

# THE FOREST

SHEET INDEX	
SHEET NO.	ITEM
1	TITLE SHEET
2	PLAN OF WATER AND SEWER MAINS
3	PLAN OF WATER AND SEWER MAINS
4	PLAN OF WATER AND SEWER MAINS
5	PROFILES OF WATER AND SEWER MAINS
6	PROFILES OF WATER AND SEWER MAINS
7	PROFILES OF WATER AND SEWER MAINS
8	PROFILES OF WATER MAINS

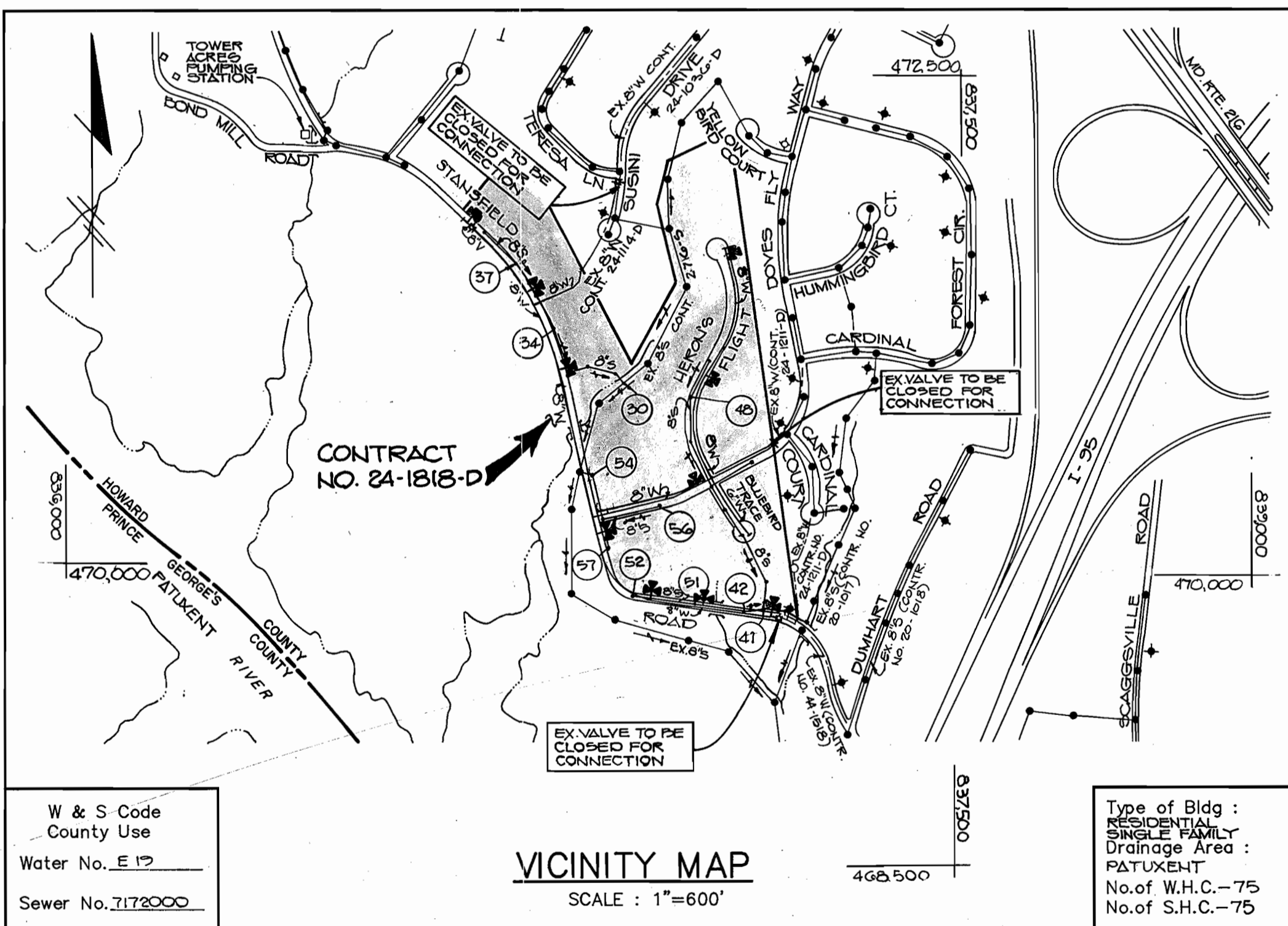
## CONTRACT NO. 24-1818-D 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

### BENCHMARKS

B.M. # 712 ELEV. 348.74  
 WUB TACK SET, 15' LT & RD STA.  
 23+15 = STANSFIELD ROAD  
 (TRAVERSE STA. # 712)

B.M. # 715 ELEV. 330.72  
 WUB TACK SET, 14' RT & RD STA.  
 41+76 = STANSFIELD ROAD  
 (TRAVERSE STA. # 715)

B.M. # 716 ELEV. 230.45  
 WUB TACK SET, 28' NORTHWEST OF  
 EX. M.L. # 523 (TRAVERSE STA. # 716)



### GENERAL NOTES

- 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.
- All horizontal controls are based on Maryland State coordinates.
- All vertical controls are based on U.S.G.S. data.
- All pipe elevations shown are  $\odot$  invert elevations.
- Clear all utilities by a minimum of 6".
- For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Constructions. The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol  $\oplus$  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 verified by the contractor to his own personal satisfaction. Any damage to existing facilities due to the contractor's negligence shall be repaired at the contractor's expense.
- The contractor shall notify the following utilities or agencies at least five working days before starting work shown on these plans:
 

State Highway Administration	531-5533
Baltimore Gas and Electric Co. - Contractor Services	850-4620
Baltimore Gas and Electric Co. - Underground Damage Control	859-9004
Baltimore Gas and Electric Co. - Trouble Shooting	298-9001
Miss Utility	1-559-0100
Colonial Pipeline Co.	795-1390
Bureau of Utilities, Ho.Co. Department of Public Works	992-2366
C & P Telephone Co.	1-800-257-7777
- 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.
- The 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.
- All water mains to be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains to have a minimum of 3-1/2' cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevation shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with the Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1003 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting, unless otherwise noted on the plans or in the Specifications.
- Service clamps are to have stainless straps.
- All sewer mains shall be C.S.P.X., R.C.S.P., V.C.P.X., A.C.P. Class 2400 or P.V.C. unless otherwise noted.
- The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail 05.52. Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N.S." indicates that the cellar cannot be served.
- All D.I.P. fittings shall be in accordance with AWWA specification C-153 Ductile Iron Pipe Compact Fittings, 3" through 12" for water and sewer and other liquids.

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on F-83-27

HOWARD SOIL CONSERVATION DISTRICT: 2/9/89

Review for Howard Soil Conservation District and meet technical requirements.  
*James M. Helm* 2/9/89  
 CHIEF, SOIL CONSERVATION SERVICE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*John R. Robertson* 2/9/89  
 CHIEF, SOIL CONSERVATION DISTRICT

Item	Quantities		Material Supplier
	Estimated	As Built	
8" SEWER (PVC)	2810 LF	3511	A+P WATER & SEWER
8" SEWER (DIP)	1128 LF	1426	DRIFPIN PIPE
6" SEWER (PVC)	1575 LF	1340	A+P WATER & SEWER
MANHOLES	25 EA.	26	ATLANTIC CONCRETE
8"x6" SEWER SADDLES	7 EA.	6	A+P WATER & SEWER
8" WATER	5355 LF	5284	DRIFPIN PIPE
6" WATER	675 LF	648	DRIFPIN PIPE
FIRE HYDRANTS	10 EA.	11	A+P WATER & SEWER
1" WHC	810 LF	750	A+P WATER & SEWER
3/4" WHC	675 LF	1107	A+P WATER & SEWER
3/4" METER VAULT	2 EA.	2	A+P WATER & SEWER
AIR RELEASE MANHOLE	1 EA.	302.5	DRIFPIN PIPE
8" VALVES	-	8	A+P WATER & SEWER
6" VALVES	-	1	A+P WATER & SEWER

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James M. Helm* 2/24/89  
 DIRECTOR OF PUBLIC WORKS

*Robert M. Bevinger* 2-17-89  
 CHIEF, BUREAU OF UTILITIES

*William E. Muegge* 2/23/89  
 CHIEF, BUREAU OF ENGINEERING

*William E. Muegge* 2/23/89  
 CHIEF, LAND DEVELOPMENT

THE RIEMER GROUP INC.  
 3105 NORTH RIDGE ROAD  
 ELLICOTT CITY, MARYLAND  
 (301) 461-2690

*Arthur E. Muegge*  
 ARTHUR E. MUEGGE #8707

DES: D.B.S.	CJR	ADD AIR RELEASE MANHOLE TO QUANTITIES BOX	3-10-89
DRN: R.A.W.			
CHK:			
DATE: 8-10-88	BY NO.	REVISION	DATE

TITLE SHEET  
 SEWER AS BUILTS

600' SCALE MAP NO. 46 & 47 BLOCK NO. \_\_\_\_\_

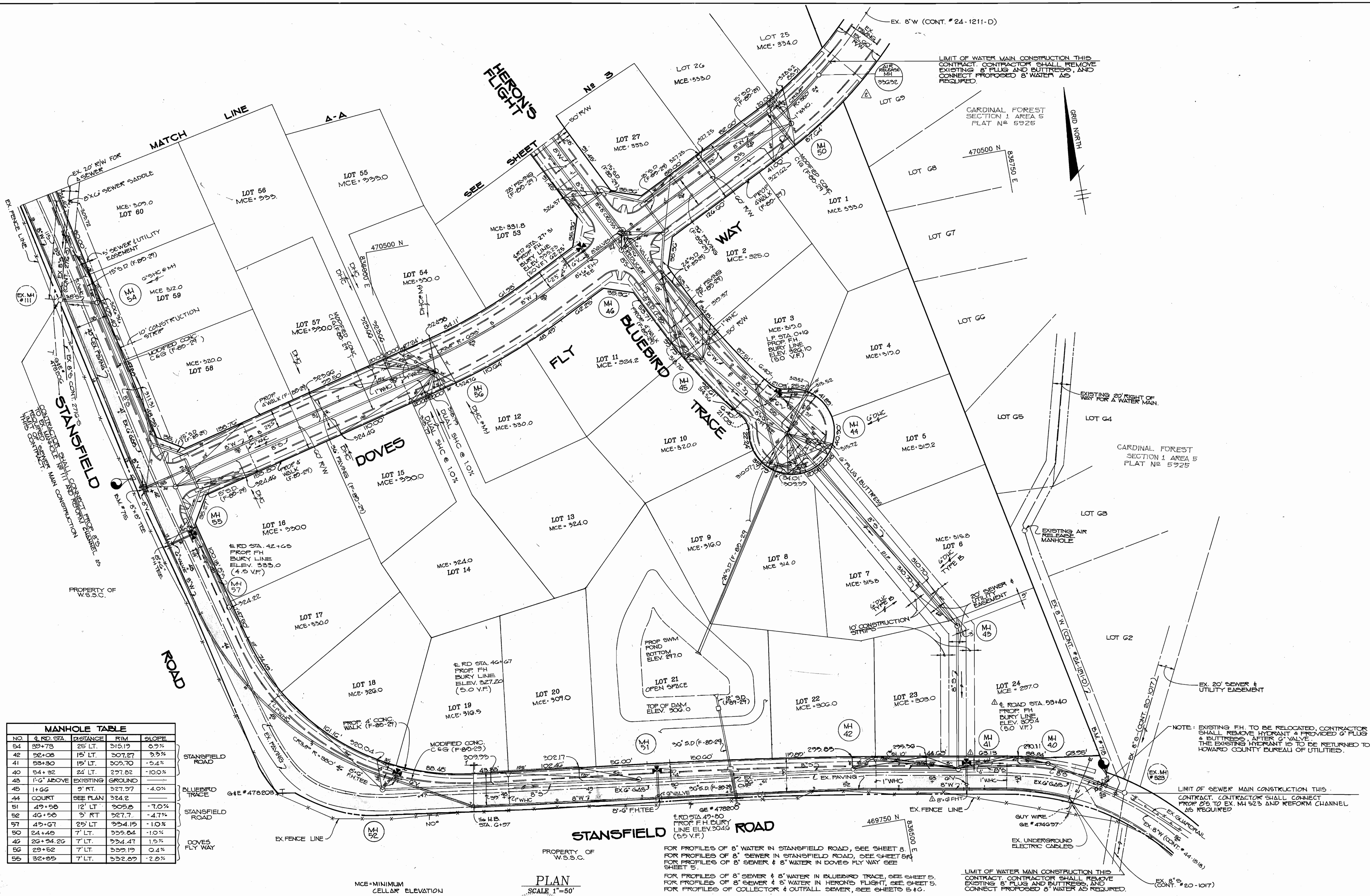
THE FOREST  
 6th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT NO. 24-1818-D

SCALE AS SHOWN

SHEET 1 OF 8

AS-BUILT MARCH 19, 1990





NO.	\$ RD STA.	DISTANCE	RIM	SLOPE
54	39+78	25' LT.	315.19	0.9%
42	52+08	15' LT.	307.27	3.3%
41	53+30	15' LT.	309.70	-5.4%
40	54+32	24' LT.	297.82	-10.0%
43	1' G ABOVE	EXISTING GROUND		
45	1+66	9' RT.	327.97	-4.0%
44	COURT	SEE PLAN	324.2	
51	49+58	12' LT.	305.8	-7.0%
52	48+58	3' RT.	327.7	-4.7%
57	49+07	25' LT.	304.15	-1.0%
50	24+48	7' LT.	305.04	-1.0%
46	28+94.20	7' LT.	304.47	1.5%
56	29+52	7' LT.	303.19	0.4%
55	32+85	7' LT.	302.09	-2.8%

PLAN  
SCALE 1"=50'

FOR PROFILES OF 8" WATER IN STANSFIELD ROAD, SEE SHEET 8.  
FOR PROFILES OF 8" SEWER IN STANSFIELD ROAD, SEE SHEET 5.  
FOR PROFILES OF 8" SEWER & 8" WATER IN DOVES FLY WAY, SEE SHEET 5.  
FOR PROFILES OF 8" SEWER & 8" WATER IN BLUEBIRD TRACE, SEE SHEET 5.  
FOR PROFILES OF 8" SEWER & 8" WATER IN HERON'S FLIGHT, SEE SHEET 5.  
FOR PROFILES OF COLLECTOR & OUTFALL SEWER, SEE SHEETS 5 & 6.

LIMIT OF WATER MAIN CONSTRUCTION THIS CONTRACT. CONTRACTOR SHALL REMOVE EXISTING 8" PLUG AND BUTTRESS, AND CONNECT PROPOSED 8" WATER AS REQUIRED.

NOTE: EXISTING FH TO BE RELOCATED. CONTRACTOR SHALL REMOVE HYDRANT & PROVIDE 6" PLUG & BUTTRESS AFTER 6" VALVE. THE EXISTING HYDRANT IS TO BE RETURNED TO HOWARD COUNTY BUREAU OF UTILITIES.

LIMIT OF SEWER MAIN CONSTRUCTION THIS CONTRACT. CONTRACTOR SHALL CONNECT PROP 24" TO EX. M4 52'S AND REFORM CHANNEL AS REQUIRED.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *Ronald M. Bowers* DATE: 2-23-89  
 Chief, Bureau of Engineering: *James E. Ryan* DATE: 2-23-89  
 Chief, Bureau of Utilities: *Ronald M. Bowers* DATE: 2-17-89  
 Chief, Land Development: *James E. Ryan* DATE: 2/23/89

THE RIEMER GROUP INC.  
3105 NORTH RIDGE ROAD  
ELLICOTT CITY, MARYLAND  
(301) 461-2690

ARTHUR, E. WUEGGE #8707

DES. D.B.S.	M.A.D.	1	RELOCATE FH IN FRONT OF LOT 24	10-18-88
	CJR	Δ	ADD AIR RELEASE M4 AT END OF DOVES FLY WAY	3-16-90
DRN: R.A.W.				
CHK:				
DATE: 8-10-88	BY NO.	REVISION	DATE	600' SCALE MAP NO. 46&47 BLOCK NO.

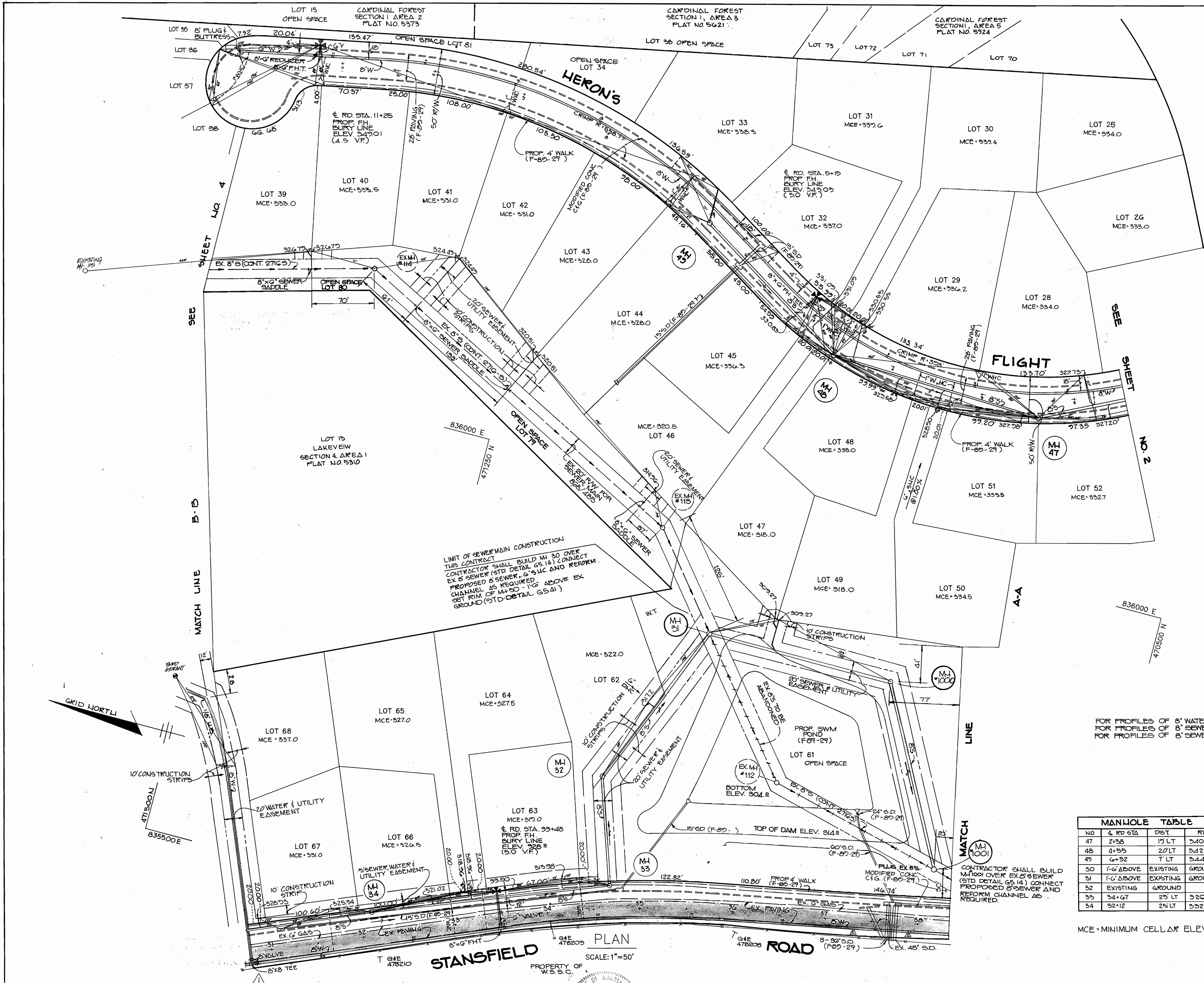
PLAN OF WATER AND SEWER MAINS  
SEWER AS BUILT  
WATER AS BUILT

THE FOREST  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1818-D

SCALE AS SHOWN  
SHEET 2 OF 8

AS-BUILT MAR 19, 1990





**SEQUENCE OF CONSTRUCTION**

1. OBTAIN ALL PERMITS
2. ENSURE ALL NECESSARY SEDIMENT CONTROL MEASURES ARE IN PLACE AS PER F-20-20
3. CONTRACTOR SHALL LOCATE EX. 8" SEWER AND BUILD MH # 1001 & # 31 OVER EX. 8" S IN ACCORDANCE WITH STD. DETAIL G 5.14.
4. INSTALL 8" SEWER FROM MH # 1001 TO MH # 1000 TO MH # 31.
5. UPON COMPLETION OF INSTALLATION, THE CONTRACTOR SHALL REFORM CHANNELS TO DIVERT FLOW THROUGH NEW SEWER AND PROVIDE PLUGS ON EXISTING SEWER PIPES.

LIMIT OF SEWER MAIN CONSTRUCTION THIS CONTRACT  
 CONTRACTOR SHALL BUILD MH 30 OVER EX. 8" SEWER (STD DETAIL G 5.14) CONNECT EX. 8" SEWER TO PROPOSED 8" SEWER. CHANNEL AS REQUIRED. CHANNEL AS REQUIRED. SET RIM OF MH 30 1'-0" ABOVE EX. GROUND (STD DETAIL G 5.4)

FOR PROFILES OF 8" WATER IN STANSFIELD ROAD, SEE SHEET 8.  
 FOR PROFILES OF 8" SEWER IN STANSFIELD ROAD, SEE SHEET 7.  
 FOR PROFILES OF 8" SEWER & 8" WATER IN HERON'S FLIGHT, SEE SHEET 6.

MANHOLE TABLE					
NO	& RD STA	DIST	RIM	SLOPE	
47	2+38	15' LT	340.30	1.00%	HERON'S FLIGHT (WATERTIGHT)
48	4+55	20' LT	342.47	1.00%	
49	6+52	7' LT	344.17	1.00%	
30	1'-6" ABOVE	EXISTING	GROUND		STANSFIELD ROAD
31	1'-6" ABOVE	EXISTING	GROUND		
32	EXISTING	GROUND			
33	34+67	25' LT	320.82	5.0%	
34	32+12	25' LT	332.84	2.0%	

MCE=MINIMUM CELLAR ELEVATION

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

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 DIRECTOR OF PUBLIC WORKS: Robert Bauman  
 CHIEF, BUREAU OF UTILITIES: Robert Bauman  
 CHIEF, BUREAU OF ENGINEERING: [Signature]  
 CHIEF, LAND DEVELOPMENT: [Signature]

THE RIEMER GROUP INC.  
 3105 NORTH RIDGE ROAD  
 ELLICOTT CITY, MARYLAND  
 (301) 461-2690  
 ARTHUR E. MUESSGE #6707

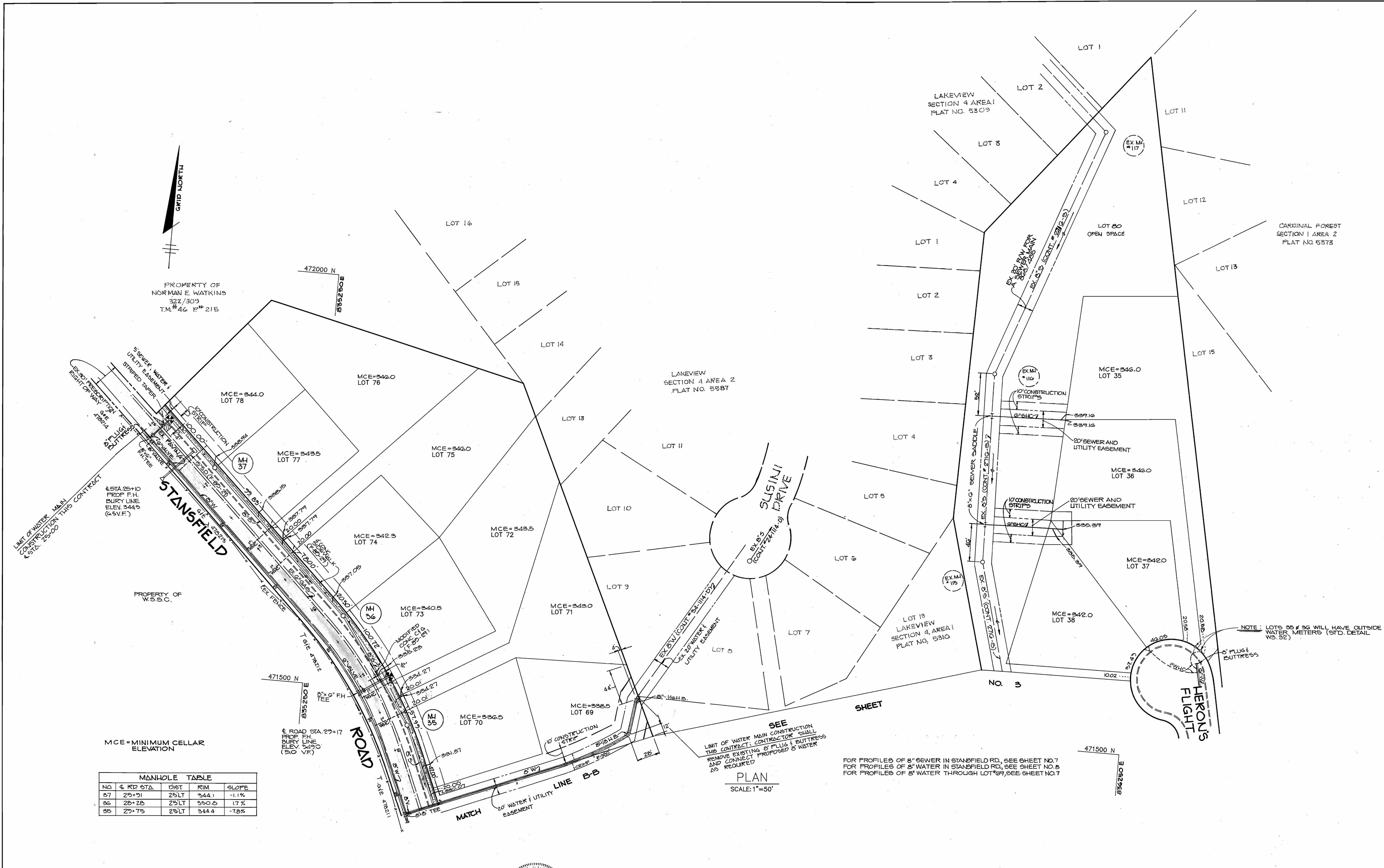
DES: DBS	GDH	ADD 8" VALVE W/M STA. 23+72 IN PLAN VIEW	4-28-89
DRN: SS	WAD	ELIMINATE 8" V. DENDO	12-18-89
CHK:			
DATE: 8-10-88	BY NO.	REVISION	DATE

PLAN OF WATER AND SEWER MAINS  
 SEWER AS BUILTS  
 WATER AS BUILTS  
 600' SCALE MAP NO. 441 87 BLOCK NO.

THE FOREST  
 6th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT NO. 24-1818-D  
 SCALE AS SHOWN  
 SHEET 5 OF 8

AS-BUILT MARCH 19, 1990





MCE = MINIMUM CELLAR ELEVATION

NO.	4	KIP STA.	DIST	RIM	SLOPE
57	25+21	25'LT	344.1	-1.1%	
36	20+28	25'LT	350.2	1.7%	
25	27+75	25'LT	344.4	-7.8%	

SEE  
LIMIT OF WATER MAIN CONSTRUCTION  
THIS CONTRACT. CONTRACTOR SHALL  
REMOVE EXISTING 8" PLUG & BUTTRESS  
AND CONNECT PROPOSED 8" WATER  
AS REQUIRED.

PLAN  
SCALE: 1"=50'

FOR PROFILES OF 8" SEWER IN STANSFIELD RD, SEE SHEET NO. 7  
FOR PROFILES OF 8" WATER IN STANSFIELD RD, SEE SHEET NO. 8  
FOR PROFILES OF 8" WATER THROUGH LOT 69, SEE SHEET NO. 7

NOTE: LOTS 25 & 36 WILL HAVE OUTSIDE  
WATER METERS (STD. DETAIL  
WS-52)

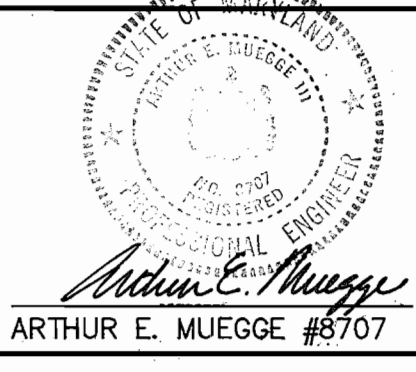
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James W. ...* 2/24/89 DATE  
DIRECTOR OF PUBLIC WORKS

*...* 2-28-89 DATE  
CHIEF, BUREAU OF ENGINEERING

*...* 2/23/89 DATE  
CHIEF, LAND DEVELOPMENT

THE RIEMER GROUP INC.  
3105 NORTH RIDGE ROAD  
ELLCOTT CITY, MARYLAND  
(301) 461-2690



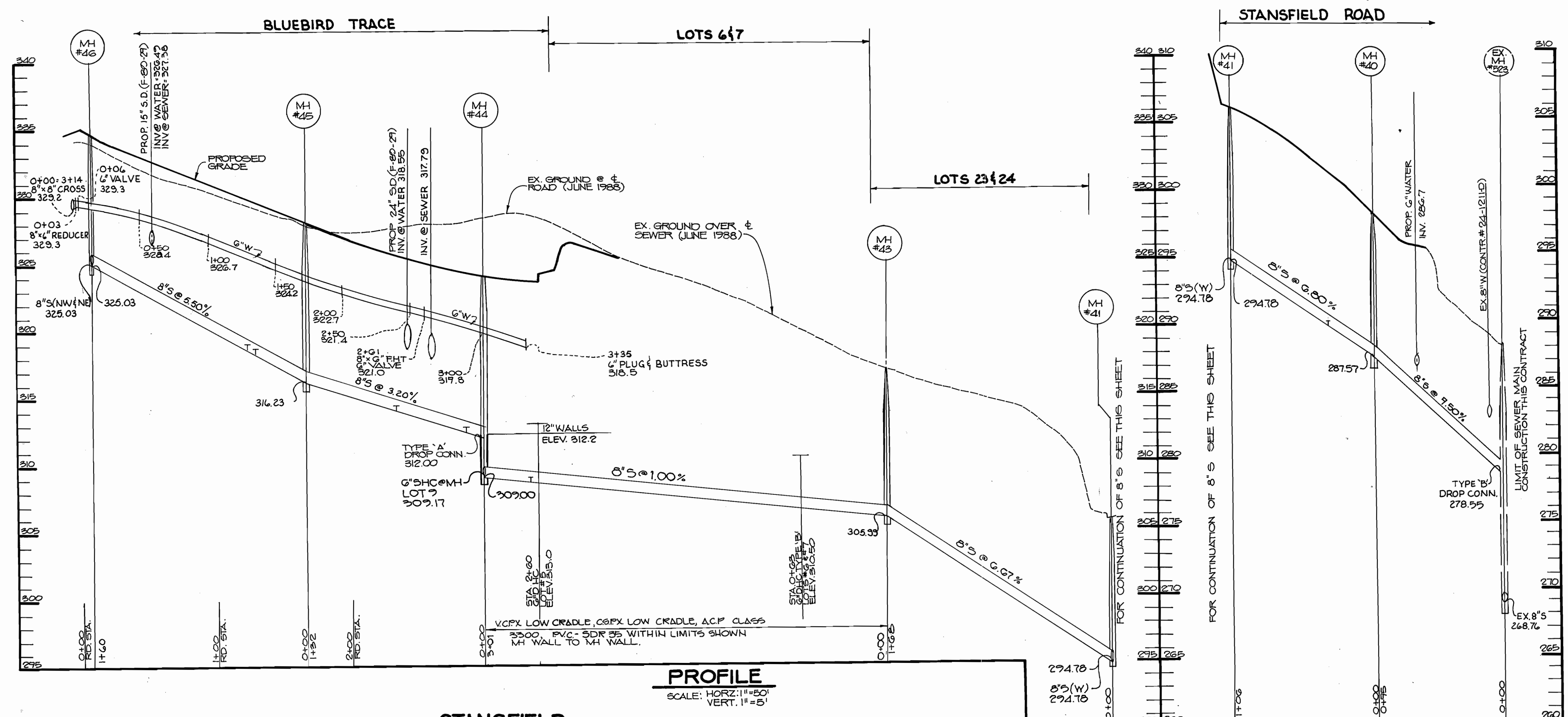
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DRN: SLS					
CHK:					
DATE: 8-10-88	BY	NO.	REVISION	DATE	

PLAN OF WATER AND  
SEWER MAINS

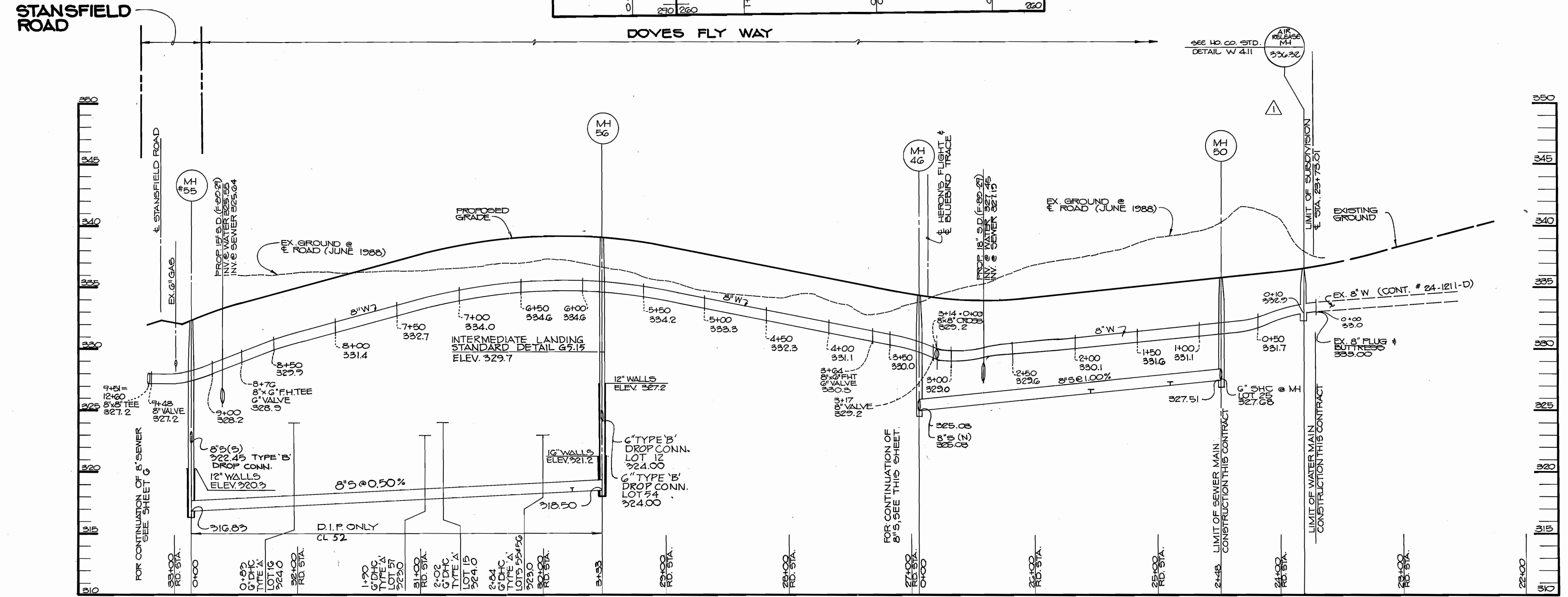
600' SCALE MAP NO. 46-47 BLOCK NO.

THE FOREST  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1818-D

SCALE AS SHOWN  
SHEET 4 OF 8



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



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James McLean* 2-16-89  
DIRECTOR OF PUBLIC WORKS DATE

*Robert Benjamin* 2-17-89  
CHIEF, BUREAU OF UTILITIES DATE

*William E. Muegge* 2-23-89  
CHIEF, BUREAU OF ENGINEERING DATE

*William E. Muegge* 2-17-89  
CHIEF, LAND DEVELOPMENT DATE

THE RIEMER GROUP, INC.  
3105 NORTH RIDGE ROAD  
ELLCOTT CITY, MARYLAND  
(301) 461-2690

ARTHUR E. MUEGGE #8707

DES: D.B.S.	CJR	ADD AIR RELEASE MH AT 0+10 Doves Fly Way	2-16-89
DRN: R.A.W.			
CHK:			
DATE: 8-10-88	BY	NO.	REVISION

PROFILES OF  
WATER AND SEWER MAINS

600' SCALE MAP NO. 46 & 47 BLOCK NO.

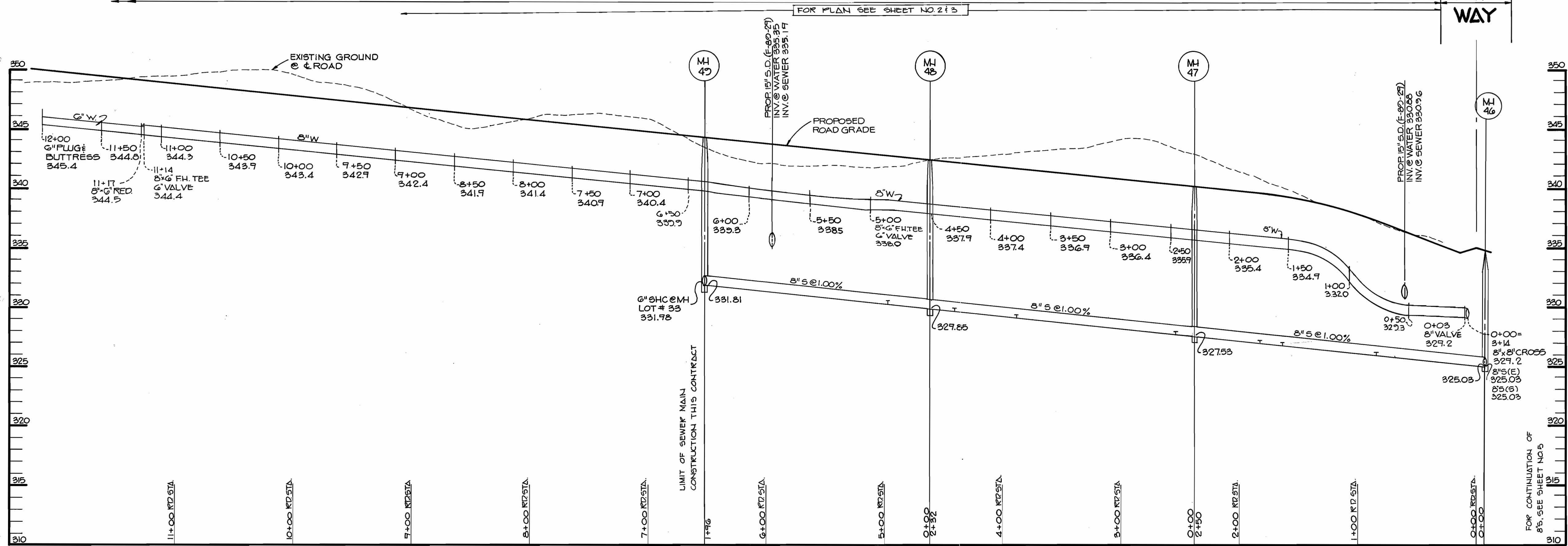
THE FOREST  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1818-D

SCALE AS SHOWN  
SHEET 5 OF 8



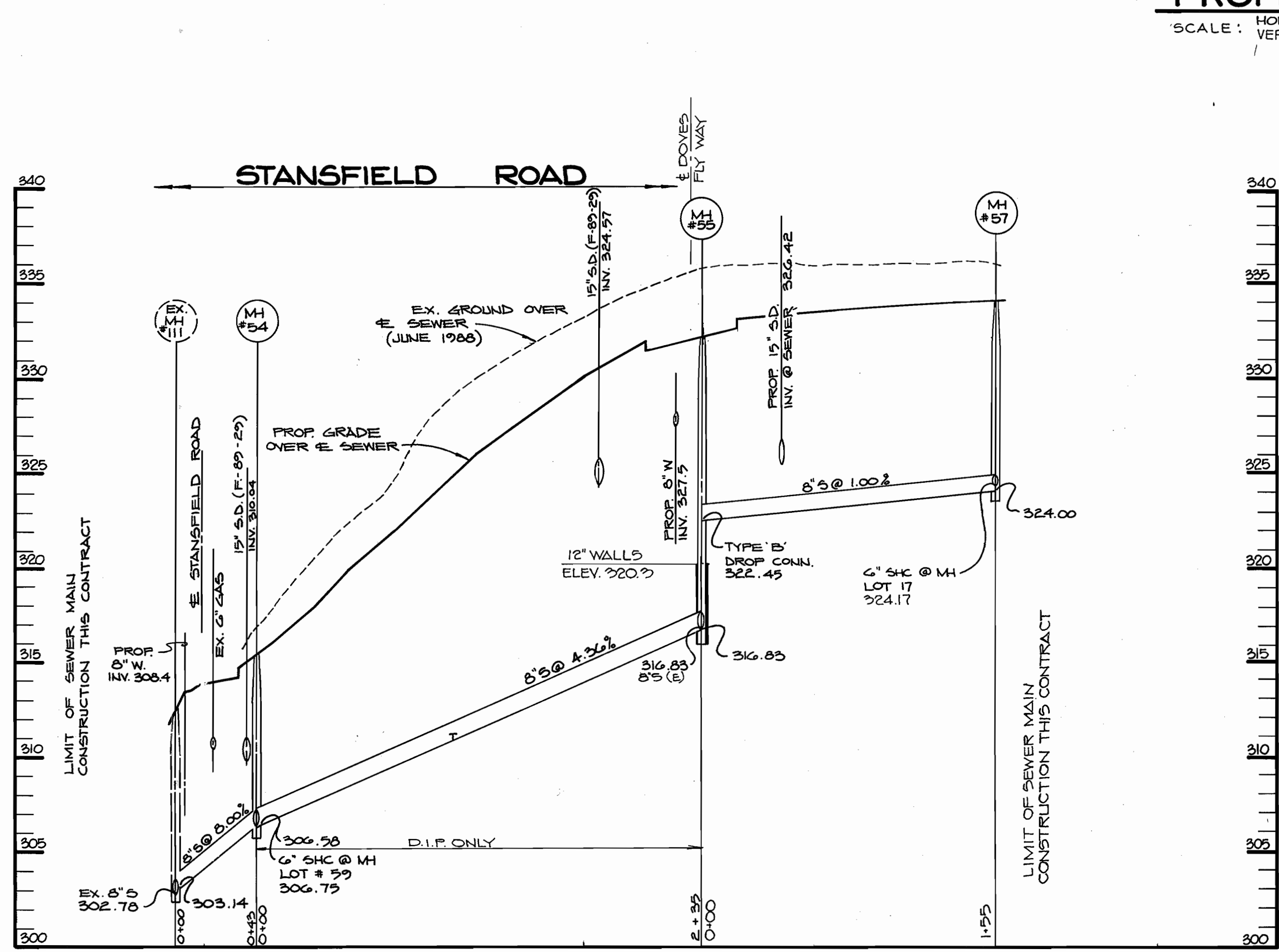
HERON'S FLIGHT

DOVES FLY WAY



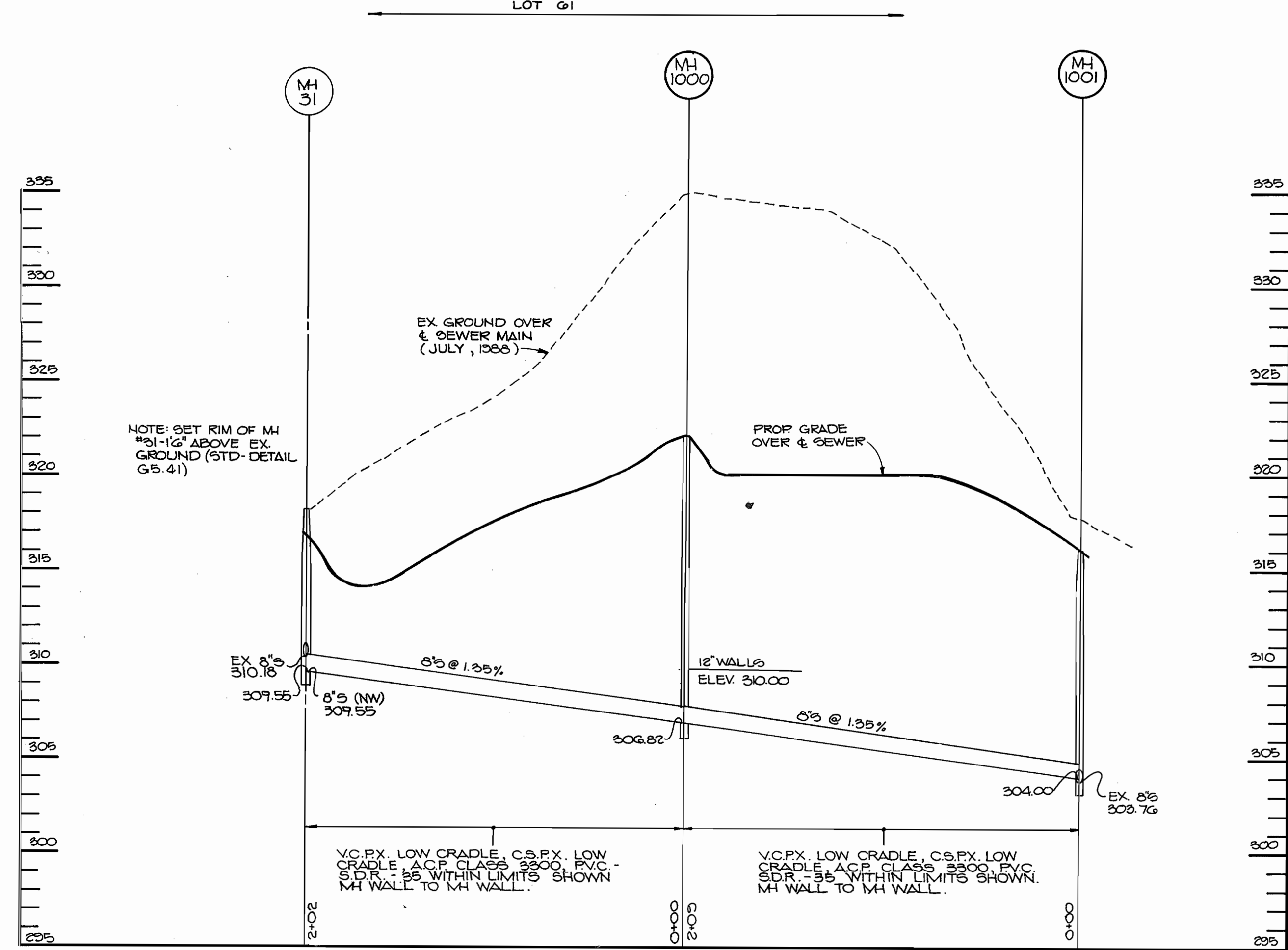
PROFILE

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



PROFILE

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



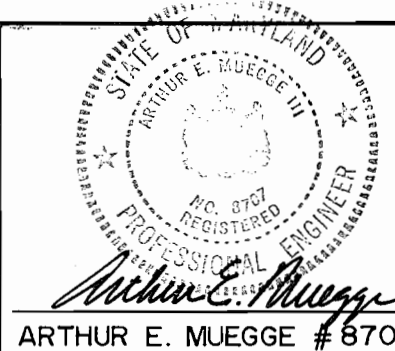
NOTE: SET RIM OF MH #91-12 ABOVE EX. GROUND (STD. DETAIL G5.41)

V.C.P.X. LOW CRADLE, C.S.P.X. LOW CRADLE, ACP CLASS 2500, P.V.C. SDR = 35 WITHIN LIMITS SHOWN, MH WALL TO MH WALL.

V.C.P.X. LOW CRADLE, C.S.P.X. LOW CRADLE, ACP CLASS 2500, P.V.C. SDR = 35 WITHIN LIMITS SHOWN, MH WALL TO MH WALL.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

THE RIEMER GROUP, INC.  
3105 NORTH RIDGE ROAD  
ELLCOTT CITY, MARYLAND  
(301) 461-2690



DES: DBS

DRN: JCR

CHK:

DATE: 8-10-88

BY	NO.	REVISION	DATE

PROFILES OF  
WATER AND SEWER MAINS

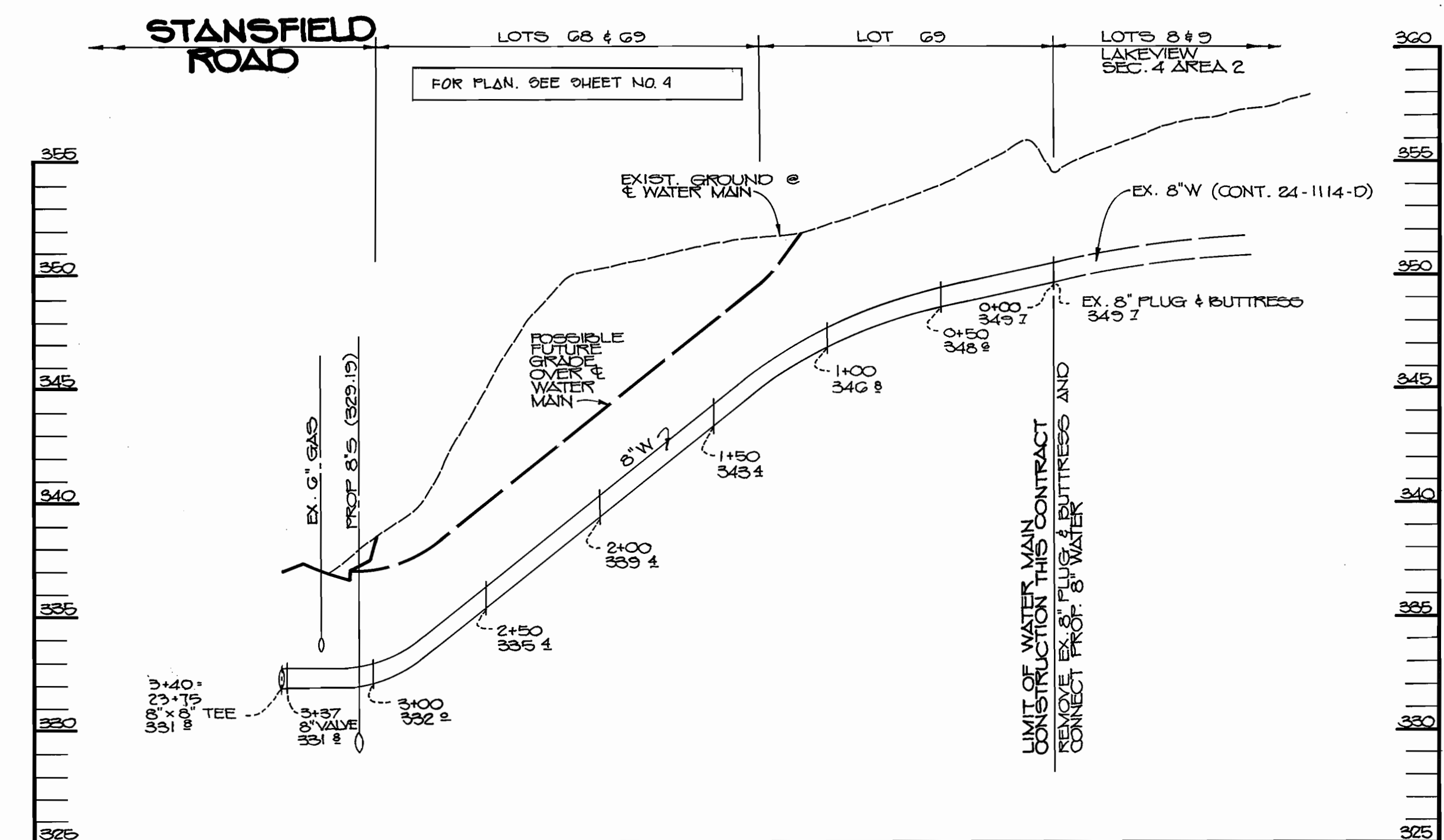
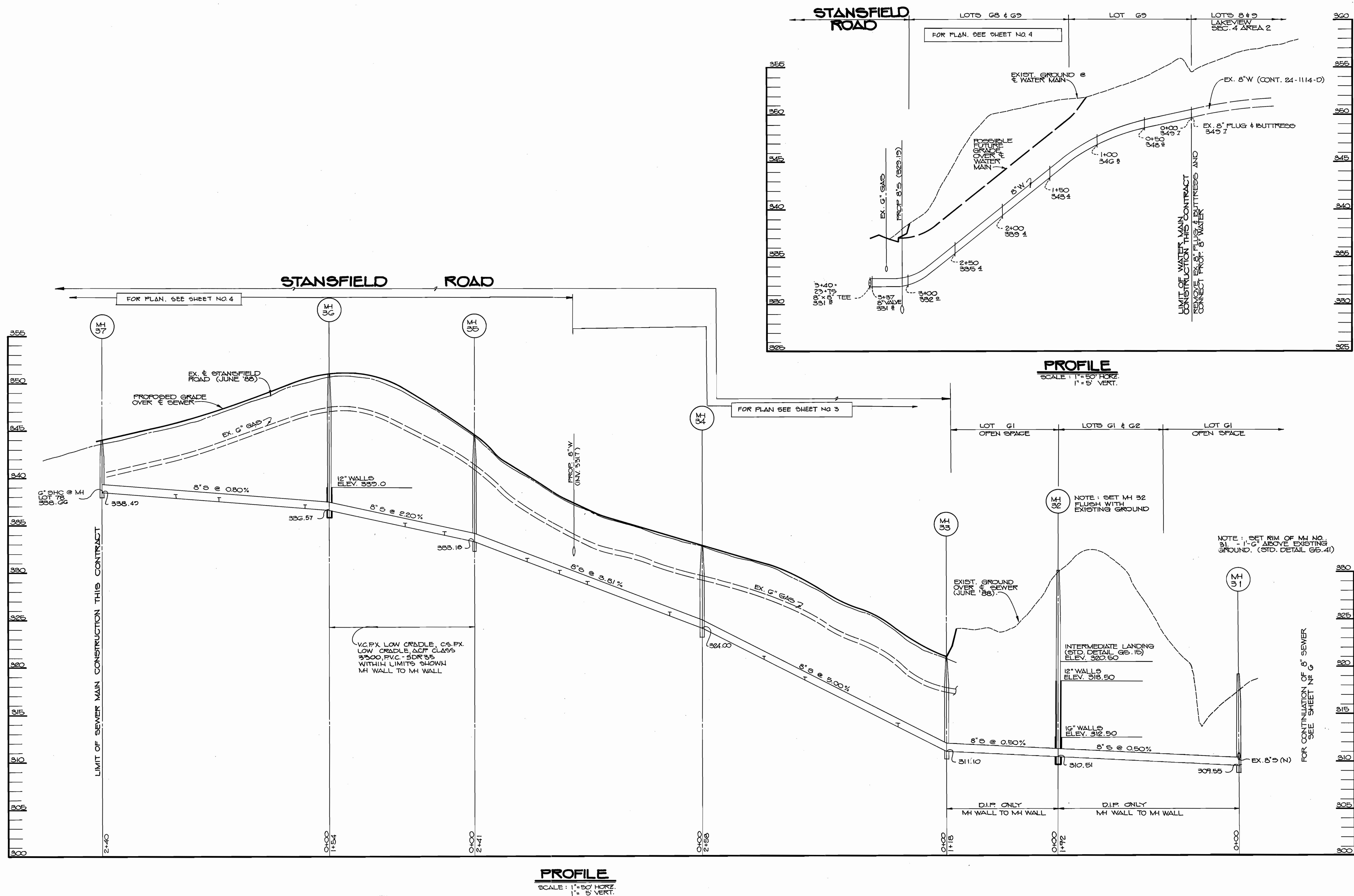
600' SCALE MAP NO. 4647 BLOCK NO.

THE FOREST

6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1818-D

SCALE  
AS  
SHOWN

SHEET  
OF 2

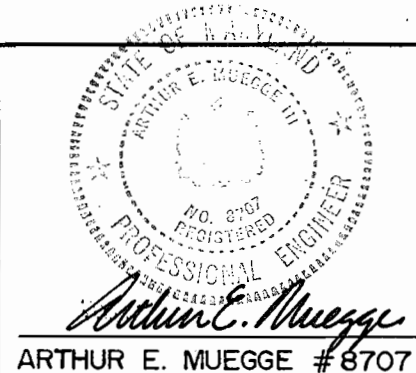


**PROFILE**  
SCALE: 1" = 50' HORIZ.  
1" = 5' VERT.

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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

THE RIEMER GROUP, INC.  
3105 NORTH RIDGE ROAD  
ELLCOTT CITY, MARYLAND  
(301) 461-2690



DES: D.B.S.	G.D.H.	DELETE 6" SHC @ MH # 31	4-28-88
DRN: R.A.W.			
CHK:			
DATE: 8-10-88	BY: NO.	REVISION	DATE

PROFILES OF  
WATER AND SEWER MAINS

600' SCALE MAP NO. 46147 BLOCK NO.

THE FOREST

6th ELECTION DISTRICT  
HOWARD COUNTY MARYLAND  
CONTRACT NO. 24-1818-D

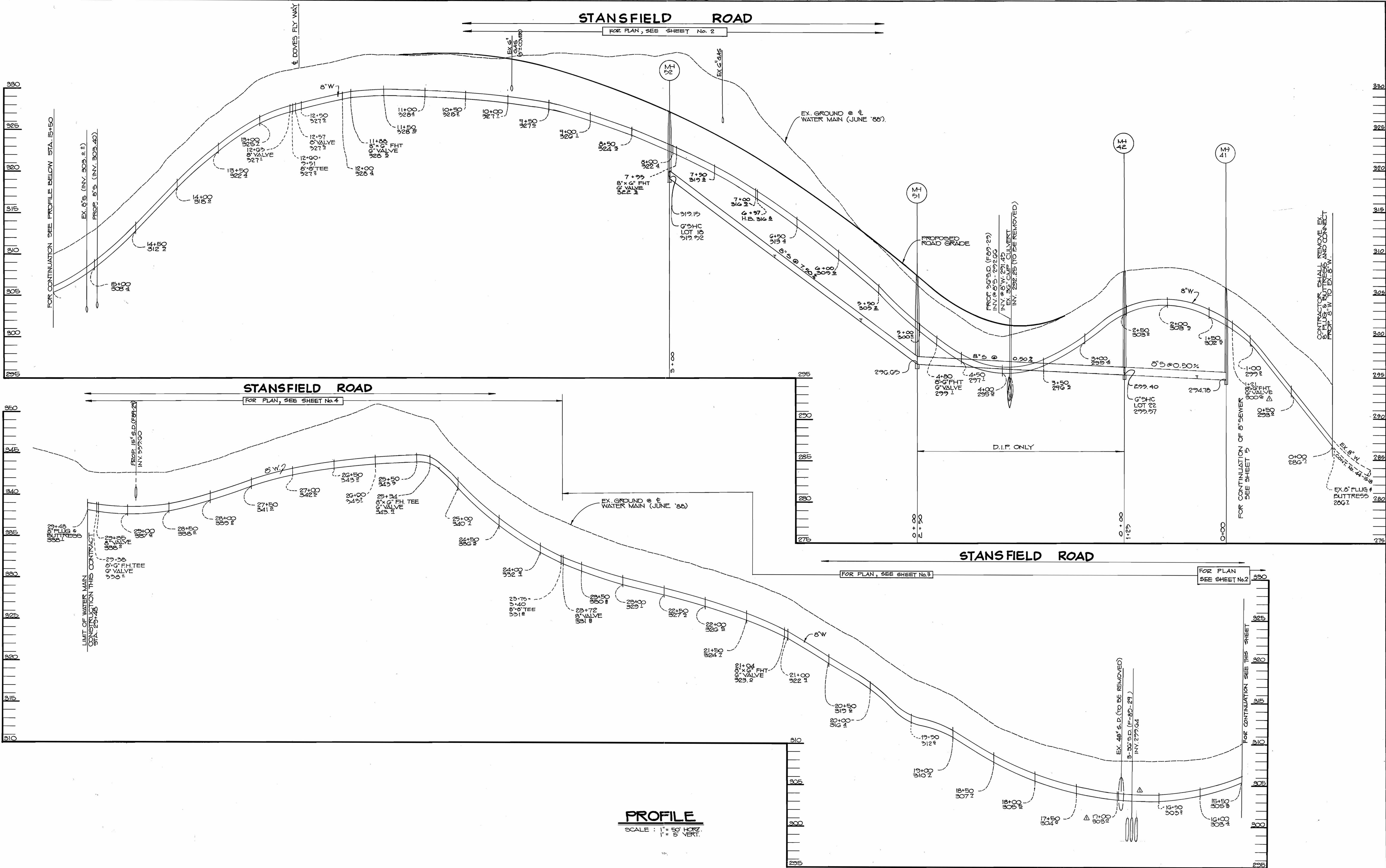
SCALE  
AS  
SHOWN

SHEET  
7 OF 8

*James P. ...* 2-17-89  
DIRECTOR OF PUBLIC WORKS  
DATE  
*Robert ...* 2-17-89  
CHIEF, BUREAU OF UTILITIES  
DATE

*Richard ...* 2-23-89  
CHIEF, BUREAU OF ENGINEERING  
DATE  
*Richard ...* 2/23/89  
CHIEF, LAND DEVELOPMENT  
DATE





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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James M. ...</i> 2/24/89 Chief, Bureau of Utilities: <i>Robert ...</i> 2-17-89	THE RIEMER GROUP, INC. 3105 NORTH RIDGE ROAD ELLICOTT CITY, MARYLAND (301) 461-2690 Chief, Land Development: <i>Arthur E. Muegge</i> 2/23/89	 ARTHUR E. MUEGGE #8707	DES: D.D.B.	W.A.D. I	ELIMINATE 8" V. BENDS; RELOCATE FH FROM 0+00 TO 1+21	2-18-89	<b>PROFILES OF          WATER AND SEWER MAINS</b>	THE FOREST 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 24-1818-D	SCALE AS SHOWN
			DRN: R.A.W.	CHK:	DATE: 8-10-88	BY NO.			REVISION

BRUNING 44-132-69150

600' SCALE MAP NO. 46 & 47 BLOCK NO.