WINTERBROOK

BENCH MARKS:

HO.CO. # 24A2001 EL = 264.90

HO.CO. # 24A2007 EL = 210.68

GENERAL NOTES:

PART I

1. Approximate location of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
2. All horizontal controls are based on Maryland State Coordinates.
3. All vertical controls are based on U.S.G.S. data.
4. All pipe elevations shown are invert elevations.
5. Clear all utilities by a minimum of 6". Clear all poles by 2' - 0" minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for bracing of additional poles or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
6. For details not shown on the drawings, and for materials and construction methods use Howard County Design Manual, Volume IV, Standard Specifications and Detail for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
7. Where test pits have been made on existing utilities, they are noted by the symbol ⊗ at the location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
8. Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

State Highway Administration	531-5533
BG&E Co. Contractor Services	850-4620
BG&E Co. Under Ground Damage Control	787-5068
Miss Utility	1-800-257-7777
Howard County Department of Public Works Bureau of Utilities	313-4900

9. Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
10. Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.

PART II - WATER

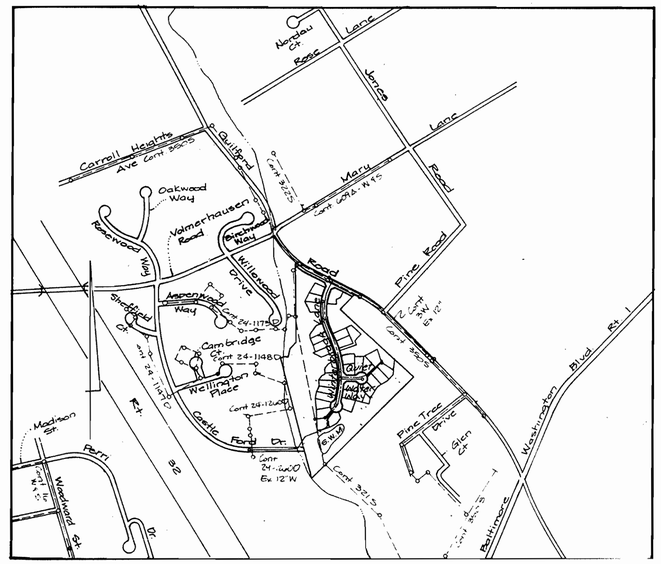
1. All water mains to be D.I.P. Class 52 unless otherwise noted.
2. Tops of all water mains to have a minimum of 3-1/2' cover unless otherwise noted.
3. Valves adjacent to tees shall be strapped to tees.
4. All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
5. Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 and 1005 of the Standard Specifications.
6. The contractor shall not operate any water main valves on the existing water system.
7. All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.

PART III - SEWER

1. All sewer mains shall be DIP, RCP, VCPX, CSPX, RCCP and P.V.C. unless otherwise noted.
2. All manholes shall be 4' - 0" inside diameter unless otherwise noted.
3. Force mains shall be D.I.P. only.
4. Manholes shown with 12" and 16" walls are for brick manholes only.
5. Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail G5.52. Where watertight manhole frame and cover is used, set top of frame 1" - 6" above finished grade unless otherwise noted on the drawings.
6. House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

SHEET INDEX

1. Cover Sheet
2. Plan View
3. Plan View
4. Profiles: Water & Sewer



LOCATION MAP
SCALE: 1" = 600'

Quantities				
Item	Qty Est	Qty	Type	Manufacturer/Supplier
4" Water D.I.P.	170	LF 172	DIP	GRIFFIN PIPE CO.
6" Water D.I.P.	230	LF 242	DIP	GRIFFIN PIPE CO.
8" Water D.I.P.	1407	LF 1345	DIP	" " "
6" x 8" Tee	1	Ea 1	DIP	" " "
6" x 8" FAIT	2	Ea 2	DIP	" " "
8" Valve	2	Ea 2	CAST IRON GATE VALVE	MUELLER CO.
6" Valve	3	Ea 3	"	" "
12" x 8"	1		DIP TEE	U.S. FOUNDRY
(Tapping Sleeve & Valve)		Ea 1	CAST IRON GATE VALVE	MUELLER CO.
8" Cap & Buttress	1	Ea 1	DIP	GRIFFIN PIPE CO.
4" Cap & Buttress		Ea 1	"	" " "
3/4" Water	978	LF 1058	K COPPER	HOWELL METALS
4" SHC	850	LF 840	PVC	M. MANUFACTURING
1 1/2" Blowoff	2	Ea 2	K COPPER	HOWELL METALS
8" "	2	Ea 2	CAST IRON	MUELLER CO.
8" Sewer	1320	LF 1489	PVC	J.M. MANUFACTURING
4" Sta. Val.	9	Ea 9	CONCRETE	ATLANTIC PRECAST
1/8 Bends 8"	2	Ea 2	D.I.P.	U.S. FOUNDARY
1/16 Bends 8"	2	Ea 2	"	" "
Utility Contractor	CONSOLIDATED CONSTRUCTION SERVICES			
Check Box:				
Survey and Drafting Div. As Built Date				

SEWER HOUSE CONNECTIONS		
LOT	INV. @ PROPERTY LINE	M.C.E.
1	200.05 ✓	203.5
2	199.70 ✓	203.0
3	193.58 ✓	196.5
4	190.37 ✓	193.5
5	189.39 ✓	192.5
6	188.48 ✓	191.5
7	187.67 ✓	191.0
8	184.83 ✓	188.0
9	183.85 ✓	187.0
10	182.60 ✓	185.5
11	181.66 ✓	185.0
12	180.97 ✓	184.0
13	180.28 ✓	183.5
14	179.02* ✓	182.0
15	177.26* ✓	180.5
16	179.36* ✓	182.5
17	181.19* ✓	184.5
18	182.05 ✓	185.0
19	184.56 ✓	187.5
20	186.41 ✓	190.5
21	191.58 ✓	194.5
22	192.36* ✓	195.5
23	195.91* ✓	199.0
24	199.61* ✓	203.0
25	201.22* ✓	204.5
26	199.56* ✓	203.0
27	194.91* ✓	198.0
28	188.82 ✓	192.0
29	184.93 ✓	188.0
30	186.01 ✓	189.0
31	187.37 ✓	194.0
32	188.04 ✓	191.0
33	188.94 ✓	192.0
34	199.70 ✓	203.0

* INV. AT EDGE OF EASEMENT

WATER AND SEWER CODE
COUNTY USE

Water Code: 621
Water Test Gradient: 550
Sewer Code: 4250000

Type of Building	SFD
Number of Lots/Parcels:	36 (33 Buildable, 3 Open space)
Number of WHC's:	34
Number of SHC's:	34
Drainage Area:	Little Patuxent
Treatment Plant	Little Patuxent WWTP

WATER & SEWER CONTRACT DRAWINGS

6tH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CONTRACT No 24-1951-D

Reviewed for Howard Soil Conservation District and meets Techical Requirements.

Patricia English 3/9/95
U. S. Soil Conservation Service Date

This Developement Plan is Approved for Soil Erosion and Sediment Control by the Howard County Soil Conservation District.

John R. Robertson 3/9/95
Howard County Soil Conservation District Date

Sediment Control Measures for this Contract will be implemented in accordance with Section 219 of the Standard Specification and Final Road Construction Plans: F-95-15

WATER & SEWER AS-BUILTS

Department of Public Works
Howard County, MD.

Director of Public Works	3/10/95 Date	Chief, Bureau of Engineering	3/10/95 Date
Chief - Bureau of Utilities	3-3-95 Date	Chief - Land Development Division	3/10/95 Date

LAND DESIGN ENGINEERING, INC.
5035 Columbia 100 Pkwy. Unit N
Columbia, Maryland 21045
Phone: (410) 715-1070 (301) 596-3424

STATE OF MARYLAND PROFESSIONAL ENGINEER BRUCE D. DUNCAN No. 19705 REGISTERED PROFESSIONAL ENGINEER
Bruce Duncan 3/13/95

Designed: MJE			
Drawn: BEI			
Checked: MJE/BDD			
Date: July 1994	BY	No.	REVISION	DATE

COVER SHEET
WATER AND SEWER MAINS

600 SCALE MAP No. 47 BLOCK No. 6

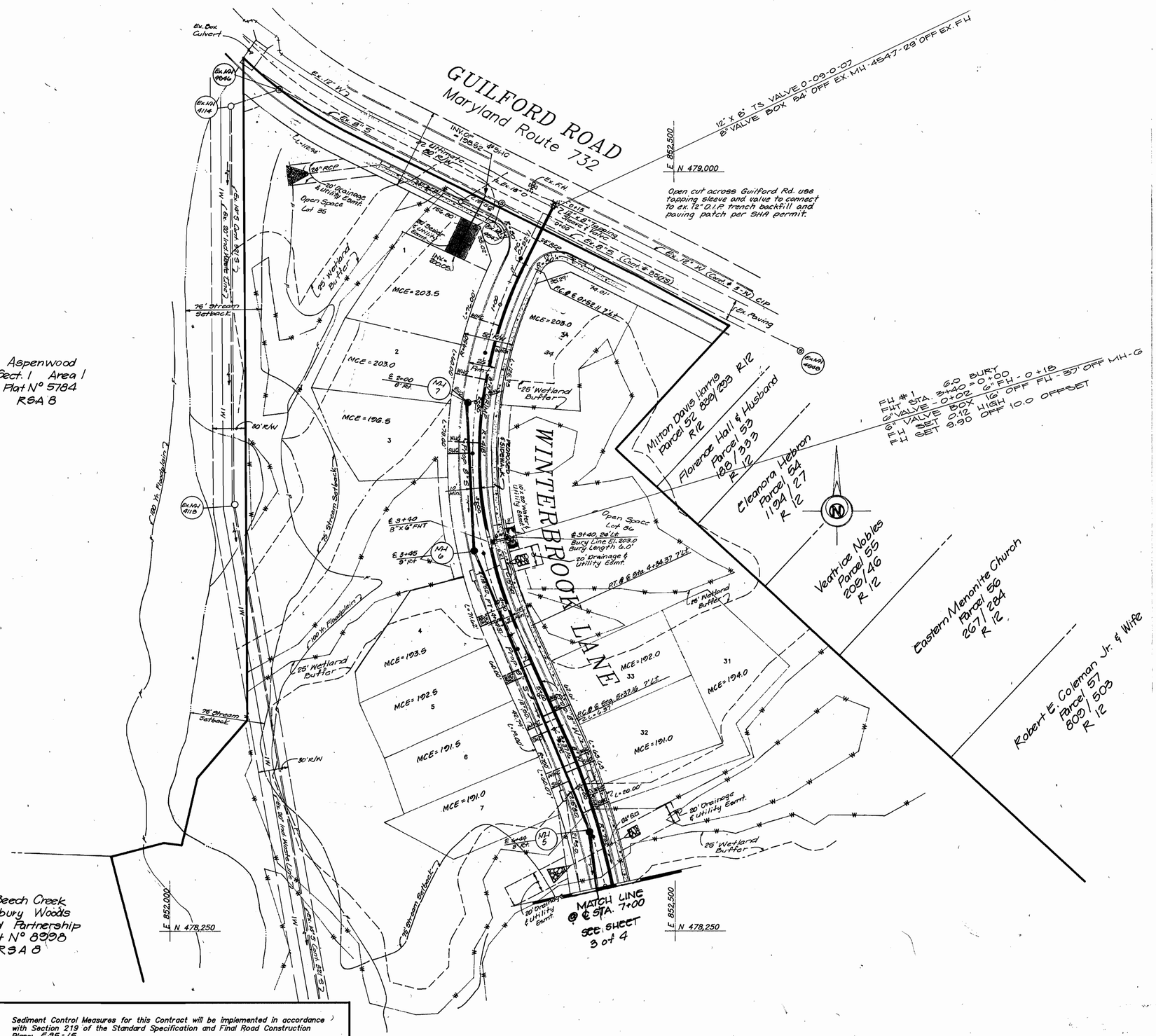
WINTERBROOK AS-BUILT
LOTS 1 THRU 36
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CONTRACT NO. 24-1951-D

SCALE AS SHOWN

SHEET 1 OF 4

WATER AS - BUILTS

LOT	FROM	TO	
1	EX. MH-4547	CURB STOP BOX	115'
2	" -7	" " "	87'
3	" -6	" " "	32'
4	" -6	" " "	177'
5	" -6	" " "	43'
6	FH-1	" " "	111'
7	MH-6	" " "	86'
8	" -5	" " "	84'
9	" -5	" " "	137'
10	" -5	" " "	125'
11	" -4	" " "	187'
12	" -4	" " "	119'
13	" -4	" " "	72'
14	" -4	" " "	232'
15	8" V.- 2+43 WINTERBROOK	" " "	88'
16	FH-2	" " "	97'
17	MH-4	" " "	33'
18	FH-2	" " "	118'
19	MH-4	" " "	53'
20	" -3	" " "	108'
21	FH-2	" " "	100'
22	8" V. 11+32 (20' UTILITY EASM'T	" " "	100'
23	MH-3	" " "	80'
24	MH-3	" " "	49'
25	8" V. 11+32 (20' UTILITY EASM'T.)	" " "	54'
26	" " " " "	" " "	32'
27	MH-3	" " "	50'
28	" -2	" " "	15'
29	8" V. 11+32 (20' UTILITY EASM'T.)	" " "	88'
30	" " " " "	" " "	88'
31	MH-3	" " "	84'
32	" -2	" " "	47'
33	8" V. 11+32 (20' UTILITY EASM'T.)	" " "	33'
34	FH-2	" " "	100'
35	MH-3	" " "	99'
36	" -2	" " "	105'
37	FH-2	" " "	14'
38	MH-3	" " "	15'
39	4" V. 2+07 (30' UTILITY EASM'T)	CURB STOP BOX	88'
40	" " " " "	" " "	88'
41	MH-8	" " "	45'
42	" " " " "	" " "	41'
43	4" V. 2+07 (30' UTILITY EASM'T.)	" " "	124'
44	" " " " "	" " "	50'
45	MH-9	" " "	34'
46	4" V. 2+07 (30' UTILITY EASM'T)	" " "	22'
47	" " " " "	" " "	146'
48	MH 9	" " "	80'
49	4" V. 2+07 (30' UTILITY EASM'T.)	" " "	30'
50	" " " " "	" " "	140'
51	MH-8	" " "	48'
52	4" V. 2+07 (30' UTILITY EASM'T.)	" " "	69'
53	4" V. 2+07 (30' UTILITY EASM'T.)	" " "	90'
54	MH-4	" " "	82'
55	8" V. 8+43 (WINTERBROOK)	" " "	101'
56	" " " " "	" " "	102'
57	MH-4	" " "	70'
58	" -5	" " "	45'
59	" -6	" " "	287'
60	" -6	" " "	74'
61	" -6	" " "	230'
62	" -6	" " "	137'
63	" -6	" " "	166'
64	EX. MH 4547	" " "	145'
"	MH 7	CURB STOP BOX	68'



Reviewed for Howard Soil Conservation District and meets Techical Requirements.

Patricia Engle 3/9/95
U. S. Soil Conservation Service Date

This Developement Plan is Approved for Soil Erosion and Sediment Control by the Howard County Soil Conservation District

John R. Robertson 3/9/95
Howard County Soil Conservation District Date

Sediment Control Measures for this Contract will be implemented in accordance with Section 219 of the Standard Specification and Final Road Construction Plans: F95-15

Department of Public Works
Howard County, MD.

Director of Public Works	3/10/95 Date	Chief - Bureau of Engineering	3/10/95 Date
Chief - Bureau of Utilities	3-3-95 Date	Chief - Land Development Division	3/10/95 Date

LAND DESIGN ENGINEERING, INC.
8835 Columbia 100 Pkwy. Unit N
Columbia, Maryland 21045
Phone: (410) 715-1070 (301) 596-3424

STATE OF MARYLAND BRUCE DAVID BOYER REGISTERED PROFESSIONAL ENGINEER No. 19184

REDLINE DATA 4-4-95

Designed: MJE
Drawn: BEI
Checked: MJE/BDB
Date: JULY 1994

BY	No.	REVISION	DATE

PLAN
WATER AND SEWER MAINS

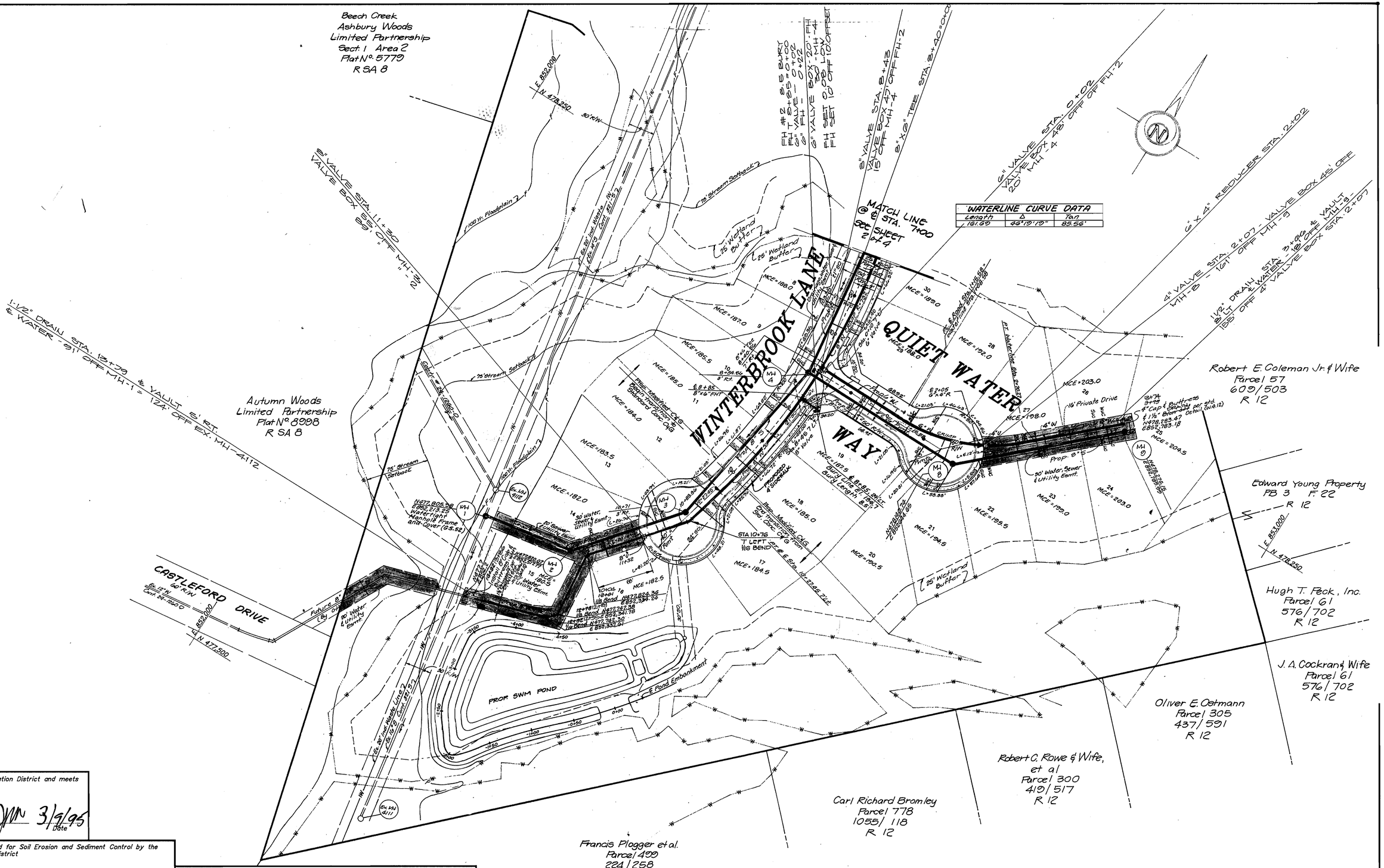
600 SCALE MAP No. 47 BLOCK No. 6

WINTERBROOK
LOTS 1 THRU 36
AS - BUILT

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CONTRACT NO. 24-1951-D

SCALE: 1" = 50'

SHEET 2 OF 4



WATERLINE CURVE DATA		
Length	Δ	Tan
161.89	46°19'19"	85.56'

Reviewed for Howard Soil Conservation District and meets Techical Requirements.

Patricia Engler 3/9/95
U. S. Soil Conservation Service Date

This Developement Plan is Approved for Soil Erosion and Sediment Control by the Howard County Soil Conservation District

John R. Robertson 3/9/95
Howard County Soil Conservation District Date

Sediment Control Measures for this Contract will be implemented in accordance with Section 219 of the Standard Specification and Final Road Construction Plans: F-95-15

Department of Public Works
Howard County, MD.

3/10/95	Director of Public Works	3/10/95	Chief – Bureau of Engineering
3-3-95	Chief – Bureau of Utilities	3/10/95	Chief – Land Development Division

Date

LAND DESIGN ENGINEERING, INC.
8835 Columbia 100 Pkwy. Unit N
Columbia, Maryland 21045
Phone: (410) 715-1070 (301) 596-3424

STATE OF MARYLAND BRUCE DAVID BURT REGISTERED PROFESSIONAL ENGINEER

Bruce D. Burt 3/9/95

Designed:	MJE
Drawn:	BEI
Checked:	MJE/BDB
Date:	JULY 1994

BY	No.	REVISION	DATE

PLAN
WATER AND SEWER MAINS

600 SCALE MAP No. 47 BLOCK No. 6

WINTERBROOK
LOTS 1 THRU 36

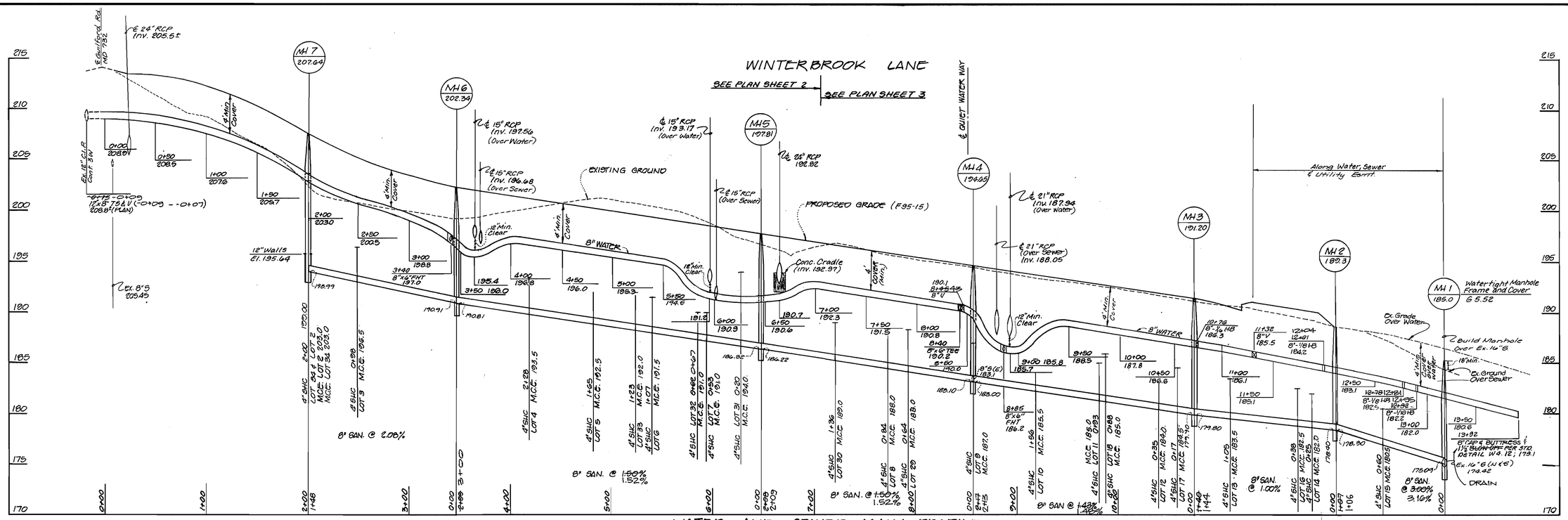
AS - BUILT

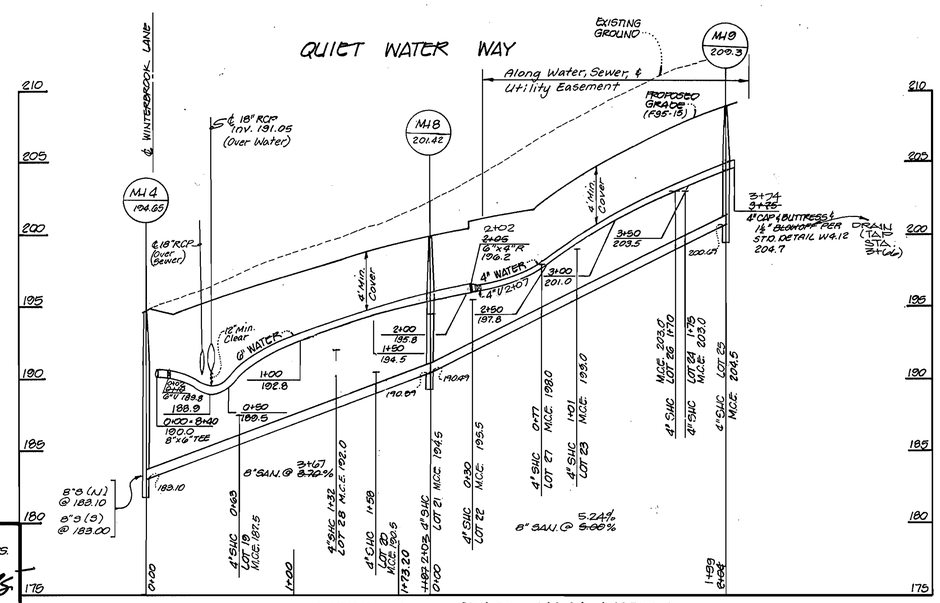
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CONTRACT NO. 24-1951-D

SCALE: 1" = 50'

SHEET 3 OF 4

1951 WS13 Winterbrook





SEWER AS-BUILTS

LOT		
1	EX. MH 4547	SAN. BOARD
1	8" V. 0+07 GUILFORD ROAD	SAN. BOARD
2	MH 1	
3	" " 2	
4	" " 3	
5	" " 4	
6	" " 5	
7	" " 6	
8	" " 7	
9	8" V. 8+43 WINTERBROOK	
10	MH 1	
11	" " 2	
12	MH 3	
13	8" V. 11+32 (20' UTILITY EASM'T.)	
14	8" V. 11+32 (20' UTILITY EASM'T.)	
15	MH 1	
16	" " 2	
17	8" V. 11+32 (20' UTILITY EASM'T.)	
18	MH 3	
19	" " 2	
20	MH 4	
21	4" V. 2+07 (30' UTILITY EASM'T.)	
22	MH 8	
23	4" V. 2+07 (30' UTILITY EASM'T.)	
24	MH 8	
25	4" V. 2+07 (30' UTILITY EASM'T.)	
26	MH 8	
27	4" V. 2+07 (30' UTILITY EASM'T.)	
28	MH 8	
29	4" V. 2+07 (30' UTILITY EASM'T.)	
30	8" V. 8+43 WINTERBROOK	
31	MH 1	
32	" " 2	
33	" " 3	
34	FH 1	
	MH 2	SAN. BOARD

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Patricia English 3/9/95
SIGNATURE — DATE
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
John R. Robertson 3/9/95
HOWARD SOIL CONSERVATION DISTRICT — DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARD SPECIFICATION AND FINAL ROAD CONSTRUCTION PLANS F-95-15

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	DATE 3/10/95	CHIEF BUREAU OF ENGINEERING	DATE 3/10/95
CHIEF BUREAU OF UTILITIES	DATE 3-3-95	CHIEF LAND DEVELOPMENT DIVISION	DATE 3/10/95

LAND DESIGN ENGINEERING, INC.
8835 Columbia 100 Pkwy. Unit N
Columbia, Maryland 21045
Phone: (410) 715-1070 (301) 596-3424

STATE OF MARYLAND — BRUCE DAVID BOCKSTAEL — No. 19194 — REGISTERED PROFESSIONAL ENGINEER
Bockstael 3/9/95

Designed: MJE
Drawn: BEI
Checked: MJE/BDB
Date: JULY 1994

BY	No.	REVISION	DATE

PROFILES
WATER AND SEWER MAINS
600 SCALE MAP NO. 47 BLOCK NO. 6

WINTERBROOK
LOTS 1 THRU 36
AS - BUILT
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CONTRACT NO. 24-1951-D

SCALE AS SHOWN
SHEET 4 OF 4

1951 WS/4 Winterbrook