

**SHEET INDEX**

NO.	DESCRIPTION
1	PLAN OF MILADY WAY, JESTER COURT, CORONET COURT, STEPHENS ROAD, AND WHISKEY BOTTOM ROAD
2	PROFILES OF MILADY WAY, JESTER CT, AND CORONET CT.
3	PROFILES OF STEPHENS ROAD AND WHISKEY BOTTOM ROAD AND DRAINAGE AREA MAP
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5	GRADING AND SEDIMENT CONTROL PLAN
6	SEDIMENT CONTROL DETAILS AND STORM DRAIN PROFILES
7	STORM WATER MANAGEMENT SPECIFICATION AND DETAILS
8	PLANTING PLAN

PROPERTY OF BESSIE E SHELL 1220/551

PROPERTY OF HERMAN GIBSON 259/525

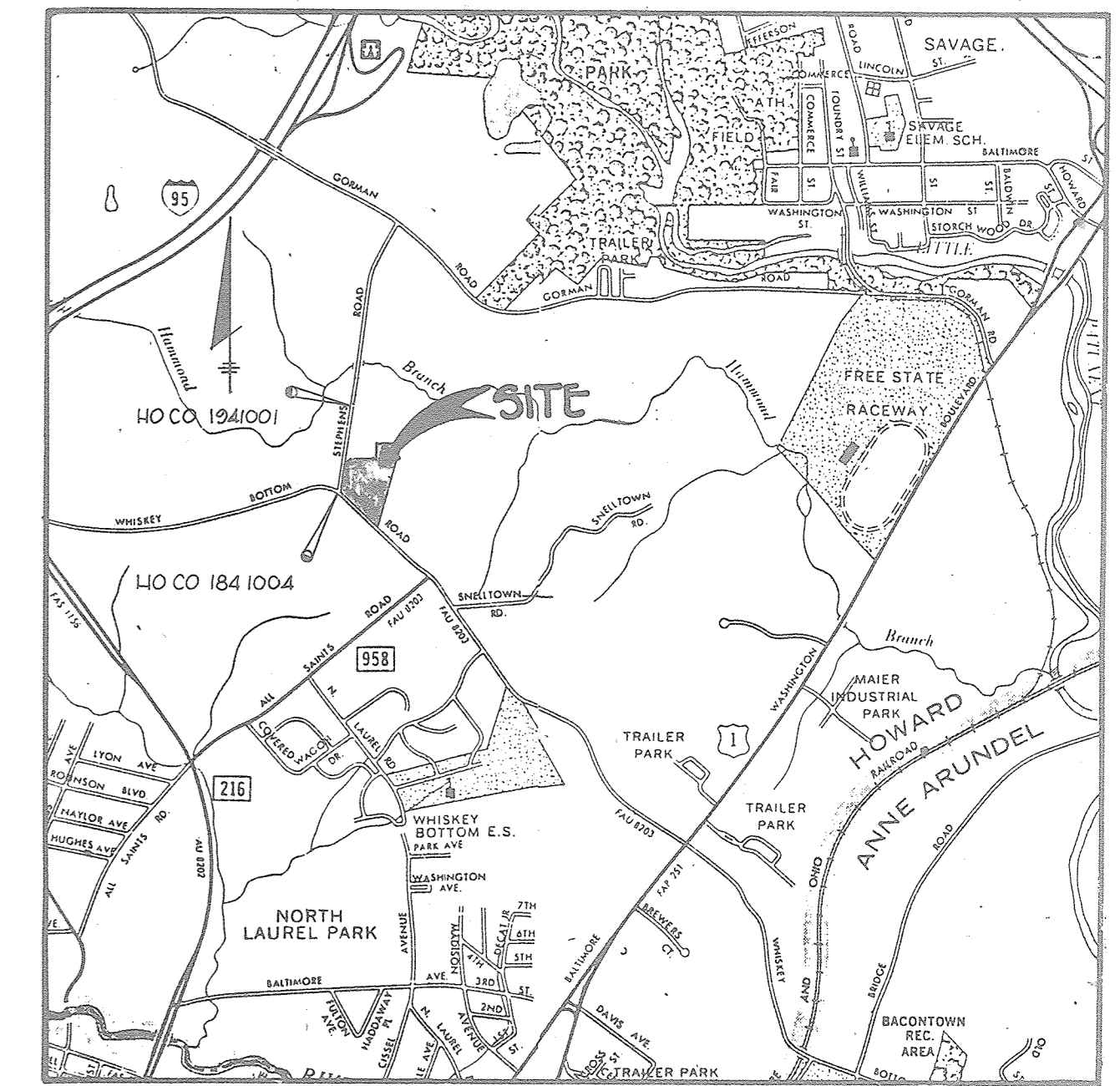
PROPERTY OF SECURITY DEVELOPMENT CORP 1800/169

**GENERAL NOTES**

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR ROAD CONSTRUCTION.
- 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.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES, WHERE DIRECTED BY THE ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
 

BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 OR 3554
HOWARD COUNTY BUREAU OF UTILITIES	539-8000 EXT. 691
HOWARD COUNTY BUREAU OF UTILITIES	392-2366
HOWARD COUNTY CONSTRUCTION INSPECTION SURVEY DIVISION	592-2417/2418
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 20' RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1984 EDITION.
- 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.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
 

ALL CUL-DE-SAC DESIGNED FOR 25 M.P.H.	ALL LOCAL STREETS DESIGNED FOR 30 M.P.H.
ALL TIE-INS DESIGNED FOR 35 M.P.H.	ALL MAJOR COLLECTORS DESIGNED FOR 40 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM 95% OF MAXIMUM OBTAINABLE DENSITY DETERMINED BY MARSHALL PRACTICE.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED PRC PER 8-2-85 COMPREHENSIVE ZONING PLAN.

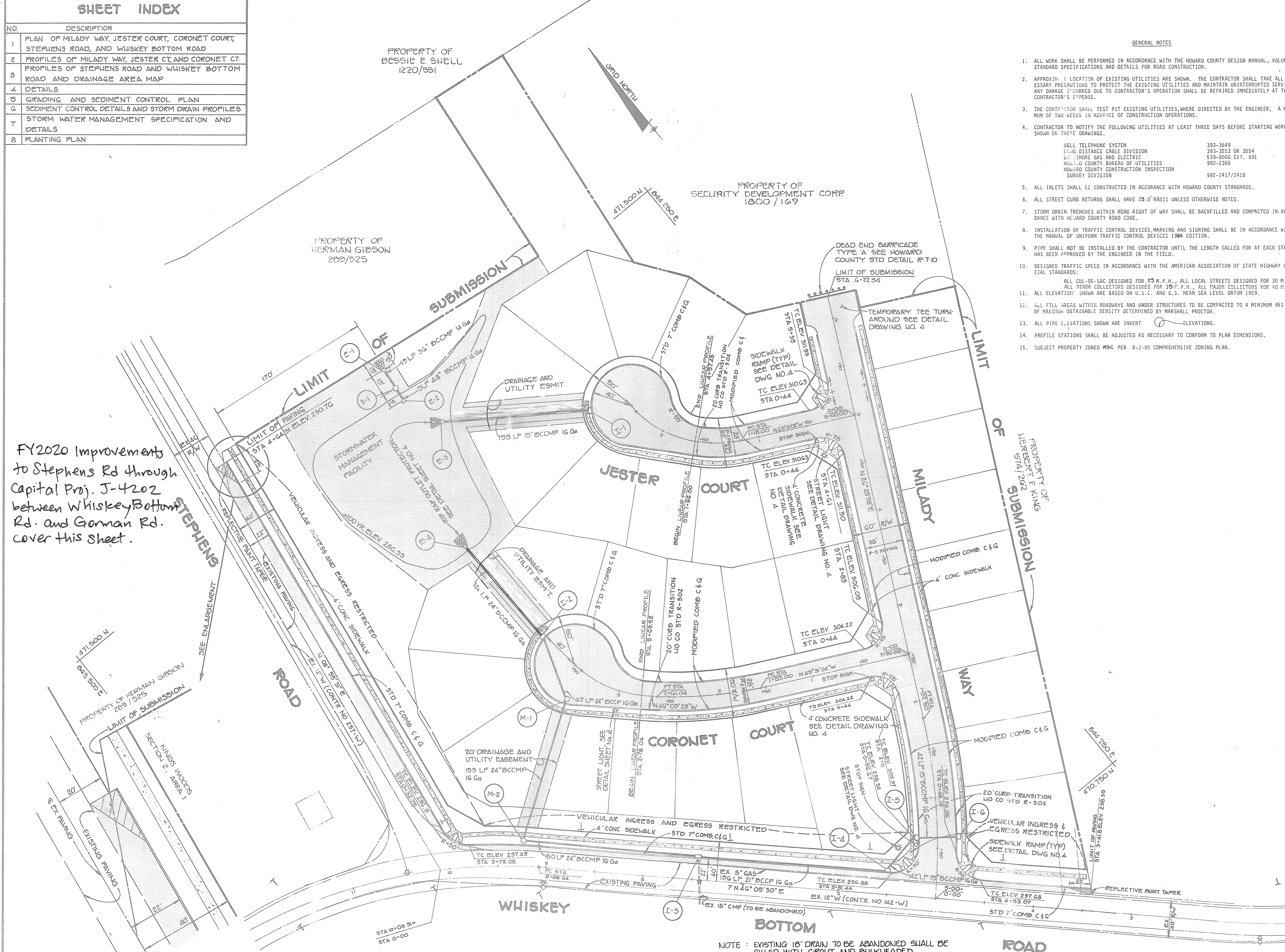


**VICINITY MAP**  
SCALE: 1/2000

**BENCH MARKS**

1841004	ELEV 295.52
REBAR 6" OFF SOUTH EDGE OF ROAD NEAR THE INTERSECTION OF STEPHENS ROAD AND WHISKEY BOTTOM ROAD	
N 471079.018	E 843657.878
1941001	ELEV 277.87
REBAR 4" OFF WEST EDGE OF STEPHENS ROAD IN FRONT OF 8820 STEPHENS ROAD	
N 472223.199	E 845997.549

FY2020 Improvements to Stephens Rd through Capital Proj. J-4202 between Whiskey Bottom Rd. and Gorman Rd. cover this sheet.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>[Signature]</i> CHIEF, LAND DEVELOPMENT DIVISION	3/14/89 DATE
<i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS	3/15/89 DATE
<i>[Signature]</i> CHIEF, BUREAU OF ENGINEERING	3/22/89 DATE
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING	
<i>[Signature]</i> CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	3-21-89 DATE
	IKS

**TRACY, SCHULTE & ASSOCIATES INC.**  
planning • architecture • engineering

8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

OWNER/DEVELOPER	PROJECT
SECURITY DEVELOPMENT CORP. 8480 BALTIMORE NATIONAL PIKE SUITE 415 ELICOTT CITY, MARYLAND 21043	<b>KING'S WOODS</b> SECTION 2 AREA 1 LOTS 158 THRU 175
	LOCATION
	TAX MAP NO. 47 PARCEL 159 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
	TITLE
	PLAN OF MILADY WAY, JESTER COURT, CORONET COURT, STEPHENS ROAD, AND WHISKEY BOTTOM ROAD
	5 88 86 P 88 50
DATE	PROJECT NO
JULY 22, 1988 NOVEMBER 18, 1988	0014 R5D
DES. DAM	DRN CDT
	SCALE 1"=50'
	DRAWING 1 OF 8

**ENLARGEMENT**  
SCALE: 1"=20'

**CURVE DATA**

WHISKEY BOTTOM ROAD  
§ STA. 9+03.64 TO § STA. 10+09.91

Δ = 11° 04' 27"  
R = 820.87  
L = 100.67  
T = 50.49'  
D = 11° 00' 00"  
Chord = N 51° 41' 43" W, 100.82'

**CURVE DATA**

MILADY WAY  
§ STA. 0+00 TO § STA. 1+82.30

Δ = 17° 21' 32"  
R = 605.00'  
L = 182.30  
T = 52.36'  
D = 09° 28' 15"  
Chord = N 95° 09' 44" E, 182.60'

**CURVE DATA**

CORONET COURT  
§ STA. 1+55.00 TO § STA. 2+61.04

Δ = 17° 21' 32"  
R = 350.00'  
L = 106.04'  
T = 53.45'  
D = 16° 22' 15"  
Chord = N 54° 50' 15" W, 109.65'

**CURVE DATA**

CORONET COURT  
§ STA. 2+78.04 TO § STA. 3+47.05

Δ = 86° 04' 15"  
R = 125.00'  
L = 60.01'  
T = 35.60'  
D = 52° 16' 04"  
Chord = N 28° 07' 22" W, 67.85'

**CURVE DATA**

JESTER COURT  
§ STA. 1+18.00 TO § STA. 1+66.00

Δ = 27° 00' 00"  
R = 125.00'  
L = 48.00'  
T = 24.30'  
D = 45° 50' 12"  
Chord = N 52° 30' 50" W, 47.71'

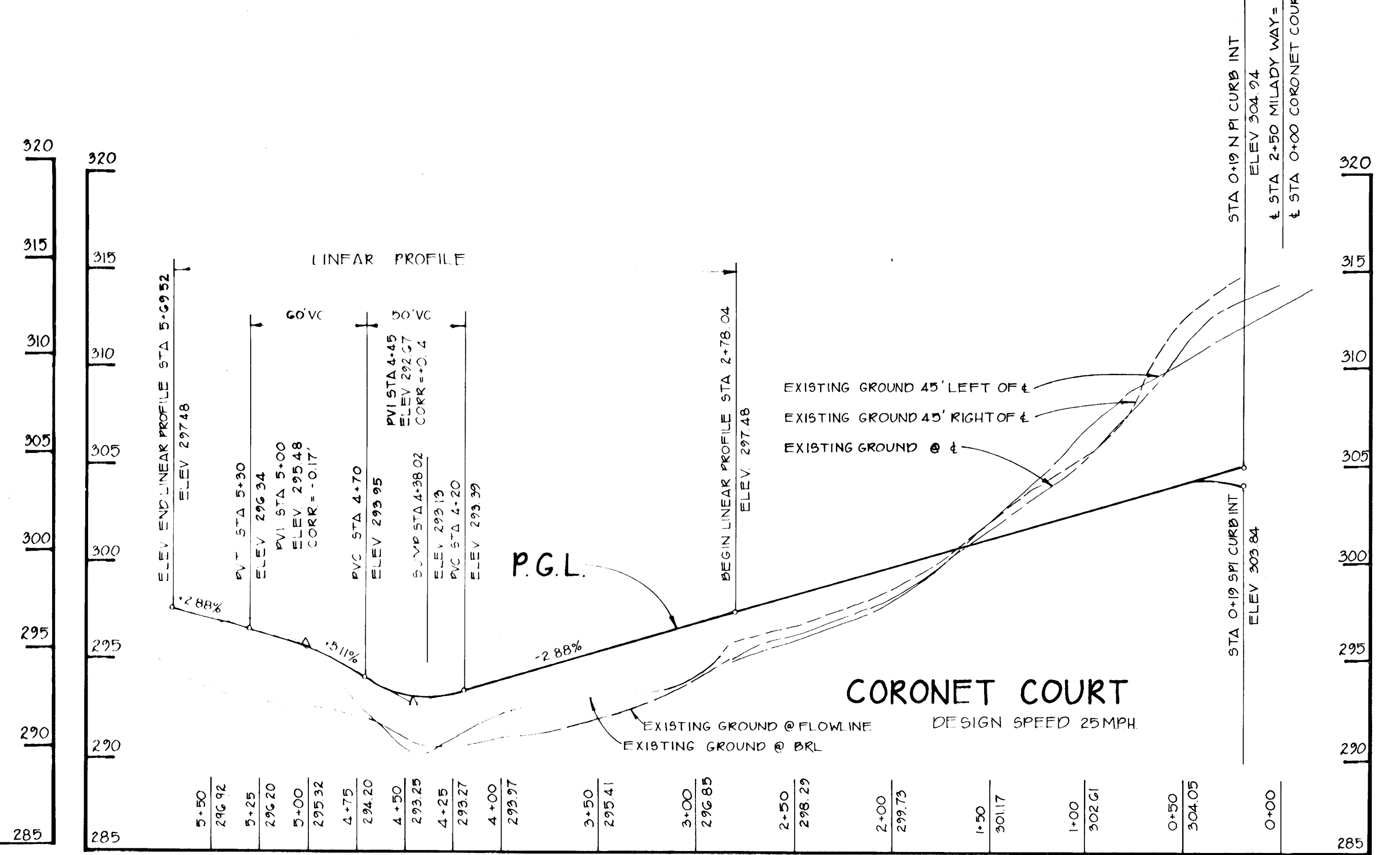
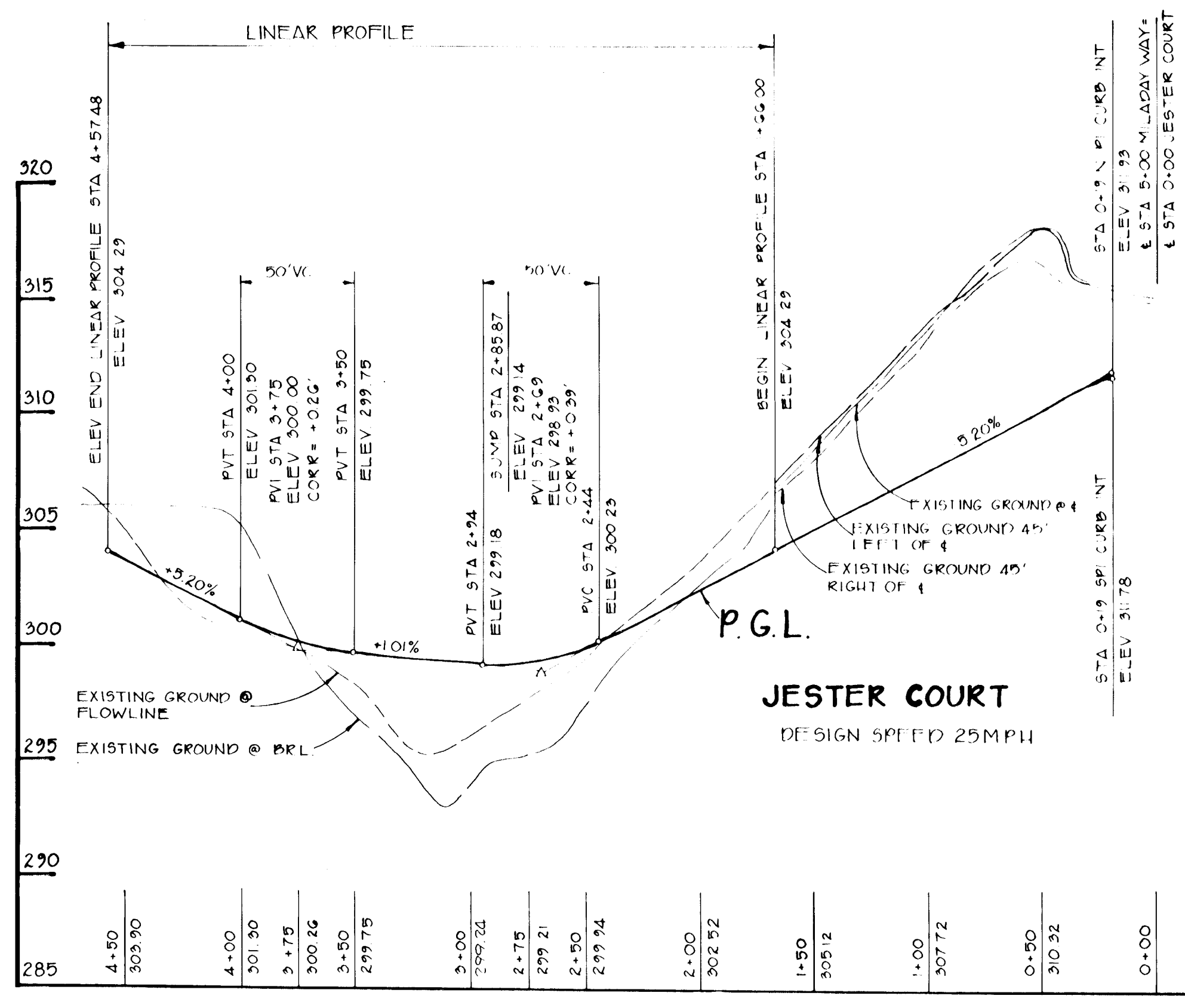
**CURVE DATA**

JESTER COURT  
§ STA. 1+66.00 TO § STA. 2+35.01

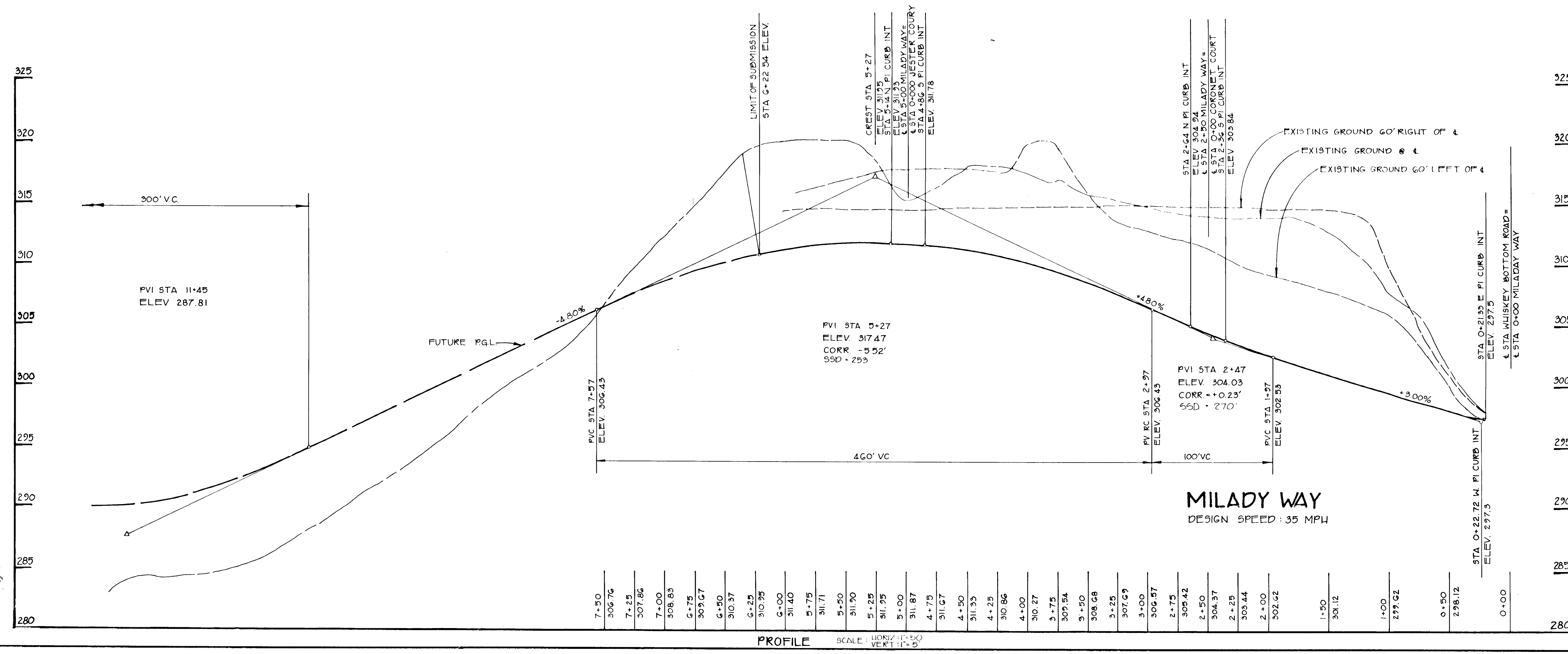
Δ = 56° 04' 15"  
R = 109.62'  
L = 60.01'  
T = 35.60'  
D = 52° 16' 04"  
Chord = N 25° 28' 48" W, 67.85'

NOTE: EXISTING 18" DRAIN TO BE ABANDONED SHALL BE FILLED WITH GROUT AND BULKHEADED.





PROFILES  
SCALE: HORIZ. 1"=50'



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul J. Seaman* DATE 3/14/89  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Francis W. Wallace* DATE 3/15/89  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daniels* DATE 3/22/89  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
*Mark A. Taylor* DATE 3-22-89  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

NO	DATE	REVISION

**TRACY, SCHULTE & ASSOCIATES INC.**  
 planning • architecture • engineering  
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465 6105

OWNER / DEVELOPER: SECURITY DEVELOPMENT CORP  
 8480 BALTIMORE NATIONAL PIKE  
 SUITE 415  
 ELICOTT CITY MARYLAND 21043

PROJECT: KING'S WOODS  
 SECTION 2 AREA 1  
 LOTS 187-193

LOCATION: TAX MAP NO 47  
 PARCEL 198  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: PROFILES OF MILADY WAY,  
 JESTER CT. AND CORONET CT.

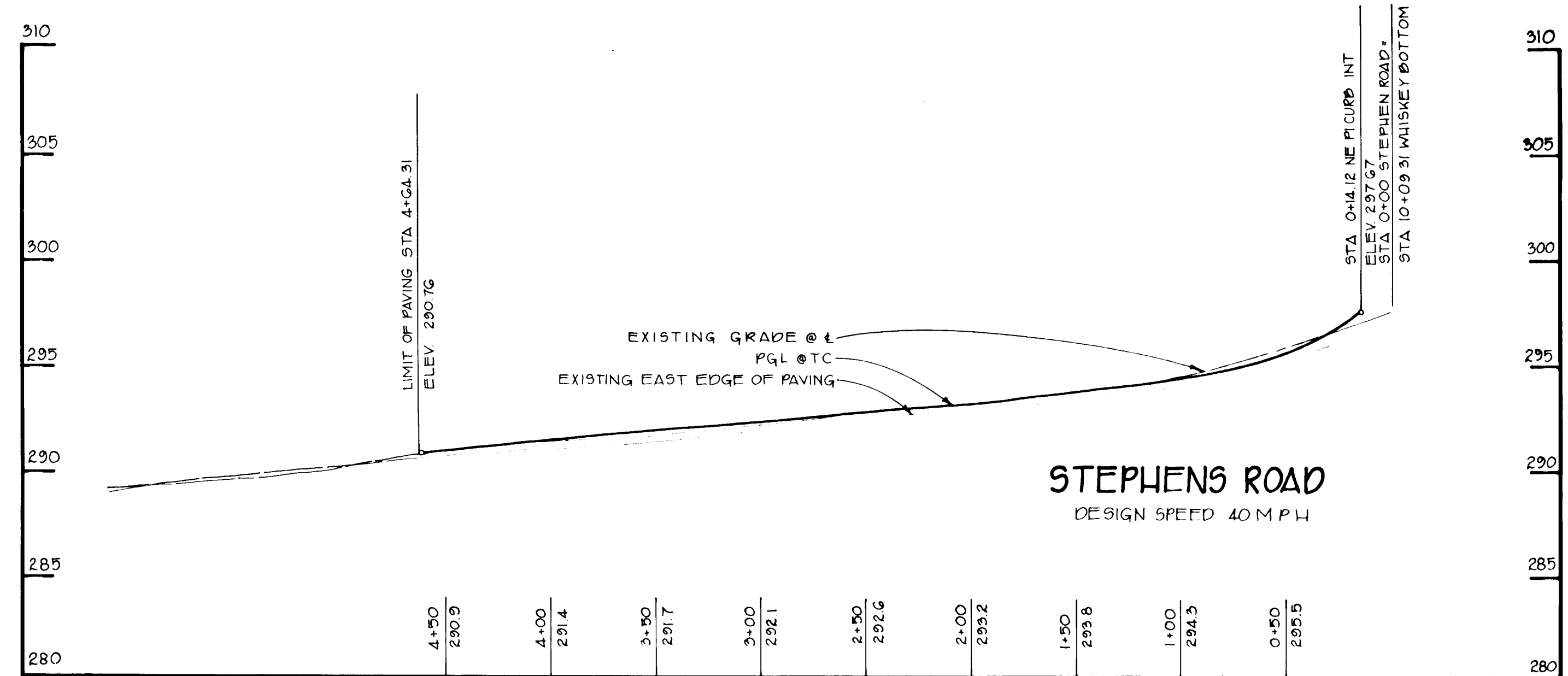
DATE: JULY 22, 1988  
 NOVEMBER 18, 1988

PROJECT NO: 0014 RSD  
 DRAWING: 2 OF 8

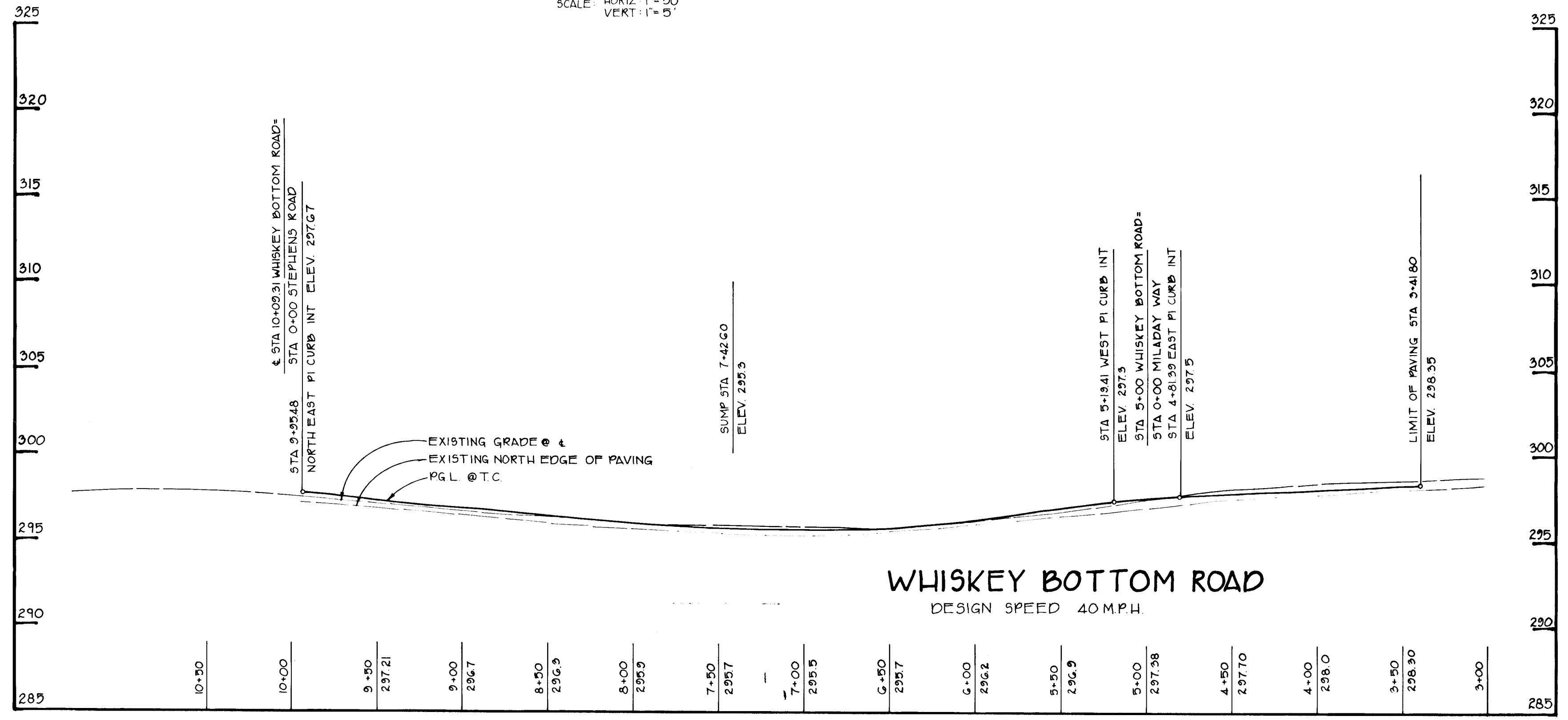
DES: DAM DRN: KLN

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TC ELEV.	REMARKS
1-1	A-5	41.9' LT LP STA 2+65.87 JESTER COURT	—	295.02	299.14	HL. CO. STD 50-4.01
1-2	A-10	41.9' LT LP STA 4+38.02 CORONET COURT	285.8	285.61	293.13	HL. CO. STD 50-4.02
1-3	A-5	23.9' RT STA 7+42.50 WHISKEY BOTTOM ROAD	290.46	290.21	295.30	HL. CO. STD 50-4.02
1-4	A-5	23.9' RT STA 5+65 WHISKEY BOTTOM ROAD	292.32	292.42	296.88	HL. CO. STD 50-4.02
1-5	A-5 W/DEFL	20.9' LT STA 0+60 MILADY WAY	293.96	293.76	296.32	HL. CO. STD 50-4.02
1-6	A-5 W/DEFL	20.9' RT STA 0+60 MILADY WAY	—	294.50	296.32	HL. CO. STD 50-4.02
M-1	4'-0" DIA MH	4' RT LP STA 3+64 CORONET COURT	286.68	286.48	*284.7	HL. CO. STD G-5.12
M-2	4'-0" DIA MH	26' RT STA 9+24 WHISKEY BOTTOM ROAD	288.41	288.21	*287.0	HL. CO. STD G-5.12
E-3	15" METAL END SECTION	19' LT LP STA 2+65.87 JESTER COURT	—	282.50	—	HL. CO. STD 50-5.61
E-4	24" METAL END SECTION	166' LT LP STA 4+38.02 CORONET COURT	—	283.98	—	HL. CO. STD 50-5.61
E-1	36" METAL END SECTION	SEE PLAN	—	281.00	—	HL. CO. STD 50-5.61
E-2	48" METAL END SECTION	SEE PLAN	281.72	—	—	HL. CO. STD 50-5.61
S-1	CONTROL STRUC.	SEE PLAN	281.64	281.12	*288.00	SEE DETAILS SHEET, 7

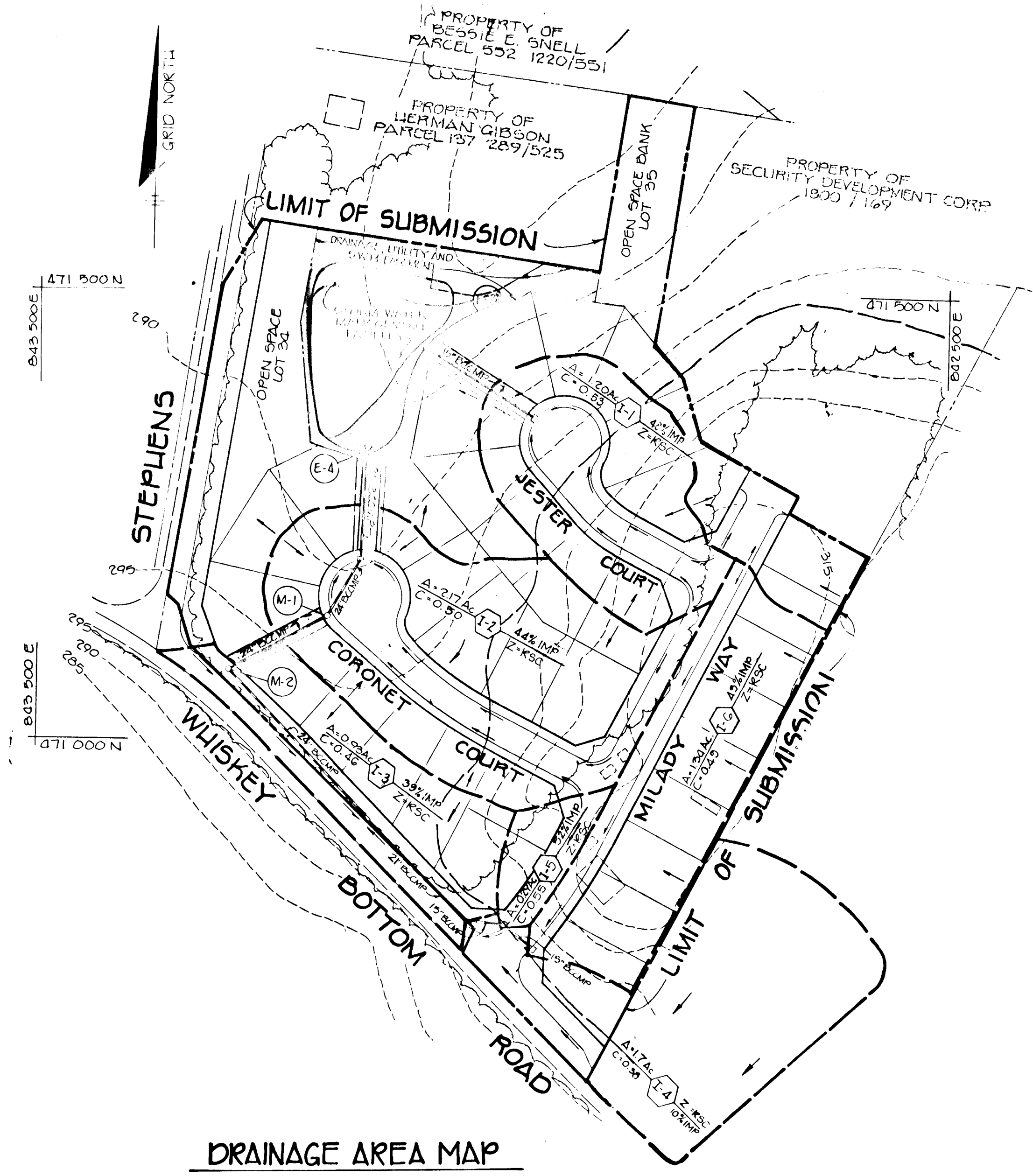
\* ELEV AT RIM



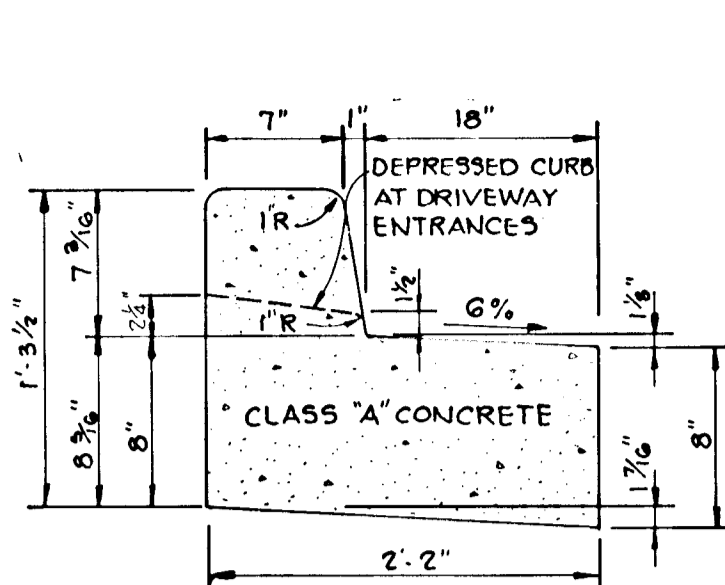
**PROFILE**  
SCALE: HORIZ: 1"=30'  
VERT: 1"=5'



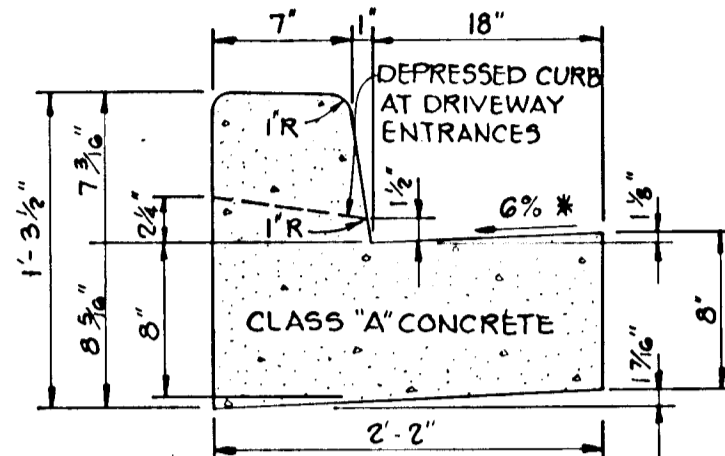
**PROFILE**  
SCALE: HORIZ: 1"=30'  
VERT: 1"=5'



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Paul H. Pappas</i> CHIEF, LAND DEVELOPMENT DIVISION	3/14/89 DATE
<i>Travis W. Weiland</i> CHIEF, BUREAU OF HIGHWAYS	3/15/89 DATE
<i>Richard M. Demko</i> CHIEF, BUREAU OF ENGINEERING	3/22/89 DATE
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING	
<i>Dan S. D'Angelo</i> CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	3-31-89 DATE
NO. DATE	REVISION
<b>TRACY, SCHULTE &amp; ASSOCIATES INC.</b> planning • architecture • engineering 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105	
OWNER/DEVELOPER	PROJECT
SECURITY DEVELOPMENT CORP 8480 BALTIMORE NATIONAL PIKE SUITE 415 ELLICOTT CITY, MARYLAND 21043	<b>KING'S WOODS</b> SECTION 2 AREA 1 LOTS 188 THRU 173
LOCATION	TITLE
TAX MAP NO. 47 PARCEL 138 G <sup>TH</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND	<b>PROFILES OF STEPHENS ROAD AND WHISKEY BOTTOM ROAD AND DRAINAGE AREA MAP</b>
DATE	PROJECT NO.
JULY 22, 1988 NOVEMBER 18, 1988	0014 R9D
DES. DAM	DRN. KLN
SCALE AS SHOWN	DRAWING 3 OF 8



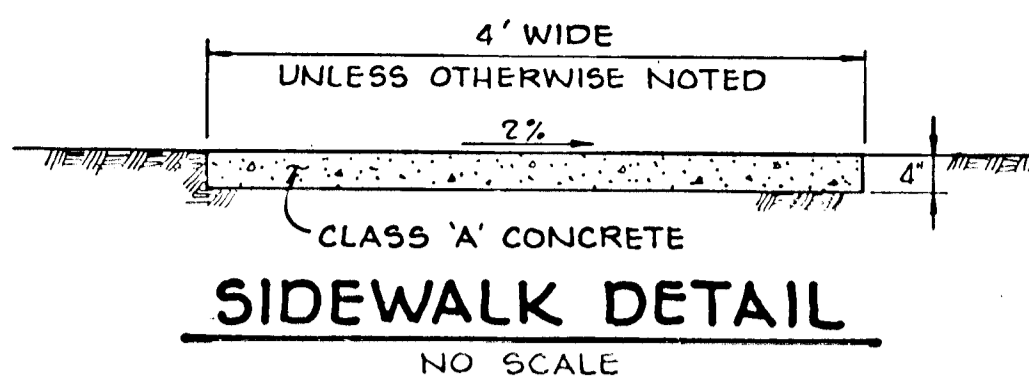
REVERSE



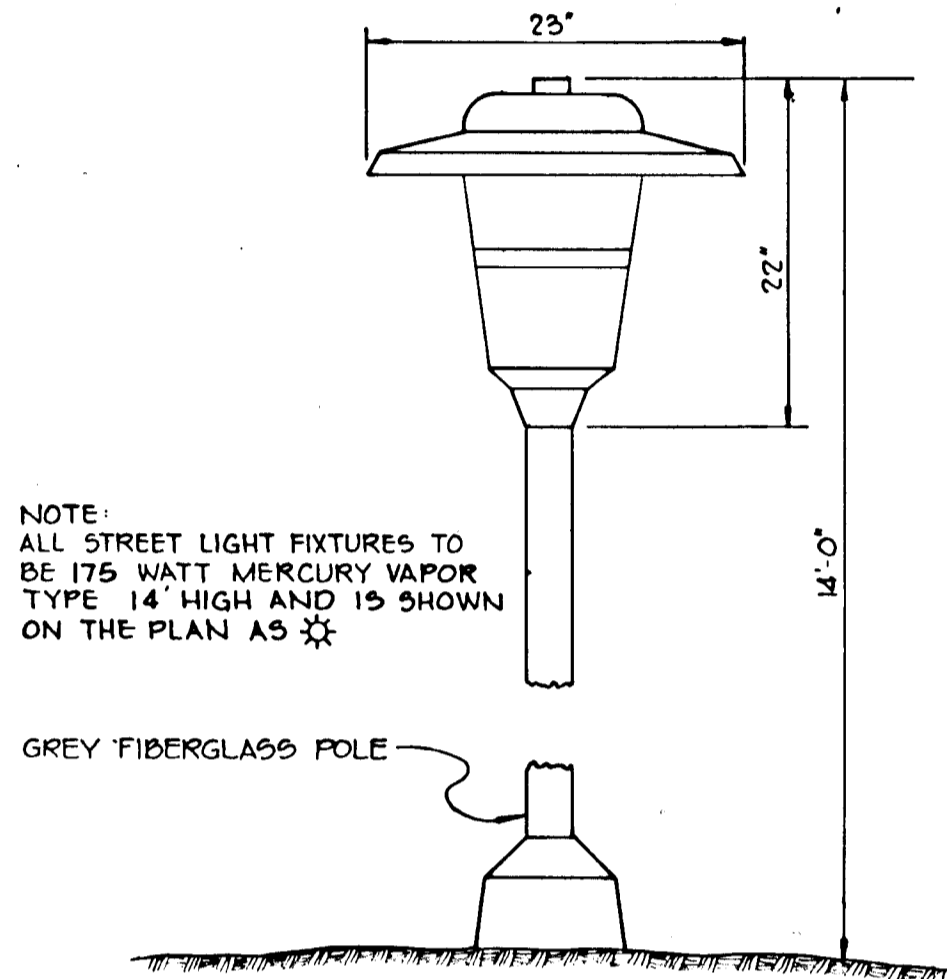
HOWARD COUNTY DESIGN MANUAL VOLUME IV  
STANDARD SPECIFICATIONS AND DETAILS FOR  
CONSTRUCTION (DRAWING R-3.01)

\* 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



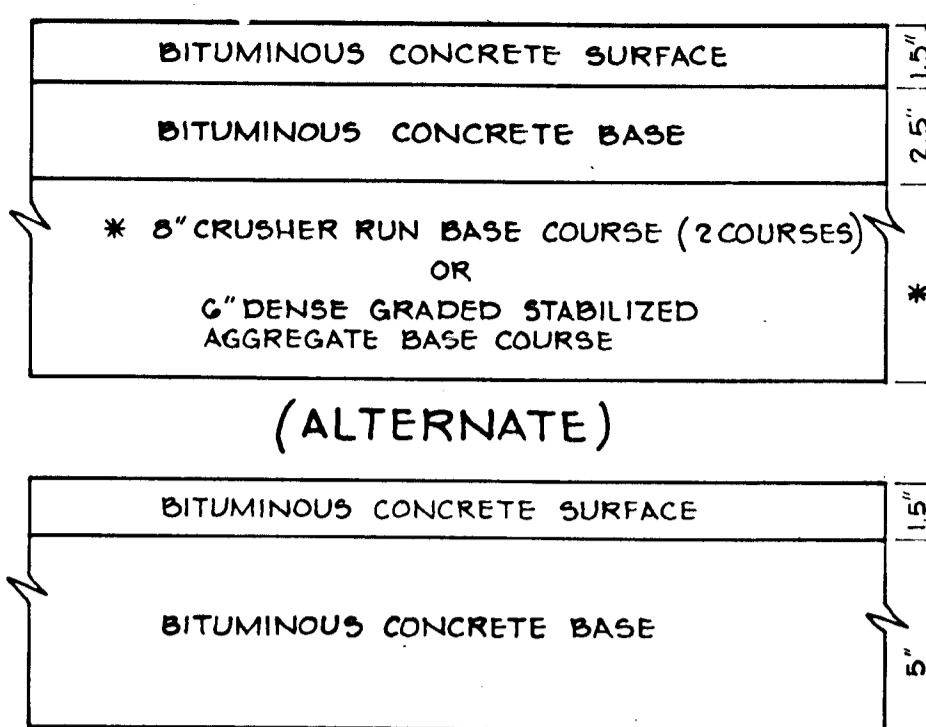
CLASS 'A' CONCRETE  
SIDEWALK DETAIL  
NO SCALE



NOTE:  
ALL STREET LIGHT FIXTURES TO  
BE 175 WATT MERCURY VAPOR  
TYPE 14" HIGH AND 19" SHOWN  
ON THE PLAN AS \*\*

GREY FIBERGLASS POLE

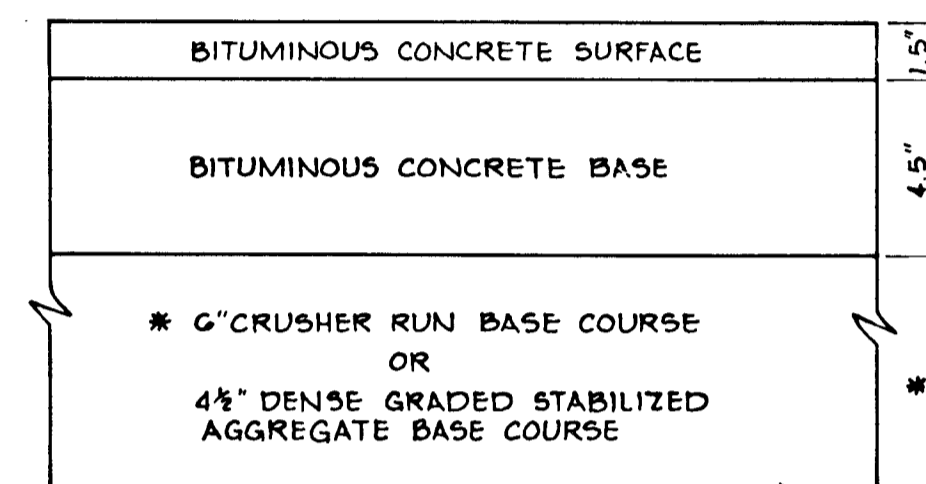
DETAIL - LIGHTING FIXTURE  
NO SCALE



(ALTERNATE)

HOWARD COUNTY DESIGN MANUAL VOLUME IV  
STANDARD SPECIFICATIONS AND DETAILS FOR  
CONSTRUCTION (DRAWING R-2.01)

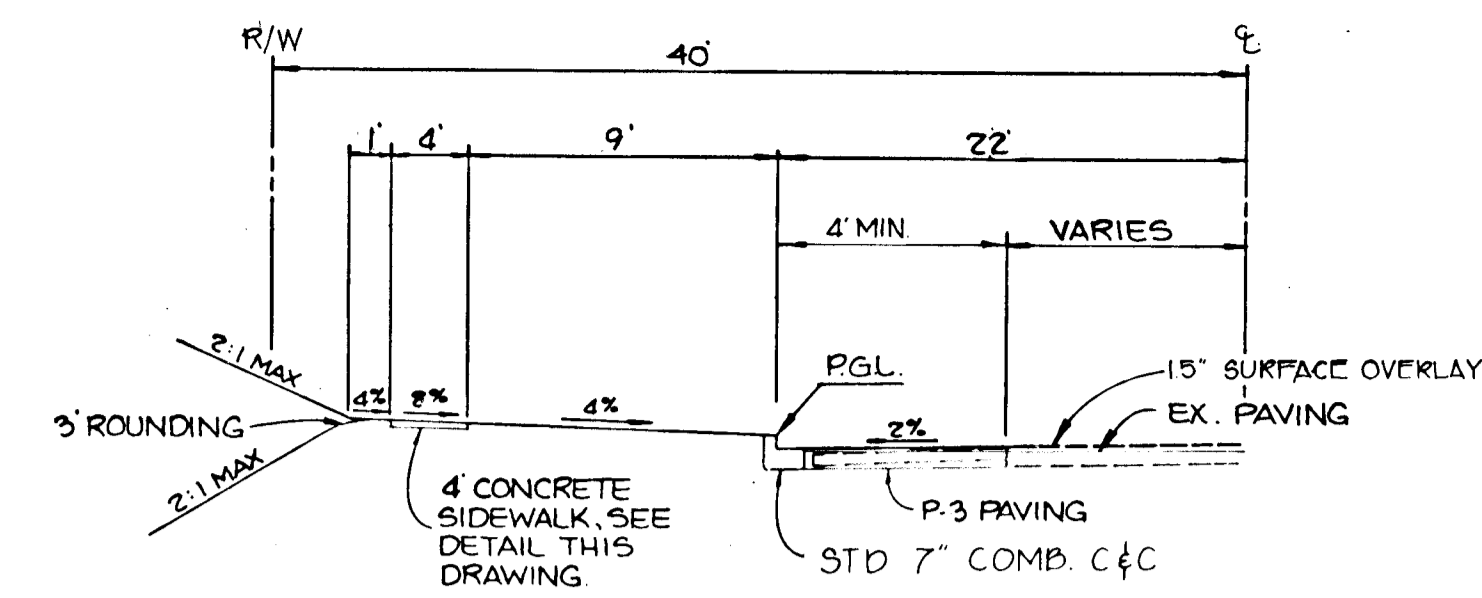
6 1/2" PAVING, P-2  
CORONET COURT  
JESTER COURT



(ALTERNATE)

HOWARD COUNTY DESIGN MANUAL VOLUME IV  
STANDARD SPECIFICATIONS AND DETAILS FOR  
CONSTRUCTION (DRAWING R-2.01)

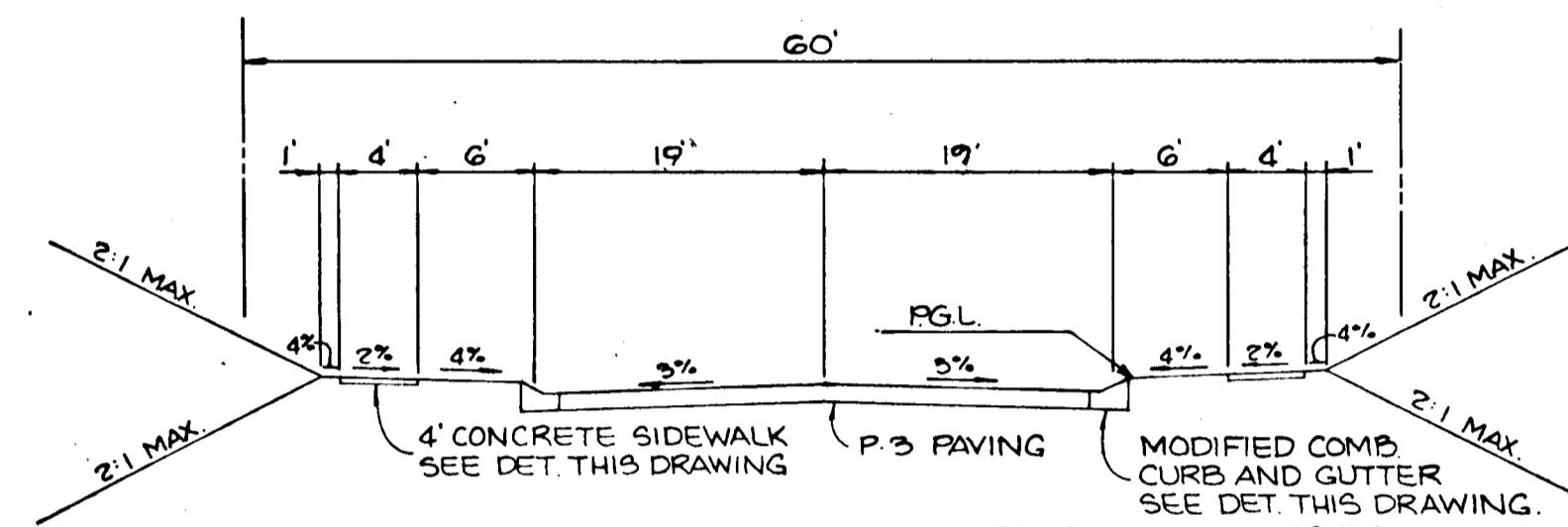
8" PAVING, P-3  
WHISKEY BOTTOM ROAD  
STEPHENS ROAD  
MILADY WAY



WHISKEY BOTTOM ROAD STA 3+41.80 TO 3+78.08  
STEPHENS ROAD STA 0+22.75 TO 4+64.31

CLASSIFICATION: MAJOR COLLECTOR  
DESIGN SPEED: 40 MPH  
ZONING: R5C

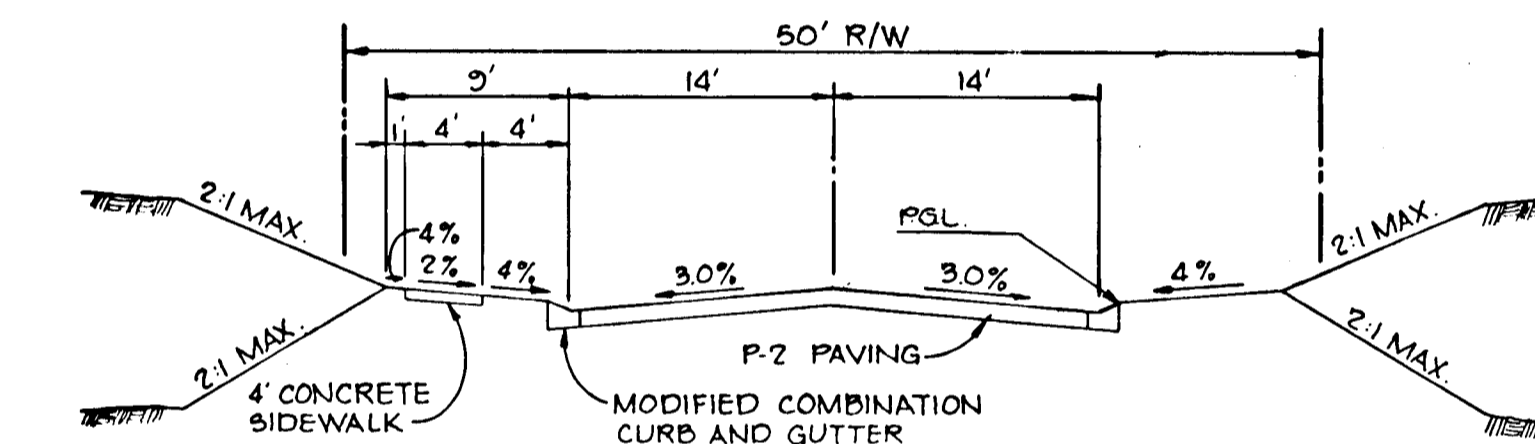
TYPICAL HALF SECTION  
NO SCALE



MILADY WAY: STA 0+36.67 TO STA 6+22.54

CLASSIFICATION: MINOR COLLECTOR  
DESIGN SPEED: 35 MPH  
ZONING: R5C

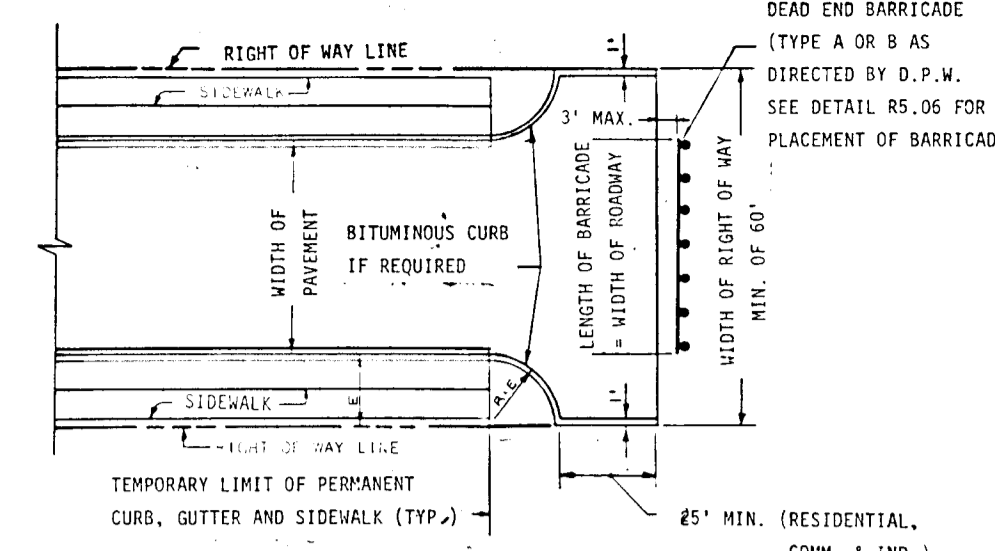
TYPICAL SECTION  
NO SCALE



CORONET COURT STA 0+44 TO STA 2+78.04  
JESTER COURT STA 0+44 TO STA 1+66.00

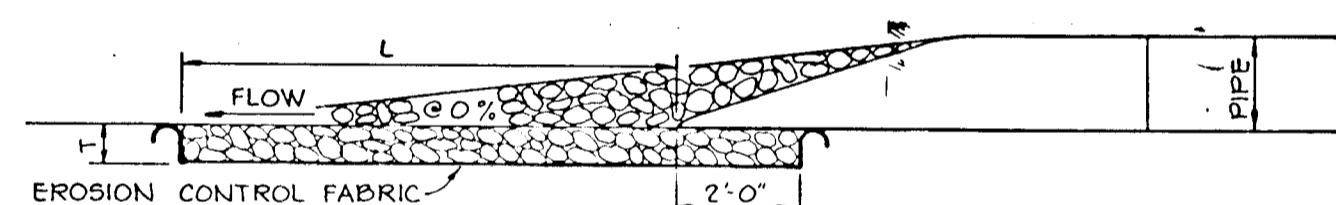
CLASSIFICATION: CUL-DE-SAC  
DESIGN SPEED: 25 MPH  
ZONING: R5C

TYPICAL SECTION  
NO SCALE

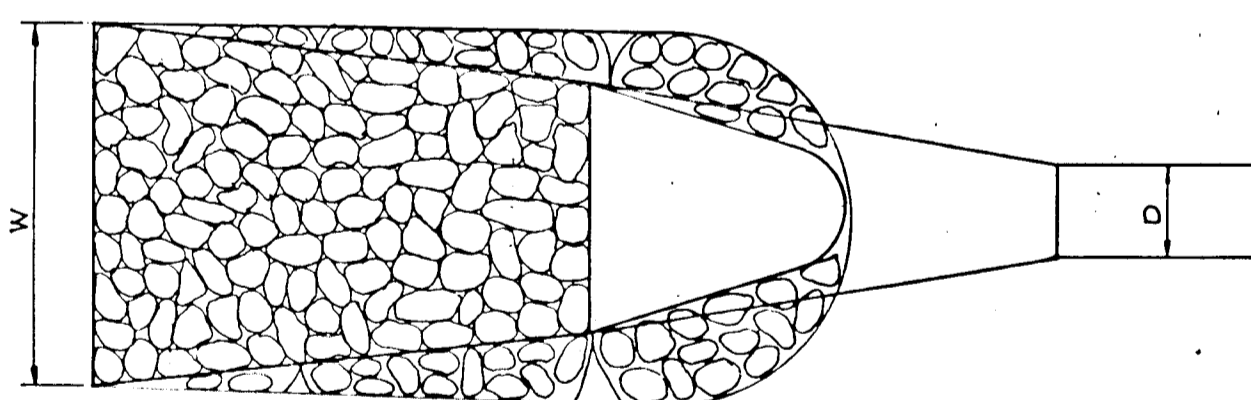


- NOTES:
1. A TEE TURN-AROUND SHALL BE USED IN LIEU OF A CUL-DE-SAC ONLY IF THE STREET IS TO BE EXTENDED IN THE FUTURE.
  2. BITUMINOUS CURB SHALL EXTEND AROUND THE TEE TURN-AROUND IF AND AS REQUIRED TO CONTROL CURB DRAINAGE FROM THE ROADWAY SECTION.
  3. REFER TO STANDARD R-5.06 FOR TYPICAL ROADWAY PROFILE OF TEMPORARY LIMIT OF PAVING.
  4. FOR LOCAL ROADS, PROVIDE 5' REVERTIBLE EASEMENT EACH END OF THE TEE.
  5. PROVIDE EASEMENTS AS REQUIRED FOR PLACEMENT OF BARRICADE AND ANY NECESSARY GRADING (SEE DETAIL R5.06)

TEMPORARY TEE TURN-AROUND  
NO SCALE



SECTION



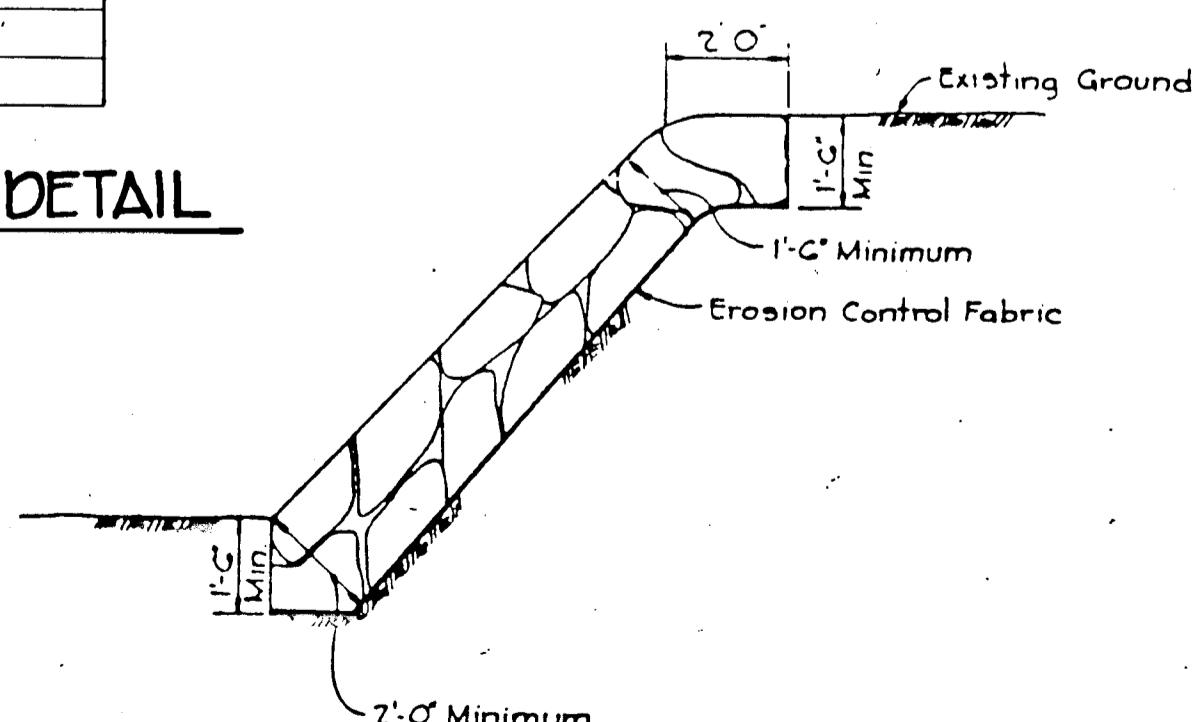
PLAN

STRUCTURE	d - 50	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.5'	10	10	1.15'
E-3	0.5'	10	10	1.15'
E-4	0.5'	8	10	1.15'

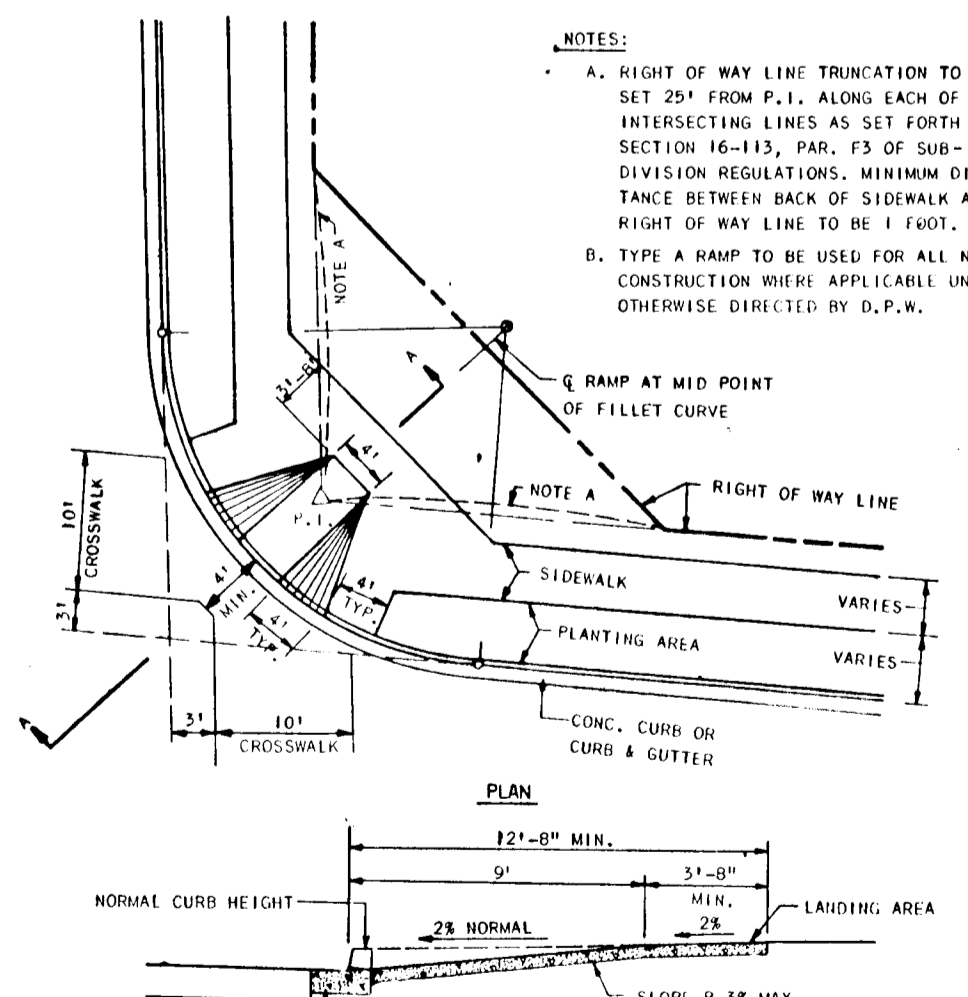
RIP RAP OUTLET PROTECTION DETAIL  
NO SCALE

Note:  
Erosion Control Fabric shall be as  
manufactured by Carthage Mills, Inc.  
Erosion Control Division, 124 W. 66th  
Street Cincinnati, Ohio or approved equal.

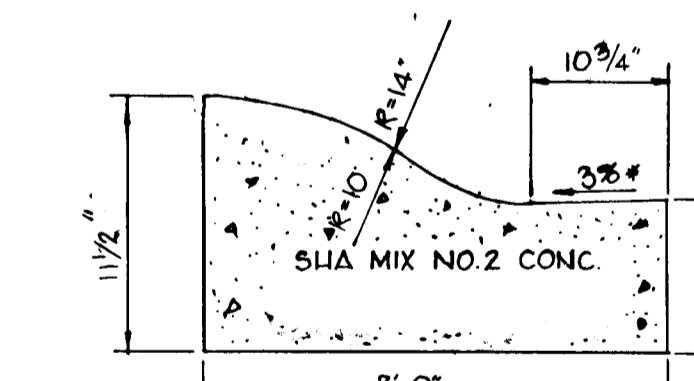
Rip Rap to consist of dense racks of  
random shapes and sizes, resistant to  
the action of air and water and  
suitable for bank protection.



SLOPE PROTECTION  
NO SCALE



SIDEWALK RAMP DETAIL  
NO SCALE



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD  
SPECIFICATIONS AND DETAILS FOR CONSTRUCTION  
(DRAWING R-3.01)

MODIFIED COMBINATION  
CURB AND GUTTER  
NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Donald J. Seaman* 3/14/89 DATE  
CHIEF, LAND DEVELOPMENT DIVISION

*Draville W. Wadland* 3/15/89 DATE  
CHIEF, BUREAU OF HIGHWAYS

*Andrew M. Gault* 3/22/89 DATE  
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

*Mark S. Langley* 3/22/89 DATE  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

NO. DATE REVISION

TRACY, SCHULTE & ASSOCIATES INC.  
planning • architecture • engineering

8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

OWNER: SECURITY DEVELOPMENT CORP.  
8480 BALTIMORE NATIONAL PIKE  
SUITE 415  
ELLCOTT CITY, MARYLAND 21043

PROJECT: KING'S WOODS  
SECTION 2 AREA 1  
LOTS 198 THRU 179

LOCATION: TAX MAP NO 47  
PARCEL 138  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: DETAILS

5-86-36  
DATE: JULY 22, 1988  
NOVEMBER 18, 1988

DES: COT DRN: CR5

SCALE: AS SHOWN DRAWING 4 OF 8

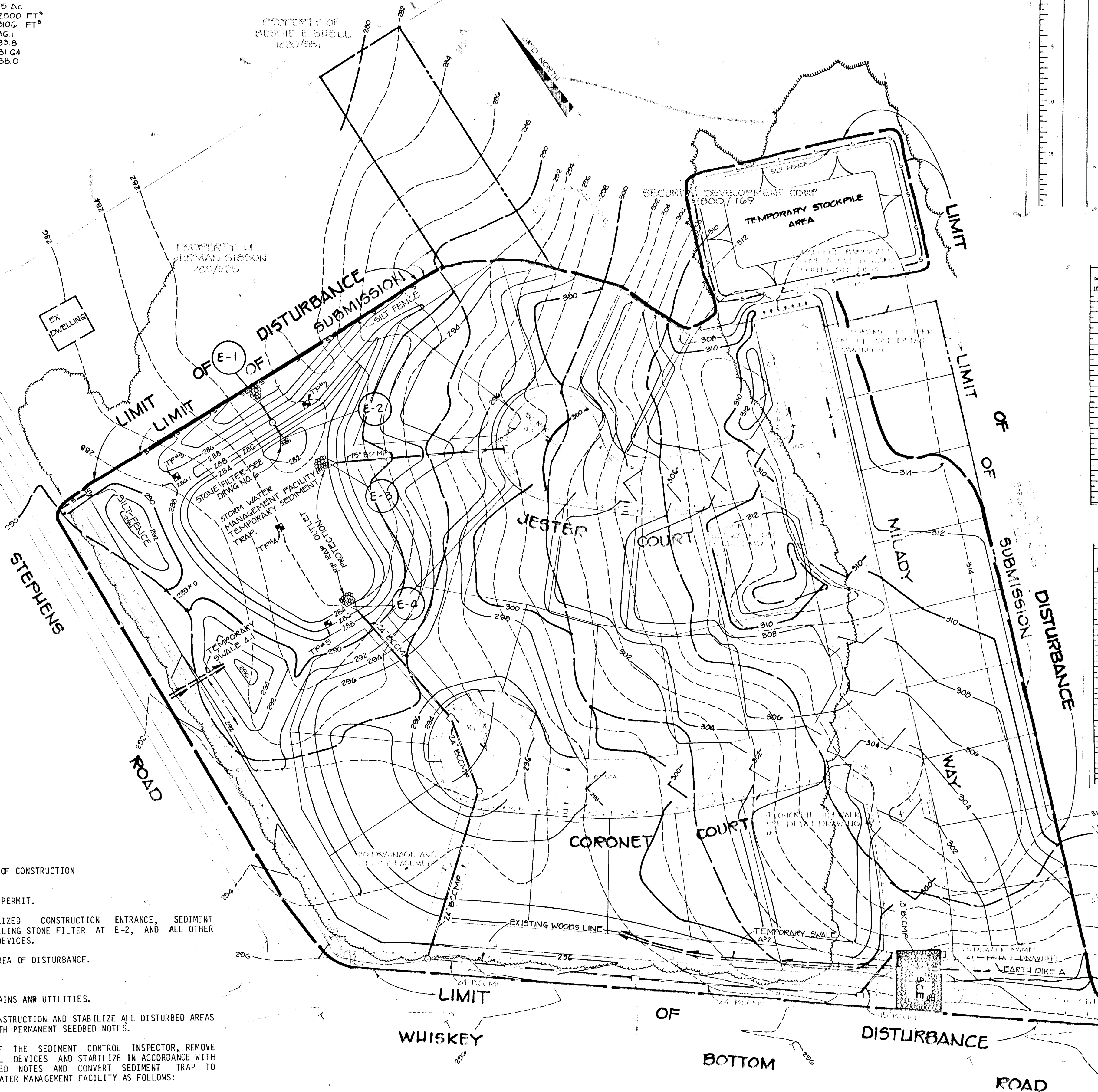


**STONE FILTER SEDIMENT TRAP DATA**

DRAINAGE AREA 12.5 Ac  
 VOLUME REQUIRED 22500 FT<sup>3</sup>  
 VOLUME PROVIDED 33000 FT<sup>3</sup>  
 CREST ELEVATION 286.1  
 CLEANOUT ELEVATION 285.8  
 BOTTOM ELEVATION 281.64  
 TOP ELEVATION 288.0

PROPERTY OF  
BOGHE E SHELL  
12/20/85

PROPERTY OF  
LURMAN GIBSON  
7/29/85



**SEQUENCE OF CONSTRUCTION**

- DAY 1 1. OBTAIN A GRADING PERMIT.
- DAY 2-7 2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SEDIMENT TRAP/SWMP, INSTALLING STONE FILTER AT E-2, AND ALL OTHER EROSION CONTROL DEVICES.
- DAY 7-14 3. CLEAR AND GRUB AREA OF DISTURBANCE.
- DAY 14-21 4. GRADE ROADWAYS.
- DAY 22-36 5. INSTALL STORM DRAINS AND UTILITIES.
- DAY 37-44 6. COMPLETE ROAD CONSTRUCTION AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.
- DAY 45- 7. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES AND CONVERT SEDIMENT TRAP TO PERMANENT STORMWATER MANAGEMENT FACILITY AS FOLLOWS:
  - A) DEWATER BASIN BY PUMPING INTO A SEDIMENT TRAP OR WELL STABILIZED VEGETATED AREA AS DIRECTED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
  - B) REMOVE SILT AND STONE FILTER AND RESTORE POND TO ORIGINAL DIMENSIONS. STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.
  - C) REMOVED SILT SHALL BE SPREAD ACROSS THE AREA DIRECTLY SOUTH OF THE POND AND SEEDED IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.

NOTE: POND IS HAZARD CLASS 'A'. DOWNSTREAM DAMAGE WILL BE MINIMAL IN THE EVENT OF DAM FAILURE.

Depth (feet)	Sample #	Description of Materials	Remarks
1.0		Top Soil and Root Zone	
1.0 - 3.0		Brown, moist to wet, silty fine sand (S1), trace fine gravel	
3.0		Brown, grey, wet, silty fine sand (S1) trace to little fine gravel	High Water Level 3 ft to 5 ft.
7.0 - 9.0		Boulder Rock	
10.0		Brown, grey, moist, silty fine sand (S1), trace clay	
13.0		Bottom of Test Pit 13.0 ft	
15.0		Bottom of Test Pit 15.0 ft	

T.P-1

Depth (feet)	Sample #	Description of Materials	Remarks
1.0		Top Soil and Root Zone	
2.0		Brown, red, moist silty fine sand (S1) trace to little fine sand	
4.0		Brown, grey, moist, clayey silt (C1)	Bag Sample 4.0 - 9.0 ft. Little Fine Sand
5.0		Brown, grey, moist, silty fine sand (S1)	
13.0		Bottom of Test Pit 13.0 ft	
15.0		Bottom of Test Pit 15.0 ft	

T.P-2

Depth (feet)	Sample #	Description of Materials	Remarks
1.0		Top Soil and Root Zone	
2.0		Brown, red, moist silty fine sand (S1) trace to little fine sand	
4.0		Brown, grey, moist, clayey silt (C1)	Bag Sample 4.0 - 9.0 ft. Little Fine Sand
5.0		Brown, grey, moist, silty fine sand (S1)	
13.0		Bottom of Test Pit 13.0 ft	
15.0		Bottom of Test Pit 15.0 ft	

T.P-3

**TEST PIT DATA**  
NOT TO SCALE

Depth (feet)	Sample #	Description of Materials	Remarks
1.0		Top Soil and Root Zone	
4.0		Brown, moist to wet, silty fine sand (S1), trace fine gravel	
6.0		Brown, wet silty fine sand (S1), trace fine gravel, trace boulder rock	High Water Level 4 ft to 5 ft.
6.0		Brown, green, moist, clayey silt (C1)	Bag Sample 6.0 - 13.0 ft.
13.0		Bottom of Test Pit 13.0 ft	

T.P-4

Depth (feet)	Sample #	Description of Materials	Remarks
1.0		Top Soil and Root Zone	
1.0		Brown, moist, silty fine sand (S1)	Bag Sample 1.0 - 4.5 ft.
4.5		Brown, wet, fine to coarse sand (S1) little fine to medium gravel	Bag Sample 4.5 - 6.0 ft.
6.0		Brown, tan, moist, silty fine sand (S1)	Bag Sample 6.0 - 11.0 ft.
11.0		High Water Level 4.5 ft to 6.0 ft.	
12.0		Boulder size rock 11.0-12.0 ft.	
12.0		Bottom of Test Pit 12.0 ft	

T.P-5

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  
 ENGINEER - JAMES K. TRACY #5566 11-29-88

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. I ALSO AUTHORIZE PERIODIC IN-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 James R. Moxley, Jr.  
 DEVELOPER - JAMES R. MOXLEY, JR. #5566 11-29-88  
 SECURITY DEVELOPMENT CORPORATION - PRESIDENT

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 R. Moxley, Jr.  
 U.S. SOIL CONSERVATION SERVICE 12-2-88  
 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Robert W. Ziehm  
 HOWARD S.C.D. 12-2-88  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Paul J. Seaman 3/14/89  
 Draville W. Williams 3/15/89  
 Andrew M. Dancho 3/22/89  
 Howard County Office of Planning and Zoning  
 Mark S. Ziegler 3/22/89

TRACY, SCHULTZ & ASSOCIATES INC.  
 planning • architecture • engineering  
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 411-4100

OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP. 8480 BALTIMORE NATIONAL PIKE SUITE 415 ELlicOTT CITY, MARYLAND 21043

PROJECT: KING'S WOODS SECTION 7, AREA 1 LOT 138 AND 175

LOCATION: 138 AND 175 EAS. E. 138 S. EAS. E. 175 S. HOWARD COUNTY, MARYLAND

TITLE: GRADING AND SEDIMENT CONTROL PLAN

DATE: JULY 22, 1988  
 NOVEMBER 18, 1988

SCALE: DRAWING 5

987



**PERMANENT SEEDBED PREPARATION**

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq ft) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM FERTILIZER (9 lbs/1000 sq ft).
- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq 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 PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 80 LBS PER ACRE (1.4 lbs/1000 sq ft) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 lbs/1000 sq ft) OF KEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 26, PROJECT SITE 91: 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 OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 lbs/1000 sq ft) OF UNSORTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 GALLONS PER ACRE (5 gal/1000 sq ft) OF QUALIFIED ASPHALT ON FLAT AREAS. ON SLOPES 4 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 gal/1000 sq ft) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDBED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**TEMPORARY SEEDBED PREPARATION**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RESTORED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft).

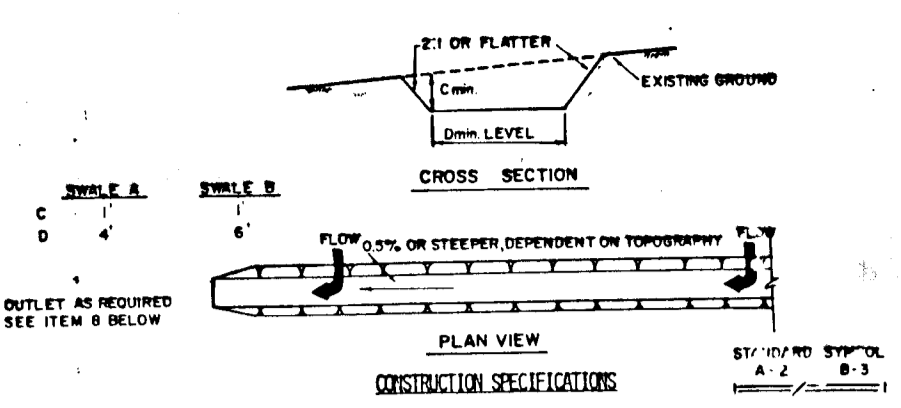
SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (13.2 lbs/1000 sq ft). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF KEEPING LOVEGRASS (1.07 lbs/1000 sq ft). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 26, PROJECT 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 UNSORTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 GALLONS PER ACRE (5 gal/1000 sq ft) OF QUALIFIED ASPHALT ON FLAT AREAS. ON SLOPES 4 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 gal/1000 sq ft) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

**SEDIMENT CONTROL NOTES**

- 1) A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (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 REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERMANENT 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 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 (1983 MARYLAND STANDARDS (ENR-51) AND (ENR-54), TEMPORARY STABILIZATION (ENR-52) AND (ENR-53). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE USED 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 PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7) SITE ANALYSIS:
  - TOTAL AREA OF SITE: 10.02 ACRES
  - AREA DISTURBED: 10.02 ACRES
  - AREA TO BE RESTORED OR PAVED: 1.70 ACRES
  - AREA TO BE VEGETATIVELY STABILIZED: 8.32 ACRES
  - TOTAL CUT: 24,970 CU. YDS.
  - TOTAL FILL: 24,970 CU. YDS.
  - OPPOSITE WASTE/STORM AREA LOCATION: ADJACENT PROPERTY - SEE PLAN
- 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 CONTROL MEASURES BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10) ALL SEDIMENT TRAPS 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.

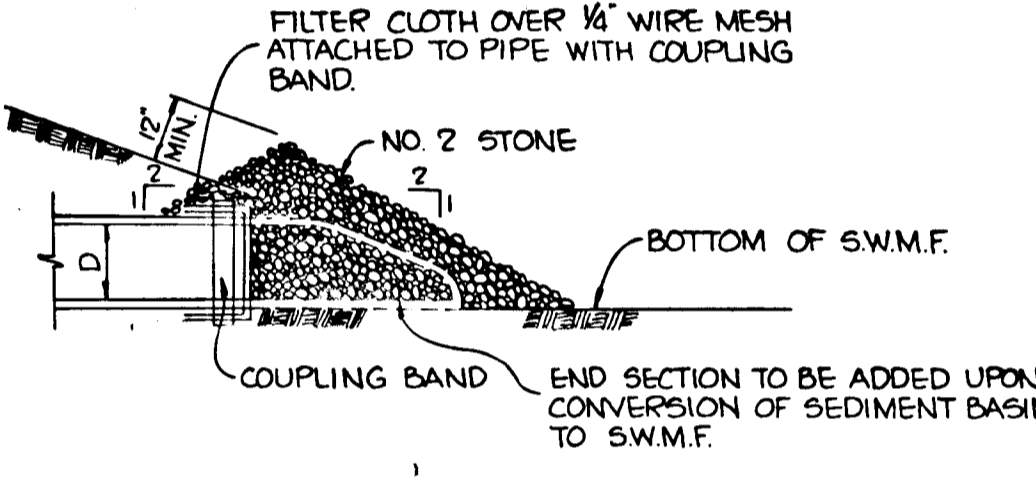


**TEMPORARY SWALE**

NO SCALE

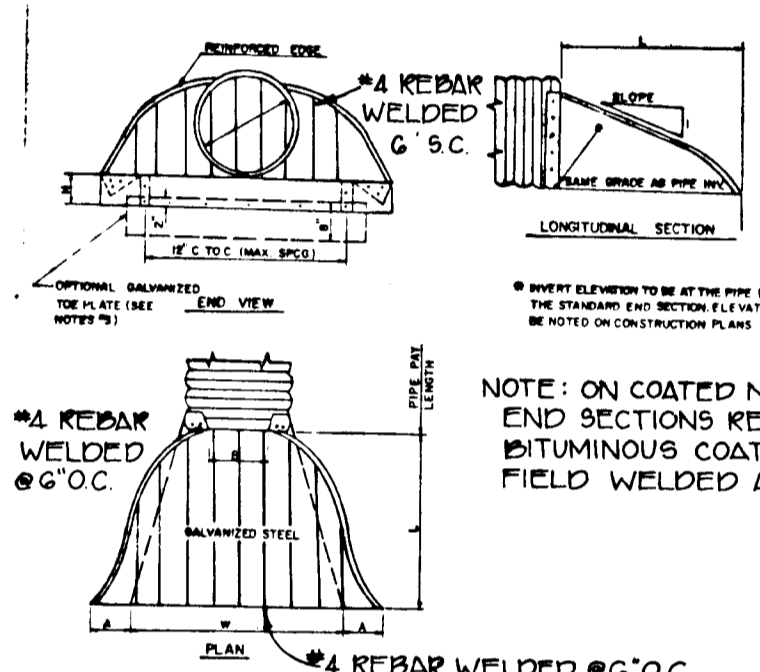
1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL 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.
5. THE SWALE SHALL BE LOCATED OR SHORED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPAIR NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
7. ALL BANKS ABOVE AND NOT BASED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE CHART BELOW:
 

TYPE OF DISTURBANCE	CHANNEL SIZE	CHANNEL STABILIZATION
1	1-3.0:0	SEED AND STRAW MULCH
2	3.1-5.0:0	SEED AND STRAW MULCH
3	5.1-8.0:0	SEED WITH LIME, OR SOD, OR STONE
4	8.1-20:0	LINED RIP-RAP 4'-8"
9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



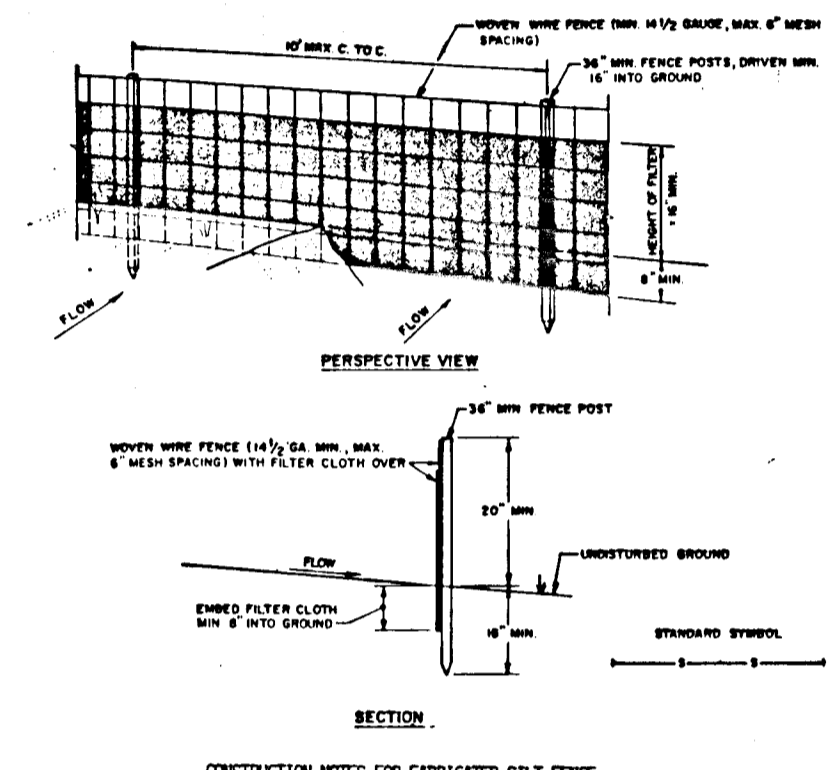
**STONE FILTER @ E-2**

NO SCALE



**TRASH RACK DETAIL**

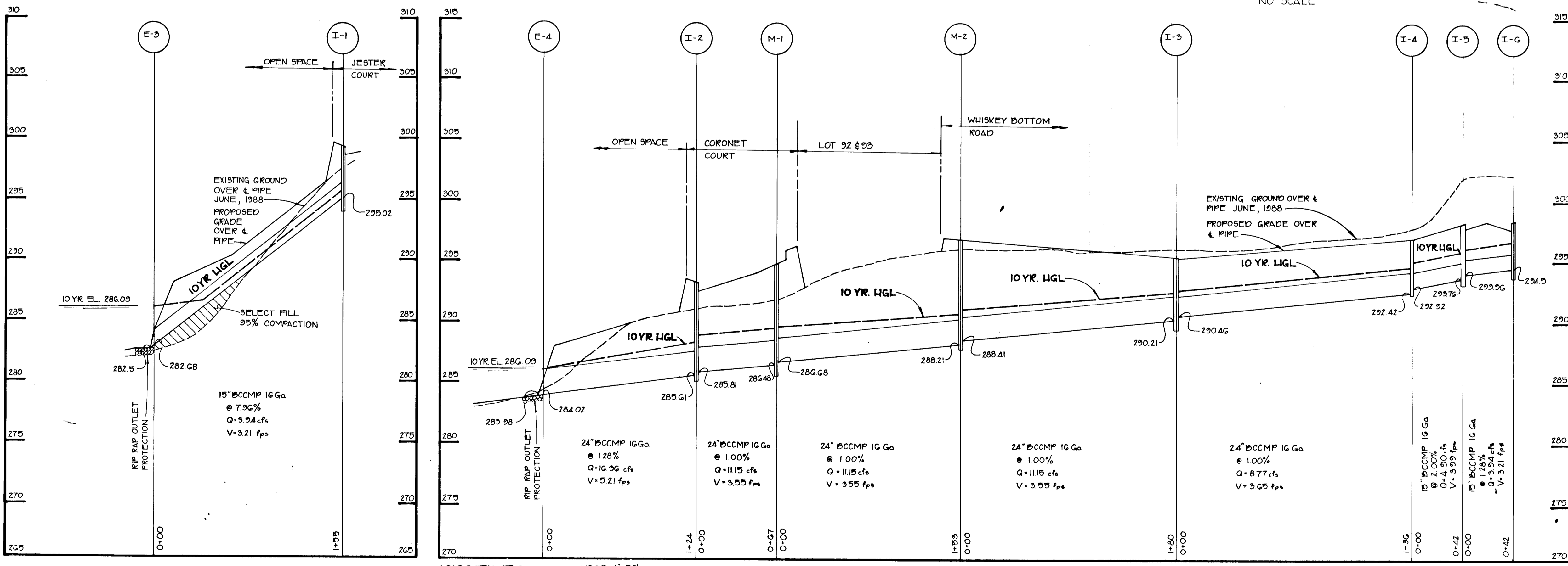
NO SCALE



**SILT FENCE**

NO SCALE

1. WOODEN FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOODEN FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "MOUNDS" DEVELOP IN THE SILT FENCE.



**PROFILES**

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

**EARTH DIKE**

NO SCALE

**STABILIZED CONSTRUCTION ENTRANCE**

NO SCALE

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."  
 ENGINEER: JAMES K. TRACY  
 DATE: 11-17-88

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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 DEVELOPER: JAMES B. MILBY, JR.  
 DATE: 11-17-88

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
 U.S. SOIL CONSERVATION SERVICE  
 DATE: 12-2-88

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 APPROVED: Robert Zichem  
 HOWARD S.C.D.  
 DATE: 12-8-88

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIVISION: LAND DEVELOPMENT DIVISION  
 DATE: 3/14/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
 DIVISION: DIVISION OF COMMUNITY PLANNING AND DEVELOPMENT  
 DATE: 3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
 DIVISION: DIVISION OF COMMUNITY PLANNING AND DEVELOPMENT  
 DATE: 3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
 DIVISION: DIVISION OF COMMUNITY PLANNING AND DEVELOPMENT  
 DATE: 3/22/89

NO DATE REVISION

**TRACY, SCHULTE & ASSOCIATES INC.**  
 planning • architecture • engineering  
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

OWNER / DEVELOPER	PROJECT
SECURITY DEVELOPMENT CORP 8480 BALTIMORE NATIONAL PIKE SUITE 015 ELICOTT CITY, MARYLAND 21043	KING'S WOODS SECTION 2 AREA 1 LOTS 198 THRU 173
LOCATION	TITLE
TAX MAP NO 47 PARCEL 198 6" ELECTION DISTRICT HOWARD COUNTY, MARYLAND	STORM DRAIN PROFILES AND SEDIMENT CONTROL NOTES & DETAILS
DATE	PROJECT NO
JULY 22, 1988 NOVEMBER 18, 1988	0014 K9D
SCALE AS SHOWN	DRAWING
	G OF 8



I. SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on 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 and below 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.

II. EARTH FILL

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize 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 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.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

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 as shown on the drawings, 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.

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 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 equipment be driven 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

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Rexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-791 with watertight coupling bands or flanges.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Coupling bands, anti-seep collars, end sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.

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

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 laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

B. Reinforced Concrete Pipe

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

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3", or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.

4. Backfilling shall conform to structural backfill as shown above.

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

1. Materials

- a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.
- b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
- c. 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.
- d. 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.
- e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-3/4 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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.

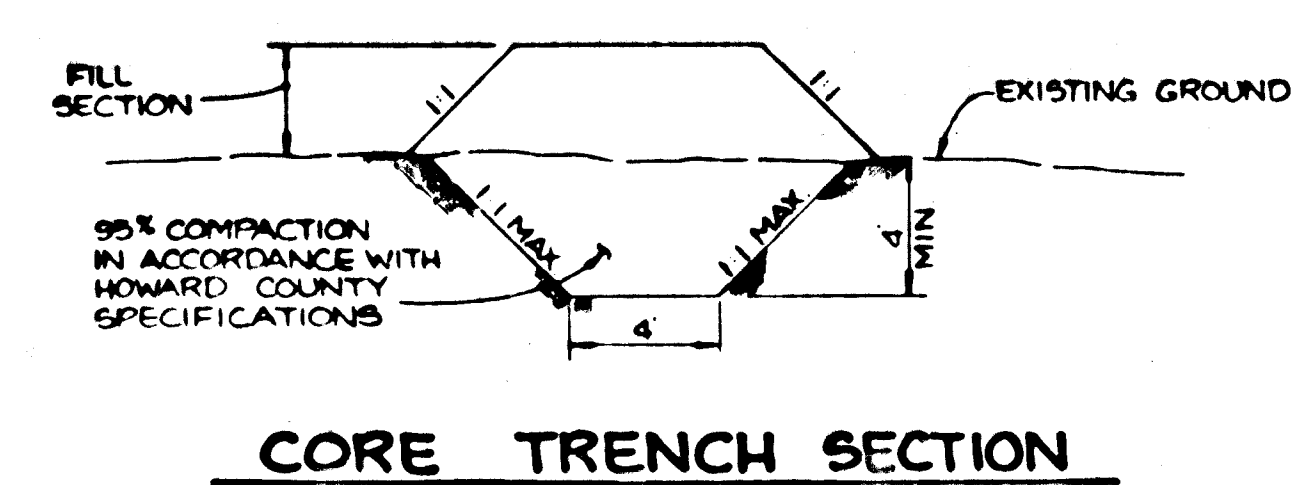
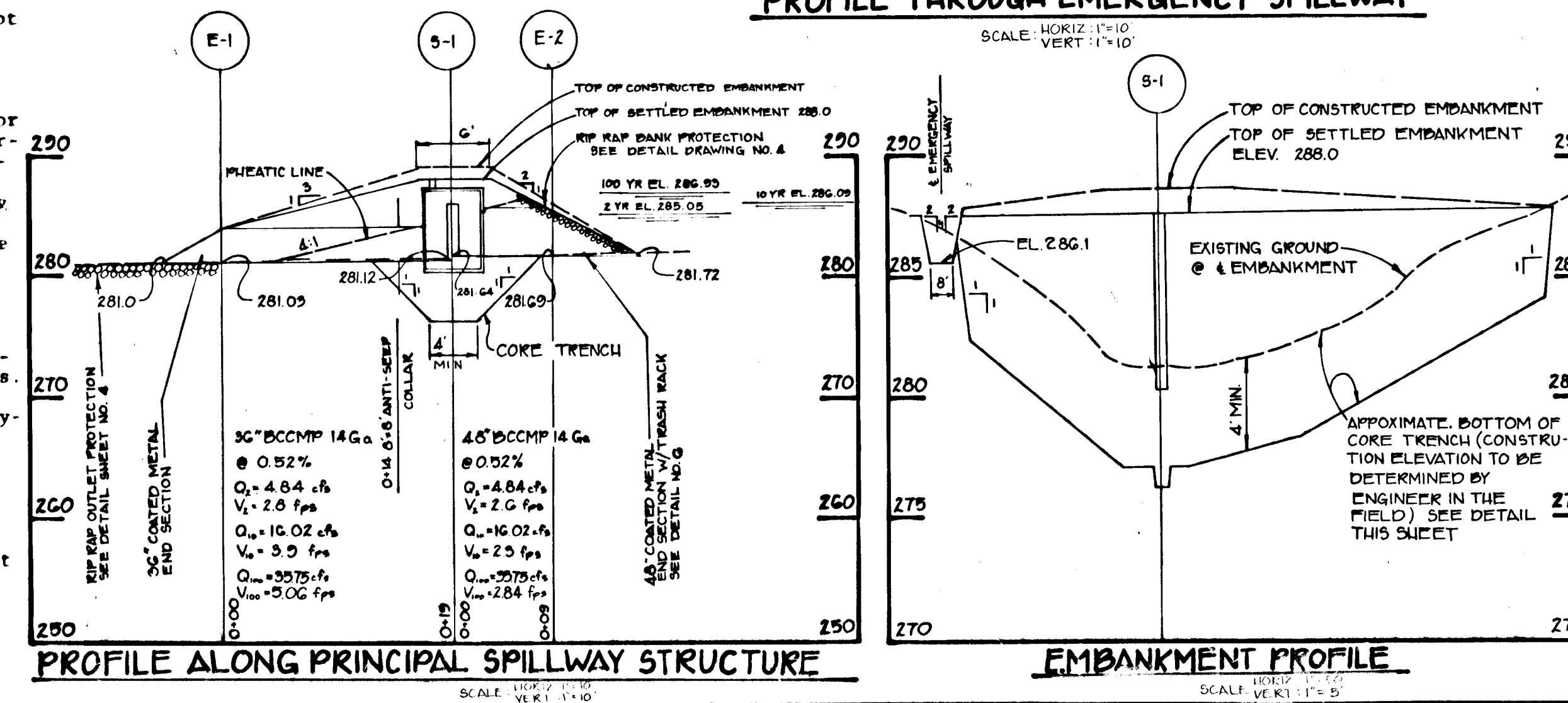
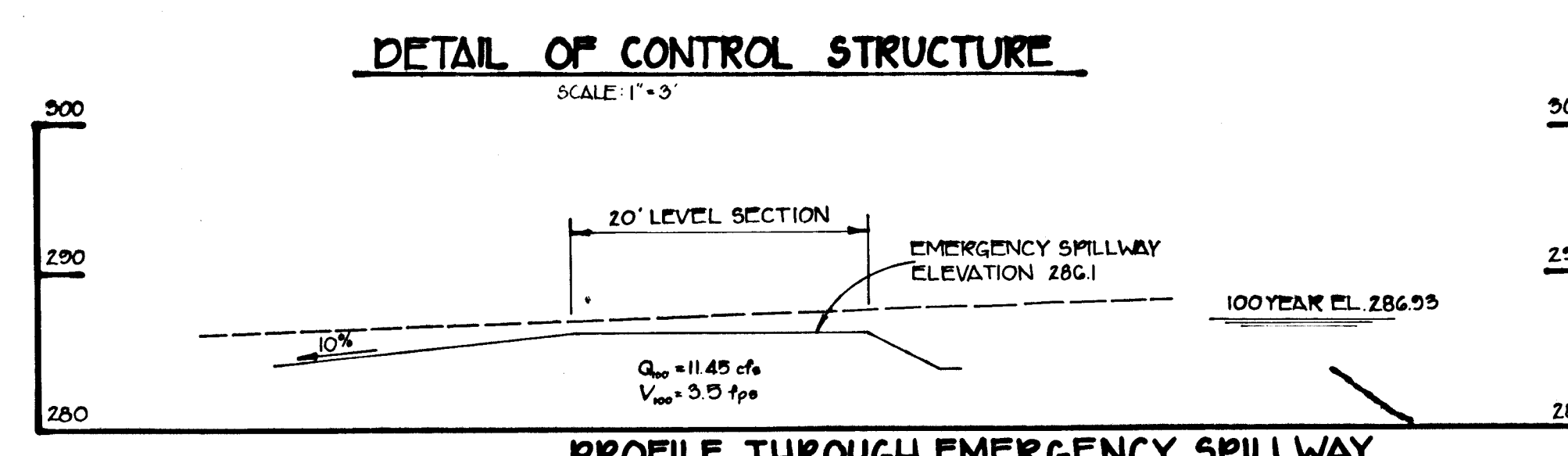
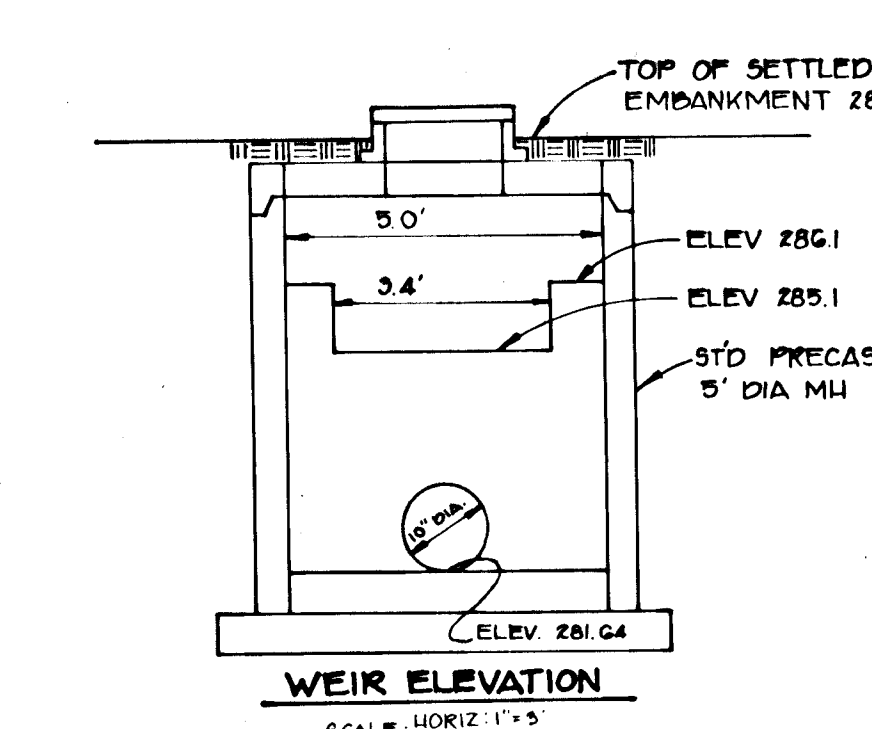
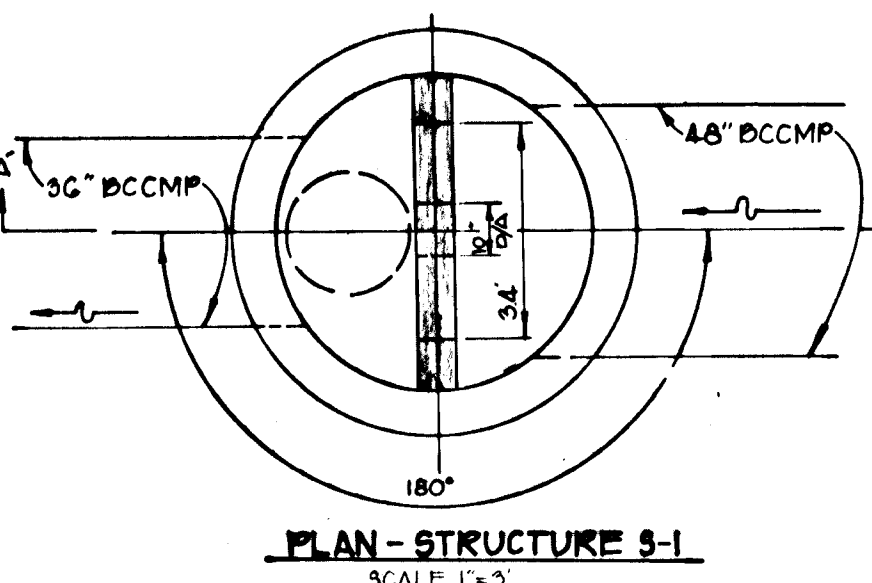
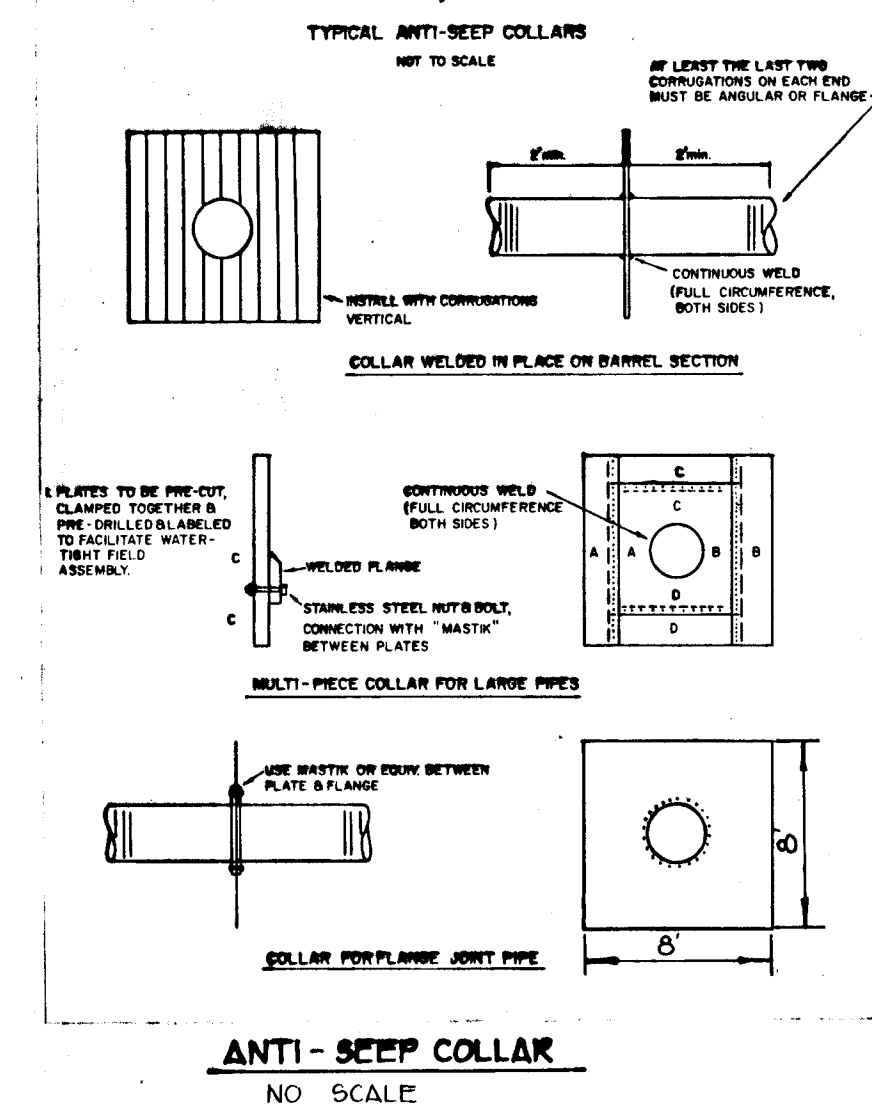
9. Placing Temperature - Concrete may not be placed at temperatures below 37°F with the temperature falling, or 34° with the temperature rising.

VI. STABILIZATION

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

VII. EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.



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  
 ENGINEER: JAMES K. TRACY \*05660  
 11-17-88  
 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 James H. Murphy Jr.  
 11-17-88  
 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.  
 J. H. Helm  
 U.S. SOIL CONSERVATION SERVICE  
 12-2-88  
 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Robert J. Ziehm  
 HOWARD S.C.D.  
 12-2-88  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 James K. Tracy  
 CHIEF, LAND DEVELOPMENT DIVISION  
 3/14/89  
 DATE  
 Draville W. Williams  
 CHIEF, BUREAU OF HIGHWAYS  
 3/15/89  
 DATE  
 Charles M. Drake  
 CHIEF, BUREAU OF ENGINEERING  
 3/22/89  
 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
 James K. Tracy  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 3-22-89  
 DATE  
 NO DATE REVISION

TRACY, SCHULTE & ASSOCIATES INC.  
 planning • architecture • engineering  
 8480 Baltimore National Pike • Suite 415 • Ellicott City, Maryland 21043 • (301) 465-6105  
 James K. Tracy  
 PROFESSIONAL ENGINEER

OWNER / DEVELOPER: SECURITY DEVELOPMENT CORP. 8480 BALTIMORE NATIONAL PIKE SUITE 415 ELLICOTT CITY, MARYLAND 21043  
 PROJECT: KING'S WOODS SECTION 2 AREA 1 LOTS 158 TURKU 173  
 LOCATION: TAX MAP NO. 47 PARCEL 158 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TITLE: STORM WATER MANAGEMENT SPECIFICATIONS AND DETAILS  
 DATE: JULY 22, 1988 PROJECT NO. 0014 R3D  
 NOVEMBER 10, 1988  
 DES: JKT DRN: KLN SCALE: AS SHOWN DRAWING: 7 OF 8



