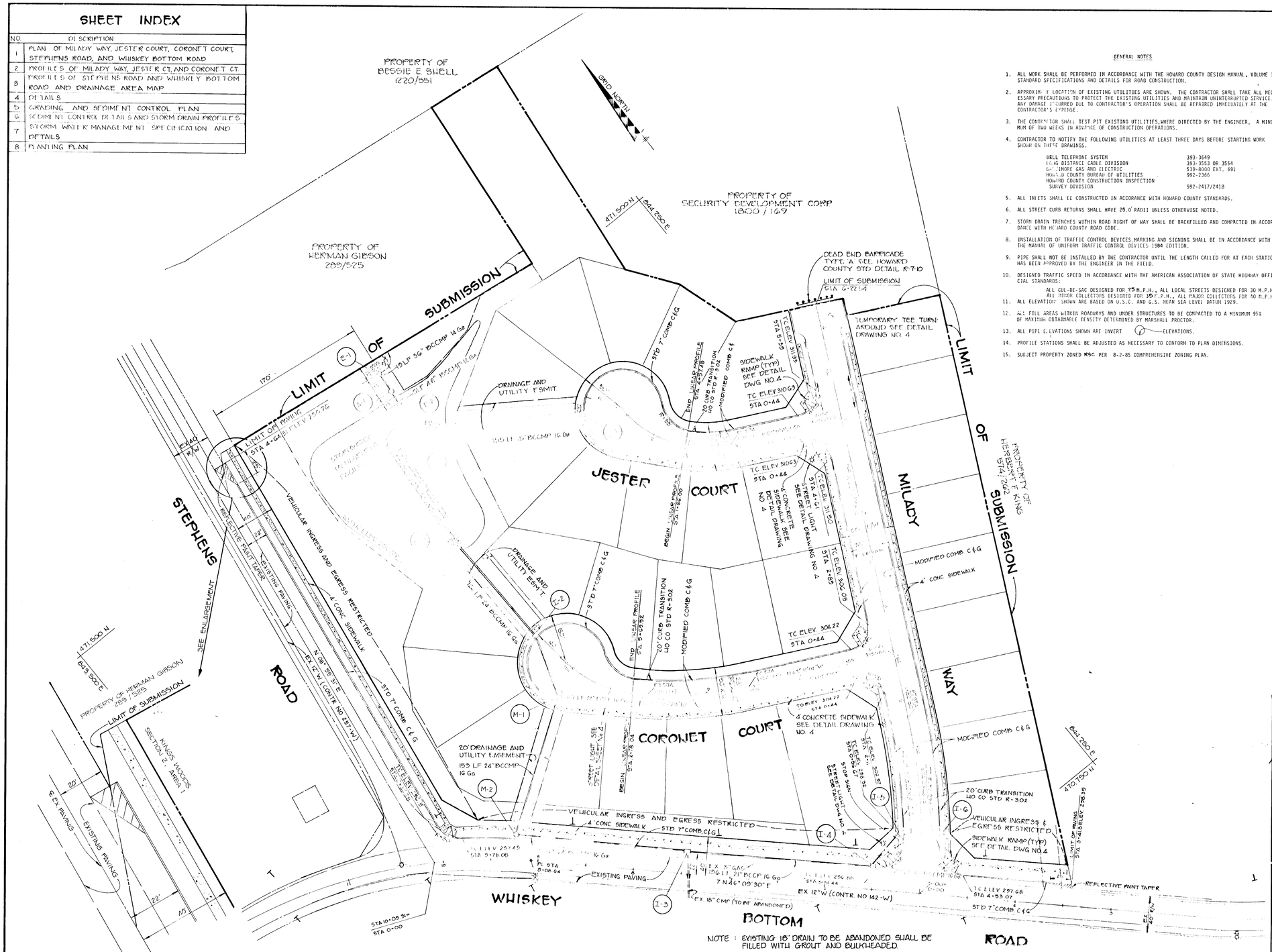
SHEET INDEX

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
4	DETAILS
5	GRADING AND SEDIMENT CONTROL PLAN
6	SEDIMENT CONTROL DETAILS AND STORM DRAIN PROFILES
7	STORM WATER MANAGEMENT SPECIFICATION AND DETAILS
8	PLANTING PLAN



ENLARGEMENT

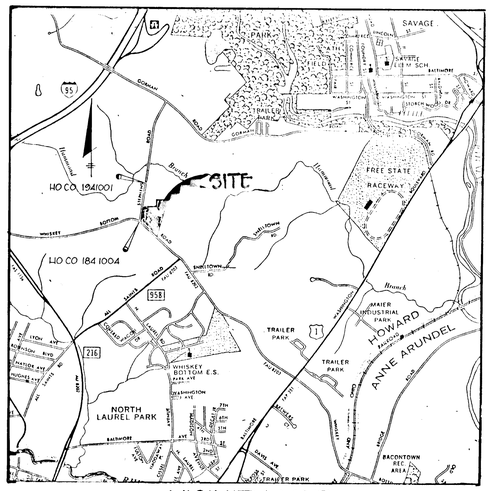
SCALE 1"=20'

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR ROAD CONSTRUCTION.
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 THREE 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	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 ACCORANCE WITH HOWARD COUNTY STANDARDS.
6. ALL STREET CURB RETURNS SHALL HAVE 25.0' 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 1984 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 CUL-DE-SAC DESIGNED FOR 25 M.P.H., ALL LOCAL STREETS DESIGNED FOR 30 M.P.H.
    ALL MINOR COLLECTORS DESIGNED FOR 35 M.P.H., ALL MAJOR COLLECTORS FOR 40 M.P.H.
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% OF MAXIMUM OBTAINABLE DENSITY DETERMINED BY MARSHALL PROCTOR.
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 MSC PER 8-2-85 COMPREHENSIVE ZONING PLAN.



VICINITY MAP

SCALE 1"=2000'

BENCH MARKS

1841004 ELEV 295.32
REBAR 6' OFF SOUTH EDGE OF ROAD NEAR THE INTERSECTION OF STEPHENS ROAD AND WHISKEY BOTTOM ROAD
N 471079.018 E 843957.878

1941001 ELEV 277.87
REBAR 4' OFF WEST EDGE OF STEPHENS ROAD IN FRONT OF 8820 STEPHENS ROAD
N 472223.199 E 843957.549

CURVE DATA
WHISKEY BOTTOM ROAD
℄ STA. 9+09.62 TO ℄ STA. 10+09.31
Δ = 11°04'27"
R = 520.87'
L = 100.67'
T = 50.49'
D = 11°00'00"
Chord = N 51°41'43"W, 100.52'

CURVE DATA
MILADY WAY
℄ STA. 0+00 TO ℄ STA. 1+82.30
Δ = 17°21'32"
R = 605.00'
L = 182.30'
T = 92.36'
D = 09°28'18"
Chord = N 85°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 = 53.48'
D = 16°22'18"
Chord = N 54°50'15"W 105.63'

CURVE DATA
CORONET COURT
℄ STA. 2+78.04 TO ℄ STA. 3+47.05
Δ = 36°04'15"
R = 100.62'
L = 63.01'
T = 32.65'
D = 57°16'04"
Chord = N 78°07'22"W 61.88'

CURVE DATA
JESTER COURT
℄ STA. 1+18.00 TO ℄ STA. 1+66.00
Δ = 22°00'06"
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 = 36°04'15"
R = 100.62'
L = 63.01'
T = 32.65'
D = 57°16'04"
Chord = N 28°28'48"W, 61.88'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, DIVISION OF DEVELOPMENT	3/14/89 DATE
CHIEF, BUREAU OF HIGHWAYS	3/15/89 DATE
CHIEF, BUREAU OF ENGINEERING	3/16/89 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 3-31-89 DATE

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
ELLICOTT CITY, MARYLAND 21043

PROJECT **KING'S WOODS**
SECTION 2 AREA 1
LOTS 138 THRU 173

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

TITLE: PLAN OF MILADY WAY, JESTER COURT, CORONET COURT, STEPHENS ROAD AND WHISKEY BOTTOM ROAD

S-88-86 F-88-50

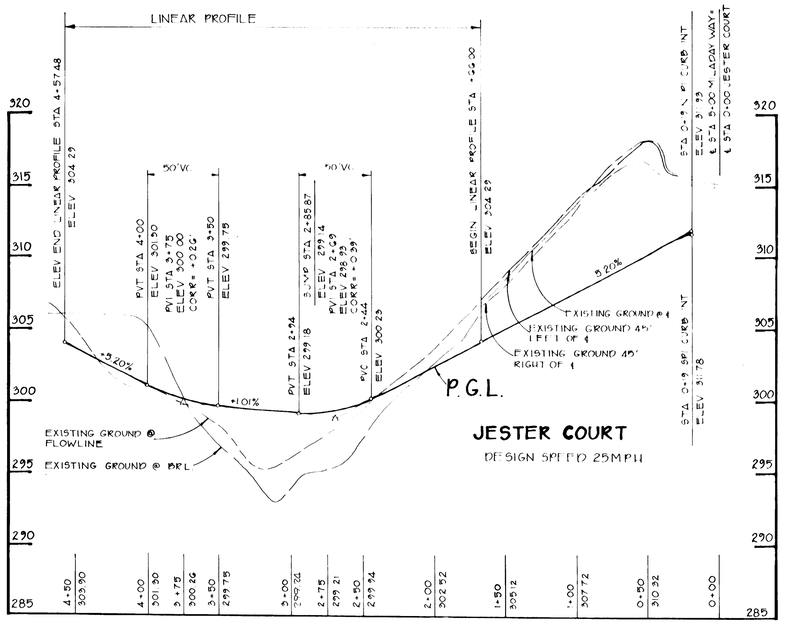
DATE: JULY 22, 1988; NOVEMBER 10, 1988

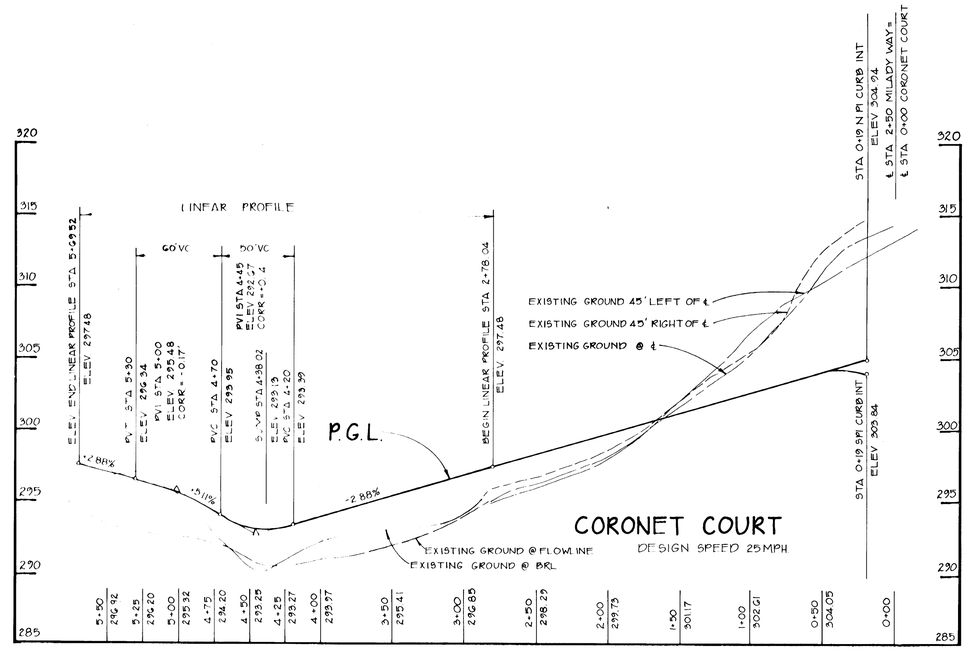
PROJECT NO 0014 R50

DES. DAM | DRN CDT | SCALE 1"=50' | DRAWING 1 OF 8

987

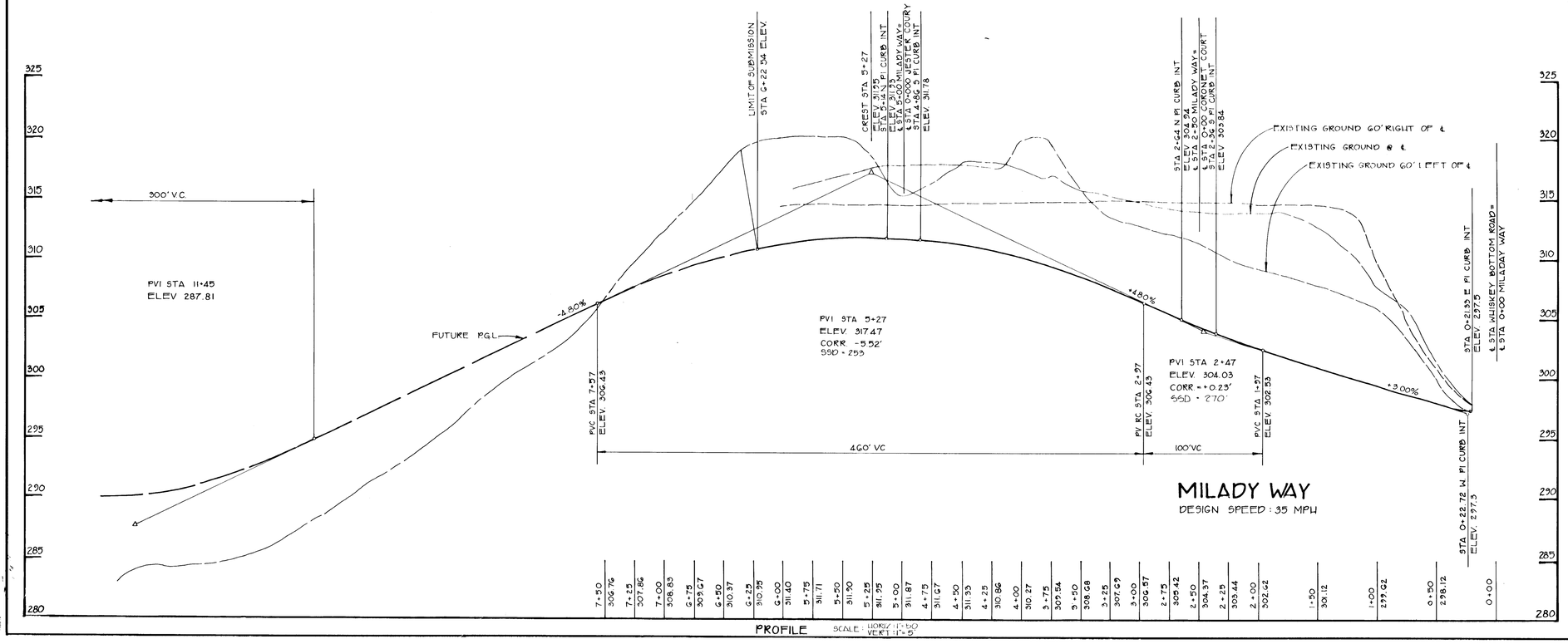
F-89-17





PROFILES

SCALE: HORIZ 1"=50'



PROFILE

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION	DATE 3/12/89
CHIEF, BUREAU OF HIGHWAYS	DATE 3/15/89
CHIEF, BUREAU OF ENGINEERING	DATE 3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE 3-31-89

LRS

NO	DATE	REVISION

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

STATE OF MARYLAND — JAMES K. FRAY — REG. NO. 9844 — 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 187 THRU 193

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

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

DES. DAM	DRN KLN	DATE: JULY 22, 1988 / NOVEMBER 18, 1988	PROJECT NO 0014 RSD
		SCALE: AS SHOWN	DRAWING 2 OF 8

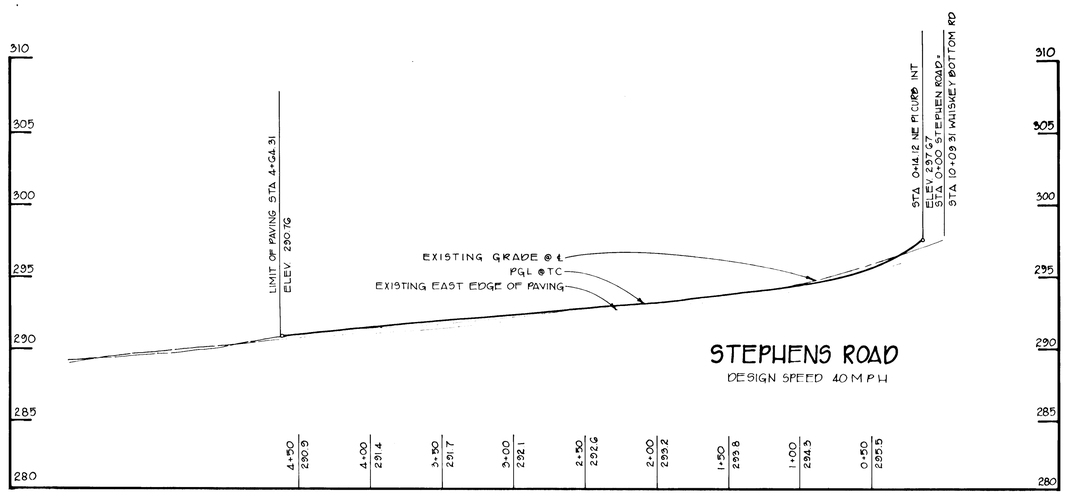
987

F-89-17

STRUCTURE SCHEDULE

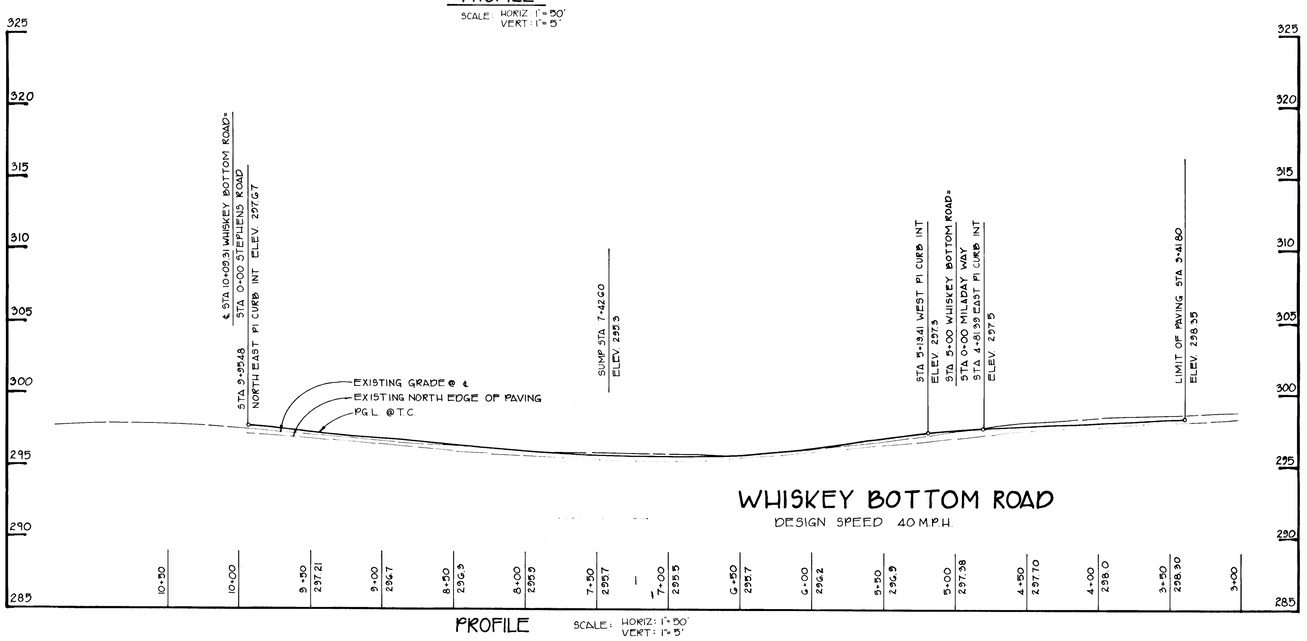
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TC ELEV.	REMARKS
I-1	A-5	41.9' LT LP STA 2+85.87 JESTER COURT	---	295.02	299.14	HO. CO. STD SD-4.01
I-2	A-10	41.9' LT LP STA 4+38.02 CORONET COURT	285.81	285.61	293.13	HO. CO. STD SD-4.02
I-3	A-5	23.9' RT STA 7+42.60 WHISKEY BOTTOM ROAD	290.46	290.21	295.30	HO. CO. STD SD-4.02
I-4	A-5	23.9' RT STA 5+55 WHISKEY BOTTOM ROAD	292.92	292.42	296.88	HO. CO. STD SD-4.02
I-5	A-5 W/DEFL	20.9' LT STA 0+60 MILADY WAY	293.96	293.76	298.32	HO. CO. STD SD-4.02
I-6	A-5 W/DEFL	20.9' RT STA 0+60 MILADY WAY	---	294.50	298.32	HO. CO. STD SD-4.02
M-1	4'-0" DIA MH	4' RT LP STA 3+54 CORONET COURT	286.68	286.48	*294.7	HO. CO. STD G-5.12
M-2	4'-0" DIA MH	26' RT STA 9+24 WHISKEY BOTTOM ROAD	288.41	288.21	*297.0	HO. CO. STD G-5.12
E-3	15" METAL END SECTION	197' LT LP STA 2+85.87 JESTER COURT	---	282.50	---	HO. CO. STD SD-5.61
E-4	24" METAL END SECTION	166' LT LP STA 4+38.02 CORONET COURT	---	283.98	---	HO. CO. STD SD-5.61
E-1	36" METAL END SECTION	SEE PLAN	---	281.00	---	HO. CO. STD SD-5.61
E-2	48" METAL END SECTION	SEE PLAN	281.72	---	---	HO. CO. STD SD-5.61
S-1	CONTROL STRUC.	SEE PLAN	281.64	281.12	*286.00	SEE DETAILS SHEET 7

* ELEV AT RIM



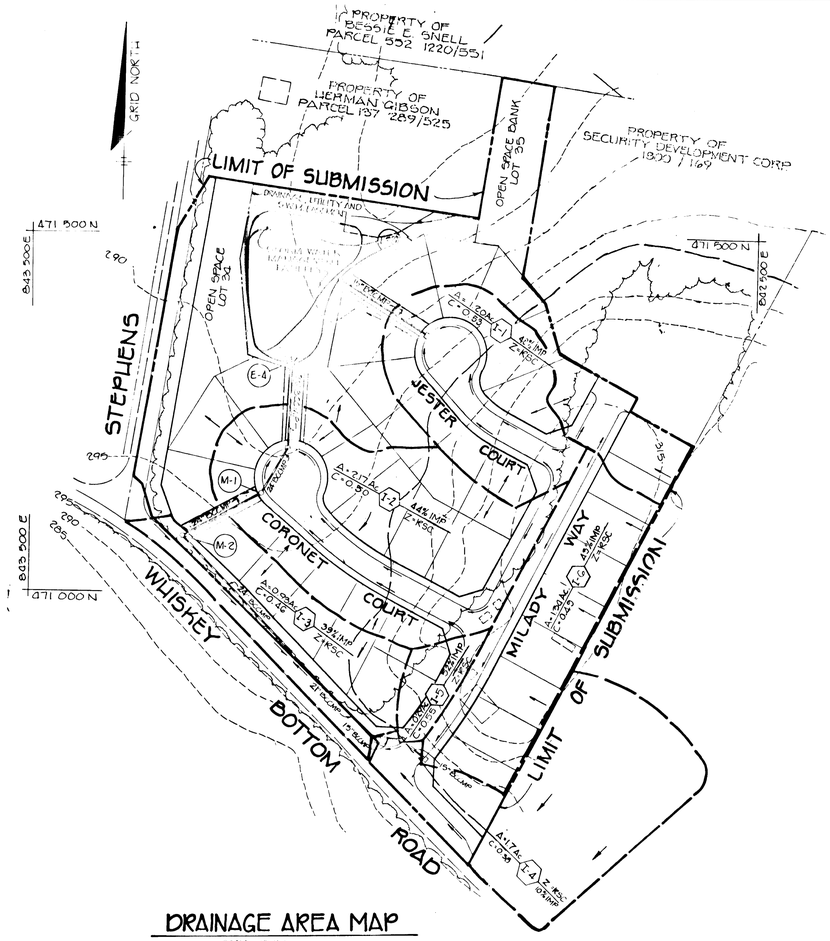
PROFILE

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



PROFILE

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



DRAINAGE AREA MAP

SCALE: 1"=100'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION	DATE 3/14/89
CHIEF, BUREAU OF HIGHWAYS	DATE 3/15/89
Acting CHIEF, BUREAU OF ENGINEERING	DATE 3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE 3-31-89

NO	DATE	REVISION

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OWNER/DEVELOPER

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SUITE 415
ELLICOTT CITY, MARYLAND 21043

PROJECT: KING'S WOODS
SECTION 2 AREA 1
LOTS 168 THRU 173

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

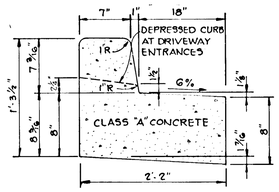
TITLE: PROFILES OF STEPHENS ROAD AND WHISKEY BOTTOM ROAD AND DRAINAGE AREA MAP

DATE: JULY 22, 1988 / NOVEMBER 18, 1988

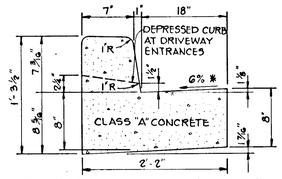
PROJECT NO. 0014 R9D

DES. DAM | DRN. KLN | SCALE AS SHOWN | DRAWING 3 OF 8

F-89-17



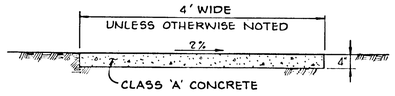
REVERSE



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

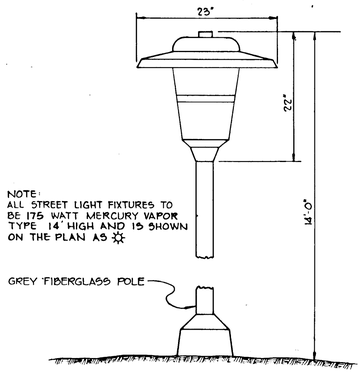
* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

STANDARD 7" COMBINATION CURB AND GUTTER



SIDEWALK DETAIL

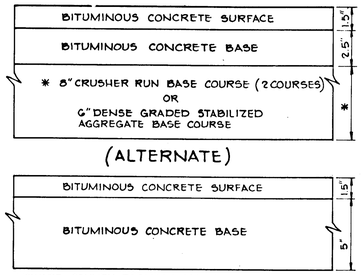
NO SCALE



NOTE:
ALL STREET LIGHT FIXTURES TO BE 175 WATT MERCURY VAPOR TYPE 14' HIGH AND IS SHOWN ON THE PLAN AS ✲

DETAIL - LIGHTING FIXTURE

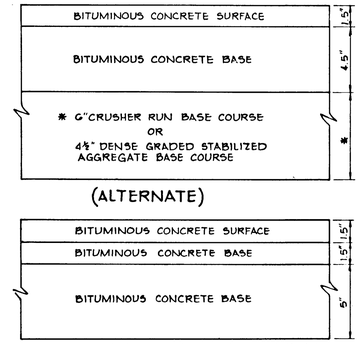
NO SCALE



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

6½" PAVING, P-2

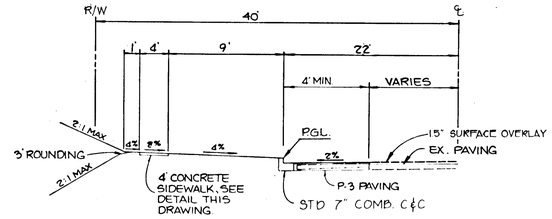
CORONET COURT
JESTER COURT



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

8" PAVING, P-3

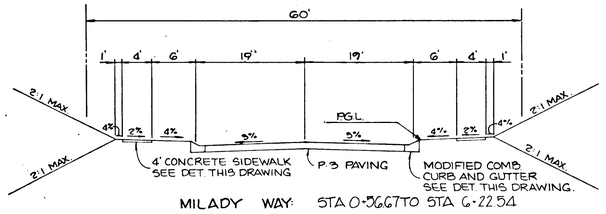
WHISKEY BOTTOM ROAD
STEPHENS ROAD
MILADY WAY



WHISKEY BOTTOM ROAD	STA 3+41.80 TO 9+78.08
STEPHENS ROAD	STA 0+32.75 TO 4+64.31
CLASSIFICATION:	MAJOR COLLECTOR
DESIGN SPEED:	40 MPH
ZONING:	RSC

TYPICAL HALF SECTION

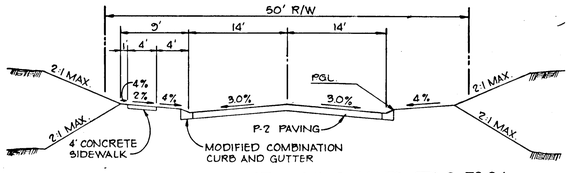
NO SCALE



MILADY WAY:	STA 0+56.67 TO STA 6+22.54
CLASSIFICATION:	MINOR COLLECTOR
DESIGN SPEED:	35 MPH
ZONING:	RSC

TYPICAL SECTION

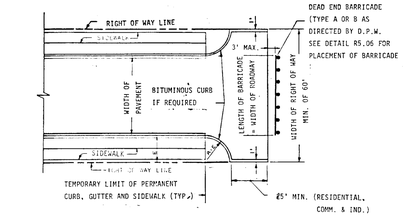
NO SCALE



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		RSC

TYPICAL SECTION

NO SCALE



NOTES:

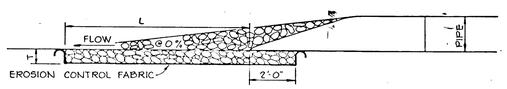
1. A TEE TURN-AROUND SHALL BE USED IN LIEU OF A CUL-DE-SAC ONLY IF THE STREET IS TO BE EXTENDED IN THE FUTURE.
2. BITUMINOUS CURB SHALL EXTEND AROUND THE TEE TURN-AROUND IF AND AS REQUIRED TO CONTROL CURB DRAINAGE FROM THE ROADWAY SECTION.
3. REFER TO STANDARD R-5.06 FOR TYPICAL ROADWAY PROFILE OF TEMPORARY LIMIT OF PAVING.

* FOR LOCAL ROADS, PROVIDE 5' REVERTIBLE EASEMENT EACH END OF THE TEE.

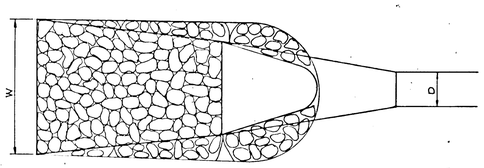
4. PROVIDE EASEMENTS AS REQUIRED FOR PLACEMENT OF BARRICADE AND ANY NECESSARY GRADING (SEE DETAIL R5.06)

TEMPORARY TEE TURN-AROUND

NO SCALE



SECTION



PLAN

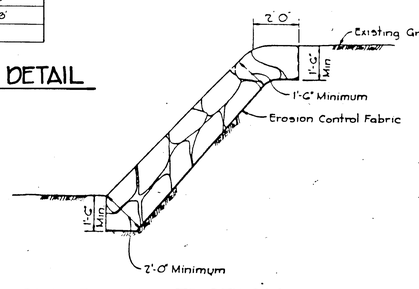
STRUCTURE	d - 50	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.5'	10	10	1.13'
E-3	0.5'	10	10	1.13'
E-4	0.5'	8	10	1.13'

RIP RAP OUTLET PROTECTION DETAIL

NO SCALE

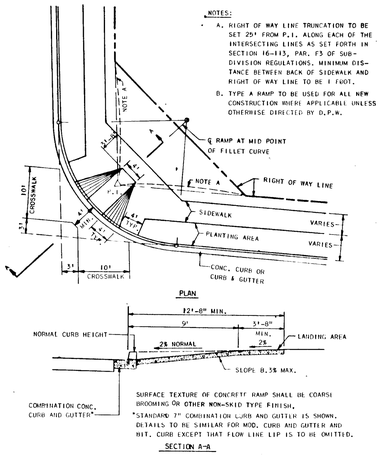
Note
Erosion Control Fabric shall be as manufactured by Carthage Mills, Inc. Erosion Control Division, 124 W. 66TH Street Cincinnati, Ohio or approved equal.

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



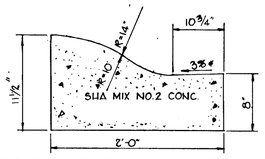
SLOPE PROTECTION

NO SCALE



SIDEWALK RAMP DETAIL

NO SCALE



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

* 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.

MODIFIED COMBINATION CURB AND GUTTER

NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION	DATE 3/14/89
CHIEF, BUREAU OF HIGHWAYS	DATE 3/15/89
CHIEF, BUREAU OF ENGINEERING Acting	DATE 3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE 3-21-89

LRS

NO	DATE	REVISION

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

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER

OWNER
SECURITY DEVELOPMENT CORP
8480 BALTIMORE NATIONAL PIKE
SUITE 415
ELLICOTT CITY, MARYLAND
21043

PROJECT KING'S WOODS
SECTION 2 AREA 1
LOTS 158 THRU 173

LOCATION TAX MAP NO. 47
PARCEL 188
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE DETAILS

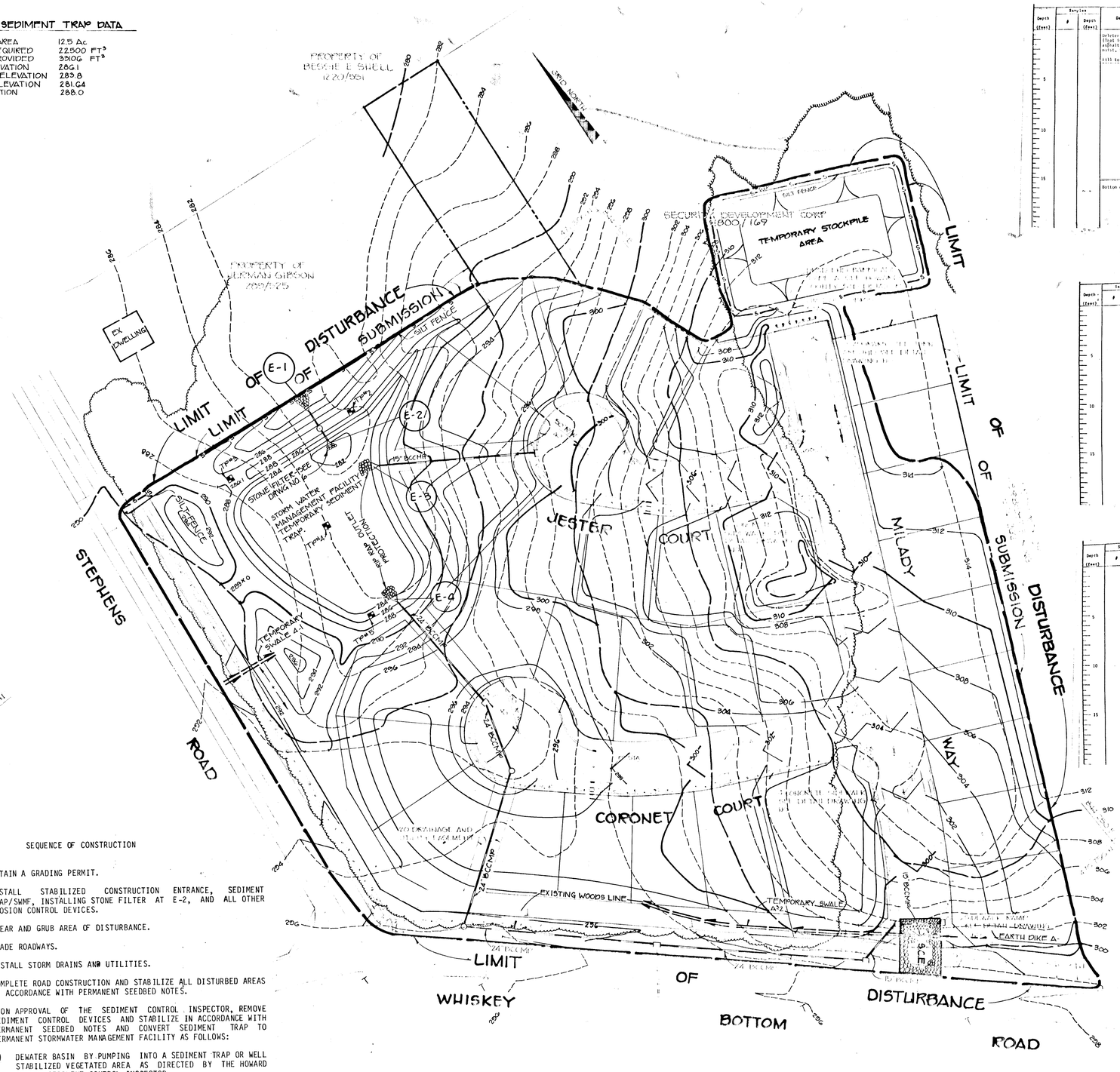
5-86-36 P88-50

DATE	JULY 22, 1988 / NOVEMBER 18, 1988	PROJECT NO	0014
DES CDT	DRN CRS	SCALE AS SHOWN	DRAWING 4 OF 8

F-89-17

STONE FILTER SEDIMENT TRAP DATA

DRAINAGE AREA	12.5 Ac
VOLUME REQUIRED	22500 FT^3
VOLUME PROVIDED	39106 FT^3
CREST ELEVATION	286.1
CLEANOUT ELEVATION	283.8
BOTTOM ELEVATION	281.64
TOP ELEVATION	288.0



SEQUENCE OF CONSTRUCTION

DAY 1 — 1. OBTAIN A GRADING PERMIT.

DAY 2-7 — 2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SEDIMENT TRAP/SWMF, 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:

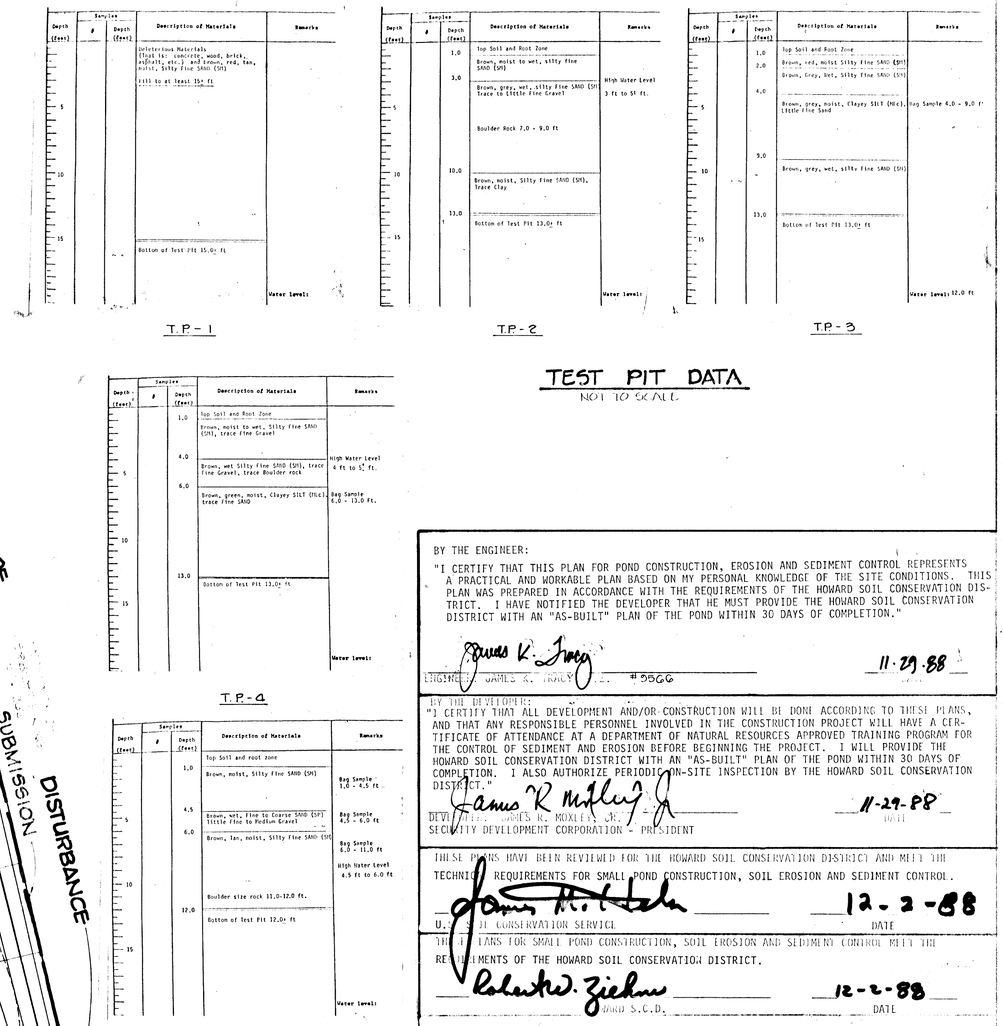
A) DEWATER BASIN BY PUMPING INTO A SEDIMENT TRAP OR WELL STABILIZED VEGETATED AREA AS DIRECTED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

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.

987



TEST PIT DATA

NOT TO 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."

James K. Tracy — 11-29-88

ENGINEER JAMES K. TRACY #5566 — 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 R. Moxley Jr. — 11-29-88

DEVELOPER JAMES R. MOXLEY JR. — DATE
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.

U.S. SOIL CONSERVATION SERVICE — 12-2-88 DATE

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

Robert W. Ziehm — 12-2-88

HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

3/14/89
3/15/89
3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

LKS

NO.	DATE	REVISION

TRACY, SCHULTE & ASSOCIATES INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-8105

STATE OF MARYLAND — JAMES KENNETH TRACY — REGISTERED PROFESSIONAL ENGINEER

OWNER/DEVELOPER

SECURITY DEVELOPMENT CORP
8480 BALTIMORE NATIONAL PIKE
SUITE 415
ELLICOTT CITY, MARYLAND, 21043

PROJECT: KING'S WOODS
SECTION 1 AREA 1
LOTS 1-138 AND 173
TAX MAP: NO. 27
BLOCK: 10
GRID: 1 & 2
PARCEL: 150
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

LOCATION

TITLE: GRADING AND SEDIMENT CONTROL PLAN

S-88-36 P-88-50

DATE: JULY 22, 1988 / NOVEMBER 18, 1988

DES. DAM	DRN. CDT	SCALE	DRAWING 15 of 8

F-89-17

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 UREAFORM FERTILIZER (9 lbs/10000 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 THE PERIODS MARCH 1 THRU APRIL 30 AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 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 WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE 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 UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 gal/1000 sq ft) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 gal/1000 sq ft) FOR ANCHORING.

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

TEMPORARY SEEDBED PREPARATION

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED 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 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 lbs/1000 sq ft). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 lbs/1000 sq ft). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 to 90 lbs/1000 sq ft) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 gal/1000 sq ft) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. 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 PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (Sec. 51) SOD (Sec. 54), TEMPORARY SEEDING (Sec. 50) AND MULCHING (Sec. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

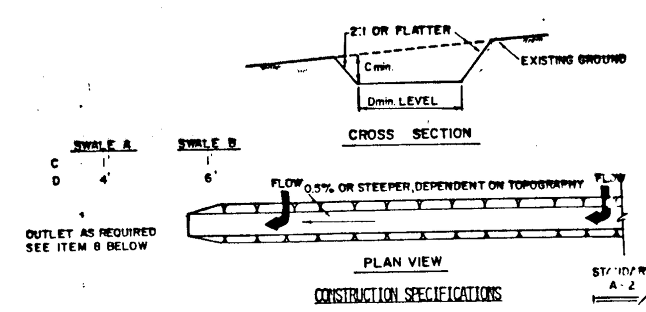
7) SITE ANALYSIS:

TOTAL AREA OF SITE	10.02	ACRES
AREA DISTURBED	10.04	ACRES
AREA TO BE ROOFED OR PAVED	1.50	ACRES
AREA TO BE VEGETATIVELY STABILIZED	8.54	ACRES
TOTAL CUT	28970	CU.YDS.
TOTAL FILL	24544	CU.YDS.
OFFSITE WASTE/BORROW 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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW 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.



CONSTRUCTION SPECIFICATIONS

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 EXCAVATED OR SHAPED 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 IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED 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:

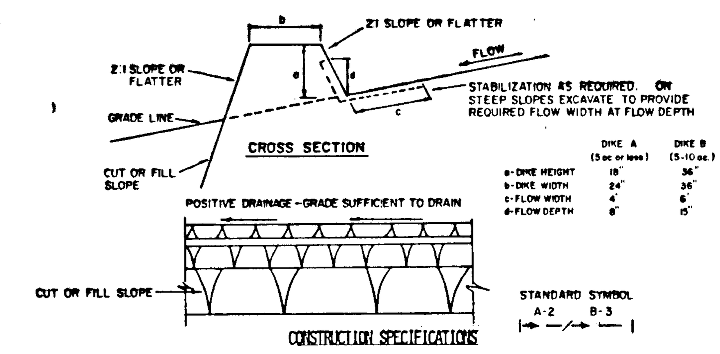
FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 AC OR LESS)	B (5 AC - 10 AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP-RAP 4-8" RECYCLED CONCRETE EQUIVALENT
4	8.1-20%	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

TEMPORARY SWALE

NO SCALE



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

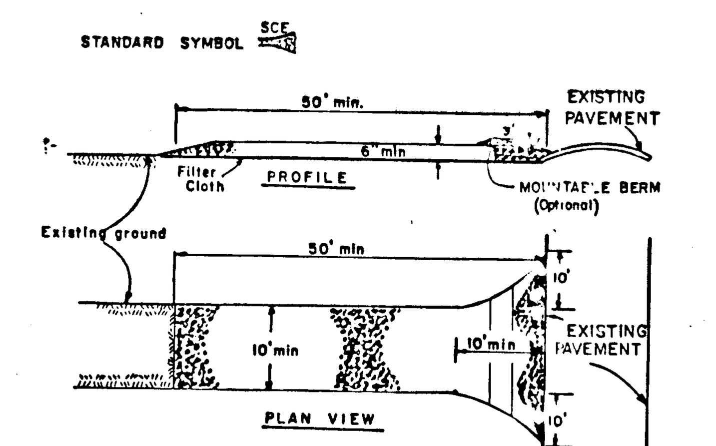
FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

EARTH DIKE

NO SCALE

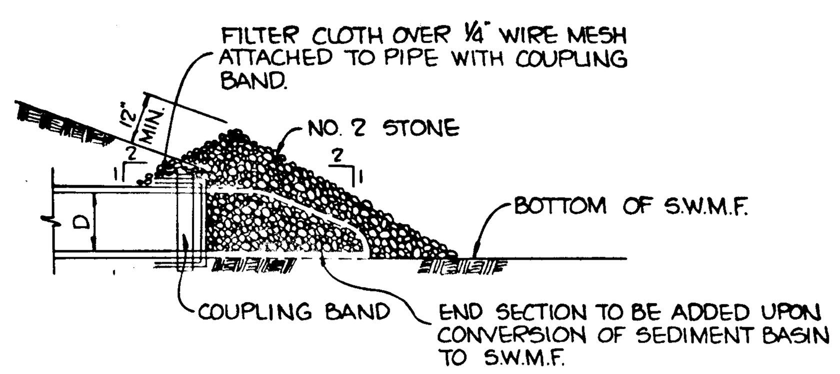


CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

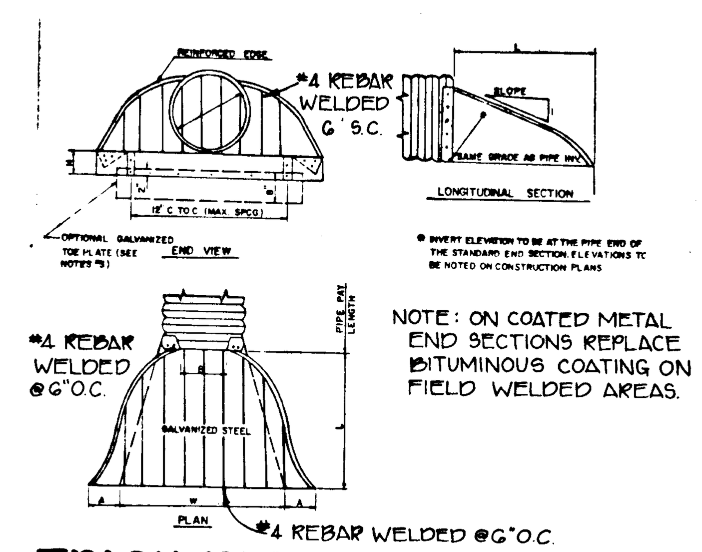
STABILIZED CONSTRUCTION ENTRANCE

NO SCALE



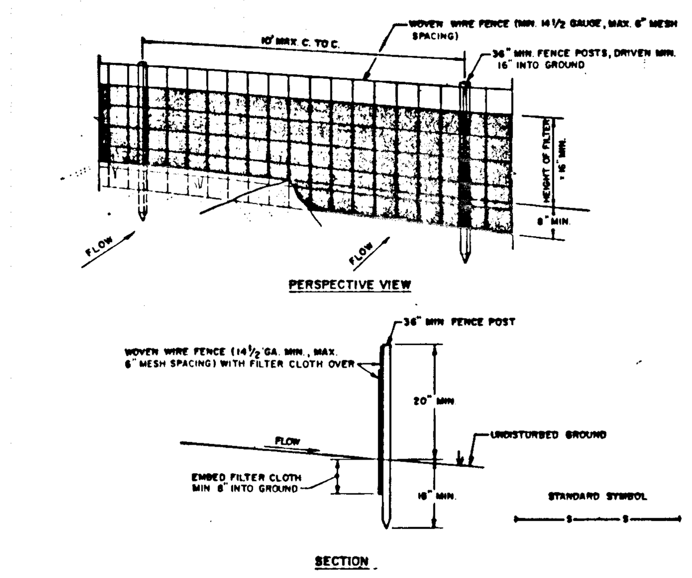
STONE FILTER @ E-2

NO SCALE



TRASH RACK DETAIL

NO SCALE



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

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

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

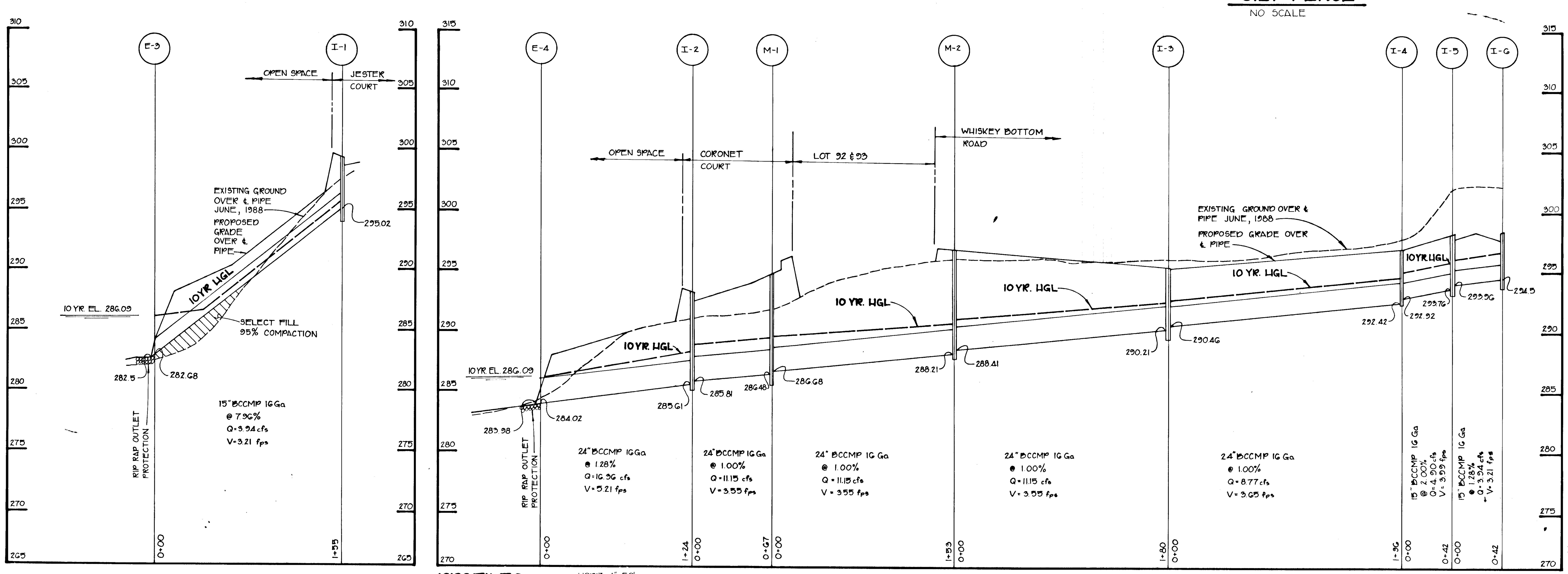
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE

NO SCALE



PROFILES SCALE: HORIZ: 1"=50' VERT: 1"=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 — 11-17-88

ENGINEER: JAMES K. TRACY #9566 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 R. Moxley Jr. — 11-17-88

DEVELOPER: 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.

12-2-88

U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED Robert W. Ziehm 12-2-88

HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — 3/14/89 DATE

Granville W. Wehland — CHIEF, BUREAU OF HIGHWAYS — 3/15/89 DATE

Andrew M. ... — CHIEF, BUREAU OF ENGINEERING (Acting) — 3/22/89 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 3-31-89 DATE

LKS

NO	DATE	REVISION

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

STATE OF MARYLAND — JAMES KENNETH TRACY — No 9566 — REGISTERED PROFESSIONAL ENGINEER

James K. Tracy

OWNER / DEVELOPER: SECURITY DEVELOPMENT CORP, 8480 BALTIMORE NATIONAL PIKE, SUITE 615, ELLICOTT CITY, MARYLAND 21043

PROJECT: KING'S WOODS, SECTION 2 AREA 1, LOTS 138 THRU 173

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

TITLE: STORM DRAIN PROFILES AND SEDIMENT CONTROL NOTES & DETAILS

S-88-36 P-88-50

DATE: JULY 22, 1988; NOVEMBER 18, 1988 — PROJECT NO 0014 KSD

DES. DAM — DRN KLN — SCALE AS SHOWN — DRAWING 6 OF 8

F-89-17

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 sheepsfoot, 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 Specifications 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: Nexon, 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 conrete 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 (1-½) 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 5-½ to 6 U.S. Gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-½. 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 suplemented 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.

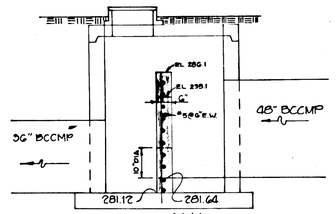
9. Placing Temperature - Concrete may not be placed at temperatures below 37°F with the temperature falling, or 34° with the temperature rising.

VI. STABILIZATION

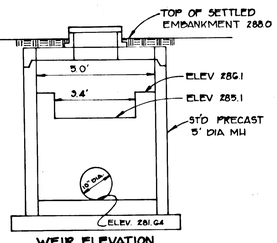
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications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

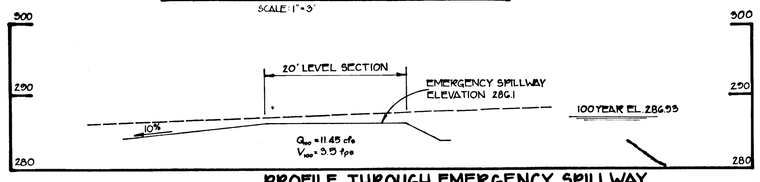


SECTION 'A'-'A'
SCALE: HORIZ: 1"=5' VERT: 1"=5'

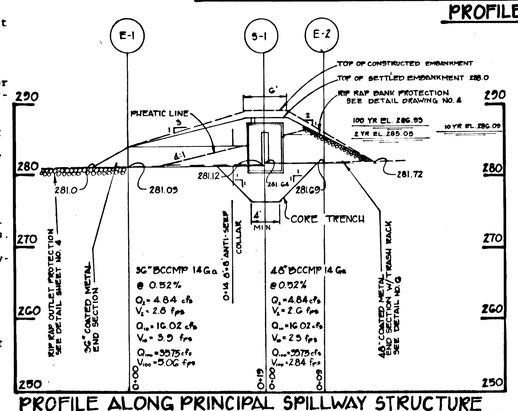


WEIR ELEVATION
SCALE: HORIZ: 1"=5' VERT: 1"=5'

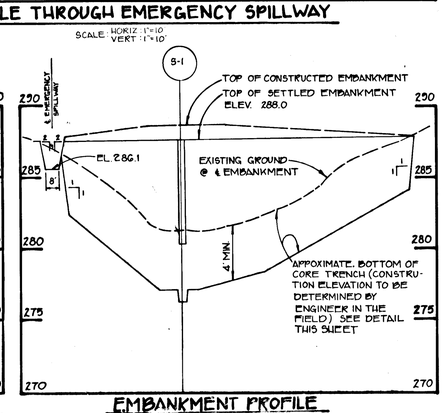
DETAIL OF CONTROL STRUCTURE
SCALE: 1"=3'



PROFILE THROUGH EMERGENCY SPILLWAY

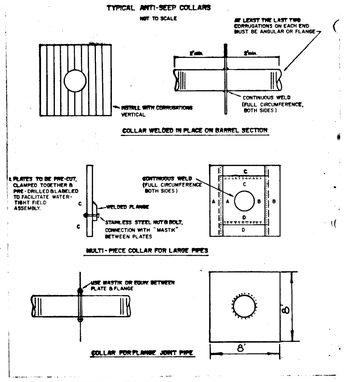


PROFILE ALONG PRINCIPAL SPILLWAY STRUCTURE
SCALE: HORIZ: 1"=10 VERT: 1"=10

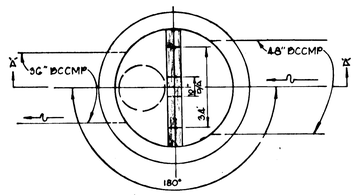


EMBANKMENT PROFILE
SCALE: HORIZ: 1"=10 VERT: 1"=5'

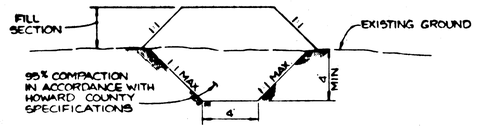
TYPICAL ANTI-SEEP COLLARS
NOT TO SCALE



ANTI-SEEP COLLAR
NO SCALE



PLAN - STRUCTURE S-1
SCALE 1"=3'



CORE TRENCH SECTION
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."

DATE: 11-17-88

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.

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 W. Ziehm — HOWARD S.C.D. — DATE: 12-2-88

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION	DATE 3/14/89
CHIEF, BUREAU OF HIGHWAYS	DATE 3/15/89
Acting CHIEF, BUREAU OF ENGINEERING	DATE 3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE: 3-31-89 LES

NO	DATE	REVISION

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

STATE OF MARYLAND — JAMES KENNETH TRACY — REGISTERED 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 138 THRU 173

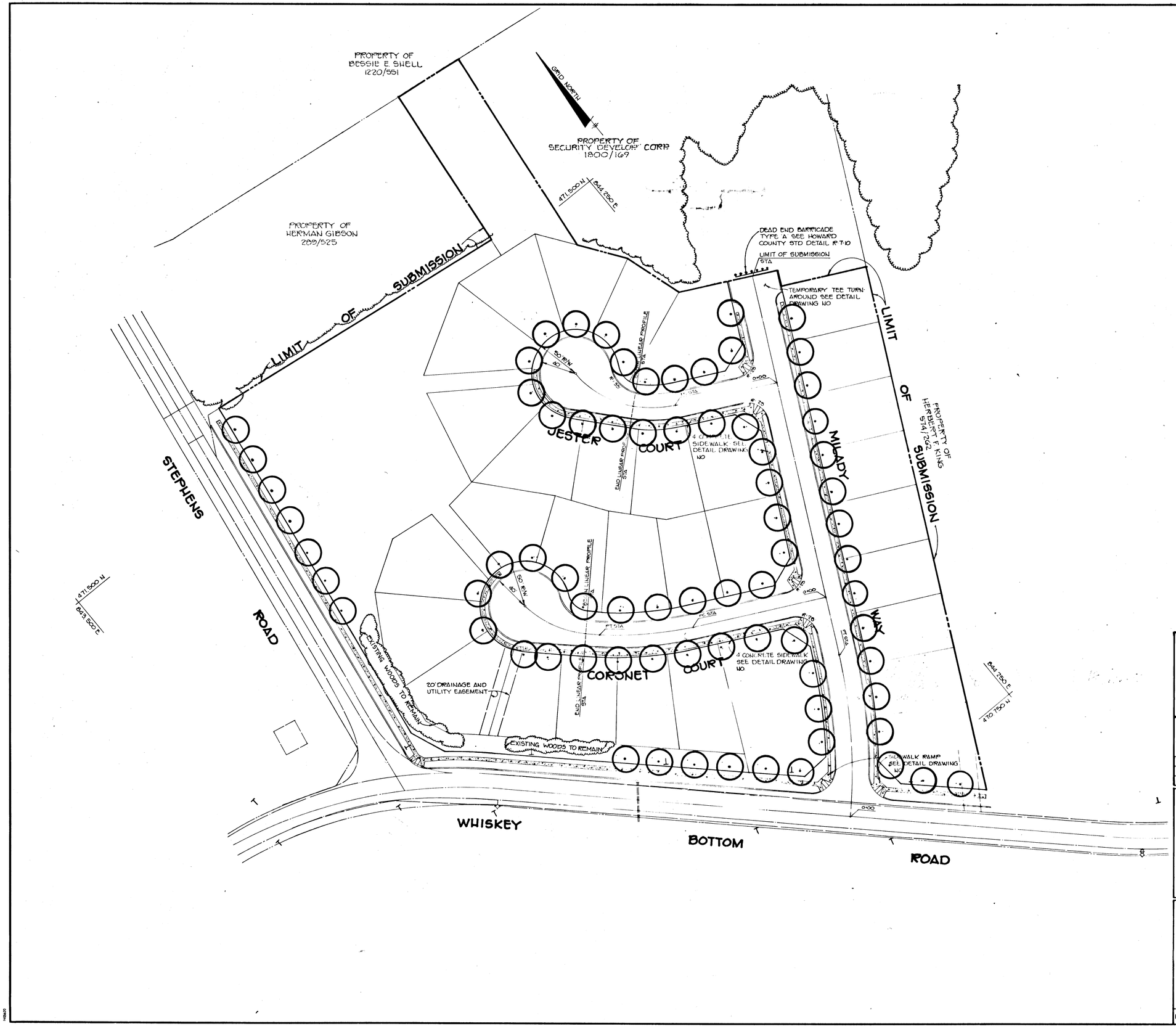
LOCATION: TAX MAP NO. 47, PARCEL 138, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAD

TITLE: STORM WATER MANAGEMENT SPECIFICATIONS AND DETAILS

DES. JKT	DRN KLN	DATE JULY 22, 1988 / NOVEMBER 10, 1988	PROJECT NO 0014 R5D
		SCALE AS SHOWN	DRAWING 7 OF 8

987

F-89-17



PLANT LIST

SYMBOL	QUANTITY	NAME	REMARKS
⊙		QUERCUS BOREALIS Red Oak	2½ Min. Cal. B & B Full Head
TOTAL	74		

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 3/14/89

CHIEF, BUREAU OF HIGHWAYS — DATE 3/15/89

CHIEF, BUREAU OF ENGINEERING — DATE 3/22/89

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 3-31-89

LES

NO	DATE	REVISION

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STATE OF MARYLAND — JAMES KENNETH TRACY — NO. 9566 — REGISTERED PROFESSIONAL ENGINEER

James K. Tracy

OWNER/DEVELOPER

SECURITY DEVELOPMENT CORP.
8480 BALTIMORE NATIONAL PIKE
SUITE 415
ELLICOTT CITY, MARYLAND 21043

PROJECT: **KING'S WOODS**
SECTION 2 AREA 1
LOTS 138 THRU 173

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

TITLE: **PLANTING PLAN**

S 88 36 — P 88 50

DATE: JULY 22, 1988 / NOVEMBER 18, 1988 — PROJECT NO 0014 RSD

DES DAM — DRN CDT — SCALE 1"=50' — DRAWING 8 OF 8

F-89-17

987