All perimeter dikes shall have positive drainage to an outlet.
3. A. Diverted runoff from a protected or stabilized upland area shall outlet directly onto an undisturbed stabilized area or into a level expanse or grade stabilization structure.
- B. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as sediment trap or a sediment basin or to an area protected by any of these practices.
4. Stabilization, when required, shall be done in accordance with Standard and Specifications for Grassed Waterway. The minimum area to be stabilized shall be the channel flow area.
5. Periodic inspection and required maintenance shall be provided.

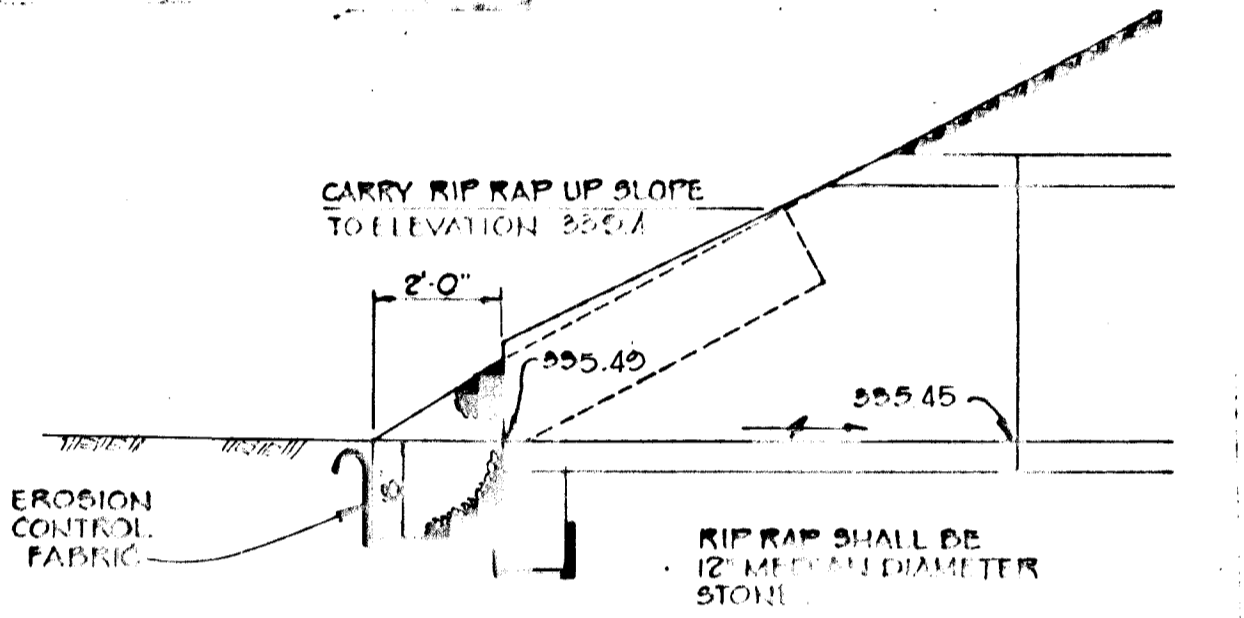
PERIMETER DIKE  
No Scale



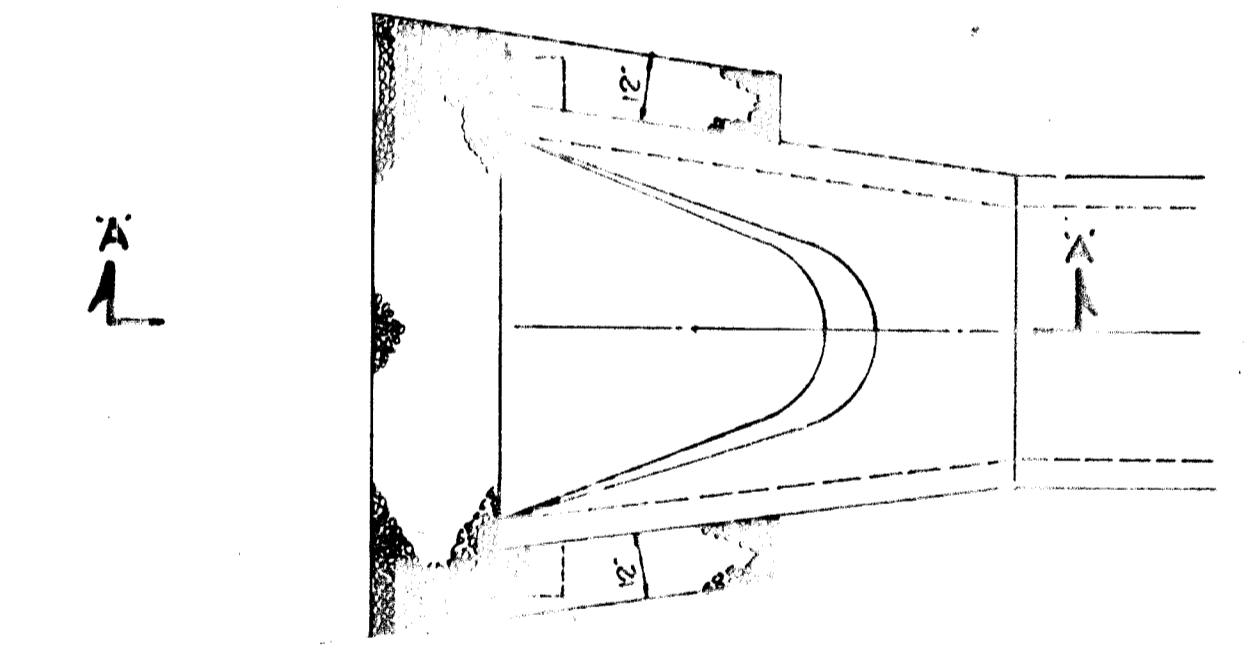
TYPICAL INLET BLOCKING DETAIL  
No Scale



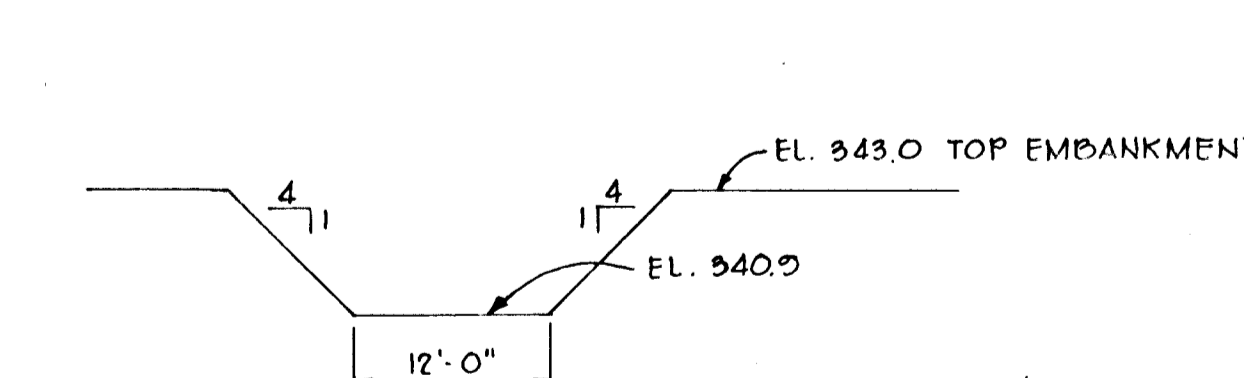
SEDIMENT POND  
STONE FILTER @ E-2  
NO SCALE



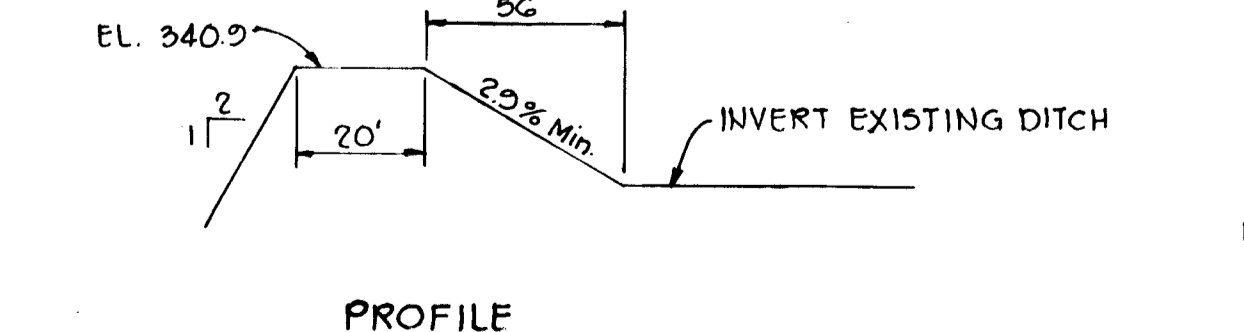
SECTION A-A



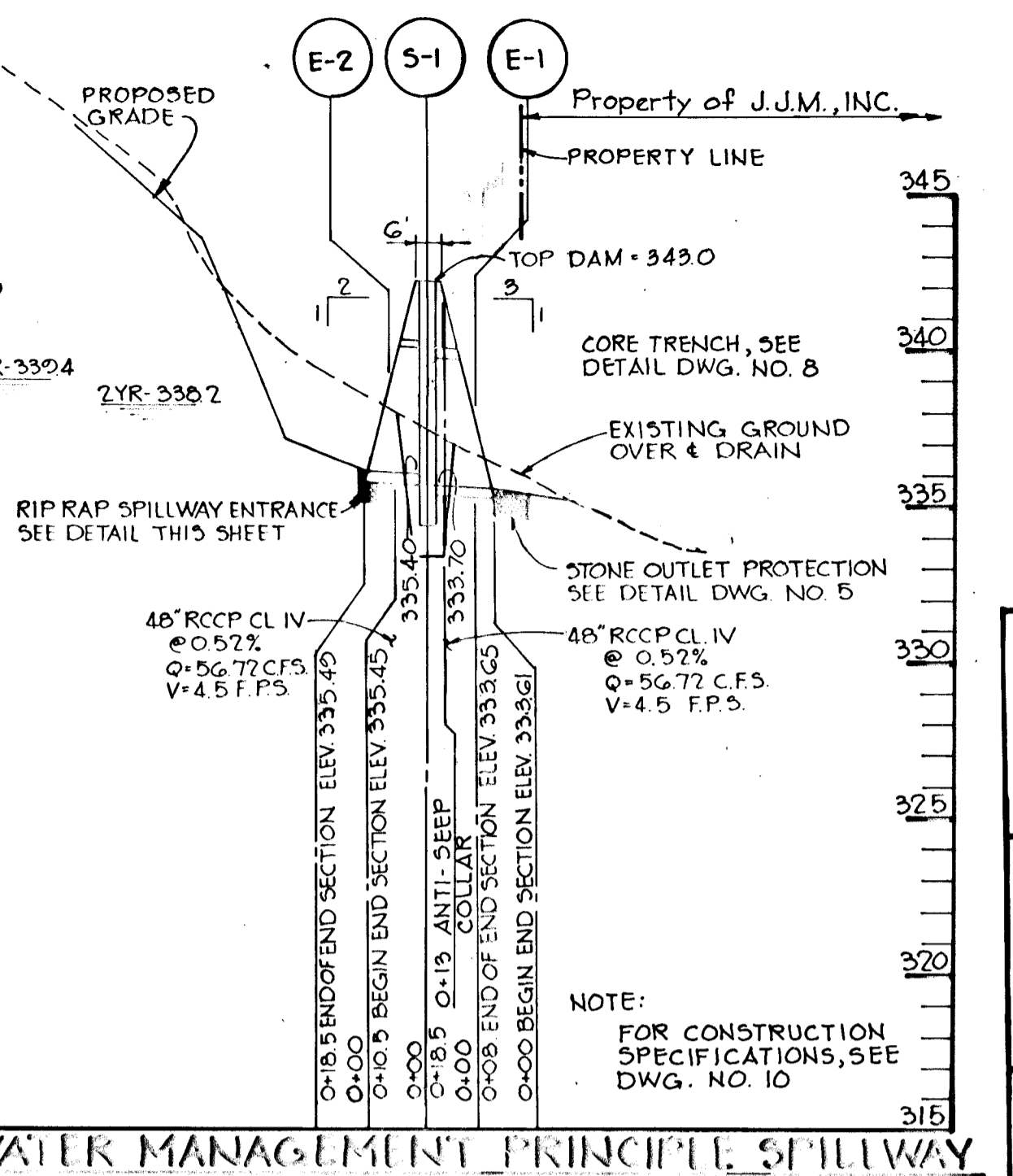
PLAN  
DETAIL - RIP RAP ENTRANCE @ E-2  
NO SCALE



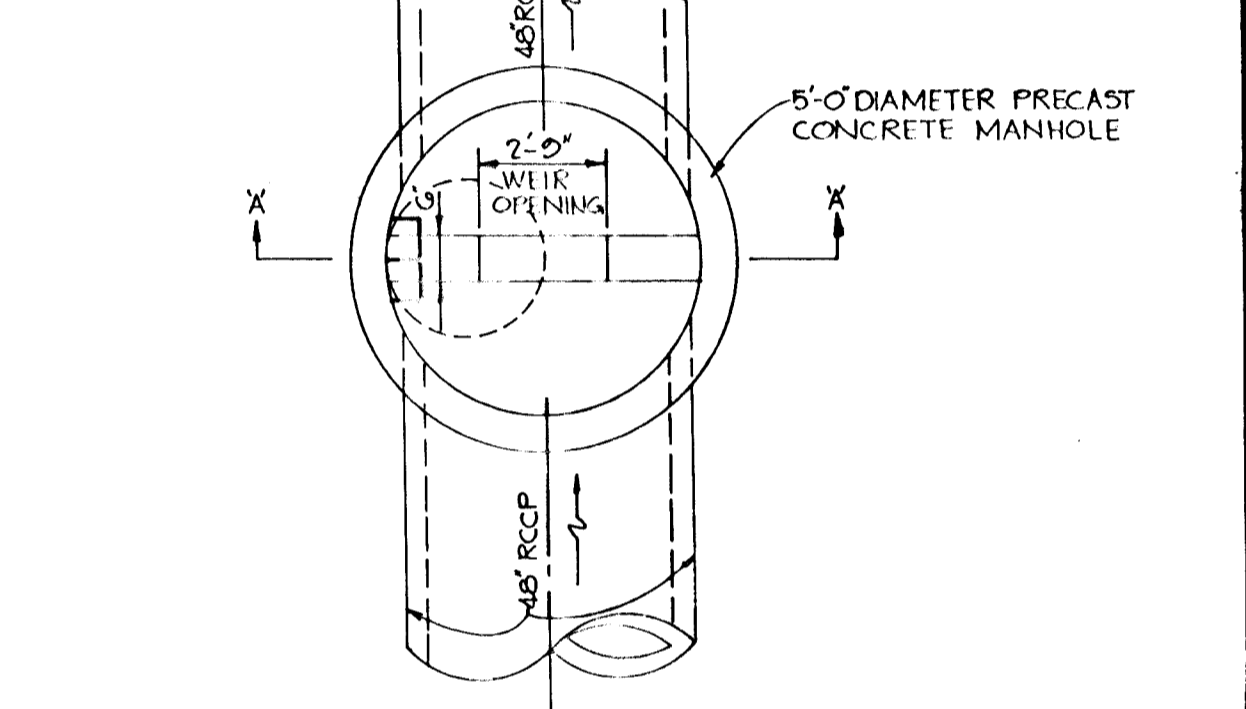
SECTION B-B



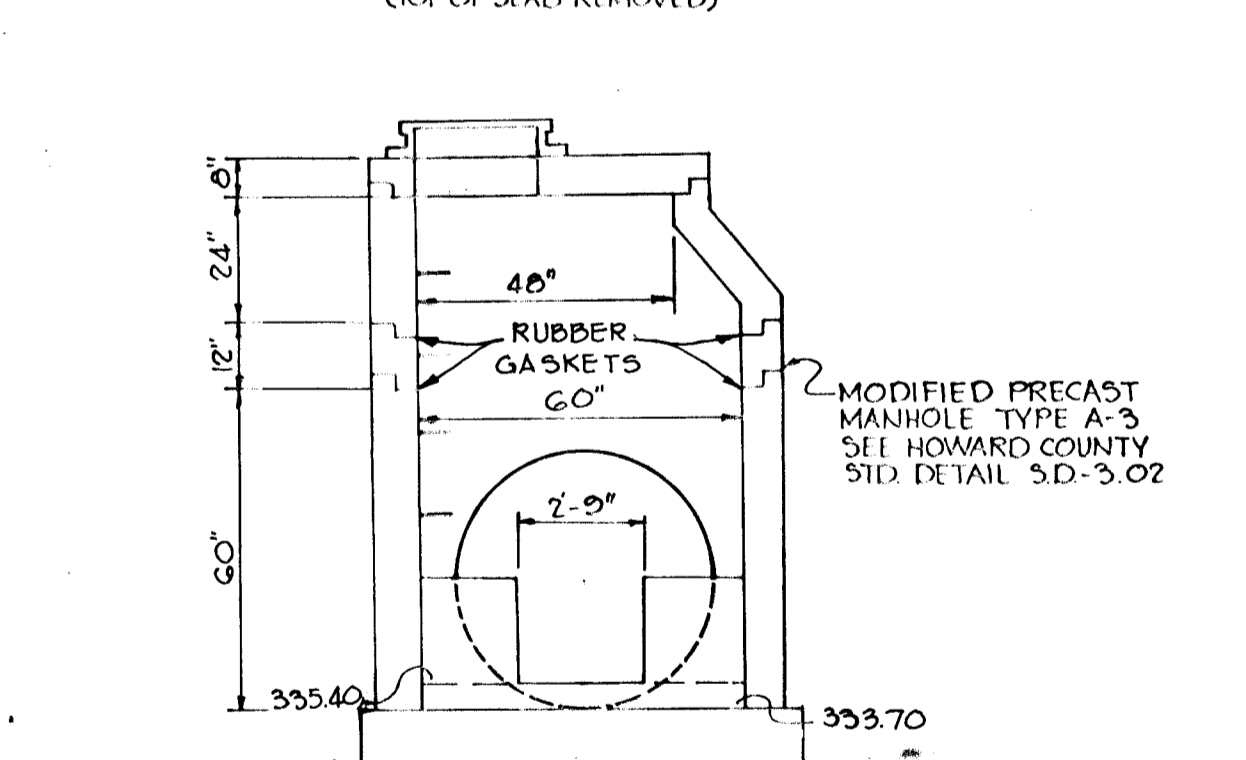
PROFILE  
EMERGENCY SPILLWAY  
NO SCALE



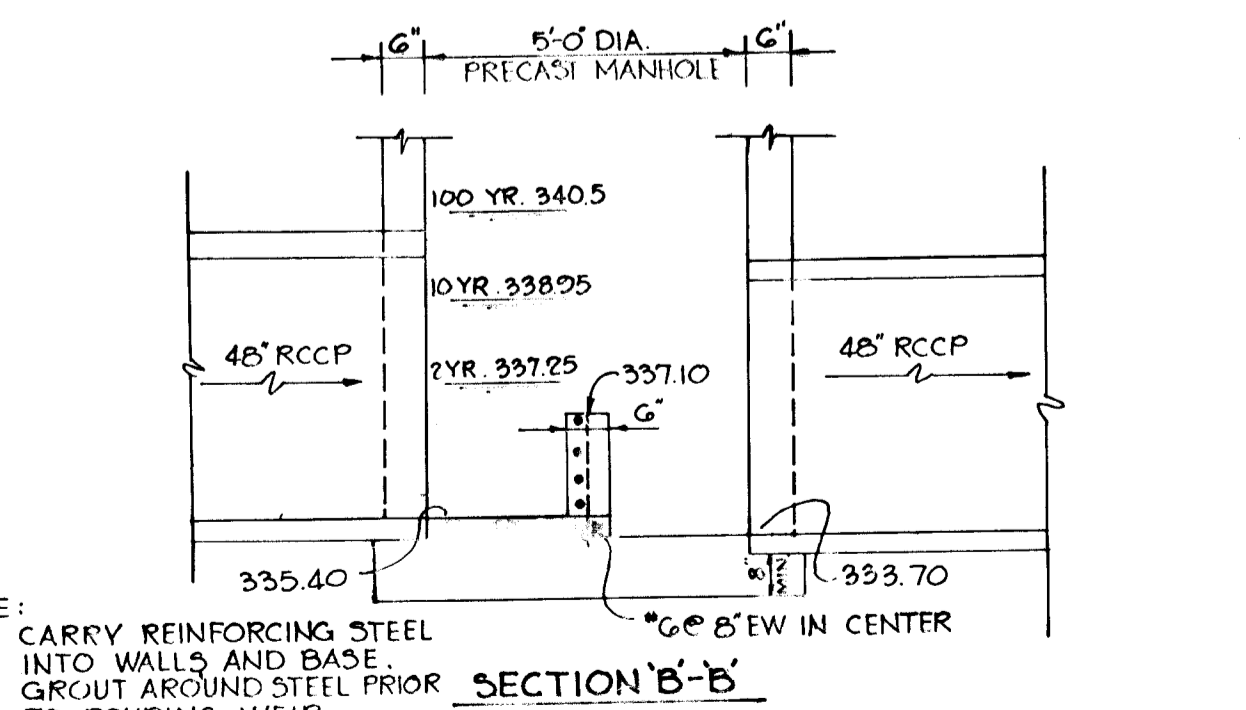
STORM WATER MANAGEMENT PRINCIPLE SPILLWAY



PLAN  
DETAIL - STORM WATER MANAGEMENT CONTROL STRUCTURE S-1



SECTION X-X



SECTION B-B  
DETAIL - STORM WATER MANAGEMENT CONTROL STRUCTURE S-1  
NO SCALE

SEDIMENT BASIN DATA	
DRAINAGE AREA	20.53 Acres
DISTURBED AREA	7.50 Acres
VOLUME:	
REQUIRED	1370 C.Y.
PROVIDED	1400 C.Y.
SPILLWAY ELEVATION	340.0
CLEANOUT ELEVATION	338.2
BOTTOM ELEVATION	335.5
DIMENSIONS:	
@ EL. 336 - 100' x 15'	
@ EL. 338 - 275' x 40'	
@ EL. 340 - 285' x 50'	

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

APPROVED: *Robert J. Ziehm* 3-10-82  
HOWARD COUNTY OFFICE OF PLANNING AND ZONING DATE

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: *James M. Nelson* 3-10-82  
U.S. SOIL CONSERVATION SERVICE DATE

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 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.

APPROVED: *Fred G. Marker* 2-9-82  
FRED G. MARKER DATE

BY THE DEVELOPER:

"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.

APPROVED: *Donald S. Jany* 11-25-81  
DONALD S. JANY, P.E. DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

APPROVED: *Shull M. Markman* 3-10-82  
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: *William S. Row* 3-15-82  
CHIEF, BUREAU OF ENGINEERING DATE

3-4-82 2 REV. PER S.C.S. COMMENTS 3-1-82

2-1-82 1 REVISED AS PER H.C. COMMENTS DATED 1-26-82

DATE NO REVISION

OWNER: J.J.M., INC. 5501 TWIN KNOLLS ROAD SUITE 105 COLUMBIA, MARYLAND 21045

DEVELOPER: F.G. MARKER CO., INC. 5900 PRINCESS GARDEN PKWY LANHAM, MARYLAND 20801

PROJECT: HAMMOND HILLS SECTION ONE

AREA: TAX MAP NO 46 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: STORM WATER MANAGEMENT AND SEDIMENT CONTROL DETAILS

DATE: 11-25-81

PARCEL 2  
DESIGNED BY: L.J.D.  
DRAWN BY: T.E.S.  
PROJECT NO: A2080  
DATE: NOVEMBER 25, 1981  
SCALE: AS SHOWN  
DRAWING NO: 5 OF 10

**Riemer - Tracy & Associates, Inc.**  
8650 Baltimore National Pike  
Ellicott City, Maryland 21043  
(301) 461-2690  
Land Planning, Design & Civil Engineering

DATE: 11-25-81  
DATE: NOVEMBER 25, 1981  
SCALE: AS SHOWN  
DRAWING NO: 5 OF 10

**1. SITE PREPARATION**

Areas under the borrow areas, embankment, and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, roots or other objectionable material. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

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

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

**11. EARTH FILL**

**Material**  
The fill material shall be taken from approved designated borrow area or areas. It shall be free of 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 above the design elevation (including freeboard) as 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.

**Compaction**  
The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

**Cutoff Trench**  
Where specified, a cutoff 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 cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

**111. 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.

**112. PIPE CONDUITS**

- 1. Reinforced Concrete Pipe**
- Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-303. Approved equivalents are AWWA Specification C-300, C-301, and C-302.
  - Bedding - All reinforced concrete pipe conduits shall be 1/2" in. a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10" of its diameter with a minimum thickness of 3", 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.
  - Backfilling shall conform to structural backfill as shown above.
  - Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.
- 2. For pipes of other materials, specific specifications shall be shown on the drawings.**

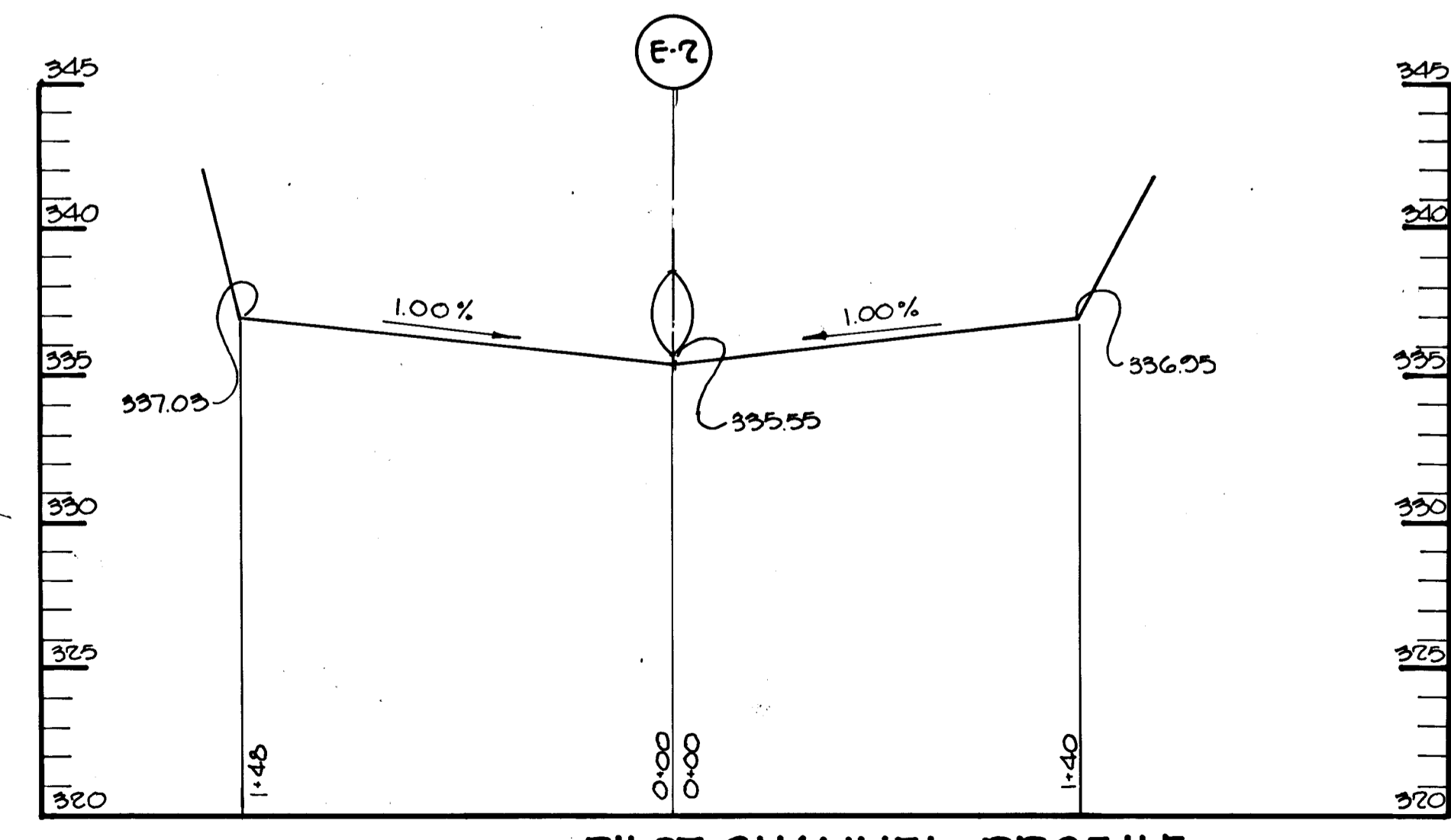
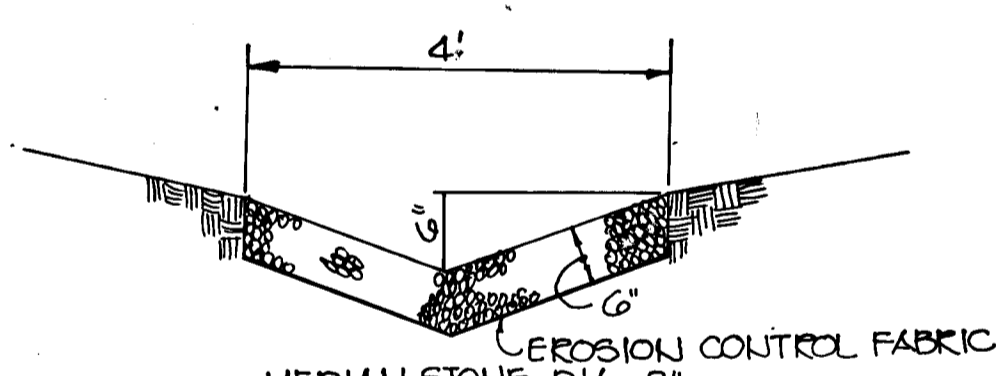
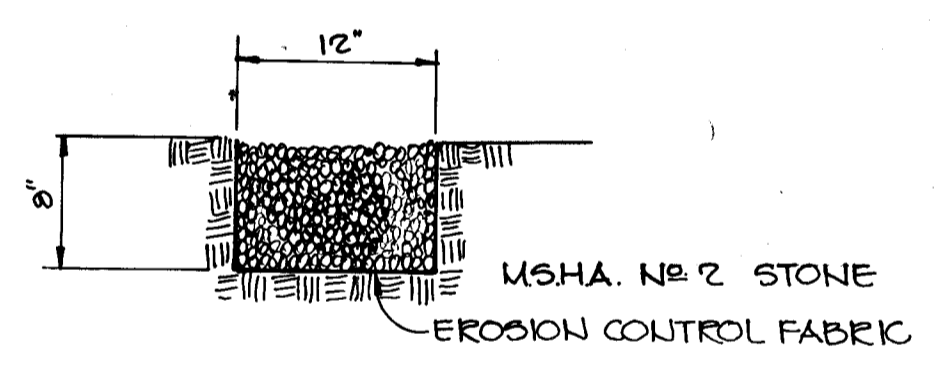
**CONCRETE**

- Materials**
  - Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.
  - Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
  - Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.
  - Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.
  - Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

- Design Mix** - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U. S. gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.
- Mixing** - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.
- Forms** - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.  
  
The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.  
  
Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.
- Reinforcing Steel** - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.
- Consolidating** - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.
- Finishing** - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry-patching mortar.
- Protection and Curing** - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also be used.
- Placing Temperature** - Concrete may not be placed at temperatures below 32° F with the temperature falling, or 34° with the temperature rising.

**VI. STABILIZATION**

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications shown on or accompanying the drawings.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*William E. Riley* 3-15-82  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
*John M. Davidson* 3-10-82  
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

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.  
*John W. Helt* 3-10-82  
DISTRICT SOIL CONSERVATION SERVICE DATE

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 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.  
*Fred G. Marker* 2-9-82  
FRED G. MARKER DATE

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.  
*James K. Tracy* 11-25-81  
PROFESSIONAL ENGINEER, P.E. DATE

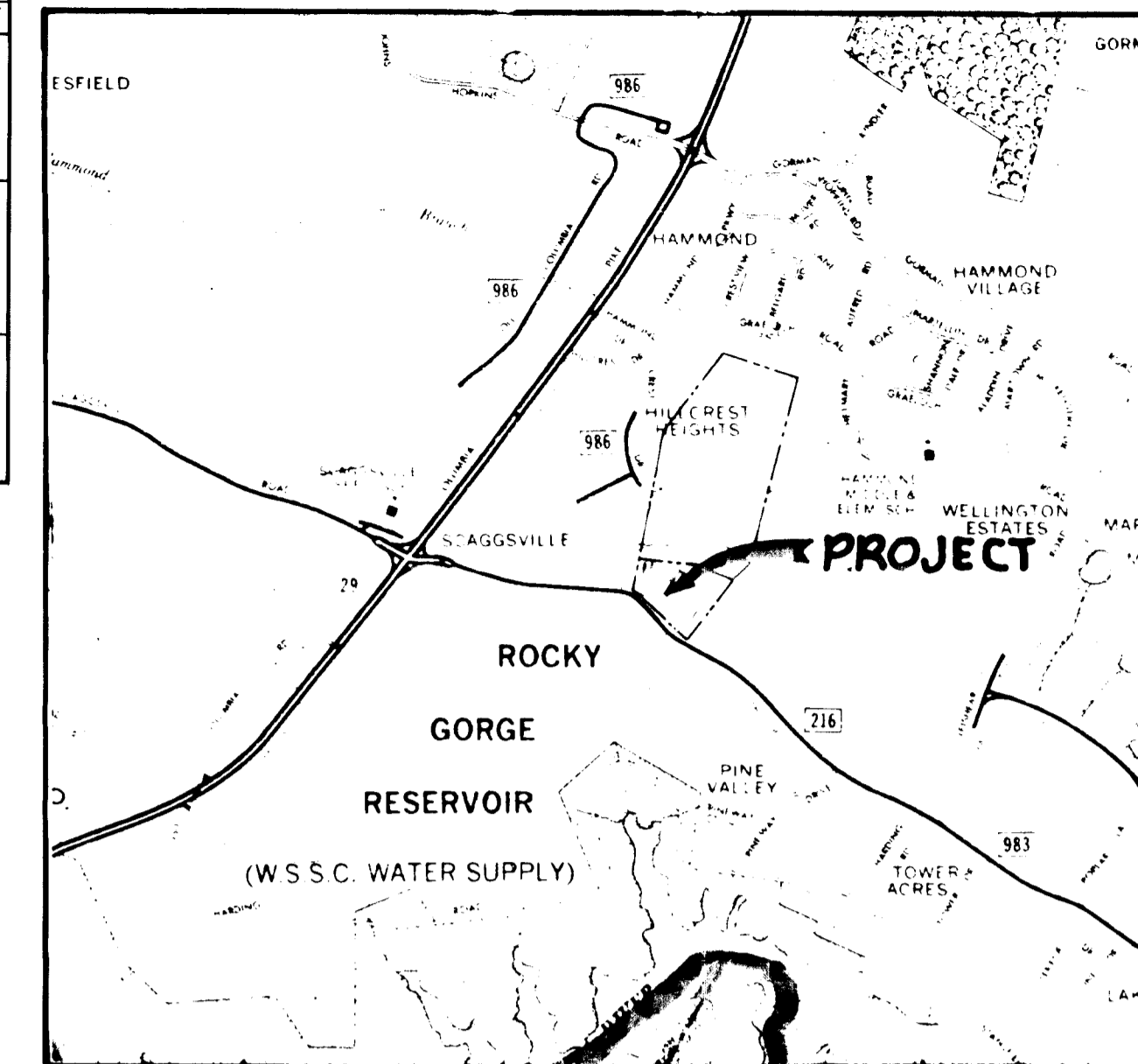
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Robert W. Ziehm* 3-10-82  
HOWARD COUNTY DATE

73005	ADDED PILOT CHANNEL PROFILE & DETAILS	
2-1-82	REVISED AS PER H.C. COMMENTS DATED 1-26-82	
DATE	NO.	REVISION
OWNER: J.M., INC. 5501 TWIN KNOLLS ROAD SUITE 103 COLUMBIA, MARYLAND 21045		
DEVEL: F.G. MARKER CO., INC. 5000 PRINCESS GARDEN PKWY. LANHAM, MARYLAND 20801		
PROJECT: HAMMOND HILLS SECTION ONE		
AREA: TAX MAP NO. 4G 6 <sup>TH</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE: S.W.M. SPECIFICATIONS		

**Riemer - Tracy & Associates, Inc.**  
8659 Baltimore National Pike  
Ellicott City, Maryland 21043  
(301) 461-2890  
Land Planning, Design & Civil Engineering

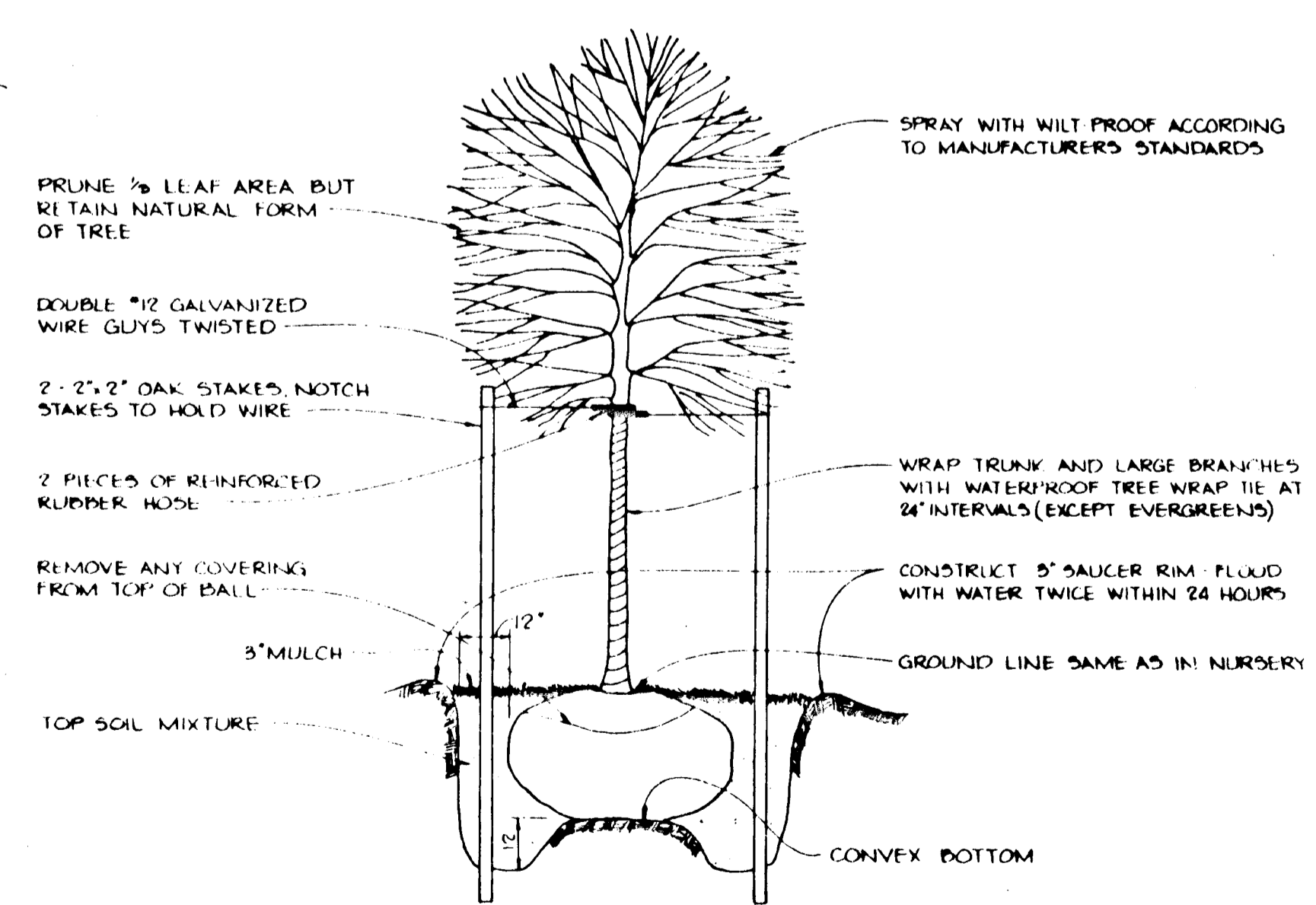
11-25-81 DATE  
PARCEL 2  
DESIGNED BY: J.K.T.  
DRAWN BY: T.E.S.  
PROJECT NO: A2080  
DATE: NOVEMBER 25, 1981  
SCALE: AS SHOWN  
DRAWING NO. 10 OF 10

QUANTITY	SYMBOL	PLANT NAME	SPECIFICATIONS	
			CAL.	ROOT HEIGHT
117	⊙	SHADE TREES: ACER RUBRUM QUERCUS PALUSTRIS QUERCUS BOREALIS PLATANUS ACERIFOLIA	2'-2 1/2"	B & B 12'-14'
10	⊙	FLOWERING TREES: CRATAEGUS (WASHINGTON) MALUS (HOPA, JAPANESE, OTHER) CORNUS (WHITE & KOUSA) PYRUS (GALLERY)	1 1/2'-2'	B & B 8'-10'
33	⊙	EVERGREEN TREES: PINUS NIGRA PINUS STROBUS PINUS THUMBERGI	1 1/2'-2'	B & B 6'-8'



**VICINITY MAP**  
SCALE 1" = 2000'

NOTE:  
For Road and Utility construction information  
See F-82-60



**TREE PLANTING DETAIL**  
No Scale

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING	
<i>John M. Macdonald</i>	3-10-82
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>William E. Pley</i>	3-15-82
CHIEF, BUREAU OF ENGINEERING	DATE
DATE NO.	REVISION
OWNER	J.J.M., INC. 5501 TWIN KNOLLS ROAD SUITE 103 COLUMBIA, MARYLAND 21045
DEVELOPER	F.G. MARKER CO., INC. 5900 PRINCESS GARDEN PKWY. LANHAM, MARYLAND 20801
PROJECT	<b>HAMMOND HILLS SECTION ONE</b>
AREA	TAX MAP NO. 46 GTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	PLANTING PLAN
<b>Riemer-Tracy &amp; Associates, Inc.</b> 11-25-81 DATE STATE OF MARYLAND REGISTERED LANDSCAPE ARCHITECT Michael G. Riemer	
PARCEL 2	DESIGNED BY RJW
	DRAWN BY DAM
	PROJECT NO. A2080
	DATE FEB. 1, 1982
	SCALE 1" = 100'
	DRAWING NO. 1 OF 1