

# McKENZIE MEADOWS

## SECTION TWO - LOTS 67 THRU 99

### HOWARD COUNTY, MARYLAND

#### WATER AND SEWER MAIN EXTENSIONS

#### DEPARTMENT OF PUBLIC WORKS

**VICINITY MAP**  
SCALE 1"=600'

**GENERAL NOTES**

- 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 THE 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 DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. 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 UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - STATE HIGHWAY ADMINISTRATION - 531-9533
  - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES 561-2585
  - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL - 234-5621
  - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING - 298-9013
  - MISS UTILITY - 1-559-0100
  - COLONIAL PIPELINE CO. - 795-1390
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2566
- 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 OR CONSTRUCTION OF THE MAIN.
- 11 ALL WATER MAINS TO BE D.I.P. UNLESS OTHERWISE NOTED.
- 12 TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2' COVER UNLESS OTHERWISE NOTED.
- 13 VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 14 ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- 15 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 SECTIONS 1003 AND 1008 OF THE STANDARD SPECIFICATIONS.
- 16 THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- 17 ALL SEWER MAINS SHALL BE C.S.P.P., R.C.S.P., V.C.P.P., A.C.P. CLASS 2400 OR P.V.C. UNLESS OTHERWISE NOTED.
- 18 THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- 19 ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 20 MANHOLES SHOWN WITH 12" AND 16" WALLS ARE BRICK MANHOLES ONLY.
- 21 MANHOLES DESIGNATED W.I. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G.5.52 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 22 HOUSE(S) WITH THE SYMBOL "CNS" INDICATES THAT CELLAR CANNOT BE SERVED.
- 23 ALL WATER CONNECTIONS SHALL BE SET FOR INSIDE METER SETTING.
- 24 ALL FIRE HYDRANTS ARE TO BE SET 3'-0" BEHIND THE FACE OF CURB PER DETAIL W.I.11.
- 25 ALL WATERTIGHT MANHOLES ARE TO BE CONSTRUCTED PER HOWARD COUNTY STANDARD DETAIL G.5.52.

NOTES:  
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 203 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS, SHEETS 7-B, 8-9, 9-10, 10-11, 10-12, AND FINAL PLAN F-88-35.

REVIEWED FOR HOWARD S.C.D. AND METS TECHNICAL REQUIREMENTS. PLAT F-88-36  
DATE 10/27/88  
HOWARD S.C.D. DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
DATE 10/27/88  
HOWARD S.C.D. DATE

**WATER AND SEWER SHOWN IN THIS SET OF PLANS HAS BEEN CONSTRUCTED IN ACCORDANCE WITH CONTRACT NO. 24-1665-D. THESE PLANS REPRESENT REVISIONS TO ALLOW FOR PHASING OF CONSTRUCTION OF THE ORIGINAL CONTRACT AND OF THE GRAVITY AND FORCE MAIN AS REQUIRED CASING.**

ITEM	QUANTITY	AS BUILT	SUPPLIER
8" x 3" TEE	2 Ea.		
6" x 3" TEE	2 Ea.		
8" ST. CASING PIPE	435 FT.		

ITEM	QUANTITIES		SUPPLIER
	QUANTITY	AS BUILT	
6" WATER	1825 LF		
6" VALVES	4 Ea.		
6" VALVES EXCL. F.V.S.	3 Ea.		
1" W.H.C.	123 LF		
3/4" W.H.C.	123 LF		
FIRE HYDRANTS	1 Ea.		
MANHOLES	1 Ea.		
8" SEWER	1991 LF		
6" S.H.C.	771 LF		
6" W.W.P.F.	4 Ea.		
8" SEWER (D.I.P.)	1 Ea.		
6" W.W.P.F.	1 Ea.		

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 10-27-88 DATE	JOHN E. HARMS JR. AND ASSOCIATES INC. CONSULTING ENGINEERS - PLANNERS - SURVEYORS 8818 CENTRE PARK DRIVE SUITE 208 COLUMBIA, MARYLAND 21045 TELEPHONE (301) 740-5200	DES: KBC DRN: RWR CHK: RHV DATE: 10/88	<b>PROFILE OF WATER AND SEWER MAINS</b>	SCALE AS-BUILT SHEET 1 OF 5
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AS-BUILT 5/93



CONNECT TO WATER MAIN  
CONT. NO. 24-1742-D IF EX,  
OTHERWISE  
Provide 8" cap  
and Buttress

EX. 8" W.  
CONT. NO. 24-1742-D

BENCH MARKS

BM#106 RAILROAD SPIKE  
IN 24" POPLAR EL 390.83

BM#108 RAILROAD SPIKE  
IN 20" POPLAR EL 410.36

SEWER HOUSE CONNECTION INVERT @ PROPERTY LINE					
STATION	LOT	ELEVATION	STATION	LOT	ELEVATION
MH#43 to MH#42			MH#44 to MH#41		
MH#42	91	401.15	0+60	86	397.89
MH#42	92	401.15	1+04	87	392.94
MH#42	93	400.85	MH#41 to MH#40		
MH#42	94	400.85	0+30	88	393.92
MH#44 to MH#43			1+22 89 396.25		
0+73	90	396.11	1+70	96	397.58
1+17	95	397.36	2+15	97	398.70

E 842.000  
N 535.000

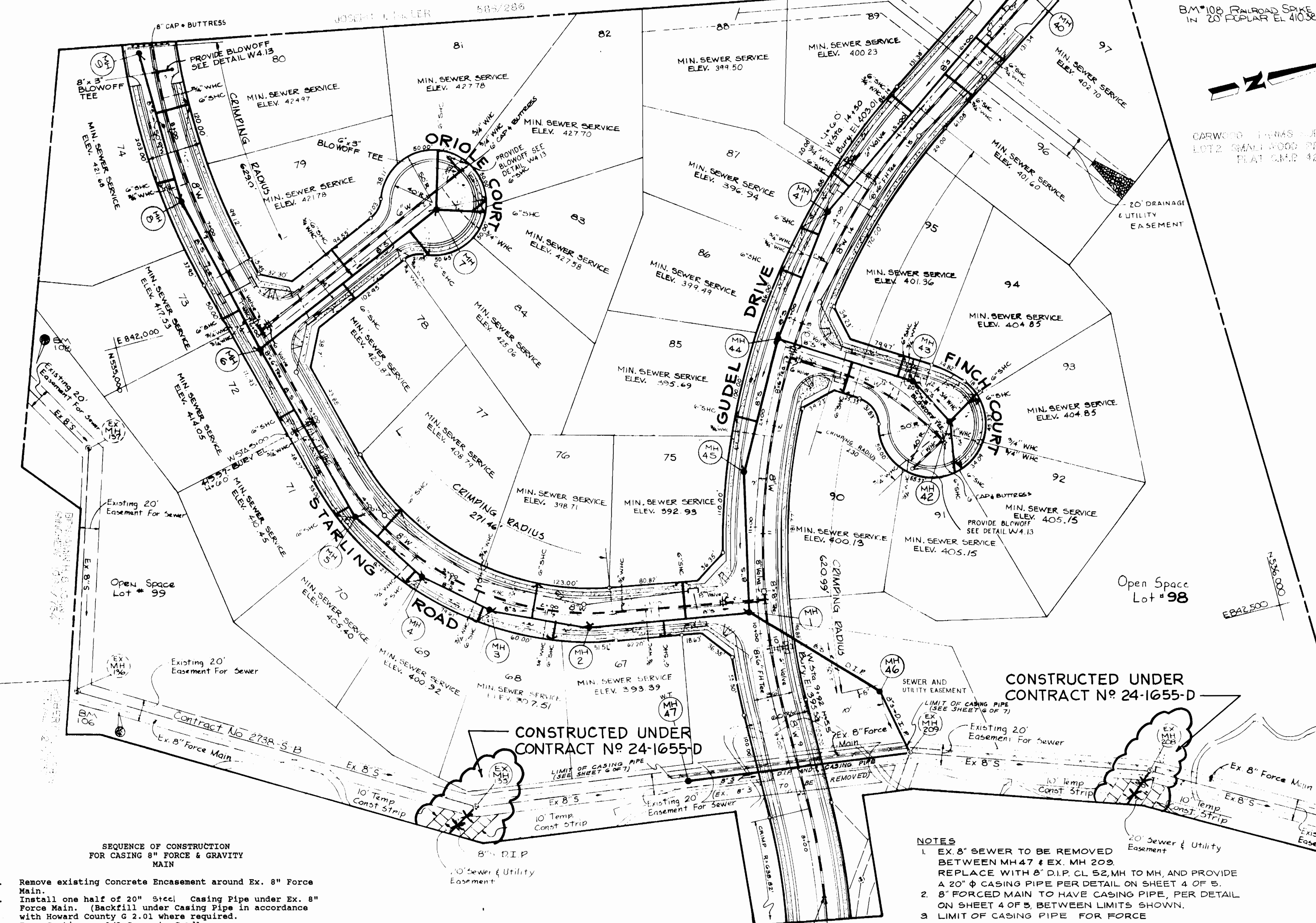


CARWOOD TOWN & SUBDIVISION  
LOT 2 SMALL WOOD PROPERTY  
BEAT AND P. 429

MANHOLE TABLE							
NO.	ERD STA.	DIST OFF	RIM ELEV.	SLOPE	CROSS SLOPE	TYPE MANHOLE	
1	10+21 Gudel Dr	7.0'	395.46	2.76%	3.0%	Standard Precast Manhole std. 6.5.12	
2	Starting Ct	8.0'	408.28	5.48%	3.0%	Standard Precast Manhole std. 6.5.12	
3	Starting Ct	8.0'	405.83	6.12%	3.0%	" " "	
4	Starting Ct	11.0'	401.17	6.54%	3.0%	" " "	
5	Starting Ct	11.0'	415.90	5.44%	3.0%	" " "	
6	Starting Ct	7.0'	421.69	2.18%	3.0%	" " "	
7	Starting Ct	7.0'	422.49	7.0%	1.92%	Terminal Manhole Std SI-31	
8	Starting Ct	10.0'	420.79	3.8%	3.0%	" " "	
9	Starting Ct	11.0'	435.66	6.0%	3.0%	Terminal Manhole Std. SI-31	
40	16+84 Gudel Dr	7.0'	408.88	6.50%	3.0%	" " "	
41	14+05 Gudel Dr	15.0'	402.27	0.28%	3.0%	Standard Precast Manhole std. 6.5.12	
42	1+63 Finch Ct.	16.0'	408.23	4.00%	0.405%	Terminal Manhole STD SI-31	
43	12+78 Gudel Dr	13.0'	406.11	4.00%	3.0%	" " "	
44	1+20 Finch Ct.	9.0'	403.21	0.64%	3.0%	" " "	
45	11+50 Gudel Dr	4.0'	401.52	2.12%	3.0%	" " "	
46	N/A	N/A	381.0	0.0%	3.0%	" " "	
47	N/A	N/A	368.0	0.0%	0.0%	Standard Brick Manhole std. 6.5.01	

\*\* WATERTIGHT MANHOLE (W.T.) SEE DETAIL STD. 6.5.52

SEWER HOUSE CONNECTION INVERT @ PROPERTY LINE					
STATION	LOT	ELEVATION	STATION	LOT	ELEVATION
MH#8 to MH#9			MH#7 83 423.60		
0+22	74	420.97	MH#5 to MH#6		
0+87	80	418.15	0+12	71	406.45
MH#6 to MH#8			1+17	72	410.05
0+41	73	413.51	MH#4 to MH#5		
MH#6 to MH#7			0+10	70	401.38
0+98	78	418.17	0+59	77	404.73
1+10	79	418.82	MH#3 to MH#4		
2+01	84	421.68	0+08	69	396.92
MH#7 81	423.77	MH#2 to MH#3			
MH#7 82	423.66	0+35	68	393.45	
			0+56	76	394.77
			MH#1 to MH#2		
			0+68	75	388.89
			0+88	67	389.37
			MH#45 to MH#44		
			0+48	85	391.69



CONSTRUCTED UNDER  
CONTRACT NO 24-1655-D

CONSTRUCTED UNDER  
CONTRACT NO 24-1655-D

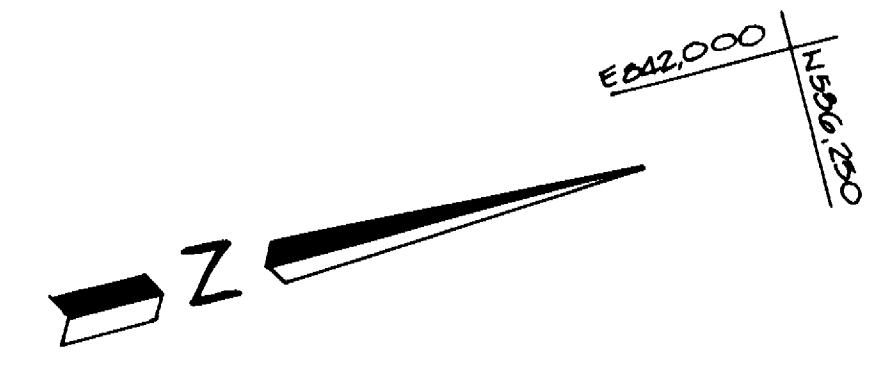
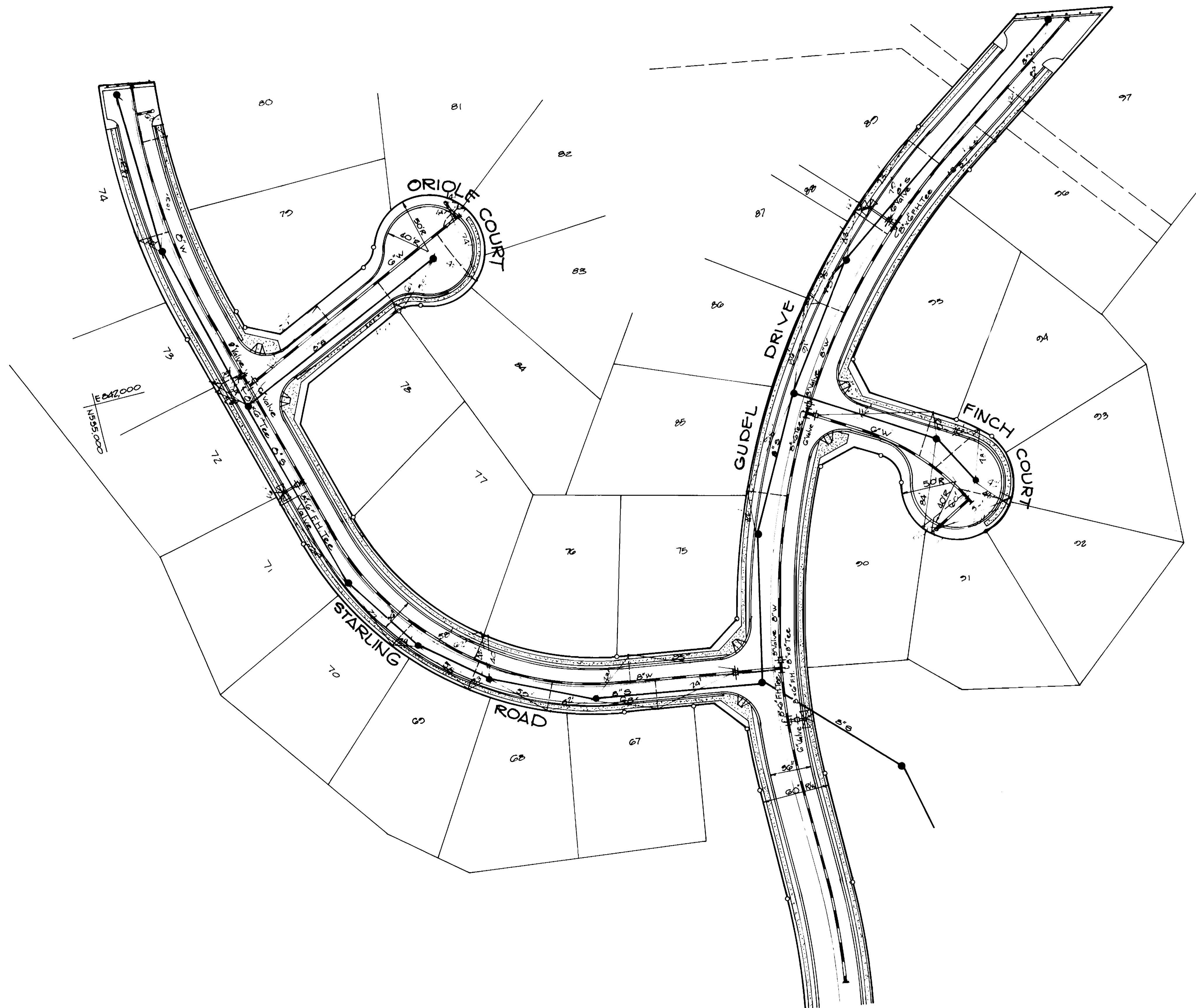
BEGIN WATER  
THIS CONTRACT

- SEQUENCE OF CONSTRUCTION  
FOR CASING 8" FORCE & GRAVITY  
MAIN
1. Remove existing Concrete Encasement around Ex. 8" Force Main.
  2. Install one half of 20" Steel Casing Pipe under Ex. 8" Force Main. (Backfill under Casing Pipe in accordance with Howard County G 2.01 where required.
  3. Four Continuous 1/3 Concrete Cradles.
  4. Connect remaining half of 20" Steel Casing Pipe and continuously weld the halves together.
  5. Construct manhole 47 over Ex. 8" Gravity Main. The Contractor must maintain uninterrupted sewer service throughout the entire construction.
  6. Remove the Ex. 8" Gravity Sewer Pipe between MH 47 and Ex. MH 209 and replace with 8" D.I.P. The 8" D.I.P. between MH 47 and Ex. MH 209 will also require a 20" Steel Casing Pipe.
  - 7.

- NOTES
1. EX. 8" SEWER TO BE REMOVED BETWEEN MH 47 & EX. MH 209. REPLACE WITH 8" D.I.P. CL 52, MH TO MH, AND PROVIDE A 20" Ø CASING PIPE PER DETAIL ON SHEET 4 OF 5.
  2. 8" FORCED MAIN TO HAVE CASING PIPE, PER DETAIL ON SHEET 4 OF 5 BETWEEN LIMITS SHOWN.
  3. LIMIT OF CASING PIPE FOR FORCE MAIN IS TWO PIPE JOINTS BEYOND TOE OF SLOPE.
  4. CULVERT TO CONVEY EXISTING STREAM UNDER GUEDEL DRIVE TO BE DESIGNED BY OTHERS.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND James P. [Signature] 10-27-88 DIRECTOR OF PUBLIC WORKS DATE Chief, Bureau of Engineering		JOHN E. HARMS JR. AND ASSOCIATES, INC. CONSULTING ENGINEERS PLANNERS SURVEYORS 8818 CENTRE PARK DRIVE SUITE 208 COLUMBIA, MARYLAND 21045 TELEPHONE (301) 740-5200		DES KBC DRN RWR CHK RHY DATE 10/88		PLAN OF WATER AND SEWER MAINS		CONTRACT NO 24-1874-D MCKENZIE MEADOWS SECTION TWO-LOTS 67 THRU 99 PHASE TWO TAX MAP NO. 17 2ND ELECTION DISTRICT AS-BUILT 5/93		SCALE H 1"=50' SHEET 2 OF 5	
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PLAN  
SCALE: 1"=50'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE

DES: KBC

DRN: BAC

CHK: RHV

DATE: 5/03

BY NO.

AS-BUILT REV.

5/03

DATE

PLAN OF  
AS-BUILT WATER AND SEWER

600' SCALE MAP NO. 17 BLOCK NO.

CONTRACT NO. 24-1874-D

MCKENZIE MEADOWS  
SECTION TWO-LOTS 67 THRU 99  
PHASE TWO

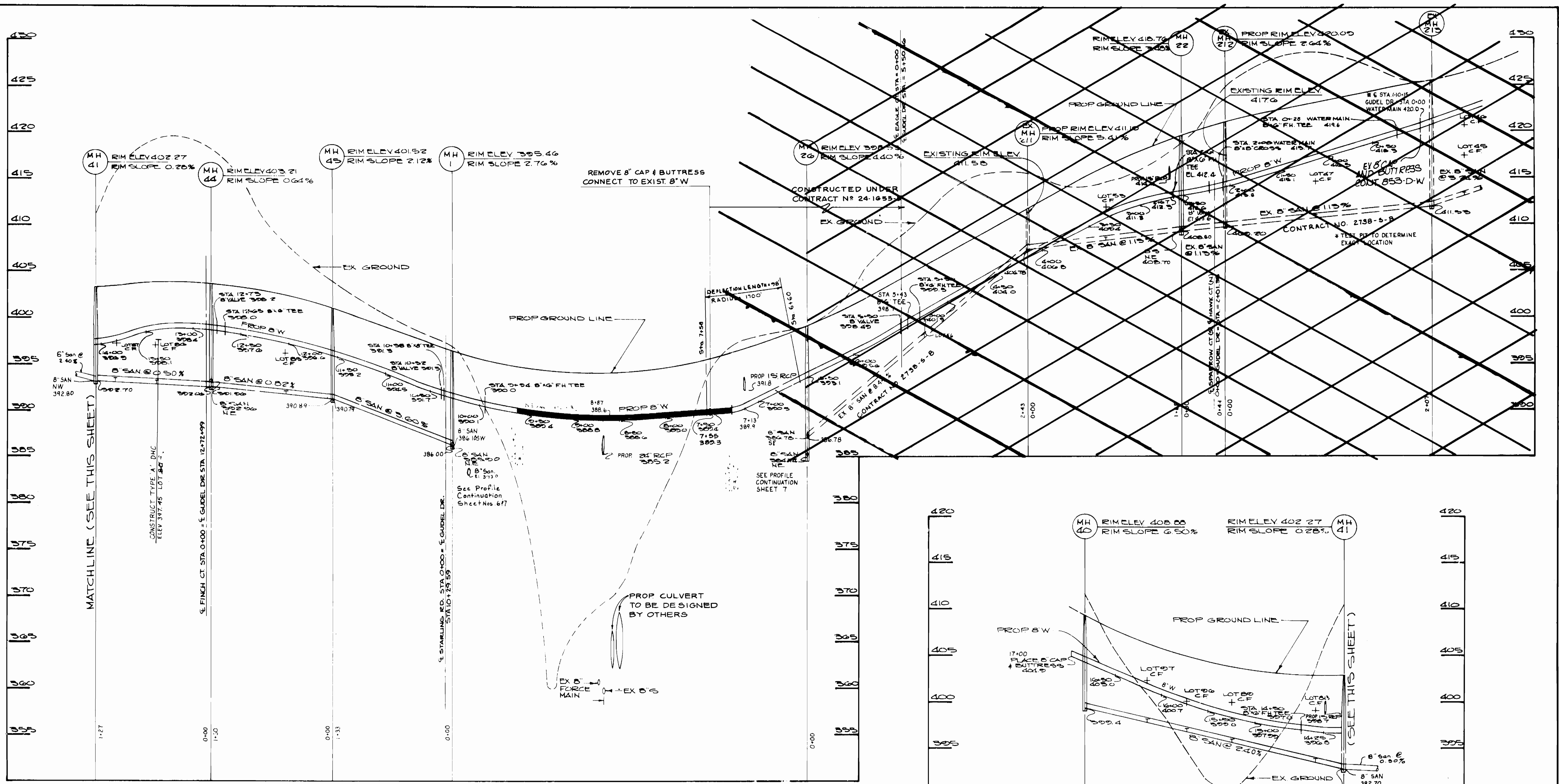
TAX MAP NO. 17  
2<sup>ND</sup> ELECTION DISTRICT

PARCEL 99  
HOWARD CO, MARYLAND

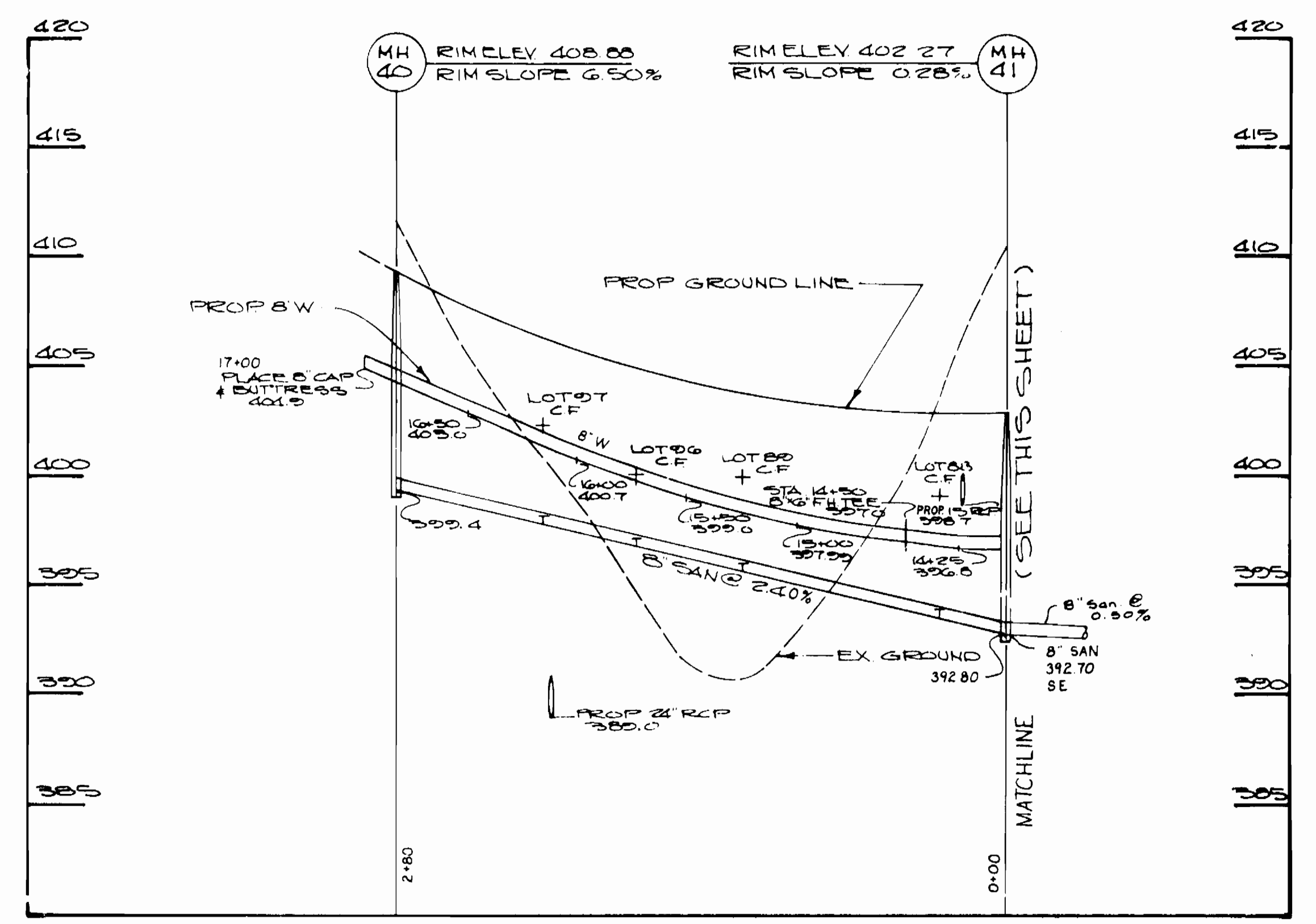
AS-BUILT 6/03

SCALE  
AS  
SHOWN

SHEET  
24 OF 5



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



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. ...*  
DIRECTOR OF PUBLIC WORKS  
DATE 10-27-88

*...*  
CHIEF, BUREAU OF ENGINEERING  
DATE 10-27-88

*...*  
CHIEF, LAND DEVELOPMENT DIVISION  
DATE 10-27-88

JOHN E. HARMS JR.  
AND ASSOCIATES INC.  
CONSULTING ENGINEERS - PLANNERS - SURVEYORS  
8818 CENTRE PARK DRIVE SUITE 208  
COLUMBIA, MARYLAND 21045  
TELEPHONE (301) 740-5200

DES: KBC			
DRN: RWR			
CHK: RHV			
DATE: 10/88			
BY: NO		REVISION	DATE

**PROFILE OF  
WATER AND SEWER MAINS**

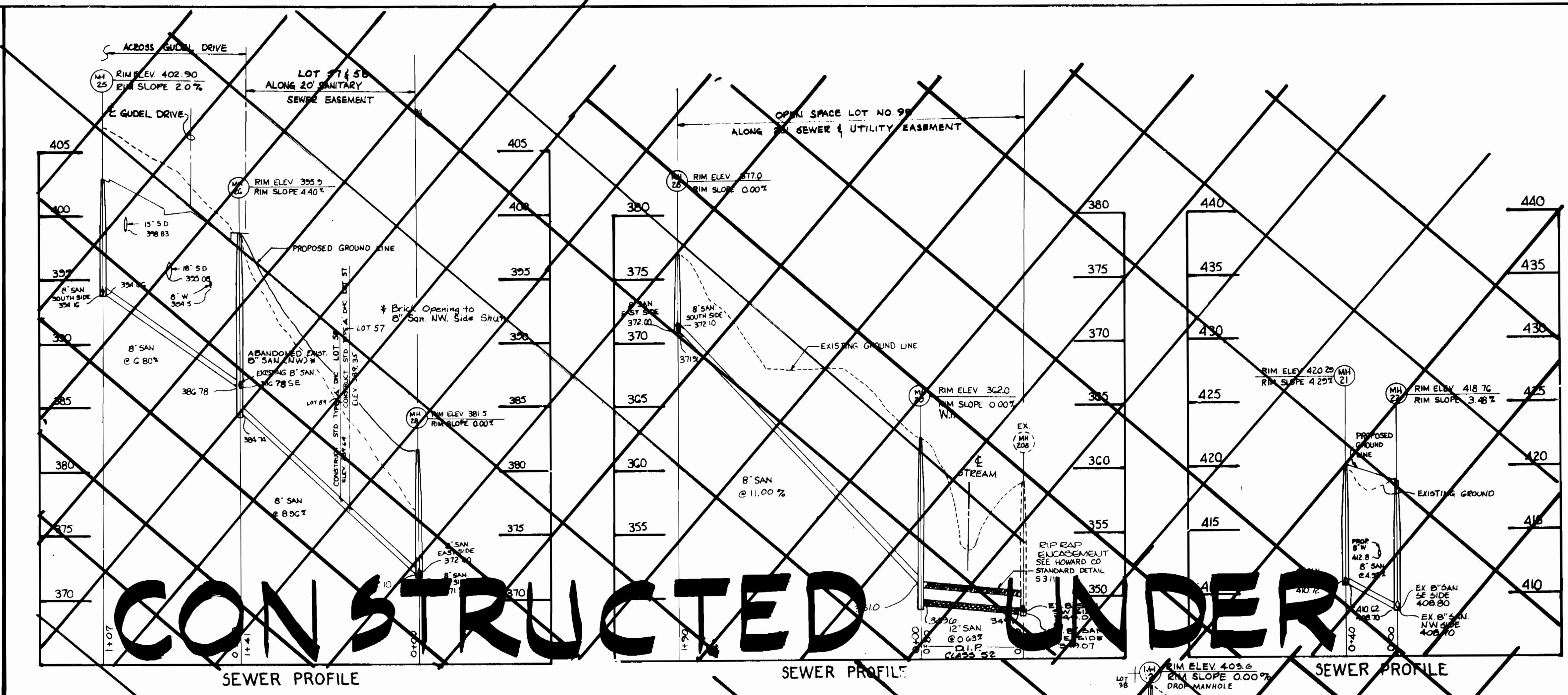
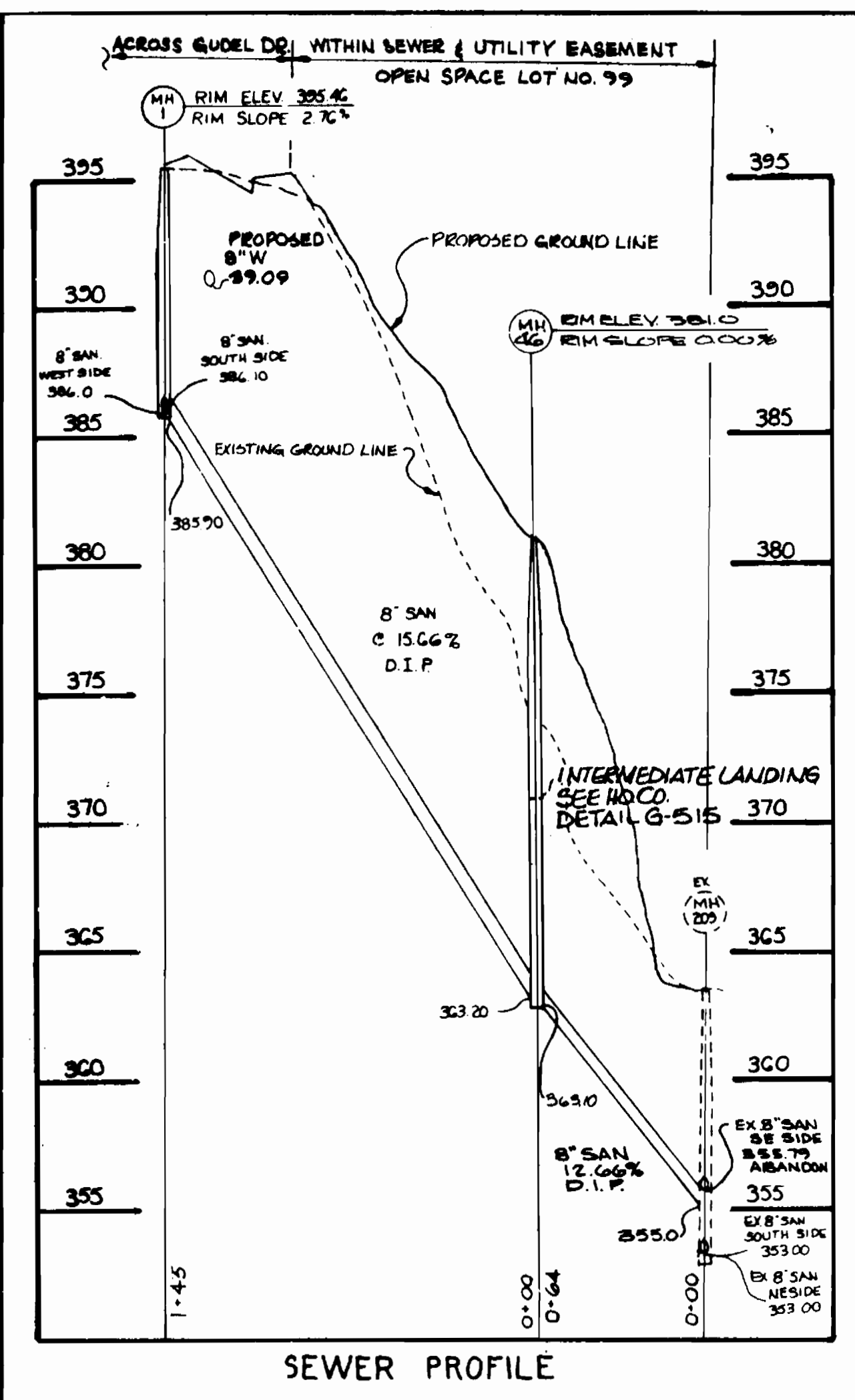
**McKENZIES MEADOWS**  
**SECTION TWO-LOTS 67 THRU 99**  
**PHASE TWO**  
CONTRACT NO. 24-1874-D  
TAX MAP NO. 17 PARCEL 36  
2nd ELECTION DISTRICT HOWARD CO., MARYLAND  
**AS-BUILT 5/93**

SCALE:  
H 1"=50'  
V 1"=5'  
SHEET  
3 OF 5

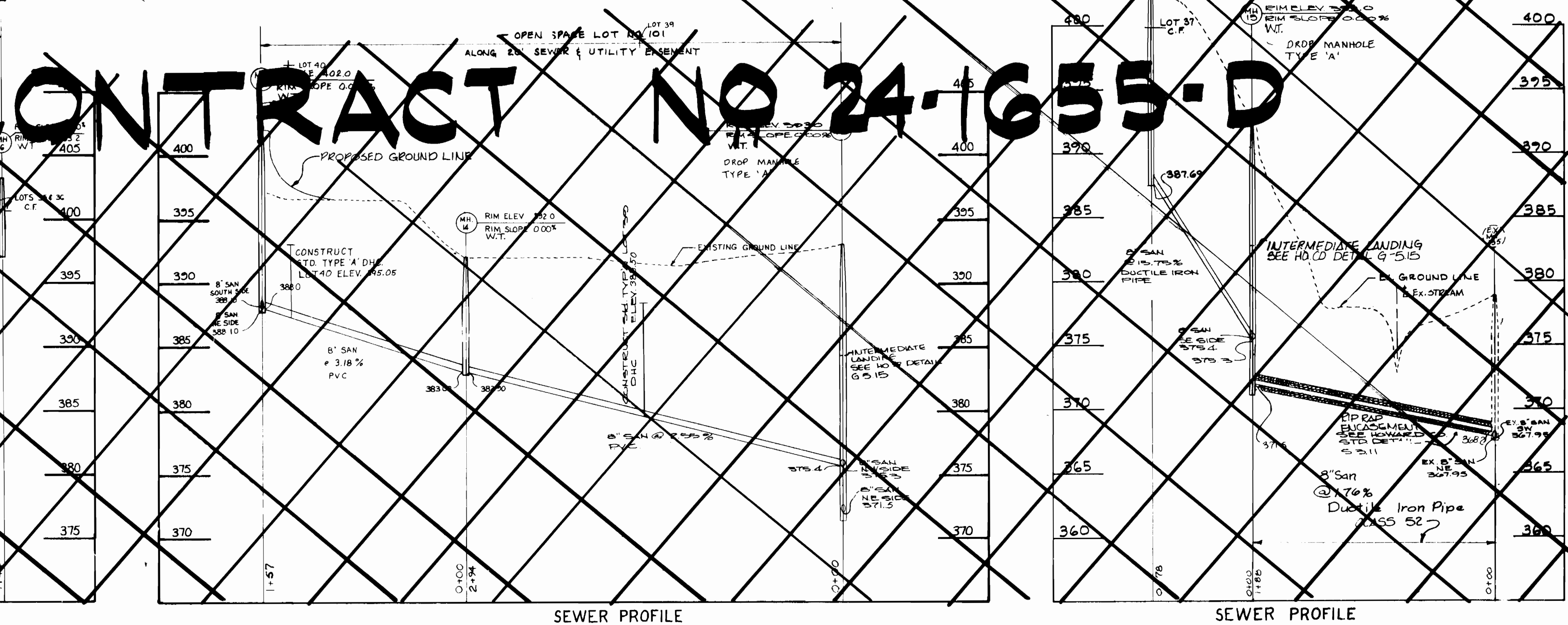
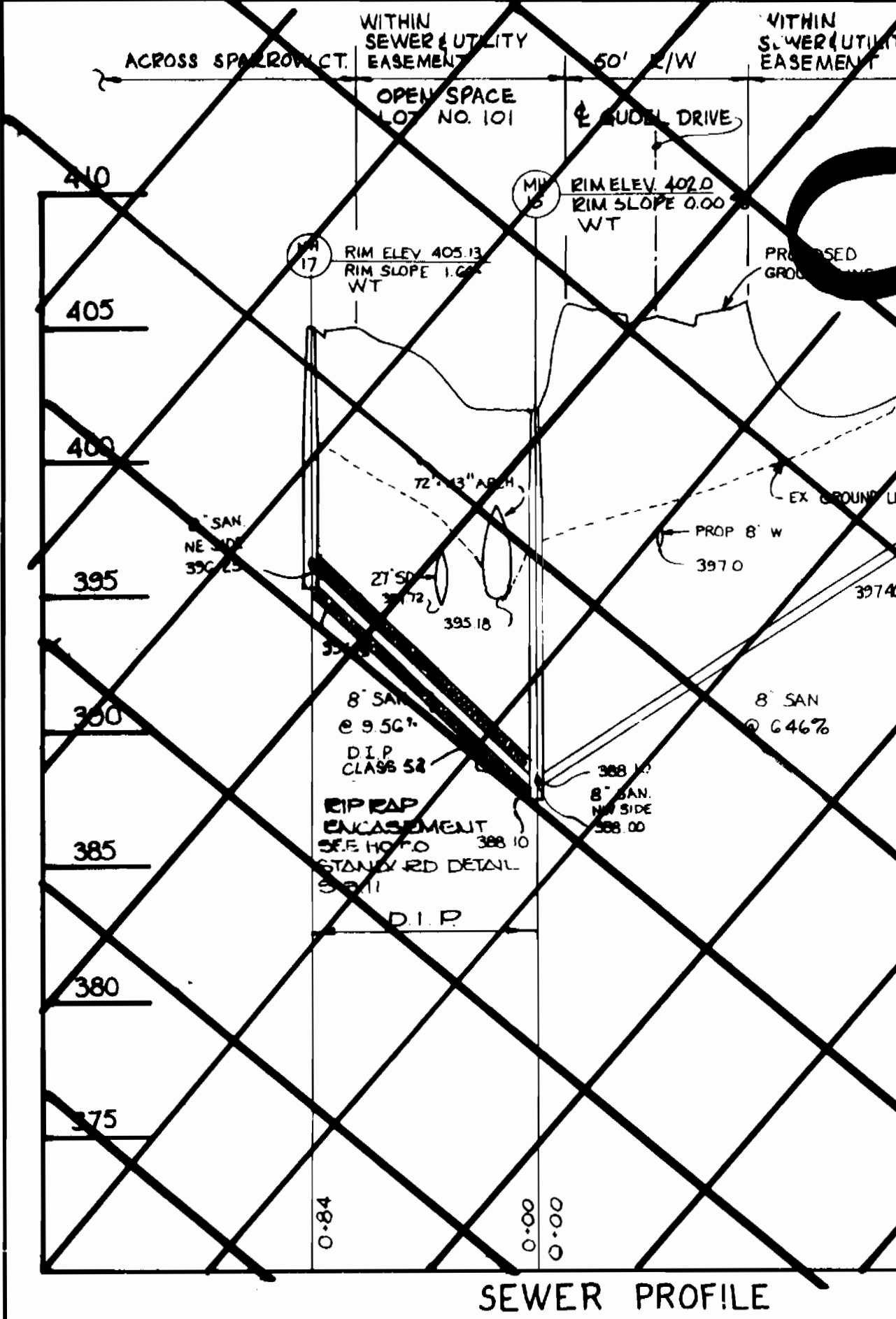








**CONSTRUCTED UNDER**



**CONTRACT NO 24-1655-D**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. ...*  
DIRECTOR OF PUBLIC WORKS  
DATE 10-27-88

*Robert ...*  
CHIEF, BUREAU OF UTILITIES  
DATE 10-27-88

JOHN E. HARMS JR.  
AND ASSOCIATES INC.  
CONSULTING ENGINEERS - PLANNERS - SURVEYORS  
8818 CENTRE PARK DRIVE SUITE 208  
COLUMBIA, MARYLAND 21045  
TELEPHONE (301) 740-5200

10/27/88

DES: KBC	
DRN: RWR	
CHK: RHV	
DATE: 10/88	
BY: NO	
REVISION	
DATE	

PROFILE OF  
WATER AND SEWER MAINS

600' SCALE MAP NO. 17 BLOCK NO.

MCKENZIE MEADOWS  
SECTION TWO - LOTS 67 THRU 99  
PHASE TWO  
CONTRACT NO. 24-1874-D  
TAX MAP NO. 17 PARCEL 36  
2nd ELECTION DISTRICT HOWARD CO., MARYLAND

SCALE  
H: 1" = 50'  
V: 1" = 5'

SHEET  
5 OF 5