

SHEET INDEX	
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	BEXLEY DRIVE PLAN AND PROFILE, ENFIELD DRIVE PLAN & CROYDON COURT PLAN
3	ENFIELD DRIVE & CROYDON COURT PROFILES AND TYPICAL ROADWAY SECTIONS
4	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
5	LANDSCAPE PLAN
6	DRAINAGE AREA MAP
7	STORM DRAIN PROFILES
8	SEDIMENT CONTROL NOTES AND DETAILS
9	SEDIMENT CONTROL NOTES AND DETAILS
10	FOREST CONSERVATION PLAN
11	FOREST CONSERVATION NOTES AND DETAILS

FINAL ROAD CONSTRUCTION, GRADING AND SEDIMENT CONTROL PLANS

GTW'S WAVERLY WOODS SECTION 10

LOTS 1 - 19, 21 - 33 & 35 - 58 [△]

(A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE,
LIBER 2222, FOLIO 36)

ZONED R-SA-8

TAX MAP No. 16 PART OF PARCEL No. 20 GRID NO. 5

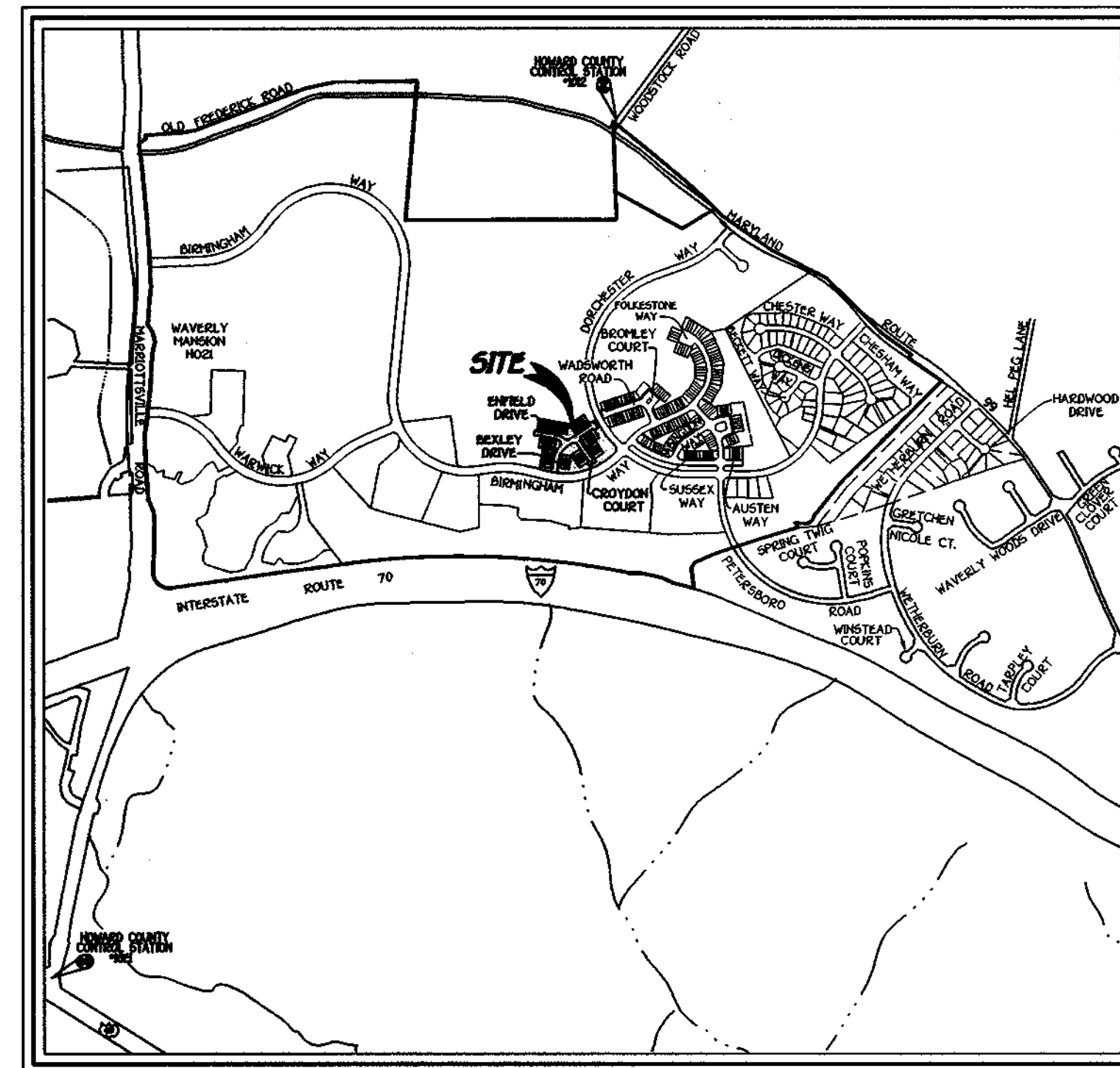
APPROVED DEPARTMENT OF PUBLIC WORKS
Richard M. Davelos 11-24-99
 CHIEF, BUREAU OF HIGHWAYS NS DATE

APPROVED DEPARTMENT OF PLANNING AND ZONING
Cinda Haratta 12/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Alfredo M. Vitucci 11/29/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION A DATE

ROAD CLASSIFICATION CHART		
ROAD	CLASSIFICATION	R/W WIDTH
BEXLEY DRIVE	PUBLIC ACCESS STREET	50'
BEXLEY DRIVE	PUBLIC ACCESS PLACE	40'
ENFIELD DRIVE	PUBLIC ACCESS PLACE	40'
CROYDON COURT	PUBLIC ACCESS PLACE	40'

TRAFFIC CONTROL SIGNS				
STREET NAME	CL. STATION	OFFSET	POSTED SIGN	SIGN CODE
BEXLEY DRIVE	0+37	13'L	STOP	R1-1
CROYDON COURT	0+27	13'L	STOP	R1-1
ENFIELD DRIVE	0+45	13'L	STOP	R1-1
BEXLEY DRIVE	2+00	13'R	SPEED LIMIT 25 MPH	R2-1



VICINITY MAP
SCALE: 1" = 1200'

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STREET LIGHT CHART				
DWG. No.	STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
3	BEXLEY DRIVE	CL. STA. 0+35	27'R	150-WATT H.P.S. VAPOR PENDANT (CUT-OFF) MOUNTED AT 30' ON A GALVANIZED STEEL POLE USING A 6' ARM
3	BEXLEY DRIVE	CL. STA. 3+04	28'L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
3	BEXLEY DRIVE	CL. STA. 6+23	16'L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
3	ENFIELD DRIVE	CL. STA. 2+04	16'R	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
3	CROYDON COURT	CL. STA. 0+27	24'L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
3	CROYDON COURT	CL. STA. 2+55	16'L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.

GENERAL NOTES

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS ARE APPROVED.
- LOCATION: MARYLAND ROUTE 99 ON THE NORTH EASTERN BOUNDARY OF LANDFILL ON THE WEST; INTERSTATE 70 TO THE SOUTH AND WAVERLY WOODS SECTION 6 SUBDIVISION TO THE EAST. TAX MAP: #16, PART OF PARCEL 20.
- THIS PLAN IS SUBJECT TO ZONING BOARD CASE No. ZB99-11 WHICH APPROVED ON MARCH 22, 1993 A REQUEST TO REZONE 692.82 ACRES OF RURAL LAND INTO THE MIXED USE AREAS.
- TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS FLOWN WITH 2 FOOT CONTOUR INTERVALS PREPARED BY HARFORD AERIAL SURVEYS DATED NOV., 1990.
- PROPERTY IS LOCATED WITHIN METROPOLITAN DISTRICT.
- PUBLIC WATER AND SEWER ARE TO BE UTILIZED FOR THIS SITE AND WILL BE EXTENDED FROM THE LIMITS OF CONTRACT Nos. 24-3456-D, 24-3566-D AND 24-3636-D.
- STORMWATER MANAGEMENT FOR THIS DEVELOPMENT WILL BE PROVIDED BY THE RETENTION METHOD PROVIDED UNDER EX. POND 1, (P99-174) THE S.W.M. REPORT IS PROVIDED BY HILDEBERG ASSOCIATES, INC. (APPROVED 3/26/96)
- THIS HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD83 HOWARD COUNTY CONTROL STATIONS:
 HOWARD COUNTY MONUMENT 1012 N 620106.177 E 1345336.7560 ELEV. = 445.577
 HOWARD COUNTY MONUMENT 1661 N 593250.9322 E 1340192.7110 ELEV. = 509.924

GTW PARKING TABULATION:			SECTION 10 TABULATION	
ZONING	NUMBER OF PARKING SPACES REQUIRED	PROVIDED	NUMBER OF PARKING SPACES: FOR R-SA-8 ZONING	
R-SA-8 (SECTION 4 AREA 1)	2 SPACES PER UNIT 250 = 250	25	REQUIRED	PROVIDED
R-SA-8 (SECTION 5)	2 SPACES PER UNIT 205 = 205	205	REQUIRED	PROVIDED
R-SA-8 (SECTION 6)	2 SPACES PER UNIT 207 = 207	137	REQUIRED	PROVIDED
R-SA-8 (SECTION 10)	2 SPACES PER UNIT 203 = 203	123	REQUIRED	PROVIDED
TOTALS	528 SPACES	570 SPACES		

NOTE: GARAGE UNITS ARE FOR TOWNHOUSE LOTS 9-14, 35-40, 46-56

- AREA TABULATION:
 TOTAL NUMBER OF BUILDABLE LOTS TO BE RECORDED: 53
 TOTAL NUMBER OF OPEN SPACE LOTS TO BE RECORDED: 3
 TOTAL NUMBER OF LOTS TO BE RECORDED: 56
 TOTAL AREA OF BUILDABLE LOTS TO BE RECORDED: 2,765 AC.
 TOTAL AREA OF OPEN SPACE LOTS TO BE RECORDED: 2,351 AC.
 TOTAL AREA OF LOTS TO BE RECORDED: 5,116 AC.
 TOTAL AREA OF ROADWAY TO BE RECORDED: 1,207 AC.
 TOTAL AREA TO BE RECORDED: 6,323 AC.
- THE NOISE STUDY FOR GTW WAS PROVIDED BY WILDMAN ENVIRONMENTAL SERVICES, INC. ON NOVEMBER 1, 1994.
- FOREST STAND DELINEATION AND PRELIMINARY FOREST CONSERVATION PLAN WAS PROVIDED BY ENVIRONMENTAL SYSTEMS ANALYSIS, INC. AND APPROVED UNDER S 94-07.
- THERE IS NO 100 YEAR FLOODPLAIN WITHIN SECTION 10.
- THE WETLANDS STUDY FOR GTW WAS PREPARED BY ENVIRONMENTAL SYSTEMS ANALYSIS, INC. ON 9/5/91 AND APPROVED ON 11/30/93. SEE NOTE NO. 20.
- THE TRAFFIC STUDY FOR GTW WAS PREPARED BY THE TRAFFIC GROUP AND APPROVED ON JULY 14, 1994.
- THE SOILS INVESTIGATION REPORT WAS PREPARED BY I.T.E., Inc. ON JUNE 28, 1994.
- THE SKETCH PLAN NO. S 94-07, WAS APPROVED ON 11/30/93. THE PRELIMINARY PLAN P 99-12 WAS APPROVED ON 3/22/99.

RECREATIONAL OPEN SPACE CHART					
ZONING	SECTION	No. OF UNITS	RECREATIONAL OPEN SPACE PER UNIT	TOTAL RECREATIONAL OPEN SPACE REQUIRED	TOTAL RECREATIONAL OPEN SPACE PROVIDED
R-SA-8	SECTION 4, AREA 1	6		1,200 Sq.Ft.	0 Sq.Ft.
	SECTION 5	120	200 Sq.Ft./UNIT	25,600 Sq.Ft.	46,105 Sq.Ft.
	SECTION 6	71		14,200 Sq.Ft.	4,235 Sq.Ft.
	SECTION 10	53		10,600 Sq.Ft.	6,007 Sq.Ft.
TOTAL		250		51,600 Sq.Ft.	56,347 Sq.Ft.

- OPEN SPACE LOTS 1, 57 AND 58 ARE TO BE DEDICATED TO "M.O.A."
- WP95-23 WAS APPROVED ON 1-23-95 FOR DISTURBANCES TO WETLANDS, FLOODPLAIN, STREAMS, OR THEIR BUFFERS, IN CERTAIN AREAS THROUGHOUT THE WAVERLY WOODS PROJECT. ONE PARTICULAR AREA, APPROVED FOR DISTURBANCE, WAS ALONG PROPOSED DORCHESTER WAY, APPROXIMATELY 350' NORTH OF THE INTERSECTION WITH PROP. BIRMGHAM WAY. THIS DISTURBANCE WAS FOR THE CONSTRUCTION OF DORCHESTER WAY ONLY. THE PROPOSED TEMPORARY S.W.P. FACILITY, DRAINAGE PIPE AND RIP-RAP OUTFALL SHOWN ON SHEET NO. 4, WOULD LIKELY DISTURB THE WETLANDS. THIS DISTURBANCE WILL BE ALLOWED DUE TO THE FACT THAT THE WETLANDS ARE ALREADY APPROVED FOR GREATER DISTURBANCE UNDER WP95-23.

NO.	DESCRIPTION	DATE
△	CHANGE TITLE BLOCKS TO "LOTS 1-19, 21-33 & 35-58"	5-16-00

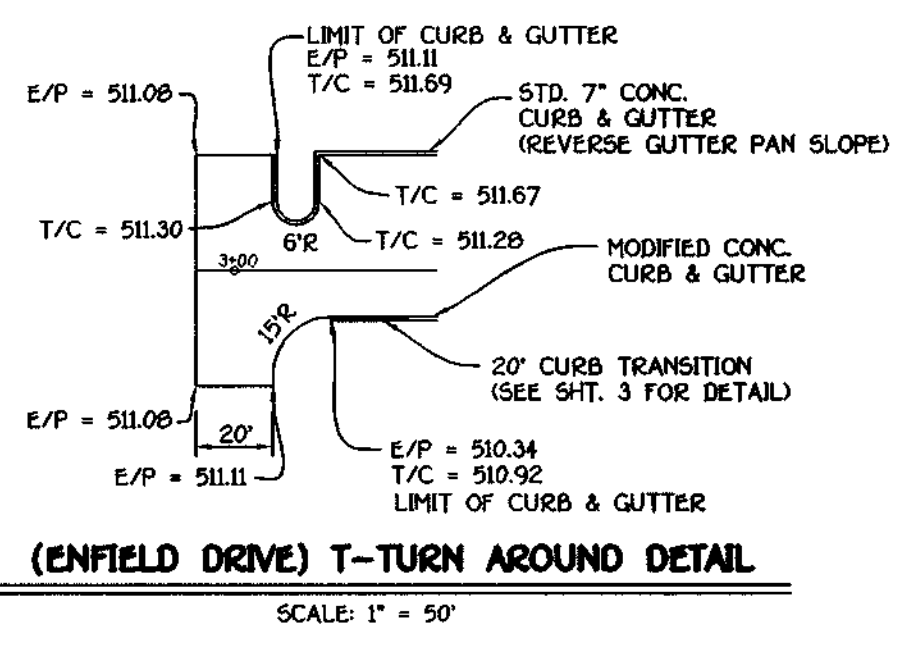
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 8272 BALDWIN NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21117
 410-461-2895

OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, INC.
 3000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21143

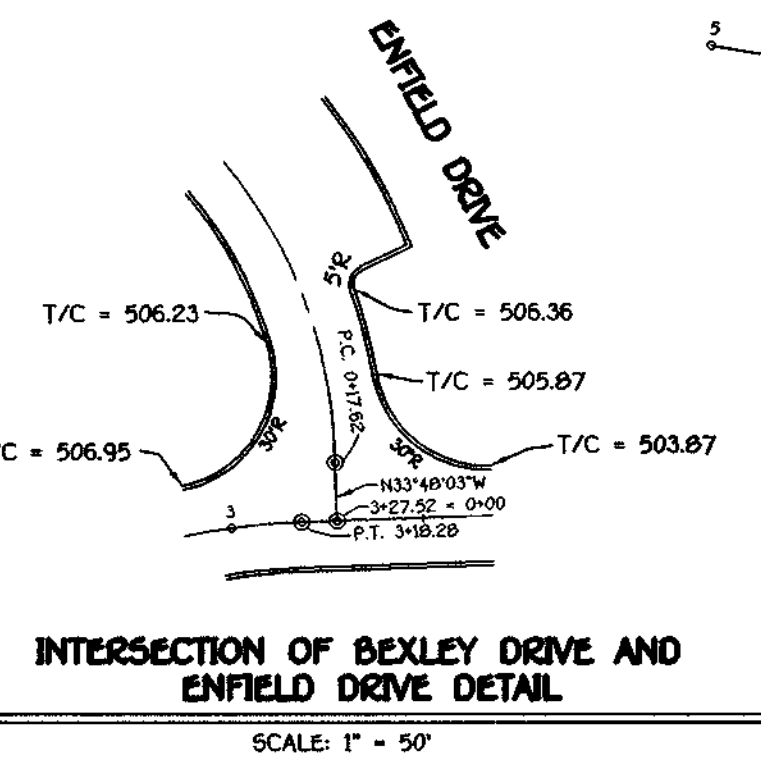


**GTW'S WAVERLY WOODS
SECTION 10**
 (A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE,
 LIBER 2222, FOLIO 36)
 ZONED R-SA-8
 TAX MAP No. 16 PART OF PARCEL No. 20 GRID No. 5
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 21, 1999
 SHEET 1 OF 11

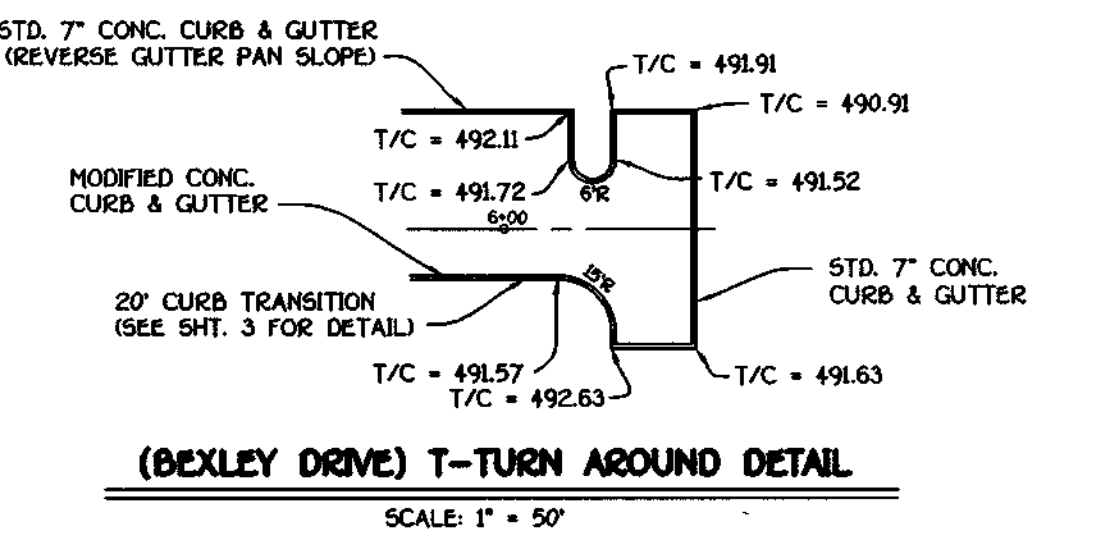
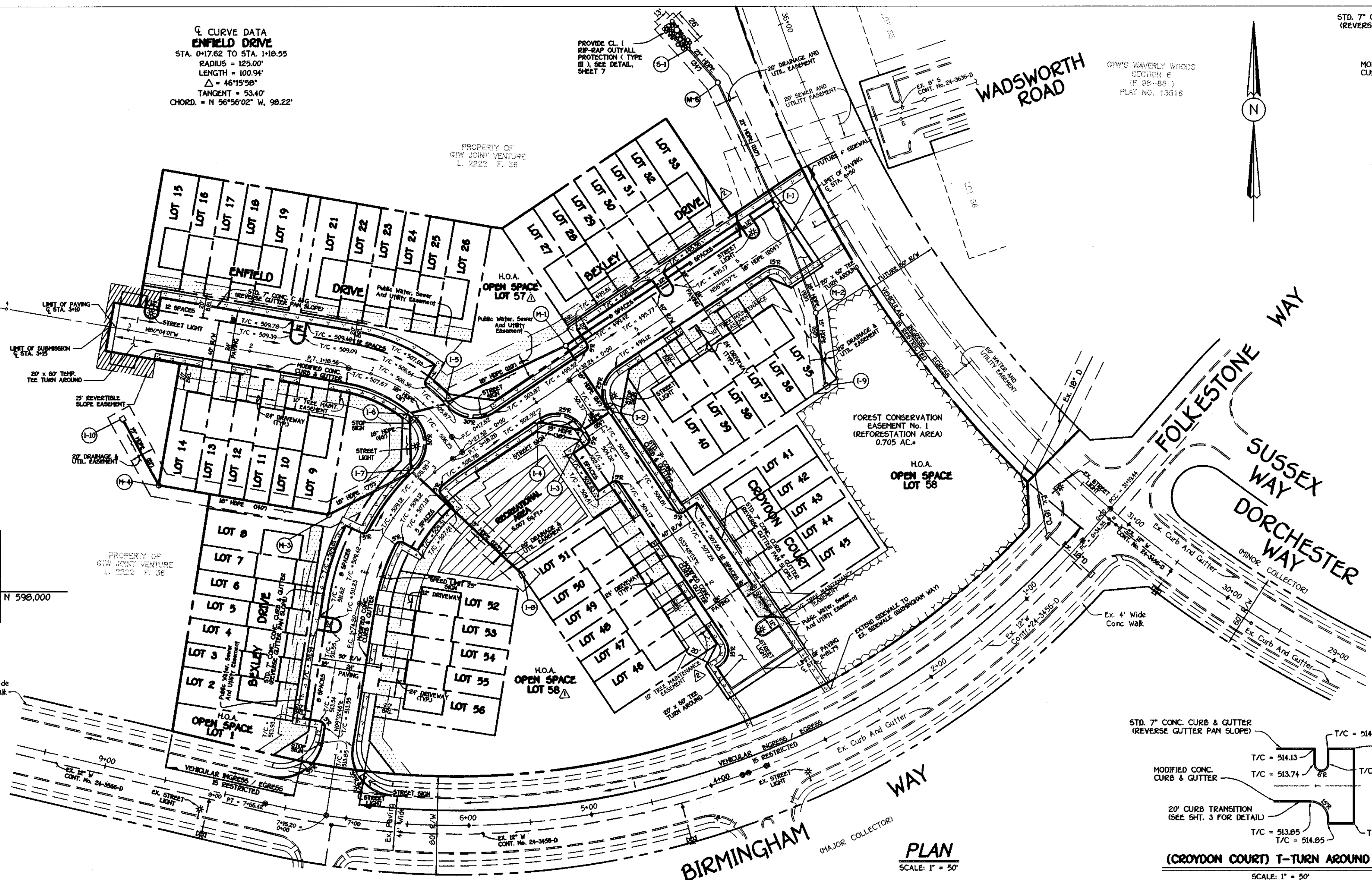
ALDO M. VITUCCI, P.E. DATE: 9-28-99



ENFIELD DRIVE CURVE DATA
 STA. 0+17.62 TO STA. 1+18.55
 RADIUS = 125.00'
 LENGTH = 100.94'
 $\Delta = 48^{\circ}59'58''$
 TANGENT = 53.40'
 CHORD = N 56°56'02" W, 98.22'

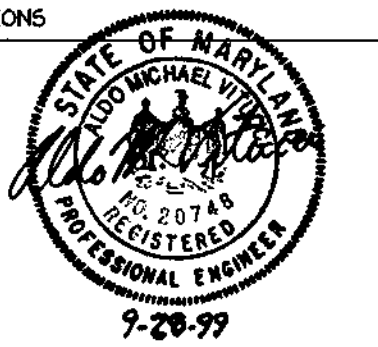


BEXLEY DRIVE CURVE DATA
 STA. 1+74.20 TO STA. 3+18.28
 RADIUS = 175.00'
 LENGTH = 144.07'
 $\Delta = 47^{\circ}10'11''$
 TANGENT = 76.40'
 CHORD = N 32°36'51" E, 140.04'



NOTE:
 SEE SHEET 3 FOR MODIFIED CONC. CURB AND GUTTER DETAIL

NO.	DESCRIPTION	DATE
1	CHANGE TITLE BLOCKS TO "LOTS 1-19, 21-33 & 35-58"	5-16-00
2	REVISE R/W LINES AND BRL'S AT PERMANENT T-TURN AROUNDS	5-16-00



APPROVED
 DEPARTMENT OF PLANNING AND ZONING
Cindy Hamstra 12/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

APPROVED
 DEPARTMENT OF PLANNING AND ZONING
William J. ... 11/29/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

APPROVED
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. ... 11-29-99
 CHIEF, BUREAU OF HIGHWAYS
 DATE

GTW'S WAVERLY WOODS SECTION 10
 LOTS 1-19, 21-33 & 35-58
 A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE, LIBER 2222, FOLIO 38 ZONED R-5A-B HOWARD COUNTY, MARYLAND

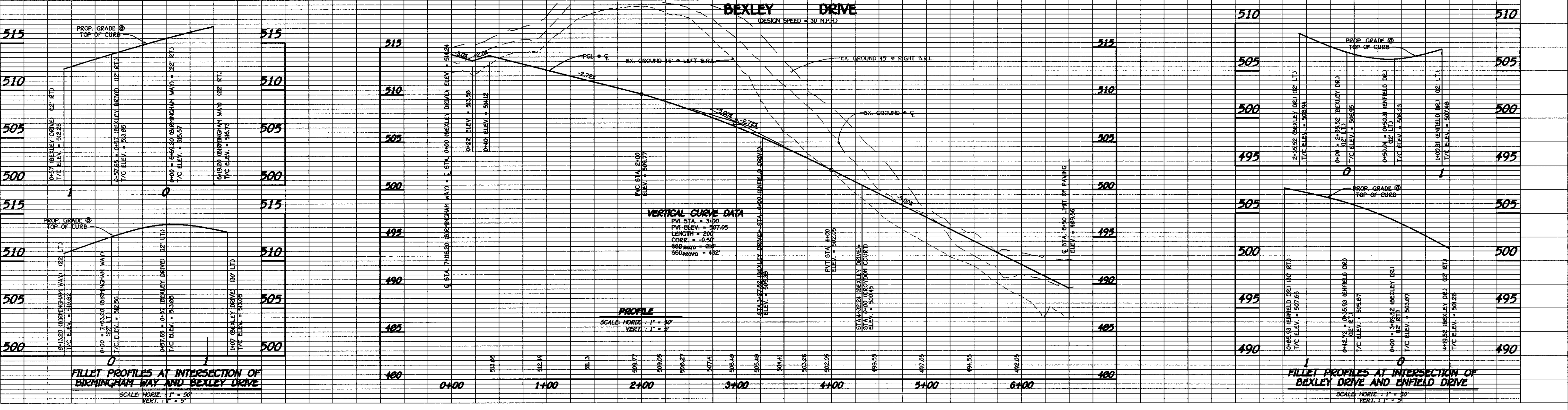
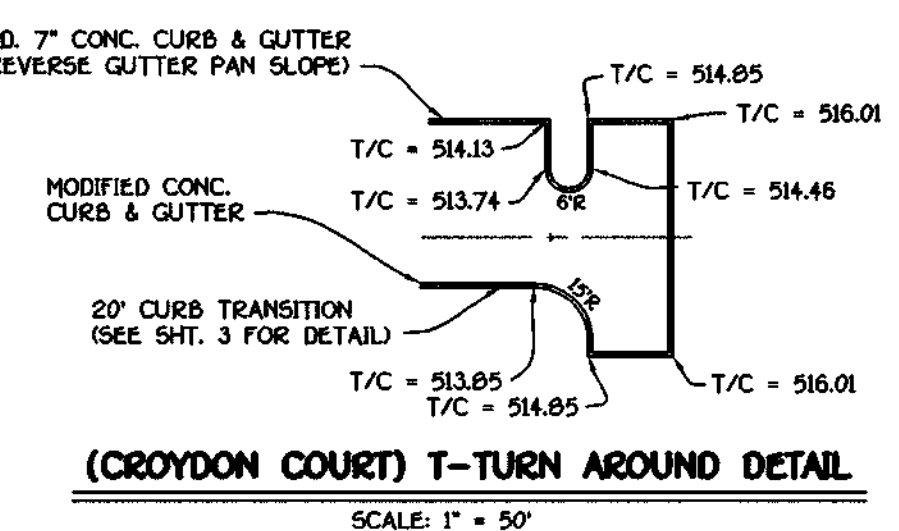
BEXLEY DRIVE PLAN AND PROFILE
ENFIELD DRIVE PROFILE

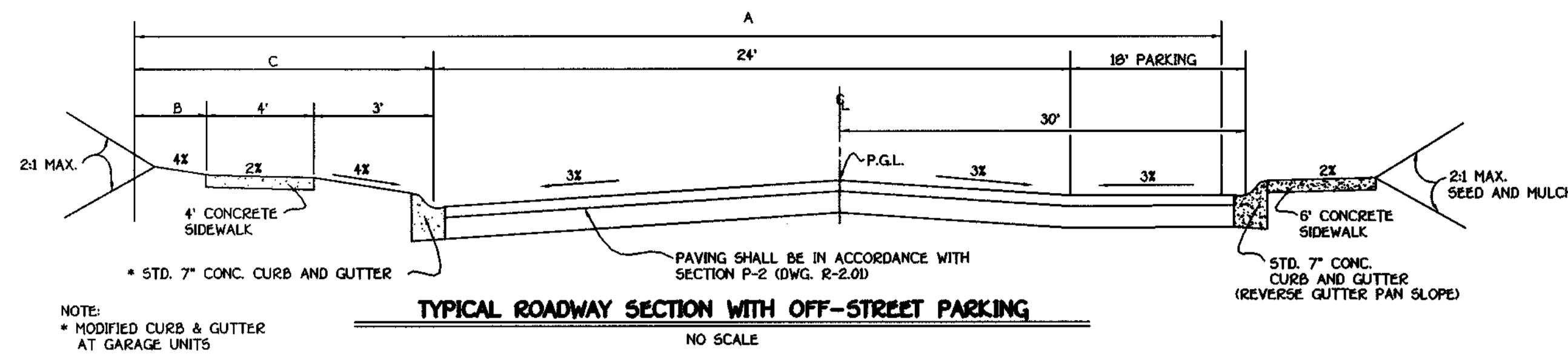
CROYDON COURT PROFILE

OWNER/DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 C/O LAND DESIGN AND DEVELOPMENT, INC.
 8000 HAN STREET
 ELKLOTT CITY, MARYLAND 21043

SCALE: AS SHOWN DATE: SEPT. 21, 1999 DWG. NO. 2 OF 11
 DES. A.M.V. DRN. J.C.L. CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 10000 SQUARE OFFICE PARK - 10772 BALTOUR NATIONAL PKWY
 ELKLOTT CITY, MARYLAND 21042
 (410) 461-1200

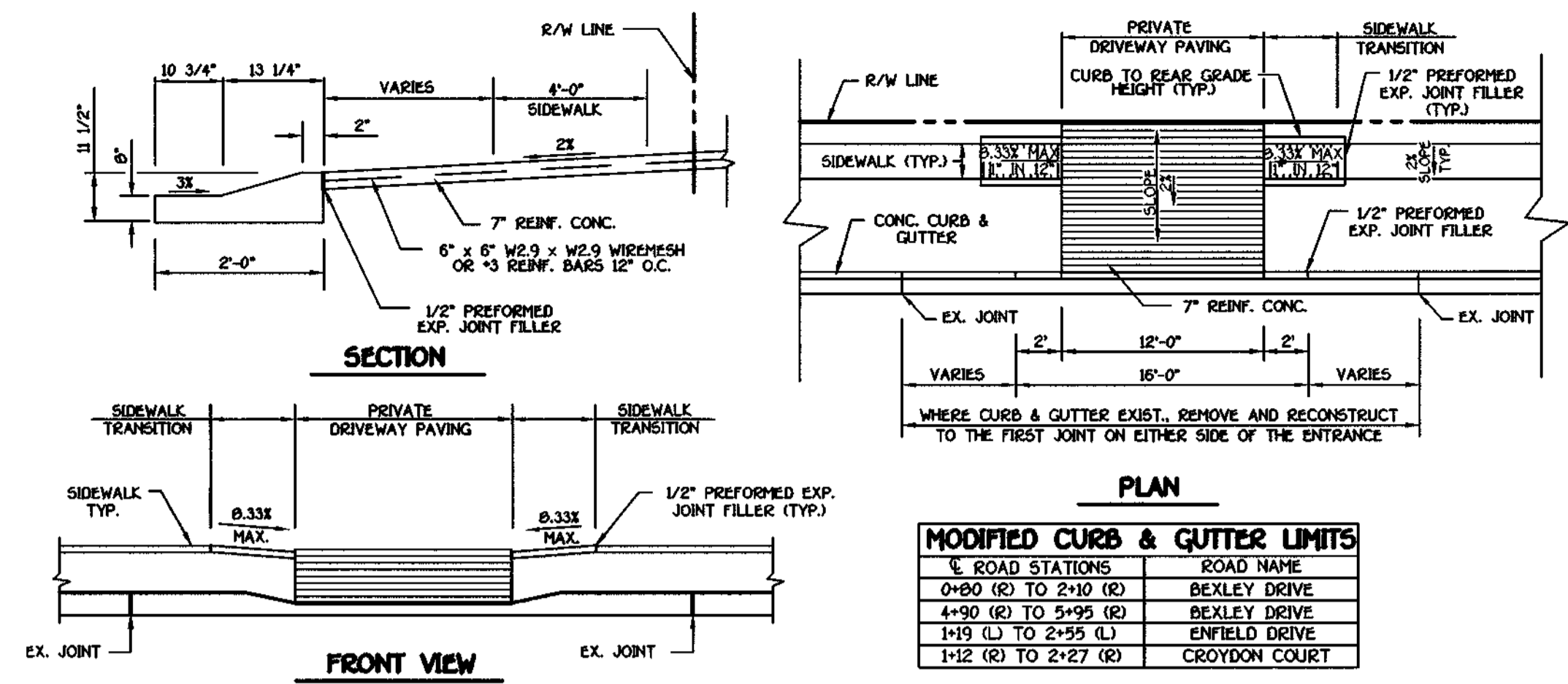




TYPICAL ROADWAY SECTION WITH OFF-STREET PARKING

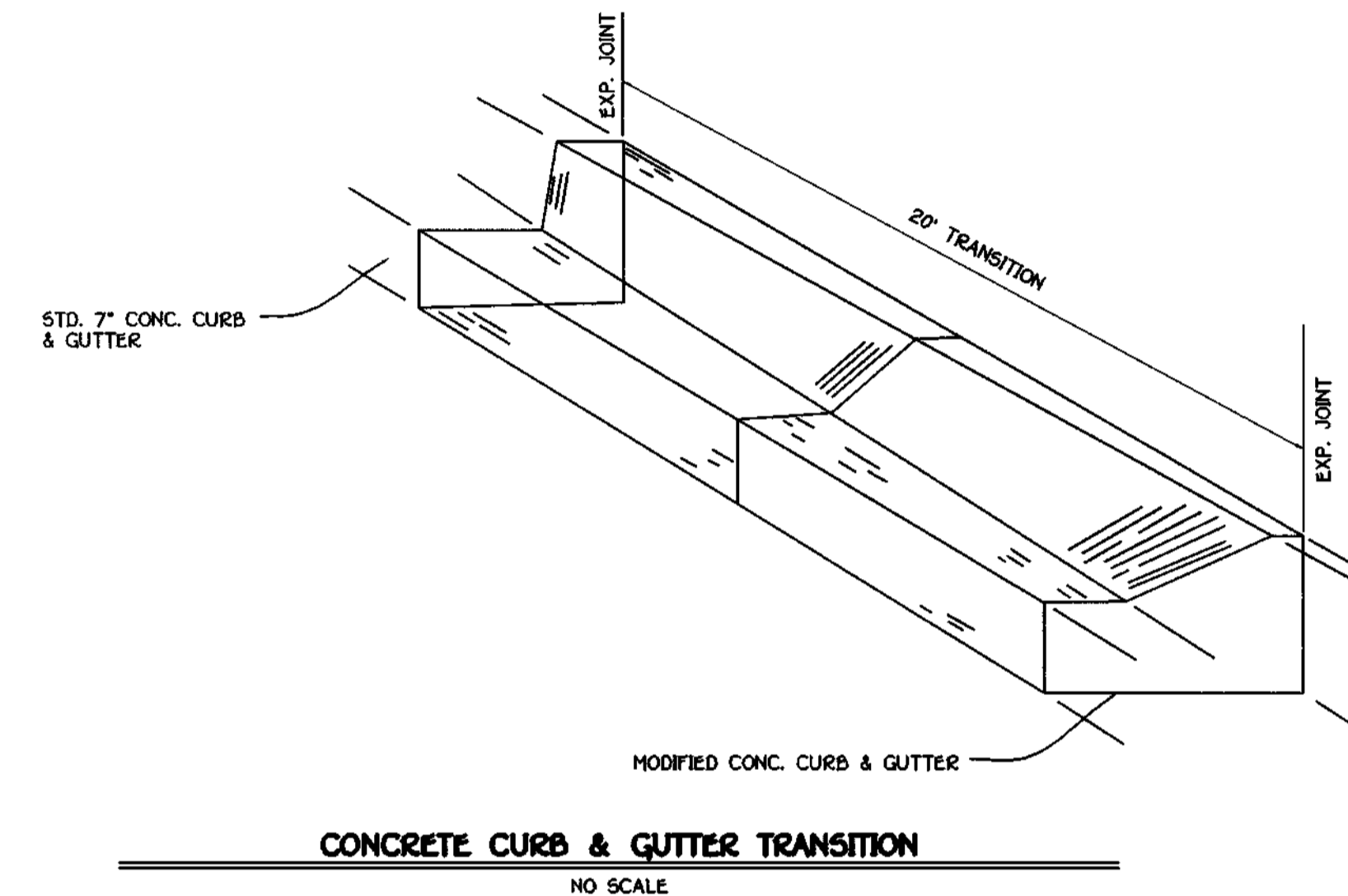
NO SCALE

ROADWAY INFORMATION CHART								
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	STATION LIMITS	A	B	C	PAVING SECTION
BEXLEY DRIVE	PUBLIC ACCESS STREET	30 MPH	R-5A-B	0+00 TO 3+27.52	50' R/W	6'	13'	P-2
BEXLEY DRIVE	PUBLIC ACCESS PLACE	25 MPH	R-5A-B	3+27.52 TO 6+50	40' R/W	1'	0'	P-2
ENFIELD DRIVE	PUBLIC ACCESS PLACE	25 MPH	R-5A-B	0+00 TO 3+10	40' R/W	1'	0'	P-2
CROYDON COURT	PUBLIC ACCESS PLACE	25 MPH	R-5A-B	0+00 TO 2+61.79	40' R/W	1'	0'	P-2



RESIDENTIAL DRIVEWAY ENTRANCE
 CLOSED SECTION WITH MODIFIED COMBINATION
 CURB & GUTTER AND SIDEWALK

NO SCALE



APPROVED
 DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 12/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED
 DEPARTMENT OF PLANNING AND ZONING
David Reumann 11/24/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Conner 11-24-99
 CHIEF, BUREAU OF HIGHWAYS DATE

NO.	DESCRIPTION	DATE
1	CHANGE TITLE BLOCKS TO LOTS 1-19, 21-33 & 35-58	5-16-00
REVISIONS		

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 9-20-99

GTW'S WAVERLY WOODS SECTION 10
 LOTS 1-19, 21-33 & 35-58
 (A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE, LIBER 2222, FOLIO 30)

THIRD ELECTION DISTRICT ZONED R-5A-B HOWARD COUNTY, MARYLAND

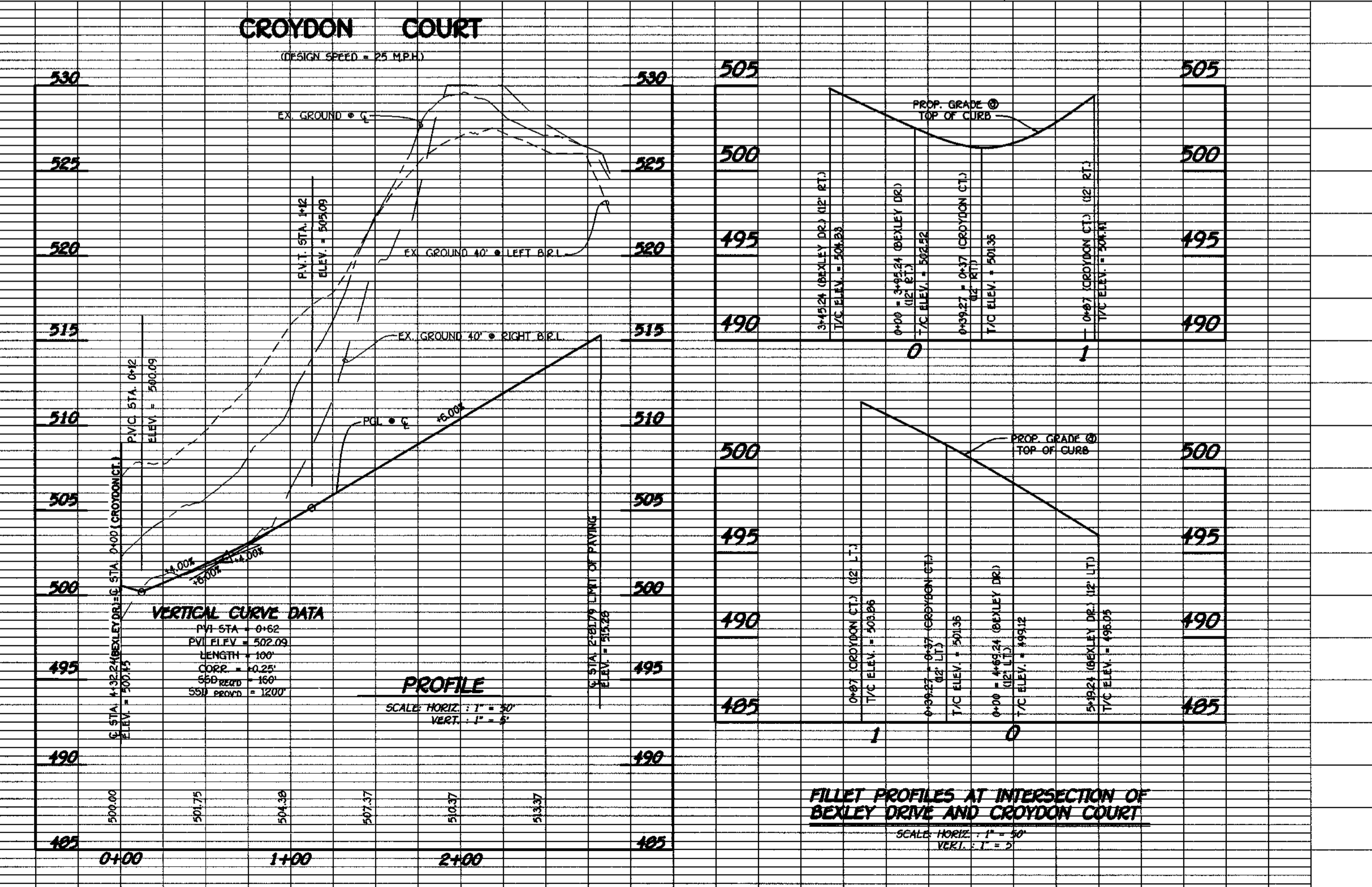
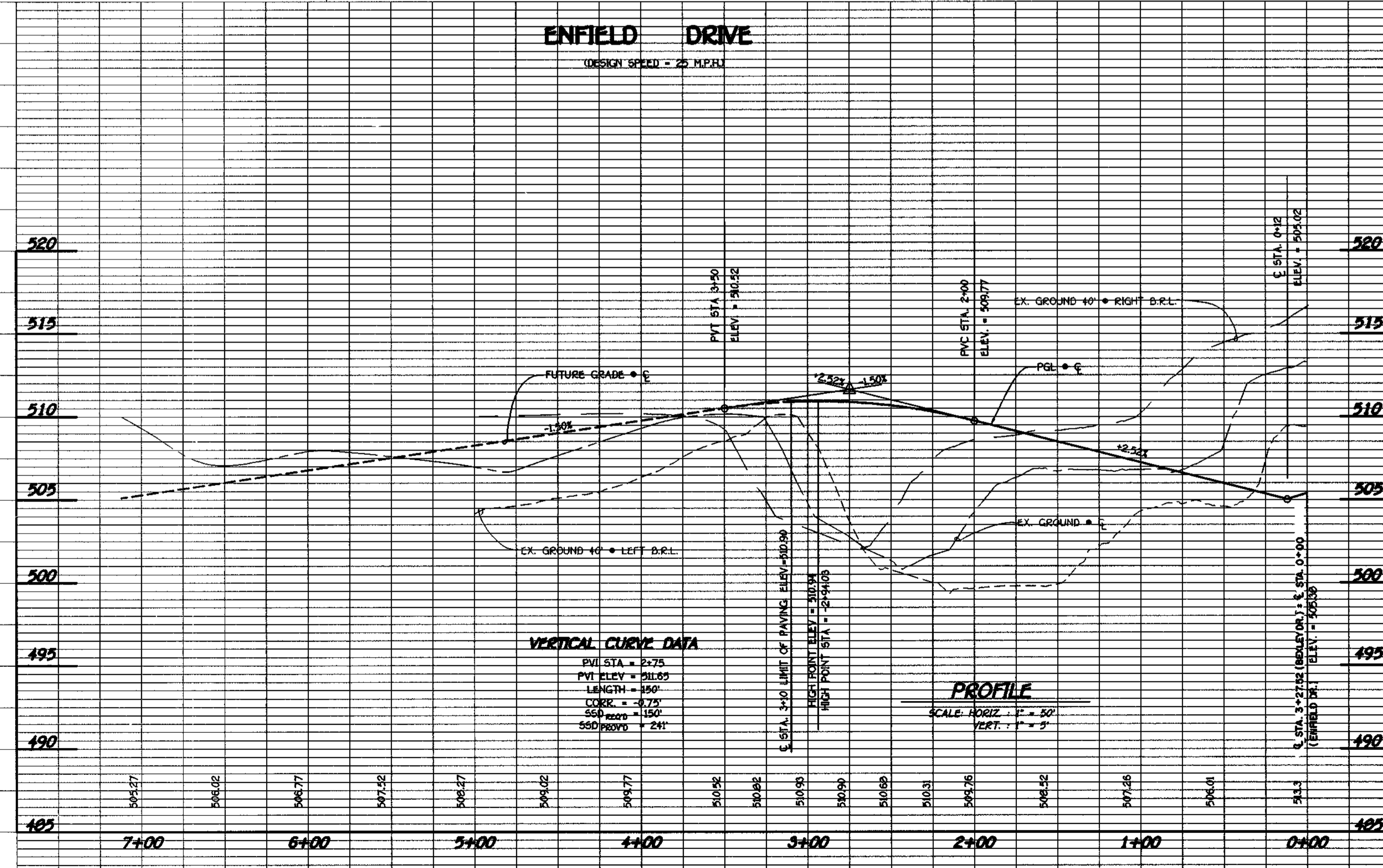
ENFIELD DRIVE PROFILE **CROYDON COURT PROFILE**

ROADWAY DETAILS

OWNER/DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 C/O LAND DESIGN AND DEVELOPMENT, INC.
 8000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

SCALE: AS SHOWN DATE: SEPT. 21, 1999 DWG. NO. 3 OF 11
 DES. A.M.V. DRN. J.C.L. CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 10000 SQUAWBUSH ROAD, SUITE 1000 BALTIMORE, MARYLAND 21286
 (410) 461-1999



ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THE PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTED BY THIS PLAN IS A FEASIBLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] Date: 7-12-99

DEVELOPER'S CERTIFICATE
 I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All 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 Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary.
 Signature Of Developer: [Signature] Date: 7-12-99

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.
 U.S.D.A. - Natural Resources Conservation Service: [Signature] Date: 11-8-99

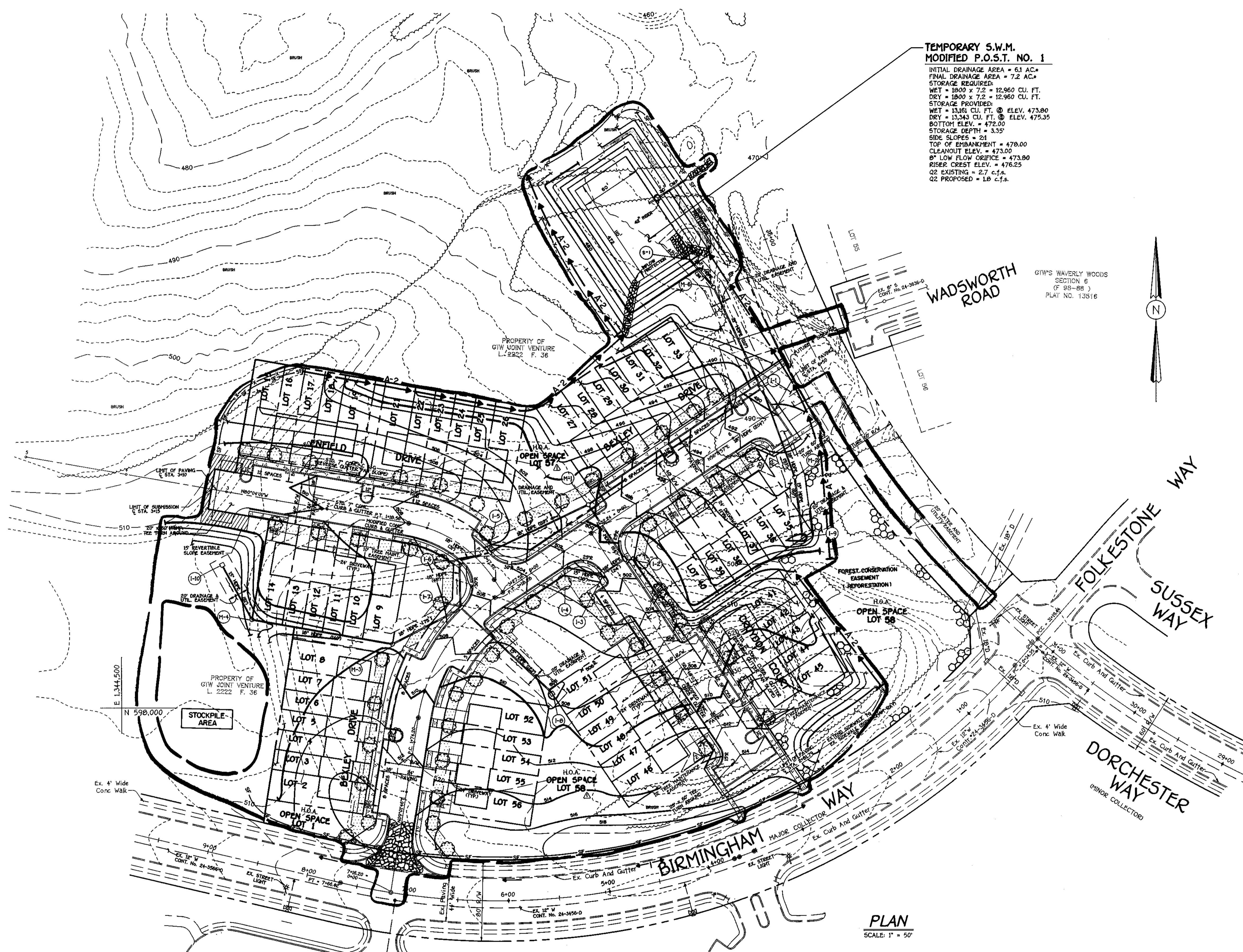
Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.
 District Howard Soil Conservation Dist.: [Signature] Date: 11-8-99

Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development: [Signature] Date: 12/1/99

Chief, Development Engineering Division: [Signature] Date: 11/29/99

Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways: [Signature] Date: 11-24-99

**TEMPORARY S.W.M.
 MODIFIED P.O.S.T. NO. 1**
 INITIAL DRAINAGE AREA = 6.1 AC.
 FINAL DRAINAGE AREA = 7.2 AC.
 STORAGE REQUIRED:
 WET = 1800 x 7.2 = 12,960 CU. FT.
 DRY = 1800 x 7.2 = 12,960 CU. FT.
 STORAGE PROVIDED:
 WET = 13,161 CU. FT. @ ELEV. 473.80
 DRY = 13,343 CU. FT. @ ELEV. 475.35
 BOTTOM ELEV. = 472.00
 STORAGE DEPTH = 3.35'
 SIDE SLOPES = 2:1
 TOP OF EMBANKMENT = 478.00
 CLEANOUT ELEV. = 473.00
 8" LOW FLOW ORIFICE = 473.80
 RISER CREST ELEV. = 476.25
 Q2 EXISTING = 2.7 c.f.s.
 Q2 PROPOSED = 1.8 c.f.s.



LEGEND

- SF-SF-SF- SILT FENCE
- X-X-X- TREE PROTECTION FENCE
- [Symbol] S.C.E. STABILIZED CONSTRUCTION ENTRANCE
- [Symbol] A-2 EARTH DIKE
- [Symbol] R.R.P. RIP-RAP INFLOW PROTECTION
- [Symbol] LIMIT OF DISTURBANCE

STREET TREE SCHEDULE

SYMBOL	QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
[Symbol]	57	ACER RUBRUM 'OCTOBER GLODY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREE TYPE MAY BE REVISED TO AN ACCEPTABLE COUNTY EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL, PAGES 51 AND 52. THE REQUIRED 57 STREET TREES HAVE BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$17,100.00.

REVISIONS

NO.	DESCRIPTION	DATE
1	CHANGE TITLE BLOCKS TO "LOTS 1-19, 21-33 & 35-58"	5-16-00
2	REVISE R/W LINES AND BELL'S AT PERMANENT T-TURN AROUNDS	5-16-00

PLAN
 SCALE: 1" = 50'

OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, INC.
 8000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
GTW WAVERLY WOODS
 SECTION 10
 LOTS 1-19, 21-33 & 35-58
 (A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE, LIBER 2222, FOLIO 36)
 ZONED R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20 GRID NO. 5
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 21, 1999
 SHEET 4 OF 11

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21042
 410-461-2855



7-12-99

Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Date: 10/1/99

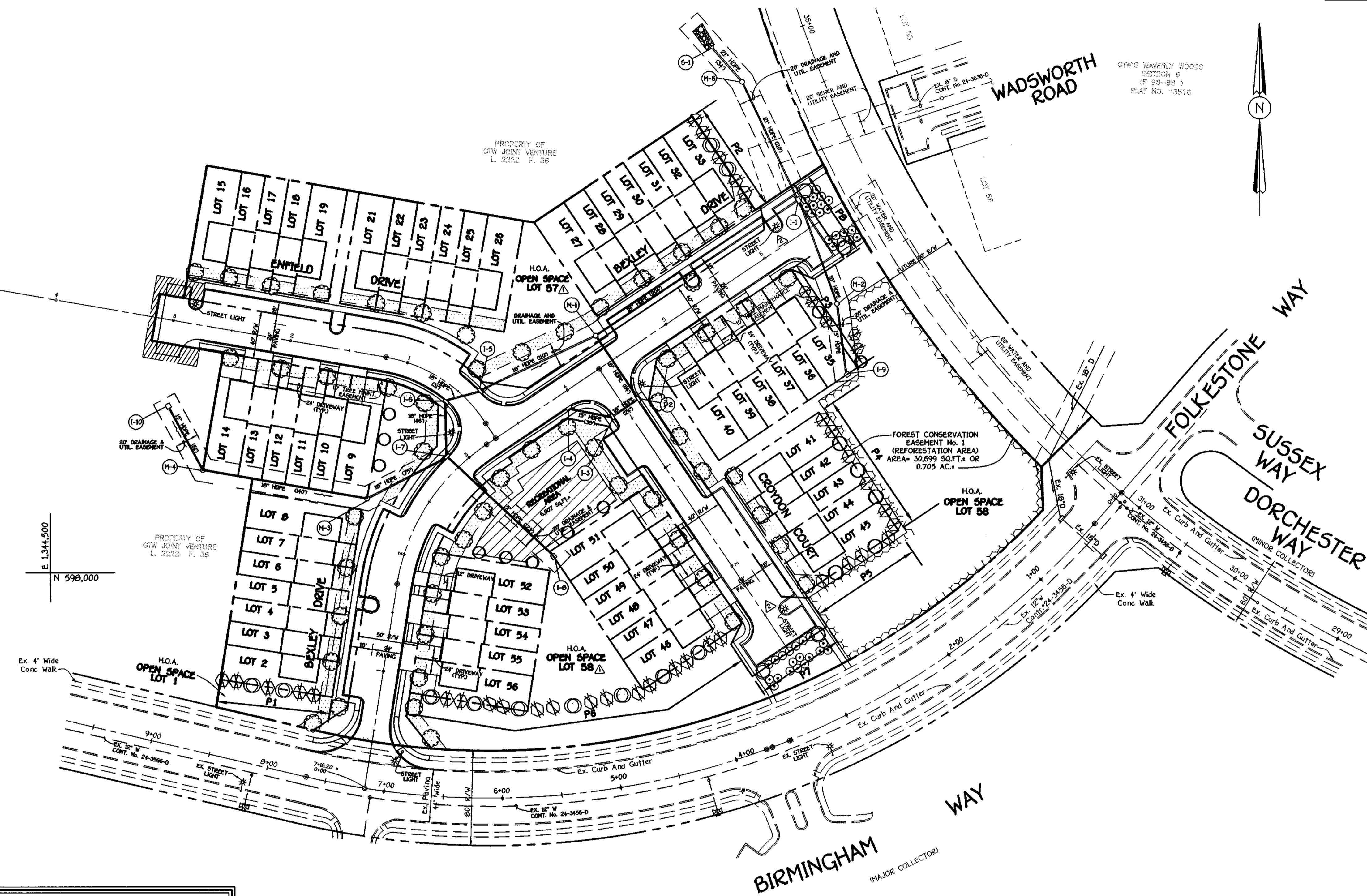
Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways
 Date: 11-24-99

LANDSCAPE SCHEDULE				
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
30	(Symbol: Circle with dot)	QUERCUS COCCINEA	SCARLET OAK	2 1/2"-3"
40	(Symbol: Diamond with dot)	CEDRUS DEODORA	DEODAR CEDAR	6'-8" HT.
38	(Symbol: Circle with cross)	AZALEA 'DELAWARE VALLEY WHITE'	DELAWARE VALLEY WHITE AZALEA	18"- 24" SP.

NOTE: FINANCIAL SURETY FOR THE REQUIRED 38 shrubs, 40 evergreens, and 30 shade trees HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$16,140.

DEVELOPER'S / BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[Signature]
 NAME: DATE: 11-3-99



N 598,250
 E 1,345,750
 N 598,000
 E 1,345,750

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES:	77
NUMBER OF TREES REQUIRED:	8
NUMBER OF TREES PROVIDED:	8
SHADE TREES	8
OTHER TREES (2:1 SUBSTITUTION)	0

* See surety note above

SCHEDULE A PERIMETER LANDSCAPE EDGE											
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED			NUMBER OF PLANTS PROVIDED		
						SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO ROADWAY	C	95'	NO	NO	2	5	-	2	5	-
P-2	ADJACENT TO ROADWAY	C	95'	NO	NO	2	5	-	2	5	-
P-3	ADJACENT TO ROADWAY	C	100'	NO	NO	2	5	-	2	5	-
P-4	ADJACENT TO ROADWAY	C	120'	NO	NO	3	6	-	3	6	-
P-5	ADJACENT TO ROADWAY	C	95'	NO	NO	2	5	-	2	5	-
P-6	ADJACENT TO ROADWAY	C	285'	NO	NO	7	14	-	7	14	-
P-7	ADJACENT TO ROADWAY	E	75'	NO	NO	2	-	19	2	-	19
P-8	ADJACENT TO ROADWAY	E	75'	NO	NO	2	-	19	2	-	19

PLAN
 SCALE: 1" = 50'

(Symbol: Circle with dot) - DENOTES PROPOSED STREET TREE

NO.	DESCRIPTION	DATE
1	REVISE R/W LINES AND DR'L'S AT PERMANENT T-TURN AROUNDS	5-16-00
2	CHANGE TITLE BLOCKS TO LOTS 1-19, 23-33 & 35-58	5-16-00

OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, INC.
 8000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

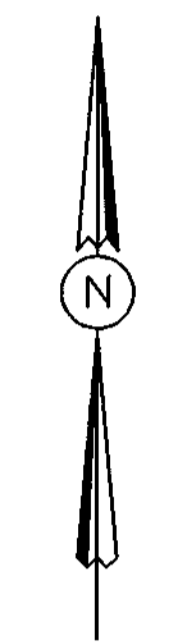
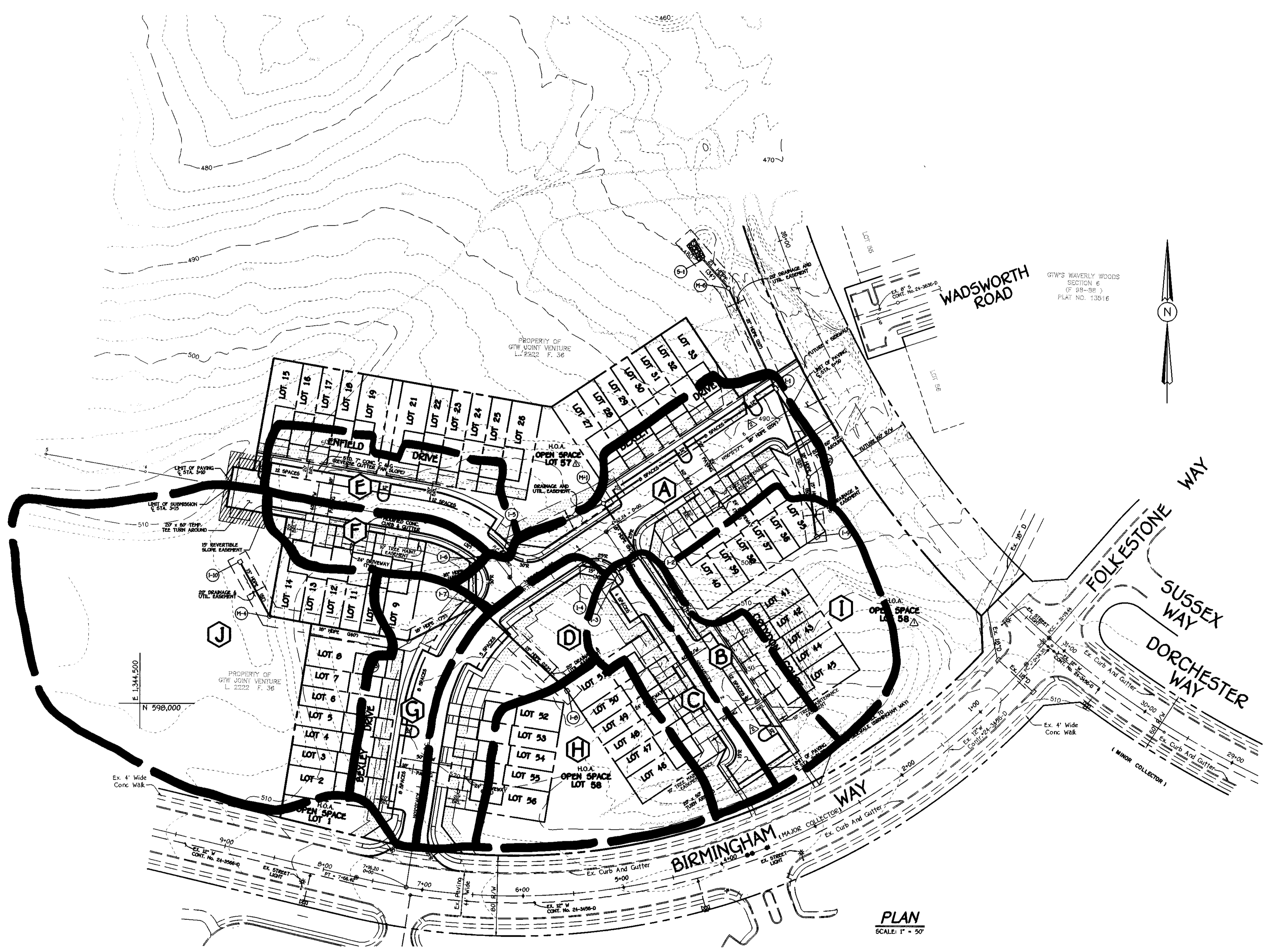
LANDSCAPE PLAN
GTW WAVERLY WOODS
 SECTION 10
 LOTS 1-19, 21-33 & 35-58
 (A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE, LIBER 2222, FOLIO 36)
 ZONED R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20 GRID NO. 5
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 21, 1999
 SHEET 5 OF 11

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTURION SQUARE OFFICE PARK - 18272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2222

[Signature]
 DATE: 9-28-99

Approved: Department Of Planning And Zoning
Cindy Hamilton 12/1/99
 Chief, Division Of Land Development Date

Approved: Howard County Department Of Public Works
Richard M. Damm 11-24-99
 Chief, Bureau Of Highways Date



N 598,250
 E 1,345,750

N 598,000
 E 1,345,750

DRAINAGE AREA DATA					
STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-1	A	0.74 AC.	0.57	R-SA-B	54%
I-2	B	0.31 AC.	0.69	R-SA-B	74%
I-3	C	0.39 AC.	0.60	R-SA-B	60%
I-4	D	0.55 AC.	0.44	R-SA-B	35%
I-5	E	0.38 AC.	0.59	R-SA-B	57%
I-6	F	0.24 AC.	0.61	R-SA-B	61%
I-7	G	0.44 AC.	0.53	R-SA-B	48%
I-8	H	0.66 AC.	0.28	R-SA-B	10%
I-9	I	0.63 AC.	0.28	R-SA-B	12%
I-10	J	2.10 AC.	0.35	R-SA-B	25%

PLAN
 SCALE: 1" = 50'

▲	REVISE R/W LINES AND BRL'S AT PERMANENT T-TURN AROUNDS	5-16-00
▲	CHANGE TITLE BLOCKS TO "LOTS 1-19, 21-33 & 35-58"	5-16-00
NO.	DESCRIPTION	DATE
REVISIONS		

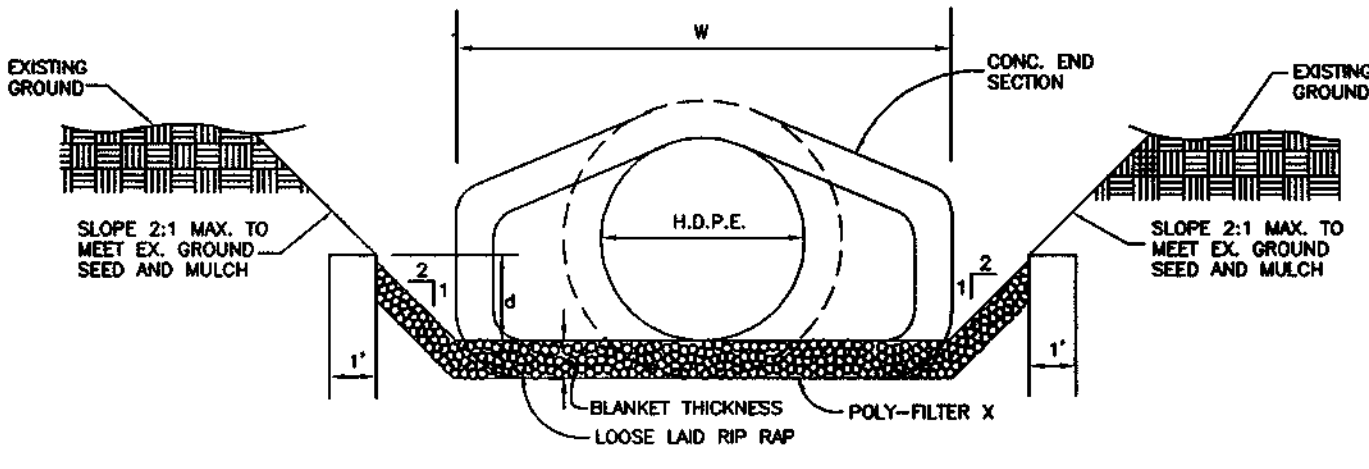
OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, INC.
 8000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

DRAINAGE AREA MAP
GTW WAVERLY WOODS
 SECTION 10
 LOTS: 1-19, 21-33 & 35-58
 (A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE, LIBER: 2222, FOLIO 36)
 ZONED R-SA-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20 GRID NO. 5
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPT. 21, 1999
 SHEET 6 OF 11

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2200

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS	W
I-1	489.39	484.25, 484.50	484.00	BEXLEY DRIVE	C.L. STA. 0+50	25'L	A-10 INLET	S.D. 4.41	2.5'
I-2	501.87	494.89	494.64	CROYDON COURT	C.L. STA. 0+39	12'L	A-10 INLET	S.D. 4.41	2.5'
I-3	501.87	495.38	495.13	CROYDON COURT	C.L. STA. 0+39	12'R	A-10 INLET	S.D. 4.41	2.5'
I-4	502.62	-----	495.76	BEXLEY DRIVE	C.L. STA. 3+93	12'R	A-10 INLET	S.D. 4.41	2.5'
I-5	506.20	494.75	494.50	ENFIELD DRIVE	C.L. STA. 0+38	12'R	A-5 INLET	S.D. 4.40	2.5'
I-6	506.55	495.31	495.06	ENFIELD DRIVE	C.L. STA. 0+52	12'L	A-5 INLET	S.D. 4.40	2.5'
I-7	507.10	497.27, 496.02	495.77	BEXLEY DRIVE	C.L. STA. 2+80	12'L	A-10 INLET	S.D. 4.41	2.5'
I-8	505.50	-----	500.50	-----	N 998.8129 E 1344.9925	---	'S' INLET	S.D. 4.22	---
I-9	493.00	-----	486.78	-----	N 998.8129 E 1344.9925	---	'S' INLET	S.D. 4.22	---
I-10	503.00	-----	493.70	-----	N 998.8129 E 1344.9925	---	'S' INLET	S.D. 4.22	---
M-1	500.30	493.40	493.15	-----	N 998.8129 E 1344.9925	---	STD. MANHOLE	G 5.05	---
M-2	494.00	488.18	487.93	-----	N 998.8129 E 1344.9925	---	STD. MANHOLE	G 5.05	---
M-3	510.20	497.44	497.19	BEXLEY DRIVE	N 998.8129 E 1344.9925	---	STD. MANHOLE	G 5.05	---
M-4	505.00	499.09	498.84	-----	N 998.8129 E 1344.9925	---	STD. MANHOLE	G 5.05	---
M-6	479.00	474.15	473.90	BEXLEY DRIVE	N 998.8129 E 1344.9925	---	STD. MANHOLE	G 5.05	---
S-1	475.25	473.50	473.50	-----	N 998.8129 E 1344.9925	---	CONC. END SECT.	S.D. 5.51	---



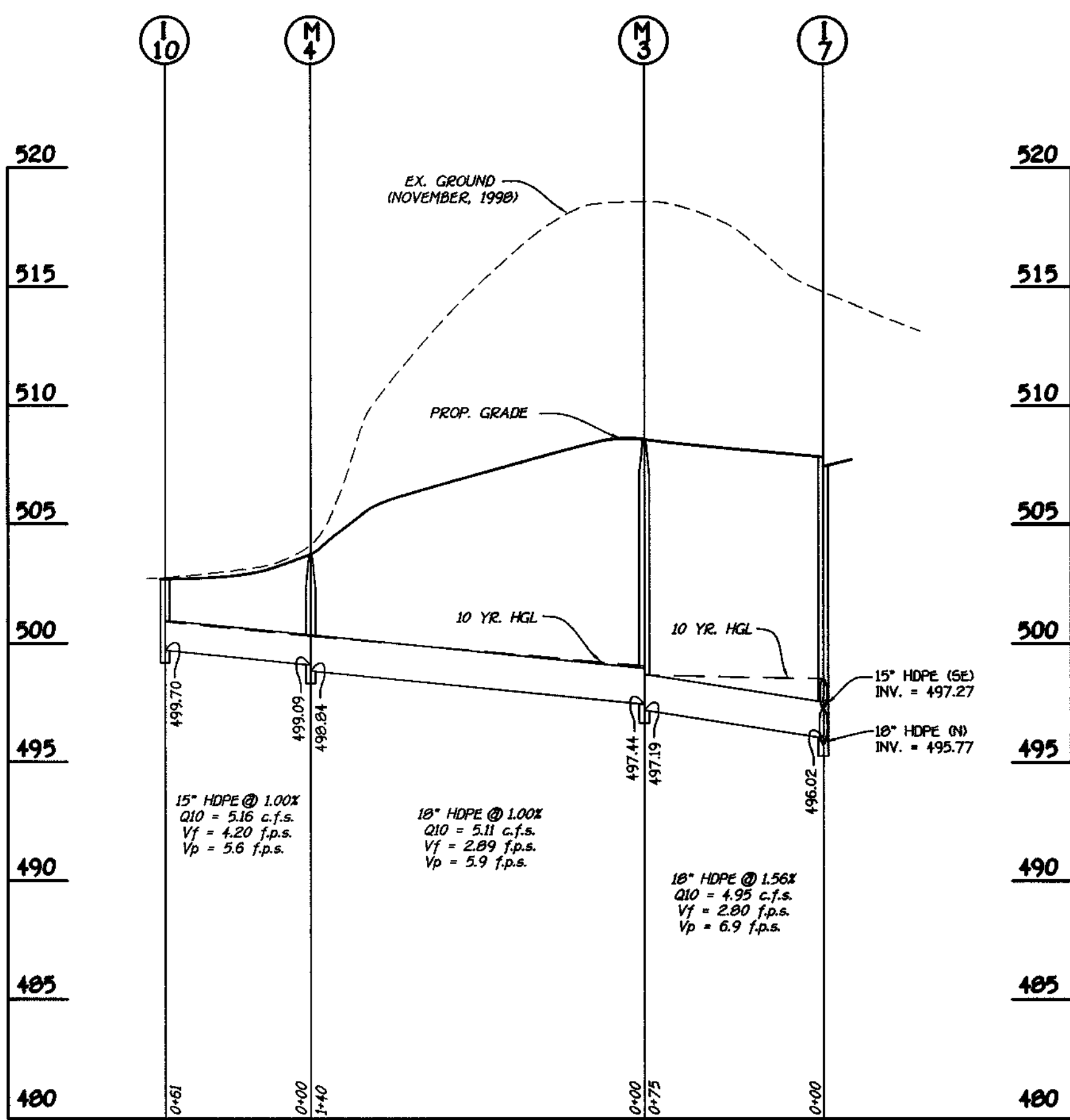
RIP RAP CHANNEL DETAIL
NO SCALE

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

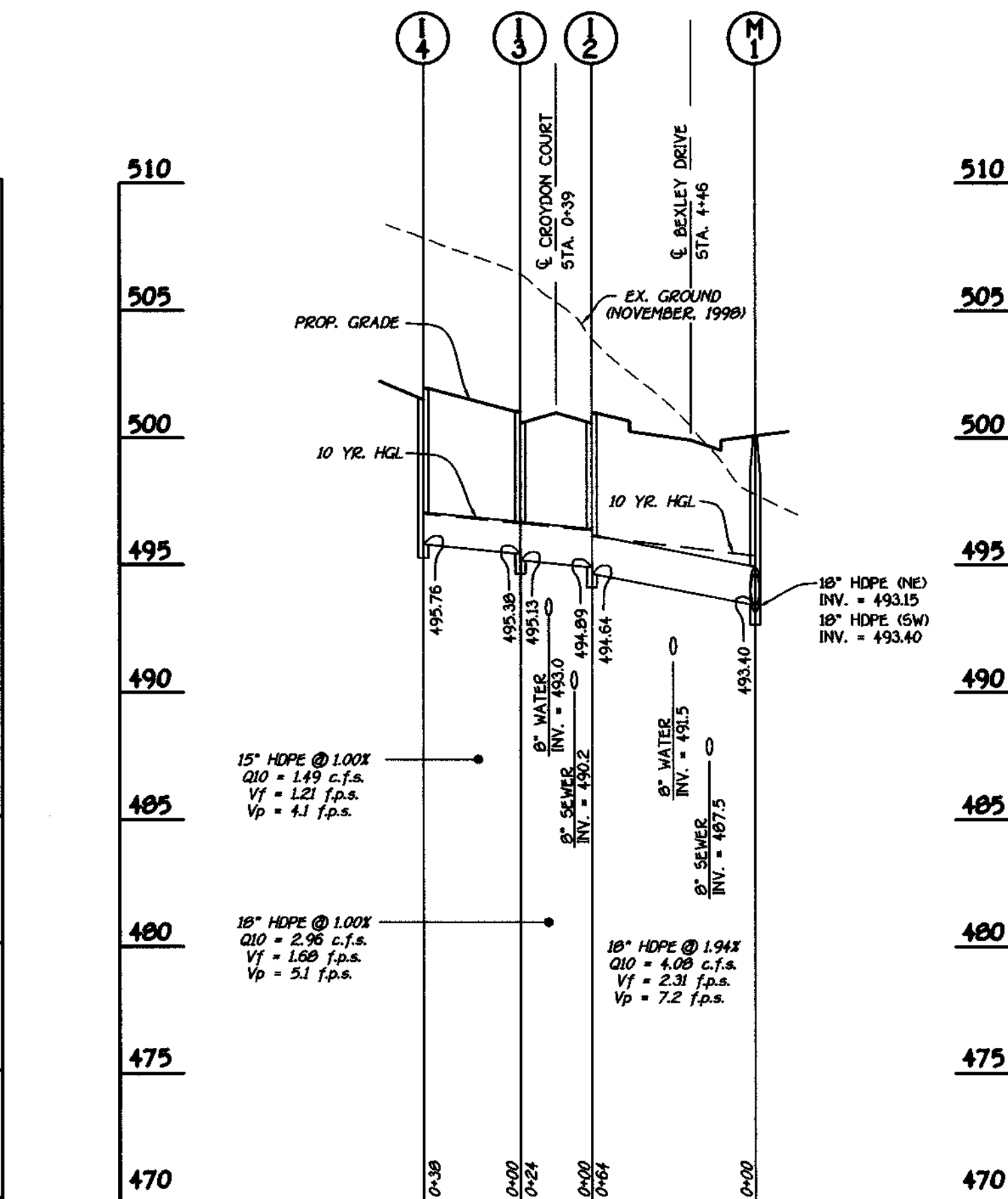
- The subgrade for the filter, riprap or gabion shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than occasional small holes shall be repaired by patching another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

RIP-RAP CHANNEL DESIGN DATA

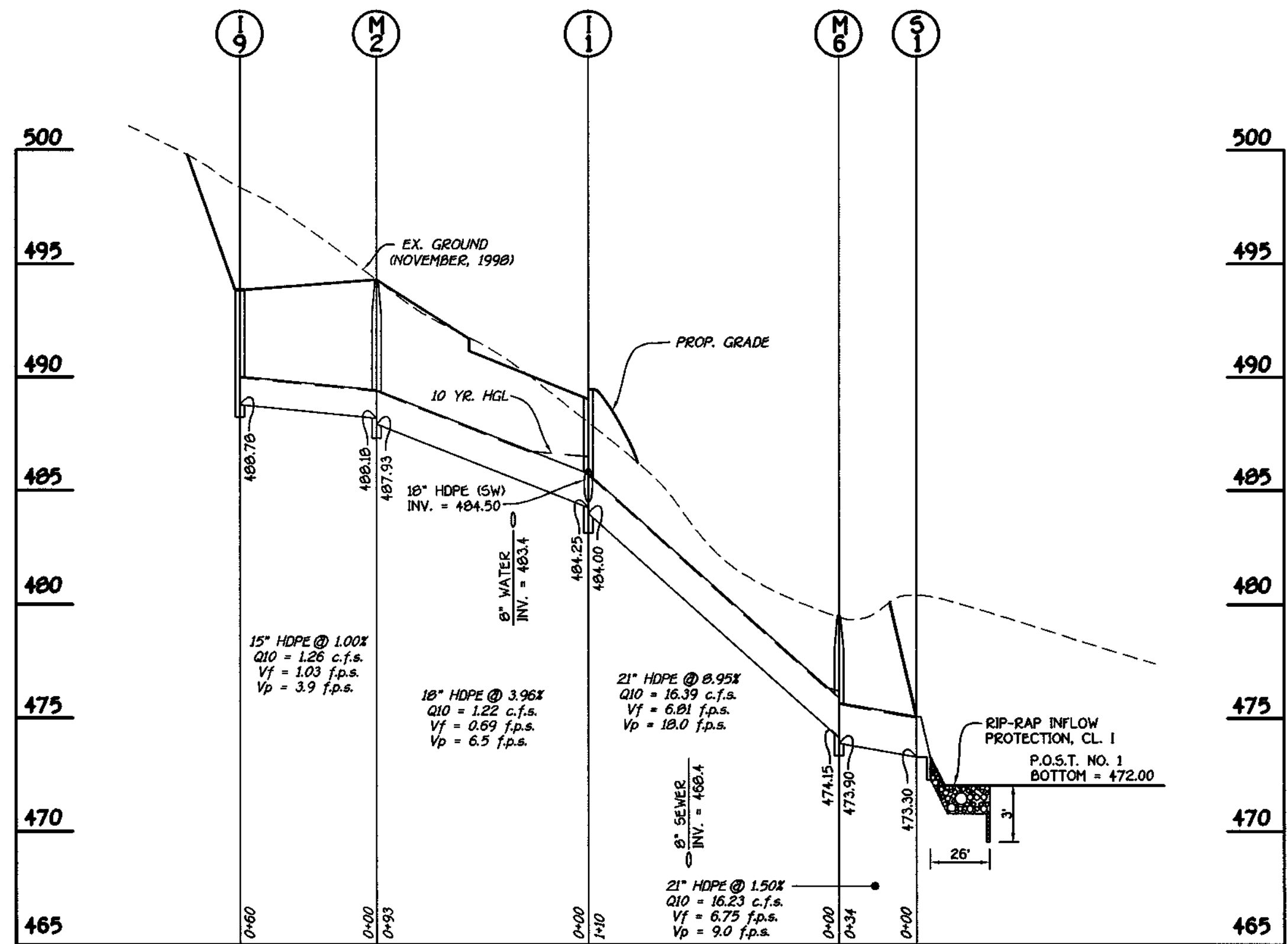
STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (f.p.s.)	Q (c.f.s.)	10-YR. HGL	BLANKET THICKNESS
S-1	8.68	14.45	0.6004	0.7116	.0050	.0707	13.0	0.65	0.04	1.87	16.23	9.5'	19"



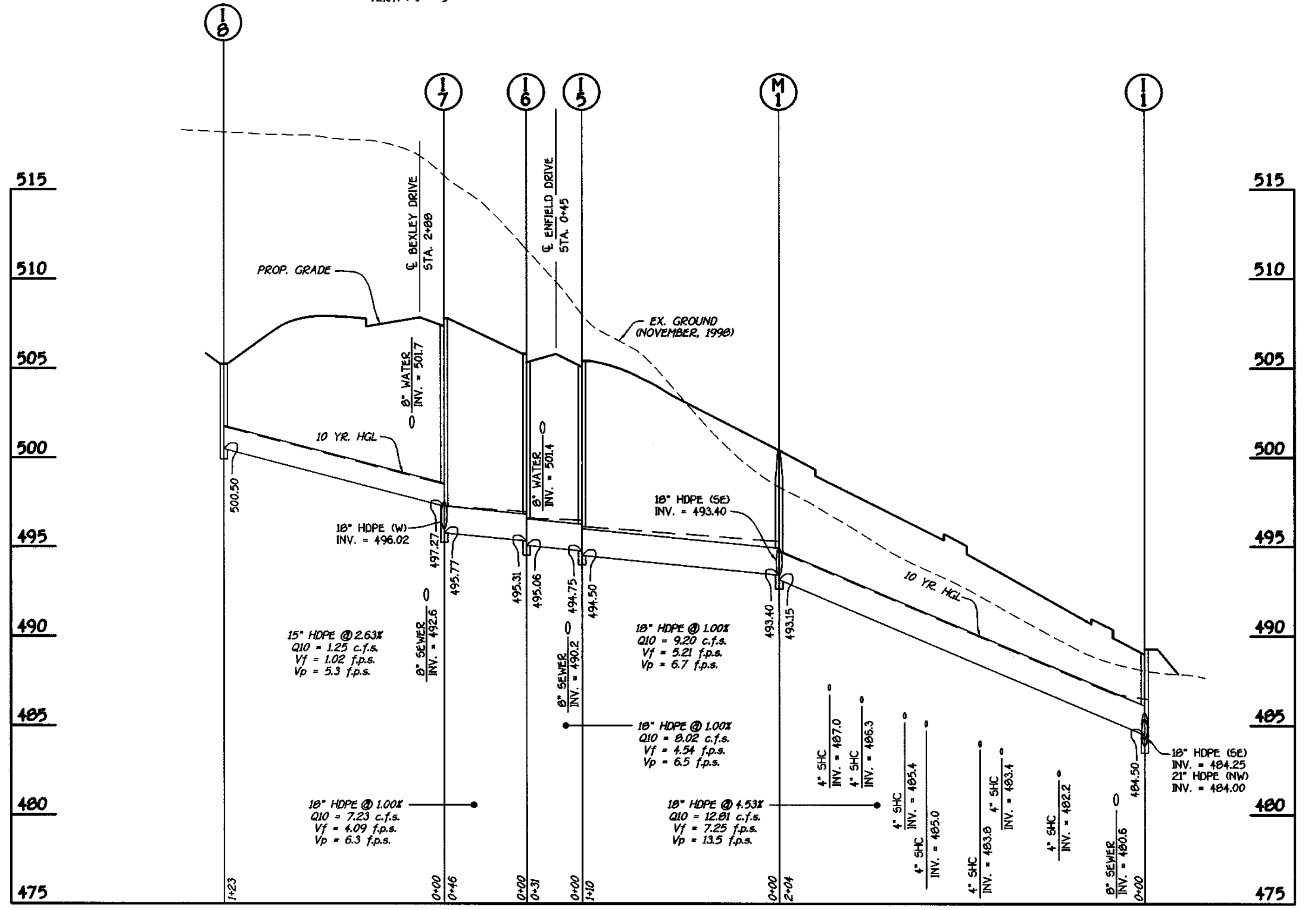
PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



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



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



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

Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Chief, Development Engineering Division
 Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways
 Date: 12/1/99
 Date: 11-24-99

PIPE SCHEDULE

SIZE	CLASS	LENGTH
15"	HDPE	282'
18"	HDPE	787'
21"	HDPE	144'

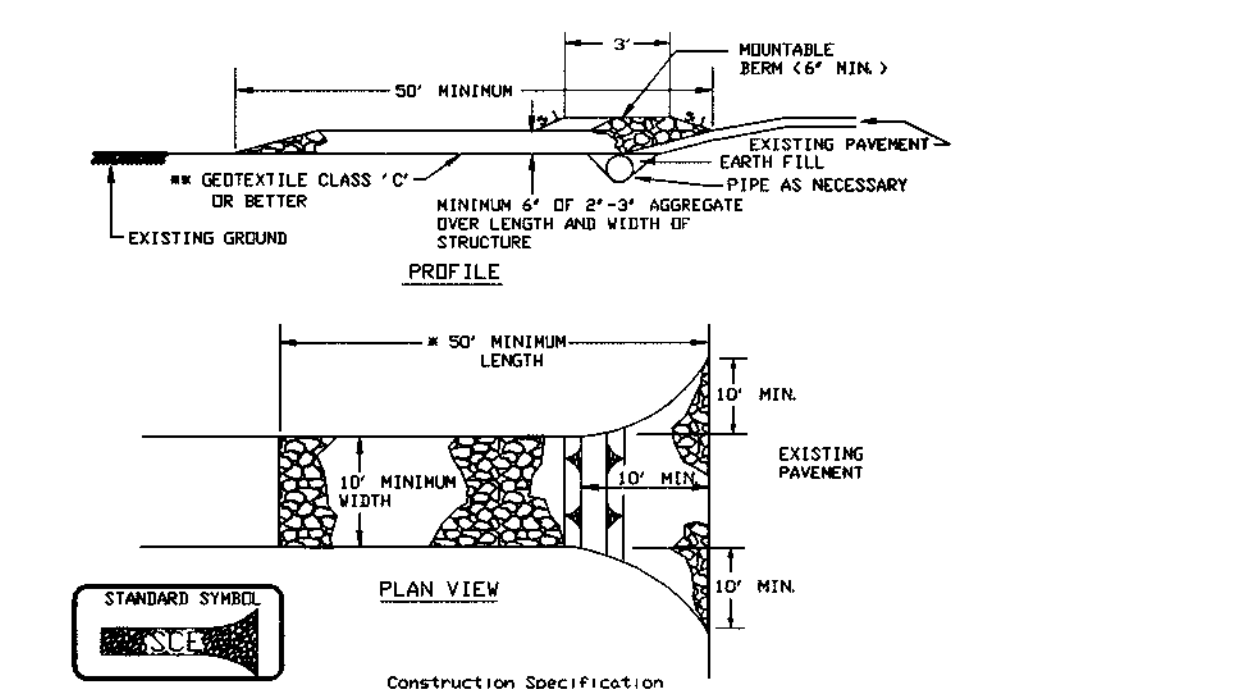
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SERVICE OFFICE: FAZZ - 10272 BALTIMORE NATIONAL FEE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2000



OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, INC.
 8000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

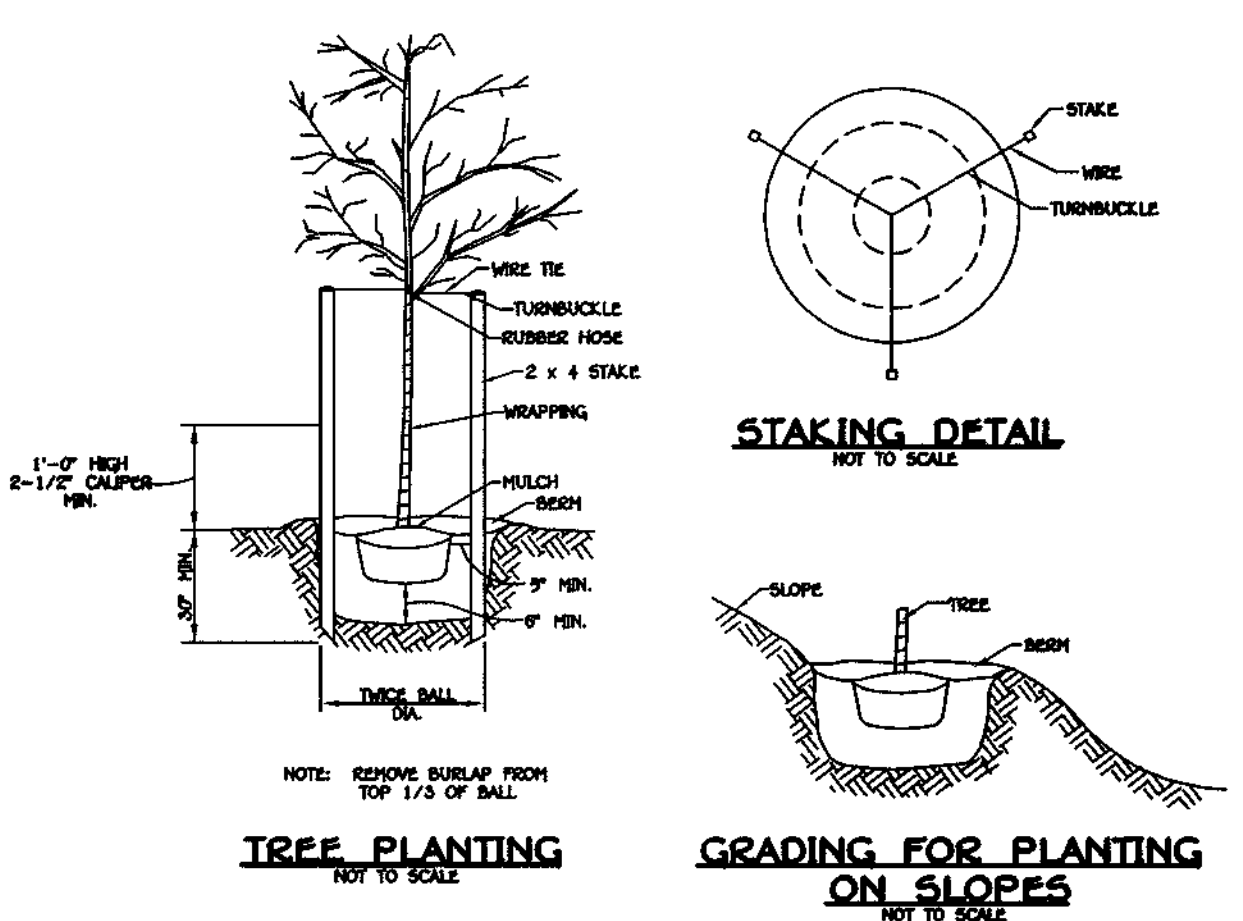
NO.	DESCRIPTION	DATE
1	CHANGE TITLE BLOCKS TO LOTS I-19, 21-33 & 35-58	5-16-00
REVISIONS		

STORMDRAIN PROFILES
GTW'S WAVERLY WOODS
 SECTION 10
 LOTS I-19, 21-33 & 35-58
 (A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE, LIBER 2222, FOLIO 36)
 ZONED R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20 GRID NO. 5
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 21, 1999
 SHEET 7 OF 11



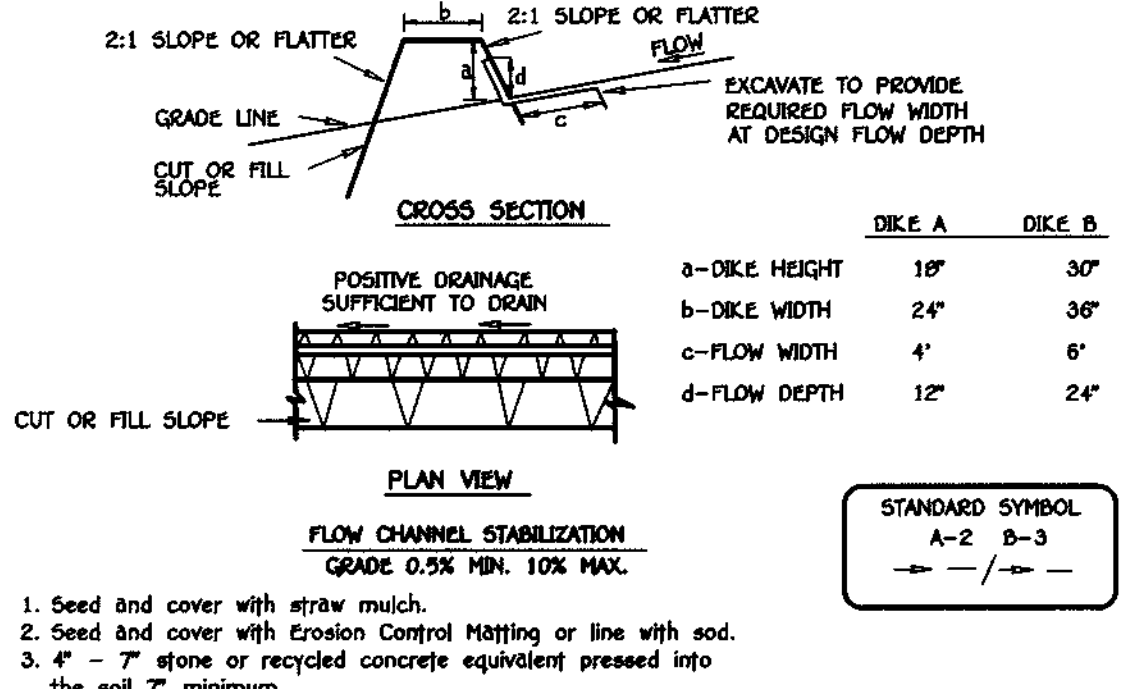
- Construction Specifications**
- Length - minimum of 50' (40' for single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. (Note: plan approval authority may not require single family residences to use geotextile.)
 - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
 - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SEE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
 - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE - 2
NOT TO SCALE



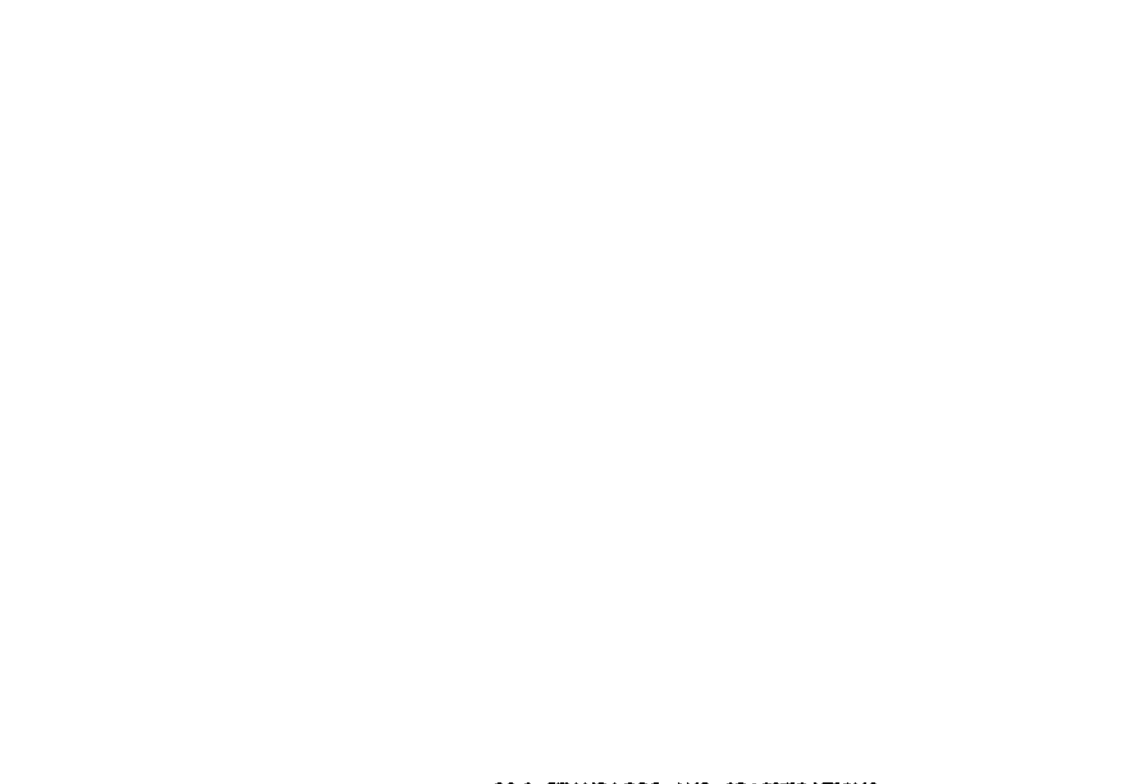
- SEEDING STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**
- Using vegetation as cover for barren soil to protect it from erosion that cause erosion.
- Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat and visual resources.
- CONDITIONS WHERE PRACTICE APPLIES**
- This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is intended to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are berms, dikes, cut and fill slopes and other areas at final grade, former stockpiles and staging areas, etc.
- EFFECTS ON WATER QUALITY AND QUANTITY**
- Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff. Infiltration, evaporation, precipitation, and groundwater recharge. Evaporation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Infiltration will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

- SEEDING STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**
- SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS**
- Site Preparation**
 - In-fill erosion and sediment control structures (either temporary or permanent) such as diversion, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually required for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
 - Soil Amendment (Fertilizer and Lime Specification)**
 - Soil tests must be performed to determine the exact ratio and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizer may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall be delivered to the site fully banded according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a 100 mesh sieve and 95-100% will pass through a 20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
 - Seeded Preparation**
 - Temporary Seeding**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be graded leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soil shall be less than 500 parts per million (ppm) soluble salts.
 - The soil shall contain less than 40% clay, but enough fine grained material (200 mesh) plus clay to provide the capability to hold a moderate amount of moisture. An exception is if heavy clay (serpentine) is present, then a sandy soil (200 mesh) also should be acceptable.
 - Soil shall contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soil alone, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

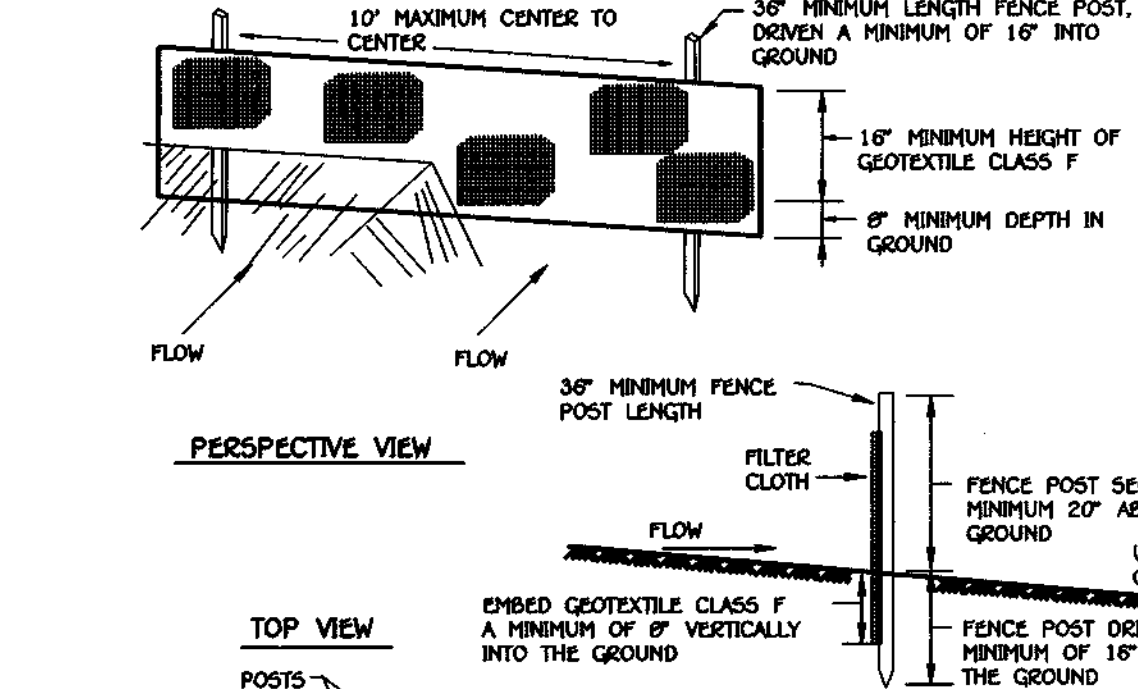


- Construction Specifications**
- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1:1 with the proper functioning of the dike.
 - Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
 - Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
 - All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
 - The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
 - Fill shall be compacted by earth moving equipment.
 - All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
 - Inspection and maintenance must be provided periodically and after each rain event.

EARTH DIKE
NOT TO SCALE

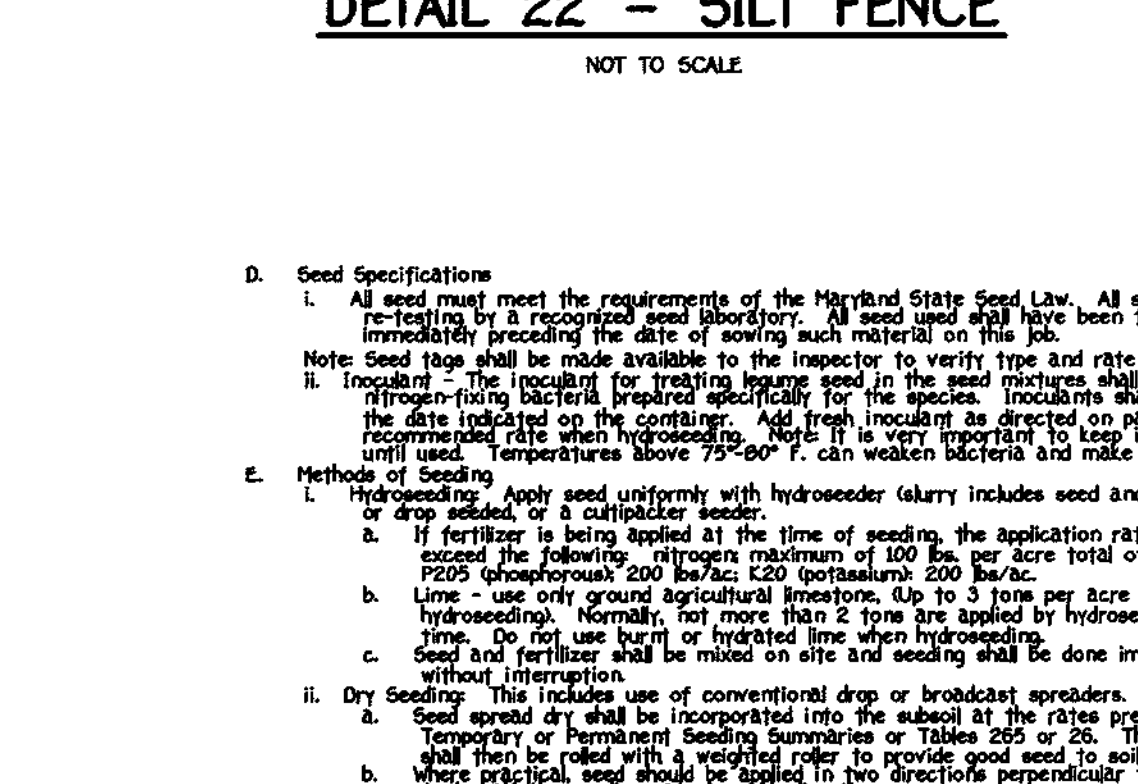


- DETAIL 22 - SILT FENCE**
NOT TO SCALE
- Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
 - Tensile Strength: 50 lbs/in (min.)
 - Tensile Modulus: 20 lbs/in (min.)
 - Flow Rate: 0.5 gal / minute (max)
 - Filtering Efficiency: 75% (min.)
 - Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

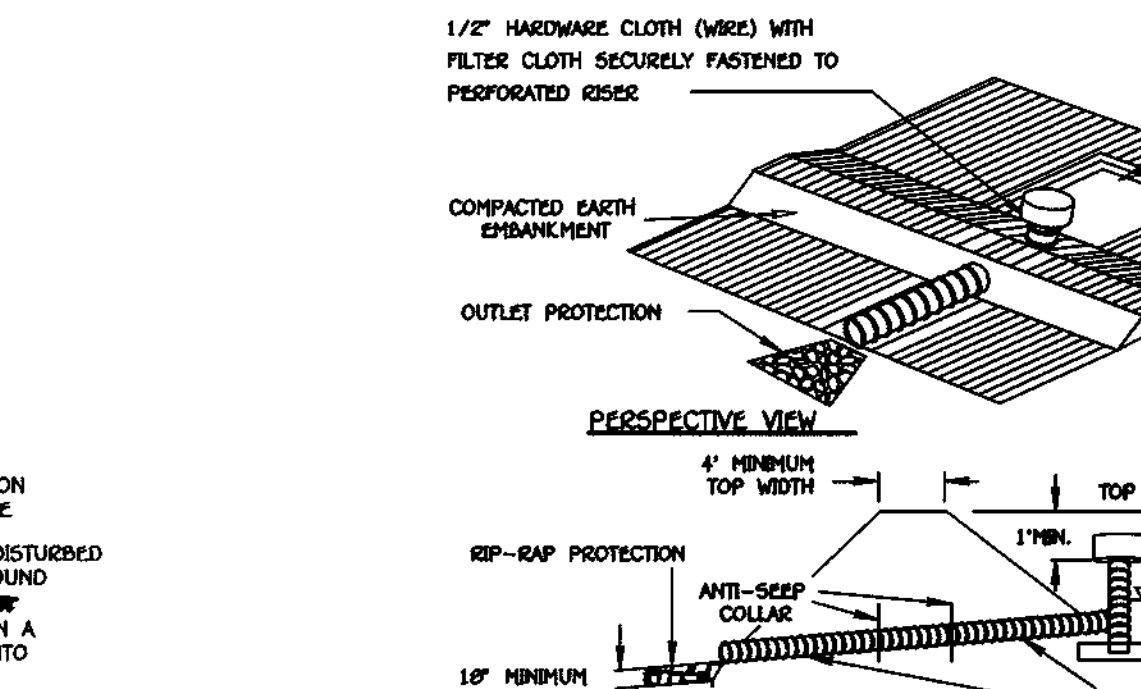


- Construction Specifications**
- The area under the embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 - The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 - The total trap volume as measured from the bottom to riser crest elevation shall be 3500 cubic feet per acre of drainage area (see Table 9). The top of embankment must be 1' above the riser crest elevation.
 - Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half the wet storage depth of the trap (900q/2c). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.
 - The structure shall be inspected periodically and after each rain and repairs made as necessary.
 - Construction operations shall be carried out in such a manner that erosion and water pollution are abated. Once constructed, the top and outside face of the embankment shall be established with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
 - The structure shall be removed and area stabilized when the drainage area has been properly stabilized.
 - All cut and fill slopes shall be 2:1 or flatter.
 - All pipe connections shall be watertight.
 - Above the wet storage elevation, the riser shall be perforated with 1/2" wide by 6" long slots or 1" diameter holes spaced 6" vertically and horizontally. No perforations will be allowed within 6" of the horizontal bars.
 - The riser shall be wrapped with 1/2" hardware cloth (wire) then wrapped with Geotextile Class E. The filter cloth shall extend 6" above the highest pit and 6" below the lowest pit. Where ends of filter cloth come together, they shall be overlapped, folded and fastened to prevent bypass. Filter cloth shall be replaced as necessary to prevent clogging.
 - Straps or connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.
 - Fill material around the pipe spillway shall be hand compacted in 4" layers. A minimum of 2" hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.
 - The riser shall be anchored with either a concrete base or steel plate base to prevent flotation. Concrete bases shall be at least twice the riser diameter and 12" deep with the riser embedded 9". Steel plate bases shall be at least twice the riser diameter, 1/4" minimum thickness and attached to the bottom of the riser by a continuous weld to form a watertight connection. Then place 2' of stone, gravel or tamped earth on the plate.
 - Anti-weep collars shall be constructed in accordance with plans (ref. Table 16 and Details 13 and 14).
 - Concentric trash rack and anti-vortex device design details are on Detail 16.
 - Refer to Section D for dewatering requirements of sediment traps.
 - Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel.
 - Where discharge occurs at the property line, local ordinances and drainage easement requirements shall be met.

PIPE OUTLET SEDIMENT TRAP - ST 1
NOT TO SCALE

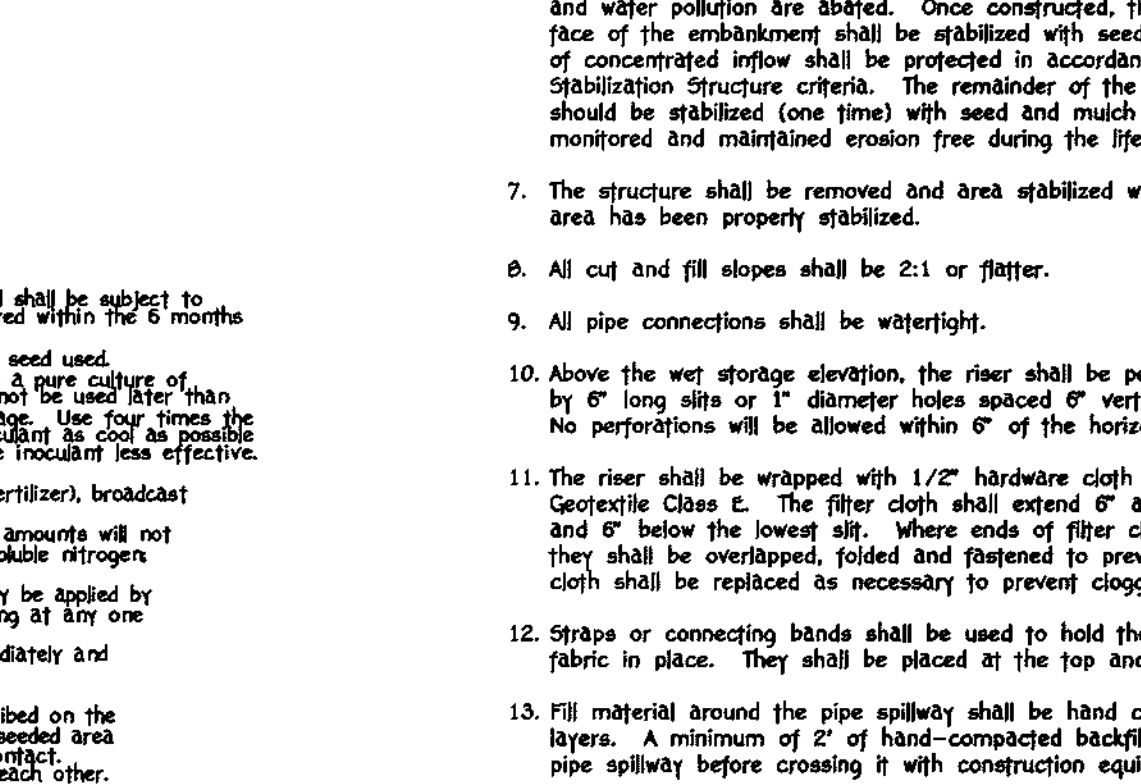


- SEEDING STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**
- SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS**
- Site Preparation**
 - In-fill erosion and sediment control structures (either temporary or permanent) such as diversion, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually required for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
 - Soil Amendment (Fertilizer and Lime Specification)**
 - Soil tests must be performed to determine the exact ratio and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizer may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall be delivered to the site fully banded according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a 100 mesh sieve and 95-100% will pass through a 20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
 - Seeded Preparation**
 - Temporary Seeding**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be graded leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soil shall be less than 500 parts per million (ppm) soluble salts.
 - The soil shall contain less than 40% clay, but enough fine grained material (200 mesh) plus clay to provide the capability to hold a moderate amount of moisture. An exception is if heavy clay (serpentine) is present, then a sandy soil (200 mesh) also should be acceptable.
 - Soil shall contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soil alone, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

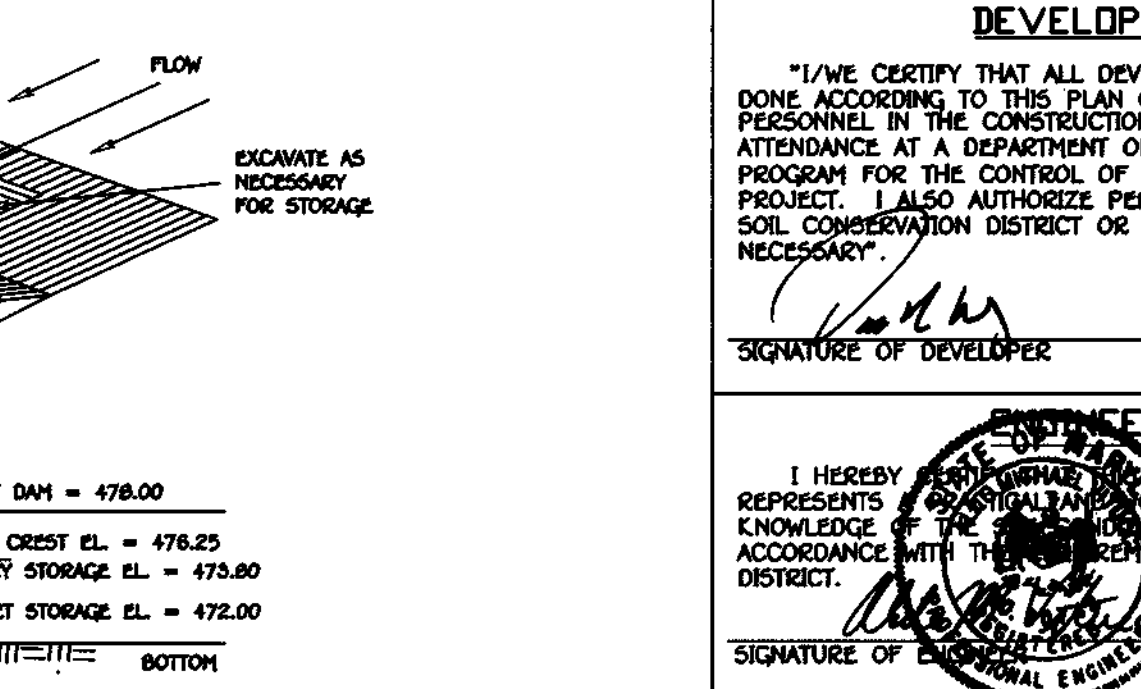


- SEEDING STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**
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- Site Preparation**
 - In-fill erosion and sediment control structures (either temporary or permanent) such as diversion, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually required for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
 - Soil Amendment (Fertilizer and Lime Specification)**
 - Soil tests must be performed to determine the exact ratio and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizer may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall be delivered to the site fully banded according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a 100 mesh sieve and 95-100% will pass through a 20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
 - Seeded Preparation**
 - Temporary Seeding**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be graded leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
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 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soil shall be less than 500 parts per million (ppm) soluble salts.
 - The soil shall contain less than 40% clay, but enough fine grained material (200 mesh) plus clay to provide the capability to hold a moderate amount of moisture. An exception is if heavy clay (serpentine) is present, then a sandy soil (200 mesh) also should be acceptable.
 - Soil shall contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soil alone, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

PIPE OUTLET SEDIMENT TRAP - ST 1
NOT TO SCALE

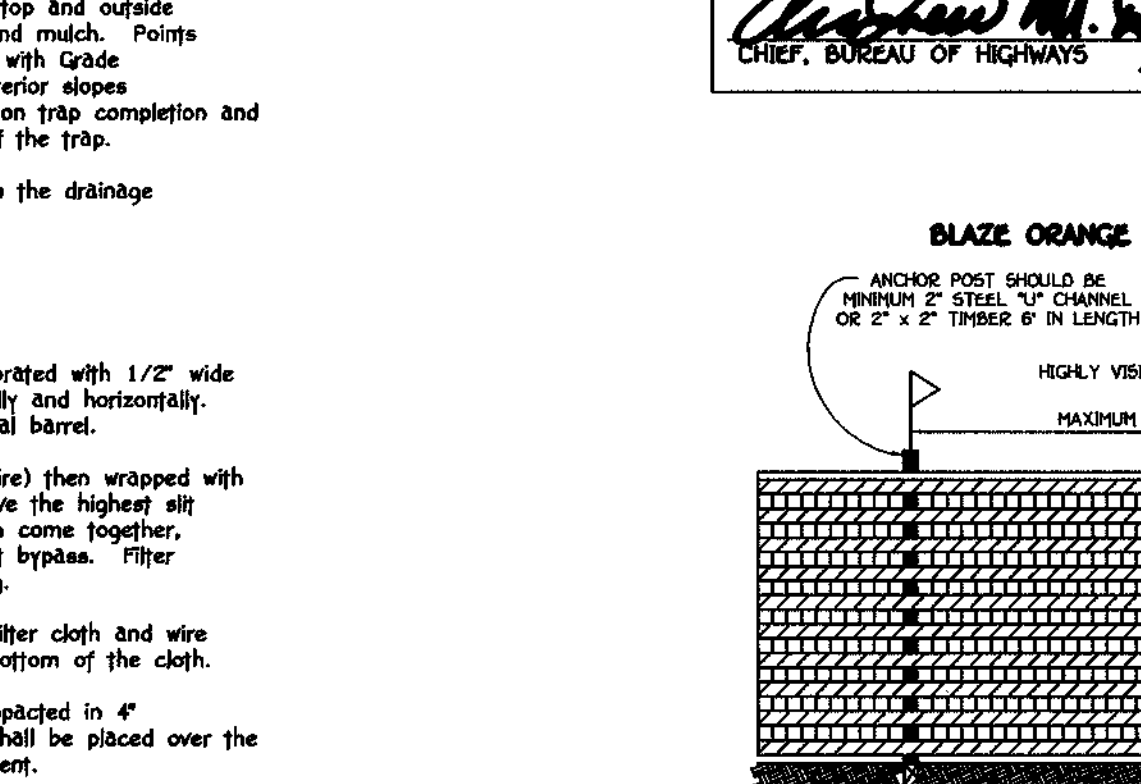


- SEEDING STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**
- SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS**
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PIPE OUTLET SEDIMENT TRAP - ST 1
NOT TO SCALE



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DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL 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 ALSO AUTHORIZED PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

SIGNATURE OF DEVELOPER: *[Signature]* DATE: 7-12-99

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THE PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A FEASIBLE AND REASONABLE PLAN BASED ON MY PERSONAL KNOWLEDGE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: *[Signature]* DATE: 7-12-99

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SIGNATURE OF REVIEWER: *[Signature]* DATE: 11-9-99

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

APPROVED: *[Signature]* DATE: 11-9-99

HOWARD COUNTY SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

SIGNATURE: *[Signature]* DATE: 12/1/99

CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

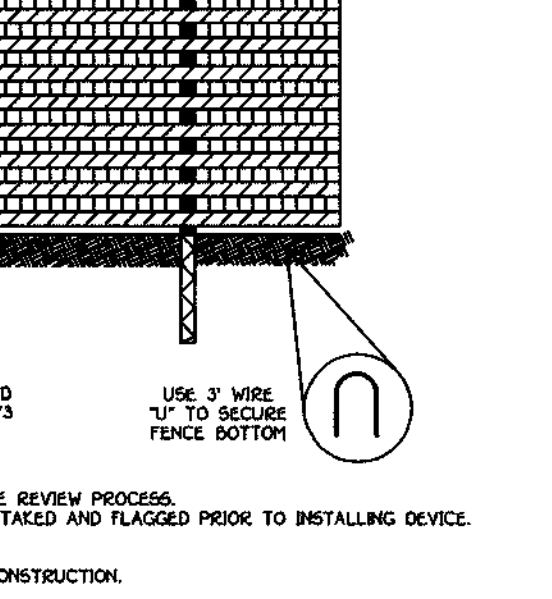
SIGNATURE: *[Signature]* DATE: 11/29/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

SIGNATURE: *[Signature]* DATE: 11-20-99

CHIEF, BUREAU OF HIGHWAYS



TREE PROTECTION DETAIL
NOT TO SCALE

NO.	DESCRIPTION	DATE
1	FORGET PROTECTION DEVICE ONLY.	
2	RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.	
3	BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.	
4	ROOT DAMAGE SHOULD BE AVOIDED.	
5	PROTECTIVE SIGNAGE MAY ALSO BE USED.	
6	DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.	

NO.	DESCRIPTION	DATE
Δ	CHANGE TITLE BLOCKS TO "LOTS 1-19, 21-33 & 35-58"	5-16-00

SEDIMENT CONTROL NOTES AND DETAILS

GTW WAVERLY WOODS

SECTION 10

LOTS 1-19, 21-33 & 35-58 Δ

(A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE, LIBER 232, FOLIO 163)

ZONED R-SA-B

TAX MAP NO. 16 PART OF PARCEL NO. 20 GRID NO. 5

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: SEPT. 21, 1999

SHEET 8 OF 11

FISHER, COLLINS & CARTER, INC.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE - 1272 SALTONE NATIONAL FEE
ELICOTT CITY, MARYLAND 21042
410-481-2855



OWNER / DEVELOPER

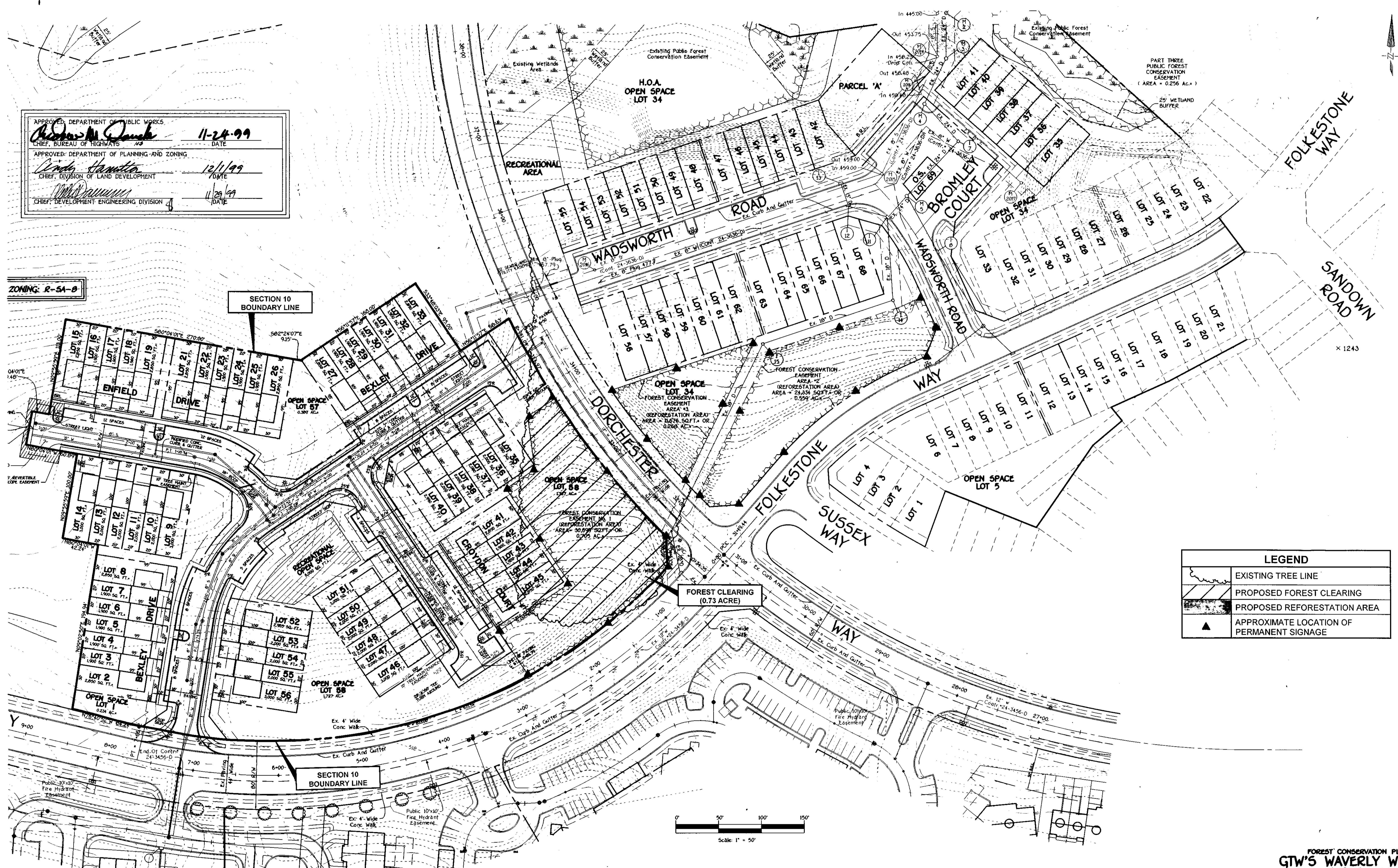
WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELICOTT CITY, MARYLAND 21043

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Quirk 11-24-99
 CHIEF, BUREAU OF HIGHWAYS DATE

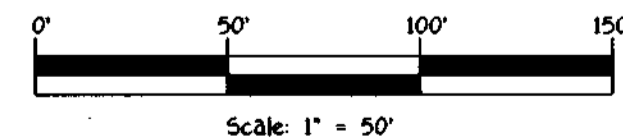
APPROVED: DEPARTMENT OF PLANNING AND ZONING
David Hamilton 12/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. ... 11/28/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ZONING: R-5A-B



LEGEND	
	EXISTING TREE LINE
	PROPOSED FOREST CLEARING
	PROPOSED REFORESTATION AREA
	APPROXIMATE LOCATION OF PERMANENT SIGNAGE



PLAN PREPARED BY:

Environmental Systems Analysis, Inc.
 48 Maryland Avenue, Annapolis, Maryland 21401
 (410) 267-0495 Fax: (410) 267-0496

Kevin Kelly
 Kevin Kelly
 DNR APPROVED QUALIFIED PROFESSIONAL
 FOR FSD's AND FCP's
 9-22-99
 DATE

REVISIONS	DATE
CHANGE TITLE BLOCK TO 'LOTS 1-19, 21-33 & 35-58'	5-16-00

FOREST CONSERVATION PLAN
GTW'S WAVERLY WOODS
SECTION 10
LOTS 1-19, 21-33 & 35-58
 (A SUBDIVISION OF PART OF THE PROPERTY OF GTW JOINT VENTURE,
 LIBER 2222, FOLIO 36)
 ZONED R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20 GRID NO. 5
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: SEPTEMBER 21, 1999
 SHEET 10 OF 11

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
 ELKTON CITY, MARYLAND 21828
 410-461-2999

F.C.C-30670 510 PPI Reforestation.dwg

NARRATIVE

The Waverly Woods Property is a 682 acre tract which contains a combination of commercially and residentially zoned property. The site is to be slowly developed in a series of phases. A Preliminary Forest Conservation Plan was prepared for the property in August of 1993. In February of 1996, this plan was revised and approved by the Howard County Department of Planning and Zoning. Since that time, Final Forest Conservation Plans have been prepared for each development section as they are phased in. These Final Forest Conservation Plans have included revised Forest Conservation Worksheets to reflect changes in forest clearing and forest preservation from the 1996 Preliminary Plan.

This Final Forest Conservation Plan has been prepared for Waverly Woods Section 10, a residential section of the development. Like the previous Final FCP's, the reforestation requirement for Section 10 has been calculated on a percentage basis (see "Section 10 Forest Conservation Calculations" on this sheet). To meet the reforestation requirements for Section 10, on-site reforestation is proposed.

GENERAL NOTES

- This forest conservation plan has been prepared in accordance with the requirements set forth by the Howard County Forest Conservation Act. The preparation of this plan, the notes and details were prepared using the guidelines of the Howard County Forest Conservation Manual.
- Base sheet information was provided by Fisher, Collins and Carter, Inc.
- All appropriate bonds shall be posted prior to the issuance of any permits per Howard County Forest Conservation Act. These bonds will be retained as surety until all required activities have been satisfied.
- Reforestation planning and related work must be performed by a contractor who is knowledgeable and experienced in reforestation planning techniques and proper plant handling.

FOREST PROTECTION MEASURES

- As all of the existing forest within Waverly Woods Section 10 will be cleared, there are no forest preservation areas which require protection prior to construction.
- A total of 1,522 acres of reforestation will be provided in accordance with this plan. 0.705 acres will be located within Waverly Woods Section 10. The balance of reforestation will be located on Waverly Woods Open Space Lot #34 which is located within Section 6. These reforestation areas will be permanently protected by means of a conservation easement which will be recorded at record plat.
- It is the responsibility of the present Owner to educate the new occupants or owners in Sections 6 and 10 about the proper use of these reforestation areas, the need for the Owner/Developer to carry out the post-construction management program, and the eventual transfer of long-term responsibility to the new owners or occupants.
- A signed agreement detailing the post-construction management program shall be submitted for approval as part of the developers agreements for the project. The agreement shall include bonding covering all costs of the necessary protection and management activities required by the post-construction program.

REFORESTATION

Quality Assurance

- Names of plant material listed conform with names accepted by the nursery trade. The contractor is to provide stock true to botanical name. Varieties will not be accepted unless specified or approved by the owner's representative.
- Plant stock shall meet or exceed the selection, sizing, transportation, and protection requirements contained in the latest edition of the American Standard for Nursery Stock published by the American Association of Nurserymen.
- Balled and burlapped (B&B) plants shall be dug with firm root balls free of noxious weeds. There should be no excess soil on top of the root ball or around the trunk.
- Caliper of tree stock shall be taken 6" above the ground level.
- If leafed-out, all plant stock shall appear healthy with no foliage spots, discoloration, wilting or other evidence of the presence of disease or insects.
- If any specified material can not be located or is unavailable, requests for substitutions shall be submitted to the owner's representative for approval.
- Source Quality Control - plant materials are subject to inspection and approval upon delivery for conformity to specification requirements (i.e., size, quality, and variety). Such approval shall not impair the right of inspection by the owner's representative during the progress of work and/or the right of rejection due to damage suffered in handling or transportation. Rejected plants shall be removed immediately from the site and replaced with acceptable plant material.

Product Specifications

Fertilizer:
Granular, packet or pellet form with a minimum analysis of 10% nitrogen, 6% phosphorus and 4% potassium (10-6-4). 35% to 80% of the total nitrogen shall be in a slow release form.

Organic Matter:
Leaf Compost - thoroughly shredded, well-composted leaf material, free of trash
Composted Sewage Sludge - approved, screened, polymer-dewatered sewage sludge with a pH of 6.2 - 7.2

Backfill Mixture:
Backfill for all stock shall be 3/4 existing soil mixed with 1/4 organic material. If any other additives are found to be needed at the time of planting, the landscape contractor shall notify the Owner or Owner's representative for approval.

Mulch:
Mulch shall be dark brown, uniform sized, composted, shredded hardwood bark or pine bark with less than 10% sawwood or approved equal.

Tree Support Stakes:
Stakes shall be 2"x2" hardwood or approved equal.

Support Wire:
Wire shall be 14 gauge galvanized steel or approved equal.

Pre-Planting Specifications

- The recommended planting period is September 15th to November 15th. Planting may also be undertaken from March 15th to June 15th. Planting outside of this planting window may only be conducted with the approval of the owner's representative.
- Planting shall not take place in sub-freezing temperatures, when the soil is too wet or too dry, or under any environmental constraints generally accepted by the Landscape Contractor's Association (Maryland, District of Columbia, and Virginia) as unsuitable for planting.
- All planting areas shall be stabilized prior to planting to minimize soil erosion. While soil stabilization and seeding are not part of these plan documents, the use of Tall Fescue (*Festuca arundinacea*) to stabilize reforestation areas shall be strictly forbidden.
- Planting areas shall be free of noxious weeds prior to planting. If noxious weeds are present, they should be removed or treated with a herbicide (e.g., "Roundup") according to the manufacturer's specifications.
- The landscape contractor must notify the owner's representative 48 hours prior to the start of construction to arrange a pre-planting meeting. Failure to notify the owner's representative may result in the rejection of all planting.
- Planting should occur within 24 hours of plant material delivery to the site. Plant materials left unplanted for more than 24 hours shall be protected from direct sun and weather and kept moist. Plant material shall not be left unplanted for more than 2 weeks.
- When conditions detrimental to plant growth are encountered (e.g., rubble fill, poor drainage, obstructions), the landscape contractor shall notify the owner's representative before planting.
- The landscape contractor is responsible for the location of all existing underground utilities. Repair of utilities during planting shall be at the landscape contractor's expense.

Planting Specifications

- Planting shall be conducted according to the latest edition of the Landscape Specification Guidelines published by the Landscape Contractors Association (Maryland, District of Columbia, and Virginia) and as specified below.
- Plants shall be installed in a random pattern over the entire planting area. "Random" refers to both the plant species and plant spacing. Grid patterns with uniform spacing will be rejected.
- Excavation for the planting of B&B plant material shall be accomplished using manual methods (e.g., shovels, planting bars, dibble bars, or mattocks) or with a tree spade.
- Walls of the tree pit shall be dug vertical or sloping outward in heavy soils. Walls shall be scarified after digging.
- Tree pit shall be 9" larger than the rootball of the tree on every side.
- Tree pit shall be dug deep enough to allow 1/8 of the rootball to be above the existing grade. The bottom of the root ball shall rest on undisturbed existing soil or well-compacted backfill.
- Place the tree in the pit by lifting and lowering the rootball. DO NOT LIFT THE TREE BY THE TRUNK OR BRANCHES. Set tree straight and in the center of the pit. Cut and remove rope and or wire from the top 50% of the rootball. Remove any and all plastic or synthetic film from the rootball. Pull burlap back to the edge.
- Backfill the sides of the tree pit halfway with the "Backfill Mixture" (see "Product Specifications" above). Mix granular fertilizer in with backfill mixture unless composted sewage sludge is used; fertilizer is unnecessary if composted material is used.
- Tamp backfill material as pit is filled being careful not to overcompact the top 2/3 of the backfill. Do not cover the top of the rootball with soil.
- Form a saucer around the outer rim of the tree pit above existing grade. Mulch top of root ball and saucer to a minimum depth of 2" and a maximum depth of 3". DO NOT PLACE MULCH AGAINST THE TRUNK.
- Thoroughly water the interior of the tree saucer until it is filled. Watering shall be undertaken even if it is raining. A second watering may be necessary to insure saturation of the rootball and elimination of the air pockets.
- Prune any and all tree branches that are dead, diseased, damaged, or conflicting.
- Remove all tags, labels, strings, and wire from the trees.
- The decision to stake trees shall be made on an individual basis and should not be required for all trees.
- If staking is necessary, space stakes evenly and around the outside of the rootball and drive firmly into the ground making certain not to drive the stake into the rootball.
- Cut hose long enough to loop around the trunk of the tree and place high enough on the trunk to provide optimum support.
- Thread the wire through the hose, pull the two ends 2' beyond the stake, and twist the wire at the hose to hold it in place.
- Wind both ends of the wire around the stake twice, 2" to 6" from the top of the stake. Allow 1" to 3" of sway in the wire. Cut off the excess wire.
- Remove stakes, wire, and hose after one year.
- Install permanent signs identifying the reforestation areas (see detail on this sheet) along the appropriate boundary lines of the forest conservation easements. These devices shall be freestanding. Do not attach to planted trees.

Warranty and Replacement

- The landscape contractor shall guarantee that seventy-five percent (75%) of the plants will remain alive and in a healthy, vigorous condition for a period of two years following planting except in the case of damage by vandalism, fire, animal predation, or other events beyond the landscape contractor's ability to control. Drought is not considered beyond the landscape contractor's ability to control unless the County and/or State prohibit watering by landscape contractors.
- The landscape contractor shall perform the recommended management tasks listed in the "Two Year Post-Construction Management Plan" (see below) as necessary to ensure the required survival rate of the plants. This management shall include the removal of any tree stakes, wire, and hose after one year.
- At the end of the warranty period, the landscape contractor and the owner's representative will perform a final inspection of the plant material. Plant losses exceeding 75% of the original quantity during this inspection shall be removed from the site and replaced by the landscape contractor on a one time basis.
- A tree shall be considered dead when the main leader has died back, or 25% of the crown is dead. Plant material replacements shall be of the same type, size and variety as specified in this plan or as approved by the owner's representative. Any substitutions must be plants that are native to the Mid-Atlantic region of the United States. Plants shall be furnished, planted and mulched as specified herein and at the expense of the landscape contractor.

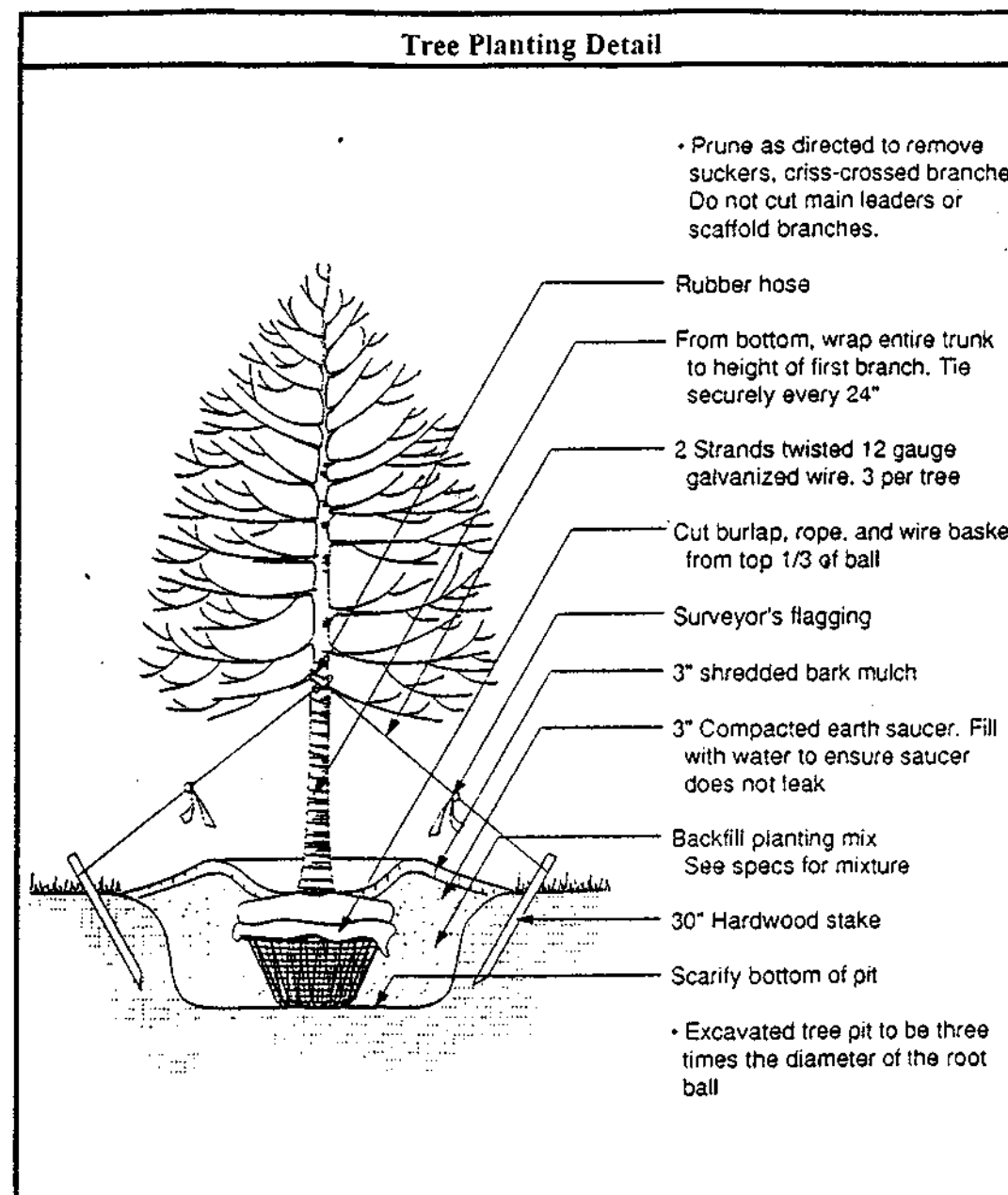
FOREST MANAGEMENT PROGRAM

Two Year Post-Construction Management Plan

- The required two year management of the reforestation areas is the responsibility of the Owner. Management may include the following: watering, fertilizing, pruning, removal of dead material and the control of pests and competing vegetation.
- Inspect the reforestation areas for a period of two years per the Howard County Forest Conservation Manual, to monitor the health and vigor of the plantings and specify actions needed to correct existing problems. The following inspection schedule shall be carried out:
Year 1 & 2: Two Inspections per year - inspect at the beginning of the growing season (May or June) and the end of the growing season (September or October).
- At the end of the second year the survival rate shall be a minimum of 75% of the total number of trees planted under the approved Forest Conservation Plan. If the survival rate is below 75%, additional trees must be planted in order to ensure a 75% survival rate at the end of the subsequent year.
- A signed agreement detailing these post-construction activities shall be submitted for approval as part of the developer's agreements for the project. The agreement shall also include bonding covering all costs of the necessary protection and management activities required by the post-construction program.
- At the end of the management period the Owner or Owner's representative shall convey to the administrator of the Howard County Forest Conservation Program certification that the required reforestation survival rate has been achieved.

Long Term Management Plan

- All reforestation areas shall be protected by conservation easements which will be recorded at record plat (refer to the latest edition of the Howard County Forest Conservation Manual for activities permitted within the forest conservation easement).
- The periodic removal of vines and/or other invasive and non-native vegetation along the perimeter of the forest conservation area may be conducted to control the intrusion and development of such vegetation and maintain forest productivity.
- Woody vegetation located within 20' from the forest perimeter susceptible to windthrow and dead or diseased trees along the forest perimeter shall be selectively thinned if potentially hazardous.



Qty	Botanical Name	Common Name	Size	Condition
27	<i>Acer rubrum</i>	Red Maple	2.5" Cal.	B&B
15	<i>Cercis canadensis</i>	Redbud	2.5" Cal.	B&B
33	<i>Liriodendron tulipifera</i>	Tulip Poplar	2.5" Cal.	B&B
20	<i>Quercus coccinea</i>	Scarlet Oak	2.5" Cal.	B&B
20	<i>Quercus rubra</i>	Red Oak	2.5" Cal.	B&B

Qty	Botanical Name	Common Name
10	<i>Acer rubrum</i>	Red Maple
8	<i>Cercis canadensis</i>	Redbud
15	<i>Liriodendron tulipifera</i>	Tulip Poplar
10	<i>Quercus coccinea</i>	Scarlet Oak
10	<i>Quercus rubra</i>	Red Oak

Qty	Botanical Name	Common Name
11	<i>Acer rubrum</i>	Red Maple
5	<i>Cercis canadensis</i>	Redbud
12	<i>Liriodendron tulipifera</i>	Tulip Poplar
7	<i>Quercus coccinea</i>	Scarlet Oak
7	<i>Quercus rubra</i>	Red Oak

Qty	Botanical Name	Common Name
6	<i>Acer rubrum</i>	Red Maple
2	<i>Cercis canadensis</i>	Redbud
6	<i>Liriodendron tulipifera</i>	Tulip Poplar
3	<i>Quercus coccinea</i>	Scarlet Oak
3	<i>Quercus rubra</i>	Red Oak

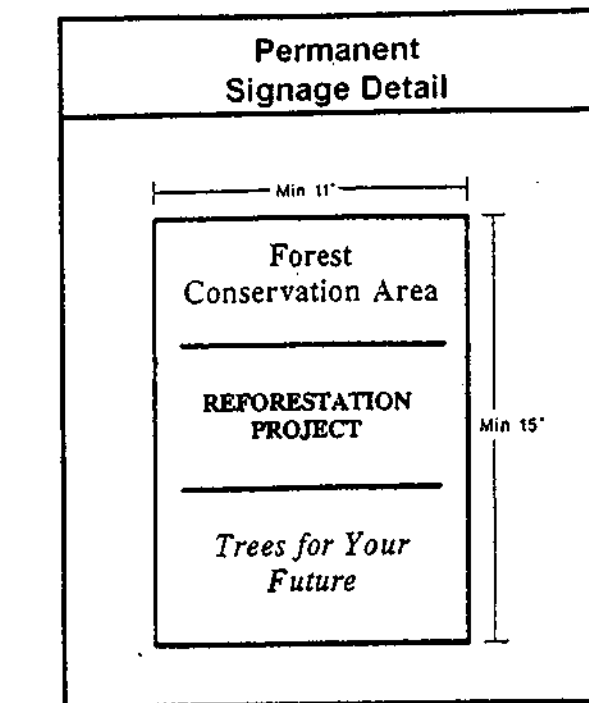
Item Parameter:	Preliminary FCP	Revised Per Section 4	Revised Per Section 5	Revised Per Section 6	Revised Per Section 10
Tract Area	291.90	291.90	291.90	291.90	291.90
100-Year Floodplain Area	4.10	4.68	4.81	4.81	4.81
Other ROW/Easements to be Excluded from Net Tract Area	2.04	2.04	2.09	2.09	2.09
Disturbance within Floodplain to be added to Net Tract Area	0.00	2.32	2.32	2.32	2.32
Existing Forest Area within Net Tract Area	103.00	103.00	103.00	103.00	103.00
Afforestation Threshold Percentage	0.15	0.15	0.15	0.15	0.15
Conservation Threshold Percentage	0.20	0.20	0.20	0.20	0.20
Total Area of Forest to be Cleared	65.55	66.83	68.23	69.17	69.17
Calculated Parameters:					
Net Tract Area	285.76	287.50	287.32	287.32	287.32
Afforestation Threshold	42.86	43.13	43.10	43.10	43.10
Conservation Threshold	57.15	57.59	57.46	57.46	57.46
Area of Forest Above Afforestation Threshold	60.14	59.88	59.90	59.90	59.90
Area of Forest Above Conservation Threshold	45.85	45.50	45.54	45.54	45.54
Break Even Point	66.32	66.60	66.57	66.57	66.57
Clearing Permitted with no Mitigation	36.68	36.40	36.43	36.43	36.43
Total Area of Forest to be Retained	37.45	36.17	34.77	33.83	33.83
Reforestation for Clearing Above Conservation Threshold	11.46	11.38	11.38	11.38	11.38
Reforestation for Clearing Below the Conservation Threshold	39.40	42.66	45.39	47.27	47.27
Credit for Retention Above the Conservation Threshold	0.00	0.00	0.00	0.00	0.00
Total Reforestation Required	50.87	54.04	56.77	58.65	58.65
Total Afforestation Required	0.00	0.00	0.00	0.00	0.00
TOTAL Afforestation/Reforestation Required	50.87	54.04	56.77	58.65	58.65

SECTION 10 FOREST CONSERVATION CALCULATIONS

Forest Preservation in Section 10 Development	0
Forest Clearing in Section 10 Development	0.73
Total Forest Clearing within Residentially Zoned Areas of Waverly Woods	69.17
Percentage of Forest Clearing Within Section 10 Development	1.06%
Total Reforestation Required for Waverly Woods Residential Development	58.65
Reforestation for Section 10 Development	0.62

Calculation Notes

- The columns presented in the "Forest Conservation Worksheet" contain the forest conservation calculations for all proposed development on residentially zoned property at Waverly Woods. The "Preliminary FCP" column contains the residential development forest conservation worksheet numbers from the Preliminary Forest Conservation Plan dated August 9, 1993 and revised on February 26, 1996. The subsequent columns contain "clearing" and "net tract area" changes resulting from differences between the Preliminary and Final residential development plans. Approximately 12 residential development sections are anticipated.
- Section 10 accounts for 1.06% or 0.62 acres of the 58.65 acres of reforestation currently required for residential development on the Waverly Woods property. A total of 0.70 acre of reforestation will be performed within Section 10 and an additional 0.83 acre of reforestation will be performed to satisfy the reforestation requirement for Section 10. The balance of reforestation, 0.91 acre, will be applied to subsequent residential phases. Including this plan, a total of 8.86 acres of on-site reforestation and 8.11 acres of off-site reforestation (see January 1996 Final FCP for Waverly Woods Section 4, Areas 1 and 2) has been planned to date for the Waverly Woods residentially zoned property. A balance of 41.68 acres of reforestation remains to be performed in subsequent phases.
- The forest conservation calculations on these plans do not include the Waverly Woods Golf Course easement areas except where clearing is performed for residential development (e.g., storm water management facilities). A separate Forest Conservation Plan will be prepared for the golf course and a column will be added to the Waverly Woods Residential Forest Conservation Worksheet at a later date to account for those golf course areas lying within residentially zoned portions of the site.



PLAN PREPARED BY:
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ELICOTT CITY, MARYLAND 21030
410 681-2855

REVISIONS	DATE
CHANGE TITLE BLOCKS TO " LOTS 1-19, 21-33 & 35-58"	5-16-00

Kevin Kelly
DNR APPROVED/QUALIFIED PROFESSIONAL
FOR FSD's AND FCP's
9-27-99 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Robert M. Jank 11-28-99 DATE
CHIEF, BUREAU OF HIGHWAYS #3

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamstra 12/1/99 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

William D. Williams 11/29/99 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

FOREST CONSERVATION PLAN
DETAIL SHEET
GTW'S WAVERLY WOODS
SECTION 10
LOTS 1-19, 21-33 & 35-58
Howard County, Maryland
No Scale September 1999
SHEET # OF 11