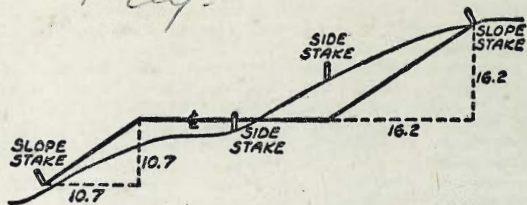




Lat # 2 moved.  
7' Ely.



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.

Grade  
368

MICROFILMED

APR 16 1965

DIRECTIONS FOR USE OF TABLES



TABLE No. XIV

Distance of slope stake from side of road  
shall be any width roadway, slope 1 to 1

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IMPROVED TABLES  
AND  
INFORMATION

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TABLE No. VIII

To find tangent and distance for curve of  
any other degree, divide by degree of curve  
the constant found in column of constants.  
Degree of curve will give 1 may be found  
by dividing tangent (or constant) opposite 1 by  
given constant (or constant).

The distance from a point on the tangent to  
the curve is very nearly the square of the tangent  
length divided by twice the angle.

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	.032	.035	.039	.043	.047	.051	.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	.286	.383	.480	.578	.678	.777	.877	.977	1.07	1.18	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

Sewers in American Park 1-

Sewer along Morana Baker To B. Hill 1-3

Sewer Alley BIK 10 2-4  
at Paul Jones

Sewer in Wly of Brandywine 4-

Sewers in Alley 2+9 2-7

Sewer in Ticonderoga - Sly portion } 7-11  
Moultrie - essment, Alley BIK 2 + Trenton }

MH# 18 Nly in alley BIK 3. To MH# 31 12  
Nly in Princeton

MH# 19 Ticonderoga To 32+33 13-

Alley BIK 4 - Sewer 14-

MH# 15 to MH# 37 15

Sewer in E Allen B. Hill to Brandy 16-17

Sewer in B. Hill MH# 37 Ely to MH# 39 18-19

Sewer in Alley BIK 8 19-20

Sewer in Princeton - MH# 38 to 48 in 20-21

Brandywine -

Sewer in Moultrie - B. Hill to Brandywine 22-

Ocean Beach Storm Drain 23-32

Pave, water, Sewers in Paradise Hills units 2+3-33 }  
Deauville, Morningside, Roanoke - Res etc }

SEWERS in AMERICAN PARK - See DWGS  
 STAKED 5' RT Looking Upstream  
 L. Tied on split of angle

2959-D, 2960-D, 2961-D, 2962-D, 2963-D  
 + 2964-D - VVO # 31635

L

Station	IE Sewer	Stake	cut
2+45	35.55	43.82	C8 <sup>27</sup>
2+10	38.28	44.01	C8 <sup>73</sup>
1+75	35.01	43.52	C8 <sup>51</sup>
1+40	34.74	43.22	C8 <sup>48</sup>
1+05	34.47	43.03	C8 <sup>56</sup>
0+74	34.23	43.05	C8 <sup>82</sup>
0+35	33.93	43.23	C9 <sup>30</sup>
110 PARTS of 35' EXISTING Plug			
0+00 - CONNECT TO	33.66	41.85	C8 <sup>19</sup>
See DWGS 2959-D + 2960-D. Baker ST Manhole Markers			
0-12 = Existing	33.60		

Station	IE Pipe	Stake	cut
5+66 <sup>27</sup>	38.04	45.71	C7 <sup>67</sup>
5+30 <sup>22</sup>	37.76	45.25	C7 <sup>49</sup>
4+94.18	37.48	46.26	C8 <sup>78</sup>
4+58 <sup>13</sup>	37.20	45.78	C8 <sup>58</sup>
4+22.09	36.92	45.22	C8 <sup>30</sup>
3+86.04	36.64	44.96	C8 <sup>32</sup>
110 PARTS of 36.045'			
L = 2° 27' 23" RT			
3+50 <sup>0</sup> = MH # 1	36.36	44.37	C8 <sup>01</sup>
3+15	36.09	44.04	C7 <sup>95</sup>
2+80	35.82	44.10	C8 <sup>28</sup>

Sewers American Park cont

Station	IE Sewer	Stake	CUT
9+57 <sup>45</sup>	41.03	50.75	C972
9+08 <sup>05</sup>	40.65	50.27	C962
8+58.65	40.27	49.27	C900
8+09 <sup>25</sup>	39.89	49.37	C948
7+59.85	39.51	49.47	C996
(6 PART) of 49.4+			
P.O.T. - Near Ticonderoga			
7+10 <sup>45</sup> = 2 MH #2	39.13	48.65	C952
6+74 <sup>40</sup>	38.88	47.30	C842
6+38.36	38.60	46.81	C821
6+02 <sup>21</sup>	38.32	46.18	C786

3

Station	IE Sewer	Stake	CUT
13+85 <sup>76</sup>	45.97	55.43	946 c
13+38.41	45.06	54.58	C952
12+91 <sup>06</sup>	44.15	53.39	C924
(5 PART) of 47.35			
#4 - P.O.T.			
12+43 <sup>71</sup> = 2 MH	43.24	53.04	C980
11+96 <sup>36</sup>	42.87	53.30	C1043
11+49 <sup>01</sup>	42.50	52.76	C1026
11+01 <sup>66</sup>	42.14	51.78	C964
10+54 <sup>31</sup>	41.77	51.55	C978
(5 PART) of 47.35			
#3 - Paul Jones			
10+06 <sup>96</sup> = 2 MH #	41.41	50.61	C920

Sewers American Park cont

Station	IE Sewer	Stake	cut
3 PARTS of 40'			
0+20	58°	70.09	C12.09
Prop Line B. Hill			
0+00 Ahead = NLY	54.8	66.74	C11.94
=			
15+74.5 <sup>B</sup> Back	54.8	66.74	C11.94
(30')			
10 -			
MH#6 -			
NLY in Alley BKF			
15+44.5 <sup>B</sup> = L. 90° to	52.0	To NLY 63.88	C11.88
		To NLY 64.40	C12.40
15+16.5 <sup>I</sup>	49.9	60.35	C10.45
Profile 29.62-D			
2 Parts 28.05			
ELY on B. Hill			
L-117°55' RT.			
Bunker Hill			
MH#5 = d			
14+86.4 <sup>B</sup> = L. =	47.8	57.82	C10.02
5' tie = 92° on sp 17			
14+33.1 <sup>I</sup>	46.88	56.88	C10.00

Station	IE Sewer	Stake	cut
2+79 <sup>00</sup> = d	83.89	91.38	C7.49
11'			
2+61 <sup>00</sup> = d Pick	83.38	90.20	C6.82
(504) (18')			
Conc Lug			
2+43 <sup>00</sup> = d	82.88	89.53	C6.65
2+17.25	82.16	89.24	C7.08
1+91.50	81.44	89.02	C7.58
1+65.75	80.72	88.12	C7.40
0.72 el			
4 PARTS of 25.75			
P.O.T.			
1+40 = d MH#7	80.00	86.51	C6.51
1+00	72.67	83.08	C10.41
0+60	65.33	77.31	C11.98

Station	IE Sewer	Stake	Cut
LI=90 To Ely in Brandy			
6+10 = ♀ MH #10	99.60	106.13	C653
5+72	99.44	108.19	C8.75
5+34	99.28	108.98	C9.70
4+96	99.12	108.67	C955
4+58	98.96	107.46	C850
5 Parts of 38' (616)			
#9 - P.O.T.			
4+20 = ♀ Manhole	98.80	105.59	C679
3+80	92.20	104.19	C11.99
2 Parts of 40'			
3+40 = ♀ MH #8	85.60	95.74	C10'9
(25')			
3+15 = Conclug	84.90	93.72	C8.82
18'			
2+97 = ♀ Pick	84.39	92.72	C8.33

Red = Sewer Lateral.

4

Station	IE Sewer	Stake	Cut
end of line			
10+3450 = Plug	125.40	134.80	C940
9+9960	122.92	132.64	C972
9+6470	120.44	130.86	C10.42
9+2980	117.96	129.34	C1138
8+9490	115.48	127.49	C12.01
(2.48)			
5 Parts of 24.90			
8+60 = ♀ MH #11	113.00	125.14	C12'4
IE at Prop			
8+30 = #72 LT	117.6	125.14	C986
8+10	110.32	21.61	C1129
7+60	107.64	118.30	C1066
7+10	104.96	114.70	C974
6+60	102.28	110.18	C790
5 Parts of 50'			



Sewer line Beginning at MH #2 in  
Morena Blvd + Near Ticinderoqa +  
going Nly in Alley BLK 2 + 9 -  
green = chimneys

Block 2 + 9 -

105

Station	IF Sewer	Stake	CUT
(35')			
2+79 <sup>20</sup>	55.86	67.50	C1164
(39 <sup>50</sup> )			
2+39 <sup>70</sup>	53.42	65.05	C1163
(35)			
2+04 <sup>70</sup>	51.25	61.41	C10.16
(35)			
1+69 <sup>70</sup>	49.08	58.93	69.85
(35)			
1+34 <sup>70</sup>	46.91	57.87	C10.96
(35)			
0+99 <sup>70</sup>	44.74	56.71	C1197
(35)			
0+64 <sup>70</sup>	42.57	54.42	C1185
(35) (2.17)			
0+29 <sup>70</sup> = 2 MH #12	40.40	51.95	C1155
Morena + Ticinderoqa			
0+00 = 2 MH #2	39.13		

Station	IF Sewer	Stake	CUT
6+09 <sup>20</sup>	72.16	87.80	15.64
(425)			
5+66 <sup>70</sup>	66.58	80.82	C-14.24
(425)			
#14			
5+24 <sup>20</sup> = 2 MH #	61.00	73.45	C1245
(40')			
4+84 <sup>20</sup>	60.44	73.37	C12.93
4+64 <sup>20</sup> = end crackle			
(25)			
4+59 <sup>20</sup>	60.08	74.71	C14.63
(50)			
4+09 <sup>20</sup>	59.36	76.06	C16.70
3+79.20 = Begin crackle			
(40)			
3+69 <sup>20</sup>	58.79	73.87	C15.08
(20)			
3+49 <sup>20</sup>	58.50	72.50	C14 <sup>00</sup>
35'	58.50		
MH #12			
3+14 <sup>20</sup> = 2	58.00	70.22	C-12.22

green = chimneys  
Sewers Alley BIKS 2 + 9

Station	IF Sewer	Stake	OUT
8+99 <sup>20</sup> (35')	103.78	116.75	C12.97
8+64 <sup>20</sup> (35')	102.52	114.45	C11.93
8+29 <sup>20</sup> (35')	101.26	112.11	C10.85
MH#16	100.00	109.25	C9.25
7+94 <sup>20</sup> = $\phi$ (25')			
7+69 <sup>20</sup> (15)	95.91	106.86	C10.95
7+54 <sup>20</sup> (35)	93.46	104.75	C11.29
7+19 <sup>20</sup> (35')	87.73	99.42	C11.69
Bunker Hill MH#15 = $\phi$ Line to Ely in B. Mill			
6+84 <sup>20</sup> = $\phi$ (40')	82.00	96.21 96.14	C14.21 C14.14
6+44 <sup>20</sup> (35')	76.76	93.65	C-16.89

Sewers Alley BIK 2 + 9  
green = chimneys -

Station	IF Pipe	Stake	OUT
(35)			
11+89 <sup>20</sup> (35)	111.90	122.54	C10.64
11+54 <sup>20</sup> (35)	111.20		Knocked out by blade
11+19 <sup>20</sup> (35')	110.50	124.69	C14.19 10' back
10+84 <sup>20</sup> (35)	109.80	124.11	C14.31 10' back
10+49 <sup>20</sup> 5'	109.10	122.87	C13.77
MH#17			
10+44 <sup>20</sup> = $\phi$ (37.5')	109.00	122.80	C13.80
10+06 <sup>20</sup> (37.5)	107.65	121.37	C13.72
9+69 <sup>20</sup> (50')	106.30	119.92	C13.62
9+19 <sup>20</sup> (20')	104.50	117.76	C13.26

Sewers Alleys 2+9-

Station	IE Sewer	Stake	CUT
---------	----------	-------	-----

Block 9 Plugin Alley			
12+44 <sup>20</sup>	113.00	121.06	C80 <sup>6</sup>
(35')			
12+24 <sup>20</sup>	112.60	121.52	C89 <sup>2</sup>
(35')			

Sewer in Ticindroga, Moultrie,  
easement in Block 5 in 9119B1K 7  
5- Red = Laterals  
Dwg = 2959+60 D - Profile -

Station	IE Pipe	Stake	CUT
(25')			
2+80	50.16	63.41	C13.25
(35)			
2+45	48.94	60.91	C11 <sup>97</sup>
(35)			
2+10	47.72	59.18	C114 <sup>6</sup>
Deep cut 2+02 <sup>5</sup> = #1 LT	55.4	60.89	C54 <sup>9</sup> =
1+75	46.50	57.74	C112 <sup>4</sup>
(35)			
1+40	45.28	57.22	C119 <sup>4</sup>
(35)			
1+05	44.06	58.64	C145 <sup>8</sup>
(35)			
0+70	42.84	58.53	C156 <sup>9</sup>
(35)			
0+35	41.62	56.67	C150 <sup>5</sup>
(35')			
BIK 2 Ticindroga Alley			
0+00 = MH #12	40.40	50.68	C102 <sup>8</sup>

Sewer in Ticonderoga cont  
 Red = Laterals - grade = 1 EAT Prop line

Station	IE Pipe	Stake	COT
5+12.50 #3 LT	65.2	79.80	C14 <sup>10</sup>
4+92.50 (35')	61.46	72.82	C11 <sup>36</sup>
TO NLY #19 = 2 Princeton			
4+57.50 = 2 MH (12.50)	59.51 <small>70' INS PHT</small>	70.05	C10 <sup>54</sup>
4+45.00 (35')	58.80	67.83	C9 <sup>03</sup>
4+10 (35')	56.85	66.40	C9 <sup>55</sup>
3+75 <small>4' SLY OF L</small>	54.90	65.91	C11 <sup>01</sup>
<del>DEEP CUT 3+52.5 #2 LT (35')</del>	<del>60<sup>10</sup></del>	<del>omit owner wishes to hook to Alley.</del>	
3+40 (35')	52.95 <small>4' SLY OF L</small>	64.69	C11.74
LINE TO NLY #18 - 2 Alley BIK 3			
3+05 = 2 MH (25')	51.00	64.01	C13 <sup>01</sup>

Sewers Ticonderoga + Moultrie 8  
 + alley Block 5 cont -

Station	IE Pipe	Stake	COT
Moultrie ST L 90° to NLY in <small>2.07' INS PHT</small>			
7+87.50 = 2 MH #21 (25')	71.20	83.44	C12 <sup>24</sup>
7+62.50 (35')	70.80	82.07	C11 <sup>27</sup>
7+27.50 (35')	70.28	78.65	C8 <sup>37</sup>
6+92.50 (35')	69.76	79.15	C9 <sup>39</sup>
6+57.50 (35')	69.24	81.67	C12 <sup>43</sup>
4 = LINE TO NLY #20 Alley BIK <small>L 105° to ST</small>	68.72	80.11	C11 <sup>39</sup>
6+22.50 = 2 MH (25')			
5+97.50 (35')	67.31	76.63	C9 <sup>32</sup>
5+62.50 (35')	65.36	73.36	C8 <sup>00</sup>
5+27.50 (35')	63.41	73.66	C10 <sup>25</sup>

Sewers Alley Block 5 cont  
 Also Ticenderoga, Moultrie +  
 Trenton.

Red = lateral.  
 Green = chimney.

Station	IE Sewer	Stake	CUT
(35')			
10+70	78.36	87.07	C8 <sup>71</sup>
(35')			
L <sub>1</sub> = 90° NLY - 22 = 2 Alley BIK 5 10+35° = 2 MH #	78.16	97.80	C19 <sup>64</sup>
(25')			
10+10	78.03	85.91	C7.88
(35')			
9+75	77.87	82.40	C4 <sup>53</sup>
(35')			
9+40	77.71	81.21	C3 <sup>50</sup>
(35')			
9+05	77.55	84.43	C6 <sup>80</sup>
(35')			
L <sub>1</sub> 90° to ELY	77.39	91.50	C14 <sup>11</sup>
22 in Moultrie			
8+70° = 2 MH #			
(47.5')			
8+22 <sup>50</sup>	73.83	85.15	C11 <sup>32</sup>
(35')			

Sewer Alley BIK 5 cont -

Red = cut of 6 wall = IE grade  
 Green = chimney -

9

Station	IE Sewer	Stake	CUT
(35')			
12+92 <sup>50</sup>	126.90	139.66	C12.76
(35')			
12+87 <sup>50</sup>			
(35')			
12+57 <sup>50</sup>	120.32	131.19	C10 <sup>87</sup>
12+42 <sup>50</sup> = 6B	117.50	127.46	C9 <sup>96</sup>
12+32 <sup>50</sup>			
(35')			
12+22 <sup>50</sup> COW.	112.60	122.19	C9 <sup>59</sup>
12+02 <sup>50</sup> Gr Ark	106.40	114.98	C8 <sup>58</sup>
11+92 <sup>50</sup> COW.	101.80	110.74	C8.94
(30)			
11+62 <sup>50</sup> COW.	88.00	98.56	C10 <sup>56</sup>
(20)			
# 24 - P.O.T.			
11+42 <sup>50</sup> = 2 MH	78.80	91.05	C12.25
(37.5')			
11+05	78.56	84.39	C5.83

Sewers in Alley BIK 5 cont  
green = chimneys

Station	IE SEWER	Stake	CUT
15+32 <sup>50</sup> (50')	157.63	173.10	C15.47
14+87 <sup>5</sup>	153.48	168.81	C15.33
14+82 <sup>50</sup> (50')	153.02	168.24	C15.22
14+32 <sup>50</sup> (50')	148.41	162.08	C13.67
14+37 <sup>5</sup>	148.87	162.80	C13.93
14+00 25 = P.O.T.	145.41	157.55	C12.14
13+82 <sup>50</sup> = L.M.H.# (20')	143.80	154.82	C11.02
13+62 <sup>50</sup> (35')	140.06	152.30	C12.24
13+52 <sup>50</sup>			
13+27 <sup>50</sup> (35')	133.48	145.80	C12.32

Sewer Alley BIK 5 cont  
Bunker Hill (ELY end of)  
Trenton.

Station	IE SEWER	Stake	CUT
(33)			
18+21 <sup>50</sup> (50')	178.95	188.50	C9.55
Ave L = 90 Nly #27 = Trenton			
17+71 <sup>50</sup> = L.M.H. (53)	175.00	185.10	C10.10
17+18 <sup>50</sup> (53)	171.66	182.83	C11.17
17+03 <sup>50</sup> #21 (5)	177.5	188.02	C10.52
16+65.50 (53')	168.33	180.06	C11.73
L = 90° to ELY Bunker Hill M.H.# 26 = L			
16+12 <sup>50</sup> = L (30.00)	165.00	176.88	C11.88
15+82 <sup>50</sup> (50)	162.24	176.89	C14.65

Red = Lat = IE at Prop Line  
Sewer in Trenton Cont

Station	IE Sewer	Stake	CUT
20+54 <sup>50</sup> = #67	203.9	210.78	C-6 <sup>88</sup>
20+51.50	194.44	208.04	C13 <sup>60</sup>
(50')			
<del>20+14<sup>50</sup></del> 20+04 <sup>50</sup> = #66 LT	201.8	Meet existing	
(50')			
#28 = P.O.T.			
20+01 <sup>50</sup> = L MH	193.20	205.20	C12.00
(47')			
19+54 <sup>50</sup>	189.46	201.44	C11 <sup>98</sup>
19+54 <sup>50</sup> = #65 LT	195.2	204.59	C9 <sup>39</sup>
(50')			
19+04 <sup>50</sup>	185.51	196.65	C11 <sup>14</sup>
19+04 <sup>50</sup> = #64 LT	190.0	199.89	C9 <sup>89</sup>
18+98 <sup>50</sup> = #63	189.2	199.4	C10 <sup>2</sup>
18+54 <sup>50</sup>	181.56	191.77	C10.21
<del>Moved</del> 18+54 <sup>50</sup> = #62 LT	184.9	193.03	C8 <sup>13</sup>
(33')			

Sewers in Trenton Cont

11

Station	IE Sewer	Stake	CUT
23+29#71 LT	216.5	220.30	C-3 <sup>80</sup>
Stubout to only #29-endline			
23+31 <sup>50</sup> = L MH (30')	201.40	220.51	C19 <sup>11</sup>
23+01 <sup>50</sup>	200.66	216.99	C16 <sup>33</sup>
22+76 <sup>50</sup> = begin concrete cradle			C-14.41 e-200.04
22+54 <sup>50</sup> #70 LT	208.30	212.99	C4 <sup>69</sup>
22+51 <sup>50</sup> (50')	199.40	212.45	C13.05
69 LT 22+04 <sup>50</sup> = #	206.3	211.53	C5 <sup>23</sup>
22+01 <sup>50</sup> (50')	198.16	210.94	C12.78
21+51 <sup>50</sup> (50')	196.92	210.24	C13.32
LT #68 21+29 <sup>50</sup> = #	205.4	211.88	C6 <sup>48</sup>
21+01 <sup>50</sup> (50')	195.68	209.45	C13.97

Sewer line from MH# 18 (Page 8)  
Nly in alley Block 3 To MH# 31

Station	IE Sewer	Stake	CUT
3+51	80.40	90.28	C9 <sup>88</sup>
3+00 = 2 MH# 30	76.00	85.98	C9.98
2+50	72.13	82.14	C10 <sup>01</sup>
2+00	68.28	77.88	C9 <sup>60</sup>
1+50	64.43	72.45	C8.02
1+00	60.58	67.45	C6.87
0+50	56.73	65.16	C8.43
Ticonderoga 0+00 = Nly P.L.	52.88	64.03	C11.15
#18-Ticonderoga 0-24 <sup>50</sup> = 2 MH	51.00	64.01	C13.01

Station	IE Sewer	Stake	CUT
Stub to Nly. MH# 31			
5+55 = 1	98.00	109.88	C11.88
5+04	93.60	105.25	C11.65
4+53	89.20	100.28	C11.08
4+02	84.80	94.94	C10 <sup>14</sup>



Sewer line from MH#19 in  
Ticonderoga  $\rightarrow$  Nly in Princeton  $\rightarrow$ T  
Toward 17# #32 + 33 Red-Lateral

Sewer in Princeton Con.

13

Station	IE Source	Stake	CUT
3+53 = #10 RT	97.5	108.66	C11'6
3+17.50	92.33	98.97	C6.64
6 Parts of 47.5			
3+03 #9 RT	93.0	102.68	C9'68
<sup>32</sup> 2+70 = L MH#	89.00	94.41	C5'41
2+53 = #8 RT	88.2	98.77	C10'57
2+25	84.50	90.08	C5'58
2+03 = #7 RT	83.5	92.33	C8'83
1+80	80.01	85.75	C5'74
1+53 #6 RT	78.7	87.21	C8'31
1+35	75.52	81.37	C5'85
1+03 #5 RT	73.9	82.74	C8'84
0+90	71.03	77.29	C6'26
0+53 = #4 RT	69.2	81.38	C12'18
0+45	66.54	73.26	C6'72
6 Parts of 45			
Ticonderoga 0+00 = Nly P.K.	62.05	69.17	C-7'12
Princeton Ticonderoga <sup>19</sup> 0-245 = L MH#	59.60	70.05	C-10'54
= 4+57 <sup>50</sup> TO ELY			

Station	IE Sewer	Stake	CUT
MH#33 end			
5+55 <sup>00</sup> = L	109.00	120.79	C11'79
5+07 <sup>50</sup>	105.65	116.70	C11'05
5+03 = #13 RT	111.80	119.13	C7'33
4+60 =	102.32	112.44	C10'12
4+53 #12 RT	107.0	114.99	C7'99
4+12 <sup>50</sup>	98.99	107.96	C8'97
4+05 = #11 RT	102.4	112.13	C9'73
3+65.00	95.66	103.38	C8'72

Sewer Line in Alley Block 4  
 From MH#20 in Ticonderoga  
 NLY in Alley Block 4-

Station	IF Sewer	Stake	CUT	Station	IF Sewer	Stake	CUT
6' Part set 44'							
34 2+70 = L MH#	103.00	110.52	C752				
2+25	97.77	106.11	C834				
1+80	92.53	102.24	C971				
1+35	87.29	98.63	C1134	MH#35			
				5+55 <sup>00</sup> = L	128.00	135.96	C796
0+90	<sup>95.27</sup> 82.05	95.27 95.35	C13.22 <del>C13.30</del>	5+07 <sup>5</sup>	123.80	131.83	C803
0+45	<sup>89.10</sup> 76.81	89.19 89.05	C12.38 <del>C12.24</del>	4+60 <sup>0</sup>	119.64	127.28	C764
6' Part set 45'				4+12 <sup>50</sup>	115.48	123.61	C813
Ticonderoga 0+00 = NLY P.L.	71.57	78.75	C7.18	3+65 <sup>0</sup>	111.32	119.12	C780
MH#20				3+17 <sup>5</sup>	107.16	114.70	C754
0-24 <sup>5</sup> to NLY = L = 6+22 <sup>50</sup> to ELY	68.72	80.11	C11.39				

Sewer from MH# 15 at E  
To MH# 37 in E.B. Hill + Alley

Bunker Hill + Alley Block 9  
Block 8.

15

Station	IE Sewer	Stake	CUT
2+02 <sup>5</sup> = #16 LT	96.4	107.91	C11 <sup>51</sup>
1+83 <sup>0</sup> SEE PAGE 16 = 0+30 TO NLY + B. HILL 36 at E. Allen	87.24	99.22	C11 <sup>98</sup>
1+52 <sup>5</sup> = E MH#	84.00	98.43	C14 <sup>43</sup>
1+22 <sup>0</sup>	83.60	97.84	C14 <sup>24</sup>
0+91 <sup>5</sup>	83.20	97.54	C14 <sup>34</sup>
0+72 <sup>5</sup> = #15 <sup>LT</sup>	92.4	100.76	C8 <sup>36</sup>
0+61.0	82.80	97.13	C14 <sup>33</sup>
0+30.5	82.40	96.81	C14 <sup>41</sup>
15 - E.B. Hill + Bk 9 0+00 = E MH#	82.00	96.22	C14 <sup>23</sup>

Station	IE Sewer	Stake	CUT
See Page 18 For Continuation of Sewer Line Ely in Bunker Hill - from MH# 37 to MH #39 Block 8 NLY in alley for Alley Bk 8 See Page 19 = 0+00 TO + Alley Bk 8 #37 - E.B. Hill			
3+05 <sup>0</sup> = E MH	100.20	112.83	C12.63
2+74 <sup>5</sup>	96.96	108.71	C11 <sup>75</sup>
2+44.0	93.72	105.04	C11 <sup>32</sup>
2+13 <sup>5</sup>	90.48	101.55	C11 <sup>07</sup>

Sewer in Ethan Allen (MH#36) NLY

To Plug in Ethan Allen

16

Station	IE Sewer	Stake	CUT
1+85	116.60	123.89	C789
(4.50' each)			
1+35 = #24 RT	113.7	120.00	C630
1+35 = ♀ MH#42	113.00	117.71	C471
1+15 = #22 LT	110.4	117.22	C682
0+90	105.09	111.73	C664
0+53 #23 RT	102.4	108.06	C566
0+45	97.18	105.64	C846
3 parts of 45			
130 on Rock Hill			
0+00 = NLY PL	89.27	99.79	10.52
E. Allen -			
36 - ♀ R. Hill			
0-30 = ♀ MH#	84.00	98.43	C1443

Station	IE Sewer	Stake	CUT
3+78 #29 RT	133.1	140.87	C777
3+74	125.40	137.03	C1163
5 parts of 39'			
3+45 = #28 RT	131.7	140.08	C838
43			
3+35 = ♀ MH#	125.00	135.33	C1033
2+85 #27 RT	127.6	136.45	C885
2+85	122.00	132.12	C1012
2+46 #26 RT	124.3	130.89	C659
2+35 = ♀ MH#	119.00	128.26	C926
1+95 #25 RT	120.7	128.15	C745

Sewer in Ethan Allen Ave

Sewer

17

Station	IE SEWER	STAKE	CUT
5+30 = Plug	127.00	138.83	C1183
5+28 = #32 RT	134.5	144.85	-C1035
4+91	126.60	139.16	C1256
4+78 #31 RT	134.8	144.24	C944
4+52	126.20	139.01	C1281
4+37.5 #30 RT	134.4	143.93	C953
4+13	125.80	138.12	C1232

Jeweler Line in Bunker Hill from MH# 37 at the E of Alley Block 18  
 8 - Ely to MH# 39 at the E of Moultrie + Bunker Hill

Station	IE Sewer	Stake	CUT	Station	IE Sewer	Stake	CUT
10 Parts of 33'				3+83 <sup>E</sup>	133.48	146.23	C127 <sup>5</sup>
E. B. Hill Princeton				3+50 <sup>E</sup>	131.04	143.40	C133 <sup>6</sup>
1+52 <sup>E</sup> = E MH# 38	116.40	125.13	C8.73	3+47 <sup>0</sup> = #20 LT	128.50	147.62	C91 <sup>2</sup>
1+22 <sup>0</sup>	113.16	123.51	C10.35	3+17 <sup>50</sup>	128.60	140.17	C115 <sup>7</sup>
0+91 <sup>E</sup>	109.92	121.07	C11.18	2+84 <sup>50</sup>	126.16	136.85	C106 <sup>9</sup>
0+88 <sup>50</sup> #17 LT	116.6	122.25	C56 <sup>5</sup>	2+51 <sup>50</sup>	123.72	133.62	C99 <sup>0</sup>
0+61 <sup>0</sup>	106.68	118.35	C11.67	2+47 <sup>50</sup> #19 LT	128.60	137.39	C87 <sup>9</sup>
0+30.50	103.44	115.38	C11.94	2+18 <sup>50</sup>	121.28	130.37	C190 <sup>9</sup>
5' Parts of 30.50				1+96 <sup>5</sup> = #18 LT	120.30	135.48	C156 <sup>8</sup>
+ E Bunker Hill 37 - E Alley Bk 8				1+85 <sup>50</sup>	118.84	127.61	C87 <sup>7</sup>
0+00 = E MH#	100.20	112.83	C126 <sup>3</sup>				
See page 15							

SEWERS in Bunker Hill From  
MH# 37 to Ely to MH# 39 at  
The top of Moultrie cont

SEWER in Alley Block 8 - From MH# 37 1/2  
to Bunker Hill + Alley NLY in alley BIK 8  
To MH# 44, 45 + To Plug 51 of Brandywine

Station	IE Sewer	Stake	CUT
3+30	136.66	146.13	C953
2+90	131.20	140.90	C970
2+50	125.80	134.31	C851

For Line in Moultrie See Page 22

2+10	120.40	128.92	C852
5' parts of 40'			

Station	IE Sewer	Stake	CUT
1+70 = 1/2 MH# 44	115.00	121.00	C600

NLY in Moultrie			1+36	112.04	121.58	C9.54
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Line Continues

Moultrie -			1+02	109.08	122.63	C12.55
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39- & B. Hill +

4+82 <sup>50</sup> - 1/2 MH#	140.80	154.47	C13 <sup>67</sup>	0+68	106.12	120.61	C14.49
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4+49 <sup>50</sup>	138.36	152.23	C13 <sup>87</sup>	0+34	103.16	116.05	C12.89
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5' parts of 34'

4+16 <sup>5</sup>	135.92	149.06	C13 <sup>14</sup>	0+00 = 1/2 MH# 37	100.2	112.83	C12.63
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Sewer in alley Block 8 CONT

Station	IE Sewer	Stake	CUT
5+60 = <sup>Alley</sup> Plug in	152.00	161.51	C95'
4+22	150.00	159.11	C91'
4+84	148.00	156.69	C86'
4+46	146.00	154.61	C86'
4+08	144.00	152.54	C85'
5' Part of 38'			
4+70 = 2MH#45	142.00	149.44	C74'

Sewer in E Princeton Ave from 20  
 SMH#38 in The E Dunken Hill NLY  
 To SMH#48 in Prandy wine ST  
 Thence Ely 100' in Prandy wine 100' to Plug  
 Profile #2

Station	IE Sewer	Stake	CUT
2+26	141.40	147.81	C64'
1+88	138.20	144.78	C65'
1+78 #35 RT (5 Part of 50 + 38')	139.70	146.89	C71'
1+50 = 2MH#46	135.00	140.75	C57'
1+28 #34 RT	134.40	145.29	C108'
1+00	129.83	135.92	C60'
0+78 #33 RT	129.56	137.50	C80'
0+50 (3 Part of 50')	124.66	131.00	C63'
B. Hill 0+00 = 5th P.L.	119.50	126.54	C70'
Princeton 2 B. Hill + E 0-30 = 2MH#38	116.40		C87'



SMH# 38 & B Hill & Princeton  
 NLY to NIM# 48 in Brandy wine

cont

Station	IF Sewer	Stake	CUT
4+61.5	157.39	167.65	C10 <sup>26</sup>
4+21.0	155.26	164.00	C8 <sup>74</sup>
3+80.5	153.13	160.38	C7 <sup>25</sup>
3+78 #39 RT	156.30	59.11	C2 <sup>81</sup>
(6 Parts of 40.5)			
3+53 #38 RT	154.20	157.11	C2 <sup>91</sup>
3+40 = LMH# 47	151.00	157.01	C6 <sup>01</sup>
3+02	147.80	153.94	C6 <sup>14</sup>
2+78 #37 RT	148.10	152.25	C4 <sup>15</sup>
2+64	144.60	150.93	C6 <sup>33</sup>
2+28 #36 RT	143.90	149.15	C5 <sup>25</sup>

Station	IF Sewer	Stake	CUT
Brandy wine			
6+83 = Plug in	172.00	184.37	C12 <sup>37</sup>
6+33	167.90	180.61	C12 <sup>71</sup>
L = 90° to EL			
5+83 = LMH# 48	163.80	76.43	C12 <sup>63</sup>
5+42.5	161.66	73.94	C12 <sup>28</sup>
5+03 #41 RT	165.90	73.30	C7 <sup>40</sup>
5+02	159.53	170.88	C11 <sup>35</sup>
4+70 #40 RT	163.7	172.57	C8 <sup>87</sup>

Sewer in  $\frac{1}{2}$  Moultrie ST from  
 MH# 39 & B. Hill ST to Moultrie

Station	IE Sewer	Stake	CUT
3+03#48 LT	170.70	182.32	C11 <sup>62</sup>
2+80	167.76	180.87	C13 <sup>11</sup>
2+78#58 RT	176.30	181.46	C5 <sup>15</sup>
2+53#47 LT	166.80	178.67	C11 <sup>87</sup>
2+40 = $\frac{1}{2}$ MH#40	165.00	177.81	C12 <sup>81</sup>
2+28#57 RT	172.20	180.03	C7 <sup>83</sup>
2+03#46 LT	162.70	173.98	C11 <sup>28</sup>
1+92	160.69	173.85	C13 <sup>16</sup>
1+78#56 RT	168.20	174.28	C6 <sup>08</sup>
1+53#45 LT	158.20	169.55	C11 <sup>35</sup>
1+44	156.39	169.56	C13 <sup>17</sup>
1+28#55 RT	163.60	172.84	C9 <sup>24</sup>
1+03#43 LT	153.60	164.44	C10 <sup>84</sup>
0+96	152.09	164.87	C12 <sup>78</sup>
0+78#54 RT	158.50	166.37	C7 <sup>87</sup>
0+53#42 LT	149.10	158.31	C9 <sup>21</sup>
0+48	147.79	159.90	C12 <sup>11</sup>
0+28#53 RT	154.20	163.08	C8 <sup>88</sup>
5 Parts of 48'			
0			
B Hill			
0+00 = NLY RL	143.49	155.77	C12 <sup>28</sup>
$\frac{1}{2}$ Moultrie & B Hill			
0-30 = $\frac{1}{2}$ MH#39	140.80	154.47	C13 <sup>67</sup>

NLY to MH# 41 in Brandywine  
 Thence eby 100' to a plug

22

Station	IE Sewer	Stake	CUT
Brandywine 6+83 = Plug in	195.57	209.65	C14 <sup>08</sup>
6+33	192.12	205.19	C-13 <sup>07</sup>
L-90° to ELY			
5+83 = $\frac{1}{2}$ MH#41	186.67	202.52	C13 <sup>85</sup>
(23')			
5+60	187.08	201.33	C14 <sup>25</sup>
5+20	184.32	198.64	C14 <sup>32</sup>
5+05#62 RT	193.60	198.67	C5 <sup>07</sup>
5+03#52 LT	186.70	194.28	C9 <sup>58</sup>
4+80	181.56	195.95	C14 <sup>39</sup>
4+78#51 LT	185.10	193.96	C9 <sup>86</sup>
4+40	178.80	193.60	C14 <sup>80</sup>
4+30#61 RT	188.50	195.07	C6 <sup>57</sup>
4+03#50 LT	178.70	190.97	C12.27
4+00	176.04	190.61	C14 <sup>57</sup>
3+78#60 RT	184.50	190.20	C5 <sup>70</sup>
3+60	173.28	187.56	C14 <sup>28</sup>
3+53#49 LT	174.70	186.63	C11.93
3+28#59 RT	180.40	185.67	C-5 <sup>27</sup>
3+20	170.52	184.25	C13 <sup>73</sup>

Storm Drain Newport Ave. Guizotto  
in Cable ST. Niagara To Newport Ave  
5-10-56 - S.C. Allen.

Bacon - Sunset cliffs - Niagara To Newport 23  
DWGS 12444-L, 12445-L, 12446-L, 12447-L  
FR 2369 - WOP 21309

Station	IE Drain	Stake	CUT
2+25	4.17	13.66	C949
2+00	3.94	13.48	C954
1+75	3.70	13.26	C956
1+50	3.47	13.06	C959
1+25	3.23	12.87	C964
1+00	3.00	12.72	C972
0+75	2.76	12.50	C974
0+50	2.53	12.33	C980
0+25	2.29	12.13	C984
0+00 = <u>EXIST</u> Type	2.06	11.96	C-990

Station	IE Drain	Stake	CUT
4+75	6.52	15.51	C899
4+50	6.29		C902
4+25	6.05	15.11	C906
4+00	5.82	14.91	C909
3+75	5.58	14.72	C-914
3+50	5.35	14.57	C-922
3+25	5.11	14.39	C928
3+00	4.88	14.20	C932
2+75	4.64	13.97	C-933
2+50	4.41	13.84	C943

going Ely -  
Bacon + Newport  
F. clean out 5/5 CR

## Newport Ave Drain

CONT

24

Station	IE Drain	Stake	CUT
Cable & Newport Clean out - Styco 6+55.0! = 4 Type F	8.20		
6+44.84 = E.C.	8.12	16.78	C866
$L = 7.59 - T = 3.81$ $R = 43.5 - A = 16^\circ$ 6+37.25 = B.C.RT	8.05	16.72	C867
6+25	7.93	16.19	C826
6+00	7.70	16.00	C830
5+75	7.46	15.79	C833
5+50	7.23	16.14	C891
5+25	6.99	15.93	C894
5+00	6.76	15.70	C894

Station	IE Drain	Stake	CUT
7+50	9.13	18.12	C899
7+25	9.86	17.37	C895
7+00	8.59	17.45	C886
6+93.35 = E.C.	8.52	17.36	C884
$R = 22^\circ - D = 10^\circ - L = 3.84$ 6+88.94 = B.C.RT	8.48		omit
6+80.94 = E.C.	8.39		omit
$L = 3.84$ $R = 22^\circ - A = 10^\circ$ K-1 inlet = B.C. inside edge Type			
6+77.0! = Fly	8.35		
+ Newport Ave Styco-cable K-1 inlet			
6+75.0! = 4 Type	8.35		

Station	IE Drain	Stake	Cut	Station	IE Drain	Stake	Cut
10+00	11.85	21.48	C963	12+50	14.58	24.52	C994
9+75	11.58	21.16	C958	12+25	14.31	24.55	C1024
9+50	11.31	20.93	C962	12+00	14.03	24.16	C1013
9+25	11.04	20.55	C951	11+75	13.76	23.82	C1006
9+00	10.76	20.18	C942	11+50	13.49	23.45	C996
8+75	10.49	19.85	C936	11+25	13.22	23.04	C982
8+50	10.22	19.54	C932	11+00	12.95	22.87	C992
8+25	9.95	19.18	C923	10+75	12.67	22.54	C987
8+00	9.68	18.94	C926	10+50	12.40	22.15	C975
7+75	9.40	18.49	C909	10+25	12.13	21.78	C965

Station	IE Drain	Stake	Cut
13+75	21.38	27.17	C579
13+50	20.89	26.35	C546
13+41.11 = F.C.	20.72	26.14	C542
R=45-Δ=10° 13+37.12 = P.C.	20.56	26.10	C554
+ Newport Sunset Cliffs			
K-1 inlet Sly			
13+29.17 = d Type	20.40		
12+88.00 = d Cleanout	To city- 16.25	25.40	C915
Cliffs + Newport Wly Co R Sunset	To Wly 15.00	25.40	C1040
F Clean out			
12+88 = d Type			
12+75	14.85	25.10	C1025

Station	IE Drain	Stake	Cut
16+25	26.33	32.29	C596
16+00	25.84	31.64	C580
15+75	25.34	31.20	C586
15+50	24.85	30.78	C593
15+25	24.35	30.18	C583
15+00	23.86	29.70	C584
14+75	23.36	29.06	C570
14+50	22.86	28.61	C575
14+25	22.37	28.31	C594
14+00	21.88	27.62	C574

Station	IE Drain	Stake	CUT	Station	IE Drain	Stake	CUT
18+75	35.63	41.36	C57 <sup>3</sup>	20+75	50.35	55.68	C5 <sup>33</sup>
18+50	34.58	40.29	C57 <sup>1</sup>	20+50	47.89	53.32	C5 <sup>43</sup>
18+25	33.52	38.76	C52 <sup>4</sup>	20+44.95 = Grade Break	47.40	52.81	C5 <sup>41</sup>
18+00	32.47	37.94	C54 <sup>7</sup>	20+25	45.55	50.99	C5 <sup>44</sup>
17+75	31.41	36.83	C54 <sup>2</sup>	20+03 <sup>45</sup> = E.C.	43.55	48.84	C5 <sup>29</sup>
17+50	30.36	35.68	C53 <sup>2</sup>	T = 3.94			
17+25	29.30	34.77	C54 <sup>7</sup>	L = 7.85			
17+00	28.25	33.84	C55 <sup>9</sup>	R = 45' - Δ = 10°			
Type G Cleanout				19+95 <sup>60</sup> = 130	42.78	48.18	C5 <sup>40</sup>
16+78 <sup>61</sup> = <del>61</del>	27.35	32.94	C55 <sup>9</sup>	E BERS + Newport			
16+50	26.83	32.66	C58 <sup>3</sup>	K-1 in/6T 54 core	42.00		
				19+87 <sup>60</sup> = <del>60</del>			
				E BERS + Newport	38.75 + 0		
				Cleanout (G)	Wky		
				19+45 <sup>60</sup> = <del>60</del>	38.50 TO		
				19+25	37.69	42.75	C50 <sup>6</sup>
				19+00	36.64	42.31	C56 <sup>7</sup>

## Newport Ave Drain

Station	IE Drain	Stake	CUT
23+25	74.83	80.55	C5 <sup>72</sup>
23+00	72.38	78.04	C5 <sup>66</sup>
Type C Cleanout 22+75.80 = $\phi$	70.00	75.45	C5 <sup>45</sup>
22+50	67.58	73.10	C5 <sup>55</sup>
22+25	65.10	70.71	C5 <sup>61</sup>
22+00	62.64	68.07	C5 <sup>43</sup>
21+75	60.18	65.51	C5 <sup>33</sup>
21+50	57.73	63.04	C5 <sup>31</sup>
21+25	55.27	60.63	C5 <sup>36</sup>
21+00	52.18	58.24	C6 <sup>06</sup>

## C647

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Station w/ly	IE Drain	Stake	CUT
6 C.O. at Froude 25+89.39 = $\phi$ Type C	100.80	105.35	C4 <sup>55</sup>
25+75	99.38	105.20	C5 <sup>82</sup>
25+50	96.93	103.00	C6 <sup>07</sup>
25+25	94.47	100.49	C6 <sup>02</sup>
25+00	92.02	97.88	C5 <sup>86</sup>
24+75	89.56	95.39	C5 <sup>83</sup>
24+50	87.11	92.85	C5 <sup>74</sup>
24+25	84.65	90.31	C5 <sup>66</sup>
24+00	82.20	87.99	C5 <sup>79</sup>
23+75	79.74	85.29	C5 <sup>55</sup>
23+50	77.29	82.98	C5 <sup>69</sup>



## Newport Drain cont

Station	IE Box	Stake	Cut
28+25	118.86	125.45	C659
28+00	116.63	123.07	C644
27+75	114.40	120.72	C632
27+50	112.17	118.36	C619
27+25	109.94	115.97	C603
27+00	107.71	113.56	C585
(41.6')			
26+58.39	104.00	109.57	C557
(16')			
26+42.39	102.95	108.22	C527
(18')			
Froude + Newport G.C.O. Sycor			
26+24.39 = 4 Type	102.25	106.62	C437

## Newport Drain cont 29

Station	IE Drain	Stake	Cut
30+75	141.16	149.25	C809
30+50	138.93	146.93	C800
30+25	136.70	144.62	C792
30+00	134.47	142.18	C771
29+75	132.24	139.78	C754
29+50	130.01	137.36	C735
29+25	127.78	134.91	C713
29+00	125.55	132.35	C680
28+75	123.32	130.25	C693
28+50	121.09	127.87	C678

Newport Drain cont

Station	IE Pipe	Stake	CUT
existing line connection to line - Make of Newport			
32+44.56 = end	156.36	164.41	C8 <sup>05</sup>
32+25	154.54	163.62	C9 <sup>08</sup>
32+00	152.31	161.19	C8 <sup>88</sup>
31+75	150.08	158.81	C8 <sup>73</sup>
31+50	147.85	156.48	C8 <sup>63</sup>
31+25	145.62	154.10	C8 <sup>48</sup>
31+00	143.39	151.70	C8 <sup>31</sup>

Drain in cable ST. Niagara to  
Newport - See Dwg # 12446-L  
110 # 21309- 30

Station	IE Pipe	Stake	CUT
1+25	10.43	19.04	C8 <sup>61</sup>
1+00	10.74	19.32	C8 <sup>58</sup>
0+75	11.08	19.37	C8 <sup>32</sup>
0+63.28 - E.C.	11.20	19.50	C8 <sup>30</sup>
(15.89 - D = 15°00')			
0+47.39			
(15.88 - D = 10°00')	11.40	19.47	C8 <sup>07</sup>
0+31.51			
(15.88 - D = 5°00')	11.60	19.36	C-7 <sup>76</sup>
D.P.E. = 18.889'			
T = 24.38 - L = 47.65			
R = 91' - Δ = 30°			
0+15.63 = B.C.	11.80	19.68	C7 <sup>88</sup>
+ Cable Sty Cor. Niagara Box TYPEK inlet 0+00 = Nly edge	12.00		

Storm Drain in Cable cut  
Niagara Ave to Newport

Station	IE Pipe	Stake	cut
3+75.68 = Type F co. K-1 inlet sly cor @ m	8.60-		
3+59.58 = sly of	8.67	16.97	C8 <sup>30</sup>
3+51.58 = EC R = 45 - Δ = 10° - L = 70°	8.71	16.81	C8 <sup>10</sup>
3+43.73 = BC	8.75	16.82	C8 <sup>07</sup>
3+25	8.84	16.98	C8 <sup>14</sup>
3+00	8.96	17.63	C8 <sup>67</sup>
2+75	9.08	17.78	C8 <sup>70</sup>
2+50	9.20	17.86	C8 <sup>66</sup>
2+25	9.32	18.19	C8 <sup>87</sup>
in Grace 2+07.73 = Brk	9.40	17.77	C8 <sup>37</sup>
1+75	9.81	18.63	C8 <sup>82</sup>
1+50	10.12	18.84	C8 <sup>72</sup>

Storm Drain in Sunset Cliffs  
Blvd - Niagara To Newport 31  
see DWG-12446-2

Station	IE Pipe	Stake	cut
1+50	16.85	25.55	C8 <sup>70</sup>
1+25	17.04	25.64	C8 <sup>60</sup>
1+00	17.23	25.70	C8 <sup>47</sup>
0+75	17.42	25.79	C8 <sup>37</sup>
2 1/2" Pipe from Ely 0+58.56 = IE of	18.40	25.73	C7 <sup>33</sup>
+ Sunset Cliffs Ely cor Niagara 1 1/2" Pipe from 0+56.65 Conclug	17.58	25.73	C8 <sup>15</sup>
0+25	17.81	26.19	C8 <sup>38</sup>
Sunset Cliffs COR Niagara + Type G co. w/ly			
0+00 = Nly of	18.00		
0+00	18.25	4' stubout to sly -	

Drain in Sunset Cliffs - Niagara  
To Newport cont

Station	IF Pipe	Stake	CUT
Sunset + Newport Type F.C.O. Wly	15.50		
3+90.5 = 5140t			
From K inlet 3+71.70 = Connect	15.58		
From K inlet 3+71.70 - 15" Pipe	16.50		
3+50	15.68	24.99	C931
3+25	15.80	25.04	C924
3+00	15.91	25.08	C917
2+75	16.03	25.17	C914
2+50	16.14	25.25	C911
Break 2+26.5 = Grade	16.25	25.32	C907
2+00	16.47	25.43	C896
1+75	16.66	25.49	C883

Pave Deaoville ST - Roanoke  
 W O # 32538 - 6/1/56 - Dwg 3166D

ST to Res Drive

Station	LT 90T	Rough Grade	Topcb grade	Curb Stake	LT 14	RT/14	Rough grade	Topcb grade	Curb Stk	RT 90T
2+56 <sup>25</sup> (35.00)		C640 204.87	198.47	C057 199.04			C184 200.31	198.47	F037 198.10	
2+21 <sup>26</sup> (35.00)		C835 205.84	197.49	C077 198.26			C263 200.11	197.49	C015 197.64	
1+86 <sup>26</sup> (35)		C1073 207.24	196.51	C068 197.19			C375 200.26	196.51	C009 196.60	
1+51 <sup>26</sup> (3878)		C1202 207.55	195.53	C026 195.79			C363 199.16	195.53	F007 195.46	
1+12 <sup>48</sup> = DRK (37.22)		C1054 204.98	194.44	C064 195.08			C402 198.46	194.44	F041 194.03	
0+75 <sup>26</sup> (37.22)		C976 203.16	193.40	C030 193.70			C341 196.43	193.02	F048 192.54	
0+38 <sup>04</sup> (35.56)		C942 201.78	192.36	C029 192.65			C351 195.10	191.59	F001 191.58	
BC RT 0+03 <sup>21</sup> = cb			193.47				C466 194.98	190.32	C035 190.67	
SE by COR Roanoke BR LT 0+02 <sup>48</sup> = cl		C884 200.20	191.36	C039 191.75						













## Deauville St

Cont

RT

39

Station	LT 90T	Rough Grade	Top cb Grade	curb stake	LT 114	RT 114	Rough Grade	Top cb Grade	curb stake	RT 90T
E.C. 14+24.54 =		C312 207.45	204.33	C012 204.45			C416 208.48	204.32	F010 204.22	
Def = 90° 53.12' 20'										
B.V.C. 14+04.54 =		C330 206.45	203.15	C015 203.30			C486 208.01	203.15	C0.17 203.32	
7° 46.41' Chord = 24.53'										
13+80.00		C358 205.04	201.46	C032 201.78			C6.47 207.93	201.46	F0.71 200.75	
Def = 50° 10.94' Chord = 24.53										
13+55.46		C559 205.36	199.77	C026 200.03			C936 209.13	199.77	F0.12 199.65	
Def = 2° 35.47' (Chord = 24.53)										
D.P.F. = 6.335459										
$\Delta = 19° 46' 15''$ B.C. $\Delta R = 27.81$ 13+30.92 =		C6.33 204.42	198.09	C052 198.61			C1065 208.69	198.09	C0.11 198.20	

For details of intersection of Deauville + Morning Side - See Dwg # 3167-D

Deauville ST  
LT

Cont  
RT

49

Station	LT 90T	Rough grade	Topcb grade	Curb Stake	LT 114	ℓ grade	RT 114	Rough Grade	Topcb grade	Curb Stake	RT 90T
1 Reo + Deauville BC-SWLY COR 15+50.42 = cb								C657 211.20	204.63	C039 205.02	
1 Reo + Deauville BC. NWLY COR											
D 15+21.89 = cb		C379 209.72	205.33	C003 205.35					205.03	C045 205.48	
1 (17.75) 15+04.54		C349 208.96	205.47	C034 205.81				C6.01 211.28	205.27	F007 205.20	
D (20.0)											
D E.V.C. 14+84.54 =		C319 208.81	205.62	C076 206.38				C5.77 211.19	205.42	F040 205.02	
1 14+64.54		C3.12 208.59	205.47	C037 205.84				C4.62 210.07	205.45	F0.11 205.34	
1 14+44.54		C2.91 208.05	205.14	C016 205.30				C361 208.70	205.09	F023 204.86	

Pave Deauville ST - Reo To

Sea Breeze -

41

Station	LT gvt	Rough Grade	Topcb grade	curb stake	LT 1/4	±	RT 1/4	Rough grade	Topcb grade	curb stake	RT gvt
2+13.72		C13.22 223.74	210.52				C101 211.53	210.52			
1+78.82		C11.07 220.16	209.09				C311 212.20	209.09			
5 Parts of 3490											
1+43.92 = EVC		C6.86 214.52	207.66				C342 211.08	207.66			
(20')		C5.29 212.34	207.05				C1.69 208.70	207.01			
(20')											
for Alley Detail See DWG 3167-D											
1+03.92 = BVC		C1.56 208.22	206.66				F22 OUT 34	206.52			
(38.08)											
0+65.84		C2.24 208.37	206.13				F16E OUT 25	205.73			
(38.08)											
Sly Reo + Deauville RT 0+27.76 = CB BC		F0.56 205.05	205.61				F 4.84 200.10	204.94			4.44
0+07.46 = LT only	204.77		205.27								
Deauville ST Nly Reo +		ON R.I.P. C 0.03									
0+04 = CB BC	204.67	205.20	205.17								

Void See Page 76

See Page 76

Pave Deauville ST - Reo To  
LT

Sea Breeze cont  
RT

42

Station	LT 90T	Rough Grade	Topcb Grade	Cb. Stake	LT 1/4	Grade	RT 1/4	Rough Grade	Topcb grade	curb Stake	RT 90T
---------	-----------	----------------	----------------	-----------	-----------	-------	-----------	----------------	----------------	---------------	-----------

Change grades to h. + 10' chain Sea breeze

=ELY R Sea breeze  
3+8342

F25!  
OUT 375 215.44

Moved  
3' ELY To 10' curb  
breeze  
Deauville + Sea-  
= Cb Bc NLY  
3+4542

C936  
224.15 214.79  
23.8

F30.4  
OUT 456 214.79

= grade Brk  
3+1842

C10.01  
24.15 214.14

OUT 31.2  
F208 214.14

2+8352

C11.92  
225.30 213.38

F6.8  
OUT 102 213.38

2+4862

C13.14  
225.09 211.95

F0.60  
211.35 211.95

See Page 76

Pave Morning Side ST. Roanoke  
 See DWG 3/67-D - 6/3/52  
 LT = NELY

To Deauville

43

RT = SULKY

Station	LT 90T	Rough Grade	Top cb Grade	Curb Stake	LT 1/4	2 grade	RT 1/4	Rough Grade	Top cb grade	Curb Stake	RT 90T
1+90			200.58	F0.52 200.06				C1.11 201.46	200.35	C0.42 200.77	
1+65 = EVC		F4.53 197.75	202.28	F0.71 201.57				C2.02 204.76	202.14	C0.39 202.53	
1+45		F2.03 201.51	203.54	F0.29 203.25				C3.14 206.55	203.41	C0.65 204.07	
1+25		F0.94 203.61	204.55	C0.20 204.75				C3.72 208.26	204.54	C0.33 204.87	
1+05		C0.03 205.38	205.35	F0.13 205.22				C4.67 210.10	205.43	C0.22 205.65	
0+85 = BVC		C1.47 207.40	205.93	C0.27 206.20				C4.67 210.78	206.11	C0.30 206.31	
0+49		C1.47 208.23	206.76	C0.80 207.56				C5.25 212.35	207.10	C0.24 207.34	
0+13 = CB ACS		ON RAS C0.60 208.20	207.60	F0.08 207.52				ON RAS C4.52 212.62	208.10	C0.21 208.31	
RR Roanoke 0+00 = S/L			207.90						209.57		

Pave Morning side

LT

CONT

44

RT

Station	LT 90T	Rough Grade	Top of Grade	Curve Stake	LT 1/4	± grade	RT 1/4	Rough grade	Top of grade	Curve Stake	RT 90T
---------	-----------	----------------	-----------------	----------------	-----------	------------	-----------	----------------	-----------------	----------------	-----------

See DWG 3167-D for intersection

NEly COR

LT

2+65 ± = CB BC

195.50

C095

96.45

+ CB BC NWly

RT

Morningside NEly

Deaovilles

2+62 ± = R BC

195.68

192.0

94.78

ON Rad point

195.18

F020

94.98

2+40

F465

192.53

197.18

C053

197.71

F503

191.74

196.77

F052

196.25

2+15

F5169

193.19

198.88

F006

198.82

F0122

198.34

198.56

F010

198.46



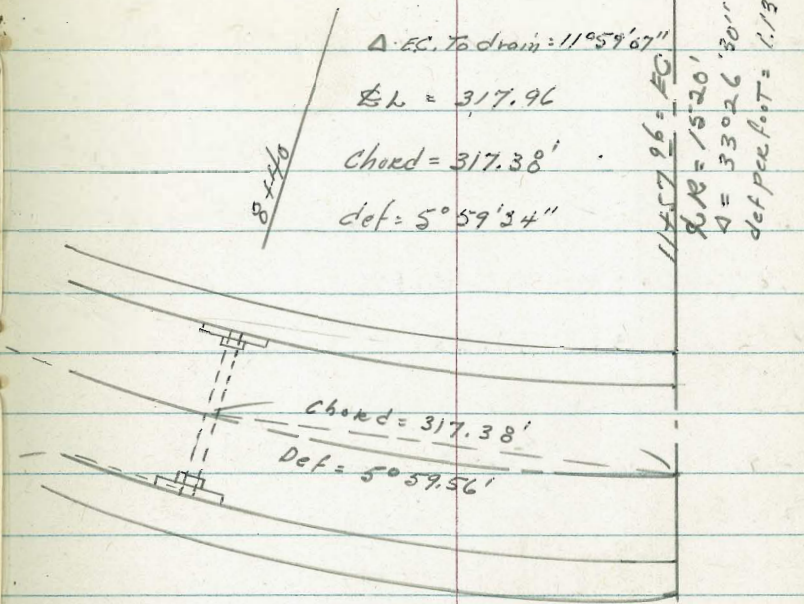
Stake 18" Drain at 8+40 DWG 316P-  
 WO# 32538-6/6/56-SC4.

D - Roanoke Ely of Hopkins ST

45

Station	IE 18" Pipe Stake	STAKE	CUT
end pipe 1+96 = (40.87)	155.70	160.89	C514
1+55.13 (40.86)	167.60	165.00	C340
1+14.27 (40.86) = E.C.	167.50	178.65	C815
0+73.41  = mid point	173.40	180.72	C732
0+57.7 ±	175.56	186.70	C1114
= 13C 0+42 ±	177.73	186.74	C901
Type K 0+36 = Sly 7'	178.70	186.02	C732 ON CB & STK
7' type K 0+00 = Nly	186.08 183.31	186.08 186.24	C-2.77 C-2.93 ON E.B. STK

def. from d.f.c.  
 To 2 Pipe Torsy = 6" x 11.89  
 Chord = 354.58  
 def pipe torsy  
 IN LOT 36  
 L = 355.39'



staked 7' Nly & Wly.

pipe torsy  
 placed in  
 & easement

Δ E.C. To drain = 11° 59' 07"  
 EL = 317.96  
 Chord = 317.38'  
 def = 5° 59' 34"

11457.96 = E.C.  
 R.B. = 1520'  
 Δ = 33026' 30"  
 def per foot = 1.1308377

Storm Drain in Blocks 44 + 52, Paradise  
 Dwg 3167-D - 6/17/56 - Ely of Morning  
 WO # 32538 - Allen, Sisson, Parks, Powell.

Hills Unit #3 - Map # 2101  
 side + Sly of Roanoke

Station	IE Drain	Stake	CUT	Station	IE Drain	Stake	CUT
(13.44)				(33.30)			
Mid point							
1+65.97 =	186.55	199.40	12 <sup>85</sup>	3+96.60	174.56	184.14	9 <sup>58</sup>
(13.44)				(33.29)			
$\Delta = 70^\circ - R = 22' - L = 26.88$				3+62.31	176.29	187.44	11 <sup>15</sup>
1+52.53 = BC	187.25	200.76	13.51	(33.29)			
(22.58)				3+30.02	178.02	189.81	11 <sup>79</sup>
1+29.95	188.42	198.25	9 <sup>83</sup>	(33.29)			
(22.58)				2+96.73	179.25	192.13	13 <sup>38</sup>
$L = 20^\circ RT$				(33.29)			
Clear out				2+62.44 = E.C.	181.48	193.70	12 <sup>22</sup>
1+07 <sup>37</sup> = 2 Type C	189.60	197.72	8 <sup>12</sup>	(9.59)			
(43.43)				2+53 <sup>85</sup> = M.P.	181.98	194.36	12 <sup>38</sup>
0+63 <sup>93</sup>	191.34	198.68	7.34	(9.58)			
(43.43)				$\Delta = 49^\circ 55' - R = 22' - L = 19.17$			
0+20 <sup>50</sup> = E.C.	193.08	199.62	06 <sup>54</sup>	2+44.27 = BC	182.48	194.72	12 <sup>24</sup>
$\Delta = 20^\circ - R = 22', L = 7.68$				(32.43)			
0+12 <sup>82</sup> = BC	193.39	199.78	6.39	2+12.84	183.86	195.58	011 <sup>72</sup>
				(32.43)			
+ Sly of Roanoke				1+79.41 = EC	185.85	197.45	11 <sup>60</sup>
Ely of Morningside							
exist 24" RCP							
0+00 = Sly end of	193.89						

Storm Drain Block 44 + 52 - east

47

Station	IE Drain	Stake	CUT
---------	-------------	-------	-----

end Pipe

5+29.90 =	167.63	172.47	C484
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(31.21)

4+98.69	169.25	175.63	638
---------	--------	--------	-----

(31.20)

L = 5° RT

4+67.49 =	170.87	176.79	592
-----------	--------	--------	-----

(37.59)

L = 5° RT

4+29.90 =	172.83	180.91	808
-----------	--------	--------	-----

Sewer + Water Laterals  
 RT = Sly - LT = NLY - DWG -  
 W.I.O #.32538 - FB 2317 -

in Roanoke  
 3169-D

ST. Rachel to Reo Drive

48

Note: Sewer + Water Laterals on  
 Long Curve are run out along each  
 Property line - and so shown

Sewer + Water Laterals on Sly of Roanoke				Sewer + Water Laterals on Sly of Roanoke					
Station	Elev Top Cb or IE	Stake	Cut or Fill	Sly Rt Station	Dist along Rt from To Point	% Stationing	deflection from As.	Elev Top Cb or IE	Cut or Fill
2+70 <sup>80</sup> = B.C. Curve									
2+67 <sup>45</sup> #61 LT	163.00	173.14	C1014						
2+65 <sup>01</sup> W RT	169.10	167.80	F130						
2+59 <sup>45</sup> W LT	169.28	168.95	F032			(14.77)			
2+25 <sup>01</sup> #4 RT	160.5	167.05	C655	4+65 <sup>85</sup> W	195.05	4+62 <sup>85</sup>	3°37.00'	182.06	F112 180.89
2+19 <sup>45</sup> #62 LT	160.1	167.85	C775			(39.81)			
2+15 <sup>01</sup> W RT	166.37	165.32	F105	4+25 <sup>42</sup> #8	154.62	4+23 <sup>04</sup>	2°52.02'	171.2	C707 178.27
2+09 <sup>45</sup> W LT	166.60	166.12	F048			(9.84)			
1+75 <sup>01</sup> #3 RT	157.8	164.30	C650	4+15 <sup>42</sup> W	144.62	4+13 <sup>20</sup>	2°40.90'	177.82	F0.88 176.94
1+69 <sup>45</sup> #63 LT	157.4	165.40	C800			(39.60)			
1+65 <sup>01</sup> W RT	164.10	162.90	F120	3+75 <sup>20</sup> #7	104.40	3+73 <sup>60</sup>	1°56.19'	168.5	C651 175.01
1+59 <sup>45</sup> W LT	164.39	163.55	F084			(9.85)			
1+25 <sup>01</sup> #2 RT	155.2	161.64	C644	3+65 <sup>20</sup> W	94.40	3+63 <sup>75</sup>	1°44.90'	174.49	F098 173.51
1+19 <sup>45</sup> #64 LT	154.8	163.27	C847			(39.49)			
1+15 <sup>01</sup> W RT	162.51	161.41	F110						
1+09 <sup>45</sup> W LT	162.88	161.95	F093	3+25 <sup>09</sup> #6	54.29	3+24 <sup>26</sup>	1°00.40'	165.8	C6.46 172.26
0+69 <sup>45</sup> #65 LT	153.5	162.05	C855			(9.87)			
0+65 <sup>01</sup> #1 RT	153.5	161.17	C767	3+15 <sup>05</sup> W	44.25	3+14 <sup>37</sup>	0°49.22'	171.72	F123 170.49
0+59 <sup>45</sup> W LT	162.06	160.87	F119			(39.42)			
0+55 <sup>01</sup> W - RT	161.20	160.50	F070	#5 RT 2+75 <sup>01</sup>	4.21	2+74 <sup>95</sup>	0°04.68'	163.3	C4.55 167.85
0+19 <sup>45</sup> #66 LT	153.1	161.55	C845			(4.15)			
0+09 <sup>45</sup> W - LT	161.32	160.70	F062	2+70 <sup>80</sup> = B.C.		2+70 <sup>80</sup>	0°00'00'		

Sewer + water laterals on RT or Sly  
side of Roanoke St - Cont

Sewer + water laterals on  
Sly of Roanoke - Parallel to Res cont 49

Sly # Station	dist along Sly # - P.C. To lateral	Station	deflection From P.C.	E.L. Top Curb or I.E.	CUT OR FILL C1.28 189.83	Sly # Station	dist along Sly # - P.C. To lateral	Station	deflection From P.C.	E.L. Top Curb or I.E.	CUT OR FILL C0.01 194.26
7+76 <sup>59</sup> W	505.79	7+68 <sup>2</sup>	9°22.71'	188.55		10+76 <sup>59</sup> W	805.79	10+64 <sup>20</sup>	15°06.83'	194.25	
		(39.38)						(39.38)			
#13 7+36 <sup>59</sup>	465.79	7+29 <sup>43</sup>	8°38.21'	185.00 182.5	C11.22 196.77	#18 10+36 <sup>59</sup>	765.79	10+24 <sup>81</sup>	14°01.96'	187.6	C7.95 195.55
		(9.85)						(9.85)			
7+26 <sup>59</sup> W	455.79	7+19 <sup>58</sup>	8°27.08'	191.13	C1.99 193.12	10+26 <sup>59</sup> W	755.79	10+14 <sup>97</sup>	14°00.85'	192.36	C0.18 192.54
		(34.46)						(90.02)			
<i>Stacked 2' in St cut</i> 6+91 <sup>59</sup> #12	420.79	6+85 <sup>12</sup>	<i>Raised 5'</i> 7°48.56'	187.3	C7.18 194.48	#17 9+34 <sup>15</sup>	663.35	9+23 <sup>95</sup>	12°18.00'	183.9	C6.60 190.50
		(9.85)						(7.45)			
6+81 <sup>59</sup> W	410.79	6+75 <sup>27</sup>	7°37.02'	193.12	C1.09 194.21	9+26 <sup>59</sup> W	655.79	9+16 <sup>50</sup>	12°09.59'	188.70	C6.74 189.44
		(103.45)						(39.38)			
#11 5+76 <sup>52</sup>	305.72	5+71 <sup>82</sup>	5°40.13	179.3	C15.55 194.85	8+86 <sup>59</sup> #16	615.79	8+77 <sup>12</sup>	11°25.09'	183.1	OUT Prop owners Request
		(9.85)						(9.85)			
5+66 <sup>52</sup> W	295.72	5+61 <sup>97</sup>	5°29.00	190.87	F0.41 190.46	<del>8+76<sup>59</sup> W</del>	<del>605.79</del>	<del>8+67<sup>27</sup></del>	<del>11°13.97'</del>	<del>186.81</del>	OUT Prop owner
		(39.38)						(39.38)			
#10 5+26 <sup>52</sup>	255.72	5+22 <sup>59</sup>	4°44.56'	176.6	C12.19 188.79	<del>8+36<sup>59</sup> #15</del>	<del>565.79</del>	<del>8+27<sup>89</sup></del>	<del>10°29.46'</del>	<del>183.0</del>	
		(9.85)						(9.85)			
5+16 <sup>52</sup> W	245.72	5+12 <sup>74</sup>	4°33.37	186.57	F0.32 186.25	8+26 <sup>59</sup> W	555.79	8+18 <sup>04</sup>	10°18.34'	186.07	Prop owners Request
		(35.12)						(39.38)			
4+80 <sup>85</sup> #9	210.05	4+77 <sup>62</sup>	3°53.69'	173.9	C9.43 183.33	7+86 <sup>59</sup> #14	515.79	7+78 <sup>66</sup>	9°33.84'	178.4	C11.16 189.50
								(9.85)			

Jewell & Water Laterals on Sly  
 of Roanoke Cont. See page 54  
 Cont page 54

Station along Sly IR	DIST along Sly IR from BC	Station	deflection from BC	EL Top Cb on I.E. Sewer	CUT or FILL
710+92.26 #19		10+79.66 (9.85)	15°14.02	187.60	
#					
710+82.26 W		10+69.81 39.38	15°02.90	194.25	
710+42.26 #18		10+30.43 9.85	14°18.40	185.50	
610+32.26 W-		10+20.58 (94.23)	14°07.28	192.36	
69+36.59 #17		9+26.35 (9.85)	12°20.71	183.30	
59+26.59 W	655.79	9+16.50	12°09.59	188.70	
Hereup change in figures Grades below used					
511+71.83 = 11+57.96 = F.C.		(34.69)	16°42.15"		
#20					
811+36.59	865.79	11+23.27 (9.85)	16°04.47 16°03.23	191.2 196.00	C-530 196.00
511+26.59 W	855.79	11+13.43 (39.38)	15°52.93 15°52.10	195.97 195.90	F0.07 195.90
#19					
410+86.59	815.79	10+74.04 (9.85)	15°08.43 14°56.47	189.5 195.85	C635 195.85

Senior & Water Laterals on LT 50  
 or NLY side of Curve in  
 Roanoke 21

NLY IR Station	DIST along NLY IR	Station	deflection from BC	Elev Top Cb on I.E. Sewer	CUT or FILL
5+22.13	251.33	5+26.26 (43.46)	4°48.97	188.29	F0.16 188.13
4+79.37 #59	208.57	4+82.80 (10.16)	3°59.70	174.00	C13.03 187.03
4+69.37 W	198.57	4+72.64 (43.47)	3°48.31	183.44	F0.54 182.90
4+26.61 #58	155.81	4+29.17 (10.16)	2°59.14	171.1	C9.36 180.46
4+16.61 W	145.81	4+19.01 (43.47)	2°47.64	178.84	C0.01 178.85
3+73.85 #59	103.05	3+75.54 (10.16)	1°58.48	168.5	C8.13 176.63
3+63.85 W	93.05	3+65.38 (38.38)	1°46.98	175.09	F0.51 174.58
3+26.09 #60	55.29	3+27.02 (15.25)	1°03.57	165.9	C7.93 173.83
3+11.09 W	40.29	3+11.75 (40.95)	0°46.32	172.09	F0.14 171.95
2+70.80 = BC		2+70.80	0°00'00"	0	0

Sewer + water laterals on NLY of Roanoke cont

NLY # Station	Dist along NLY # ft	Station	deflection from PC	EL Top of curb or IE	CUT or fill
8+56 <sup>34</sup> W	585 <sup>54</sup>	8+65 <sup>97</sup> (50.02)	11°13.22'	187.28	C002 187.20
8+07 <sup>14</sup> #52	536 <sup>34</sup>	8+15 <sup>95</sup> (10.17)	10°16.66'	181.22	C500 186.22
7+97 <sup>14</sup> W	526.34	8+05 <sup>78</sup> (50.00)	10°05.16'	187.44	F0.34 187.10
6+47 <sup>94</sup> #53	477.14	7+55 <sup>78</sup> (10.17)	9°09.51'	185.2	C8.37 193.57
6+37 <sup>94</sup> W	467.14	7+45 <sup>61</sup> (50.00)	8°58.01'	190.29	C041 190.70
6+88 <sup>74</sup> #54	417.94	6+95 <sup>61</sup> (10.16)	8°00.52'	187.17	C5.87 193.57
6+78 <sup>74</sup> W	407.94	6+85 <sup>45</sup> (98.21)	7°49.03'	193.28	C050 193.78
5+82 <sup>13</sup> #55	311 <sup>32</sup>	5+87 <sup>24</sup> (10.16)	5°57.95'	179.4	C19.6 199.0
5+72 <sup>13</sup> W	301 <sup>33</sup>	5+77 <sup>08</sup> (40.66)	5°46.45'	192.25	F0.69 191.56
5+32 <sup>13</sup> #56	261.33	5+36 <sup>42</sup> (10.16)	5°00.46'	176.9	C15.85 192.75

Sewer + water laterals along NLY of Roanoke cont 51

NLY # Station	Dist along NLY # ft	Station	deflection from PC	EL Top of curb or IE	CUT or fill
CONT Page 52					
11+43 <sup>38</sup>	872.58	11+57 <sup>96</sup> (41.14)			
11+03 <sup>14</sup> #47	832.34	11+16 <sup>82</sup> (10.17)	15°56.98'	191.7	C485 196.55
10+93 <sup>14</sup> W	822.34	11+06 <sup>65</sup> (50.01)	15°45.48'	196.22	F0.21 196.01
10+43 <sup>94</sup> #48	773.14	10+56 <sup>64</sup> (10.16)	14°49.83'	189.40	C503 194.42
10+33 <sup>94</sup> W	763.14	10+46 <sup>48</sup> (50.01)	14°38.33'	193.96	F0.85 193.11
9+84 <sup>74</sup> #49	713.94	9+96 <sup>47</sup> (10.16)	13°40.84'	187.20	C510 192.20
9+74 <sup>74</sup> W	703.94	9+86 <sup>31</sup> (50.01)	13°29.54'	191.68	F0.28 191.40
9+25 <sup>54</sup> #50	654.74	9+36 <sup>20</sup> (10.16)	12°32.78'	184.7	C5.52 190.22
9+15 <sup>54</sup> W	644.74	9+26 <sup>44</sup> (50.01)	12°21.28'	189.41	F0.41 189.00
8+66 <sup>34</sup> #51	595.54	8+76 <sup>13</sup>	11°24.72'	180.7	C7.17 187.87

Sewer + Water Laterals  
CONT - Roanoke

Station	Top cb or IE sewer	Stake	CUT OR FILL
Moved to below			
12+77 <sup>22</sup> #44 LT	197.3		
12+59 <sup>517</sup> #44 LT	197.81	202.51	C503 (Phan-42) city
12+72.72 <sup>#</sup> 23 RT	197.3	203.28	C598
LT=	203.01	202.18	F088
12+62 <sup>72</sup> w LT+RT=	202.51	201.48	F103
12+27 <sup>22</sup> #45 LT	194.5	201.18	C668
12+22 <sup>72</sup> #22 RT	194.5	200.15	C565
LT=	200.39	199.48	F091
12+12 <sup>72</sup> w LT+RT=	199.89	198.68	F121
11+75 <sup>72</sup> #46 LT	193.4	198.38	C500
11+72 <sup>#</sup> 21 RT	191.6	197.59	C599
LT=	198.34	197.76	F058
11+62 <sup>72</sup> w LT+RT=	197.84	197.00	F084

Sewer + Water Laterals in  
Roanoke ST - Rachel to Rea  
CONT

52

Station	IE or Top cb	Stake	CUT or FILL
14+62 <sup>72</sup> w LT+RT=	215.10 214.60	214.89 215.00	F021 C040
14+27 <sup>72</sup> #41 LT	208.40 205.6	213.90	C550
14+22 <sup>72</sup> #26 RT	205.6		Built in place
LT=	212.09	212.87	C078
14+12 <sup>72</sup> w LT+RT=	211.59		605 ON rt = Howchit
13+82 <sup>72</sup> #42 LT	205.30	212.17	C687
13+72 <sup>62</sup> #25 RT	202.90	210.19	C729
LT=	209.07	210.32	C125
13+62 <sup>72</sup> w LT+RT=	208.57	208.85	C028
13+27 <sup>72</sup> #43 RT	200.1	208.36	C826
13+22 <sup>72</sup> #24 RT	200.10	207.23	C713
LT=	206.06	206.19	C013
13+12 <sup>72</sup> w LT+RT=	205.56	204.87	F069



Sewer & Water Laterals  
Roanoke COVT

Station	IE Sewer or Top cb	Stake	Cut or fill
16+22 <sup>72</sup> #30 RT	212.6	219.01	C6 <sup>41</sup>
LT=	218.95	218.25	F0 <sup>70</sup>
16+12 <sup>72</sup> w LT+RT=	218.45	217.90	<del>F0</del> F0 <sup>55</sup>
LT=	219.13	218.47	F0 <sup>66</sup>
15+72 <sup>72</sup> w LT+RT=	218.71	218.51	F0 <sup>20</sup>
6 15+62 <sup>72</sup> #29 RT slant to WLY 15+57 <sup>72</sup> #38 LT 15+62 <sup>72</sup> #38 LT	212.10	219.60	C7 <sup>50</sup>
15+62 <sup>72</sup> #38 LT	212.1	219.55	C7 <sup>25</sup>
15+27 <sup>72</sup> #39 LT	213.30 210.6	218.55	C5 <sup>25</sup>
<del>15+22<sup>72</sup> #28 RT</del>	<del>210.6</del>		<del>Bull LT</del>
LT=	217.77	F0 <sup>50</sup> 216.87	
15+12 <sup>72</sup> w LT+RT=	217.27		<del>Bull LT</del>
14+77 <sup>72</sup> #40 LT	211.0 208.1	216.33	C5 <sup>33</sup>
14+72 <sup>72</sup> #27 RT	210.2 208.1	216.14	C5 <sup>94</sup>

Sewer & Water Laterals  
Roanoke COVT

53

Station	IE Sewer or Top cb	Stake	Cut or fill
17+77 <sup>72</sup> #34 LT	204.9	210.88	C5 <sup>98</sup>
17+72 <sup>72</sup> #33 RT	204.9	212.29	C7 <sup>39</sup>
LT=	210.41	210.16	F0 <sup>25</sup>
17+62 <sup>72</sup> w RT=	209.91	211.52	C1 <sup>61</sup>
17+27 <sup>72</sup> #35 LT	207.6	214.72	C7 <sup>12</sup>
17+22 <sup>72</sup> #32 RT	207.60	213.77	C6 <sup>17</sup>
LT=	214.29	213.12	F1 <sup>17</sup>
17+12 <sup>72</sup> w RT=	213.79	214.08	C0 <sup>29</sup>
16+77 <sup>72</sup> #36 LT	210.70	217.49	C6 <sup>79</sup>
16+72 <sup>72</sup> #31 RT	210.30	217.48	C7 <sup>18</sup>
LT=	217.36	217.00	F0 <sup>36</sup>
16+62 <sup>72</sup> w RT=	216.86	216.47	F0.39
16+27 <sup>72</sup> #37 LT	212.6	218.39	C5 <sup>79</sup>

Sewer + water Laterals  
 Roanoke - Rachel to Res cont

Station	INT gauge size	Station	det from BC	EL Top Chor IE	CUT OR FILL
11+71.83 =		11+57.96	(16°43.25') 16°42.44'		
11+42.26		11+28.89	16°09.64'		
		9.85			
11+32.26		11+19.04	15°58.52'		
		39.38			

Water + Sewer changes - Cont from page 50

Station	IE Sewer or Top	Stake	CUT OR FILL
19+34.47 #67 RT	203.0	206.76	C 376
1036.02'			
(5)			
19+29.47 = W RT -	207.65	207.31	F 034
1021.73'			
(2859)			
LR = 601.31 - A = 19°45'45" - det p. 1007			2.858547
19+00.88 = BC			

Sewer Main  
W/O # 32538-

in Deauville ST - Roanoke

To Sea breeze Drive -

Dwgs 3167-D.  
+ 3165-D-

See Page 58 et al  
for laterals

IE			IF		
Station	Sewer Stake	CUT	Station	Sewer Stake	CUT
2+44 <sup>33</sup>	183.41	197.48 C14 <sup>07</sup>	5+46 <sup>46</sup> = begin encasement -		
			5+43 <sup>10</sup>	184.31	205.19 C20 <sup>88</sup>
2+09 <sup>33</sup>	183.30	196.70 C13 <sup>40</sup>	5+08 <sup>94</sup>	184 <sup>21</sup>	204.62 C20 <sup>41</sup>
<del>14503 # 69 RT</del>					
1+74 <sup>33</sup>	183.70	195.44 C12 <sup>24</sup>	4+74 <sup>78</sup>	184 <sup>10</sup>	203.74 C19 <sup>64</sup>
<del>144<sup>29</sup> # 68 RT</del>					
1+39 <sup>33</sup>	183.09	194.30 C11 <sup>21</sup>	4+40 <sup>62</sup>	184 <sup>00</sup>	202.84 C18 <sup>84</sup>
			(10 Parts of 34.159)		
1+04 <sup>33</sup>	182.99	192.96 C9 <sup>97</sup>	4+06 <sup>46</sup> = 2 MH # 2	183.90	201.82 C17 <sup>92</sup> Ahead 201.71 C17 <sup>81</sup> Back
0+69 <sup>33</sup>	182.88	191.73 C8 <sup>85</sup>	3+75 <sup>75</sup>	183.80	200.95 C17 <sup>15</sup>
0+34 <sup>33</sup>	182.78	190.72 C7 <sup>94</sup>	3+45 <sup>04</sup>	183.71	199.87 C16 <sup>16</sup>
			(3 Parts of 30 <sup>71</sup> )		
0-00 <sup>67</sup>	182.67	190.17 C7 <sup>50</sup>	3+14 <sup>33</sup> = 2 MH # 2	183.62	199.26 C15 <sup>64</sup> to SELY. 199.12 C15 <sup>50</sup> to NLY
(10' parts of 35' each to Deauville & Roanoke					
0-35 <sup>67</sup> = exist MH	182.57	192.42 = IE existing	2+79 <sup>33</sup>	183.51	198.20 C14 <sup>69</sup>
			2+46.46		Begin cradle - No grade

## Sewer Main in Deauville

cont

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Station	IF Sewer	Stake	CUT
8+27 <sup>91</sup>	185.16	198.86	C13 <sup>70</sup>
8+21 <sup>46</sup> = end Cradle-			
8+01 <sup>29</sup>	185.08	200.34	C15 <sup>26</sup>
7+74.67	185.00	201.52	C16 <sup>56</sup>
110 Parts of 26.619			
7+48 <sup>05</sup> = 2 MH#3	184.92	202.56	C17 <sup>64</sup> ahead
	184.92	202.63	C17 <sup>71</sup> Back
7+13 <sup>89</sup>	184.52	203.81	C18 <sup>99</sup>
6+79 <sup>73</sup>	184.72	205.00	C20 <sup>28</sup>
6+51 <sup>46</sup> = end encasement + Begin Cradle			
6+45 <sup>57</sup>	184.61	205.59	C-20 <sup>98</sup>
6+11 <sup>41</sup>	184.51	206.04	C21 <sup>53</sup>
5+77 <sup>25</sup>	184.41	205.71	C21 <sup>30</sup>

Station	IF Sewer	Stake	CUT
11+24 <sup>97</sup>	186.05	191.38	C5 <sup>33</sup>
10+88 <sup>06</sup>	185.94	191.04	C5 <sup>10</sup>
10+51 <sup>15</sup>	185.83	190.52	C4 <sup>69</sup>
15 Parts of 36 <sup>91</sup> + 1 part of 36.94			
10+14 <sup>24</sup> 2 MH#4	185.72	191.09	C5 <sup>37</sup>
9+87 <sup>62</sup>	185.64	192.09	C6 <sup>45</sup>
9+61 <sup>00</sup>	185.56	193.08	C7 <sup>52</sup>
9+34.38	185.48	193.82	C8 <sup>34</sup>
9+07 <sup>76</sup>	185.40	194.94	C9 <sup>54</sup>
8+81 <sup>15</sup>	185.32	196.04	C10 <sup>72</sup>
8+54 <sup>53</sup>	185.24	197.40	C12.16

Station	IE Sewer	Stake	CUT
14+59 <sup>92</sup>	187.06	204.04	C16 <sup>98</sup>
14+28 <sup>10</sup>	186.96	203.35	C16 <sup>39</sup>
5 Parts of 31.82 + 1 Part of 31.87			
13+96 <sup>28</sup> = 2 MH #6	186.87	201.52	C14 <sup>65</sup>
13+73 <sup>82</sup> = Begin 440' Conc Cradle			
13+64 <sup>17</sup>	186.78	99.81	C13 <sup>03</sup>
13+32 <sup>06</sup>	186.68	97.84	C11 <sup>16</sup>
12+99 <sup>95</sup>	186.58	95.83	C9 <sup>25</sup>
12+67 <sup>84</sup>	186.48	193.52	C7 <sup>04</sup>
(5 Parts of 32.11)			
12+35 <sup>73</sup> = 2 MH #5	186.38	192.90	C6 <sup>52</sup>
(36.94)			
11+98 <sup>79</sup>	186.27	192.07	C5 <sup>80</sup>
11+61 <sup>88</sup>	186.16	191.65	C5 <sup>49</sup>

Station	IE Sewer	Stake	CUT
17+56 <sup>40</sup>	187.94	206.90	C18 <sup>96</sup>
17+22 <sup>57</sup>	187.84	205.41	C17 <sup>57</sup>
16+88.74	187.74	204.62	C16 <sup>88</sup>
16+54.91	187.64	204.65	C17 <sup>01</sup>
16+21 <sup>08</sup>	187.54	204.18 204.26	C16.64 C16 <sup>72</sup>
5 Parts of 33.83 + 1 part of 33.85			
Reo Drive			
15+87 <sup>25</sup> = 2 MH #7	187.44	204.86	C17 <sup>42</sup>
15+55 <sup>38</sup>	187.34	204.52	C17 <sup>18</sup>
15+23 <sup>56</sup>	187.25	204.34	C17 <sup>09</sup>
14+91 <sup>74</sup>	187.15	204.15	C17 <sup>00</sup>

Sewer Main Deauville St

Station	IE Sewer	stake	CUT
Sea Breeze - #9			
19+93.82 9MH	188.66	213.76 <del>211.51</del>	C25.10 <del>C22.85</del>
19+59.85	188.55	213.47 <del>213.58</del>	C24.92 <del>C25.03</del>
19+25.93	188.45	212.70 <del>210.50</del>	C24.25 <del>C24.15</del>
18+92.01	188.35	211.55 <del>211.78</del>	C23.20 <del>C23.43</del>
18+58.09	188.25	211.14	C22.89
18+24.17	188.15	210.21	C22.06
5 Parts of 33.92 + 1 Part of 33.97			
17+90 <sup>25</sup> = 4MH#8	188.05	208.43	C20.38

Sewer Laterals in Deauville St 58  
Roanoke to Sea Breeze -  
WO # 32538 -

Station	IE Sewer	stake	CUT
3+47 <sup>16</sup> #76 RT (on curve)	194.90	200.38	C5.48
3+27 <sup>86</sup> #77 LT (on curve)	196.00	201.54	C5.54
3+07 <sup>83</sup> #75 RT (on curve)	193.80	200.30	C6.50
2+67 <sup>83</sup> #74 RT	193.80	198.65	C5.15
2+60 <sup>83</sup> #73 LT	193.60	198.95	C5.35
2+27 <sup>83</sup> #72 RT	192.60	197.75	C5.15
5' sly + 2' wly of end of Lat			
2+05 <sup>83</sup> #71 LT	192.00	197.30	C5.30
1+87 <sup>83</sup> #70 RT	191.50	196.65	C5.15
Staked 5' sly + 2' wly of end of Lat			
1+50 <sup>03</sup> #69 LT	190.60	195.90	C5.30
1+44 <sup>29</sup> #68 RT	190.40	195.15	C4.75
0+76 <sup>29</sup> #16 RT			C5.05

## Sewer Laterals Beauville Court

Station	IE Sewer	Stake	cut
Staked 2' in street 5+63 <sup>68</sup> #84 LT	201.60	206.16	C45 <sub>6</sub>
Staked 2' in street 5+23 <sup>68</sup> #83 LT	200.90	205.77	C48 <sub>7</sub>
4+46 <sup>46</sup> #82 RT	198.70	205.21	C6 <sup>51</sup>
4+66 <sup>46</sup> #81 RT	197.40	203.96	C6 <sup>56</sup>
4+21 <sup>46</sup> #80 RT	196.30	202.89	C6 <sup>59</sup>
4+06 <sup>46</sup> - LMH #2 with curb stationing			
To B.C. do not agree laterals from EC stationing on sewer			
(curve) 4+25 <sup>82</sup> #79 RT	194.50	201.89	C7 <sup>39</sup>
3+86 <sup>49</sup> #78 RT (curve)	194.50	201.06	C6 <sup>56</sup>

## Sewer Laterals Beauville St

59

Station	IE Sewer	Stake	cut
7+52 <sup>40</sup> = BC - 2R = 425' D = 36°30'			
Note - above laterals on curve figured on 5' offsets in street. Vertical cut bank along property line			
7+236 <sup>8</sup> #92 LT	199.50	206.73	C72 <sub>3</sub>
7+16 <sup>46</sup> #91 RT	197.60	206.31	C8 <sup>71</sup>
6+83 <sup>68</sup> #90 LT	200.70	209.87	C9 <sup>17</sup>
6+66 <sup>46</sup> #89 RT	198.30	207.85	C9 <sup>55</sup>
Staked 2' in street 6+43 <sup>68</sup> #88 LT	201.50	206.97	C54 <sub>7</sub>
6+16 <sup>46</sup> #87 RT	201.90	207.57	C5 <sup>67</sup>
Staked 68' 2' in street 6+03 <sup>68</sup> #86 LT	201.90	206.90	C5 <sup>00</sup>
5+66 <sup>46</sup> #85 RT	198.70	207.06	C83 <sub>6</sub>

Sewer Laterals on Beauville  
Cont.

Station	IE Sewer	Stake	CUT
3 Chord = 49 <sup>45</sup>	def = 4°24.24'		
7+70 <sup>81</sup> #93 RT	195.70	203.63	C79 <sup>3</sup>
3 Chord = 18.21	def = 1°11.11'		
7+52 <sup>40</sup> = PC			
4 Laterals on RT or Sly Run on 445' R			
4 9+90 <sup>15</sup> #102 LT	187.80	192.50	C47 <sup>0</sup>
Chord 405' R = 53.88	def = 17°04'		
4 9+36 <sup>90</sup> #100 LT	189.30	194.75	C54 <sup>5</sup>
4 Chord 405' R = 55.13	def = 13°12.84'		
Staked 2' in street			
4 8+82 <sup>40</sup> #98 LT	192.20	196.75	C45 <sup>5</sup>
7 Chord 405' R = 54.63	def = 9°18.64'		
Staked 2' Sly R in street			
4 8+28 <sup>40</sup> #96 LT	194.80	199.30	C45 <sup>0</sup>
Chord 405' R = 54.63	def = 5°26.59'		
7+74.40 = #94 LT	197.40	203.20	C58 <sup>0</sup>
4 Chord on 405' R = 22.73	def = 1°34.54'		
7+52 <sup>40</sup> = PC			
3 Run on 405' Rad - Def per foot on 400' R = 4.2972'			
Laterals on LT or Nly side of Beauville			

LATERALS ON Beauville Cont 60

Station	IE Sewer	Stake	CUT
Continued Page 61.			
10+56 <sup>15</sup> = SL #104	186.50	191.89	C53 <sup>9</sup>
def = 2°21.51'	- 2 chord = 30 <sup>86</sup>		
10+23 <sup>14</sup> = PRC			
LT or Nly side of Beauville ST			
Laterals are Prop Line Stationing			
Property figured separately + stationing on			
10+23 <sup>14</sup> = PRC on 2 stationing - each			
10+25 <sup>81</sup> #103 RT	187.40	192.38	C49 <sup>8</sup>
Chord = 54.39	def = 17°36.07'		
9+70 <sup>81</sup> #101 RT	189.00	195.65	C66 <sup>5</sup>
Chord 49.45	def = 14°03.63'		
9+20 <sup>81</sup> #99 RT	191.20	197.00	C58 <sup>0</sup>
Chord 49.45	def 10°50.50'		
8+70 <sup>81</sup> #97 RT	191.40	199.01	C76 <sup>1</sup>
Chord 49.45	def 7°37.37'		
8+20 <sup>81</sup> #95 RT	193.50	200.64	C71 <sup>4</sup>



Sewer + Water laterals in deauville  
CONT

Station	IE Sewer or T.C.	Stake	CUT
Sewer + Water laterals on curve deauville			
			LT of
12+16 <sup>07</sup> W LT	193.47		
def = 13° 48.91' - $\Delta$ chord = 9.37			
OUT Per align			
12+106 <sup>07</sup> SL # 1096T			
def 13° 05.99' $\Delta$ chord = 38.50			
11+66 <sup>07</sup> W LT	192.14	191.13	F10L
def = 10° 14.10' - $\Delta$ chord = 9.37			
11+56 <sup>07</sup> SL # 1074T	187.20	190.67	C34T
def = 9° 31.18' - $\Delta$ chord = 38.50			
11+16 <sup>07</sup> W LT	191.48	190.89	F05T
def = 6° 39.29' - $\Delta$ chord = 9.37			
11+06 <sup>07</sup> SL # 106	186.90	193.34	C64T
def = 5° 56.37' - $\Delta$ chord = 42.19'			
10+61 <sup>07</sup> W	191.58	191.50	F008
def = 2° 43.00' - $\Delta$ chord = 469			

Sewer + Water laterals on  
RT or SEly side of Deauville

61

Station	IE Sewer or T.C.	Stake	CUT
13+61 <sup>50</sup> #114	194.80	200.94	C614
def = 2° 54.51' - $\Delta$ chord = 2808			
13+30 <sup>92</sup> = BC			
LT on 17ly side - - -			
Laterals on curve - each side figured Separately - Stations = R Stations			
13+09 <sup>00</sup> = W LT	196.58	196.68	C010
12+99 <sup>00</sup> = SL # 113	190.90	197.44	C654
OUT Per align			
11+74 <sup>88</sup> W RT	192.80		
def 12° 25.21' - $\Delta$ chord = 10.62'			
OUT Per align			
11+64 <sup>88</sup> SL # 108			
def = 11° 36.10' $\Delta$ chord = 74.39'			
10+94 <sup>88</sup> = W RT	191.38	190.62	F076
def = 5° 52.32' - $\Delta$ chord = 10.62'			
10+84 <sup>88</sup> SL # 105RT	186.40	191.65	C525
def = 5° 03.21' - $\Delta$ chord = 65.60'			
10+23 <sup>14</sup> = $\Delta$ P.R.C.			

Station	IE SEWER T.C. OR US	Stake	CUT
2+67 <sup>98</sup> #124 NLY	207.60	214.33	C673
2+07 <sup>98</sup> = #122 NLY	205.40	214.32	C892
1+47 <sup>98</sup> = #120 NLY	203.30	208.22	C492
1+04 <sup>24</sup> #119 SLY	197.70	206.77	C907
0+38 <sup>39</sup> NLY - SL #117	200.80	205.82	C502

Reo.  
Sewer laterals on Deauville - Ely of

115 13+88 <sup>75</sup> SL#	198.20	202.70	C450
det 6° 53.33' -	Chord = 560.		
13+83 <sup>25</sup> WRT	201.90	200.26	F164
det = 6° 17.73' -	Chord = 59.17		

13+30<sup>92</sup> = BC  
+ Ely Moening side  
Sewer + water on R Tor side of Deauville

14+74 <sup>54</sup> #116 ST	200.5	208.94	C844
13+71 <sup>50</sup> W	200.60	200.58	F002
det = 3° 51.55'	Chord on $\phi$ = 900		
Sewer + water on NLY Deauville + Ely Moening side			

Branch Sewer from 2 MH#5  
at Deauville 110' Nly in Morningside

40' Branch Sewer from 2 MH#5 Page 57 in Deauville  
Morningside Station & Morningside 63

Station	IF Sewer	Stake	CUT
SL #110 ELY	202.8	206.97	C47
SL #111 ELY	203.00	205.47	
SL #112 ELY	195.50	200.31	C48
1410=Plug	192.98	199.42	C644
0+82.5	191.33	197.43	C610
0+55	189.68	196.07	C839
0+27.5	188.03	193.93	C590
page 57 1343575 = 2 MH#5	186.38	192.90	C652

Station	IF Sewer	Stake	CUT
0+40=Plug	186.56	193.46	C690
0+20	186.47	192.60	C613
page 57 0+00 = 2 MH#5	186.38	192.90	C652

Pave Roanoke ST. Rachel to Res Drive  
See FR- 6365

ST. Rachel to Res Drive  
for Ties

LT=Nly

For Rough  
grade see  
6365

DWGS 3168 D + 3169 D - 7/256

C. Allen, D. Sisson, C. Powell  
B. Parks

RT=slly

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Station	LT GUTTER	Rough Grade	Top cb. grade	Curve Stake	LT 1/4	g grade	RT 1/4	Rough grade	Top cb Grade	Curve Stake	RT GUT
1+60			164.40	F0.15 64.25		164.11			163.90	C0.16 164.06	
1+40			163.71	F0.17 163.54		163.42			163.21	C0.29 63.50	
1+20			163.13	C0.30 63.43		162.84			162.63	C0.17 162.80	
BVC 1+00 =			162.66	F0.03 62.63		162.37			162.16	C0.02 162.18	
0+60			162.07	F0.47 61.60		161.66			161.32	F0.21 161.11	
0+35			161.70	F0.31 61.39		161.21			160.77	C0.22 160.99	
BVC RT 0+22 = cb									160.50	F0.22 160.28	
BVC ON LT 0+04 =			161.24	F0.40 160.84							
R Rachel 0+00 = Ely											

For Rough grade see 6365

See 6365 pages band 25

Pave Roanoke ST

LT=NLY-

Sec FB

6365

CONT

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RT=1/3.

Station	LT 90T	Rough Grade	Top of grade	Curb Stk	LT 1/4	d grade	RT 1/4	Rough grade	Top of grade	Curb Stake	RT 90T
3+40=BVC			173.61	Co. 32 173.93		173.32			173.11	Co. 23 173.34	
1°18.27'											
3+20			172.53	Co. 49 173.03		172.24			172.03	Co. 09 172.12	
0°55.66'											
3+00			171.44	Co. 27 171.71		171.15			170.94	Co. 08 171.02	
0°33.05'											
1.1308377											
Def. per Foot =											
E L = 887.17											
T = 456.62											
R = 1520											
Δ = 33°26'30"											
2+70 <sup>80</sup> =BVC			169.88	Fo. 60 169.28		69.59			169.38	Fo. 76 168.62	
2+60			169.30	Co. 20 169.50		69.01			168.80	Fo. 44 168.36	
2+20=EVC			167.13	Co. 27 67.40		66.84			166.63	Fo. 18 166.45	
2+00			166.11	Co. 43 166.54		65.82			165.61	Fo. 85 64.76	
1+80			165.20	Co. 14 166.34		64.91			164.70	Co. 24 164.94	















Pave Roanoke

LT = nky -

cont  
RT = sly -

72

Station	LT gUT	Rough grade	Top cb grade	Curve STK F 0.25	LT 1/4	2 grade	RT 1/4	Rough grade	Top cb grade	Curve STK C 0.09	RT GUT
15+40			218.70	218.45					218.20	218.29	
15+20			218.08	217.81					217.58	218.06	
15+00			217.23	217.12					216.73	217.29	
BVC 14+80 =			216.15	215.75					215.65	215.82	
14+45			214.04	214.66					213.54	214.50	
14+08			211.81	213.19					211.31	213.55	
13+71			209.58	211.35					209.08	210.53	
13+34			207.35	208.16					206.85	207.40	
12+97			205.12	204.56					204.62	204.75	
EVC 12+60 =			202.89	202.43					202.39	202.08	

903 F0.05 road

C 1.45

210.53

Pave Roanoke

LT=shy-

cont

RT=shy-

73

Station	LT gUT	Rough grade	Topob grade	Curb&SK C 0.96	LT 1/4	± grade	RT 1/4	Rough grade	Topob grade	Curb &SK C 0.32	RT gUT
17+40			212.27	213.23					211.77	212.09	
17+20			213.75	214.29					213.25	F 0.08 213.17	
17+00			215.23	215.58					214.73	F 0.14 214.59	
16+80			216.48	217.16					215.98	C 0.11 216.09	
16+60			217.50	217.69					217.00	F 0.25 216.75	
16+40			218.28	217.99					217.78	F 0.31 217.47	
16+20			218.83	218.44					218.33	F 0.24 218.09	
16+00			219.15	218.79					218.65	F 0.09 218.61	
15+80			219.23	219.13					218.73	F 0.10 218.63	
15+60			219.00	218.77					218.50	F 0.21 218.29	

Parc Roanoke

LT=shy-

25

cont

RT=shy-

24

Station	LT 90T	Rough grade	Top cb grade	ObstK F 0.39	LT 114	grade	RT 114	Rough Grade	Top cb grade	Curs stake F 1.23	RT 90T
19+75			208.05	207.66				207.45		206.22	
3°31.89											
Note - Alley on sky closed - No return											
19+50			208.46	207.81				207.56		F 0.22 207.34	
2°20.42											
19+25			208.27	208.84				207.67		F 0.57 207.10	
1008.95'											
dPF = 2.858547											
T = 104.74'											
L = 207.41											
LR = 601.31											
Δ = 19°45'45"											
B.C. RT										F 0.83	
19+00 <sup>88</sup>			208.37	208.52				207.77		206.94	
18+50											
18+55 <sup>72</sup> = cb Fe.			208.63	209.31				207.90		F 0.16 207.74	
cb Ret.											
17+79 <sup>72</sup> = BC			210.07	210.31				209.57		C-1.69 211.26	
17+60			211.05	211.85				210.55		C 0.83 211.38	

Station	LT GUT	Rough grade	Top cb grade	Curb STK	LT 1/4	Grade	RT 1/4	Rough grade	Top cb grade	Curb STK	RT GUT
E.C.											
21+08.28'									206.87		C0.01 206.88
9° 52.86'											
21+00									206.91		F0.03 206.88
9° 29.17'											
S' WLY ON LT: Moved											
= cb pc											
20+77.31'			207.60								
				207.38							
20+75'									207.05		F0.22 206.83
8° 17.70'											
20+50			207.72						207.16		F0.24 206.92
7° 06.23'											
20+25			207.83						207.27		F0.31 206.96
5° 54.76'											
20+00			207.94						207.38		F0.52 206.86
4° 43.29'											

6.70 <sup>add</sup>  
F0.22

7.02 <sup>add</sup>  
F0.24

F0.42  
207.41

F0.36  
207.58

Pave Deauville (Rancho Hills  
 Revised from page #1-

LT = NLY

0-3 Reo To Sea Breeze

76

RT = SLY

Station	LT 90T	Rough Grade	Top cb grade	Curb Stake	NLY 1/4	2 grade	SLY 1/4	Rough Grade	Top cb grade	Curb Stake	RT 90T
2+17 <sup>98</sup>			210.25						210.25		
1+81 <sup>98</sup>			208.95						208.95		
S. Parts of 36											
EVC 1+45 <sup>98</sup> =			207.66						207.66		
1+25 <sup>98</sup>			207.05						207.01		
BVC 1+05 <sup>98</sup> =			206.66						206.52		
(39.11)											
0+66 <sup>87</sup>			206.11						205.71		
(39.11)											
+ Deauville BC SE of Reo 0+27 <sup>1/2</sup> =cb			205.56						204.94		204.44
LT only 0+07 <sup>1/2</sup>	204.77		205.27								
+ Reo NELY Deauville 0+00=cb BC	204.67		205.17								

See sketch page 75



Pave Deauville - Re. To

LT = NLY

Sea Breeze cont

RT = SLY

77

Station	LT 90T	Rough Grade	Top of grade	Curbs STK	NLY 114	grade	SLY 114	Rough Grade	Top of grade	curbs STK	RT 90T
ELY R Sea Breeze 3+77 <sup>98</sup>			215.44						215.44		
(25)											
= WLY R Sea Breeze 3+52 <sup>98</sup> = end of curb			214.79						214.79		
(27)											
3+25 <sup>98</sup>			214.14						214.14		
2+89 <sup>98</sup>			212.84						212.84		
2+53 <sup>98</sup>			211.54						211.54		

Storm Drain in Qualtrough ST  
 Between San Elijo + R. Jo Crans  
 W of # 31443 - 7-8-56 - C. Allen, D. Sisson  
 DWG # 5919 - B - FB 2080 - 55

Station	IE Drain	Stake	CUT
0+78 <sup>8</sup>	75.45	78.93	C34 <sup>8</sup>
(4')			
0+74 <sup>8</sup> = BVC	76.89	80.57	C36 <sup>8</sup>
0+54 <sup>8</sup>	83.19	87.27	C40 <sup>8</sup>
0+34 <sup>8</sup> = EVC	89.49	94.21	C47 <sup>2</sup>
0+30 <sup>8</sup>	90.93	95.12	C41 <sup>9</sup>
0+26 <sup>8</sup>	92.56	96.37	C38 <sup>1</sup>
0+22 <sup>8</sup>	94.37	97.83	C34 <sup>6</sup>
(4')			
0+18 <sup>8</sup> = BVC	96.37	99.71	C33 <sup>4</sup>
+ 2 Type K (4') Qualtrough ST Ely end CUI de sac			
0+00 = Face curb	105.09	108.95	C-38 <sup>6</sup>

BM = existing 90' Ter at Ely end CUI - De Sac

Storm Drain cont

78

Station	IE Drain	Stake	CUT
Headwall			
1+02 <sup>8</sup>	62.91	72.82	C99 <sup>1</sup>
0+98 <sup>8</sup> =	65.46	73.48	C80 <sup>2</sup>
0+94 <sup>8</sup>	67.83	74.12	C62 <sup>9</sup>
0+90 <sup>8</sup>	70.01	75.04	C50 <sup>3</sup>
0+86 <sup>8</sup>	72.01	76.17	C41 <sup>6</sup>
0+82 <sup>8</sup>	73.82	77.69	C38 <sup>7</sup>

Water laterals in Morning side  
Between Deauville & Roanoke

Station	Top of Grade at end	Stake	CUT or FILL
---------	---------------------------	-------	-------------

1452 <sup>0</sup> (W) ELY	203.07	201.05	F2 <sup>02</sup>
---------------------------	--------	--------	------------------

1402 <sup>0</sup> (W) ELY	205.42	204.96	F0 <sup>46</sup>
---------------------------	--------	--------	------------------

0442 <sup>0</sup> (W) ELY	206.92	207.28	C0 <sup>36</sup>
---------------------------	--------	--------	------------------

Roanoke  
0400 = Sky P.L.

Water line (Main) Deauville 79  
ST - ELY of Reg Drive  
See back of page for water lateral.

Station	IE Pipe	Stake	CUT
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R. Seabrook

3777 <sup>98</sup> = ELY	210.94	211.82	C0 <sup>88</sup>
--------------------------	--------	--------	------------------

3752 <sup>98</sup>	210.29	213.91	C36 <sup>2</sup>
--------------------	--------	--------	------------------

3725 <sup>98</sup>	209.64	213.49	C38 <sup>5</sup>
--------------------	--------	--------	------------------

2789 <sup>98</sup>	208.34	212.05	C37 <sup>1</sup>
--------------------	--------	--------	------------------

2753 <sup>98</sup>	207.04	211.35	C43 <sup>1</sup>
--------------------	--------	--------	------------------

2717 <sup>98</sup>	205.75	210.33	C45 <sup>8</sup>
--------------------	--------	--------	------------------

1781 <sup>98</sup>	204.45	208.87	C44 <sup>2</sup>
--------------------	--------	--------	------------------

1745 <sup>98</sup>	203.16	207.30	C41 <sup>4</sup>
--------------------	--------	--------	------------------

1725 <sup>98</sup>	202.51	206.22	C32 <sup>1</sup>
--------------------	--------	--------	------------------

1705 <sup>98</sup>	202.02	205.46	C34 <sup>4</sup>
--------------------	--------	--------	------------------

0766 <sup>87</sup>	201.21	204.56	C33 <sup>5</sup>
--------------------	--------	--------	------------------

0727 <sup>76</sup>	200.44	204.52	C40 <sup>8</sup>
--------------------	--------	--------	------------------

Wa

Be

Water Laterals on  
Deauville - cly of Reo Dr  
RT = Sky - LT = Nly.

80

Stet. Station	Top cb grade	Stake	cut
---------------	-----------------	-------	-----

3+35<sup>98</sup>

214.61

C 0 0 2  
214.631+52<sup>98</sup> 2+80<sup>98</sup>

212.66

C 0 . 9 7  
213.631+02<sup>98</sup> 2+15<sup>98</sup> - W LT

210.18

211.39

C 1 2 1

0+42<sup>98</sup>1+60<sup>98</sup> W LT

208.21

C 0 5 0  
208.7

Reo Dr

0+00 =

1+14<sup>24</sup> @ RT

206.72

C 0 0 5  
206.77

6353  
152.0  
11.53

6394  
52.00  
11.94

15+16-  
108+109/  
111  
118  
121  
123  
125  
127

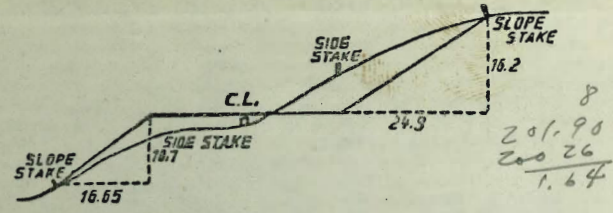
202.8  
5  
197.8

64.01  
51.00  
13.09

4(94)<sup>20</sup>  
2.3

2+92.83  
107  
53  
3403  
R.C.

10424  
3839  
65.85



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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