

1653

WETZGEN

1881-1914

ENGINEERS'
LEVEL BOOK

No. 410F

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 - (20 - 16) \div 2$ or 2 ft. added to 30.6 = 32.6. For slopes of 1 on $1\frac{1}{2}$ see inside of back cover.

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1653

Handwritten calculations:
 $\frac{248.3}{2.4} = 103.458$
 $\frac{281.1}{4.6} = 61.108$
 $\frac{246.5}{1.2} = 205.416$
 $\frac{4.6}{1.2} = 3.833$
 $\frac{151.1}{1.2} = 125.916$
 $\frac{139.0}{1.2} = 115.833$

CITY ENGINEER'S OFFICE

ENGINEERING DEPARTMENT
CITY OF SAN DIEGO,
CALIFORNIA.

Handwritten calculations:
 $\frac{186.0}{9.3} = 20.0$
 $\frac{195.3}{175.7} = 1.111$
 $\frac{171.2}{4.5} = 38.044$
 $\frac{193.6}{2.0} = 96.8$
 $\frac{195.6}{1.2} = 163.0$

The paper stock of this book is made of a high grade 50% rag paper having a water resisting surface. This book is sewed with Bing Special Enamel Waterproof Thread.

Made in U. S. A.

TP 9.92 254.75 11.96 244.83

1475

1450 255.0

TP 7.38 256.79 11.92 249.41

1425

140 257.50

0475

261.23

L+

L

R+

2

2488 ✓
85
80
2354 ✓
60
2329 ✓
40
2321 ✓
30
2345 ✓
15
2360 ✓
20
2391 ✓
15
2393 ✓
20
2392 ✓
15
2489 ✓
81-54/16

2362 ✓
85
64
2372 ✓
55
191
2332 ✓
45
2341 ✓
40
2391 ✓
15
2416 ✓
15
2464 ✓
20
2474 ✓
10
2523 ✓
15
2522 ✓
46
170-54/16

256.79

2438 ✓
175
80
2419 ✓
174
70
2371 ✓
84
2363 ✓
55
2373 ✓
40
2416 ✓
15
2483 ✓
20
2515 ✓
12
2518 ✓
29
2564 ✓
10
2566 ✓
50

2417 ✓

2384 ✓
229
64
2376 ✓
50
2392 ✓
40
2454 ✓
20
2519 ✓
14
2553 ✓
10
2570 ✓
13
2581 ✓
16
2593 ✓
20
210-54/16

2419 ✓

2407 ✓

2435 ✓

2505 ✓

2587 ✓

194
83
206
52
178
40
108
20
28-54 Garage

261.93

Washington St. Extension cont.

TP 7.36 259.41 2.70 252.05

2+75

2+50

$E R = 1000'$
 $L = 360.82'$
 $T = 182.44'$
 $\Delta = 20^\circ 40' 45''$

Correction

2+25

$E R = 1000'$
 $L = 360.73'$
 $T = 182.34'$
 $\Delta = 20^\circ 40' 05''$

2+11.87 B.C. Lt

1+95

254.75

Lt.

R

Pt.

3

254.0
 0.8
 254.0
 0.8
 252.3
 1.5
 245.1
 9.7
 235.4
 19.4
 227.4
 37.4
 223.5
 31.9
 231.4
 $100.$

254.8
 0.6
 246.0
 8.8
 239.3
 15.5
 236.6
 18.2
 230.6
 24.2
 225.5
 29.2
 225.0
 29.8
 230.0
 24.8
 235.9
 18.9
 $100.$

253.8
 1.0
 242.0
 5.8
 239.4
 15.4
 233.4
 21.4
 231.0
 20.8
 228.5
 26.2
 226.9
 33.5
 227.5
 27.0
 232.3
 28.5
 236.5
 18.9
 $100.$

251.4
 2.4
 239.0
 14.8
 235.1
 19.7
 232.1
 22.7
 230.1
 24.7
 229.5
 25.3
 228.0
 26.8
 230.2
 24.6
 233.7
 21.1
 238.9
 16.9
 239.2
 15.6
 $100.$

247.6
 2.2
 239.1
 15.7
 234.1
 20.7
 230.0
 24.8
 227.9
 21.7
 233.4
 21.4
 234.7
 20.1
 238.9
 15.9
 239.4
 15.4
 250.0
 10.8
 $100.$

254.75

3+75

TP 8.74 25795 10.20 249.21

3+50

3+25

3+15

3+0 L. H. Conc Hall

25941

st

st

Rt.

4

2528 ✓ 2528 ✓ 2486 ✓ 2347 ✓ 2265 ✓ 2150 ✓

5.9 5.9 9.1 20.3 31.5 43.0
5.1 on H. Ho. 12.5 on Conc Hall 17.0 on H. Ho. 20.0 on H. Ho. 31.5 on H. Ho. 43.0 on H. Ho.

25795 215.3

427
100

2577 ✓ 2554 ✓ 2539 ✓ 2509 ✓ 2488 ✓ 2445 ✓ 2431 ✓

1.7 4.0 5.5 9.0 10.6 15.9 16.3
1.7 on Conc Dr. 4.0 on Conc Hall 5.5 on Conc Hall 9.0 on Conc Hall 10.6 on Conc Hall 15.9 on Conc Hall 16.3 on Conc Hall

2380 ✓ 2338 ✓ 2261 ✓ 2160 ✓ 2180 ✓

21.4 25.6 33.3 33.7 41.4
4.1 on Conc Hall 4.1 on Conc Hall 8.0 on Conc Hall 8.0 on Conc Hall 10.0 on Conc Hall

25483 ✓ 25384 ✓ 25454 ✓ 2550 ✓ 2546 ✓ 2546 ✓ 2547 ✓ 2547 ✓ 2547 ✓ 2456 ✓ 2330 ✓ 2224 ✓ 2192 ✓

4.8 5.57 4.87 5.4 4.8 4.8 4.7 4.7 4.7 13.8 16.4 27.0 40.2
4.0 on Pav. 31.8 on Gutter 31.8 on Dr. 4.6 on H. Ho. 4.8 on H. Ho. 4.7 on H. Ho. 4.7 on H. Ho. 4.7 on H. Ho. 13.8 on Conc Hall 16.4 on Conc Hall 27.0 on Conc Hall 40.2 on Conc Hall

2225 ✓

56.9
100

2548 ✓ 25295 ✓ 2540 ✓ 2544 ✓ 2547 ✓ 2456 ✓ 2330 ✓ 2224 ✓ 2192 ✓

4.6 4.6 5.4 5.0 4.7 13.8 16.4 27.0 40.2
4.0 on Pav. 4.6 on Conc Hall 5.4 on Conc Hall 5.0 on Conc Hall 4.7 on Conc Hall 13.8 on Conc Hall 16.4 on Conc Hall 27.0 on Conc Hall 40.2 on Conc Hall

2191 ✓ 2244 ✓

10.3 15.0
85 100

2546 ✓ 2542 ✓ 2546 ✓ 2456 ✓ 2409 ✓ 2310 ✓ 2238 ✓

4.8 5.2 4.8 13.8 13.8 18.5 28.4 38.6
4.0 on Pav. 5.2 on Conc Dr. 4.8 on Conc Hall 13.8 on Conc Hall 13.8 on Conc Hall 18.5 on Conc Hall 28.4 on Conc Hall 38.6 on Conc Hall

220.7 ✓ 220.4 ✓ 223.4 ✓

38.7 39.0 45.0
75 85 100

25941

Washington St. Extension West

5+0 327.5

1.27 252.62

TP 5.29 253.89 12.87 248.60

4+75

4+50

TP 12.87 261.47 9.55 248.60

4+25 12.61 1/2 Perry or Pole

4+0

257.95

07 Hds
T. 101 #18
1467-15
252.55

St	A	PT	5
259.5 ✓ 75.6 30	249.0 ✓ 19 40	238.1 ✓ 15.8 30	228.3 ✓ 25.6
			220.3 ✓ 33.6 20
			213.7 ✓ 40.2 40
			206.7 ✓ 47.2 55
			207.2 ✓ 46.7 57
			211.7 ✓ 41.2 55
			215.9 ✓
			253.89
			58.0 100
256.5 ✓ 5.0 45-Top Wall	253.7 ✓ 7.5 90-Top Wall	251.6 ✓ 9.9 90	242.3 ✓ 19.2 20
			233.4 ✓ 28.1
			226.5 ✓ 35.0 20
			211.1 ✓ 41.4 40
			212.7 ✓ 48.8 55
			208.4 ✓ 50.1 57
			209.5 ✓ 52.0 55
			215.0 ✓
			46.5 100
258.9 ✓ 2.6 30	258.0 ✓ 3.5 40	255.3 ✓ 6.2 90-Top Wall	253.3 ✓ 8.7 90-Top Wall
			249.3 ✓ 12.2 20
			240.5 ✓ 21.0
			232.3 ✓ 29.2 20
			225.0 ✓ 36.5 40
			215.6 ✓ 45.9 55
			210.5 ✓ 57.0 77
			210.9 ✓ 58.2 87
			214.6 ✓ 46.9 100
			261.47
256.0 ✓ 7.0 95-Under House	254.5 ✓ 2.5 14.5-Top Wall	250.5 ✓ 7.5 14.5-Top Wall	243.9 ✓ 14.1 14.5-Top Wall
			236.4 ✓ 21.6 20
			228.5 ✓ 29.6 40
			219.5 ✓ 38.5 50
			212.0 ✓ 46.0 77
			214.4 ✓ 48.6 100
256.8 ✓ 1.8 12-1/4 House	256.2 ✓ 1.8 12	253.2 ✓ 4.8 1-Top Wall	248.6 ✓ 9.4 30-Top Wall
			238.0 ✓ 29.0 20
			231.7 ✓ 26.2 40
			226.7 ✓ 31.5 55
			219.0 ✓ 39.0 70
			213.5 ✓ 44.5 55
			212.9 ✓
			213.9 ✓
			45.1 90
			46.1 100
			257.95

6425

TP 11.95 255.63 9.71 244.18

640 2325

5472.69 FC

5450

5425

25389

Lt.

S

Rt.

6

2452 ✓	2390 ✓	2345 ✓	2316 ✓	2254 ✓	2179 ✓	2105 ✓	2071 ✓	1971 ✓	2031 ✓
10.4 80	16.6 40	31.1 30	24.0 20	39.2	37.7 20	45.1 10	48.5 57	52.5 85	52.5 100

25563

2405 ✓	2364 ✓	2319 ✓	2264 ✓	2191 ✓	2136 ✓	2086 ✓	2037 ✓	2006 ✓	2019 ✓	2019 ✓
13.4 73 100 part plant work	17.5 55	22.0 40	27.5 20	34.8	40.3 20	45.3 10	50.3 20	55.3 11	52.0 20	46.0 100

2408 ✓	2353 ✓	2288 ✓	2212 ✓	2169 ✓	2114 ✓	2059 ✓	2038 ✓	2043 ✓	2049 ✓	2107 ✓
12.1 80	18.6 60	25.1 40	32.7 20	37.0	42.5 20	48.0 10	56.1 40	49.6 85	40.0 85	45.2 100

2414 ✓	2333 ✓	2277 ✓	2218 ✓	2167 ✓	2086 ✓	2045 ✓	2049 ✓	2151 ✓
12.5 80	20.6 40	26.2 20	32.1	37.2 20	45.2 10	49.4 55	49.0 67	38.8 100

2497 ✓	2429 ✓	2341 ✓	2269 ✓	2199 ✓	2114 ✓	2057 ✓	2078 ✓	2158 ✓
42 80	11.0 40	19.8 20	27.0	34.0 20	42.5 40	48.2 55	46.1 75	38.1 100

25489

Washington St Extension West

7+50 225.0

7+35

$R = 1000'$
 $L = 435.31$
 $T = 221.16$
 $\Delta = 24^\circ 56' 30''$
 $Ext = 24.17$

7+25

IP 0.93 254.70 1.86 252.77

7+04.72 BC Rt

237.5

6+75

6+50

255.63

253.2 ✓ 249.1 ✓ 241.4 ✓ 234.5 ✓ 228.2 ✓ 212.8 ✓ 216.2 ✓ 215.0 ✓ 201.5 ✓ 191.3 ✓
 $\frac{1.5}{57}$ $\frac{5.6}{40}$ $\frac{16.2}{15}$ $\frac{30.2}{10}$ $\frac{26.5}{10}$ $\frac{41.8}{20}$ $\frac{38.5}{25}$ $\frac{39.7}{40}$ $\frac{53.2}{75}$ $\frac{57.4}{25}$
 193.1 ✓

253.6 ✓ 251.2 ✓ 245.0 ✓ 235.7 ✓ 227.5 ✓ 215.9 ✓ 224.1 ✓ 217.2 ✓ 215.9 ✓ 201.4 ✓ 191.3 ✓
 $\frac{1.1}{50}$ $\frac{5.5}{40}$ $\frac{9.7}{25}$ $\frac{19.0}{4}$ $\frac{27.2}{20}$ $\frac{38.8}{19}$ $\frac{40.6}{23}$ $\frac{37.5}{40}$ $\frac{33.8}{47}$ $\frac{53.8}{25}$ $\frac{55.1}{100}$

254.7 ✓ 253.5 ✓ 244.5 ✓ 235.6 ✓ 226.9 ✓ 218.2 ✓ 216.7 ✓ 204.1 ✓ 198.4 ✓
 $\frac{0.8}{100}$ $\frac{1.2}{40}$ $\frac{10.2}{20}$ $\frac{19.1}{20}$ $\frac{27.8}{20}$ $\frac{36.5}{40}$ $\frac{38.0}{48}$ $\frac{50.6}{75}$ $\frac{56.8}{100}$

254.70

254.5 ✓ 253.6 ✓ 253.5 ✓ 244.7 ✓ 235.4 ✓ 226.3 ✓ 219.8 ✓ 220.8 ✓ 212.8 ✓ 203.6 ✓ 196.1 ✓
 $\frac{1.1}{51.4}$ $\frac{2.0}{40}$ $\frac{2.2}{32}$ $\frac{10.9}{20}$ $\frac{20.2}{20}$ $\frac{29.2}{20}$ $\frac{25.80}{40}$ $\frac{43.8}{20}$ $\frac{52.0}{20}$ $\frac{57.5}{100}$

251.3 ✓ 250.9 ✓ 239.5 ✓ 233.3 ✓ 223.7 ✓ 216.8 ✓ 207.6 ✓ 199.9 ✓ 194.6 ✓ 196.6 ✓
 $\frac{4.3}{40}$ $\frac{4.7}{30}$ $\frac{16.1}{15}$ $\frac{22.2}{20}$ $\frac{21.9}{20}$ $\frac{28.8}{40}$ $\frac{48.0}{25}$ $\frac{55.7}{27}$ $\frac{61.0}{102}$ $\frac{59.0}{125}$

253.2 ✓ 251.6 ✓ 246.1 ✓ 237.6 ✓ 228.5 ✓ 221.6 ✓ 214.7 ✓ 206.1 ✓ 199.4 ✓ 194.8 ✓ 197.8 ✓
 $\frac{2.4}{28}$ $\frac{4.0}{51}$ $\frac{9.4}{40}$ $\frac{18.0}{20}$ $\frac{27.1}{20}$ $\frac{34.0}{20}$ $\frac{40.9}{40}$ $\frac{49.5}{25}$ $\frac{56.2}{75}$ $\frac{60.8}{23}$ $\frac{52.4}{100}$

255.63

8+50 220.0

TP 0.70 238.93 3.85 238.23

8+25

8+0 222.5

TP 0.15 242.08 12.77 241.93

7+75

7+65

254.70

1-6-12

lt.

st.

Rt.

8

229.5	221.9	216.8	213.9	211.9	206.9	200.8	195.5	192.3	71
7.4	7.0	2.1	2.0	2.0	3.0	5.8	4.2	4.3	22
60	40	20	20	20	20	20	75	75	80

238.93

239.9	234.3	230.7	227.0	221.4	218.3	218.3	209.9	196.5	192.6
2.2	7.8	11.4	14.5	20.7	2.8	2.8	2.2	4.6	4.5
72	60	40	24	13	28	14	90	75	100

243.4	243.0	238.8	234.5	228.9	219.5	212.8	209.1	198.3	196.1
14.2	10.9	3.2	7.6	12.2	2.6	2.3	2.0	4.2	4.6
70	55	40	20	20	20	20	84	70	80

242.08

188.9
53.2
100

253.1	245.4	244.3	235.7	231.0	221.5	213.4	204.1	196.2	189.7
1.6	2.8	10.4	16.0	2.7	2.7	4.2	5.6	5.8	6.5
63	49	40	20	20	20	40	60	87	100

253.7	247.1	241.5	232.9	221.9	216.4	209.4	201.1	195.9	191.2
1.0	7.6	13.2	2.8	2.8	3.8	4.3	4.6	5.8	6.5
60	40	20	20	20	20	20	40	55	70

254.70

9+75

9+50 215.0

B.M. 11.25

9+25

9+0 217.5

8+75

23893

on N.H. Hill
Center of
Curve
9+22.5 ±

33.37 205.56

St. S Pt. 3

250.4	247.3	243.8	239.4	237.7	217.7	210.6	202.0	193.4	190.4	187.7
71.6	78.1	74.9	5.5	15.2	21.2	28.0	33.9	45.5	48.5	57.2
80	56	46	20		20	40	60	80	94	100

245.5	238.8	231.7	222.4	215.7	209.9	200.5	196.3	193.4
76.6	51	2.2	16.5	23.2	31.0	38.4	43.6	45.5
80	40	20		20	40	60	74	80
					193.0	189.4	187.7	
					45.2	49.5	51.2	
					87	92	100	

238.9	233.9	230.7	224.4	220.1	212.5	206.0	199.0	195.6	192.8
80	56	8.2	14.5	18.8	26.4	33.9	39.9	43.2	46.1
	40	20	15		20	40	60	72	75
						190.1	186.3		
						48.8	52.6		
						92	100		

234.6	229.9	227.4	225.9	222.7	214.8	210.8	208.4	203.8	196.8	193.2	191.6
72	90	11.5	13.0	16.2	24.1	28.1	30.5	35.1	42.1	45.7	47.3
70	50	40	30	20		10	20	40	60	74	75
								189.9	187.1		
								49.0	51.8		
								92	100		

228.3	223.3	216.5	210.3	207.2	205.6	201.0	196.6	191.9	188.2
106	15.6	22.4	28.6	31.7	32.3	37.9	43.2	47.0	50.7
80	40	20		10	23	40	60	80	100

23893

Washington St. Extension West

11+0 207.5

10+75

TP 11.25 237.34 12.84 226.09

10+50 210.0

10+25

10+0 212.5

238.93

Lt. 8 Rt. 10

2523 ✓
+150
50

2509 ✓
+127
45

2461 ✓
+88
40

2349 ✓
24
20

2257 ✓
11.6

2164 ✓
209
20

2086 ✓
297
40

2023 ✓
55.0
53-Total

1814 ✓
199

1862 ✓
51.1
75

2524 ✓
+151
65

2493 ✓
+130
50

2458 ✓
+85
40

2350 ✓
22
20

2293 ✓
120

2159 ✓
214
20

2089 ✓
284
40

2061 ✓
313
49-Total

1876 ✓
187
133

1854 ✓
51.9
81

23734

2541 ✓
+152
60

2530 ✓
+141
53

2506 ✓
+117
50

2464 ✓
+75
40

2353 ✓
56
20

2259 ✓
120

2169 ✓
220
20

2044 ✓
20.5
40

2064 ✓
325
48-Total

1889 ✓
53-After
Calculation

1862 ✓
57.7
80

2531 ✓
+142
65

2483 ✓
+94
50

2462 ✓
+73
40

2356 ✓
22
20

2264 ✓
12.5

2176 ✓
213
20

2091 ✓
228
40

2030 ✓
359
60

1973 ✓
116
45

1894 ✓
49.5
79

1874 ✓
51.5
89

1862 ✓

52.7

100-FLYING

2529 ✓
+140
60

2497 ✓
+108
50

2485 ✓
+96
40

2376 ✓
12
20

2224 ✓
11.5

2190 ✓
19.9
20

2098 ✓
281
40

2046 ✓
363
60

2022 ✓
367
66

1980 ✓
409
75

1915 ✓
47.1
81

23893

191.1
187.7
47.8
96
51.2
100

12+50 200.0

12+25

12+10 202.5

11+75

11+4003 F.C.

23734

4

8

R+

11

2322 ✓ 2312 ✓ 2268 ✓ 2264 ✓ 2210 ✓ 2157 ✓ 2095 ✓ 2042 ✓ 1983 ✓ 1969 ✓ 1863 ✓ 1853 ✓
 5/60 6/51 10/46 10/40 16/30 21/20 27/20 32/20 39/40 40/43 51/46 52/53

1851 ✓
 52/70

2368 ✓ 2368 ✓ 2288 ✓ 2278 ✓ 2271 ✓ 2227 ✓ 2141 ✓ 2106 ✓ 2073 ✓ 2008 ✓ 1981 ✓ 1863 ✓ 1853 ✓
 0/58 0/52 8/40 9/35 10/27 14/20 18/20 24/20 30/20 36/40 39/46 51/49 52/50

1852 ✓
 52/70

2459 ✓ 2430 ✓ 2377 ✓ 2370 ✓ 2250 ✓ 2160 ✓ 2087 ✓ 2012 ✓ 1987 ✓ 1863 ✓ 1857 ✓
 7/63 7/56 10/50 9/40 12/30 21/20 28/20 34/40 38/48 51/48 51/60

1857 ✓
 51/70

2469 ✓ 2445 ✓ 2369 ✓ 2288 ✓ 2198 ✓ 2101 ✓ 2027 ✓ 1988 ✓ 1872 ✓ 1858 ✓
 7/65 7/54 9/46 8/30 17/20 27/20 34/40 38/49 50/51 51/60

1857 ✓
 51/70

2446 ✓ 2407 ✓ 2323 ✓ 2229 ✓ 2133 ✓ 2050 ✓ 2009 ✓ 1875 ✓ 1859 ✓
 7/63 7/40 5/20 11/20 21/20 27/40 36/40 49/52 51/54

23734

13+50

TP

5.12

229.89

120

224.77

2079
55.41 of
13+25

13+25

13+0

197.5

12+75

TP

1.20

225.97

12.57

224.77

12+60

237.34

1-7-45

4

2

RT

12

222.5	221.4	212.6	206.3	199.9	193.1	185.0	181.9	177.6	176.2
74 80	85 89	17.3 40	73.6 20	51.0	56.8 20	119 50.7	48.0 38	57.2 44	50.0 80

229.89

53.3
70

229.5	224.5	218.6	209.8	204.8	195.5	190.3	179.0	177.6
73.5 85	74.5 85	74 40	142 20	21.2	50.5 20	35.7 35. Total	47.0 40	48.4 80

177.4
48.6
70

225.0	219.7	211.3	205.3	196.3	192.3	180.3	178.5	178.3
43 50.5	43 40	14.7 20	20.7	29.7 20	32.7 35. Total	45.7 40	47.5 40	47.7 70

225.5	225.3	220.0	212.9	205.3	198.1	194.1	186.5	182.3	183.0
26 20	27 45	40 40	12.1 20	20.7	27.9 20	31.9 35	39.5 40	42.7 80	43.0 70

225.97

195.7
190.4
185.3
185.1
41.6
49.1
52.0
52.2
30.7
35

237.34

Washington St. Extension West.

15+0 187.5

14+75

14+50 190.0

TP 342 221.99 11.32 218.57

14+25

14+0 192.5

13+75

229.89

13

216.2 ✓ 61. ✓ 206.8 ✓ 201.5 ✓ 191.4 ✓ 183.1 ✓ 175.3 ✓ 171.0 ✓ 161.9 ✓
 5.8 15.2 20.5 30.6 38.9 46.7 57.0 61.0
 20 40 20 20 20 20 20 20
 54.2 171.9
 85 100 = UP

219.8 ✓ 217.0 ✓ 208.0 ✓ 200.2 ✓ 192.2 ✓ 183.4 ✓ 173.5 ✓ 173.5 ✓ 163.0 ✓ 159.8 ✓
 2.2 5.0 14.0 21.0 27.8 38.6 48.5 48.5 52.0 50.0
 20 20 40 20 20 20 40 20 20 20

220.3 ✓ 214.9 ✓ 207.8 ✓ 204.5 ✓ 192.2 ✓ 191.3 ✓ 188.4 ✓ 183.9 ✓ 175.3 ✓ 174.5 ✓ 167.0 ✓
 1.7 7.1 14.4 17.5 23.8 20.2 32.6 38.1 46.7 47.5 55.0
 20 20 40 20 15 13 20 40 20 20 20
 221.99
 174.5 ✓
 12.5
 80

217.4 ✓ 213.4 ✓ 204.9 ✓ 198.7 ✓ 191.0 ✓ 182.8 ✓ 175.4 ✓ 175.4 ✓ 175.4 ✓ 171.3 ✓
 1.2 16.5 25.0 31.2 38.9 47.1 54.5 54.5 54.5 58.2
 20 20 40 20 20 20 40 20 20 20
 170.6 ✓ 175.1 ✓
 59.8 54.8
 20 20

206.2 ✓ 198.9 ✓ 192.4 ✓ 186.9 ✓ 179.6 ✓ 175.9 ✓ 175.9 ✓ 175.9 ✓ 172.4 ✓
 22.7 31.0 37.5 42.9 50.2 57.0 54.0 54.0 57.5
 20 40 20 20 20 20 20 20 20
 172.9 ✓ 175.9 ✓
 57.0 54.0
 25 20

209.6 ✓ 204.3 ✓ 197.3 ✓ 191.8 ✓ 184.4 ✓ 182.4 ✓ 175.9 ✓ 175.9 ✓
 20.8 25.1 33.6 38.1 45.5 47.5 54.0 54.0
 20 40 20 20 20 20 20 20
 175.7 ✓
 54.2
 20

229.89

16+75

TP 0.25 210.20 1214 209.85

16+50

16+25

16+0 182.5

15+5965 RC RT

15+25

$\phi R = 1000'$
 $L = 162.17$
 $T = 81.27$
 $\Delta = 9^\circ 17' 30''$

221.99

Lt

Z

Rt

14

1996	1945	1870	1840	1810	1726	1648	1632	1567	1544	1642
106 80	15.7 40	23.2 22	26.2 7	29.2	276 20	454 40	470 48	535 80	568 87	460 100

210.30

2087	2007	1940	1860	1786	1689	1639	1636	1590	1570
102 80	21.3 40	28.0 20	36.0	40.4 20	53.2 40	58.1 49	58.2 57	67.0 65	65.0 82
								1555	1610
								66.5 85	61.0 100

2129	2090	2062	2006	1955	1914	1827	1731	1651	1628	1583	1553
91 60	13.0 45	15.8 40	21.4 27	26.5 8	30.6	39.2 20	48.9 40	53.3 52	57.2 53	62.7 71	66.7 72
								1567	1640		
								65.3 82	58.0 100		

2142	2074	2007	1936	1830	1749	1651	1648	1590	1623
98 60	14.6 40	21.3 20	28.4	39.0 29	47.1 40	56.5 53	57.2 59	67.0 75	59.0 90

2150	2133	2072	2016	1995	1919	1875	1823	1746	1697	1677	1577
70 60	87 57	14.77 40	20.4 25	27.5 15	30.1	36.5 14	39.7 25	47.35 40	54.3 52	54.3 53	67.2 50
								1630	169.3		
								57.0 91	57.1 100		

2150	2077	1995	1923	1935	1760	1695	1693	1628	1600
70 60	14.8 40	22.5 20	29.7	32.5 20	41.0 40	52.5 40	57.7 57	59.7 72	62.0 75

221.99

166.0
56.0
95 = 10

17+32 Fly Lemoor Grove

1964	1884	1780	1783	1746	1698	1644	1559	1547	1521	1551	1554
60	90	40	30	228	276	320	421	427	453	423	420
						13	25	40	45	52	60

1572
40.2
70.

17+2182 EC

1958

1901	1754	1754	1712	1677	1621	1554	1624	1600	1585	1517
43	220	220	262	297	353	420	350	374	389	457
49	48	40	35	70	100	100	21	30	40	50

1554
420
55

B.M.

1.32

19610

1000 13' 4.51
Sublat + East
Line Middletern
#1462 P6

17+14

1739	1714	1696	1717	1659	1665	1610	1696	1526	1597
235	260	278	267	315	309	364	278	448	372
50	40	8	8	13	13	31	40	55	80

50-80
V. 1st

17705

1725

1799	1739	1764	1740	1761	1735	1705	1662	1606	1606	1529	1392
175	225	210	224	213	241	269	212	368	368	445	332
65	55	40	35	11	11	16	21	34	40	55	80

55-80
V. 1st

19712

JP

0.07

19742

12.85

19735

1767	1832	1923	1892	1810	1746	1725	1691	1612	1534	1592
235	270	179	210	292	356	277	411	490	568	570
50	51	48	40	20	13	13	26	40	57	80

50-80
V. 1st

210.20

210.20

Washington Extension

IP 9.82 198.47 1219 188.65

18+50 170.0

IP 1302 200.84 960 187.82

18+25

18+0 172.5

17+75

17+45

1934
1914
1945

19742

64

8

RT

16

2018 1998 1944 1872 1771 170.8 1620 1577 1496 1466
 710 50 6.4 156 227 620 388 151 51.8 52
 20 20 20 20 20 20 20 20 20 20
 200.84

1999 1974 1939 1866 1773 1689 1605 1574 1552 1502
 710 50 5.4 118 201 285 369 400 422 422
 20 20 20 20 20 20 20 20 20 20

149.2 147.1

18.2 50.0
82 84

2006 1974 1928 1854 1763 1681 1632 1574 1572 1527 1484
 732 0.0 4.6 120 211 293 343 400 402 447 490
 20 49 40 20 20 20 33 20 20 20 20
 150.1 47.0
77

2024 1974 1930 1831 1753 1650 1559 1512 1534 1544
 758 0.0 4.4 14.3 221 324 415 462 440 480
 20 53 40 20 20 20 34 40 49 70

1938 1892 1802 1719 1624 1573 1534 1514 1543
 56 8.2 17.2 25.5 350 401 440 46 420
 20 20 20 20 20 20 20 20 20
 1574 40.0
70

19742

19+75

19+67

19+50 = W/L Lemon Grove

19+25

19+1741 B.C. Lt. over land

19+0 167.5

18+75

198.47

191.2	182.2	172.0	161.7	154.1	152.5	143.5	139.5	129.3	125.9
7.3	6.2	2.5	3.8	4.4	4.0	5.5	5.0	5.2	5.6
80	90	80		75	85	40	49	57	70

1908	169.1	180.8	177.2	169.7	168.5	161.2			
2.7	9.4	17.7	21.3	28.8	30.0	37.0	43.1	45.7	51.2
80	54	40	37	20	75	80	73	25	35
								57.3	53.5 = up from here
								35	45

1915	164.8	174.4	165.9	154.7	154.1	149.6	146.5	144.9	
7.0	12.7	24.1	32.6	42.8	44.4	48.9	52.0	53.6	
80	40	80		80	30	40	57	75	

196.1	190.7	182.7	172.9	164.5	162.3	156.9	148.4	141.4	
2.1	7.8	15.8	25.6	34.0	36.2	41.1	50.1	52.1	
80	90	80		80	80	50	70	80	

200.0	193.4	185.5	177.9	171.2	163.2	160.9	158.5	158.6	148.3
1.5	5.1	12.0	20.6	27.2	35.3	37.6	40.0	39.9	52.8
80	40	80		80	40	46	80	37	80

201.0	193.3	191.5	188.6	179.9	172.8	163.5	160.7	157.4	158.3
1.5	5.2	3.0	9.9	18.6	25.7	35.0	37.8	41.1	40.2
80	40	80		80	80	40	48	51	58

198.47

138.8

59.7

78.1

2140 157.5

20+75

20+50

20+25

20+15

20+0 162.5

$Q_0 R = 1000'$
 $v L = 408.55$
 $T = 207.17$
 $\Delta = 23^\circ 24' 30''$

19847

18

1986 1895 1813 1725 1711 1640 1537 1493 1479 1417
38 90 172 260 274 345 448 502 506 573
80 40 20 20 20 20 40 50 58 80

1376 1343 1395
609 642 520
78 80 75

1913 1858 1783 1715 1620 1534 1499 1498 1444 1405
72 127 202 270 365 451 486 487 541 580
80 40 20 20 20 40 43 50 53 90

1350 1420
635 565
84 75

1893 1820 1750 1669 1592 1538 1515 1513 1510 1417
87 165 235 276 393 447 470 472 475 573
80 40 20 20 20 52 34 40 44 85

1385 1355
600 620
77 84

1910 1885 1836 1731 1627 1587 1531 1518 1464 1442 1381
75 100 147 254 358 398 454 467 517 543 604
80 50 40 20 20 40 19 39 40 45 77

1385 1411
600 574
80 70

1629 1532 1520 1402 1377 1392 1425
6.8 14.3 25.0 35.6 45.2 46.5 48.3 60.8 59.3 56.0
60 40 20 20 20 25 37 40 44 70

1914 1913 1835 1727 1681 1633 1534 1521 1375 1400 1445
71 72 150 258 320 352 451 464 560 525 570
80 77 40 20 8 20 13 22 35 40 70

19847

TP 359 191.87 9.58 188.28

Nail Footree
H of

22+25

22+0 152.5

21+75

TP 10.28 197.86 10.89 187.58

21+50

8M

26.99 171.48

0.7445
20+78 0.74
T.P.H. 1.2 B.L.
171.46

21+25

198.47

4.

2

Rt.

19

195.1 195.1 193.6 186.0 177.7 167.3 157.3 148.2 146.8 139.6 138.8 133.9
28/70 28/85 43/80 119/40 202/20 226/20 40.6/20 497/40 51/15 582/55 591/84 640/72

198.7 195.7 185.7 175.6 166.1 157.6 146.8 140.4 139.1 134.3
108/70 26/80 122/40 22.2/20 21.2 40.2/20 51/40 575/55 588/72 626/72

199.9 194.6 187.2 184.0 178.7 168.6 158.7 149.5 141.7 140.5 136.2
120/70 52/80 10.7/40 139/30 127/20 29.2 592/20 48.4/40 56.2/54 574/84 617/72

197.86

196.7 187.5 178.5 168.4 160.7 151.4 143.0 143.2 137.1 131.0
1.8/80 11.0/40 200/20 291 278/20 471/40 555/52 552/80 614/75 675/84

135.5
630/90

196.5 187.9 187.0 180.1 171.2 160.5 152.2 144.9 144.5 140.5 135.6
20/80 10.6/40 115/35 18.4/20 27.2 28.0/20 46.2/40 536/55 540/80 570/72 629/80

132.2 136.0
663/84 625/90

198.47

Washington St. Extension West.

22+50 145.0

TP 209 182.17 1179 180.08

23+25.97 EC

23+0

22+75

22+50 150.0

191.87

Jan. 9-23

Lt.

Z

Rt.

20

1804	1783	1678	1586	148.1	1393	1327	131.3	1308	124.2
18	39	144	226	341	129	19.5	50.9	514	580
70	80	40	20		20	40	40	50	80

128.7 129.5

182.17

50.5
70

52.7
77

170	1728	1624	1601	1566	14746	1414	1361	1349	132.9
129	191	285	319	362	4441	507	558	579	520
70	80	40	80	20	on the	20	40	40	50

124.1 127.9

67.2
86

64.0
70

1740	1689	1663	1629	1543	1453	1398	1341	1341	129.9
179	220	256	290	376	466	521	572	578	620
80	40	38	20		20	40	47	54	80

126.9

65.0

70.80

50.4

1821	1796	1762	1703	1672	1606	1514	1426	1372	136.7
98	120	157	216	257	316	400	490	527	542
70	50	40	20	10	3/6	40	40	50	60

1889	1863	1828	1749	1653	1557	1471	1422	1393	139.1
40	54	91	170	266	363	448	497	526	528
70	50	40	20	20	20	40	50	50	50

191.87

4 8 R1

24+78.59 B.C. H.

24+50 140.0

24+25

24+0 142.5

28+75

182.17

171.8 166.6 159.0 147.6 138.9
10.8 15.6 23.2 34.6 43.3
70 60 40 20

128.5 122.2 120.2
53.2 60.0 68.0
20 20 20

119.2 124.6 125.2 127.7
53.0 57.6 57.0 54.5
20 20 20 20

169.2 162.7 157.4 149.9 139.5 131.9 127.7 125.4 125.2 123.2
13.0 19.5 24.8 33.2 42.7 50.3 54.5 56.8 57.0 59.0
70 65 40 20 20 20 20 20 20

120.1 119.7 124.7 126.6
52.1 52.5 57.5 55.6
20 20 20 20

168.3 162.0 157.2 153.6 145.4 137.0 131.0 128.2 127.9 125.4 121.2
12.8 20.2 25.0 28.4 36.8 45.2 51.2 54.0 54.5 56.8 54.0
25 40 27 20 20 20 27 40 30 20 20

121.5 124.4 126.7
50.7 52.8 55.8
20 20 20

177.7 167.7 157.8 149.8 140.5 133.2 129.7 125.2 123.2
14.5 14.5 24.1 32.1 41.7 49.0 52.0 53.2 52.0
70 70 20 20 20 20 40 20 20

122.2 125.2 127.7
59.0 57.0 54.5
20 20 20

162.8 145 138.9 124.7 116.1 109.8 100.1 129.5 129.2 123.1 123.7
10.6 6.7 14.2 17.5 21.1 22.8 23.1 52.7 54.0 52.5 52.5
70 52 20 20 20 20 20 20 20 20 20

126.2 128.7 129.7
56.0 52.5 52.5
20 20 20

182.17

2640 132.5

25475

TP 0.42 174.17 8.92 173.75

25450 135.0

EP = 1000
L = 336.63
T = 169.93
Δ = 19° 17' 15"

25425

2540 137.5

182.17

1-11-43

Δ

δ

RA

22

163.3 170.6 164.4 155.6 144.5 135.7 128.5 119.7 118.4 113.5
7.1/70 8.1/50 7.8/40 18.6/30 29.7 58.4/20 48.7/10 48.5/15 55.0/70 60.2/80 58.0/87

176.3 170.9 163.5 153.1 143.1 133.6 126.6 120.9 117.8 114.2 120.2
7.2/70 4.2/50 10.7/40 2.1/30 21.1 10.6/20 4.7/10 50.2/50 8.4/70 10.0/74 54.0/80

174.17

174.7 172.0 163.8 152.9 142.1 132.2 124.9 119.3 116.3 116.4
2.5/70 10.2/80 18.4/40 29.8/30 40.1 49.8/20 57.3/10 62.9/50 66.0/57 65.8/83

119.0 121.6
65.2/80 60.5/80

172.5 169.7 160.2 151.0 141.6 130.5 116.7 117.2
9.7/70 12.5/80 22.0/40 31.2/30 40.6 51.7/20 65.5/50 65.0/70

119.8 120.2 124.3
62.4/44 62.0/80 57.9/90

171.7 165.9 155.8 144.6 136.9 126.7 123.1 117.6 118.7 121.2
10.5/70 16.3/80 26.4/40 37.6/20 49.3 55.5/20 59.1/28 64.1/31 63.5/58 56.0/40

124.2 125.7
58.0/70 51.5/80

182.17

27+37

TP 0.47 151.21 12.06 150.74

TP 0.46 162.80 11.83 162.94

27+0 127.5

26+75

26+46.90

26+25

174.17

Lt

S

Rt

140.8 135.5 130.5 124.7 120.2 116.5 112.6

10.4/20 15.7/40 20.7/20 26.5 31.0/30 34.7/40 38.6/70

151.21

152.1 150.0 146.6 142.8 139.0 131.0 123.1 115.6 123.2

22.1/20 24.2/50 27.6/20 31.4/20 34.2 43.2/20 51.1/20 58.6/20 67.0/20

163.8 161.1 158.0 153.2 145.2 135.8 126.7 117.2 114.2

10.4/20 13.1/55 16.2/20 21.0/20 29.0 38.4/20 47.5/20 57.0/20 66.0/20

170.3 168.2 165.0 158.1 155.8 148.5 137.7 128.8 117.2 111.8 114.6 115.2

27/20 30/20 37.1/20 46.1/20 58.1/20 72.7/20 86.5/20 102.5/20 117.2/20 134.6/20 152.2/20

173.9 168.6 165.7 156.2 146.4 137.3 126.0 116.8 115.2 112.7 115.2

0.3/20 5.6/27 8.5/40 18.0/20 27.8 36.9/20 46.2/20 57.4/20 67.0/20 77.4/20 87.5/20 97.0/20

174.17

28+75

28+50

28+25

28+1522 EC

28+0

122.5

27+75

27+55

15121

139.1	123.9	128.5	123.5	116.7	110.1	109.2	102.6	104.7
12/80	17/40	22/20	28/20	34.5/20	41/40	51.0/40	86/55	47.5/70
140.0	133.2	128.0	121.8	116.3	108.4	105.6	104.3	
106/80	180/40	132/20	29.4/20	34.9/20	43.8/20	45.6/40	46.9/70	
137.8	134.4	128.1	123.1	118.2	113.8	106.8		
114/80	168/40	130/20	28.1/20	33.0/20	38.4/40	44.4/70		
140.5	134.9	131.0	125.2	120.2	114.7	108.2		
107/80	140/40	142/20	26.0/20	31.0/20	36.5/40	43.0/70		
142.8	137.0	132.2	127.7	123.1	115.8	111.2	109.2	
9/80	112/40	110/20	23.5/20	28.1/20	34.4/40	41.0/70	47.0/80	
144.7	141.5	135.6	130.0	125.4	119.0	112.4	106.4	102.7
6.5/80	9.7/40	15.6/20	20.2/20	25.8/20	32.7/40	38.8/20	44.8/40	41.5/75
143.7	140.0	135.7	131.0	125.2	119.4	111.9	106.9	
2.5/80	11.2/40	15.5/20	20.2/20	26.0/20	33.8/40	39.3/22	44.3/80	

15121

Washington St. Extension West.

30+25

30+0

29+75

29+50 1150

TP 0.63 140.53 1131 13990

29+25

29+0

151.21

At

X

Rt.

25

136.6

49/80

127.2

48/80

119.1

47/80

114.9

46/80

108.0

45/80

104.1

44/80

98.1

43/80

92.2

42/80

136.6

49/80

128.7

48/80

122.4

47/80

115.5

46/80

110.7

45/80

103.8

44/80

100.6

43/80

98.1

42/80

140.2

50/80

132.0

49/80

125.9

48/80

122.5

47/80

118.1

46/80

110.9

45/80

103.7

44/80

100.6

43/80

99.5

42/80

140.5

50/80

131.1

49/80

124.1

48/80

119.0

47/80

112.6

46/80

107.0

45/80

103.0

44/80

101.1

43/80

140.53

135.5

47/80

127.5

46/80

121.5

45/80

116.4

44/80

111.6

43/80

107.9

42/80

104.7

41/80

137.0

47/80

131.2

46/80

127.0

45/80

121.1

44/80

115.1

43/80

110.1

42/80

102.7

41/80

151.21

1-12-43

LH

S

RH

26

31+75

TP

8.49

136.64

12.88

128.15

0.25 A. Hub
81+80

31+50

P.O.T.

31+25

31+0

30+75

30+50

110.0

140.53

131.5

128.2

126.8

123.7

123.6

116.0

114.2

113.1

110.7

105.5

97.6

93.7

91.1

51

8.4

98

129

130

206

224

235

259

311

390

449

455

25

45

70

40

30

10

4

6

20

40

55

90

134.2

128.1

120.6

113.1

104.7

99.1

92.4

89.5

60

12.38

199

2836

358

414

481

578

680

780

880

980

20

40

60

Hub

Hub

20

40

60

80

100

120

140

136.3

132.7

127.7

118.4

110.8

104.7

99.2

96.0

92.2

40

50

60

20

30

40

50

60

70

80

90

100

134.0

125.2

116.0

110.6

105.1

102.5

100.5

94.5

94.2

60

70

80

20

30

40

50

60

70

80

90

100

133.3

124.2

117.7

111.2

106.5

103.6

102.4

100.8

99.4

70

80

90

20

30

40

50

60

70

80

90

100

134.9

125.9

120.0

113.7

107.0

103.7

99.0

40

50

60

20

30

40

50

60

70

80

90

100

140.53

TP 7.93 124.5° 11.04 116.77

3370

32795

32450 100.0

32425

TP 2.92 127.81 12.75 122.89

3240

13664

1232

1229

128.6

128.4

	Lt.		Rt.	27
122.0	109.8	109.4	103.3	98.8
58/20	180/20	184/20	246/20	290/20
925	852	832	836	856
353	426	446	443	433
40 Dot Mark	40	48	47	40
1234	1114	1046	1008	942
44/25	164/20	232/25	270/25	336/20
879	879	853	861	851
399	425	417	427	407
15	20	30	40	60
1210	1174	1159	1107	1041
68/25	104/20	125/20	171/27	227/20
329	329	329	329	329
878	876	886		
400	408	392		
19	40	70		
1247	1232	1159	1104	1011
4/25	46/20	149/24	174/20	266/20
349	325	327	378	378
20	36	40		
127.81				
126.6	1238	1238	1236	1151
100	128	128	130	215
17	26	40	30	76
127.81				
113.8	109.3	102.8	95.4	93.1
22.8	27.5	33.8	41.2	45.5
8	8	20	40	75
127.81				
109.3	90.8	90.8		
27.5	27.5	27.5		
8	8	8		
127.81				

13664

TP 0.24 11208 12.66 111.84

34+0	92.5	109.6 150 65	109.8 15.7 55	105.8 18.7 53
------	------	--------------------	---------------------	---------------------

33+7.5		109.7 14.8 65	109.7 14.8 52-5 1/2 hour	
--------	--	---------------------	--------------------------------	--

33+50		111.1 13.4 65	108.3 16.8 47	104.3 20.2 42
-------	--	---------------------	---------------------	---------------------

33+2.5				
--------	--	--	--	--

33+08.9 00%

33+16 65' ht of $\frac{1}{2}$ = Existing 18" Corq Pipe Culvert

134.50

103.1	101.6	97.3	96.3	94.6	88.4	85.9	83.5	82.7	80.9	82.1	81.7
21.4 40	23.9 33	27.2 13	28.2 3	29.9 20	35.1 5	38.6 23	41.0 40	41.8 50	43.6 50	42.4 65	43.8 70

Box
1034

102.3	100.5	97.3	97.3	90.4	90.1	87.1	84.1	83.8	81.4	82.0
22.2 32	24.0 15	27.2 8	27.2 8	34.1	34.4 102.036 London	37.4 17	39.8 30	40.7 40	43.1 52	43.5 70

104.3	100.8	100.3	98.5	92.4	92.3	84.8	84.4	84.2	81.5	82.0
20.2 24	23.7 30	23.7 20	26.0 9	32.1 5	32.2 0.5 1/2 hour	39.7 23.7-11 1/2 hour	40.1 40	40.3 46	42.7 48	43.5 62

115.4	104.7	98.8	95.4	91.4	89.1	84.1	83.5	83.5	82.1
9.1 66	19.8 40	26.7 30	29.1 29	32.1	35.4 13	40.4 30	41.0 40	41.0 45	42.4 47

82.2

84.6

85.9

42.3
52

39.8
52

38.6
70

85.24

39.26

39.19 = outlet
15'

120.15

1.25
1.918
Flow Line
Elev 10.10

124.05

0.45
91.8
To Pond
N.E. of
124.50

TP 0.00 100.93 11.15 100.93

34+07

34+70

34+50 90.0

34+25

34+16

112.08

Lt.

S

Rt.

29

✓ 1014	✓ 993	✓ 949	✓ 915	✓ 855	✓ 849	✓ 836	✓ 833	✓ 825	✓ 181
10.7 60	14.8 40	12.2 25	20.6 10	26.6 6	27.2 20	28.5 20	28.8 40	29.6 58	24.0 84.50 hair

✓ 1019	96.0	✓ 916	✓ 881	✓ 858	✓ 844	✓ 839	✓ 828	✓ 823	✓ 193	✓ 825
10.2 60	16.1 40	20.5 25	24.0 12	26.3 10	27.7	28.2 20	29.3 40	29.8 58	22.8 84.50 hair	29.6 70

✓ 1059	✓ 99.7	✓ 94.8	✓ 89.4	✓ 84.9	✓ 84.9	✓ 85.4	✓ 85.3	✓ 80.2	✓ 19.6
6.2 65	12.1 55	17.2 40	22.7 20	27.2	27.2 20	26.7 40	26.8 53	21.9 80	32.5 84.50 hair

✓ 111.0	✓ 103.7	✓ 99.9	✓ 92.3	✓ 87.2	✓ 85.2	✓ 85.3	✓ 85.2	✓ 80.0	✓ 82.1
6.5	8.4 52	12.2 40	19.8 20	24.9	26.9 18.5 58	26.8 40	26.8 57	22.1 84.50 hair	29.0 70

✓ 110.1	✓ 107.6	✓ 103.9	✓ 100.6	✓ 97.6	✓ 94.1	✓ 87.6	✓ 84.5	✓ 83.3	✓ 82.2	✓ 80.3	✓ 82.0
2.0 80	6.5 80	8.7 40	16.5 35	14.5 20	18.1	24.5 8	27.6 22	28.8 40	29.9 52	24.8 83-80 hair	30.1 70

112.08

Washington St. Extension West.

TP 2.50 90.63 10.52 88.12

36+0

35+82

TP 9.30 98.65 15.7 89.55

B.M. 12.92 90.92 9.99 78.00

TP 0.16 87.99 13.10 87.83

35+67

35+42.3

35+41.00 BC

35+27.59

100.93

H.M. 8.P
12dior
Andrews
77.97

St. Z PL 30

92.38 94.5 90.5 89.6 87.5 85.2 83.6 82.9 82.7

6.27 6.2 8.2 9.1 11.2 13.5 15.1 15.8 16.0
60.3 52 46 40 30 20 20 40 50
60.7-HCB

94.93 94.1 91.1 89.4 86.8 84.3 83.3 83.2

3.7 4.0 6.8 9.3 11.9 14.1 15.4 15.5
62.7 50 40 30 20 20 40 50
62.7-HCB
Andrews

94.60 95.59 94.1 91.1 87.9 85.2 83.7 82.9

6.13 5.34 6.8 9.8 12.0 15.7 17.2 18.0
51.5 51.5 40 30 20 20 40 55
51.5-Gutter
H.M. 8.P

95.74 96.55 94.0 91.1 85.3 86.1 84.5 83.1

5.19 4.38 6.9 9.8 12.6 14.8 16.4 17.8
52.6 52.6 40 30 20 20 40 58
52.6-Gutter
H.M. 8.P

98.48 99.5 96.5 93.1 90.7 87.5 87.1 85.5 84.7 82.2

7.45 5.7 4.4 7.8 10.2 13.4 13.8 15.4 16.2 18.7
68.2 57 40 30 20 20 20 40 55
68.2-HCB
Andrews

100.93

36+6991 = FL India 072 Taken at line of India

36+6991 = FL India 072

36+523 = FL India 072

36+215

90.63

80.13	80.74	80.8	80.5
1.57 38.6 = Gutter	9.89 38.6 = NCB Hudson	1.97 38.6	1.01

81.46	82.23	81.9	80.8	80.5
9.17 31 = Gutter	8.40 31 = NCB	8.7 33	9.8 30	1.01

82.09	84.89	84.9	82.6	81.1	81.2	81.7	81.0
6.54 39.6 = Gutter	5.74 39.6 = NCB	5.7 38	8.0 20	9.5 30.3 = Gutter	9.1 20.0 = Gutter	8.9 40	9.6 50

86.91	88.6	87.1	86.1	84.1	82.9	82.5	82.3	81.7
1.72 51.2 = NCB Hudson	2.0 43	3.5 40	5.5 33	6.5 33	7.7	8.1 30	8.0 40	8.9 50

90.63

Cross Section Radio St.
 South Line Andrews Sta 114.5' North
 See sketch #1648P23

Indexed
 c.s.k.

1-18-43
 S. 1500
 B. 1.51
 O. 600
 8499

Alt. W

S

Rt. E

32

0+50 = N.L. Andrews From East

17.59	18.01	18.43	18.80	19.23	19.97
8.44	7.96	7.60	7.22	6.80	6.11
25.5	12.75		12.75	25.5	25.5-Cb

0+27.5 = N.C6

18.08	18.53	18.83	19.21	19.58	80.08	80.69
7.95	7.50	7.20	6.82	6.45	5.95	5.24
25.5	12.75		12.75	25.5	25.5	25.5-Cb
				95.60	84.83	
				0.41	1.20	
				25.5-Cb	25.5	

0+25 = S Andrews From East

18.14	18.61	19.05	19.36	19.77	80.34	85.50
7.89	7.42	6.98	6.67	6.26	5.89	0.63
25.5	12.75		12.75	25.5	25.5	25.5

0+12.5 = S.C6

18.04	18.65	19.06	19.43	19.70	80.26	80.69
7.99	7.38	6.97	6.60	6.23	5.77	5.24
25.5	12.75		12.75	25.5	25.5	25.5-Cb
				85.96	85.17	
				0.07	0.86	
				25.5-Cb	25.5-Cb	

0+0 = S.L. Andrews From East

18.13	18.63	19.01	19.36	19.59	80.12
7.90	7.40	6.96	6.67	6.44	5.91
25.5	12.75		12.75	25.5	25.5-Cb

BM

8.06

86.03

77.97

H. W. B.P.
 Andrews
 7179.2

86.03

Lt

Z

Rt.

1+14.5 = 1/4 of Imp. Parking Cards

0+90

0+65 = H.L. Address From Her

86.03

78.45	19.40	79.94	80.11	80.08	80.90
7.58	6.63	6.09	5.92	5.95	5.13
25.5	12.75		12.75	25.5	25.5-cb
					50.00

78.31	19.05	79.54	79.71	79.59	80.59
7.72	6.98	6.49	6.26	6.40	5.70
25.5	12.75		12.75	25.5	25.5
					50.00

77.89	77.55	78.94	79.00	79.25	79.26	79.98
8.14	8.42	7.69	7.03	6.78	6.77	6.05
25.5-cb	25.5	12.75		12.75	25.5	25.5-cb
						50.00

86.03

Hawk And Washington St. Intersection
Cont. from p. 34

Continued on page 44

2.51	262.53	267.02	N.E. of Washington Goldfinch Pl
O - (1+16.03) = P.C. 200' R. Radius			
40' Rt. on Pav. of St.	5.55	263.98	
33' " " Walk of Drive	6.04	263.49	
25.5' Rt. on cb.	5.95	263.58	
25' Rt. on Pav. St.	6.78	262.75	
14' " " "	6.59	262.94	
2' Rt. " "	6.68	262.85	
2' " "	6.66	262.87	
+ 2' Lt.	6.63	262.90	
+ 14' Lt.	6.68	262.85	
+ 25' Lt. on Gut	7.14	262.39	
+ 25.5' Lt. on cb.	6.89	262.64	
+ 33' on Walk	6.75	262.78	
+ 37.5' " " at Bk.	6.53	263.00	
O - 22.25			
36.5' Lt. on Walk	6.93	262.60	
33' Lt. - Bk. on Walk	7.20	262.33	
25' Lt. on Walk	7.35	262.18	
24.3' Lt. on cb.	7.38	262.15	
" " Gut	7.71	261.82	

14' Lt.	269.53	7.13	262.40
2' Lt.		7.07	262.46
2		7.07	262.46
2' Rt.		7.08	262.45
14' Rt.		7.00	262.53
25' Rt.		6.97	262.56
27.7' Rt. on Gut at Bk.		6.95	262.68
" " " cb.		6.98	263.08
33' Rt. on Walk		6.40	263.13
40' Rt.		6.26	263.27
O - 21.92 = P.C. 25' cb. R. on Lt.			
40' Rt. on Sid.		6.30	263.2
39.5' Rt. " W		6.30	263.23
33' Rt.		6.40	263.13
29.5' Rt. on cb.		6.49	263.04
" " Gut		6.91	262.62
25' Rt.		6.93	262.60
14' "		7.03	262.50
2' Rt.		7.09	262.44
2		7.10	262.43
2' Lt.		7.07	262.46

Reduced Sections 1/29-1943 C.B.H.
Plotted on 1/2 sec. paper.

26953

14' Lt.	7.15	262.38
24' Lt. on East. of cb	7.72	261.81
" " " cb.	7.41	262.12
25' " on Walk.	7.38	262.15
33' " " "	7.22	262.31
36' Lt. " "	6.93	262.60
0-8242		
35' Lt. on Walk of St.	7.07	262.46
33' " " "	7.24	262.29
25' Lt. " "	7.49	262.04
23' Lt. on cb.	7.57	261.96
" " " East.	7.92	261.61
14' Lt.	7.31	262.22
2' Lt.	7.22	262.31
♀	7.22	262.31
2' Rt.	7.21	262.32
14' Rt.	7.18	262.35
25' Rt.	6.98	262.55
33' Rt.	6.82	262.71
40' Rt. on Pav.	6.91	262.62
46' Rt. on Pav.	7.17	262.36
1' East. on cb PG. Ref.	6.39	263.14

26953

36

0-796

40' Rt.	6.88	262.65
33' Rt.	6.87	262.66
25' Rt.	7.06	262.47
14' Rt.	7.23	262.30
2' Rt.	7.27	262.26
♀	7.27	262.26
2' Lt.	7.27	262.26
14' Lt.	7.35	262.18
23.5 at cb on East.	7.93	261.60
" " "	7.53	262.00
25' Lt. on Walk.	7.49	262.04
33' Lt. on Walk	7.24	262.29
34.5' Lt. " " at Rd	7.17	262.36
0-6947		
40' Lt.	7.4	262.1
33' Lt. on Walk	7.26	262.27
25' Lt. " "	7.47	262.06
21.7 " on cb at Ref.	7.52	262.01
" " East.	8.04	261.49
14' Lt.	7.63	261.90

26953			
0-6997		Cont	
2' Lt		7.38	262.15
2'		7.38	262.15
2' Rt		7.42	262.11
14' Rt.		7.32	262.21
25' Rt.		7.28	262.25
33' Rt		7.23	262.30
40' Rt.		7.16	262.37
TP	4.90	267.95	6.48 263.05
0-5911		NE. 74 th St. Harris & Washington	
40' Rt.		5.66	262.29
33' Rt.		5.70	262.25
25' Rt.		5.76	262.19
14' Rt.		5.86	262.09
2' Rt.		5.87	262.08
2'		5.90	262.05
2' Lt.		5.96	261.99
14' Lt.		6.51	261.44
25' Lt.		6.76	261.19
33' Lt.		6.73	261.22
36' Lt. of cb. on Gurb.		6.77	261.16
" on cb.		6.09	261.86
40' Lt.		6.2	261.8

26795		37	
0-4862			
61' Lt. on Gurb.		6.34	261.59
		67	
61' Lt. on Gurb.		7.01	260.94
40' Lt.		6.55	261.40
33' Lt.		6.51	261.44
25' Lt.		6.73	261.22
14' Lt.		7.02	260.93
2' Lt.		6.53	261.42
2'		6.44	261.51
2' Rt.		6.32	261.63
14' Rt.		5.92	262.03
25' Rt.		5.81	262.14
33' Rt.		5.78	262.17
40' Rt.		5.82	262.13
0-4202			
35' N NW cb Ret. on cb.		5.29	262.66
" " " " Gurb.		5.43	262.52
5' NW cb Ret.	" Toe Inlet Gurb.	6.13	261.82
55' Rt. on cb Ret. 86.		5.27	261.98
55' Rt. on Gurb.		5.97	261.98
40' Rt. on Pav.		5.87	262.08
33' Rt.		5.94	262.01

26795

25' Rt.	6.07	261.88
14' Rt.	6.29	261.66
2' Rt.	6.87	261.08
L.	6.97	260.98
2' Lt.	7.01	260.94
6' Lt.	7.12	260.83
14' Lt.	7.10	260.85
25' Lt.	6.74	261.21
33' H.	6.53	261.42
40' H.	6.58	261.37
45' Lt. = E 1/2 Walk.	5.61	262.34
72.6' Lt. = E cb Walk on Gut.	7.21	260.74
" Lt. " " on cb.	6.55	261.40
0-37.23		
79' Lt. on E cb. Walk	6.74	261.21
" " Gut.	7.37	260.58
52.4' Lt. = E 1/2 "	6.72	261.23
40' Lt.	6.59	261.36
33' H.	6.56	261.39
25' Lt.	6.76	261.19
14' Lt.	7.14	260.81
5' Lt.	7.17	260.78
2' Lt.	7.08	260.87

26795

38

L.	7.04	260.91
2' Rt.	7.03	260.92
14' Rt.	6.68	261.27
25' Rt.	6.31	261.64
33' Rt.	6.12	261.83
40' Rt.	6.05	261.90
49.3' Rt. on Gut = cb.	6.01	261.94 ^{Gutter Meets} top of Carb
TP	3.02	266.07
	4.90	263.05
0-28.72 0-27.0		
52.4' Rt. 1/2 Gut in Drive	4.13	261.94
40' Rt.	4.43	261.64
33' Rt.	4.62	261.45
25' Rt.	5.10	260.97
18.7' Lt. of cb Ret. on Gut	5.45	260.62
" on cb.	5.04	261.03
14' on Walk.	5.03	261.04
2' Rt.	5.1	261.0
L. = 1/2 ^{top} cb of Walk	5.02	261.05 ^{on cb.}
L. ^{top} Gut.	5.39	260.68
2' Lt.	5.37	260.70
14' Lt.	5.12	260.95

	266.07		
25' Lt	496	261.11	
33' Lt	489	261.18	
40' Lt	484	261.23	
46.2 Lt. ^L Hawk	478	261.29	
69.8 ^H = 5 1/4 "	508	260.99	
93' Lt on Gut = Fcb Linc Hawk	551	260.56	
93' Lt " cb.	498	261.09	
0 - 15.74			
105.2' Lt = Fcb Hawk on cb.	507	261.00	
" " on Gut	573	260.34	
84.1 Lt = E 1/2 Hawk	530	260.77	
63' Lt. ^L "	500	261.07	
41.5 Lt. = W 1/2 "	512	260.95	
40' Lt.	513	260.94	
33' Lt.	524	260.83	
25	531	260.76	
21.2' Lt = Wcb. Hawk Gut	530	260.77	
" on cb.	495	261.12	
14' Lt. on Walk	479	261.33	
2' Lt.	48	261.3	
L on Hub	487	261.20	-

	266.07		39
2' Rt.	5.0	261.1	
14' Rt	4.8	261.3	
25.3 Rt. on Scb. Washington	5.14	260.93	
" " Gut "	5.61	260.46	
33' Rt	5.13	260.94	
40' Rt	4.68	261.39	
42.7 Rt. = L "	4.60	261.47	
50.7 Rt = N 1/4 "	4.43	261.64	
59.4 Rt = Ncb. "	4.24	261.83	in Drive Gut = cb.
0 - 08.58 = F.C.			
65' Rt = Ncb. Washington	4.30	261.77	
56.3' = N 1/4 "	4.50	261.57	
47.6 Rt. = L "	4.72	261.35	
40' Rt.	5.02	261.05	
38.9' Rt = S 1/4 "	5.08	260.99	
33' Rt	5.48	260.59	
30' Rt = Scb. "	5.69	260.38	Gut
" on cb. "	5.22	260.85	
25' Rt. on Walk	5.18	260.89	
14' Rt	4.8	261.3	
2' Rt.	4.8	261.3	
L	4.8	261.3	

2' Lt.	4.9	261.2
14' Lt.	4.7	261.4
25' Lt.	5.04	261.03
314' Lt. on W. cb. Hawk	5.27	260.80
" " Gut "	5.13	260.44
33' Lt.	5.61	260.46
40' Lt.	5.49	260.58
51.1' Lt. on W 1/4 Hawk	5.34	260.73
71.0' Lt. = L "	5.22	260.85
90.3' Lt. = E 1/4 "	5.34	260.73
110' Lt. = B cb. " on Gut	5.78	260.29
" " " on cb	5.11	260.96
+ 0.792		
137.5' Lt. = E cb. Hawk on cb	5.45	260.62
" " on Gut	6.21	259.86
118' Lt. = E 1/4 Hawk	5.74	260.33
98.8' Lt. = L "	5.79	260.28
78.7' Lt. = W 1/4 "	5.89	260.18
59.4' Lt. = N Gut Hawk	6.27	259.80
" " W cb.	5.97	260.10
40' Lt. on Hub.	5.46	260.61

33' Lt.	5.5	260.6
25' Lt.	5.4	260.7
14' Lt.	5.2	260.9
2' Lt.	5.1	261.0
L	5.1	261.0
2' Rt.	5.1	261.0
14' Rt.	4.0	262.1
25' Rt.	4.6	261.5
28' Rt. = S.W. Washington	4.7	261.4
33' Rt.	5.20	260.87
39.75' Rt. on Sch. "	5.32	260.75
40' Rt.	5.79	260.28
48.5' Rt. " S 1/4 "	5.25	260.82
57.1' Rt. = L "	4.90	261.17
65.8' " = N 1/2 "	4.58	261.49
74.5' Rt. = N cb "	4.41	261.66 ^{Gut Meets cb}
+ 27.80		
86.6' Rt. = N cb. Washington	4.58	261.49 ^{Gut Meets cb}
77.9' Rt. = N 1/2 "	4.86	261.21
69.1' Rt. = L "	3.11	260.96
60.4' Rt. S 1/2 "	5.47	260.60

266.07		
51.64 Rt. = Sch. Washington	5.91	260.16 on Gut
" " " "	5.47	260.60 on cb
40' Rt	4.7	261.4
33' Rt	4.5	261.6
25' Rt	4.6	261.5
19' Rt	4.9	261.2
2' Rt.	5.3	260.8
L	5.4	260.7
2' Lt.	5.4	260.7
14' Lt. ^{on} Floor Garage	5.7	260.4
27' Lt. " "	5.7	260.4
27' Lt. on Ground of Garage	7.6	258.5
40' Lt.	14.2	251.9
50' Lt.	13.4	252.7
70' Lt.	6.4	259.7
78.7 Lt	6.2	259.9
92.3 Lt. ^{in new Wf.} = H. Gut. Hawk	6.79	259.38
112.2 Lt. = W $\frac{1}{2}$ "	6.26	259.81
131.5 Lt. = L "	5.90	260.17
151 Lt. = L $\frac{1}{4}$ "	5.64	260.43
170.5 ^{Lt} = F. cb. " on Gut.	5.58	260.49
" " on curb.	4.89	261.18

266.07		
0 + 37.10		
186.5 Lt. = F. cb. Hawk on curb	4.53	261.54
" " on cb.	5.15	260.92
167.0 Lt. = E $\frac{1}{4}$ Hawk.	5.23	260.84
147.5 Lt. L "	5.64	260.43
128 Lt. = W $\frac{1}{2}$ "	6.50	259.57
108.6 Lt. = H. Gut "	6.93	259.14
" " on cb. P.C. ^(Proposed) 50' cb Rad.	6.42	259.65
89.1 Lt. = W. Hawk	6.4	259.7
77' Lt. = North edge ^{Conc.} Driveway.	6.2	259.9
76.5 Lt. on Conc. Wall	3.5	262.6
" " Bottom of Wall	7.5	258.6
76 Lt. on Ground	9.2	256.9
51' Lt.	16.6	249.5
40' Lt.	15.3	250.8
33' Lt.	11.8	254.3
25' Lt.	7.4	258.7
21' Lt. at SW. Cor Garage	6.8	259.3
21 Lt. on Floor Garage	5.7	260.4
19' Lt. in yard	5.8	260.3
14 Lt.	5.6	260.5
2 Lt.	5.4	260.7
L	5.4	260.7
1' Rt. at House	5.4	260.7

266.07		
2' Rt. Under House	5.8	260.3
14' Rt. " "	5.8	260.3
25' Rt. " "	5.6	260.5
33 Rt. " "	5.6	260.5
34.9 Rt. at House	4.5	261.6
40' Rt.	4.5	261.6
45.84 ^{Rt} = St. Washington	4.8	261.3
48.5 = South edge Walk "	5.49	260.58
57.48' Rt. = S cb. Washington	5.55	260.52 _{on cb.}
" " on curb "	6.00	260.07
66.2' Rt. S 1/4 "	5.58	260.49
75' Rt. L "	5.18	260.89
83.8' Rt. = N 1/4 "	4.94	261.13 _{on curb.}
92.84' Rt. = N cb. "	4.73	261.34
2.4' West on cb. = Top of Grating.	4.68	261.39
8' W = Top Grating.	5.77	260.30
0 + 58.97		
10.5' Rt. = N cb. Washington on cb.	4.94	261.13
" " " " on curb	5.88	260.19
96.2' Rt. = N 1/4 "	5.43	260.64
87.5' Rt. L "	5.34	260.73
78.4 Rt. = S 1/2 "	5.72	260.35

266.07		
70' Rt. = S cb. curb	6.25	259.82 ✓
" on cb.	5.71	260.36
61.5 Rt	5.5	260.6
58.36 Rt. = St. Washington	5.0	261.1
47.2 Rt. = N edge House	4.8	261.3
40' Rt. Under "	5.4	260.7
33' Rt. in Drive	5.6	260.5
25' Rt. " "	5.9	260.2
14' Rt.	5.8	260.3
2' Rt.	5.9	260.2
L	6.0	260.1
2' Lt.	6.1	260.0
7.7' Lt. on Wall	6.2	259.9
7.8' Lt. = Bottom Wall on Ground	7.2	258.9
14' Lt.	9.5	256.6
25' Lt.	13.7	252.4
33' Lt.	16.3	249.8
40' Lt.	19.5	246.6
53' Lt.	22.4	243.7
64' Lt. at Garage on Ground	20.9	245.2
" on Floor Garage	6.4 ±	259.7
70' Lt. on Ground under garage	14.8	251.3

266.07

0+6920

70' Lt. Under House on Ground	19.6	246.5
63.5' Lt. of House	23.6	242.5
53' Lt.	24.1	242.0
40' Lt.	20.8	245.3
33' Lt.	18.6	247.5
25' Lt.	15.5	250.6
14' Lt.	12.3	253.8
2' Lt.	7.1	259.0
0.5' Lt. Bottom Well	7.1	259.0
2' on	6.2	259.9
2' Rt.	6.3	259.8
14' Rt. = Garage Floor	6.0	260.1
25		
32		
40		
53' Rt. = N edge House	4.7	261.4
67.63' Rt. = S.L. Washington	5.0	261.1
67' Rt. on Walk	5.6	260.5
76.27' Rt. = S cb.	5.80	260.27 on cb
" " S Gut.	6.34	259.73 Gut

266.07

43

85' Rt. = 5 1/4 Washington	5.74	260.33
93.75' Lt.	5.48	260.59
102.5' Rt. = N 1/4 "	5.60	260.47
111.23' Rt. = Gut	5.92	260.15
" = cb "	5.03	261.04
chk. 22' Rt. on cb 0-1588 P.1	5.08	260.99
		261.01
		0.02

Walker
Osborne
Hazard
2-1-43

Levels: on Washington
from Goldfinch To etc. - (1+16.03) P37

75' st. 12 cbs. 12.75 1/4 5' rampy
3.44 270.49 267.05

BM P35

-(2+90.70) W.L. Goldfinch

N. cb	3.50	266.99
gut.	4.03	266.46
1/4	3.62	266.87
+4 = rail	3.80	266.69
+8.7 = rail	3.91	266.68
⊕	3.66	266.83
1.4 = rail	3.69	266.80
5.1 rail	3.66	266.83
1/4	3.65	266.84
+9	3.78	266.71
gut	4.07	266.42
S cb. = 1' S. of cb. line (large radius)	3.48	267.01
-(2+50)		
S cb. in driveway - no cb.	5.08	265.41
1/4	4.40	266.09
⊕	4.32	266.17
1/4	4.39	266.10

44

270.49

gut.	4.80	265.69
N. cb	4.28	266.21
-(2+30) (for break in rail grade)		
N. cb	4.71	265.78
gut.	5.21	265.28
1/4	4.80	265.69
+5.4 = rail	4.86	265.63
+10.1 "	4.91	265.58
⊕	4.71	265.78
+2.3 = rail	4.74	265.75
+7 "	4.81	265.68
1/4	4.83	265.66
S cb. in drive	5.54	264.95
-(2+10) (looked like break in F)		
S cb. in drive	5.98	264.51
1/4	5.34	265.15
⊕	5.23	265.26
1/4	5.24	265.25
gut	5.77	264.72
N. cb.	5.05	265.44

270.49

- (2+00)		
N.L. on walk	4.68	266.81
N. cb.	5.23	265.26
gut.	5.98	264.51
1/4	5.47	265.02
+ 7.3 = rail	5.45	265.04
+ 12.2 "	5.60	264.89
⊘	5.55	264.94
+ 3 = rail	5.43	265.06
+ 7.7 "	5.53	264.96
1/4	5.60	264.89
gut	6.20	264.29
S. cb.	5.73	264.76
+ 9 S. edge of reg. walk	5.51	264.98
+ 12 = S.L. on Conc. walk	5.42	265.07
- (1+50)		
S.L. on Conc.	6.52	263.97
+ 3 = S. edge reg. walk.	6.76	263.73
S. cb.	6.98	263.51
gut	7.44	263.05
1/4	6.94	263.55

45

270.49

+ 5.3 = rail	6.81	263.68
+ 10.3 "	6.81	263.68
⊘	6.83	263.66
+ 8 = break.	6.88	263.61
1/4	6.77	263.72
gut	7.04	263.45
N. cb.	6.25	264.24
N.L. on N. edge of Walk	6.02	264.47
top S. cb. at -(1+16.03) for check	7.84	262.65

Washington Jr. Est.
 Station Location of Poles, Trees etc.
 from Hawk St. West.

Bearings Clockwise from True North

Readings from Station = -08.58 Elev = 241.3

Station	Stadia	Azimuth	Vert. Δ	Horiz.	Elev.
Elec. Pole	70	1°46'	0°		
" "	105	32°27'	0°		
Elec. Guy Pole	95'	36°20'	0°		
Tel. Pole	97	99°34'	0°		
Elec. Pole	69'	83°47'	0°		
Tel. Pole Anchor	59'	97°27'	0°		
Tel. Pole	65'	111°25'	0°		
" Anchor	79'	127°22'	0°		
Elec. Pole	85'	164°41'	0°		
Anchor					
Elec. Pole	50	158°18'	0°		
Elec. Guy Pole	34'	149°53'	0°		
Elec. Pole	20	40°51'	0°		
" Anchor	15'	22°03'	0°		
Fire Plug	25'	338°19'	0°		
24" Palm	31'	172°43'	0°		

Readings from Sta. 1+32.55 (Pot.) Elev. 246.5
 H.I. = 251.1

20" ^{tree} Pepper 98' 94°40' 0 98.0 246.5

46

Sta.	Stadia	Azimuth	Vert. Δ	Horiz.	Elev.
4" Lemon	67'	70°37'	+7°33'	65.8	255.2 87
2" "	68'	104°35'	-5°24'	67.4	239.1 64
1" "	73'	117°10'	-5°42'	72.3	239.5 70
2" "	80'	125°04'	-3°40'	79.7	241.4 51
5" Avacado	84'	122°58'	-2°03'	83.9	243.5 30
2" Lemon	78'	139°27'	-1°43'	77.9	244.2 23
2" "	69'	133°11'	0	69.0	246.5
2" "	63'	123°51'	-8°32'	61.6	237.3 9.2
5" Avacado	63'	115°09'	-7°55'	61.8	237.9 8.6
5" Lemon	55'	109°09'	-7°15'	54.1	239.6 6.9
3" "	47'	89°20'	-1°28'	47.0	246.1 0.4
2" "	44'	58°12'	+10°42'	42.5	254.5 8.0
2" Fig	34'	64°16'	+7°10'	33.5	250.7 4.2
2" Lemon	32'	89°11'	-1°12'	32.0	246.4 0.1
2" "	42'	117°08'	-9°05'	41.0	240.0 6.5
1" Guava	49'	125°46'	-10°38'	47.3	237.6 8.9
3" Lemon	54'	132°46'	-9°44'	52.5	237.5 9.0
2" "	64'	141°58'	-7°37'	62.9	238.1 8.4
4" Plum	73'	146°55'	-3°08'	72.8	242.5 4.0
2" Avacado	70'	155°10'	-4°27'	69.6	241.1 5.4

Sta.	Stadia	Azimuth	Vert. A	Horiz	Elev.
10" Pepper	80	155° 56'	0'	80.0	246.5 238.5
6" "	38'	132° 54'	-12° 26'	36.2	8.0
(Lunch)					
Sta. 1+	32.55	(Elev. 246.5)	H.I. = 251.5		
8" Plum	32'	95° 33'	-1° 20'	32.0	246.3 0.2
1" Lemon	28'	62° 32'	+7° 31'	27.6	249.7 3.2
1" Orange	34'	45° 17'	+14° 53'	31.8	254.9 8.4
6" Fig	33'	32° 30'	+18° 22'	29.7	256.4 9.9
2 Guava	31'	23° 42'	+19° 38'	27.5	256.3 9.8
2" Lemon	27'	19° 35'	+21° 17'	23.4	255.6 9.1
4" Logquat	18'	22° 51'	+21° 58'	15.5	252.7 6.2
<i>Eucalyptus</i>					
16" Euc.	48'	158° 48'	-14° 25'	45.0	234.9 11.6
20" "	48'	166° 09'	-15° 04'	44.8	234.5 12.0
16" "	47'	176° 50'	-15° 32'	43.6	234.4 12.1
36" "	52'	194° 04'	-15° 05'	48.5	233.5 13.0
24" "	57'	205° 14'	-14° 56'	53.2	232.3 14.2
24" "	65'	212° 17'	-13° 53'	61.3	231.3 15.2
5" "	79'	206° 45'	-8° 56'	77.1	234.4 12.1
8" "	76'	188° 57'	-5° 03'	75.4	239.9 6.6
4" Plum	70'	185° 36'	-	76.0	238.0
6" Star Pine	83'	170° 18'	+0° 40'	83.0	247.5 11.0

Sta.	Stadia	Azimuth	Vert. A	Horiz	Elev.
8" Apricot	110'	193° 56'	+1° 46'	109.9	47 249.9 3.4
6" Acacia	86'	203°	-5° 09'	85.3	238.8 7.7
(you clipped us)					
4" Euc.	31'	246° 05'	-12° 10'	29.6	240.1 6.4
16" "	47'	256° 28'	-9° 13'	45.8	239.1 7.4
4" "	61'	267° 30'	-9° 21'	59.4	236.7 9.8
12" "	66'	278° 30'	-6°	65.3	239.6 6.9
12" "	88'	275° 44'	-4° 52'	87.4	239.1 7.4
24" "	91'	297° 37'	+0° 28'	91.0	247.2 0.7
20" "	104'	295° 58'	+1° 14'	103.9	248.7 2.2
Reading from Sta. 2+11.87 = BC					
					(Elev. 229.5) H.I. = 234.7
4" Euc.	36'	167° 47'	+13° 55'	33.9	237.9 8.4
10" "	87'	159° 55'	+16° 48'	79.7	253.6 24.1
36" Tree?	78'	179° 12'	+18° 49'	69.9	253.3 23.8
24" Pepper	84'	199° 26'	+18° 34'	75.5	254.9 25.4
20" Cypress	76'	217° 03'	+20° 13'	66.9	254.1 24.6
20" Pepper	77'	224° 16'	+19° 12'	68.7	253.4 23.9
4" "	84'	237° 34'	+13° 15'	79.6	248.3 18.8
24" Palm	115'	231° 50'	+13° 54'	108.4	256.3 26.8
12" Acacia	73'	245°	+10° 46'	70.4	242.9 13.4
4" "	82'	255° 44'	+4°	81.6	235.2 5.7

sta.	Stadia	Azimuth	Vert. A	Horiz.	Elev.
12" Tree	80	264°35'	+0°28'	80.0	230.1 0.6
10" Euc.	91	268°38'	-1°17'	90.9	227.5 2.0
10" Acacia	107	262°33'	+0°06'	107.0	229.7 0.2
20" Euc.	116	266°06'	-2°08'	115.8	225.2 4.3
10" Acacia	125	264°38'	-2°12'	124.8	224.7 4.8
14" Euc.	144	262°27'	-1°52'	143.8	224.8 4.7
Outlet of 8" Wrought Iron Drain (from End of Ibis improvements.)					234.3 4.8
	77	256°04'	+3°35'	76.7	234.3 4.8
					Attention Mr. A.B. & C.B.H. (Blind men)
Outlet of 12" Conc. Storm Drain from Hawk st. Catch basin					226.7 2.8
on F.L.	36	278°32'	-4°24'	35.8	226.7 2.8
12" Pepper	105	290°46'	-1°39'	104.9	226.5 3.0
10" "	124	286°06'	-1°30'	123.9	226.2 3.3
12" "	146	284°10'	-1°58'	145.3	224.5 5.0
Reading from sta. 5+23.28 on Tan.					Elev. 226.9 H.I. = 231.5
14" Pepper	130	349°45'	-4°08'	129.3	217.5 7.4
8" Apricot	126	355°18'	-5°42'	124.8	214.4 12.5
12" Pepper	204	13°47'	-1°50'	203.8	220.4 6.5
12" #	250	22°35'	+0°25'	250.0	231.7 4.8
10" Palm	198	27°25'	+0°20'	198.0	228.1 1.2
10" "	158	24°27'	+0°19'	158.0	227.8 0.9

Sta.	Stadia	Azimuth	Vert. A	Horiz.	Elev.
4" Pepper	162	28°58'	0°	162.0	226.9 239.6
10" "	160	35°55'	+4°34'	159.0	12.7 243.2
4" Fig	151	37°12'	+6°14'	149.2	16.3 256.2
4" "	154	42°12'	+11°10'	148.2	29.3 246.6
8" Pepper	125	42°37'	+9°12'	121.8	19.7 257.8
8" Orange	137	53°23'	+13°23'	129.6	30.9 256.0
4" Lemon	119	52°08'	+14°37'	111.4	29.1 255.5
6" Fig	112	50°13'	+15°20'	104.2	28.6 249.8
Elec. Pole	105	50°45'	+12°55'	99.7	22.9 249.5
Anchor of Pole	118	45°	+11°15'	113.5	22.6 256.4
10" Cypress	91	65°18'	+20°10'	80.7	29.5 257.3
20" "	90	72°37'	+21°14'	78.2	30.4 259.4
20" Pepper	90	84°38'	+23°08'	76.1	32.5 259.2
6" Orange	86	95°09'	+24°33'	71.4	32.3 259.6
6" "	89	106°58'	+23°37'	74.7	32.7 258.9
8" Fig	82	101°12'	+25°36'	66.7	32.0 254.2
4" Apricot	70	115°37'	+25°37'	56.9	27.3 254.5
Elec. Pole	74	119°55'	+24°07'	61.6	27.6 255.7
Guy for above	73	104°38'	+26°	59.0	28.8 248.3
" " "	61	125°39'	+23°21'	52.2	21.4

Sta.	Stadia	Azimuth	Vert. Δ	Horiz.	Elev.
					236.9
3" Acacia	51	155° 04'	+11° 33'	49.0	10.0 240.8
8" Apricot	104	179° 18'	+7° 47'	102.1	13.9 244.5
4" Orange	112	181° 47'	+9° 11'	109.2	17.6 226.8
4" Apricot	74	195° 24'	-0° 04'	74.0	0.1 228.9
6" Cypress	83	204° 44'	+1° 25'	83.0	2.0 227.2
6" "	95	212° 23'	+0° 10'	95.0	0.3 226.4
4" "	101	216° 15'	-0° 18'	101.0	0.5 226.2
4" "	104	218° 58'	-0° 24'	104.0	0.7 228.3
14" Euc.	130	220° 47'	+0° 35'	130.0	1.4 233.3
10" "	137	218° 03'	+2° 40'	136.7	6.4 234.4
20" "	144	217° 06'	+3° 01'	143.6	7.5 237.8
20" "	150	216° 28'	+4° 10'	149.2	10.9 239.6
20" "	157	215°	+4° 40'	156.0	12.7 199.3
6" Acacia	134	256°	-12° 10'	128.1	27.6 205.8
10" "	68	258° 12'	-19° 09'	60.7	21.1 224.3
4" Euc.	12	229° 54'	-13° 03'	11.4	2.6 229.9
Reading from Sta. 7+86.37 on tan.					H.I. 234.9
Guy Pole	118	95° 20'	+13° 50'	111.3	254.3 24.4
Elec. Pole is 25' East. along P.L. Line					248.9
Dead man for Guy Pole	70	96° 19'	+19° 36'	62.1	19.0

49

Sta.	Stadia	Azimuth	Vert. Δ	Horiz.	Elev.
					253.8
w. end of Cypress	77	96° 47'	+19° 10'	68.7	23.9
20' E. along S.L. of Ibis Court (or P.L.) to E. end of Hedge					
4" Euc.	63	100° 11'	+20° 53'	55.0	250.9 21.0
24" "	61	102° 17'	+21° 46'	52.6	250.9 21.0
14" "	54	98° 58'	+21° 45'	46.6	248.5 18.6
10" "	50	103° 29'	+21° 50'	43.1	247.2 17.3
10" "	40	105° 10'	+21° 45'	34.5	243.7 13.8
8" "	33	101° 16'	+21° 20'	28.6	241.1 11.2
14" "	30	108° 39'	+22° 22'	25.7	240.5 10.6
8" "	23	105°	+22° 38'	19.6	238.1 8.2
6" "	20	119°	+22° 54'	17.0	237.1 7.2
8" "	23	135° 47'	+20° 26'	20.2	237.4 7.5
10" "	7	211° 27'	+1° 55'	7.0	230.1 0.2
6" "	12	175° 01'	+11° 50'	11.5	232.3 2.1
10" "	17	185° 45'	+7° 56'	16.7	232.2 2.3
8" "	17	202° 40'	+1°	17.0	230.2 0.3
8" "	16	216° 07'	-3° 39'	15.9	228.9 1.0
10" "	15	248° 12'	-10° 13'	14.5	227.3 2.6
16" "	25	259° 42'	-16° 18'	23.0	223.2 6.7
20" "	31	265° 38'	-17° 18'	28.3	221.1 8.8

Sta.	Stadia	Azimuth	Vert. A	Horiz.	Elev.
18" Euc.	25'	248° 24'	-13° 02'	23.7	224.4 5.5
8" "	51'	255° 35'	-16° 30'	46.9	216.0 13.9
10" "	63'	261° 16'	-17° 30'	57.3	211.8 18.1
10" "	68'	261° 16'	-17° 21'	62.0	210.6 19.3
16" "	70'	253° 47'	-15° 57'	64.7	211.4 18.5
8" "	72'	249° 56'	-15° 30'	66.9	211.4 18.5
10" "	74'	243° 55'	-15° 04'	69.0	211.3 18.6
30" "	77'	240° 47'	-14° 44'	72.0	211.0 18.9
8" "	55'	242° 26'	-15° 43'	51.0	215.5 14.4
10" "	60'	217° 34'	-13° 55'	56.5	215.9 14.0
18" "	50'	200° 46'	-5°	49.6	225.6 4.3
12" "	65'	204° 48'	-10° 15'	63.0	218.5 11.4
18" "	90'	210° 25'	-8° 10'	88.2	217.2 12.7
10" " (dead)	90'	205° 20'	-5° 47'	89.1	220.8 9.1
14" "	107'	196° 39'	-1° 12'	107.0	227.7 2.2
12" "	145'	185° 35'	+4° 17'	144.2	240.7 10.8
10" "	160'	182° 41'	+5° 26'	158.6	245.0 15.1
26" "	167'	180° 27'	+6° 16'	165.0	248.0 18.1
24" "	150'	174° 46'	+5° 58'	148.4	245.4 15.5
24" "	95'	172° 42'	+3° 21'	94.7	235.4 5.5

Sta	Stadia	Azimuth	Vert. A	Horiz	Elev.
10" Euc.	88'	172° 42'	+2° 55'	87.8	234.4 4.5
6" "	83'	172° 21'	+2° 27'	82.8	233.5 3.6
8" "	77'	171° 11'	+2° 43'	76.8	233.6 3.7
4" "	65'	170° 35'	+3° 33'	64.8	233.9 4.0
12" "	60'	170° 35'	+3° 42'	59.8	233.8 3.9
4" "	60'	175° 08'	+1° 58'	59.9	232.0 2.1
12" "	59'	179° 42'	+0° 07'	59.0	230.0 0.1
6" "	52'	178° 40'	+0° 53'	52.0	230.7 0.8
6" "	55'	167°	+6° 06'	54.4	235.7 5.8
10" "	56'	162° 11'	+7° 42'	55.0	237.3 7.4
6" "	47'	171° 56'	+3° 43'	46.8	233.0 3.1
6" "	47'	177° 28'	+2° 27'	46.9	231.9 2.0
12" "	40'	176° 35'	+3° 53'	39.8	232.6 2.7
6" "	41'	170° 53'	+5° 31'	40.6	233.8 3.9
8" "	44'	155° 34'	+10° 41'	42.5	237.9 8.0
16" "	40'	150° 16'	+13° 32'	37.8	239.0 9.1
8" "	36'	157° 42'	+11° 49'	34.5	237.1 7.2
12" "	33'	174° 40'	+6° 12'	32.6	233.4 3.5
10" "	23'	169° 41'	+10° 40'	22.2	234.1 4.2
16" "	30'	139° 27'	+18° 05'	27.1	238.8 8.9

Sta.	Stadia	Azimuth	Vert. Δ	Horiz.	Elev.
7" Euc.	9'	146° 30'	+19° 26'	80	232.7 2.8
Reading from ♀ Sta. 9+25.88 = P.I. (Elev. 228.1) H.I. 233.2					
18" Euc.	26'	62° 08'	-5° 22'	25.8	22.57 2.4 236.8
16" "	110'	68° 49'	+4° 33'	109.3	8.7 236.2
8" "	107'	72° 09'	+4° 20'	106.4	8.1 236.8
24" "	98'	84° 36'	+5° 08'	97.2	8.7 238.8
12" "	103'	87° 46'	+5° 57'	101.9	10.7 240.3
16" "	102'	91° 32'	+6° 55'	100.5	12.2 241.4
20" "	104'	98° 03'	+7° 24'	102.3	13.3 243.2
24" "	105'	104° 32'	+8° 22'	102.8	15.1 245.3
16" "	109'	108° 03'	+9° 13'	106.2	17.2 242.0
10" "#	80'	117° 31'	+10° 08'	77.5	13.9 244.1
6" "	88'	123° 04'	+10° 46'	85.0	16.0 245.3
10" "	95'	117° 13'	+10° 37'	91.8	17.2 247.5
12" "	93'	128° 27'	+12° 21'	88.8	19.4 246.1
20" "	80'	135° 26'	+13° 21'	75.7	18.0 246.9
20" "	70'	148° 10'	+16° 14'	64.5	18.8 242.0
24" "	46'	148° 25'	+18° 32'	41.4	13.9 242.0
Reading from ♀ Sta 10+89.91 (on Tan.) (Elev. 226.0) H.I. 231.0					
10" Fig	71'	119° 41'	+24° 01'	59.2	252.4 26.4

Sta.	Stadia	Azimuth	Vert. Δ	Horiz.	Elev.
14" Guy Pole	57'	118° 54'	+24° 57'	46.9	247.8 21.8
Read mark for above	50'	106° 08'	+22° 01'	43.0	243.4 17.4
Reading from ♀ Sta. 11+40.03 = E.C. (Elev. 222.3) H.I. 227.2					
10" Euc.	40'	168° 54'	+22° 50'	34.0	236.6 14.3
8" Acacia	66'	168° 54'	+20° 30'	57.9	244.0 21.7
12" Euc.	45'	198° 15'	+16° 46'	41.3	234.7 12.4
N. end of Row of Cypress trees about 25' Long (line N. & S.)					
	76'	192° 25'	+16° 40'	69.8	243.2 20.9
Reading from ♀ Sta. 15+59.65 = P.C. (Elev. 191.9) H.I. = 196.6					
20" Euc.	94'	139° 20'	+21° 50'	81.0	224.4 32.5
20" "	92'	143° 34'	+21° 57'	79.2	223.8 31.9
18" "	90'	257° 42'	+21° 11'	78.3	222.2 30.3
2-20" "	94'	177°	+20° 09'	82.8	222.3 30.4
Reading from ♀ Sta. 16+40.92 = P.I. (Elev. 191.0) H.I. = 195.6					
On F.L. of 12" Corr. Iron Drain Outlet from St. above					
F.L.	128'	172° 18'	+10° 07'	124.0	Subtract 3' for Correct Elev. 221' = 210.1
3" lime	165'	222° 10'	+6° 51'	163.3	167 = 207.7
4" Avocado	150'	220°	+6° 30'	148.1	169 = 207.9
6" "	180'	222°	+6° 25'	177.8	200 = 211.0
6" "	195'	226° 05'	+6° 48'	192.3	22.9 = 213.9

Sta.	Stadia	Azimuth	Vert. A	Hor.	Elev.
6" Avacado	214	228° 58'	+6° 11'	211.5	213.9 22.9
6" "	205	234° 03'	+4° 25'	203.8	206.7 15.7
6" "	205	230° 24'	+5° 45'	200.9	211.4 20.4
6" "	180	228° 16'	+5° 30'	178.3	208.2 17.2
6" "	165	226° 56'	+5° 08'	163.7	205.7 14.7
4" "	153	225° 51'	+4° 52'	151.9	203.9 12.9
4" #	140	224° 10'	+4° 41'	139.1	202.4 11.4

Note trees are so thick Cannot see at H.I. So will read top of rod and give a minus to the Cor. Elev.

6" "	156	230° 35'	+5° 37'	154.5	200.2 -6.0 15.2 = 200.2
6" "	173	231° 08'	+5° 40'	171.3	203.0 -3 17.0 = 203.0
6" "	181	232° 28'	+4° 41'	179.8	202.7 -5 14.7 = 202.7
6" "	202	234° 36'	+5° 15'	200.3	204.4 -5 18.9 = 204.4
6" "	205	237° 54'	+3° 55'	204.1	200.0 -6 14.0 = 200.0
6" "	186	237° 10'	+4° 09'	195.0	198.4 -5 13.4 = 198.4
4" "	175	235° 58'	+4° 02'	174.1	198.3 -5 12.3 = 198.3
6" "	161	236° 08'	+3° 57'	160.2	197.1 -6 11.1 = 197.1
6" "	180	240° 36'	+2° 53'	179.6	194.0 -6 9.0 = 194.0
6" "	193	240° 49'	+2° 58'	194.5	195.1 -6 10.1 = 195.1
4" "	213	242° 58'	+2° 45'	212.5	195.3 -6 10.3 = 195.3

Sta.	Stadia	Azimuth	Vert. A	Hor.	Elev.
4" Avacado	232	243° 31'	+1° 42'	231.8	193.9 -4 6.9 = 193.9
4" "	223	244° 50'	+1° 15'	222.9	191.9 -3 4.9 = 191.9
6" "	201	243° 57'	+1° 18'	200.9	192.6 -4 4.6 = 192.6
4" "	182	243° 57'	-0° 05'	182.0	190.7 -4 0.3 = 190.7
4" "	210	247° 27'	+0° 15'	210.0	187.9 -3 0.9 = 187.9
6" "	232	247° 54'	+0° 15'	232.0	189.0 -3 1.0 = 189.0
4" Lemon	105	253° 46'	-10° 27'	101.6	172.3 -4 18.7 = 172.3
3" Plum	113	252° 57'	-9° 31'	109.9	172.6 -4 18.4 = 172.6
3" "	120	252° 08'	-8° 20'	117.5	173.8 -4 17.2 = 173.8
4" Lemon	110	246° 51'	-7° 02'	108.3	177.6 -4 13.4 = 177.6
4" "	114	240° 16'	-3° 39'	113.5	183.8 -4 7.2 = 183.8
4" "	120	234° 31'	-0° 20'	120.0	190.3 -4 0.7 = 190.3
4" "	130	229° 40'	+2° 22'	129.8	196.4 -4 5.4 = 196.4
6" "	147	229° 43'	+4°	146.3	200.2 -4 10.2 = 200.2
4" Avacado #	140	224° 06'	+4° 48'	139.0	202.7 -3 11.7 = 202.7
6" "	156	225° 30'	+6° 09'	154.2	204.6 -3 16.6 = 204.6
5" Lemon	161	221° 26'	+7° 42'	158.1	209.4 -7 21.4 = 209.4
8" Avacado #	157	230° 25'	+6° 08'	155.2	200.7 -6 16.7 = 200.7
6" Lemon	150	235° 27'	+1° 42'	149.9	195.5 -6 4.5 = 195.5
6" Lemon	145	240° 10'	-0° 52'	145.0	188.8 -6 2.2 = 188.8

Sta.	Stadia	Azimuth	Vert. Δ	Hor.	Elev.
6" Lemon	150	244° 46'	-0° 51'	.150.0	⁻³ 22 = 185.8
4" "	138	244° 52'	-3° 18'	.137.5	7.9 = 183.1
5" "	147	249° 30'	-4° 19'	.146.2	11.0 = 180.0
3" "	134	256° 05'	-8° 45'	.130.9	20.2 = 170.8
6" Plum	144	258° 25'	-8° 30'	.140.9	21.1 = 169.9
4" Lemon	172	252° 36'	-3° 50'	.171.2	11.5 = 179.5
4" "	161	248° 48'	-2° 40'	.160.7	7.5 = 183.5
3" "	172	248° 42'	-2° 15'	.171.7	6.7 = 184.3
7" "	162	245°	-0° 51'	.162.0	⁻⁵ 2.9 = 188.6
5" "	156	240° 10'	+1° 56'	.155.8	⁻⁶ 5.3 = 191.3
8" Avacado	164	236° 09'	+4° 21'	.163.1	⁻⁶ 12.4 = 197.4
8" "	168	226° 47'	+7° 04'	.165.5	⁻⁵ 20.5 = 203.5
3" "	175	232° 40'	+4° 04'	.174.1	⁻³ 12.4 = 198.4
5" "	183	232° 30'	+4° 45'	.181.8	15.1 = 203.1
3" Lemon	192	247° 05'	-1° 33'	.191.9	5.5 = 185.5
3" "	185	251° 48'	-3° 41'	.184.2	11.9 = 179.1
2" Peach	183	255° 37'	-5° 20'	.181.9	16.9 = 174.1
4" Lemon	198	262° 49'	-8° 05'	.194.1	⁻³ 27.6 = 163.4
3" "	220	263° 35'	-6° 50'	.216.9	26.0 = 162.0
4" "	222	260° 03'	-6° 01'	.219.6	23.1 = 167.9

Sta.	Stadia	Azimuth	Vert. Δ	Hor.	Elev.
4" Lemon	209	257° 36'	-4° 25'	.207.8	⁻³ 16.1 = 171.9
3" Tangerine	195	254° 55'	-3° 20'	.194.3	⁻⁴ 11.3 = 175.7
3" Fig _{Yum}	200	250° 06'	-2° 15'	.199.7	⁻² 7.8 = 183.2
10" Peach	211	252° 28'	-2° 51'	.210.5	⁻³ 10.5 = 178.5
7" "	223	255° 47'	-3° 53'	.222.0	⁻² 15.1 = 172.9
4" Lemon	229	253° 15'	-2° 41'	.228.5	⁻² 10.7 = 178.3
2" "	221	251° 16'	-1° 36'	.220.8	⁻³ 6.2 = 182.8
5" "	239	251° 10'	-1° 05'	.238.9	⁻⁶ 4.5 = 183.5
4" "	249	253° 57'	-1° 16'	.248.9	⁻⁷ 5.5 = 179.5
3" "	238	256° 15'	-1° 59'	.237.7	⁻² 8.2 = 175.8
5" "	235	259° 36'	-1° 32'	.233.5	18.5 = 170.5
4" "	233	262° 01'	-6° 15'	.230.3	⁻² 25.2 = 165.9
3" Peach	250	260° 35'	-5° 06'	.248.0	⁻⁵ 22.1 = 166.9
4" Lemon	254	257° 37'	-2° 45'	.253.4	⁻⁹ 12.2 = 173.8
3" "	263	256°	-1° 40'	.262.8	⁻⁸ 7.7 = 174.3
4" "	265	251° 54'	-0° 27'	.265.0	⁻⁶ 2.1 = 180.9
4" "	254	249° 07'	+0° 20'	.254.0	⁻² 1.5 = 186.5
8" Peach	245	245° 56'	+0° 39'	.245.0	⁻² 2.8 = 191.8
4" Lemon	261	246° 03'	+0° 31'	.261.0	⁻¹⁰ 2.9 = 191.4
6" "	269	249° 01'	+0° 32'	.269.0	2.5 = 192.5

Sta.	Stadia	Azimuth	Vert. Δ	Hor.	Elev.
5" Lemon	278	247° 04'	+0° 26'	.2780	2.1 = 187.1 -6
6" "	279	243° 47'	+1° 51'	.2787	9.0 = 193.0 -7
6" "	269	241° 27'	+2° 58'	.2683	13.9 = 197.9 -6
3" "	284	239° 38'	+2° 57'	.2833	14.6 = 199.6 -6
5" "	274	233° 44'	+4° 26'	.2724	21.1 = 206.1 -11
7" Plum	300	237° 02'	+3° 10'	.2991	16.6 = 196.6 -9
5" Lemon	294	242° 39'	+2° 39'	.2934	13.6 = 195.6
Reading from 2 Sta. $21 + 21.69$ ^{PI.} Elev. 171.1 HI. = 175.7					
4" Lemon	206	64° 22'	+0° 38'	.2060	23 = 173.4
6" Plum	210	60° 33'	-1°	.2099	37 = 167.4
2" Peach	196	61° 29'	-1° 14'	.1959	42 = 166.9 -3
4" Lemon	190	65° 03'	+0° 52'	.1900	29 = 171.0 -5
6" Peach	180	63° 15'	-0° 31'	.1800	16 = 164.5 -4
2" Plum	160	67° 36'	-0° 32'	.1600	15 = 165.6
3" Fig.	175	67° 01'	-0° 22'	.1750	12 = 169.9
3" Peach	190	68° 32'	+0° 48'	.1900	27 = 173.8
4" Lemon	193	71° 13'	+1° 14'	.1929	42 = 175.3
6" Fig.	178	71° 17'	+1° 32'	.1779	48 = 175.9 -4
5" Lemon	185	74° 33'	+4° 47'	.1837	154 = 182.5
4" "	192	78° 03'	+4° 57'	.1906	165 = 187.6

Sta.	Stadia	Azimuth	Vert. Δ	Hor.	Elev.
3" Peach	186	81° 56'	+6° 17'	.1838	20.2 = 191.3 -2
3" Lemon	172	78° 50'	+5° 01'	.1707	15.0 = 164.1 -4
6" Peach	166	75° 30'	+3° 54'	.1652	11.3 = 178.4

Walker
Osborne
Hazard
2-8-43

Washington St. Extension
Cross Section Proposed Curve
at India and Andrews

INDIA ST.

35+41.00 = BC

defx
750 0°15.47'
775 0°58.44'

36+00 1°41.41'

725 2°24.38'
3°12.64'

753.06 = 36.5' c/c k on W

769.28 = 3°40.5'

787.08 4°02.5'

795.75 4°26'

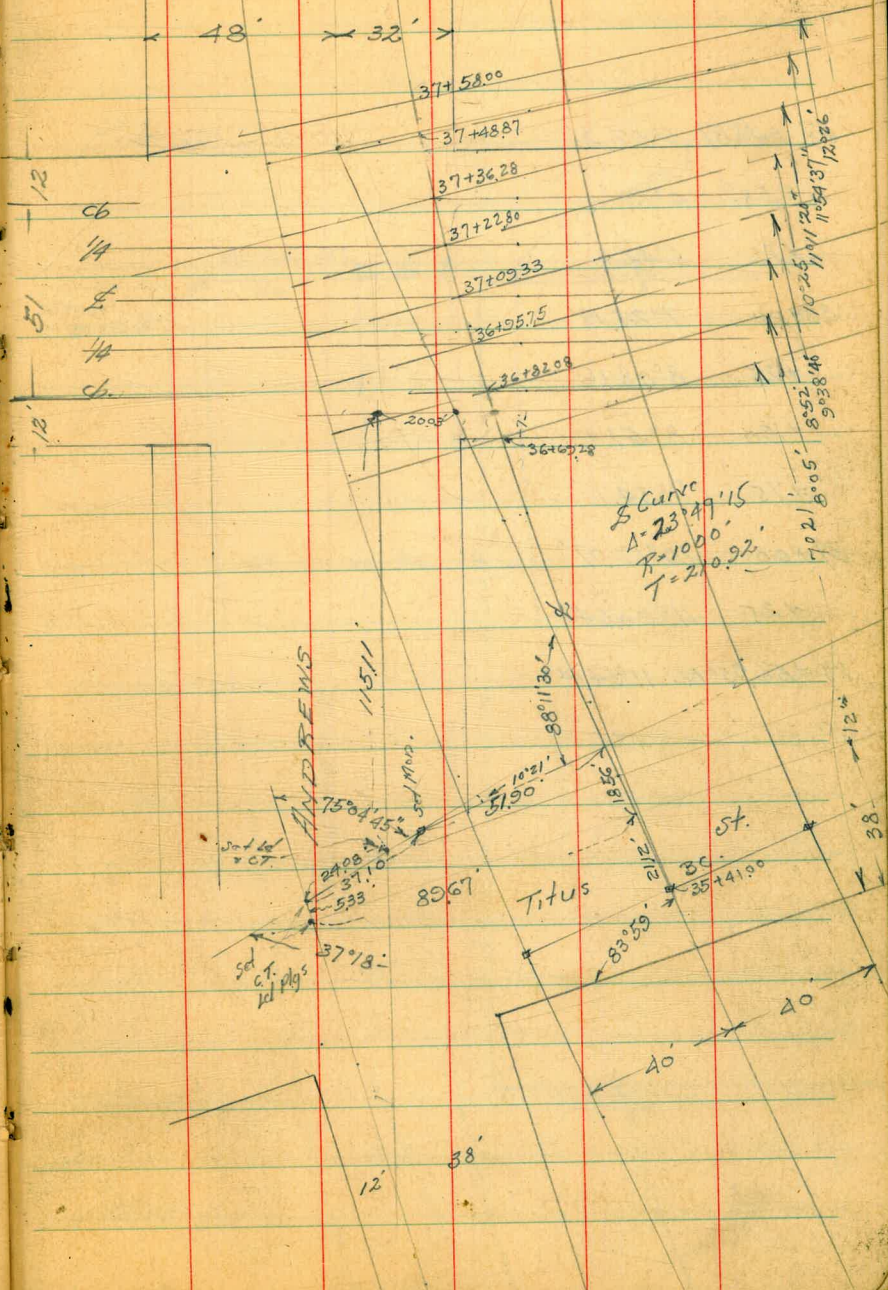
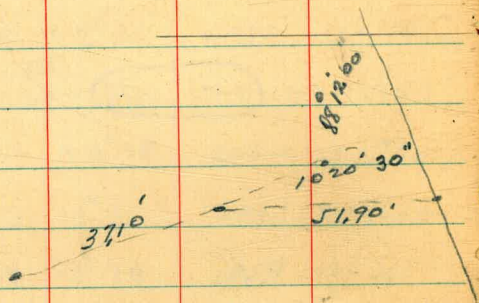
37+09.33 4°49.34'

722.80 5°12.5'

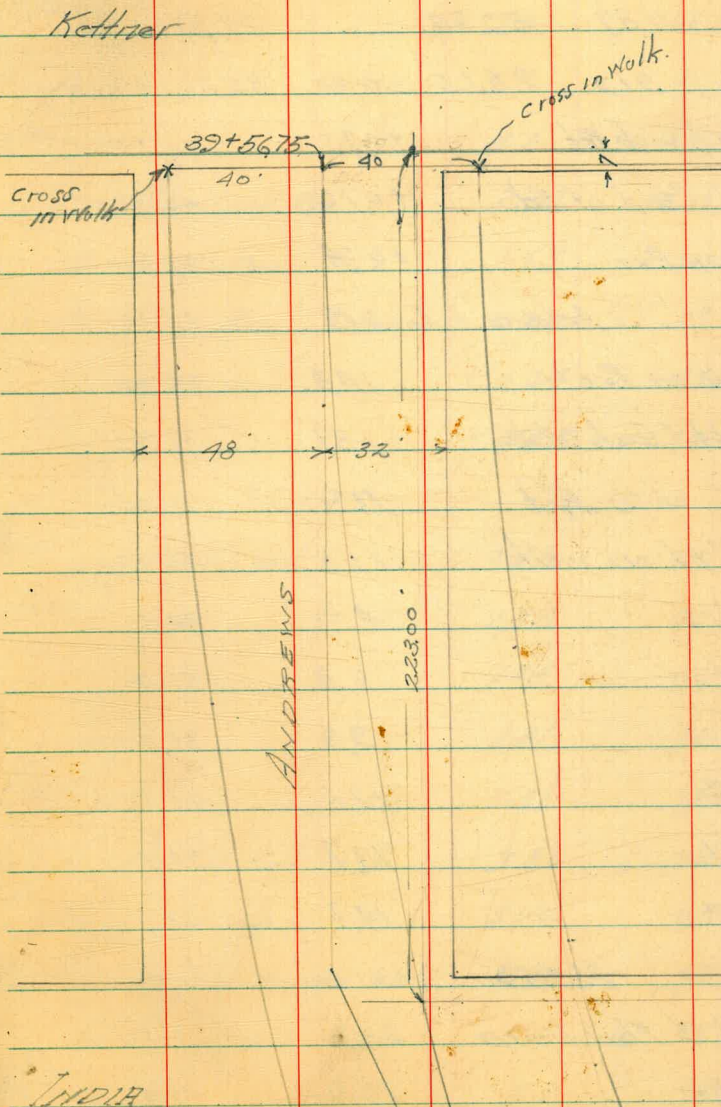
736.28 5°35.67'

88	12 00 ✓
173	47 45 ✓
90	01 00 ✓
57	39 00 ✓
190	20 30 ✓
<u>540</u>	<u>06 15</u>

75°04'00" or
90 22 N



37 + 48.87 5° 57.3'
 + 58° 6' 13"
 + 75 6' 42.2"
 38 + 00 7° 25.19'
 + 25 8° 08.16'
 + 50 8° 51.13'
 + 75 9° 34.1'
 39 + 00 10° 17.07'
 + 25 11° 00.04'
 39 + 56.75 EG. 11° 54.64'



	35+75	98.15	Washington Est.	
20' Lt			81	901
ℓ			10.6	88.6
20' Rt.			13.6	84.6
40' Rt.			14.8	83.4
60' Rt.			17.4	80.8
66' Rt. Flwy Drain			23.6	74.6
	36+00			
55' Rt.			16.1	82.1
40"			15.8	82.4
20"			14.6	83.6
ℓ			13.3	84.9
26' Lt.			11.4	86.8
40"			9.2	89.0
50"			6.2	92.0
55.5" = N edge Walk			6.26	91.89
61.6" N.Cb. Approv			6.22	91.93
" " Gut.			7.04	91.11
75' Lt.			5.49	92.66
89' Lt. on Gut. in Drive			4.72	93.43
	36+25			
79.4' Lt. on Cb.			8.11	90.04
" " Gut.			8.90	89.25

		98.15			58
66' Lt.			9.35		88.80
53' Lt. N Gut			10.72		87.43
" " on Cb.			9.91		88.24
47.8' Lt. N edge Walk			10.02		88.13
44' Lt.			10.1		88.1
40"			11.9		86.3
35"			13.3		84.9
20' Lt.			14.4		83.8
T.P.	170	87.37	12.48		85.67
ℓ			4.7		82.7
20' Rt.			4.9		82.5
40' Rt.			5.1		82.3
50' Rt.			5.5		81.9
	36+53.06				
50' Rt.			6.8		80.6
40' Rt.			6.0		81.4
20' Rt.			6.1		81.3
ℓ			6.4		81.0
20' Lt.			6.5		80.9
32' Lt.			5.2		82.2
36' Lt.			3.5		83.9
38.1' Lt. = N edge Walk			3.47		83.90

	8737	Washington Est.
432' Lt. N cb.	3.33	84.04
" " on Gut	4.10	83.27
57' Lt.	2.93	84.44
69.3' Lt. = Gut in Drive	2.75	84.62
36+69.28 = Int. Ekine India		
64' Lt. in Drive	5.37	82.00
51' Lt. E Andrews	5.43	81.94
40' Lt.	6.33	81.04
38.1' = N Gut	6.52	80.85
" " Cb.	5.75	81.62
32.8' = W edge Walk	5.86	81.51
26' Lt.	6.8	80.6
Lo	6.9	80.5
12.2' = E edge Walk	6.96	80.41
12.1' Rt. = W " "	6.91	80.46
33.5' Rt. E cb.	6.66	80.71
" " " Gut	7.35	80.02
40' Rt. on Pav.	7.29	80.08
42.2' Rt. N end Pav.	7.26	80.11
50' Rt.	7.3	80.1

	8737	59
36+82.98		
50' Rt.	7.3	80.1
145.9' Rt. N end Pav.	7.29	80.08
40' Rt.	7.23	80.14
20' "	7.60	79.77
Lo	7.94	79.43
9' Lt. = E cb. Gut	8.08	79.29 3
" on cb.	7.39	79.98 9
22.8' Lt. = W edge Walk	7.30	80.07
33.8' Lt. on Cb. Ret	6.86	80.51
" " Gut.	7.53	79.84
40' Lt.	7.36	80.01
46' Lt.	7.21	80.16
60.2' Lt. on Gut	7.00	80.37
" " " Cb.	6.42	80.95
36+95.75		
63' Lt. on Cb. Ret	7.13	80.24
" " Gut.	7.61	79.76
52' Lt.	7.74	79.63
40' Lt.	7.87	79.50
27' Lt.	8.13	79.24

87.37
36+95.78 Corr.

Washington Est.

17' Lt. - L. Valley Gut	8.56	78.81
L	8.08	79.29
20' Rt	7.81	79.56
40' Rt	7.63	79.74
49.4' Rt - N end Pav	7.59	79.78
60' Rt	8.0	79.4

37+09.33

53' Rt - N end Pav.	8.30	79.07
40'	8.25	79.12
20'	8.31	79.06
L	8.61	78.76
12' Lt.	8.97	78.40
22' Lt	8.95	78.42
40'	8.12	79.25
52' Lt	7.98	79.39
70' Lt.	7.97	79.40

37+22.80

70' Lt.	8.34	79.03
65' Lt.	8.42	78.95
40' Lt.	8.53	78.84

87.37

60

26' Lt.	8.72	78.65
7' Lt.	9.41	77.96
L	9.34	78.03
20' Rt	9.15	78.22
40'	9.09	78.28
56' Rt - N end Pav.	8.63	78.74
T.P. = ch. B.M. ³²⁷ ^{Corrected}	81.24	9.41
		77.96
		77.97
		0.01 Error

37+36.8

47' Rt at Blvd	2.20	79.04
40' "	2.32	78.92
20' "	2.86	78.38
L	3.25	77.99
39' Lt. on ch. Pav	3.32	77.92
" " " Gut	3.79	77.45
20' Lt.	3.12	78.02
40' "	2.86	78.38
75'	2.65	78.59

37+48.87 External Sta.

57' Lt.	2.39	78.85
40' Lt.	3.56	77.68
20' Lt.	3.67	77.57

8124

Washington Ext.

3.8' Lt = Gut	4.18	77.06
3.8' Lt. cb.	3.55	77.69
L	3.5	77.7
0.3' Rt = ^S edge walk	3.55	77.69
5.6' Rt = N " "	3.44	77.80
20' Rt	2.97	78.27
40' Rt	2.44	78.80
49.9' Rt at Blvd.	2.16	79.08

37+58

51.8' Rt at Blvd.	2.27	78.97
40' Rt	2.66	78.58
20' Rt	3.49	77.75
7.6" N edge Walk	4.05	77.19
2.2' S " "	4.11	77.13
L	4.1	77.1
1.8' Lt = N cb	4.09	77.15
1.8' " N Gut	4.72	76.52
20'	4.23	77.01
40'	3.96	77.28
59' - cb. Gut. Ret	4.08	77.16
" Gut at cb.	3.67	77.57

8124

61

37+75

51.2' Lt = S cb	4.37	76.67
" " S Gut	5.18	76.06
40' Lt	4.98	76.26
20' Lt	5.05	76.19
L	5.70	75.54
15' Rt = N cb Gut	5.82	75.42
" " N cb	5.24	76.00
5.7' Rt S edge Walk	5.13	76.11
11' Rt N " "	5.12	76.12
20' Rt	4.77	76.47
40' Rt	3.83	77.41
48' Rt	3.91	77.83

38+00

47' Rt	5.83	75.41
40' R	5.95	75.29
20' R	6.39	74.65
✓ 15.2' Rt. N edge Walk	6.68	74.56
✓ 9.8' " S " "	6.62	74.62
✓ 52' Rt = N cb in Drive	7.27	73.97
L	6.99	74.25

	8124	Washington Est.
	38+00 Cont.	
26 Lt.	6.61	74.63
40 Lt.	6.73	74.51
46.7 Lt = S Gut	6.97	74.27
" = S cb.	6.38	74.86

	38+25	
43 Lt = S cb.	8.11	73.19
43 Lt = S Gut.	8.69	72.55
40 Lt.	8.57	72.67
20 Lt.	8.05	73.19
♀	8.40	72.84
9.2 Rt = ^N cb in Drive	8.83	72.41
13.4 Rt = S edge Walk	8.21	73.03
19 Rt = N " "	8.12	73.12
38 Rt.	8.42	72.82
40 Rt.	9.00	72.2
45 Rt.	10.2	71.0

	38+50	
50 Rt.	10.46	70.78
40	10.08	71.16
26.4 Rt = N edge Drive	9.76	71.48
12 Rt = N Gut in "	10.40	70.84

	8124	62
♀	9.90	71.34
20 Lt.	9.71	71.53
40 Lt = S Gut	10.38	70.86
" " on cb.	9.81	71.33

	38+75	
41.9 Lt = S edge Walk	11.30	69.94
41.9 Lt = N " "	11.42	69.82
40 Lt.	11.7	69.5
37.4 Lt = S cb.	11.57	69.67
" Lt = S Gut	12.09	69.15
20 Lt.	11.37	69.87
" Lt.	11.32	69.92
♀	11.43	69.81
14.8 Rt = N Gut	11.97	69.27
" " N cb	11.92	69.82
18.8 " S. edge Walk	11.30	69.94
28.8 = N " Drive	11.27	69.97
40 Rt.	11.44	69.80
50 Rt.	11.59	69.65
T.P.	2.86 72.07	12.03 69.21
	39+00	
50 Rt.	3.28	68.79
40 Rt.	3.28	68.79
25.9 Rt. = N edge Walk	3.61	68.46

	72.07	Washington Est.
20.6' Rt = S edge Walk	3.69	68.38
16.5' Rt = N cb	3.71	68.36
" " N Gut	4.33	67.44
ℓ	3.90	68.17
9' Lt	3.74	68.33
25' Lt	4.12	67.95
35.7' Lt = S Gut	4.63	67.44
" " cb.	4.64	68.03
39.7' Lt = N edge Walk	3.88	68.19
44.7 " S edge Walk	3.79	68.28
39 + 25		
43.4' Lt = S edge Walk	5.43	66.64
40' Lt on "	5.47	66.60
38.5' Lt	5.47	66.60
34.5' Lt = S cb	5.64	66.43
" " S Gut	6.27	65.80
20' Lt	5.56	66.51
8' Lt	5.43	66.64
ℓ	5.47	66.60
17.3' Rt = N Gut in Drive	5.86	66.21
31.4' Rt. N edge Drive	4.94	67.13

	72.07	68
40' Rt	4.46	67.61
50' Rt	4.18	67.89
39 + 56.75 = E.C.		
50' R	5.92	66.65
40' R	6.15	65.92
32 R N edge Walk	6.59	65.48
18' R = N cb.	7.02	65.05
" N Gut	7.71	64.36
ℓ	7.14	64.93
8' Lt	7.08	64.99
20' Lt	7.13	64.94
34.2' Lt = S cb Gut	7.78	64.29
34.2' on cb.	7.22	64.85
40' Lt	7.12	64.95
39 + 65 = E.C. Kettner Blvd		
78' Lt on cb	7.42	64.65
48' Lt on cb	8.02	65.05
" " " Gut	7.17	64.90
42.8 cb BC on	7.16	64.91
"	7.73	64.34
40' Lt	7.84	64.23
34' Lt S Gut	8.13	63.94
20'	7.47	64.60
8' Lt	7.36	64.71
ℓ	7.35	64.72

7207

Washington Est.

18' Rt	8.01	64.06
27.5' Rt on Gut	7.85	64.22
" Rt. " cb	7.11	64.96
40' " in Gut Drive	7.21	64.86
70' R	4.90	67.17

39 + 82.5 = A Kettner

70' R	4.95	67.12
40' Rt	7.35	64.72
27.5 R	8.18	63.89
18' R	8.72	63.35
E	8.05	64.02
8' Lt	7.89	64.18
20' Lt	8.05	64.02
26' Lt	8.63	63.44
40'	8.22	63.85
48' Lt	7.85	64.22
68' Lt	8.04	64.03

40 x 00 = Wcb. Kettner

68' Lt on Gut	9.00	63.07
68' Lt. " cb	8.65	63.42
48' Lt. " "	8.43	63.64
" " Gut.	8.82	63.25

7207

64

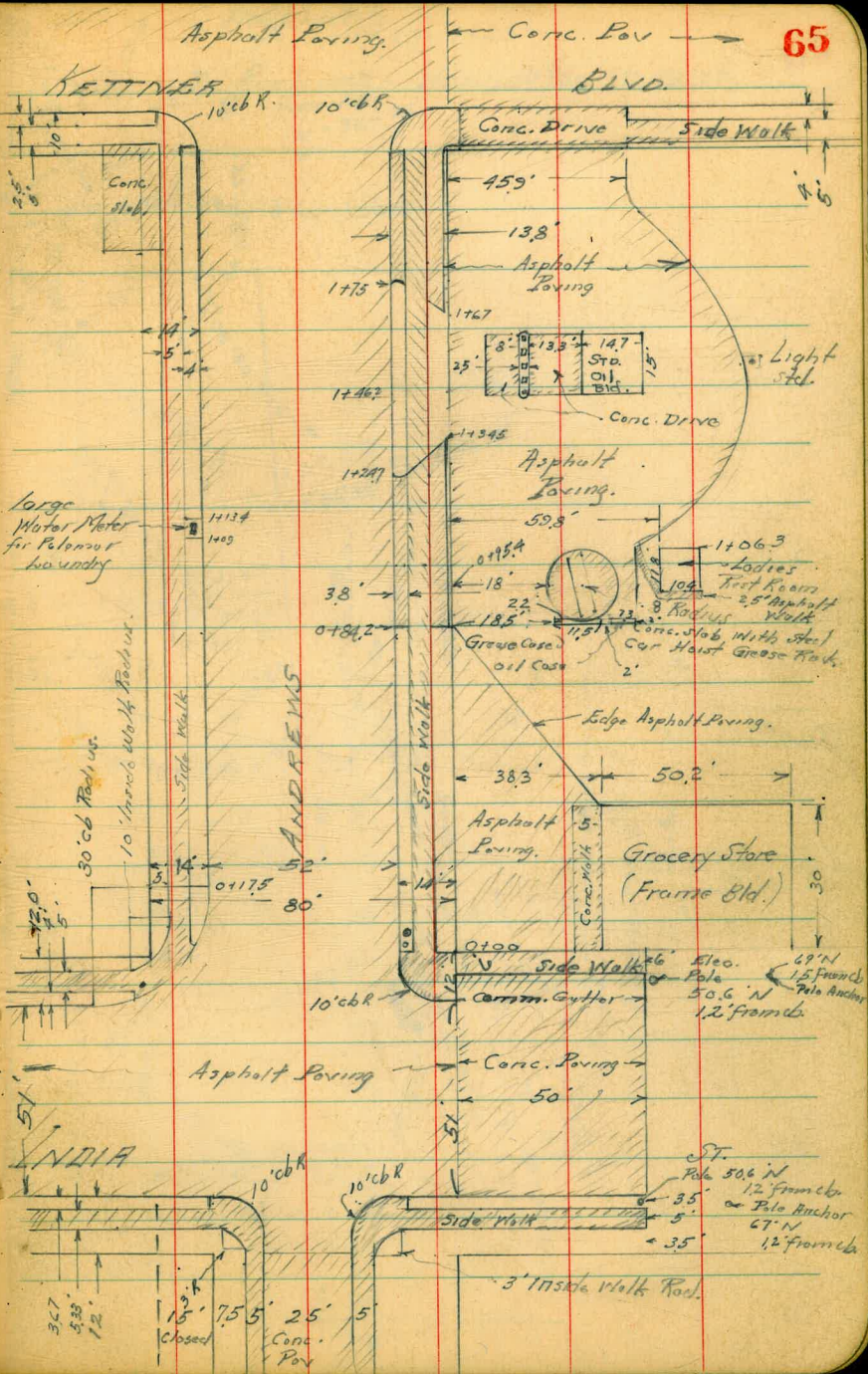
34' Lt	9.09	62.98
20' Lt	8.70	63.37
8' Lt	8.47	63.60
E	8.76	63.31
18' Rt.	9.43	62.64
27.5' Rt on cb.	9.14	62.93
" " Gut.	9.55	62.52
40' R on cb.	8.93	63.14
" " Gut.	8.90	63.17
70' R on cb.	6.28	65.79
" " " Gut.	6.68	65.39

40 + 10 = W.L. Kettner

40' R	8.3	63.8
27.5 R - Hedge Walk	9.07	63.00
18' Rt on cb.	9.12	62.95
" " Gut.	9.82	62.25
E	9.09	62.98
8' Lt	8.81	63.26
20' Lt.	8.99	63.08
34' Lt. " S. Gut.	9.32	62.75
" " S Top cb.	8.81	63.26
40' Lt.	8.5	63.6

Washingtons Extn

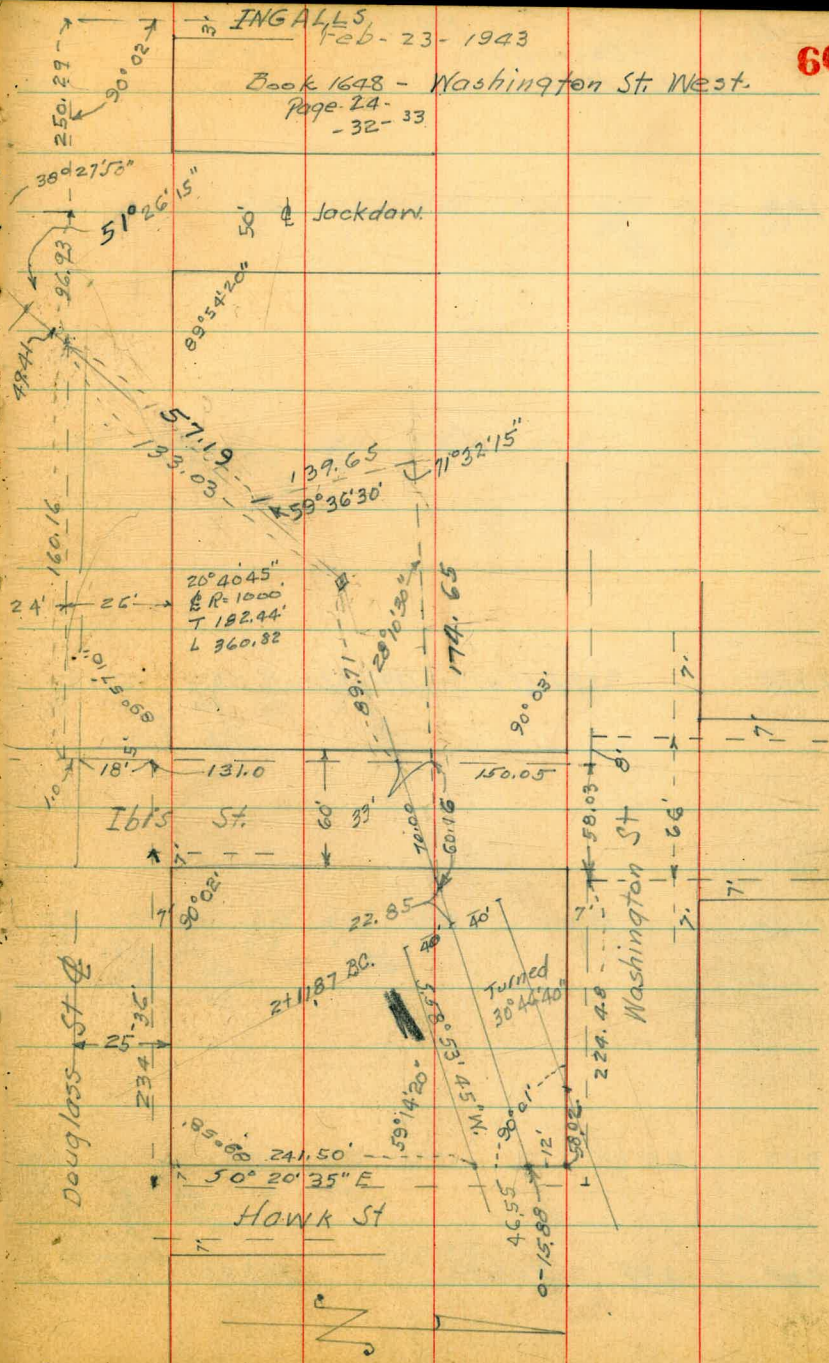
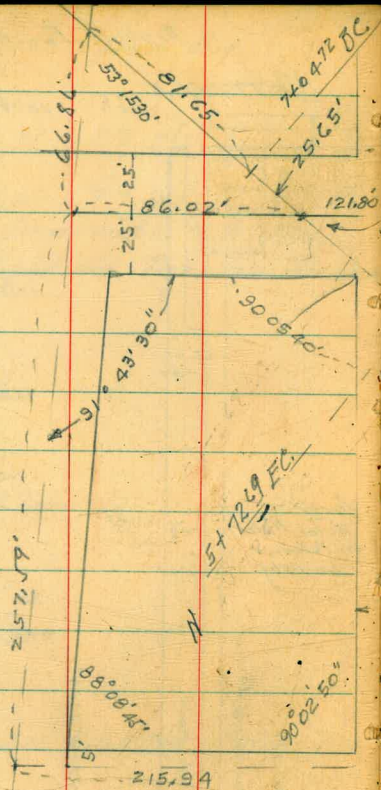
- 7207
- TP 1085 8006 2.86 69.21
- Chk. B 2.09 77.97
- North Side Andrews from India to Kettner
Locations Poles, light std. Trees on Andrews
- 0+00 = W.L. India
- 0+01.7 = Elec. Pole 2' from cb.
- 0+5.4 = " Light Std. 2.3' "
- 0+25 = 6" Accacia Tree 2.8' from cb.
- 1.37 = 2" Bus Stop Sign 2.7' " "
- 1+27.5 = " Elec Pole 1.5' from cb.
- 1+37.5 = " Light Std. 2.3' " "
2' from cb = 2' 5" slab.
- 1+42.3 = 2" Conc. Slab With Valve. Taped Std. oil storage Tank.
- 1+50 " " " " " " " " " "
- 1+57.6 " " " " " " " " " "
- 2+09 = " Elec Pole 1.5' from cb.
- " = 5" Iron Sign Post Std Oil 1" N.M.L. Andrews.
- South Side Andrews - locations Poles etc
- 0+00 = W.L. India
- +69.3 = " Light Std. 2.1' from cb.
- +94 = " " Pole " " "
- 1+47.9 = " Plumeria Palm 2.4' from cb.
- 1+67 = " " " " " "
- 2+09.5 = " Light Std. 2.2' " "
- 0-06.3 = " " " 16' from cb Andrews.
- 0-08 = " Pole 22' " " "



INGALLS
Feb. 23 - 1943

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66



Cross Section of Line Washington St. Ext.
 Douglas St. Connection
 Sketch 1648-67

June 20-13
 53805
 8111
 899

Lt. S

S

Rt. N

67

170

3.40 3.86 4.18 5.05 5.29 4.77 4.7
 26 16 16 16 28-Gut 24-Cb 30

0475

3.5 3.48 3.87 4.11 4.41 4.52
 26 23.5-Cb 23.5-Gut 16 16

0450

24 Lt of L - 30" Star P. m

00 1.1 1.31 3.8 4.01 4.15 4.31 4.08
 26 16 13.6-Top Wall 13.6-Barr Wall 3.6-Cb 3.6-Gut 12

0425

0.7 1.21 3.7 3.88 4.37 4.07 3.85
 26 16-Top Wall 16-Barr Wall 6.2-Cb 6.2-Gut 8

040

- B.C. Lt

0.0 1.1 3.5 3.74 4.25 3.91
 26 11-Top Wall 11-Barr Wall 7-Cb 7-Gut

BM

3.99

265.99

262.00

S.F.S.P.
 Douglas +
 78 N

265.99

140

1465

1450

TP 1.85 265.68 2.16 263.83

1425

1416 1 Lt of Z - Power Polt

14116 = WCB of 161022

265.99

Lt

Z

Pl

68

4.5
26

5.3
16

5.6

6.0
16

2.2
25.5
Gator

2.1

1.7
10.5
Holler

1.7

1.7
10.5
Holler

265.68

3.9
26

3.5
22

3.6
16

4.0
7

2.1

2.4
11
FH
Polt

3.8
26

4.0
16

4.5
26

5.05
24

4.1
14

2.9
20

2.9
20

265.99

370

JP

6.18

247.60

11.17

241.12

Nail Plank
Wall
Rto/2+75

2+75

2+70

27' Lt of Power Pole

2+50

JP

0.42

252.29

11.38

251.87

2+25

JP

4.02

263.25

6.45

259.23

2+10

265.68

Lt.

S

Rt

69

+8.7 +8.7 +8.1 +7.6 +3.0 +2.9 +2.9 3.3 5.0 10.0 11.9 19.4
3.5 2.6 7.6 7 8 3 7.6 3.0 1.6 3.0 1.6 8.0

247.60

+5.5 +3.7 9.8 6.5 6.5 11.2 12.2 12.4 19.2 29.2 50.0
2.6 1.6 1.5 8 2 7.6 7.6 2.5 3.0 8.0 7.0
5.9 5.9 6.5 6.5
5.9 5.9 6.5 6.5
3.0 3.0

+5.7 +5.2 +1.3 0.2 4.9 6.1 9.0 10.0 11.5 13.5 15.5
3.5 2.6 7.6 8 11 7.6 7.6 2.2 3.0 3.0 7.0

252.29

21.5
3.5

2.7 3.1 3.9 4.8 8.3 10.0 15.7
2.6 7.6 5 7.6 2.5 3.5

262.25

5.9 5.9 6.5 6.5
5.9 5.9 6.5 6.5
3.0 3.0

265.68

4+25

4+0

2+75

TP 11.45 257.75 0.93 246.20

TP 7.12 247.23 7.49 240.11

3+50

2+20.70 E.C

247.60

Lt.

2

Rt

6-24-43

70

+1.4 40 +0.4 16-Goroot Floor 1.3 15 2.4 16 2.7 23 5.5 30 9.8 40 15.4 55

+0.8 29-1/2 File Hall 0.9 1600R 1.9 201R 2.6 1600R 3.5 3000R 4.3 40 16.1 66

Ramp = +1.8 40 +1.3 28 +1.3 16 0.9 40 4.0 16 4.1 15 17.2 65

257.75

+1.8 40 +6.4 16 +5.6 23 +3.8 25 +3.8 30 +3.0 16

8.5 60

+1.0 130-Hour 1.0 25 +9.0 7 +8.4 7 +6.4 15 +6.0 15 +2.0 16 4.5 30 8.8 40 14.1 60

247.60

5+25

5+0

4+81.84 BC RT

TP 1.15 247.84 11.06 246.69

4+70

4+25°

257.75

Lt

Z

RT

71

+120 35	+115 45	+57 30	44 16	73 11	86	105 8	138 16	169 30	201 50
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+123 30	+140 30	+21 16	41 7	46	59 18	51 21	91 30	145 55
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+118 18 Hour	+110 16	+107 13	142	+20 7	40 11	42 16	54 35	112 55
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247.84

+96 16	0.5 3-1/4 Hour	0.5 16	64	133 25	152 45	192 55
-----------	----------------------	-----------	----	-----------	-----------	-----------

0.6 9-1/4 Hour	1.5	38 16	70 30	124 45	156 55
----------------------	-----	----------	----------	-----------	-----------

257.75

6+50

TP 10.84 252.47 2.04 241.65

6+25

6+0

5+75

TP 6.56 243.67 10.73 237.11

5+50

247.84

Lt.

Z

Rt.

72

+23₆₀ +13₇₀ 06₈₀ 22₁₈ 6.0 8.5₁₀ 11.2₁₆ 16.2₂₀ 21.8₂₅

252.47

+10.2₆₀ +6.8₇₀ +4.2₈₀ +0.5₁₈ 2.0 7.1₁₆ 11.8₂₀ 14.6₂₅ 18.6₃₀ 20.2₃₅

+8.6₆₀ +7.0₇₀ 0.7₈₀ 2.8₁₈ 8.0 12.1₁₆ 16.8₂₀ 18.9₂₅ 25.5₃₀

+8.4₈₀ +2.4₄₈ 1.0₃₇ 6.9₁₈ 10.0 15.1₁₆ 20.4₂₅ 27.2₃₀

243.67

+9.4₆₀ +6.6₅₀ 6.0₂₇ 9.1₁₆ 12.9 16.6₁₂ 18.3₁₆ 21.4₂₆ 27.1₃₇ 31.2₅₀

247.84

"M" Line

IP 0.98 245.52 7.93 244.54

07 Nov 22
7+90.6950

7+75

7+50

7+25

7+0

6+75

252.47

Lt.

S

Rt.

73

+50₅₀ +30₃₀ +14₁₆ +0.9₁₂ 5.0 12.1₁₆ 18.7₃₀ 24.0₅₀

+67₈₀ +57₅₀ +34₃₆ +15₁₆ 0.0 3.3 7.5₁₂ 9.4₁₆ 17.9₃₂ 26.5₅₀

+75₅₀ +36₃₆ +27₁₆ 1.4 6.2₁₆ 12.9₃₆ 20.5₅₀
22.1₁₆
20.9₁₆

+75₅₀ +6.0₃₆ +4.4₃₆ +2.0₁₆ 1.5 4.9₁₆ 6.4₃₂ 16.0₄₀ 20.8₅₀

+8.0₅₅ +4.5₄₈ +2.5₃₀ +1.0₁₆ 2.2 7.5₁₆ 12.3₃₀ 22.1₅₀

252.47

BM

11.69

222.37

0.2% Hub
11+40.03 B
222.4°

8+69.25 = End of M

0.22

234.06

11.68

232.89

8+25

7+90.69 = FC

24552

715.6
50

+129
40

+80
30

+29
16

27

234.06

198

+58

+45
18

+16
8

71

119
12

145
12

192
30

280
30

711
50

+91
30

+65
18

10

77
16

144
30

239
58

24552

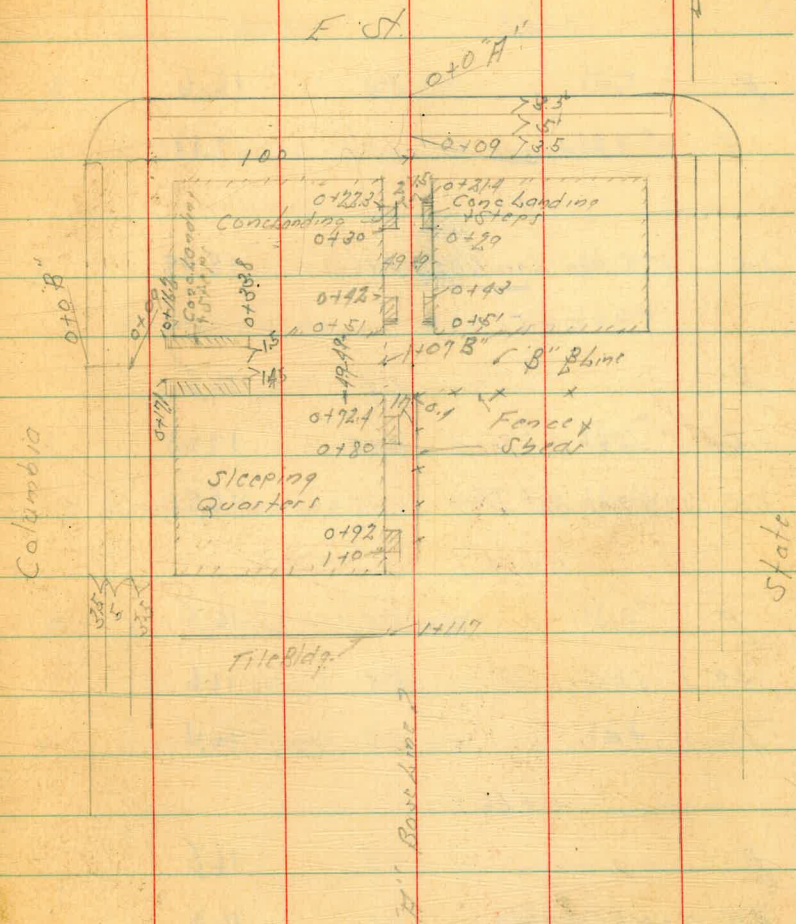
Levels Between Buildings S.E. Columbia & E. St
 And State St.
 "F" Line

BM	7.39	21.85	14.46	SWBP E + Columbia
0+0 = S Cb Line E St				
Top Cb		4.89	16.96	
Gutter		5.27	16.48	
0+09 = Sky Conc Walk				
B		4.71	17.14	
0+21.4				
B		5.0	16.9	
1.5 E = Top Bal. Step		4.59	17.26	
4.9 = Bld on Ground		4.9	17.0	
0+22.3				
3' H of B = Top Conc Landing		4.79	17.06	✓
4.9 H = Floor Bldg		4.57	17.28	
0+29				
B		5.1		
1.5 E = Top Landing		3.37	18.48	✓
4.9 E = Floor Bldg		2.20	18.65	
0+30				
2' H = Top Landing		2.98	17.07	

Indexed
 C.S.K.

April 21, 1914
 Sisson
 Bliss
 Osborne

75



77

		21.85	
		0+42	
$\frac{B}{A}$	5.2	16.6	
1.5	W = Top Landing	4.74	17.11
		0+43	
1.5	E = Top Landing	3.36	18.49
		0+51	
$\frac{B}{A}$	5.4	16.5	
1.5	E = Top Bal Step	4.62	17.23
1.5	W = Top Bal Step	5.32	16.53
		0+56	
$\frac{B}{A}$	5.9	16.5	
4.9	E = SW Cor Bldg	5.3	16.6
4.9	W = SE " "	5.5	16.4
		0+66	
$\frac{B}{A}$	5.9	16.5	
4.9	W = NE Cor Bldg	5.6	16.3
		0+72.4	
$\frac{B}{A}$	5.5	16.4	
1.7	W = Top Landing	5.38	16.47
4.9	W = Floor Bldg	5.18	16.67

77

		31.85	
		0+80	
$\frac{B}{A}$	5.8	16.1	
1.7	W = Top Landing	5.38	16.47
		0+92	
$\frac{B}{A}$	5.7	16.2	
1.7	W = Top Landing	5.38	16.47
		1+0	
$\frac{B}{A}$	5.4	16.5	
1.7	W = Top Landing	5.37	16.46
		1+06-	
$\frac{B}{A}$	5.4	16.5	
	= SW Bldg Linc		
		1+11.7	
$\frac{B}{A}$	5.3	16.6	
	= NW Tile Bldg		

B" Line

BM	5.91	20.37	14.46	S.M. 87 E + Columbia
		0+0 = F Curb Line Columbia		
Top Curb		5.19	15.18	
Gutter		5.94	14.43	
		0+09 = Fly Conc Walk		
B		5.07	15.35	
		0+16.2		
B		5.1	15.3	
1.5' H = Top Bot Step		4.53	15.84	
		0+17.1		
1.5' 5" H = Top Bot Step		4.43	15.94	
		0+26.2		
0.5' H of 4" = Top 4" G/Serret Clean out.		4.81	15.56	
		0+32.8		
B		5.0	15.4	
1.5' H = Top Landing		3.29	17.08	
4.9' H = Floor of Bldg		3.13	17.24	
1.5' 5" of B = Top Landing		3.80	16.57	
4.9' 5" = Floor of Bldg		3.64	16.73	

77

20.37

0+65

B		4.6	15.8
4.9' 5" = Bldg		4.6	15.8
4.9' H = "		4.6	15.8
		1+07 = F Bldg Line	
B		4.0	16.4
4.9' 5"		4.1	16.3
4.9' H		4.1	16.3

indexed
c.s.k.

c.s.k.
c.s.
M.M.
1-5-45

Elex. Pressure Gauge

N.E. Cor. 5th & UNIV. Ave

B.M.B.P. 524 295.18 289.94

5th &
UNIV.

Top of Metal Box +0.29 295.47

S.E. Cor. Hampudia & Ft. Stockton

B.M.B.P. 123 268.29 267.06

Trias &
Ft. Stockton

Top of Metal Box 6.15 262.14

S.E. Cor. Grand Ave. & Haines

B.M.B.P. 585 61.70 55.85

Hughes &
Grand Ave.

Top of Metal Box 1.57 60.13

DEFINITION OF RAILROAD CURVE

DEFINITION TABLE

DEFINITION OF RAILROAD CURVE



DEFINITION OF RAILROAD CURVE

DEFINITION OF RAILROAD CURVE

DEFINITION OF RAILROAD CURVE

DEFINITION OF RAILROAD CURVE

DEFINITION OF RAILROAD CURVE

TABLE VIII.—NATURAL TRIGONOMETRICAL FUNCTIONS.

Angle	Sine.	Tan.	Cotg.	Cosin.	Angle	Sine.	Tan.	Cotg.	Cosin.	
°					°					
32	.5209	.6249	1.600	.84805	58	.30	.6225	.7954	1.257	
10	.5324	.6289	1.590	.84650	40	.6248	.8002	1.250	.78079	
20	.5348	.6330	1.580	.84495	50	.6271	.8050	1.242	.77897	
30	.5373	.6371	1.570	.84339	39	.6293	.8098	1.235	.77715	
40	.5398	.6412	1.560	.84182	10	.6316	.8146	1.228	.77531	
50	.5422	.6453	1.550	.84025	20	.6338	.8195	1.220	.77347	
					30	.6361	.8243	1.213	.77162	
33	.5446	.6494	1.540	.83867	40	.6383	.8292	1.206	.76977	
10	.5471	.6536	1.530	.83708	50	.6406	.8342	1.199	.76791	
20	.5495	.6577	1.520	.83549	40	.6428	.8391	1.192	.76604	
30	.5519	.6619	1.510	.83389	10	.6450	.8441	1.185	.76417	
40	.5544	.6661	1.501	.83228	20	.6472	.8491	1.178	.76229	
50	.5568	.6703	1.492	.83066	30	.6494	.8541	1.171	.76041	
					40	.6517	.8591	1.164	.75851	
34	.5592	.6745	1.483	.82904	50	.6539	.8642	1.157	.75661	
10	.5616	.6787	1.473	.82741	40	.6561	.8693	1.150	.75471	
20	.5640	.6830	1.464	.82577	10	.6583	.8744	1.144	.75280	
30	.5664	.6873	1.455	.82413	20	.6604	.8796	1.137	.75088	
40	.5688	.6916	1.446	.82248	30	.6626	.8847	1.130	.74896	
50	.5712	.6959	1.437	.82082	40	.6648	.8899	1.124	.74703	
					50	.6670	.8952	1.117	.74509	
35	.5736	.7002	1.428	.81915	40	.6691	.9004	1.111	.74314	
10	.5760	.7046	1.419	.81748	10	.6713	.9057	1.104	.74120	
20	.5783	.7089	1.411	.81580	20	.6734	.9110	1.098	.73924	
30	.5807	.7133	1.402	.81412	30	.6756	.9163	1.091	.73728	
40	.5831	.7177	1.393	.81242	40	.6777	.9217	1.085	.73531	
50	.5854	.7221	1.385	.81072	50	.6799	.9271	1.079	.73333	
					40	.6820	.9325	1.072	.73135	
36	.5878	.7265	1.376	.80902	10	.6841	.9380	1.066	.72937	
10	.5901	.7310	1.368	.80730	20	.6862	.9435	1.060	.72737	
20	.5925	.7355	1.360	.80558	30	.6884	.9490	1.054	.72537	
30	.5948	.7400	1.351	.80386	40	.6905	.9545	1.048	.72337	
40	.5972	.7445	1.343	.80212	50	.6926	.9601	1.042	.72136	
50	.5995	.7490	1.335	.80038	40	.6947	.9657	1.036	.71934	
					10	.6967	.9713	1.030	.71732	
37	.6018	.7536	1.327	.79864	20	.6988	.9770	1.024	.71529	
10	.6041	.7581	1.319	.79688	30	.7009	.9827	1.018	.71325	
20	.6065	.7627	1.311	.79512	40	.7030	.9884	1.012	.71121	
30	.6088	.7673	1.303	.79335	50	.7050	.9942	1.006	.70916	
40	.6111	.7720	1.295	.79158						
50	.6134	.7766	1.288	.78980						
38	.6157	.7813	1.280	.78801						
10	.6180	.7860	1.272	.78622						
20	.6202	.7907	1.265	.78442						
	Cosin.	Cotg.	Tan.	Sine.	Angle.	Cosin.	Cotg.	Tan.	Sine.	Angle.

TABLE IX.—CALCULATION OF EARTHWORK.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w = 16.2 and h = 5.3, cu. yds. = 1.48 + .028 + .039 = 1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) = h, and 1/2 the roadbed = w, add the triangles formed by taking the distance out to each break in turn (=w's) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

6778 60.79
4941
887

270.49
7.83
262.66

115° 18'
37 39'

5 36 10 00 W

DISTANCES FROM CENTER OF ROADWAY FOR
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

MADE IN U.S.A.

7207
714
64.93

3710
1302
24.08

2179
320
1859
59
5632
11532

8970 instead of 8963
51.95
3714
2112
18.59
96.91
2003
11519

37.57
15.44
9.17
268.5

37.41
3749.5

39 + 5670
32.44
416.75

20777
55.41
3749.77

111
27
108

945
125
1063