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# FINAL ROAD CONSTRUCTION, GRADING AND STORM WATER MANAGEMENT PLANS FOR G.T.W.'S WAVERLY WOODS

## SECTION 5

### LOTS 1 THRU 175 AND PARCEL 'A' (PHASE 1998 AND PART OF PHASE 1996 - CONTAINING LOTS 12 THRU 19 AND PARCEL 'B', G.T.W.'S WAVERLY WOODS - SECTION 4, AREA 1) ZONING R-20, RSC, R-SA-8 AND R-A-15 TAX MAP NO. 16 PART OF PARCEL NO. 21 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

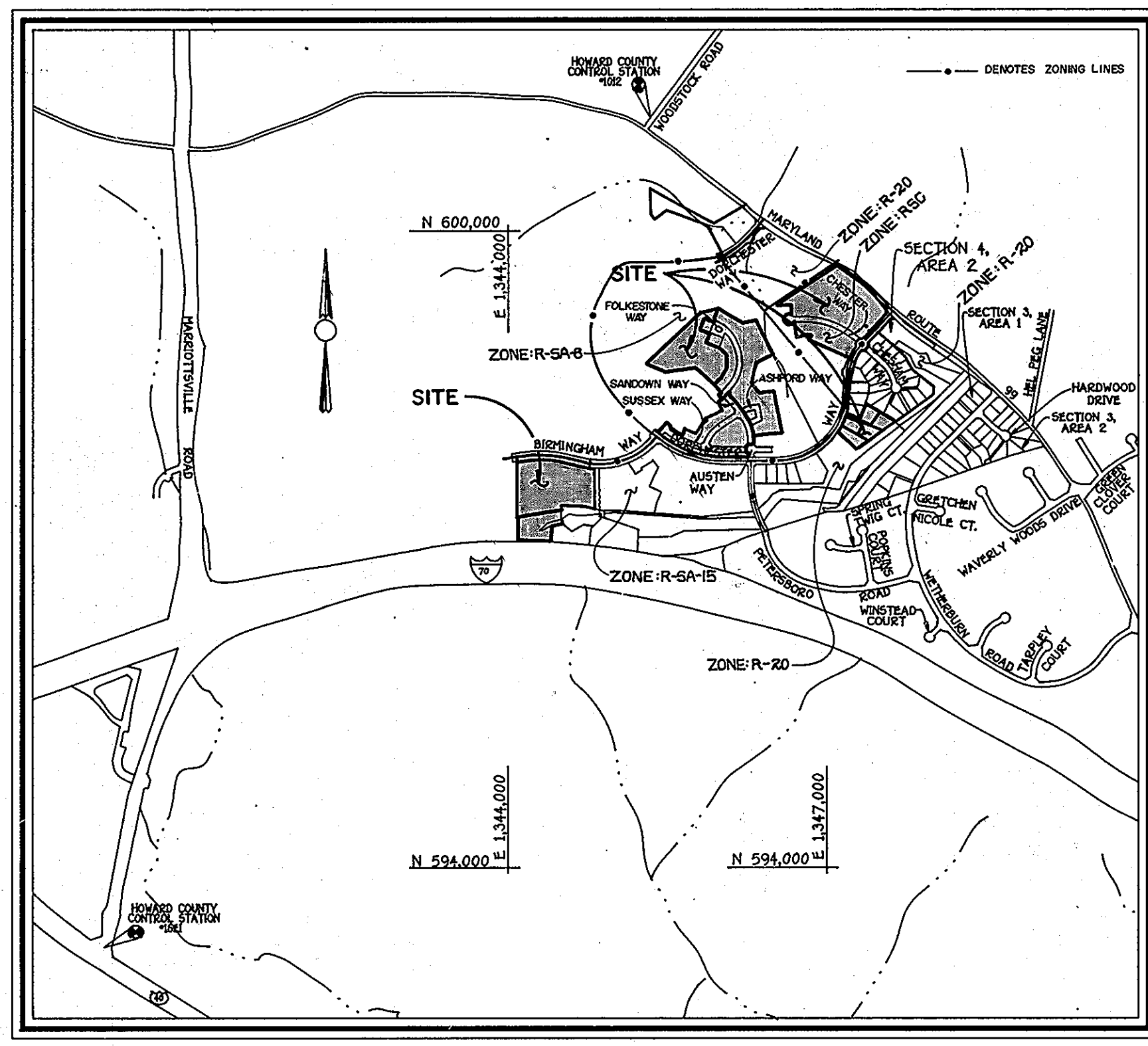
APPROVED DEPARTMENT OF PUBLIC WORKS  
*Richard M. Spitzer* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED DEPARTMENT OF PLANNING AND ZONING  
*Richard Blawie* 1/7/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED DEVELOPMENT ENGINEERING DIVISION  
 DATE 12/1/96

TRAFFIC CONTROL SIGNS				
STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
CHESTER WAY	0+46	16'L	STOP	RI-1
CHESTER WAY	1+03	16'R	SPEED LIMIT 30	R2-1
SANDOWN WAY	29+93	14'R	STOP	RI-1
SANDOWN WAY	24+55	14'R	SPEED LIMIT 30	R2-1
SANDOWN WAY	28+40	16'L	SPEED LIMIT 30	R2-1
FOLKESTONE WAY	0+68	14'R	SPEED LIMIT 30	R2-1
FOLKESTONE WAY	12+94	14'L	SPEED LIMIT 30	R2-1
FOLKESTONE WAY	0+43	14'L	STOP	RI-1
SUSSEX WAY	0+27	14'R	STOP	RI-1
SUSSEX WAY	0+00	14'L	SPEED LIMIT 30	R2-1
ABINGDON WAY	0+35	15'R	SPEED LIMIT 30	R2-1
ABINGDON WAY	4+47	14'R	STOP	RI-1
ABINGDON WAY	4+00	14'L	SPEED LIMIT 30	R2-1
ABINGDON WAY	0+35	15'L	STOP	RI-1
ASHFORD WAY	3+73	16'R	STOP	RI-1
ASHFORD WAY	0+37	16'L	STOP	RI-1

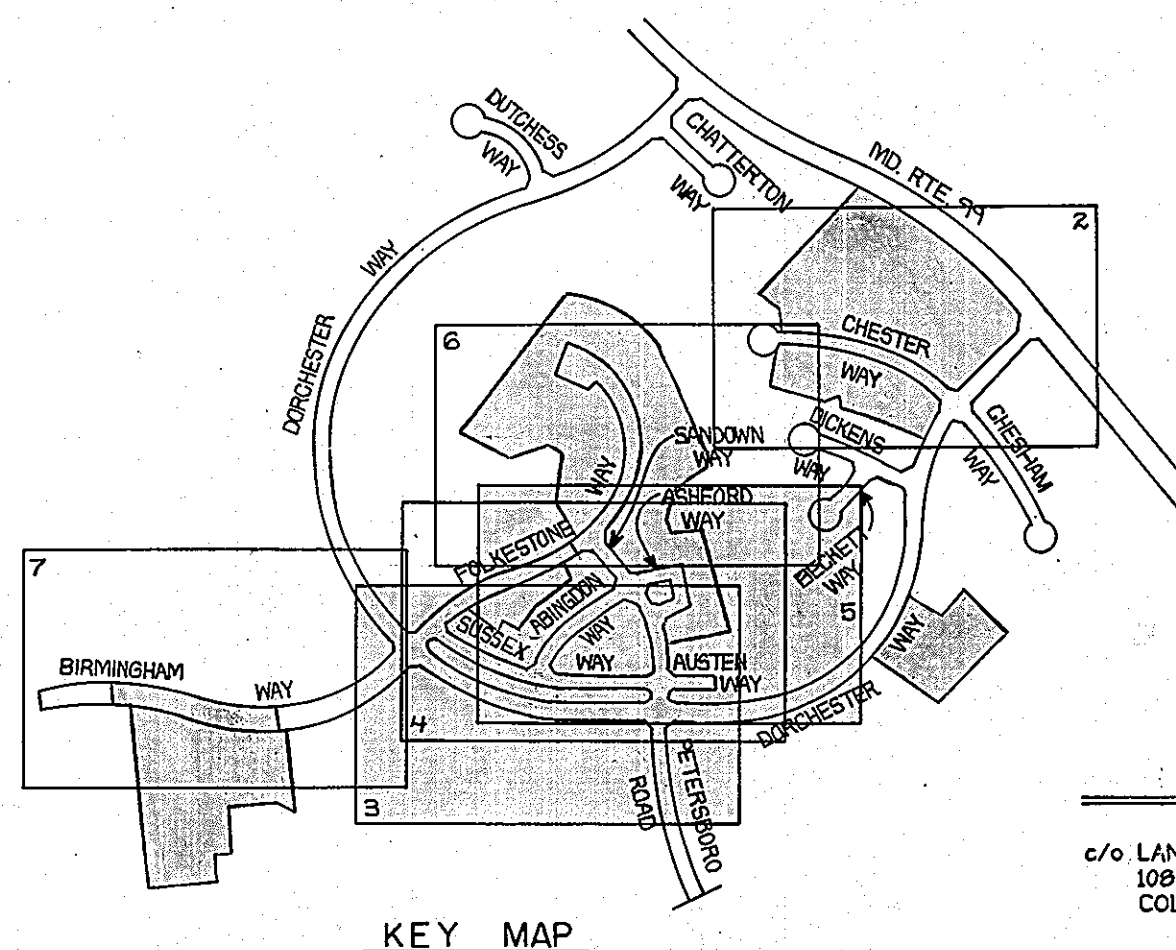
STREET LIGHT CHART		
STREET NAME	STATION OFF-SET	FIXTURE/POLE TYPE
CHESTER WAY	3+85 16'R	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
CHESTER WAY	7+06 18'L	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE
BIRMINGHAM WAY	8+15 26'L	150-WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED ON A 25-FOOT GALVANIZED STEEL POLE
BIRMINGHAM WAY	11+95 26'R	150-WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED ON A 25-FOOT GALVANIZED STEEL POLE
SANDOWN WAY	26+30 16'R	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
SUSSEX WAY	4+44 16'L	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
SUSSEX WAY	9+32 16'R	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
ABINGDON WAY	2+05 23'R	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
ASHFORD WAY	2+10 18'L	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
ASHFORD WAY	3+76 19'R	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
FOLKESTONE WAY	11+40 15'R	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
FOLKESTONE WAY	14+72 20'L	100-WATT "TRADITIONAIRE" HPS VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
FOLKESTONE WAY	7+50 17'L	150-WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED ON A 25-FOOT GALVANIZED STEEL POLE



- GENERAL NOTES**
- UNLESS OTHERWISE NOTED, ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE FOLLOWING:
    - HOWARD COUNTY STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION VOLUME IV.
    - MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AS AMENDED.
    - SOIL CONSERVATION SERVICE 1983 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL/EROSION AND SEDIMENT CONTROL.
    - SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARDS AND SPECIFICATION FOR POND CONSTRUCTION (CODE 378)
    - EXISTING UTILITIES ARE BASED ON FIELD RUN TOPOGRAPHY.
  - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1800 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
  - THE CONTRACTOR SHALL NOTIFY "MIS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
  - TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS FLOWN ON 2/12/89 BY PHOTO SCIENCE ON A 2' CONTOUR INTERVAL.
  - STORMWATER MANAGEMENT FOR THIS DEVELOPMENT WILL BE BY THE RETENTION METHOD FOR POND 1. POND 6 WILL BE DEVELOPED UTILIZING THE EXTENDED DETENTION METHOD. THE S.W.M. REPORT IS PROVIDED BY MILDENBURG, BOENDER AND ASSOC., INC. (PONDS WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.)
  - THIS HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD83 MAINTAINED BY THE HOMEOWNERS ASSOCIATION:
 

HOWARD COUNTY MONUMENT 1012	N 601060177	ELEV. = 445.577
HOWARD COUNTY MONUMENT 16E1	N 1345336.7580	E 1340192.710
	N 592550.9322	ELEV. = 509.924
	E 1340192.710	
  - NOISE STUDY WAS PROVIDED BY Wildman Environmental Services, Inc. AND APPROVED ON NOV. 1, 1994.
  - FOREST DELINEATION WAS PROVIDED BY ENVIRONMENTAL SYSTEMS ANALYSIS, INC. AND APPROVED ON 11-30-93.
  - THE 100 YR. FLOODPLAIN AS SHOWN ON THESE PLANS ARE BASED ON THE ENCLOSED FLOODPLAIN STUDY THAT WAS PROVIDED BY Mildenburg Associates, Inc. STUDY WAS APPROVED AT PRELIMINARY STAGE ON 3-3-95.
  - THE WETLANDS STUDY WAS PREPARED BY Exploration Research, Inc. AND WAS COMPILED ON 9/5/91.
  - THE TRAFFIC STUDY WAS PROVIDED BY The Traffic Group AND APPROVED ON 7-14-94.
  - THE SOILS INVESTIGATION REPORT WAS PREPARED BY LITE, Inc. ON JUNE 28, 1994.
  - THIS PLAN IS SUBJECT TO WAIVER PETITION # WP-95-23 FROM SECTION 16.16(a) & SECTION 16.16(a)2 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH RESTRICTS GRADING AND REMOVAL OF VEGETATIVE COVER FROM WETLANDS AND STREAM BUFFER AND FROM SECTION 16.16(a), WHICH RESTRICTS GRADING OF STEEP SLOPES OF 25% OR GREATER AND SECTION 16.16(a), WHICH RESTRICTS DEVELOPMENT WITHIN THE 100 YEAR FLOODPLAIN.
  - THE SKETCH PLAN 5 94-07 WAS APPROVED ON 11/30/93. THE PRELIMINARY PLAN P 95-07 WAS APPROVED ON 3/3/95.
  - THE WAIVER PETITION WAS APPROVED ON 1/23/95 FOR WP-95-23. (LOTS AFFECTED ARE 79 & 80)
  - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
  - STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE, 1993)".
  - A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
  - PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS DEVELOPMENT. CONTRACT NO. 24-3469-D DRAINAGE AREA IS THE LITTLE PATRIENT.
  - EXISTING UTILITIES ARE BASED ON CONTRACT NO. 24-1962-D AND HOWARD COUNTY AS-BUILTS FOR THE REFERENCED CONTRACT.
  - PERMITS APPLICABLE FOR THIS SUBDIVISION ARE AS FOLLOWS:  
 WETLAND PERMIT AUTHORIZATION NO. - CENAG-00-RFG.T.W. PROPERTY 91-0921-5 (AREA AFFECTED LOTS 79 & 80 OR FOLKESTONE WAY)  
 NDE WATER QUALITY CERTIFICATION NO. - 91-04-0488 AND NDE WATER MANAGEMENT ADMINISTRATION LETTER OF RECEIPT TRACKING NO.'S - 199100921 AND 199191509 (91-WC-0812).
  - TOTAL AREA OF SUBMISSION = 46.870 Ac.  
 A. TOTAL AREA ZONED R-20 = 2.613 Ac.  
 B. TOTAL AREA ZONED R-SA-8 = 22.400 Ac.  
 C. TOTAL AREA ZONED R-A-15 = 10.444 Ac.  
 D. TOTAL AREA ZONED RSC = 11.374 Ac.  
 E. TOTAL AREA ZONED REC = 0.039 Ac.
  - TABULATION: (TOTAL AREA OF SUBDIVISION = 46.870 Ac.)  
 A. TOTAL NUMBER OF BUILDABLE LOTS = 155  
 B. TOTAL NUMBER OF BUILDABLE PARCELS = 1  
 C. TOTAL NUMBER OF HOMEOWNER'S ASSOCIATION LOTS = 12  
 D. TOTAL NUMBER OF GOLF COURSE NON-BUILDABLE LOTS = 2  
 E. TOTAL AREA OF BUILDABLE LOTS = 14.019 Ac.  
 F. TOTAL AREA OF HOMEOWNER'S ASSOCIATION LOTS = 16.728 Ac.  
 G. TOTAL AREA OF GOLF COURSE NON-BUILDABLE LOTS 2.326 Ac.  
 H. TOTAL AREA OF BUILDABLE PARCELS = 7.674 Ac.  
 I. TOTAL AREA OF ROADWAY = 6.123 Ac.

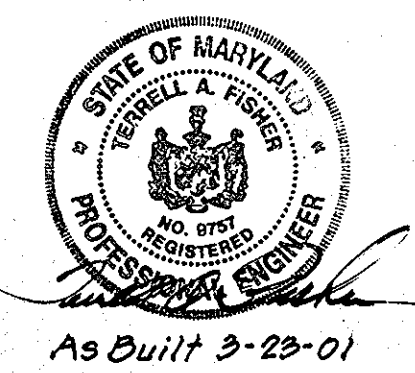
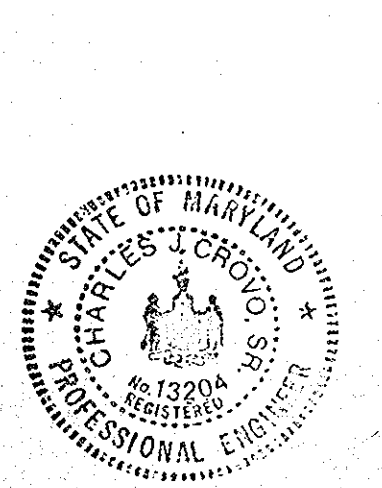
MINIMUM LOT SIZE CHART				
LOT NO.	GROSS AREA	PIPESTEM AREA	REMAINING AREA	MINIMUM LOT SIZE
162	22,382 SQ. FT.	1,037 SQ. FT.	21,345 SQ. FT.	20,568 SQ. FT.
163	22,566 SQ. FT.	1,998 SQ. FT.	20,568 SQ. FT.	20,568 SQ. FT.
164	22,028 SQ. FT.	1,410 SQ. FT.	20,618 SQ. FT.	20,618 SQ. FT.



**OWNER**  
 GTW JOINT VENTURE  
 c/o LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

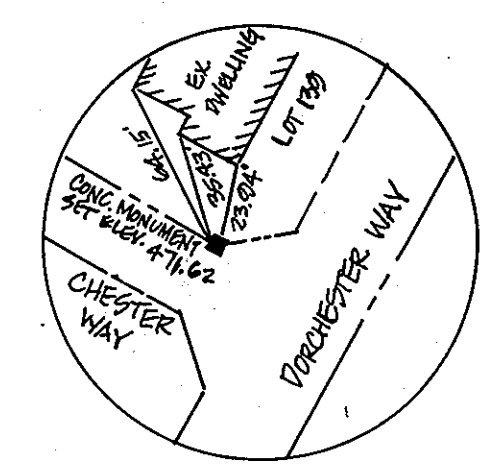
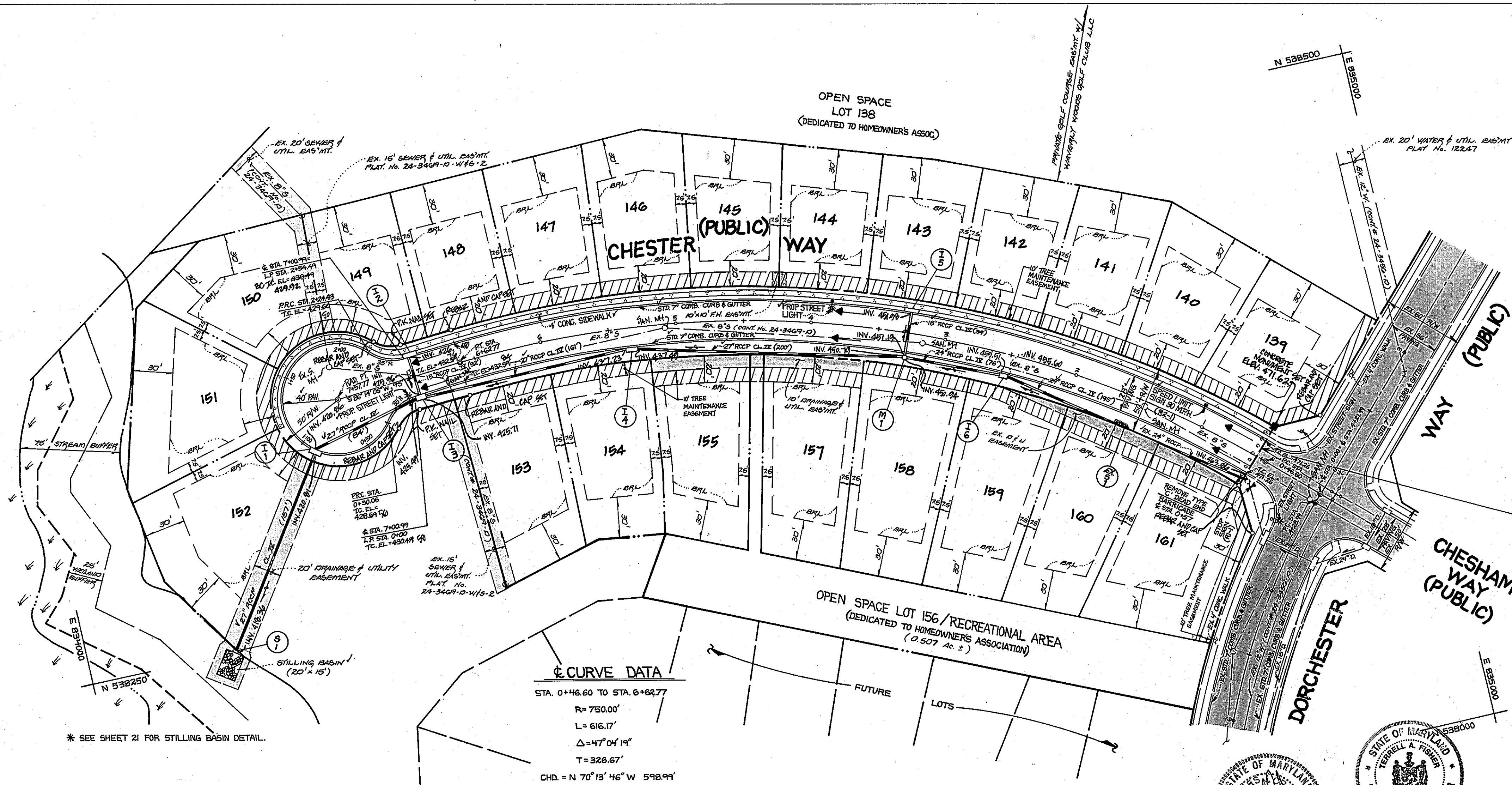
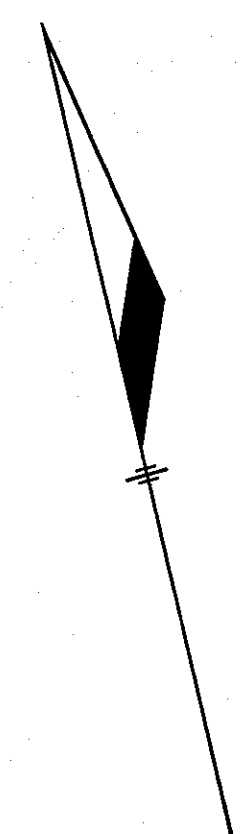
**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORPORATION  
 c/o LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

*Charles J. Grovo, Sr.*  
 CHARLES J. GROVO, SR.  
 DATE



As Built 3-23-01

**G.T.W.'S WAVERLY WOODS**  
 SECTION 5  
 LOTS 1 THRU 175 AND PARCEL 'A'  
 (PHASE 1998 AND PART OF PHASE 1996 -  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 G.T.W.'S WAVERLY WOODS - SECTION 4, AREA 1)  
 ZONING R-20 AND RSC, R-SA-8 AND R-A-15  
 TAX MAP NO. 16, PART OF PARCEL NO. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1998  
 SHEET 1 OF 30



NOTE: EXISTING END-SECTION S-1 RIP-RAP TO BE REMOVED. PROP. 24" RCCP TO BE CONNECTED FROM EXISTING MANHOLE.

BEGIN SUBMISSION @ STA. 0+55  
PROP. CURB & GUTTER & SIDEWALK TO BE EXTENDED TO MATCH EXISTING FOR LINE AND GRADE.

**CURVE DATA**  
STA. 0+46.60 TO STA. 6+82.77  
R = 750.00'  
L = 616.17'  
 $\Delta = 47^{\circ} 04' 19''$   
T = 328.67'  
CHD. = N 70° 13' 46" W 598.99'

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Richard Blood* 1/7/97  
CHIEF, DIVISION OF LAND DEVELOPMENT  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 1/4/96  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daniels* 12-26-96  
CHIEF, BUREAU OF HIGHWAYS

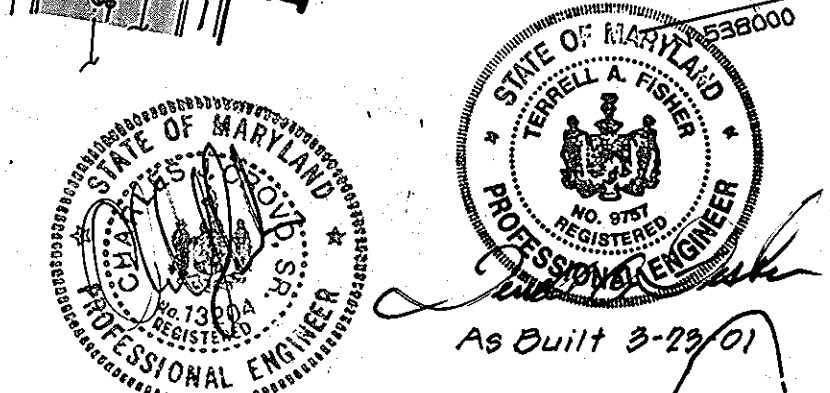
**LOTS 1-175 AND PARCEL A  
GTW'S WAVERLY WOODS**  
SECTION 5  
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**CHESTER WAY  
PLAN AND PROFILE**

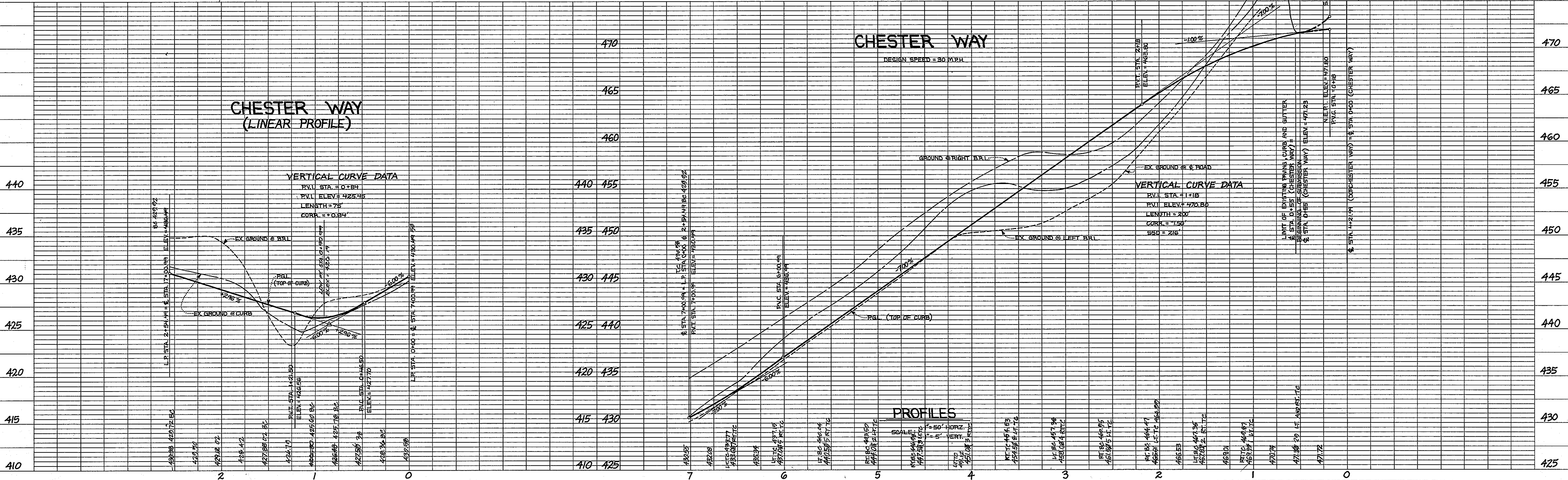
OWNER: GTW JOINT VENTURE  
DEVELOPER: WAVERLY WOODS DEVELOPMENT CORP

SCALE: AS SHOWN DATE: MAY 20, 1998 DWG. NO. 2 OF 30  
DES. B.W. KEATON DRN. LEE MCGULLOUGH CHK. C.J. CROWD

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2255



**CHESTER WAY  
(LINEAR PROFILE)**



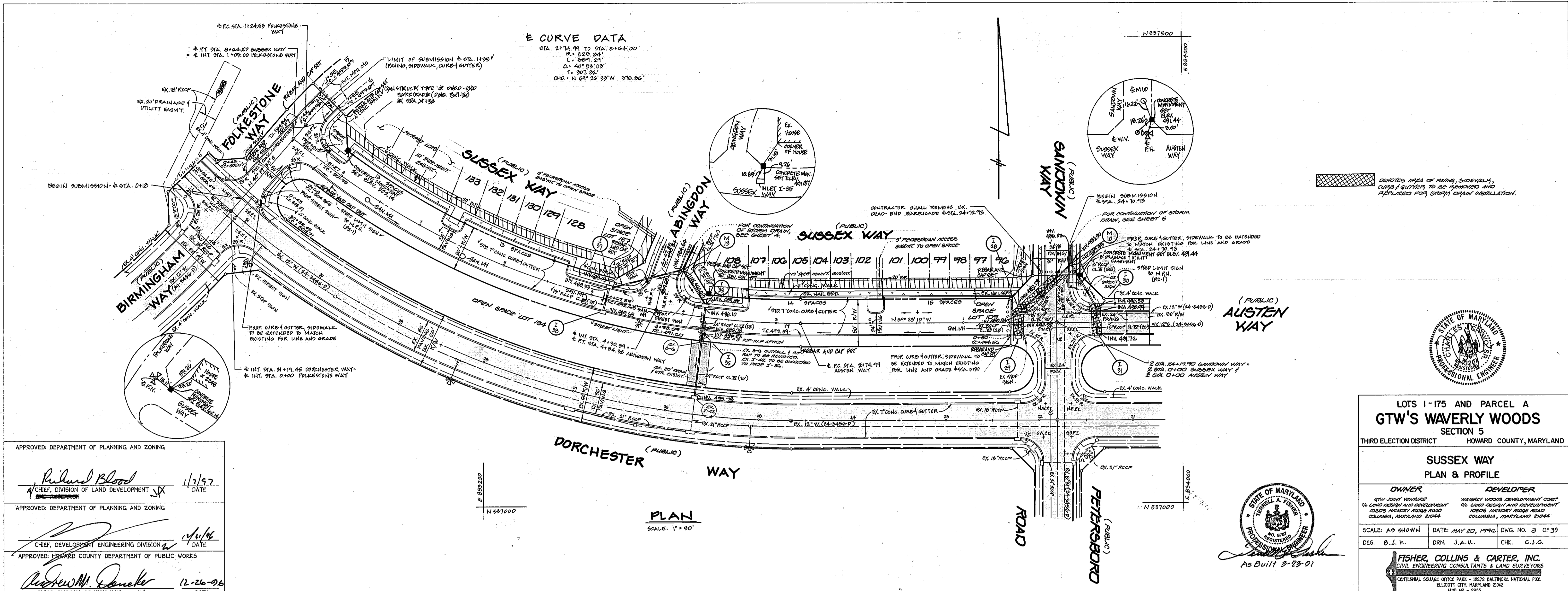
**VERTICAL CURVE DATA**  
PVI STA. = 0+88  
PVI ELEV. = 425.55  
LENGTH = 75'  
CORR. = +0.24'

**VERTICAL CURVE DATA**  
PVI STA. = 1+18  
PVI ELEV. = 420.80  
LENGTH = 200'  
CORR. = +1.50'  
SSD = 216'

**PROFILES**

SCALE: 1" = 50' HORIZ.  
1" = 1' VERT.  
VERT. CURVE DATA

1253



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Richard Blood* 1/3/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 1/3/97  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Richard M. Donohue* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS

LOTS 1-175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

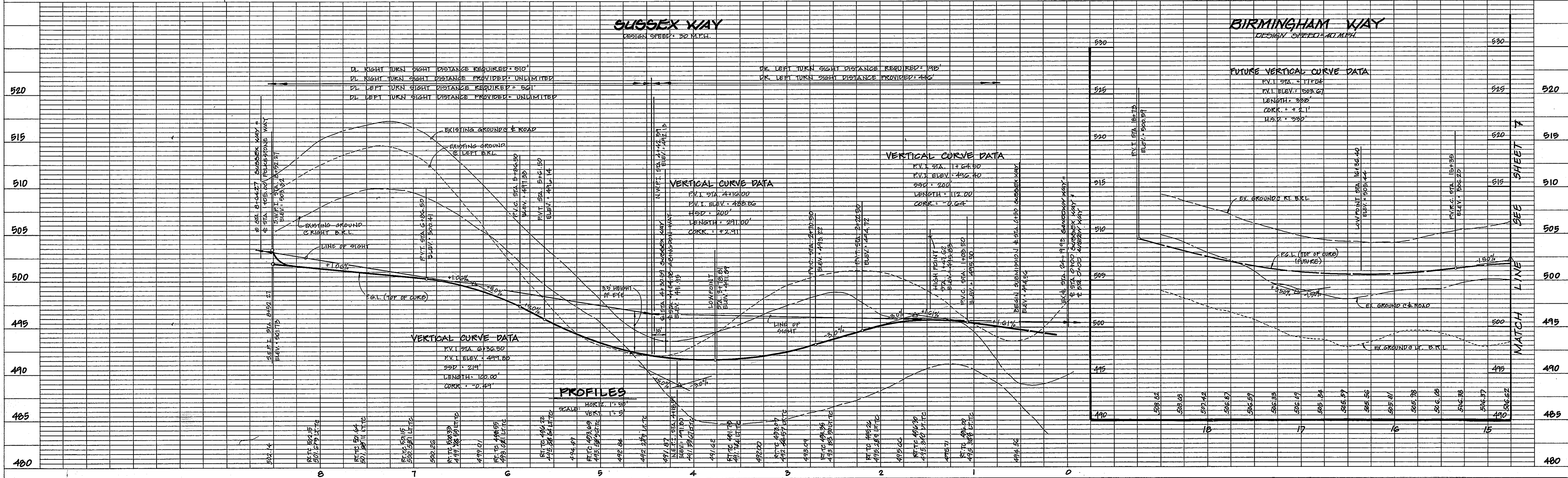
**SUSSEX WAY**  
 PLAN & PROFILE

**OWNER** GW JOINT VENTURE  
 94 LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER** WAVERLY WOODS DEVELOPMENT CO., INC.  
 94 LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

SCALE: AS SHOWN DATE: MAY 22, 1996 DWG. NO. 3 OF 30  
 DES. B.J.K. DRN. J.A.U. CHK. C.J.C.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FIRE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2855



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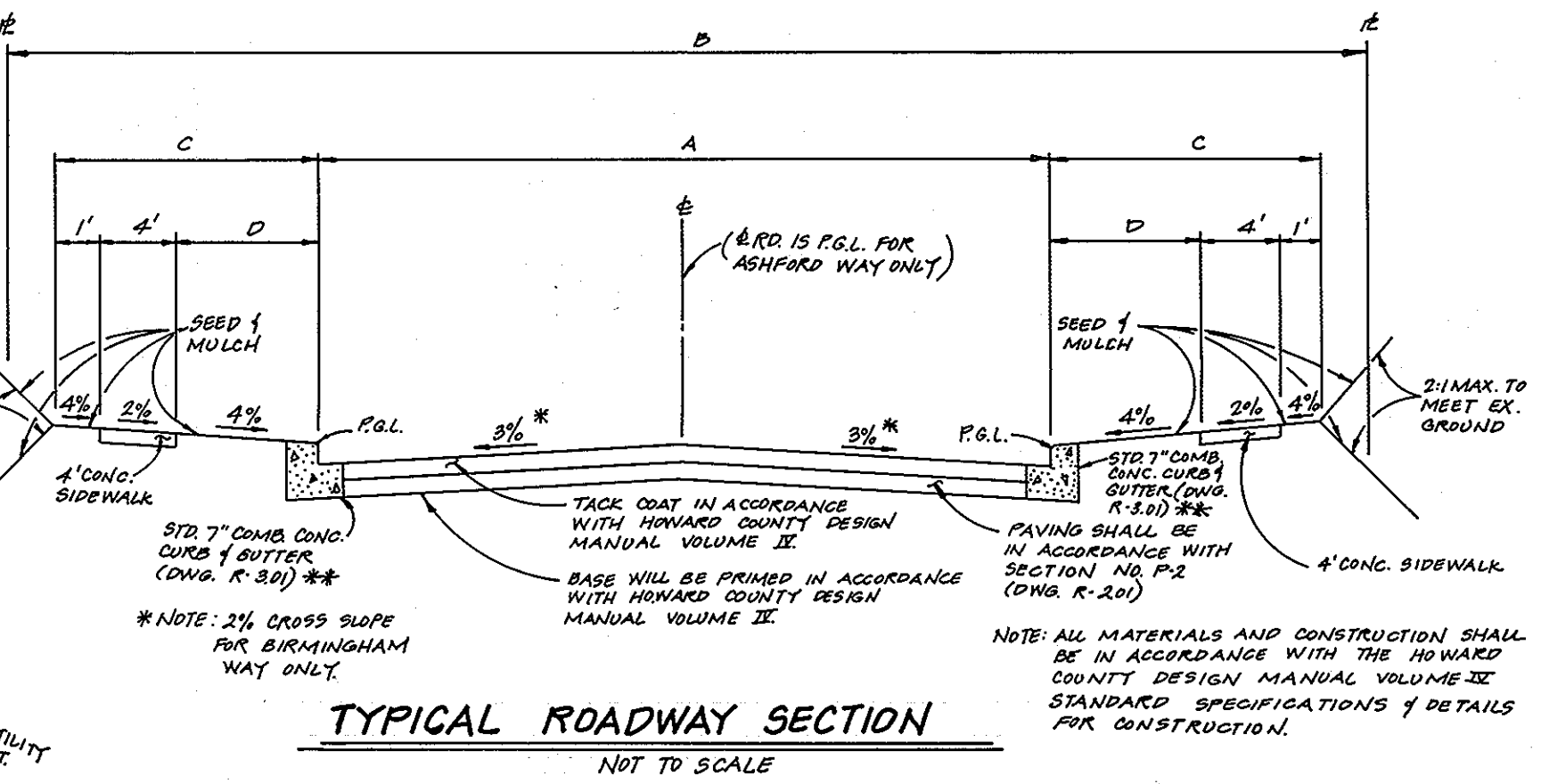
**± CURVE DATA**  
 STA. 7+11.84 TO STA. 7+95.19  
 R = 340.00'  
 L = 83.35'  
 Δ = 14° 08' 15"  
 T = 42.01'  
 CHD = N 40° 12' 04" E 83.35'

**± CURVE DATA**  
 STA. 8+77.10 TO STA. 12+42.10  
 R = 337.50'  
 L = 309.00'  
 Δ = 0° 51' 51"  
 T = 202.65'  
 CHD = N 08° 10' 30" E 341.41'

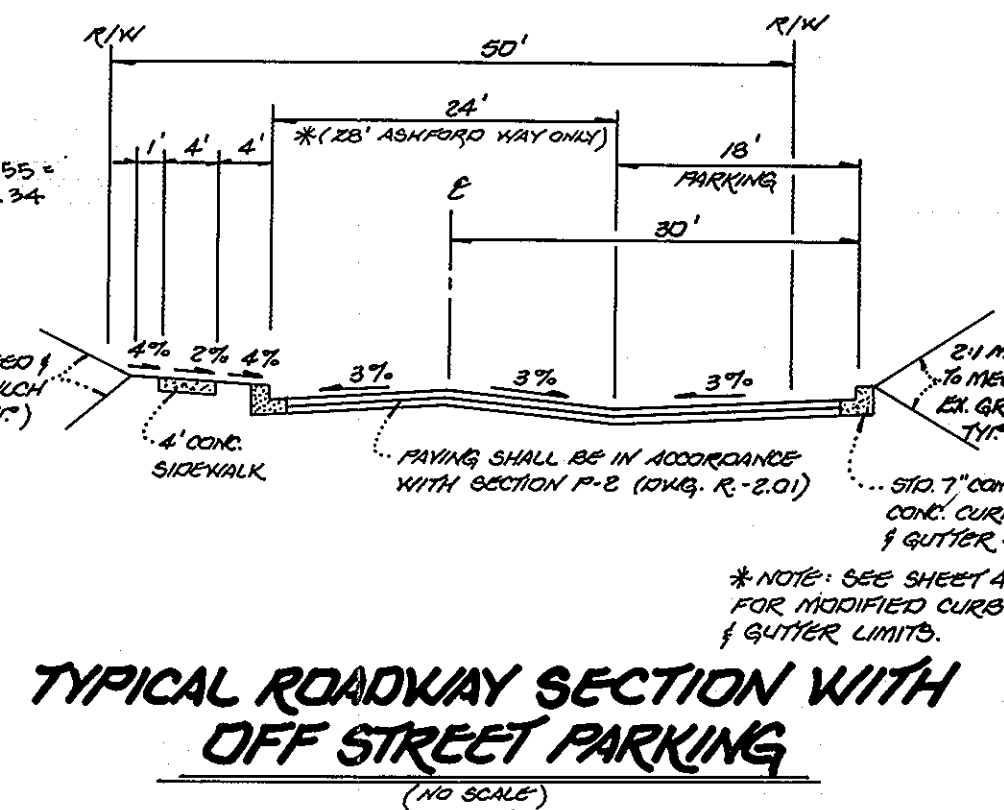
**± CURVE DATA**  
 STA. 16+87.04 TO STA. 17+29.06  
 R = 34.00'  
 L = 141.17'  
 Δ = 6° 22' 41"  
 T = 23.93'  
 CHD = N 77° 30' 14" E 38.70'

**± CURVE DATA**  
 STA. 12+89.10 TO STA. 15+50.67  
 R = 337.50'  
 L = 261.91'  
 Δ = 44° 24' 20"  
 T = 191.75'  
 CHD = N 49° 00' 39" W 259.07'

(\*\*) NOTE: SEE SHEET 4 FOR MODIFIED CURVES & GUTTER LIMITS.



ROAD NAME	± STA. LIMITS	A'	B'	C'	D'	DESIGN SPEED
CHESTER WAY	0+56 to 7+57.77	28'	50'	9'	4'	30 M.P.H.
BIRMINGHAM WAY	7+09 to 14+50	44'	80'	14'	9'	40 M.P.H.
SANDOWN WAY	24+70.93 to 30+32.45	24'	50'	9'	4'	30 M.P.H.
FOLKESTONE WAY	0+00 to 1+55	24'	50'	9'	4'	30 M.P.H.
FOLKESTONE WAY	7+11.84 to 14+43.55	24'	50'	9'	4'	30 M.P.H.



ROAD NAME	± STA. LIMITS	DESIGN SPEED
ABINGDON WAY	0+00 to 4+54.38	30 M.P.H.
SUSSEX WAY	0+00 to 8+64	30 M.P.H.
ASHFORD WAY	0+00 to 4+10.20	30 M.P.H.



LOTS 1-175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**FOLKESTONE WAY**  
 PLAN AND PROFILE

OWNER: GW JOINT VENTURE  
 DEVELOPER: WAVERLY WOODS DEVELOPMENT CORP.

SCALE: AS SHOWN DATE: MAY 20, 1993 DWG. NO. G OF 30  
 DES. B.J.E. DRN. J.A.U. CHK. C.J.C.

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

**Revisions**

No.	Date	Revisions
1	10-28-88	Eliminated M17, added I-17A

APPROVED: DEPARTMENT OF PLANNING AND ZONING

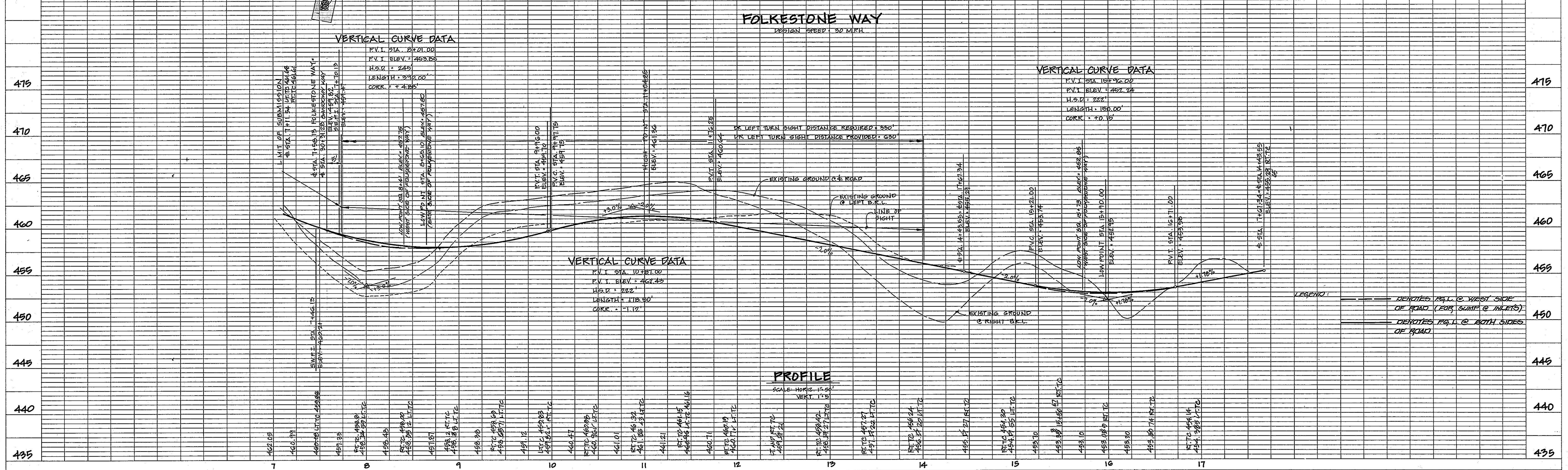
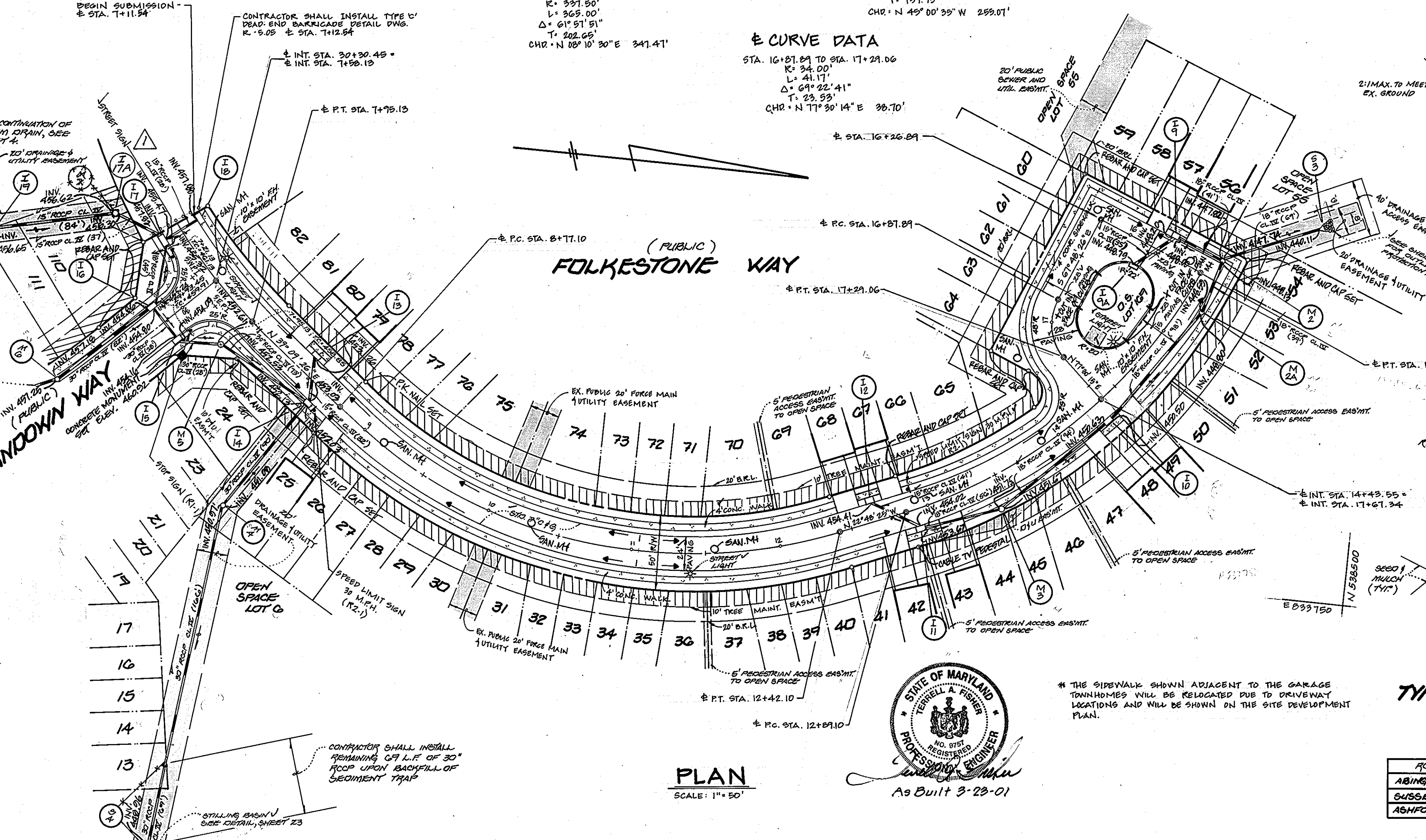
*Richard Blood* 1/7/92  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Richard Blood* 12/1/92  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

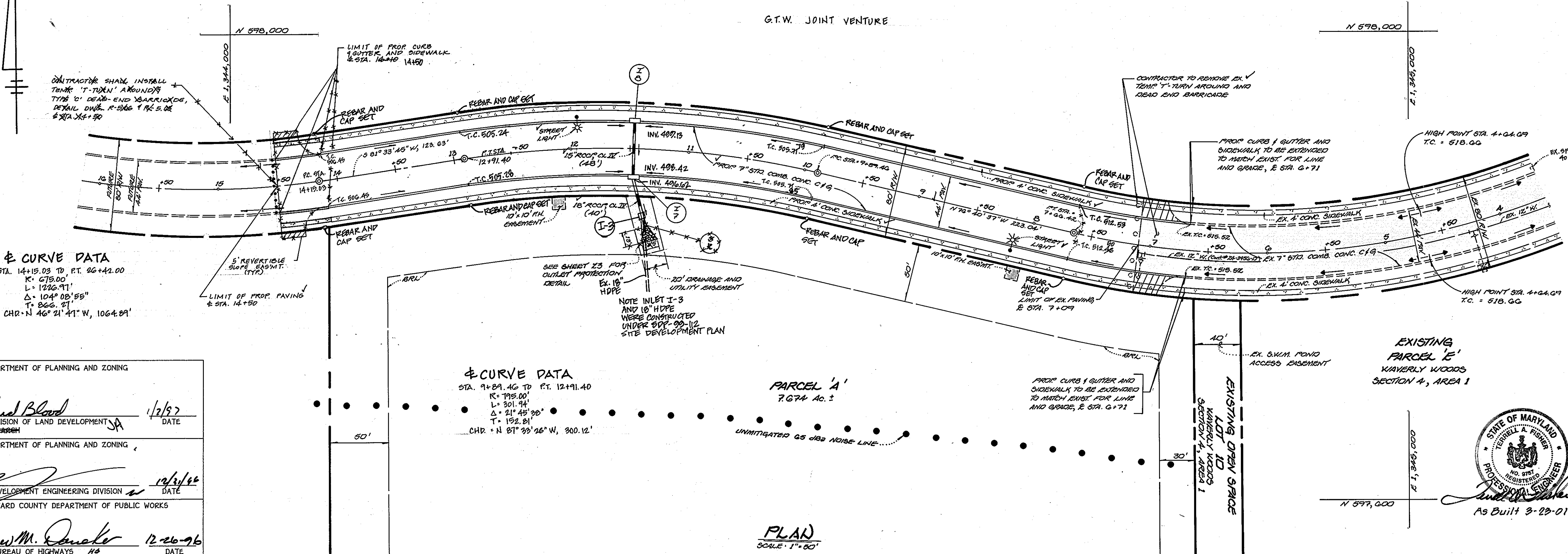
*Andrew M. Daneker* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS



1253

# BIRMINGHAM WAY

G.T.W. JOINT VENTURE



**Φ CURVE DATA**  
 STA. 14+15.03 TO PT. 26+42.00  
 K = 678.00'  
 L = 1726.91'  
 Δ = 104° 05' 55"  
 T = 866.21'  
 CHR. N 46° 21' 41" W, 1064.89'

**Φ CURVE DATA**  
 STA. 9+84.46 TO PT. 12+91.40  
 K = 195.00'  
 L = 301.94'  
 Δ = 21° 45' 30"  
 T = 152.81'  
 CHR. N 81° 39' 26" W, 300.12'

**EX. & CURVE DATA**  
 BIRMINGHAM WAY  
 E STA. 0+34.35 to E STA. 7+09.00  
 K = 678.00'  
 L = 1726.91'  
 Δ = 104° 05' 55"  
 T = 866.21'  
 CHR. S 69° 42' 59" W, 646.70'

**E CURVE DATA**  
 BIRMINGHAM WAY  
 E STA. 0+34.35 to E STA. 7+09.00  
 K = 678.00'  
 L = 1726.91'  
 Δ = 104° 05' 55"  
 T = 866.21'  
 CHR. S 69° 42' 59" W, 646.70'

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Richard Blood* 1/2/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 12/31/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Donohue* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS



LOTS 1-175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**BIRMINGHAM WAY**  
 PLAN & PROFILE

**OWNER** G.T.W. JOINT VENTURE  
 9% LAND DESIGN AND DEVELOPMENT  
 10805 MONKEY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER** WAVERLY WOODS DEVELOPMENT CORP.  
 9% LAND DESIGN AND DEVELOPMENT  
 10805 MONKEY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

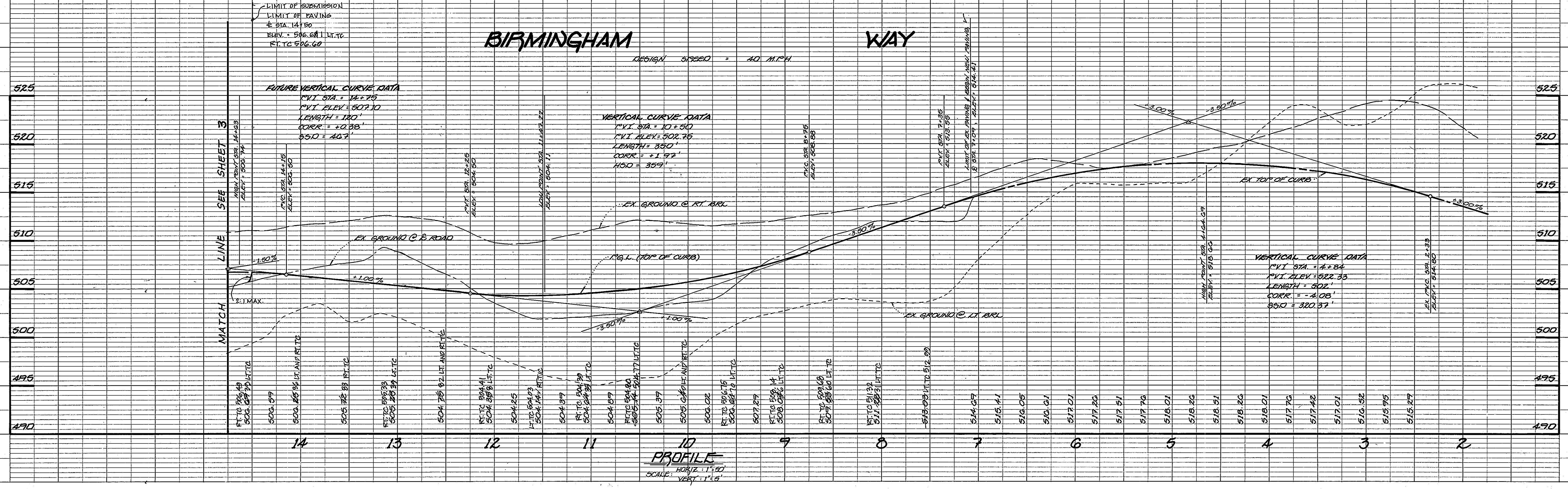
SCALE: AS SHOWN DATE: MAY 27, 1996 DWG. NO. 7 OF 30  
 DES. A.J.K. DRN. J.C.L. CHK. C.J.C.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 1000 BALTIMORE NATIONAL PIKE  
 BALTIMORE, MARYLAND 21286  
 410 582-2885

1253

# BIRMINGHAM WAY

DESIGN SPEED = 40 M.P.H.





**FUTURE VERTICAL CURVE DATA**  
 PVI STA = 14+75  
 PVI ELEV = 507.10  
 LENGTH = 130'  
 CORR = +0.38'  
 BSI = 40.7'

**VERTICAL CURVE DATA**  
 PVI STA = 10+50  
 PVI ELEV = 502.75  
 LENGTH = 350'  
 CORR = +1.97'  
 BSI = 359'

**VERTICAL CURVE DATA**  
 PVI STA = 4+84  
 PVI ELEV = 522.33  
 LENGTH = 502'  
 CORR = -2.08'  
 BSI = 320.37'

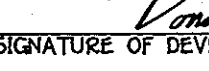
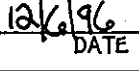
**ENGINEER'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

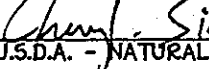
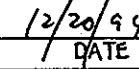

  
 SIGNATURE OF ENGINEER
 

  
 DATE

**DEVELOPER'S CERTIFICATE**


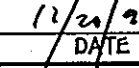
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING 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
 

  
 DATE


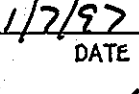
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.


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

  
 DATE


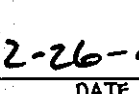
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.


  
 APPROVED: DISTRICT HOWARD SOIL CONSERVATION DIST.
 

  
 DATE


APPROVED: DEPARTMENT OF PLANNING AND ZONING


  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 

  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS



  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 

  
 DATE

**STREET TREE SCHEDULE**

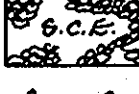






SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	ABUTILON HYPOCISTANUM 'BAUMANN' (BAUMANN HORSECHESNUT)	2 1/2" - 3" CALIPERS	40' APART ON PUBLIC 5/14

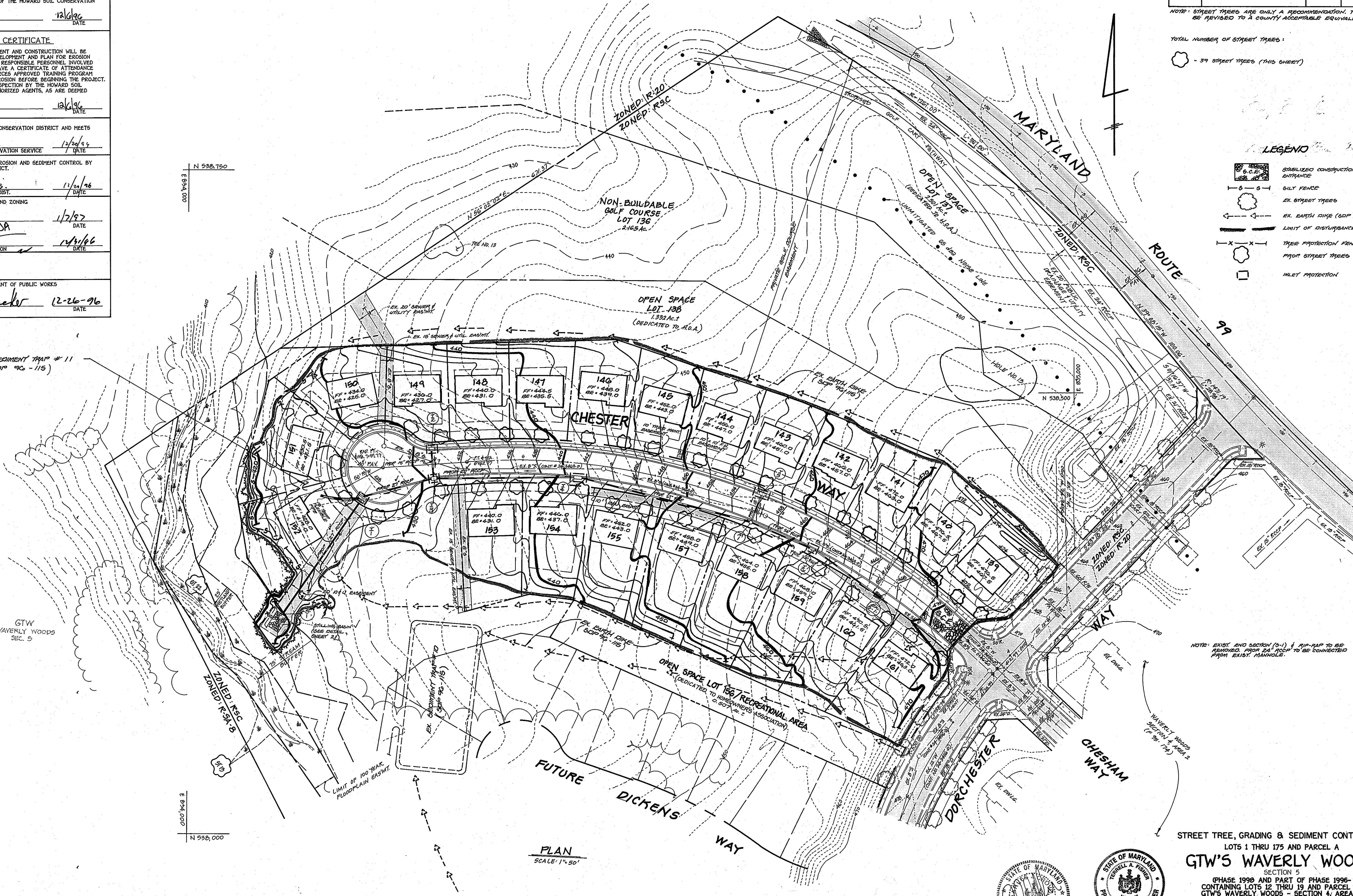
NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES:

 - 39 STREET TREES (THIS SHEET)

**LEGEND**

-  STABILIZED CONSTRUCTION ENTRANCE
-  SILT FENCE
-  EX. EARTH DIKE (SOP 70-115)
-  LIMIT OF DISTURBANCE
-  TREE PROTECTION FENCE
-  PROP STREET TREES
-  INLET PROTECTION



NOTE: EXIST. AND SECTION (3-1) & RIP-RAP TO BE REMOVED FROM 'A' ROAD TO BE CONNECTED FROM EXIST. MAINLINE.

PLAN  
SCALE: 1" = 50'

OWNER  
GTW JOINT VENTURE  
C/O LAND DESIGN AND DEVELOPMENT, INC.  
10805 HICKORY RIDGE ROAD, SUITE 215  
COLUMBIA, MARYLAND 21044

DEVELOPER  
WAVERLY WOODS DEVELOPMENT CORP.  
C/O LAND DESIGN AND DEVELOPMENT, INC.  
10805 HICKORY RIDGE ROAD, SUITE 215  
COLUMBIA, MARYLAND 21044



STREET TREE, GRADING & SEDIMENT CONTROL PLAN  
LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
SECTION 5  
PHASE 1998 AND PART OF PHASE 1996-  
CONTAINING LOTS 12 THRU 19 AND PARCEL 'B'  
GTW'S WAVERLY WOODS - SECTION 4, AREA 'J'  
ZONING R-20, R-3C, R-3A-B AND R-15  
TAX MAP No. 16 PART OF PARCEL No. 21  
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SHEET 8 OF 30  
SCALE: AS SHOWN DATE: MAY 20, 1996

1253



6521

N 537, 750  
E 684, 250  
N 537, 750  
E 684, 250



PLAN  
SCALE 1" = 30'

NOTE: DRAINAGE AREAS FOR LOTS 102 THRU 106 WERE COMPENSATED FOR AND APPROVED IN SECTION 4, AREA 1 (F 96-173.)

**DEVELOPER'S CERTIFICATE**  
I/VE 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 AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature of Developer: *[Signature]* Date: 6/6/96

**ENGINEER'S CERTIFICATE**  
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Engineer: *[Signature]* Date: 6/6/96

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS:  
*[Signature]* Date: 6/2/96  
 HOWARD COUNTY SOIL CONSERVATION SERVICE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* Date: 6/2/96  
 HOWARD COUNTY SOIL CONSERVATION DISTRICT

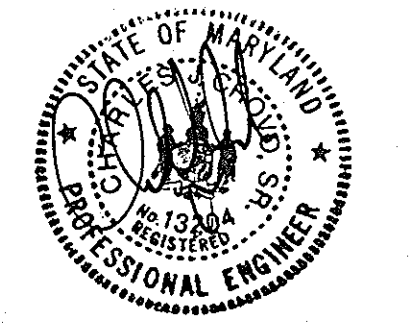
APPROVED DEPARTMENT OF PLANNING AND ZONING:  
*[Signature]* Date: 1/7/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING:  
*[Signature]* Date: 12/3/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*[Signature]* Date: 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS

**LEGEND**

- LIMIT OF DISTURBANCE
- - - SALT FENCE
- [Symbol] STABILIZED CONSTRUCTION ENTRANCE
- [Symbol] EXISTING STREET TYPES
- [Symbol] 15% - 24.99% SLOPES
- [Symbol] 25% OR GREATER SLOPES



**GRADING AND SEDIMENT CONTROL PLAN**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1)

ZONING: R-20, RSC, R-5A-B AND R-A-15  
 TAX MAP No. 15, PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 9 OF 30

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 30272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21114  
 (410) 481-2893

**OWNER**  
 GTW JOINT VENTURE  
 10805 HIGHWAY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 10805 HIGHWAY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**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 AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature: *[Signature]* DATE: 12/16/96

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *[Signature]* DATE: 12/16/96

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 Signature: *[Signature]* DATE: 12/16/96

USDA NATURAL RESOURCES CONSERVATION SERVICE  
 Signature: *[Signature]* DATE: 12/20/96

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: *[Signature]* DATE: 12/20/96

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Signature: *[Signature]* DATE: 11/27/97

FREED DIVISION OF LAND DEVELOPMENT SERVICE  
 Signature: *[Signature]* DATE: 12/14/96

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Signature: *[Signature]* DATE: 12/14/96

CHEF, DEVELOPMENT ENGINEERING DIVISION  
 Signature: *[Signature]* DATE: 12-26-96

CHIEF, BUREAU OF HIGHWAYS

No.	Date	Revisions
1	8-18-03	Eliminated M17, added I-17A, corrected recorded easement on plan.

**STREET TREE SCHEDULE**

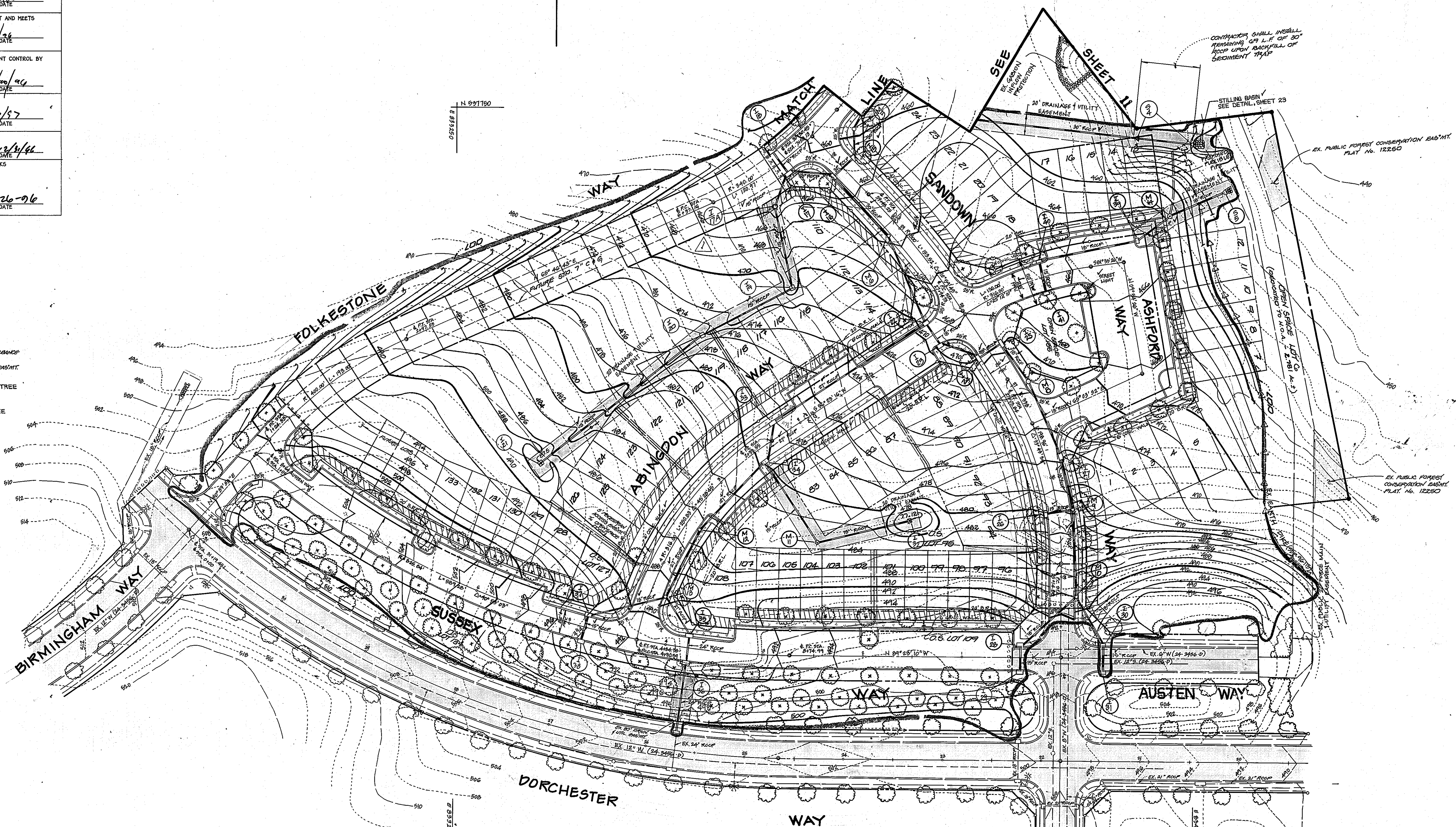
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
(X)	ZELKOVA OERRATA "VILLAGE GREEN" VILLAGE GREEN JAPANESE ZELKOVA	2 1/2" - 3" CALIFERN	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT PRIOR TO ROAD OBSTRUCTION. SPACING FOR STREET TREES WILL BE UNDER (# 90-179).

TOTAL NUMBER OF STREET TREES:  
 (X) - 132 STREET TREES (SHEET 10)

**LEGEND**

- EX. BARTH DIKE
- LIMIT OF DISTURBANCE
- 10' TREE-MANT EASMENT
- PROP. STREET TREE
- EX. STREET TREE



1253

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 CLUFTON, MARYLAND 21042  
 (410) 461-2825

**OWNER**  
 6714 JOHN VENTURE  
 95 LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

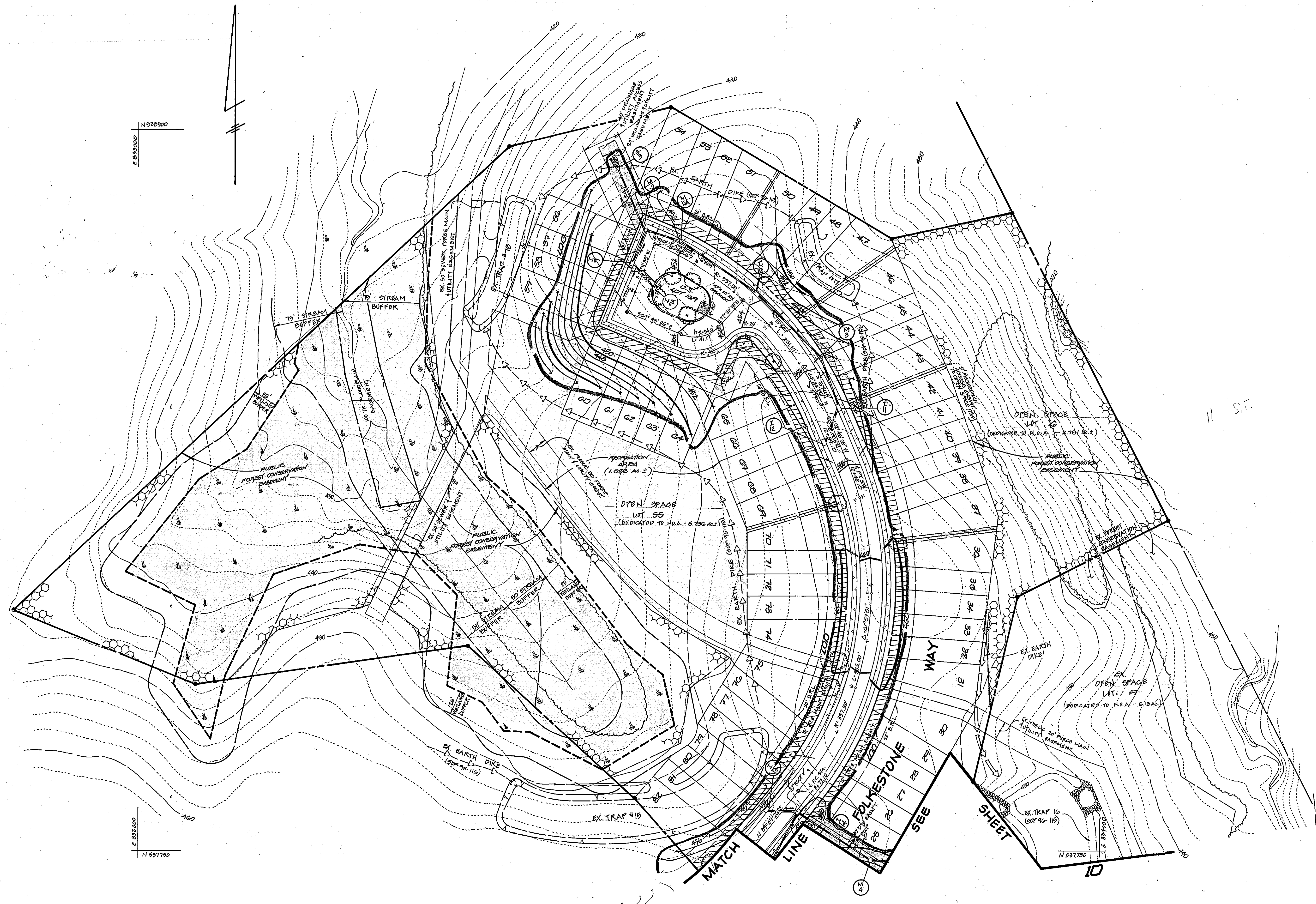
**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 95 LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

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



**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 199B AND PART OF PHASE 199C- CONTAINING LOTS 12 THRU 19 AND PARCEL 'B', GTW'S WAVERLY WOODS - SECTION 4, AREA 1)  
 ZONING: R-20, RSC, R-SA-B AND R-A-15  
 TAX MAP No. 15 - PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 10 OF 30

1253



**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 AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.  
 SIGNATURE OF DEVELOPER: *[Signature]* DATE: 6/19/96

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *[Signature]* DATE: 6/19/96

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE: *[Signature]* DATE: 12/20/96

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 APPROVED: *[Signature]* DATE: 12/20/96

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING: *[Signature]* DATE: 1/7/97

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 12/1/96

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS: *[Signature]* DATE: 12-26-96

**LEGEND**

- EX. EARTH DIKE
- LIMIT OF DISTURBANCE
- PROP. STREET TREE
- FOREST CONSERVATION EASEMENT

STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	PLATANUS X ACERIFOLIA 'BLOODGOOD' (BLOODGOOD LONDON PLANE)	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVERSED TO A COUNTY ACCEPTABLE EQUIVALENT.  
 TOTAL NUMBER OF STREET TREES:  
 - 7 STREET TREES (SHEET 11)

PLAN  
 SCALE: 1" = 50'

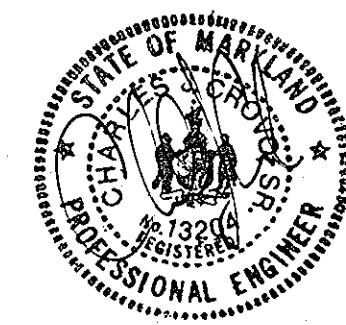
SEE SHEET 10 FOR TOTAL STREET TREE TABULATION.

**STREET TREE SCHEDULE**  
 GRADING AND SEDIMENT CONTROL PLAN  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1)  
 ZONING: R-20, RSC, R-5A-B AND R-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 11 OF 30

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLSWORTH CITY, MARYLAND 21042  
 (410) 461-2855

**OWNER**  
 GTW JOINT VENTURE  
 5% LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 5% LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044



*[Signature]*  
 As Built 3-29-01

AS-BUILT 3-29-01 F96-179

STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	QUERCUS COCCINEAS 'SCARLET OAK'	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES:  
 - 4 STREET TREES (THIS SHEET)



**LEGEND**

- EX. FINING TO BE REMOVED
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- TREE PROTECTION FENCE
- LIMIT OF DISTURBANCE
- INLET PROTECTION
- 15% - 24.99% SLOPES
- 25% OR GREATER SLOPES
- EX. EARTH DIKE
- PROPOSED STREET TREES
- EXISTING STREET TREES

**DEVELOPER'S CERTIFICATE**

I HEREBY 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 AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS AGE DEEMED NECESSARY.

Signature of Developer: *[Signature]* Date: *6/6/96*

---

**ENGINEER'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Engineer: *[Signature]* Date: *6/6/96*

---

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

Signature: *[Signature]* Date: *11/20/96*

HOWARD COUNTY DEPARTMENT OF NATURAL RESOURCES CONSERVATION SERVICE

---

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

APPROVED: *[Signature]* Date: *12/2/96*

HOWARD SOIL CONSERVATION DISTRICT

---

APPROVED DEPARTMENT OF PLANNING AND ZONING

APPROVED: *[Signature]* Date: *11/7/97*

CHEF, DIVISION OF LAND DEVELOPMENT

---

APPROVED DEPARTMENT OF PLANNING AND ZONING

APPROVED: *[Signature]* Date: *12/21/96*

CHEF, DEVELOPMENT ENGINEERING DIVISION

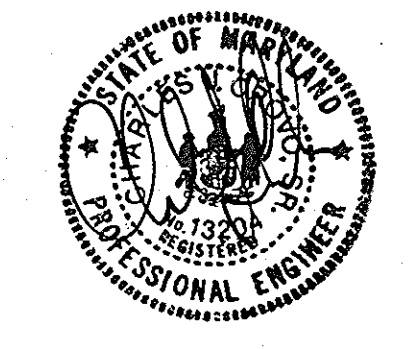
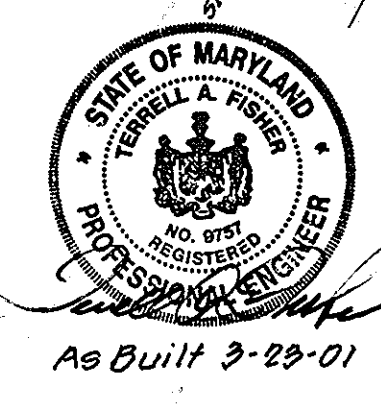
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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: *[Signature]* Date: *12-26-96*

CHEF, BUREAU OF HIGHWAYS

PLAN  
SCALE: 1" = 50'



**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996- CONTAINING LOTS 12 THRU 19 AND PARCEL 'B', GTW'S WAVERLY WOODS - SECTION 4, AREA 1)

ZONING: R-20, RES. R-5A-B AND R-A-15  
 TAX MAP No. 15 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 12 OF 30

**OWNER**  
 GTW JOINT VENTURE  
 56 LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 56 LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLEOTT CITY, MARYLAND 22942  
 410-461-9919

1253

**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 AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature: *Vandell R. Carter* Date: 12/16/96

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *Charles S. Jones* Date: 12/21/96

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

Signature: *Charles S. Jones* Date: 12/21/96

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

Signature: *John W. Zickler* Date: 10/20/96

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Richard Blawie* Date: 1/2/97

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Richard Blawie* Date: 1/2/97

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Robert M. Dwyer* Date: 12-20-96

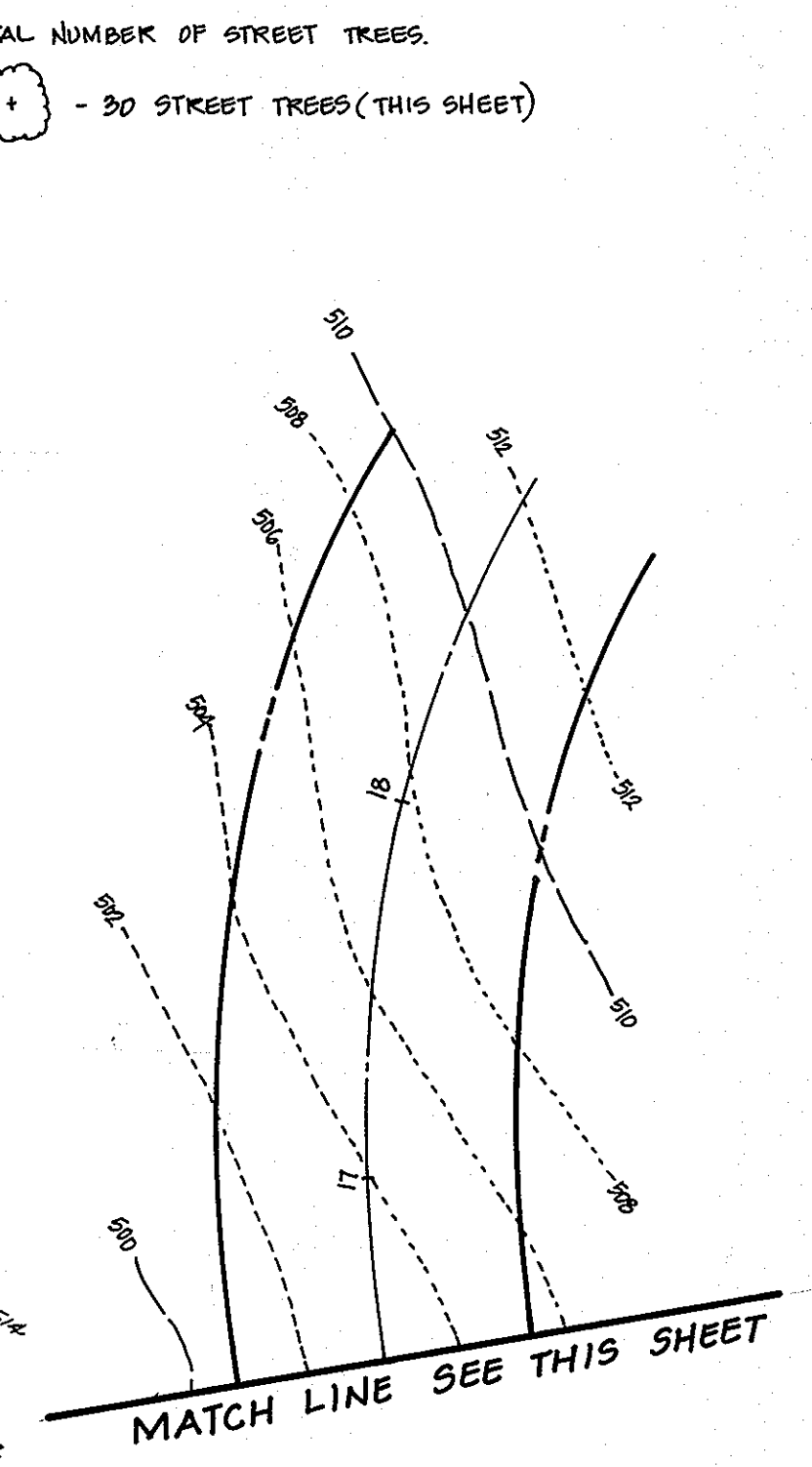
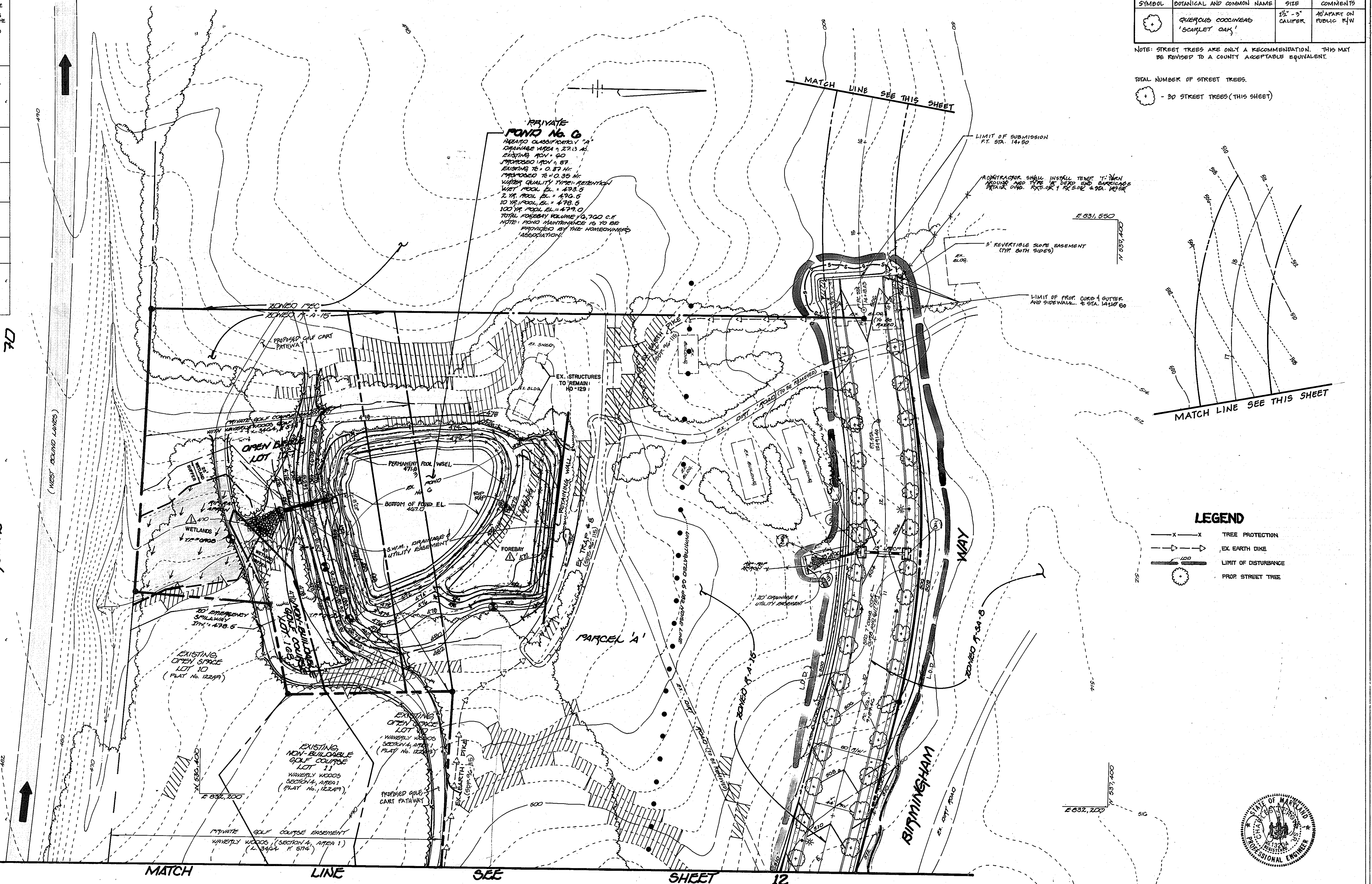
CHIEF, BUREAU OF HIGHWAYS

**STREET TREE SCHEDULE**

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	QUERCUS COCCINEAS 'SCARLET OAK'	1 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES:  
 30 STREET TREES (THIS SHEET)



**LEGEND**

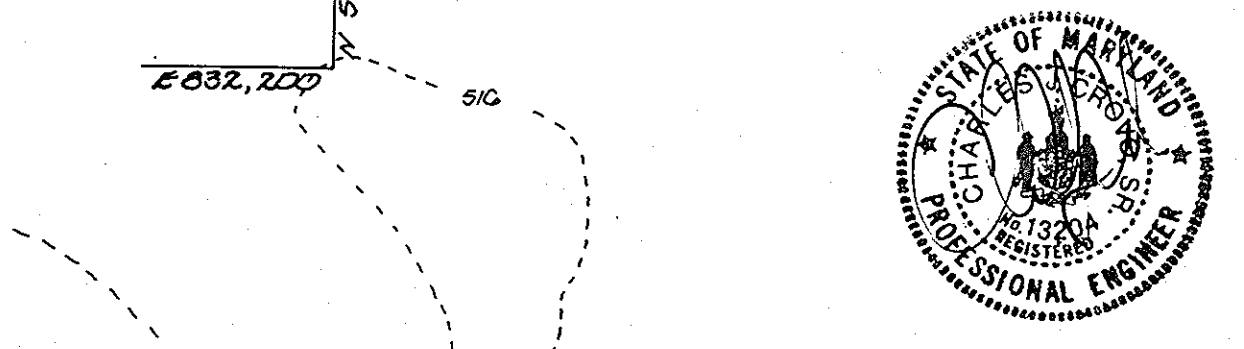
- X - X TREE PROTECTION
- EX. EARTH DIKE
- LIMIT OF DISTURBANCE
- PRIOR STREET TREE

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

NO.	DESCRIPTION	DATE
1	REVISED WETLANDS LOCATION & FOREBAY	8/7/97

**OWNER**  
 GWL JOINT VENTURE  
 56 LAND DESIGN AND DEVELOPMENT  
 10005 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21054

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 56 LAND DESIGN AND DEVELOPMENT  
 10005 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044



**STREET TREE, GRADING, SEDIMENT CONTROL AND S.W.M. POND PLAN**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 199B AND PART OF PHASE 199C- CONTAINING LOTS 12 THRU 19 AND PARCEL 'B', GTW'S WAVERLY WOODS - SECTION 4, AREA 1)

ZONING: R-20, R-5C, R-5A-9 AND R-A-35  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 13 OF 30

1253

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 1100 NATIONAL SQUARE OFFICE PARK - 10775 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21114  
 410-461-2855

As Built 3-23-01

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Richard M. Daniels* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS HS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Richard Blood* 1/2/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT SA DATE

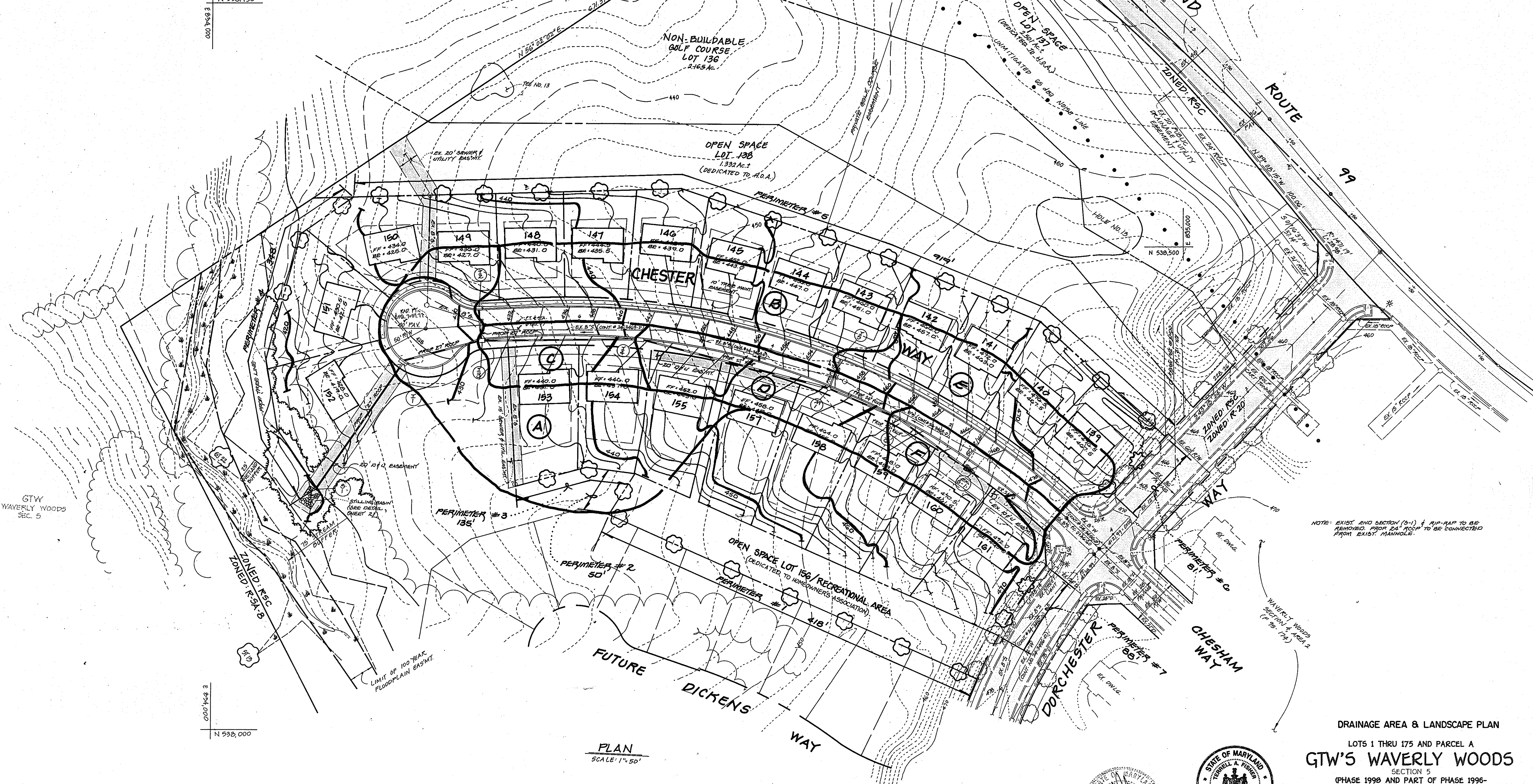
*[Signature]* 02/21/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

PERIMETER	1	2	3	4	5	6	7
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO ROADWAY	ADJACENT TO ROADWAY
LANDSCAPE TYPE	A	A	A	A	A	B	B
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	418'	50'	185'	348'	919'	81'	88'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED	NO	NO	NO	YES 203'	NO	YES 20'	YES 40'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED	NO	NO	NO	NO	NO	NO	NO
No. OF TREES REQUIRED	7	0	2	3	15	1	1
SHADE TREES	7	0	2	3	15	1	1
EMERGENT TREES	0	0	0	0	0	0	0
SHRUBS	0	0	0	0	0	0	0
No. OF TREES PROVIDED	7	1	2	3	15	1	1
SHADE TREES	7	1	2	3	15	1	1
EMERGENT TREES	0	0	0	0	0	0	0
OTHER TREES (2:1 SUBSTITUTION)	0	0	0	0	0	0	0
SHRUBS (10:1 SUBSTITUTION) DESCRIBE PLANT SUBSTITUTION BELOW IF NEEDED	0	0	0	0	0	0	0

PLANT LIST			
QTY.	KEY	NAME	SIZE
30	(Symbol)	ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2" - 2 1/2" CALIPER, FULL CROWN B & B
2	(Symbol)	PINUS STROBUS (EASTERN WHITE PINE)	6'-8' Ht.

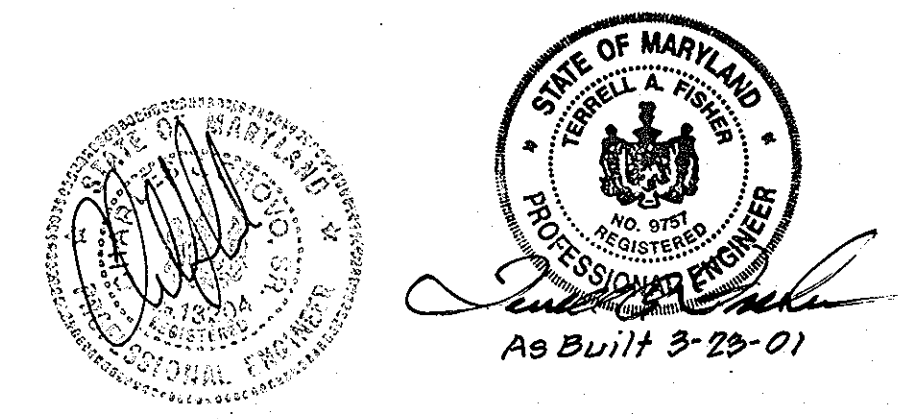
DRAINAGE AREA DATA					
INLET	DRAINAGE AREA	AREA (Ac.±)	'C'	ZONED	% IMP
I-1	A	1.12	0.45	RSC	33%
I-2	B	0.59	0.55	RSC	43%
I-3	C	0.28	0.52	RSC	30%
I-4	D	0.30	0.48	RSC	34%
I-5	E	0.40	0.54	RSC	42%
I-6	F	0.29	0.52	RSC	37%

**SCHEDULE A - PERIMETER LANDSCAPE EDGE**



NOTE: EXIST. END SECTION (9-1) & RIP-RAP TO BE REMOVED. FROM 24" RCP TO BE CONNECTED FROM EXIST. MANHOLE.

DRAINAGE AREA & LANDSCAPE PLAN  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B'  
 GTW'S WAVERLY WOODS - SECTION 4, AREA D)  
 ZONING: R-20, RSC, R-5A-B AND R-2-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SHEET 14 OF 30  
 SCALE: AS SHOWN DATE: MAY 20, 1996



OWNER  
 GTW JOINT VENTURE  
 C/O LAND DESIGN AND DEVELOPMENT, INC.  
 10805 HICKORY RIDGE ROAD, SUITE 215  
 COLUMBIA, MARYLAND 21044

DEVELOPER  
 WAVERLY WOODS DEVELOPMENT CORP.  
 C/O LAND DESIGN AND DEVELOPMENT, INC.  
 10805 HICKORY RIDGE ROAD, SUITE 215  
 COLUMBIA, MARYLAND 21044

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK • 10272 BALTHAZORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21114  
 4101 461 - 2855

12521



DRAINAGE AREA DATA					
INLET	DRAINAGE AREA	AREA (ACRES)	'C'	ZONED	PERCENT IMP.
I-15	O	0.35	0.71	R-SA-B	66%
I-16	H	0.34	0.58	R-SA-B	78%
I-17	Y	0.30	0.67	R-SA-B	60%
I-18	X	0.32	0.73	R-SA-B	69%
I-19	Z	0.42	0.48	R-SA-B	33%
I-20	AA	0.66	0.41	R-SA-B	23%
I-21	MM	0.45	0.43	R-SA-B	27%
I-22	II	0.20	0.70	R-SA-B	65%
I-23	BB	0.52	0.57	R-SA-B	46%
I-24	V	0.28	0.73	R-SA-B	68%
I-25	Q	0.07	0.65	R-SA-B	57%
I-26	W	0.26	0.58	R-SA-B	47%
I-27	R	0.21	0.66	R-SA-B	62%
I-28	EE	0.19	0.69	R-SA-B	63%
I-29	FF	0.17	0.33	R-SA-B	12%
I-30	S	0.23	0.74	R-SA-B	70%
I-31	T	0.19	0.54	R-SA-B	42%
I-32	CC	0.33	0.37	R-SA-B	11%
I-33	JJ	0.50	0.55	R-SA-B	44%
I-34	DD	0.61	0.45	R-SA-B	29%
I-35	HH	0.28	0.70	R-SA-B	67%
I-36	GG	0.41	0.54	R-SA-B	45%
I-37	LL	0.28	0.67	R-SA-B	60%
I-38	KK	0.43	0.57	R-SA-B	49%
I-39	P	0.45	0.62	R-SA-B	53%
I-40	NN	0.19	0.74	R-SA-B	71%
I-41	OO	0.31	0.57	R-SA-B	45%
I-17A	M-1	0.09	0.49	R-SA-B	30%

SCHEDULE A - PERIMETER LANDSCAPE EDGE												
PERIMETER CATEGORY	19	20	21	19A	20A	21A	22A	23A	24A	25A	26A	
LANDSCAPE TYPE	A	A	A	C	C	C	C	C	C	C	C	
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	116'	330'	90'	77'	70'	57'	61'	63'	72'	42'	47'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR)	No	No	No	No	No	No	No	No	No	No	No	
DESCRIBE BELOW IF NEEDED												
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR)	No	No	No	No	No	No	No	No	No	No	No	
DESCRIBE IF NEEDED												
NUMBER OF PLANTS REQUIRED	2	6	1	2	2	1	1	1	1	1	1	
SHADE TREES	-	-	1	4	3	2	3	3	3	2	2	
EVERGREEN TREES	-	-	-	-	-	-	-	-	-	-	-	
SHRUBS	-	-	-	-	-	-	-	-	-	-	-	
NUMBER OF PLANTS PROVIDED	2	6	1	2	2	1	1	1	1	1	1	
SHADE TREES	-	-	1	2	2	1	1	1	1	1	1	
EVERGREEN TREES	-	-	-	-	-	-	-	-	-	-	-	
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-	-	-	
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-	-	-	
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED												

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 1/2/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RECREATION

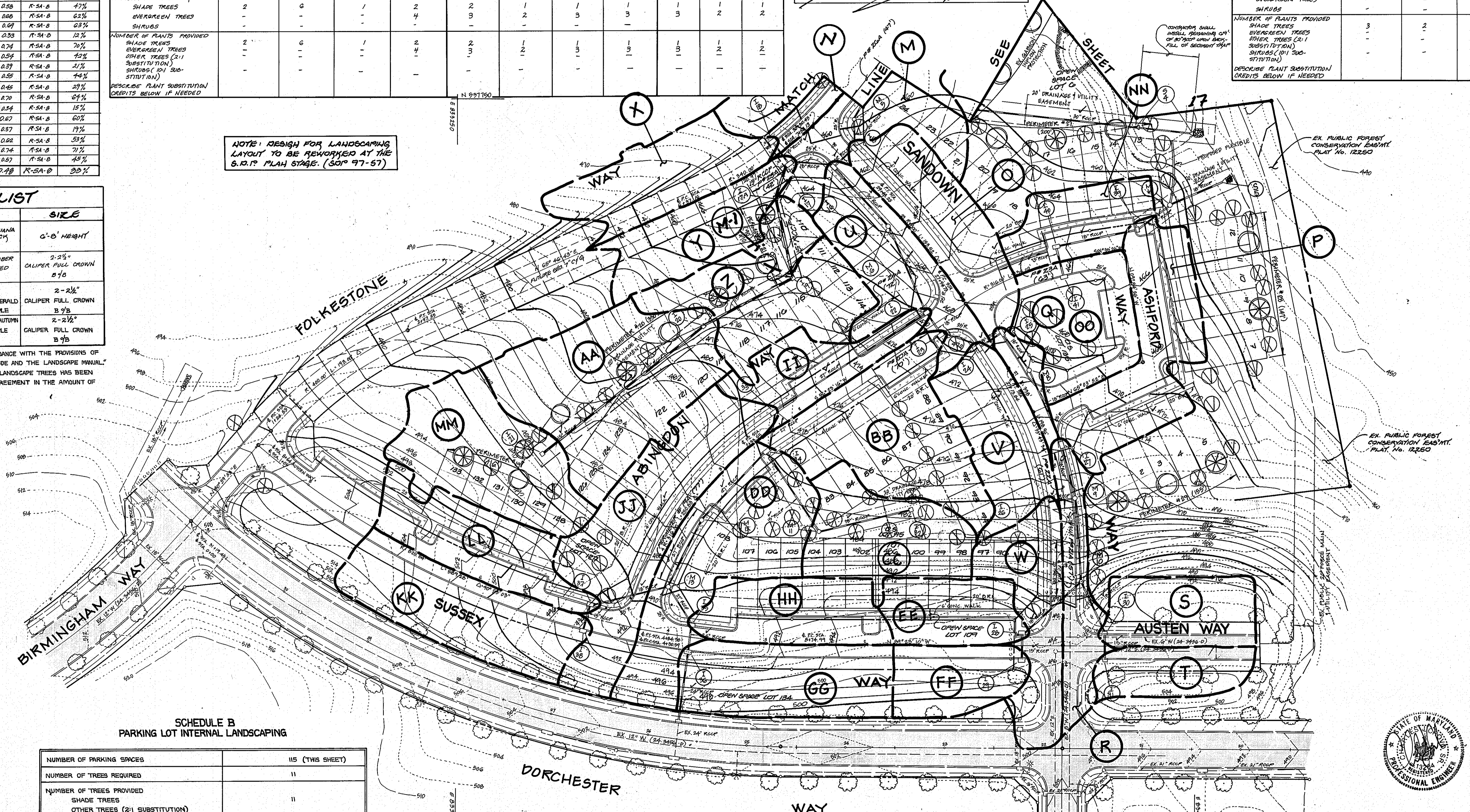
*[Signature]* 1/31/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

PERIMETER CATEGORY	27	28	29
LANDSCAPE TYPE	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	206'	147'	155'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR)	No	No	No
DESCRIBE BELOW IF NEEDED			
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR)	No	No	No
DESCRIBE IF NEEDED			
NUMBER OF PLANTS REQUIRED	3	2	3
SHADE TREES	-	-	-
EVERGREEN TREES	-	-	-
SHRUBS	-	-	-
NUMBER OF PLANTS PROVIDED	3	2	3
SHADE TREES	-	-	-
EVERGREEN TREES	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED			

NOTE: DESIGN FOR LANDSCAPING LAYOUT TO BE REWORKED AT THE S.R.P. PLAN STAGE. (SOP 97-57)

PLANT LIST			
QTY.	KEY	NAME	SIZE
24		PINUS THUNBERGIANA (JAPANESE BLACK PINE)	6'-8" HEIGHT
25		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2-2 1/2" CALIPER FULL CROWN 8'9"
11		ACER PLATANOIDES EMERALD QUEEN/EMERALD QUEEN NORWAY MAPLE	2-2 1/2" CALIPER FULL CROWN 8'9"
70		FRAXINUS AMERICANA AUTUMN PURPLE / AUTUMN PURPLE WHITE ASH	2-2 1/2" CALIPER FULL CROWN 8'9"

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 70 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$13,000.



SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	115 (THIS SHEET)
NUMBER OF TREES REQUIRED	11
NUMBER OF TREES PROVIDED	11
SHADE TREES	
OTHER TREES (2:1 SUBSTITUTION)	

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS	70 (THIS SHEET)
NUMBER OF TREES REQUIRED (1:DU SFA; 1:3 DU APTS)	70
NUMBER OF TREES PROVIDED	70
SHADE TREES	
OTHER TREES (2:1 SUBSTITUTION)	

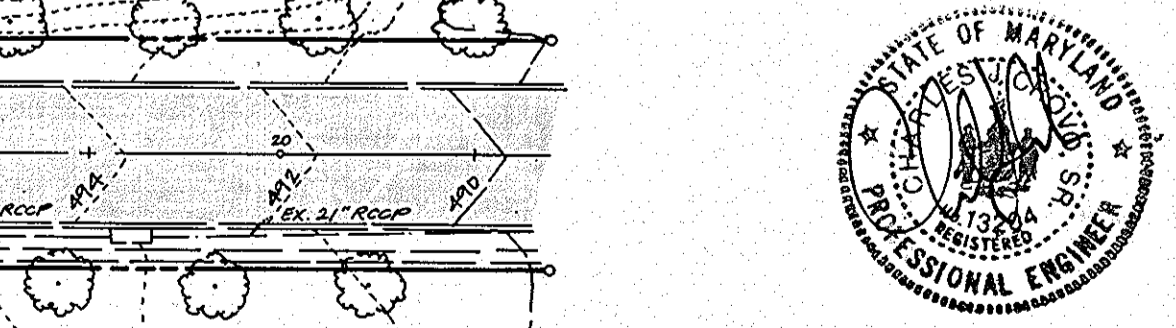
PLAN SCALE: 1" = 50'

No.	Date	Revisions
1	8-21-03	Corrected storm drain alignment between I-17 & I-21, eliminated M17 & added I-17A, corrected recorded easement on plan; added 'D.A. M-1' to plan & 'D.A. Data Chart, relocated part of landscape buffer outside easmt behind lots 115-126.

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10222 BALTIMORE NATIONAL PARK  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2855

OWNER: GW JOINT VENTURE  
 1/6 LAND DESIGN AND DEVELOPMENT  
 12025 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

DEVELOPER: WAVERLY WOODS DEVELOPMENT CORP.  
 1/6 LAND DESIGN AND DEVELOPMENT  
 12025 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044



STATE OF MARYLAND  
 THOMAS A. FISHER  
 PROFESSIONAL ENGINEER  
 No. 8757  
 REGISTERED  
 12/24/96  
 As Built 3-29-01

DRAINAGE AREA AND LANDSCAPE PLAN  
 LOTS 1 THRU 175 AND PARCEL A  
 GTW'S WAVERLY WOODS  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1.)  
 ZONING: R-20, RES. R-3A-B AND R-4-15  
 TAX MAP No. 15 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1998  
 SHEET 16 OF 30

12521

AS-BUILT 3-29-01 F96-179



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Richard M. G. Queto* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS 12-26-96 DATE

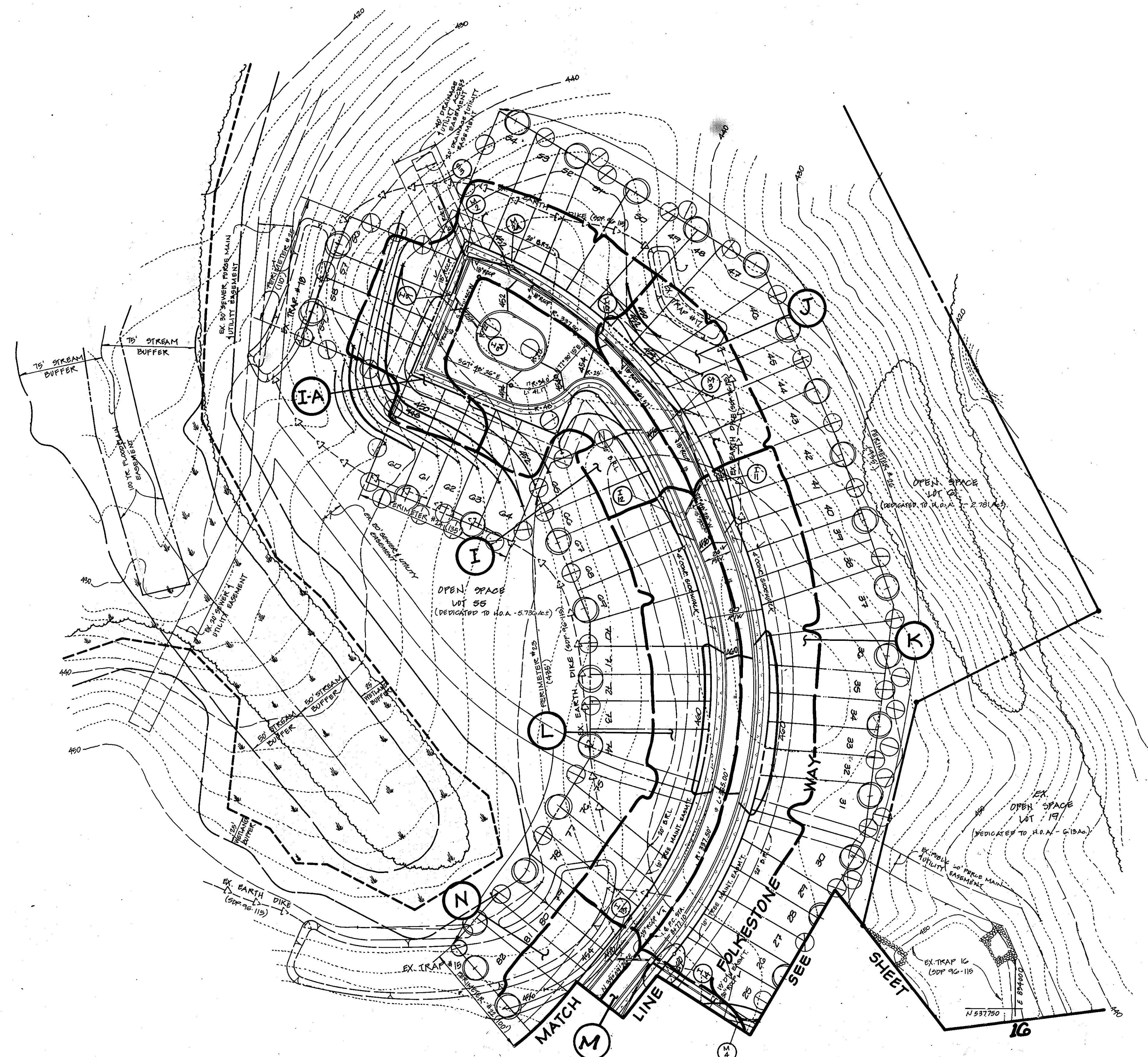
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Richard Blood* 1/7/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT 1/7/97 DATE

*[Signature]* 1/21/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 1/21/96 DATE

**DRAINAGE AREA DATA**

INLET	DRAINAGE AREA	AREA (ACRES±)	'C'	ZONED	PERCENT IMP
I-9	I-A	0.52	0.59	R-SA-B	49%
I-9A	I	0.46	0.62	R-SA-B	53%
I-10	J	0.27	0.77	R-SA-B	74%
I-11	K	0.37	0.74	R-SA-B	70%
I-12	L	0.32	0.71	R-SA-B	66%
I-13	N	0.51	0.67	R-SA-B	61%
I-14	M	0.67	0.60	R-SA-B	51%

\* FOR ALL PERTINENT PLANTING LOTS & LANDSCAPE PERIMETER TABULATIONS SEE SHEET 12.



**PLANT LIST**

QTY	KEY	NAME	SIZE
57	○	BETULA NIGRA 'HERITAGE' / HERITAGE CUMM' SM/CH	2 1/2" - 3"
29	○	FRAXINUS AMERICANA 'AUTUMN PURPLE' / AUTUMN PURPLE WHITE ASH	2 1/2" - 3"

**SCHEDULE C  
RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING**

NUMBER OF DWELLING UNITS	57
NUMBER OF TREES REQUIRED (1:1 DU SPA; 1:3 DU APTS)	57
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	57

**SCHEDULE A - PERIMETER LANDSCAPE EDGE**

PERIMETER	22	23	24	25	26
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A	A	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	100	495'	155'	110'	935'
CREDIT FOR EXISTING VEGETATION (YES/NO, LINEAR) DESCRIBE BELOW IF NEEDED	No	No	No	No	No
CREDIT FOR WALL FENCE OR SCREEN (YES/NO, LINEAR) DESCRIBE BELOW IF NEEDED	No	No	No	No	No
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	2	7	2	2	16
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	2	7	2	2	16

\* THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 10.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 80 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$8,000.00.

NOTE: DESIGN FOR LANDSCAPING LAYOUT TO BE REWORKED AT THE S.D.P. PLAN STAGE.

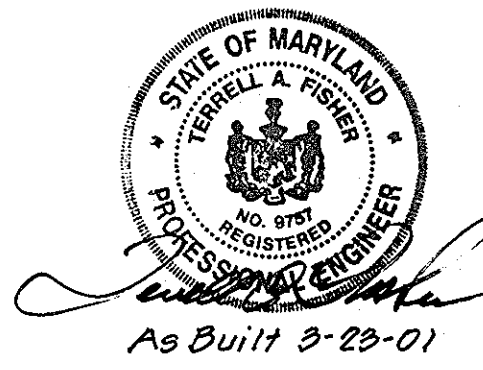


**PLAN**  
SCALE: 1" = 50'

No.	Date	Revisions
1	9-21-99	Revised area (acres) for I-14 in D.A. Chart.

**OWNER**  
 GW JOINT VENTURE  
 1/4 LAND DESIGN AND DEVELOPMENT  
 10805 WICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 1/4 LAND DESIGN AND DEVELOPMENT  
 10805 WICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044



**DRAINAGE AREA AND LANDSCAPE PLAN**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 199B AND PART OF PHASE 199C-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1)  
 ZONING: R-20, RSC, R-SA-B AND R-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 17 OF 30

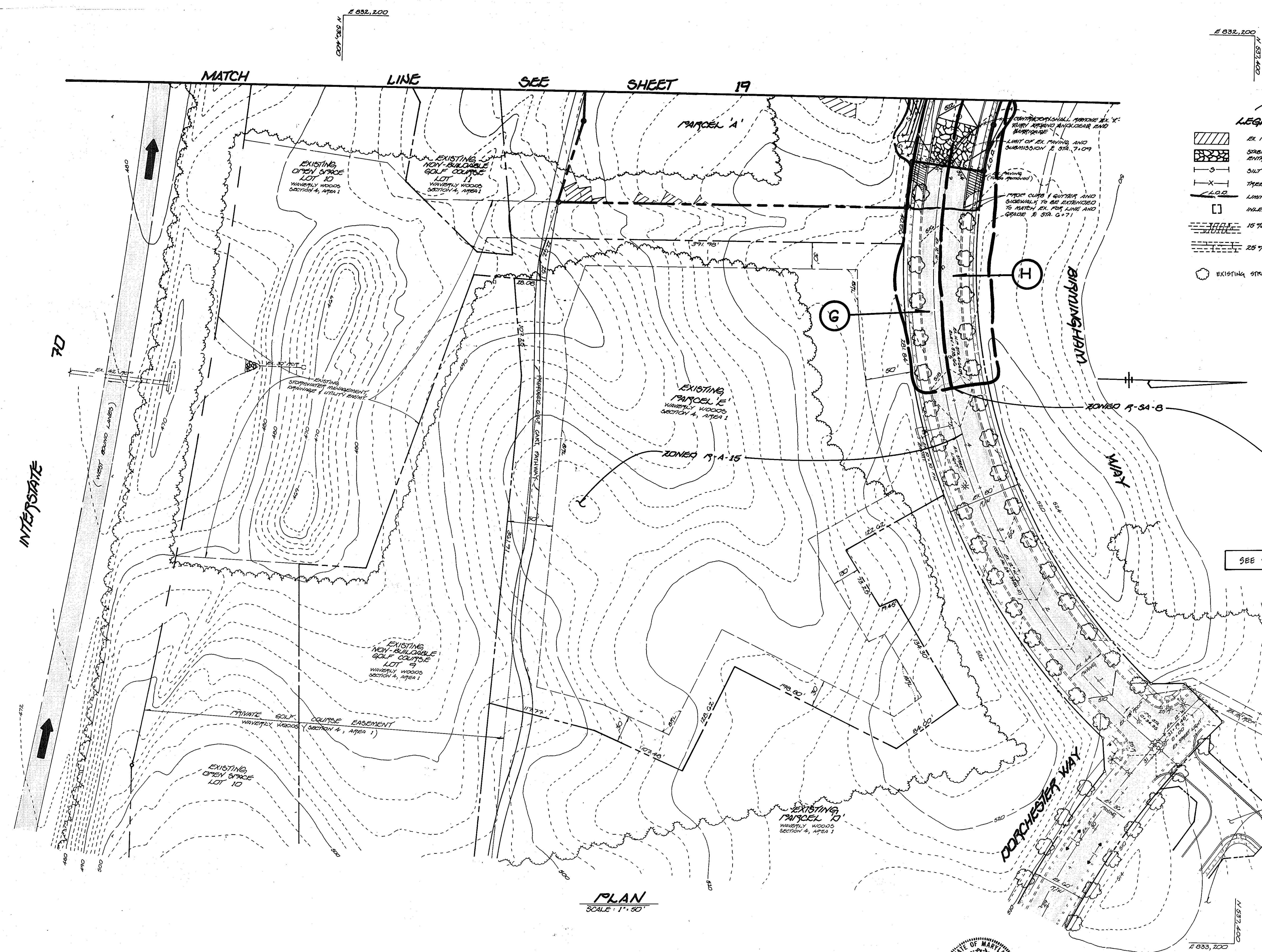
**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 20902  
 (410) 461-2855

AS-BUILT 9-29-01 F96-179

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Richard M. Duval* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS 43 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Richard Blood* 1/7/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH 4A DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 12/31/96  
 DATE

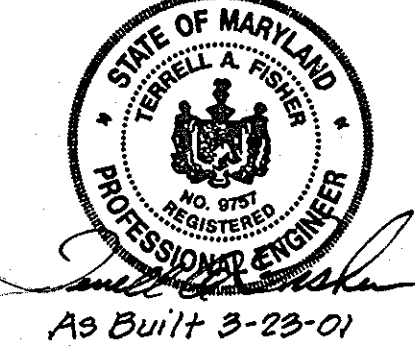


- LEGEND**
- EX. PAVING TO BE REMOVED
  - STABILIZED CONSTRUCTION ENTRANCE
  - SILT FENCE
  - TREE PROTECTION FENCE
  - LIMIT OF DISTURBANCE
  - INLET PROTECTION
  - 15% - 24.99% SLOPES
  - 25% OR GREATER SLOPES
  - EXISTING STREET TREES

NOTE: ALL LANDSCAPING ON THIS PLAN WILL BE DEFERRED UNTIL A PLAN IS SUBMITTED FOR PARCELS 'A' & 'E'.

SEE SHEET 19 FOR DRAINAGE AREA DATA

PLAN  
 SCALE: 1" = 50'



**DRAINAGE AREA AND LANDSCAPE PLAN**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1)  
 ZONING: R-20, R-5C, R-5A-B AND R-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 18 OF 30

**OWNER**  
 GTW JOINT VENTURE  
 96 LAND DESIGN AND DEVELOPMENT  
 10025 HICKORY HOLE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 96 LAND DESIGN AND DEVELOPMENT  
 10025 HICKORY HOLE ROAD  
 COLUMBIA, MARYLAND 21044



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK • 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21114  
 410-461-2895

1253

**SCHEDULE A - PERIMETER LANDSCAPE EDGE**

PERIMETER	14
CATEGORY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	180'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR) DESCRIBE BELOW IF NEEDED	YES, 184'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR) DESCRIBE IF NEEDED	NO
NUMBER OF PLANTS REQUIRED	
SHADE TREES	1
EVERGREEN TREES	-
SHRUBS	-
NUMBER OF PLANTS PROVIDED	
SHADE TREES	-
EVERGREEN TREES	-
OTHER TREES (2:1 SUBSTITUTION)	-
SHRUBS (10:1 SUBSTITUTION)	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	

ADJACENT TO PERIMETER PROPERTIES	15	16	17	18
A	A	A	A	A
100'	150'	315'	782'	
YES	YES	YES	YES	YES
40'	142'	70'	260'	
NO	NO	NO	NO	NO
1	0	4	9	
-	-	-	-	-
1	0	4	9	
-	-	-	-	-

NOTE: ALL LANDSCAPING FOR PARCEL 'A' WILL BE DEFERRED UNTIL A PLAN FOR DEVELOPMENT IS SUBMITTED.

**SCHEDULE D - POND # 6**

STORMWATER MANAGEMENT / WATER QUALITY POND AREA LANDSCAPING

LANDSCAPE TYPE	B
LINEAR FEET OF PERIMETER	789'
NUMBER OF TREES REQUIRED:	
SHADE TREES (1/50 L.F.)	16
EVERGREEN TREES (1/140 L.F.)	20
CREDIT FOR EXISTING VEGETATION (NO, YES AND PERCENT)	YES (45%)
CREDIT FOR OTHER LANDSCAPING (NO, YES AND PERCENT)	NO
NUMBER OF TREES PROVIDED:	
SHADE TREES	10
EVERGREEN TREES	12
OTHER TREES (2:1 SUBSTITUTION)	1

**PLANT LIST**

QTY.	KEY	NAME	SIZE
10	⊕	ACER RUBRUM, 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2" - 2 1/2" CALIPER FULL CROWN 8' H
12	⊙	PINUS STROBUS (EMERALD WHITE PINE)	6" - 8" HEIGHT

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 22 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$7500.00.

**PRIVATE POND No. 6**  
 HAZARD CLASSIFICATION "A"  
 DRAINAGE AREA 7.278 A.C.  
 EXISTING POND 90  
 PROPOSED POND 87  
 EXISTING TO 0.37 H.F.  
 PROPOSED TO 110.35 H.F.  
 WATER QUALITY TYPE: RETENTION  
 WET POND EL. = 473.5  
 2 1/2" CALIPER FULL CROWN 8' H  
 10 1/2" CALIPER FULL CROWN 8' H  
 100 YR. POND EL. = 479.0  
 TOTAL FOREBAY VOLUME 6,700 C.F.

**DRAINAGE AREA DATA**

INLET	DRAINAGE AREA	AREA (ACRES)	C'	ZONED	PERCENT IMP.
I-7	G	0.74	0.76	R-A-15	73%
I-8	H	2.53	0.40	R-3A-B	21%

**PLANT LIST**

QTY.	KEY	NAME	SIZE
14	⊕	ACER RUBRUM, 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2-2 1/2" CALIPER FULL CROWN 8' H

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 22 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$7500.00.

1253

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 410.461.2825



**OWNER**  
 GTW JOINT VENTURE  
 56 LAND DESIGN AND DEVELOPMENT  
 10809 HICKORY HEDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 56 LAND DESIGN AND DEVELOPMENT  
 10809 HICKORY HEDGE ROAD  
 COLUMBIA, MARYLAND 21044

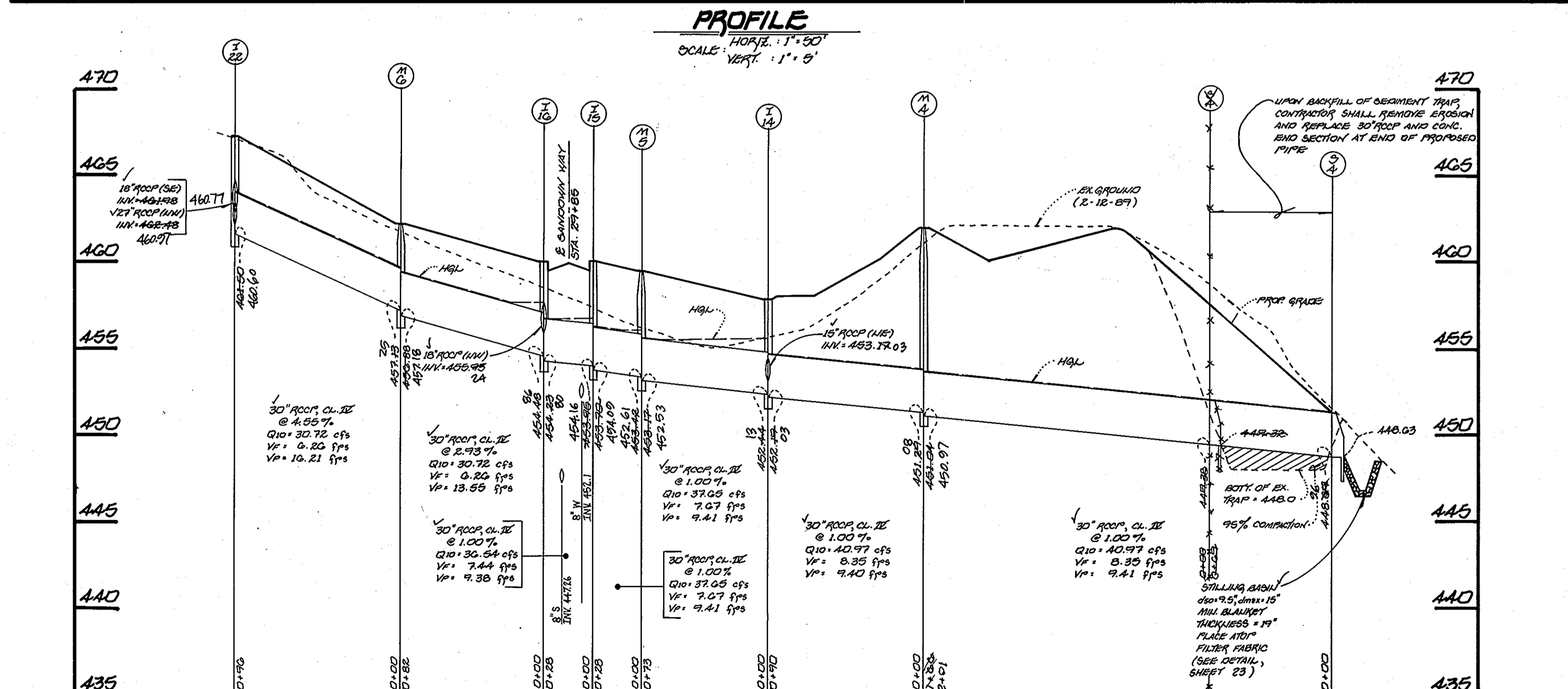
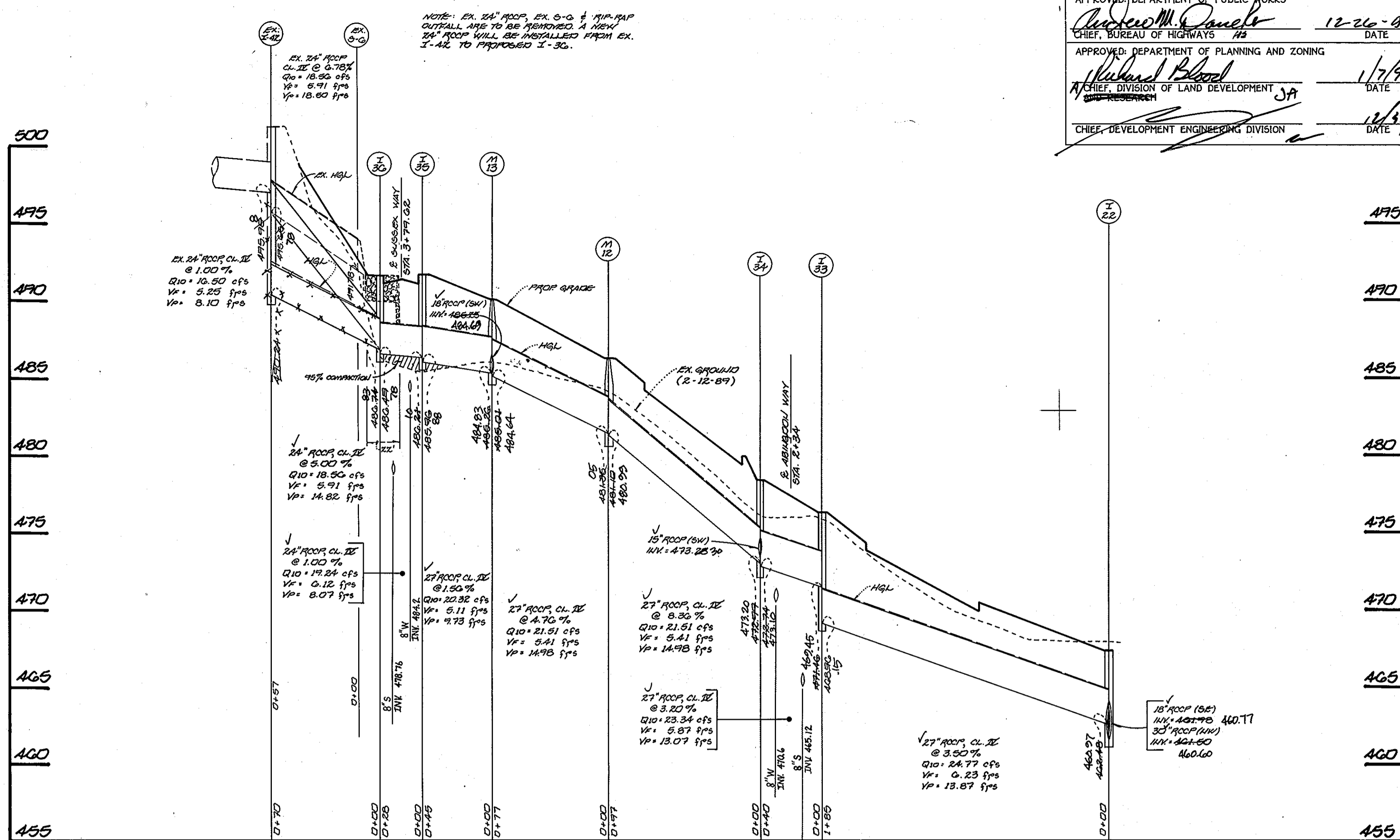


**DRAINAGE AREA AND LANDSCAPE PLAN**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996 - CONTAINING LOTS 12 THRU 19 AND PARCEL 'B', GTW'S WAVERLY WOODS - SECTION 4, AREA 1)  
 ZONING: R-20, R-5C, R-5A-B AND R-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 19 OF 36

AS-BUILT 3-29-01 F96-179

STRUCTURE SCHEDULE

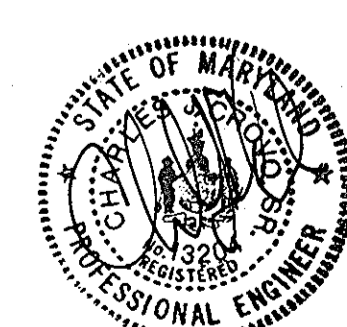
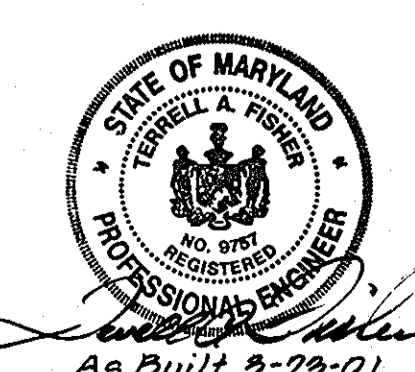
STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	426.59 24	420.89 6	420.59 01	CHESTER WAY	LP. STA. 0+30.93	----	A-10 ✓	S.D. 4.41
I-2	426.59 24	420.89 6	420.59 01	CHESTER WAY	LP. STA. 0+30.93	----	A-10 ✓	S.D. 4.41
I-3	430.49 76	425.49 125.78 1	425.49 1	CHESTER WAY	CL. STA. 6+93.49	16' RT. ✓	A-5 ✓	S.D. 4.40
I-4	441.81 442.50	436.80 437.10	436.80 437.10	CHESTER WAY	CL. STA. 5+38.22	16' LT. ✓	A-10 ✓	S.D. 4.41
I-5	456.10 23	452.10 491.28	452.10 491.28	CHESTER WAY	CL. STA. 3+28.7	16' RT. ✓	A-10 ✓	S.D. 4.41
I-6	461.49 35	456.99 455.60	456.99 455.60	CHESTER WAY	CL. STA. 2+59.3	16' LT. ✓	A-5 ✓	S.D. 4.40
I-7	504.11 13	498.30 42	498.30 42	BIRMINGHAM WAY	CL. STA. II+47.220	24' LT. ✓	A-10 ✓	S.D. 4.41
I-8	504.11 13	498.30 42	498.30 42	BIRMINGHAM WAY	CL. STA. II+47.220	24' RT. ✓	A-10 ✓	S.D. 4.41
I-9	482.85 482.25	448.41 20	448.41 20	FOLKESTONE WAY	CL. STA. 15+81.89	16' RT. ✓	A-5 ✓	S.D. 4.41
I-9A	452.42 453.04	448.78 9	448.78 9	FOLKESTONE WAY	CL. STA. 15+90	16' LT. ✓	A-10 ✓	S.D. 4.41
I-10	455.43 75	450.98 63	450.98 63	FOLKESTONE WAY	CL. STA. 14+53	16' LT. ✓	A-5 ✓	S.D. 4.40
I-11	458.35 47	454.28 62	454.28 62	FOLKESTONE WAY	CL. STA. 12+97	14' RT. ✓	A-5 ✓	S.D. 4.40
I-12	458.35 47	454.28 62	454.28 62	FOLKESTONE WAY	CL. STA. 12+97	14' LT. ✓	A-5 ✓	S.D. 4.40
I-13	457.75 458.04	453.49 26	453.49 26	FOLKESTONE WAY	CL. STA. 8+41.83	14' LT. ✓	A-10 ✓	S.D. 4.41
I-14	457.85 08	453.17 452.49 13	452.49 13	FOLKESTONE WAY	CL. STA. 8+56.87	14' RT. ✓	A-10 ✓	S.D. 4.41
I-15	460.06 46	453.95 454.14	453.95 454.14	SANDOWN WAY	CL. STA. 29+05	14' RT. ✓	A-5 ✓	S.D. 4.40
I-16	460.06 46	453.95 454.14	453.95 454.14	SANDOWN WAY	CL. STA. 29+05	14' LT. ✓	A-5 ✓	S.D. 4.40
I-17	461.84 42	457.64 455.45	457.64 455.45	FOLKESTONE WAY	CL. STA. 7+142.15	14' RT. ✓	A-5 ✓	S.D. 4.40
I-18	461.84 42	457.64 455.45	457.64 455.45	FOLKESTONE WAY	CL. STA. 7+142.15	14' LT. ✓	A-5 ✓	S.D. 4.40
I-19	470.72 461.05	465.95 467.10	465.95 467.10	----	----	----	D' INLET ✓	S.D. 4.11
I-20	473.90 472.41	469.45 469.91	469.45 469.91	----	----	----	D' INLET ✓	S.D. 4.11
I-21	467.30 466.50	462.85 44	462.85 44	----	----	----	D' INLET ✓	S.D. 4.11
I-22	467.30 466.50	462.85 44	462.85 44	ABINGDON WAY	CL. STA. 0+40	14' RT. ✓	A-5 ✓	S.D. 4.40
I-23	467.30 466.50	462.85 44	462.85 44	ABINGDON WAY	CL. STA. 0+40	14' LT. ✓	A-5 ✓	S.D. 4.40
I-24	468.70 99	465.92 464.13	465.92 464.13	SANDOWN WAY	CL. STA. 27+43.4	14' LT. ✓	A-5 ✓	S.D. 4.40
I-25	468.70 99	465.92 464.13	465.92 464.13	SANDOWN WAY	CL. STA. 27+43.4	14' RT. ✓	A-5 ✓	S.D. 4.40
I-26	468.70 99	465.92 464.13	465.92 464.13	SANDOWN WAY	CL. STA. 25+67	14' LT. ✓	A-5 ✓	S.D. 4.40
I-27	477.32 01	472.15 423.03	472.15 423.03	SANDOWN WAY	CL. STA. 26+23.6	14' RT. ✓	A-5 ✓	S.D. 4.40
I-28	494.48 29	489.97 4	489.97 4	SUSSEX WAY	CL. STA. 0+40	14' RT. ✓	A-5 ✓	S.D. 4.40
I-29	494.48 29	489.97 4	489.97 4	SUSSEX WAY	CL. STA. 0+40	14' LT. ✓	A-5 ✓	S.D. 4.40
I-30	495.88 89	490.56 94	490.56 94	EX. AUSTEN WAY	CL. STA. 0+49	14' LT. ✓	A-5 ✓	S.D. 4.40
I-31	495.88 89	490.56 94	490.56 94	EX. AUSTEN WAY	CL. STA. 0+49	14' RT. ✓	A-5 ✓	S.D. 4.40
I-32	479.70 463.08	475.95 470.68	475.95 470.68	----	----	----	D' INLET ✓	S.D. 4.11
I-33	476.28 15	471.16 469.45	469.45 15	ABINGDON WAY	CL. STA. 2+83	14' RT. ✓	A-5 ✓	S.D. 4.40
I-34	476.28 15	471.16 469.45	469.45 15	ABINGDON WAY	CL. STA. 2+83	14' LT. ✓	A-5 ✓	S.D. 4.40
I-35	491.59 66	485.36 68	485.36 68	SUSSEX WAY	CL. STA. 3+72.62	14' RT. ✓	A-5 ✓	S.D. 4.40
I-36	491.59 66	485.36 68	485.36 68	SUSSEX WAY	CL. STA. 3+72.62	14' LT. ✓	A-5 ✓	S.D. 4.40
I-37	493.09 25	489.00 23	489.00 23	SUSSEX WAY	CL. STA. 4+05	14' RT. ✓	A-5 ✓	S.D. 4.40
I-38	493.09 25	489.00 23	489.00 23	SUSSEX WAY	CL. STA. 4+05	14' LT. ✓	A-5 ✓	S.D. 4.40
I-39	465.47 54	459.08 29	459.08 29	ASHFORD WAY	CL. STA. 3+19.289	16' RT. ✓	A-5 ✓	S.D. 4.40
I-40	465.47 54	459.08 29	459.08 29	ASHFORD WAY	CL. STA. 3+19.289	16' LT. ✓	A-5 ✓	S.D. 4.40
I-41	465.13 7	460.88 7	460.88 7	ASHFORD WAY	CL. STA. 3+22.416	16' LT. ✓	A-5 ✓	S.D. 4.40
I-17A	462.21	459.33 458.02	459.33 458.02	----	----	----	D' Inlet	S.D. 4.11
M-1	456.18 24	451.80 451.76 19	451.80 451.76 19	CHESTER WAY	CL. STA. 3+28	20' LT.	STD. MANHOLE ✓	G - 5.05
M-2	452.30 423.26	448.31 447.60 02	447.60 02	FOLKESTONE WAY	CL. STA. 15+25	18' RT. ✓	STD. MANHOLE ✓	G - 5.05
M-2A	453.70 69	448.90 449.53	449.53 09	FOLKESTONE WAY	CL. STA. 13+44	23.5 RT.	STD. MANHOLE ✓	G - 5.05
M-3	456.74 497.50	452.29 491.15	452.29 491.15	FOLKESTONE WAY	CL. STA. 13+44	23.5 RT.	STD. MANHOLE ✓	G - 5.05
M-4	462.40 478.02	451.29 08	451.29 08	----	----	----	STD. MANHOLE ✓	G - 5.05
M-5	459.38 61	453.42 452.61	453.42 452.61	FOLKESTONE WAY	CL. STA. 7+93	27' RT.	STD. MANHOLE ✓	G - 5.05
M-6	462.10 30	457.13 25	457.13 25	SANDOWN WAY	CL. STA. 29+02.6	14' LT. ✓	STD. MANHOLE ✓	G - 5.05
M-7	463.90 462.21	459.33 458.30	459.33 458.30	----	----	----	STD. MANHOLE ✓	G - 5.05
M-8	473.20 471.16	466.90 46	466.90 46	SANDOWN WAY	CL. STA. 26+19.17	17 RT. ✓	STD. MANHOLE ✓	G - 5.05
M-9	467.71 462.25	477.85 478.11 01	477.85 478.11 01	SANDOWN WAY	CL. STA. 25+65	14' RT. ✓	STD. MANHOLE ✓	G - 5.05
M-10	462.23 469.63	465.83 465.71	465.83 465.71	SANDOWN WAY	CL. STA. 24+05	14' RT. ✓	STD. MANHOLE ✓	G - 5.05
M-11	462.23 469.63	465.83 465.71	465.83 465.71	----	----	----	STD. MANHOLE ✓	G - 5.05
M-12	468.14 462.05	481.35 05	481.35 05	ABINGDON WAY	CL. STA. 3+53	15' LT.	STD. MANHOLE ✓	G - 5.05
M-13	490.71 490.09	483.25 485.55	485.55 09	ABINGDON WAY	CL. STA. 4+32	14.5 LT.	STD. MANHOLE ✓	G - 5.05
M-14	463.28 05	457.88 04	457.88 04	ASHFORD WAY	CL. STA. 3+22.416	16' LT. ✓	STD. MANHOLE ✓	G - 5.05
S-1	440.30 01	418.94 36	418.94 36	----	----	----	CONC. END SECT. ✓	S.D. 5.51
S-2	497.70	495.50	495.50	BIRMINGHAM WAY	CL. STA. 11+38	84' LT.	CONC. END SECT. ✓	S.D. 5.51
S-3	444.20 441.61	442.54 440.75	442.54 440.75	FOLKESTONE WAY	----	----	CONC. END SECT. ✓	S.D. 5.51
S-4	451.29 46	440.85 00	440.85 00	----	----	----	CONC. END SECT. ✓	S.D. 5.51
S-5	451.60 9	450.88 19	450.88 19	ASHFORD WAY	----	----	CONC. END SECT. ✓	S.D. 5.51



APPROVED DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways  
 12-26-96  
 DATE

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 Chief, Division of Land Development  
 1/7/97  
 DATE

Chief, Development Engineering Division  
 2/21/96  
 DATE



STORM DRAIN PROFILES  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1)  
 ZONING: R-20, R-5C, R-5A-B AND R-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 19RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 20 OF 30

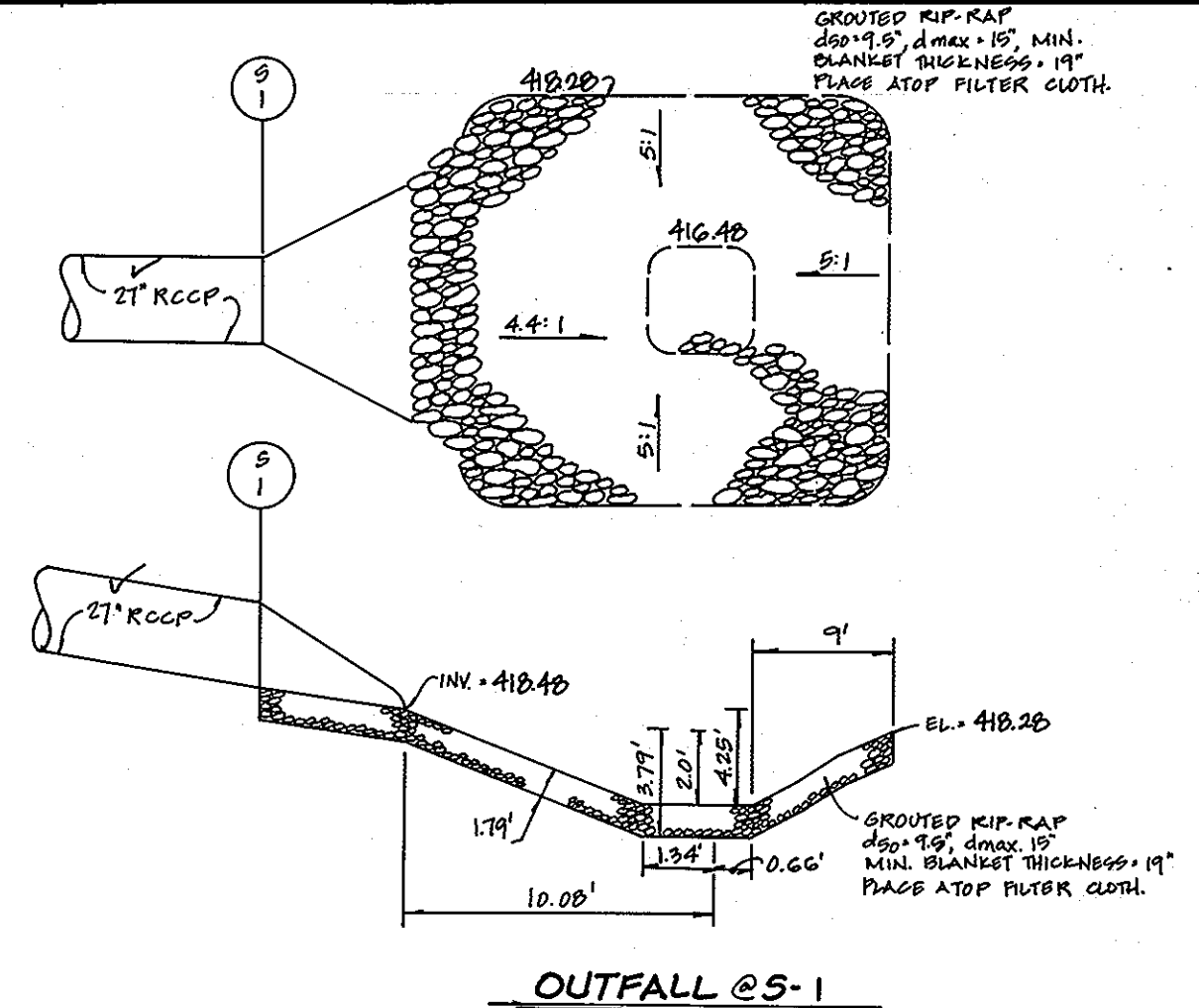
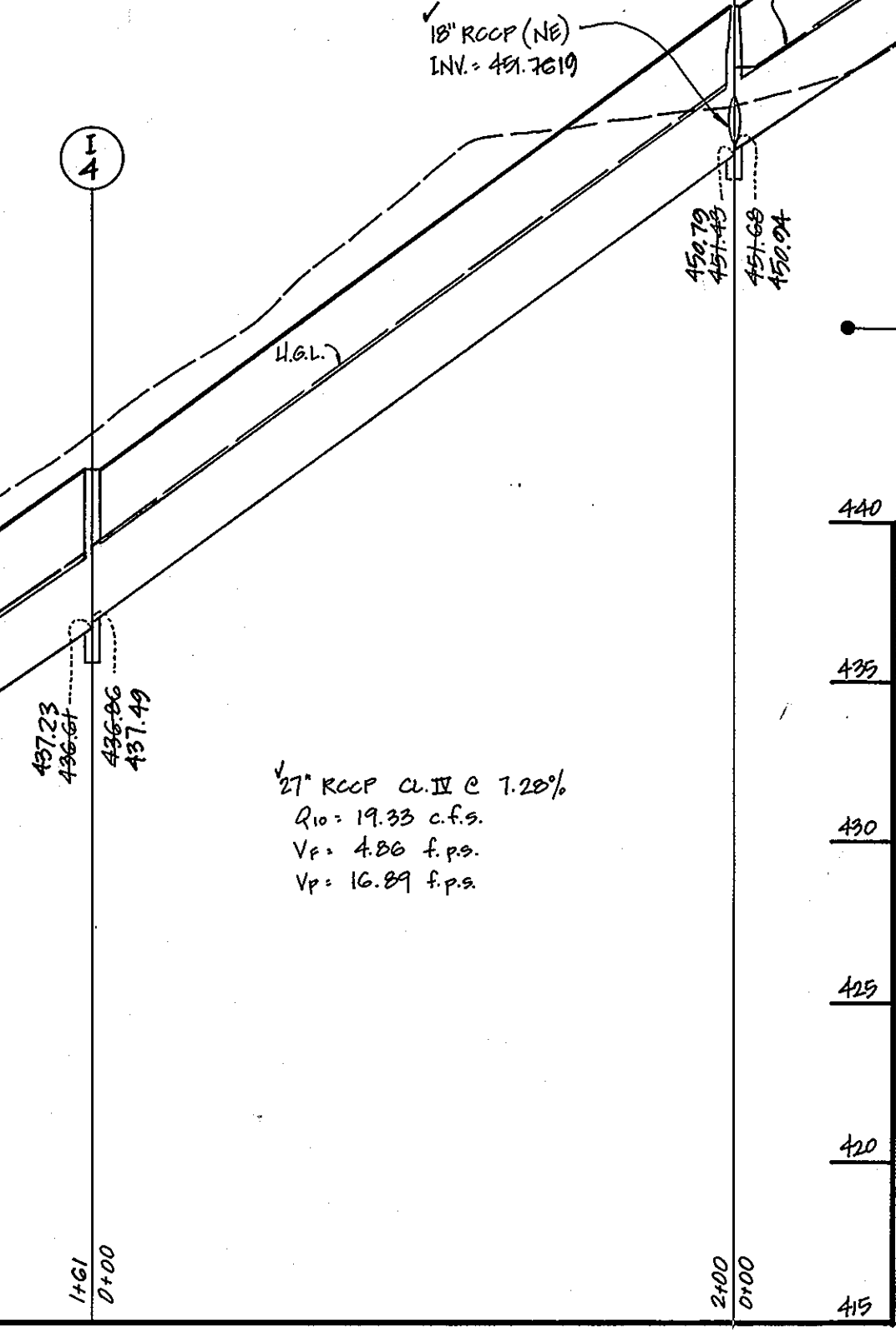
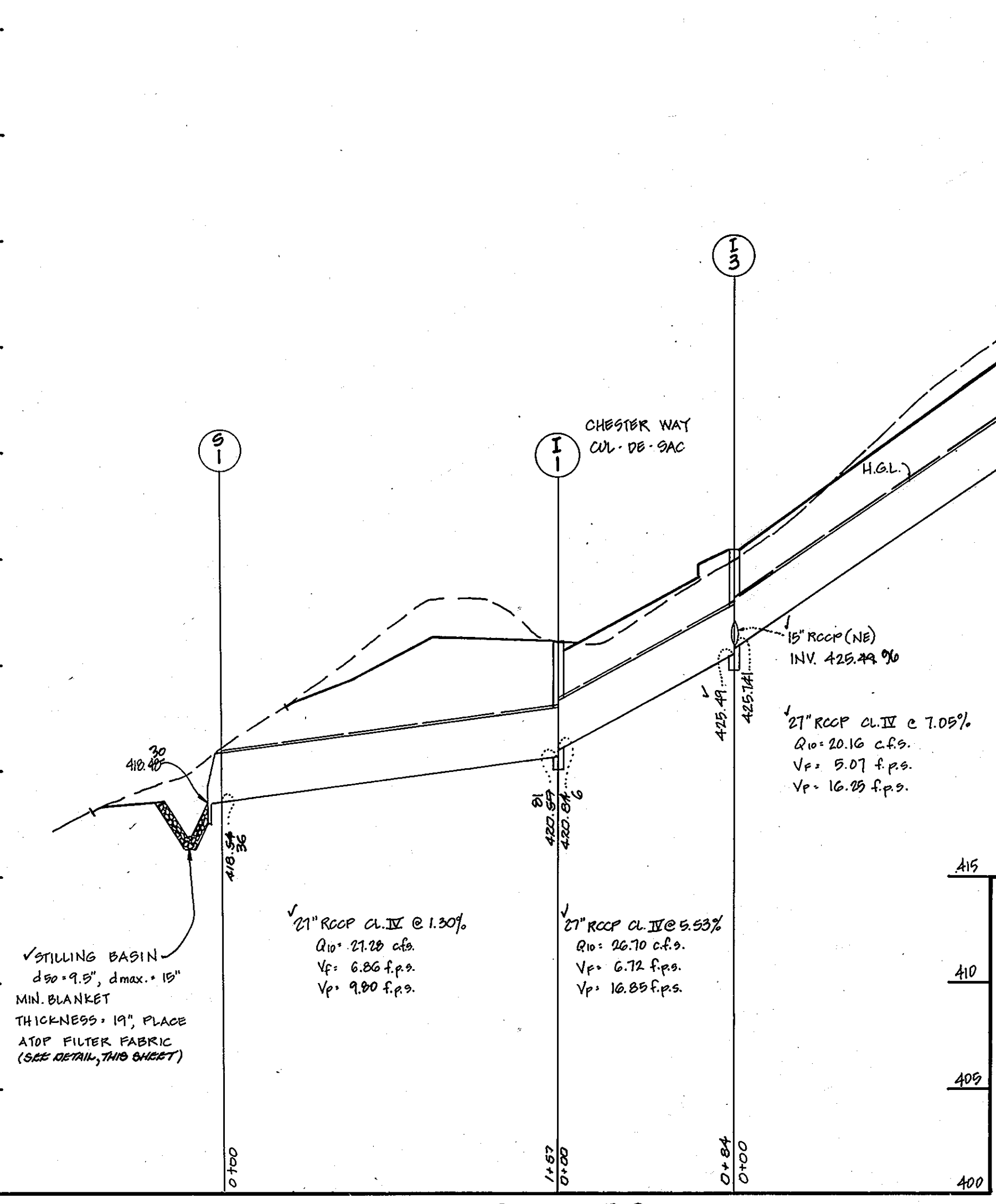
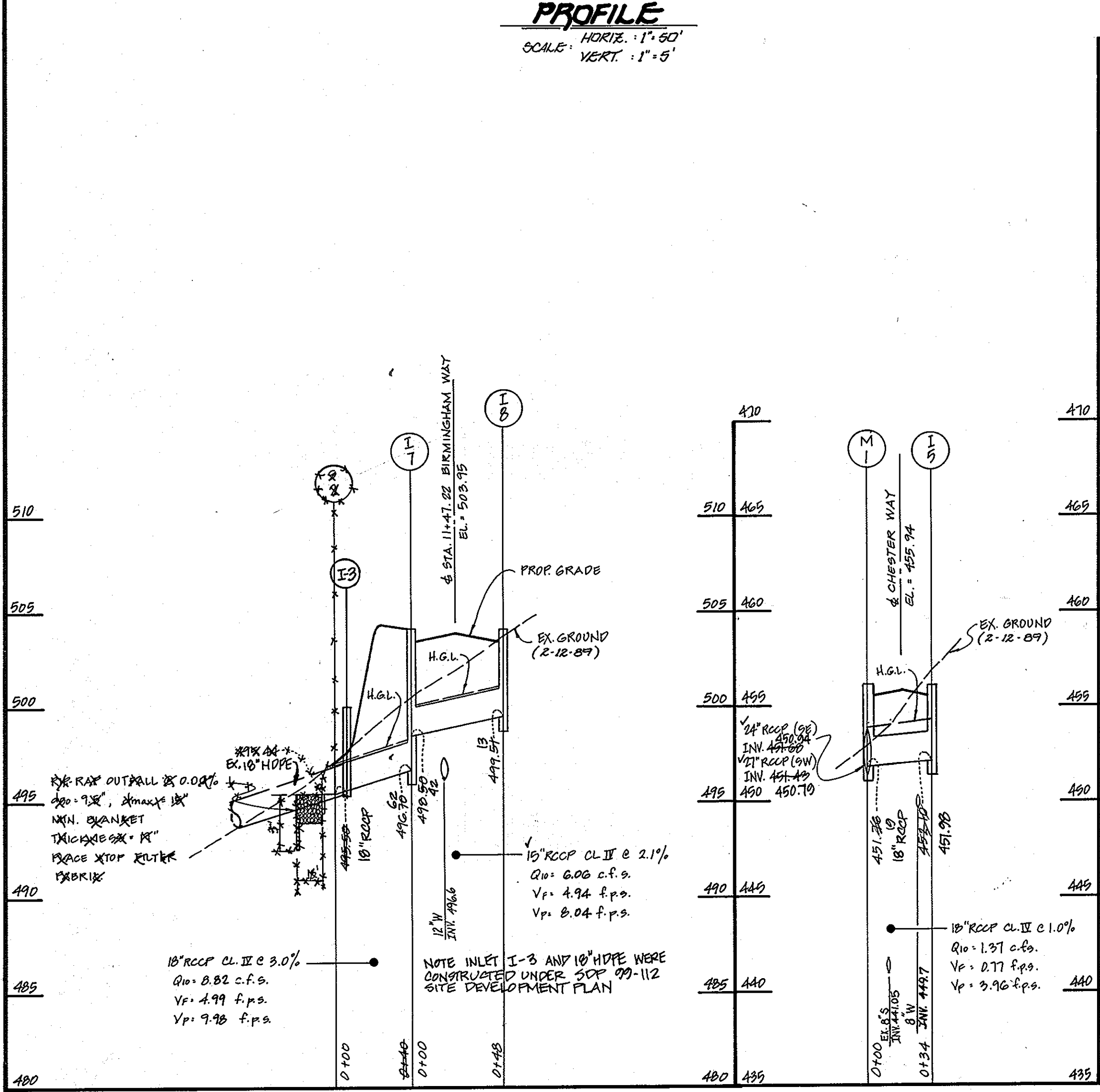
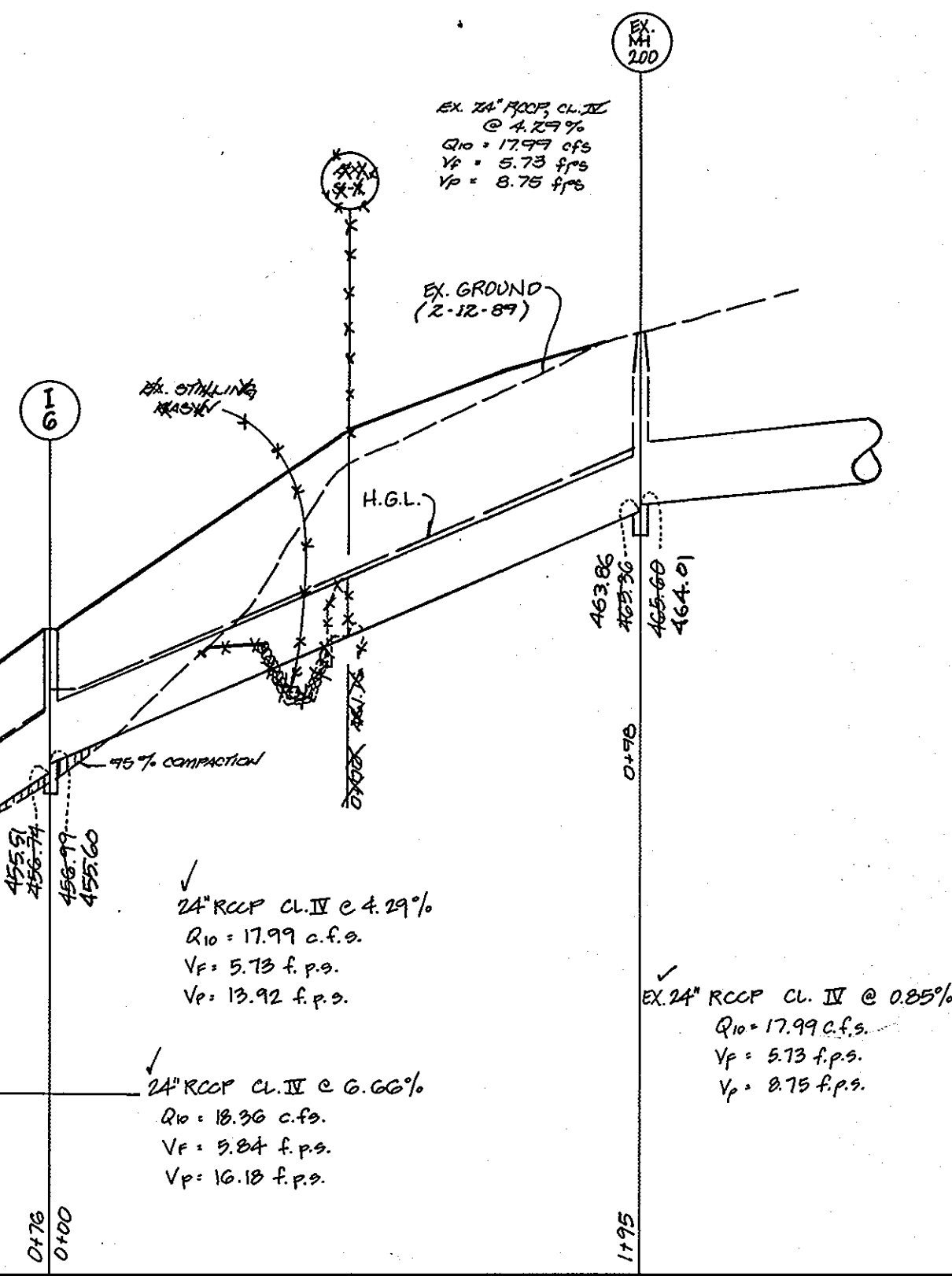
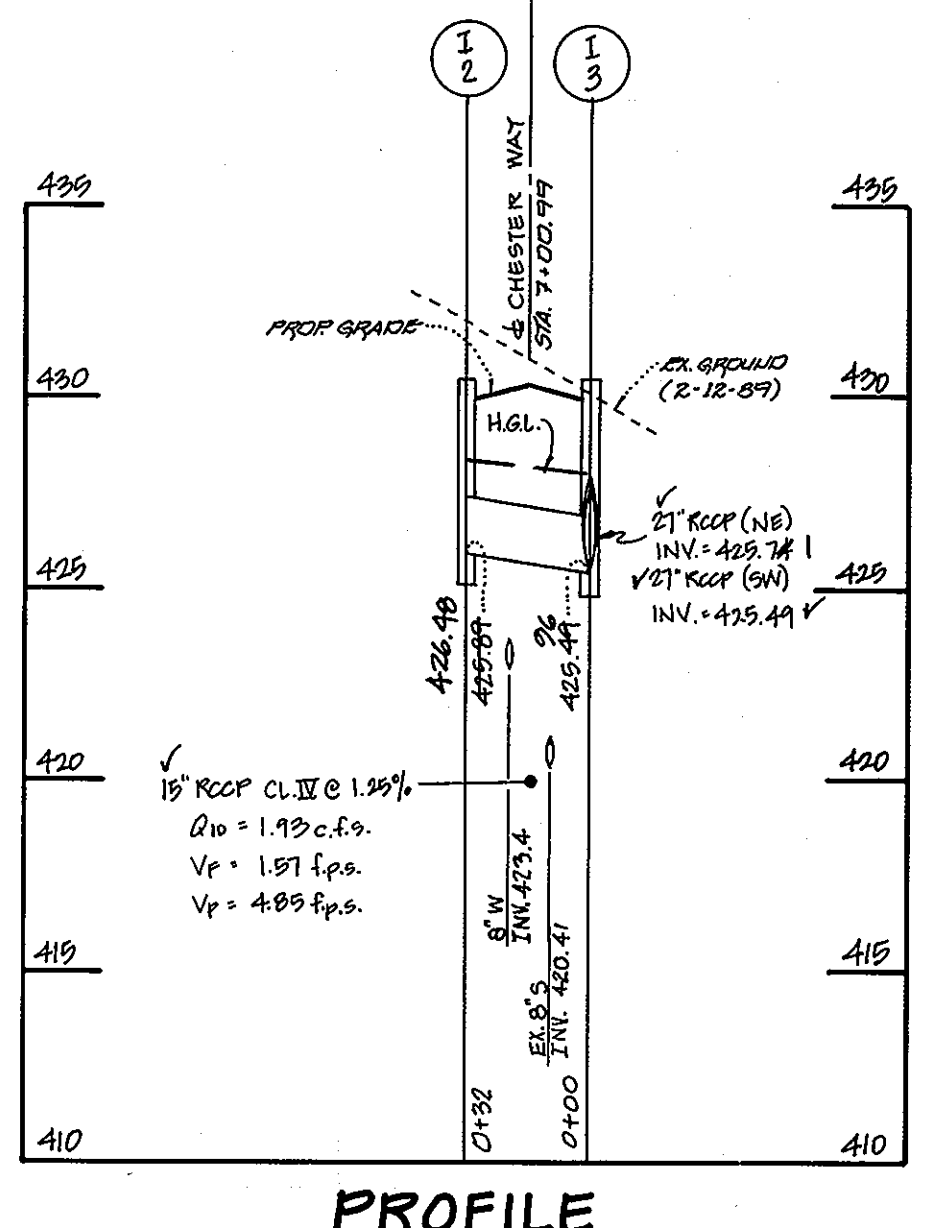
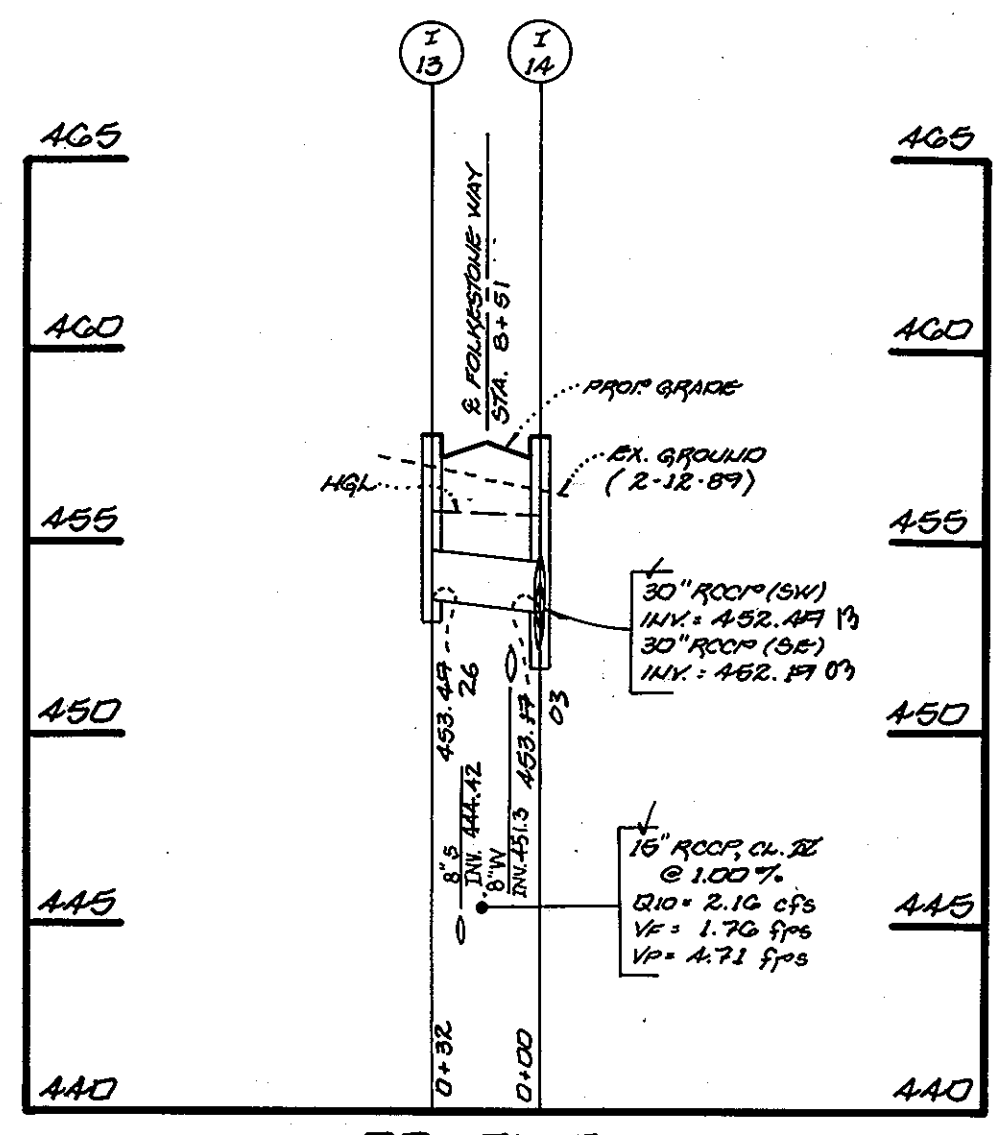
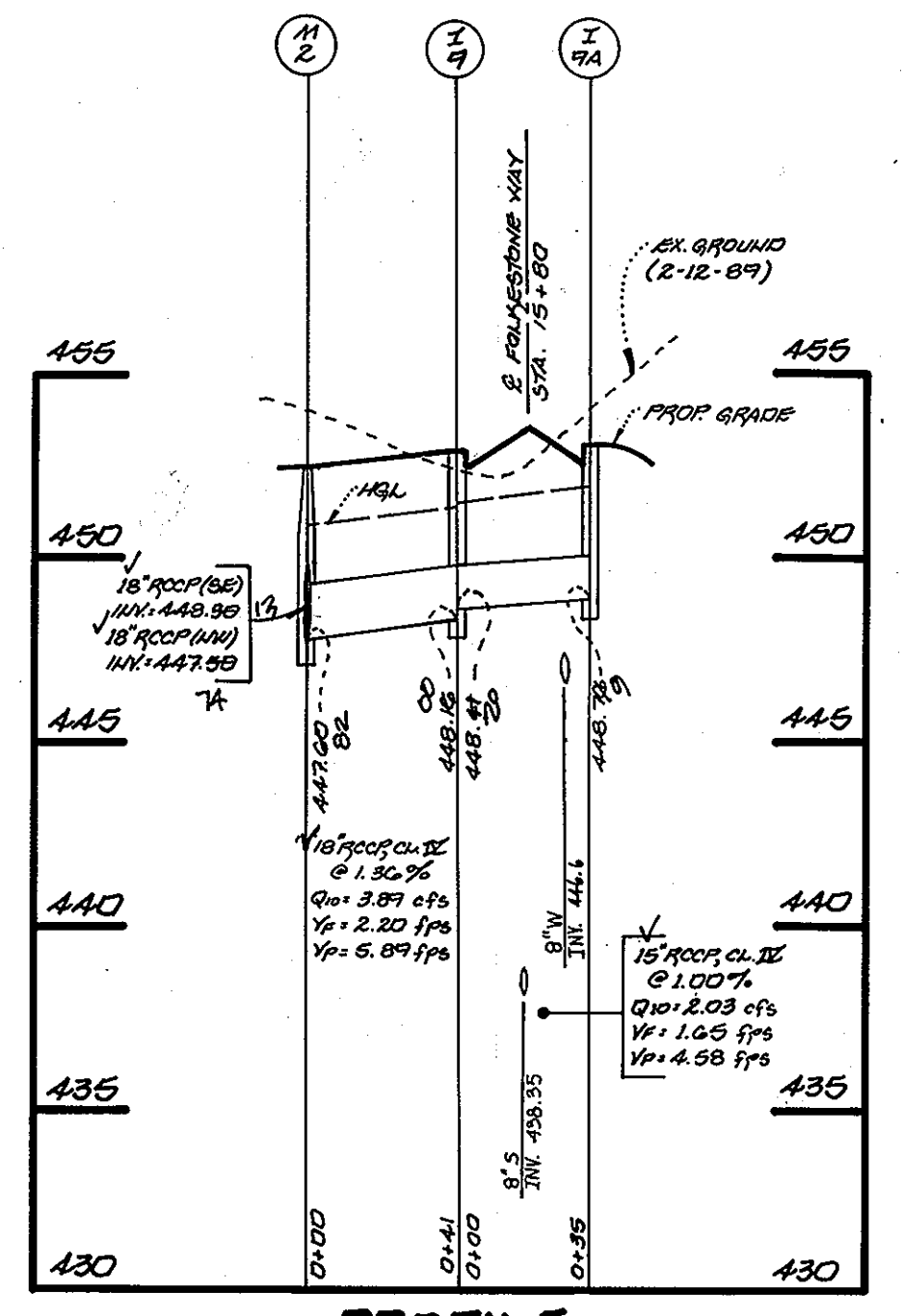
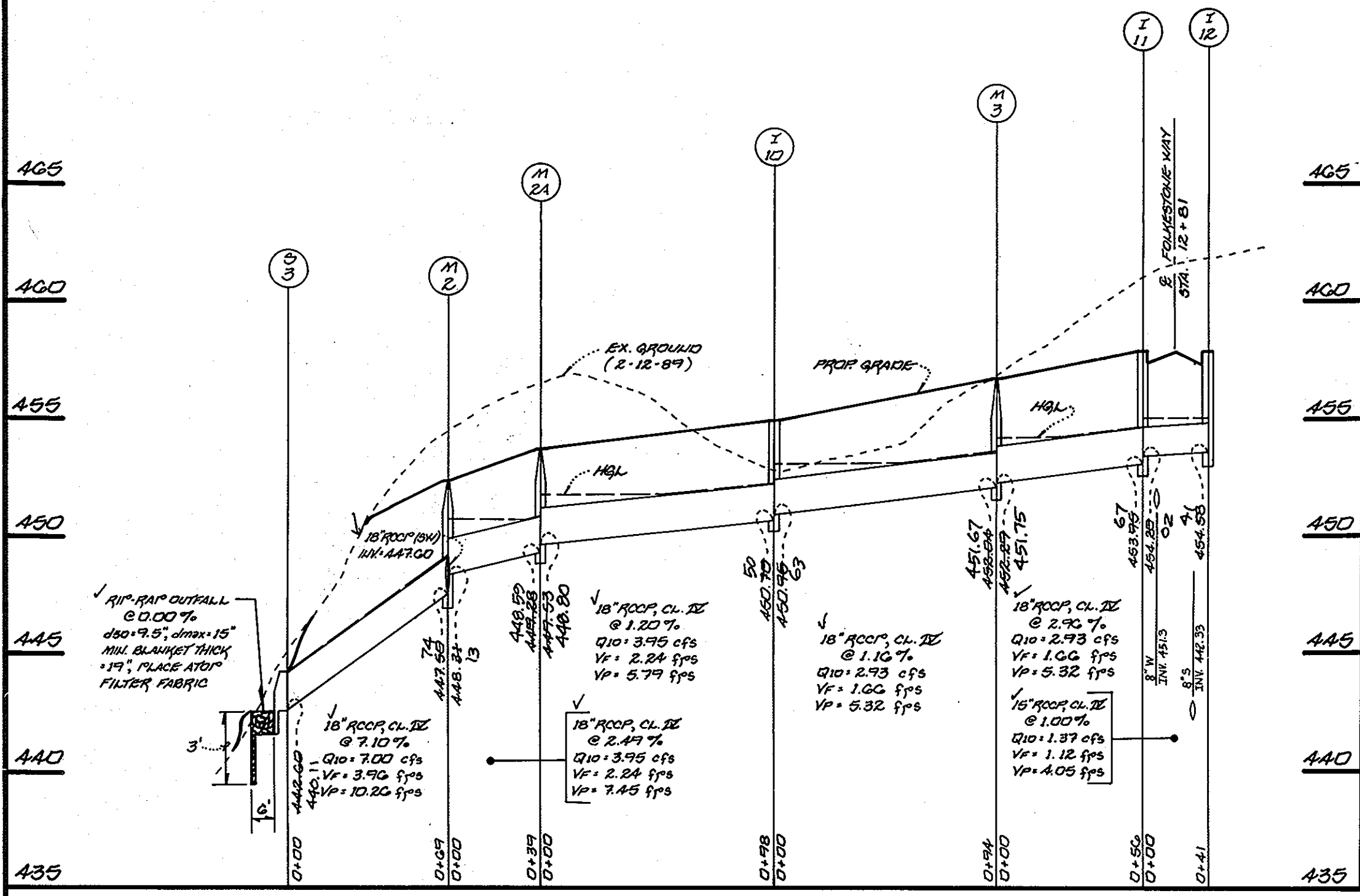
OWNER  
 GTW JOINT VENTURE  
 5% LAND DESIGN AND DEVELOPMENT  
 10205 HUNTERS RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

DEVELOPER  
 WAVERLY WOODS DEVELOPMENT CORP.  
 5% LAND DESIGN AND DEVELOPMENT  
 10205 HUNTERS RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

No.	Date	Revisions
1	8-21-03	Revised Structure Schedule to eliminate MH 9 and add I-17A

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 ELICOTT CITY, MARYLAND 21042  
 (410) 421-2852

12521



NOTE: EX. 24" ROOF CL. II @ 4.29%  
 $Q_{10} = 17.99$  c.f.s.  
 $V_p = 5.73$  f.p.s.  
 $V_p = 8.75$  f.p.s.

24" ROOF CL. II @ 4.29%  
 $Q_{10} = 17.99$  c.f.s.  
 $V_p = 5.73$  f.p.s.  
 $V_p = 13.92$  f.p.s.

EX. 24" ROOF CL. II @ 0.85%  
 $Q_{10} = 17.99$  c.f.s.  
 $V_p = 5.73$  f.p.s.  
 $V_p = 8.75$  f.p.s.

27" ROOF CL. II @ 7.20%  
 $Q_{10} = 19.33$  c.f.s.  
 $V_p = 4.86$  f.p.s.  
 $V_p = 16.84$  f.p.s.

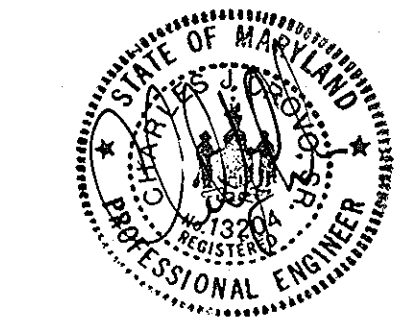
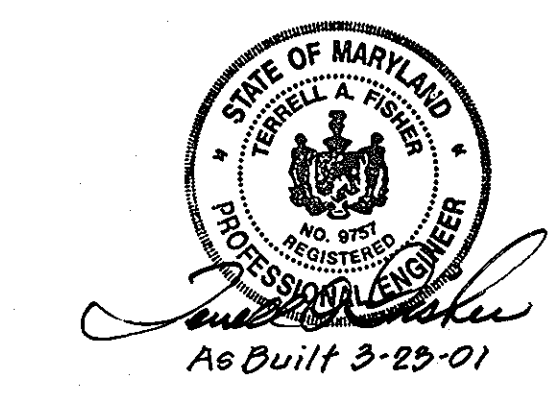
21" ROOF CL. II @ 7.05%  
 $Q_{10} = 20.16$  c.f.s.  
 $V_p = 9.07$  f.p.s.  
 $V_p = 16.89$  f.p.s.

21" ROOF CL. II @ 1.30%  
 $Q_{10} = 21.28$  c.f.s.  
 $V_p = 6.80$  f.p.s.  
 $V_p = 9.80$  f.p.s.

27" ROOF CL. II @ 5.53%  
 $Q_{10} = 26.70$  c.f.s.  
 $V_p = 6.72$  f.p.s.  
 $V_p = 16.85$  f.p.s.

NOTE: INLET I-3 AND I-10 WERE CONDUITED UNDER SOT 99-112 SITE DEVELOPMENT PLAN

STILLING BASIN  
 450' x 9.5', dmax. 15"  
 MIN. BLANKET  
 THICKNESS: 19", PLACE  
 ATOP FILTER FABRIC  
 (SEE DETAIL, TWO SHEET)



**STORM DRAIN PROFILES**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 1B,  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1)

**OWNER**  
 GTW JOINT VENTURE  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORP.  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

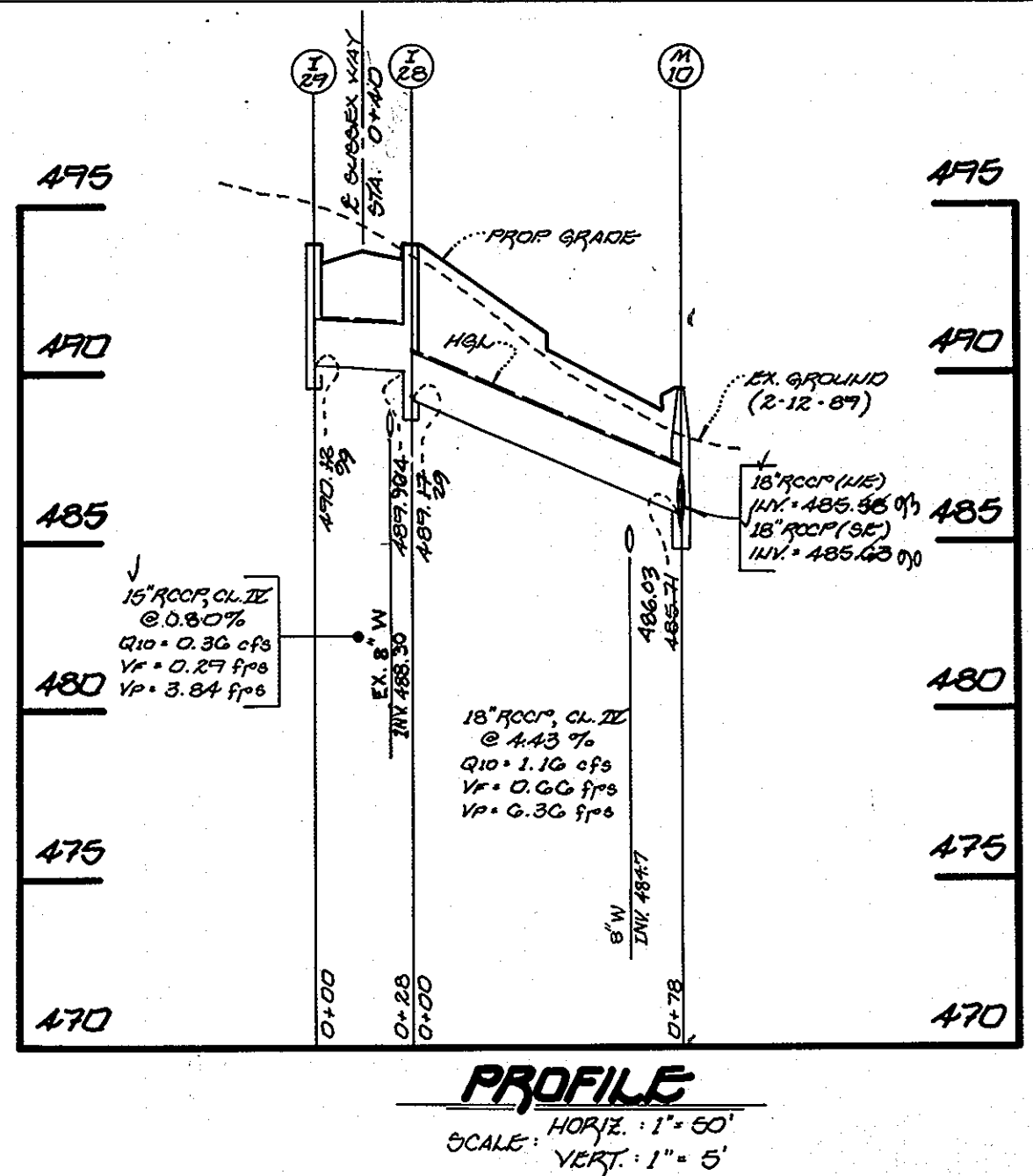
ZONING: R-20, RSC, R-5A-0 AND R-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1998  
 SHEET 21 OF 30

3521

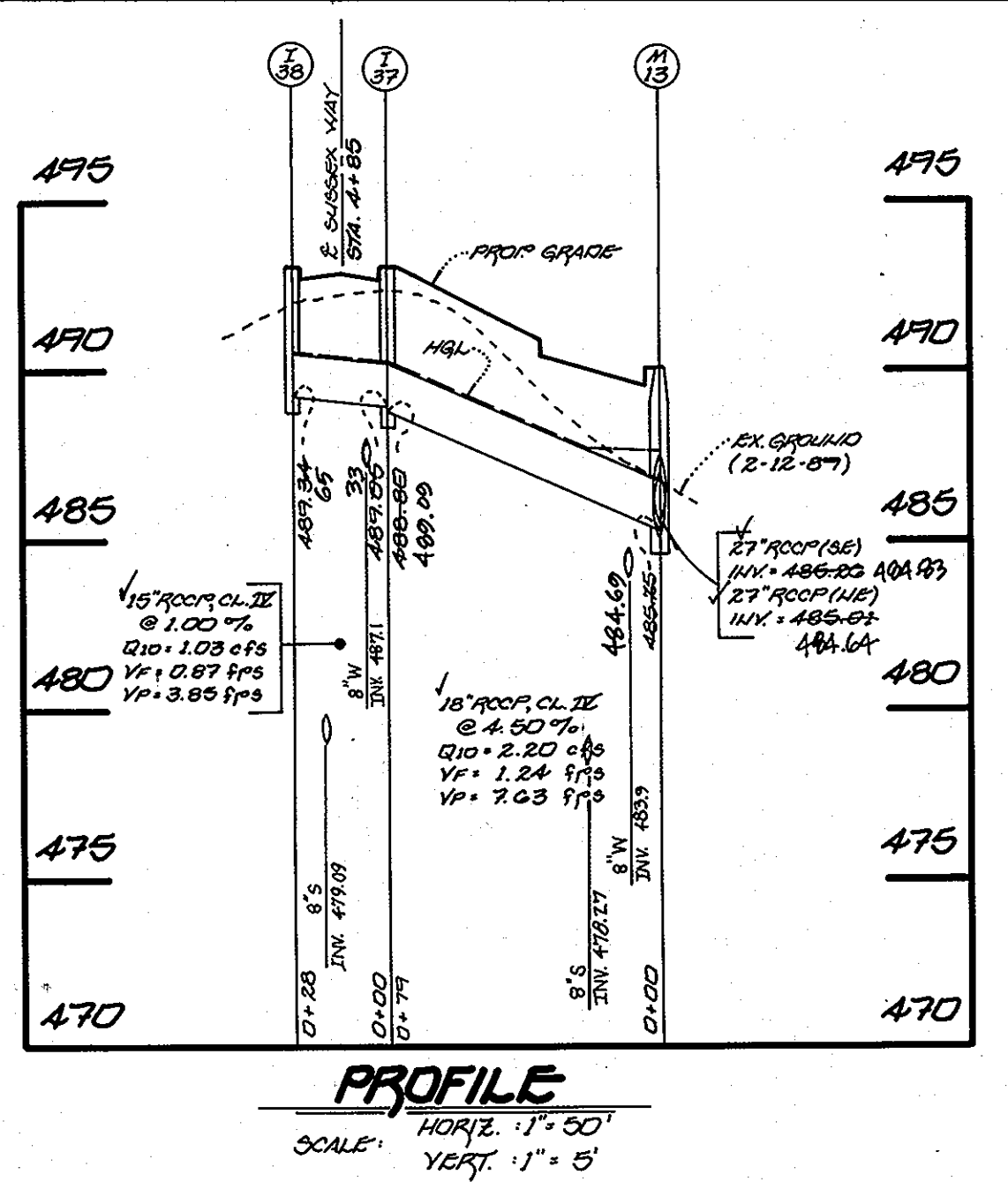
APPROVED DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE 12-26-96

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE 1/7/97

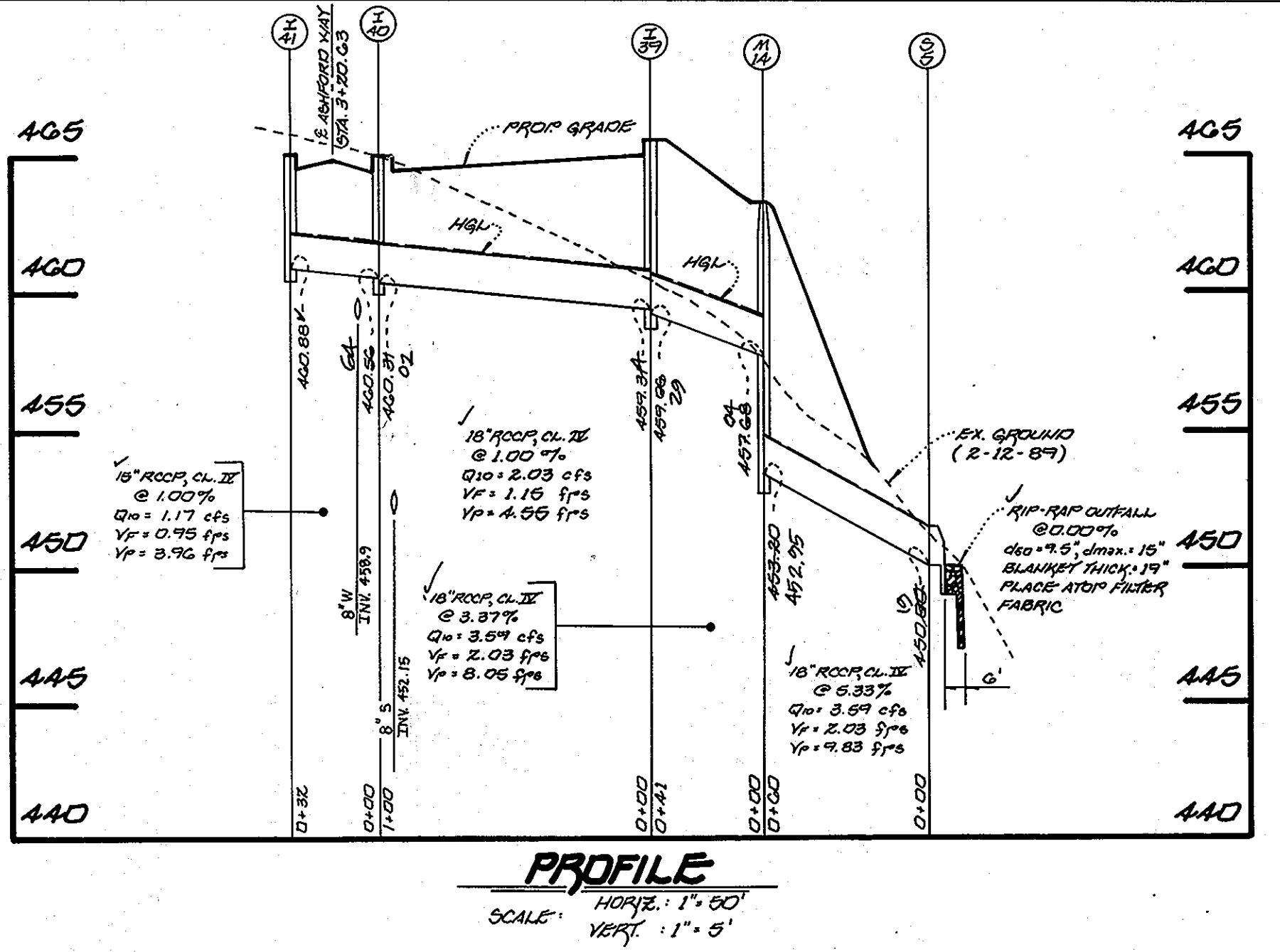
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE 4/16/96



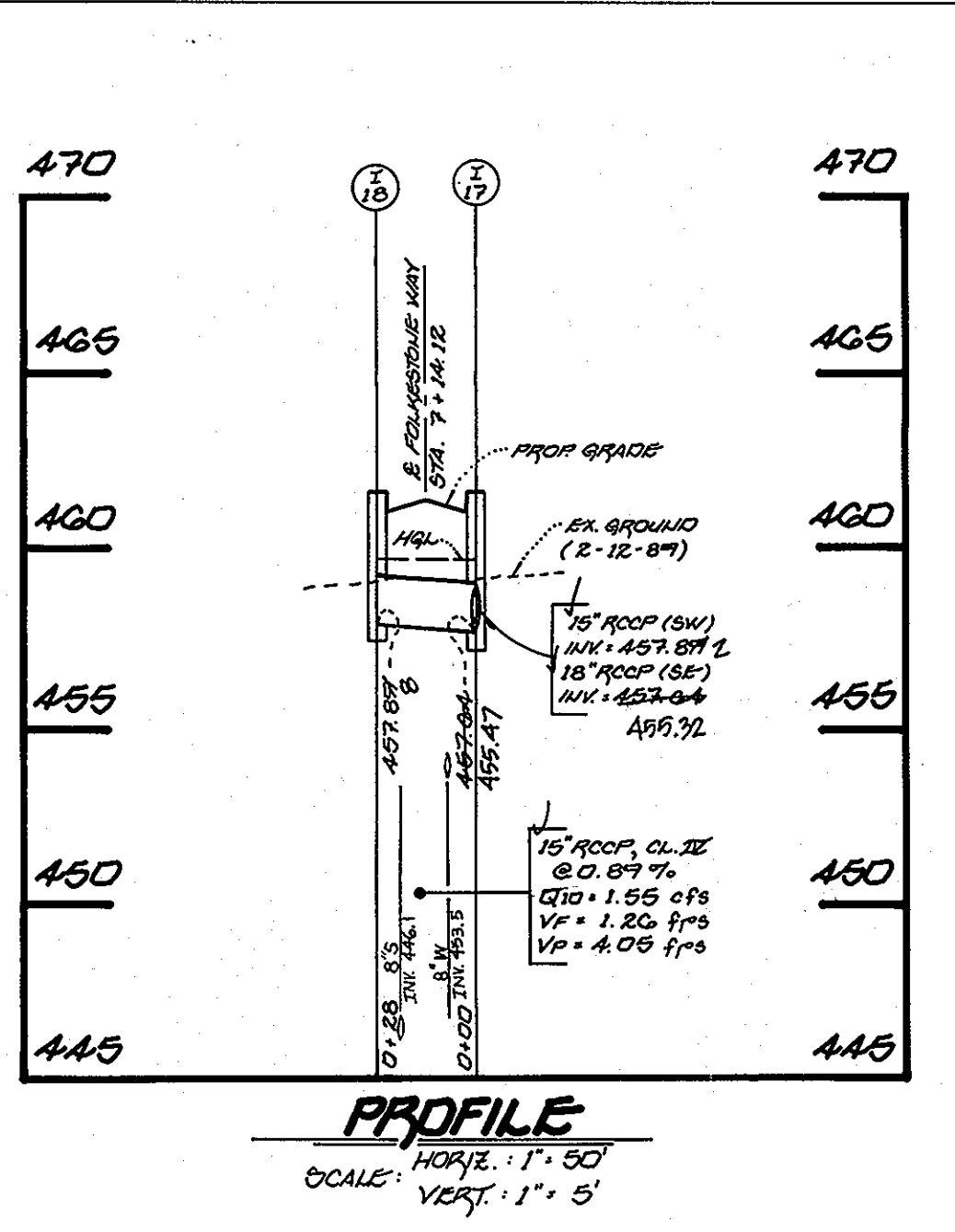
PROFILE  
 SCALE: HORIZ. 1" = 50'  
 VERT. 1" = 5'



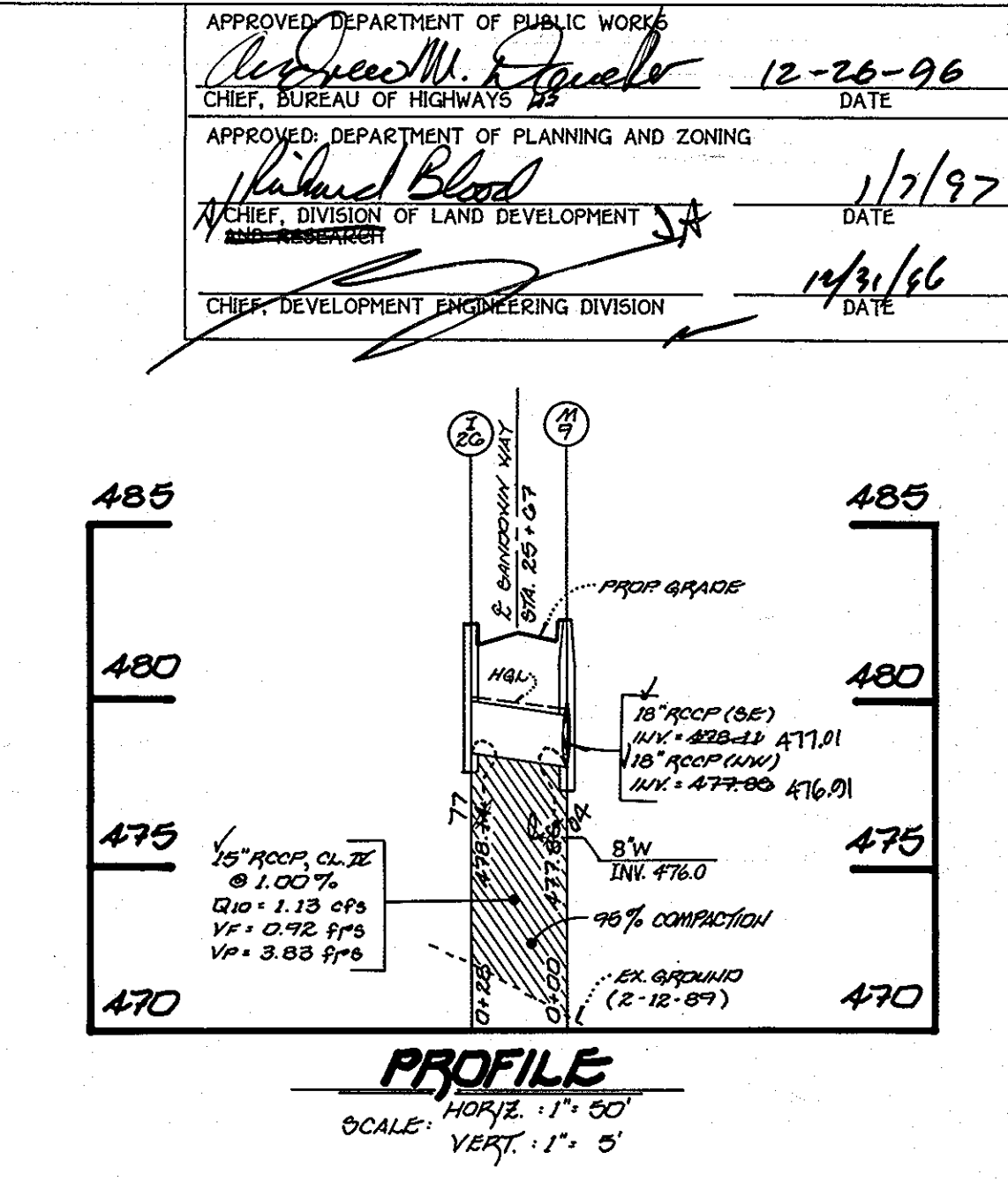
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 SCALE: HORIZ. 1" = 50'  
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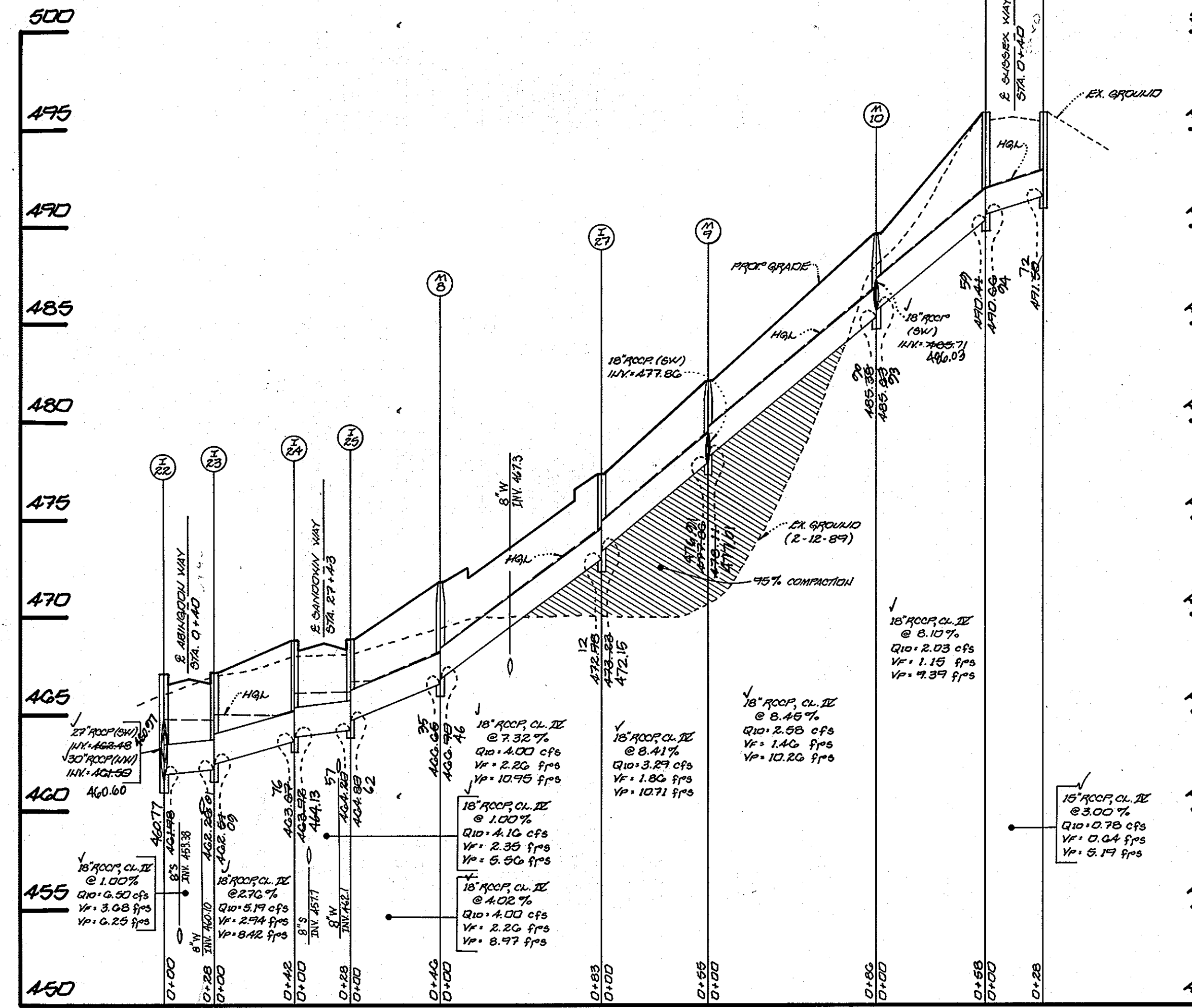
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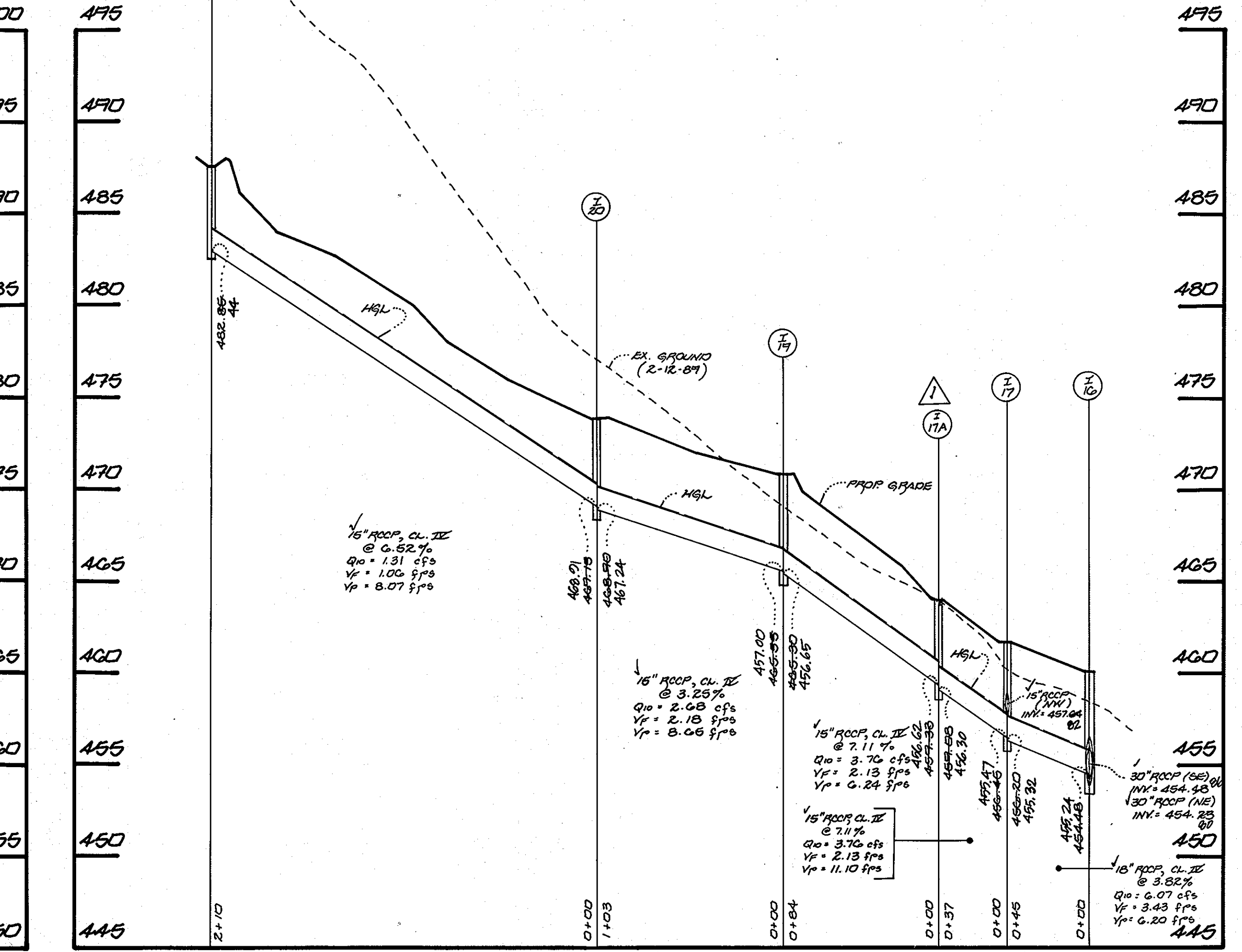
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 VERT. 1" = 5'



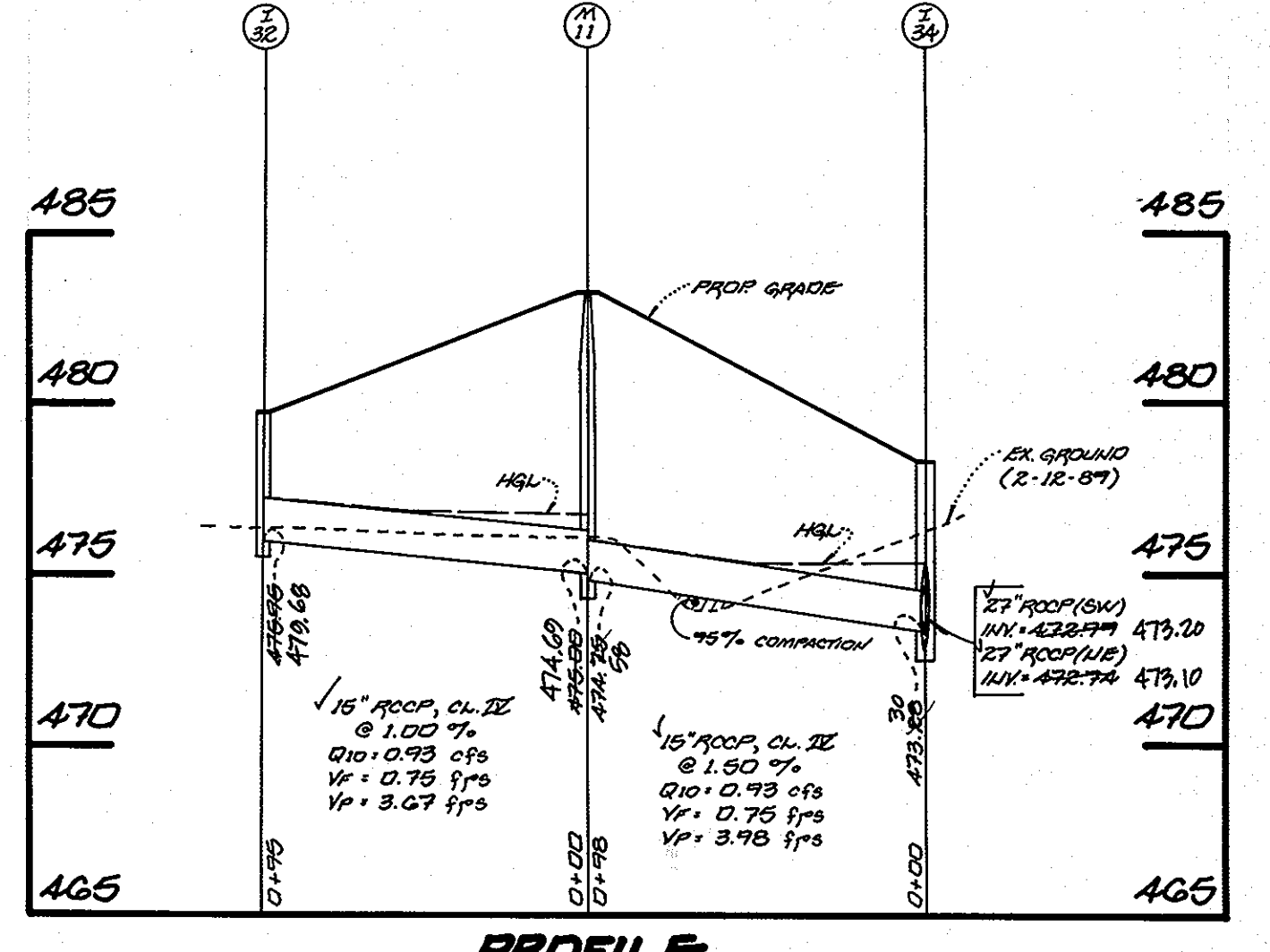
PROFILE  
 SCALE: HORIZ. 1" = 50'  
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PROFILE  
 SCALE: HORIZ. 1" = 50'  
 VERT. 1" = 5'



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



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

No.	Date	Revisions
1	8-21-03	Eliminated MH 7, added I-17A

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING, GENERAL CONTRACTS & LAND SURVEYING  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 MD REG. NO. 2258

OWNER  
 GWV JOINT VENTURE  
 10305 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

DEVELOPER  
 WAVERLY WOODS DEVELOPMENT CORP.  
 10305 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 As Built 3-23-01

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER

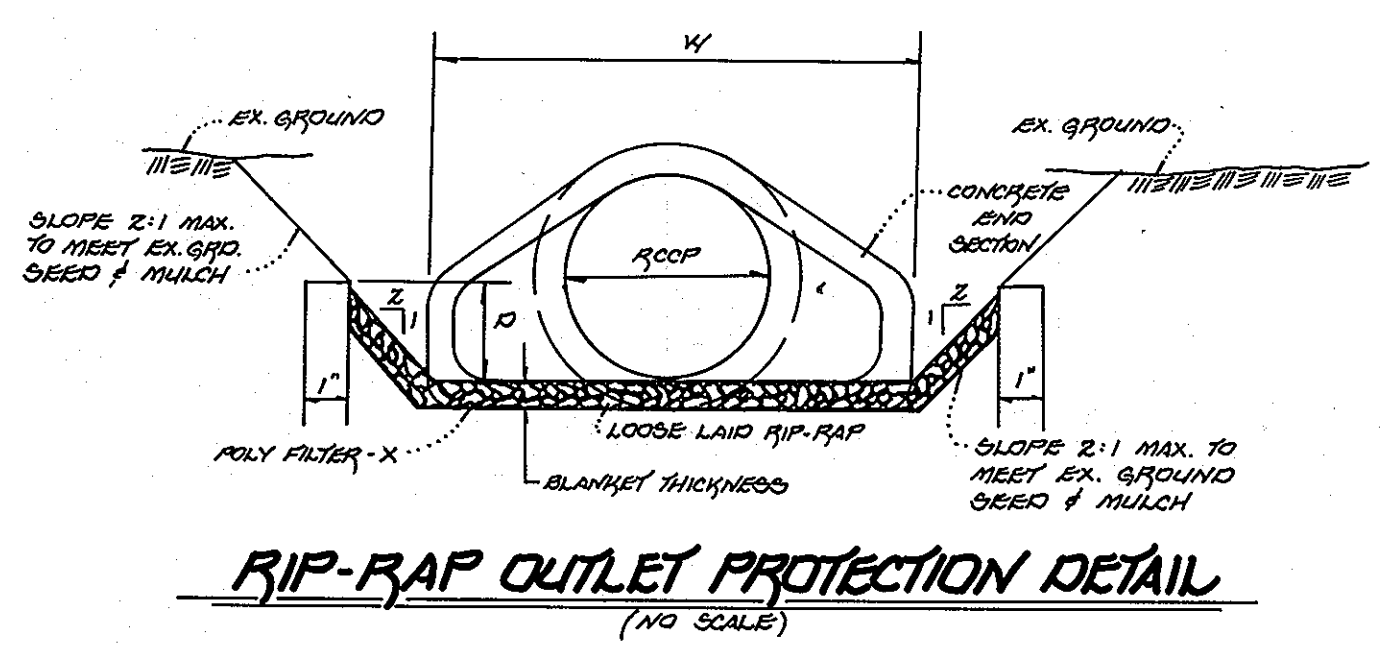
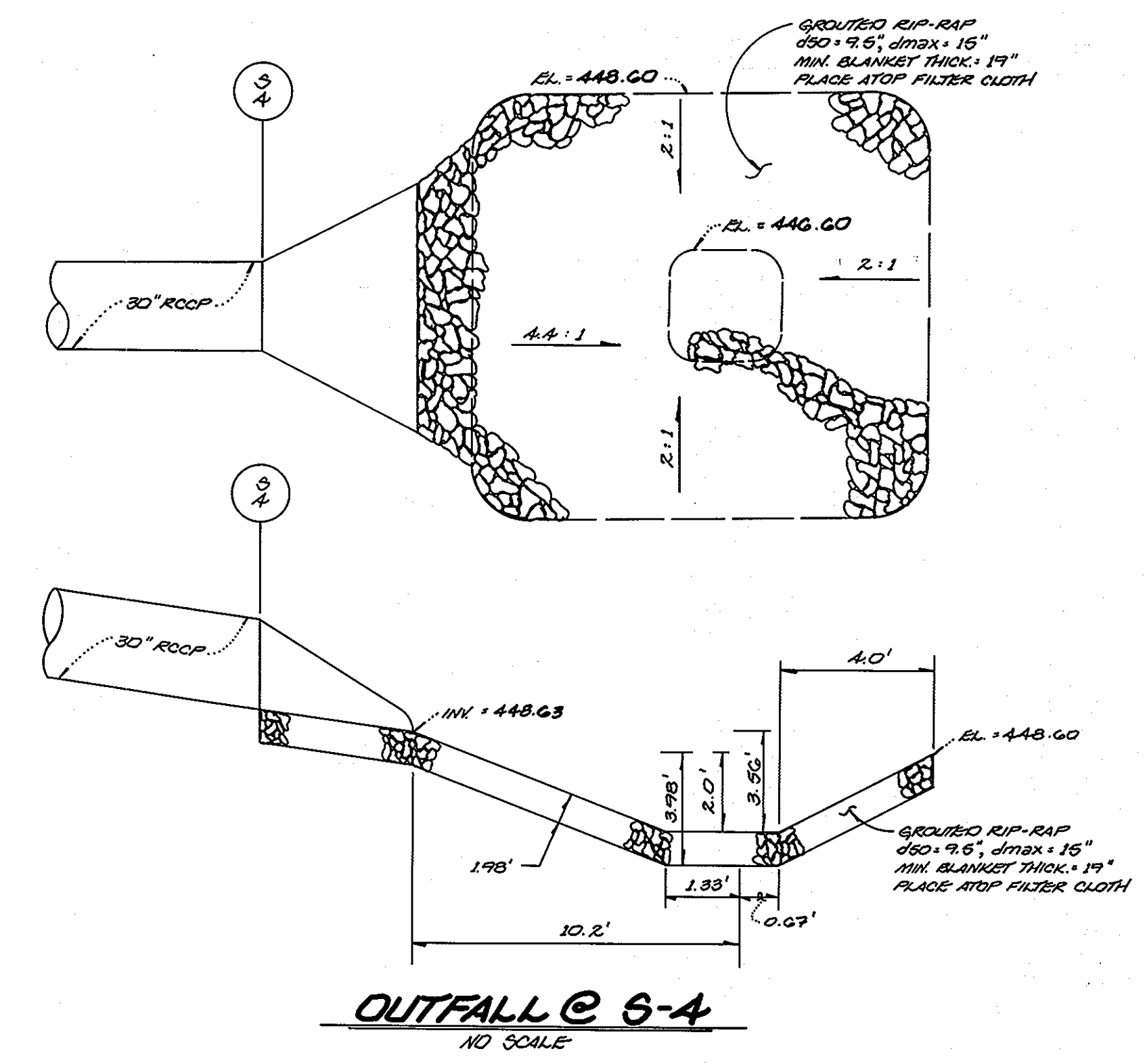
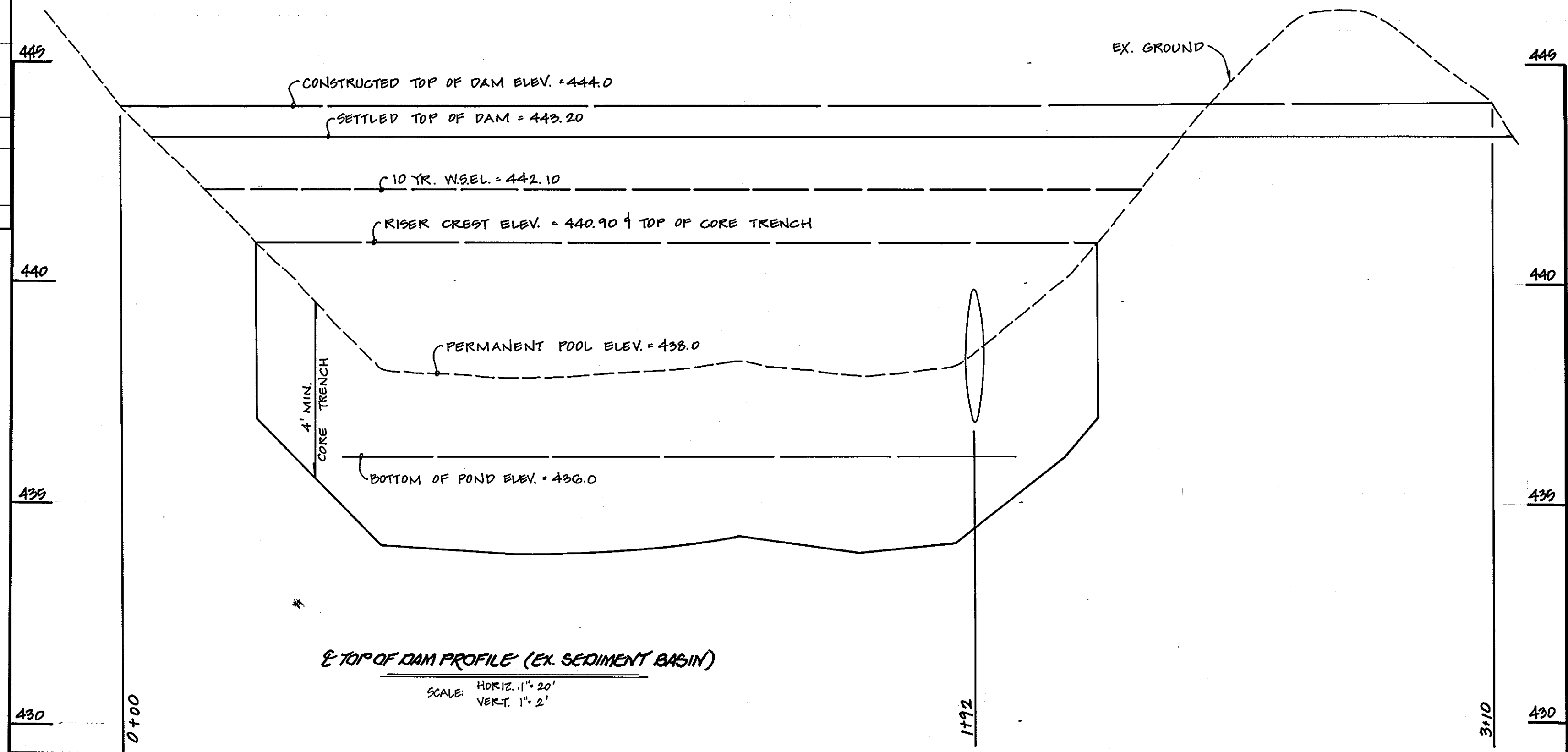
STORM DRAIN PROFILES  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 199B AND PART OF PHASE 1996-  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1.)  
 ZONING: R-20, RSC, R-5A-B AND R-A-15  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 22 OF 30

Richard Blood 1/7/97  
 A/ CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

10/31/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

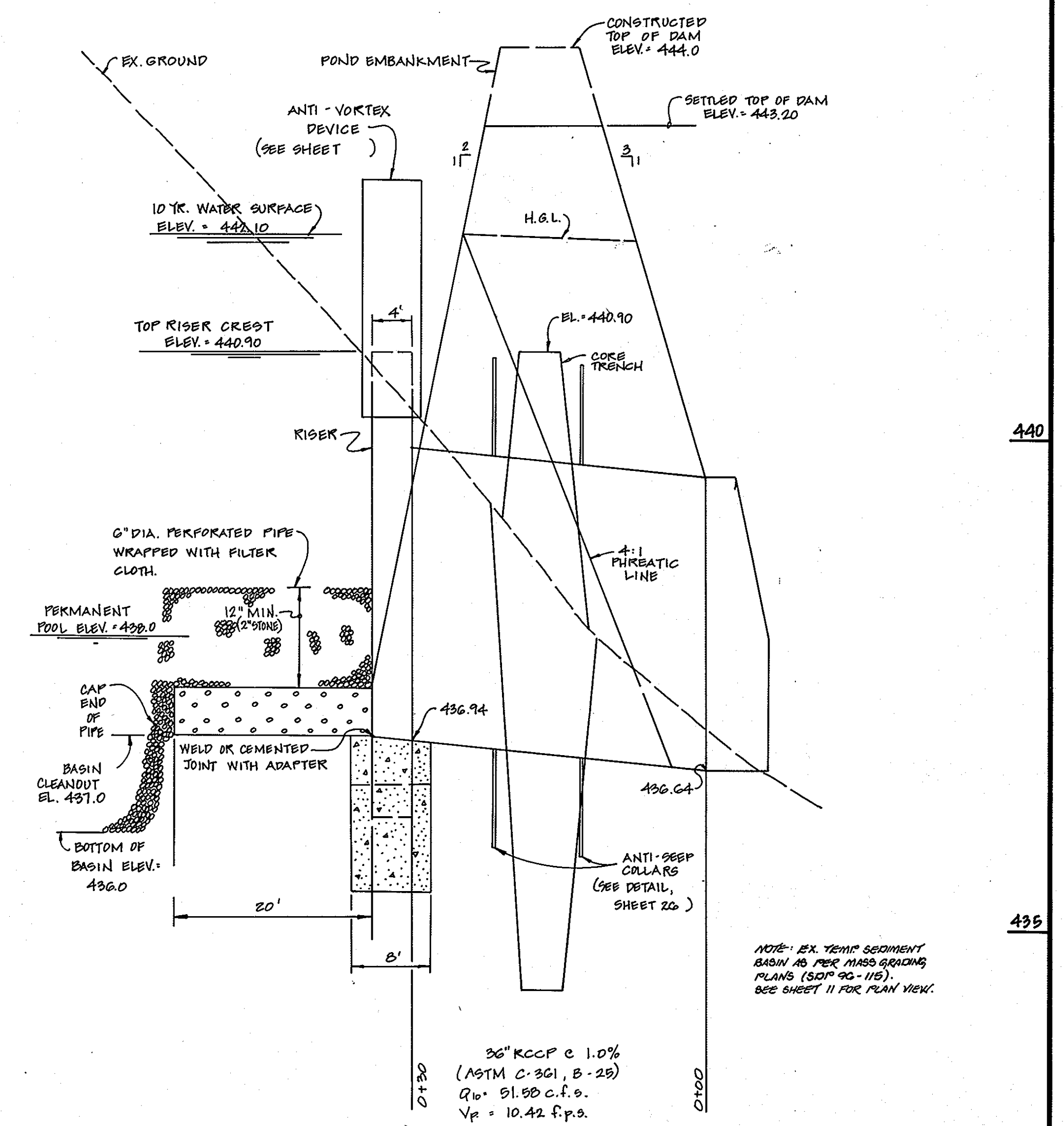
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 12-26-96  
 DATE

Richard M. Queler  
 CHIEF, BUREAU OF HIGHWAYS



RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WATERSHED PERCENTILES	R	A <sup>2/3</sup>	Q	Q <sup>1/2</sup>	W	D	N	V(FPS)	Q(CFS)	DESIGN SPEED (FPS)	DESIGN CHANNEL THICK.
S-2	4.7712	7.7500	0.6151	0.7231	.005	.0707	4'	0.84'	0.4	1.80	9.07	9.5	19"
S-3	4.1752	7.3785	0.5270	0.6899	.005	.0707	4'	0.72'	0.4	1.80	7.66	9.5	19"
S-5	2.6226	6.3255	0.4143	0.5552	.005	.0707	4'	0.52'	0.4	1.40	3.83	7.5	19"



EXISTING TEMPORARY SEDIMENT BASIN

DRAINAGE AREA = 11.43 Ac.  
 PROPOSED RCN = 86  
 PROPOSED T<sub>c</sub> = 0.27  
 10 YR. WATER SURFACE ELEV. = 442.10  
 STORAGE REQUIRED = 41,148 c.f.  
 STORAGE PROVIDED = 76,664 c.f.

SEDIMENT BASIN DETAIL  
 SCALE: HORIZ. 1" = 10'  
 VERT. 1" = 1'

DETAIL SHEET  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 1998 AND PART OF PHASE 1996,  
 CONTAINING LOTS 12 THRU 19 AND PARCEL 'B',  
 GTW'S WAVERLY WOODS - SECTION 4, AREA 1)

ZONING: R-20, R-30, R-3A-B AND R-A-15  
 TAX MAP No. 16 PART OF PARCEL No. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1990  
 SHEET 23 OF 30



12521

20.0 STANDARDS AND SPECIFICATIONS

VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion. PURPOSE: 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 run-off to downstream areas, and improving wildlife habitat and visual resources. CONDITIONS WHERE PRACTICE APPLIES: This practice shall be used on degraded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, 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 lawns, dams, cut and fill slopes and other areas at final grade, former stockpile 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, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation 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, seeding preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- Site Preparation
  - Install erosion and sediment control structures (either temporary or permanent) such as diversions, 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 necessary for temporary seeding.
  - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- Soil Amendments (Fertilizer and Lime Specifications)
  - Soil tests must be performed to determine the exact ratios 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. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled 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 90-100% will pass through a #20 mesh sieve.
  - Incorporate lime and fertilizer into the top 3-5" of soil by disking 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%) should be tracked 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.
  - Permanent Seeding
    - Minimum soil conditions required for permanent vegetative establishment:
      - Soluble salts shall be between 5.0 and 7.0.
      - The soil shall contain less than 40% clay, but enough fine grained material (3000 silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if *Lespedeza* or *Sesuvia* species is to be planted, then a sandy soil (300 silt plus clay) would be acceptable.
      - Soil shall contain 1% minimum organic matter by weight.
      - Soil must contain sufficient pore space to permit adequate root penetration.
      - If these conditions cannot be met by soils on site, adding topsoil is required.
    - Soil shall contain 1% minimum organic matter by weight.
    - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
    - Apply soil amendments as per soil test or as included on the plans.
    - Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3%) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

STAKING DETAIL NOT TO SCALE

GRADING FOR PLANTING ON SLOPES NOT TO SCALE

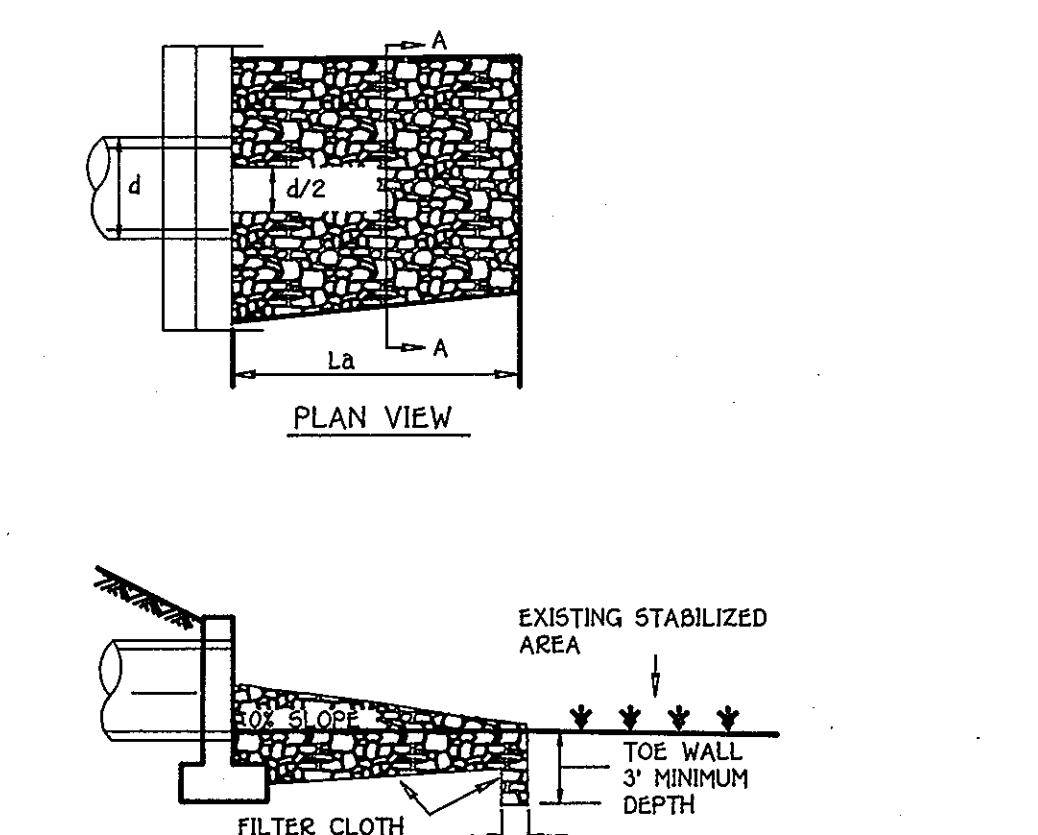
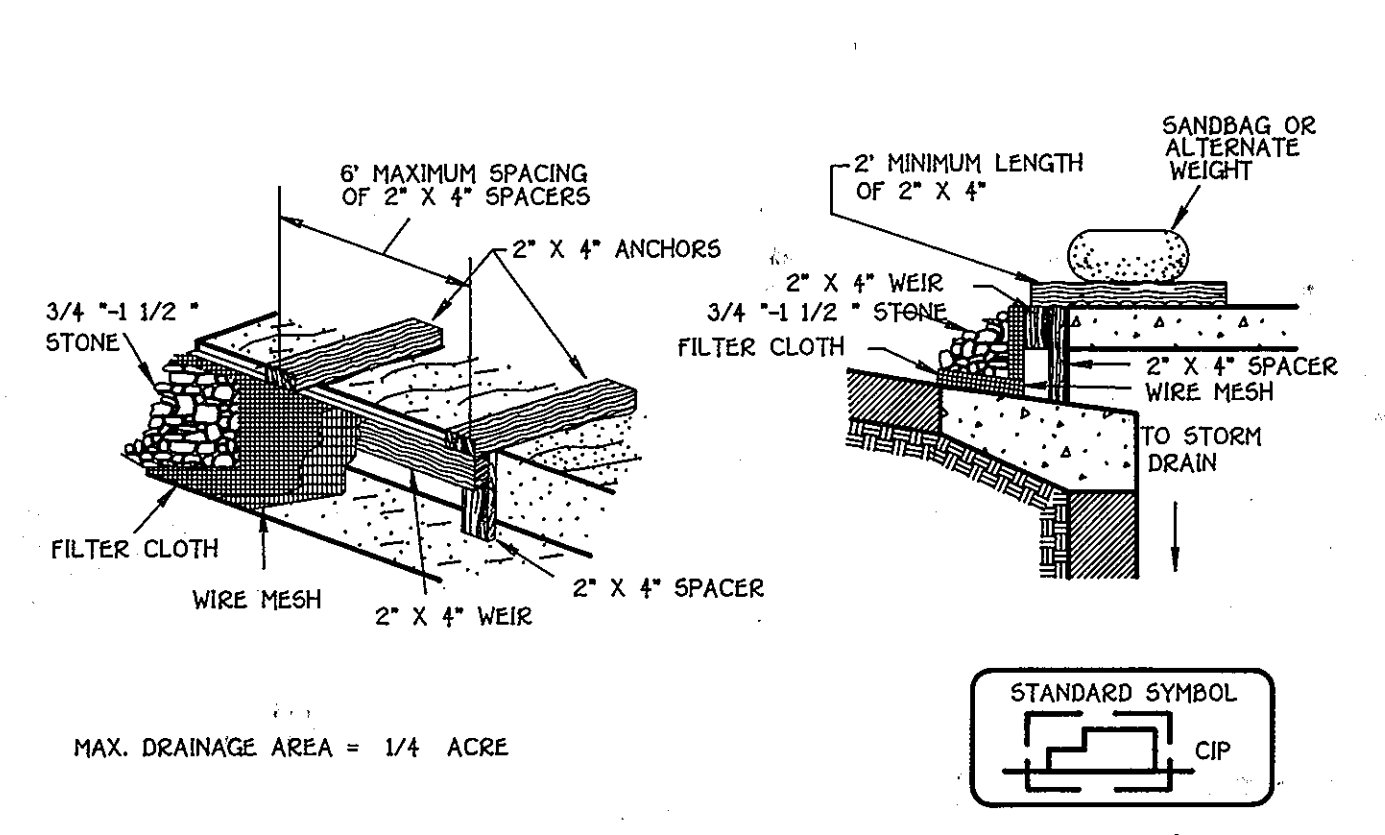
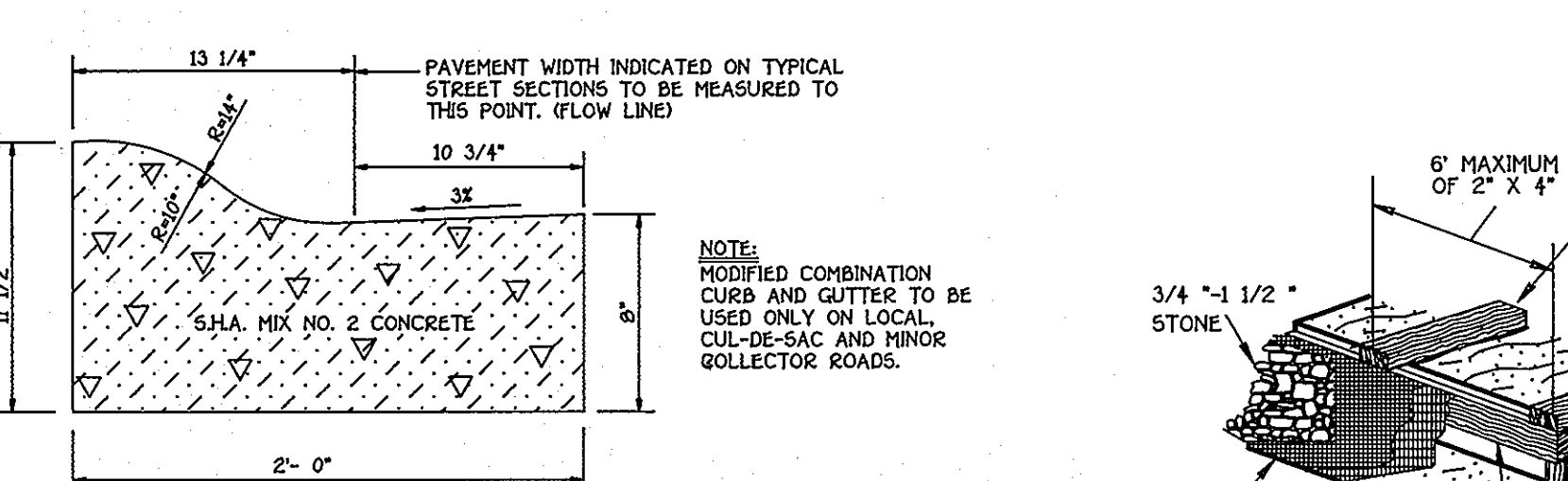
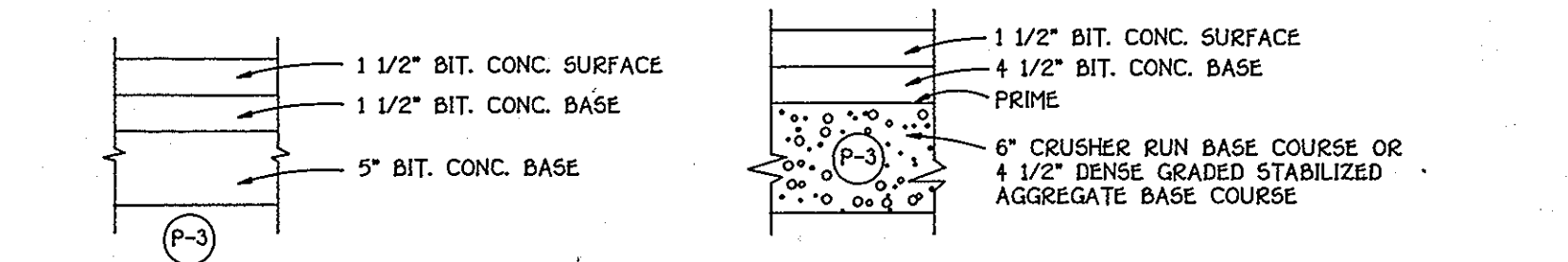
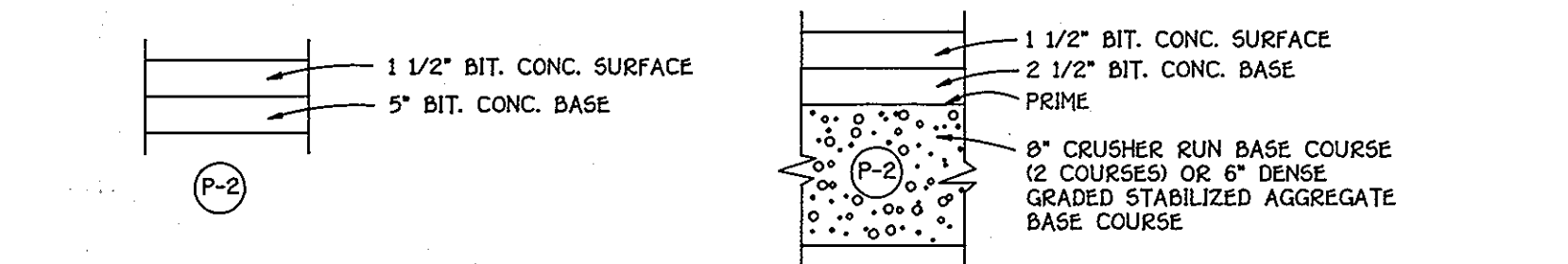
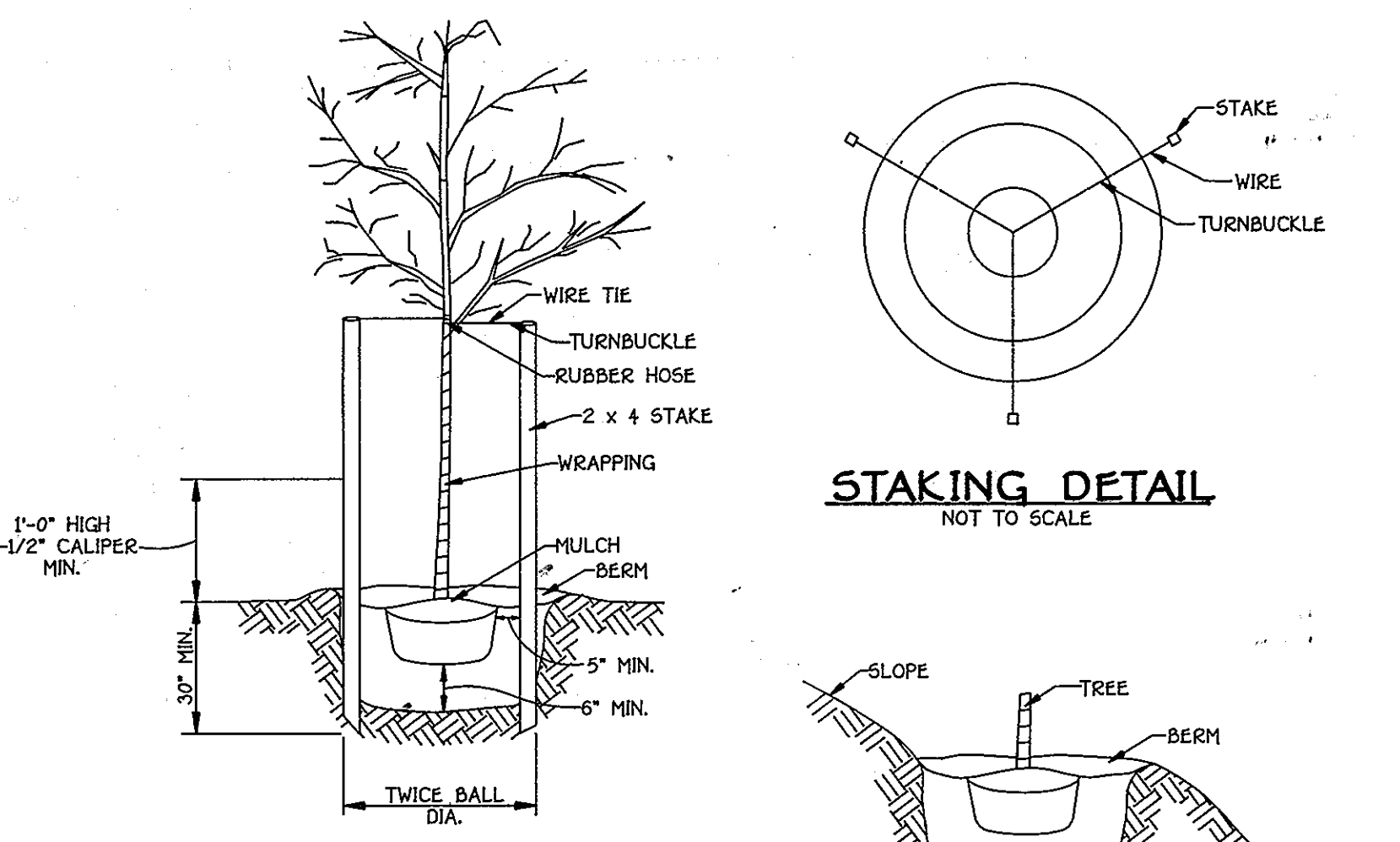
TREE PLANTING NOT TO SCALE

PAVING SECTION P-2 NO SCALE

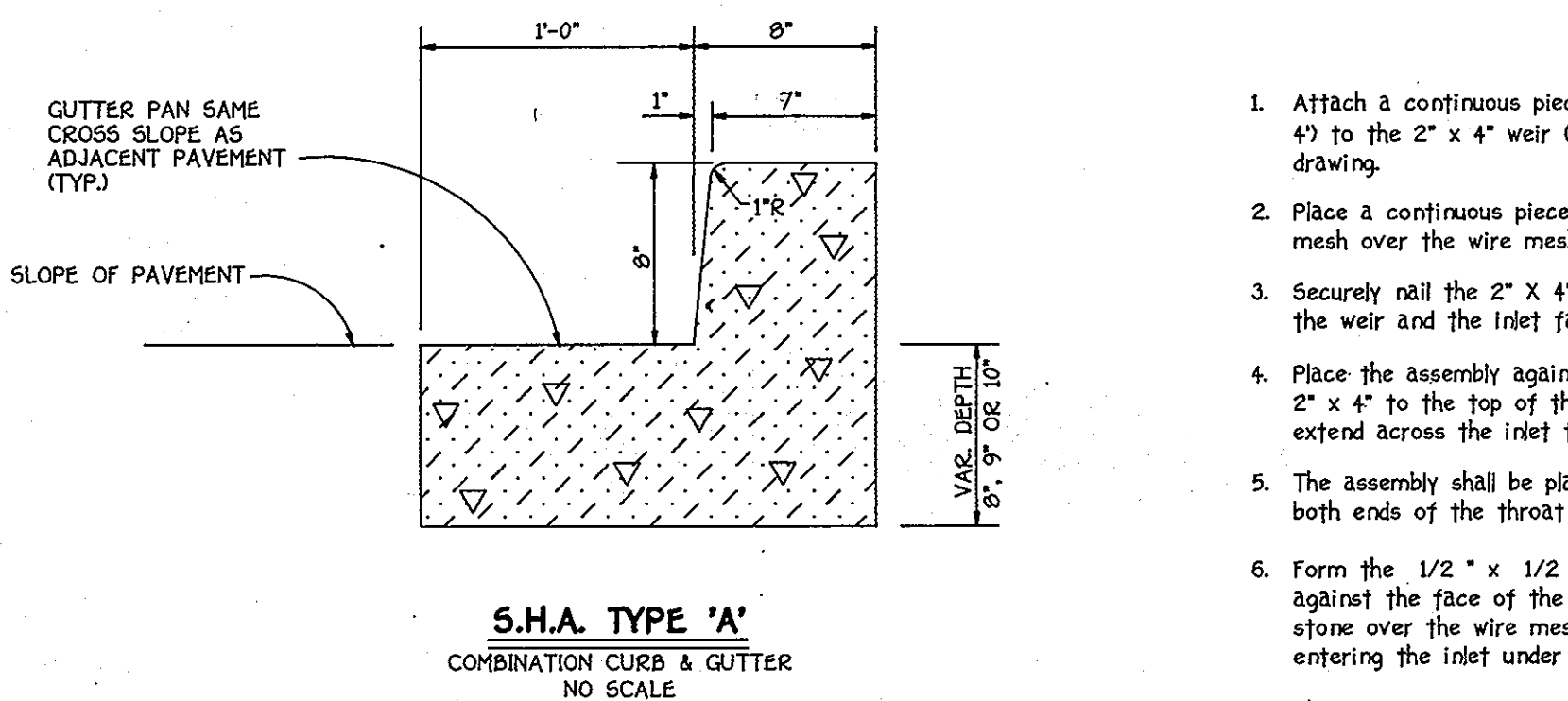
PAVING SECTION P-3 NO SCALE

DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)

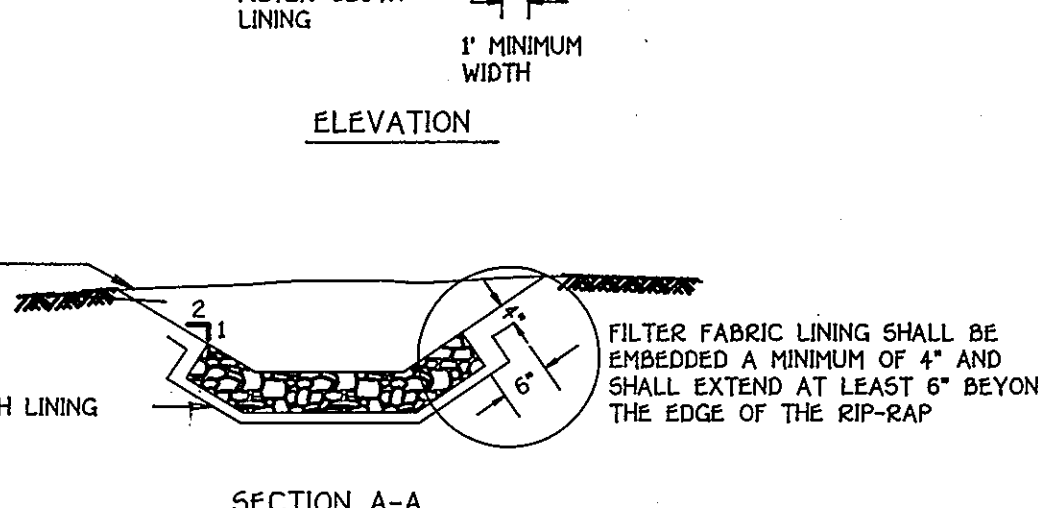
DETAIL 27 - ROCK OUTLET PROTECTION III



MODIFIED COMBINATION CURB AND GUTTER NO SCALE



- Construction Specifications
- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
  - Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the weir mesh and securely attach it to the 2" x 4" weir.
  - Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
  - Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
  - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
  - Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
  - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
  - Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.



SECTION A-A

SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1055).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER 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 THEIR 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMSSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF DISTURBED SITE	53.646	ACRES
AREA TO BE ROOFED OR PAVED	23.016	ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.045	ACRES
TOTAL CUT	18,000	CU.YDS.
TOTAL FILL	18,000	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	CU.YDS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS 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 INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

- Incremental Stabilization - Cut Slopes
  - All cuts slopes shall be dressed, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
  - Construction sequence (Refer to Figure 3 below):
    - Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
    - Perform Phase 1 excavation, dress, and stabilize.
    - Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
    - Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
- Incremental Stabilization of Embankments - Full Slopes
  - Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
  - Full Slopes
    - Embankments shall be constructed in lifts as prescribed on the plans.
    - Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15' or when the grading operation ceases as prescribed in the plans.
    - At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
  - Construction sequence - Refer to Figure 4 (below):
    - Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope side fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
    - Place Phase 1 embankment, dress and stabilize.
    - Place Phase 2 embankment, dress and stabilize.
    - Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: [Signature] DATE: 6/6/96

**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: 6/6/96

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 [Signature] DATE: 6/6/96  
 U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] DATE: 6/6/96  
 DISTRICT HOWARD SOIL CONSERVATION DIST.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE: 1/2/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT

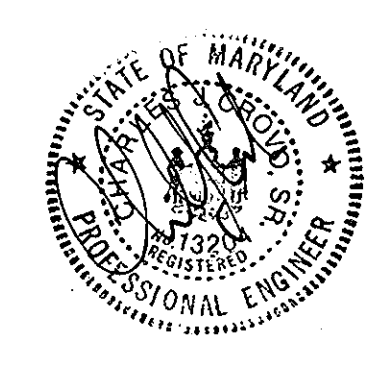
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] DATE: 12/3/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 [Signature] DATE: 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS

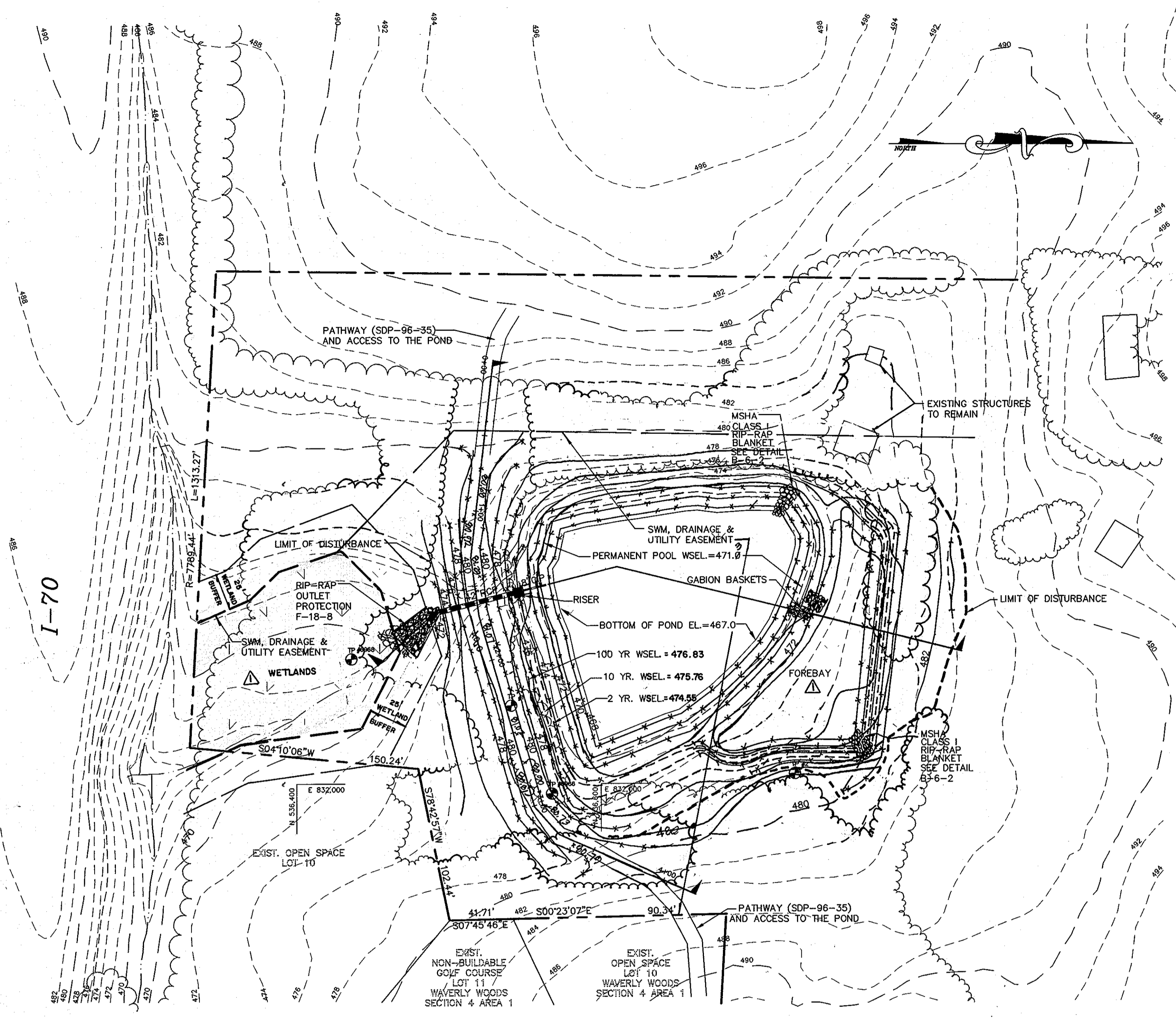
SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT (1 DAY).
- NOTIFY MISS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777 NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION (410)313-1070. 24 HOURS BEFORE STARTING ANY WORK (1 DAY).
- SEDIMENT CONTROL DEVICES INSTALLED UNDER SDP 96-115 WILL BE UTILIZED FOR ALL CONTROL IN THIS SUBMISSION. INSPECTION OF ALL DEVICES SHOULD BE DONE AT THIS TIME AND REPLACED OR REPAIRED WHERE NECESSARY. GRADE EXISTING POND PER REVISIONS. PROTECT EXISTING POND FROM CONSTRUCTION OF ROAD AND STORM DRAINAGE FACILITY (1 WEEK).
- CLEAR AND GRUB FOR CONSTRUCTION OF ROAD AND STORM DRAINAGE FACILITY (4 DAYS). PRIOR TO CLEARING AND GRUBBING SITE, SEDIMENT CONTROL INSPECTOR MUST BE NOTIFIED FOR PERMISSION TO PROCEED. GRADE SITE TO SUBGRADE, STABILIZE AND INSTALL STORM DRAINS (3 WEEKS). STABILIZE THE GRADED AREA (2 DAYS). INSTALL INLET PROTECTION. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS. SEDIMENT SHALL BE REMOVED FROM THE STORMWATER MANAGEMENT POND. SEDIMENT MUST BE PLACED UPHILL FROM THE POND AREA.
- INSTALL PAVING (2 DAYS). INSTALL CURB AND GUTTER PLUS ROAD BASE COURSE (7 DAYS).
- UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES NOT NEEDED AND FLUSH STORM DRAIN SYSTEM TO REMOVE TRAPPED SEDIMENT (2 DAYS).
- BEFORE REMOVING ALL SEDIMENT CONTROL DEVICES AND DIVERSIONS, SEDIMENT CONTROL INSPECTOR MUST BE NOTIFIED FOR PERMISSION TO PROCEED.
- ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING (2 DAYS).

**SEDIMENT CONTROL NOTES & DETAILS**  
 LOTS 1 THRU 175 AND PARCEL A  
**GTW'S WAVERLY WOODS**  
 SECTION 5  
 (PHASE 199B AND PART OF PHASE 199C - CONTAINING LOTS 12 THRU 19 AND PARCEL 'B', GTW'S WAVERLY WOODS - SECTION 4, AREA 1.)  
 ZONING: R-20, RSC, R-5A-B AND R-A-15  
 TAX MAP NO. 16 PART OF PARCEL NO. 21  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: MAY 20, 1996  
 SHEET 24 OF 30



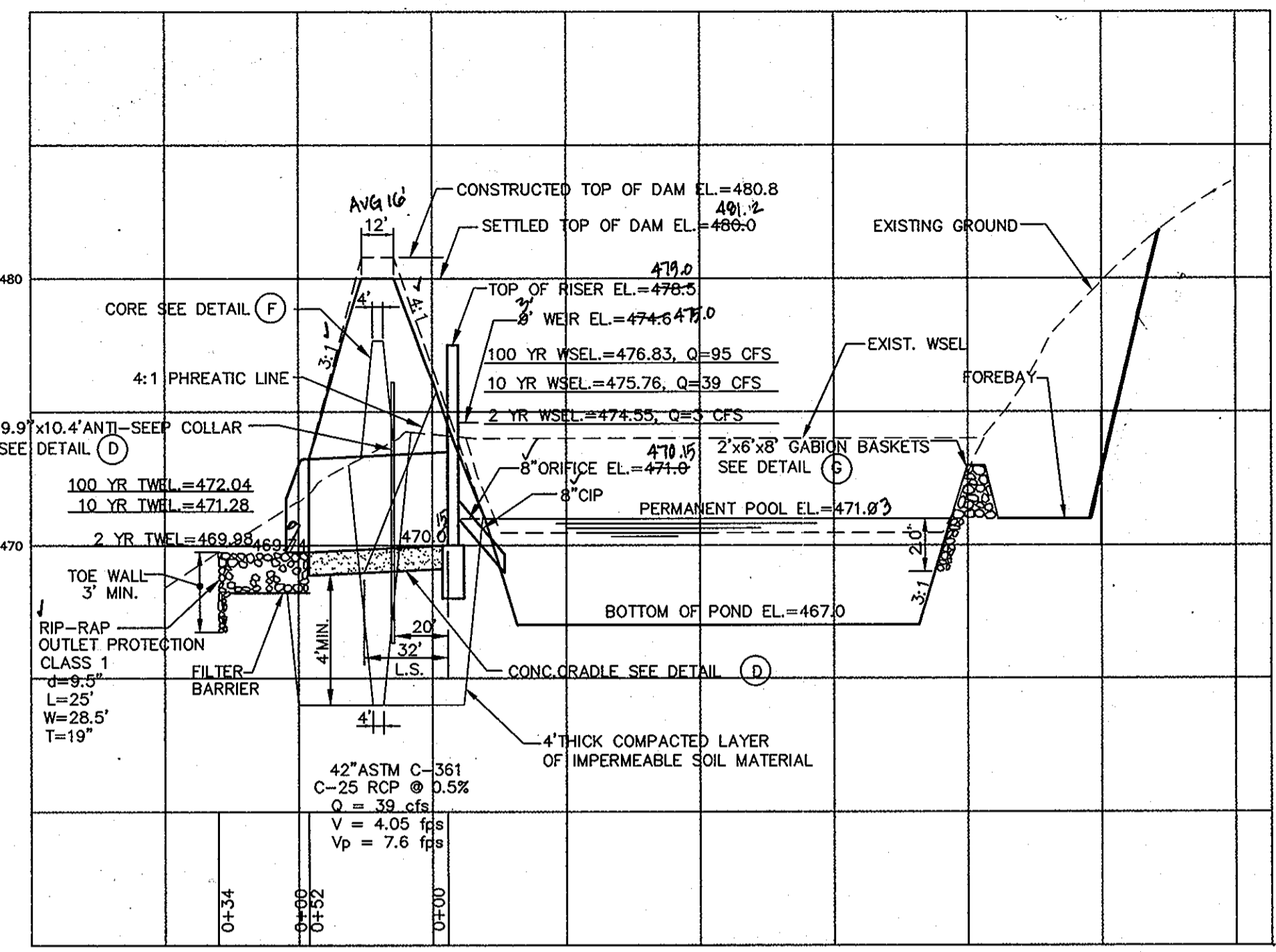




**POND 6 - PLAN VIEW**  
SCALE: 1"=50'

**POND DATA**

HAZARD CLASSIFICATION = "a"  
 TOTAL DRAINAGE AREA - 27.8 ACRE  
 PROPOSED RCN - .87  
 PROPOSED Tc - 0.35  
 WATER QUALITY TYPE - RETENTION  
 NORMAL POOL EL. - 471.0  
 2 YEAR STORM POOL EL. - 474.55, Q = 3 CFS  
 10 YEAR STORM POOL EL. - 475.76, Q = 39 CFS  
 100 YEAR STORM POOL EL. - 476.83, Q = 95 CFS  
 TOTAL FOREBAY VOLUME - 6,760 C.F.  
 OWNERSHIP & MAINTENANCE - PRIVATE



**PROFILE OF PRINCIPAL SPILLWAY**  
SCALE: HOR. 1"=50'  
VER. 1"=5'



**OWNER**  
 GTW JOINT VENTURE  
 C/O LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD

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.

P.E. NO.:  
 SIGNATURE: \_\_\_\_\_ 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 EMPLOY 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 OF DEVELOPER: *Dennis R. Reider* DATE: 12/21/96  
 PRINTED NAME OF DEVELOPER: DENNIS R. REIDER

BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE OR SHE MUST EMPLOY A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE AND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER: *R. Jacob Hikmat* DATE: 12/21/96  
 PRINTED NAME OF ENGINEER: R. JACOB HIKMAT

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.

*Robert G. Pichler* 12/20/96  
 USA - 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.

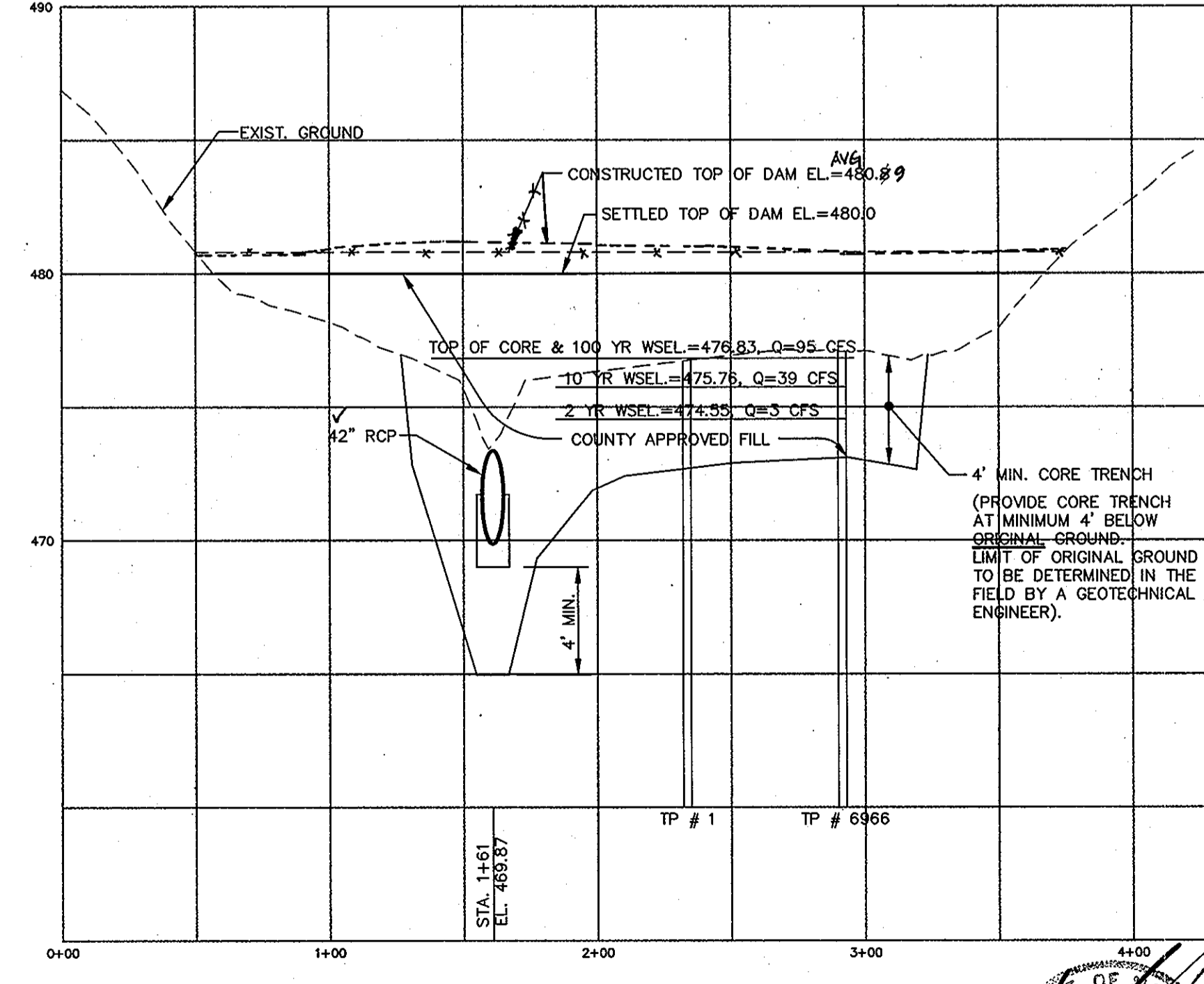
*Andrew M. Daniels* 12-26-96  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daniels* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS DATE

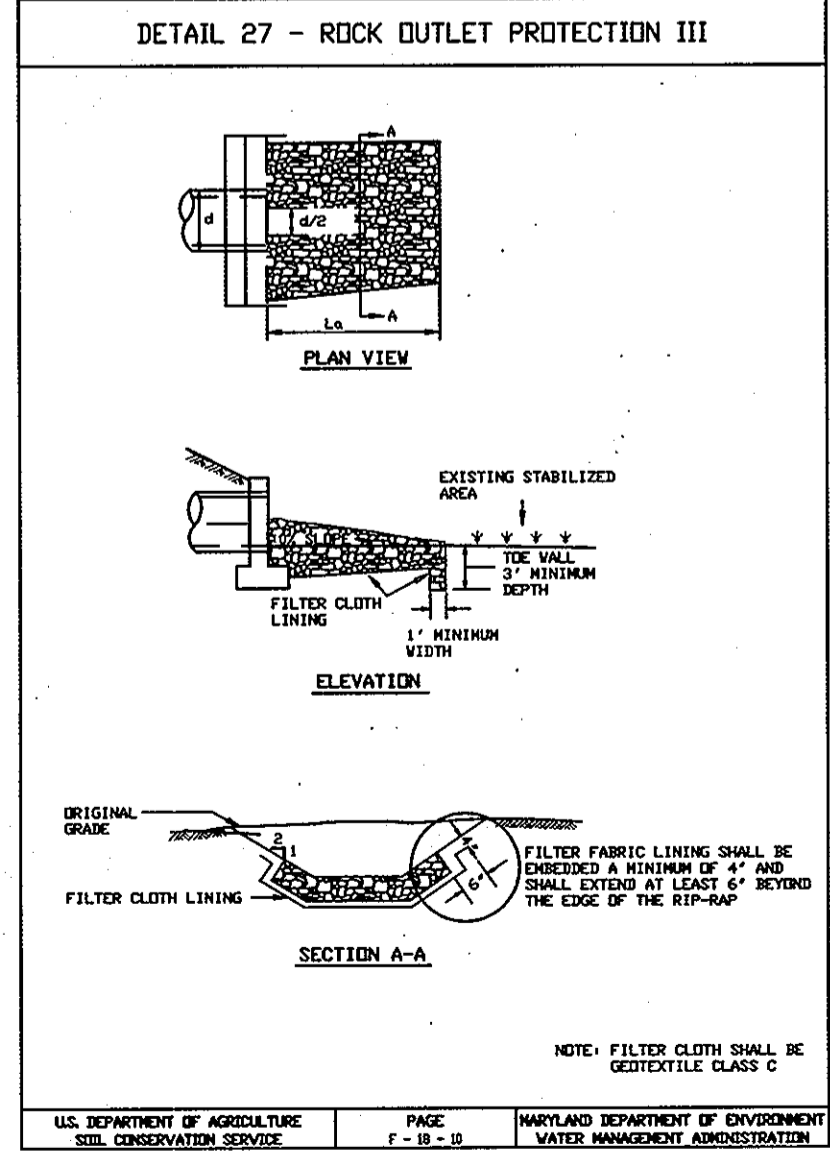
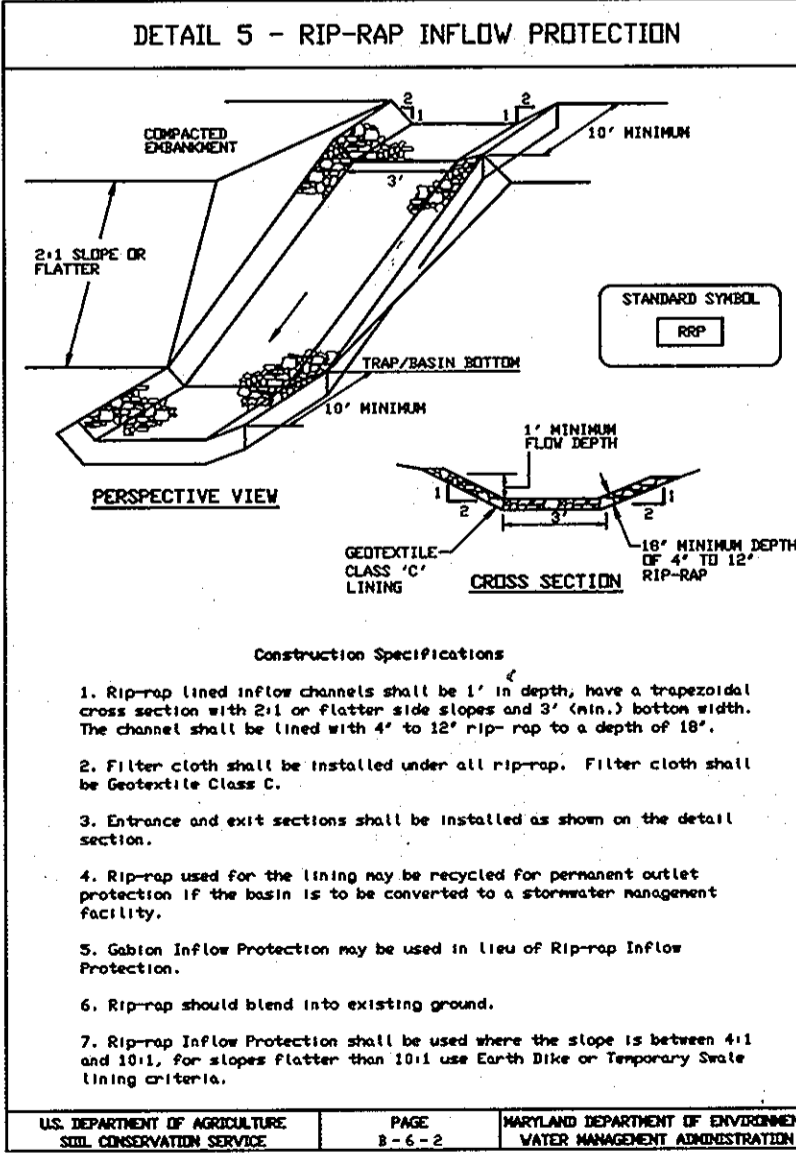
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Richard S. Blood*  
 CHIEF, DIVISION OF LAND DEVELOPMENT SA DATE

*Robert G. Pichler* 12/21/96  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

AS-BUILT 3-23-01



**TOP OF DAM PROFILE - POND 6**  
SCALE: HOR. 1"=50'  
VER. 1"=5'



**ROCK OUTLET PROTECTION III**

CONSTRUCTION SPECIFICATIONS

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.  
 2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.  
 3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.  
 4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall 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 rip-rap or gabion outlets shall be delivered and placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.  
 5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

**NOTE:**  
 TEMPORARY STORMWATER MANAGEMENT IS BEING PROVIDED BY THE PERMANENT PRINCIPAL SPILLWAY DUE TO THE FACT THAT ULTIMATE CONDITIONS ARE MORE CONSERVATIVE THAN NEWLY GRADED.

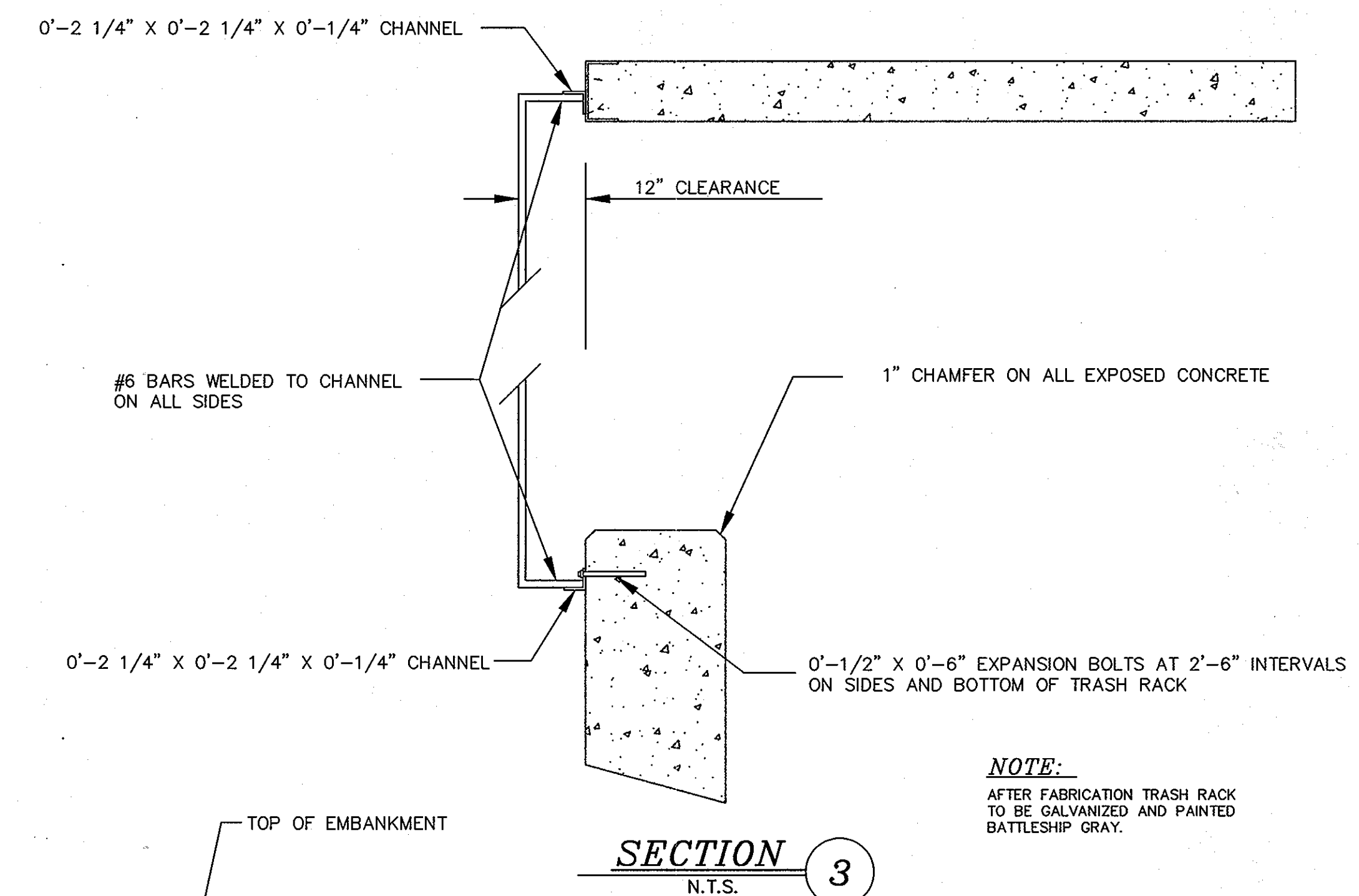
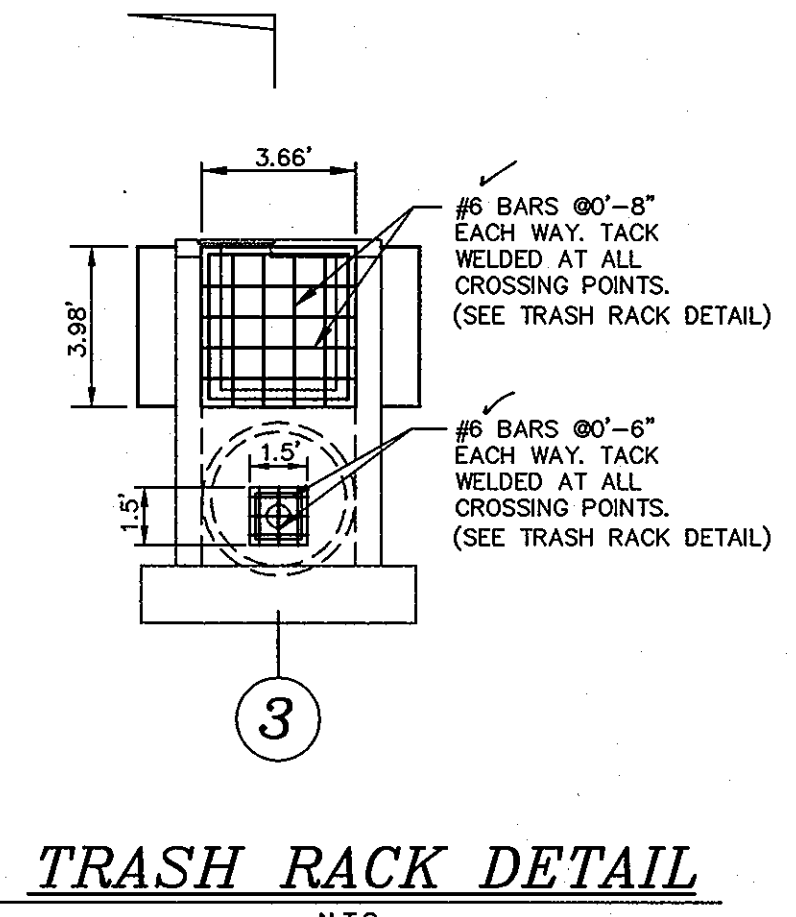
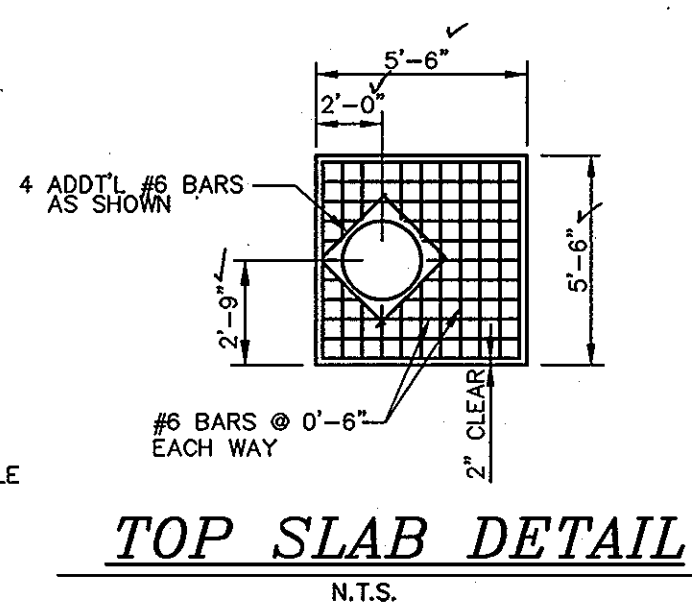
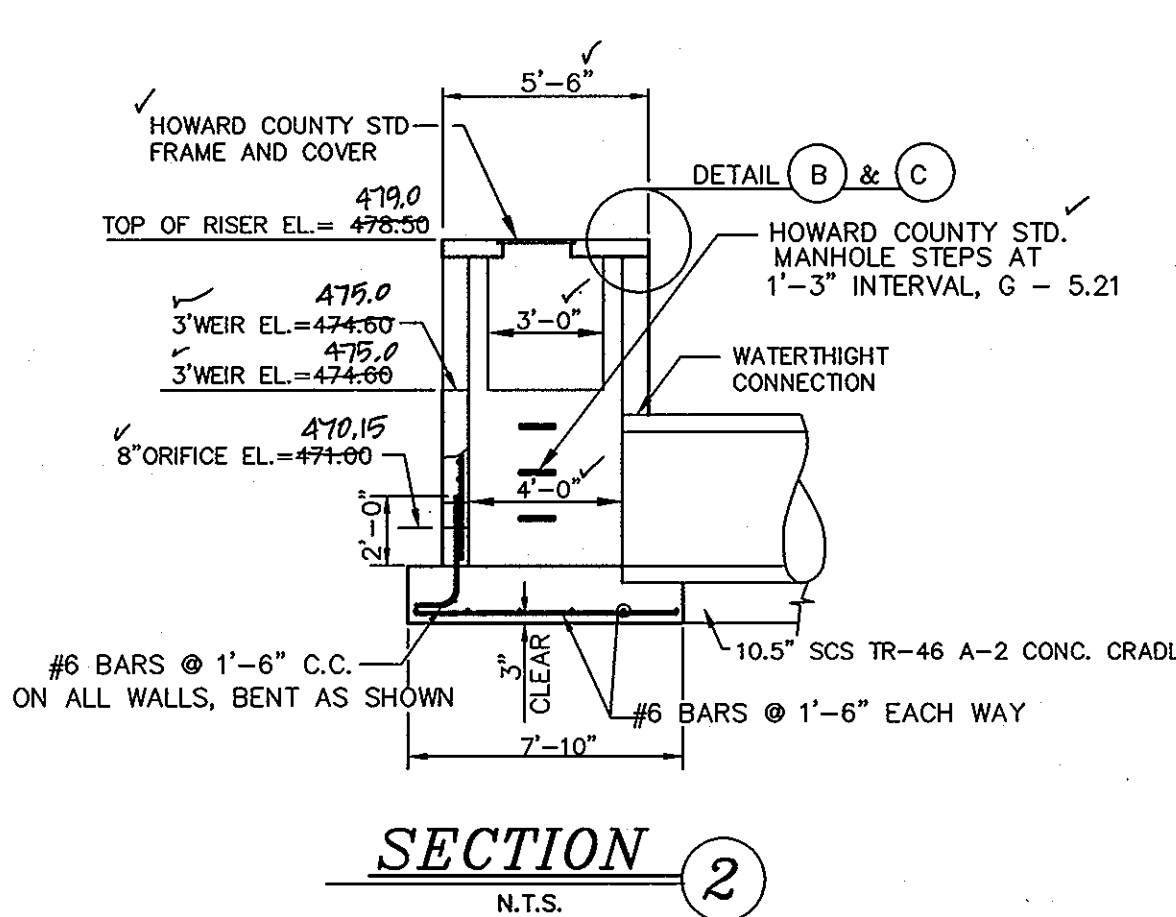
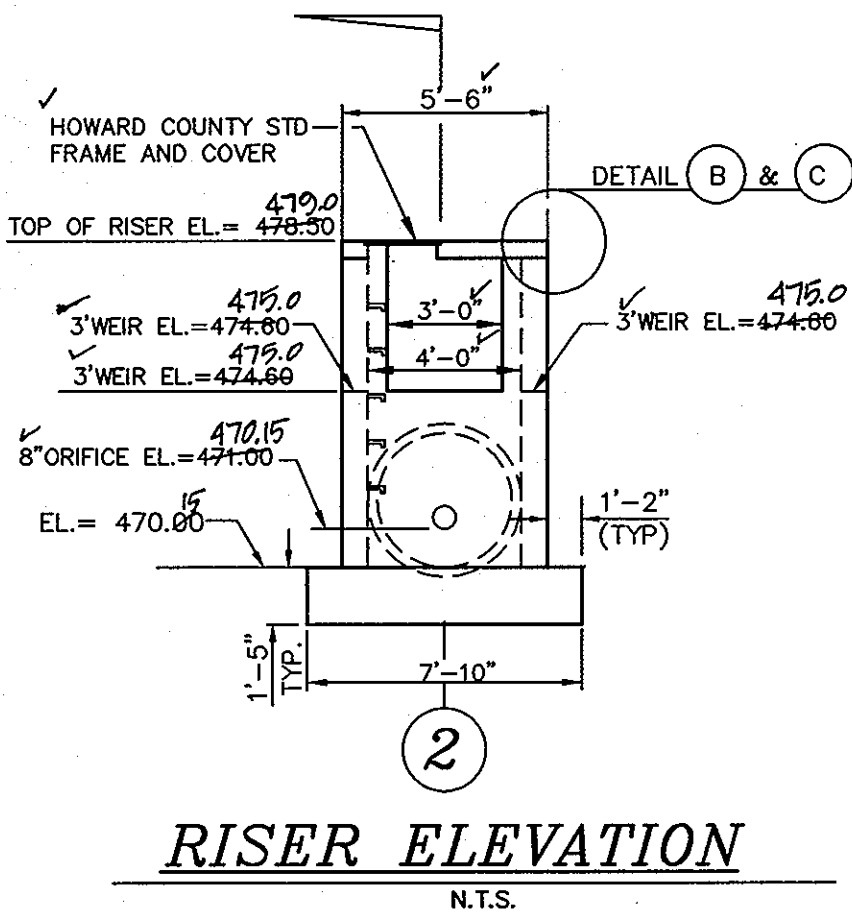
Project	94005	Date	NOV. 96
Illustration	DCJ/MMP	Engineering	MMP
Scale	1"=50'	Approval	RH

Revised	07/17/97	Date	
By	REVISED METLANDS LOCATION 4 FOREBAY	Description	
By		Revisions	

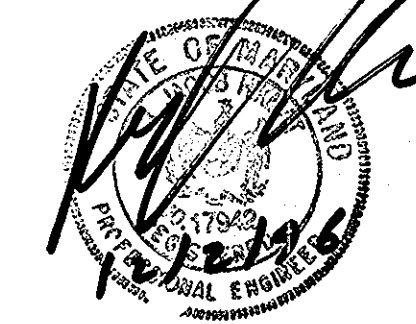
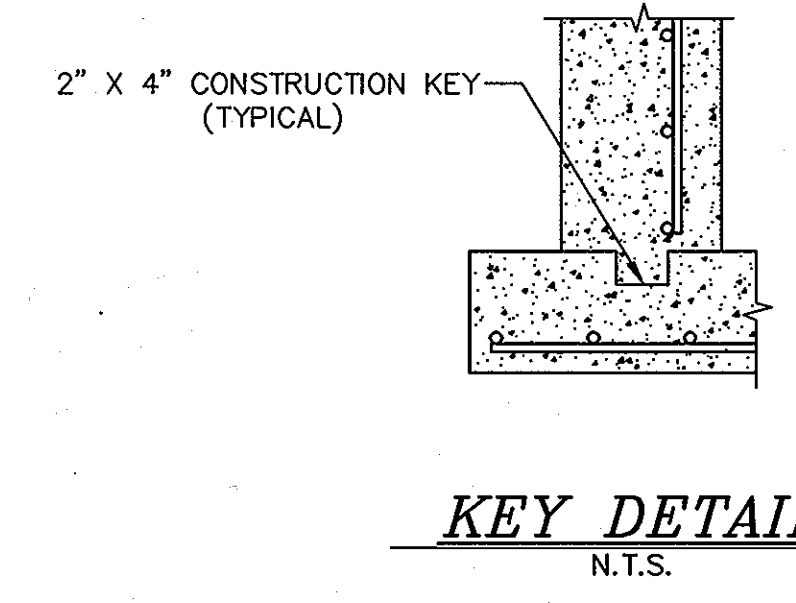
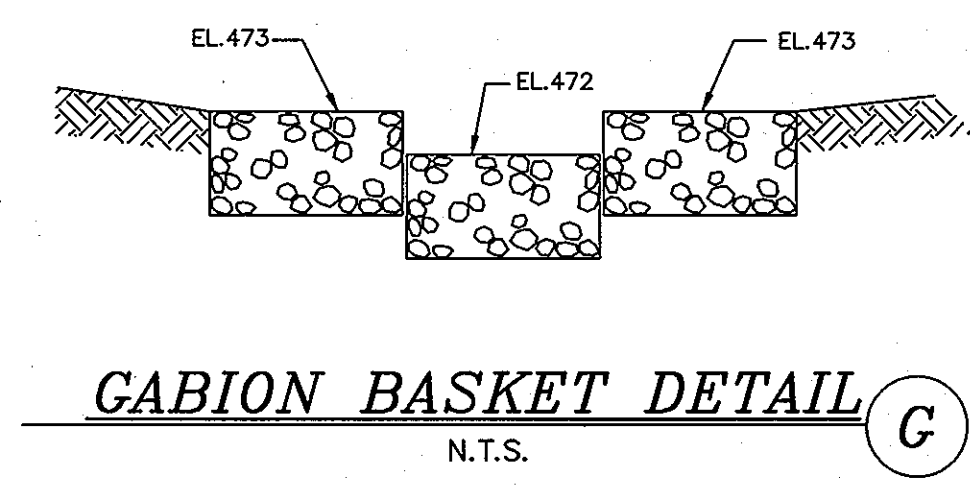
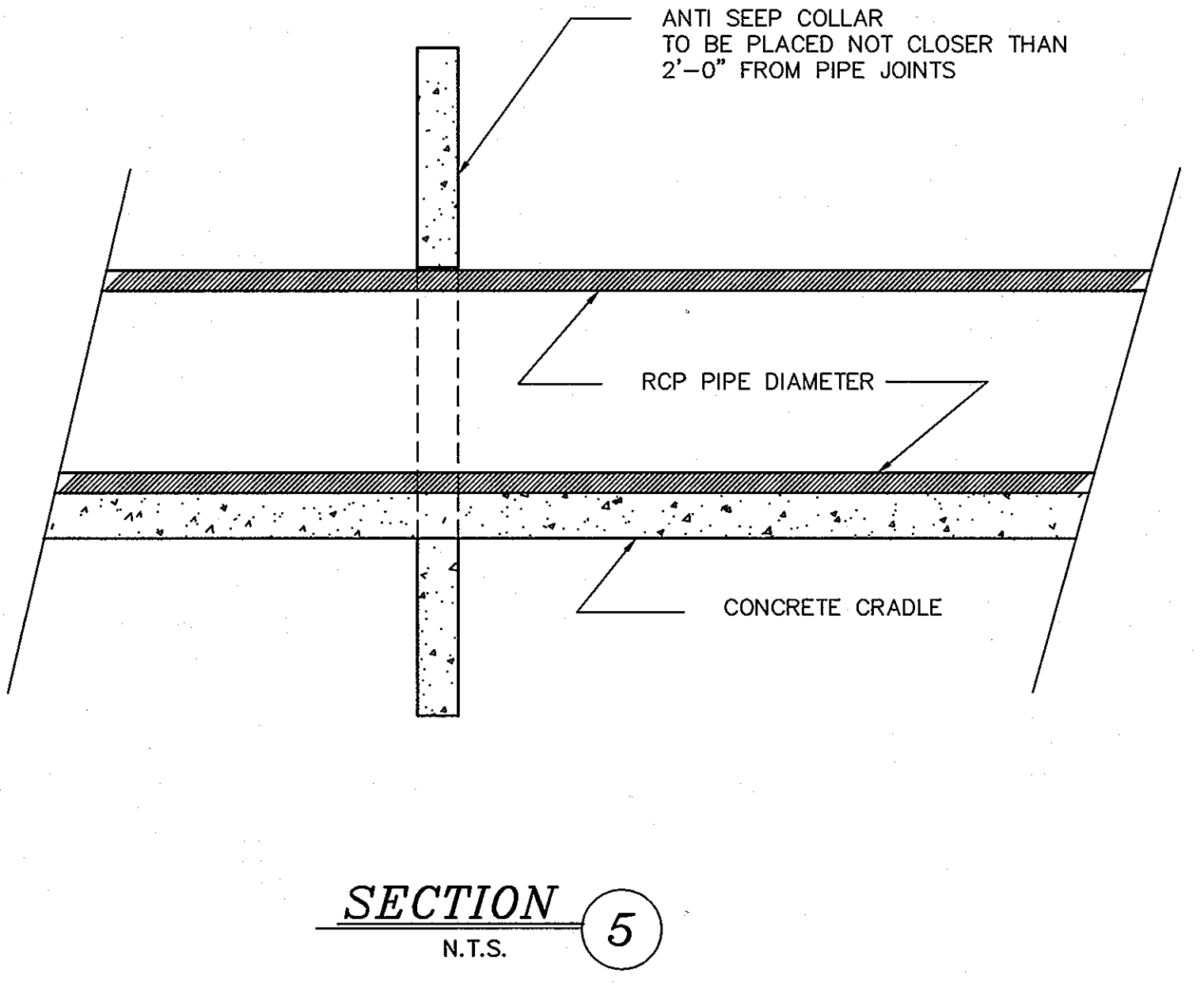
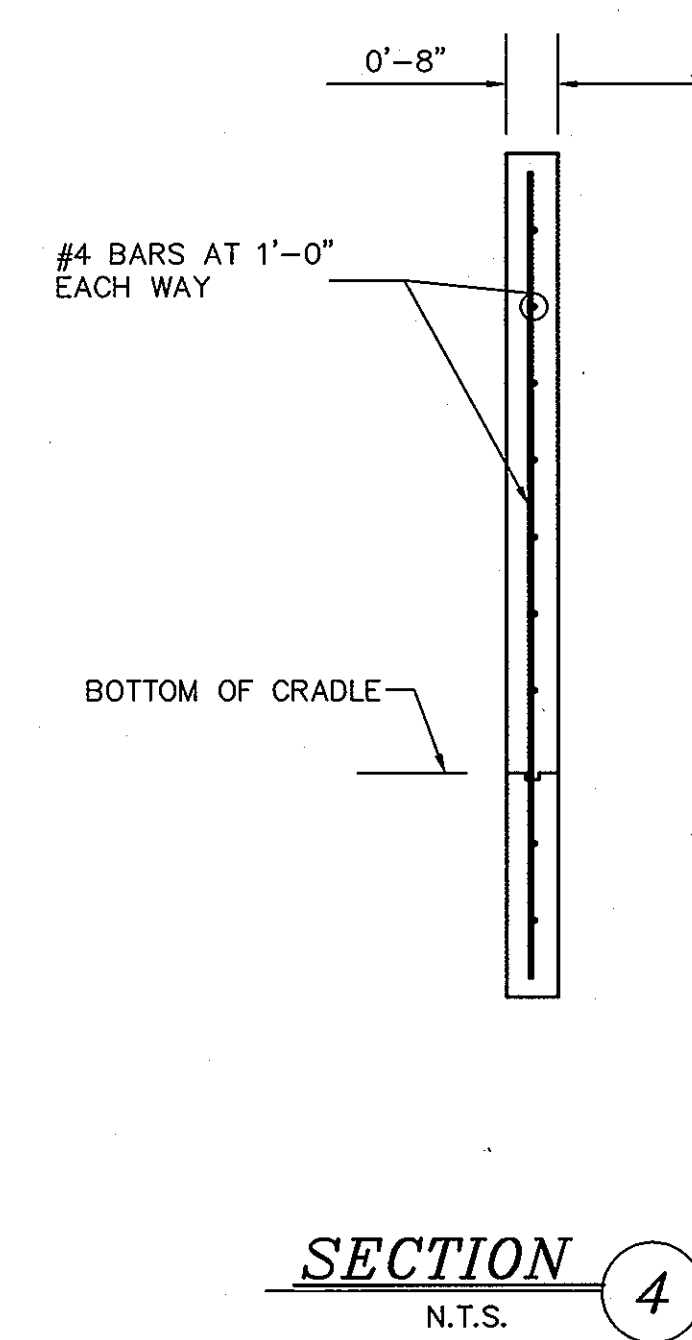
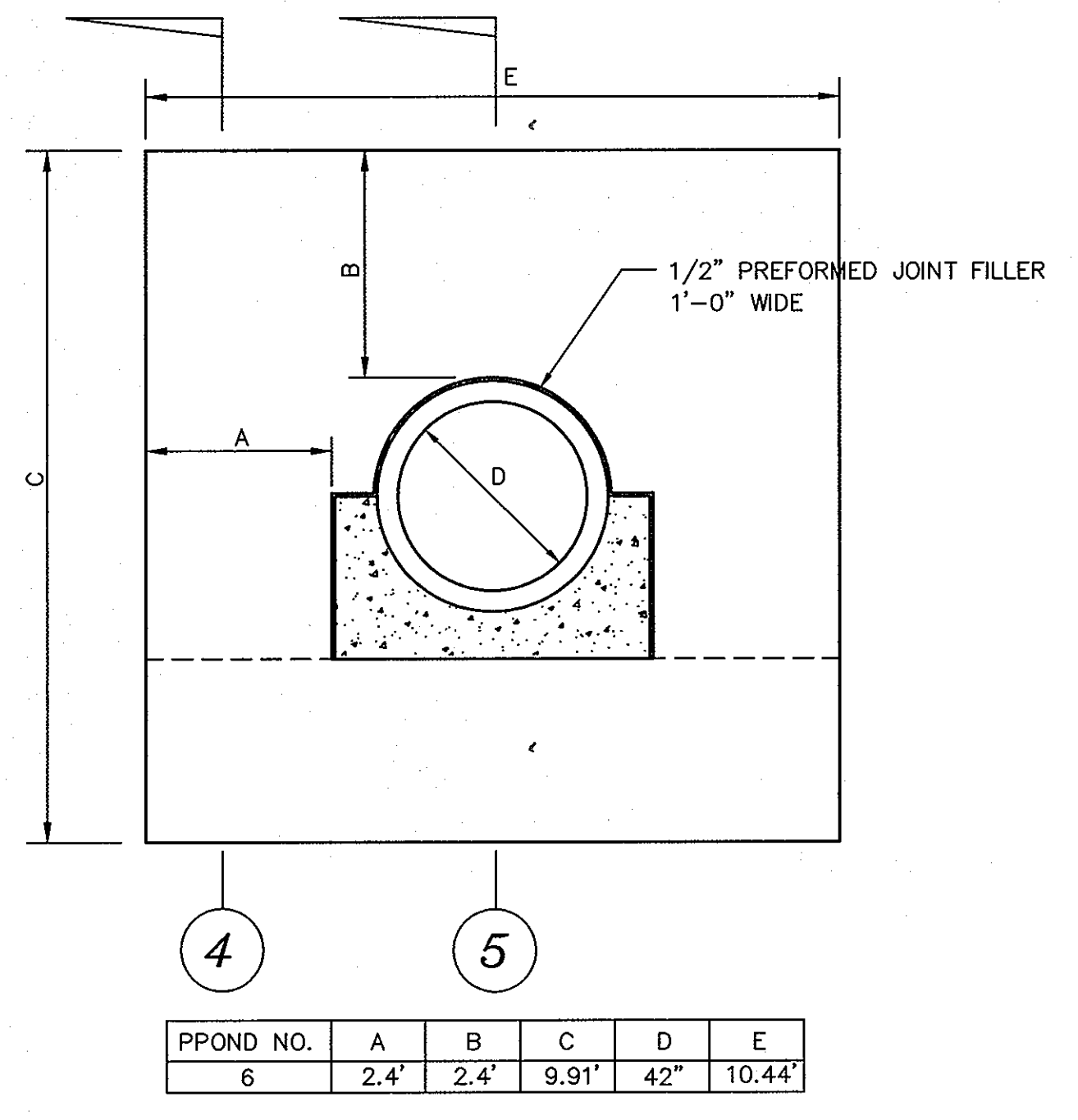
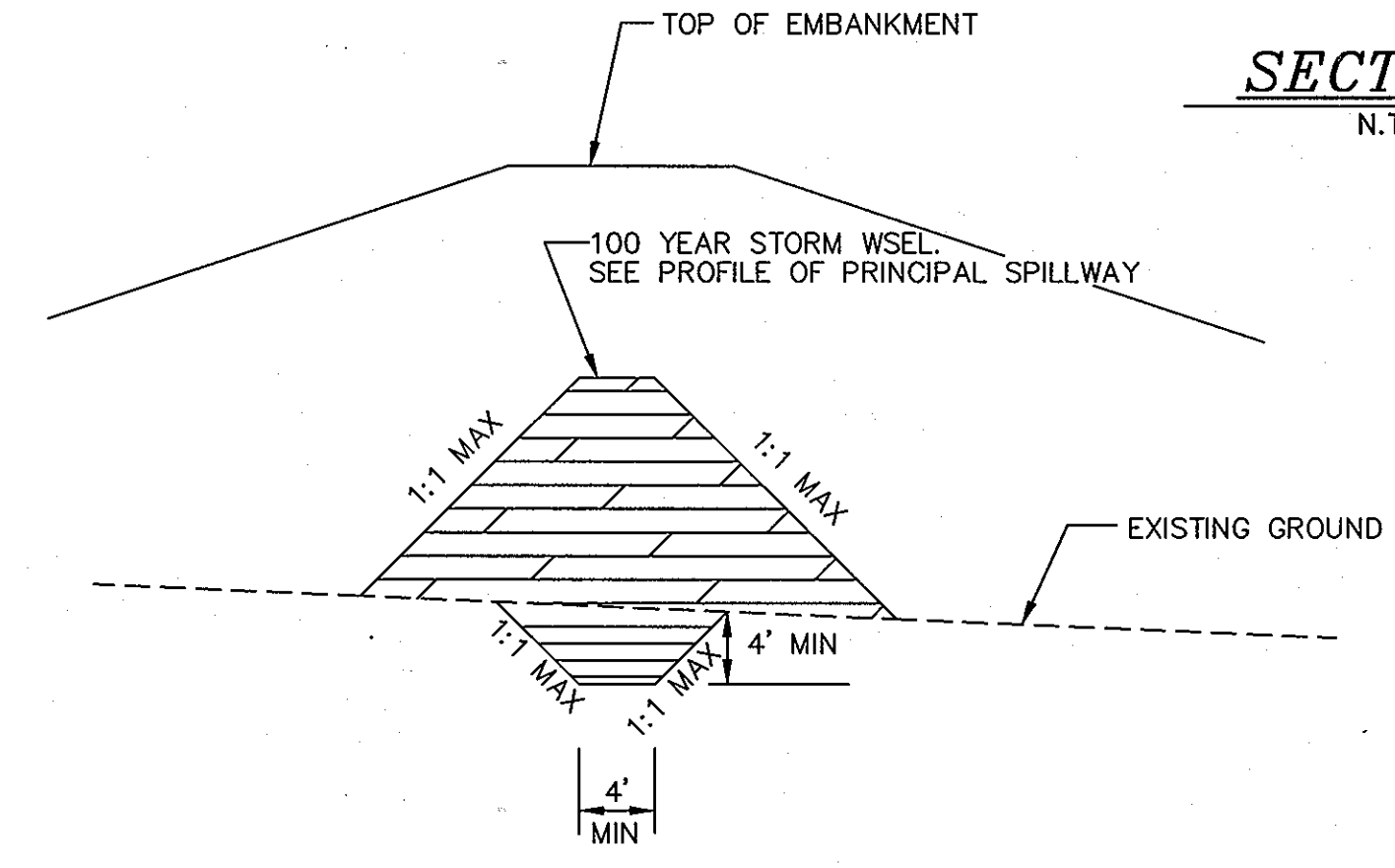
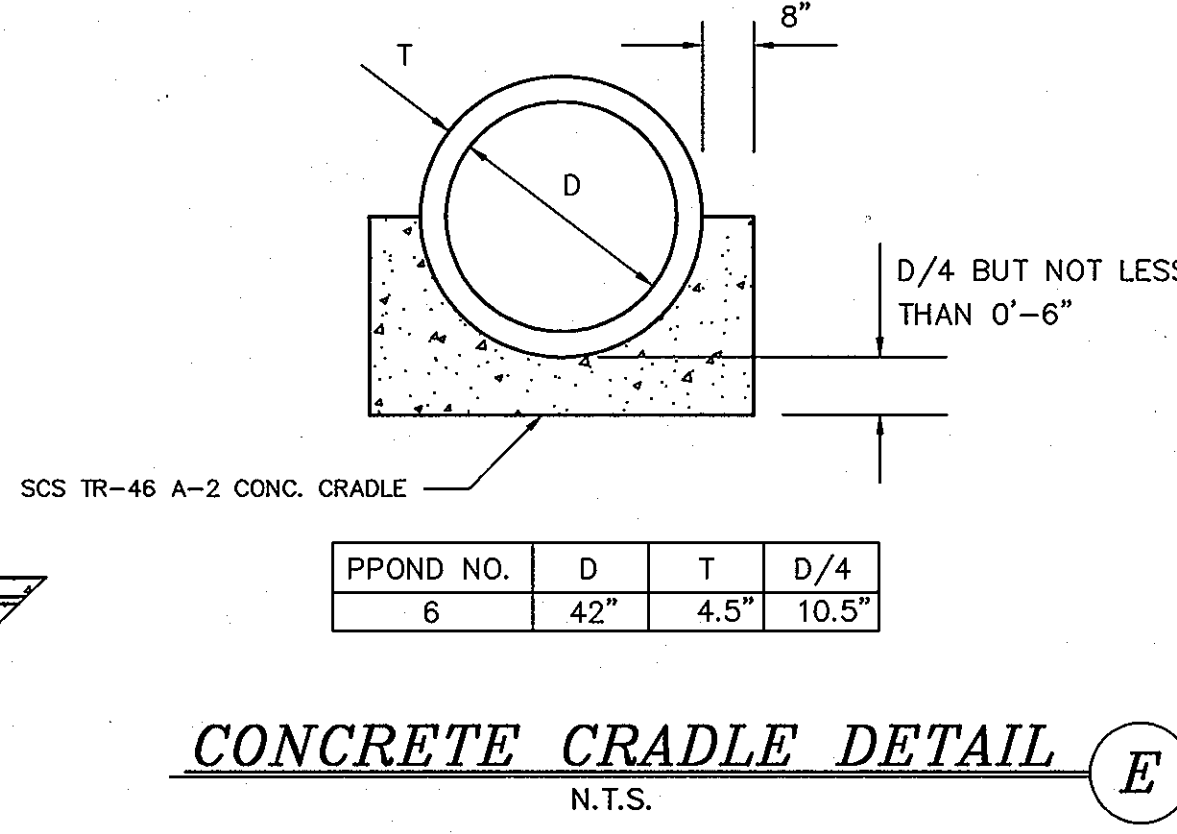
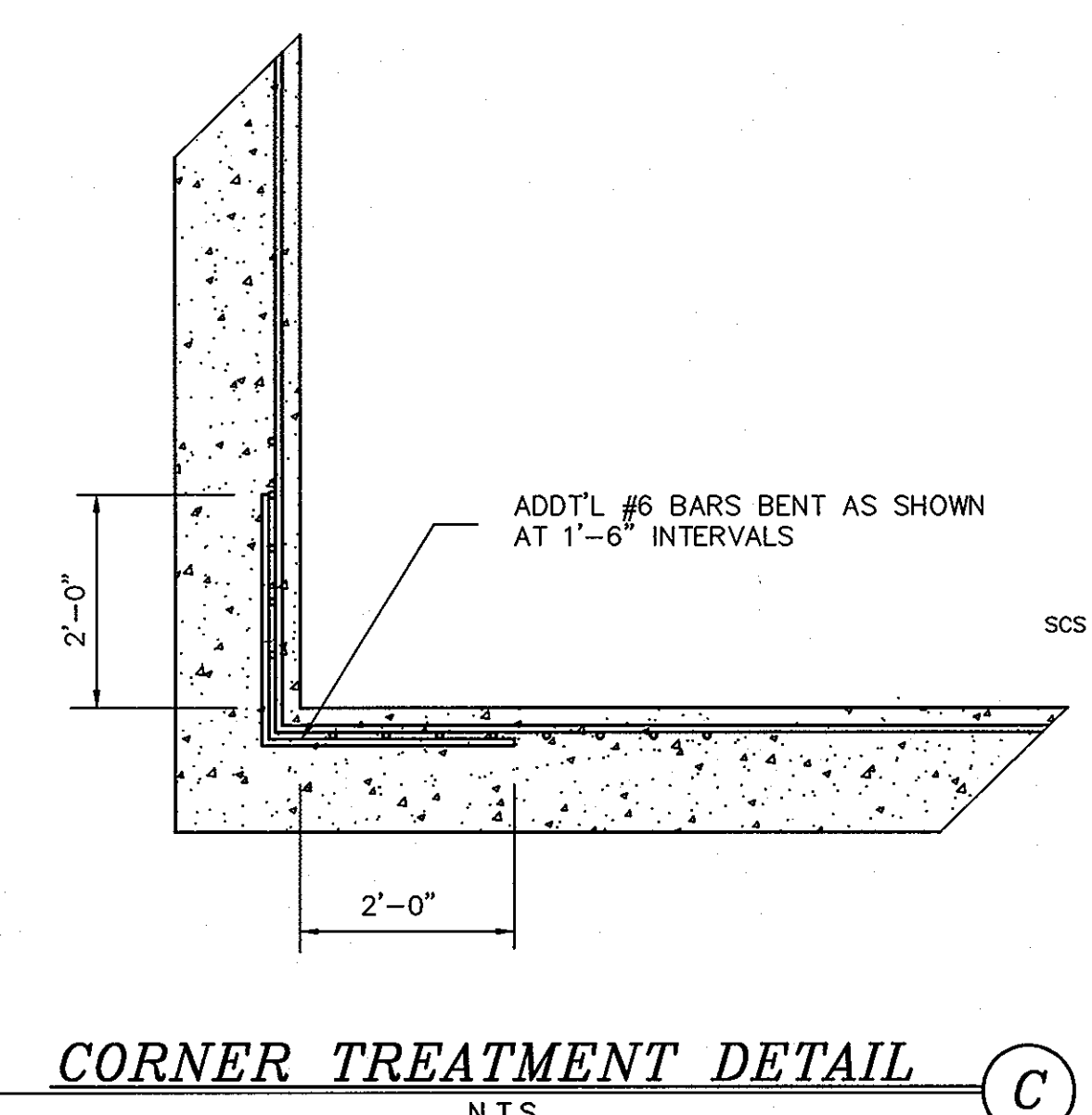
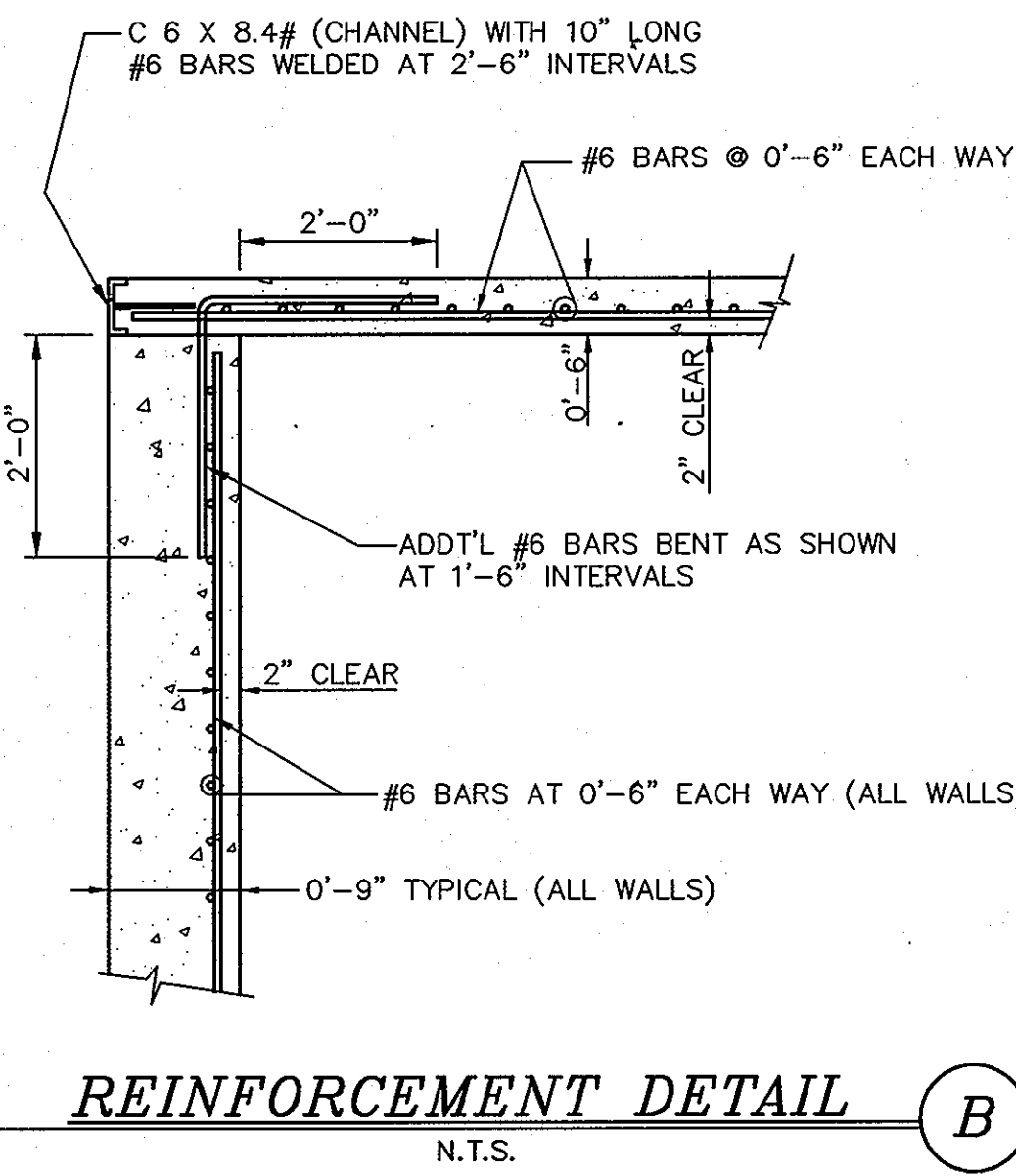
GTW'S WAVERLY WOODS, SECTION - 5  
 LOTS 1 THRU 175 AND PARCEL "A"  
 (PHASE 1998 AND PART OF PHASE 1996-CONTAINING LOTS 12 THRU 19  
 AND PARCEL "B" GTW'S WAVERLY WOODS-SECTION 4, AREA 1)  
 HOWARD COUNTY  
 THIRD ELECTION DISTRICT  
 POND 6 GRADING AND PROFILES

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Bldg. (301) 621-5521 Wash. (410) 997-0286 Fax

12521



NOTE:  
 AFTER FABRICATION TRASH RACK TO BE GALVANIZED AND PAINTED BATTLESHIP GRAY.



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.

\_\_\_\_\_  
 P.E. NO.:  
 SIGNATURE DATE

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 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.

\_\_\_\_\_  
 SIGNATURE OF DEVELOPER DATE 12/1/96  
 DOBBLIO & ROWLAND, INC.  
 PRINTED NAME OF DEVELOPER

BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/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 OF ENGINEER DATE 12/20/96  
 ROBERT W. ZEHN  
 PRINTED NAME OF ENGINEER

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 DATE 12/20/96  
 USA - NATURAL RESOURCES CONSERVATION SERVICE  
 DIVISION

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

\_\_\_\_\_  
 SIGNATURE DATE 12/20/96  
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 1/2/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF ENGINEERING DIVISION  
 1/3/97

AS-BUILT 3-23-01

Project: 94005  
 Date: NOV. 96  
 Illustration: DCJ/MMP  
 Engineering: MMP  
 Scale: N.T.S.  
 Approval: RJH

GTW'S WAVERLY WOODS, SECTION - 5  
 LOTS 1 THRU 175 AND PARCEL "A"  
 (PHASE 1996 AND PART OF PHASE 1996-CONTAINING LOTS 12 THRU 19  
 AND PARCEL "B", GTW'S WAVERLY WOODS-SECTION 4, AREA 1)  
 TAX MAP 16, P/O PARCEL 21  
 HOWARD COUNTY  
 THIRD ELECTION DISTRICT

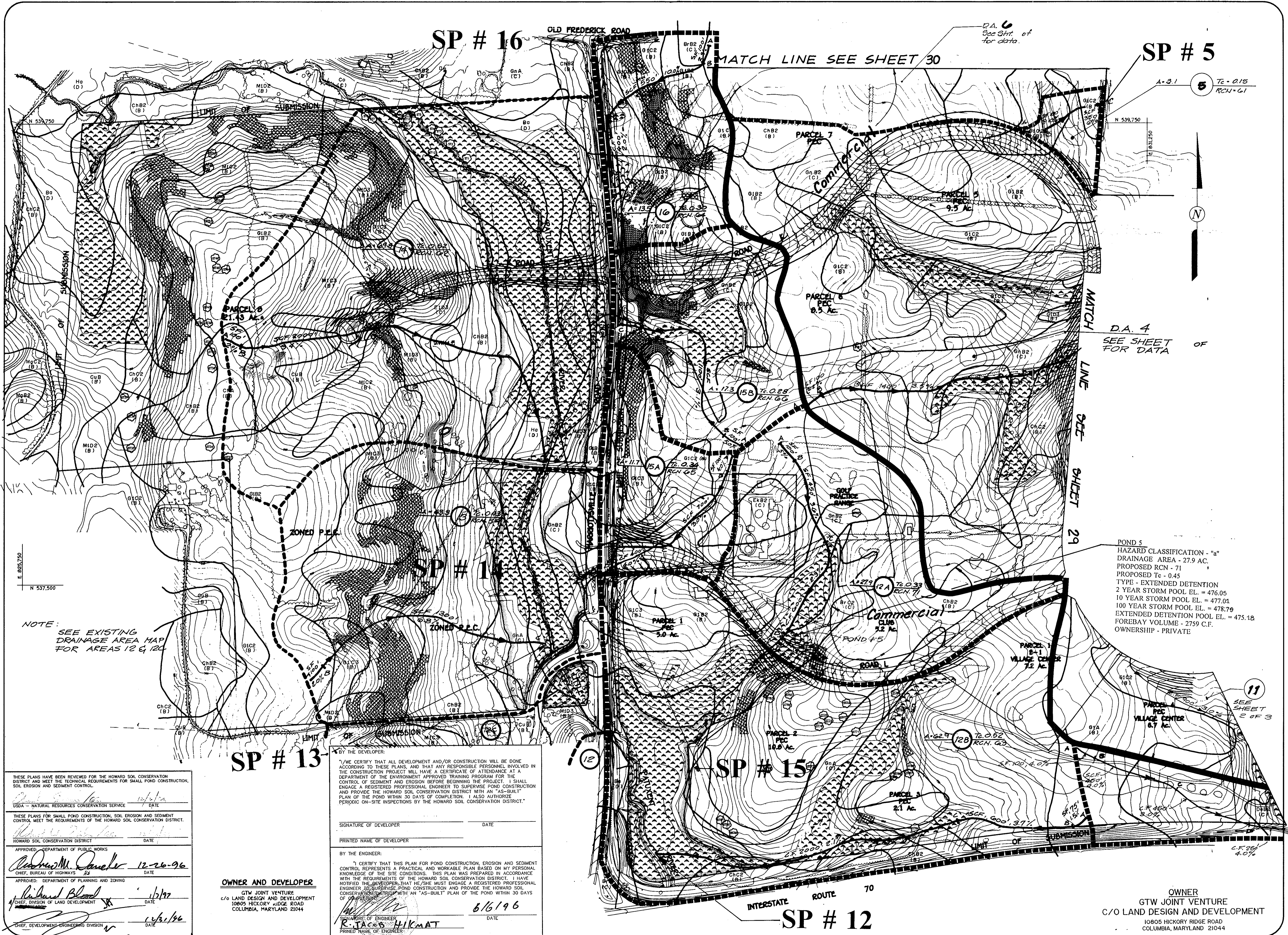
POND 6 - SECTIONS AND DETAILS

MILDENBERG, BOENDER & ASSOC., INC.  
 Engineers Planners Surveyors  
 5072 Dorsey Hill Drive, Suite 202, Ellicott City, Maryland, 21042  
 (410) 987-0298 Fax. (301) 821-5551 Wash. (410) 987-0298 Fax.

26 OF 30  
 94005  
 96-179



1253



NOTE: SEE EXISTING DRAINAGE AREA MAP FOR AREAS 12 & 22

POND 5 HAZARD CLASSIFICATION - "a" DRAINAGE AREA - 27.9 AC. PROPOSED RCN - 71 PROPOSED Tc - 0.45 TYPE - EXTENDED DETENTION 2 YEAR STORM POOL EL. = 476.05 10 YEAR STORM POOL EL. = 477.01 100 YEAR STORM POOL EL. = 478.79 EXTENDED DETENTION POOL EL. = 475.18 FOREBAY VOLUME - 2759 C.F. OWNERSHIP - PRIVATE

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.

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE 12/26/96

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

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED - DEPARTMENT OF PUBLIC WORKS  
*Richard M. Daneker* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED - DEPARTMENT OF PLANNING AND ZONING  
*Richard Blood* 1/1/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 1/6/96

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 OF DEVELOPER DATE

PRINTED NAME OF DEVELOPER

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/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 OF ENGINEER DATE 6/6/96  
*R. JACOB HIKMAT*

OWNER AND DEVELOPER  
GTW JOINT VENTURE  
C/O LAND DESIGN AND DEVELOPMENT  
10805 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

OWNER  
GTW JOINT VENTURE  
C/O LAND DESIGN AND DEVELOPMENT  
10805 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

Project	date	approval
94005	OCT.1994	BH
illustration	scale	1"=200'
SAS	revisions	

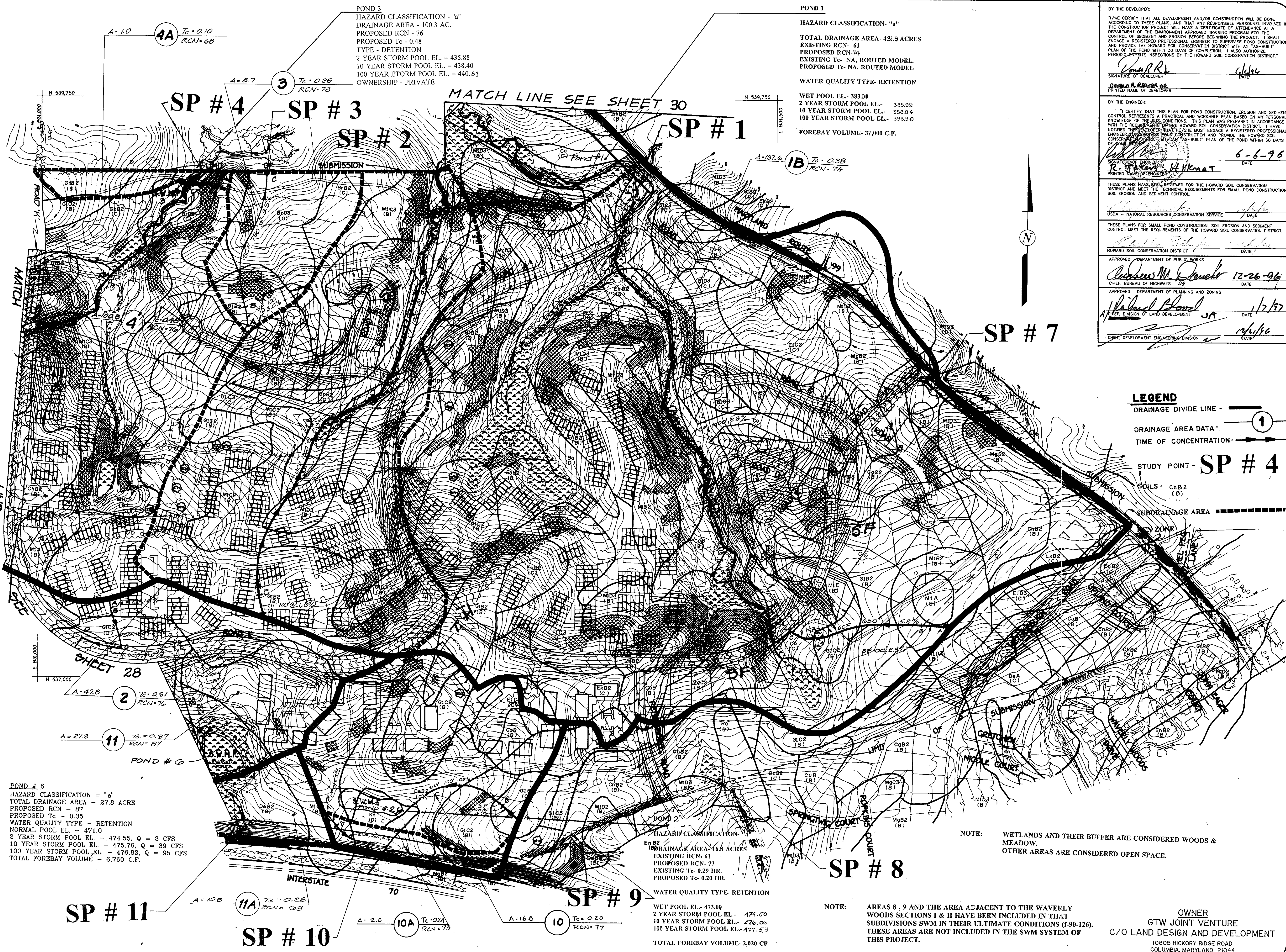
no.	description	date
0	SUBMITTED	

GTW'S WAVERLY WOODS SECTION - 5  
 (PHASE 1998 AND PART OF PHASE 1996-CONTAINING LOTS 12 THRU 19  
 AND PARCEL "B" GTW'S WAVERLY WOODS-SECTION 4, AREA 1)  
 TAX MAP 16, P/O PARCEL 21  
 HOWARD COUNTY  
 THIRD ELECTION DISTRICT

**PROPOSED CONDITION DRAINAGE AREA MAP**

**MILDENBERG ASSOCIATES, INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Elkridge City, Maryland 21042  
 (410) 987-0286 Ball. (301) 621-5521 Wash. (410) 997-0298 Fax

1253



POND 3  
HAZARD CLASSIFICATION - "a"  
DRAINAGE AREA - 100.3 AC.  
PROPOSED RCN - 76  
PROPOSED Tc - 0.48  
TYPE - DETENTION  
2 YEAR STORM POOL EL. = 435.88  
10 YEAR STORM POOL EL. = 438.40  
100 YEAR STORM POOL EL. = 440.61  
OWNERSHIP - PRIVATE

POND 1  
HAZARD CLASSIFICATION - "a"  
TOTAL DRAINAGE AREA - 431.9 ACRES  
EXISTING RCN - 61  
PROPOSED RCN - 74  
EXISTING Tc - NA, ROUTED MODEL  
PROPOSED Tc - NA, ROUTED MODEL  
WATER QUALITY TYPE - RETENTION  
WET POOL EL. - 383.0#  
2 YEAR STORM POOL EL. - 395.92  
10 YEAR STORM POOL EL. - 398.84  
100 YEAR STORM POOL EL. - 393.38  
FOREBAY VOLUME - 37,000 C.F.

POND # 6  
HAZARD CLASSIFICATION = "a"  
TOTAL DRAINAGE AREA - 27.8 ACRE  
PROPOSED RCN - 87  
PROPOSED Tc - 0.35  
WATER QUALITY TYPE - RETENTION  
NORMAL POOL EL. - 471.0  
2 YEAR STORM POOL EL. - 474.55, Q = 3 CFS  
10 YEAR STORM POOL EL. - 475.76, Q = 39 CFS  
100 YEAR STORM POOL EL. - 476.83, Q = 95 CFS  
TOTAL FOREBAY VOLUME - 6,760 C.F.

HAZARD CLASSIFICATION - "a"  
DRAINAGE AREA - 16.8 ACRES  
EXISTING RCN - 61  
PROPOSED RCN - 77  
EXISTING Tc - 0.29 HR.  
PROPOSED Tc - 0.20 HR.  
WATER QUALITY TYPE - RETENTION  
WET POOL EL. - 473.00  
2 YEAR STORM POOL EL. - 474.50  
10 YEAR STORM POOL EL. - 476.00  
100 YEAR STORM POOL EL. - 477.53  
TOTAL FOREBAY VOLUME - 2,020 CF

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 VISITATION INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature]  
Date: 6-6-96  
Signature of Developer: [Signature]  
Date: [Date]  
Printed Name of Developer: [Name]

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT 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 of Engineer: [Signature]  
Date: 6-6-96  
Signature of Engineer: [Signature]  
Date: [Date]  
Printed Name of Engineer: [Name]

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.

USDA - NATURAL RESOURCES CONSERVATION SERVICE  
Signature: [Signature]  
Date: [Date]

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

HOWARD SOIL CONSERVATION DISTRICT  
Signature: [Signature]  
Date: [Date]

APPROVED: DEPARTMENT OF PUBLIC WORKS  
Signature: [Signature]  
Date: 12-26-96  
Signature: [Signature]  
Date: [Date]

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Signature: [Signature]  
Date: 1/2/97  
Signature: [Signature]  
Date: 12/1/96

Signature: [Signature]  
Date: [Date]

**LEGEND**  
DRAINAGE DIVIDE LINE - [Symbol]  
DRAINAGE AREA DATA - [Symbol]  
TIME OF CONCENTRATION - [Symbol]  
STUDY POINT - SP # 4  
SOILS - ChB2 (b)  
SUBDRAINAGE AREA - [Symbol]

NOTE: WETLANDS AND THEIR BUFFER ARE CONSIDERED WOODS & MEADOW. OTHER AREAS ARE CONSIDERED OPEN SPACE.

NOTE: AREAS 8, 9 AND THE AREA ADJACENT TO THE WAVERLY WOODS SECTIONS I & II HAVE BEEN INCLUDED IN THAT SUBDIVISIONS SWM IN THEIR ULTIMATE CONDITIONS (F-90-126). THESE AREAS ARE NOT INCLUDED IN THE SWM SYSTEM OF THIS PROJECT.

OWNER  
GTW JOINT VENTURE  
C/O LAND DESIGN AND DEVELOPMENT  
10805 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

Project	date	illustration	scale	approval
94005	OCT 1994	SAS	RJH	

0	SUBMITTED	description	date

GTW'S WAVERLY WOODS, SECTION - 5  
(PHASE 1998 AND PART OF PHASE 1996-CONTAINING LOTS 12 THRU 19 AND PARCEL 'B', GTW'S WAVERLY WOODS-SECTION 4, AREA 1)  
THIRD ELECTION DISTRICT  
TAX MAP 16, P/O PARCEL 21  
HOWARD COUNTY

**PROPOSED CONDITION DRAINAGE AREA MAP**

**MILDENBERG ASSOCIATES, INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hill Drive, Suite 202, Beltsville, Maryland 21042  
(410) 997-0296 Fax: (301) 621-5521 Wash. (410) 997-0298 Fax.

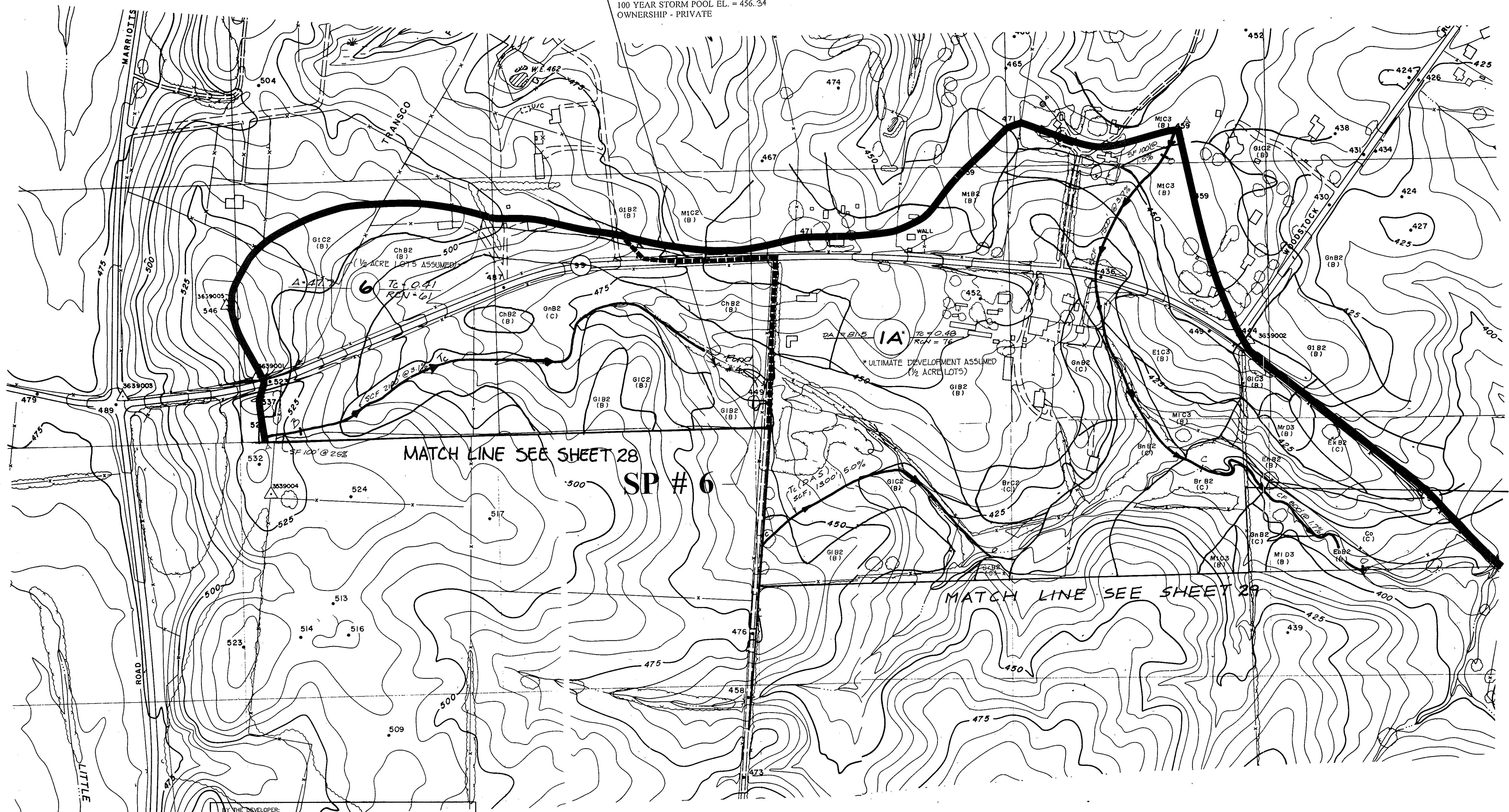
Project	date	approval
94005		JBM
Illustration	engineering	
JBM		
scale	200'	

no.	description	date
	revisions	

GTW'S WAVERLY WOODS, SECTION - 5  
 LOTS 1 THRU 175 AND PARCEL "A"  
 (PHASE 1, 1998 AND PART OF PHASE 1998-CONTAINING LOTS 12 THRU 19  
 AND PARCEL "B" OF PHASE 1998-SECTION 4, AREA 1)  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY  
 PROPOSED CONDITION DRAINAGE AREA MAP

**MILDENBERG ASSOCIATES, INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Elkoot City, Maryland 21042  
 (410) 997-0296, Fax (301) 621-5521, Wash. (410) 997-0298 Fax.

POND 4  
 HAZARD CLASSIFICATION - "a"  
 DRAINAGE AREA - 47.7 AC.  
 PROPOSED RCN - 70  
 PROPOSED Tc - 0.41  
 TYPE - DETENTION  
 2 YEAR STORM POOL EL. = 453.53  
 10 YEAR STORM POOL EL. = 455.05  
 100 YEAR STORM POOL EL. = 456.34  
 OWNERSHIP - PRIVATE



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: *Donald R. Rowner*  
 DATE: 6/6/96  
 PRINTED NAME OF DEVELOPER: DONALD R. ROWNER

BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/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: *R. Sacon Hikmat*  
 DATE: 6-6-96  
 PRINTED NAME OF ENGINEER: R. SACON HIKMAT

PLAN  
 SCALE 1" = 200'

OWNER  
 GTW JOINT VENTURE  
 C/O LAND DESIGN AND DEVELOPMENT  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

AS-BUILT 9-23-01

1253

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.

USDA - 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.

HOWARD SOIL CONSERVATION DISTRICT  
 DATE

APPROVED - DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Quaker* 12-26-96  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE

APPROVED - DEPARTMENT OF PLANNING AND ZONING  
*Richard Blood* 1/2/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE