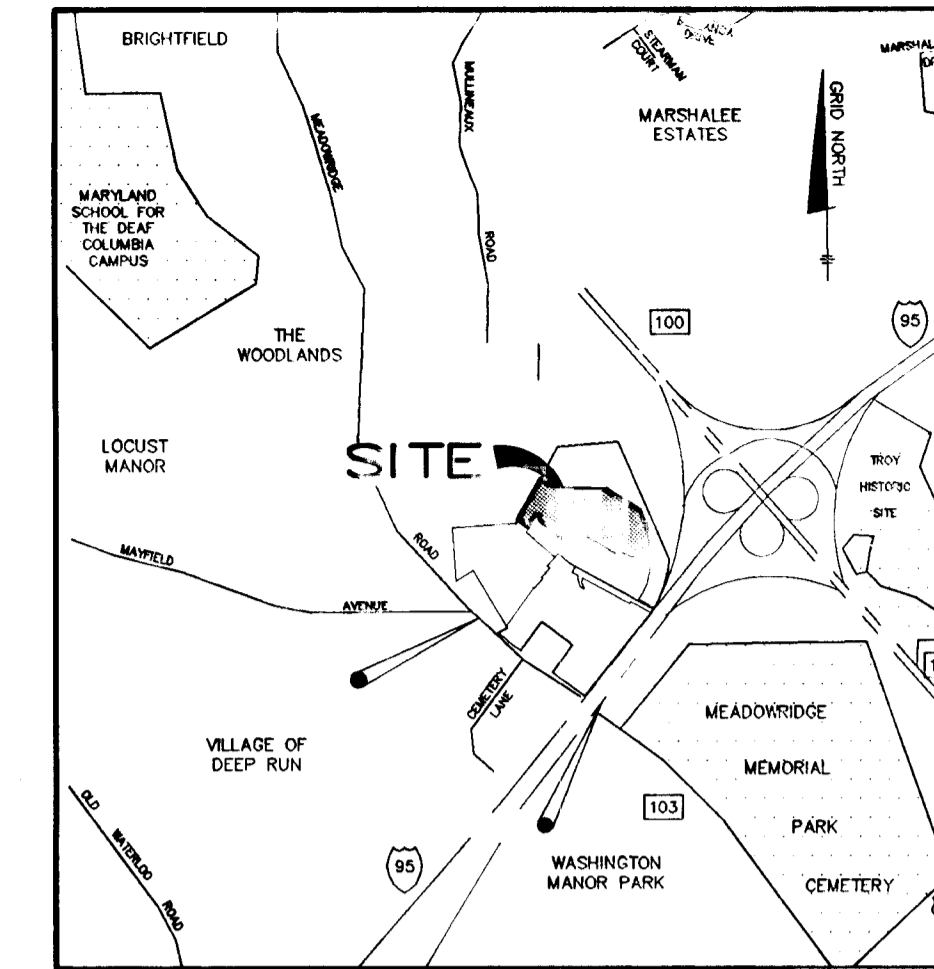


R/W	DESCR	ELEV.	R/W	DESCR	ELEV.
264	REBAR # CAP	287.26	421	REBAR # CAP	258.49
273	REBAR # CAP	283.20	425	REBAR # CAP	260.26
278	CONC. MON.	271.59	426	REBAR # CAP	261.19
281	REBAR # CAP	288.68	427	REBAR # CAP	261.26
284	CONC. MON.	290.16	432	REBAR # CAP	270.29
356	PUNCHMARK IN DRIVE	260.01	433	REBAR # CAP	269.54
363	MARK IN DRIVE	252.58	495	REBAR # CAP	275.15
369	REBAR # CAP	273.33	499	REBAR # CAP	280.15
370	PUNCHMARK IN CONC.	272.98	505	REBAR # CAP	274.12
373	REBAR # CAP	267.76	571	REBAR # CAP	290.28
374	CONC. MON.	265.35	658	MARK IN DRIVE	269.19
375	REBAR # CAP	268.14	691	REBAR # CAP	260.46
376	REBAR # CAP	267.88	910	REBAR # CAP	263.16
377	REBAR # CAP	269.09	911	REBAR # CAP	263.99
378	REBAR # CAP	269.09	957	REBAR # CAP	256.17
412	PUNCHMARK IN DRIVE	264.89	972	REBAR # CAP	274.53
413	REBAR # CAP	265.80	973	MARK IN DRIVE	259.76
415	PUNCHMARK IN DRIVE	264.91	1384	REBAR # CAP	271.25
416	CONC. MON.	266.10	1386	CONC. MON.	270.14
250	REBAR # CAP	244.61	999	REBAR # CAP	264.92
			315	REBAR # CAP	264.85

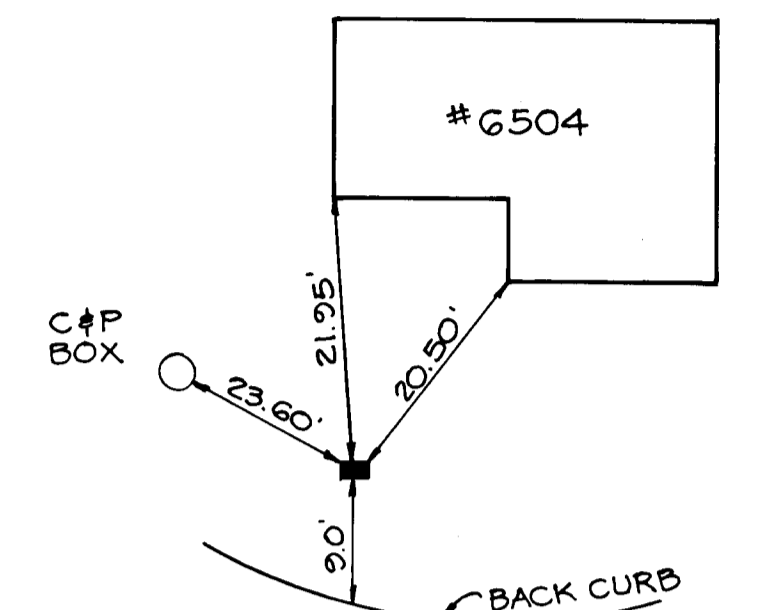
# ROADWAYS, STORM DRAINAGE AND STORMWATER MANAGEMENT

## NOTTINGHAM VILLAGE SECTION FOUR 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

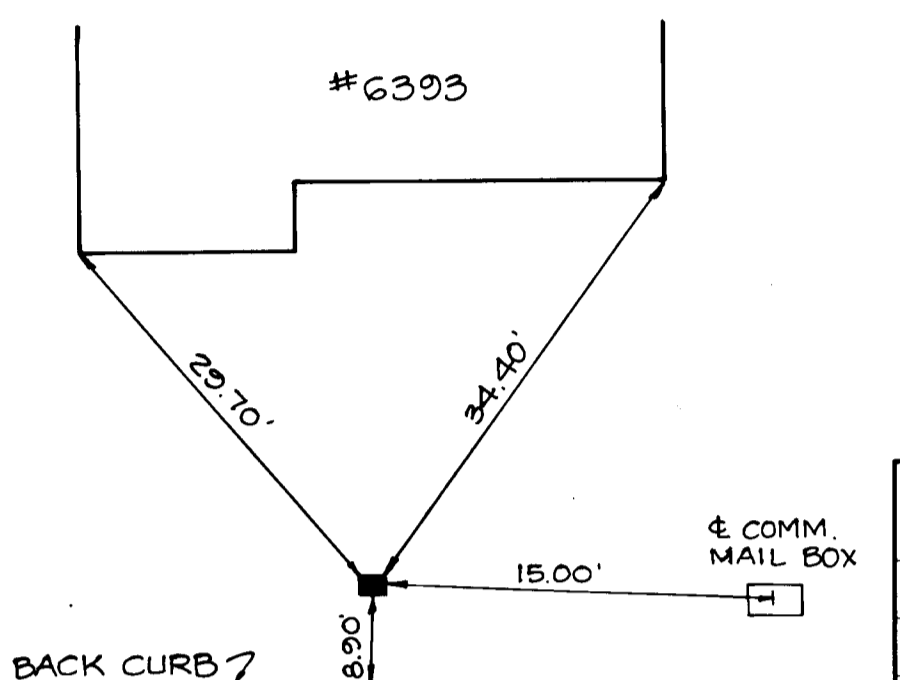


**VICINITY MAP**  
SCALE: 1" = 200'

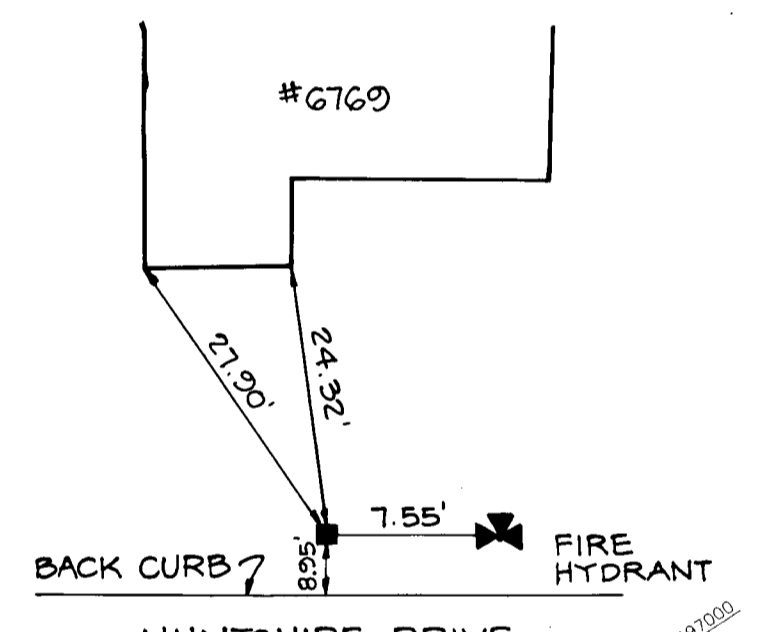
**BENCH MARKS**  
 HO. CO. BM # 2444005 ELEV. 271.249  
 CONCRETE MONUMENT 0.5' BELOW SURFACE  
 N495588.271 E863126.170  
 HO. CO. BM # 2445001 ELEV. 245.095  
 CONCRETE MONUMENT 0.1' BELOW SURFACE  
 N494663.186 E864478.479



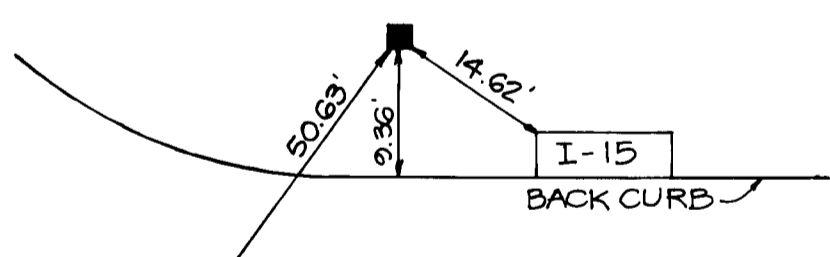
GRAINGER COURT  
MONUMENT RECOVERY  
CONC. MON. # 416  
N.T.S.



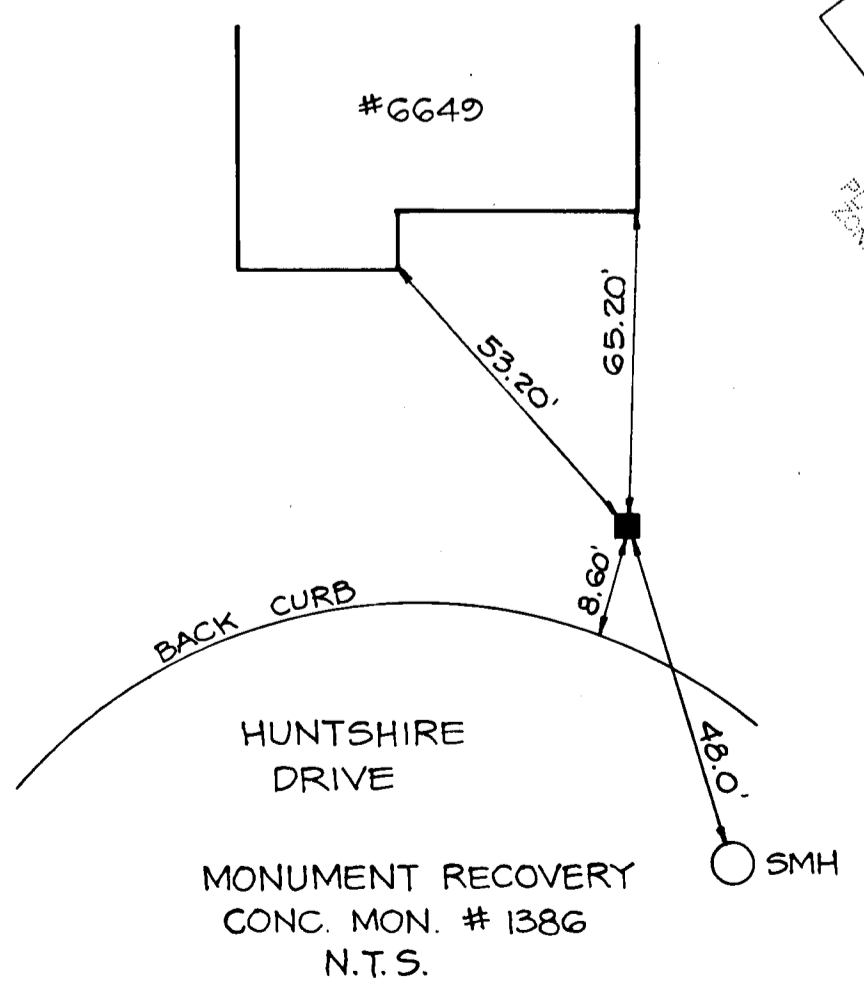
MERRYMAKER WAY  
MONUMENT RECOVERY  
CONC. MON. # 284  
N.T.S.



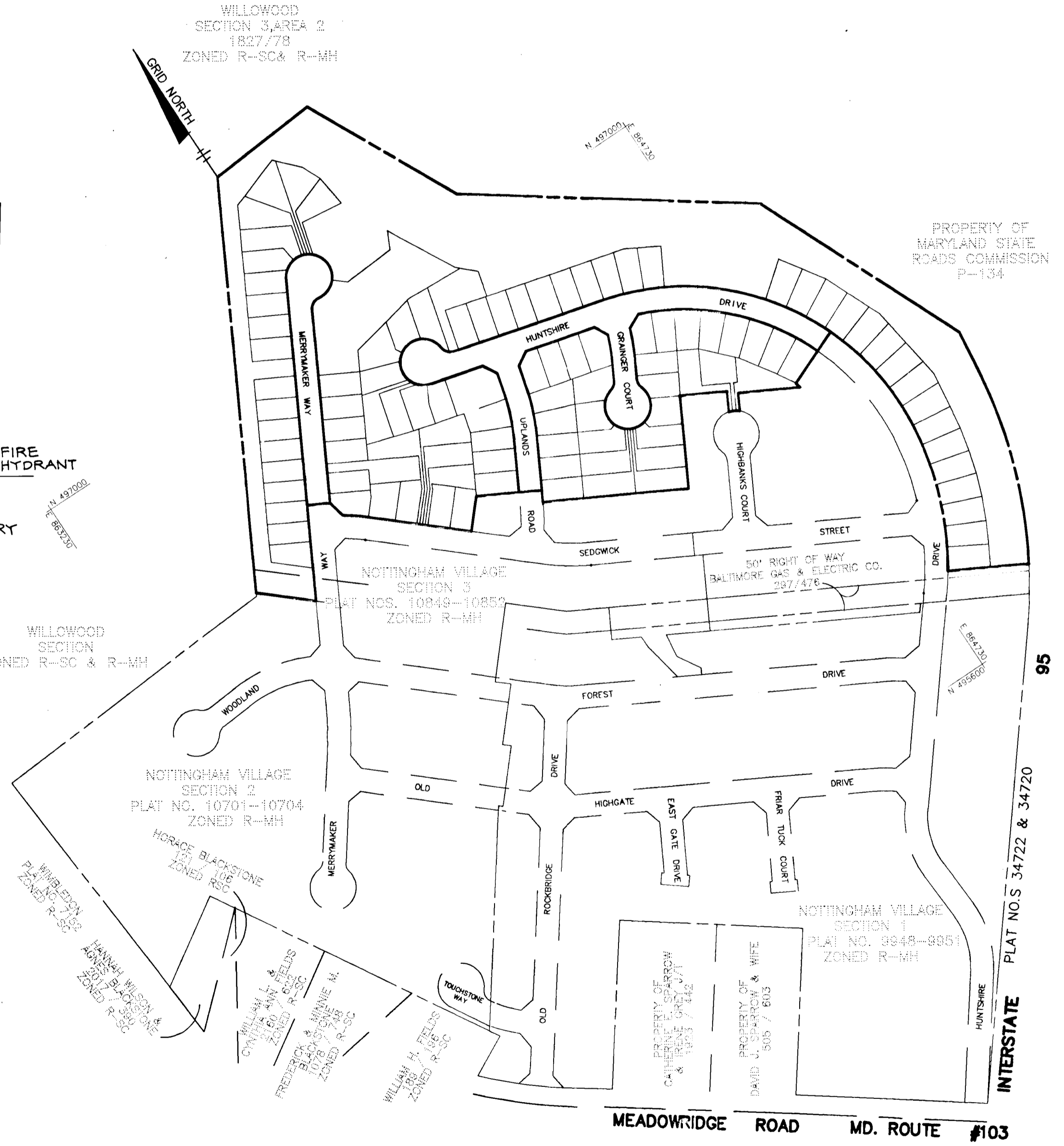
HUNTSHIRE DRIVE  
MONUMENT RECOVERY  
CONC. MON. # 374  
N.T.S.



MERRYMAKER WAY  
MONUMENT RECOVERY  
CONC. MON. # 278  
N.T.S.



HUNTSHIRE DRIVE  
MONUMENT RECOVERY  
CONC. MON. # 1386  
N.T.S.



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

### GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County, plus MSHA Standards and Specifications, if applicable.
- The contractor shall notify the Department of Public Works/Construction Inspection Division at (410) 313-1880 at least 24 hours prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Project Background:  
Location: Tax Map 37 - Parcel 615  
Zoning: R-MH  
Section 4  
Total Site Area: 22.51 Ac.  
Number of Proposed Lots: 106  
Date Preliminary Plan Approved: 11/17/93  
DPZ Reference #: P-93-13
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- Topography taken from aerial survey by Mapping Associates dated April 1986; supplemented by field run topography by TSA Group, Inc. dated 11/1/1992. Contours at 2' intervals.
- Howard County monuments 2444005 and 2445001 used for horizontal and vertical datum (Nad 29).
- Light poles and fixtures for street lights shall be in accordance with latest Howard County Design Manual, Volume III, Roads and Bridges.
- Water and Sewer for this subdivision is public. Drainage area is Potapoco. Contract No. 14-3378-D
- Stormwater Management for this subdivision is extended detention.
- Existing utilities were located by record drawings and field run survey by TSA Group, Inc. dated 11/92. (referenced plans: F-92-91, W & S Cont. #14-3019-D).
- Floodplain Study compiled by TSA Group, Inc., dated 9/92. Approved 9/92.
- Wetlands Delineation Study compiled by TSA Group, Inc. dated 1/89. Approved 11/17/93.
- Traffic Study compiled by Lee Cunningham & Associates, dated 5/92. Approved 11/17/93.
- Noise Study compiled by Polysonics dated 9/93. Approved 11/17/93.
- Geotechnical Report compiled by Atec Assoc., Inc., dated 12/13/89.
- Forest Conservation Plan prepared by Eco-Science Professionals, Inc. Approved 11/17/93.
- Sidewalk Ramps shall meet ADA requirements.

### SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ROAD PLAN: MERRYMAKER WAY
3	ROAD PLAN: GRAINGER CT. & UPLANDS RD.
4	ROAD PLAN: HUNTSHIRE DRIVE
5	DRAINAGE AREA MAP
6	DRAINAGE AREA MAP
7	STORM DRAIN PROFILES
8	GRADING PLAN
9	GRADING PLAN
10	STORMWATER MANAGEMENT DETAILS
11	STORMWATER MANAGEMENT DETAILS
12	STORMWATER MANAGEMENT NOTES, SEDIMENT CONTROL NOTES & DETAILS
13	EROSION AND SEDIMENT CONTROL PLAN
14	EROSION AND SEDIMENT CONTROL PLAN
15	LANDSCAPE PLAN
16	FOREST CONSERVATION PLAN
17	FOREST CONSERVATION PLAN
18	FOREST CONSERVATION STD'S. & SPECIFICATIONS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*William Dawson* 6/1/95  
*Richard M. Daniels* 5-26-95  
*Donald Mason* 6/1/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Frank V. ...* 6/5/95

NO.	DATE	REVISION

TSA GROUP, INC.  
planning • architecture • engineering  
8400 Baltimore National Pike • Ellicott City, Maryland 21045 • (410) 466-8105

*John ...*

OWNER/DEVELOPER:	NOTTINGHAM VILLAGE SECTION 4 LOTS 243 - 350
LOCATION:	TAX MAP 37-PARCEL 615 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	TITLE SHEET S-92-09-F-92-91 P-93-13
DATE:	AUG, 1994
PROJECT NO. 0051	

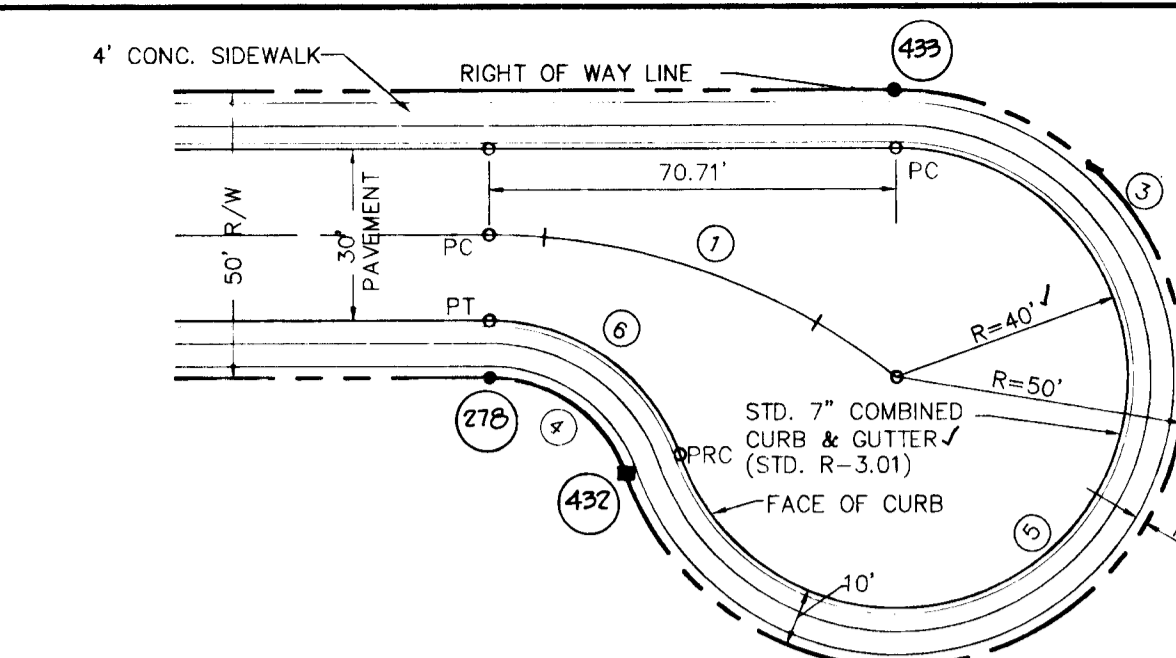
DES: YSL CHK: CAM DRN: YSL SCALE: AS SHOWN DRAWING 1 OF 18

1647

*Donald Mason*  
AS-BUILT 11/15/99

**¢ CURVE DATA**

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	112.50'	76.30'	39.68'	74.84'	S 4°55'07" W	38°51'30"
3	50.00'	218.63'	70.71'	81.65'	250°31'42"	70°31'42"
4	25.00'	30.77'	17.68'	28.87'	85.32°	290°32'00"
5	40.00'	174.91'	56.54'	65.32'	290°32'00"	70°31'44"
6	35.00'	43.08'	24.75'	40.41'	70°31'44"	

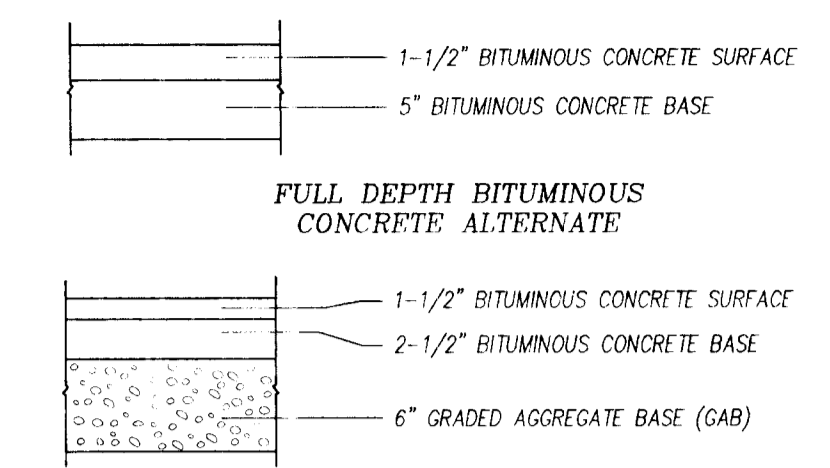


**¢ CURVE DATA**

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	112.50'	76.30'	39.68'	74.84'	S 4°55'07" W	38°51'30"
3	50.00'	218.63'	70.71'	81.65'	250°31'42"	70°31'42"
4	25.00'	30.77'	17.68'	28.87'	85.32°	290°32'00"
5	40.00'	174.91'	56.54'	65.32'	290°32'00"	70°31'44"
6	35.00'	43.08'	24.75'	40.41'	70°31'44"	

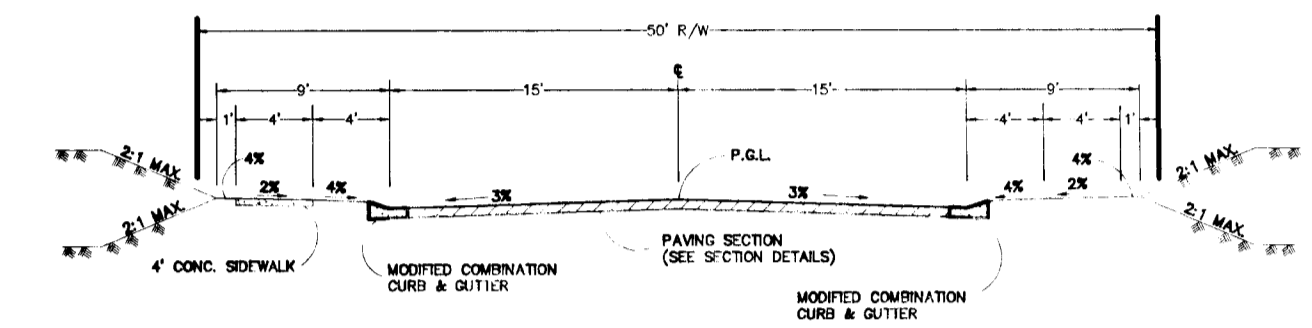
**PAVING SECTION P-2**  
NOT TO SCALE

**MODIFIED OFFSET CUL-DE-SAC**  
**MERRYMAKER WAY**  
NOT TO SCALE



**GRANULAR BASE ALTERNATE**  
**PAVING SECTION P-2**  
NOT TO SCALE

NOTE: MICACEOUS SOIL SUBGRADES REQUIRE THE USE OF EITHER OF THE AGGREGATE BASE PAVEMENT SECTIONS AS SHOWN ON THE PAVEMENT SECTIONS EITHER THE FULL DEPTH BITUMINOUS CONCRETE SECTION OR THE AGGREGATE BASE PAVEMENT SECTIONS CAN BE USED FOR ALL OTHER SUBGRADE SOILS.



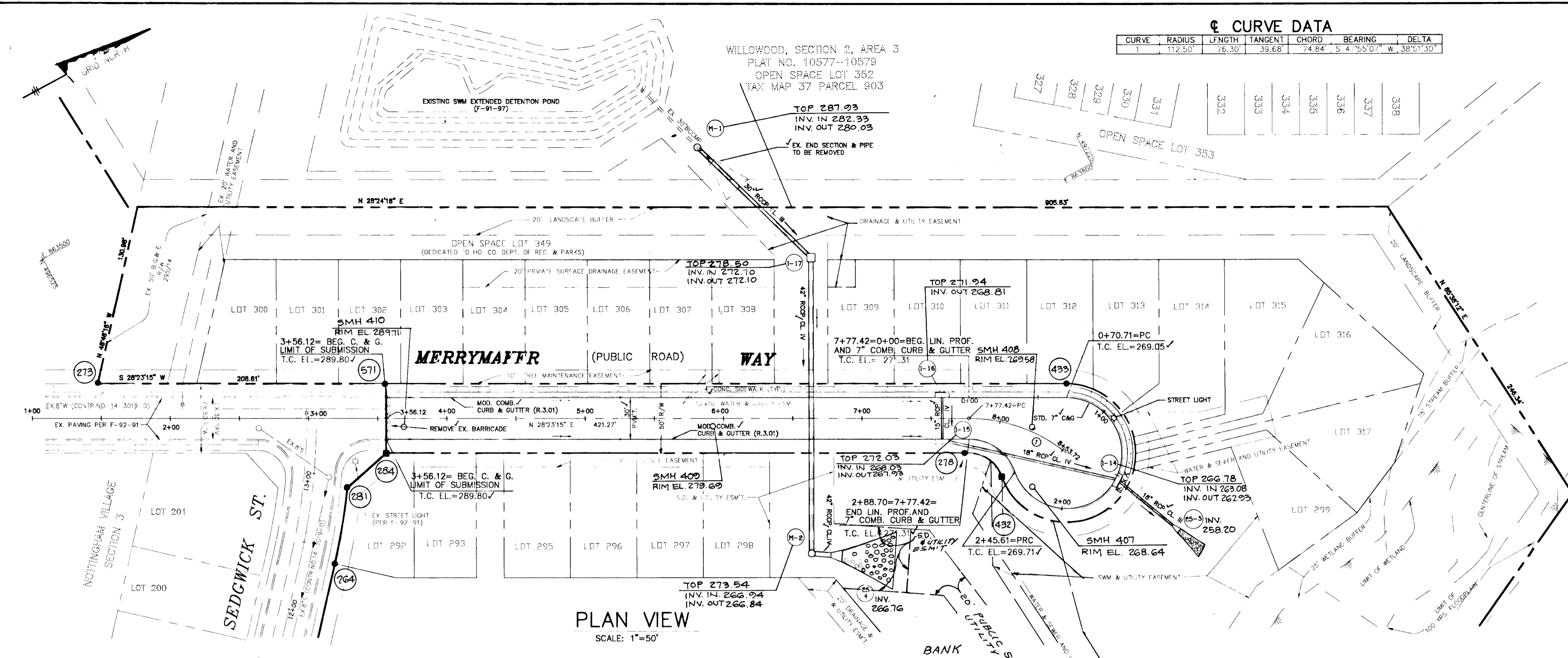
MERRYMAKER WAY: FROM STA. 3+56.12 TO 7+77.42  
**TYPICAL ROAD SECTION**  
NOT TO SCALE

**CENTERLINE CONTROL DATA**

STREET NAME	STATION	COORDINATES		REMARKS
		NORTHING	EASTING	
MERRYMAKER WAY	3+56.12	496688.5466	863719.4104	BEGIN CONSTRUCTION
	7+77.42	497059.1827	863919.7082	P.C.
	8+53.72	497109.4797	863975.3064	CENTER OF CUL-DE-SAC

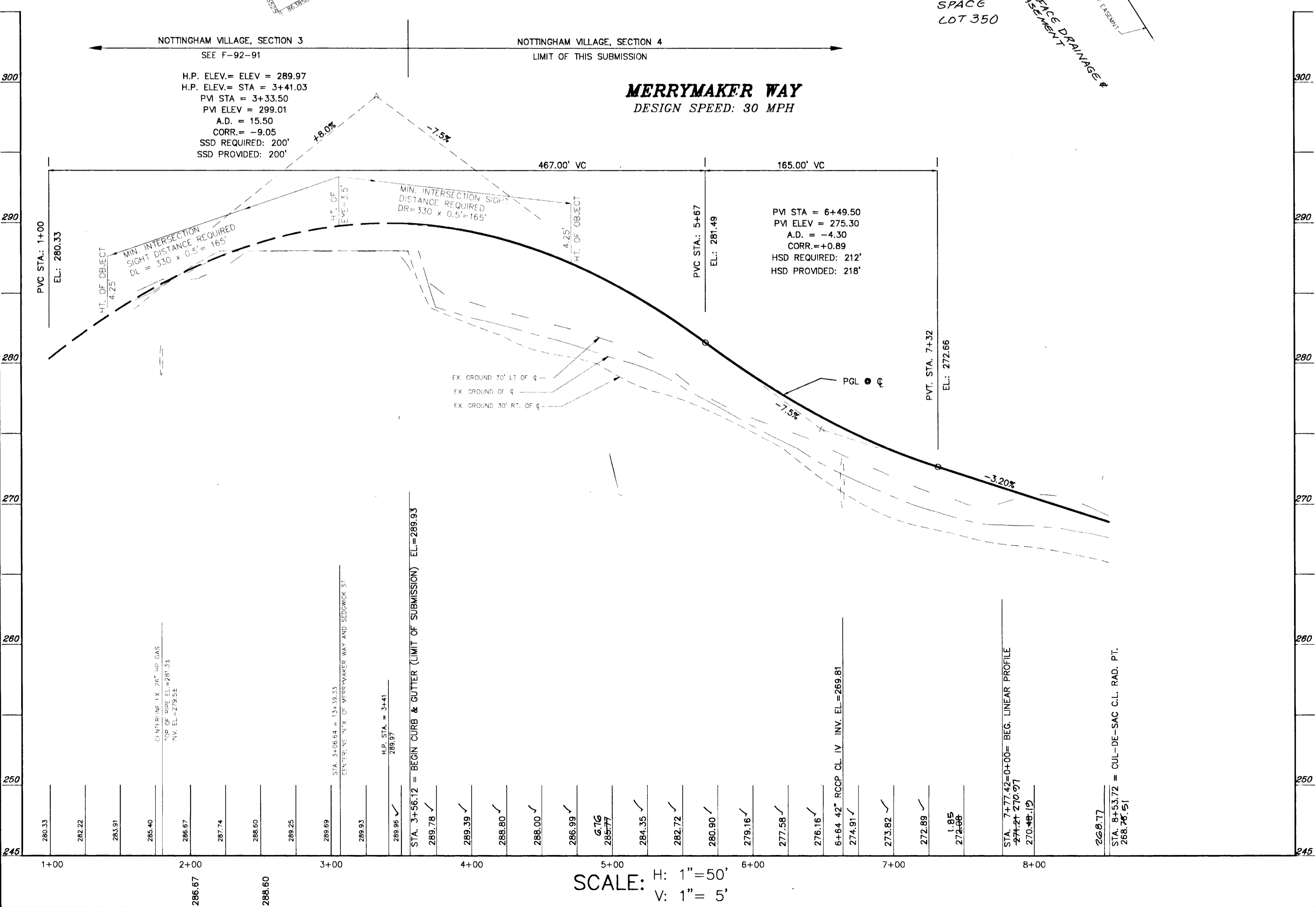
**STREET LIGHT LOCATION TABLE**

STREET NAME	C.L. STATION	OFFSET	TYPE	REMARKS
MERRYMAKER WAY	1+08*	2.0' LEFT	100 WATT SODIUM VAPOR TRADITIONAL POST	*LINEAR PROFILE STATION
HUNTSIRE DRIVE	18+71	17.0' LEFT	TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS EMBEDDED POLE	
HUNTSIRE DRIVE	22+58	29.0' LEFT		
UPLANDS ROAD	4+17.53	31.13 RIGHT		



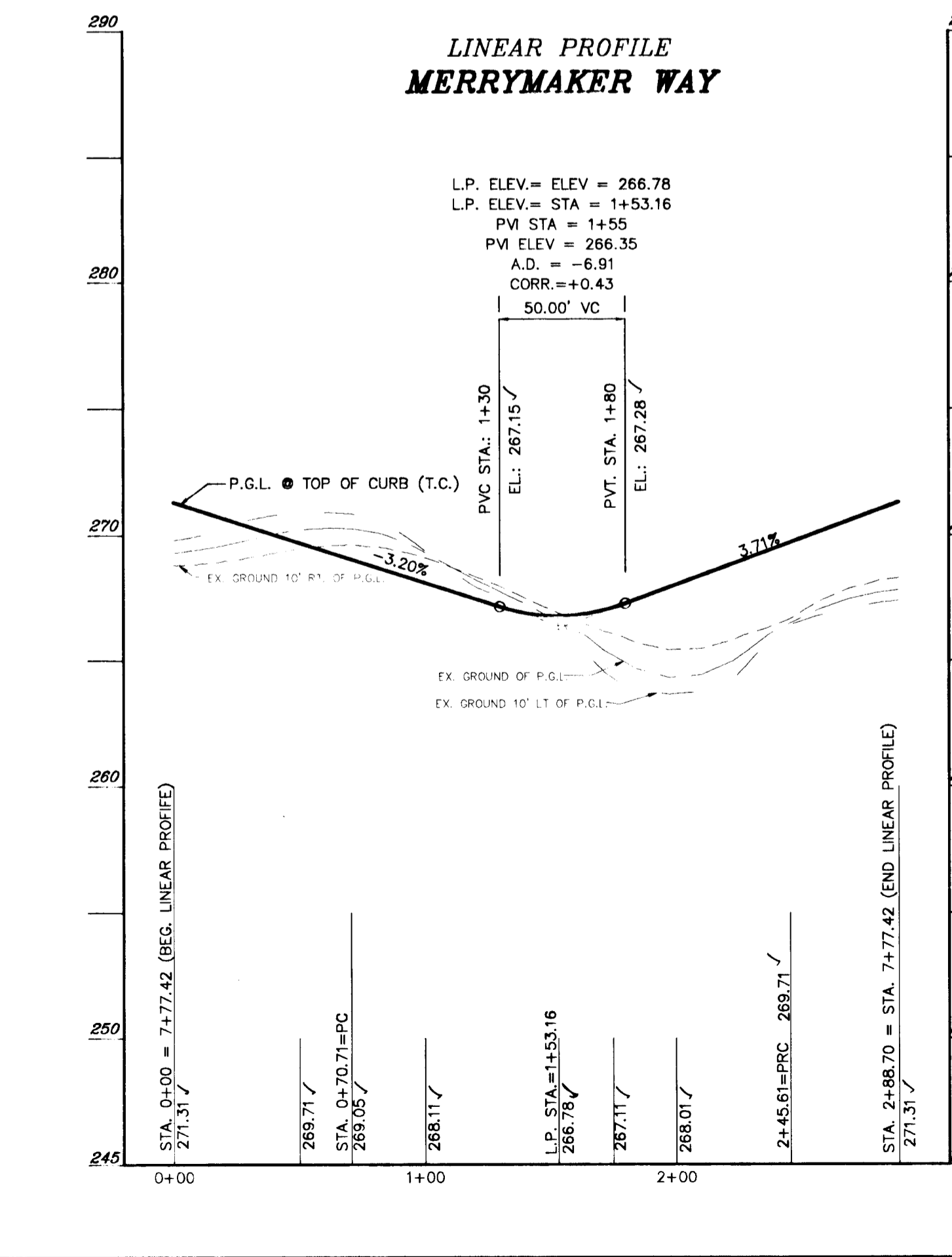
**PLAN VIEW**  
SCALE: 1"=50'

- NOTES:**
- FOR STREET LIGHT LOCATION SEE TABLE THIS SHEET.
  - ALL SIDEWALK RAMP ARE HOWARD CO. STD. R.4.01.



**MERRYMAKER WAY**  
DESIGN SPEED: 30 MPH

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



**LINEAR PROFILE**  
**MERRYMAKER WAY**

**APPROVED:** HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad Dammann* 6/1/95  
CHIEF, DIVISION OF LAND DEVELOPMENT & RESEARCH

*Andrew M. Daniels* 5-26-95  
CHIEF, BUREAU OF HIGHWAYS

*Paul J. Eppson* 6/1/95  
CHIEF, BUREAU OF UTILITIES

**APPROVED:** HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Marsha J. Daniels* 6/5/95  
CHIEF, DIVISION OF LAND DEVELOPMENT & RESEARCH

1	1-25-97	REMOVE SIDEWALK ALONG EAST SIDE OF MERRYMAKER WAY
NO DATE		REVISION

**TSA GROUP, INC.**  
planning • architecture • engineering  
8400 Baltimore National Pike • Ellicott City, Maryland 21045 • (410) 466-8100

OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP.  
P.O. BOX 417  
ELICOTT CITY, MARYLAND 21041  
(410)465-6105

PROJECT: **NOTTINGHAM VILLAGE**  
SECTION 4  
LOTS 243 - 350

LOCATION: TAX MAP 37-PARCEL 615  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: **ROAD PLAN: MERRYMAKER WAY**

DATE: AUG., 1994 PROJECT NO. 0051

DES: CAM/DAM DRN: YSL SCALE: AS SHOWN DRAWING 2 OF 18

1647

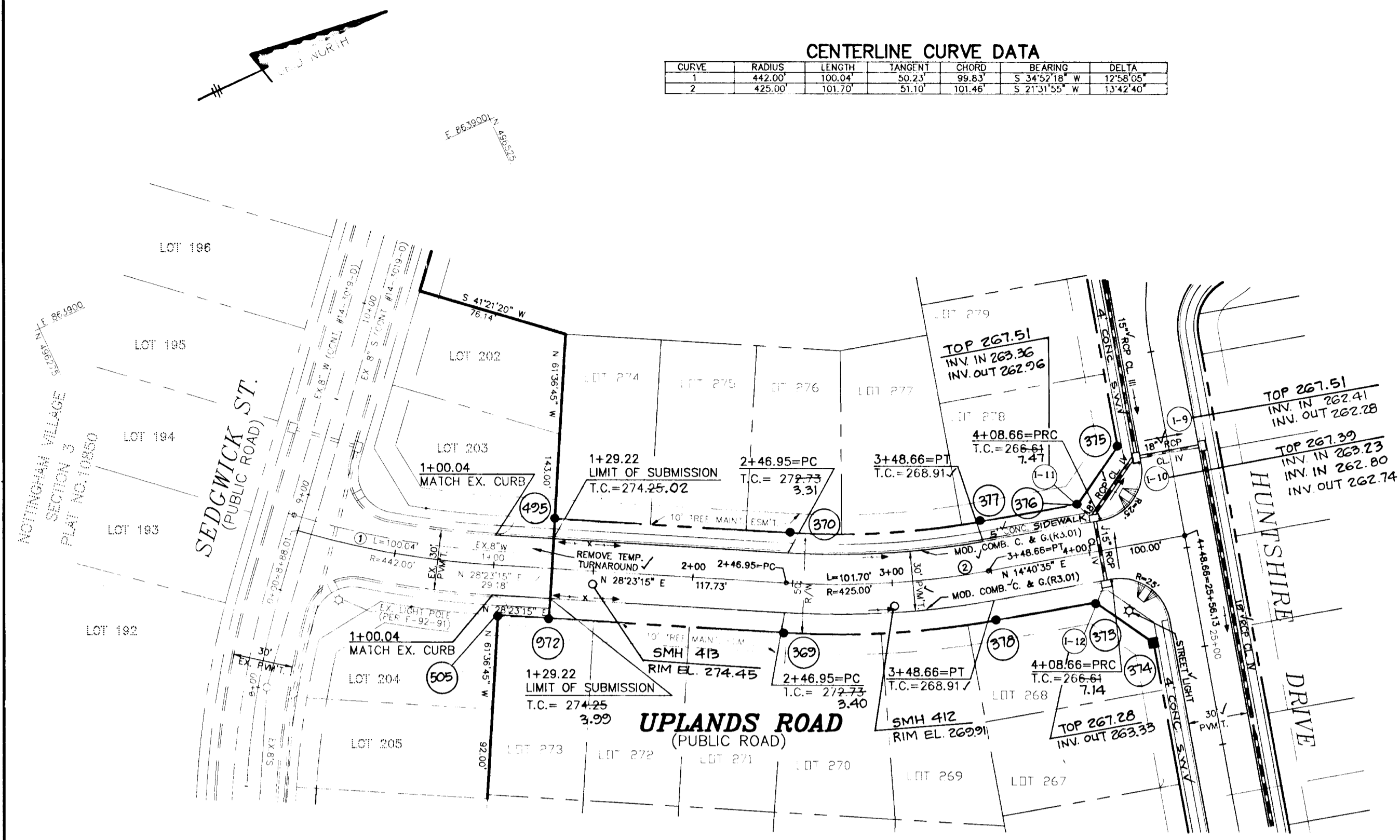
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	442.00'	136.04'	80.27'	85.43'	S 34°52'18" W	173°00'
2	425.00'	101.70'	51.10'	101.46'	S 21°31'55" W	134°40'

**CENTERLINE CONTROL DATA**

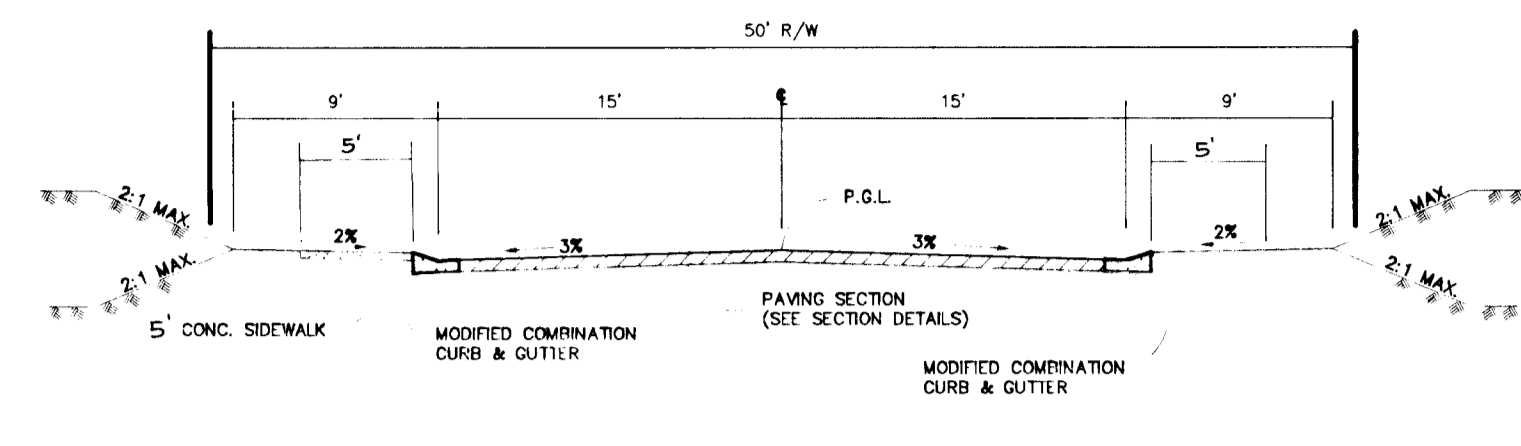
STREET NAME	STATION	COORDINATES		REMARKS
		NORTHING	EASTING	
UPLANDS ROAD	1+29.22	496457.6319	864117.4948	BEGIN CONSTRUCTION
	2+48.95	496561.2093	864173.4897	P.C.
	3+48.66	496655.5906	864210.7082	P.T.
	4+48.66	496752.3278	864236.0441	INTX. HUNTSHPRE DR.
GRAINGER COURT	0+00	496686.1858	864487.4906	INTX. HUNTSHPRE DR.
	0+12.04	496674.6432	864484.0665	P.C.
	1+15.58	496579.1263	864444.5895	P.T.
	2+12.58	496493.7661	864398.4703	CENTER OF CUL-DE-SAC

**CENTERLINE CURVE DATA**

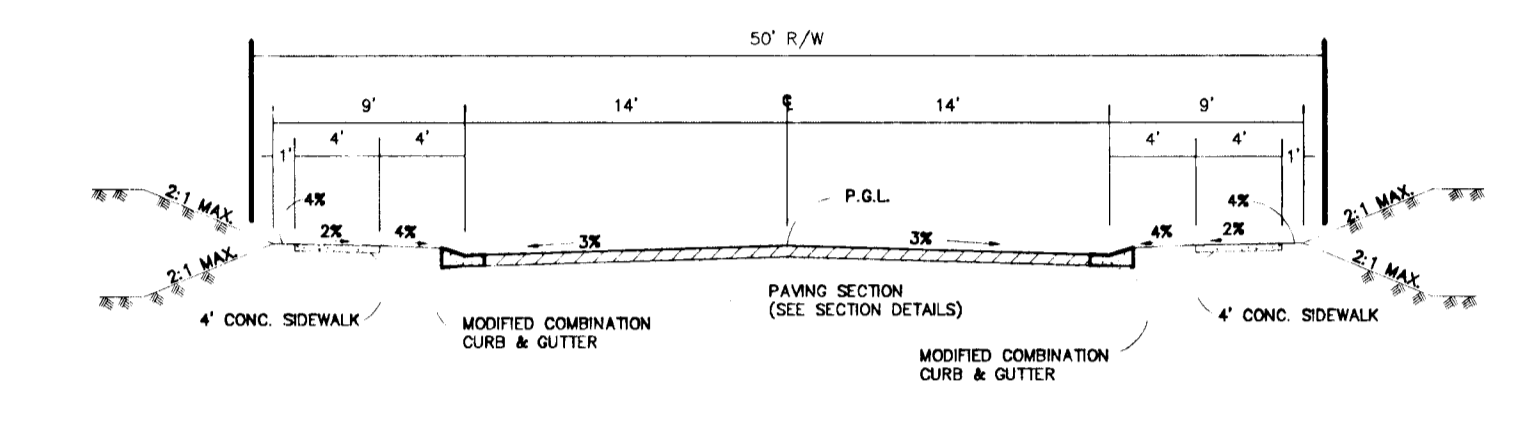
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	442.00'	136.04'	80.27'	85.43'	N 22° 14' 14" E	113° 05'



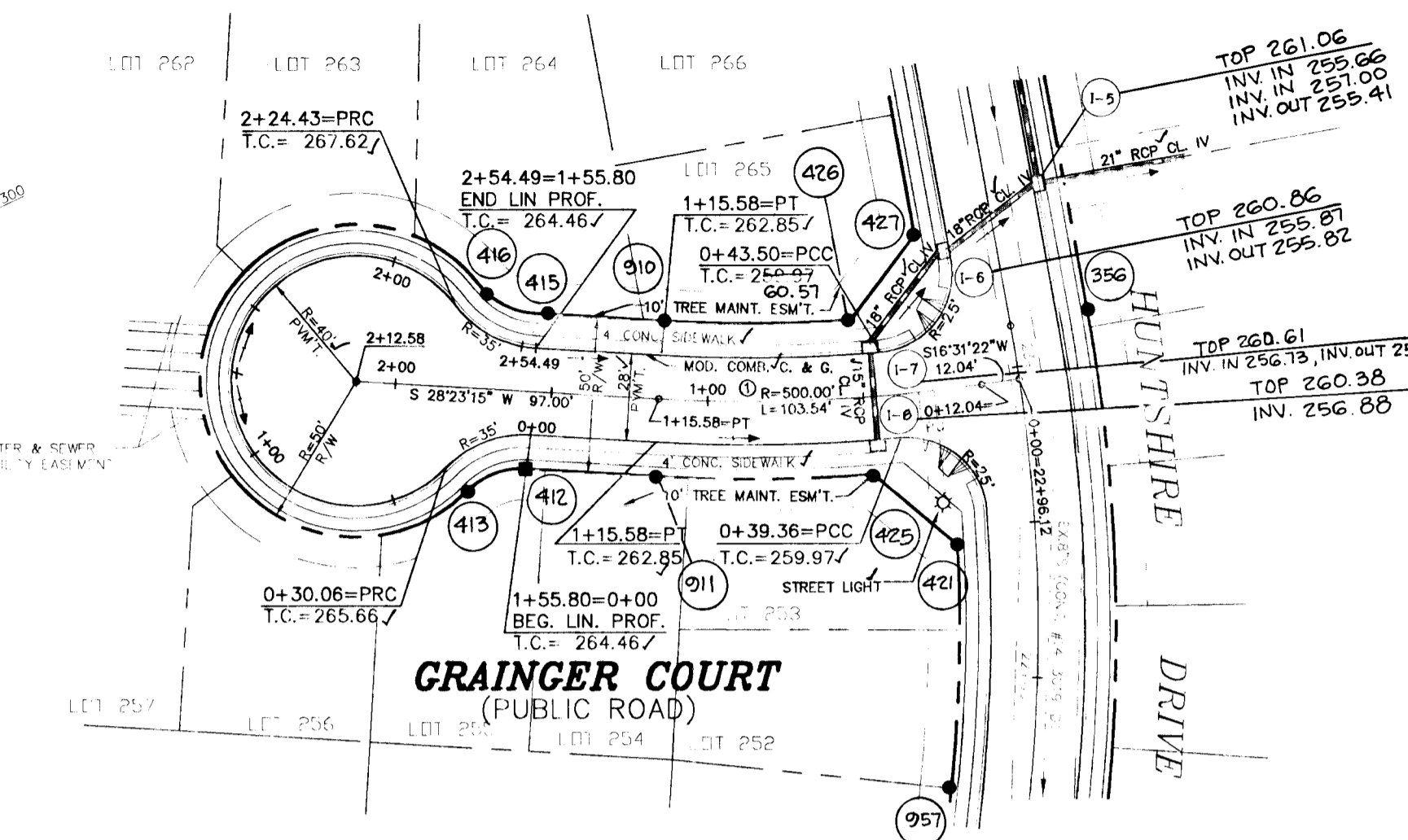
**PLAN VIEW : UPLANDS ROAD**  
SCALE: 1"=50'



**TYPICAL ROAD SECTION: UPLANDS ROAD**  
NOT TO SCALE



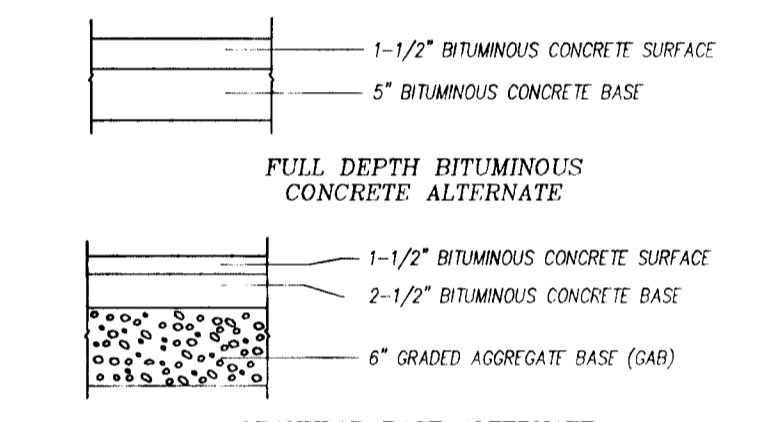
**TYPICAL ROAD SECTION: GRAINGER COURT**  
NOT TO SCALE



**PLAN VIEW : GRAINGER COURT**  
SCALE: 1"=50'

- NOTES:
- FOR STREET LIGHT LOCATION SEE TABLE SHEET 2 OF 15.
  - ALL SIDEWALK RAMP ARE HOWARD CO. STD. R.4.01.

Donald Mason  
AS-BUILT 8/16/99



**PAVING SECTION P-2**  
NOT TO SCALE

NOTE: MICACEOUS SOIL SUBGRADES REQUIRE THE USE OF EITHER OF THE AGGREGATE BASE PAVEMENT SECTIONS AS SHOWN ON THE PAVEMENT SECTIONS EITHER THE FULL DEPTH BITUMINOUS CONCRETE SECTION OR THE AGGREGATE BASE PAVEMENT SECTIONS CAN BE USED FOR ALL OTHER SUBGRADE SOILS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad Deane* 6/1/95  
*Andrew M. Daniels* 5-26-95  
*Robert J. Spon* 6/1/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Martha V. L. Taylor* 6/5/95

NO	DATE	REVISION
1	1-25-97	REMOVE SIDEWALK ALONG EAST SIDE OF UPLANDS ROAD

TSA GROUP, INC.  
planning • architecture • engineering  
8480 Baltimore National Pike • Ellicott City, Maryland 21045 • (410) 485-6106

*John Jennings*

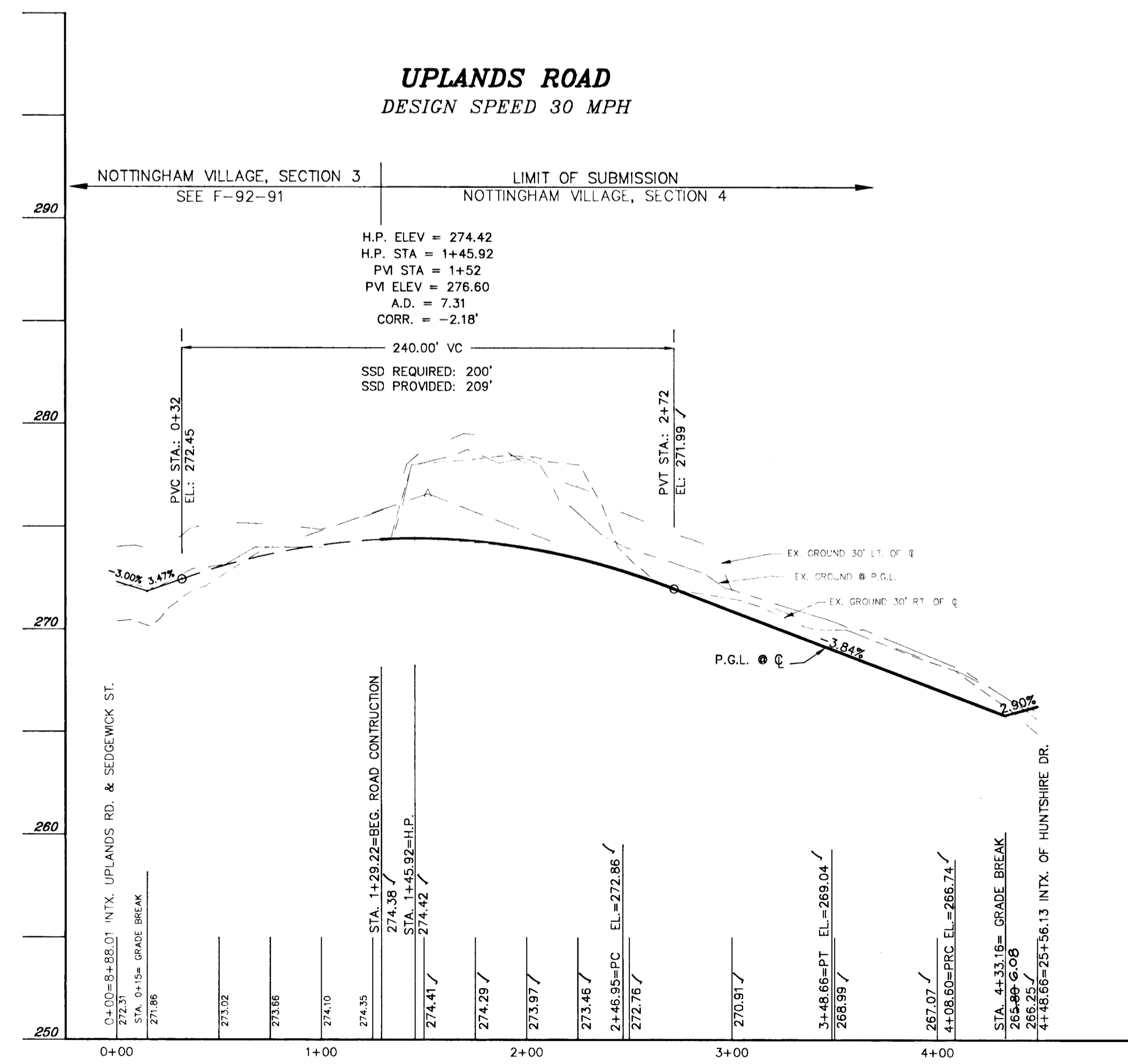
OWNERS/DEVELOPER: SECURITY DEVELOPMENT CORP.  
P.O. BOX 417  
ELICOTT CITY, MARYLAND 21041  
(410)465-6105

PROJECT: NOTTINGHAM VILLAGE SECTION 4 LOTS 243 - 350

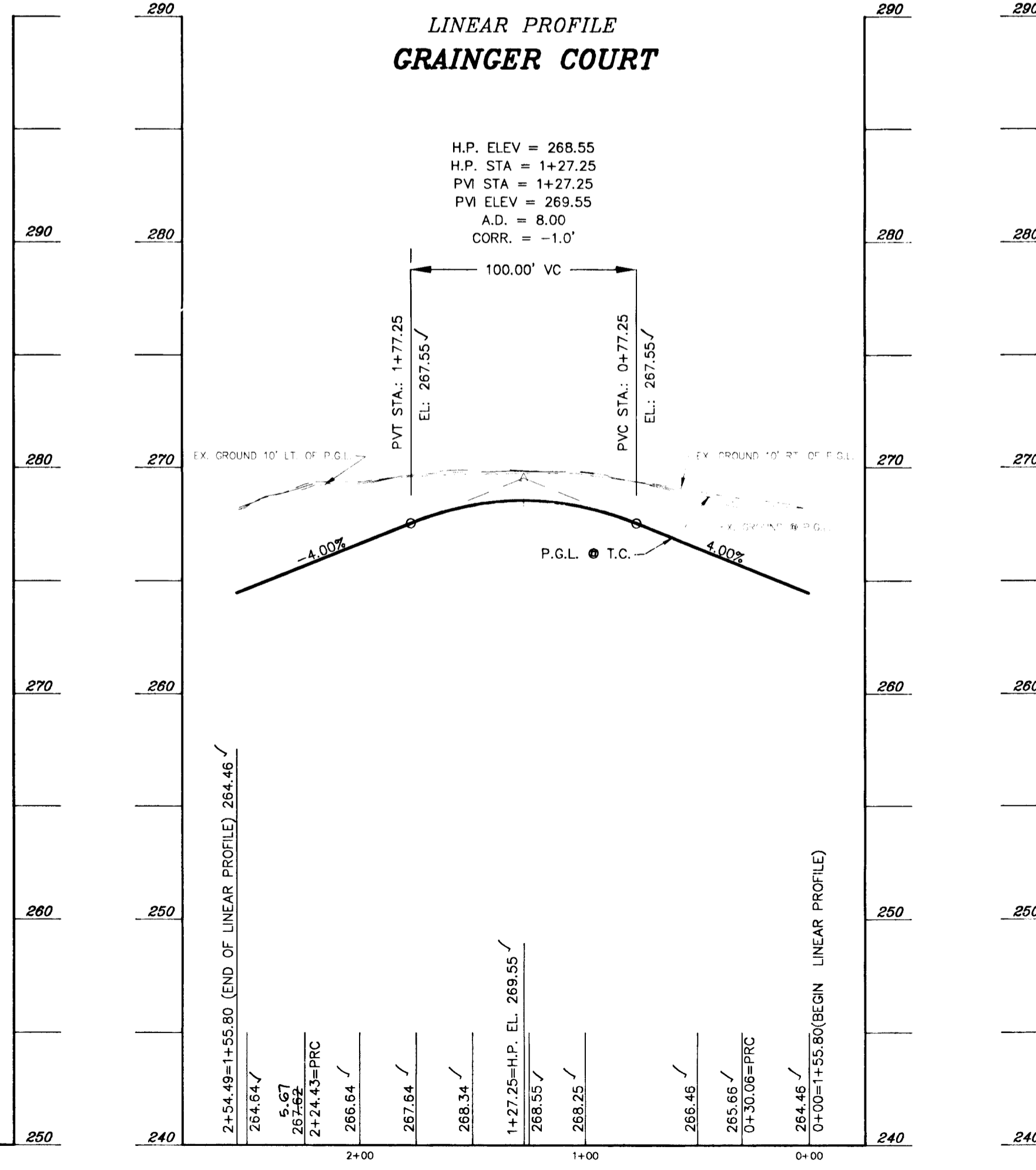
TITLE: ROAD PLAN: GRAINGER COURT AND UPLANDS ROAD, STA. 1+29.22 TO 4+48.66

DATE: AUG., 1994 PROJECT NO. 0051

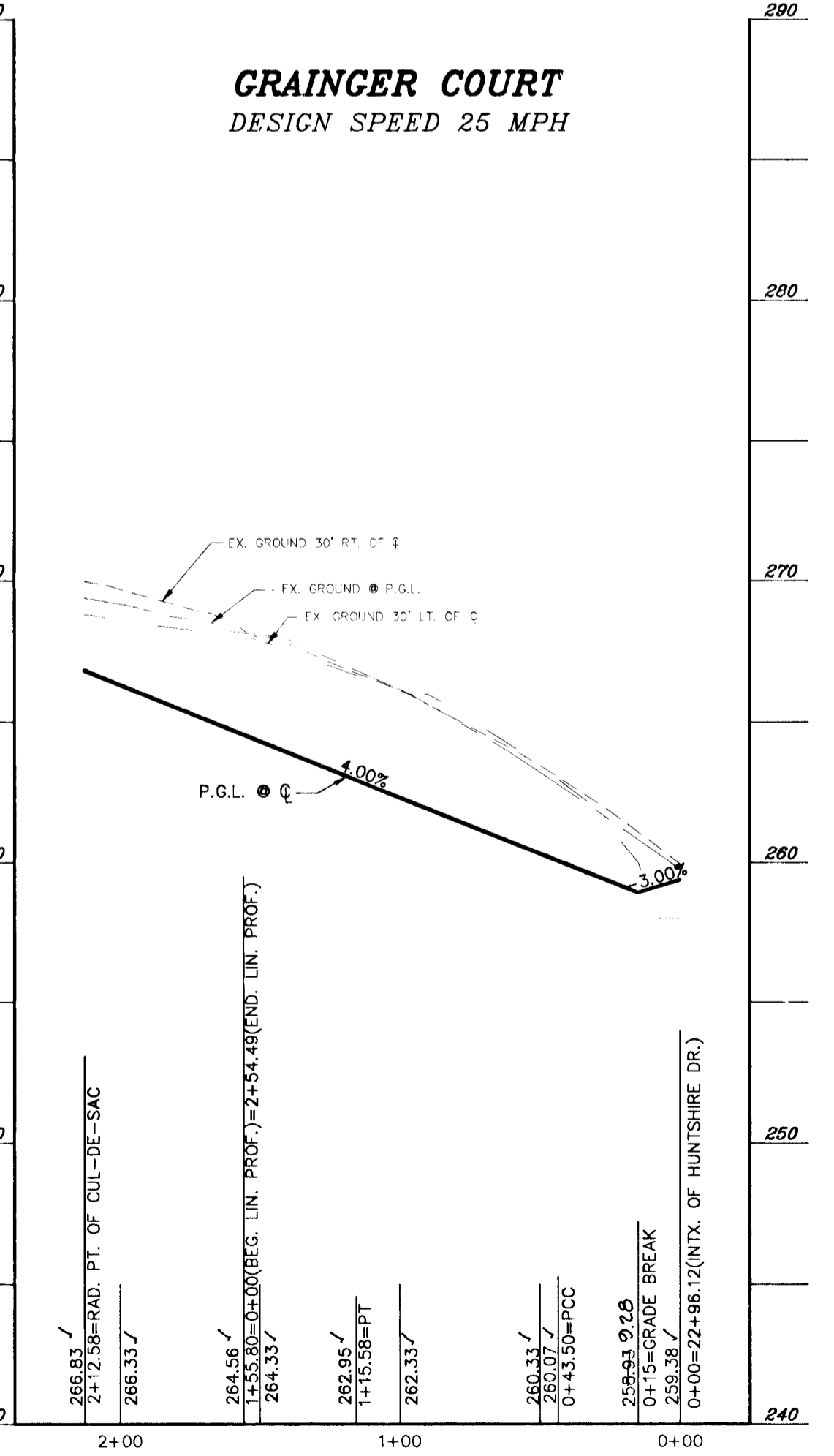
DES: CAM/DAM DRN: YSL SCALE: AS SHOWN DRAWING NO. 3 C 18



**UPLANDS ROAD**  
DESIGN SPEED 30 MPH

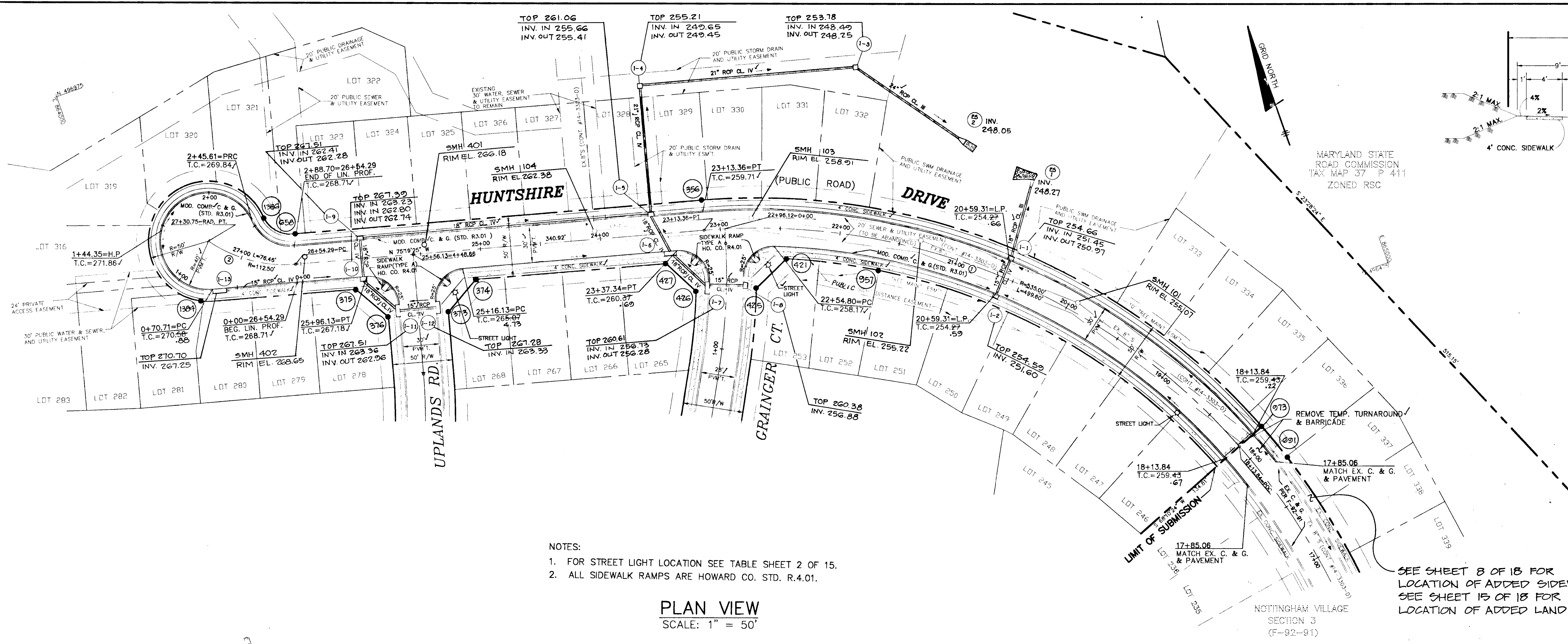


**GRAINGER COURT**  
DESIGN SPEED 25 MPH



**GRAINGER COURT**  
DESIGN SPEED 25 MPH

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



- NOTES:
1. FOR STREET LIGHT LOCATION SEE TABLE SHEET 2 OF 15.
  2. ALL SIDEWALK RAMP ARE HOWARD CO. STD. R.4.01.

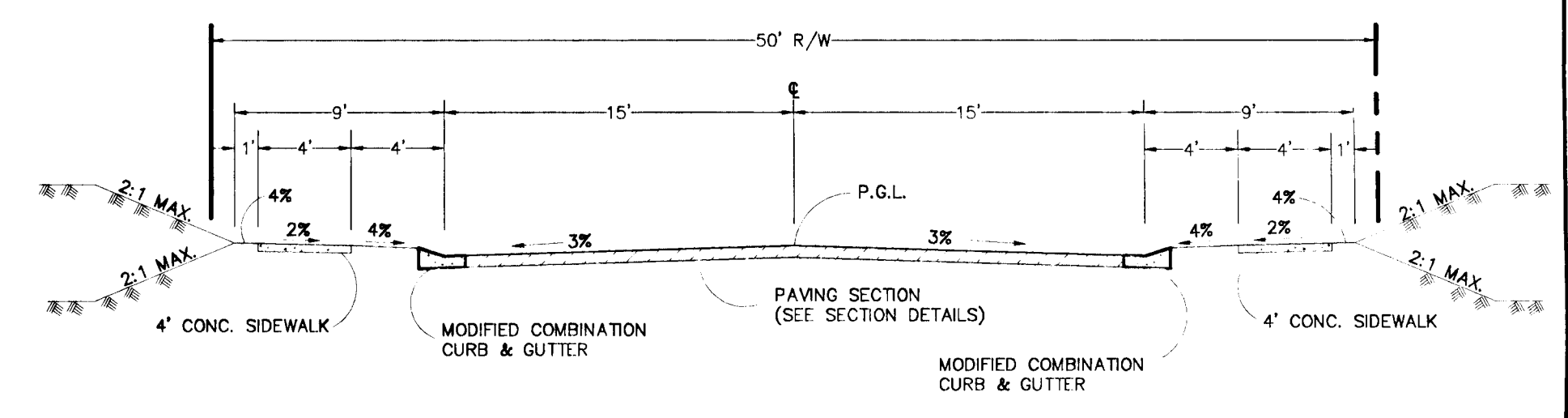
PLAN VIEW  
SCALE: 1" = 50'

CENTERLINE CONTROL DATA

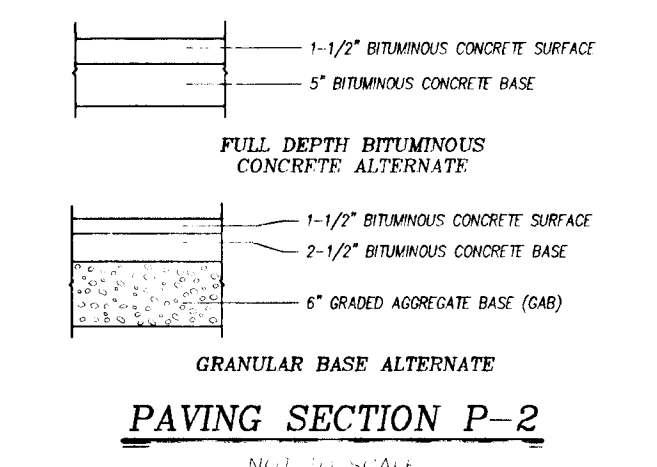
STREE NAME	STATION	COORDINATES		REMARKS
		NORTHING	EASTING	
HUNTSHIRE DRIVE	18+13.84	496372.1903	864831.9853	P.O.C. (BEGIN CONSTRUCTION)
	22+96.12	496886.1858	864487.4906	INTX. GRANGER CT. (=+0+00)
	23+13.36	496900.8222	864470.8843	P.T.
	25+56.13	496752.3331	864236.0241	INTX. UPLANDS RD. (=+448.66)
	26+54.29	496777.1984	864141.0834	P.C.
27+30.75	496819.2979	864079.0138	CENTER OF CUL-DE-SAC	

¢ CURVE DATA

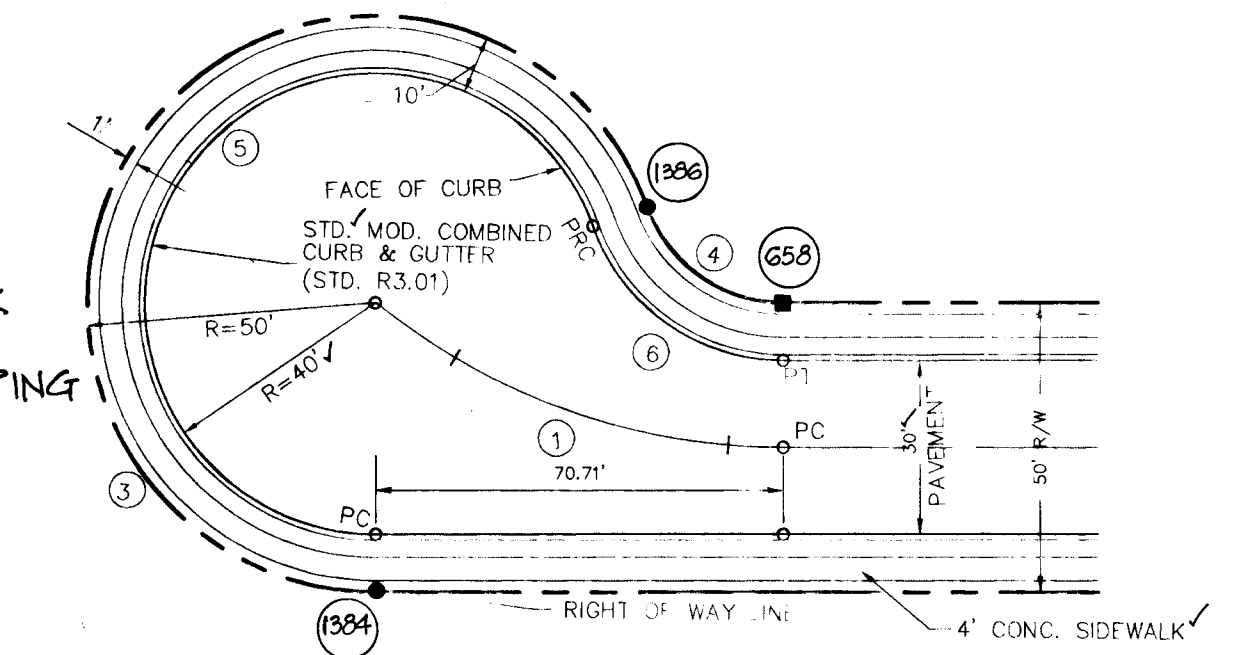
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	535.00'	499.60'	269.69'	481.65'	N. 46°34'16" W	53°30'17"
2	112.50'	76.46'	39.77'	75.00'	N. 55°01'09" W	38°56'33"



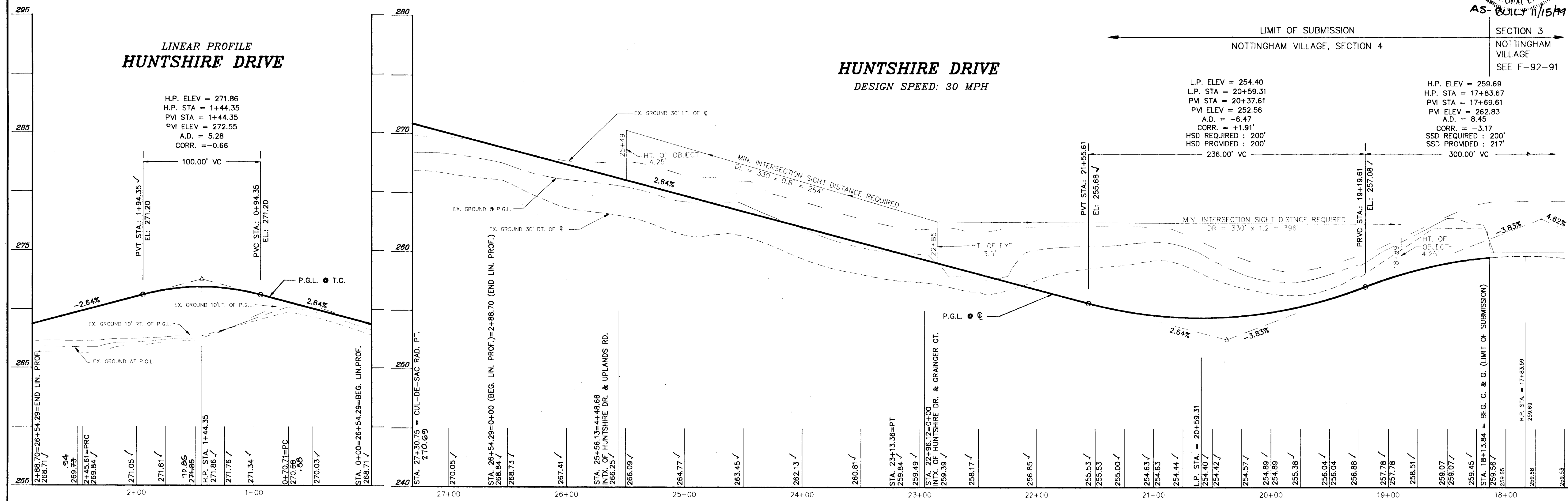
TYPICAL ROAD SECTION  
NOT TO SCALE



NOTE: MICACEOUS SOIL SUBGRADES REQUIRE THE USE OF EITHER OF THE AGGREGATE BASE PAVEMENT SECTIONS AS SHOWN ON THE PAVEMENT SECTIONS EITHER THE FULL DEPTH BITUMINOUS CONCRETE SECTION OR THE AGGREGATE BASE PAVEMENT SECTIONS CAN BE USED FOR ALL OTHER SUBGRADE SOILS.



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	112.50'	76.46'	39.77'	75.00'	N. 55°01'09" W	38°56'33"
3	50.00'	218.63'	70.71'	81.65'	N. 49°56'27" E	250°31'44"
4	25.00'	30.77'	17.66'	28.87'	N. 40°33'33" W	70°31'44"
5	40.00'	174.80'	56.57'	65.32'	S. 49°56'27" W	250°31'44"
6	35.00'	43.08'	24.25'	40.41'	N. 40°33'33" W	70°31'44"



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

Professional Engineer  
Donald Mason  
AS-0011/1544

MODIFIED OFFSET CUL-DE-SAC  
HUNTSHIRE DRIVE  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daniels* 6/1/95  
 CHIEF, BUREAU OF PUBLIC WORKS  
*Paul S. Sporn* 6/1/95  
 CHIEF, DIVISION OF PUBLIC WORKS  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Marsha V. J. ...* 6/1/95  
 CHIEF, DIVISION OF LAND DEVELOPMENT & RESEARCH

NO.	DATE	REVISION
1	12-15-97	ADD SIDEWALK & LANDSCAPING ALONG EAST SIDE OF HUNTSHIRE DRIVE RELOCATED FROM F-92-91 SECTION 3

TSA GROUP, INC.  
 planning • architecture • engineering  
 8480 Baltimore National Pike • Millersville, Maryland 21104 • (410) 460-6100

*John ...*

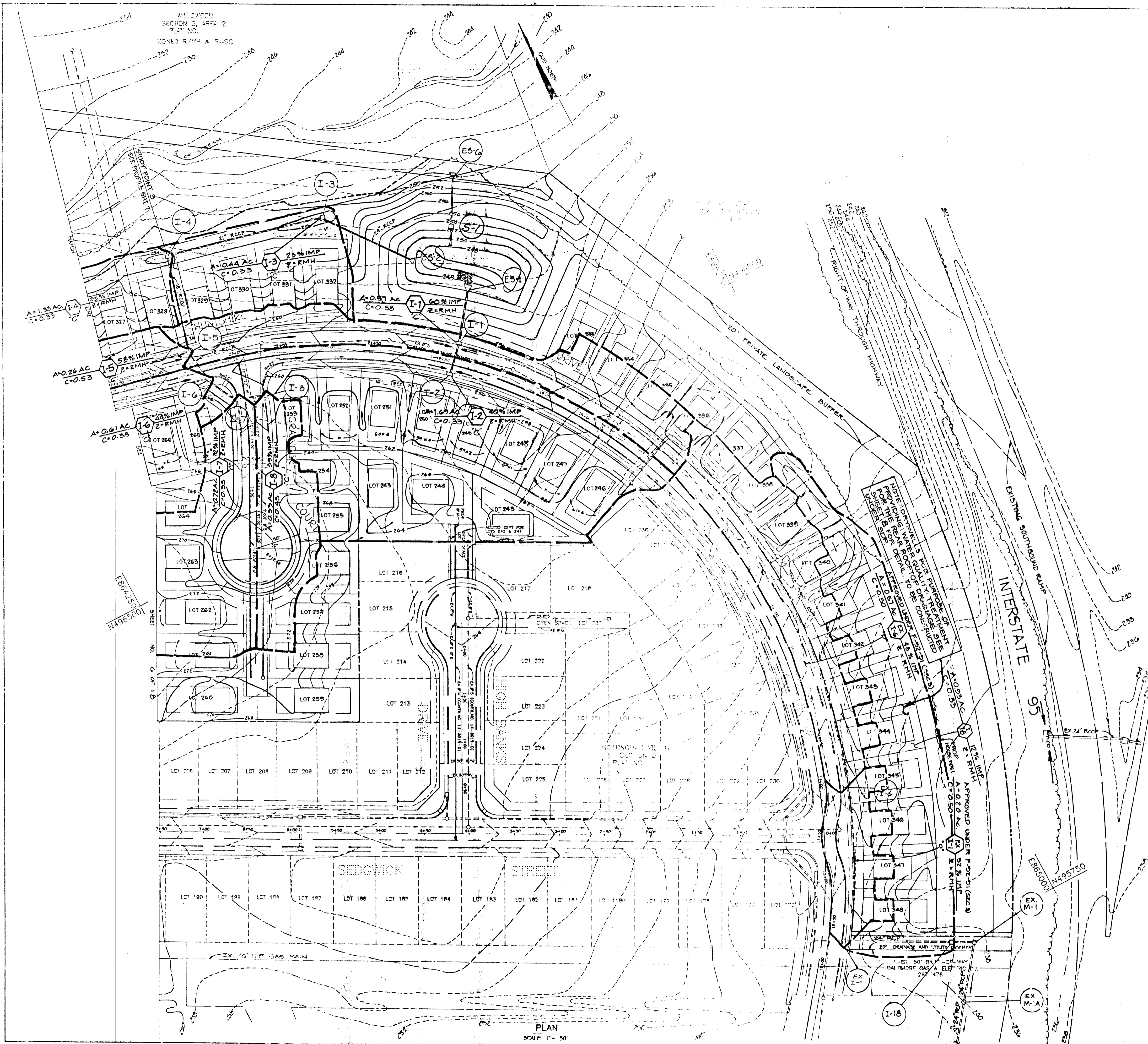
OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP.  
 P.O. BOX 417  
 ELLICOTT CITY, MARYLAND 21104  
 (410)465-6105

PROJECT: NOTTINGHAM VILLAGE SECTION 4  
 LOCATION: TAX MAP 37-PARCEL 615  
 1st ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: ROAD PLAN: HUNTSHIRE DRIVE  
 DATE: AUG., 1994  
 PROJECT NO. 0051  
 SCALE: AS SHOWN  
 DRAWING 4 OF 18

1647

HILLCROFT  
SECTION 3, AREA 2  
PLAT NO.  
ZONED R/MH & R-SC



NOTE: THIS SHEET TO BE USED FOR DRAINAGE AREA PURPOSES ONLY. NOT TO BE USED FOR CONSTRUCTION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Danile* CHIEF, LAND DEVELOPMENT DIVISION DATE: 6/1/95  
*Andrew M. Danile* CHIEF, BUREAU OF HIGHWAYS DATE: 5-26-95  
*Richard S. Brown* CHIEF, BUREAU OF SURVEYING DATE: 6/1/95  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Wanda S. DeCarolis* CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE: 6/5/95

NO.	DATE	REVISION

**T S A GROUP INC.**  
 planning • architecture • engineering • surveying  
 8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 485-8105

OWNER SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT <b>NOTTINGHAM VILLAGE SECTION 4</b> LOTS 243 - 350
DEVELOPER SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	LOCATION TAX MAP NO. 37 ZONING MAP NO. 37, PARCEL 615 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DES. CAM	DRN. CAB
TITLE <b>DRAINAGE AREA MAP</b>	DATE: AUGUST 1994
SCALE: 1" = 50'	PROJECT NO. 0051 DRAWING 5 OF 18

1647

PLAN  
SCALE: 1" = 50'

1647

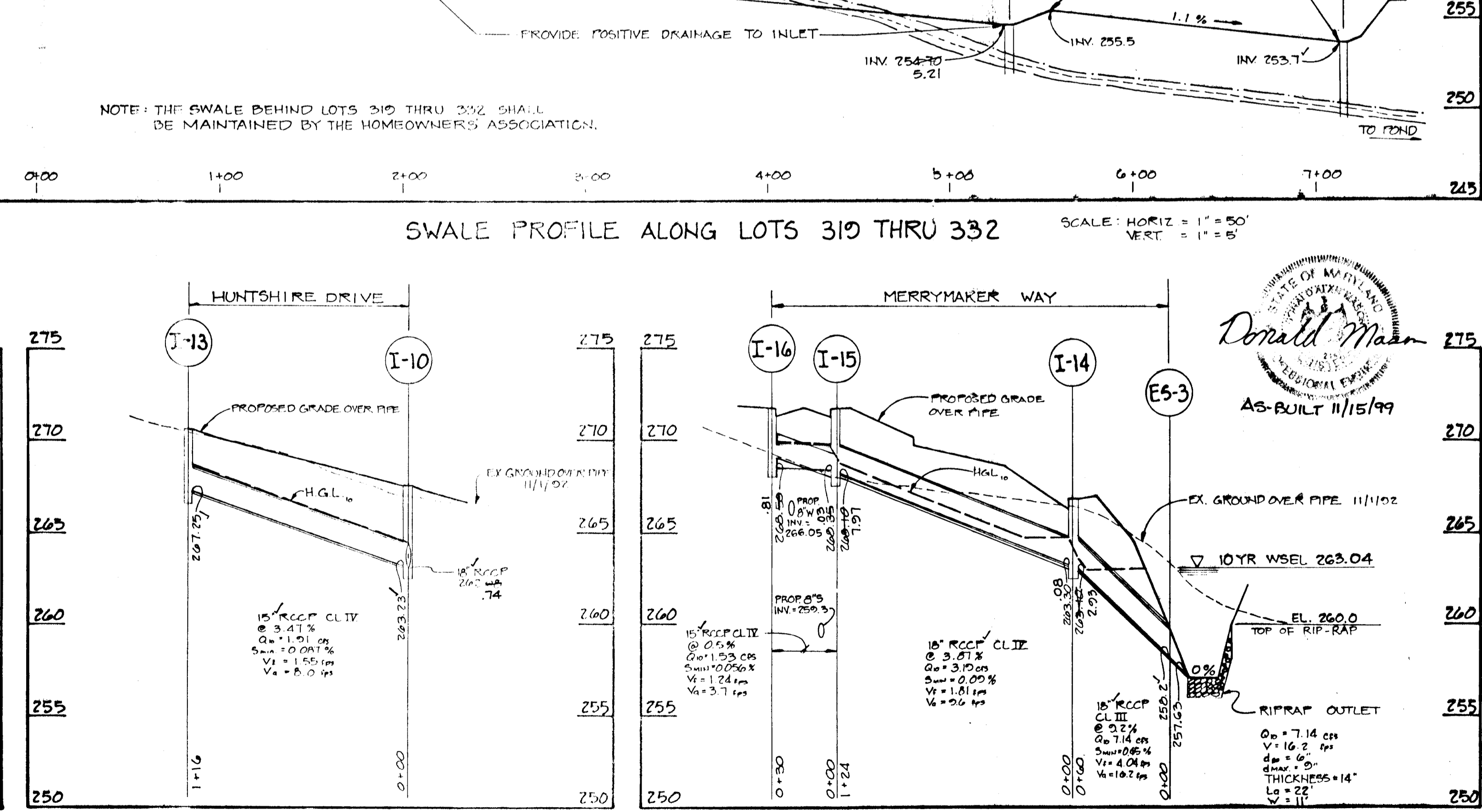
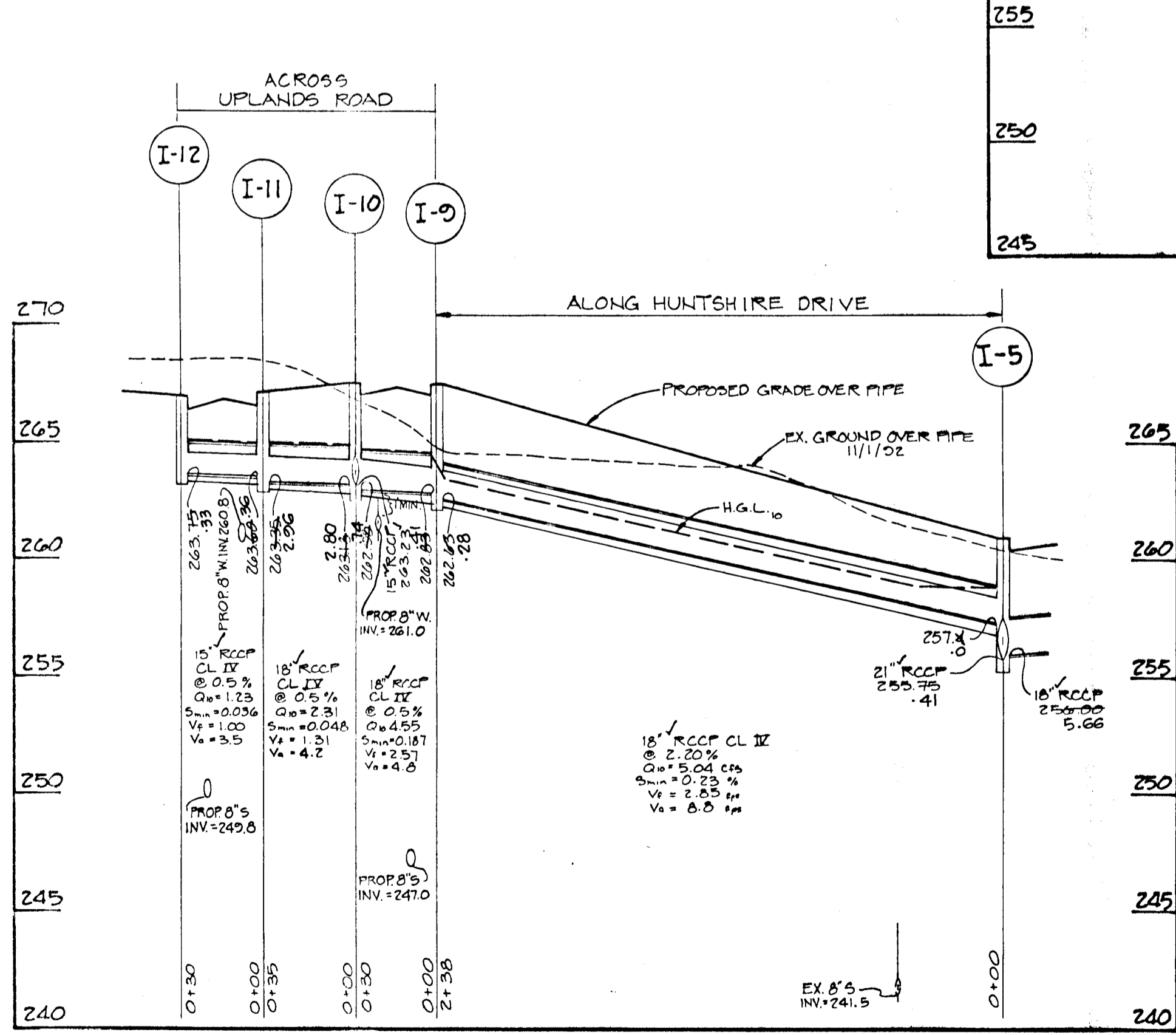
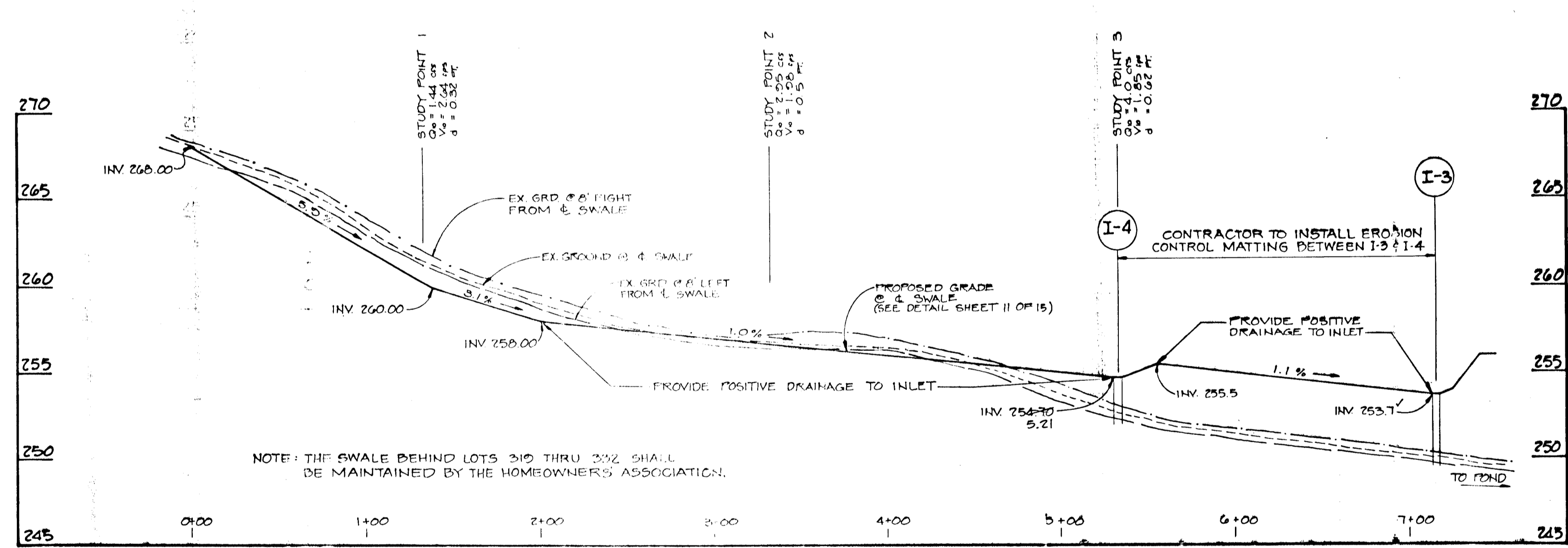
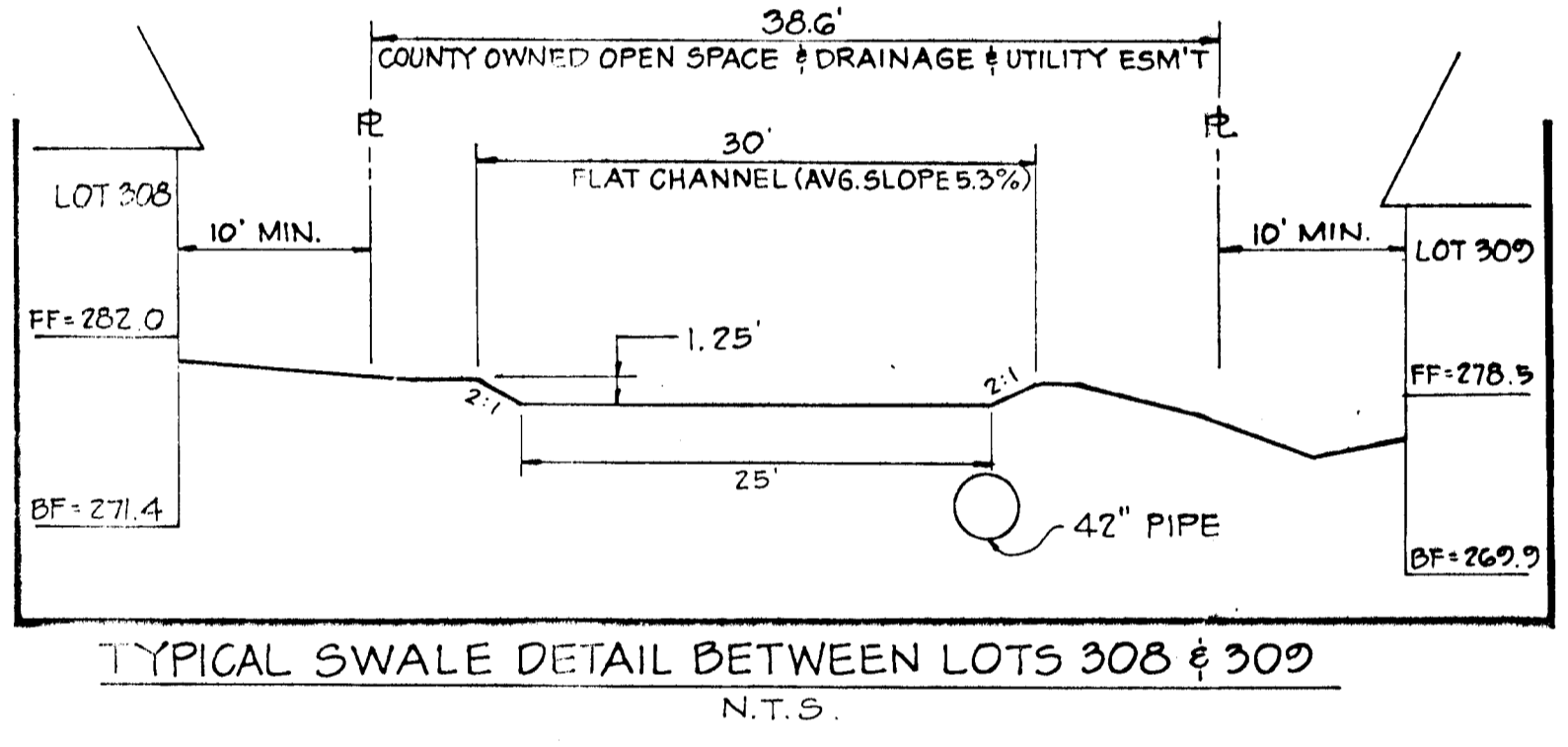
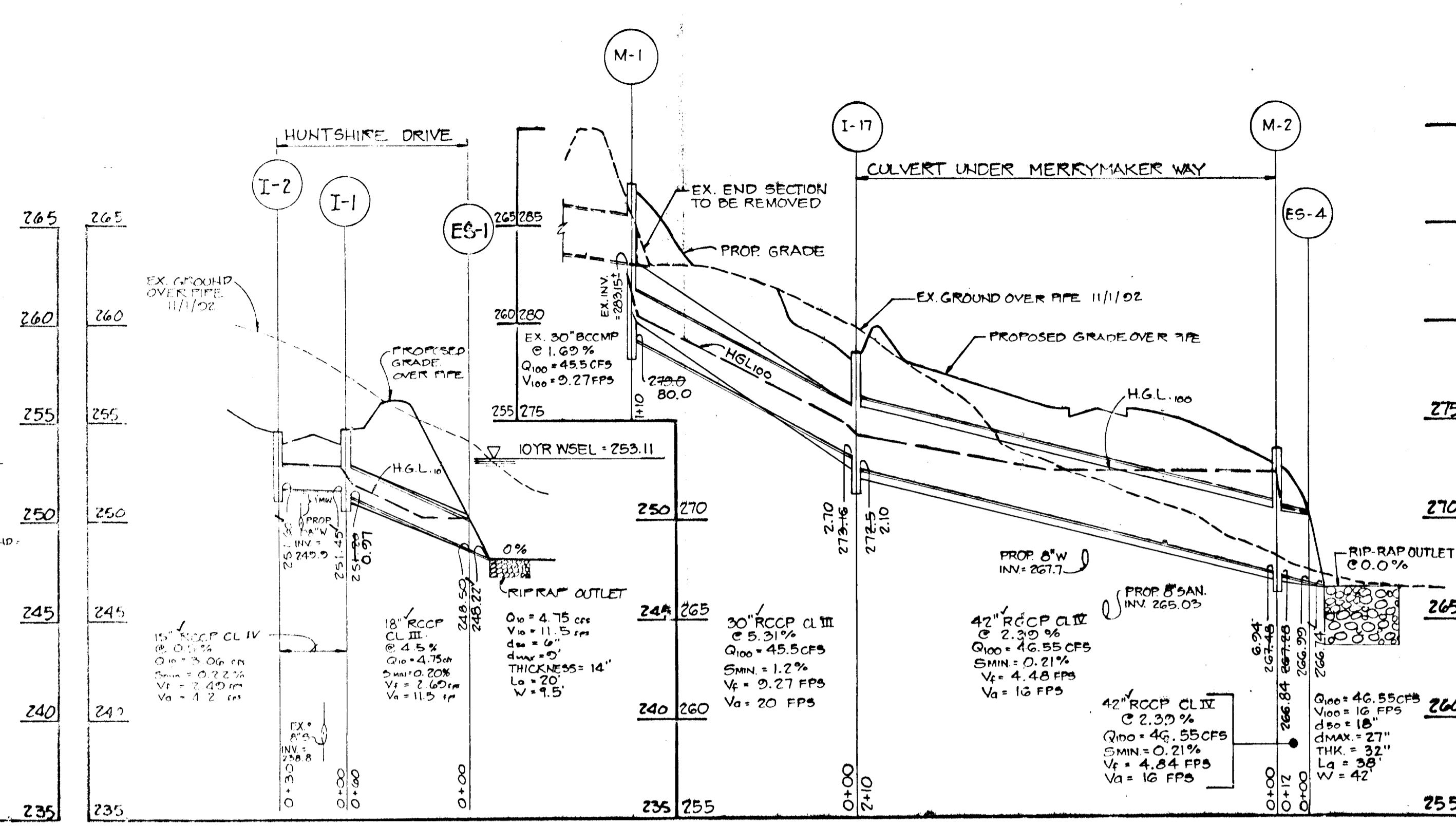
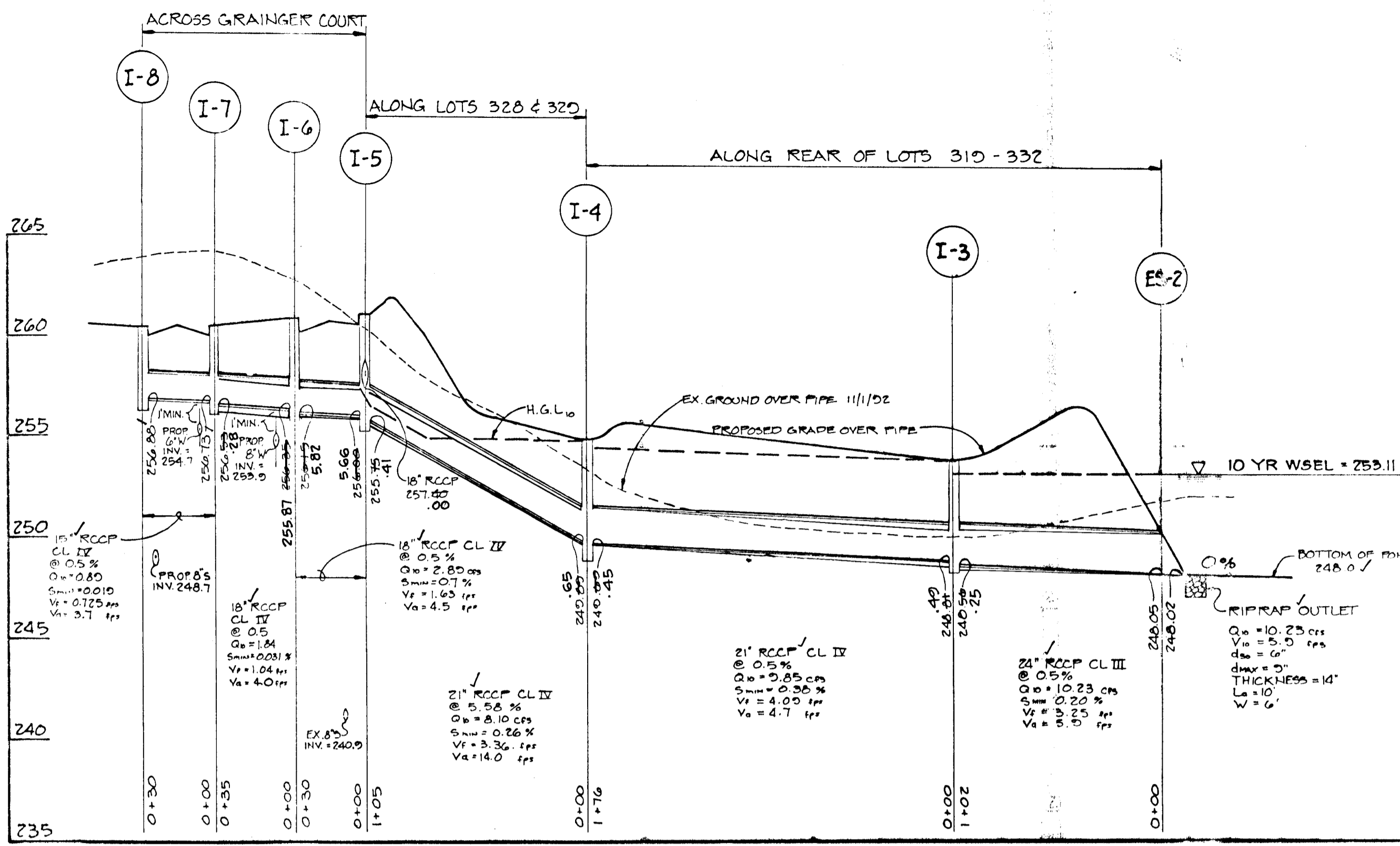


APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>[Signature]</i> CHIEF, LAND DEVELOPMENT DIVISION	6/1/95 DATE
<i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS	5-26-95 DATE
<i>[Signature]</i> CHIEF, BUREAU OF ENGINEERING	6/1/95 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	6/1/95 DATE

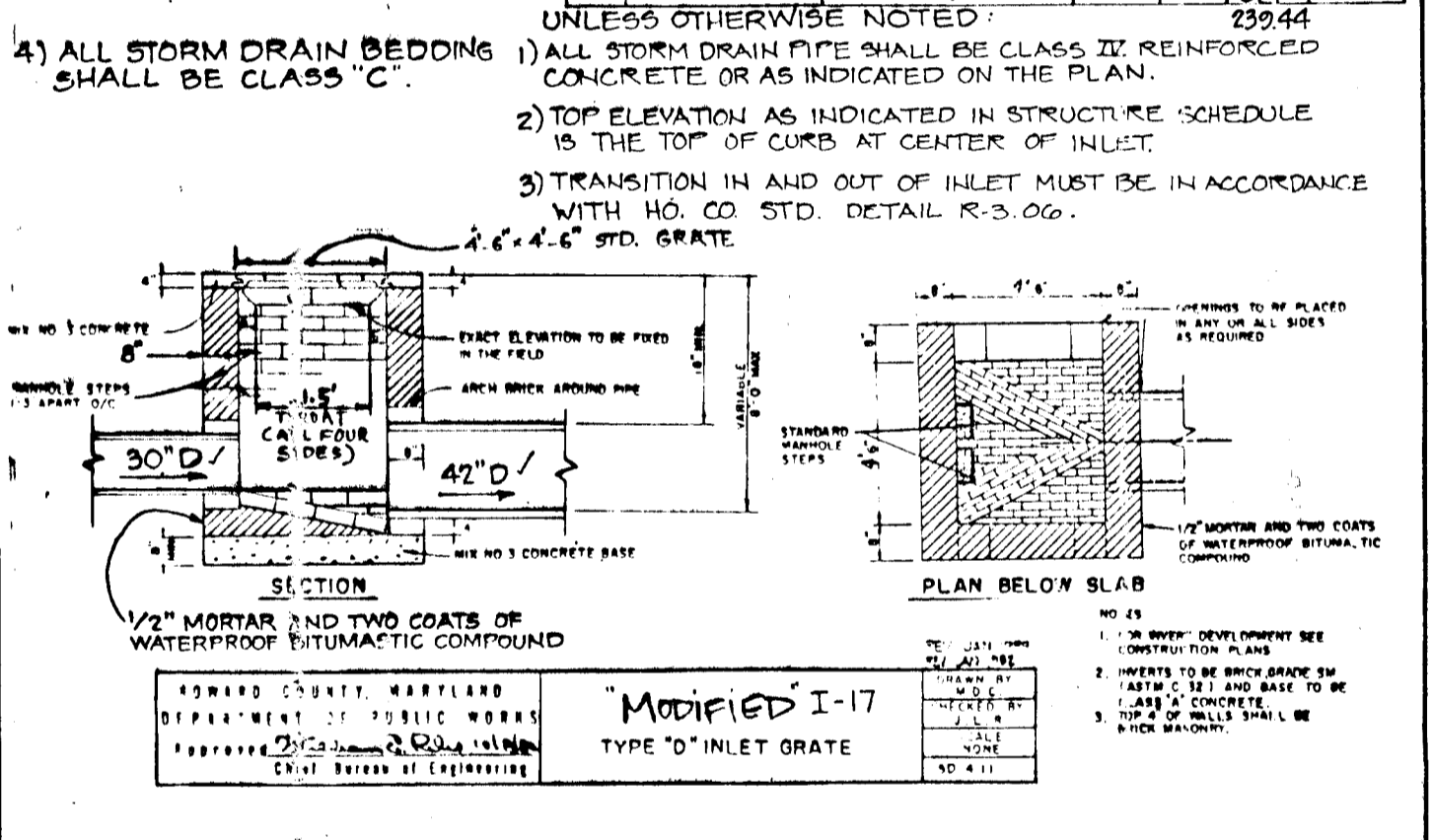
NO.	DATE	REVISION

**T S A GROUP INC.**  
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 8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 485-8100

OWNER SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT <b>NOTTINGHAM VILLAGE</b> SECTION 4 LOTS 243 - 350 LOCATION TAX MAP NO. 37 ZONING MAP NO. 37, PARCEL 615 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	TITLE <b>DRAINAGE AREA MAP</b> DATE: 5-02-09, P-02-91, P-03-13 PROJECT NO. 0051
DES. CAM	DRN. CAB
SCALE: 1" = 50'	DRAWING 6 OF 18



NO.	TYPE	LOCATION	INVERT	TOP	NO. CO.
1-1	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-2	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-3	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-4	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-5	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-6	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-7	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-8	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-9	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-10	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-11	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-12	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-13	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-14	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-15	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
1-16	1-5	15' ST DIA 24 x 59.31	251.41	251.41	88 4.11
ES-1	18" RCP SECTION	N 496,434.8	248.88	248.88	88 5.11
ES-2	18" RCP SECTION	N 496,434.8	248.88	248.88	88 5.11
ES-3	18" RCP SECTION	N 496,434.8	248.88	248.88	88 5.11
1-17	IDENTIFIED "D" INLET	N 497,014.3	273.44	273.50	88 4.11
M-1	DROP MANHOLE	OVER 30" PIPE (TO BE FIELD LOCATED)	263.66	270.00	88 5.11
M-2	18" RCP	N 496,434.8	248.88	248.88	88 5.11
M-3	18" RCP	N 496,434.8	248.88	248.88	88 5.11
M-4	18" RCP	N 496,434.8	248.88	248.88	88 5.11



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard M. Danach* 6/1/95  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Richard M. Danach* 5-26-95  
 CHIEF, BUREAU OF HIGHWAYS  
*Richard M. Danach* 6/1/95  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Donald M. Mason* 6/5/95  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

NO.	DATE	REVISION

TSA GROUP, INC.  
 planning • architecture • engineering  
 8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 485-8100

OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP.  
 P.O. BOX 417  
 ELLICOTT CITY, MARYLAND 21041  
 (410)485-8105

PROJECT: NOTTINGHAM VILLAGE  
 SECTION 4  
 LOTS 243-350

LOCATION: TAX MAP 37-PARCEL 615  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES

DATE: AUGUST, 1994 PROJECT NO. 0051

DES: JVP DRN: CAB SCALE: HORIZ. 1" = 50' VERT. 1" = 5' DRAWING 1 OF 10

1647

NOTE: STATIONS ON THE PROFILES REPRESENT THE LENGTH OF THE PIPE FROM THE FACE OF THE STRUCTURE TO THE FACE OF THE STRUCTURE.







**LEGEND**

CONTOUR INTERVAL	2 FEET
EXISTING CONTOUR	200
PROPOSED CONTOUR	100
PROPOSED SPOT ELEVATION	x 5623
EXISTING SEWER	EX. 8" S.
EXISTING WATER MAIN	EX. 8" W.
EXISTING STORM DRAIN	EX. 18" RCP
PROPOSED TREE LINE	
EXISTING TREE LINE	
LIMIT OF DISTURBANCE	

**STORMWATER MANAGEMENT FACILITY #2**

DRAINAGE AREA TO FACILITY = 5.02 AC.  
 UNMANAGED AREA = 0.84 AC.  
 TOP OF DAM ELEVATION = 265.86  
 BOTTOM OF DAM ELEVATION = 258.00  
 OUTFALL ELEVATION = 257.60

STORM FREQUENCY	MAX. ALLOWABLE DISCHARGE	INFLOW	ROUTED DISCHARGE	WSEL	STORAGE	TOTAL SITE DISCHARGE
2 YR.	11.08	7.72	1.96	261.55	0.23 AC-FT	2.74
10 YR.	32.78	17.38	12.25	263.04	0.39 AC-FT	24.18
100 YR.	---	28.82	27.04	263.82	0.50 AC-FT	58.32

**SWMF #2 CONTROL POINTS**

POINT #	COORDINATES	
A	N 497175.0418	E 864024.4869
B	N 497206.2209	E 864034.4775
C	N 497195.6835	E 864099.3797
D	N 497117.1629	E 864137.6195
E	N 497080.9795	E 864103.6910
F	N 497039.4068	E 863982.8990

SWMF ARE TO BE PUBLICLY MAINTAINED

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Donald Mason  
 DONALD MASON  
 PE No. 21443  
 DATE 11/15/99

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature]  
 [Signature]  
 [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature]  
 [Signature]

NO.	DATE	REVISION

**TSA GROUP, INC.**  
 planning • architecture • engineering  
 8400 Baltimore National Pike • Ellicott City, Maryland 21041 • (410) 465-6105

OWNER/DEVELOPER:	PROJECT:
SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410)465-6105	<b>NOTTINGHAM VILLAGE</b> SECTION 4 LOTS 243 - 350
LOCATION:	TAX MAP 37-PARCEL 615 151 ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	<b>GRADING PLAN</b> S-92-097-92-91 P-93-13
DATE:	AUG. 1994 PROJECT NO. 0051
DES: CAM/YSL	DRN: YSL
SCALE: AS SHOWN	DRAWING 9 OF 18

NOTE: AT SITE DEVELOPMENT PLAN THE GRADING WILL MATCH THE DRAINAGE DIVIDE LINE SET ON THE FINAL PLAN AND THERE WILL BE NO DRAINAGE IMPACT FROM ONE LOT TO THE OTHER. IF A DRAINAGE IMPACT IS CREATED BY THE SDP, THE PROPER DRAINAGE EASEMENT WILL BE PROVIDED AT THAT TIME.

NOTE: INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (NO-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

Donald Mason  
 PE No. 21443  
 DATE 11/15/99

**PLAN**  
 AS-BUILT 11/15/99  
 SCALE: 1" = 50'

BY THE DEVELOPER:  
 I/WE 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]  
 DATE 3/29/95

BY THE ENGINEER:  
 I/WE 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[Signature]  
 ENGINEER JOHN M. FLORIAN, P.E. # 16891  
 DATE 3/29/95

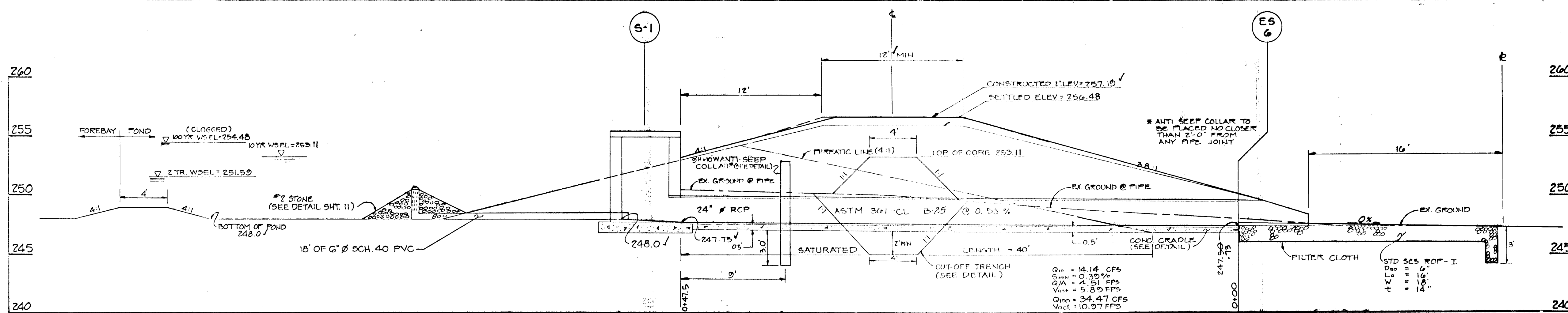
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

[Signature]  
 NATURAL RESOURCES EVALUATION SERVICE  
 DATE 5/22/95

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

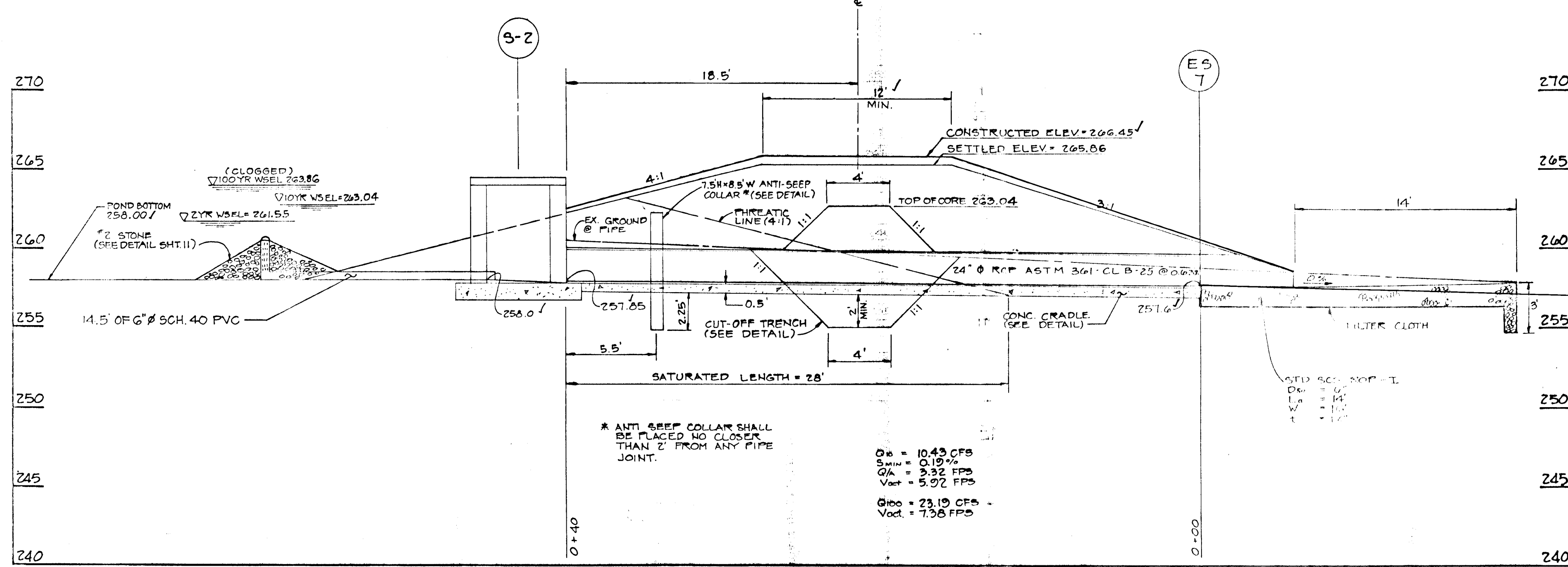
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 HOWARD SOIL CONSERVATION DISTRICT  
 DATE 5/23/95

1647



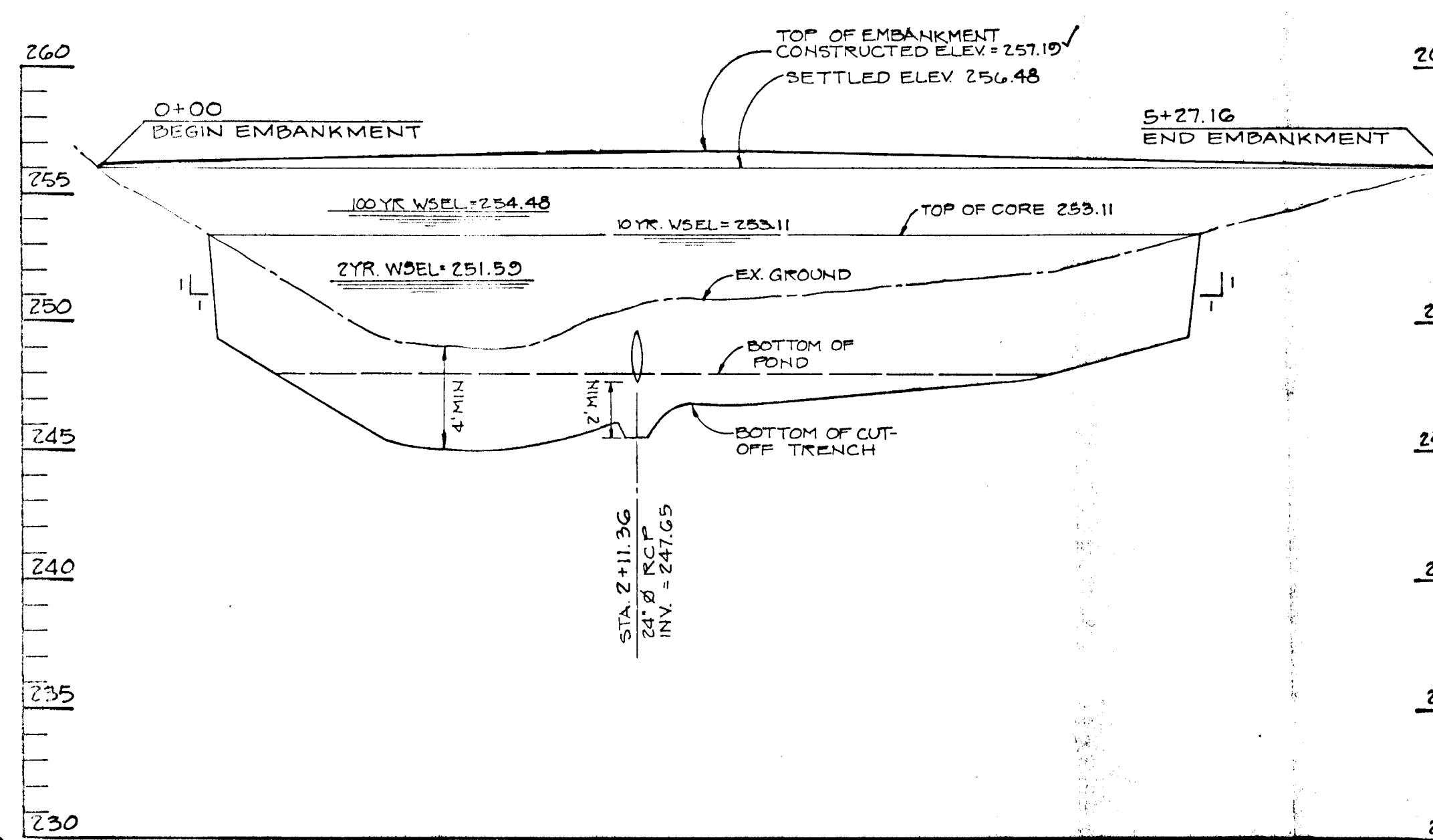
PRINCIPAL SPILLWAY PROFILE - POND #1

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



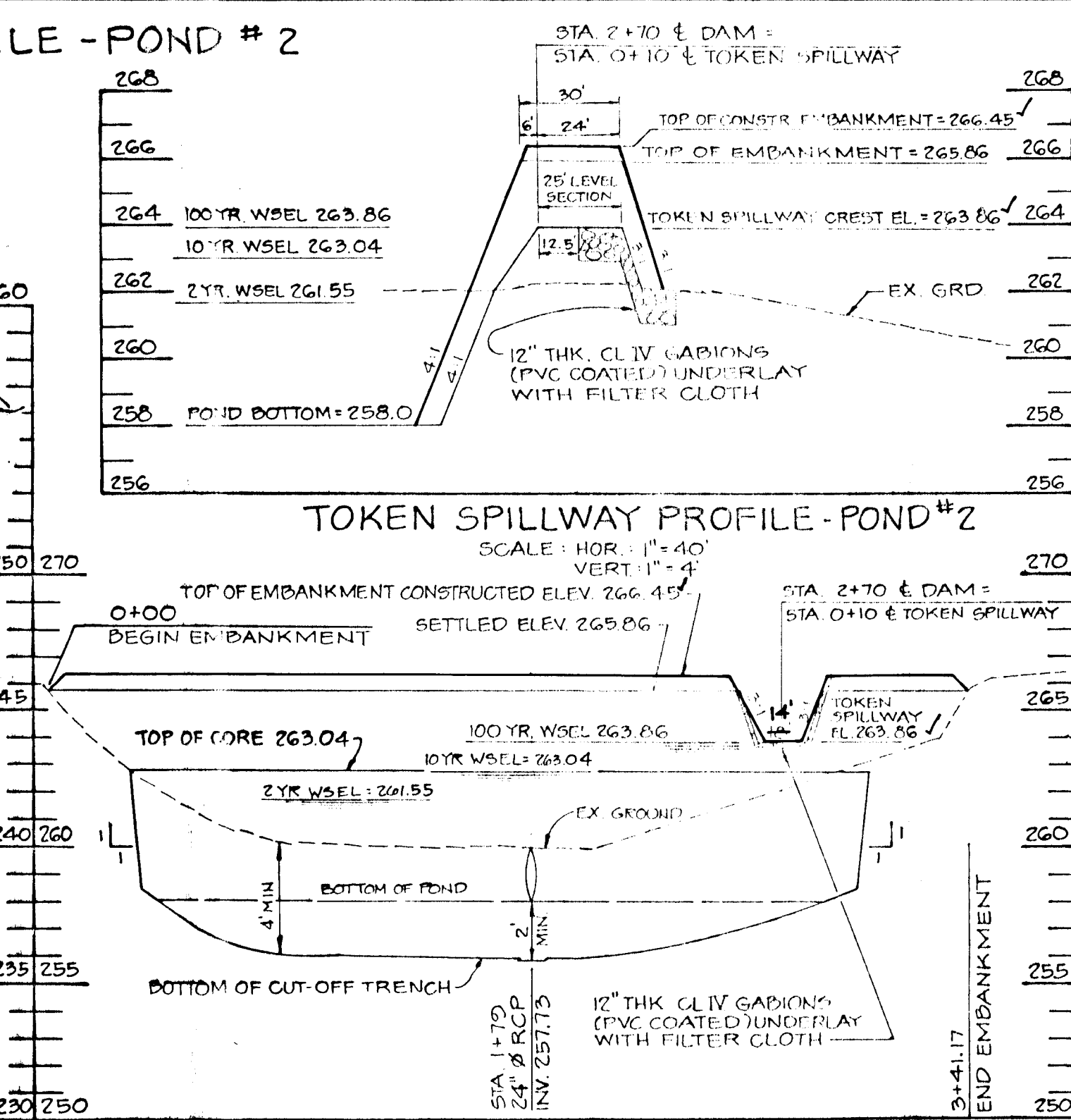
PRINCIPAL SPILLWAY PROFILE - POND #2

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



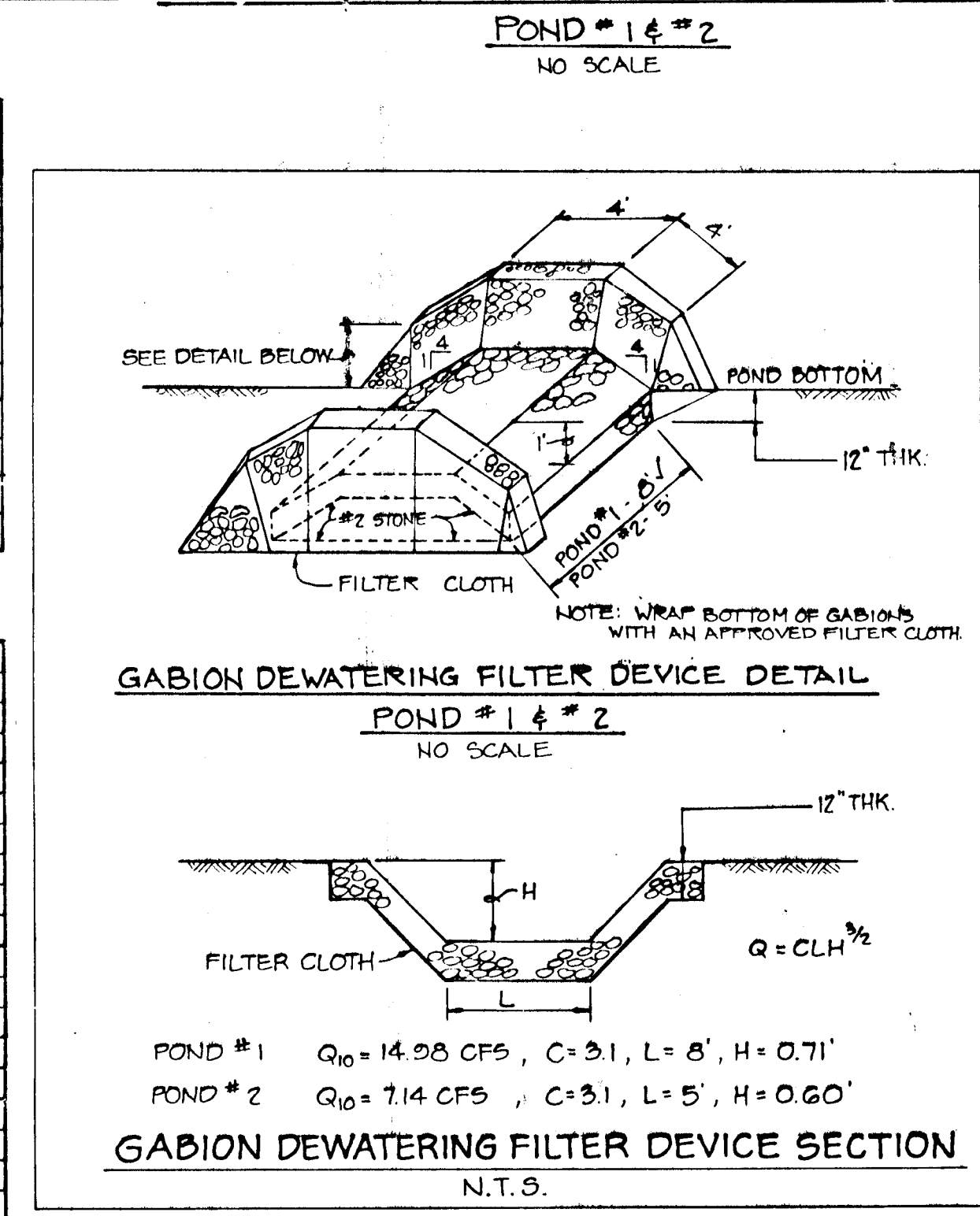
EMBANKMENT PROFILE - POND #1

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



EMBANKMENT PROFILE - POND #2

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



GABION DEWATERING FILTER DEVICE SECTION

NOTE:  
INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

- OPERATION AND MAINTENANCE SCHEDULE
- STORMWATER MANAGEMENT FACILITY  
EXTENDED DETENTION POND #1 & 2
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
  - Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
  - When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

*Donald Mason*  
JOHN M. ELORRAGA-DONALD MASON PE No. 21443 DATE 11/15/99

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:  
I/WE 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*NUM* 8.15.94 DATE

BY THE ENGINEER:  
I/WE 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*John M. Elorraga* 8/16/98 DATE  
ENGINEER - JOHN M. ELORRAGA, P.E. # 16891

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.

*Patricia Engle* 5/22/95 DATE  
NATURAL RESOURCES CONSERVATION SERVICE

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

*Robert W. Ziehm* 5/23/95 DATE  
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Robert W. Ziehm* 6/1/95 DATE  
CHIEF, LAND DEVELOPMENT DIVISION

*Robert W. Ziehm* 5-26-95 DATE  
CHIEF, BUREAU OF HIGHWAYS

*Donald Mason* 6/1/95 DATE  
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Robert W. Ziehm* 6/1/95 DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

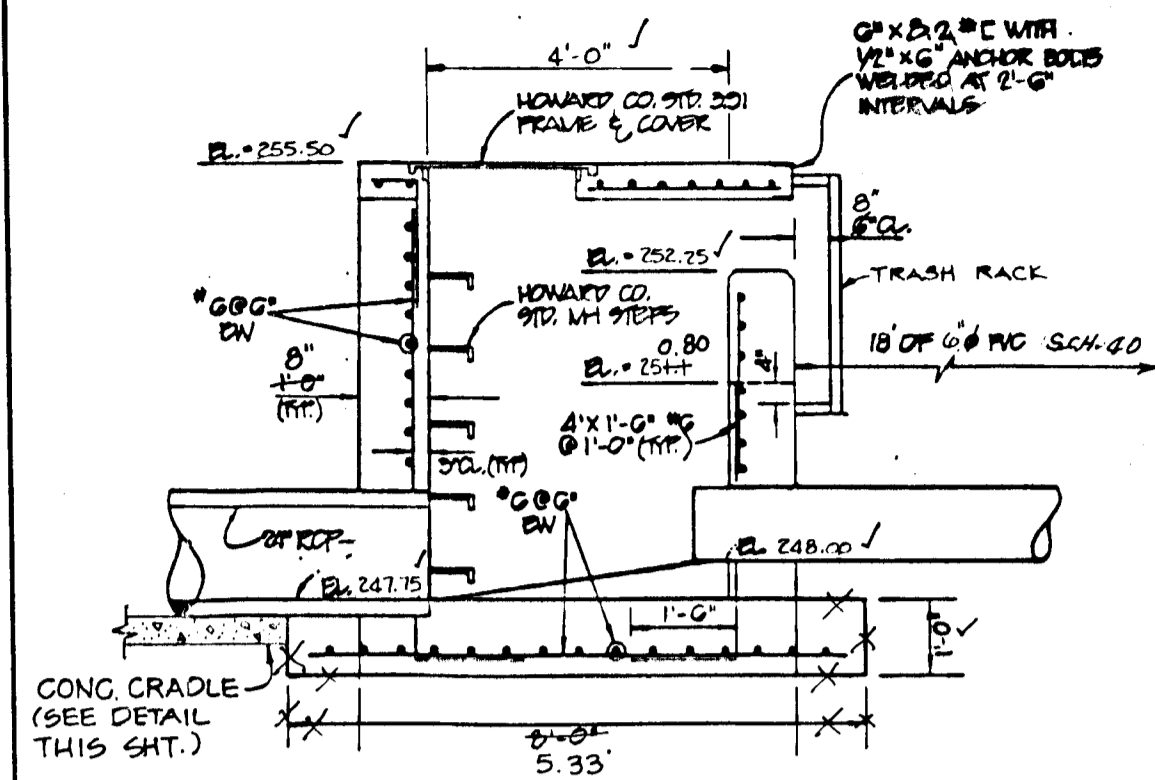
NO	DATE	REVISION

TSA GROUP, INC.  
planning architecture engineering

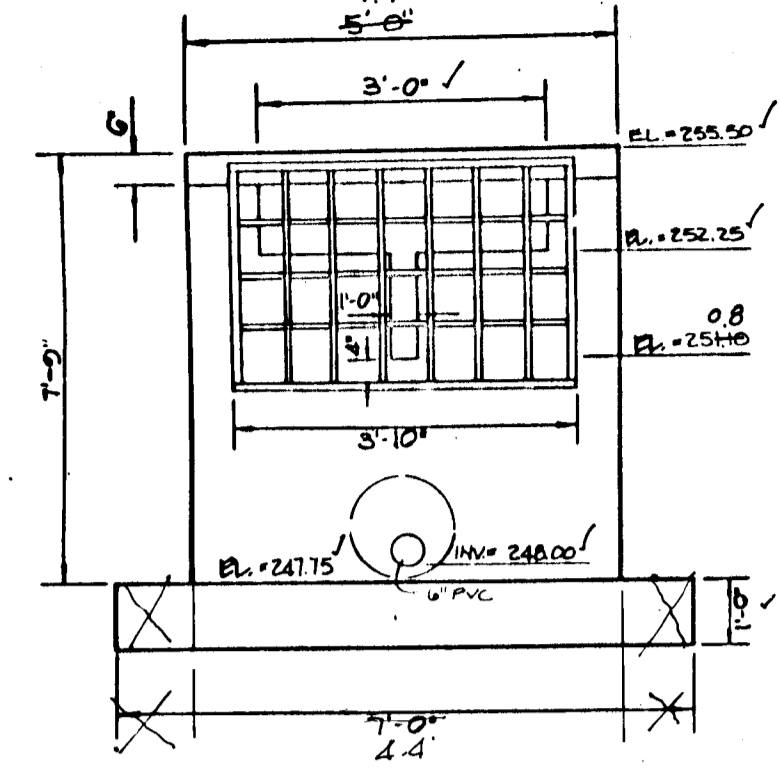
6800 Baltimore National Pike Ellicott City, Maryland 21043 (410) 465-8105

*John M. Elorraga*

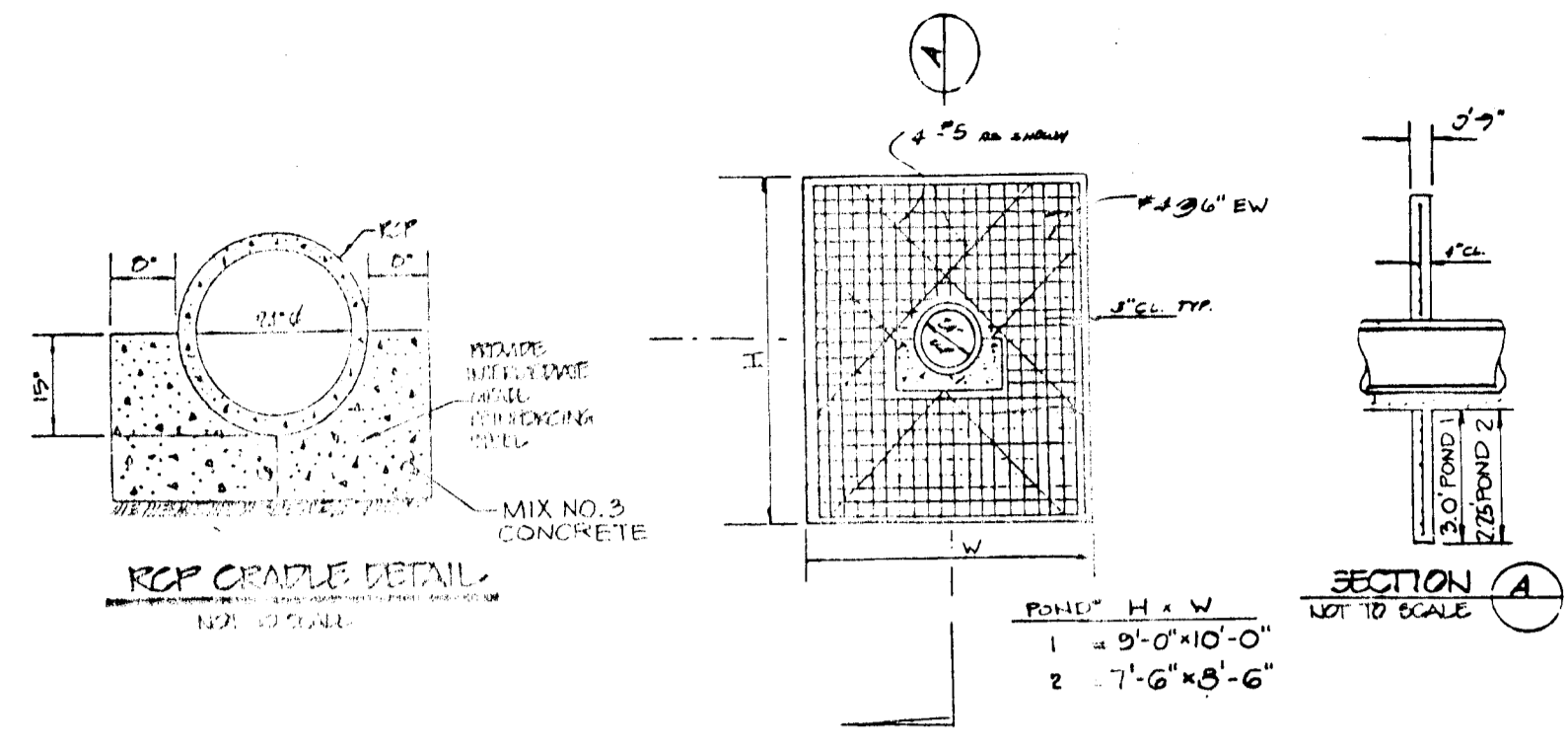
OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-8105	PROJECT: NOTTINGHAM VILLAGE SECTION 4 LOTS 243-350	LOCATION: TAX MAP 37 - PARCEL 615 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: STORMWATER MANAGEMENT DETAILS
DATE: AUGUST 1994	PROJECT NO. 0051	SCALE: AS SHOWN	DRAWING 42 OF 18
DES: CAM/MLV	DRN: CAB	SCALE: AS SHOWN DRAWING 42 OF 18	



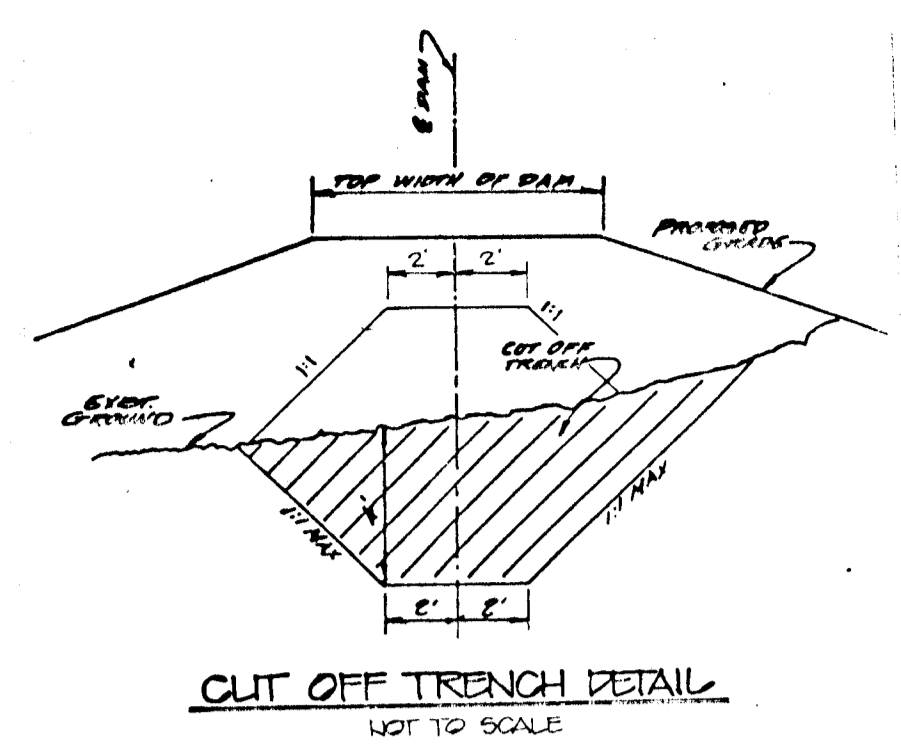
SECTION  
STORMWATER MANAGEMENT  
POND #1  
NOT TO SCALE



ELEVATION  
STORMWATER MANAGEMENT  
POND #1  
NOT TO SCALE

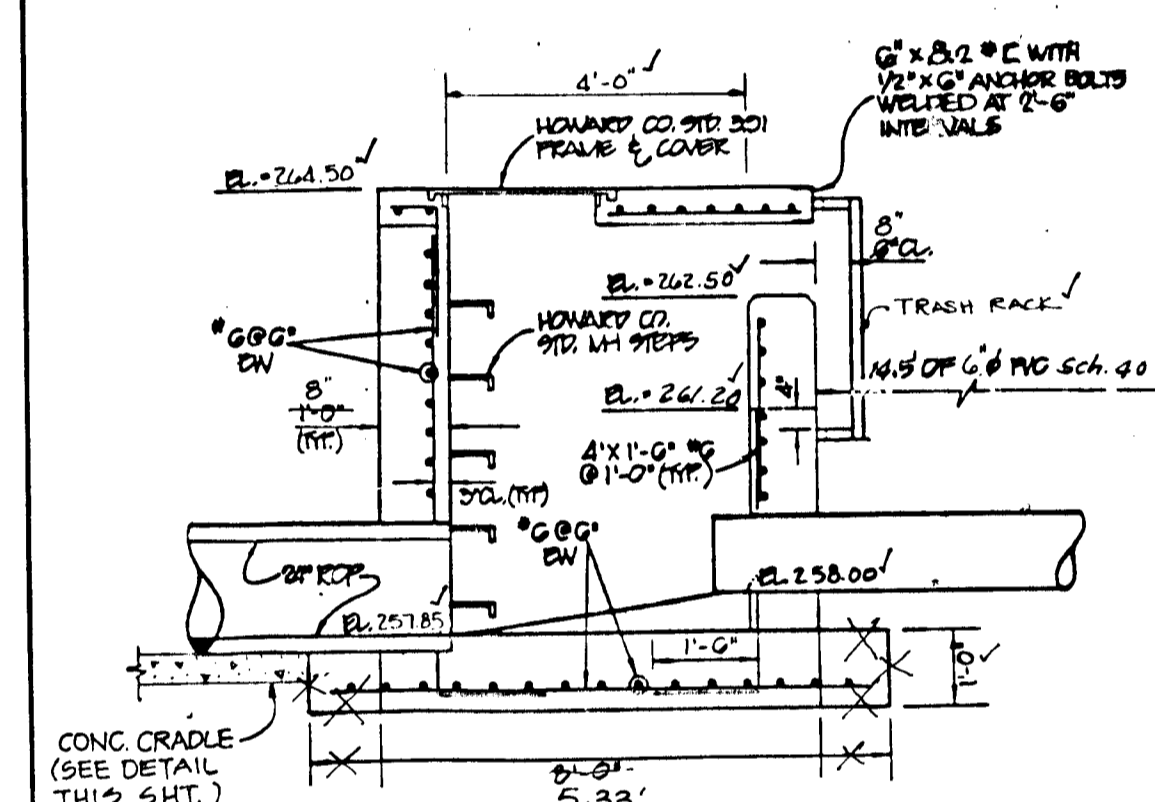


ANTI-SEEP COLLAR DETAIL POND #1 & #2  
NOT TO SCALE

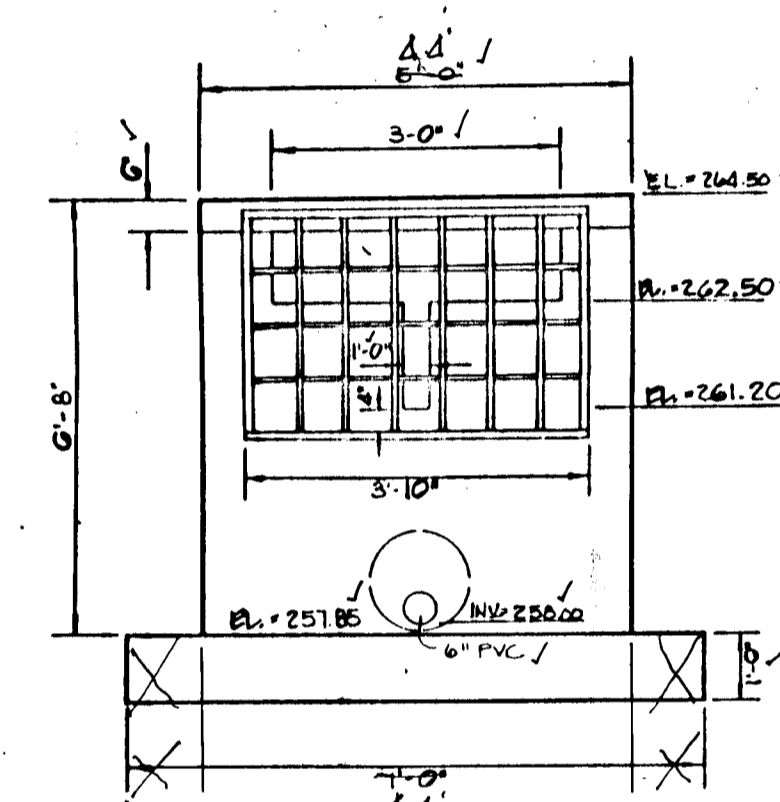


CUT OFF TRENCH DETAIL  
NOT TO SCALE

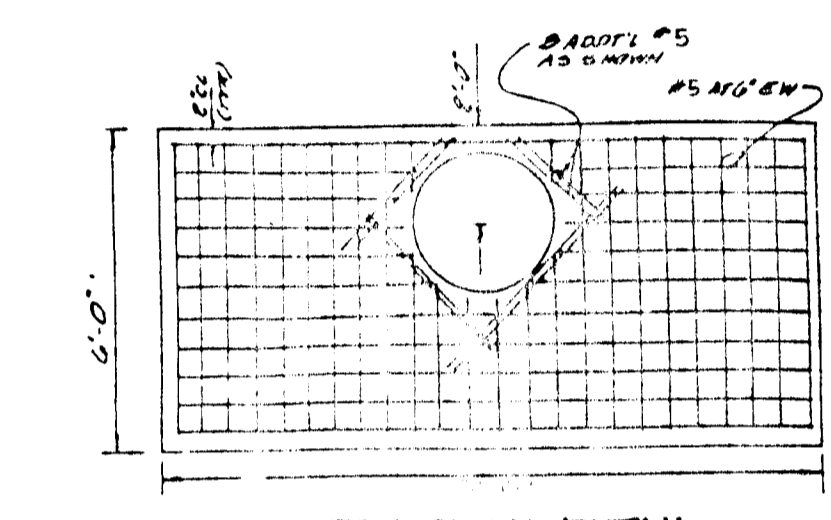
- NOTES:
- Center of impervious fill on centerline of dam.
  - Impervious fill shall meet U.S. Classification (3) or SC.
  - Compact to 95% of AASHTO T-99 density.
  - Side slopes shall be 1 to 1 (1H:1V) or flatter.
  - Trench shall extend along centerline of fill to minimum depth of 4 feet below existing grade.
  - Cut-off trench to extend 2 feet below all pipe structures, etc.



SECTION  
STORMWATER MANAGEMENT  
POND #2  
NOT TO SCALE

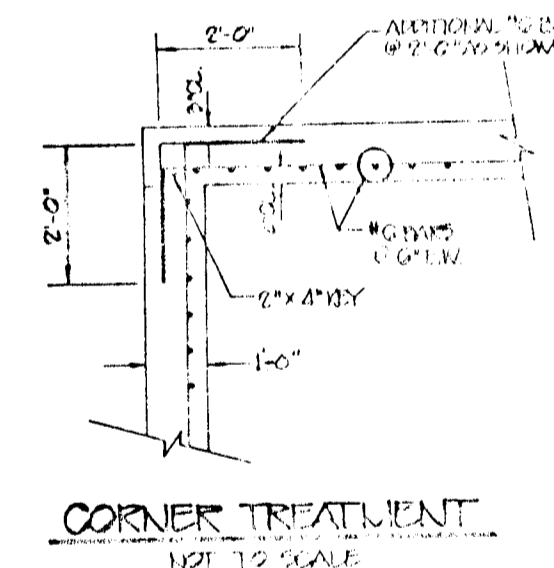


ELEVATION  
STORMWATER MANAGEMENT  
POND #2  
NOT TO SCALE

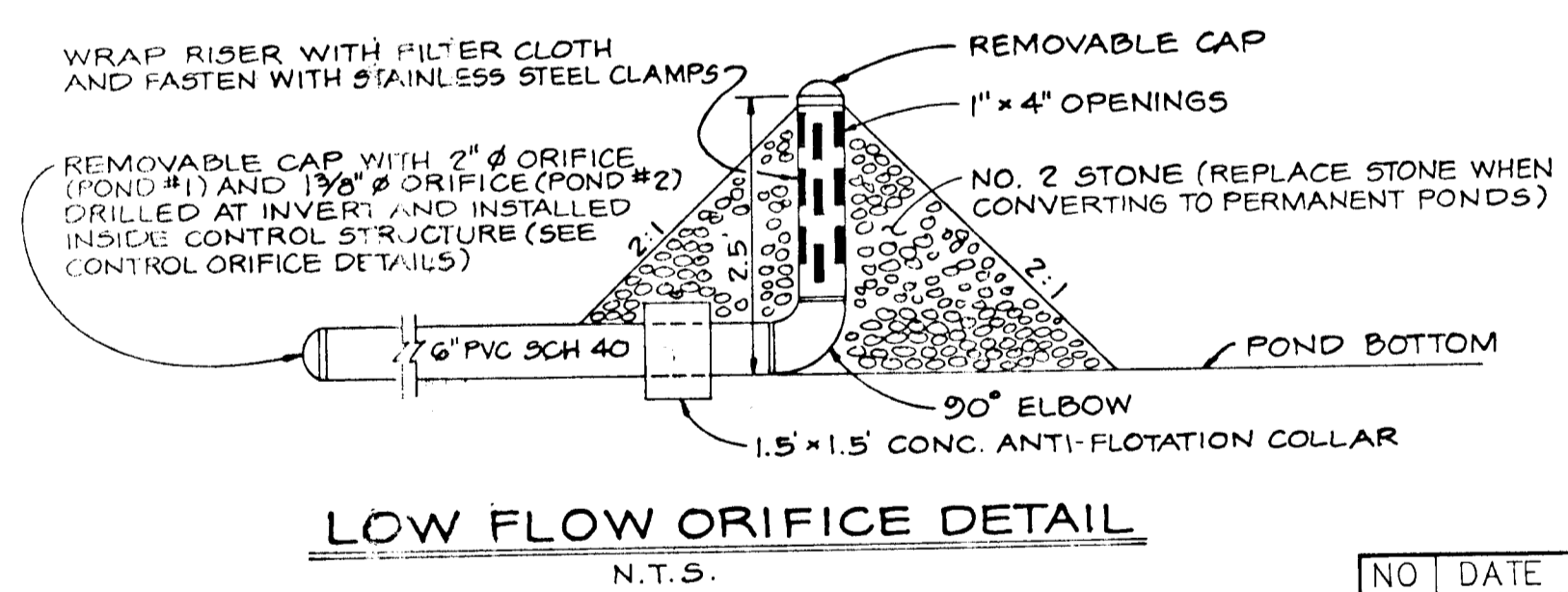


TOP SLAB DETAIL  
POND #1 & #2  
NOT TO SCALE

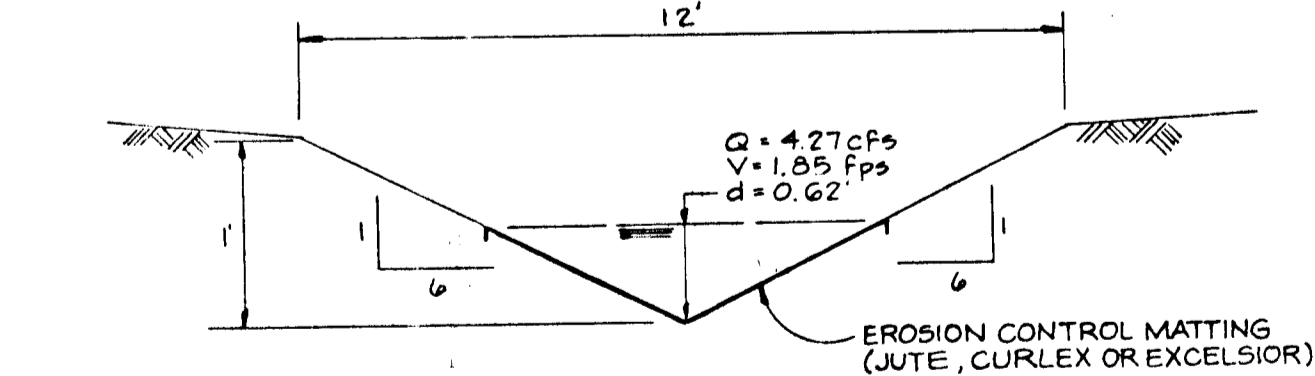
- NOTES:
- Concrete shall be MSHA Mix # 3 ( $f_c \geq 3,000$  psi).
  - Reinforcing steel: Grade 60.
  - Provide rough broom finish on top of slab.
  - Anchor bolts shall be installed in accordance with Section 408.03.31 of the MSHA Standards and Specifications.
  - All exposed metal surfaces shall be painted in accordance with Section 413.03.11 of the MSHA Standards and Specifications.
  - All reinforcing splices shall be lap splices of 36 bar diameters unless shown otherwise.
  - All filter fabric shall be Poly-filter X or equivalent.
  - All exposed edges of concrete to be chamfered 1/2" x 1/2".



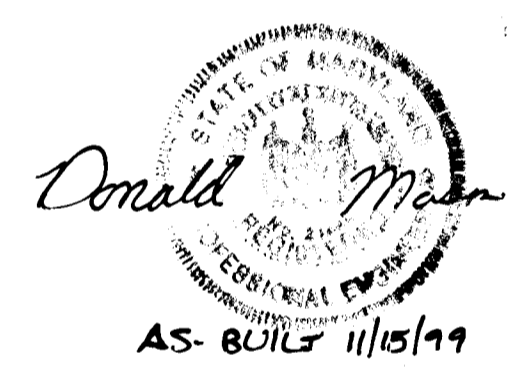
CORNER TREATMENT  
NOT TO SCALE



LOW FLOW ORIFICE DETAIL  
N.T.S.



EROSION CONTROL MATTING  
(JUTE, CURLEX OR EXCELSIOR)  
NOT TO SCALE



AS-BUILT 11/10/99

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

*Donald Mason*  
JOHN M. ELORRAGA DONALD MASON PE No. 21443 DATE 11/10/99

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:

I/WE 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John Mason* 8/10/99  
DEVELOPER DATE

BY THE ENGINEER:

I/WE 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*John Mason* 8/10/99  
ENGINEER JOHN M. ELORRAGA, P.E. # 16891 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.

*Patricia Englekas* 5/22/95  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Robert W. Ziehn* 5/22/95  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad D. ...* 6/1/95  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Stephen M. ...* 5-26-95  
CHIEF, BUREAU OF HIGHWAYS DATE

*Paul ...* 6/1/95  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Harold V. ...* 6/1/95  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

NO	DATE	REVISION

TSA GROUP, INC.  
planning architecture engineering  
8400 Baltimore National Pike Ellicott City, Maryland 21043 (410) 465-6105

OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP.  
P.O. BOX 417  
ELLCOTT CITY, MARYLAND 21041  
(410)465-6105

PROJECT: NOTTINGHAM VILLAGE  
SECTION 4  
LOTS 243-350

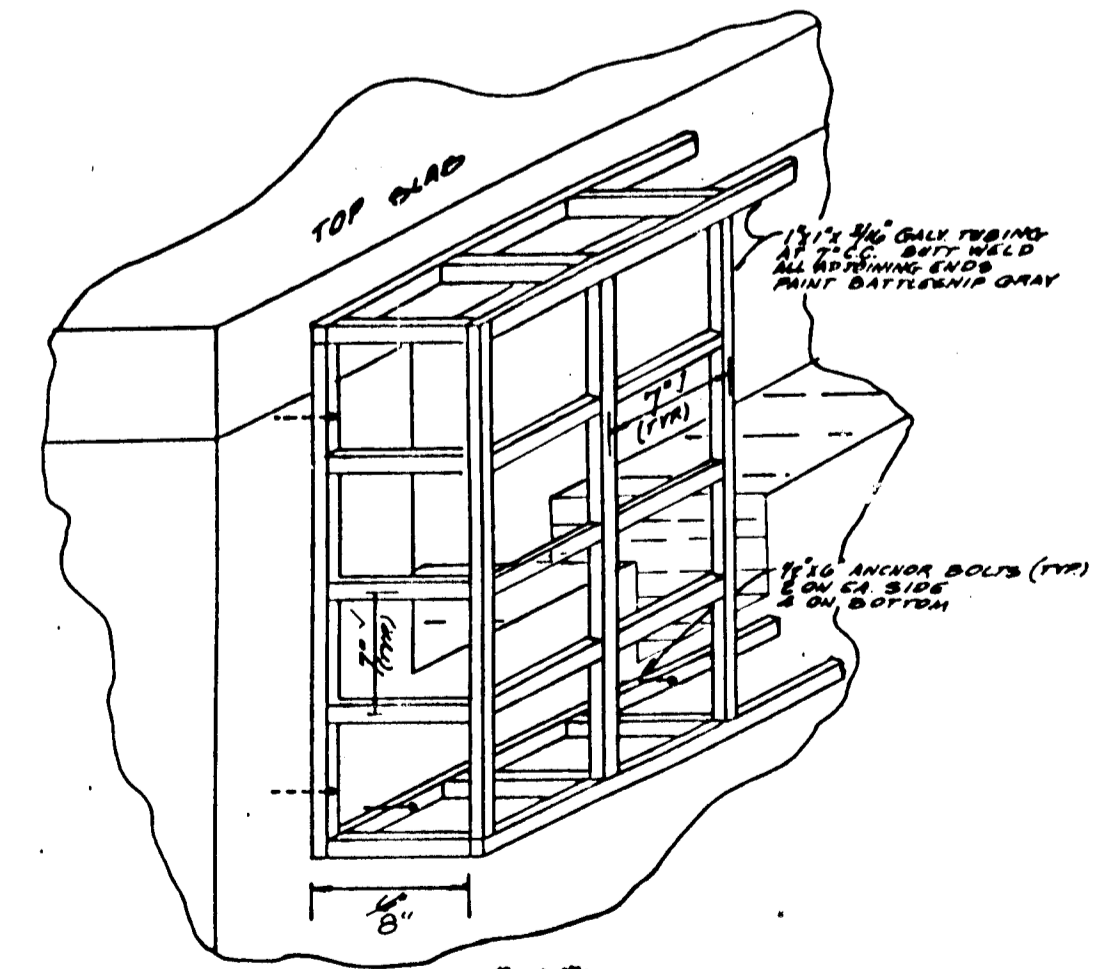
LOCATION: TAX MAP 37 - PARCEL 615  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT DETAILS

DATE: AUGUST, 1994 PROJECT NO. 8941

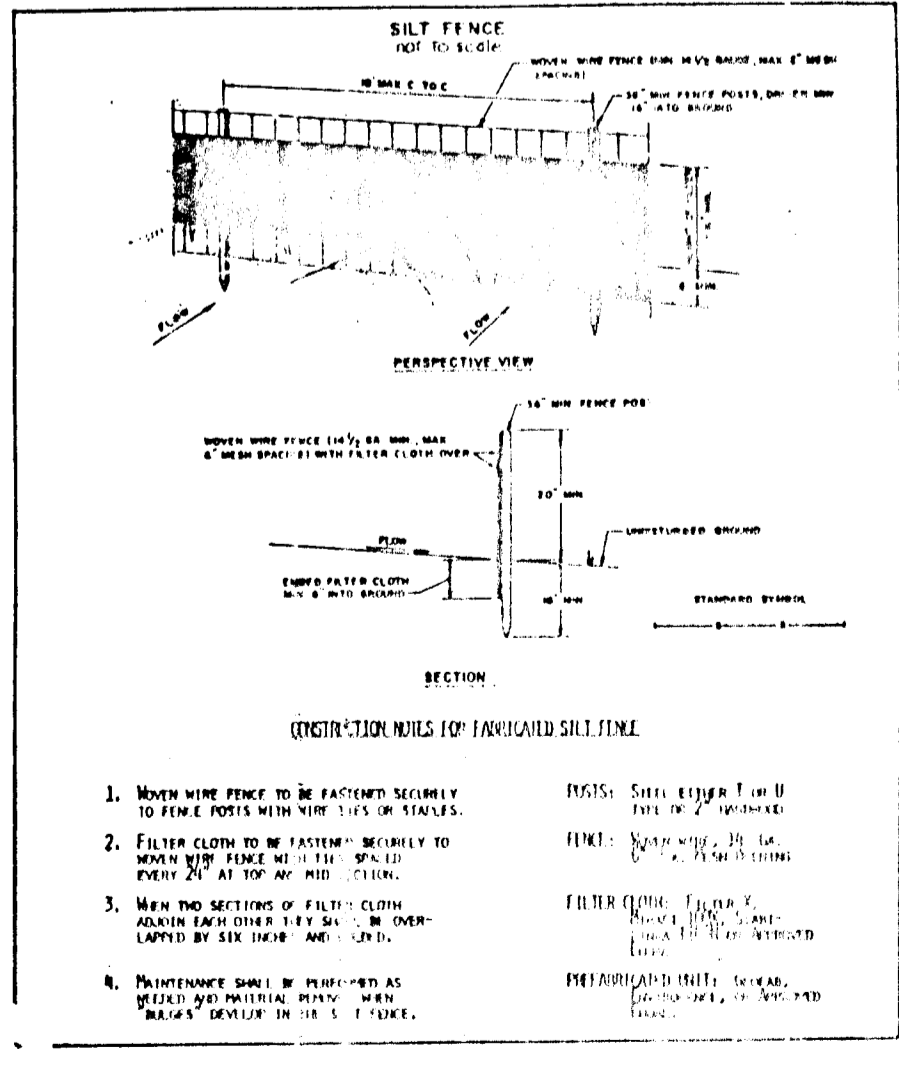
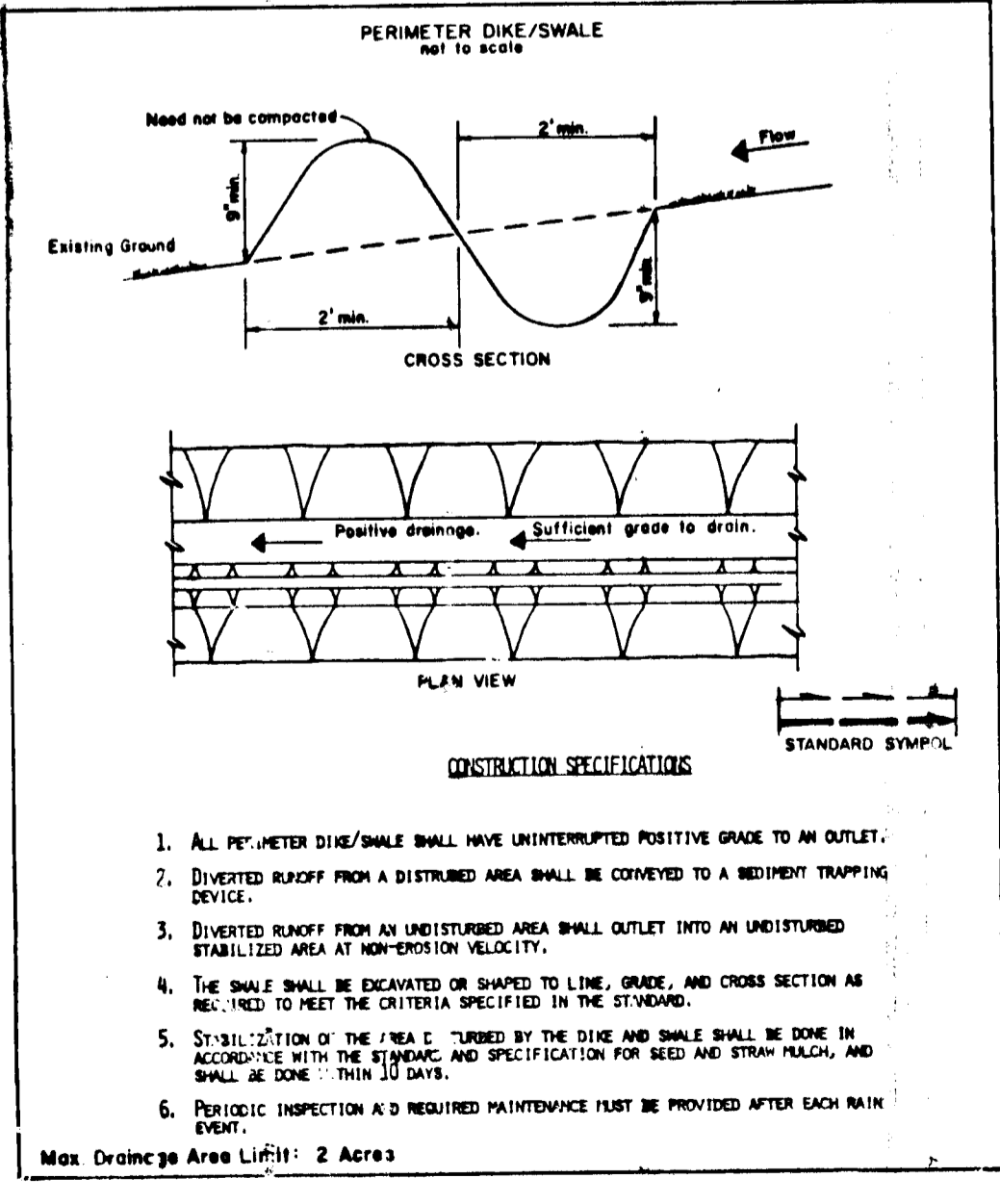
SCALE: AS SHOWN DRAWING 166 OF 181

DES: CAM DRN: CAB



POND #1 & #2  
TRASH RACK DETAIL  
NOT TO SCALE

NOTE: ALL TRASH RACKS AND THEIR COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION.



1647

STORMWATER MANAGEMENT NOTES

SEDIMENT CONTROL NOTES

POND #1 BORING LOGS

Site Preparation
Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner.

Earth Fill
Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable material.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in a maximum 8 inch thick (before compaction) layers.

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 track tread of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum.

Structure Backfill
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material.

Pipe Conduits
All pipe shall be circular in cross section.
Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands.

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

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-198 or M-211 with watertight coupling bands or flanges.

Connections - All connections with pipe 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.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be reinforced with an adequate number of corrugations to accommodate the band width.

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.

Backfilling shall conform to "Structure Backfill."

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA Specification C-302.

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

Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material.

Backfilling shall conform to "Structure Backfill."

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

Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.

Joints and connections to anti-seep collars shall be completely watertight.

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.

Backfilling shall conform to "Structure Backfill."

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

Concrete
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

Rock Riprap
All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous.

Care of Water during Construction
All work on permanent structures shall be carried out in areas free from water.

Stabilization
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching.

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.

A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1650).

ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE CONFORMANT WITH THE "BEST CURRENT PRACTICE" AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THERE TO.

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, FET METER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

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

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 STRUCTURES (313-1650 (SEC. 54)), WITH 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.

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERABLE CONDITION UNTIL PERMANENT STRUCTURES HAVE BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

SITE ANALYSIS:
TOTAL AREA OF SITE: 62.57 ACRES
AREA DISTURBED: 16.00 ACRES
AREA TO BE ROOFED OR PAVED: 16.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 30.57 ACRES
TOTAL CUT: 31.25 CU YDS TO BE HANDLED BY CONTRACTOR OFF-SITE WASTE/BORROW AREA LOCATION

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITIES FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING PERMITS APPROVALS MAY NOT BE SUBMITTED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE FEET DEPTH OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN THE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDING PREPARATION
APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

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

SOIL AMENDMENTS: APPLY 6.0 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.)

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (1.2 LBS/1000 SQ. FT.) FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WINTERING LEGRASSES (0.7 LBS/1000 SQ. FT.) FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, IMPOST SEED SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRASS 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 8:1 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.

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

SOIL AMENDMENTS: AS LEFT OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
1. PRETENDED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 100 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 30-0-0-0 UREA-FORMALDEHYDE FERTILIZER (9 LBS/1000 SQ. FT.)

2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 100 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (14 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ. FT.) OF WINTERING LEGRASSES. DURING THE PERIOD OF OCTOBER 16 THROUGH 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 SOO. 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 GRASS 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 8:1 OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

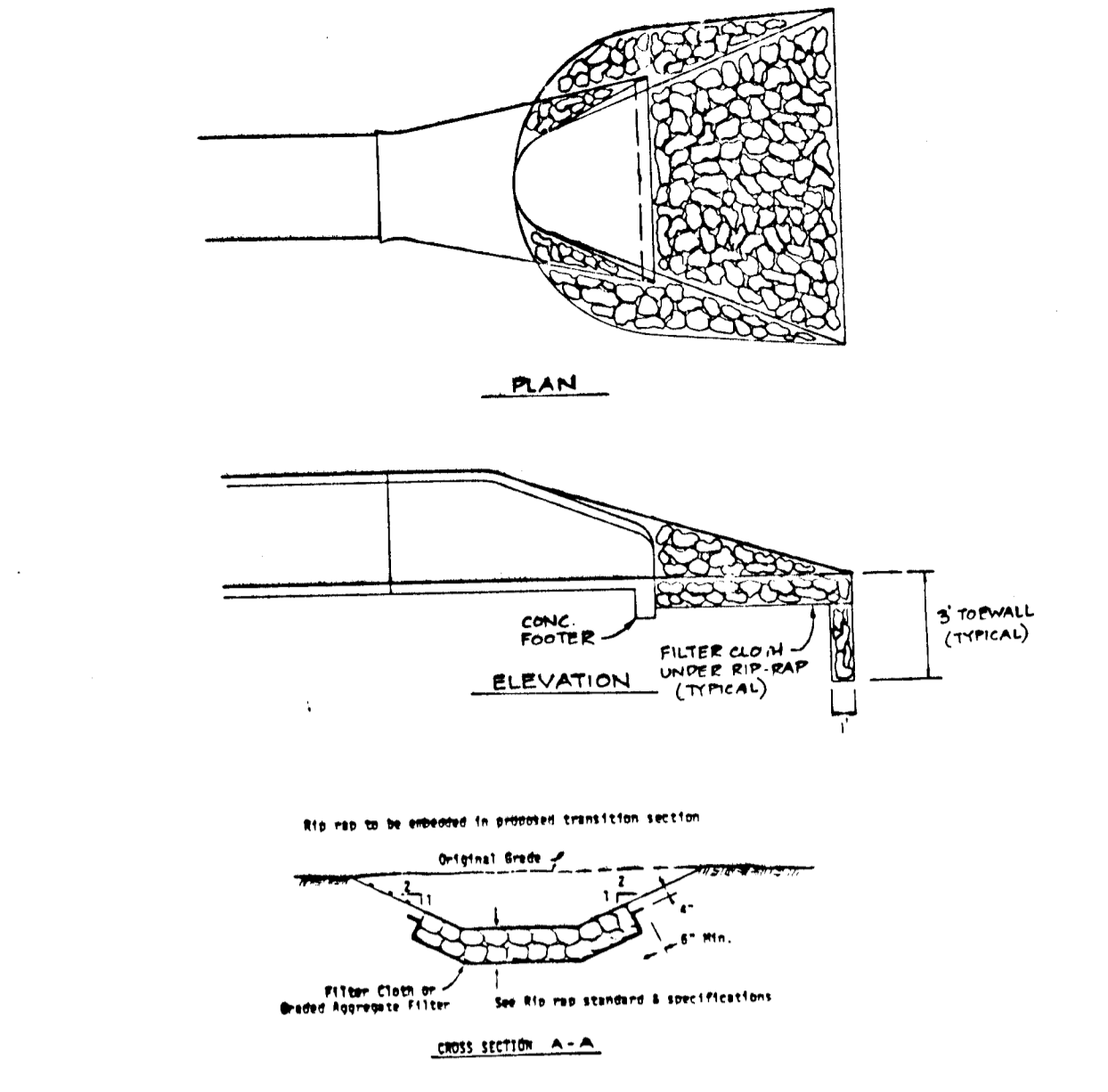
MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REIMPLEMENTS AND RESEEDINGS.

BORING # B-1 table with columns: ELEV., HORIZ. DESCRIPTION, STR. DEPTH, SAMPLE NO., NO. OF SAMPLES, TYPE, REC., NOTES

BORING # B-2 table with columns: ELEV., HORIZ. DESCRIPTION, STR. DEPTH, SAMPLE NO., NO. OF SAMPLES, TYPE, REC., NOTES

BORING # B-3 table with columns: ELEV., HORIZ. DESCRIPTION, STR. DEPTH, SAMPLE NO., NO. OF SAMPLES, TYPE, REC., NOTES

BORING # B-4 table with columns: ELEV., HORIZ. DESCRIPTION, STR. DEPTH, SAMPLE NO., NO. OF SAMPLES, TYPE, REC., NOTES



RIPRAP OUTLET PROTECTION-1 DETAIL NOT TO SCALE

POND # 2 BORING LOGS

BORING # B-7 table with columns: DEPTH (FEET), SAMPLES, DESCRIPTION OF MATERIALS, REMARKS

BORING # B-8 table with columns: DEPTH (FEET), SAMPLES, DESCRIPTION OF MATERIALS, REMARKS

BORING # B-9 table with columns: DEPTH (FEET), SAMPLES, DESCRIPTION OF MATERIALS, REMARKS

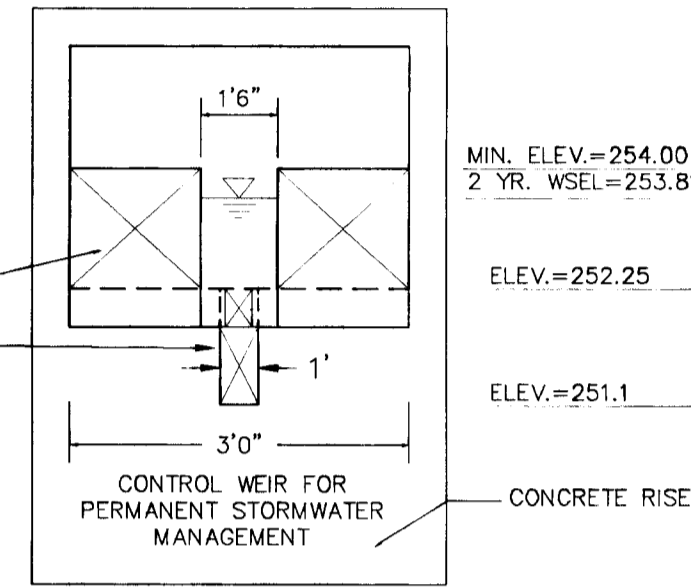
Approval and certification section with signatures and dates for the developer, engineer, and various agency representatives.

17091

MARYLAND STATE  
ROAD COMMISSION  
TAX MAP 37 P 411  
ZONED RSC

**LEGEND**

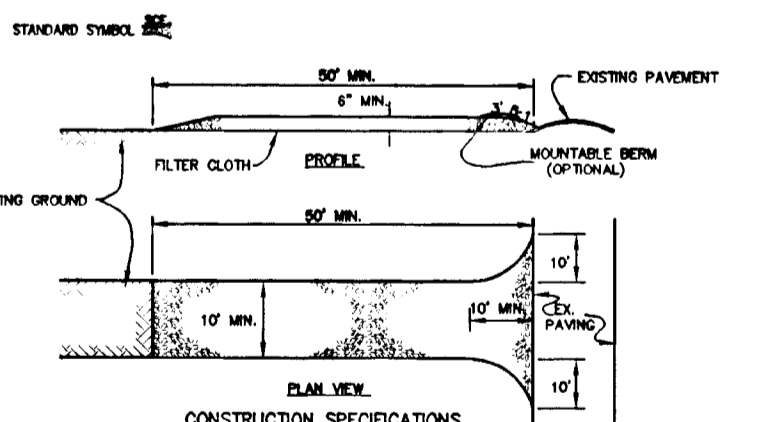
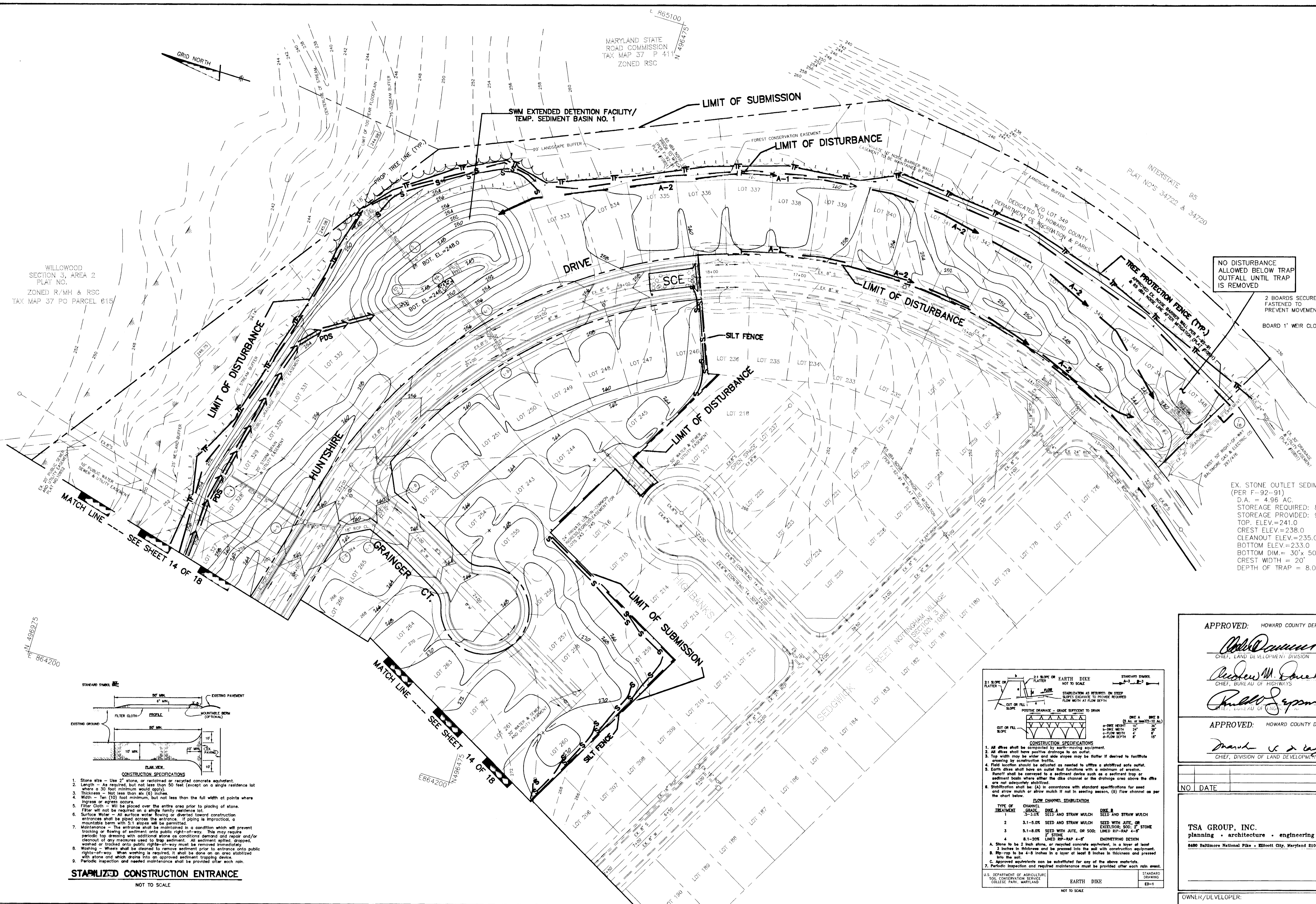
CONTOUR INTERVAL	2 FEET
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SEWER	---
EXISTING WATER MAIN	---
PROPOSED STORM DRAIN	---
STABILIZED CONSTRUCTION ENTRANCE	---
PROPOSED EARTH DIKE	---
PERIMETER DIKE SMALE	---
SILT FENCE	---
LIMIT OF DISTURBED AREA	---
EXISTING TREE LINE	---
PROPOSED TREE LINE	---
TREE PROTECTION FENCE	---



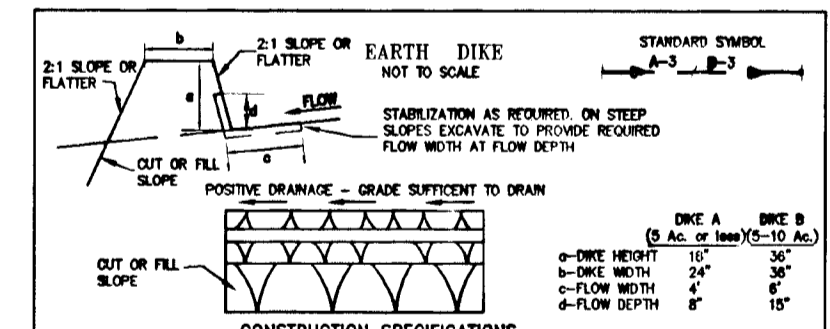
**TEMPORARY 1.5' TIMBER WEIR FOR POND #1 TEMP. S.W.M. DURING CONSTRUCTION**  
NOT TO SCALE

EX. STONE OUTLET SEDIMENT TRAP NO. 2  
(PER F-92-91)  
D.A. = 4.96 AC.  
STORAGE REQUIRED: 8928 C.F.  
STORAGE PROVIDED: 9072 C.F.  
TOP. ELEV.=241.0  
CREST ELEV.=238.0  
CLEANOUT ELEV.=235.0  
BOTTOM ELEV.=233.0  
BOTTOM DIM. = 30' x 50'  
CREST WIDTH = 20'  
DEPTH OF TRAP = 8.0'

WILLOWOOD  
SECTION 3, AREA 2  
PLAT NO.  
ZONED R/MH & RSC  
TAX MAP 37 PC PARCEL 615



- 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 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 repairs or repairs occur.
  5. Filter Cloth - Will be placed over the entire area prior to placing of stone.
  6. Filter - Will not be required on a single family residence lot.
  7. Surface Water - All surface water flowing or directed toward construction entrances shall be piped across the entrance. If piping is impractical, a mounded berm with 5:1 slopes will be permitted.
  8. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or floating of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measure used to trap sediment. All sediment applied, dropped, washed or tracked onto public right-of-way must be removed immediately.
  9. Repeating - Where shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with stone and which flows into an approved sediment trapping device.
  10. Periodic inspection and needed maintenance shall be provided after each rain.



**CONSTRUCTION SPECIFICATIONS**

1. All dikes shall be constructed 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 grading by construction traffic.
4. Field locations should be selected as needed to utilize a stabilized safe outlet.
5. Earth dikes shall have an outlet that functions with a minimum of erosion.
6. Runoff shall be conveyed to a sediment 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.
7. Periodic inspection and required maintenance shall be provided after each rain event.

TYPE OF TREATMENT	CHANNEL	DIKE A	DIKE B
1	3-5' OR MORE	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.05	SEED AND STRAW MULCH	SEED WITH JUTE, OR SOIL
3	3.1-5.05	SEED WITH JUTE, OR SOIL	SEED WITH JUTE, OR SOIL
4	8.1-206	LINED RIP-RAP 4'-6"	ENGINEERING DESIGN

A. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer of least 2 inches in thickness and be pressed into the soil with construction equipment.  
B. Rip-rap to be 4-8 inches in a layer of least 8 inches in thickness and pressed into the soil.  
C. Approved equipment can be substituted for any of the above materials.  
7. Periodic inspection and required maintenance shall be provided after each rain event.

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
COLLEGE PARK, MARYLAND

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

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.

*Patricia Egh las* 5/21/95  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Robert J. Ziehn* 5/23/95  
HOWARD SOIL CONSERVATION DISTRICT DATE

BY THE ENGINEER:

"I/WE 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

*John M. Elorinaga* 3/23/95  
ENGINEER JOHN M. ELORINAGA, P.E. # 16891 DATE

BY THE DEVELOPER:

"I/WE 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*John M. Elorinaga* 3/24/95  
DEVELOPER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*William M. Dwyer* 6/1/95  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Richard M. Dwyer* 5-26-95  
CHIEF, BUREAU OF HIGHWAYS HS DATE

*Richard M. Dwyer* 6/1/95  
CHIEF, BUREAU OF HIGHWAYS HS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Mark S. Dwyer* 6/5/95  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

NO	DATE	REVISION

TSA GROUP, INC.  
planning • architecture • engineering  
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP.  
P.O. BOX 417  
ELLCOTT CITY, MARYLAND 21041  
(410)465-6105

PROJECT: NOTTINGHAM VILLAGE  
SECTION 4  
LOTS 243 - 350

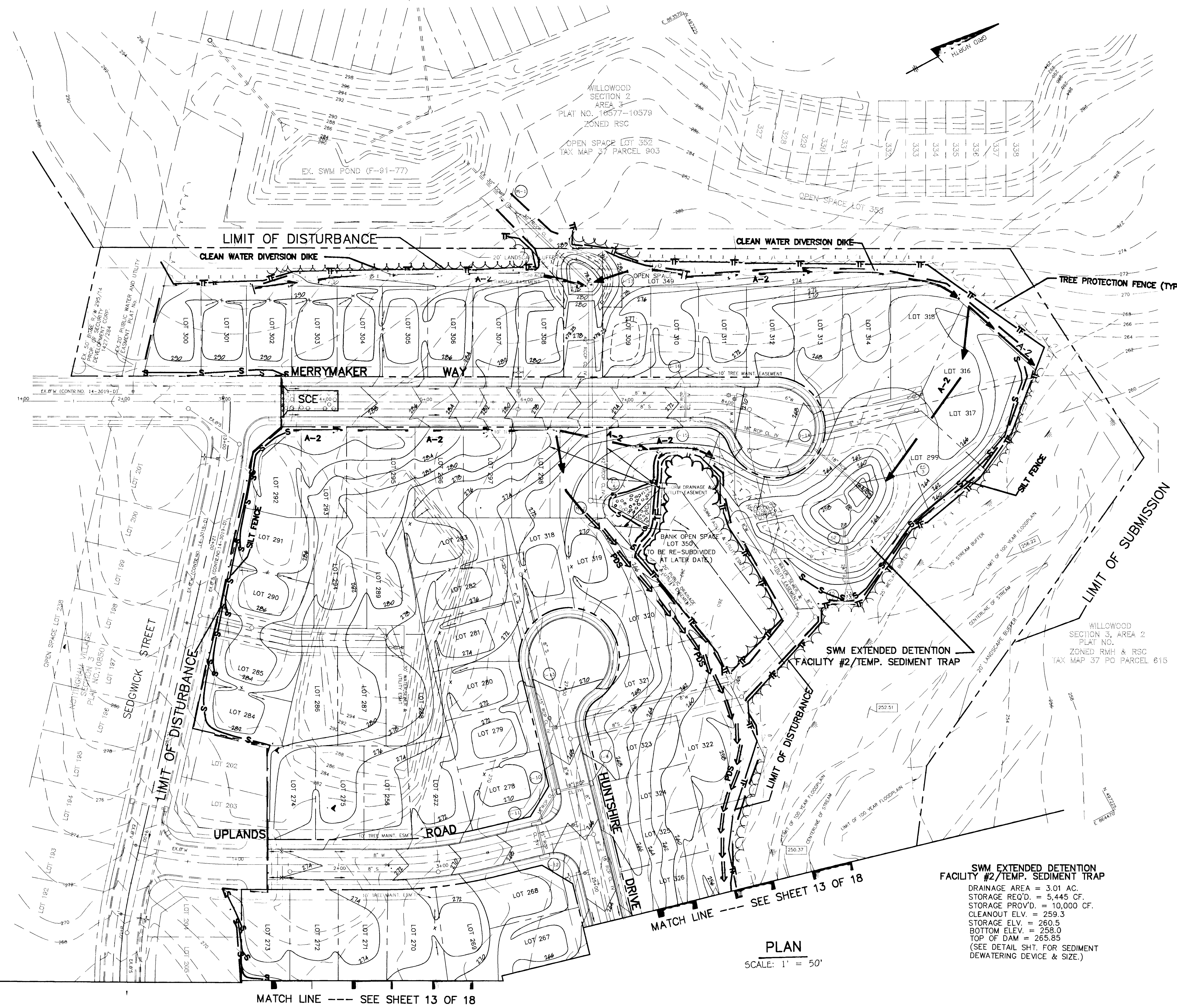
LOCATION: TAX MAP 37-PARCEL 615  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: EROSION & SEDIMENT CONTROL PLAN  
S-92-09F-92-91  
9-93-13

DATE: AUG, 1994 PROJECT NO. 0051  
SCALE: AS SHOWN DRAWING 13 OF 18

DES: CAM/YSL DRN: YSL

1647



**LEGEND**

CONTOUR INTERVAL	2 FEET
EXISTING CONTOUR	--- 200 ---
PROPOSED CONTOUR	--- 100 ---
EXISTING SEWER	--- 8" S ---
EXISTING WATER MAIN	--- 8" W ---
PROPOSED STORM DRAIN	--- 18" RCP ---
STABILIZED CONSTRUCTION ENTRANCE	[Symbol]
PROPOSED EARTH DIKE	E.D. A-3
PERIMETER DIKE SWALE	PDS
SILT FENCE	S --- S
LIMIT OF DISTURBED AREA	---
EXISTING TREE LINE	[Symbol]
PROPOSED TREE LINE	[Symbol]
TREE PROTECTION FENCE	TF --- TF

- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT.
  - INSTALL STABILIZED CONSTRUCTION ENTRANCES, TREE PROTECTION FENCE, SILT FENCE. (DAY 1-4).
  - INSTALL CULVERT PIPE ACROSS PROPOSED MERRYMAKER WAY TO DIVERT OFF-SITE "CLEAN WATER" THROUGH PROPOSED SITE. INSTALL CLEAN WATER DIVERSION ALONG COMMON PROPERTY LINE OF WILLOWOOD 3/2 AND SUBJECT SITE. (DAY 5).
  - INSTALL SWM/SEDIMENT BASIN # 1 AND SWM/SEDIMENT TRAP # 2. INSTALL LOW FLOW DEWATERING DEVICES. DO NOT INSTALL FOREBAY AREA AT THIS TIME. INSTALL EARTH DIKES; INSTALL SANITARY SEWER THROUGH POND EMBANKMENT, (MH 407 TO 406); STABILIZE. (DAY 17-30).
  - INSTALL 24" RCP FROM I-3 TO ES-2 AS POND # 1 EMBANKMENT IS BEING INSTALLED. CONSTRUCT SWALE ALONG LOTS 319-332. MAINTAIN POSITIVE DRAINAGE TO I-3 AND STABILIZE. (DAY 12-16).
  - RE-FURBISH EXISTING SEDIMENT TRAP # 2 (F-92-91) TO BE UTILIZED UNDER THIS SUBMISSION. INSTALL EARTH DIKE AND STABILIZE. (DAY 17-30).
  - GRADE THE ROADS TO SUBGRADE AND MASS GRADE SITE. STABILIZE. (DAY 31-45).
  - CONSTRUCT SANITARY SEWER, WATER, STORM DRAIN SYSTEMS. (DAY 46-75).
  - CONSTRUCT CONCRETE CURB AND GUTTER. (DAY 76-90).
  - CONSTRUCT PAVING. (DAY 90-104).
  - COMPLETE FINAL GRADING OF SITE (TO EXTENT POSSIBLE) AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (DAY 105-109).
  - CONVERT TEMPORARY SEDIMENT BASIN # 1 AND TEMPORARY SEDIMENT TRAP IN SWM # 2 TO A PERMANENT SWM PER CONSTRUCTION PLANS. INSTALL FOREBAY; REMOVE AND REPLACE # 2 STONE ON 6" DIA. PVC LOW FLOW DEWATERING DEVICE AND PERMANENTLY STABILIZE. (DAY 110 - 114).
  - INSTALL SIDEWALKS AND STREET TREES. (DAY 114-118).
  - UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT TRAP # 2, COMPLETE FINAL GRADING AND STABILIZE. REMOVE ALL SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE AS NEEDED. (DAY 119-120).

**SWM EXTENDED DETENTION FACILITY #2/TEMP. SEDIMENT TRAP**  
 DRAINAGE AREA = 3.01 AC.  
 STORAGE REQ'D. = 5,445 CF.  
 STORAGE PROV'D. = 10,000 CF.  
 CLEANOUT ELEV. = 259.3  
 STORAGE ELEV. = 260.5  
 BOTTOM ELEV. = 258.0  
 TOP OF DAM = 265.85  
 (SEE DETAIL SHIT. FOR SEDIMENT DEWATERING DEVICE & SIZE.)

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad Williams* 6/1/95  
 CHIEF, LAND DEVELOPMENT DIVISION DATE 7/95

*Andrew M. Dangle* 5-26-95  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Paul J. Sapan* 6/1/95  
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Derek V. Dwyer* 6/5/95  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

NO	DATE	REVISION

TSA GROUP, INC.  
 planning • architecture • engineering  
 8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP.  
 P.O. BOX 417  
 ELLICOTT CITY, MARYLAND 21041  
 (410)465-6105

PROJECT: NOTTINGHAM VILLAGE  
 SECTION 4  
 LOTS 243 - 350

LOCATION: TAX MAP 37-PARCEL 615  
 181 ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: EROSION & SEDIMENT CONTROL PLAN  
 DATE: AUG, 1994 PROJECT NO. 0051  
 SCALE: AS SHOWN DRAWING 14 OF 18

1647

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.

*Patricia Eyles /cs* 5/24/95  
 NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Robert W. Zepher* 5/23/95  
 HOWARD SOIL CONSERVATION DISTRICT DATE

BY THE ENGINEER:

"I/WE 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

*John M. Elorriaga* 3/2/95  
 ENGINEER - JOHN M. ELORRIAGA, P.E. # 16891 DATE

BY THE DEVELOPER:

"I/WE 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*[Signature]* 3/24/95  
 DEVELOPER DATE

DES: CAM/YSL DRN: YSL

PLANT LIST*		
SYMBOL	NAME	QUANTITY
⊙	QUERCUS RUBRA ( RED OAK )	116
⊙	PINUS STROBUS ( EASTERN WHITE PINE )	26
⊙	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	19

\*NOTE: TREES WITH A MINIMUM OF AT LEAST 2-1/2" CALIPER

**STREET TREE REQUIREMENT**

REQUIRED: 1 TREE/40' = 103 (⊙ 4108 L.F.)  
 PROVIDED: 103

**STORMWATER MANAGEMENT AREA LANDSCAPING (SCHEDULE D)**

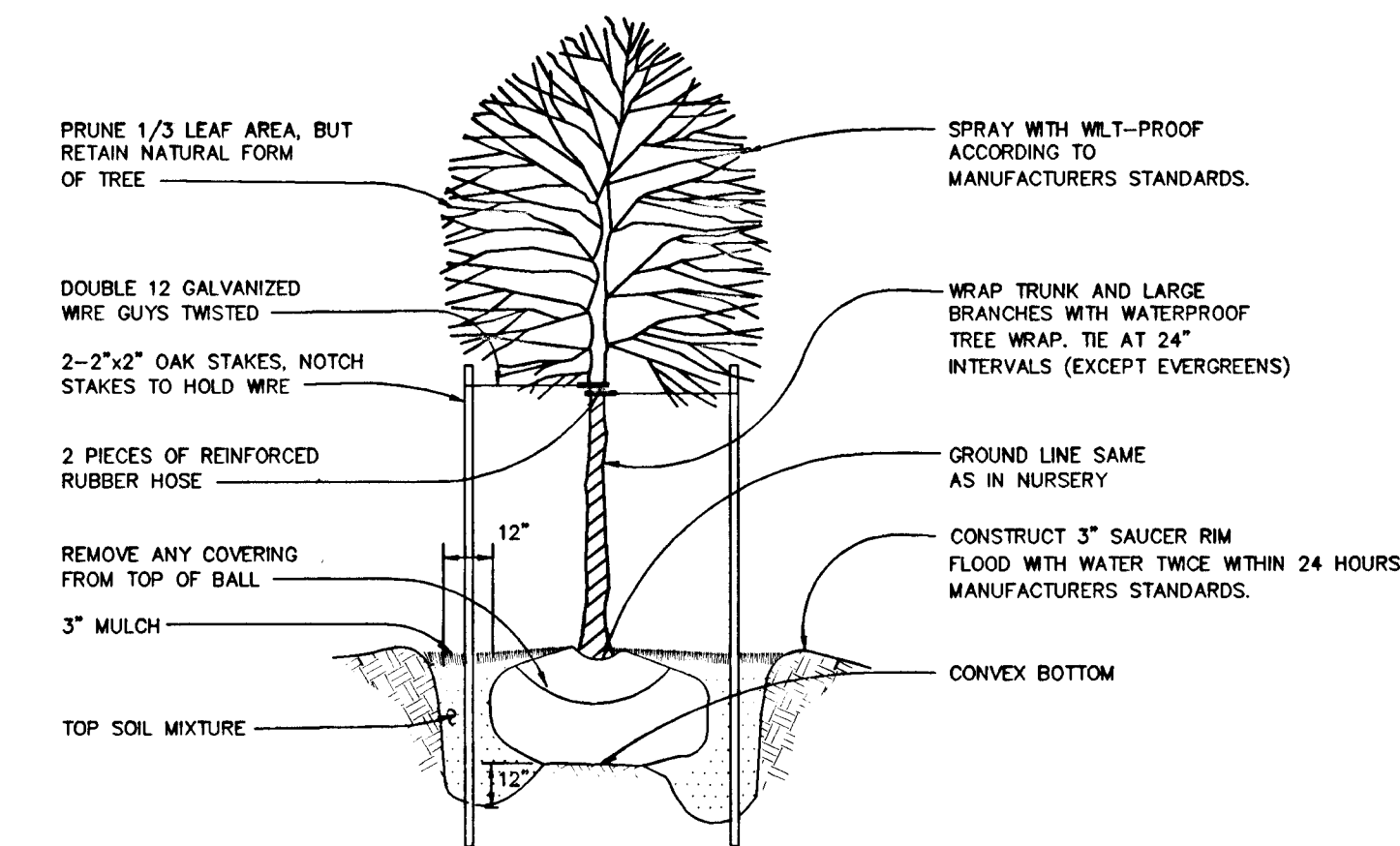
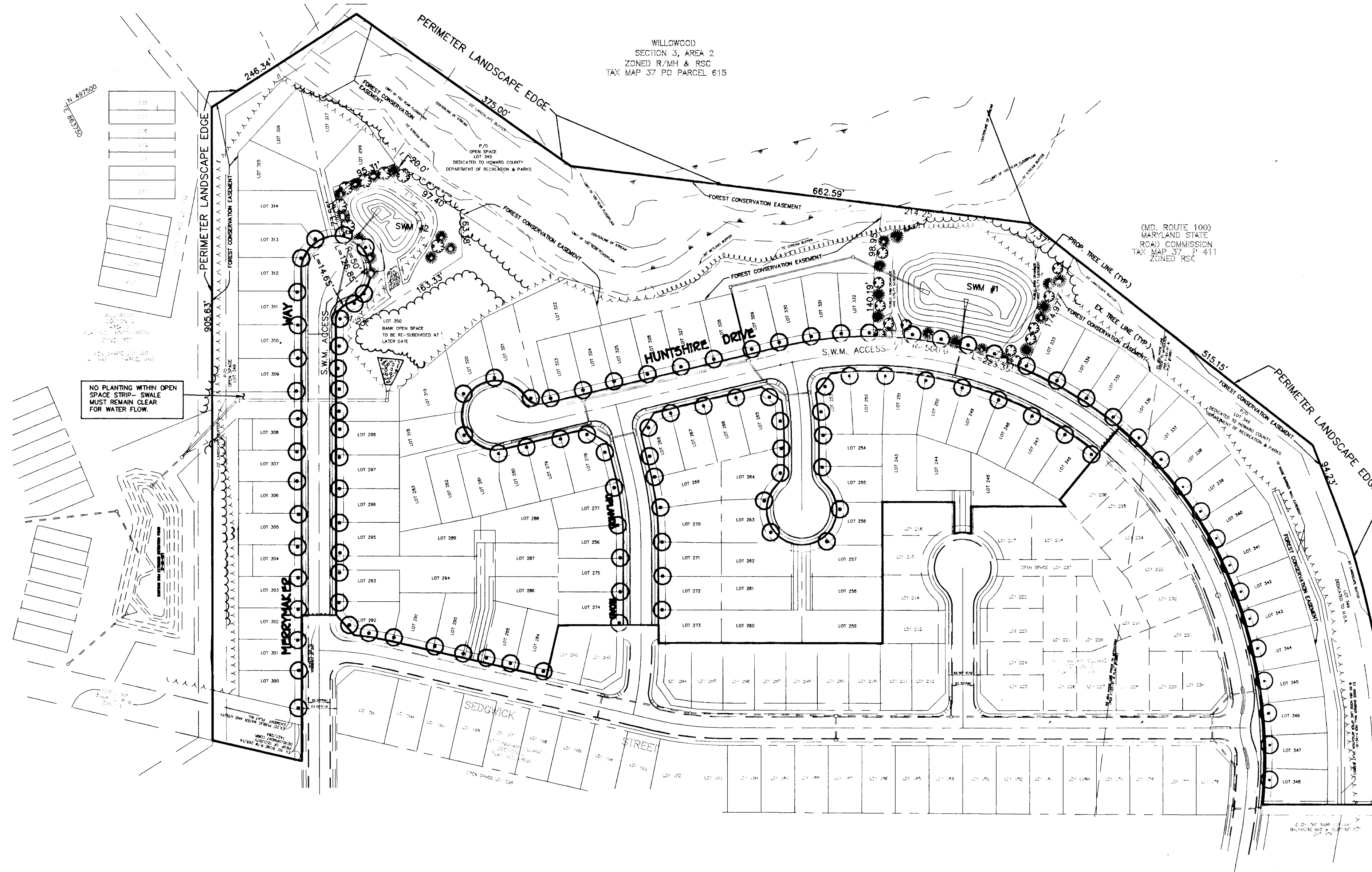
CATEGORY	SWM POND #1	SWM POND #2
LANDSCAPE TYPE	B	B
LINEAR FEET OF PERIMETER	929 L.F.	695.0 L.F.
NUMBER OF PLANTS REQUIRED		
SHADE TREES	19 (1:50)	14 (1:50)
EVERGREEN TREES	23 (1:40)	17 (1:40)
SHRUBS	0	0
CREDIT FOR EXISTING VEGETATION	342 L.F. (37%)	324 L.F. (46%)
CREDIT FOR WALL, FENCE OR BERM	0	0
NUMBER OF PLANTS PROVIDED		
SHADE TREES	12 (63%)	7 (54%)
EVERGREEN TREES	15 (63%)	11 (54%)
SHRUBS	0	0

**PERIMETER LANDSCAPE EDGE (SCHEDULE A)**

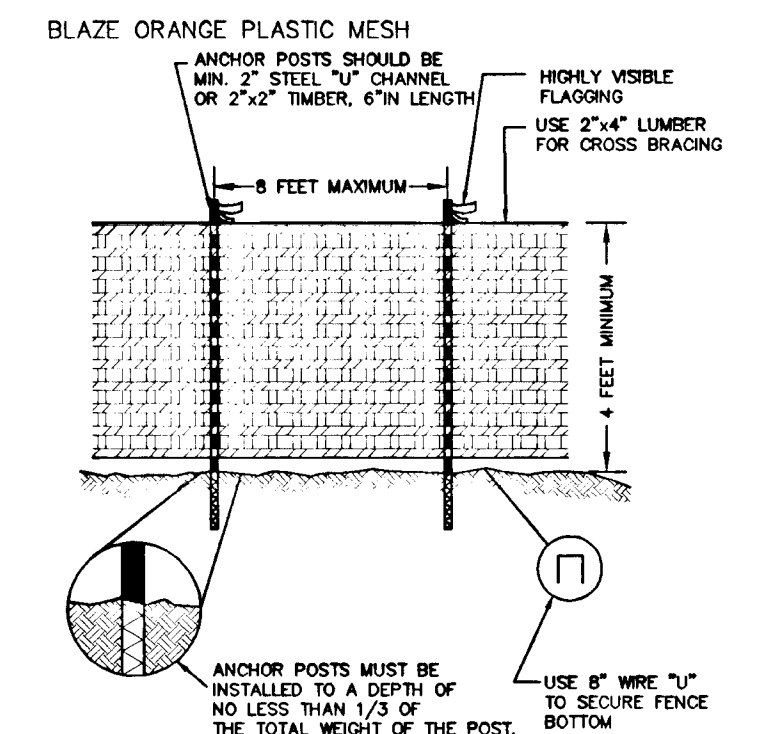
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	B	A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1044 L.F.	2189 L.F.
CREDIT FOR EXISTING VEGETATION	1044 L.F.	2189 L.F.
CREDIT FOR WALL, FENCE OR BERM	0	0
NUMBER OF PLANTS REQUIRED		
SHADE TREES	0 (1:40)	0(1:40)
EVERGREEN TREES	0	0(1:20)
SHRUBS	0	0
NUMBER OF PLANTS PROVIDED		
SHADE TREES	0	0
EVERGREEN TREES	0	0
SHRUBS	0	0

**LANDSCAPE NOTES:**

- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE STREET TREES, AND STORMWATER MANAGEMENT POND PLANTING.
- ALL STREET TREES ARE TO BE LOCATED A MINIMUM OF 4' FROM SIDEWALK, AND LOCATED 20' FROM ANY STREET LIGHT.



**TREE PLANTING DETAIL**  
NOT TO SCALE



**TEMPORARY TREE PROTECTION FENCE**  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Chad Dammus* 6/1/95  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Richard M. Damer* 5-26-95  
 CHIEF, BUREAU OF HIGHWAYS  
*Richard J. Sporn* 6/1/95  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Mark S. Dwyer* 6/5/95  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

NO.	DATE	REVISION
1	12-15-97	ADD SIDEWALK & LANDSCAPING ALONG EAST SIDE OF HUNTSHIRE DRIVE RELOCATED FROM F-92-91 SECTION 3

TSA GROUP, INC.  
 planning • architecture • engineering  
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6100

*John J. Dwyer*

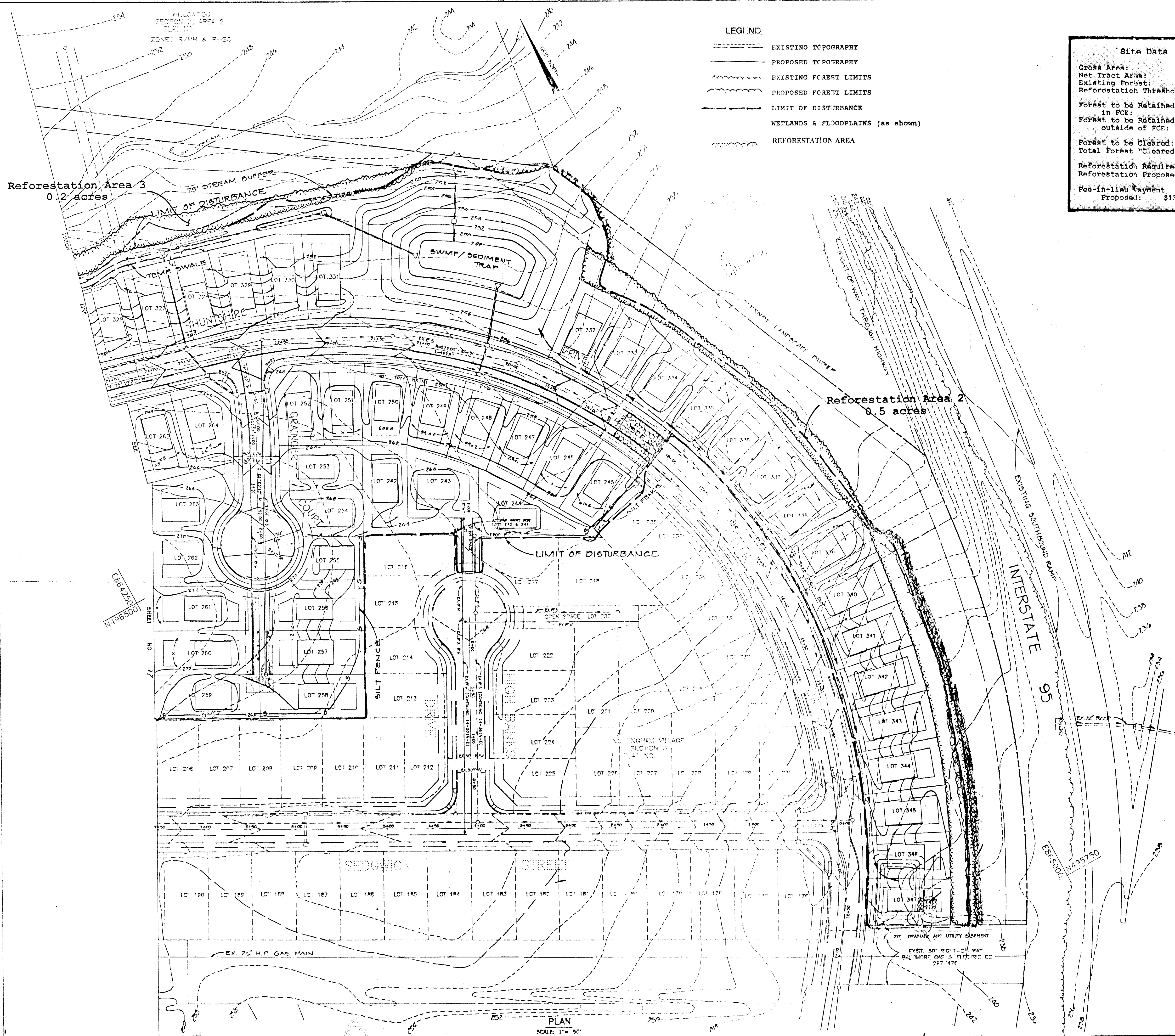
OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410)465-6105	PROJECT: <b>NOTTINGHAM VILLAGE</b> SECTION 4 LOTS 243 - 350 LOCATION: TAX MAP 37 - PARCEL 615 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: <b>LANDSCAPE PLAN</b> S-92-09F-92-91 P-93-13 DATE: AUG, 1994 PROJECT NO. 0051 SCALE: AS SHOWN DRAWING 15 OF 18
--	--

**NOTES:**

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISION OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$7300.00.

**PLAN**  
SCALE: 1" = 100'

1647

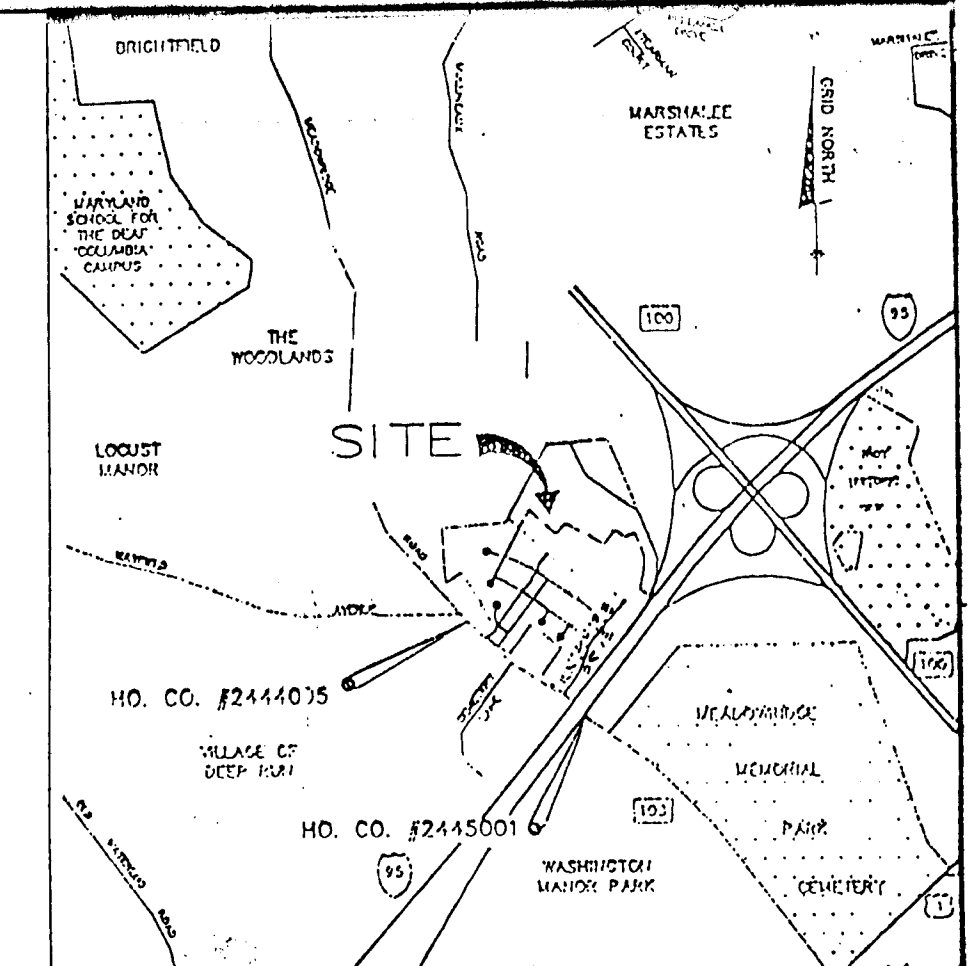


**LEGEND**

- EXISTING TOPOGRAPHY
- PROPOSED TOPOGRAPHY
- EXISTING FOREST LIMITS
- PROPOSED FOREST LIMITS
- LIMIT OF DISTURBANCE
- WETLANDS & FLOODPLAINS (as shown)
- REFORESTATION AREA

**Site Data**

	Acres
Gross Area:	22.5
Net Tract Area:	21.5
Existing Forest:	4.0
Reforestation Threshold:	4.3
Forest to be Retained in FCE:	3.0
Forest to be Retained outside of FCE:	1.0
Forest to be Cleared:	0.2
Total Forest "Cleared":	1.0
Reforestation Required:	2.0
Reforestation Proposed:	1.0
Fee-in-lieu Payment Proposed:	\$13,068.00



VICINITY MAP  
SCALE: 1" = 2000'

Reforestation Area 3  
0.2 acres

Reforestation Area 2  
0.5 acres

**FCE NOTES**

- All forested areas within open space and reforestation areas (RFA) shall be placed in a Forest Conservation Easement. Forest remaining on Lot 350 shall not be included in FCE.
- Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
- Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
- Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
- There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
- No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
- Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed as shown.
- Permanent signage shall be placed 100-150' apart along the boundaries of all areas included in Forest Conservation Easements. Where the FCE is within private lot boundaries protective signage shall be placed on each affected lot.
- Forest conservation obligations for this property shall be met through onsite retention, reforestation, and through a fee-in-lieu payment.

**NOTE**

Typical maintenance activities required for the upkeep of the noise wall shall be allowed within five feet from the wall in the FCE.

**Eco-Science Professionals, Inc.**  
CONSULTING ECOLOGISTS

MD DNR Qualified Professional  
USACOE Provisional Wetland Delineator  
Certification # WDCT93MD0610044B2

John F. Canoles

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

11/21/94	PEP Revised		
1/30/95	PEP Revised		
NO.	DATE	REVISION	

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8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-8105

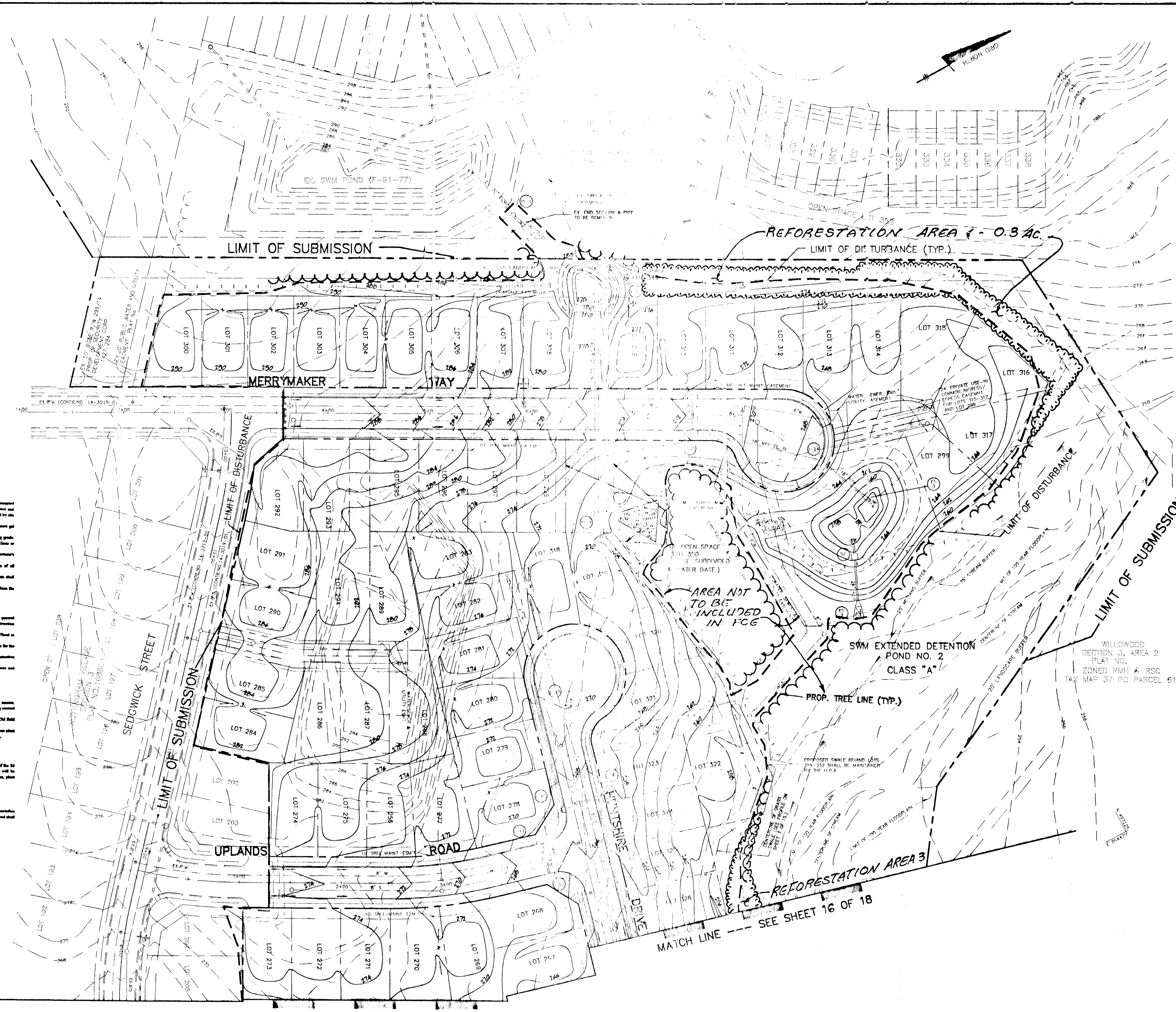
OWNER SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043 (410) 465-4244	PROJECT <b>NOTTINGHAM VILLAGE SECTION 4</b> A RESUBDIVISION OF OPEN SPACE PARK LOT 241
DEVELOPER SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043 (410) 465-4244	LOCATION TAX MAP NO. 37 ZONING MAP NO. 37 - PARCEL 615 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE <b>FOREST CONSERVATION PLAN</b>	DATE: DEC 16, 1994 PROJECT NO. 0051
DES. JH/DAM DRN. JWS	SCALE: 1" = 50' DRAWING 16 OF 18

1647

PLAN  
SCALE: 1" = 50'



1647



**LEGEND**

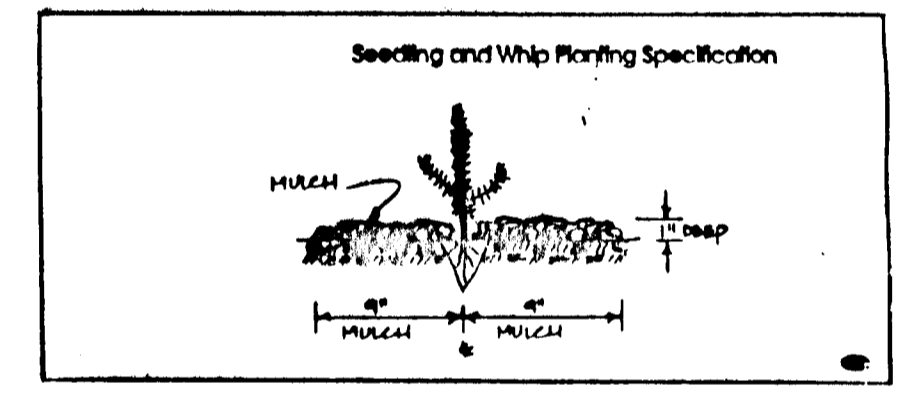
- EXISTING TOPOGRAPHY
- PROPOSED TOPOGRAPHY
- PROPOSED FOREST LIMITS
- EXISTING FOREST LIMITS
- LIMIT OF DISTURBANCE
- WETLANDS & FLOODPLAIN (AS SHOWN)
- REFORESTATION AREA

**REFORESTATION PLANS**

**Planting Schedule**

Qty.	Species	Size	Spacing
25	Acer rubrum - Red maple	2-3' whip	**
20	Cornus florida - Flowering dogwood	2-3' whip	**
20	Myrica sylvatica - Black gum	2-3' whip	**
30	Quercus alba - White oak	2-3' whip	**
15	Quercus rubra - Red oak	2-3' whip	**
<b>Reforestation Area 2 (0.3 acres)</b>			
30	Acer rubrum - Red maple	2-3' whip	**
25	Cornus florida - Flowering dogwood	2-3' whip	**
25	Myrica sylvatica - Black gum	2-3' whip	**
35	Quercus alba - White oak	2-3' whip	**
30	Quercus rubra - Red oak	2-3' whip	**
<b>Reforestation Area 3 (0.2 acres)</b>			
10	Acer rubrum - Red maple	2-3' whip	**
15	Cornus florida - Flowering dogwood	2-3' whip	**
10	Myrica sylvatica - Black gum	2-3' whip	**
20	Quercus alba - White oak	2-3' whip	**
10	Quercus rubra - Red oak	2-3' whip	**

\*\* plants shall be spaced 11 foot on center, not in a grid pattern.  
b.t. - branched transplant



- Planting/Soil Specifications**
- Planting of nursery stock shall take place between March 1st and April 30th.
  - A one (1) inch layer of mulch shall be spread over all reforestation areas immediately after planting to prevent soil erosion. Disturbed areas shall be seeded and mulched in the general reforestation area for erosion. Planting areas not covered by the mulch shall have an additional mulch layer.
  - All nursery planting areas shall have their own systems aligned into an erosion control system.
  - Planting shall be completed by the top of root zone to level with the top of existing grade. Mulch in the planting area shall consist of 3" pine straw and 1" post hole sawdust or equivalent.
  - Fertilizer shall consist of Agrifos 23-0-0, or equivalent, applied in per manufacturer's specifications.
  - A one (1) inch layer of mulch shall be placed over the root zone of all plantings.
  - Plant material shall be transported to the site in a covered or covered truck. Plants shall be kept moist prior to planting.
  - All new nursery plants shall be planted with the planting operation shall be completed from the site by the contractor.
- Source of Construction**
- Soil erosion control and tree protection devices shall be installed in accordance with current best practices for the site. Site shall be graded in accordance with current best practices.
  - Form of reforestation areas shall be established by site grading shall be done in accordance with per 17.07 "Planting/Soil Specifications" for erosion.
  - Planting shall be completed in per Plant Schedule and the Planting Schedule shall be the primary reference for the planting schedule shall be installed in per the Planting Schedule.
  - Planting shall be completed in per the Planting Schedule shall be installed in per the Planting Schedule.
  - Planting shall be completed in per the Planting Schedule shall be installed in per the Planting Schedule.
- Maintenance of Plantings**
- Maintenance of plantings shall last for a period of 36 months.
  - All plant material shall be watered twice a month during the hot growing season. Watering shall be done in the morning or late afternoon depending on weather conditions. During hot growing season, water a second time during the hot growing season. Old field equipment shall be used for watering.
  - Stems and growing points shall be protected from reforestation areas. Old field equipment shall be used for watering.
  - Planting shall be completed in per the Planting Schedule shall be installed in per the Planting Schedule.
  - Planting shall be completed in per the Planting Schedule shall be installed in per the Planting Schedule.
- Contractor Requirements**
- A 75 percent certified site of information shall be provided at the end of the 36 month maintenance period. All plant material shall be watered in the hot growing season, plant material shall be watered in the hot growing season.
  - The contractor shall be liable for plant loss due to death or vandalism.
- Notes for Reforestation**
- The contractor shall post a security bond, letter of security to ensure the reforestation plan is completed. Upon completion of the planting by the Contractor, the bond shall be released.

MATCH LINE --- SEE SHEET 16 OF 18

PLAN  
SCALE: 1" = 50'

**Eco-Science Professionals, Inc.**  
CONSULTING ECOLOGISTS

P.O. Box 8008 Glen Arm, MD 21027 (410) 892-8752

MD DNR Qualified Professional  
USACE Provisional Wetland Determiner  
Certificate # MDWCF00188422

John P. Cooney

NO.	DATE	REVISION
1/21/94	1/21/94	REV. ISSUED

**TSA GROUP, INC.**  
planning • architecture • engineering  
6480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP.  
P.O. BOX 417  
ELLICOTT CITY, MARYLAND 21041  
(410)465-6105

PROJECT: **NOTTINGHAM VILLAGE**  
SECTION 4  
LOTS 243 - 350

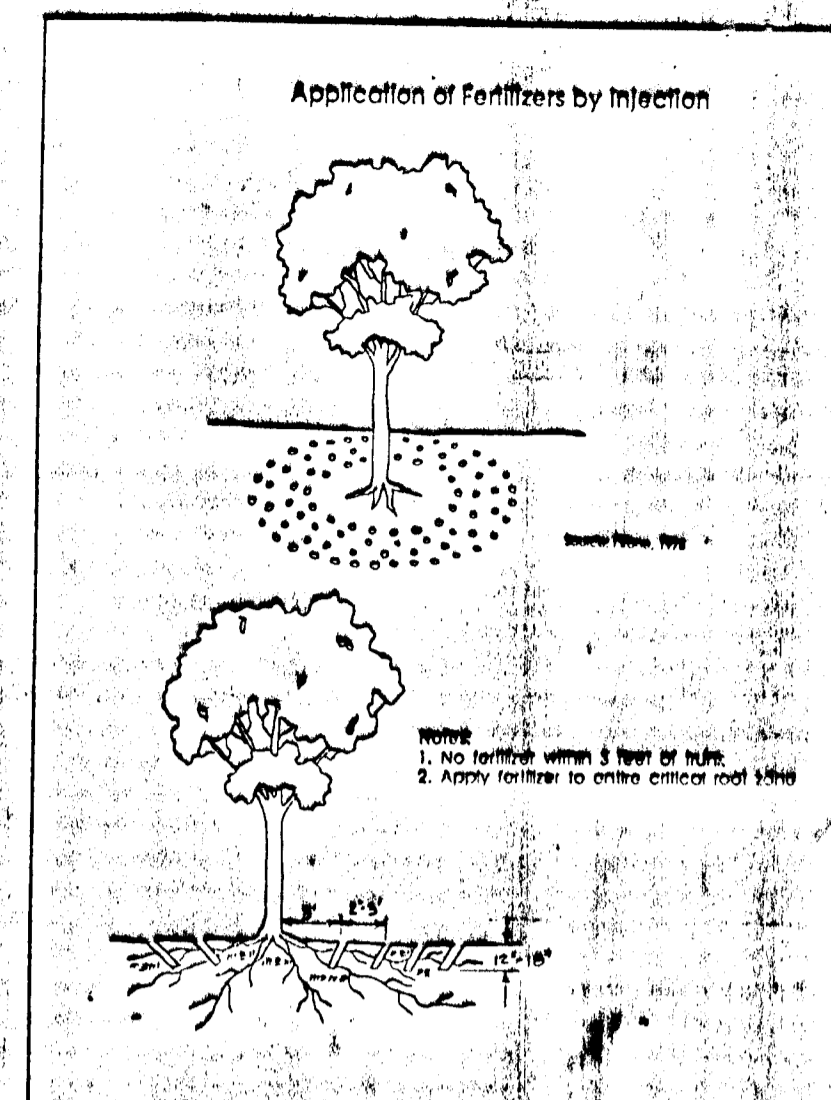
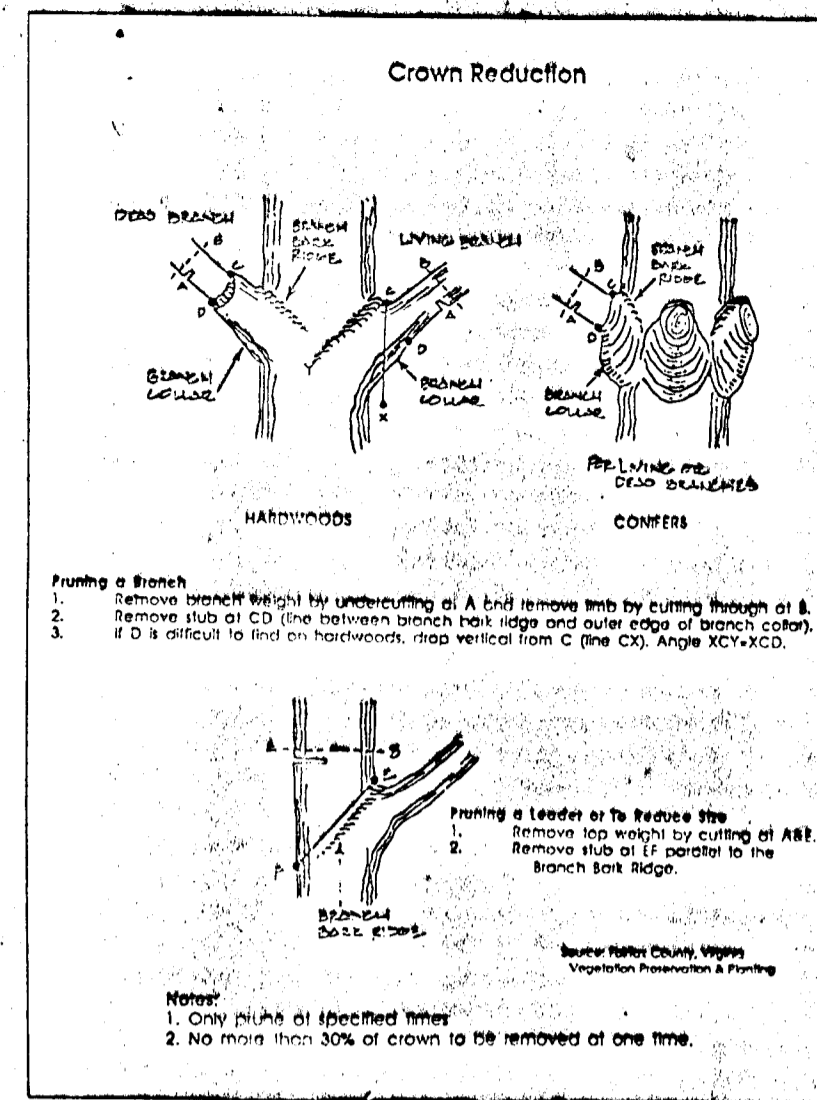
LOCATION: TAX MAP 37-PARCEL 615  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: **FOREST CONSERVATION PLAN**  
S-92-06-F-02-91  
P-93-13

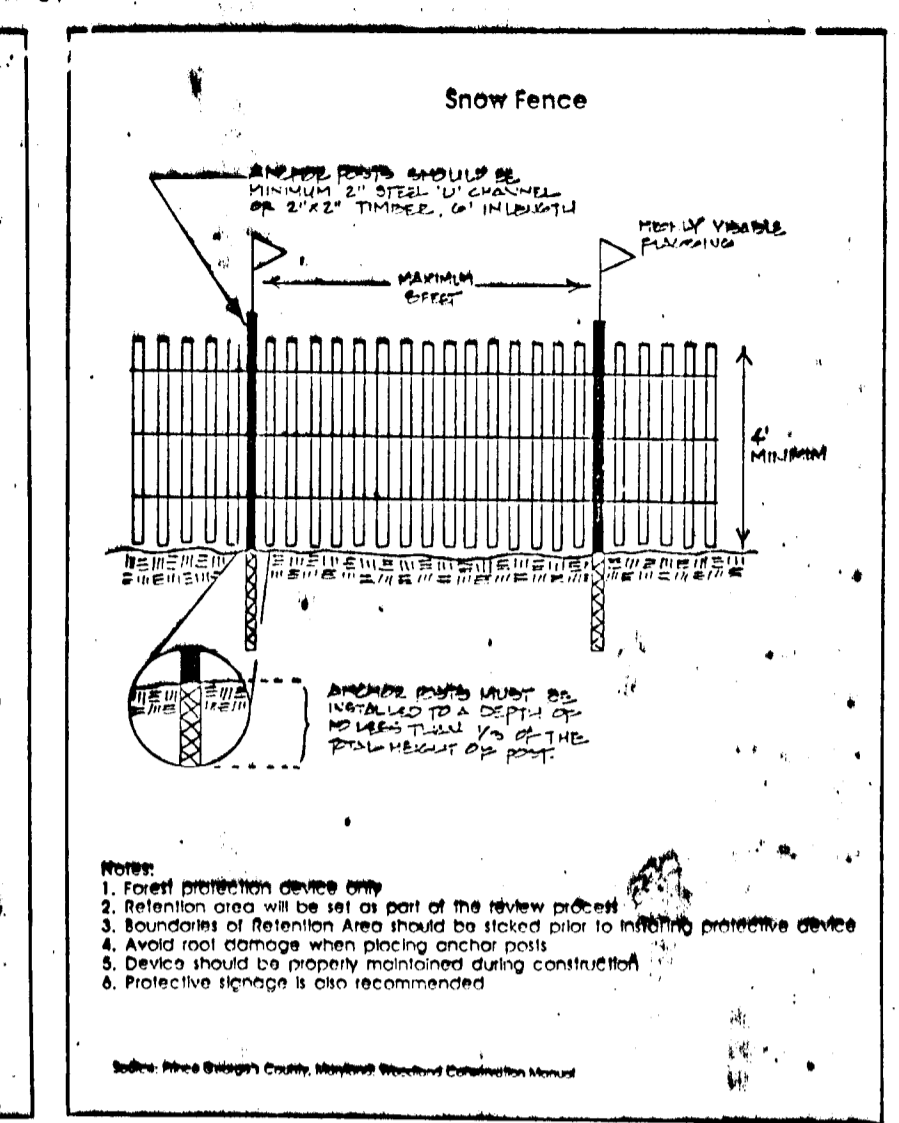
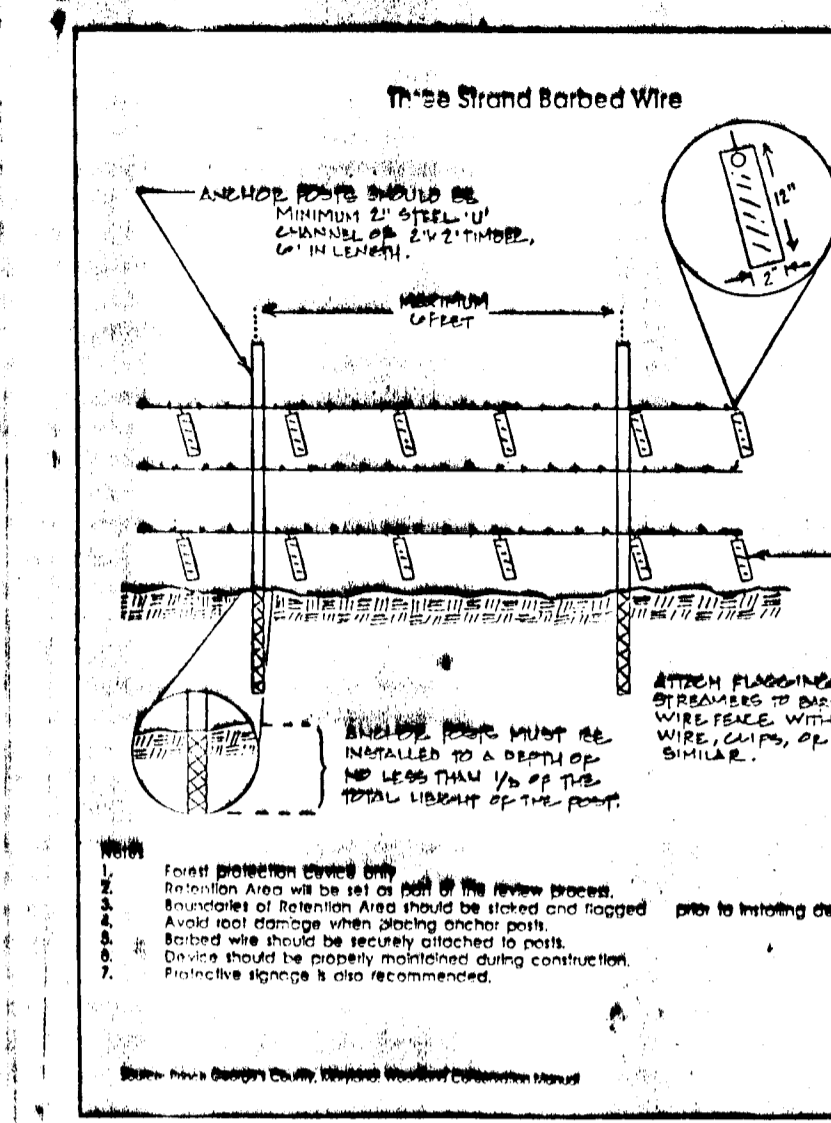
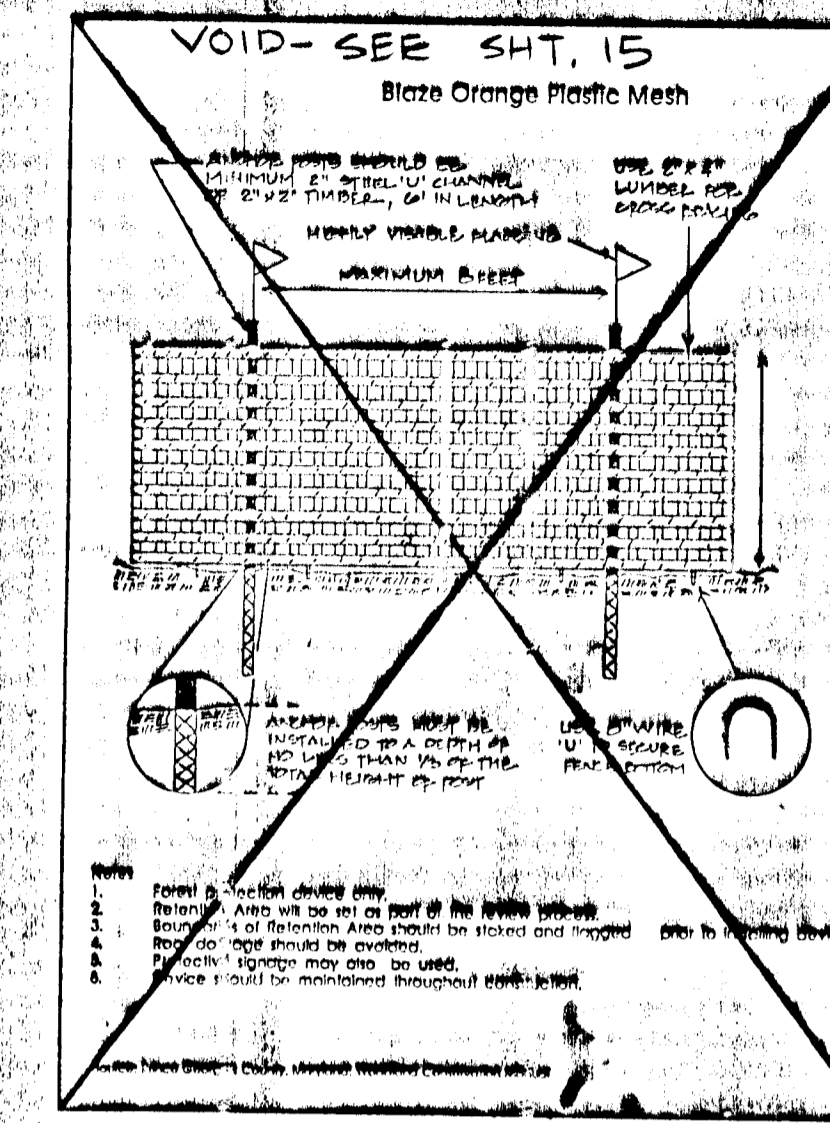
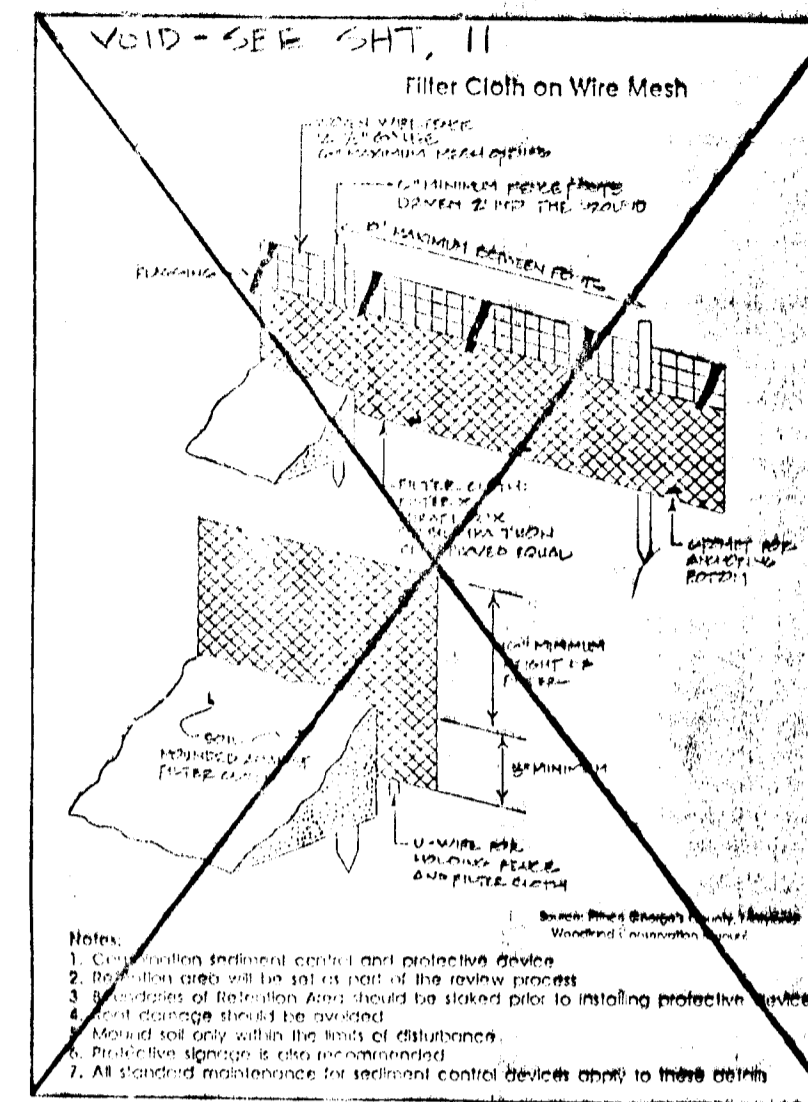
DATE: AUG., 1994 PROJECT NO. 0051

DES: DRN: SCALE: AS SHOWN DRAWING 17 OF 18

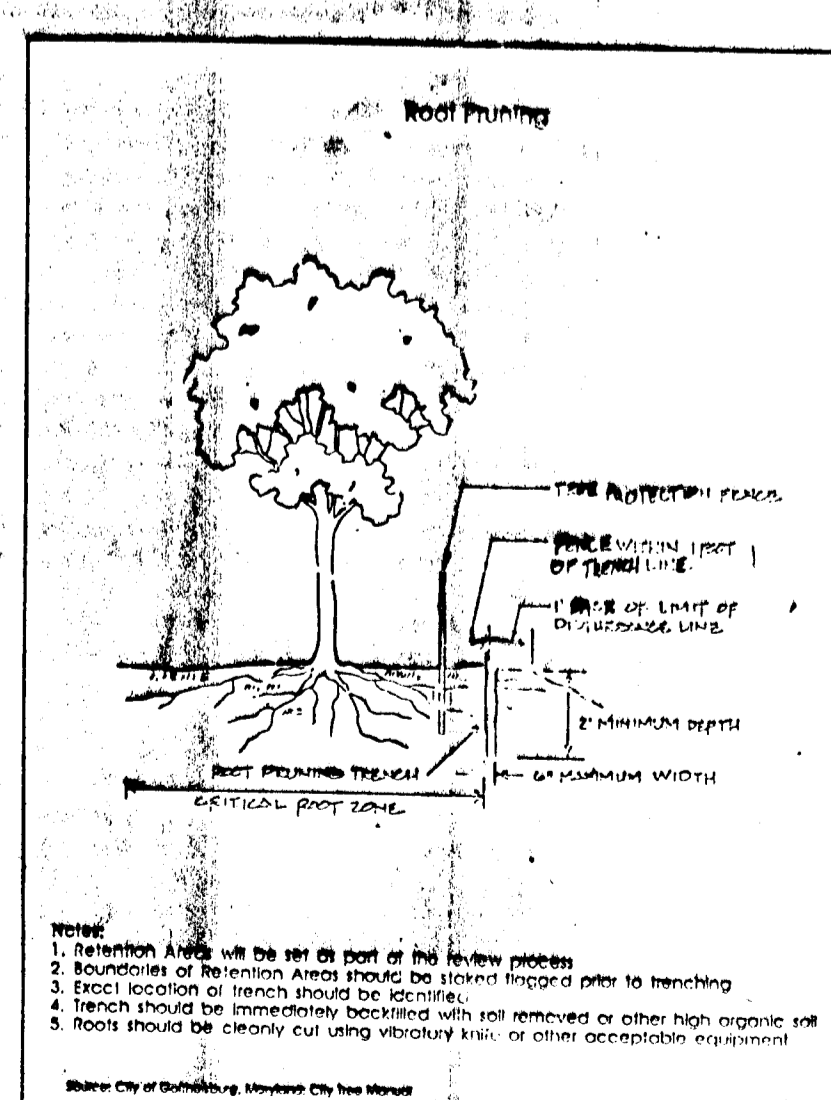
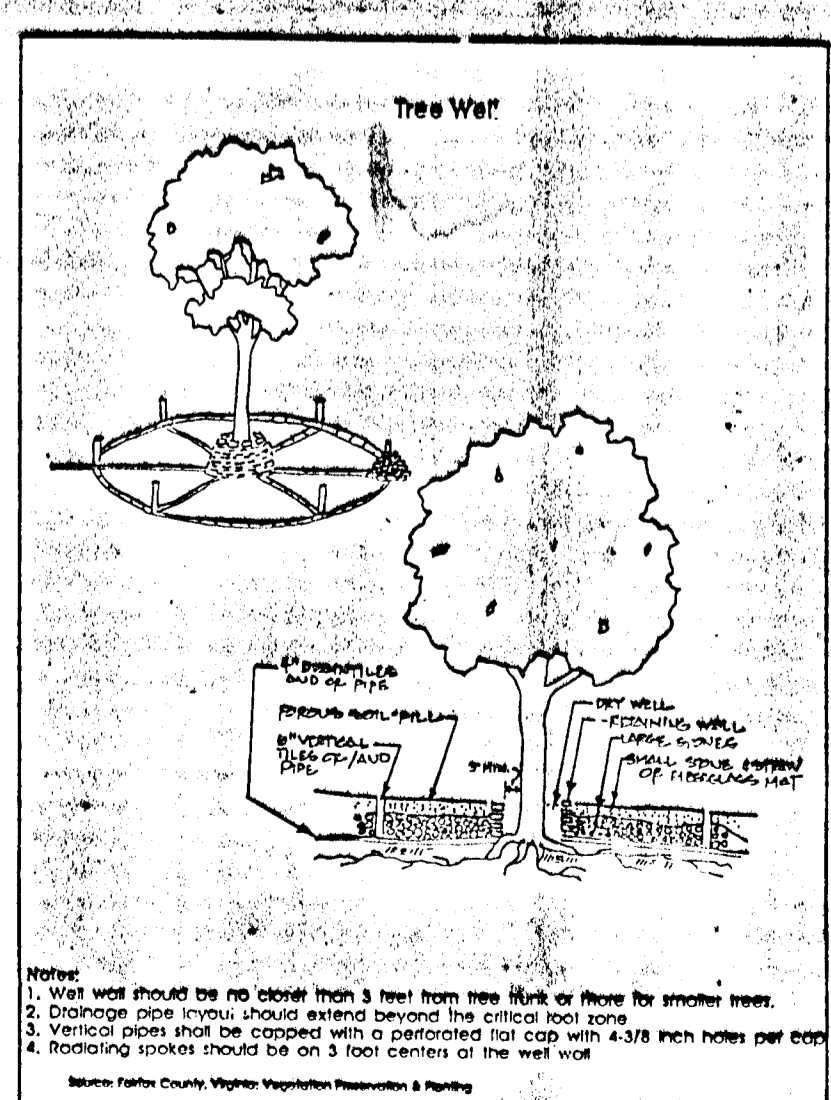
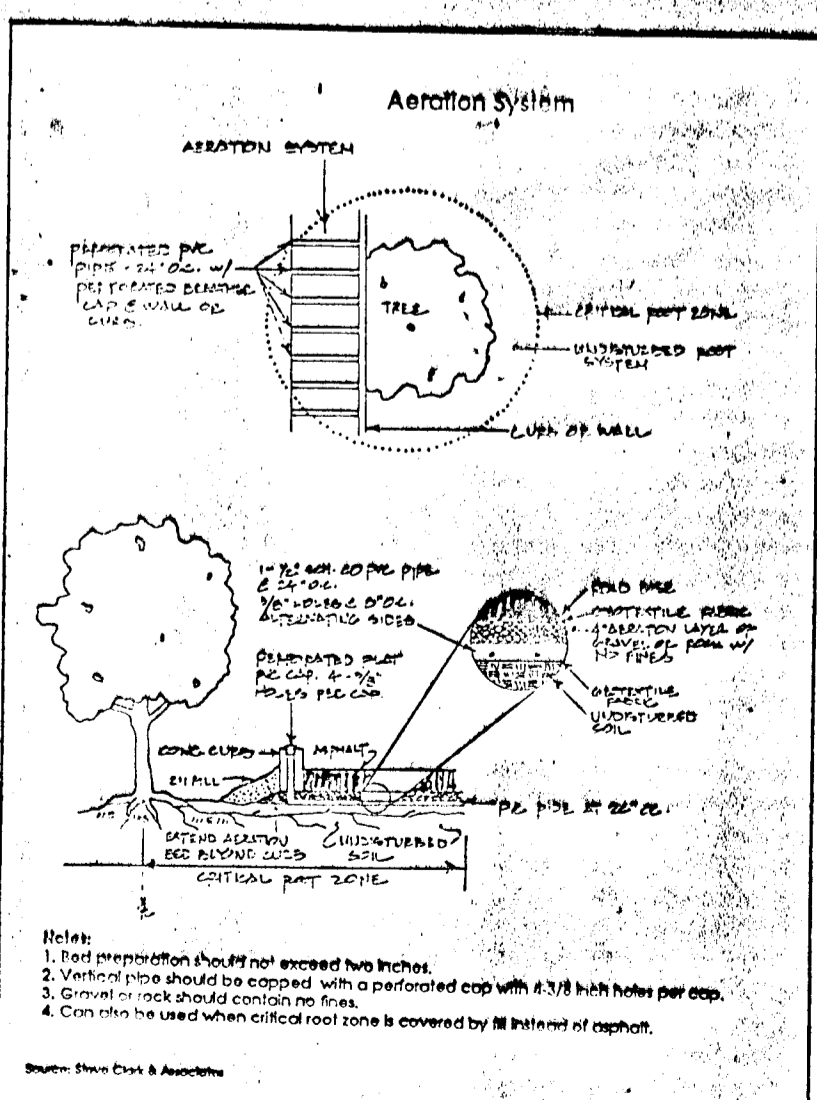
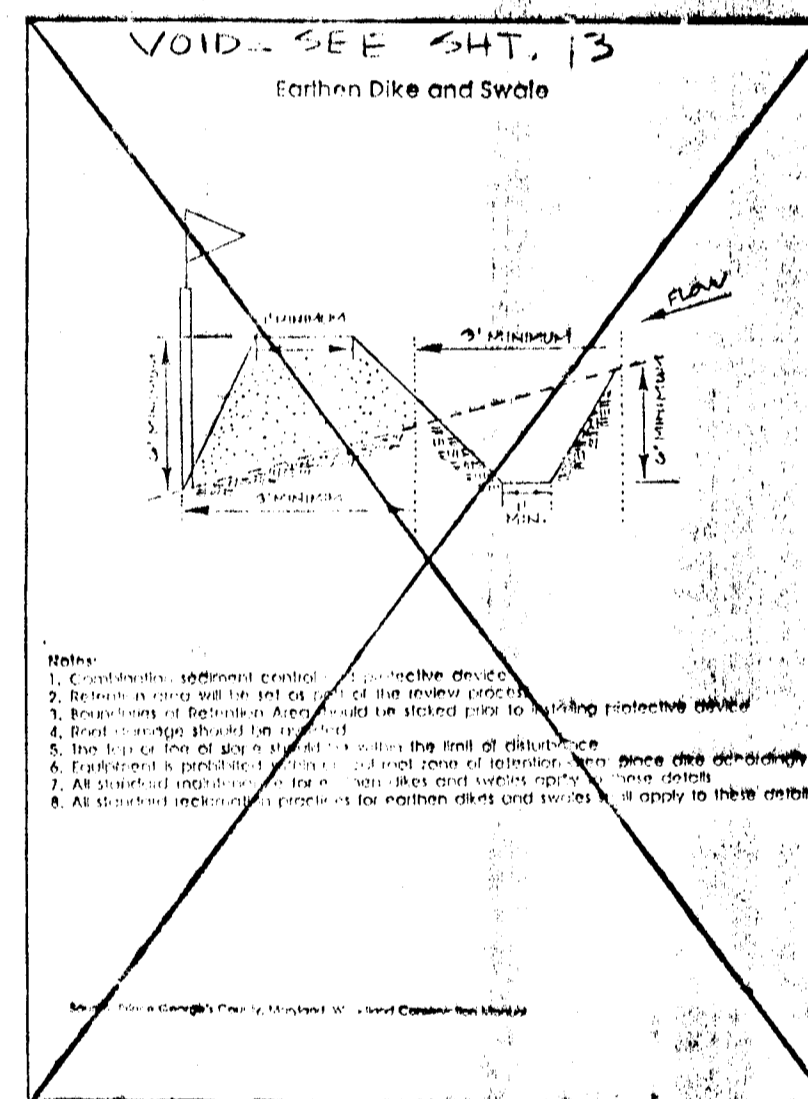
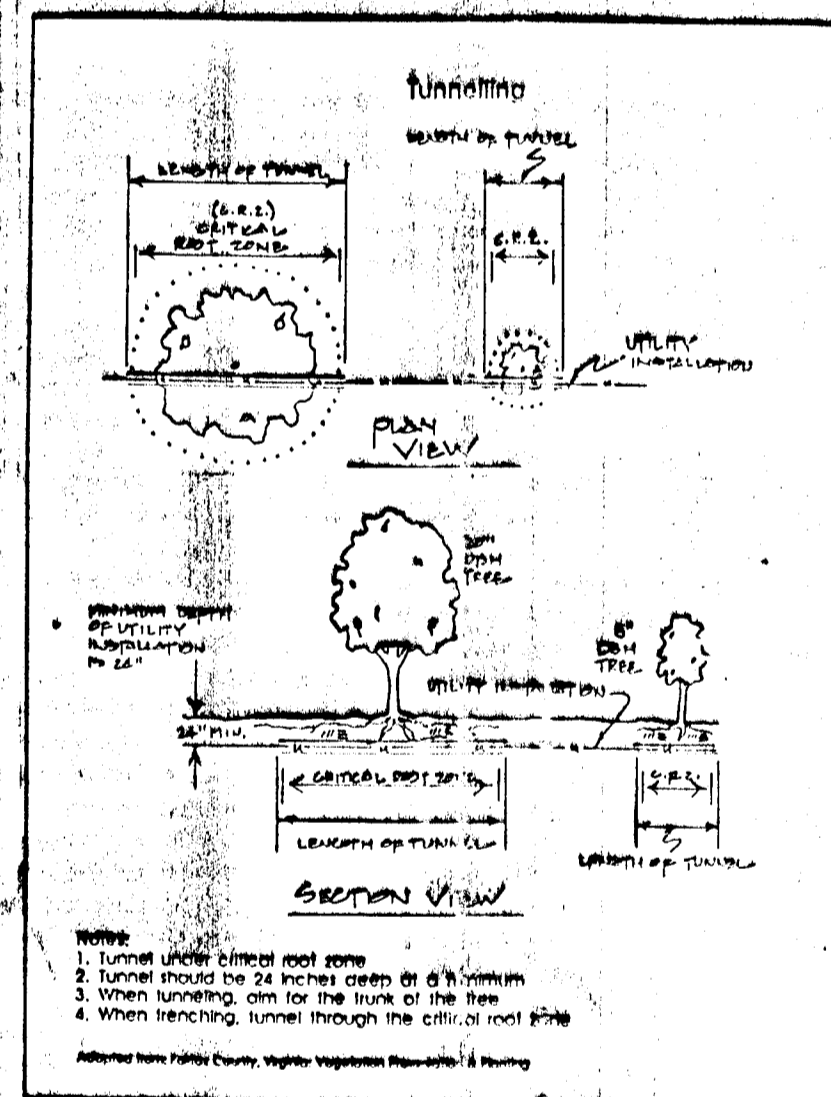
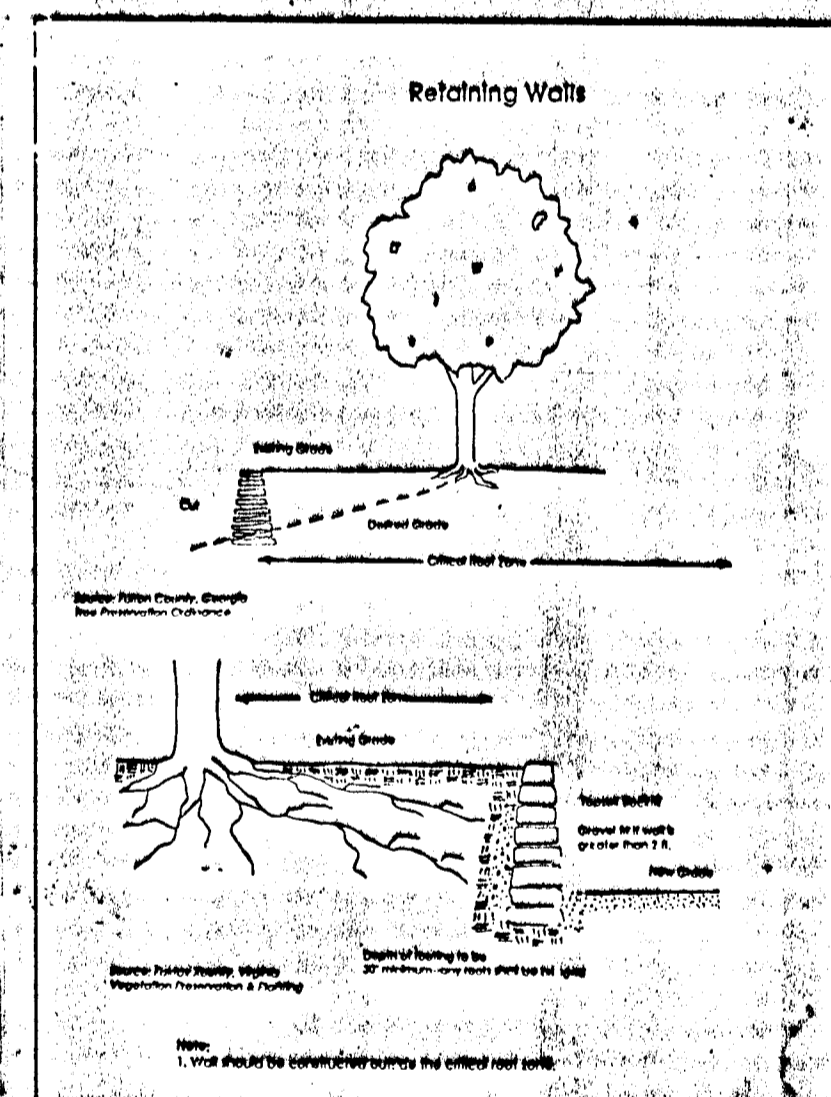
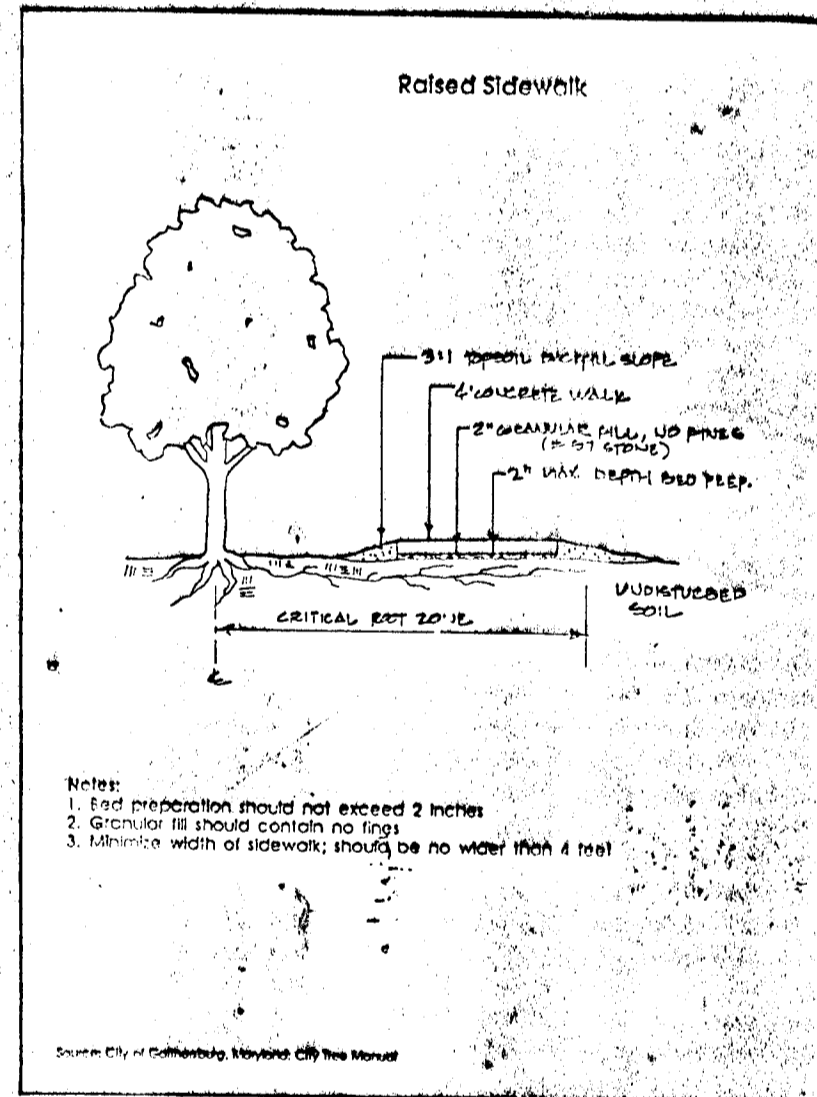
**TREE MAINTENANCE**



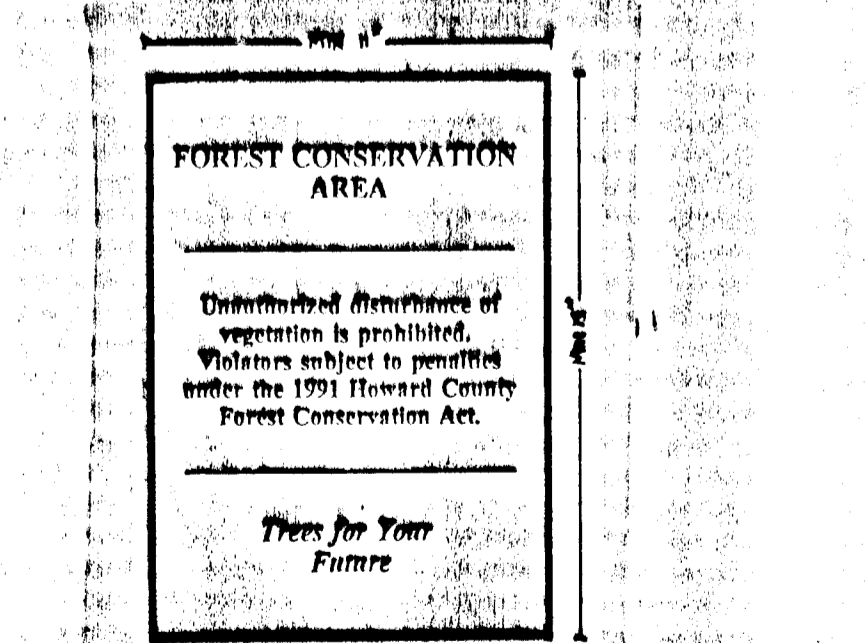
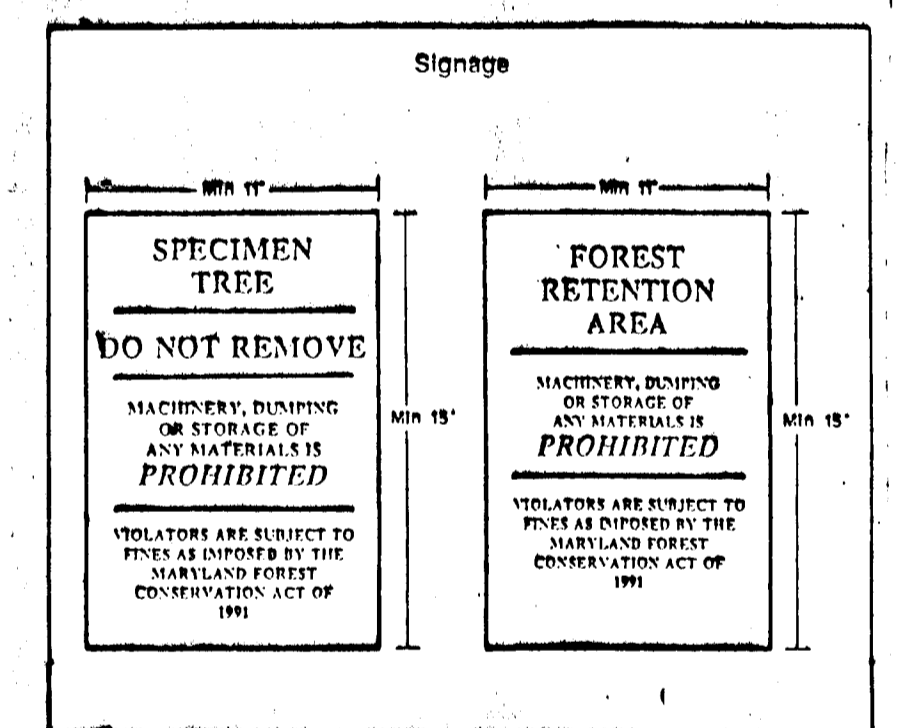
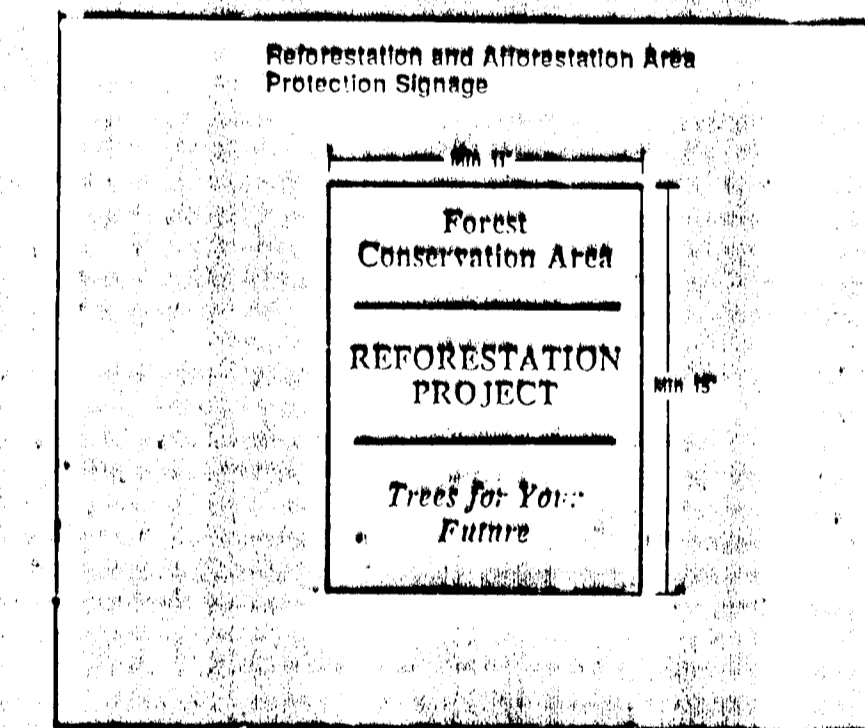
**SEDIMENT CONTROL AND PROTECTION**



**TREE PRESERVATION TECHNIQUES**



**PERMANENT FOREST PROTECTION SIGNS**



OWNER/DEVELOPER: SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELICOTT CITY, MARYLAND 21041 (410)465-6105	PROJECT: <b>NOTTINGHAM VILLAGE</b> SECTION 4 LOTS 243 + 350
LOCATION: TAX MAP 37-PARCEL 615 ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DATE: AUG. 1994
DES:	DRN:
SCALE: AS SHOWN	PROJECT NO 0051
	DRAWING 18 OF 18

**Eco-Science Professionals, Inc.**  
CONSULTING ECOLOGISTS

P.O. BOX 5006 GLEN ARM, MD 21037 (410) 572-6752

**FOREST CONSERVATION PLAN**

**STANDARD SPECIFICATIONS**

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