

SHEET INDEX	
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1	TITLE SHEET
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7	PROFILE OF WATER AND SEWER MAINS

WATER AND SEWER EXTENSIONS

CLARKS GLEN NORTH

LOTS 1-42 & PARCELS B & C

5th ELECTION DISTRICT

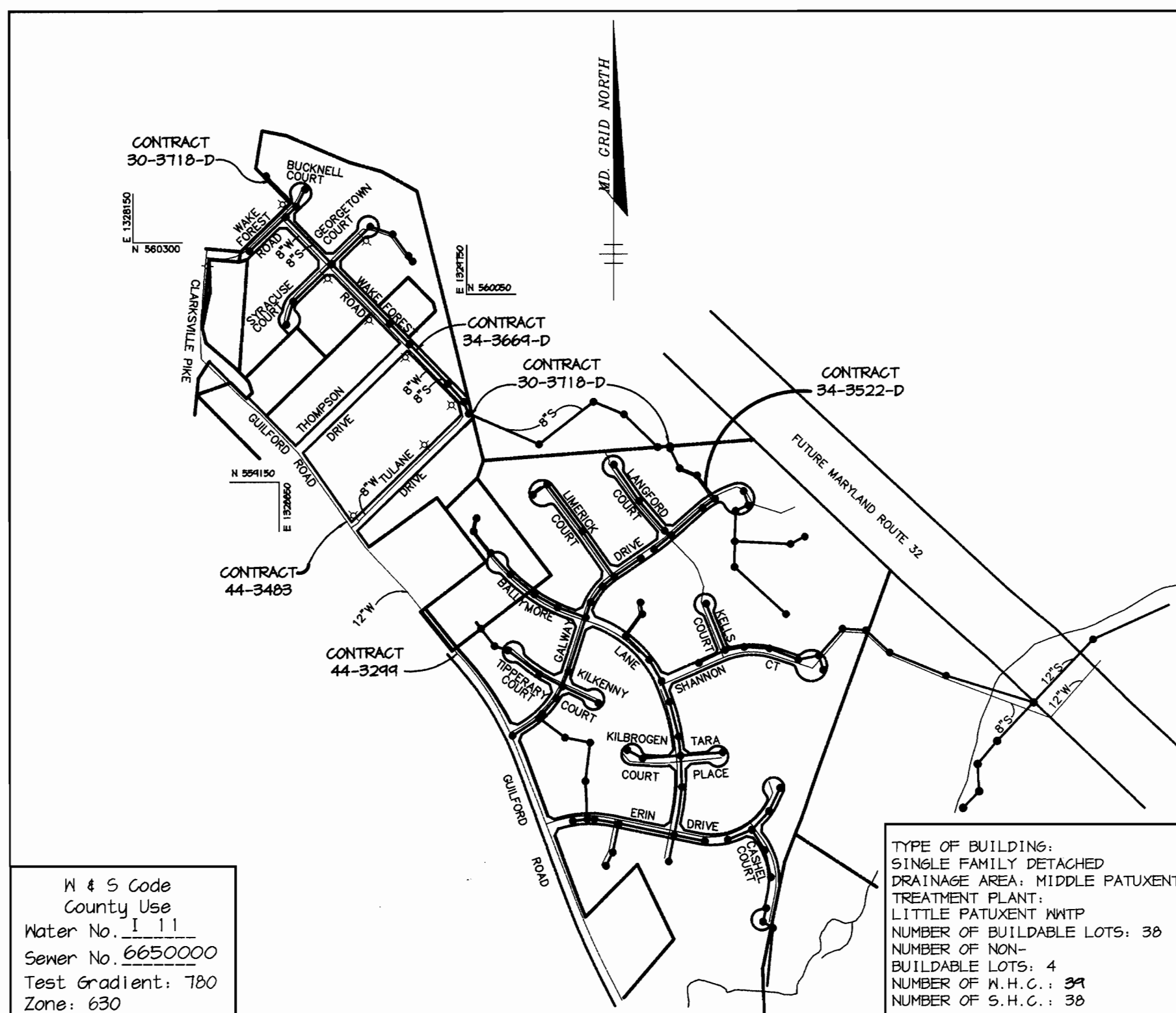
HOWARD COUNTY, MARYLAND

CONTRACT NO. 34-3669-D

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 \odot are invert elevations.
- 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.
- 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.
- 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 located by the contractor two weeks in advance of construction operations at his own expense.
- 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
Baltimore Gas & Electric Co. Contractor Services	850-4620
Baltimore Gas & Electric Co. Underground Damage Control	787-4068
Miss Utility	1-800-257-7777
Colonial Pipeline Co.	745-1340
Bureau of Utilities, Howard County Department of Public Works	313-4400
- 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.
- 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 elevations shown on the drawings. All fire hydrants shall be restrained 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.
- 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 plans or in specifications.
- All sewer mains shall be D.I.P. and P.V.C. 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 M.T. in plan and profile shall have watertight frame and cover. Standard Detail 65.52. 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 cellar cannot be served.
- Manholes can be either brick or precast concrete structures.
- Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
- The fire hydrant shall be installed as per standard detail M.1.11.
- Fire hydrants will be located 3' FROM BACK OF CURB unless otherwise noted.
- For sprinkler systems, all townhomes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.
- The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-7450 at least five (5) working days before any open cut of any county road or boring/jacking operation in County roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPH requirements per Section 18.114(a) of the Howard County Code.
- Howard County DPH is hereby granted permission to access private lots shown on these plans in order to maintain public water and sewer house connections at the curb stops and/or cleanouts.



VICINITY MAP
SCALE: 1"=600'

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
8" WATER	3070 LF	3067 LF.	D.I.P.	ATLANTIC STATES / U.S. FILTER
6" WATER	665 LF	547 LF.	D.I.P.	ATLANTIC STATES / U.S. FILTER
1" MHC	460 LF	154 LF.	COPPER (TYPE 'K')	READING / U.S. FILTER
FIRE HYDRANTS	9 LF	9 EA.	A423 CENTURION	MUELLER / U.S. FILTER
BLOWOFFS	1 EA.	1 EA.	ECLIPSE #85	MUPFERTE / U.S. FILTER
6" VALVES	10 EA.	10 EA.	A423 CENTURION	MUELLER / U.S. FILTER
8" VALVES	10 EA.	10 EA.	A423 CENTURION	MUELLER / U.S. FILTER
1 1/2" MHC	125 LF	146 LF.	COPPER (TYPE 'K')	READING / U.S. FILTER
5" VALVE	N/A	1 EA.	FORD METER	FORD / U.S. FILTER
8" SEWER	880 EA.	908 LF.	P.V.C.	J-M MANUFACTURER / U.S. FILTER
8" D.I.P. CL52	1759 EA.	1876 LF.	D.I.P.	ATLANTIC STATES / U.S. FILTER
4" SHC	1160 EA.	322' (P.V.C.) 1008' (D.I.P.)	1930' TOTAL	ATLANTIC STATES / U.S. FILTER
SEWER MANHOLES	15 EA.	15 EA.	SANITARY	ATLANTIC CONCRETE PRODUCTS, INC.

NAME OF UTILITY CONTRACTOR :

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on F-99-52

[Signature] 2/1/99

Review for Howard Soil Conservation District and meets technical requirements.

[Signature] 2/1/99

NATURAL RESOURCES CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

[Signature] 2/1/99

HOWARD SOIL CONSERVATION DISTRICT DATE

CHECKBOX

AS-BUILT DATE **3-24-00**

SURVEY AND DRAFTING DIVISION

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 1/22/99
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 2/1/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282
97016/FNS1.DWG

[Signature]
ARTHUR E. MUEGGE # 8707

DES: CJR

DRN: KEV

CHK:

DATE: 01/18/99

J.M.T. BY NO. PER COMMENTS

REVISION

DATE

3-6-00

TITLE SHEET

600' SCALE MAP NO. 34 BLOCK NO. 12

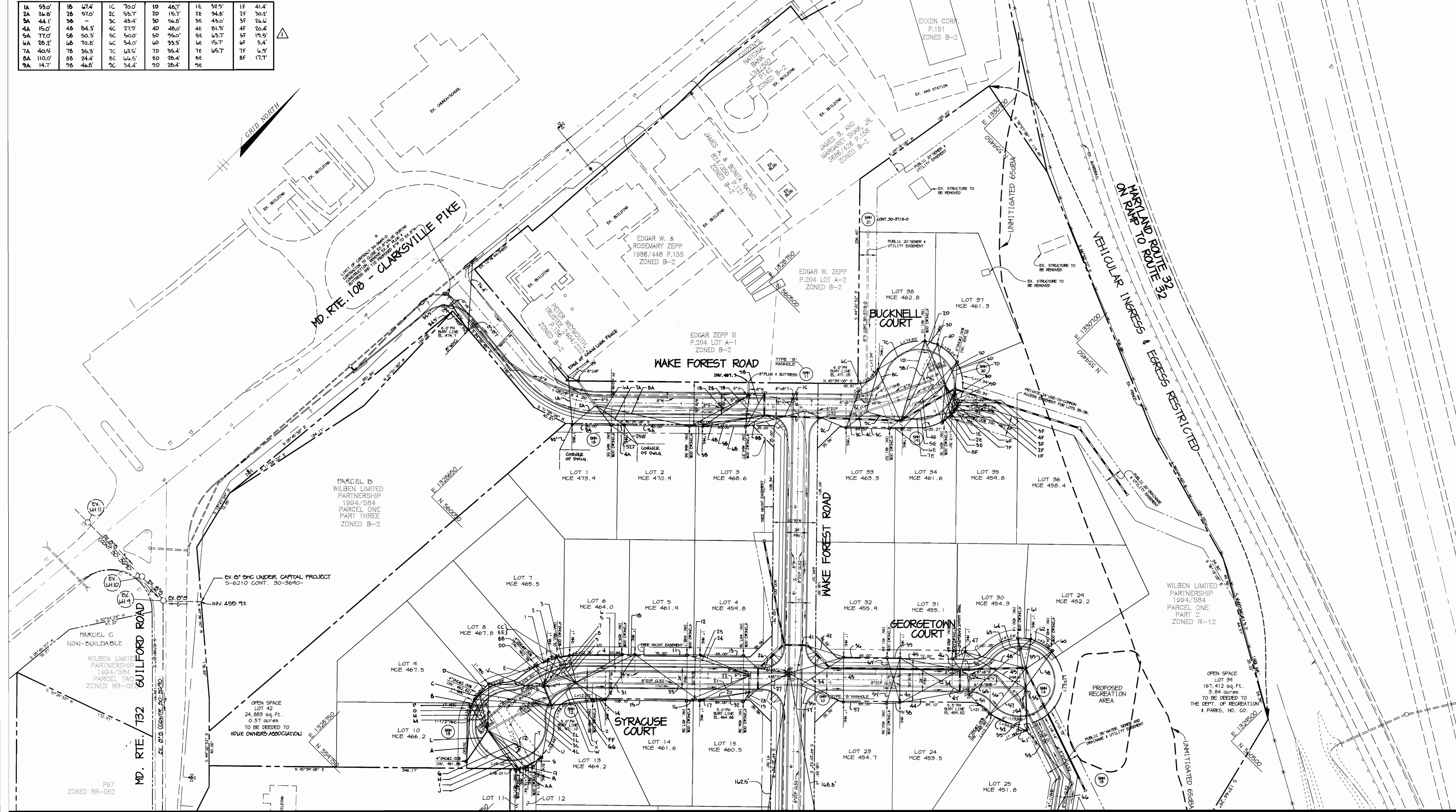
As-Built

CLARKS GLEN NORTH
LOTS 1 THRU 42
PARCEL B & C
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 34-3669-D

SCALE AS SHOWN

SHEET 1 OF 7

1A	59.0'	1B	47.4'	1C	70.0'	1D	48.7'	1E	32.9'	1F	41.4'
2A	24.8'	2B	57.0'	2C	53.7'	2D	15.7'	2E	34.8'	2F	30.2'
3A	44.1'	3B	-	3C	49.4'	3D	56.8'	3E	49.0'	3F	26.6'
4A	15.0'	4B	84.3'	4C	27.9'	4D	48.0'	4E	81.5'	4F	20.4'
5A	77.0'	5B	50.3'	5C	50.0'	5D	95.0'	5E	45.7'	5F	19.5'
6A	28.2'	6B	70.8'	6C	34.0'	6D	33.3'	6E	15.7'	6F	3.4'
7A	40.5'	7B	35.3'	7C	42.5'	7D	36.4'	7E	45.7'	7F	4.9'
8A	110.0'	8B	24.4'	8C	44.5'	8D	28.4'	8E	45.7'	8F	17.1'
9A	14.7'	9B	46.8'	9C	34.4'	9D	28.4'	9E	-	9F	-



AA	79.5'	IL	87.5'	A	42.2'	J	54.5'	S	14.5'	1	15.7'	10	92.3'	19	15.5'	28	23.1'	36	52.5'	42	45.8'	49	81.5'	56	47.4'	63	59.5'	70	70.8'
BB	37.1'	2L	78.2'	B	7.4'	H	42.3'	U	22.1'	2	10.5'	11	60.3'	20	54.4'	21	48.5'	28	50.5'	35	50.1'	42	49.5'	49	50.0'	56	34.5'	63	7.4'
CC	44.9'	3L	92.0'	C	8.5'	L	42.3'	V	25.2'	3	15.0'	12	15.0'	21	48.5'	22	42.0'	29	56.3'	36	50.5'	43	50.1'	50	21.8'	57	50.0'	64	34.5'
DD	30.5'	4L	78.7'	D	16.3'	M	32.8'	V	25.2'	4	60.4'	13	50.1'	22	42.0'	23	47.0'	30	37.5'	37	50.1'	44	49.5'	51	34.3'	58	54.9'	65	81.5'
EE	44.5'	IZ	64.1'	E	57.5'	N	38.6'	W	37.5'	5	62.6'	14	14.5'	23	47.0'	24	42.8'	31	45.4'	38	16.5'	45	70.1'	52	50.0'	59	37.4'	66	24.3'
FF	44.8'			F	61.1'	O	44.4'	X	37.4'	6	75.6'	15	25.0'	24	42.8'	25	23.0'	32	34.8'	39	15.8'	46	19.8'	53	79.8'	60	24.3'	67	58.5'
GG	44.4'			G	49.0'	P	51.5'	Y	24.4'	7	50.7'	16	15.7'	25	23.0'	26	52.1'	33	31.0'	40	49.5'	47	15.7'	54	54.0'	61	10.2'	68	59.2'
				H	60.0'	Q	16.4'	Z	37.4'	8	50.8'	17	50.5'	26	52.1'	27	41.3'	34	58.9'	41	42.5'	48	75.2'	55	77.1'	62	31.8'	69	
				I	54.2'	R	8.5'			9	34.5'	18	14.7'	27	41.3'														

K:\PROJECT\97016\FINALS\M52 Tue Jan 19 16:32:01 1999 RIEMER MUEGGE & ASSOCIATES, INC.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Michael A. Diannello 1/22/99
CHIEF, BUREAU OF UTILITIES RMB DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

W. J. Diannello 2/2/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282
97018 WSS.DWG

Arthur E. Muegge
ARTHUR E. MUEGGE # 8707

DES:	CJR				
DRN:	KEV				
CHK:					
DATE:	01/18/99				
BY:	JMT	PER COMMENTS			3-7-00
NO.		REVISION		DATE	

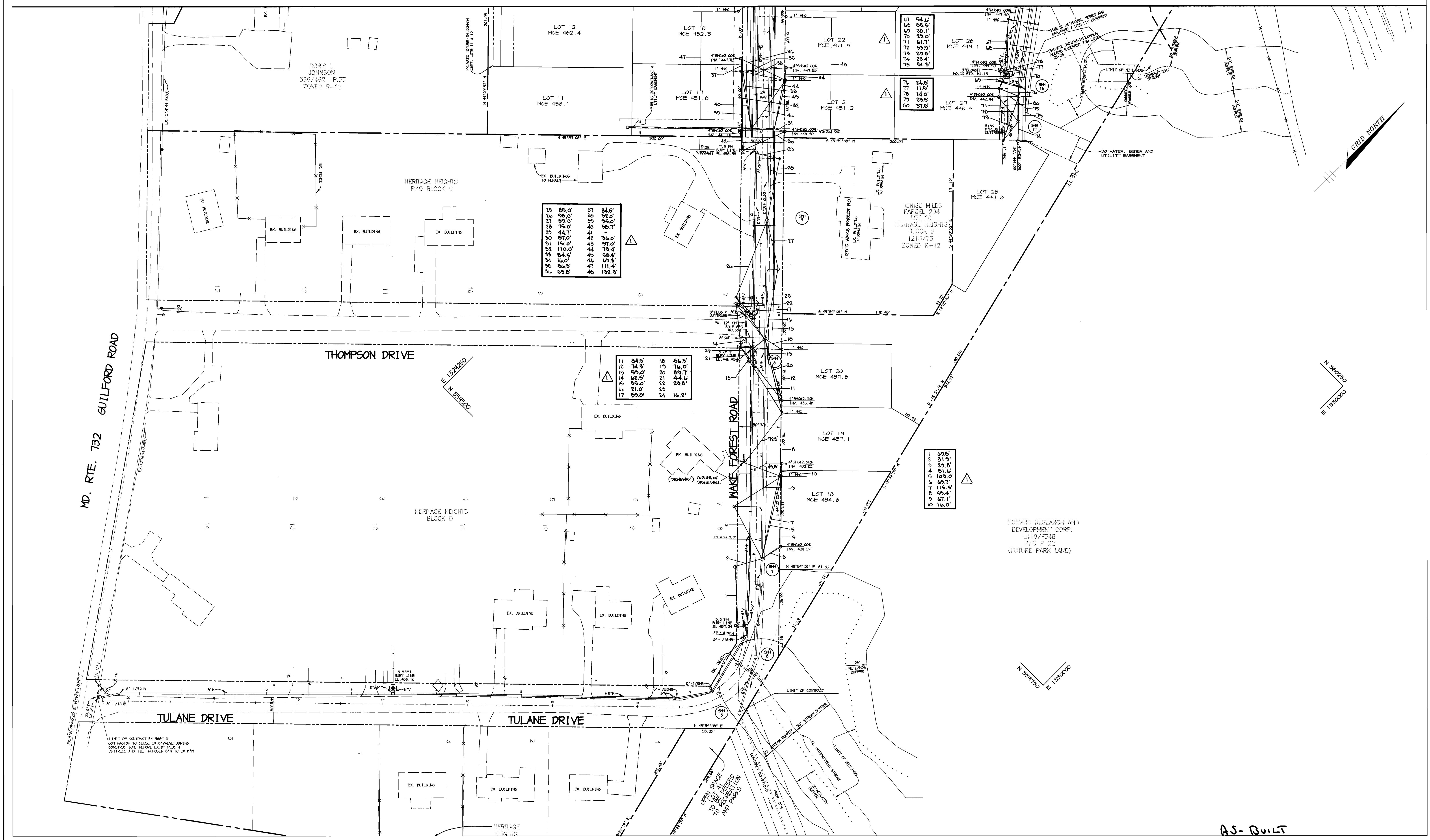
PLAN OF
WATER AND SEWER MAINS

600' SCALE MAP NO. 34 BLOCK NO. 12

CLARKS GLEN NORTH
LOTS 1 THRU 42
PARCEL B & C
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 34-3669-D

SCALE
1"=50'

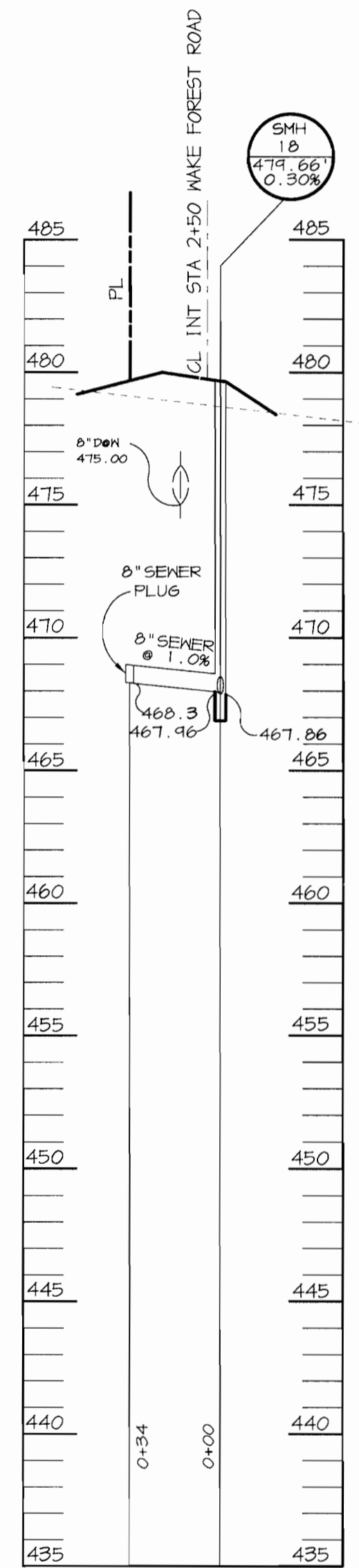
SHEET
2 OF 7



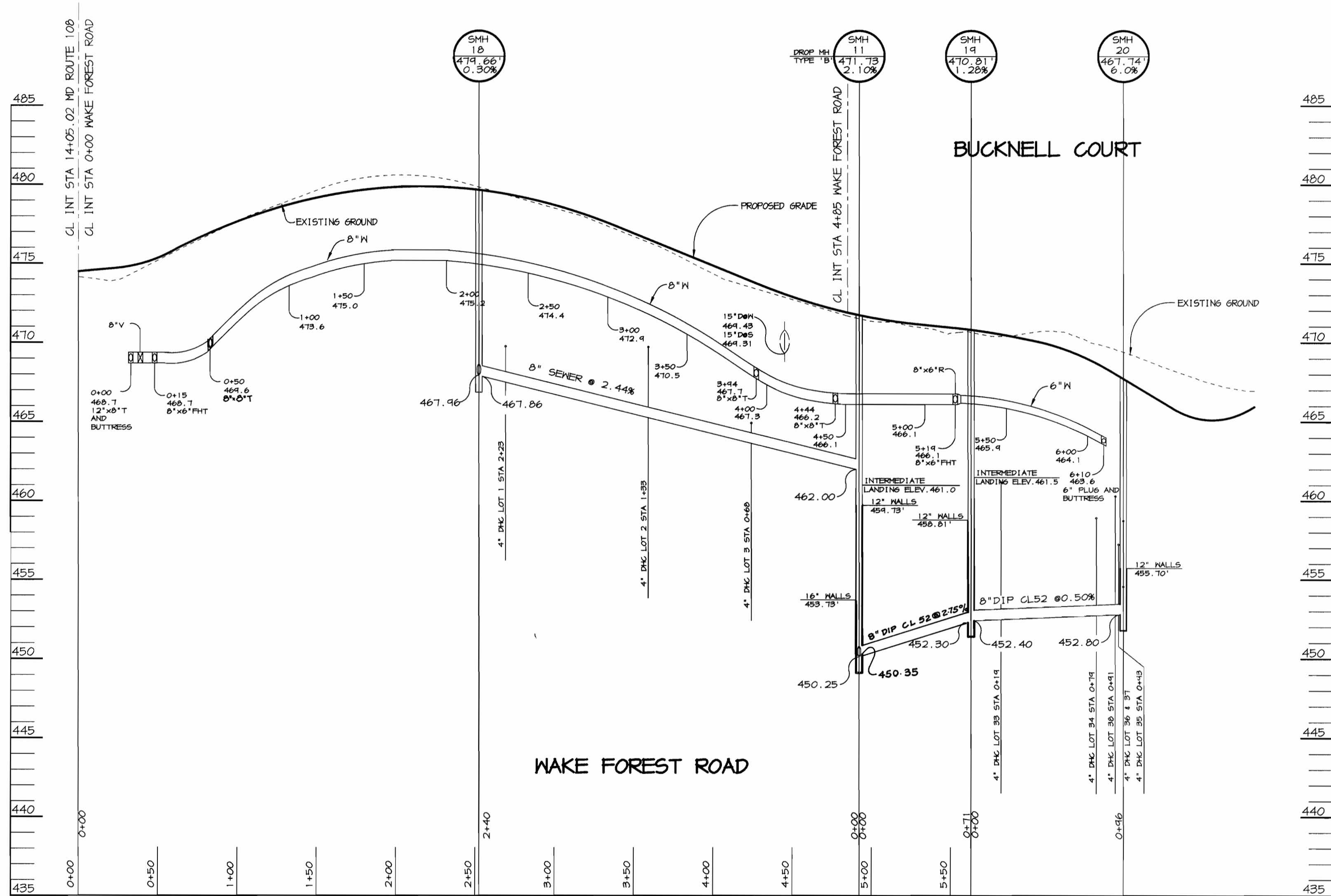
AS-BUILT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Michael A. DiPompeo, Chief, Bureau of Utilities	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND Arthur E. Muegge, Chief, Development Engineering Division	RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282	DES: CJR DRN: KEV CHK: DATE: 01/18/99	<table border="1"> <tr><th>JMT</th><th>PER COMMENTS</th><th>DATE</th></tr> <tr><td>BY NO.</td><td>REVISION</td><td>DATE</td></tr> </table>	JMT	PER COMMENTS	DATE	BY NO.	REVISION	DATE	PLAN OF WATER AND SEWER MAINS 600' SCALE MAP NO. 34 BLOCK NO. 12	CLARKS GLEN NORTH LOTS 1 THRU 42 PARCEL B & C 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 34-3669-D SCALE 1"=50' SHEET 3 OF 7
JMT	PER COMMENTS	DATE										
BY NO.	REVISION	DATE										

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



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

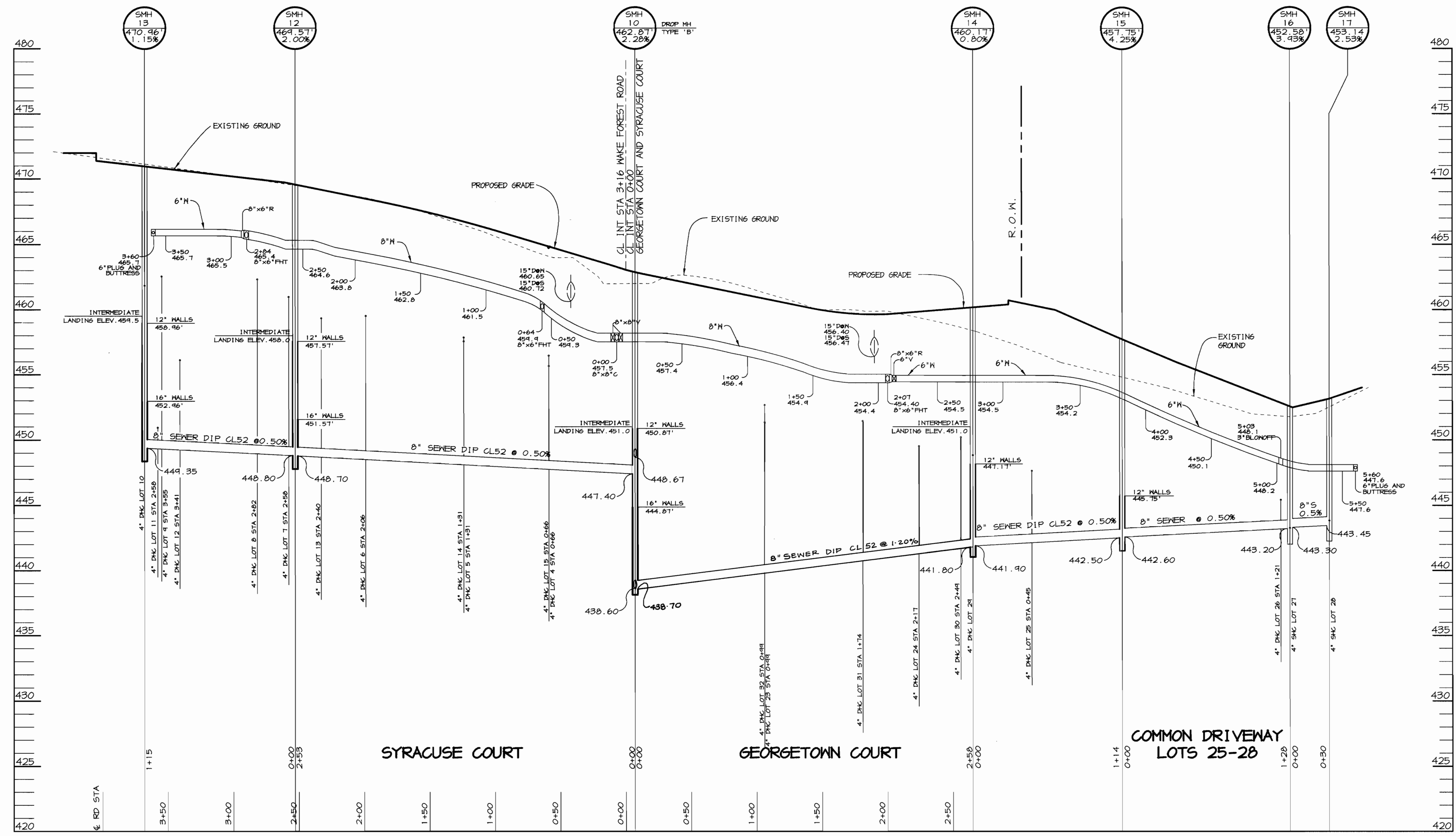
STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
SMH-6	STD. MH	*N 559,534.05 E 1,329,736.71	427.99 (8")	427.89 (8")	436.8	HOGO STD. DETAIL 6 5.12
SMH-7	STD. MH	*N 559,621.55 E 1,329,659.59	428.67 (8")	428.57 (8")	448.6	HOGO STD. DETAIL 6 5.12
SMH-8	STD. MH	*N 559,808.63 E 1,329,478.74	430.59 (8")	430.49 (8")	439.5	HOGO STD. DETAIL 6 5.12
SMH-9	STD. MH	*N 559,909.14 E 1,329,381.58	431.60 (8")	431.50 (8")	454.8	HOGO STD. DETAIL 6 5.12
SMH-10	DROP MH 'B'	*N 560,196.20 E 1,329,104.08	448.67 (8")	438.60 (8")	462.87	HOGO STD. DETAIL 6 5.12
SMH-11	DROP MH 'B'	*N 560,423.67 E 1,328,884.19	462.00 (8")	450.25 (8")	471.73	HOGO STD. DETAIL 6 5.12
SMH-12	STD. MH	*N 560,014.98 E 1,328,918.69	448.80 (8")	448.70 (8")	469.57	HOGO STD. DETAIL 6 5.12
SMH-13	STD. MH	*N 559,904.66 E 1,328,886.57	-	449.35 (8")	470.96	HOGO STD. DETAIL 6 5.12
SMH-14	STD. MH	*N 560,376.70 E 1,329,288.74	441.90 (8")	441.80 (8")	460.17	HOGO STD. DETAIL 6 5.12
SMH-15	STD. MH	*N 560,336.52 E 1,329,404.63	442.60 (8")	442.50 (8")	457.75	HOGO STD. DETAIL 6 5.12
SMH-16	STD. MH	*N 560,222.35 E 1,329,487.51	443.30 (8")	443.20 (8")	452.58	HOGO STD. DETAIL 6 5.12
SMH-17	STD. MH	*N 560,201.06 E 1,329,508.64	-	443.45 (8")	453.14	HOGO STD. DETAIL 6 5.12
SMH-18	STD. MH	*N 560,257.65 E 1,328,709.05	467.96 (8")	467.86 (8")	479.66	HOGO STD. DETAIL 6 5.12
SMH-19	STD. MH	*N 560,473.09 E 1,328,934.75	452.40 (8")	452.30 (8")	470.81	HOGO STD. DETAIL 6 5.12
SMH-20	STD. MH	*N 560,558.61 E 1,328,977.04	-	452.80 (8")	467.74	HOGO STD. DETAIL 6 5.12

NOTES: * 1. LOCATION OF MANHOLES IS AT CENTER OF TOP COVER.
2. SMH 1-5 AND 20 ARE TO BE CONSTRUCTED UNDER CONTRACT 30-3718-D.

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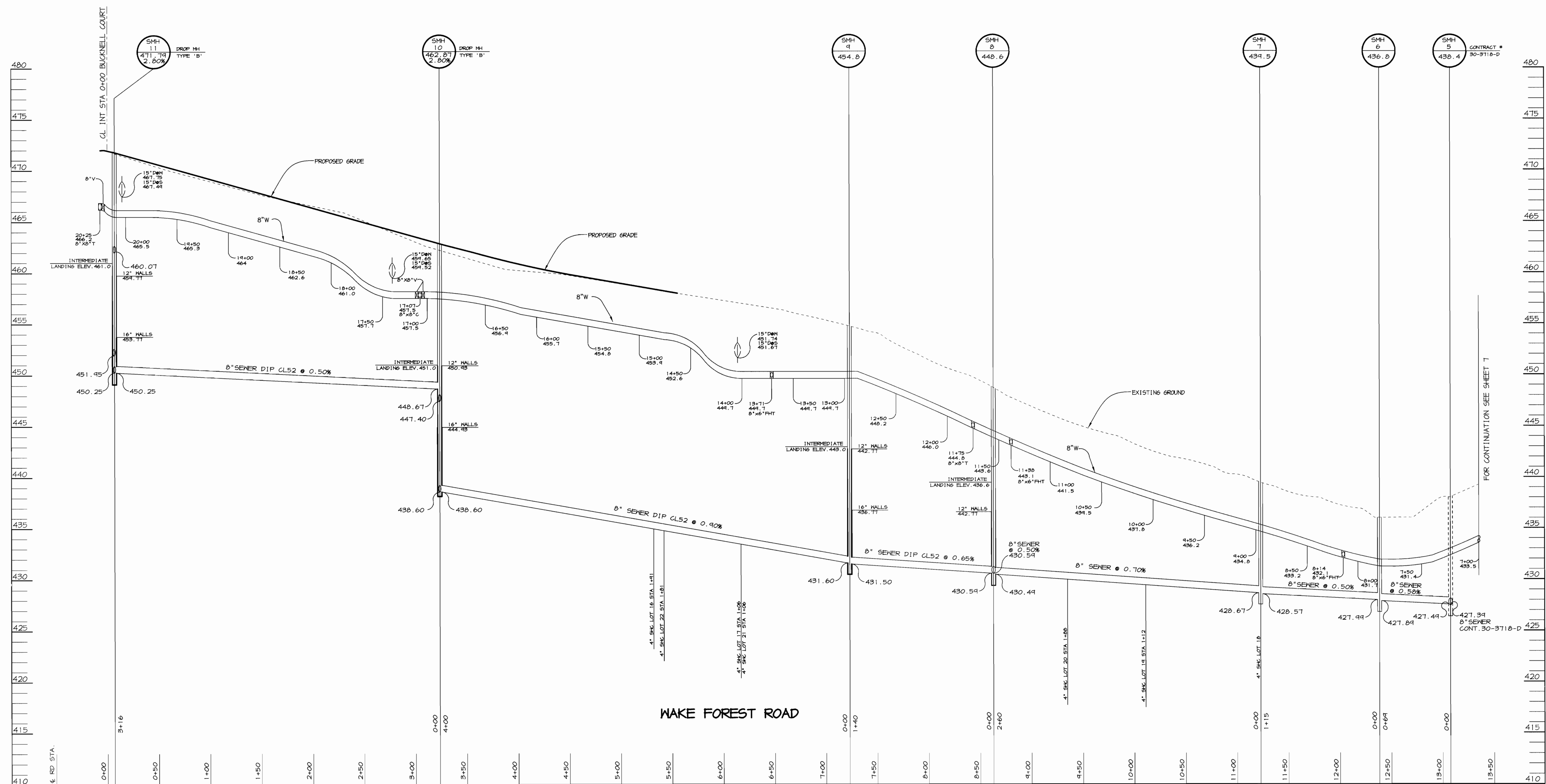
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Michael A. Duverniers for</i> 1/22/99 <small>CHIEF, BUREAU OF UTILITIES RMB DATE</small>	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>John P. ...</i> 2/19/99 <small>CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE</small>	RIEMER MUEGGE & ASSOCIATES, INC. <small>ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING</small> 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282 97016/FINALS WSS.DWG <i>Arthur E. Muegge</i> <small>ARTHUR E. MUEGGE # 8707</small>	DES: CJR DRN: KEV CHK: DATE: 01/18/99 PAM BY NO. REVISION DATE	WATER AND SEWER PROFILE AND STRUCTURE SCHEDULE 600' SCALE MAP NO. 34 BLOCK NO. 12	AS-BUILT CLARKS GLEN NORTH LOTS 1 THRU 42 PARCEL B & C 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 34-3669-D SCALE AS SHOWN SHEET 4 OF 7
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PROFILE
 SCALE:
 HOR. 1"=50'
 VERT. 1"=5'

M:\PROJECT\97016\FINALS\MS6 Tue Jan 19 08:56:36 1999 RIEMER MUEGGE & ASSOCIATES, INC.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Michael A. Rosannillo</i> for 1/31/99 CHIEF, BUREAU OF UTILITIES RMB DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>Arthur E. Muegge</i> 2/3/99 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282 97016/FINALS MS6.DWG	 ARTHUR E. MUEGGE # 8707	DES: CJR DRN: KEV CHK: DATE: 01/18/99 DAM REVISE SEWER MAIN BETWEEN MH 10 & MH 14 9/16/99 BY NO. REVISION DATE	<p style="text-align: center;">PROFILE OF WATER AND SEWER MAINS</p> <p>600' SCALE MAP NO. 34 BLOCK NO. 12</p>	<p style="text-align: center;">As-Built</p> <p style="text-align: center;">CLARKS GLEN NORTH LOTS 1 THRU 42 PARCEL B & C</p> <p style="text-align: center;">5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 34-3669-D</p> <p style="text-align: right;">SCALE AS SHOWN SHEET 5 OF 7</p>
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PROFILE
 SCALE:
 HOR. 1"=50'
 VERT. 1"=5'

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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Michael A. Benaim
 CHIEF, BUREAU OF UTILITIES
 1/24/99
 RMB DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 Chief, Development Engineering Division
 2/3/99
 DATE

RIEMER MUEGGE & ASSOCIATES, INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive, Columbia, Maryland 21045
 tel 410.997.8900 fax 410.997.9282
 97016/FINALS WS7.DWG

ARTHUR E. MUEGGE # 8707

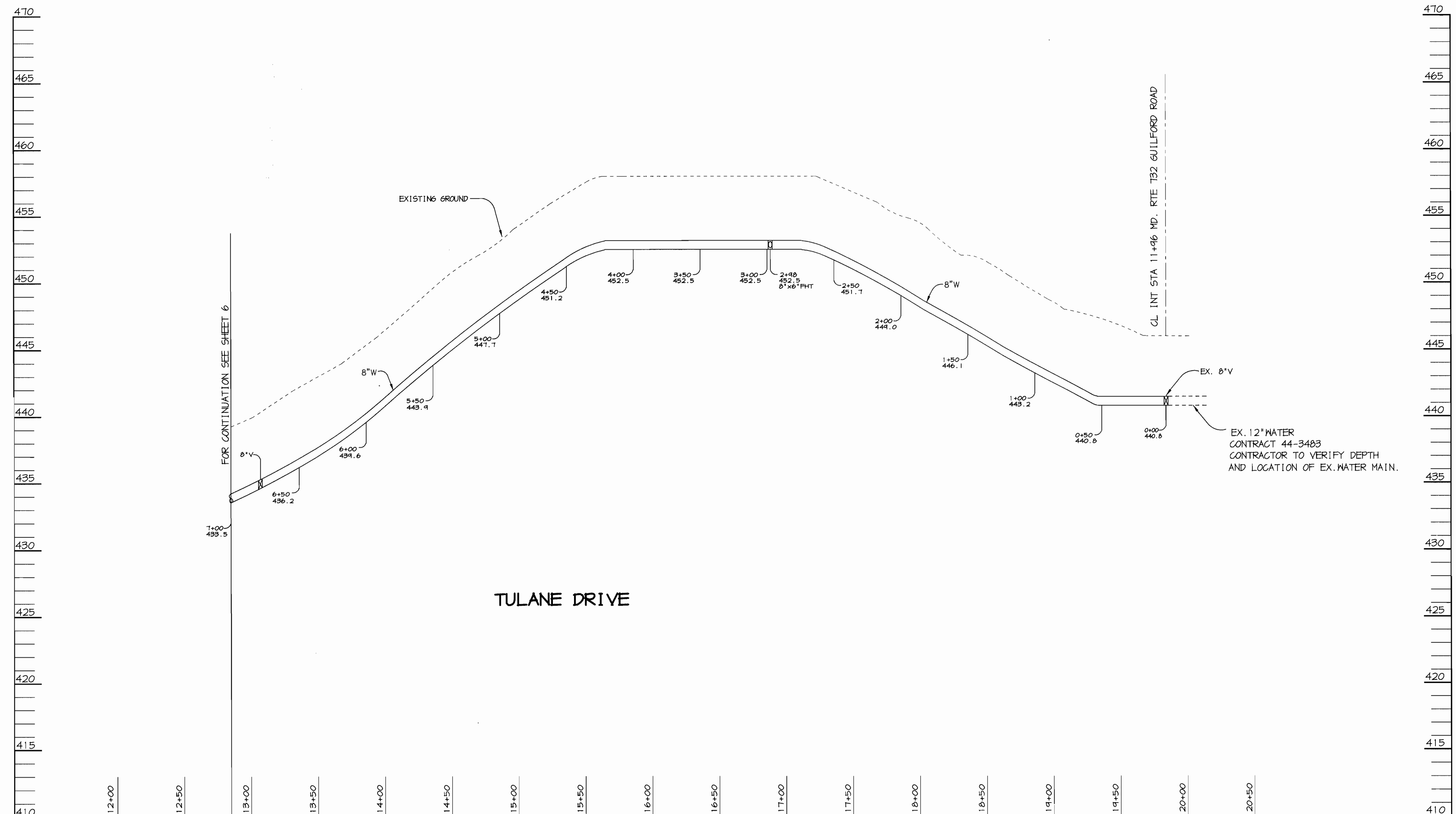
DES: CJR					
DRN: KEV					
CHK:					
DATE: 01/12/99	BY	NO.	REVISION	DATE	

PROFILE OF WATER AND SEWER MAINS
 600' SCALE MAP NO. 34 BLOCK NO. 12

AS-BUILT
 CLARKS GLEN NORTH
 LOTS 1 THRU 42
 PARCEL B & C
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 CONTRACT 34-3669-D

SCALE AS SHOWN
 SHEET 6 OF 7

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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Michael A. DiGianniello 1/22/99
 CHIEF, BUREAU OF UTILITIES RMB DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 [Signature] 2/2/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive, Columbia, Maryland 21045
 tel 410.997.8900 fax 410.997.9282
 97016/FINALS WSB.DWG

[Seal]
 [Signature]
 ARTHUR E. MUEGGE # 8707

DES: CJR			
DRN: KEV			
CHK:			
DATE: 01/12/99			
BY NO.		REVISION	DATE

PROFILE OF WATER MAIN
 600' SCALE MAP NO. 34 BLOCK NO. 12

As-Built
 CLARKS GLEN NORTH
 LOTS 1 THRU 42
 PARCEL B & C
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 CONTRACT 34-3669-D
 SCALE AS SHOWN
 SHEET 7 OF 7