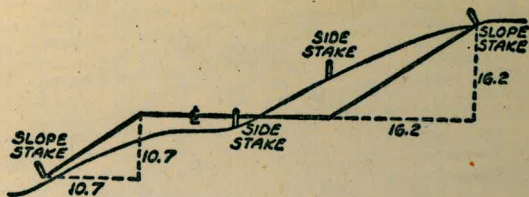


G-304



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
SLOPE 1 TO 1. ROADWAY OF ANY WIDTH

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0
1	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	1
2	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	2
3	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	3
4	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	4
5	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	5
6	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90	6
7	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	7
8	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	8
9	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	9
10	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	10
11	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90	11
12	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	12
13	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90	13
14	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90	14
15	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90	15
16	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90	16
17	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90	17
18	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90	18
19	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90	19
20	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90	20
21	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90	21
22	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90	22
23	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90	23
24	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90	24
25	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90	25
26	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90	26
27	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90	27
28	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90	28
29	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90	29
30	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90	30
31	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90	31
32	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90	32
33	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90	33
34	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90	34
35	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90	35
36	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90	36
37	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90	37
38	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90	38
39	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90	39
40	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90	40
41	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90	41
42	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90	42
43	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90	43
44	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90	44
45	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90	45
46	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90	46
47	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90	47
48	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90	48
49	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90	49
50	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90	50

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

MICROFILMED

APR 15 1965

TABLE XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table VIII) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

FOR TANGENTS ADD

Central Angle	DEGREE OF CURVE													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.03	.06	.09	.13	.16	.19	.22	.25	.28	.31	.34	.38	.42	.46
15°	.04	.10	.14	.19	.24	.29	.34	.39	.45	.51	.53	.58	.63	.68
20°	.06	.13	.19	.26	.32	.39	.45	.51	.58	.65	.72	.79	.84	.90
25°	.08	.16	.24	.33	.40	.49	.58	.67	.75	.83	.90	.99	1.06	1.14
30°	.10	.19	.29	.39	.49	.59	.69	.79	.89	.99	1.09	1.20	1.29	1.39
35°	.11	.22	.34	.47	.58	.69	.79	.81	.92	1.04	1.29	1.42	1.54	1.66
40°	.13	.26	.40	.53	.67	.80	.93	1.06	1.20	1.34	1.49	1.64	1.79	1.94
45°	.15	.30	.44	.60	.76	.91	1.06	1.21	1.37	1.52	1.70	1.87	2.04	2.21
50°	.17	.34	.51	.68	.85	1.02	1.19	1.36	1.54	1.72	1.91	2.10	2.29	2.48
55°	.19	.38	.57	.76	.95	1.14	1.32	1.52	1.72	1.92	2.14	2.35	2.56	2.77
60°	.21	.42	.63	.84	1.05	1.27	1.49	1.71	1.94	2.17	2.38	2.60	2.83	3.07
65°	.23	.46	.69	.93	1.16	1.40	1.64	1.88	2.13	2.38	2.63	2.88	3.13	3.39
70°	.25	.51	.76	1.02	1.28	1.54	1.80	2.06	2.33	2.60	2.88	3.16	3.44	3.72
75°	.27	.56	.83	1.12	1.40	1.69	1.98	2.27	2.57	2.87	3.16	3.47	3.78	4.09
80°	.30	.61	.91	1.22	1.53	1.84	2.15	2.46	2.78	3.10	3.44	3.78	4.12	4.46
85°	.33	.66	1.00	1.33	1.68	2.02	2.36	2.70	3.05	3.40	3.77	4.14	4.55	4.89
90°	.36	.72	1.09	1.45	1.83	2.20	2.57	2.94	3.32	3.70	4.10	4.50	4.91	5.32
95°	.39	.79	1.19	1.55	2.00	2.40	2.80	3.20	3.61	4.02	4.40	4.98	5.38	5.83
100°	.43	.86	1.30	1.74	2.18	2.62	3.06	3.50	3.95	4.40	4.88	5.37	5.85	6.34
110°	.51	1.03	1.56	2.08	2.61	3.14	3.67	4.21	4.76	5.31	5.86	6.43	7.01	7.60
120°	.62	1.25	1.93	2.52	3.16	3.81	4.45	5.11	5.77	6.44	7.12	7.80	8.50	9.22

FOR EXTERNALS ADD

Central Angle	DEGREE OF CURVE													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020
15°	.003	.007	.010	.014	.018	.023	.027	.029	.032	.035	.039	.043	.047	.051
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083
25°	.009	.018	.027	.036	.046	.056	.065	.074	.083	.093	.106	.120	.127	.135
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341
45°	.030	.060	.093	.119	.153	.184	.216	.254	.289	.325	.351	.378	.411	.445
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.771	.845	.922	1.01
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17
75°	.095	.182	.266	.353	.440	.528	.618	.707	.797	.890	.984	1.08	1.29	1.39
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.76	1.91
90°	.149	.299	.450	.603	.756	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20
95°	.174	.350	.522	.706	.885	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32

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Clark
Shepherd
Bruner
Perkins

RIPRAP - WABASH FREEWAY

APPROX: 125+50 to 150+00

12-9-52 W.O. 22070 STA.	Elev. Base Riprap	STA.	Elev. BASE Riprap
		132+50	104.80 97.50 C 7.30
128+00	97.20 91.70 C 5.50	132+00	104.40 96.75 C 7.65
127+50	96.10 91.14 C 4.96	131+50	103.50 96.00 C 7.50
127+00	95.50 90.58 C 4.92	131+00	101.38 95.25 C 6.13
126+50	95.00 90.02 C 4.98	130+50	101.20 94.50 C 6.70
126+00	94.70 89.46 C 5.24	130+00	101.20 93.94 C 7.26
125+50	96.17 88.90 C 7.27	129+50	100.40 95.38 C 7.02
125+10	88.80	129+00	99.60 92.82 C 6.78
124+65 Reg. Riprap	88.70 Rod Elev	128+50	100.20 Rod Elev 92.26 Elev C 7.94

STUBS set W.E. ♀

B.M.

Dir. Elev. Rods

98.84 = B.P. IN/et, West

125+50 WABASH

STA	Elev. Base	Riprap	STA	Elev. Base	Riprap
137+00	111.00 104.17 C 6.83		141+50	118.20 112.03 C 6.17	
136+50	111.20 103.41 C 7.79		141+00	116.20 111.06 C 5.14	
136+00	112.10 102.66 C 9.44		140+50	116.50 110.10 C 6.40	
135+50	110.40 101.90 C 8.50		140+00	119.60 107.13 C 10.47	
135+00	109.10 101.16 C 7.94		139+50	118.70 108.17 C 10.53	
134+50	107.30 100.42 C 6.88		139+00	113.30 107.20 C 6.10	
134+00	106.60 99.69 C 6.91		138+50	111.50 106.44 C 5.06	
133+50	101.70 98.96 C 2.74		138+00	112.00 105.69 C 6.31	
133+00	105.60 Rod 98.23 Elev C 7.37		137+50	111.40 Rod 104.93 Elev C 6.47	

STA. ELEV. BASE RIPPAP

CHK: BM-B.P. 145+25 E Inlet, West 127.94 = 127.88

3+23.41 = E Culvert 117.44

3+00 124.40
117.30
C 7.10

2+50 123.90
117.00
C 6.90

2+00 123.60
116.32
C 7.28

1+50 122.70
115.65
C 7.05

1+00 122.00
114.98
C 7.02

0+50 121.10
114.31
C 6.79

142+47.59 = BC
= 0+00 curve
 $\Delta = 18^{\circ} 24'$
 $R = 2297.75'$
 $L = 734.69'$

142+00 119.20
113.00
C 6.20

STA. ELEV. BASE RIPPAP

CHK: BM-B.P. 145+75 Inlet, West 127.94 = 127.88

7+34.69 END RIPPAP
= 150+00 MASH 129.30
125.80
C 4.30

7+00 128.90
124.19
C 4.71

6+50 127.10
123.04
C 4.06

6+00 126.60
121.89
C 4.71

5+50 126.30
120.75
C 5.55

5+00 126.30
119.60
C 6.70

4+50 126.60
118.93
C 7.67

4+00 127.40
118.27
C 9.13

3+50 125.90
117.60
C 8.30

Riprap - WABASH 167+00 to 169+50

STA.

Elev's:

F.L. W. Red.

169+50 Meet Roadwall

0.60 STUB
10.30 ~~BASE~~ Red 9.6
C 9.70

169+00

4.60 STUB
10.96 BASE
C 6.36

168+50

7.10 STUB
11.77 BASE
C 2.67

168+00

11.00 STUB
12.58 BASE
C 1.58

167+50

11.30 STUB
13.39 BASE
C 2.09

STUB set 10' RT &

167+00

11.50 STUB
14.20 - B. Red 13.5
C 2.70

↓ Riprap 30' OUT Bottom Fill slope

(All Red relative to F.L. Line)
No sea level datum used.

BASE OF Riprap
set 0.70' below F. LINE

RIPRAP WABASH - 177+36 to 181+61

STA	Elev.
181+61 END Riprap	C-8.3
180+98	C-6.6
180+48	C-7.0
179+98	C-5.2
179+48	C-6.7
178+98	C-6.2
178+48	C-7.0
177+98	C-7.0
177+36 Beg Riprap	C 5.6 Base

Base Riprap set 0.70' below Ft. Line channel
on this section.

RIPRAP - OLD FEDERAL BVD.

STA 1+31.6 to 3+31.6

STA:

	STUB ROD S. (CONCRETE PAV) 18 FT ±	FLOWLINE ROD: ETC.	
		↓	
			C 2.9
		7.2 should	8.55 ft.
3+31.6 = 2+00 END RIPRAP	4.3 STUB ROD	13.2 FL	C 11.9
		16.2 toe	22 toe
2+81.6 = 1+50	4.0 STUB ROD	6.9 sh.	C 2.9
		12.9 FL	8.5 shouder
		15.9 toe	C 11.9
			22 toe
2+31.6 = 1+00	2.9 stub rod	6.2 sh.	C 3.3 sh.
		12.2 FL	8.9
		15.2 toe	C 12.3
			22.4 toe
1+81.6 = 0+50	1.30 STUB ROD	5.4 sh	C 4.1
		11.4 FL	10 shouder
		14.4 toe	C 13.1
			23 toe
1+31.6 = 0+00 Beg. Riprap		11.4 FL	
		← meet wing wall AT Flowline	

VERT HT WALL = 9'

Toe Set 3' Below F-Line
Slope 1 1/2:1

Note: NO SEA-LEVEL DATUM; ALL RODS RELATIVE TO F-Line

RIPRAP - N. WEST OUTER Connect.
 170' Stone Beg. 150' N/Wy OF Sly Line
 CULVERT. ON N/Wy LINE CHANNEL.

STA:	STUB. Rod	Flow-Line Rod: cfs	
1+70	Meet EXIST STONE		
1+50	5.5	4.8 sh. 8.8 F.L. 10.8 toe	$\frac{F 0.7}{4 \text{ sh.}}$ $C \frac{5.3}{13 \text{ toe}}$
1+00	5.6	4.3 sh. 8.3 F.L. 10.3 toe	$\frac{F 1.3}{4 \text{ sh.}}$ $C \frac{4.7}{13 \text{ toe}}$
0+50	4.2	3.8 sh. 7.8 F.L. 9.8 toe	$\frac{F 0.4}{4 \text{ sh.}}$ $C \frac{5.6}{13 \text{ toe}}$
0+00	2.9	2.7 shoulder 6.7 F. Line 8.7 toe	$C \frac{0.2}{4 \text{ sh.}}$ $C \frac{5.8}{13 \text{ toe}}$

VERT. HT. WALL = 6'

Toe wall set 2' below F. LINE

Slope 1/2:1

NOTE: (All Rods relative to Flow Line)
 No SEA-LEVEL DATUM USED

Clark
Shephard
Bruner
Perkins
12-15-52
W.O. 31502

ROSWELL SEW. LATS

MEIROSE PLACE TO HILLTOP DR.

STA.	LT.	RT.
3+32		⑤
2+82		④
2+74	③	
2+32		②
2+22	①	
1+19	⑥	

Note: Reader in G. Roberts' Grass Book
Exchange jobs with Roberts

0+00 = Line 90° & Roswell
At pt. INT. OF SKY LINE
Roswell & W/LY LINE OF
MEIROSE PLACE.

(E STATIONING)

ROSWELL SEW. LAT'S:
Hilltop to HANOVER ST.

STA.	LT.	RT.	STA.	LT.	RT.
3+92		(12)			
3+77	(11)				
3+17	(10)				
2+57	(9)		5+71		(16)
2+55		(8)	5+57	(15)	
1+68	(7)		4+97	(14)	
0+50		(6)			
0			4+40		(13)

0+00 = A PT. ON E Roswell
90° to CONC. MON AT 4
IN S/WY LINE Roswell, 7.97'
Fly of NWY LINE Hilltop
(1/2 STATIONS)

HILLTOP SEWER LAT'S

Roswell to WINSTON DR.

STA.	LT.	RT.	STA.	LT.	RT.
2+77	(39) 231.97 204.70 P.L. C 7.27	231.97 223.56 S C 8.41			
2+66		(38) 236.35 223.51 S C 12.84		236.35 226.00 P.L. C 10.35	
2+25	(37) 235.39 225.00 P.L. C 10.39	235.39 223.47 S C 11.92			
2+16		(36) 239.14 223.31 S C 15.83		239.14 229.00 P.L. C 10.14	
1+66		(35) 240.24 223.11 S C 17.13		240.24 230.00 P.L. C 10.24	
1+42	(34) 238.30 231.00 P.L. C 7.30	238.30 223.02 S C 15.28			
0+96		(33) 240.57 222.81 S C 17.76		240.57 232.00 P.L. C 8.57	
0+42	(32) 240.82 233.40 P.L. C 7.42	240.82 222.61 S C 18.21			
0+31		(31) 239.78 222.57 S C 17.21	3+13	(40) 233.05 223.61 S C 9.44	233.05 224.70 P.L. C 8.35

0+00: N/ly Line Roswell
AT & HILLTOP
(S STAT.)

B.M. DIR. Elev. Rod.

240.28 = N.W. Cor. Man

-Roswell a Hilltop

SELMA PLACE SEW. LATS.

S/LY Roswell to S/LY TERMINATION SELMA PL.

STA.

LT.

RT.

STA.

LT.

RT.

(49) 247.09 247.09
239.00 PL 228.76 GS
C 9.07 C 18.33

(58) 238.00 238.00
230.40 PL 229.67 GS
C 7.60 C 8.33

(48) 244.45 244.45
228.79 GS 237.00 PL
C 15.66 C 7.45

(47) 246.20 246.20
228.45 GS 239.00 PL
C 17.75 C 7.20

(57) 240.02 240.02
230.40 PL 229.66 GS
C 9.62 C 10.36

(56) 234.90 234.90
229.65 GS 230.40 PL
C 5.31 C 4.56

(46) 248.74 248.74
240.00 PL 228.41 GS
C 8.74 C 20.33

(55) 241.85 241.85
230.50 PL 229.51 GS
C 11.35 C 12.34

(45) 247.28 247.28
228.27 GS 240.00 PL
C 19.01 C 7.28

(54) 237.40 237.40
229.50 GS 230.50 PL
C 7.90 C 6.90

(44) 249.01 249.01
243.00 PL 228.26 GS
C 6.01 C 20.75

(53) 243.53 243.53
232.50 PL 229.32 GS
C 11.03 C 14.21

(43) 247.58 247.58
227.85 GS 237.00 PL
C 19.73 C 8.58

(42) 243.37 243.37
227.01 GS 237.00 PL
C 16.36 C 6.37

(52) 244.90 244.90
235.00 PL 229.12 GS
C 9.90 C 15.78

(41) 244.36 Rd 244.36 Rd
239.00 PL Elev 226.93 Elev
C 5.36 C 17.43

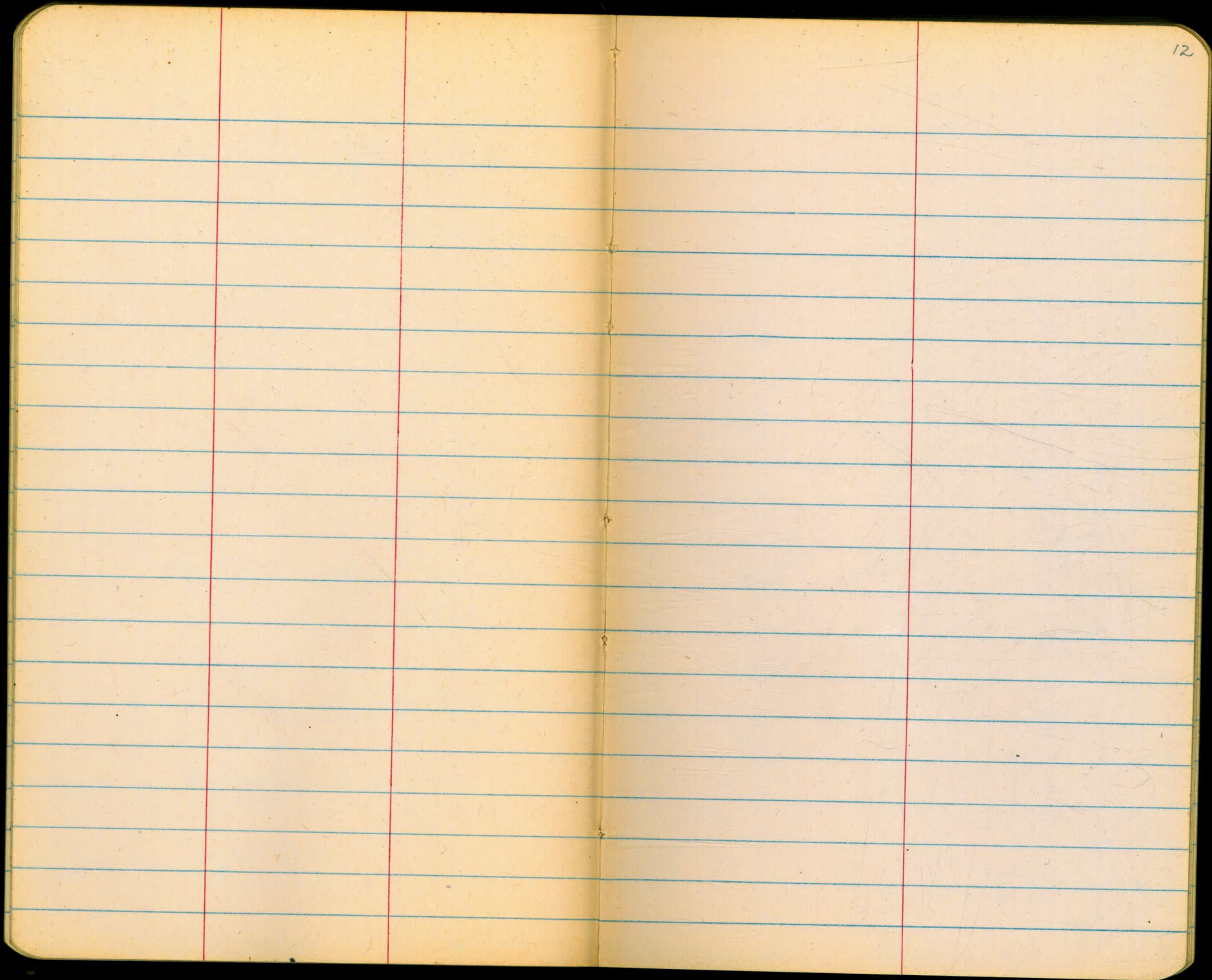
(51) 242.54 242.54
229.10 GS 233.00 PL
C 13.44 C 9.54

(50) 243.85 243.85
228.91 GS 234.00 PL
C 14.94 C 9.85

B.M. Dir. Elev. Rod.

240.82 4" Pipe N.W.

Cont. Roswell Hill Top



Clark
Shepherd
Bruner
Perkins
12-18-52
W.O. 31677

DATA: 1628-1

STA.

2+10

Elev:
166.65
154.93
C 11.72

1+80

166.28
153.94
C 12.34

1+50

165.79
152.95
C 12.82

1+20

165.03
151.96
C 13.07

0+90

163.98
150.97
C 13.01

3+42.44 = M.H. # 58
INT Gables +
Rachael

167.79
159.22 = F.LINE
C 8.57

0+60

162.90
149.98
C 12.92

3+30

167.68
158.89
C 8.79

0+30

161.80
148.99
C 12.81

3+00

167.53
157.90
C 9.63

0+00 = M.H. # 1

2+70

167.35
156.91
C 10.44

INT. Rachael +

148.00 F.LINE

POTOMAC

2+40

167.04
155.92
C 11.12

B.M. DI. Elev. P.O.S:

161.64

SERP.

Rachael + Potomac

PARADISE HILLS SEWER:

RACHAEL ST, POTOMAC to

Gables

GABLES ST.

Rachael ST Ely to DEAD END.

14

STA	Elev:	STA.	Elev:
2+57.43 = M.H. #75	163.62 160.25 = F.LINE c 3.37	5+62.14 = M.H. #76	170.10 161.47 = F.LINE c 8.63
2+45	164.23 160.20 c 4.03	5+25	171.72 161.32 c 10.40
2+10	166.61 160.06 c 6.55	4+90	172.37 161.18 c 11.19
1+75	168.60 159.92 c 8.68	4+55	172.28 161.04 c 11.24
1+40	170.38 159.78 c 10.60	4+20	171.41 160.90 c 10.51
1+05	170.51 159.64 c 10.87	3+85	169.75 160.76 c 8.99
0+70	169.50 159.50 c 10.00	3+50	167.46 160.62 c 6.84
0+35	168.13 159.36 c 8.77	3+15	165.05 160.48 c 4.57
0+00 = M.H. #58 (= 3442.44 on Rachael) INT. Rachael + GABLES	159.22 = F.L. ↑ (See pg 13)	2+80	163.57 160.34 c 3.23

B.M. Dir Elev Rod:

161.64 S.E.A.P
RACHAEL POTOMAC

STA:

Elev:

CHK:

168.27 = 168.25 SEAP Rachael + Gables

7+02.14 ~ D. END

170.74
162.03 = F. Line
C 8.71

6+65

168.30
161.88
C 6.42

6+30

167.62
161.74
C 5.88

5+95

168.60
161.60
C 7.00

FLINTRIDGE:

ALBERMARLE N/Y to D.END

STA:	Elev:		
2+70	190.55 180.28 C 10.27		
2+35	191.19 180.14 C 11.05	0.4% ↑	
2+00 = M.H. #2	190.61 180.00 C 10.61		
1+75	189.38 179.50 C 9.88	2.0% ↓	
1+40	187.43 178.80 C 8.63		
1+05	185.88 178.10 C 7.78		
0+70	184.53 177.40 C 7.13		184.26 = 184.26 (See below)
0+35	183.24 176.70 C 6.54		
0+00 = D.M.H. #64	182.65 176.00 C 6.65		2+80 = D.END. 190.22 180.32 C 9.90

INT ALBERMARLE
+ FLINTRIDGE

B.M. Dir. Elev. Rod:

184.26 = NE BP. ALBERMARLE FLINTRIDGE - F.B. #2092 - 67

EASEMENTS:

Rachael to MIDWICK

17

STA:	ELEV:	STA:	ELEV:
2+80	149.38 138.80 C10.58	5+75	151.34 144.31 C7.03
2+45	147.97 137.99 C9.98	5+40 (5+37)	149.80 143.70 C6.10
2+10	147.42 137.19 C10.23	5+05	147.79 143.19 C4.60
1+75	145.98 136.39 C9.59	4+70	146.97 142.63 C4.34
1+40	143.91 135.59 C8.32	4+35	146.07 142.07 C4.00
1+05	142.12 134.79 C7.33	3+94.06 = M.H #60	145.97 141.41 C4.56
0+70	140.49 133.99 C6.50	3+85	145.66 141.20 C4.46
0+35	139.57 133.19 C6.38	3+50	146.66 140.70 C6.26
0+00 = M.H #59 Rachael at Pump House	132.39 (IN) f. line (See Pg. 42)	3+15	151.78 139.60 C12.18

Stub 21.8 BK
on stationing
to mass
SPM. LATERAL

(Chic. 150.48)
See 8m

Stub 7.16 BK
on 3106-

2.392 →

16.0
↑
2.380
↓

B.M.

Dir. Elev. Rod.

150.48 = S.E. C.P. Rachael + Albemarle

EASEMENT (CONT.)

STA:	Elev:
8+75	162.54 150.86 C11.68
8+40	159.11 149.95 C9.16
8+05	156.22 149.04 C7.18
7+70	153.13 148.13 C5.00
7+35	152.77 147.22 C5.55
7+00.05 = M.H. #61	152.99 146.31 C6.68
6+80	153.28 143.99 C7.29
6+45	152.93 145.43 C7.50
6+10	152.76 144.87 C7.89

↑ 2.63

↓ 1.63

stubs set 456 & 15
CT & ON DIAG.

STA:	Elev:
11+75	170.05 160.16 C9.89
11+40	163.62 158.86 C4.76
11+05	162.39 157.57 C4.82
10+70	161.36 156.27 C5.09
10+37.80 = M.H. #62	168.36 153.09 C13.27
10+15	159.58 154.50 C5.08
9+80	161.08 153.59 C7.49
9+45	163.09 152.68 C10.41
9+10	163.34 151.77 C11.57

↑ 9.10

↓ 9.2

stubs set 601 & 15
TE ON DIAG

EASEMENT (cont.)

STA:	ELEV:	STA:	ELEV:
14+75	172.66 169.17 C 3.49	17+55	182.04 171.97 C 10.07
14+40	169.96 168.82 C 1.14	17+20	179.66 171.62 C 8.04
14+05	170.73 168.47 C 2.26	16+82.08 = M.H. #66	175.99 171.24 C 4.75
13+70	180.87 168.12 C 12.75	16+50	189.34 170.92 C 8.42
13+32.11 = D.M.H. #64 INT. ALBEMARLE + FINTRIDGE	182.65 167.74 C 14.91	16+15	180.22 170.57 C 9.65
13+05	180.96 166.38 C 14.58	15+80	179.18 170.22 C 8.96
12+70	177.68 164.59 C 13.09	15+45	178.29 169.87 C 8.42
12+35	174.41 162.81 C 11.60	15+10	177.57 169.52 C 8.05
12+06.34 = M.H. #63 IN ALBEMARLE ST	172.38 161.33 C 11.05	14+96.23 = M.H. #65	176.39 169.38 C 7.01

16
↑

5.13
↓

5.18
↑

3.78
↓

CHK: 18420-18426 = N.E. B.P.
FINTRIDGE
ALBEMARLE

16
↑

16
↑

EASEMENT (Cont)

STA:

ELEV:

CHK:

179.78 - S.M. B.P.
MIDWICK - MORNINGSIDE

18+48.33 = M.H. #67

IN MIDWICK ST.
(END EASEMENT SERV)

172.90

18+25

186.77
172.67
C1410

17+90

184.11
172.32
C11.79

n/ly
 AIBEMARIE to HOPKINS + MIDWICK

M.H. #63 AIBEMARIE - W/ly

STA:	Elev:	STA:	Elev:
2+70	190.10 177.61 C 12.49	5+85	187.03 179.50 C 7.53
2+35	186.10 177.40 8.70	5+50	189.53 179.29 C 10.24
2+00	181.95 177.19 C 4.76	5+14.77 = D.M.H. #69 INT. HOPKINS + MIDWICK	191.15 179.08 C 12.07
1+63.77 = M.H. #71 INT. AIBEMARIE + HOPKINS	181.01 176.97 C 4.04	4+80	192.51 178.87 C 13.64
1+30	178.82 173.19 C 5.63	4+45	193.19 178.66 C 14.53
0+95	175.64 169.27 C 6.37	4+10	193.79 178.45 C 15.34
0+60 — GRADE BLK	172.77 165.35 C 7.42	3+75	194.26 178.24 C 16.02
0+40	171.77 163.41 C 8.36	3+40	194.21 178.03 C 16.18
0+20	171.61 162.07 C 9.54	3+05	192.87 177.82 C 15.05
0+00 = M.H. #63 IN AIBEMARIE (ON EASEMENT SERV.) 12706.34	172.38 161.33 C 11.05		

B.M.

Dir. E/lev. Rod!

18426 N.E.B.P. AIBE

mark + FLINTRIDGE F.B. 2092-67

STA:

ELEV

CHK:

150.47 - 150.49 = SEAP Rachael Y. ALBEMARLE

6+64.77 = D.ENA

185.44
179.98
C 5.46

6+55

185.13
179.92
C 5.21

6+20

185.15
179.71
C 5.44

MIDWICK:

Hopkins 15/4 to DEAD-END

STA:	ELEV.	STA:	ELEV.
2+60 = M.H. #70 IN MIDWICK	195.24 188.38 C6.86		
2+75	195.03 188.19 C6.84	CHK:	179.79-179.18 (see below)
2+10	194.55 187.73 C6.82		
1+75	194.04 187.28 C6.76		
1+40	193.56 186.82 C6.74		
1+05	193.07 186.37 C6.70		
0+70	192.62 185.91 C6.71	3+50 = D.END MIDWICK	196.53 189.33 C6.98
0+35	192.07 185.46 C6.61		
0+00 = D.M.H. #69 INT. HOPKINS & MIDWICK (= 5+1437 - see pg 21)	191.15 185.00 C6.15	3+15	196.02 189.10 C6.92
B.M. DIR. Elev. Rod:	179.78 = S.W.B.P. MORN SIDE + MIDWICK FB 2072-74	2+80	195.49 188.64 C6.85

MIDWICK's

W'ly From Easement Line - M.H. #67
to DEAD-END

STA:

ELEV:

CHK: 179.72 179.77 = 179.78 (see below)

1+40

D. END MIDWICK

197.34
189.70
C 7.64

1+05

196.08
185.50
C 10.58

0+70

193.22
181.30
C 11.92

↑
122

0+35

189.93
177.10
C 12.83

0+00 = M.H. #67

186.83
172.90
C 13.93

(= 18+48.33 EASEMENT LINE SEVI)
see pg. 20

B.M. DIV. ELEV. ROD:

179.78 = S.W.A.P. Morningside F.B. 2092.74
MIDWICK

MIDWICK ST:
 AT INT. MORNINGSIDE (M.H.#68) WLY TO M.H.#67
 ON EASEMENT LINE

CHK: 179.77 = 179.78 (see below)

1+53.75 = M.H.#67
 = 18 + 48.33 ON
 EASEMENT LINE - See Pg 20

186.83
 172.90
 C 13.93

1+05

183.53
 173.19
 C 10.34

0+70

← 18

180.80
 173.54
 C 7.26

0+35

179.56
 173.89
 C 5.67

0+00 = M.H.#68

179.87
 174.24 = F. LINE
 C 5.63

INT. MIDWICK +
 MORNINGSIDE
 See Pg 20

B.M. DIR. ELEV. ROD:

179.78 = S.W.B.P

MORNINGSIDE + MIDWICK FB 2092-74

MORNING SIDE:

INT. MIDWICK & MORNINGSIDE - M.H. #68 N'ly to M.H. #24; ELY to DEAD-END of ALBEMARLE
(INT. ALBEMARLE & MORNINGSIDE)

2+80	199.99 192.43 c 7.56	5+75	208.78 199.88 c 8.90
2+45	197.31 190.16 c 7.15	5+40	207.88 199.28 c 8.60
2+10	194.58 187.89 c 6.69	5+05	206.91 198.69 c 8.22
1+75	192.00 185.62 c 6.38	4+70	205.94 198.09 c 7.85
1+40	189.26 183.34 5.92	4+35	205.02 197.50 c 7.52
1+05	186.58 181.07 c 5.51	4+00	204.02 196.90 c 7.12
0+70	183.89 178.79 c 5.10	3+65	202.96 196.31 c 6.65
0+35	181.20 176.52 c 4.68	3+30.49 = M.H. #24 INT. ALBEMARLE & MORNINGSIDE	202.49 195.72 F.LINE c 6.77
0+00 = M.H. #68 INT. MIDWICK & MORNINGSIDE	179.87 174.24 F.LINE c 5.63	3+15	202.01 194.71 c 7.30

B.M. D.V. Elev. Rod:

179.78 = S.W. B.P. MORNING SIDE & MIDWICK FB 2092-74

17.9

6.58

CHK: 209.85 = 209.83 = S.W.B.P.

PRO LAIBEMARIE

8+73.87 = D.END AIBEMARIE E'ly of PEO
 210.47
 204.96 F.LINE
 C 5.51

8+55
 209.71
 204.64
 C 5.07

8+20
 208.36
 204.04
 C 4.32

7+85
 207.50
 203.45
 C 4.05

7+50
 208.31
 202.85
 C 5.46

7+15
 209.42
 202.26
 C 7.16

7+00
 209.97
 202.80
 C 7.17

6+73.87 = M.H. #25
 INT. AIBEMARIE & PEO
 210.73
 201.56 F.LINE
 C 9.17

6+45
 210.47
 201.07
 C 9.40

6+10
 209.64
 200.47
 C 9.17

MORNINGSIDE:

N'LY MH #24 INT. MORN'SIDE + AIBEMARIE to
D'END ON MORN'SIDE.

CHK: = 201.34 (see below)

1+60 = D. END. 211.28
201.80 F. Line
c 9.48

1+40 210.88
209.
201.04
c 9.84

1+05 209.42
199.71
c 9.71

0+70 206.94
198.38
c 8.56

0+35 203.99
197.05
c 6.94

0+00 = M.H. #24 202.49
INT. MORN'SIDE 195.72 F. Line
+ AIBEMARIE c 6.77
= 3+30.49 pg 26

↑
3.82

B.M. Dir. Elev. Rod: 201.34 = S.W.B.P. MORN'SIDE + AIBEMARIE (B) 2092, cc

REO DRIVE:

N^{LY}
 N4, M.H. #25, INT. ALBEMARLE + REO, To D-END ON REO

CHK 209.83 = 209.83 (see below)

2+20=D.END.

218.07
 209.92 F.LINE
 C 8.15

2+10

217.75
 209.54
 C 8.21

1+75

216.48
 208.21
 C 8.27

1+40

215.24
 206.88
 C 8.36

1+05

214.02
 205.55
 C 8.47

0+70

↑
 209.83

212.80
 204.22
 C 8.58

0+35

211.60
 202.89
 C 8.71

0+00 = M.H. #25
 INT. REO + ALBEMARLE
 = 6+73.87 pg 27

210.73
 201.56 F.LINE
 C 9.17

B.M.

DIR Elev Rod:

209.83 = SWBP

ALBEMARLE + REO F.B. 2092-65

MORNINGSIDE:

MIDWICK, M.H. #68, S'ly to CUMBERLAND, E'ly to
RANCHO, S'ly to EDGEWATER, E'ly to D.END.

2+80	184.60 178.44 C6.16	5+75	193.23 182.61 C10.62
2+45	183.68 177.91 C5.77	5+40	192.13 182.12 C10.01
2+10	182.79 177.39 C5.40	5+05	191.02 181.63 C9.39
1+75	181.82 176.86 C4.96	4+70	189.95 181.14 C8.81
1+40	180.92 176.34 C4.58	4+35	188.83 180.65 C8.18
1+05	180.20 175.81 C4.39	4+00	187.73 180.16 C7.57
0+70	179.83 175.29 C4.54	3+65	186.62 179.67 C6.95
0+35	179.45 174.76 C4.69	3+30.31 = M.H. #34 INT. CUMBERLAND & MORNINGSIDE See pg 40	185.54 179.19 F.LINE C6.35
0+00 = M.H. #68 INT. MIDWICK & MORNINGSIDE See Pg 25	179.87 174.24 F.LINE C5.63	3+15	185.36 178.96 C6.40
B.M. Dr. Elev. Rod:	179.78 = S.W.B.P Morningside + Midwick		

MORNINGSIDE ct al (CONT.)

8+40		204.63 193.59 C 11.04	11+15		211.93 204.86 C 7.07
8+05		202.69 192.64 C 10.05	10+80		211.23 204.27 C 6.96
7+70		200.65 191.70 C 8.95	10+45		210.54 203.67 C 6.87
7+35		198.58 190.75 C 7.83	10+09.69 D.M.H. #36	ck. 20.38 = 210.41 SW.B.P. Rancho + Cumberland	210.10 203.08 C 7.02
7+00	Chic 194.93 = 194.89 SW.B.P. Rancho + Cumberland	196.88 189.80 C 7.08	(CONTINUES SOUTHERLY) 10+09.69 = D.M.H. #36 INT. CUMBERLAND + RANCHO DRIVE L 544		210.10 198.17 F. Line C 11.93
6+73.87 #35	= F. Line E 1/4 =	196.32 189.10 C 7.22	9+80		209.47 197.37 C 12.10
6+73.87 = D.M.H. #35 INT. Rancho + Cumberland	STUBS SET 6.36 + 15 ON DRAG	196.32 184.00 F. Line C 12.32	9+45		208.58 196.42 C 12.16
6+45		195.55 183.59 C 11.96	9+10		207.45 195.48 C 11.97
6+10		194.41 183.10 C 11.31	8+75		206.31 194.53 C 11.78

MORNING SIDE, et al; (Cont)

CHK: 245.12

= 245.18 = SWBP
Sea Breeze +
Edgewater

14+30	↑ 728	219.41 214.08 C 5.33	17+00	↑ 740	241.55 232.88 C 8.67
13+95		217.27 211.56 C 5.71	16+00.21 = M.H. #86		240.06 232.08 F.LINE C 7.98
13+60.21 = M.H. #85 INT. Rancho + (L. E. W.) EDGEWATER	216.26 = 216.30 = Ch + E. Edgewater + Rancho	216.19 209.04 F.LINE C 7.15	16+75	↑ 750	239.64 231.72 C 7.92
13+25	↓ 172	215.56 208.43 C 7.13	16+40	↓	236.65 229.20 C 7.45
12+90		215.05 207.84 C 7.21	16+05		233.68 226.68 C 7.00
12+55		214.46 207.24 C 7.22	15+70		230.70 224.16 C 6.54
12+20		213.81 206.65 C 7.16	15+35		227.60 221.64 C 5.96
11+85		213.18 206.05 C 7.13	15+00		224.69 219.12 C 5.57
11+50		212.49 205.46 C 7.03	14+65		221.91 216.60 C 5.31

MORNINGSIDE, et al (CONT)

	f ₂ →	252.26 244.88 F.LINE C 7.38		
20+00.21 = M.H. 87				
19+80	f ₂ ↓	251.68 244.08 C 7.60		
19+45		250.86 242.68 C 8.18		
19+10		249.95 241.28 C 8.67		
18+75		249.11 239.88 C 9.23		
18+40		248.41 238.78 C 9.63	CHK: 245.12	245.18 = S.W.B.P. Edgewater Seabreeze
18+05		246.94 237.08 C 9.86	20+70.21 = D.END ON EDGEWATER E. OF SEA BREEZE	254.75 247.68 F.LINE C 7.07
17+70		245.15 235.68 C 9.47	20+50	254.06 246.88 C 7.18
17+35		243.74 234.28 C 9.46	20+15	252.70 245.48 C 7.22

RANCHO DRIVE:

M.H. #85 - INT. RANCHO & EDGEWATER
S/LY to D-END on RANCHO

CHK: 216.26 = 216.30 = Chk @ Edgewater
& Rancho

1+60 = D-END.

220.28
209.68 F. Line.
C10.60

1+40

219.74
209.60
C10.14

1+05

218.61
209.46
C9.15

0+70

↑
C 4 0

217.56
209.32
C8.24

0+35

216.65
207.18
C7.47

0+00 = M.H. #85

INT. RANCHO (See Pg 32)
& EDGEWATER

216.19
209.04 F. Line
C7.15

B.M.

DIR. ELEV. ROD:

210.41
S.W. B.P.
Rancho & CUMBERLAND

CUMBERLAND:

D.M.H. #36, Rancho Drive, Ely to D.END

2+80 = M.H. # 37

60 →

230.59
220.57 F.LINE
C10.02

2+45

80 ↓

227.87
217.77
C10.10

2+10

225.13
214.97
C10.16

1+75

222.36
212.17
C10.19

chk: 241.89 = 241.95 - S.W.B.P
CUMBERLAND'S + SON BRIDGE

1+40

219.56
209.37
C10.19

4+70 = D.END

240.05
231.97 F.LINE
C8.08

1+05

216.75
206.57
C10.18

4+55

239.66
231.07
C8.59

0+70

80 →

213.99
203.77
C10.22

4+20

238.78
228.97
C9.81

0+35

211.31
200.97
C10.34

3+85

237.57
226.87
C10.70

0+00 - D.M.H. # 36

210.10
198.17 F.LINE ELY
C11.93

3+50

235.67
224.77
C10.90

B.M.

Nr. Elev. Rod:

210.41 S.W.B.P
Cumberland
+ Rancho

3+15

233.29
222.67
C10.62

RANCHO DRIVE:

D.M.H. #36, CUMBERLAND N.Y. to M.H. #83, N.Y.
to D.END ON RANCHO

CHK. 205.90 - 205.94 = CH + M.H. 3150.20 FB206-15

2+80		205.54 199.29 C6.25			
			5+65.20 = D.END.		207.36 200.43 F.LINE C6.93
2+45		205.40 199.15 C6.25			
			5+60		206.97 200.41 C6.56
2+10		205.12 199.01 C6.11			
			5+25		206.30 200.27 C6.03
1+75		204.81 198.87 C5.94			
			4+90		206.00 200.13 C5.87
1+40		204.92 198.73 C6.19			
			4+55		205.78 199.99 C5.79
1+05		206.25 198.59 C7.66			
			4+20		205.95 199.85 C6.10
0+70		207.79 198.45 C09.34			
			3+85		205.88 206.55 Knocked out 199.71 206.84 C6.17
0+35	↑ 0+46	209.10 198.31 C10.79			
			3+50.20 = M.H. #83 INT. RANCHO & LAUDER ST.		205.84 205.90 Knocked out 199.57 F.LINE C6.33 C6.27
0+00 = D.M.H. #36		210.10 198.17 F.LINE N.Y. C11.73			
			3+15		205.71 199.43 C6.28
B.M. ON Elev. Rod.		210.41 S.W. C.P. Cumberland & Rancho			

LAUDER ST.

M.H. #83, RANCHO DRIVE ELY to M.H. #84
ELY to D.END

2+80
219.21
213.85
C5.36

2+45
217.07
212.06
C5.01

2+10
215.22
210.28
C4.94

1+75
213.49
208.49
C5.00

1+40
211.76
206.71
C5.05

1+05
210.02
204.92
C5.10

0+70
208.26
203.14
C5.12

0+35
206.55
201.35
C5.20

0+00 = M.H. #83
INT. RANCHO
& LAUDER

R.M. DIR. ELEV. RODS
210.41 = S.W. B.P.
CUMBERLAND & RANCHO

CHK.

5+80 = D.END

5+55

5+20

4+85

4+50

4+15

3+80 = M.H. #84

3+50

3+15

241.89 = 241.95 = S.W. B.P.
CUMBERLAND & SEA BREEZE

232.93
223.07 F.LINE
C7.86

233.30
~~230.30~~ Rod
222.55 Elev.
C7.75
C10.75

233.21
~~232.21~~ Rod
221.83 Elev.
C10.38
C11.38

232.38
221.11
C11.27

230.59
220.39
C10.20

228.30
219.67
C8.63

225.97
218.95 F.LINE
C7.02

223.92
217.42
C6.50

221.53
215.63
C5.90

57.8 ↑

206.8 ↑

57.2 ↓

REO DRIVE:

Cumberland D.M.H. #35, NLY to D.END

STA.	Elev.
2+80	195.14 185.12 C10.02
2+45	194.84 184.98 C9.86
2+10	194.54 184.84 C9.70
1+75	195.00 184.70 C10.30
1+40	195.28 184.56 C10.72
1+05	195.56 184.42 C11.14
0+70	195.81 184.28 C11.53
0+35	196.05 184.14 C11.91
0+00 = D.M.H. #35	196.32 184.00 F.LINE NLY C12.32
INT. REO DR. + CUMBERLAND	194.89 = S.W.B.P. Roo + Cumberland

0+40 ↑

(See Pg 31)

S.M. DIR Elev. Rod.

STA.	Elev.
5+20 = D.END.	202.43 190.76 F.LINE C11.67
5+15 (Not set)	190.61
4+80	199.91 189.56 C10.35
4+45	197.95 188.51 C9.44
4+10	196.49 187.46 C9.03
3+75	195.70 186.41 C9.29
3+40 = MH #89	195.43 185.36 F.LINE C10.07
3+15	195.25 185.26 C9.99

3+20 ↓

0+45 ↓

REO DRIVE:

CUMBERLAND (D.M.H. #35) SLY to D. END.

STA.	Elev.	STA.	Elev.
2+70	208.16 196.23 C11.93		
2+35	204.67 193.11 C11.56		
2+00 = D.M.H. #88	201.63 190.00 F.LINE C11.63		
1+75	199.73 189.25 C10.48		
1+40	197.67 188.20 C9.47		
1+05	196.60 187.15 C9.45	chk: 194.86 = 194.89 (see opp. pg.)	218.75 206.02 F.LINE C12.73
0+70	196.38 186.10 C10.28	3+80 = D. END.	
0+35	196.38 185.05 C11.33	3+75 not set	205.57
0+00 = D.M.H. #35 INT. Cumberland & REO	196.32 184.00 F.LINE sly C12.32	3+40	215.24 202.46 C12.78
B.M. Dir. Elev. Rod:	194.89 = S.W.B.P. Reo + CUMBERLAND	3+05	211.92 199.34 C12.58

8.98

3.0

3.0

(see pg. 31)

MORNINGSIDE:

CUMBERLAND (M.H. #34) s'ly to
DEAD END

40

2+80

193.39
186.47
C 6.92

2+45

192.01
185.56
C 6.45

2+10

190.62
184.65
C 5.97

1+75

189.33
183.74
C 5.59

1+40

188.08
182.83
C 5.25

1+05

187.16
181.92
C 5.24

0+70

186.60
181.01
C 5.59

0+35

186.23
180.10
C 6.130+00 = M.H. #34
INT. CUMBERLAND
& MORNINGSIDE
see pg 30185.54
179.19 F. Line
C 6.35

B.M.

Dr. Elev. Rod:

179.78 = S.W. B.P.
Morningside & Midwick

CHK: 213.68

= 213.68 = N.W. B.P.
Morningside (M.H. #34) Per

5+20 = D. END.

204.70
195.51 F. Line
C 9.19

4+95

202.87
194.51
C 8.36

4+60

200.77
193.11
C 7.66

4+25

199.07
191.71
C 7.36

3+90

197.73
190.31
C 7.42

3+55

196.42
188.91
C 7.51

3+20 = M.H. #90

195.01
187.51 F. Line
C 7.50

3+15

194.83
187.38
C 7.45↑
2.68↑
4.8↓
2.68

CUMBERLAND:

MAIN'SIDE (M.H. #34) W'LY to M.H. #33, S'LY
to D.END ON DEAUVILLE

CHK. 199.97 = 199.98 = Chx INT. SHAW
Deauville
F.B. 20% - 37

2+80
196.59
186.75
C 9.84

5+39.73 = D.END. DEAUVILLE ST

198.86
192.00 F.LINE
C 6.86

2+45
194.64
185.80
C 8.84

5+30

198.73
191.81
C 6.92

2+10
191.60
184.86
C 6.74

4+95

198.35
191.14
C 7.21

1+75
188.78
183.91
C 4.87

4+60

198.06
190.48
C 7.58

1+40
186.76
182.97
C 3.79

4+25

197.71
189.81
C 7.90

1+05
185.74
182.03
C 3.71

3+90

197.47
189.15
C 8.32

0+70
185.40
181.08
C 4.32

3+55

197.32
188.78
C 8.54

0+35
185.31
180.13
C 5.18

3+19.73 = M.H. #33
INT. CUM. DEAUVILLE

197.11
187.82 F.LINE
C 9.29

0+00 = M.H. #34
185.54
179.19 F.LINE
C 6.35

3+15

197.08
187.69
C 9.39

INT. CUMBERLAND
& MORNING SIDE
SEE Pg 40

B.M. Dr. elev. Rod:

179.78 S.W.B.P.
Morningside & Midwick

↑
2.7%

↑
1.9%

↓
2.7%

RACHAEL AVE:

M.H. #59 (Pump House) S'LY to
WINCHESTER - M.H. #44

2+45		149.99 133.37 C 16.62	5+25	143.62 134.49 C 9.13
2+10		147.70 133.23 C 14.47	4+90	143.69 134.35 C 9.34
1+75		145.20 133.09 C 12.11	4+55	144.34 134.21 C 10.13
1+40		143.11 132.95 C 10.16	4+20	145.85 134.07 C 11.78
1+05		141.60 132.81 C 8.79	3+85	149.10 133.93 C 14.17
0+70		140.66 132.67 C 7.99	3+50	150.33 133.79 C 16.54
0+35	0.48 ↑	140.07 132.53 C 7.54	3+15	133.65 (not sat)
0+00 = M.H. #59	Stub set 4.5 BT	139.67 132.39 F LINE C 7.28	3+10.27 = D.M.H. #29 INT. RACHAEL & CUMBERLAND	151.62 S'LY 133.64 F LINE C 17.98
	OK ↓	139.86 = 139.86 ON TO E'LY ROADWAY AT PUMP STATION	2+80	151.54 133.51 C 18.03
B.M. DIRECT Elev. Rod:		150.48 = SEB.P. RACHAEL & AIBEMARIE		

mucked out - NATURAL CITY grade
 Reset to same grade -

0.48 ↑

STUB SET 5.72 BT
ON DIAG.

8+05

141.70
135.62
C 6.08

7+70

142.90
135.48
C 7.42

7+35

144.05
135.34
C 8.71

CHK

147.02

= 147.04 - N.E.M.P.
Richtel +
WINCHESTER

7+00

145.01
135.20
C 9.81

6+65

145.80
135.06
C 10.749+92.77 = M.H. # 44
INT. RACHAEL
& WINCHESTERStub set 5.63' RT
ON DIAG.148.10
136.37 F.LINE
C 11.736+51.22 = M.H. # 38
INT. RACHAEL
& SHAWStub set 5.72' RT
ON DIAG.145.84
135.00 F.LINE
C 10.84

9+80

Stub set 5.63' RT
ON DIAG.146.50
136.32
C 10.24

6+30

145.60
134.91
C 10.69

9+45

Stub set 5.63' RT
ON DIAG.143.85
136.18
C 7.67

5+95

144.72
134.77
C 9.95

9+10

141.93
136.04
C 5.89

5+60

144.08
134.63
C 9.45

8+75

140.84
135.90
C 4.94

8+40

140.87
135.76
C 5.11

CUMBERLAND:

RACHAEL (D.M.H. #29) Ely to D. END on Cumberland

2+68	↑ 0.48	170.17 156.74 C 13.43			
2+33.87 = GRADE Bk		167.63 156.60 F. LINE C 11.03	5+40		185.25 176.91 C 8.34
2+10	← 6.53	165.80 155.04 C 10.76	5+05		183.25 175.06 C 8.19
1+75		163.08 152.75 C 10.33	4+70		181.32 173.20 C 8.12
1+40		160.36 150.47 C 9.89	4+35		179.37 171.35 C 8.02
1+05		157.68 148.18 C 9.50	4+00		177.47 175.47 169.49 C 7.98
0+70	↑ 6.53	155.05 145.90 C 9.15	3+65		175.55 167.64 169.71 C 7.91
0+35		152.40 143.61 C 8.79	3+33.87 D.M.H. #30		174.10 166.00 = F. LINE Ely C 8.10
0+00 = D.M.H. #29 INT. RACHAEL & CUMBERLAND		151.62 141.33 F. LINE Ely C 10.29	↑ 3+33.87 = D.M.H. #30 INT. CUMBERLAND & WESTWOOD		174.10 157.00 F. LINE C 17.10 WLY
			3+03		172.65 156.88 C 15.77
B.M.	Dir. Elev. Rod:	152.31 = S.E. B.P. Rachael & Cumberland			

8+45		197.55 187.18 C10.37	Ch K.	191.67	191.64 = S.W. C.P. Hopkins & CUMBERLAND
8+10		197.25 186.83 C10.42	10+67.69 = D. END ON CUMBERLAND		197.19 189.41 F.LINE C7.78
7+75	↑ 18	196.44 186.48 C9.96	10+55		197.17 189.28 C7.89
7+40		195.30 186.13 C9.17	10+20	↑ 18	197.26 188.93 C8.33
7+07.69 = M.H. #31 Ely of HOPKINS ST.		193.85 185.81 F.LINE C8.04	9+87.69 = M.H. #32		197.29 188.61 F.LINE C8.68
6+80	CHK: 191.67-191.64 = S.W. C.P. Hopkins & CUMBERLAND	192.93 184.33 C8.60	9+85		197.29 188.58 (not set)
6+45	↓ 5.32	191.58 182.48 C9.10	9+50	↓ 5.32	197.33 188.23 C9.10
6+10		189.56 180.62 C8.94	9+15		197.37 187.88 C9.49
5+75		187.41 RD 178.77 F.LINE C8.64	8+80		197.46 187.53 C9.93

WESTWOOD:

46

CUMBERLAND (D.M.H. #30) N'ly to D.END
ON WESTWOOD

2+80

169.09
158.12
C10.97

2+45

168.82
157.98
C10.84

chk

152.30 = 152.31 (see below)

2+10

168.45
157.84
C10.61

4+90 = D.END, westwood

170.81
161.51 F.Line
C 9.30

1+75

168.04
157.70
C10.34

4+60

170.54
160.94
C 9.60

1+40

167.73
157.56
C10.17

4+25

170.26
160.27
C 9.99

1+05

168.23
157.42
C10.81

3+90

169.94
159.61
C10.33

0+70

169.82
157.28
C12.54

3+55

169.63
158.94
C10.69

0+35

172.34
157.14
C15.20

3+20 = M.H. #13

169.35
158.28 F.Line
C11.07

0+00 = D.M.H. #30
INT. CUMBERLAND
& WESTWOOD

174.10
157.00 F.Line N'ly
C17.10

3+15

169.34
158.26
C11.08

B.M.

Dtr. Elev. Rod:

152.31 = S.E.B.P. Reached + Cumberland

↑
0+70

←
19.8

↓
0+70

SHAW:

47

Rachael (M.H. # 38) ELY to M.H. # 43
+ S'ly to D-END ON DEAUVILLE

2+75	↑	172.19 162.29 C 9.90	5+80	181.48 173.55 C 7.93
2+40	6.4%	169.23 160.05 C 9.18	5+45	180.90 172.99 C 7.91
2+07.71 = M.H. # 39		166.55 158.00 C 8.55	5+10	180.35 172.43 C 7.92
1+75		163.77 154.37 C 9.40	4+75	179.85 171.87 C 7.98
1+40		160.78 150.50 C 10.28	4+40	179.32 171.31 C 8.01
1+05		157.25 146.62 C 10.63	4+07.71 = M.H. # 40	178.60 170.80 C 7.80
0+70	↑	152.87 142.74 C 10.13	3+80	178.14 169.01 C 9.13
0+35	11.07%	148.55 138.87 C 9.68	3+45	177.05 166.77 C 10.28
0+00 = M.H. # 38		145.84 135.00 = F.LINE C 10.84	3+10	175.05 164.53 C 10.52

B.M.

Dir. Elev. Rod

147.04 N.E.P. Rachael
Winchester

SHAW (cont.)

8+65		197.20 187.19 C10.01	11+50		199.37 191.72 C7.65
8+30		196.15 185.06 C11.09	11+15		199.18 191.47 C7.71
7+95		194.34 182.92 C11.42	10+80		198.97 191.23 C7.74
7+60		191.42 180.79 C10.63	10+45		198.84 190.98 C7.86
7+25	6.12 ↑	188.15 178.65 C9.50	10+10		198.74 190.74 C8.00
6+90	6.12 ↑	184.86 176.52 C8.34	9+75		198.51 190.49 C8.02
6+63.27 = M.H. # 41 INT. SHAW + HOPKINS		183.90 174.89 F. LINE C9.01	9+40	0.72 ↓	198.11 190.25 C7.86
6+50	16.2 ↓	183.38 174.67 C8.71	9+11.88 = M.H. # 42		197.75 190.05 F. LINE C7.70
6+15	16.2 ↓	182.36 174.11 C8.25	9+00	6.12 ↓	197.64 189.33 C8.31

14+65

201.70
193.93
C7.77

14+30

200.90
193.68
C7.22

13+95

200.47
193.44
C7.03

13+60

200.26
193.19
C7.07

13+25

200.07
192.95
C7.1212+96.36 = M.H. #43 CRT (S4)
MT. SHAW +
Deauville199.84
192.75 F. LINE
C7.09

6 12+55

199.86
192.45
C7.41

6 12+20

199.69
192.21
C7.48

6 11+05

199.53
191.96
C7.5714+86.36 = DEND
Deauville ST.202.51
194.08
C 8.43CHK: 207.88 = 207.91 MAIL IN DISC
F.N.W. RET

HOPKINS:

SHAW (M.H. #41) NLY to D. END

chk. 183.60 = 183.60
(See Below)

2+05 = D. END

190.98
178.99
C 11.99

1+75

189.47
178.39
C 11.08

1+40

186.98
177.69
C 9.29

1+05

184.61
176.99
C 7.62

0+70

183.29
176.29
C 7.00

0+35

183.07
175.59
C 7.48

0+00 = M.H. #41
INT. SHAW + HOPKINS

183.90
174.89 F. Line
C 9.01

B.M.

183.60 S.W. B.P.
SHAW & HOPKINS

8" C.I. PRESSURE LINE

M.H. 58 (INT. GABLES & RACHAEL)
to PUMP HOUSE

51

5+26.32 = G. 90° LT

140.04
134.00
C 6.04

4+31.32 = G. BHK

143.90
137.78 F. LINE
C 6.12

3+82.32 = EC

147.38
140.98
C 6.403+10.32 = P.R.C. RT
(see curve data
below)151.14
145.66
C 5.48

2+38.32 = B.C. LT

 $\Delta = 8^\circ$
 $L = 72$
 $R = 515.66$ 155.56
150.34
C 5.22

1+79

160.05
154.18
C 5.87

CHK 168.27 = 168.25

(see below
app. pg)

1+20 G. BHK

164.41
158.02 F. LINE
C 6.39

5+71.24 = N.Y. CONN. T. P. HOUSE

132.75

0+60

167.05
158.62
C 8.43

5+59.24 = G. 90° RT

145.75
132.75
C 13.00

M.H. 58 = 0+00

159.22 (EXIST.)
= F. LINE

B.M.

INT. FIRE RD:

168.25 = 5th B.P.

GABLES & RACHAEL

WINCHESTER

RACHAEL (M.H. #44) E'ly to GAVIOTA (M.H. #56)
 & N'ly to D.END ON GAVIOTA.

2+75	↑ 14%	176.08 166.91 C 9.17	5+55	191.20 181.06 C 10.14
2+40		169.98 162.01 C 6.97	5+20	190.66 180.53 C 10.13
2+07.80 = M.H. #45	↑ Stubs set 4.5' + 10 BK AT 90° ↓	164.41 157.50 F. Line C 6.91	4+85	189.99 179.99 C 10.00
1+75		159.90 154.15 C 5.75	4+50	189.13 179.46 C 9.67
1+40		155.91 150.59 C 5.32	4+15	188.79 178.92 C 9.87
1+05	↑	153.37 147.04 C 6.33	3+80	188.55 178.39 C 10.16
0+70	↑ 10.7%	151.00 143.48 C 7.52	3+54.20 = M.H. #46	187.71 178.00 F. Line C 9.71
0+35		148.22 139.93 C 8.29	3+45	187.91 176.71 C 11.20
0+00 = M.H. #44 INT. Rachael + Winchester		148.10 Red. 136.37 F. Line C 11.73	3+10	184.02 171.81 C 12.21
B.M.	Dir. Elev. Rod	147.04 NE BP Rachael of Win.		

8+30		190.00 183.41 C 6.59	11+40		202.47 195.29 C 7.18
7+95		189.84 183.27 C 6.57	11+05		200.62 193.61 C 7.01
7+60		189.94 183.13 C 6.81	10+70		199.09 191.93 C 7.16
7+25	↑	189.97 182.99 C 6.98	10+35		197.63 190.25 C 7.38
6+90	0.4%	190.20 182.85 C 7.35	10+00		195.58 188.57 C 7.01
6+6366 = M.H. #47 at Hopkins	CHK 183.61 = 183.60 = S.W. BP. SHAW & Hopkins subs set 4.51' x 15' BK. ON DIAG.	190.19 182.74 / F Line C 7.45	9+65		194.14 186.89 C 7.25
6+60 (not set)	1.53%	182.68	9+30		192.74 185.21 C 7.53
6+25	↓	190.84 182.13 C 8.71	8+98.31 = M.H. #48	subs set 4.54' x 15' BK. ON DIAG.	190.67 183.69 F Line C 6.98
5+90		191.26 181.60 C 9.66	8+65		189.98 183.55 C 6.43

WINCHESTER (cont.)

CHK

207.89 = 207.91 M.H. # 49
N.W. RT

CHK

213.66 = 213.68 N.W. B.P.
Winch. + morning side

14+45

208.39
198.62
C9.77

17+25

214.83
200.30
C14.53

14+10

208.37
198.41
C9.96

16+90

213.38
200.09
C13.29

13+75

209.19
198.20
C10.99

16+55

211.84
199.88
C11.96

13+40

208.05
197.99
C10.06

16+20

210.65
199.67
C10.98

13+05

207.96
197.78
C10.18

15+85

209.78
199.46
C10.32

12+70

207.60
197.57
C10.03

15+50

209.02
199.25
C9.77

12+35

206.83
197.36
C9.47

15+35.75 = M.H. # 50

Stubs set 4.5' @
15' AT 90'

208.88
199.16 F.LINE
C9.72

12+00

205.47
197.15
C8.32

15+15

208.72
199.04
C9.68

11+75.75 = M.H. # 49

Stubs set 4.5' @ 15'
AT 90'

204.30
197.00 F.LINE
C7.30

14+80

208.53
198.83
C9.70

↑
0.6%

← 4.8%

↑

0.6%

0.6%

↓

WINCHESTER - (CONT.)

CHK 217.93 = 217.96 INT. REO. DR. WINCH.

20+05		218.35 201.98 C16.37	22+75	218.42 210.93 C7.49
19+70		218.56 201.77 C16.79	22+40	215.68 209.39 C6.29
19+35	↑ 0.6%	218.92 201.56 C17.36	22+05	214.12 207.85 C6.27
19+00 (not set)		201.35	21+70	213.75 206.31 C7.44
18+95.75 = M.H. #51	Stubs set 4.5' + 15.00 ON DIAG.	219.42 201.32 F.LINE C18.10	21+35	214.06 204.77 C9.29
18+65	↓ 0.6%	219.53 201.14 C18.39	21+00	215.74 203.23 C12.51
18+30		218.87 200.93 C17.94	20+82.05 = M.H. #52 INT. REO-DRIVE V WINCHESTER	216.53 202.74 F.LINE C14.09
17+95		217.66 200.72 C16.94	20+75	216.83 202.40 C14.43
17+60		216.19 200.51 C15.68	20+40	217.14 202.19 C14.95

WINCHESTER (CONT)

56

25+55	231.79 226.50 C 5.29	28+55	246.65 239.98 C 6.67
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25+20	229.74 224.12 C 4.62	28+20	246.16 239.46 C 6.70
-------	----------------------------	-------	----------------------------

24+85	226.90 221.74 C 5.16	27+85	245.77 238.93 C 6.84
-------	----------------------------	-------	----------------------------

24+50	226.09 219.36 C 6.73	27+50	245.44 238.71 C 7.03
-------	----------------------------	-------	----------------------------

24+19.35 = M.H. #33 INT. RANCHO-DR. WINCHESTER	CK: 224.88 - 224.88 N.W. A.P. RANCHO WINCH.	225.58 217.28 F.LINE C 8.30	CK: 244.11 - 244.12 N.W. L.A. APT SEA BREEZE WINCH.	245.21 238.03 F.LINE C 7.18
--	--	-----------------------------------	--	-----------------------------------

24+15	225.54 217.09 C 8.45	26+95	244.22 236.02 C 8.20
-------	----------------------------	-------	----------------------------

23+80	224.68 215.53 C 9.13	26+60	242.28 233.67 C 8.64
-------	----------------------------	-------	----------------------------

23+45	222.73 214.01 C 8.72	26+25	239.15 231.26 C 7.89
-------	----------------------------	-------	----------------------------

23+10	220.60 212.77 C 8.13	25+90	235.68 228.88 C 6.80
-------	----------------------------	-------	----------------------------

6.8%

4.4%

1.5%

6.8%

WINCHESTER (cont.)

57

31+60

261.02
253.16
C 7.86

31+25

259.49
251.41
C 8.08

30+90

257.41
249.66
C 7.75

30+55

255.35
247.91
C 7.44

30+20

253.36
246.16
C 7.20

29+85

251.14
244.41
C 6.73

29+50

249.34
242.66
C 6.68

29+14.49 = M.H. #55

248.02
240.88 FLine
C 7.14

28+90

247.34
240.51
C 6.83

CHK:

check: 262.98 = 263.08 (Hub #17)
= 2x2 Hub & Gaviota
& 125' South Branch.

32+50.19 = D.END WINCHESTER

32+20.19 = M.H. #56
INT. CALLE GAVIOTA
& WINCHESTER

31+95

↑
12.80

↑
subset 6.36+15'
BR IN DIA L.

↑
5.90
↓

263.78
256.53 FLine
C 7.25

263.05
256.17 FLine
C 6.88

262.25
254.91
C 7.34

↑
5.90

↓
1.50

CALLE GAVIOTA :

58-A

WINCHESTER (M.H. #56) NLY to D.END.

Clark
Shepherd
Overl
W.O. 62315 (PRIVATE CONTRACT)
3-18-53

SEA-BREEZE

58B

NLY From EXIST. M.H. & POTOMAC. to D.END

STA.

Elev.

CHK. 24410 - 24412 (see below)

1+50 - D.END

264.96 D.END
257.97 F.LINE
C6.99

1+40

264.95
257.85
C7.10

1+05

264.95
257.43
C7.52

CHK: 267.98 - 267.98 (see below)

0+70

264.44
257.01
C7.43

1+10 = D.END

270.36
265.29
C5.07

0+35

12.0
↑

263.38
256.59
C6.79

0+70

269.48
264.49
C4.99

0+00 = M.H. #56
INT. WINCHESTER
& GAVIOTA

263.05
256.17 F.LINE
C6.88

0+35

269.00
263.79
C5.21

B.M.

24411 - 24412 = L. Plug N.W.
Sea-Breeze
& Winch.

0+00 = EXIST. M.H. & Potomac.

B.M.

Dir. Elev. Rod:

Meat 263.09 F.LINE

267.98 = S.W. B.A.
Sea Breeze & Potomac

REO DRIVE:

59-A

WINCHESTER (M.H. 52) NLY
TO D.END

CHK: 217.95 = 217.96 (See below)

2+10 D.END

221.96
210.84 F.LINE
C11.12

1+75

221.41
209.44
C11.97

1+40

220.43
208.04
C12.39

1+05

219.37
206.64
C12.73

0+70

218.18
205.24
C12.94

0+35

217.07
203.84
C13.23

0+00 = M.H. #52

INT. Reo Drive
WINCHESTER
(See p. 55)

216.53
202.44 F.LINE
C14.09

B.M. DIR. ELEV. ROD:

217.96 N.V.R.P. Reo Dr.
WINCH.

REO DRIVE:

59-B

M.H. #52 SLY TO D.END
(WINCHESTER)

2+45

209.93
203.42
C6.51

2+10

210.60
203.28
C7.32

2+00 = M.H. #57

210.74
203.24 F.LINE
C7.50

1+75

211.04
203.14
C7.90

1+40

212.02
203.00
C9.02

1+05

212.98
202.86
C10.07

0+70

214.39
202.72
C11.67

0+35

215.74
202.58
C13.16

0+00 = M.H. #52
(WINCHESTER)

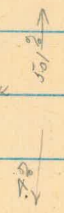
216.53
202.44 F.LINE
C14.09

REO DRIVE (cont.)

3+50±
 M.H. #1 ON ROANOKE
 SEWER
 (See opp. pg.)
 stabs set +15"
 on diag.
 ROUTE CONTRACT NO. 62312
 CHK 217.96 = 217.96 = N.W.B.P.
 Reo + W.M.C.H.
 3+20 = D.END
 208.24
 203.72 F Line
 C 4.52
 3+15
 208.28
 203.70
 C 4.58
 2+80
 209.08
 203.56
 C 5.52

Clark
 Shephard
 Blower
 ONeil
 1-13-53
 W.D. 62312
 IMP. ROANOKE ST.
 SEWER:

1+75
 215.93
 210.30
 C 5.63
 1+40
 214.60
 208.54
 C 6.06
 1+05
 212.58
 206.79
 C 5.79
 0+70 R.K.C.
 211.17
 205.04
 C 6.13
 0+60
 204.60
 0+50 - Grade B.C.
 209.73
 204.04
 C 5.69
 0+40
 204.06
 0+35
 208.76
 203.98
 C 4.78
 0+30 R.K.C.
 203.96
 CR 207.49 = MIN. STAB
 207.49 Mod.
 203.84 Elev
 C 3.65
 B.M. Dir. Elev. Rod.
 244.12 = L. Plug
 N.W. Corn.
 Sea Breeze
 + Winchester



Vert. NAT. Using
 Plan - Grade ok

STA.	GRADE	STA.	GRADE
4+61 = BK	245.39 238.00 C 7.39		
4+30	242.81 234.02 C 8.79		
3+95	238.81 229.53 C 9.28	CNK 244.10	244.12 L. Plug N.W. Sea Breeze Winchester
3+60	233.66 225.04 C 8.62	5+21 = M.H. #3	252.71 241.80 F.L C 11.71
3+25	229.28 220.55 C 8.73	5+11	250.27 240.80 C 9.47
2+90 = M.H. #2	225.33 216.07 F.L.MC C 9.26	5+01	249.07 240.50 C 8.57
2+80	224.30 215.56 C 8.74	4+91	248.21 240.20 C 8.01
2+45	221.39 213.80 C 7.49	4+81	247.32 239.60 C 7.72
2+10	218.14 212.05 C 6.09	4+71	246.31 238.80 C 7.51

12.88
↑

BK

5.01
↓

W.O. 62312
3-3-53

T.M.P. ROANOKE ST.

62

Clark
Shepard
Gruber
Daneil

6" WATER MAIN

STA.

GRADE

STA.

GRADE

4+00

242.98
237.34
C 5.64

3+50

236.88
231.86
C 5.02

3+00

230.03
226.39
C 3.64

2+50

224.66
220.91
C 3.75

1+96 = G. BRK

219.48
215.00
C 4.48

1+50

216.15
212.42
C 3.73

1+00

214.15
209.61
C 4.54

CHK

240.10

See 15.11

0+50

211.42
206.80
C 4.62

4+70 = Stub (Proj of
N.Y. Line Sea Breeze
Drive

249.14
245.00 west Elev
C 4.14

0+00 (connect #1)

stubs set 4' LT E

208.66
204.00
C 4.66

4+65 = G. F. HYDRANT

Elev. Pap. CB = 248.16
248.05
C 0.11

4+50

247.17
242.81
C 4.36

B.M. Dir. Elev. Rods

24412 N.W. L-Plus
Sea Breeze & Winchester

Clark
Shepherd
Bruner
ONEIL

2-19-52
No. 32049

IMP. ALLEY BK-87 PT LOMA HTS. (20' alley)

SANTA BARBARA to GUIZOT

STA.	LT. Elev	RT. Elev	STA	LT. Elev	RT. Elev
1+73	190.40 189.92 C0.48	190.98 189.62 C1.36			
1+50	190.88 190.68 C0.20	190.83 190.38 C0.45	3+40 = E.V.C.	186.48 186.23 C0.25	185.33 185.93 F0.60
1+25	191.55 191.43 C0.12	191.30 191.13 C0.17	3+20	187.35 186.45 C0.90	185.79 186.15 F0.36
1+00	192.15 192.19 F0.04	193.00 191.89 C1.11	3+00	188.02 186.72 C1.30	186.77 186.42 C0.35
0+80 = E.V.C.	192.65 192.79 F0.14	192.48 192.49 F0.01	2+80	187.75 187.09 C0.66	187.73 186.79 C0.94
0+60	193.35 193.30 C0.05	193.36 193.00 C0.36	2+60	189.32 187.51 C1.81	188.51 187.21 C1.30
0+40	193.71 193.61 C0.10	194.61 193.31 C1.30	2+40	189.52 187.99 C1.53	188.53 187.69 C0.84
0+20	193.85 193.73 C0.12	193.148 193.42 C1.59	2+20 = B.V.C.	189.50 188.56 C0.94	189.32 188.26 C1.06
0+00 = N.W. Santa Barbara (B.V.C.) (meat)	^{193.64} 193.66	193.34 (meat)	2+00	190.36 189.17 C1.19	189.88 188.87 C1.01
B.M.	DIV. FIRE. Rod:	189.97 = N.W. B.P. Newport + SANTA BARBARA	1+90 = Sew. LAT #1 ON LT.	190.63 184.47 PL C6.16	190.63 182.96 4 C7.67

ALLEY BIK. 87 PT. LOMA HTS. (CONT.)

64

STA.	LT. Elev.	RT. Elev.	STA.	LT. Elev.	RT. Elev.
5+40	185.01 183.29 C1.72	184.34 182.94 C1.40			
5+20	185.64 184.35 C1.29	184.26 183.04 C0.22			
5+00 - B.V.C.	186.96 184.85 C2.11	185.20 184.55 C0.65			
4+75	185.91 185.07 C0.84	188.39 184.77 C3.62			
4+50	186.39 185.28 C1.11	185.80 184.98 C0.82			
4+25	186.55 185.50 C1.05	184.19 185.20 F1.01		chk 163.69	163.76 = S.W.B.P. NEWPORT + GUILFORD
4+00	187.63 185.71 C1.92	185.83 185.41 C0.42	6+00 = S.L. GUILFORD. 5+90 S. only	chk 176.74 (meet) 176.76	175.97 (meet)
3+75	186.39 185.93 C0.46	186.02 185.63 C0.39	5+80	181.40 177.30 C4.10 181.82 179.34 C2.48	181.48 178.71 C2.77
3+50	186.88 ^{rod} 186.14 ^{elev} C0.74	186.48 ^{rod} 185.84 ^{elev} C0.64	5+60	183.30 181.62 C1.68	181.59 181.13 C0.46

Clark
Shephard
Bruner
O'Neil
W.O. 31453
3-11-53

IMP. BIK I CITY HTS

DWIGHT to LANDIS

Ref: F.B. 1641-9
DWG 7336-L

65

INDEXED
Law
MAR 11 1954

STA.	LT.	RT.	STA.	LT.	RT.
1+75	324.22 323.51 C0.71	320.34 323.21 F2.87	3+60	325.05 324.53 C0.52	323.90 324.23 F0.33
1+50	322.94 323.42 F0.48	321.10 323.12 F2.02	3+40	323.90 324.26 F0.36	323.15 323.96 F0.81
1+375 END Pt. WALL-ELY-RT.	323.38 (not set)	320.99 323.08 F2.09	3+20	323.14 324.08 F0.94	322.88 323.78 F0.90
1+25	323.29 323.34 F0.05	321.40 323.04 F1.64	3+00 = B.I.C.	322.47 323.95 F1.48	322.39 323.65 F1.26
1+00	323.91 323.25 C0.66	321.79 322.95 F1.16	2+75	322.48 323.86 F1.38	322.00 323.56 F1.56
0+80 Prop. Pt. WALL ON RT-ELY	324.24 323.18 C1.06	321.51 322.88 F1.37	2+50	323.28 323.78 F0.50	321.27 323.48 F2.21
0+50	326.35 323.08 C3.27	322.94 322.78 C0.16	2+25	324.54 323.69 C0.85	320.34 323.39 F3.05
0+25	326.27 322.99 C3.28	323.97 322.69 C1.28	2+20 = WALL, LAT. LT.	324.08 323.69 - TO B.I.C. AT 0.1 C0.39	
0+00 - NLY Line DWIGHT	326.35 322.90 C3.45	323.59 322.60 C0.99	2+05 = WALL, LAT. #1 LT.	323.50 317.00 P.L. C4.50	323.50 317.72 C5.78
B.M.	DIX. ELEV. ROD:	317.05 = N.E. B.P. MILE + DWIGHT	2+00	323.77 323.60 C0.17	320.40 323.30 F2.90

STA	LT	RT	STA	LT	RT
5+60	327.85 327.33 C0.52	327.82 327.03 C0.79			
5+40	327.68 327.38 C0.30	327.00 Rod 326.86 327.08 elev F0.22 F0.08			
5+20	327.33 327.29 C0.04	328.11 326.99 C1.12			
5+00	327.52 327.08 C0.44	326.89 326.78 C0.11			
4+80 = B.V.C	327.81 326.72 C1.09	326.92 326.42 C0.50	1+37.5 end wall	El. Base 320.99 320.00 C0.99	
4+55	327.09 326.23 C0.86	326.32 325.93 C0.39	Grade 1+10 = Step-Down in Base Wall	322.09 320.00 C2.09	322.09 321.00 elev C1.09
4+30	326.96 325.74 C1.22	326.17 325.44 C0.73	0+80 Big Wall		321.51 321.00 = dev Base C0.51
4+05	326.14 325.25 C0.89	325.26 324.95 C0.31	chr	326.83 = 326.84 TP	C&END -- Sly Line LANDS a WLY LINE Alley
3+80 = E.V.C	325.54 324.76 C0.78	324.79 324.46 C0.33	5+98.47 = Sly Line LANDS	326.83 326.80 C0.03	326.49 326.49 meat
			5+80	328.20 327.13 C1.07	327.12 326.83 C0.29

Clark
Shepherd
BRUNER
O'NEIL
W.O. 81453
3-11-53

IMP. DWIGHT ST.

BOUNDARY TO NILE

Ref: FB 1806-42
DWG: 7336-L
7336A-L

67

LT

RT

LT

RT

STA	P.L.	C.B.	E	C.B.	P.L.	STA	P.L.	C.B.	E	C.B.	P.L.
0+80 EVC	327.63 325.46 C 2.17	325.30 325.46 Fo.16		324.72 324.96 Fo.24	327.32 324.96 C 2.36	2+16.33- B.V.C	318.38 319.74 F 1.36	319.74 319.74 GRADE		319.31 319.24 C 0.07	322.00 319.24 C 2.76
0+60		325.61 326.06 Fo.45		325.37 325.56 Fo.19		1+87.58	320.83 320.92 Fo.09	320.93 320.92 C 0.01		320.41 320.42 Fo.01	323.18 320.42 C 2.76
0+40	327.59 326.17 C 1.42	326.00 326.17 Fo.17		325.45 325.50 Fo.05	327.13 325.50 C 1.63	1+58.83 = B.C. Alley	323.49 322.09 C 1.40	322.10 322.09 C 0.01		321.69 321.59 C 0.10	324.36 321.59 C 2.77
0+20	325.82	325.58 325.82 Fo.24		325.43 325.12 C 0.31	325.12	1+56.33 Alley E.C.		322.10 322.24 Fo.14		321.69 321.74 Fo.05	
0+13.0 E.C. #5		325.29 325.55 Fo.26		325.20 324.95 C 0.25		(E'ly) Alley at P.L.		323.09 322.61 C 0.48		321.98 322.11 Fo.13	
# 4		324.99 325.20 Fo.21		324.85 324.76 C 0.09		(W'ly) Alley at P.L.		326.42 323.43 C 2.99		322.16 322.93 Fo.77	
# 3 = Prop. Line (Kut Contour)		325.09 325.08 C 0.01		324.87 324.68 C 0.19		1+36.33 Alley E.C.		322.46 323.06 Fo.60		322.15 322.56 Fo.41	
# 2 (City Forces)		324.97		324.60		1+33.83 = Alley B.C.	326.60 323.11 C 3.49	322.46 323.11 Fo.65		322.15 322.62 Fo.47	326.00 322.62 C 3.38
(C.B. Returns)											
B.C. # 1		324.92		324.40		1+06.91	327.42 324.29 C 3.13	324.29 324.29 GRADE		323.74 323.79 Fo.05	326.78 323.79 C 2.99
(0+00 = E'ly Line only)											
B.M.	DIF. ELEV. ROD:			317.05	N.E. B.P. Mile 4 DWIGHT						

T.M.P. DWIGHT ST. (CONT.)

STA.	LT.			RT.	
	P.L.	CB.	Σ	CB.	P.L.
CHK					
				= 317.05 (see B.M.)	
# 3 = E.C.	(City Forces)	317.56		316.62	
#	(E.N.S. CONTRACT) 2: PIPELINE	317.01 317.50 Fo.49		316.74 317.00 Fo.26	
#1 2+81.68= B.C.	317.72 317.70 Co.02	317.43 317.70 Fo.27		317.12 317.20 Fo.08	316.83 317.20 Fo.37
2+76.33	317.86	317.65 317.86 Fo.21		317.39 317.36 Co.03	
2+56.33	317.73 318.36 Fo.63	318.33 318.36 Fo.03		317.92 317.86 Co.06	317.51 317.86 Fo.29 ✓
2+36.33	318.99	319.07 318.99 Co.08		318.56 318.49 Co.07	

Clark
Stephens
Broner
Onor.

W.O. 31453
3-12-53

TMP. ALLEY BIK 2 CITY HTS.

DWIGHT to MYRTLE

Ref:

DWG 7336A-L

INDEXED
MAR 11 1954

69

STA.	LT.	RT.	STA.	LT.	RT.
			3+50	319.32 319.56 Fo.24	319.09 319.26 Fo.17
1+50	322.76 322.72 C0.04	322.73 322.42 C0.31	3+30 = E.V.C	319.70 319.64 C0.06	319.34 319.34 Grade
1+25	323.98 323.24 C0.74	324.02 322.94 C1.08	3+10	319.47 319.76 Fo.29	319.77 319.46 C0.31
1+00	324.10 323.76 C0.34	324.05 323.46 C0.59	2+90	319.84 319.96 Fo.12	319.69 319.66 C0.03
0+80 = E.V.C	324.09 324.17 Fo.08	324.87 323.87 C1.00	2+70	320.20 320.26 Fo.06	319.85 319.96 Fo.11
0+60	324.54 324.38 C0.16	324.95 324.09 C0.86	2+50 = B.V.C	320.61 320.64 Fo.03	320.59 320.34 C0.25
0+40	324.45 324.08 C0.37	325.64 323.92 C1.72	2+25	321.02 321.16 Fo.14	321.59 320.86 C0.73
0+20	324.44 323.32 C1.12	325.71 323.36 C2.35	2+00	321.53 321.68 Fo.15	321.50 321.38 C0.12
0+00 = S.W. LINE. DWIGHT	324.31 322.10 C2.21	326.21 322.40 C3.81	1+75	322.44 322.21 C0.23	322.48 321.91 C0.57
B.M.	DK. ELEV. P.O.D:	(See F. 8. 2/20-33) 317.15 = N.E. B.P. DWIGHT & MYRTLE			

IMP. ALLEY BR 2 (CONT.)

STA.	LT.	RT.	STA.	LT.	RT.
5770	318.55 318.08 C0.47	317.87 317.78 C0.09			
5750	318.82 318.49 C0.33	318.26 318.19 C0.07			
5730 = B.V.C	318.85 318.79 C0.06	318.59 318.49 C0.10			
5700	319.20 318.92 C0.28	318.97 318.62 C0.35			
4775	320.37 319.03 C1.34	318.82 318.73 C0.09			
4750	319.91 319.13 C0.78	319.21 318.83 C0.38			
4725	319.30 319.24 C0.06	318.80 318.94 F0.14			
4700	319.36 319.34 C0.02	319.95 319.04 C0.91	6+08.43 = N4 LINE MYTLE	CHK: 316.03 EXP PAY 315.99 Meet Pay	316.04 ch 316.02
3775	319.41 319.45 F0.04	319.08 319.15 F0.07	5790	317.78 317.18 C0.60	318.19 317.02 C1.17

Clare
Shepherd
O'Neil
W.O. (X) 23679
3-17-53

DATA:
DING: 8349.L

CAMPANILE DRIVE

South-Line CAMPANILE MANOR to

Sly Co Line MONTEZUMA RD.

STA	LT.	CB.	E	CB.	RT
1+0		450.85 450.79 C 0.06		450.54 450.29 C 0.25	
0+75		450.91 450.67 C 0.24		450.86 450.17 C 0.69	
0+50		450.63 450.54 C 0.09		450.78 450.07 C 0.74	
0+25		450.07 450.42 F 0.35		450.40 449.92 C 0.48	
0+16	Alley B.C.	449.85 450.37 F 0.52			
0+10	Alley B.C.	449.85 450.40 F 0.55			
0+10	LT. only = Alley Line	(Alley at P.L.) 452.88 450.34 C 2.34			
0+0.0	Sly Line CAMPANILE MANOR			449.79 (meet)	
		STUB set 4' OK CO. FC			
B.M.	Dir. Elev. Rod:			449.83 = N.E. B.P. Montezuma College	

STA	LT	CB.	E	CB.	RT
					CHK: 449.79 = 449.79 EXIST CB ELY AT 0+00
	# 6 = E.C. Montezuma Rd.	450.60 451.40 F 0.80			449.38 449.95 F 0.57
	# 5	450.57 451.25 F 0.68			449.59 450.20 F 0.61
	# 4	450.59 451.15 F 0.56			449.91 450.35 F 0.44
	# 3	450.52 451.05 F 0.53			450.12 450.45 F 0.33
	# 2	450.45 450.95 F 0.50			450.20 450.50 F 0.30
	# 1	450.50 450.90 F 0.40			450.25 450.45 F 0.20
	(S.W. Ret.)				(S.E. Ret.)
	1+20 = CB. B.C.	450.63 450.89 F 0.26			450.31 450.39 F 0.08

Clark
Bruner
O'Neil
W.O. 2008
3-24-53

ALLEY BIK 4 - LEXINGTON PARK
MANZANITA DRIVE to "T" ALLEY
Rough Grades only

72

STA	LT.	RT
CHK	290.13	290.13 (see B.M. below)
2+19.71 = W/LY LINE "T" ALLEY	294.02 293.90 Co.12	293.86 293.70 Co.16
2+00	293.92 293.75 Co.17	293.73 293.55 Co.18
1+50	294.66 293.40 C 1.26	293.42 293.20 Co.22
1+00	293.47 293.04 Co.43	294.20 292.84 C 1.44
0+75	293.73 292.85 C .88	293.26 292.65 Co.61
0+40	293.88 292.60 C 1.28	293.18 292.40 Co.78
0+20	293.37 291.80 C 1.57	292.83 291.60 C 1.23
0+00 = CB. END = E/WY LINE MANZANITA	290.13 (meet)	289.90

B.M.

290.13 - N'ELY CB END AT Prop.
F.B. 2153-61

Clark
Shepherd
Driver
OweMILEY BR 244 UNIV. HTS.
MAYTLE to BROOKES4-22-53
V.O. 32017DATA DWG. 92874
Tie-sheet 236

STA.	LT	E	RT
1+69.91 = Brk = N'ly Line 20' E+W Alley	291.97 291.66 C0.31		291.81 291.73 Rod 291.76 Elev FO.23 FO.15
1+49.91 Brk = sly line 20' E+W Alley	291.86 Rod 291.88 Rod 291.50 Elev C0.38 C0.36		292.46 291.80 C0.66
1+25	291.39 291.06 C0.33		292.02 291.36 C0.66
1+00	290.86 290.62 C0.24		291.44 290.92 C0.52
0+70 Brk	290.39 290.10 C0.29		291.73 290.40 C1.33
0+45	290.00 289.92 C0.08		292.08 290.22 C1.86
0+20 = Brk. S. Alley	289.82 289.74 C0.08	289.82 289.60 C0.22	291.69 290.04 C1.65
0+00 = N' Line Maytle	Chk: 289.27 ON PAV. 289.60		Chk 289.92 ON PAV. 289.90
			1+92.57
			1792.57

B.M. Dir. Elev. Rod:

289.13 = S.E. B.P
Brookes + HERBERT, ST.

SEWER: 44th ST & C ST.

DATA: F.B. 599-72

74

44th ST. CONNECT. NLY of Hilltop to D.END
NLY of "C" ST.

DWG: 9909-L

STA.	Elev.	STA.	Elev.
2+75	191.57 180.09 C11.48	CHK:	152.95 = 152.94 (See B.M.) Below
2+40	190.57 179.65 C10.92		
2+05	189.72 179.21 C10.51	5+08.01 = D.END.	191.49 183.00 ELINE C 8.49
1+70	187.97 178.78 C 9.19	4+85	192.16 191.49 182.71 C 8.78 C 9.45
1+35	186.21 178.34 C 7.87	4+50	193.14 192.16 182.27 C 9.89 C 10.87
1+08.01 = M.H. #1 E 44th & E C ST. <small>(grid P.O.S.)</small> Stubs set 4.5' + 10' RT 2 m.H.	184.64 178.00 ELINE C 6.64	4+15 OUT	192.14 Not set 181.84 C 11.30
0+70	182.38 176.75 C 5.63	4+08.01 = M.H. #2 (P.O.T.) Stubs set 4.5' + 15' RT 2 m.H.	193.91 181.95 ELINE C 12.06
0+35	180.49 175.58 C 4.91	3+80	193.80 181.70 C 12.40
0+00: CONNECT. to EXIST Sewer E 44th ST NLY of Hilltop Dr.	179.26 174.43 C 4.83	3+45	193.16 180.96 C 12.20
		3+10	192.40 180.53 C 11.87

B.M. Dir. Elev. P.O.S.

(See above) 1-P

152.94: S.W. B.P. 42nd + Hilltop
164.67: 1st m P.W. S.W. 43rd + Hilltop
MISSING

"C" ST. M.H. #1 E 44th to DEND of "C" ST. Wly

STA.

Elev.

chk: (see pg 74)

1+45 = DEND of "C" ST.

188.45
181.63
C 6.82

1+05

187.04
180.63
C 6.41

0+70

185.92
179.75
C 6.17

0+35

185.18
178.88
C 6.30

0+00 = M.H. #1 E 44th

184.64
178.00 = F-Line
C 6.64

B.M. (see pg. 74)

↑
2.59

STA	LT.	Σ	RT.	STA	LT.	Σ	RT.
5+80	elev. shown on plans are for p.w. line correct of 0.03 for 0.50' Exceptional along w/ly Pav. edge 382.71 381.88 0.83		382.39 381.74 0.65				
5+60	383.09 382.70 0.39		382.93 382.50 0.43				
5+40	383.71 382.89 0.82		383.01 382.67 0.34				
5+20 - B.V.C	383.27 382.75 0.52		382.91 382.53 0.38				
5+00	383.19 382.61 0.58		382.69 382.39 0.30				
4+75	383.01 382.44 0.57		382.78 382.22 0.56				
4+50	383.07 382.27 0.80		382.95 382.05 0.90				
4+25	382.41 382.10 0.31		382.93 381.88 1.05				
4+00	382.35 381.93 0.42		381.49 381.71 0.22	6+00.± = 5/4 lime monroe chk: 380.45 380.47	380.17	chk 380.34 380.37	

Clark
Shepherd
Piper
O'Neil
6-10-53
K.O. 21068

STORM DRAIN - S'WLY END LAS ANIMAS TO EXIST. CULVERT, N'LY - VALENCIA PK.

REF. DWG. 4847-B
FB. = 2339-17

STA:

GRADE:

0+62.17 mid pt

(line only)

0+51.70 = B.C.

6° LT
R = 200'
T = 10.48

182.67
179.20
C 3.47

~~182.68~~
~~180.39~~
~~C 3.29~~

CHANGED BY
OFFICE - 6-15-53

0+43.70 BRK

185.55
180.41
C 5.14

~~185.57~~
~~181.75~~
~~C 3.82~~

CHANGED BY
OFFICE - 6-15-53

0+21.70 BRK

190.95
182.39 FL
C 8.56

~~190.95~~
~~183.51~~
~~C 7.44~~

(subs set 8' RT E)

(0+00)

Flowline inlet

Slyx

189.47
184.00
5.47

F. Line

Gutter inlet

off N'ly
water chn

189.68
188.37
C 1.31

TP. CB. inlet

N'ly end

189.68
189.20
C 0.48

Slyx end

189.47
189.20
C 0.27

(0+00 = N'ly end inlet) see above
TYPE 1-2 Box

6° RT (off N'ly line Valencia = 1)

A.M. Div. Elev. P.D.

185.71 CON. MAN.

S'WLY END LAS ANIMAS &
EUCLID MANOR

CHK.

161.86 = 161.91 2x2 = 2+49.21 FB 2239+8

70

STA:

GRADE:

2+37.56 E.C.

MAKE Lug Connect.
into EXIST 36" con. Pipe

meat EXIST
36" con. pipe 18"
above flame

2+27.85 mid pt

INDEXED
LUD

MAR 11 1954

2+18.14 BC

25° LT
R = 445.0
T = 9.87

161.88
154.69
C 7.19

1+77.70 BRK

163.10
160.07
C 3.03

1+89.70 BRK

163.79
161.43
C 2.36

1+59.70

166.18
163.83
C 2.35

1+29.70

168.85
166.23
C 2.62

0+99.70 BRK

171.43
168.63
C 2.80

0+91.70 BRK

172.66
169.99
C 2.67

0+72.64 E.C.

176.67 176.92
174.37 F.L. 174.99
C 2.50 C 1.83

(see off page)
(SCALE CHANGE)

Ch
sh
Po
01
6-1
W.O

0+0

0+

0+4

0+

0+

F

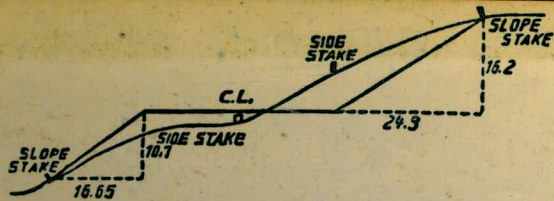
G

T

(0+)

=

B.



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

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