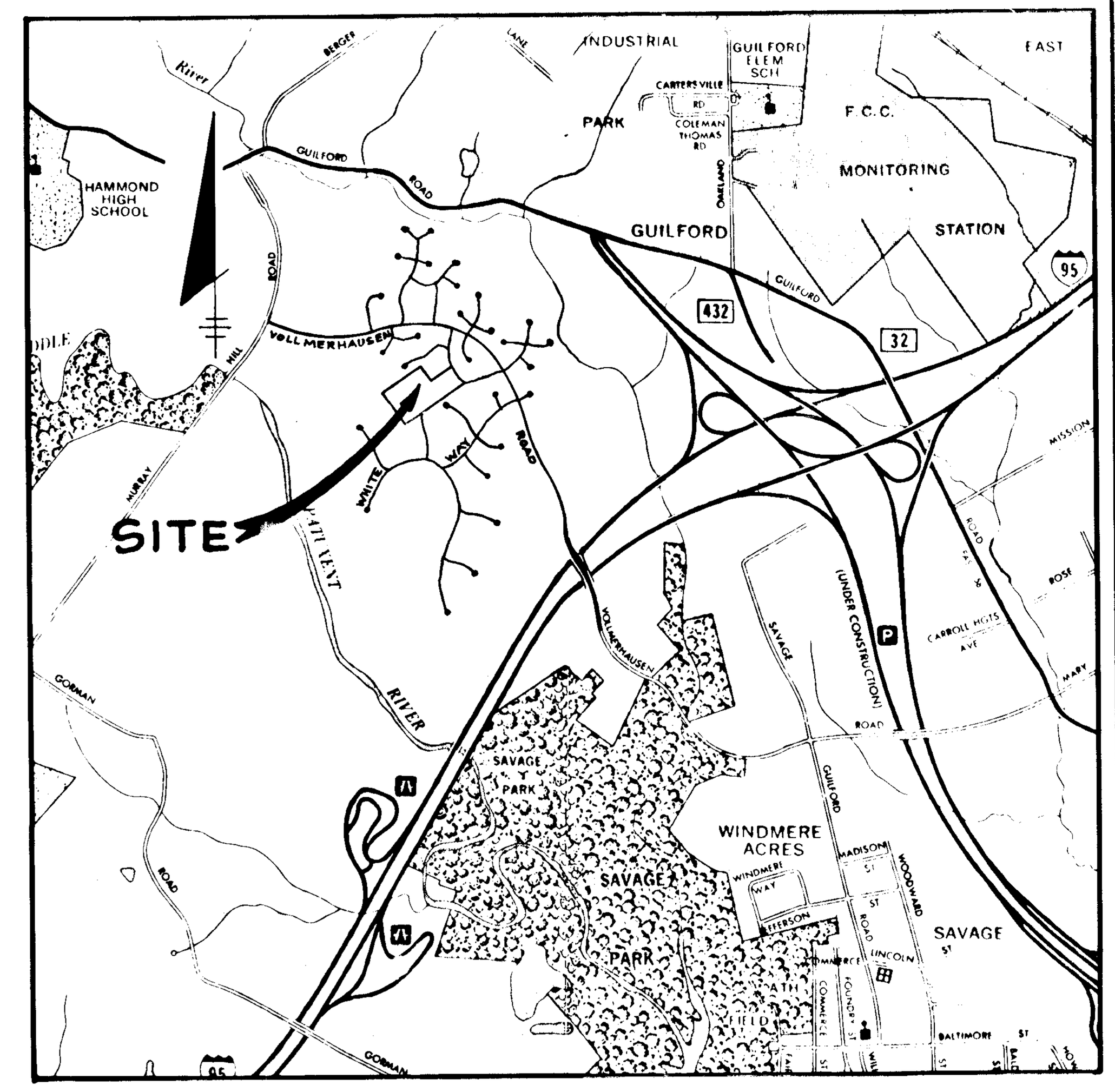
SHEET INDEX

NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN OF RED APPLE LANE, LUMBERJACK ROW, RED RAIN PATH, WINDBEAT WAY AND VOLLMERHAUSEN DRIVE
3	ROAD PROFILES
4	ROAD PROFILES
5	DETAILS AND STORM DRAIN PROFILES
6	DRAINAGE AREA MAP
7	GRADING, SEDIMENT CONTROL, AND S.W.M. PLAN
8	SEDIMENT CONTROL & S.W.M. NOTES AND DETAILS
9	S.W.M. SPECIFICATIONS AND DETAILS
10	STREET TREE PLAN

ROADWAY, STORM DRAIN & STORM WATER MANAGEMENT
HUNTINGTON SOUTH
SECTION 1, AREA 1
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE 1"=2000'

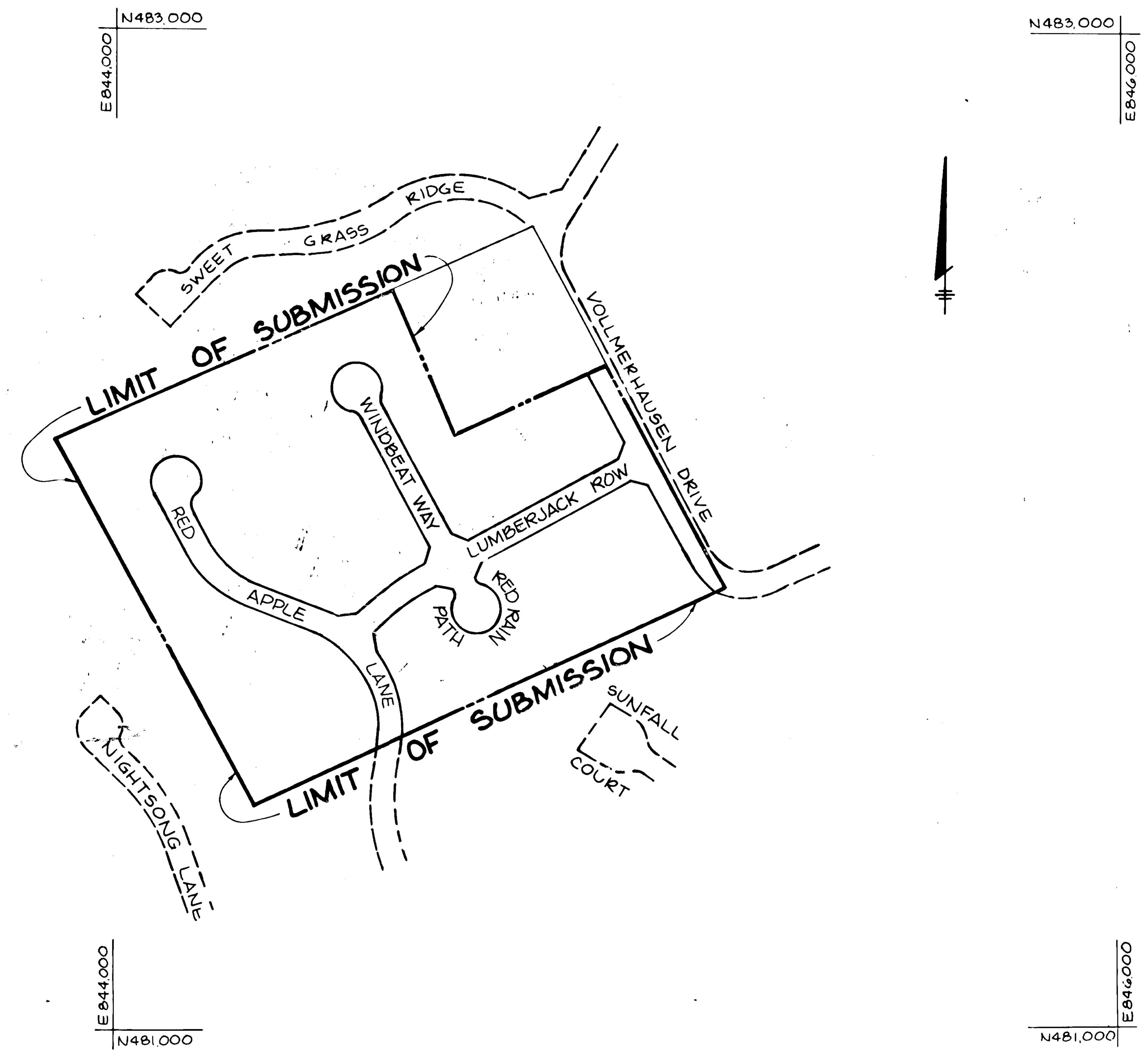
NOTE: ORIGIN OF COORDINATES: COORDINATES SHOWN HEREON ARE BASED UPON TRAVERSE CONTROLS FOR COLUMBIA ESTABLISHED BY MAPS, INC. IN 1965 AND PURDUM AND JESCHKE IN 1968, WHICH CONTROLS WERE TIED TO THE MARYLAND BUREAU OF CONTROL SURVEY MONUMENTS AND TO U.S. COAST AND GEODETIC SURVEY MONUMENTS IN THE COLUMBIA AREA.

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 20.0' 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 1978 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 30 M.P.H., ALL LOCAL STREETS DESIGNED FOR 30 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 R-SC PER 8-2-85 COMPREHENSIVE ZONING PLAN.
16. ALL TOPO TAKEN FROM FIELD RUN SURVEY BY SHANABERGER AND LANE DATED JANUARY, 1985.



PLAN
SCALE 1"=200'

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
[signature] 10-23-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[signature] 10-28-86
CHIEF, BUREAU OF ENGINEERING — DATE

NO	DATE	REVISION

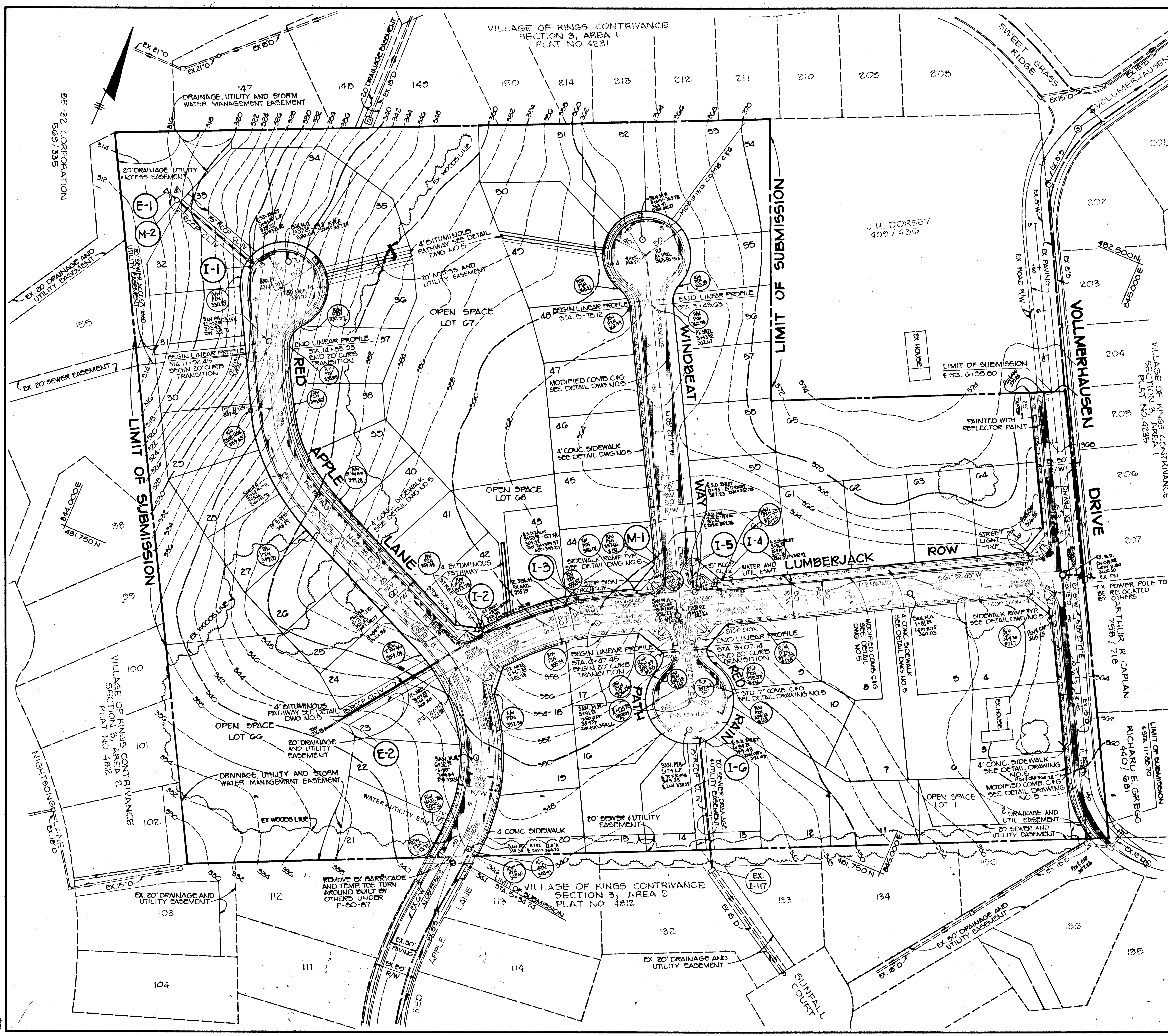
TRACY, SCHULTE & ASSOCIATES INC.
planning • architecture • engineering
8450 Baltimore National Pike • Suite 34 • Ellicott City, Maryland 21043 • (301) 465-6105

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

OWNER: SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT: HUNTINGTON SOUTH SECTION 1 AREA 1 LOTS 1 THRU 68
	LOCATION: 6TH ELECTION DISTRICT HOWARD COUNTY, MD. TAX MAP NO. 42 ZONING MAP NO. 42 PARCEL 87
DEVELOPER: SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	TITLE: TITLE SHEET
	DATE JUNE 19, 1986 — PROJECT NO 8506 RSD
DES. R.J.W. — DRN. C.D.T.	SCALE 1"=200' — DRAWING 1 OF 10

F-86-227 AS-BUILT 12-1-88

1235



℄ CURVE DATA — RED APPLE LANE
℄ STA. 5+56.33 TO ℄ STA 8+04.01

- Δ = 70°57'14"
- R = 200.00'
- L = 247.68'
- T = 142.54'
- D = 28°38'52"
- Chd = N 30°04'45"W, 232.15'

℄ CURVE DATA — RED APPLE LANE
℄ STA. 9+99.61 TO ℄ STA. 11+28.48

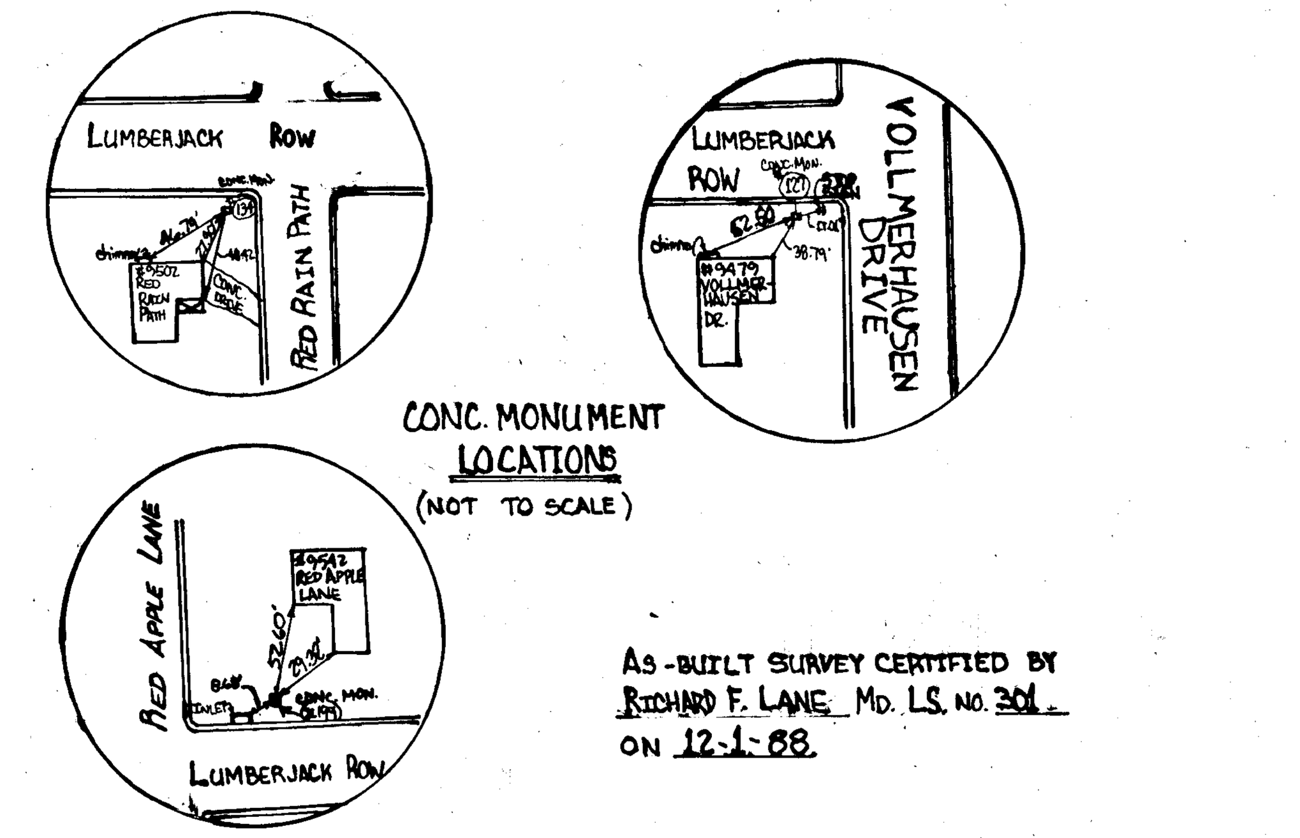
- Δ = 36°55'12"
- R = 200.00'
- L = 128.88'
- T = 66.77'
- D = 28°38'52"
- Chd = N 47°05'46"W, 126.65'

℄ CURVE DATA — VOLLMERHAUSEN DRIVE
℄ STA. 11+33.22 TO ℄ STA. 11+88.70

- Δ = 31°47'18"
- R = 100.00'
- L = 55.48'
- T = 28.47'
- D = 57°17'45"
- Chd = S 44°20'58"E, 54.77'

℄ CURVE DATA — LUMBERJACK ROW
℄ STA. 5+36.44 TO ℄ STA. 6+67.39

- Δ = 25°0'33"
- R = 300.00'
- L = 130.99'
- T = 66.53'
- D = 19°05'55"
- Chd = S 49°02'27"W, 129.91'



CONC. MONUMENT LOCATIONS
(NOT TO SCALE)

AS-BUILT SURVEY CERTIFIED BY RICHARD F. LANE MD. LS. NO. 301 ON 12-1-88.

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV IN	INV OUT	TOP ELEV	DESCRIPTION
I-1	A-10	LP STA 12+88.50 RED APPLE LANE	----	321.~~70~~ 80	329.~~86~~ 72	HO CO STD SD 4.02
I-2	A-5 W/DEFL	15'RT STA 6+~~69.26~~ 68.80 LUMBERJACK ROW	346.~~84~~ 77	346.~~64~~ 89	353.~~38~~ 39	HO CO STD SD 4.01
I-3	A-5 W/DEFL	15'RT STA 5+~~80.11~~ 50.80 LUMBERJACK ROW	349.~~16~~ 47	~~348.96~~ 349.27	354.~~88~~ 91	HO CO STD SD 4.01
I-4	A-10	15'RT STA 3+~~98.12~~ 98.10 LUMBERJACK ROW	----	352.~~70~~ 91	357.~~14~~ 74	HO CO STD SD 4.02
I-5	A-10 W/DEFL	14'RT STA 0+45.50 WINDBEAT WAY	----	352.~~79~~ 73	357.~~65~~ 23	HO CO STD SD 4.02
I-6	A-5	LP STA 1+~~79.62~~ 84.70 RED RAIN PATH	----	342.~~77~~ 08	349.~~38~~ 48	HO CO STD SD 4.01
M-1	4'-0" DIA MANHOLE	15' RT STA 4+26.~~50~~ 30 LUMBERJACK ROW	15"D(N)351.89 15"D(E)351.89	351.~~64~~ 76	356.75	HO CO STD G 5.12
E-1	15" CONC END SECTION	122' LT LP STA 12+88.50 RED APPLE LANE	----	309.~~08~~ 10	----	HO CO STD SD 5.52
E-2	18" CONC END SECTION	150'LT STA 7+77 RED APPLE LANE	----	336.~~00~~ 18	----	HO CO STD SD 5.52
M-2	4'-0" DIA. MANHOLE	110'LT LP STA. 12+88.50 RED APPLE LANE	311.76	311.56	ADJUST IN FIELD	HO CO STD G 5.12

ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 10-29-86

CHIEF, BUREAU OF ENGINEERING [signature] 10-29-86 — DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

[signature] 10-23-86

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

NO	DATE	REVISION
2	4-12-89	ADDED M-2 AND REVISED STORMDRAIN FROM I-1 TO E-1.
1	4/27/87	CHANGED CURB NOTES.

TRACY, SCHULTE & ASSOCIATES INC.
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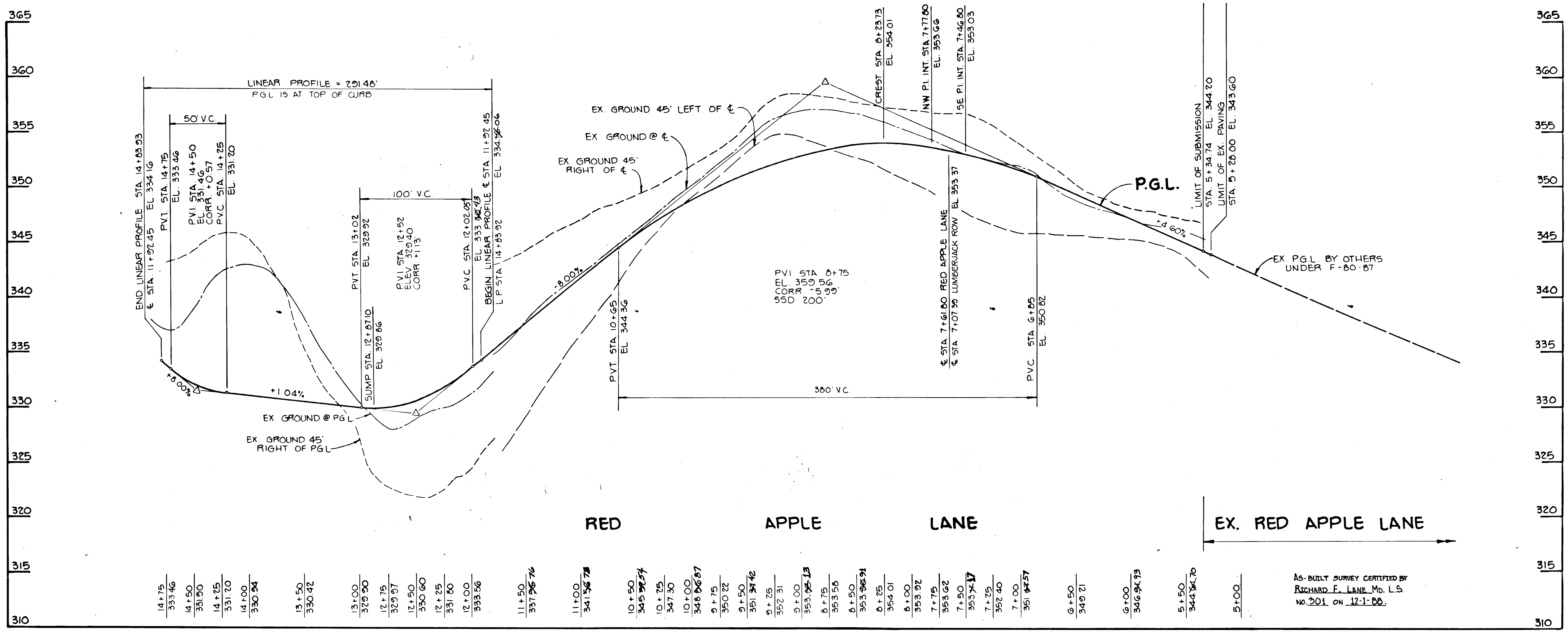
STATE OF MARYLAND — JAMES KENNETH TRACY — NO. 9556 — REGISTERED PROFESSIONAL ENGINEER

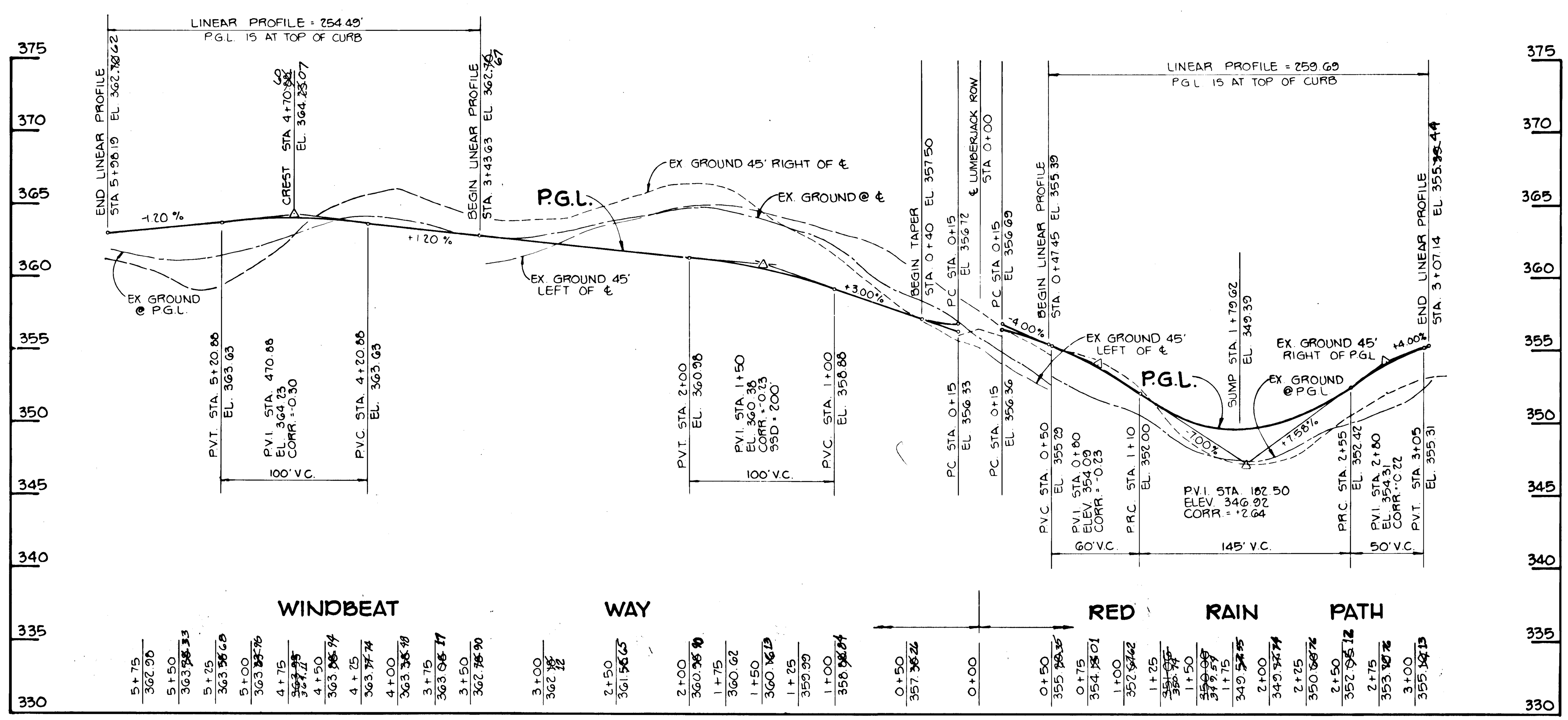
[signature]

OWNER: SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT: HUNTINGTON SOUTH SECTION 1, AREA 1, LOTS 1 THRU 68
	LOCATION: TAX MAP NO. 42 PARCEL 87 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	TITLE: PLAN OF RED APPLE LANE, RED RAIN PATH, WINDBEAT WAY LUMBERJACK ROW AND VOLLMERHAUSEN DRIVE
	DATE: JUNE 19, 1986 — PROJECT NO. 8506 RSD
DES. RJW — DRN. KMN/JLB	SCALE: 1" = 50' — DRAWING 2 OF 10

AS-BUILT 12-1-88 F-86-227

1235





PROFILES

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 10-29-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-23-86

NO	DATE	REVISION

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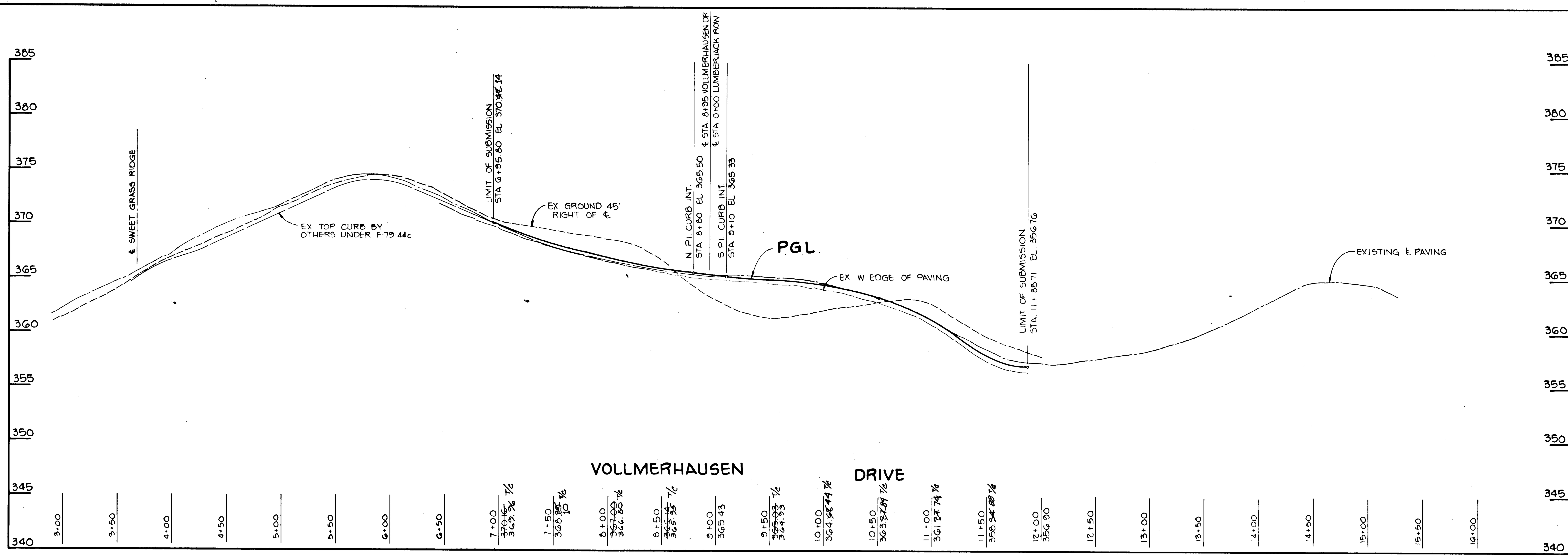
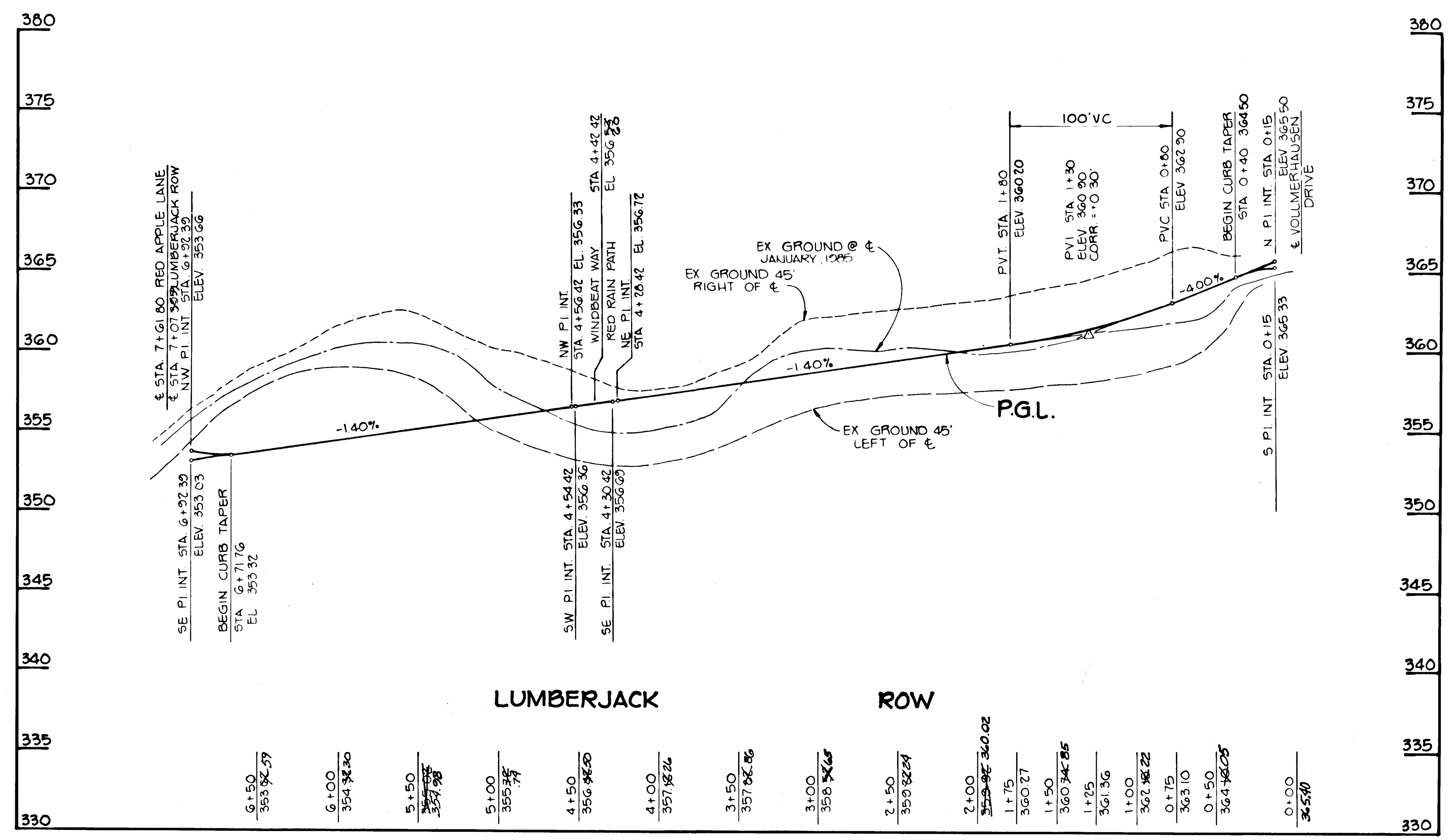
OWNER: SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT: HUNTINGTON SOUTH SECTION 1, AREA 1 LOTS 1 THRU 68
	LOCATION: PARCEL 87 TAX MAP NO. 42 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	TITLE: PROFILES OF RED APPLE LANE, WINDBEAT WAY AND RED RAIN PATH
	DATE JUNE 19, 1986 / PROJECT NO. 8506 RSD
DES. DAM / DRN. KMN	SCALE HORIZ. 1" = 50' VERT. 1" = 5' / DRAWING 3 OF 10

AS-BUILT 12-1-88

F-86-227

1235





AS-BUILT SURVEY CERTIFIED BY RICHARD F. LANE MD. L.S. NO. 301 ON 12-1-88.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — 10-29-86 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 10-23-86 DATE

NO	DATE	REVISION

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

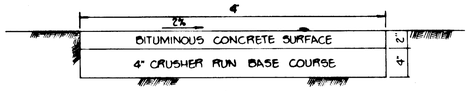
8450 Baltimore National Pike • Suite 34 • Ellicott City, Maryland 21043 • (301) 465-6105

STATE OF MARYLAND — JAMES KENNETH TRACY — NO. 9555 — REGISTERED PROFESSIONAL ENGINEER

OWNER: SECURITY DEVELOPMENT CORP, 8450 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MARYLAND 21043	PROJECT: HUNTINGTON SOUTH — SECTION 1, AREA 1 LOTS 1 THRU 68
	LOCATION: PARCEL 87, TAX MAP NO. 42, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP, 8450 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MARYLAND 21043	TITLE: PROFILES OF LUMBERJACK ROW AND VOLLMERHAUSEN DRIVE
	DATE: JUNE 19, 1986 — PROJECT NO 8506 RSD
DES. DAM — DRN. KMN	SCALE: HORIZ 1"=50' VERT 1"=5' — DRAWING 4 OF 10

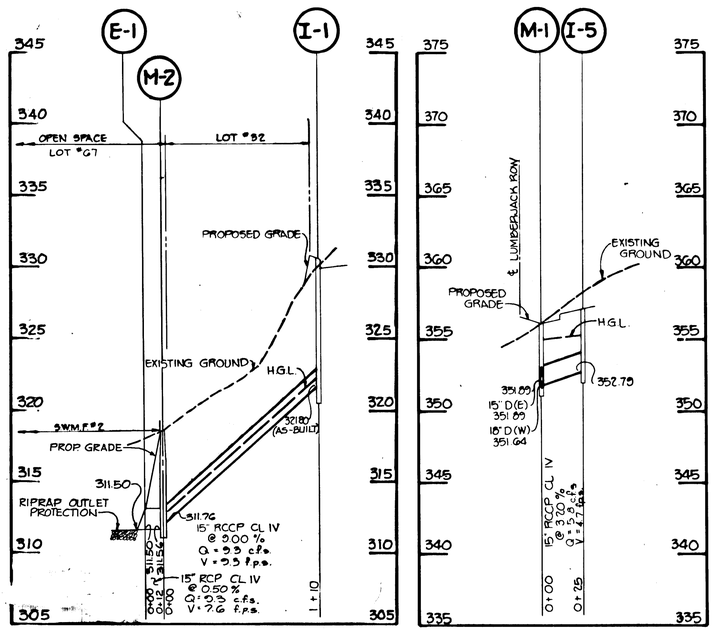
AS-BUILT 12-1-88

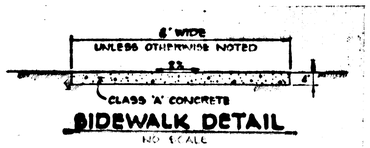
F-86-227



BITUMINOUS PATHWAY DETAIL

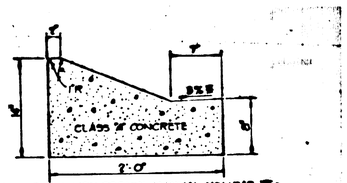
NO SCALE





SIDEWALK DETAIL

NO SCALE

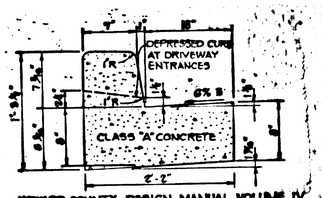


HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-8.01)

* 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



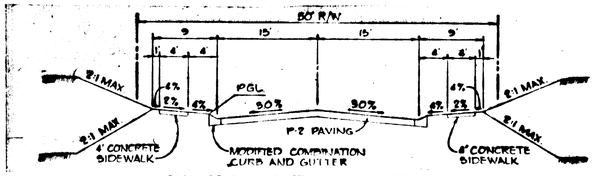
HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-8.01)

* 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.

RED APPLE LANE - LINEAR PROFILE ONLY
RED RAIN PATH- LINEAR PROFILE ONLY

STANDARD 7" COMBINATION CURB AND GUTTER

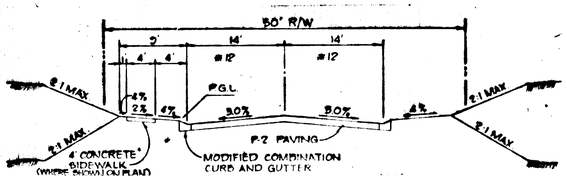
NO SCALE



RED APPLE LANE STA 5+88 TO STA 7+61.80
LUMBERJACK ROW STA 0+00 TO STA 7+07.50
CLASSIFICATION - LOCAL STREET
ZONED R-SC
DESIGN SPEED 30 M.P.H.

TYPICAL SECTION

NO SCALE

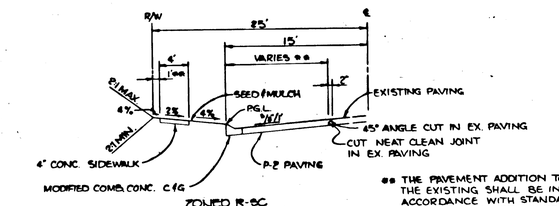


* RED RAIN PATH- STA 0+00 TO STA 0+47.45
WINDBEAT WAY- STA 0+00 TO STA 3+43.63
RED APPLE LANE STA 8+01.80 TO STA 11+92.45

CLASSIFICATION CUL-DE-SAC
ZONED R-SC
DESIGN SPEED 30 M.P.H.

TYPICAL SECTION

NO SCALE



ZONED R-SC
CLASSIFICATION LOCAL STREET
DESIGN SPEED 30 M.P.H.
VOLLMERHAUSEN DRIVE STA.G+35.80 TO STA.11+88.70'

TYPICAL HALF SECTION VOLLMERHAUSEN DRIVE

NO SCALE

** THE PAVEMENT ADDITION TO THE EXISTING SHALL BE IN ACCORDANCE WITH STANDARD DETAIL R-10.01 OF THE DESIGN MANUAL VOLUME IV

BITUMINOUS CONCRETE SURFACE 1.5"
BITUMINOUS CONCRETE BASE 2.5"
8" CRUSHER RUN BASE COURSE (2 COURSES) OR 6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE 8"

(ALTERNATE)

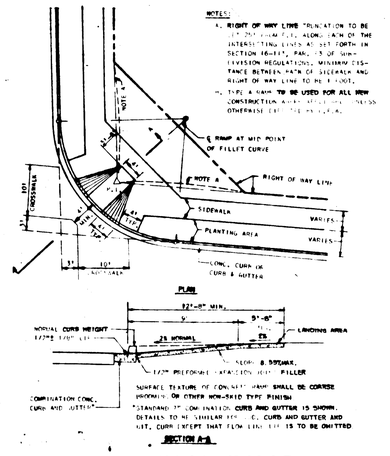
BITUMINOUS CONCRETE SURFACE 1.5"
BITUMINOUS CONCRETE BASE 6"

HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-7.01)

VOLLMERHAUSEN DRIVE
LUMBERJACK ROW
RED RAIN PATH
WINDBEAT WAY
RED APPLE LANE

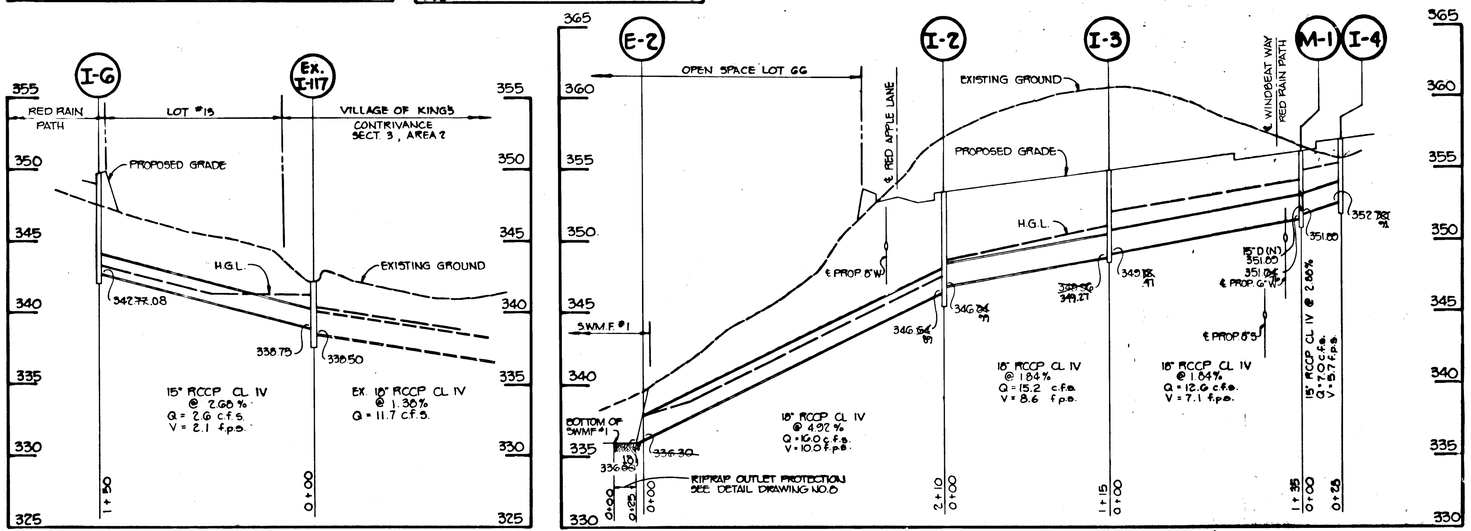
6½" PAVING, P-2

NO SCALE



SIDEWALK RAMP

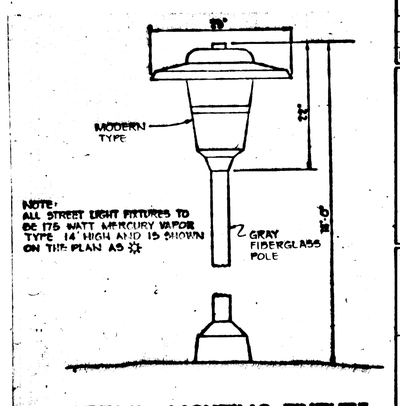
NO SCALE



PROFILES

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

AS-BUILT SURVEY CERTIFIED BY RICHARD F. LANE MD. L.S. NO. 501 ON 12-1-88.



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

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-25-88

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 10-29-88

NO	DATE	REVISION
1	4-12-89	REVISED STORM DRAIN PROFILE FROM I-1 TO E-1

TRACY, SCHULTE & ASSOCIATES INC.
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STATE OF MARYLAND — JAMES KENNETH TRACY — NO. 9686 — REGISTERED PROFESSIONAL ENGINEER

OWNER: SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT: HUNTINGTON SOUTH SECTION 1, AREA 1 LOTS 1 THRU 68
	LOCATION: TAX MAP 42 PARCEL 87 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD. 21043	TITLE: DETAILS AND STORM DRAIN PROFILES
	DATE: JUNE 19, 1986 — PROJECT NO: 8506 RSD
DES: RJW — DRN: LRC	SCALE: NO SCALE — DRAWING 5 OF 10

1235

AS-BUILT 12-1-88

F-86-227

VILLAGE OF KINGS CONTRIVANCE
SECTION 3, AREA 1
PLAT NO. 4231
DRAINAGE, UTILITY AND STORM WATER MANAGEMENT EASEMENT
LIMIT OF SUBMISSION
RED APPLE LANE
WINDBEAT WAY
LUMBERJACK ROW
VOLLMERHAUSEN DRIVE
RED RAIN PATH
SWEET GRASS RIDGE
OPEN SPACE LOT 67
OPEN SPACE LOT 68
OPEN SPACE LOT 66
20' ACCESS AND UTILITY EASEMENT
20' SEWER, ACCESS, AND UTILITY EASEMENT
20' SEWER EASEMENT
20' DRAINAGE EASEMENT
20' DRAINAGE, UTILITY & ACCESS EASEMENT
DRAINAGE, UTILITY, AND STORM WATER MANAGEMENT EASEMENT
20' SEWER, DRAINAGE & UTILITY EASEMENT
20' SEWER & UTILITY EASEMENT
DRAINAGE AND UTIL EASEMENT
20' SEWER, ACCESS AND UTILITY EASEMENT
30' DRAINAGE EASEMENT
WATER AND UTILITY EASEMENT
A=2.92 AC. C=0.53 I-1 40% IMP 2-YR SC
A=0.24 AC. C=0.57 I-2 46% IMP 2-YR SC
A=0.81 AC. C=0.62 I-3 53% IMP 2-YR SC
A=2.25 AC. C=0.52 I-4 39% IMP 2-YR SC
I-5 36% IMP 2-YR SC
A=0.48 C=0.76 I-6 73% IMP 2-YR SC
A=3.44 AC. C=0.46 EX I-117 30% IMP 2-YR SC
M-1
EX HOUSE
VILLAGE OF KINGS CONTRIVANCE SECTION 3, AREA 2 PLAT NOS 4812 & 4691
VILLAGE OF KINGS CONTRIVANCE SECTION 3, AREA 2 PLAT NO 4812
VILLAGE OF KINGS CONTRIVANCE SECTION 3, AREA 1 PLAT NO 4235
ARTHUR R CAPLAN 758/718
RICHARD E GREGG 440/681
SUNFALL COURT
NIGHTSONG LANE
482,500 N
845,000 E
844,000 E
481,750 N

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — 10-29-86 — DATE 10-29-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-23-86

NO	DATE	REVISION

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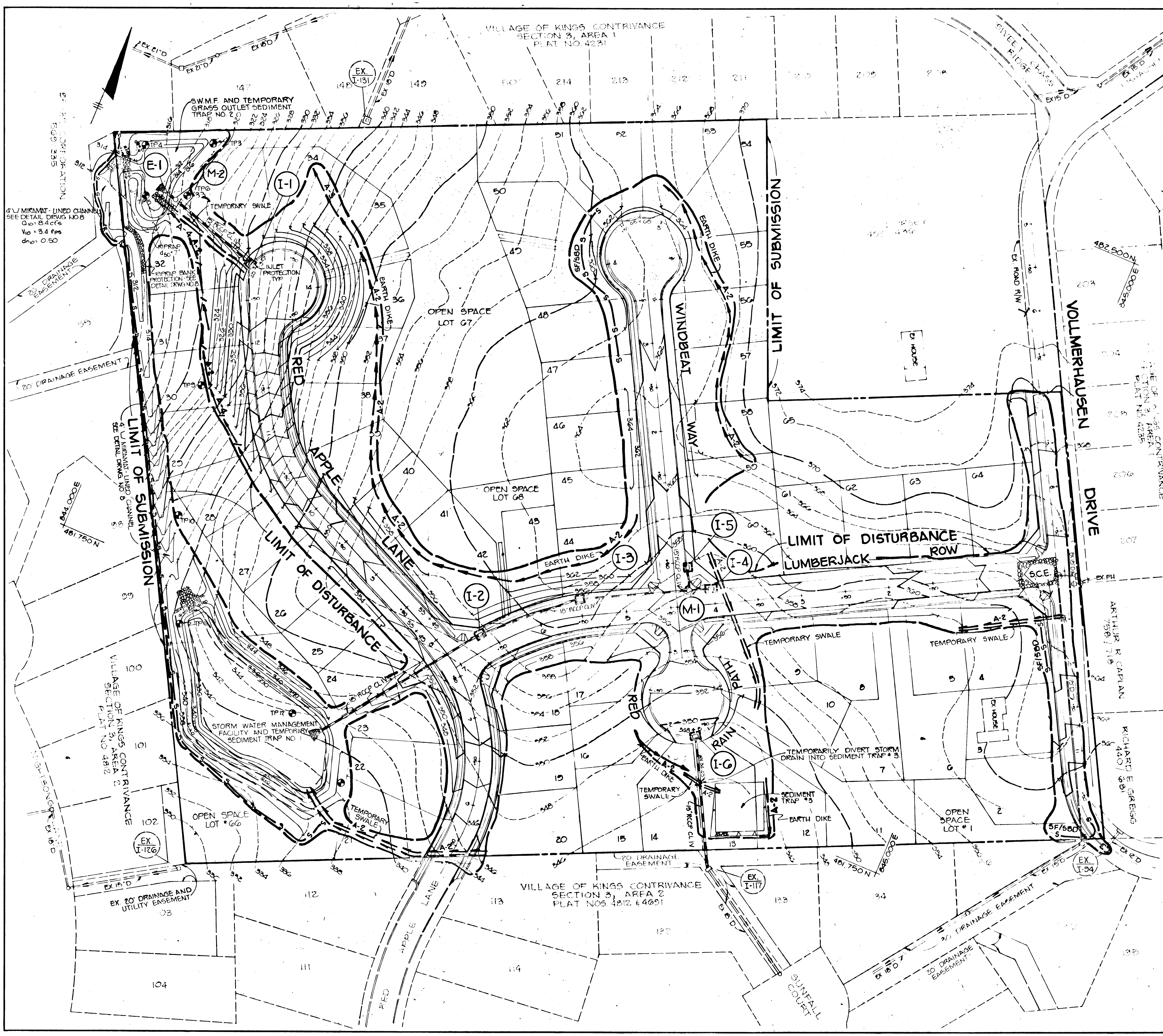
planning • architecture • engineering
8450 Baltimore National Pike • Suite 34 • Ellicott City, Maryland 21043 • (301) 465-6105

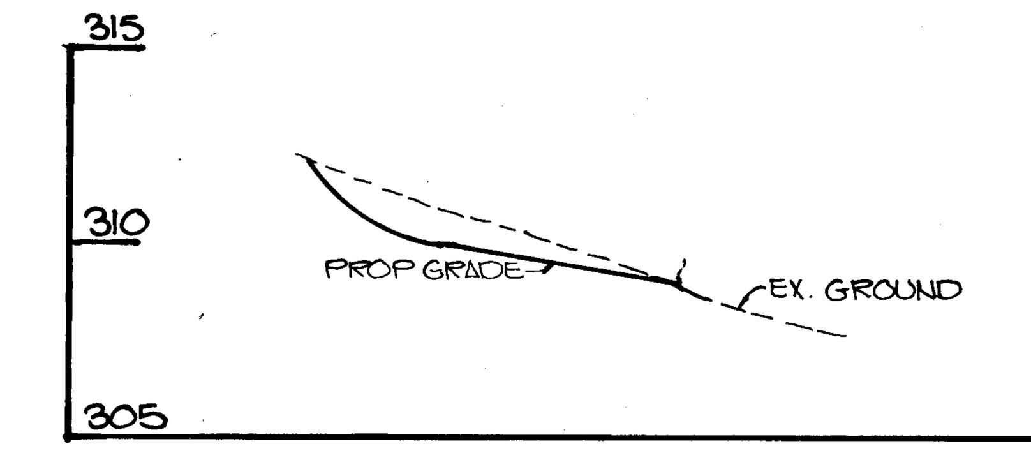
OWNER SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT HUNTINGTON SOUTH SECTION 1, AREA 1 LOTS 1 THRU 68
	LOCATION TAX MAP NO 42 PARCEL 87 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	TITLE DRAINAGE AREA MAP
	DATE JUNE 19, 1986 — PROJECT NO 8506 RSD
DES. RJW — DRN KMN/JLB	SCALE 1" = 50' — DRAWING 6 OF 10

1235

AS-BUILT 12-1-88

F-86-227





S.W.M.F OUTFALL

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

SEDIMENT TRAP	NO. 1	NO. 2	NO. 3
DRAINAGE AREA	3.10 Ac.	3.06 Ac.	3.43 Ac.
DISTURBED AREA	1.76 Ac.	1.41 Ac.	1.43 Ac.
STORAGE VOLUME			
REQUIRED	5,580 c.f.	5,508 c.f.	6,174 c.f.
PROVIDED	33787.5 c.f.	10,300 c.f.	6,272 c.f.
CREST ELEVATION	339.04 *	313.0	343.0
CLEANOUT ELEVATION	338.02	312.0	342.0
BOTTOM ELEVATION	337.0	311.0	341.0
DIMENSIONS	98'x165'x2.02'	80'x95'x110'x2'	56'x56'x2'
WEIR LENGTH	N/A	13'	14'

* 100 YEAR STORM ELEVATION

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 — 6.19.86

ENGINEER: JAMES K TRACY, P.E. — 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."

James R. Moxley Jr. — 6.19.86

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.

James M. Helm — 10-21-86

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 — 10.22.86

HOWARD S.C.D. — DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

10.29.86

CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John W. Musselman — 10-23-86

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

NO	DATE	REVISION
2	4-12-88	ADDED M-2 AND REVISED STORMDRAIN FROM I-1 TO E-1.
	11-23-88	CHANGE GRADE ON S.W.M.F. #2, ADDED A OUTFALL PROFILE

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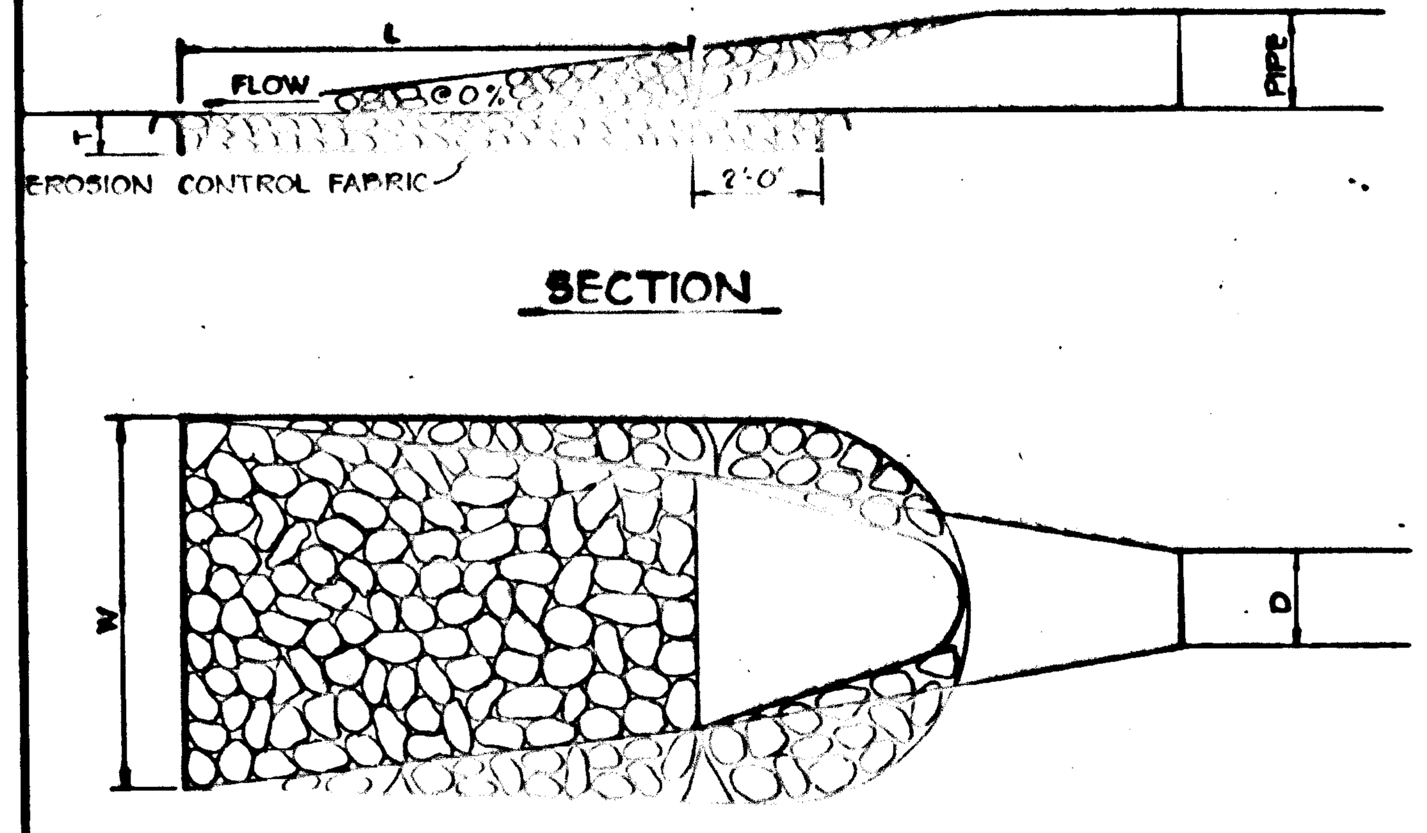
James K Tracy

OWNER SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT HUNTINGTON SOUTH SECTION 1, AREA 1 LOTS 1 THRU 68
	LOCATION TAX MAP NO. 42 PARCEL 87 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	TITLE GRADING AND SEDIMENT CONTROL AND STORM WATER MANAGEMENT PLAN
	DATE JUNE 19, 1986 — PROJECT NO 8506
DES. RJW — DRN KMN/JLB	SCALE 1" = 50' — DRAWING 7 OF 10

AS-BUILT 12-1-88

F-86-227

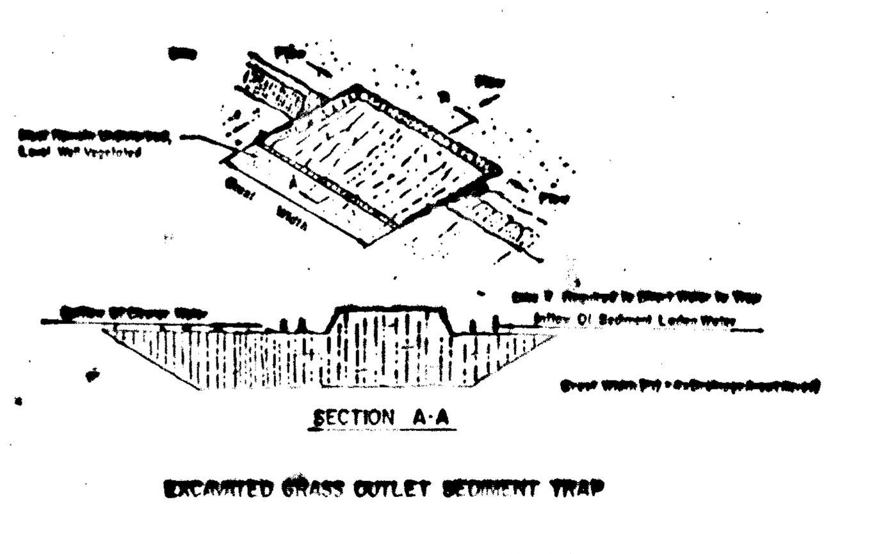
1235



STRUCTURE	MEDIUM STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	6"	20'	10'	1.25'
E-2	6"	25'	12'	1.25'

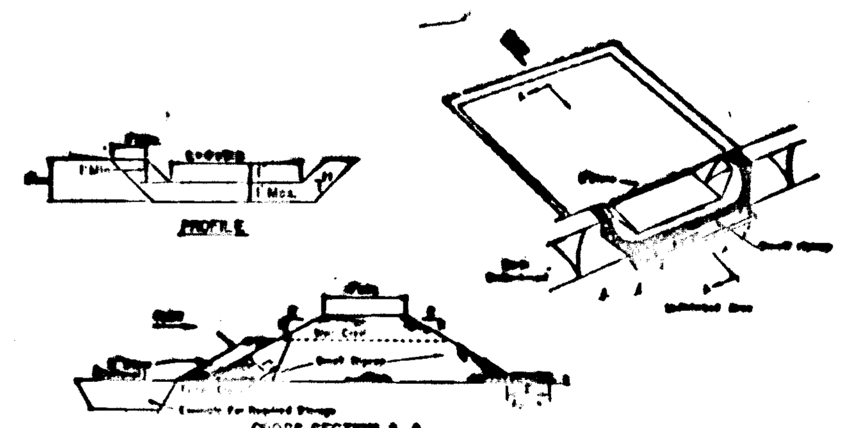
OUTLET PROTECTION DETAIL

NO SCALE



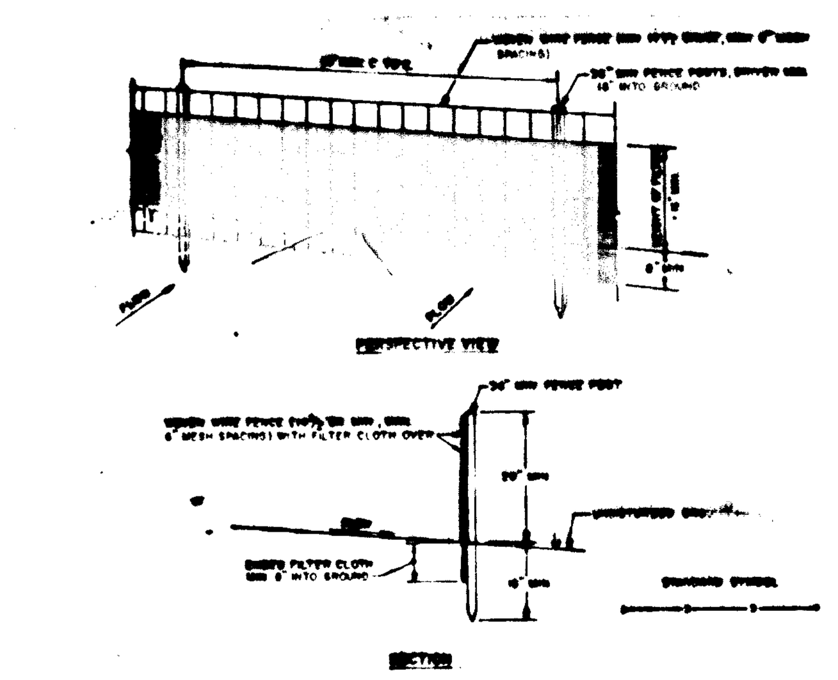
GRASSED OUTLET SEDIMENT TRAP DETAIL

NO SCALE



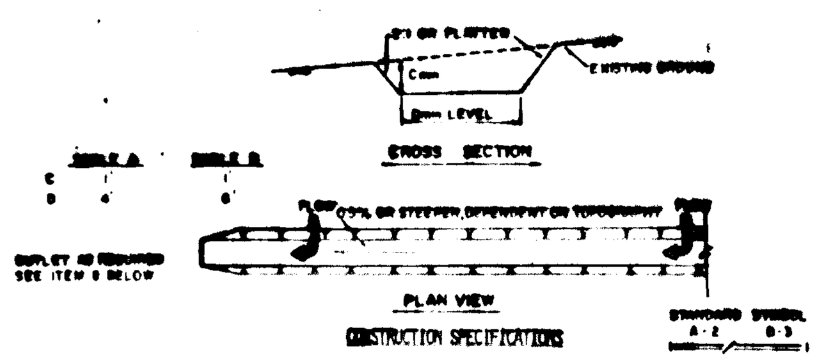
STONE OUTLET SEDIMENT TRAP

NO SCALE



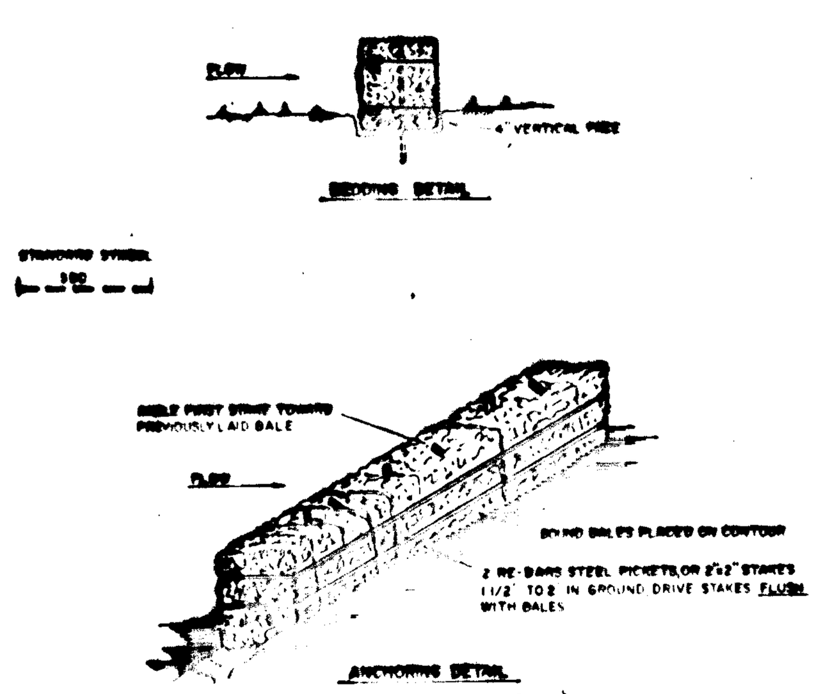
SILT FENCE

NO SCALE



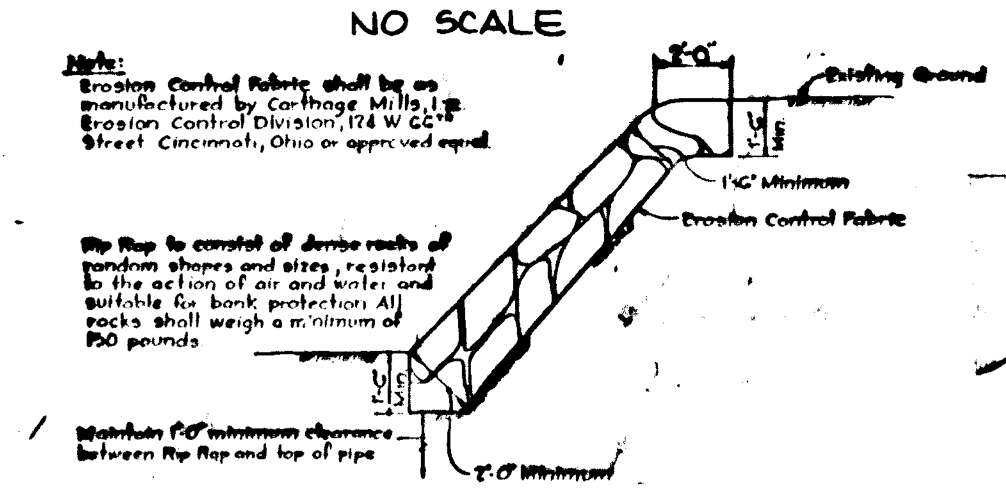
TEMPORARY SWALE

NO SCALE



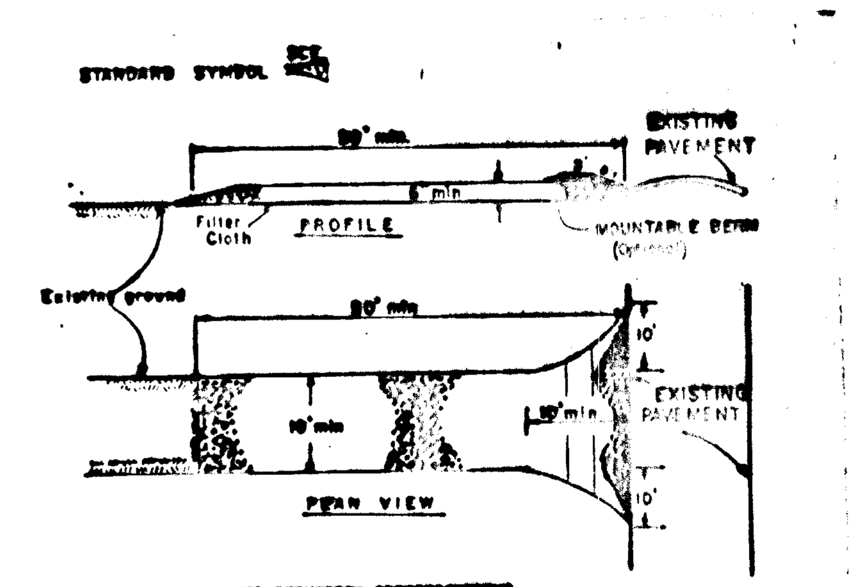
STRAW BALE DIKE

NO SCALE



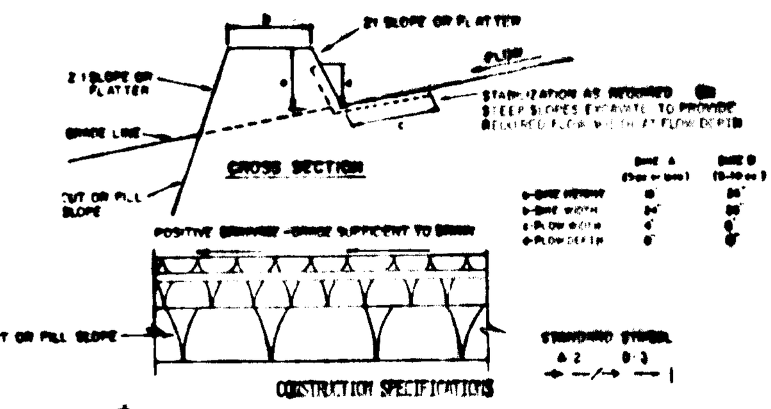
RIPRAP BANK PROTECTION

NO SCALE



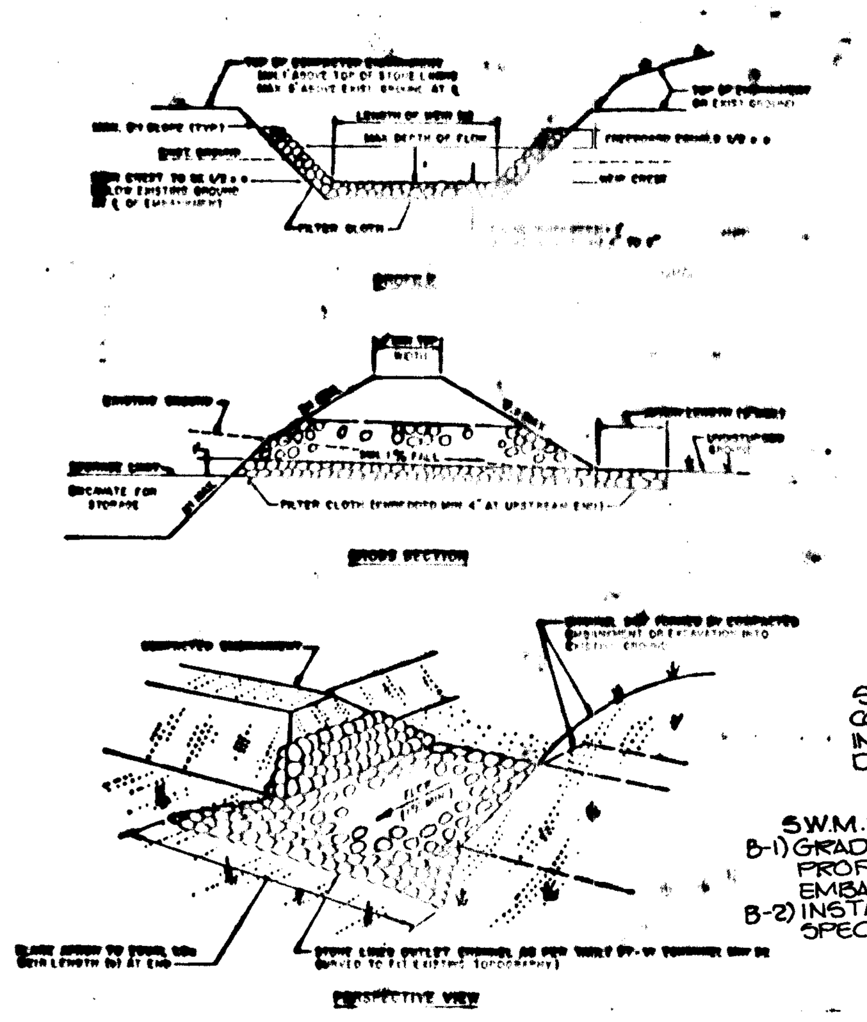
STABILIZED CONSTRUCTION ENTRANCE

NO SCALE



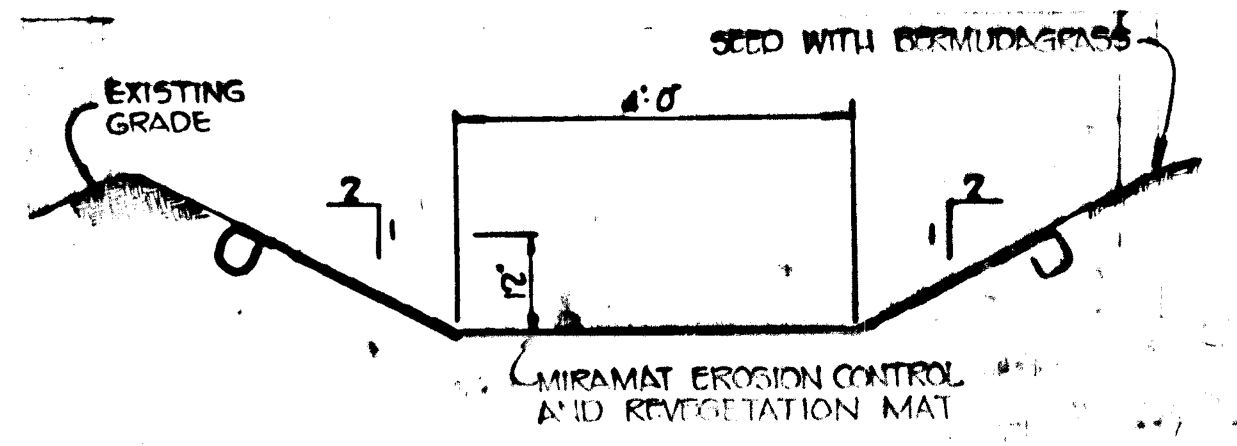
EARTH DIKE

NO SCALE



RIPRAP OUTLET SEDIMENT TRAP

NO SCALE



4'-0" MIRAMAT LINED CHANNEL TYPICAL SECTION

NO SCALE

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (992-2437).

2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR 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	17.445	ACRES
AREA DISTURBED	4.60	ACRES
AREA TO BE ROOFED OR PAVED	1.09	ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.51	ACRES
TOTAL CUT	7252	CU. YDS.
TOTAL FILL	7948	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	

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.

PERMANENT SEEDING NOTES

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

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/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 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 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/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1½ 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 SEEDING NOTES

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.

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 2½ BUSHEL 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 1½ TO 2 TONS PER ACRE (70 to 90 lbs/1000 sq ft) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 gal/1000 sq ft) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT OR HIGHER, USE 348 GAL 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.

SEQUENCE OF CONSTRUCTION

DAY 1 — 1. OBTAIN GRADING PERMIT.

DAY 2-3 — 2. CLEAR AND GRUB AREA FOR AND INSTALL STABILIZED CONSTRUCTION ENTRANCE. (SCE)

DAY 3-7 — 3. CLEAR AND GRUB REMAINING AREAS FOR SEDIMENT CONTROL DEVICE INSTALLATION.

DAY 7-12 — 4. INSTALL SEDIMENT TRAP 3 AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.

DAY 12-14 — 5. INSTALL REMAINDER OF SEDIMENT CONTROL DEVICES AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.

DAY 14 - 38 — 6. INSTALL SWMF/SEDIMENT TRAPS AS FOLLOWS:

A) SWMF #1 TO BE CONSTRUCTED INITIALLY WITH A BOTTOM ELEVATION OF 337.0 WHILE IT IS BEING USED AS A SEDIMENT TRAP AND STABILIZED AS PER PERMANENT SEEDING NOTES.

NOTIFY WOLBERT AND MASTERS, INC. (301) 335-9300, 7 DAYS PRIOR TO INSTALLATION OF MIRAMAT LINED CHANNEL, FOR ON-SITE SUPERVISION.

SEQUENCE OF CONSTRUCTION FOR CONVERSION OF S.W.M.F. #2 FROM AN INFILTRATION STRUCTURE TO A DETENTION STRUCTURE.

S.W.M.F. #2
8-1) GRADE EXISTING BOTTOM OF POND TO PROP. ELEV. 310.50 AND REGRADE TOP OF EMBANKMENT TO PROP. ELEV. 317.65
8-2) INSTALL GABION STRUCTURE TO ELEV. SPECIFIED ON PROFILE, SEE SHEET 9 OF 10

~~B) SWMF #2 TO BE CONSTRUCTED INITIALLY WITH A BOTTOM ELEVATION OF 311.0 WHILE IT IS BEING USED AS A SEDIMENT TRAP AND STABILIZED AS PER PERMANENT SEEDING NOTES.~~

DAY 38 - 45 — 7. CLEAR AND GRUB REMAINDER OF SITE

DAY 45 - 60 — 8. GRADE SITE

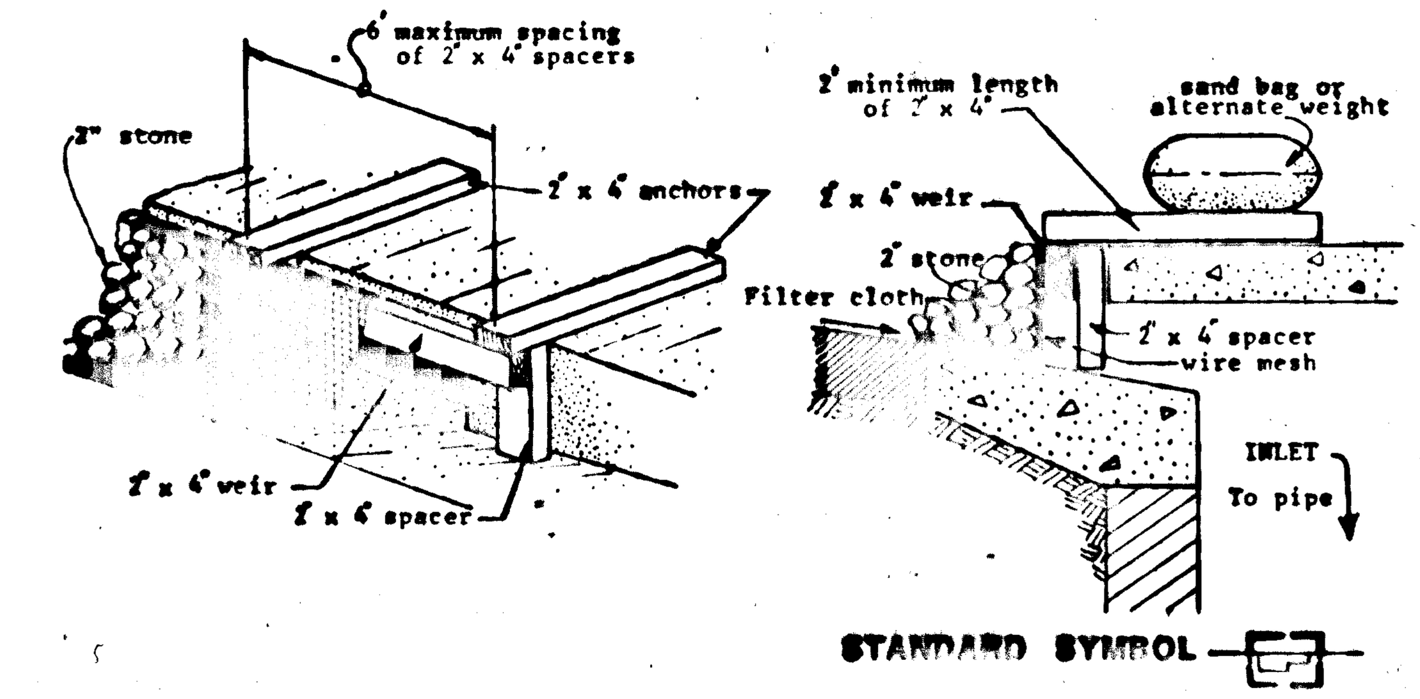
DAY 60 - 96 — 9. INSTALL UTILITIES (WATER, SEWER, AND STORM DRAINS) BLOCKING ALL INLETS AS PER INLET PROTECTION DETAIL. NOTE THAT THE 15" RCCP BETWEEN EX. I-117 AND I-6 WILL NOT BE CONSTRUCTED FROM EX I-117 TO STA 1+00 AT THIS TIME. CONSTRUCT STORM DRAIN FROM STA 1+00 TO I-6 ONLY. ANY FLOW EXITING FROM THIS STORM DRAIN WILL BE DIVERTED TO SEDIMENT TRAP NO. 3 VIA TEMPORARY SWALE AS SHOWN IN PLAN.

DAY 96 - 99 — 10. STABILIZE ALL SLOPES IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

DAY 99 - 124 — 11. COMPLETE ALL ROADWAY CONSTRUCTION AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

DAY 124 - 129 — 12. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT FROM SWMF'S #1 AND #2 AND SPREAD SEDIMENT ACROSS THE BACK OF LOTS 21 THRU 27. REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, COMPLETE STORM DRAIN CONSTRUCTION BETWEEN EX I-117 AND I-6, REMOVE ALL SEDIMENT FROM SWMF'S #1 AND #2 AND SPREAD SEDIMENT ACROSS THE BACK OF LOTS 21 THRU 27. REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.



INLET PROTECTION DETAIL

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 6-19-86

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."

DEVELOPER: James R. Moxley Jr. — 6-19-86

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 10-21-86

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

*APPROVED: ______ HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-23-86

NO	DATE	REVISION
	11-23-88	ADD NOTES TO SEQUENCE OF CONSTRUCTION

TRACY, SCHULTE & ASSOCIATES INC.
planning • architecture • engineering
8450 Baltimore National Pike • Suite 34 • Ellicott City, Maryland 21043 • (301) 465-6105

STATE OF MARYLAND — JAMES KENNETH TRACY — REGISTERED PROFESSIONAL ENGINEER

OWNER: SECURITY DEVELOPMENT CORP, 8450 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MARYLAND 21043

DEVELOPER: SECURITY DEVELOPMENT CORP, 8450 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MD 21043

PROJECT: HUNTINGTON SOUTH, SECTION 1 AREA 1, LOTS 1 THRU 68

LOCATION: 6TH ELECTION DISTRICT HOWARD COUNTY, MD. TAX MAP NO. 42 ZONING MAP NO. 42 PARCEL 87

TITLE: SEDIMENT CONTROL NOTES AND DETAILS

DATE JUNE 19, 1986 — PROJECT NO 8506 RSD

DES. R.J.W. — DRN. C.D.T. — SCALE AS SHOWN — DRAWING 8 OF 10

AS-BUILT 12-1-88

F-86-227

1235

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 minimmm 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 minimmm 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..

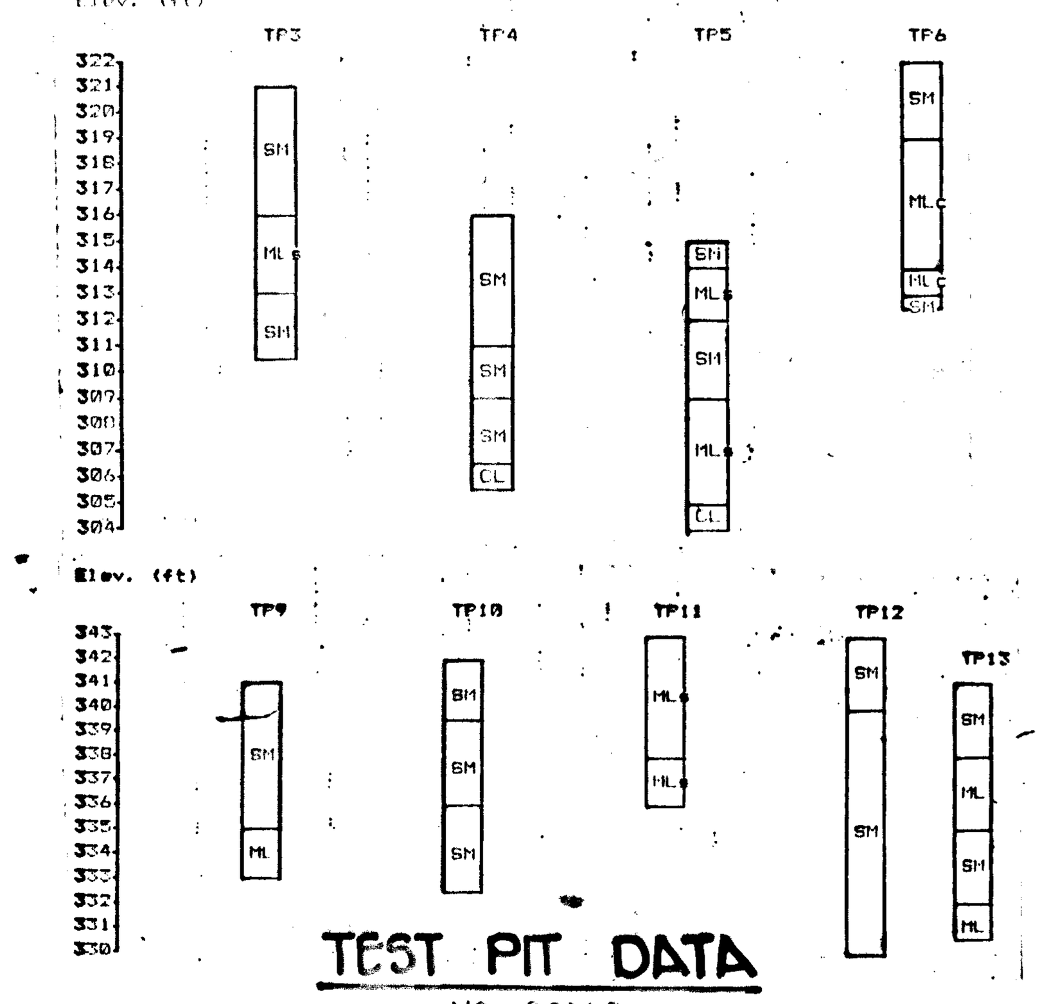
9. Placing Temperature - Concrete may not be placed at temperatures below 37°F with the temperature falling, or 34° with the temperature rising.

VI. STABILIZATION

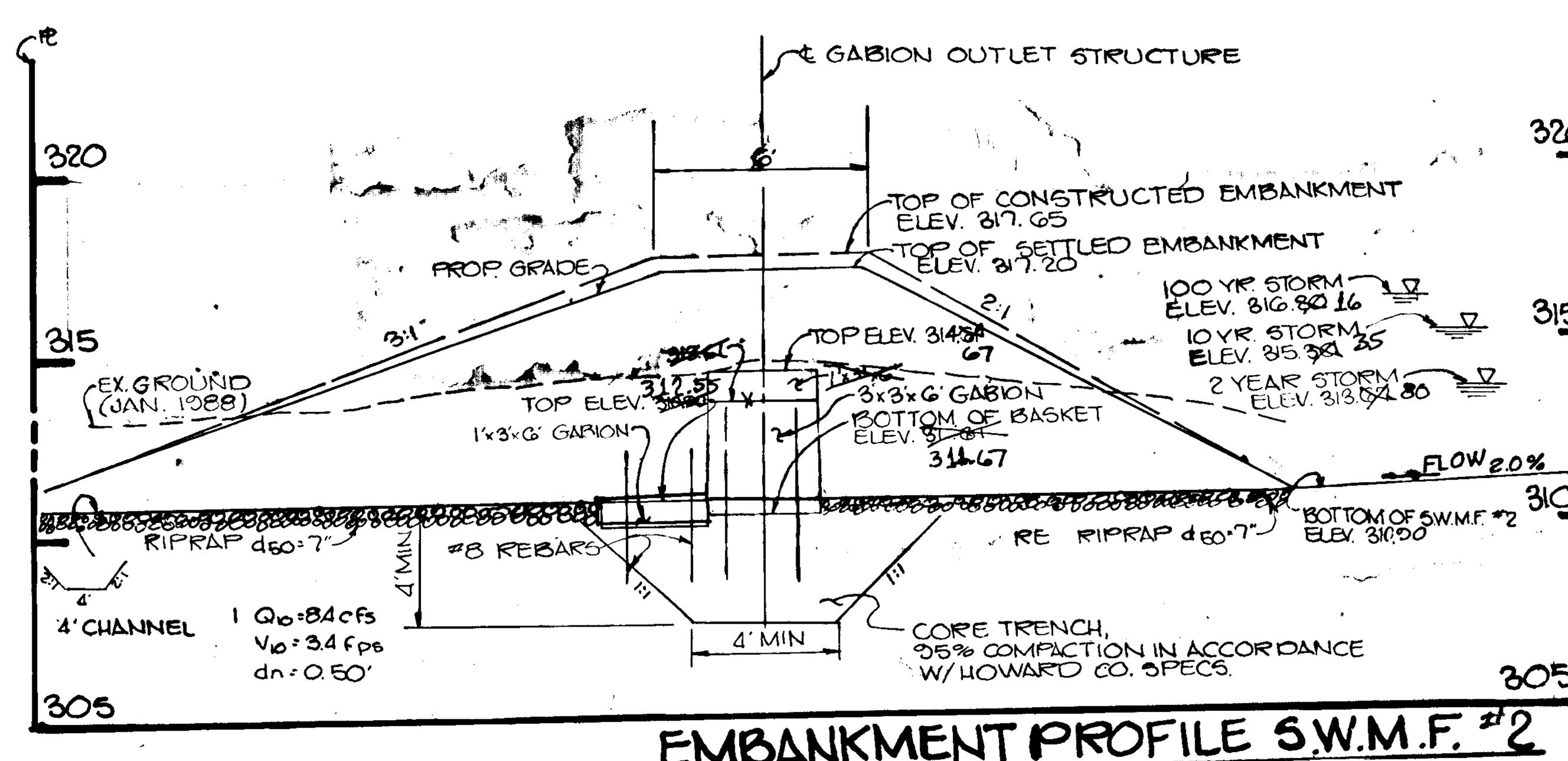
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications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

VII. EROSION AND SEDIMENT CONTROL

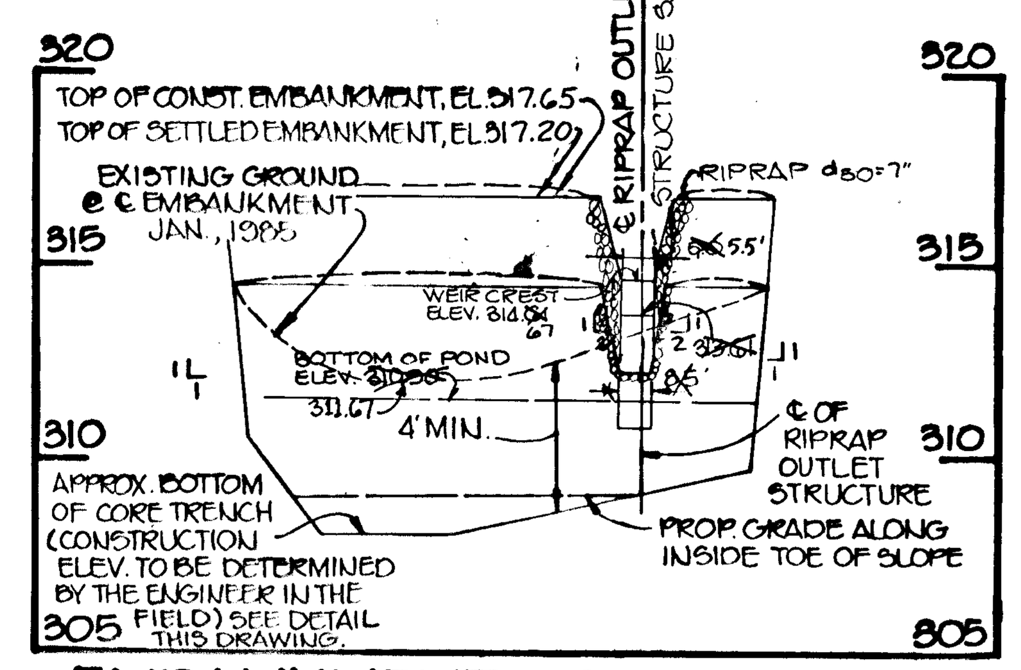
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction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



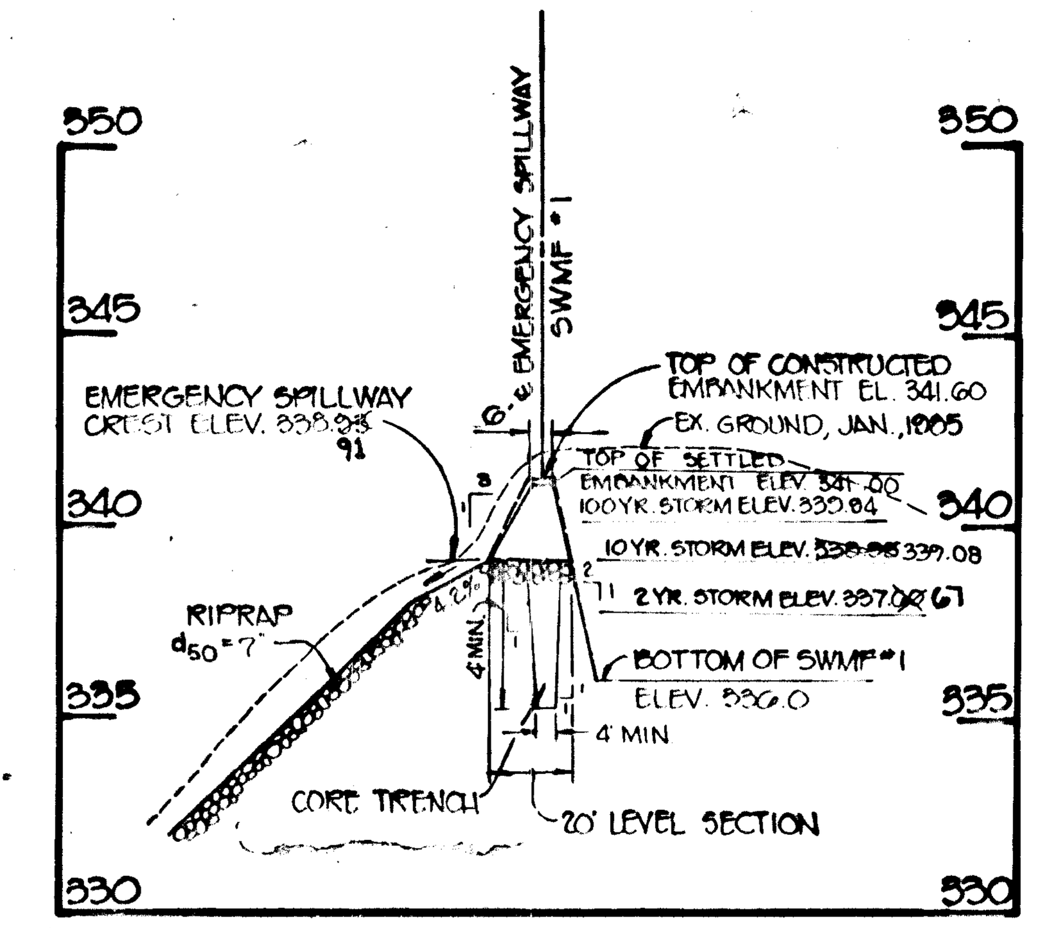
TEST PIT DATA
NO SCALE



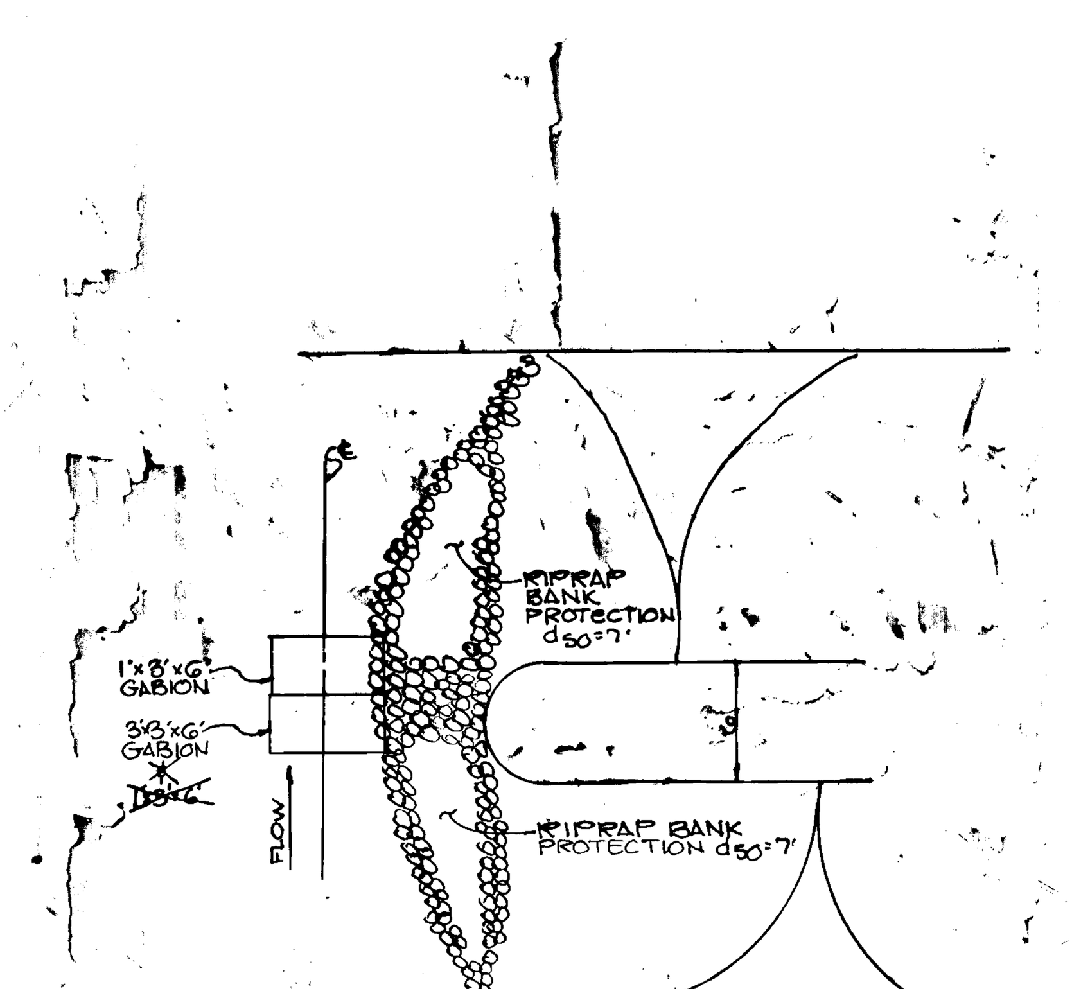
EMBANKMENT PROFILE S.W.M.F. #2
SCALE: 1"=5' VERT, 1"=50' HOR



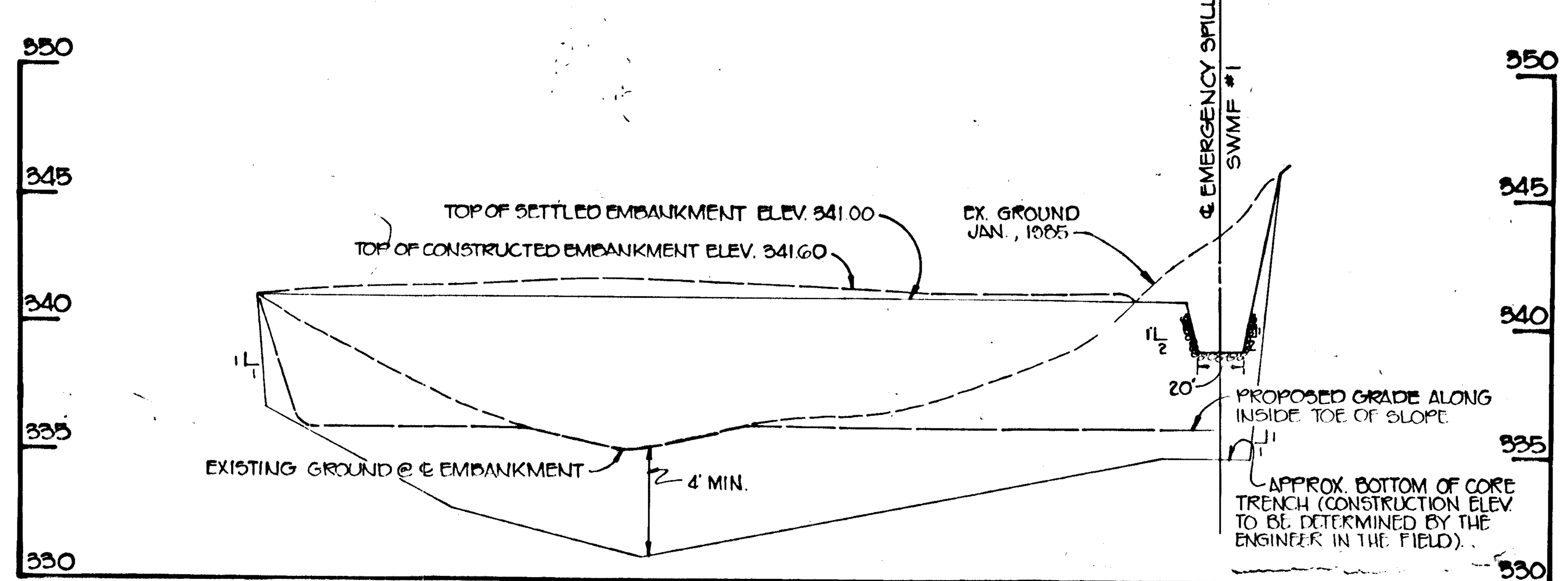
EMBANKMENT PROFILE
SWMF #2



SPILLWAY AND CHANNEL PROFILE
SWMF #1



TYPICAL EMBANKMENT RIPRAP
@ SPILLWAY
SCALE: 1"=10'



EMBANKMENT PROFILE SWMF #1
SCALE: H: 1"=50'
V: 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 — 6.19.86
ENGINEER: JAMES K TRACY — 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."

James R. Moxley Jr. — 6.19.86
DEVELOPER: JAMES R MOXLEY
SECURITY DEVELOPMENT CORPORATION - PRESIDENT — 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.

10-21-86
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. Zehner — 10-22-86
HOWARD S.C.D. — DATE

APPROVED HOWARD COUNTY OFFICE OF PLANNING AND ZONING

10-23-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

10-23-86
CHIEF, BUREAU OF ENGINEERING — DATE

NO	DATE	REVISION
	4-12-89	REVISED EMBANKMENT PROFILE AND SPILLWAY
	11-23-88	PUT EMBANKMENT PROFILE AND SPILLWAY

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

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STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER

OWNER SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT HUNTINGTON SOUTH SECTION ONE, AREA ONE LOTS 1 THRU 68 LOCATION 6TH ELECTION DISTRICT HOWARD COUNTY, MD TAX MAP NO. 42 ZONING MAP NO. 42 PARCEL 87
DEVELOPER SECURITY DEVELOPMENT CORP. 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	TITLE S.W.M. SPECIFICATIONS AND DETAILS
	DATE JUNE 1986 / PROJECT NO 8506 RSD
DES: J.K.T. / DRN: K.A.M./J.L.B.	SCALE AS SHOWN / DRAWING 9 OF 10

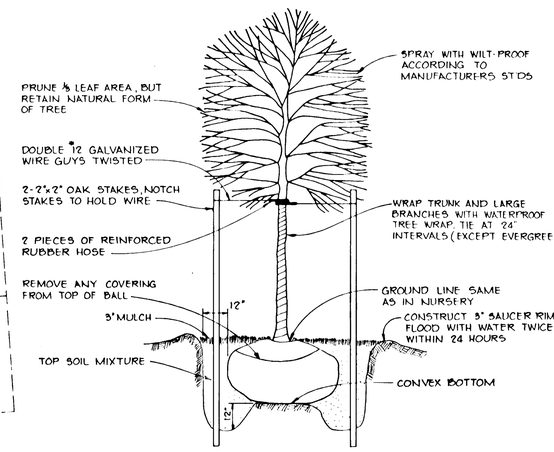
AS-BUILT 12-1-88

F-86-227

1235

PLANT LIST			
SYMBOL	QUANTITY	NAME	REMARKS
	19	ACER RUBRUM Red Maple	2½" Min. Cal. B&B Full Head
	19	QUERCUS PALUSTRIS Pine Oak	
	18	ACER SACCHARUM Sugar Maple	
	18	QUERCUS BOREALIS Red Oak	
TOTAL	74		

℄ LENGTH OF PROPOSED ROADS = 2251 LF ÷ 40 = 57.3
LENGTH OF VOLLMERHAUSEN DRIVE 493 = ÷ 80 = 6.2
LENGTH OF LINEAR PROFILES 806 LF = ÷ 80 = 10.1
TOTAL REQUIRED 73.6
TOTAL PROVIDED 74



TREE PLANTING DETAIL

NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 10-29-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-23-86

NO	DATE	REVISION

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OWNER SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	PROJECT HUNTINGTON SOUTH SECTION 1, AREA 1 LOTS 1 THRU 68
	LOCATION TAX MAP NO 42 PARCEL 87 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER SECURITY DEVELOPMENT CORP 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	TITLE PLANTING PLAN
DES. RJW DRN KMN/JLB	DATE JUNE 19, 1986 PROJECT NO 8506 R&D
	SCALE 1" = 50' DRAWING 10 OF 10

AS-BUILT 12-1-88

F-86-227

1235