

S. 12. 12.

551

F.R. 551

551



Published by H. S. CROCKER COMPANY, Stationers, Drawing  
Materials, Mathematical Instruments, etc., San Francisco.

TRAVERSE TABLE FOR TRANSIT BOOK.  
From 0° to 90° for a distance of 100.

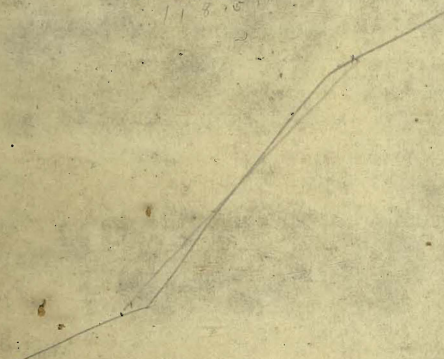
MICROFILMED  
DEC 11 1964

Degrees.	DEGREES.		½ DEGREE.		DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		½ DEGREE.		DEGREE.		¾ DEGREE.		

B.M. 15th Town NW 25.00

John Doyle 7-19-10<sup>th</sup>  
H. 3072

110.97  
7.56  
120.13  
7.62  
111.75





C Track

114	42 1"
SL Date	42 0 1/2
-14	42 0 1/2
150	5" 1"
✓	5" 0 1/2
1150	5 1/4 1"

5 1/2" above stakes  
1/2" below grade

NL Cedar 4 1/4 0 1/2

SL Cedar	3 1/2 0 0
-14	6" 0 1/2
150	6" 2"
✓	6" 1"
150	6" 2"
1	5 1/2 1 1/2
150	4 1/2 1 1/2
114	4 1/2 1 1/2
NL Beech	6 1/2 1 1/2
-14	5 1/4 0 1/2

6" Hook to grade

SL Beech	3 1/2 0
150	5 1/2 2"
✓	4 1/2 1 1/2
150	4 1/2 0 0
1	5 1/2 0 1/2
150	3 1/2 1 1/2
114	5 1/2 1 1/2
NL Ash	5" 2"

5" above stakes  
= 1" low

SL Beech  
NL Cedar

C Track

114	4 1/2 1"	5"
SL Grape	4 1/2 1 1/2	6"
-14	4 1/2 1 1/2	5"
150	5 1/2 1 1/2	✓
2	5 1/2 1 1/2	1"
150	6 1/2 1 1/2	✓
1	6 1/2 0 1/2	✓
150	4 1/2 0 1/2	5"
114	5" 2"	5"
NL Fir	5 1/2 3 1/2 1 1/2 3 1/2	
-14	4 1/2 0 1/2	5"

this Hook 5" above stakes  
= 1" below grade except  
where already raised too high

SL Elm	5"
150	5 1/2
✓	5 1/2 0 1/2 5 1/2
150	5 1/2 0 1/2 5 1/2
1	5 1/2 0 1/2 5 1/2
150	5" 1 1/2 5 1/2
114	5 1/2 1" 1"
NL Elm	4 1/2 1 1/2 1"
-14	6" 0 0

Block runs from grade  
at Elm to 1 1/2" below  
a Fir

114	4 1/2 0 0
SL Elm	4" 0 1/2
-14	4 1/2 0 1/2
150	5 1/2 1"
✓	5 1/2 1 1/2
150	5 1/2 1 1/2
1	5 1/2 3 1/2
150	6" 0 1/2
114	5" 1 1/2
NL Date	5 1/2 1 1/2
-14	4 1/2 1 1/2

5 1/2" above stakes  
1/2" below grade

did have remain  
was it is

SL Elm  
NL Date



E Track

+14 4 1/2 6 1/2  
 SL Jupa 4 0 2  
 -14 3 7/8 0 1/2  
 150 5 11 11  
 ✓ 5 7/8 1 1/2  
 +34 5 11 0 2 1/2  
 1 5 1/2 1 1/2  
 150 5 2 1 1/2  
 +14 6 7/8 2 1/2  
 NL Ivy 7 4 2  
 -14 6 7/8 1 1/2

This block to grade is 2000 ft.

+14 5 1/2 0 1/2  
 SL Ivy 4 1/2 0 0  
 -14 5 1 0 1/2  
 150 5 1/2 1 1/2  
 ✓ 5 11 0 4  
 150 5 7/8 0 4  
 1 6 0 4  
 +50 5 11 1 1/2  
 +14 5 11 1 1/2  
 NL Hawth 6 1/2 1 1/2  
 -14 6 7/8 1 1/2

This block to grade is 2000 ft.

+14 4 1/2 5 1/2  
 SL Hawth 5 1/2 0 1/2  
 -14 6 2 1 1/2  
 150 6 1 1 1/2  
 ✓ 6 1 1 1/2  
 +50 5 7/8 1 1/2  
 1 6 1 1 1/2  
 +50 5 7/8 1 1/2  
 +14 5 1 1 1/2  
 NL Grape 6 1/2 1 1/2  
 -14 4 7/8 1 1/2

This block to grade is 2000 ft.

1 6 1 1/2  
 +14 6 1 1/2  
 1 6 1 1/2  
 +14 6 1 1/2  
 NL Hawth 6 1 1/2  
 -14 6 1 1/2

This block to grade is 2000 ft.

+14 6 1 1/2  
 SL Laurel 6 1 1/2  
 -14 6 1 1/2  
 150 6 1 1/2  
 ✓ 6 1 1/2  
 150 6 1 1/2  
 1 6 1 1/2  
 +50 6 1 1/2  
 +14 6 1 1/2  
 NL Kalmia 6 1 1/2  
 -14 6 1 1/2

This block to grade is 2000 ft.

+14 6 1 1/2  
 SL Kalmia 6 1 1/2  
 -14 6 1 1/2  
 150 6 1 1/2  
 ✓ 6 1 1/2  
 +50 6 1 1/2  
 1 6 1 1/2  
 +50 6 1 1/2  
 +14 6 1 1/2  
 NL Jupa 6 1 1/2  
 -14 6 1 1/2

This block to grade is 2000 ft.

W. Track

+14 4 1/2  
 SL Oak 3 7/8  
 -14 4 1/2  
 150 4 1/2  
 ✓ 4 1/2  
 1 4 1/2  
 +14 4 1/2  
 1 4 1/2

NL Cedar 4 1/2  
 -14 4 1/2  
 1 4 1/2  
 +14 4 1/2  
 SL Cedar 4 1/2  
 -14 4 1/2  
 150 4 1/2  
 ✓ 4 1/2  
 1 4 1/2  
 +50 4 1/2  
 +14 4 1/2  
 NL Birch 4 1/2  
 -14 4 1/2

This block to grade is 2000 ft.

+14 4 1/2  
 SL Birch 4 1/2  
 -14 4 1/2  
 150 4 1/2  
 ✓ 4 1/2  
 +50 4 1/2  
 1 4 1/2  
 +50 4 1/2  
 +14 4 1/2  
 NL Ash 4 1/2  
 -14 4 1/2

This block to grade is 2000 ft.

1 4 1/2  
 +14 4 1/2  
 1 4 1/2  
 +14 4 1/2  
 SL Elm 4 1/2  
 -14 4 1/2  
 150 4 1/2  
 ✓ 4 1/2  
 1 4 1/2  
 +50 4 1/2  
 +14 4 1/2  
 NL Elm 4 1/2  
 -14 4 1/2

This block to grade is 2000 ft.



Grades for K St & Grant Ave Car Line

	st
5 <sup>th</sup>	st.
5.0	5.7
6.5	7.5
6 <sup>th</sup>	st.
7.0	8.0
K	
10.5	11.0
7 <sup>th</sup>	st.
11.0	11.5



10.5

11.0

7<sup>th</sup>

st.

11.0

st.

11.5

14.0

15.0

8<sup>th</sup>

st.

14.0

15.0

x

16.0

16.5

9<sup>th</sup>

st.

17.0

17.5



160  
9<sup>th</sup>

165  
St.

170

St.

175

180

10<sup>th</sup>

200  
St.

190

200

\*

210

11<sup>th</sup>

220

St.

210

220



21.0

22.0

11<sup>th</sup>

st.

21.0

22.0

st.

20.5

21.5

12<sup>th</sup>

st.

18.5

20.5

st.

11.5

13.0

13<sup>th</sup>

st.

12.0

13.0



13<sup>th</sup>

St.

12.0

13.0

St.

13.5

14.0

14<sup>th</sup>

St.

13.5

14.0

2.50'

2.50'

14.2

14.5

14.8

K

16.5

16.5

16.5

15<sup>th</sup>

St.



16.5

16.5

15<sup>th</sup>

St.

180

180  
St.

180

260

26.30

265

16<sup>th</sup>

St.

280

28.0

280

31.0

34.0

37.0

4

400

40.0

400

17<sup>th</sup>

St.

41.0

420

42.0

420

41.98  
0.17  
42.15

40.0  
2.15

37.0 38.0 39.0  
5.17 8.17 11.17

N/E 16-28014

N/E 17 41981



40.0

40.0

17<sup>th</sup>

41.0

st.

42.0

42.0

st.

44.00

47.00

47.50

52.0

52.0

52.0

18<sup>th</sup>

53.0

st.

54.0

54.0

54.0

56.75

59.50

63.25

st.

65.0

65.0

65.0

19<sup>th</sup>

st.

67.0

67.0

41.98  
10.99  
52.07

st.

41.00  
11.09  
42.00  
10.09

44.50  
7.59

47.00  
8.09

49.50  
2.59

52.00  
10.09

53.96  
10.84  
64.80

st.

53.00  
11.80

54.00  
10.80

54.75  
8.00

59.50  
6.30

63.25  
2.55

65.00  
10.2

N.E. 18-53961



65.0

65.0

19<sup>th</sup>

65.0

st.

66.0

67.0

st.

67.0

70.88

74.75

76.63

82.5

82.5

82.5

20<sup>th</sup>

83.5

st.

84.5

84.5

84.5

86.73

88.98

91.17

92.5

92.93.44

94.0

21<sup>st</sup>

94.25

st.

95.10

94.5

95.5

66.00	67.00	71.00	74.75
17.85	10.85	6.97	3.10
74.85	76.63	82.50	84.50
8.00	4.13	3.13	2.13
74.75	76.63	82.50	84.50
11.88			
86.63			
1.88	8.75	8.95	9.17
8.95	6.63	4.86	3.20
93.41			
12.17			
92.41			



945

9622

9725  
5

9847

990

22<sup>nd</sup>

990

9960

9926

9993

9959

9925

8792

8559

8328

800

8060

24<sup>th</sup>

555

St.

9960 1000

1000

810

St.

N.E. 22<sup>nd</sup> 99.92

9241	9425	9510	9622	9725	9847
7.10	5.96	5.11	5.99	2.86	1.74
100.27 MT		98.57		95.82	92.00
99.92	49.69	4.87		7.21	10.54
8.62	2.94		97.26	94.93	92.59
102.54 MT			5.28	7.61	9.95
12.29					12.29
90.25 TR	87.92	87.92	85.59		
90.65 MT	2.73	2.73	5.06		

99.43	83.26	82.60
4.38	0.66	2.21
83.81		



24<sup>th</sup>

800

810

St.

78.5

79.10

79.5

St.

77.20

75.35

73.40

71.0

71.6

72.0

70.85

69.5

70.10

70.5

70.85

71.0

71.60

72.0

St.

72.8

74.0

75.2

75.5

76.40

77.0

St.

25<sup>th</sup>

N.E 24<sup>th</sup> K 7743

10

83.11 MI. 79.10

4.71

79.43

0.41

79.84 MI.

70.84 TP

78.16 MI.

76.93 BM

79.93 MI.

77.23

2.61

70.10

8.06

76.40

2.53

75.35

4.49

70.15

7.31

75.20

4.73

73.48

6.36

21.60

4.56

74.10

5.93

71.60

8.27

72.80

5.26

70.15

8.77



N.E 25<sup>th</sup> K 76.93  
N.E 25<sup>th</sup> L 65.91

79.93 H 75.50 75.81 76.12  
4.43 4.12 3.81

65.91  
7.37  
75.28 K 66.00 67.58 69.17 70.71 72.33 73.92  
9.28 7.70 6.11 4.53 2.95 1.42

65.96 65.50 65.00  
1.37 1.07

66.87 H

65.91

2.31 66.00 65.50 65.00  
68.22 H 2.22 2.72 3.22

K

77.0

77.0

11

76.40

75.81

St.

75.5

St.

75.0

75.5

73.92

72.33

70.75

69.17

67.58

66.0

66.0

66.0

L

65.50

St.

65.0

65.00

65.0

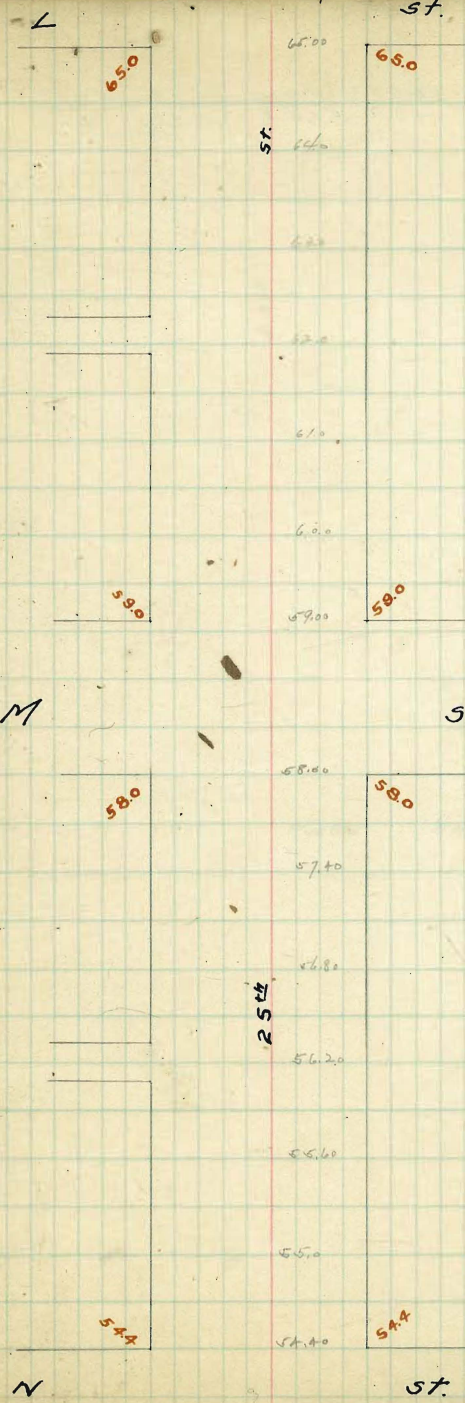
25<sup>th</sup>



N.E 252M 58.94

66.87M 64.00  
2.87 3.87 4.17 5.17 6.17 7.17

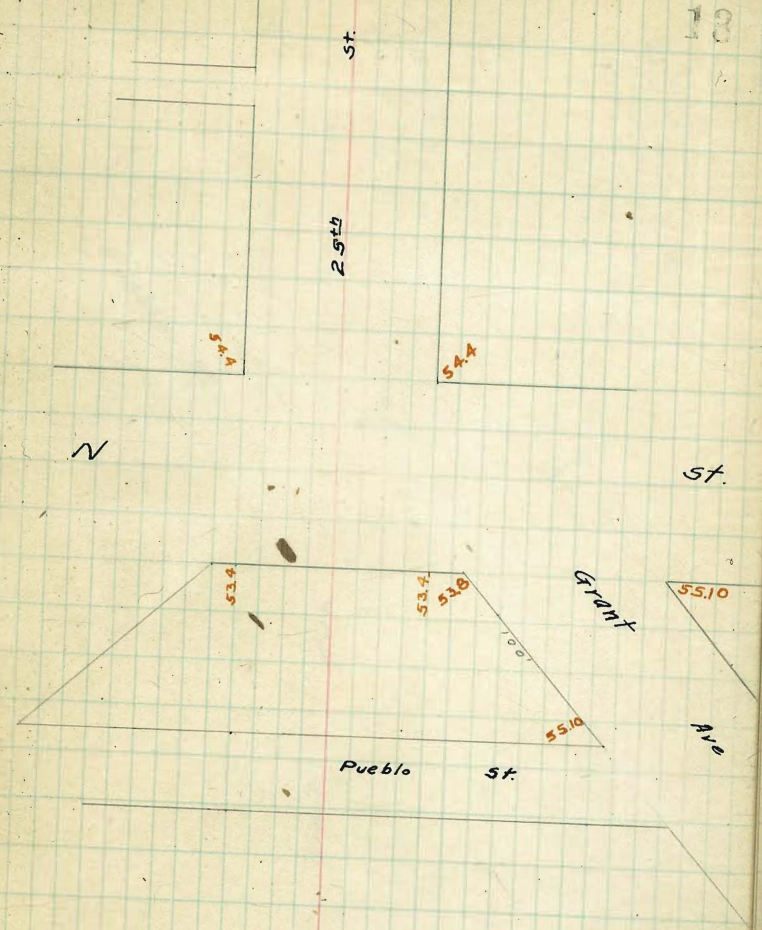
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2.30						
61.24 M	3.24	3.82	4.40	5.04	5.60	6.22
68.22 M	<u>64.00</u>	<u>63.00</u>				
	4.22	5.22				





N. W 25th 54.32

54.32				
4.81	54.40	4.60	54.53	54.46
59.13 M	4.73	54.53	54.40	4.67
			.13	

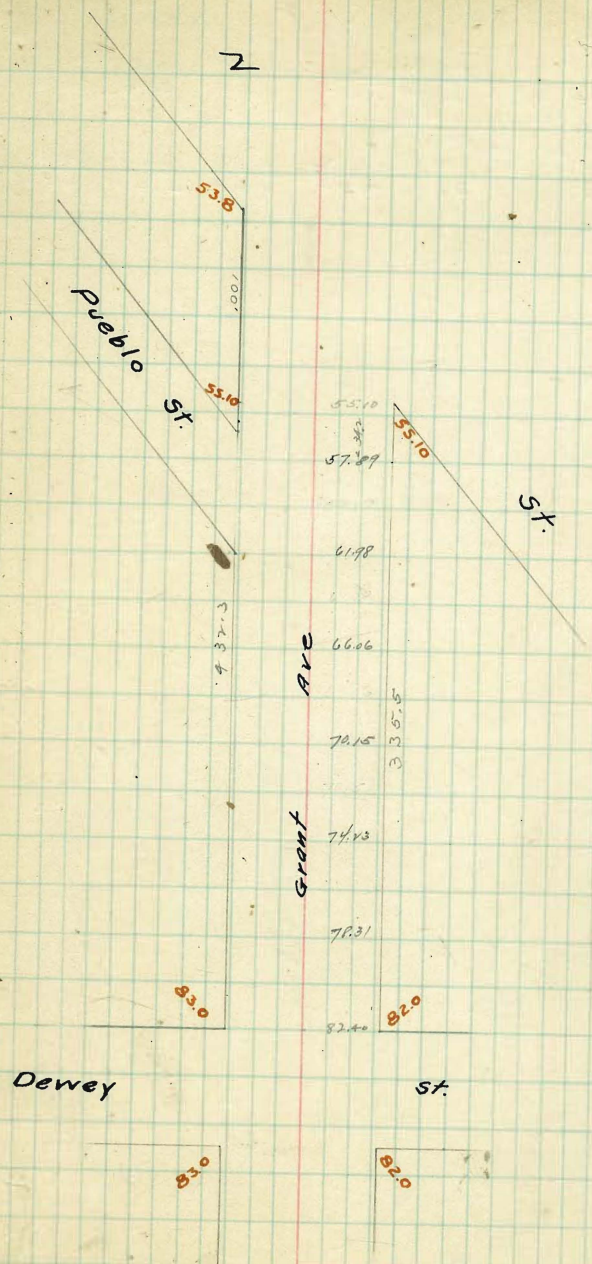


11 22



N 4252N 54.82

54.32	5510	57.19	
4.86	4.08	7.29	
59.18 HI			
1.24			
57.90 TP	6.92	66.02	
11.60	7.52	3.42	
69.50 HI	7.15	74.73	76.21
1.57	9.32	5.25	1.17
67.93 TP			
11.55			
79.48 HI	12.42	3.75	
11.17	4.24	82.97	
76.31 TP			
6.36			
86.60 HI			
1.59			
85.10 TP HI			





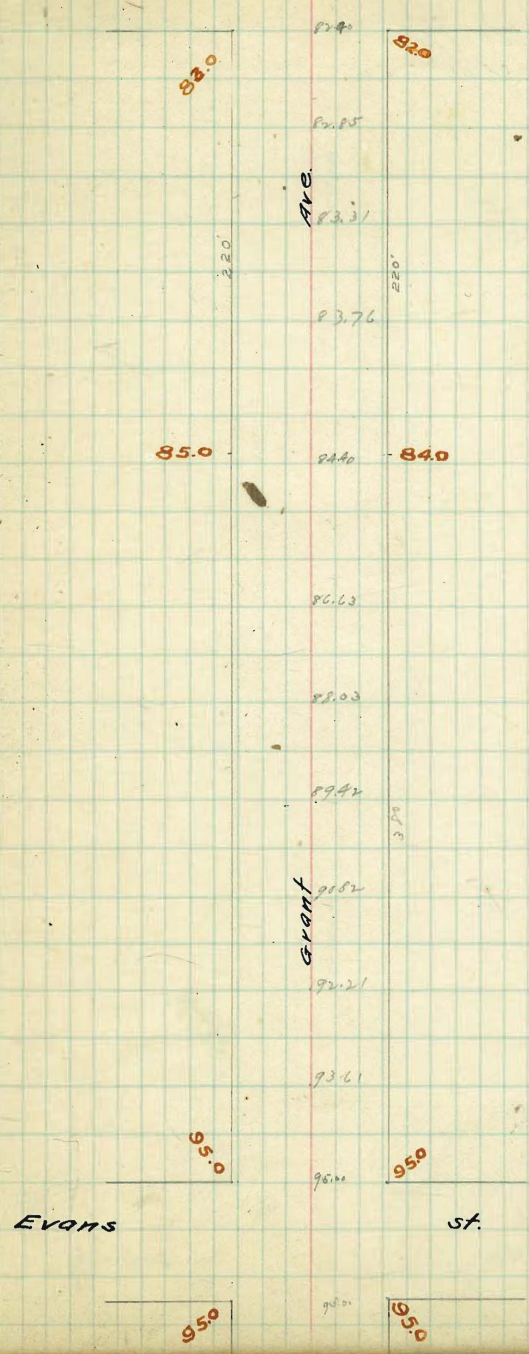
94.998715.E Grant and Evans

85.10						
324	8240	8240	8285	8331	8376	
88.34 MI	5.94	6.34	5.49	5.05	4.68	
1.71	6.40	7.63				
86.63 TR	3.94	1.71				
9.81	8.03	19.42	20.82	22.21	23.61	25.00
96.42 MI	8.41	7.02	5.62	4.23	2.83	1.44
1.45						
94.99 MI						

Dewey

st.

15





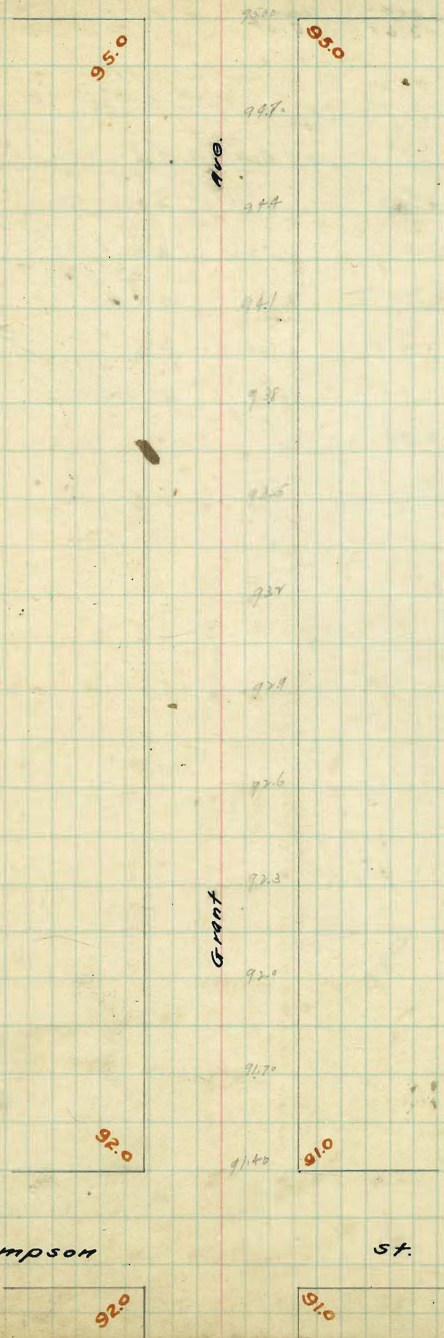
90.97 BM N.W. Sampson's Grant

94.99	94.75	94.81	94.88	94.98	95.08	95.18	95.28
2.49	2.48	2.48					91.40
97.48	97.48	97.48	97.48	97.48	97.48	97.48	97.48
90.97	90.97	90.97	90.97	90.97	90.97	90.97	90.97

EVANS

st.

16



Sampson

st.

92.0

91.0



90.97  
 5.11  
 96.08  
 91.40  
 2.68  
 94.00  
 6.08

781.39

Spiral C C Rifo'

Ang	dist	Ang	dist
offset. 01	5.50	3° 11'	20
0° 19'	11.00	6° 22'	40
0° 35'	16.50	9° 33'	60
0° 57'	22.00	12° 44'	80
1° 23'	27.49	14° 33'	91.42
1° 54'	32.99		

Sampson

st.





90.00	91.00	92.00	93.00	94.00	95.00	96.00	97.00
8.02	7.02	6.8	4.02	3.42	2.22	1.02	
98.02 NI							
0.35							
97.67 TP	90.20	99.40	110.60	97.60	99.85	99.10	
8.41	7.88	6.68	5.48	.48	6.23	6.98	
106.08 NI	98.05	97.60					
	7.73	8.48					

28th St.

18

Kountz Tract

91.0

91.0

91.0

92.2

93.4

94.6

95.8

400'

97.0

98.2

99.4

100.6

101.0

99.85

99.10

98.35

97.0

97.6

98.0

29th St.

96.5

97.5



91.00	94.60	97.00						
9.17	5.57	3.17						
100.17 HA								
5.57								
94.60 TP	94.89	95.26	95.63	96.00	96.37	96.74	97.10	
6.17	5.88	5.51	5.14	4.77	4.40	4.03	3.67	
100.77 HA								
91.00	87.00	84.00	81.27	78.54	75.81	73.08		
6.22	16.23	9.23	7.96	6.69	5.42	4.15		
97.22 HA								

96.5	97.1	97.6
	94.74	
	96.27	
	96.0	
	95.63	
	95.26	
	94.89	
94.0	94.6	85.0
	92.08	
	91.81	
	90.54	
	89.27	
88.0	88.0	88.0
30th	87.0	st.
86.0	86.0	

County Tract



91.00 AM NW 35<sup>th</sup> x Woolman

30<sup>th</sup>

St.

20

86.0

86.0

Ave.

47.0

48.0

Woolman

31<sup>st</sup>

St.

46.0

47.0



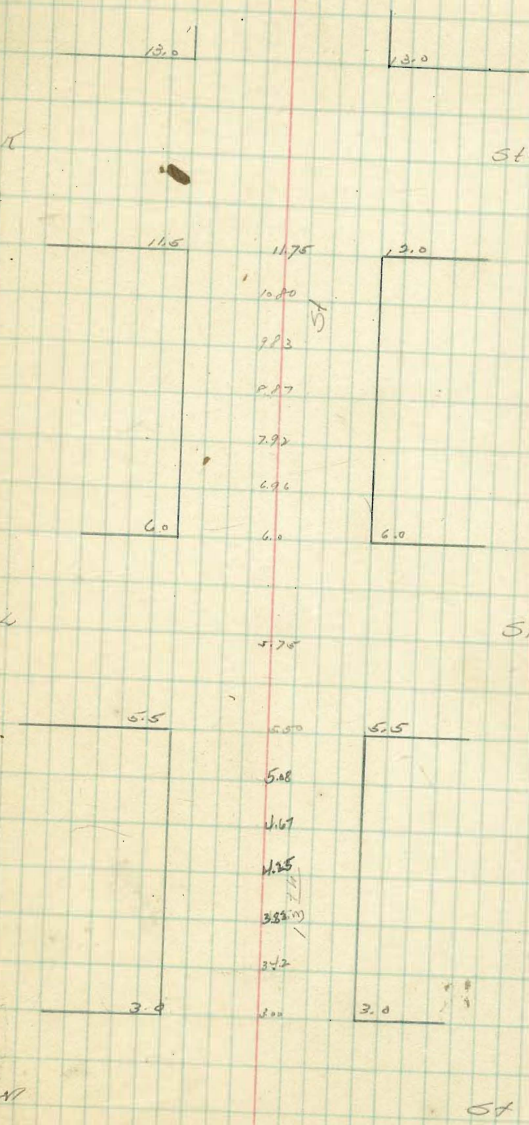




NE 122M 3.00 NE  
NW 130K 12.98

3.00	5.57	2.90	4.10	4.20	4.7	4.1		
3.90	1.20	4.00	3.50	4.3	3.5	2.8		
6.90 NW	0	7.10	-1.9	2.7	2.5	2.8		
4.18				-1.0	-1.5			
5.77 TP	3.42	3.83	4.25	4.67	5.08	5.10	5.6	
7.10	3.48	3.17	2.65	2.20	1.82	1.40		
12.82 NW	6.0	6.26	7.22	8.07	9.03	10.00	1.75	
	6.82	5.86	4.90	3.96	2.99	2.02	1.07	
3.00	3.82	3.83	4.25	4.67	5.08	5.10	5.6	
1.52	6.10	5.09	5.27	4.85	4.42	4.02	3.77	3.52 2.66
9.52 NE								
2.59	2.92	2.87	2.83	2.80	2.80	2.80		
2.93 TP	5.93	4.98	4.02	3.05	2.08			
6.92								
13.85 NW								

Grades for St. Ry 13<sup>th</sup> St - K to M









23

24







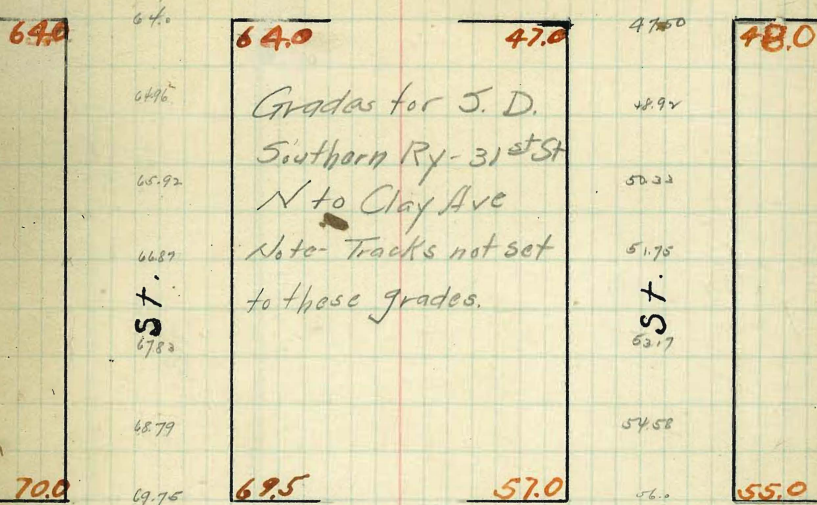
7:30 8 AM S.E. Webster RR split

1 { Davis  
2 { Williams  
11 { Saw

52.56 BM 480	470	4892	5233	5175	5317	5468	5600
56.90 HI 0.44	8.40 -1.04	7.95 -0.42	6.87 7.53 -0.66	5.15 -0.87	3.73 5.08 -1.25	2.32 3.70 -1.38	
56.46 TP 591							
65.37 HI 0.51	56.00 0.90 1.34	59.00 5.87 8.39	60.00 5.29 7.37	60.67 4.70 6.26	61.25 4.12 4.78		
64.96 TP 914	-0.44	-2.52	-2.08	-1.56	-0.66		
73.90 HI 3.49	61.83 3.54	62.42 2.95	63.00 2.37	64.00 9.90	64.76 6.41	65.92 7.98	66.87 7.00
70.41 TP 8.78	3.95 -0.41	2.94 0.0	1.66 +0.71	9.90 +1.25	6.41 +2.50	7.98 +2.62	7.00 +2.67
79.19 HI 6.07 3.66 +2.41	67.83 6.07 3.66 +2.41	68.79 5.11 2.90 +2.51	69.75 4.15 3.49 +0.66				
	70.25 8.34 7.5	70.82 8.37 5.11	71.39 7.80 4.81	71.96 7.23 4.54	72.54 6.65 4.82	73.11 6.07 4.85	73.68 5.51 5.23
52.56 6.00	74.45 7.5	75.25 5.38	76.05 4.81	76.85 4.24	77.65 3.67	78.45 3.10	79.25 2.53
58.56 HI 0.17	4.74 5.38						
58.39 TP 8.07	-0.44 4.95						
66.46 HI 0.6	11.06 1.00	56.00 10.27	59.00 8.39 F-0.61	63.00 8.46 4.48	67.00 11.00 8.74	69.75 8.09 5.37	
65.86 TP 9.98	1.00	10.27	8.39	4.48	8.74	5.37	+0.72
75.84 HI 3.75	2.47 72.09 70.25 1.82	5.41 74.15 70.82 +3.33	5.07 74.49 71.39 +3.10	4.57 74.99 72.64 +2.35	5.18 74.35 72.52 +1.83	4.90 74.66 73.11 +1.55	5.60 75.25 73.24 70.25
72.09 TP 7.47							
79.56 HI							

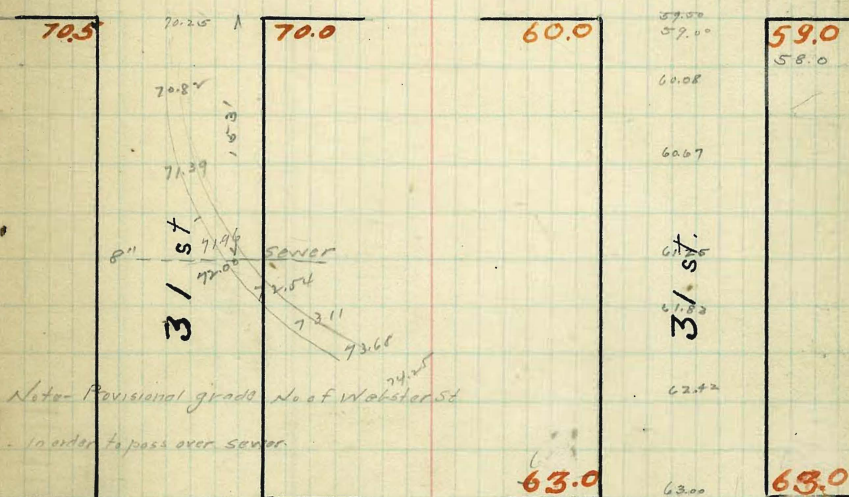
CLAY AVE.

Woolman Ave



WEBSTER AVE.

FRANKLIN AVE.



N. ST.

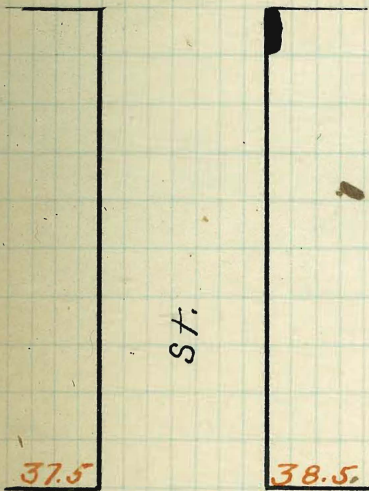
Clay Ave.



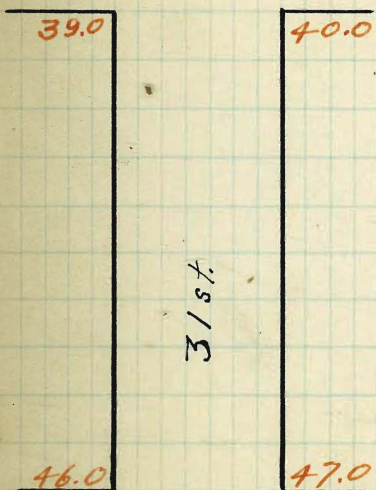
52.56 R.W. Woolman plg in man.

MARTIN AVE.

27



VALLE AVE.



WOOLMAN AVE.



TIES FOR SPRUCE ST BRIDGE

Davis  
Hancock  
Williams  
28

255.18 M. N.W. 1st Floor

275
287.78 M
11.09
288.87 TP
289.90 M
12.08
285.82 TP
0.60
286.42 M
11.47
287.89 TP
1.02
288.91 M
10.97
219.03 TP
216.50 M

546

211.02 TP
11.49
222.53 M
1.82
221.07 TP
6.29
228.00 M
2.12
225.88 TP
11.84
237.72 M
1.67
236.05 TP
11.81
247.86 M
0.57
247.09 TP
9.05
256.14 M
1.14
255.00 M

6.10

466
217.87
2.91
227.00
2.10
1.14
227.09
9.47
226.56 M

21.73
6.26
23.19 M
211.98
9.76
221.74
227.09
1.70
228.79

1.72
362
7.24
12.55
228.35
224.65
227.28
219.60
11.15
235.00
227.09
7.91

Grades for sidewalk Spruce St bridge

225.86
548
231.84 M
125
150
175
1

1.08
227.60
1.74
1.70
222.40
224.80
227.20
229.60
227.20
224.80
222.40
227.20
224.80
222.40

N.L. Front 225 232.00

22586 BM
222
228.08 M
0.97
227.11

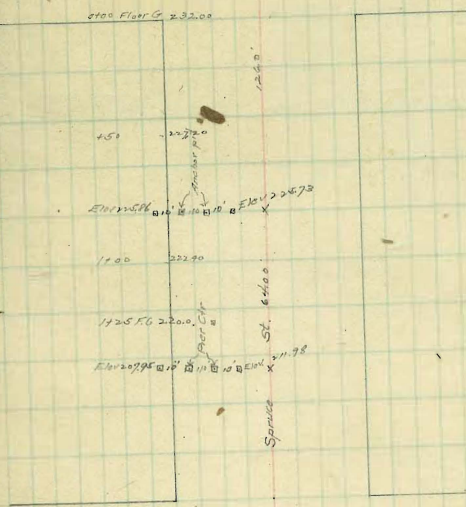
2000
7.08
2007
20766
7.32
2008
20187
7.903
2008 OK
2075
7.33
2008
20346
7.13
2004
2048
7.60
2006
2059
7.49
2006
2066
7.62
2009
2072
7.56
2009 W

27 tracks @ 11"  
28 risers

24.75 = End bridge to last riser.

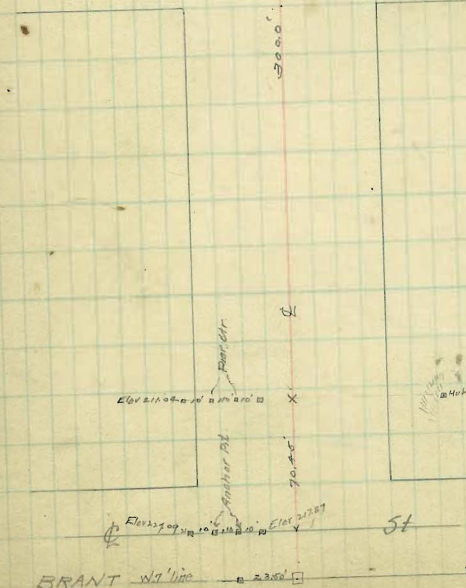
FRONT

ST



ALBATROSS

ST



BRANT W. 1100

ST



6.26      231.97      225.73  
 8.25   8.10   8.99   8.92   8.30   7.72   8.80   8.72  
 223.75   223.89   223.00   223.00   223.00   223.27   223.19   223.27  
 7.22      225.09      217.87  
 6.29   6.62   5.75   6.27   6.04   5.95   4.63   4.71  
 218.80   216.47   219.34   218.82   219.00   219.17   220.46   218.88

Elevations of Anchor pits and distances from Pier Centers

5 } Davis  
 1 } Williams  
 11 } Hoyt  
 12 }

← ELEV →  
 07690   223.27      223.27      07700  
 0764   222.17      222.17      07630  
 07632   224.29      223.97      0764  
 07585   223.69      223.69      0758

E

0700      Pier Center      0700

300'

Z ←      0700      Pier Center      0700      S

W

← ELEV →  
 076475   220.33      220.33      0764.00  
 07135   220.66      220.39      0770.00  
 07132   219.44      219.44      0771  
 0779      218.00      218.00      0778.00



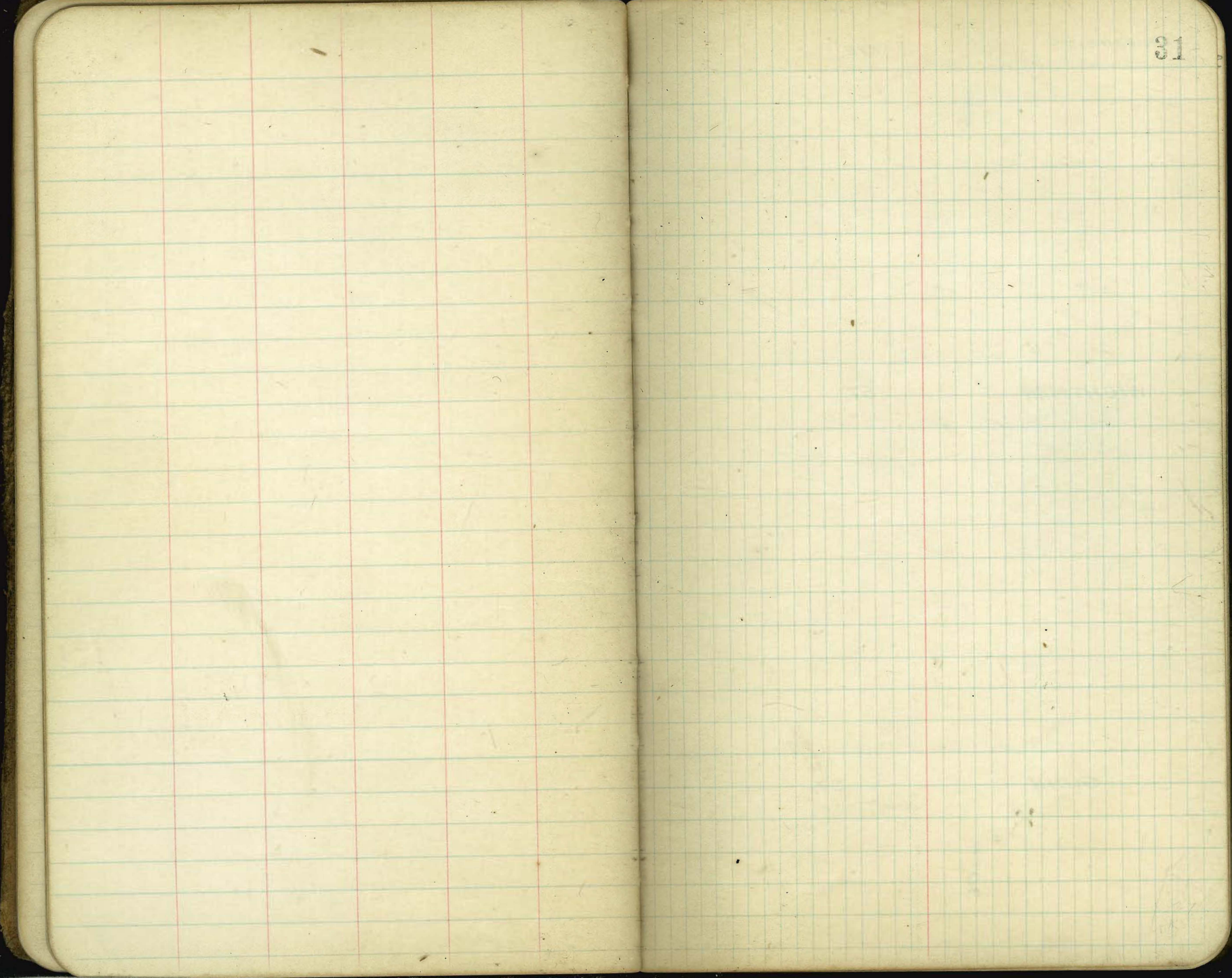
7.48 N/R 20<sup>th</sup> & N. 14.11 N/W 10<sup>th</sup> 2002 N/W 20<sup>th</sup> & K

14.11	12.17	16.1	17.33	12.50	15.67	15.23	1.100
6.42	2.46	1.20	5.30	4.10	4.76	4.80	6.63
20.63 HT	3.3		3.63	4.46	6.27	6.13	3.3
	2.77						6.26
12.11	15.25	12.50	11.67	10.23	10.00	9.17	8.33
2.12							
16.23 HT	2.98	3.73	4.46	5.20	6.43	7.06	7.90
		4.06	3.77	5.7	7.2	7.27	8.23
20.02	17.01	17.03	17.17	18.01	17.5		
2.11	5.37	5.5	6.00	6.77	7.60		
24.17 HT	5.00	7.17			4.67		
7.48	8.33	20.0					
4.32	2.37	4.20					
11.7 <sup>th</sup> HT	3.30	19.37	19.60				
20.02		4.705	4.47				
4.055							
24.075 HT	6.90	4.60	4.13				
	3.75	6.05	6.57				
7.48	6.30	5.85	6.00	6.50	6.70	6.90	
3.17	4.30	4.80	5.25	4.75	3.95	3.75	
10.65 HT							
14.11	2.17	13.25	12.50	11.67	10.80	10.00	
1.94	6.88	5.80	5.55	4.38	5.22	6.05	
16.05 HT	7.50	7.10	8.33				
	4.22	4.72	3.49				
7.48							
4.32	19.00	18.17	17.03	16.50	15.67	14.82	14.00
11.82 HT	8.12	3.96	4.00	5.60	6.46	7.30	8.10
20.02							8.00
2.11							
22.13 HT							

Grades for St. Ry 10<sup>th</sup> K to M. M 10<sup>th</sup> to R

17.6	21.1	20.00
17.20	19.37	19.40
19.00	19.00	19.00
18.50	18.17	
	17.33	
+50	16.50	
2	16.67	
1.50	14.93	
3 - N.L. L. St	14.00	14.00
14.0	14.00	14.0
ctr	13.25	12.5
So. Line L	12.5	12.50
12.5	12.50	12.50
+50	11.67	
	10.80	
+50	10.00	
2	9.17	
7.50	8.33	
3 - N.L. M	7.5	7.50
7.5	7.50	7.5
	6.5	6.5
E. line 10 <sup>th</sup>	6.5	6.50
6.5	6.50	6.50
	6.70	
+50	6.00	
W.L. 10 <sup>th</sup>	6.00	6.00
6.00	6.00	6.00
4.50	5.55	5.50
	5.40	
+50	4.75	
W.L. 12 <sup>th</sup>	4.50	4.50
4.50	4.50	4.50







UNIVERSITY

AVE.

355.0

355.0

ST.

354.28  
353.57  
352.85  
352.13  
351.42

351.0

350.5

WIGHTMAN

ST.

349.5

349.5

345.0

345.0

GUNN

ST.

344.0

344.0

30TH

# Grades for Golden Hill Extension of S.D.E.R.Y.

25th & D to Univ & Boundary

Spike pole N.W. Wightman 357.42

347.73 HI	SPK - NE	355.63	356.234	Men SW 30th Univ		
348.26 TR	345.00	345.75	346.25	347.25	348.00	348.75
349.77 HI	4.73	3.98	4.48	2.98	1.74	0.98
350.70	5.23	4.28	4.78	2.98	2.23	1.48
351.49	349.00	350.70	351.42	352.13	352.85	353.57
352.13	7.67	6.57	6.75	6.02	4.37	3.60
352.85	8.17	6.97	6.25	5.54	4.82	4.10
353.57	8.67	7.47	6.75	6.02	5.30	4.58
354.28	9.17	7.97	7.25	6.54	5.82	5.10
355.00	9.67	8.47	7.75	7.02	6.30	5.58
355.73	10.17	8.97	8.25	7.54	6.82	6.10
356.42	10.67	9.47	8.75	8.02	7.30	6.58
357.13	11.17	9.97	9.25	8.54	7.82	7.10
357.85	11.67	10.47	9.75	9.02	8.30	7.58
358.57	12.17	10.97	10.25	9.54	8.82	8.10
359.28	12.67	11.47	10.75	10.02	9.30	8.58
360.00	13.17	11.97	11.25	10.54	9.82	9.10
360.73	13.67	12.47	11.75	11.02	10.30	9.58
361.42	14.17	12.97	12.25	11.54	10.82	10.10
362.13	14.67	13.47	12.75	12.02	11.30	10.58
362.85	15.17	13.97	13.25	12.54	11.82	11.10
363.57	15.67	14.47	13.75	13.02	12.30	11.58
364.28	16.17	14.97	14.25	13.54	12.82	12.10
365.00	16.67	15.47	14.75	14.02	13.30	12.58
365.73	17.17	15.97	15.25	14.54	13.82	13.10
366.42	17.67	16.47	15.75	15.02	14.30	13.58
367.13	18.17	16.97	16.25	15.54	14.82	14.10
367.85	18.67	17.47	16.75	16.02	15.30	14.58
368.57	19.17	17.97	17.25	16.54	15.82	15.10
369.28	19.67	18.47	17.75	17.02	16.30	15.58
370.00	20.17	18.97	18.25	17.54	16.82	16.10
370.73	20.67	19.47	18.75	18.02	17.30	16.58
371.42	21.17	19.97	19.25	18.54	17.82	17.10
372.13	21.67	20.47	19.75	19.02	18.30	17.58
372.85	22.17	20.97	20.25	19.54	18.82	18.10
373.57	22.67	21.47	20.75	20.02	19.30	18.58
374.28	23.17	21.97	21.25	20.54	19.82	19.10
375.00	23.67	22.47	21.75	21.02	20.30	19.58
375.73	24.17	22.97	22.25	21.54	20.82	20.10
376.42	24.67	23.47	22.75	22.02	21.30	20.58
377.13	25.17	23.97	23.25	22.54	21.82	21.10
377.85	25.67	24.47	23.75	23.02	22.30	21.58
378.57	26.17	24.97	24.25	23.54	22.82	22.10
379.28	26.67	25.47	24.75	24.02	23.30	22.58
380.00	27.17	25.97	25.25	24.54	23.82	23.10
380.73	27.67	26.47	25.75	25.02	24.30	23.58
381.42	28.17	26.97	26.25	25.54	24.82	24.10
382.13	28.67	27.47	26.75	26.02	25.30	24.58
382.85	29.17	27.97	27.25	26.54	25.82	25.10
383.57	29.67	28.47	27.75	27.02	26.30	25.58
384.28	30.17	28.97	28.25	27.54	26.82	26.10
385.00	30.67	29.47	28.75	28.02	27.30	26.58
385.73	31.17	29.97	29.25	28.54	27.82	27.10
386.42	31.67	30.47	29.75	29.02	28.30	27.58
387.13	32.17	30.97	30.25	29.54	28.82	28.10
387.85	32.67	31.47	30.75	30.02	29.30	28.58
388.57	33.17	31.97	31.25	30.54	29.82	29.10
389.28	33.67	32.47	31.75	31.02	30.30	29.58
390.00	34.17	32.97	32.25	31.54	30.82	30.10
390.73	34.67	33.47	32.75	32.02	31.30	30.58
391.42	35.17	33.97	33.25	32.54	31.82	31.10
392.13	35.67	34.47	33.75	33.02	32.30	31.58
392.85	36.17	34.97	34.25	33.54	32.82	32.10
393.57	36.67	35.47	34.75	34.02	33.30	32.58
394.28	37.17	35.97	35.25	34.54	33.82	33.10
395.00	37.67	36.47	35.75	35.02	34.30	33.58
395.73	38.17	36.97	36.25	35.54	34.82	34.10
396.42	38.67	37.47	36.75	36.02	35.30	34.58
397.13	39.17	37.97	37.25	36.54	35.82	35.10
397.85	39.67	38.47	37.75	37.02	36.30	35.58
398.57	40.17	38.97	38.25	37.54	36.82	36.10
399.28	40.67	39.47	38.75	38.02	37.30	36.58
399.99	41.17	39.97	39.25	38.54	37.82	37.10



GUNN

ST.

344.0

344.0 344.0

ST.

344.0

343.33

344.69

342.00

341.33

340.67

340.0

340.0 340.0

340.0

LANDIS

ST.

339.0

339.0 339.0

339.0

337.73

338.68

337.77

338.37

336.20

338.05

339.0

337.70

336.7

337.42

338.0

337.40 337.10

336.5

DWIGHT

ST.

338.0

30TH

336.5

33

338.40	337.10	337.42	337.73	338.05	338.37	338.68	339.00
4.21	5.51	5.19	4.85	4.56	4.24	3.93	3.61
342.61	6.01	5.69	5.38	5.06	4.74	4.43	4.11
341.50 TP	340.0	340.67	341.33	342.00	342.67	343.33	344.00
1.83	2.61	1.94	1.38	0.81	0.24	0.00	0.00
349.73	3.17	2.69	2.36	2.03	1.71	1.38	1.05
					7.06	6.40	5.73
					7.52	6.78	6.20
	340.00						
341.35	338.73	337.77	337.00	336.20	335.47	334.73	334.00
0.43	0.95	0.68	0.45	0.18	0.00	0.00	0.00
340.9	4.75	4.18	3.92	3.65	3.38	3.11	2.84
9.01	340.00	40.67	41.33	42.00	42.67	43.33	44.00
340.92	9.73	9.36	8.99	8.62	8.25	7.88	7.51
	10.43	9.76	9.10	8.43	7.76	7.10	6.43
349.93							
0.36							
349.6							

349.6 2 BM Nil post SW Wgman.



DWIGHT

ST.

338.0

337.42 337.18  
37.17 ST. 336.92

336.5

36.93 336.78

36.70 336.58

36.49 336.37

336.0

36.43 336.18

36.2 336.0

336.0

CAPPS

ST.

335.5

335.50 335.50

335.5

34.77 334.82

34.03 334.18

33.30 333.48

32.57 332.77

31.83 332.08

330.5

31.10 331.38

332.0

MYRTLE

ST.

329.5

30TH

331.0

$\frac{4.40}{37.60}$   
 Brass plug cone mon S.E. Capps 336.76  

326.76	335.50	334.82	334.18	333.48	332.77	332.08	331.38
0.92	2.18	2.82	3.58	4.22	4.91	5.40	6.78
337.68	336.00	336.18	336.57	336.55	336.72	336.92	337.10
5.02	5.82	5.62	5.43	5.25	5.07	4.88	4.70

341.80	338.70	338.77	338.00	337.30	336.57	335.82	335.10
0.20	1.80	1.82	2.63	3.40	4.53	5.57	6.50

337.40	336.00	336.23	336.47	336.70	336.90	337.17	337.40
4.59	5.35	5.12	4.88	4.65	4.43	4.18	3.95
341.35	5.15	4.92	4.68	4.44	4.20	3.95	3.70



MYRTLE

ST.

329.5

329.10    328.40  
 329.20    329.60  
 329.30    328.80  
 329.40    328.00  
 329.50    327.20  
 329.60    326.40  
 329.70    325.60

331.0

ST.

325.0

30TH

326.0

328.0

328.0

UPAS

325.0

326.0

327.0

ST.

327.0

320.5

30TH

320.5

THORN

320.0

320.0

ST.

ST.

336.76 Mt. S.E. Camps

35

336.76	330.20	327.60	328.80	328.00	327.20	326.40	325.60
6.79	6.79	2.76	3.56	4.36	5.16	5.96	6.76
330.40 TP	326.00	326.19	326.66	327.13	327.60	327.00	327.33
322.36 Mt	6.26	5.22	4.75	4.28	3.81	4.41	4.08

327.20  
 3.39  
 327.00  
 330.59 Mt

320.21 Mt	220.50		
4.00	3.71		
324.21 Mt	330.00	29.32	28.50
337.40 Mt	7.30	8.08	8.87

328.53 TP	27.75	26.97	26.18
2.80	3.66	4.44	5.23
331.41 Mt			
327.20	327.00	327.20	327.40
3.39	3.09	3.19	3.60
330.69 Mt	4.89	5.19	6.41



THORN

ST.

320.0

320.0

320.0

315.9  
ST.

314.99

315.49

313.99

312.49

310.98

309.48

307.97

306.47

304.97

302.0

302.46

301.96

301.46

Good  
5/18/77

30TH

302.0

REDWOOD

ST.

302.0

302.0

320.0  
1.82

320.0  
2.82  
310.98  
309.48  
308.98  
307.98  
306.98  
305.98  
304.98  
303.98

318.50  
2.82  
310.98  
309.48  
307.98  
306.48  
304.98  
303.48  
302.00

36



304.62 - Top 4x4 at water plug rail - 1/2 E Palm

311.86 HI	307.90	304.72	306.05	307.27	301.69	310.00
291	8.96	7.12	6.81	4.49	3.17	1.81
Spk NW 2	308.94 TP	- 10.61				
314.08 HI	303.77 Spk NW Rwd.					
5.84						
307.52 TP						
12.73						
326.27 HI	308.95 BM	310.00	308.51	307.02	305.54	304.05
0.00	2.56	1.57	3.00	4.48	5.97	7.46
Spk SE 1/4	320.27 TP	311.51 HI				
7.34						
327.55 HI						
8.31						
327.24						

Redwood	St
302.00	302.00
306.05	
306.54	299.0
307.00	
308.57	
310.0	310.0
310.0	310.0
310.0	310.0
308.69	
307.27	
306.05	270.0
304.74	
302.9	302.9
Palm	St

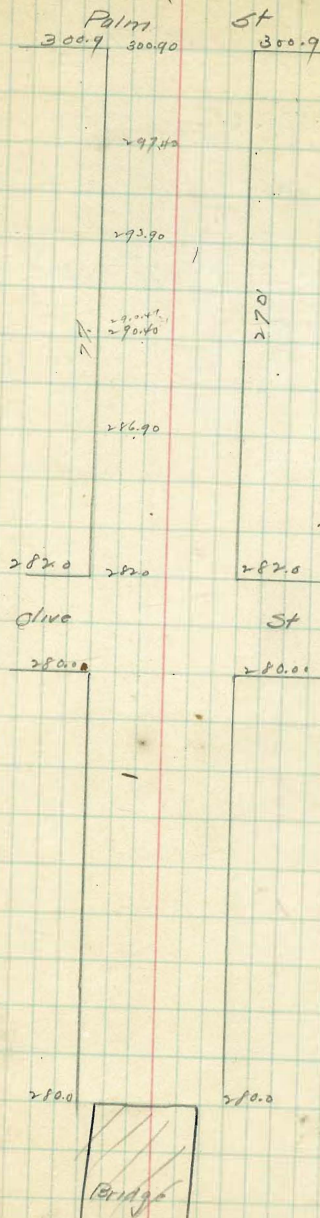
Quince



304.67  
 304.73 M. 304.67  
 12.93 0.07  
 291.80 TP 304.69 M. 8.79 92.00 93.90  
 16.79 7.29 10.79  
 291.80 HI 292.90 TP 290.47  
 11.13 2.05 5.49  
 280.73 295.95 M  
  
 280.73 BM 280.00 282.00 286.90 291.00  
 9.79 105.2 8.62 3.62 0.12  
 290.52 HI  
 280.72 280.00 282.00  
 4.37 5.10 3.10  
 280.10 HI

280.75 BM. Map in SWK. N. end bridge

38





285.73 SM    289.27    289.55    289.74    290.00

7.23

2.59

3.41

3.22

2.96

292.96 HI

509.76

289.52

289.24

290.00 TP

4.50

4.74

5.02

294.26 HI

1.34

287.92 BM spike in pile S.W. Laurel.

289.32 HI

289.60

289.60

288.72

288.24

287.60

286.80

286.00

8.00

1.08

1.68

2.52

3.32

8.00

6.28

7.04

7.72

8.22

8.66

8.96

9.20

9.32

289.955 S.E. Kolmia  
280.75 top of SWK. No end bridge

39

280.00  
280.12  
280.24  
280.60  
281.00  
281.60  
282.28  
283.04  
284.00  
284.00  
286.00  
286.80  
287.24  
288.24  
288.72  
289.04  
289.24

Some Elevations on this side

289.24

289.24

60'

289.52

289.76

289.00

289.00

290.00

71.7

289.76

289.55

289.37

71.7

289.00

289.00

289.00

285.0

285.0

June 2005

51



NE 1/4 286.74 RRSPK  
 SE 1/4 Jpr 285.73 con. Mon

289.18  
 6.21  
 286.51 M1  
 287.151  
 8500  
 3.24  
 82.70  
 4.51  
 82.13  
 4.38  
 81.57  
 4.92  
 81.00  
 5.07

286.26  
 2.11  
 288.35 M1  
 283.27  
 5.08  
 284.92  
 3.42  
 283.88  
 4.47  
 285.33  
 3.02  
 284.50  
 3.80  
 285.33  
 3.02  
 284.93  
 3.52

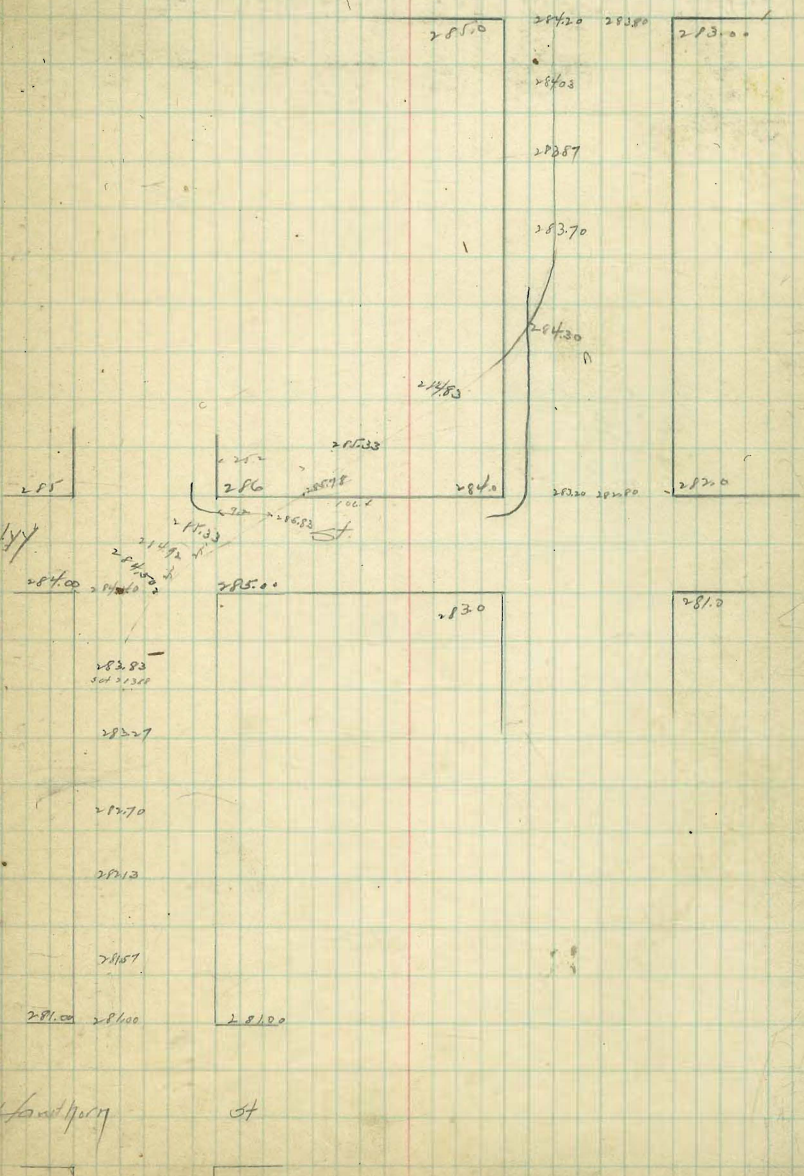
3.92  
 5.0  
 4.45  
 285.73  
 1.82  
 287.55 M1  
 284.20  
 3.85  
 284.03  
 3.52  
 283.27  
 3.68  
 283.70  
 3.85  
 284.30  
 3.21

285.0

283.0

Juniper

ST





Hawthorn S.E. RR Spk 18010

268.08 BM	268.40	269.57	270.73	271.90	273.06	274.20	275.40
7.96							
276.04 HI	7.64	6.47	5.31	4.14	2.98	1.81	0.64
	5.18	276.61	5.11				
280.10 BM	271.83	281.79 HI					
4.71							
281.81 HI	276.30	26.23	27.47	28.10	28.73	29.37	30.00
281.79 HI	5.59	4.96	4.32	3.69	3.06	2.42	1.79

Hawthorn

276.0	276.00	276.00	278.00
276.0	276.00	276.00	276.05

Grape

275.0	275.40	275.60	276.0
268.0	268.40	268.60	269.0

Fir

267.0

268.0

B 10



Elm SE No. 257.20  
 Fir S.E.R.R. Spk 268.00  
 Grape NERR 276.61

236.86	209.00	213.14	246.56	250.00
11.21		4.95	1.51	7.87
248.07 NT	9.07	180		
1.51				

246.56 TP

10.81

259.37 HT

246.56

10.14

256.70 HT

257.23 BM

1.08

268.00 HT

251.80	253.60	255.40
4.90	3.18	1.30

256.40	258.23	260.07	261.90	263.73	265.57	267.40
11.62	9.81	7.97	6.14	4.31	2.47	0.62

Fir

267.00 267.40

268.00

D  
N  
M

265.57

263.70

261.90

260.07

258.23

256.00

254.20

249.00

Elm 60

255.00

257.40

257.60

256.00

320  
310

250

250.00

250.00

246.56

160

243.12

239.00

239.00

239.00

Date

60

Note - Grades were set for 80' street except at Date St.



Beech 4 30th 3E Spk 223.29

Cedar " " " 224.07

Date " " " 226.26

214.13 H	205.60	206.50	207.97	209.65	211.22	213.00
0.32	8.53	8.13	6.46	4.79	3.17	1.42
214.11 TP	215.20	216.91	218.50	219.90	217.50	215.00
9.22	10.31	12.04	15.91	17.74	15.00	15.00
213.91 H	215.10	216.70	218.20	219.70	217.20	215.00
6.2	11.60	12.00	15.91	17.74	15.00	15.00
1 2 8 m	213.0	214.5	216.25	218.0	219.75	
	1.091	1.491	1.706	2.091	2.491	
223.29 BM	215.0	216.50	218.00	219.50	221.00	222.50
10.25	5.82	5.52	5.22	5.00	4.79	4.57
224.32 H	227.0	228.50	230.00	231.50	233.00	234.50
10.86	4.35	4.12	3.92	3.72	3.52	3.32
223.69 H	237.00	238.50	240.00	241.50	243.00	244.50
10.34	0.69	0.79	0.89	0.99	1.09	1.19
227.35 TP	26.35	25.51	24.80	24.10	23.40	22.70
1.18	2.17	3.02	3.66	4.10	4.56	5.13
228.53 H	207.81	210.22	212.63	215.04	217.45	219.86
4.47	6.99	8.88	11.03	13.24	15.51	17.84
224.08 V	214.20 H					
	2.12	2.22	2.32	2.42	2.52	2.62
	4.05	3.85	3.65	3.45	3.25	3.05
	4.50	4.10	3.70	3.30	2.90	2.52
	23.60	24.25	24.90	25.55	26.20	26.85
	4.52	3.87	3.47	3.14	2.80	2.46
	2.40	2.95	3.50	4.05	4.60	5.15
	1.35	1.79	2.23	2.67	3.11	3.55
	1.60	2.04	2.48	2.92	3.36	3.80
	212.0	211.00	209.00	207.00		
	3.13	4.59	6.53	8.23		
	2.27	6.58	6.77	6.96		
	23.60	24.25	24.90	25.55		
	4.51	3.86	3.47	3.14		
	4.70	4.11	3.53	3.14		

Date	227.0	227.0	227.0
	237.0	237.0	237.0
	247.0	247.0	247.0
	257.0	257.0	257.0
	267.0	267.0	267.0
	277.0	277.0	277.0
	287.0	287.0	287.0
	297.0	297.0	297.0
	307.0	307.0	307.0

Cedar

Both

Date	228.0	228.0	228.0	228.0
	238.0	238.0	238.0	238.0
	248.0	248.0	248.0	248.0
	258.0	258.0	258.0	258.0
	268.0	268.0	268.0	268.0
	278.0	278.0	278.0	278.0
	288.0	288.0	288.0	288.0
	298.0	298.0	298.0	298.0



208.50 N.W. Granada plg  
 207.21 - SE 29th - Spk pole 1/4  
 216.63 NE 28th & Beech.

209.32 Ht  
 215.50 3.57 215.17 5.63 105  
 5.70 15.73 321 15.75 25.33

216.63  
 275  
 219.38 Ht  
 213.50 212.50 19.31 -  
 5.78 6.78

213.50  
 573  
 219.28  
 216.00 216.15 216.30  
 4.31 3.16 3.01  
 219.31 Ht  
 10.17 213.40 214.85  
 208.44 6.91 4.96

207.21  
 7.22  
 214.43 Ht  
 211.24  
 2.67

208.50  
 6.46  
 213.96 Ht  
 3.80  
 207.21  
 4.79  
 211.09 Ht  
 6.64  
 210.46 T.P.  
 7.38  
 217.83 Ht  
 16.47  
 1.36  
 208.50 210.45  
 3.46 1.61

208.50  
 3.56  
 212.02 Ht  
 206.20 205.40 5.80 6.20 6.60 7.00  
 4.17 4.92 4.52 4.17 3.77 3.32  
 207.21 SE 29th  
 3.11  
 210.32 Ht  
 2.44 2.24 2.24 4.17 6.09 8.02 8.50  
 1.97 2.5 2.33 4.17 6.09 8.02 9.24  
 218.44 Ht  
 2.69 2.59 2.57 6.3 2.27 10.19

215.75  
 3.13  
 218.85 Ht

ST.

44.

206.0

29TH

ST

206.0

205.60 205.40

205.10

205.95 205.80

206.30 206.20

206.65 206.60

207.0

207.00 207.00

207.0

GRANADA.

ST

208.50

208.50 208.10

208.50

210.45 1042

211.29

214.40 1235

214.30 1427

216.50

216.30 216.20

216.50

28TH

ST

216.50

BEECH

216.00 216.00

216.00



21179 HA	213.50	213.92	214.33	214.75	215.17	215.58
	5.29	4.87	4.42	4.04	3.62	3.21
214.49 HA	212.50	213.92				
	0.99	0.57				
213.50	213.50	213.92	214.33	214.75	215.17	215.58
218.94 HA	5.44	6.02	4.61	4.19	3.77	3.36
2.49						
216.47 BM NE 20 <sup>th</sup> Bunch						
2.8		3.76				
219.51 HA		215.57				
218.85 HA	15.58	15.17	14.75	14.33	13.92	13.50
	3.27	3.68	4.10	4.52	4.93	5.35
		2.8	3.2	3.6	4.0	4.4
		3.93	4.35	4.77	5.18	5.60

216.5

216.5

BEECH

ST

216.0

216.0

216.0

215.58

215.17

214.75

214.33

213.92

213.50

213.5

213.5

- ASH

ST

212.5

212.5

212.5



A 228th NW P19 206.98  
 Ash " NE " 213.50  
 Beach " " " 216.49

206.98 6.53	207.00 6.47	212.50 1.07	211.81 1.70	211.12 2.39	210.44 3.07	209.75 3.76
212.67 H	209.00 4.48	208.38 5.13	207.69 5.82	208.53 9.43		

212.50 5.29	213.50 1.01	217.90 1.11	216.49
----------------	----------------	----------------	--------

208.9 P 1.01	214.51 7.51	207.08
-----------------	----------------	--------

200.88 7.51	207.01 7.19	207.19 6.80	208.38 6.11	209.06 5.43	209.75 4.90	210.44 4.05
206.98 7.51	211.2 3.37	211.81 2.68	212.50 1.99			

206.98 5.68	205.00 4.66
----------------	----------------

206.98 2.09	203.13 5.24	202.67 6.40	13.25 2.62
----------------	----------------	----------------	---------------

213.50 2.51	12.50 3.37	11.81 4.06	11.12 4.75	204.4 5.43
215.87 H	3.22	4.01	5.00	5.68

206.98 5.69	207.01 5.92	207.19 5.23	208.38 4.54	209.06 3.86	209.75 3.17	210.44 2.48	211.2 1.12
212.67 H							1.55

ST

46

ASH

ST

213.5

213.5

212.5

212.5

207.0

207.0

205.0

205.0

198.0

198.0

197.0

197.0

B

ST

RTM



196.97 NW 27th

196.97 3.97	1970 3.29	1975 3.37	1974 3.46	1975 3.54	1977 3.62	1978 3.71	1979 3.79	1980 3.87	1981 3.96
200.89 HT	196.85	196.77	196.68	196.59	196.50	196.41	196.32	196.23	196.14
106.99	4.04	4.12	4.21	4.29					
3.76	7.96	197.40	197.70	198.00	198.30	198.60	198.90	199.20	199.50
7.99	197.09	7.58	7.25	6.95	6.65	6.35	6.05	5.75	5.45
196.96	201.82	201.77	201.72	201.67	201.62	201.57	201.52	201.47	201.42
204.95 HT	3.45	2.28	1.12						

196.97 4.26	196.70	196.53	196.36	196.19	196.02	195.85	195.68	195.51	195.34
201.23 HT	4.53	4.53	4.53	4.53	4.53	4.53	4.53	4.53	4.53
106.97 4.26	96.73	96.65	96.57	96.49	96.41	96.33	96.25	96.17	96.09
201.23 HT	5.81	5.82	5.83	5.84	5.85	5.86	5.87	5.88	5.89
196.92 SW 27th	6.06	6.06	6.06	6.06	6.06	6.06	6.06	6.06	6.06
5.62	96.82	96.90	96.98	97.07	97.15	97.23	97.32	97.40	97.48
202.54 HT	5.69	5.69	5.69	5.69	5.69	5.69	5.69	5.69	5.69
196.98 6.03	6.03	6.03	6.03	6.03	6.03	6.03	6.03	6.03	6.03
202.51 HT	6.03	6.03	6.03	6.03	6.03	6.03	6.03	6.03	6.03

197.43 BM. Jack Ch on E. line  
E. of fed barn bet 27th

196.96 NW 27th	96.48	96.57	96.65	96.73	96.82	96.90	96.98	97.06	97.14
5.48	5.87	5.88	5.89	5.90	5.91	5.92	5.93	5.94	5.95
202.44 HT	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
96.96	7.82	7.43	7.04	6.65	6.26	5.87	5.48	5.09	4.70
4.90	4.54	4.13	3.74	3.35	2.96	2.57	2.18	1.79	1.40
201.86 HT	4.13	4.43	4.73	5.03	5.33	5.63	5.93	6.23	6.53

198  
205.0  
203.0  
201.0  
200.0  
198.0

1980	97.60	97.60	97.60	97.60	97.60	97.60	97.60	97.60	97.60
7.52	7.43	7.34	7.25	7.16	7.07	6.98	6.89	6.80	6.71
97.18	97.18	97.18	97.18	97.18	97.18	97.18	97.18	97.18	97.18
96.51	96.51	96.51	96.51	96.51	96.51	96.51	96.51	96.51	96.51
96.51	96.51	96.51	96.51	96.51	96.51	96.51	96.51	96.51	96.51

1970

1980

1970

27th

1970

1960	1960	1960	1960	1960	1960	1960	1960	1960	1960
96.68	96.77	96.85	96.93	97.02	97.10	97.18	97.27	97.35	97.43
96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68
96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68
96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68	96.68

1970

26th

1980

1970

5th

1970

1960

5th

5th



196.92 B.M. S.W. 268 B. 117.00 W. 25 D

7.78	1.70	1.82					
206.70 H.	198.00	204.88					
196.92	196.60	198.00	199.17	200.00	201.00	202.07	203.82
8.13	8.46	7.05	5.88	4.72	3.85	2.88	1.22
205.05 H.	204.67	204.77	204.48	203.15	201.20	199.15	197.60
1.90	0.38	0.27	0.57	1.90	3.41	5.26	7.11
203.15 T.							
1.56	5.20	196.30	196.67	195.32	194.15		
202.71 H.	192.00	5.00	4.60	3.97	2.30		
7.10							
96.81							

196.92

9.55	9.60	9.40	9.23	9.27	9.20		
3.22	4.28	4.05	4.02	4.68	6.05		
199.30 H.	3.27	4.90	4.63	5.27	5.93	6.60	

196.92 W. 268 B.

191.00	7.00	9.00	8.50	8.50	8.50	8.50	8.50
8.82	4.32	4.80	4.80	5.30	6.00	6.00	6.00
194.45 T.	4.07	4.58	5.07	5.57	6.00	6.57	7.07

196.92

196.00	196.20	196.40					
4.60	5.22	5.12					
201.52 H.	5.37	5.37					
	5.65						

196.92

57.83	92.03	200.22	1.42	2.61	4.80	4.67	4.77
8.48	7.57	1.37	5.18	3.78	2.79	1.60	0.73
205.40 H.	7.82	6.62	5.43	4.23	3.22	2.15	1.13

204.27 T.

4.17	3.10	1.20	9.30	7.60			
2.39	3.06	5.46	7.36	9.26			
206.62 H.	2.69	3.81	5.71	7.61	9.51		
96.92							
7.74							

26th

ST

18

196.00	197.00	197.00	197.00
	199.45	199.00	
	201.30	201.20	
	203.15	203.10	
205.00	204.47	204.47	205.00
	207.07	206.67	
	203.53	203.80	
	204.67	204.61	
	201.00	201.40	
	204.03	204.20	
	199.17	199.00	
	198.00	198.00	
197.00	196.00	196.00	192.00

25th

ST

197.00	196.00	192.00
	196.00	196.00
	194.32	
	194.47	
	194.00	
	193.33	
	192.67	
192.00	192.00	192.00
192.00	191.00	191.00
	190.00	
	189.00	
	188.00	
188.00	188.00	188.00



355.69 BM	355.17	355.36	355.17	354.99	355.01
401	4.15	4.34	4.33	4.77	4.90
359.70 HI	4.65	4.74	5.03	5.21	5.40

355.00	355.58	356.00
		355.90
	355.26	
355.00	355.17	355.34
	354.99	
354.45	354.80	355.00
354.45	354.80	355.00
		354.80
354.45	354.80	355.00
355.40	355.70	355.90
355.40	355.70	355.90
356.00	356.25	356.85
356.00	356.25	356.85
356.81	357.11	357.31

Ray St

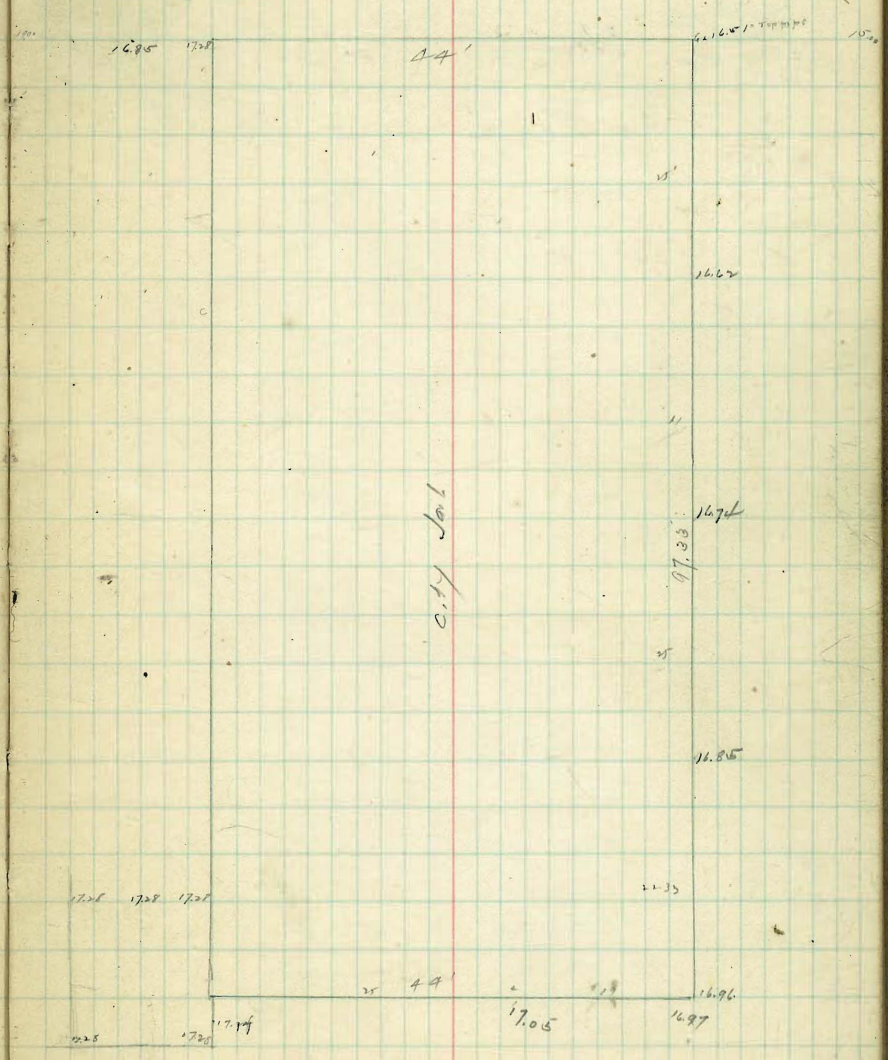
Ohio

Grim



Grades for walks around city Jail 11/20  
11/21  
11/22

13.94 BM SW 482d	5.43	4.73	16.85	17.24	7.24
2.00	16.51	17.28	5.16	16.51	4.77
21.94 HI				4.77	
4.58					
17.36 TP					
4.65					
22.01 HI	17.17	17.05	16.97	16.96	
	5.00	5.12	5.20	5.21	
17.36					
4.81					
22.17 HI	16.85	16.74	16.62	16.51	
5.21	4.46	4.57	4.69	4.80	
18.96					
4.35					
21.31 HI	17.36	17.17	17.05	16.97	
	4.82	5.01	5.13	5.21	
22.18 HI					



Note! Show case grades continued on next page



355.69	55.70	56.1	56.00	52.40	52.75		
288	287	3.43	2.82	2.87	1.82		
359.57H	3.37		3.02	2.67	2.52		
127	57.10	52.45	57.80				
36730 TP	1.47	1.2	0.77				
322	1.97	1.62	1.27				
366.62 H	57.30	57.97	57.63	57.00	52.97	52.63	52.50
7.81	2.22	2.85	2.89	3.22	4.58	3.89	4.32
352.71 TP	2.72	3.05	3.39	3.72	4.05	4.39	4.72
	55.60	55.13	54.64	53.73	53.27	52.80	
	4.92	5.39	5.85	6.79	7.25	7.72	
	5.42	5.89	6.35	7.29	7.75	8.22	

Grim St

356.21	357.11	357.31	55.70
			56.06
			56.40
			56.75
			57.10
			57.45
			57.80

357.50	357.80	358.00	
			Illinois
358.00	358.20	358.50	
			58.30
			57.97
			57.63
357.42	357.92		57.30
			57.97
			56.63
			56.30

Hart

357.00	357.50		
356.0	356.30	356.50	

IOWA

355.3	355.60	355.8	52.80
			52.66
			52.53
			54.19
			54.66
			55.13
			55.59
354.90	354.80		
352.50	352.80	353.00	

Hermap

171530471



352.71					
161	52.00	51.55	48.80	50.00	55.92
305.02	3.82	3.77	6.52	4.52	9.38
<u>342.90</u>	<u>3.77</u>				
342.90					
373.84	42.37	38.10			
268	1.27	0.04			
355.16					
468					
359.84	23.05	35.00	3.88		
	6.79	4.04	1.04		
	<u>7.29</u>				

352.00 MISSOURI 52.00

352.00		352.00
351.50		352.00
350.00	50.00	357.00
348.50	48.00	349.00
338.50	38.00	339.00
335.00		336.00
332.00		333.00
332.50		333.00
331.00		332.00

Wisconsin

38.00
21.57
41.687
35.71
45.228
<u>49.799</u>
38.00
35.71
42.071
45.228
28.57
<u>49.799</u>

firm



3<sup>d</sup> Cedar to Elm

139.00		122.00
Elm		
137.50	103.31 17.50 16.40 32.58 22.65 29.67 27.80 11.75 28.95 7.70 21.83 2.10	127.50
112.00	110 W 14.75 14.25 13.50 13.50 14.20 14.20	115.00
112.00	12.80 12.80 12.80 12.80 12.80 12.80	112.00
111.50	12.50 12.50 12.50 12.50 12.50 12.50	113.50
108.00	11.34 11.74 11.11 11.57	110.00
Cedar		

Beech NW 80.01 Plg  
Cedar " 107.09  
Data " 109.24  
Elm " 139.46

39.46	37.31	36.42	36.42	33.65	32.57	29.67	29.00
47	2.56	1.90	3.47	4.27	6.39	10.20	10.07
39.87	25.95	25.75	21.83	22.10	18.25	17.92	
12.5	1.84	2.07	5.99	5.72	12.67	12.56	
27.5	1.49	1.57	-2.0	-1.92	9.57	9.70	
17.8					-2.50	-2.16	
15.26	10.89	7.0	7.40	10.57	10.17	14.34	14.74
1.01	18.91	7.8	7.40	6.23	6.53	5.42	5.06
10.77	17.80						
7.50		12.67	13.07	13.23	12.83	12.00	13.60
109.34		4.63	3.73	3.83	5.05	3.80	3.68
116.84		.52	0.71	-0.88	-3.97	-1.30	-0.88
116.80	14.23	14.63	15.48	15.0	14.23	13.83	526
7.5	3.57	3.42	3.32	7.71	7.70	4.32	12.52
109.30	-0.9	2.17	1.87	-2.04	2.57	2.97	
8.88	13.00	15.05	12.00	14.25	1.61	2.47	
118.18	5.18	3.18	6.18	5.93	1.223	1.47	1.63
114.38	6.56	13.24	13.40	13.93	4.23		3.93
118.56	118.56	5.5	5.16	3.08	5.46	4.23	4.73



118.5      118.5  
Cedar

116      116

116.5

98.0      98.5  
Beech

96.0      96.5

79.5      80.5

77.0      78.0  
Ash

67.5      67.8

A

A NW 67.82

Ash " 79.47

Beech " 98.02

Cedar " 118.52

79.47	77.60	79.66	80.14
5.92	5.77	3.73	3.21
13.89		5.00	
4.03		4.23	
107.05	96.65	96.20	
	5.40	5.25	







144.30	144.30	144.30	144.30	144.30	144.30
192.68	142.10	181.26	182.76	140.25	160.10
116.2	2.20	2.06	3.54	3.94	4.24
160.91	160.91	160.91	160.91	160.91	160.91
46.80	56.76	57.74	59.15	59.86	
4.07	4.15	3.17	2.78	2.06	

179.11	181.26	181.26	181.26	181.26	181.26
72.30	78.66	78.15	76.95	76.37	75.64
1.94	2.70	3.11	4.41	4.89	5.62

193.47	100.10	100.10	100.10	100.10	100.10
71.68	195.18	95.91	96.48	96.48	96.48
200.1	2.44	31.06	4.77	9.19	3.46
13.00	5.36	4.21	5.0	4.89	42.10
4.27				4.17	4.045
36.27				4.17	5.58
5.00	4.43	4.40	4.91	5.11	40.00
36.2	56.17	5.05	6.09	6.82	29.32
176.2	1.8				71.56
190.44	76.1	6.08	5.81	5.81	71.15
3.52	3.73				2.98
202.00	22.30	124.0	5.22	5.93	4.15
154.00	5.52	6.4	6.76		5.45
32.6	5.9	5.36	5.00		5.93
6.76					6.64

FM ST Harvest 56 ST

156.5	156.5	196.0	176.0	176.0
142.0	142.0	178.5	178.5	178.5

Elm ST Grape ST

140.5	140.5	176.5	176.5	176.5
131.0	131.0	158.0	158.0	158.0

DATE ST FLY ST

130.0	130.0	156.5	156.5	156.5
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27.00	27.05	27.05	27.05	27.05	27.05	27.05	27.05
17.00 HI	15.61	15.06	14.65	13.95	12.92	12.32	
	1.44	1.72	2.00	3.10	4.13	4.73	
19.47	Hawthorne						
1.11	200.08	200.08	200.08	200.08	200.08	200.08	200.08
200.08 HI	98.19	98.56	98.66	96.44	94.71	94.18	
	7.6	1.82	2.02	3.64	4.17	4.90	
22.98	Juniper						
1.73	201.91	201.91	201.91	201.91	201.91	201.91	201.91
201.91 HI	17.34	17.74	18.05	17.85	18.05	18.05	18.05
	4.57	3.77	3.56	3.26	3.84	4.42	
13.87	Fabria						
2.66	244.73	244.73	244.73	244.73	244.73	244.73	244.73
244.73 HI	40.11	40.03	40.73	41.42	41.64	41.77	
	4.62	4.21	3.90	3.31	3.09	2.70	
24.95	Laurel						
4.94	254.39	254.39	254.39	254.39	254.39	254.39	254.39
254.39 HI	49.13	49.04	49.75	50.43	50.64	50.95	51.05
202.00 HI	5.66	5.38	5.11	4.47	4.2	3.74	3.52
29.98 AM	9.10	9.50	8.01	7.04	7.93	7.02	7.02
3.19	2.7	3.04	3.30	4.32	5.22	5.78	
33.77 HI	15.61	15.06	14.65	13.95	12.92	12.32	
2.15	2.9	3.7	3.92	5.22	4.6	4.25	
3.87	3.95	3.42	3.02	2.55	2.03	2.03	
12.57 HI	3.11	3.42	3.60	4.28	4.5	4.13	
09.45	39.47	41.77	41.46	41.22	40.01	40.22	39.82
3.91	4.87	4.30	4.52	5.16	5.42	5.82	
53.86 HI	45.74	3.97					
29.98	30.47	30.03	29.65				
4.05	3.85	3.88	4.38				
34.03 HI							
26.99	254.13 254.13						
4.19	50.75	50.75	50.75	50.75	50.75	50.75	50.75
254.13 HI	3.08	3.08	3.08	3.08	3.08	3.08	3.08

Juniper	ST	Laurel	250.0	251.0	250.0	251.0
28.15	278.35	247.75	247.75	247.75	247.75	247.75
28.00	277.50	247.75	247.75	247.75	247.75	247.75
27.94	277.54	247.75	247.75	247.75	247.75	247.75
27.91	277.39	247.75	247.75	247.75	247.75	247.75
HSP	215.0	241.0	241.0	241.0	241.0	241.0
15.11	245.61	241.0	241.0	241.0	241.0	241.0
15.00	215.00	241.0	241.0	241.0	241.0	241.0
15.06	214.95	241.0	241.0	241.0	241.0	241.0
14.61	214.45	241.0	241.0	241.0	241.0	241.0
IVP	ST	Kubria	ST	ST	ST	ST
12.27	213.35	240.75	240.75	240.75	240.75	240.75
12.00	213.00	240.75	240.75	240.75	240.75	240.75
11.82	212.93	240.75	240.75	240.75	240.75	240.75
11.27	212.00	240.75	240.75	240.75	240.75	240.75
213.0	213.0	240.0	240.0	240.0	240.0	240.0
198.5	198.5	230.0	230.0	230.0	230.0	230.0
78.06	78.06	230.0	230.0	230.0	230.0	230.0
Hawthorne	ST	Juniper	ST	ST	ST	ST
74.44	74.44	228.0	228.0	228.0	228.0	228.0
74.00	74.00	228.0	228.0	228.0	228.0	228.0
73.91	73.91	228.0	228.0	228.0	228.0	228.0
73.18	73.18	228.0	228.0	228.0	228.0	228.0

27.00	27.05	27.05	27.05	27.05	27.05	27.05	27.05
17.00 HI	15.61	15.06	14.65	13.95	12.92	12.32	
	1.44	1.72	2.00	3.10	4.13	4.73	
19.47	Hawthorne						
1.11	200.08	200.08	200.08	200.08	200.08	200.08	200.08
200.08 HI	98.19	98.56	98.66	96.44	94.71	94.18	
	7.6	1.82	2.02	3.64	4.17	4.90	
22.98	Juniper						
1.73	201.91	201.91	201.91	201.91	201.91	201.91	201.91
201.91 HI	17.34	17.74	18.05	17.85	18.05	18.05	18.05
	4.57	3.77	3.56	3.26	3.84	4.42	
13.87	Fabria						
2.66	244.73	244.73	244.73	244.73	244.73	244.73	244.73
244.73 HI	40.11	40.03	40.73	41.42	41.64	41.77	
	4.62	4.21	3.90	3.31	3.09	2.70	
24.95	Laurel						
4.94	254.39	254.39	254.39	254.39	254.39	254.39	254.39
254.39 HI	49.13	49.04	49.75	50.43	50.64	50.95	51.05
202.00 HI	5.66	5.38	5.11	4.47	4.2	3.74	3.52
29.98 AM	9.10	9.50	8.01	7.04	7.93	7.02	7.02
3.19	2.7	3.04	3.30	4.32	5.22	5.78	
33.77 HI	15.61	15.06	14.65	13.95	12.92	12.32	
2.15	2.9	3.7	3.92	5.22	4.6	4.25	
3.87	3.95	3.42	3.02	2.55	2.03	2.03	
12.57 HI	3.11	3.42	3.60	4.28	4.5	4.13	
09.45	39.47	41.77	41.46	41.22	40.01	40.22	39.82
3.91	4.87	4.30	4.52	5.16	5.42	5.82	
53.86 HI	45.74	3.97					
29.98	30.47	30.03	29.65				
4.05	3.85	3.88	4.38				
34.03 HI							
26.99	254.13 254.13						
4.19	50.75	50.75	50.75	50.75	50.75	50.75	50.75
254.13 HI	3.08	3.08	3.08	3.08	3.08	3.08	3.08

Juniper	ST	Laurel	250.0	251.0	250.0	251.0
28.15	278.35	247.75	247.75	247.75	247.75	247.75
28.00	277.50	247.75	247.75	247.75	247.75	247.75
27.94	277.54	247.75	247.75	247.75	247.75	247.75
27.91	277.39	247.75	247.75	247.75	247.75	247.75
HSP	215.0	241.0	241.0	241.0	241.0	241.0
15.11	245.61	241.0	241.0	241.0	241.0	241.0
15.00	215.00	241.0	241.0	241.0	241.0	241.0
15.06	214.95	241.0	241.0	241.0	241.0	241.0
14.61	214.45	241.0	241.0	241.0	241.0	241.0
IVP	ST	Kubria	ST	ST	ST	ST
12.27	213.35	240.75	240.75	240.75	240.75	240.75
12.00	213.00	240.75	240.75	240.75	240.75	240.75
11.82	212.93	240.75	240.75	240.75	240.75	240.75
11.27	212.00	240.75	240.75	240.75	240.75	240.75
213.0	213.0	240.0	240.0	240.0	240.0	240.0
198.5	198.5	230.0	230.0	230.0	230.0	230.0
78.06	78.06	230.0	230.0	230.0	230.0	230.0
Hawthorne	ST	Juniper	ST	ST	ST	ST
74.44	74.44	228.0	228.0	228.0	228.0	228.0
74.00	74.00	228.0	228.0	228.0	228.0	228.0
73.91	73.91	228.0	228.0	228.0	228.0	228.0
73.18	73.18	228.0	228.0	228.0	228.0	228.0



B.M. Maple SW 257.41  
 N.W. 264.95  
 Olive NW 271.01

57.41	57.99	57.04	57.55
4.58	4.00	4.15	4.11
61.99 H			

B.M. 257.41 B.P. SW Cor Maple & 5th  
 261.66 H

261.66	261.66	261.66	261.66
57.99	57.99	57.55	58.40
3.67	3.82	4.11	3.26

B.M. 264.95 B.P. NW Cor N.W. 264.95 & 5th  
 267.43 H

267.43	267.43		
63.10	63.10		
4.23	2.13		

" 271.01 " " " Olive " "  
 274.61 H

274.61			
20.90			
3.71			

B.M. 276.49 B.P. NW Cor 5th & Palm

" 278.01 " " " " Quince  
 277.5 H

4.715	27.90	76.70	76.20
4.275 H	4.825	4.215	5.715

76.49	71.01	20.85	4.90	20.90
4.225	4.73	5.37	70.80	4.84

20.914 H	75.74 H			
4.53	7.90	9.24	8.11	5.860
7.83	4.71	4.37	4.17	3.76

57.41	44.95	63.24	4.70	2.90
4.45	3.05	4.63	4.63	2.77
62.36 H	67.95 H	71.01	70.86	70.77

71.01		75.49 H		
5.86	4.92	4.92	71.01	57.52
76.37 H	74.45	5.37	70.85	

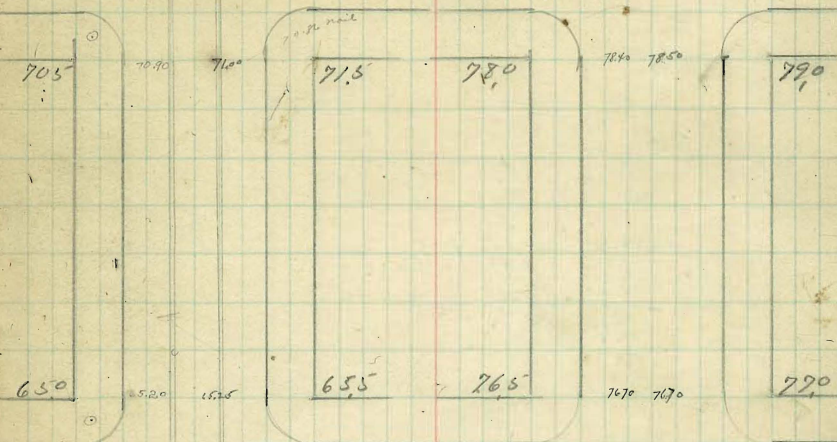
76.49	3.91	5.02	75.70	76.70
4.10	76.68	75.57	4.89	3.19

20.59 H	4.07	76.00		
	77.38	4.45		

78.01	71.01	70.90	71.00
4.44	5.26	5.39	5.29
52.45 H	76.29 H		

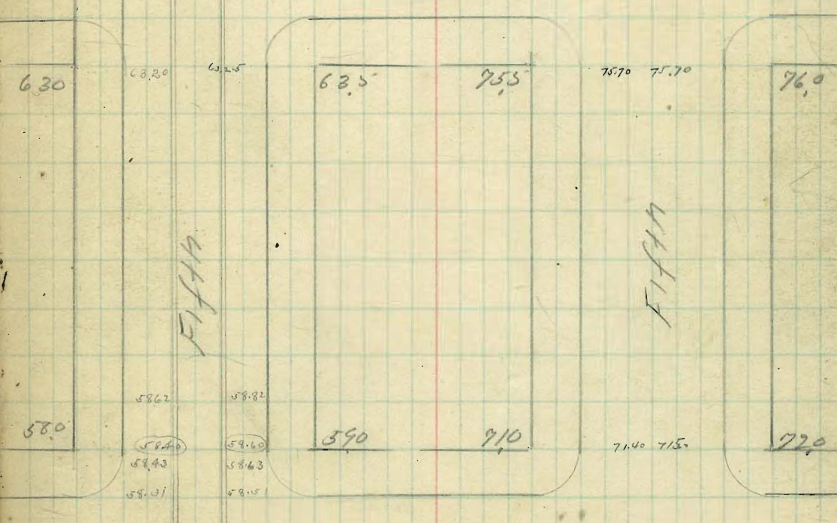
olive

Quince



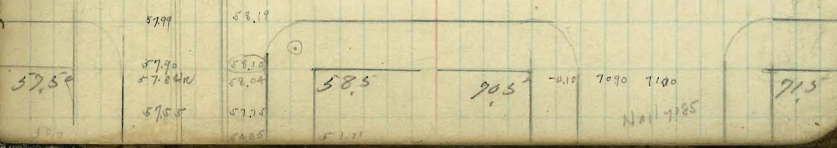
N.W. 264.95

Palm



Maple

olive





BM 279.01 BR NW Cor 5th & Redwood

" 279.98 " " " " Spruce.

" 281.89 " " " " Thorn.

" 284.91 " " " " UPas.

77.01	77.01	77.90	78.80	79.98	80.20
4.85	4.85	0.96	0.96	1.18	1.18
		3.96	3.96	2.98	2.98

77.01 4.85 77.90 78.80 79.98 80.20

4.85 0.96 0.96 1.18 1.18

3.96 3.96 2.98 2.98

8.50 5.27 4.27 29.50 4.67 4.14 4.13

5.65 78.38 79.28 4.65 79.48 79.61 79.62

79.65 78.58 8.50 4.78

4.50 80.41 4.59 80.37

84.15 HZ 86.23 HZ 87.25 87.75 88.40

79.98 79.98 3.98 4.48 4.35

85.09 HZ 84.75 HZ 79.90 11.75

79.98 81.89 8.60 4.46

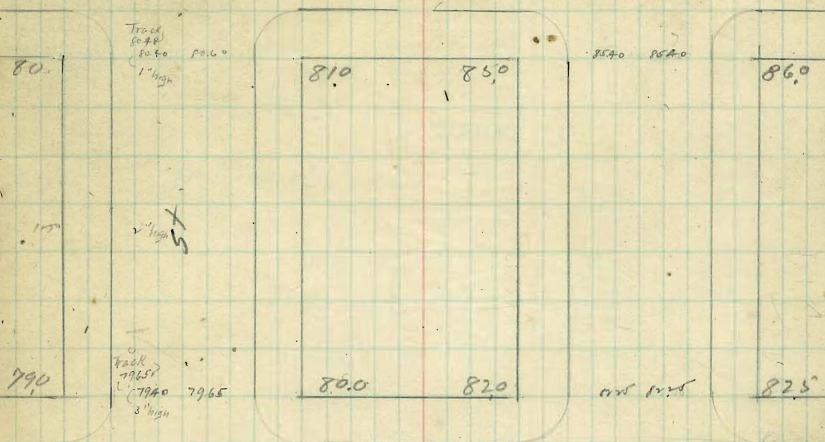
4.52 4.32

84.50 HZ 86.21 HZ

Spruce

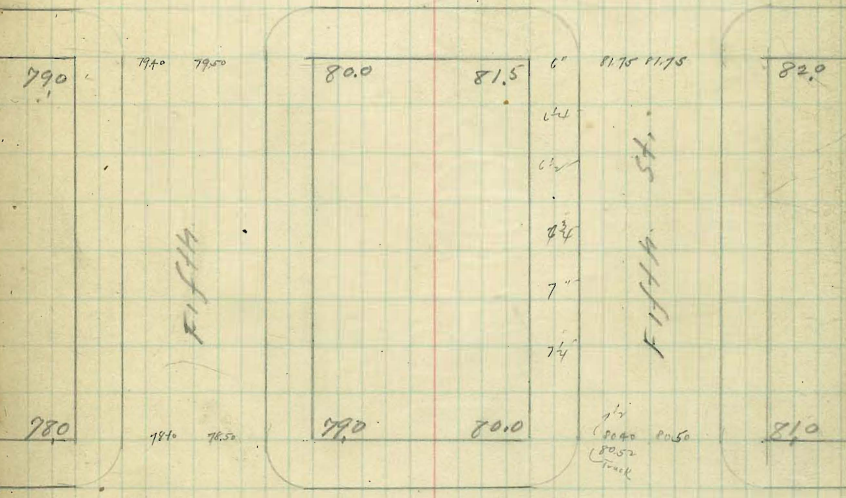
UPas

860



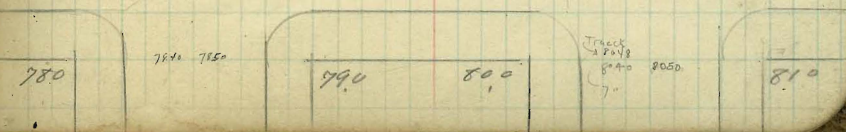
Redwood

Thorn



Quince

Spruce





Walnut 83.98  
 Brookes 79.91  
 Penna 82.41

Robinsn 87.89  
 Univ 89.94

84.01	4.33	4.37	65.00	4.42			
4.78			4.29	5.27			
79.69	4.91	4.90	83.91	5.41	83.90	4.75	4.37
4.34	4.97	4.78	5.73	1.45	5.87	3.90	3.00
76.23	89.68	4.78	89.71	5.06	5.39	.30	.04
82.89	4.98	5.25	6.25	84.37			
4.72							
80.615	73.63	5.36					
79.91	5.52	5.60	7.890	5.52	5.37	5.50	78.00
84.93	79.41	70.28	79.46	6.03	79.41	79.50	79.37
4.93	5.31	5.40	6.57	11.50	4.38	16.90	5.93
81.01	8203	20.77	20.77	0.73	4.83		
82.41	81.50	4.29	4.32	12.00			
4.34	5.25	4.86	4.75	4.75	4.98		
79.91	17.89	84.36	17.27	87.24			
83.64	4.23	13.98	4.86	13.25	13.90		
79.91	79.00	88.84	5.59	4.97			
84.10	4.14	82.41	12.00				
82.41	78.00	4.68	5.09				
4.90	5.10	17.09	12.41				
87.31	81.50	82.00	4.69				
83.98	5.91	5.31	87.10				
89.85	13.90	13.25					
	5.95	6.60					

2800 79.50 79.40

2790

Brookes

Ave

60

2800

2790

282.5

Penna

Ave

282.9

282.2

Wy. Ave

282.6

2840

8375

8375

2840

280.6

Walnut

St

Anderson  
Place

2845

8440

8440

2845

280.4

FISH ST

FISH

2850

8500

8500

2860

2800

79.50

79.40

2790

UPAS

St

Brookes

Ave

2850

8500

8500

2860

2800

79.50

79.40

2790



Pennie 82.41 NW  
 Robson 87.89 " "  
 Univ 89.94 " "

82.41		3.93	4.09	3.67	3.51	4.50	4.05
6.15						4.06	4.57
88.56	NW	1.263	2.427	1.202	15.05		
		SW	SE	NE	NW	1.25	1.60
87.89		86.90	4.27	4.31	88.00	4.57	4.43
43.9		5.38	88.01	17.90	2.28	89.83	4.43
92.28	NW	6.15	24.60	4.285		5.44	7.20
		2.95	2.58	92.17	NW	86.73	6.73
3.73						6.73	16.90
87.18	NW	17.5	16.90				
17.19		5.18	5.78				
4.79							
92.68	NW						

2900 2900

UNIV Ave

2900 2900

2880 2880

Robinson Ave

2875 2875

2850 2850

EVANS Place

2845 2845

2825 2825  
PENNY Ave

Penny St





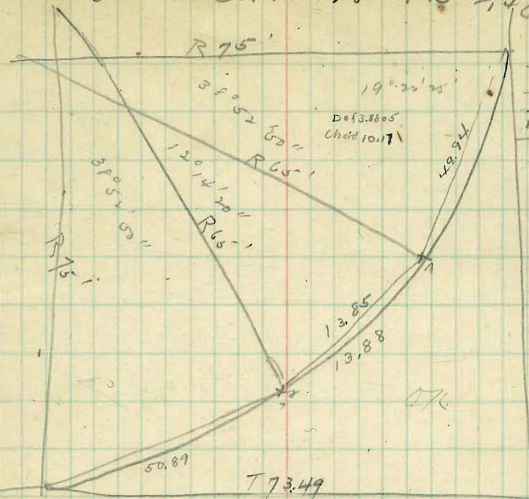






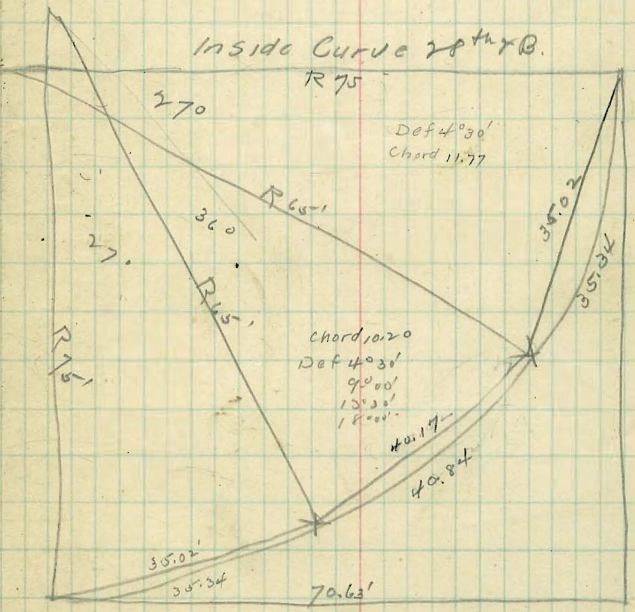
Outside Curve 28<sup>th</sup> & B

2  
74  
Davis  
Hancock  
Lambly



3.8805	3.88	20
7.7410	7.74	30
11.6247	11.62	40
15.5522	15.55	50
19.4402	19.44	60

Inside Curve 28<sup>th</sup> & B





Curve of  $\Delta 6^{\circ} 26'$

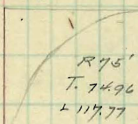
6306  
6307  
6308

11/12

F' St. - 3<sup>d</sup> to 5<sup>th</sup>

3<sup>d</sup> St

F St



Sta	Def
10	2144.50"
20	738.50"
30	1157.44"
40	1016.50"
50	190.50"
60	22.50"
70	21.00"
80	30.33' 40"
90	30.33' 40"
100	30.33' 40"
110	30.33' 40"
120	30.33' 40"
122	30.33' 40"

R 300'  
T 319  
E 029

R 300'  
T 319  
E 029

R 300'  
T 319  
E 029

5<sup>th</sup>



Standard T.O.

95.58  
7.22  
96.3  
52.43

453

.09629  
75  
48445 Δ 11°  
67403  
7.22475 ST. R75

Δ 11°  
9.63 ST. R100'  
0.46 E

142'

.00463  
77  
3241  
34721 E

Curve E Track at angle No of Junction

Δ 3°20'  
R 100'  
T 29.68  
E 0.44

44 1.47 107  
64  
308

66

Δ 9°06'

Curve E Track So of bridge

R = 1146  
Δ 1°08 1/2'  
S.T. = 11.42  
E 0.06

1146  
996  
6876  
10324  
10324  
11.42516

1146  
.00005  
0.5720

Curve E Track No of Bridge

R 1146  
Δ 2°42 1/2'  
S.T. 27.09  
E 0.32

.02364  
1146  
74184  
9056  
2364  
27.09142

1146  
0.0028  
9168  
2292  
32088

Curve W Track So of Bridge

R 1146  
Δ 1°14'  
S.T. 12.33  
E 0.17

.01076  
1146  
6456  
4304  
16764  
12.33096

1146  
0.6676

Curve W Track No of Bridge

R 1146  
Δ 2°24'  
S.T. 23.99  
E 0.25

.02095  
1146  
12570  
8380  
2095  
23.98870

1146  
22  
2292  
2292  
0.25212



45002  
 6981317  
 26160  
 1450  
 7008951  
 150  
 350447550  
 7008951  
 105.1242650  
 7008951  
 152.36  
 42053706  
 21026853  
 14017902  
 35044755  
 7008951

106.788377436 outside 106.95  
 7008951  
 147.64  
 28035804  
 42053706  
 49062657  
 28035804  
 7008951  
 103.480152564 inside 103.537

45002  
 6981317  
 63995  
 7045312  
 150  
 352265600  
 7045312  
 205.6796800  
 08729  
 105.76690  
 7045312  
 152.36  
 42271872  
 21135936  
 14090624  
 35226560  
 7045312

107.342373639 outside 107.478  
 107.431906680 inside 107.5376  
 7045312  
 147.64  
 28181248  
 42271872  
 49317184  
 28181248  
 7045312

104.01698636 inside 104.20732  
 085896952  
 107.102883320 inside 107.142  
 152.36  
 5818  
 121888  
 15236  
 121888  
 76180  
 0881643048  
 147.64  
 5818  
 118112  
 1476.4  
 118112  
 73820  
 085896952

Def. for Spirals 30th & Ivy.

Def  
 5.44  
 10.47  
 15.71  
 20.94  
 26.17

Def  
 0°10'  
 0°25'  
 0°40'  
 1°05'  
 1°50'

OG 150.266  
 G.S. 13.074

M.O. R152.36 20' chd. = 0.3275  
 " R147.64 " " = 0.3410

L.C.C. 105.77  
 L.G. 103.57

Def. R152.36 120°

Def C.C.R. 150

- 70 - 1° 05' 30"
- 72 - 3° 49' 10"
- 73 - 5° 43' 15"
- 74 - 7° 38' 24"
- 75 - 9° 33'
- 76 - 11° 27' 30"
- 77 - 13° 22' 10"
- 78 - 15° 16' 40"
- 79 - 17° 11' 20"
- 110562 = 20° 04' 45"

50°29'  
 L.C.C. 105.13  
 L.G. 102.99

Ivy St.

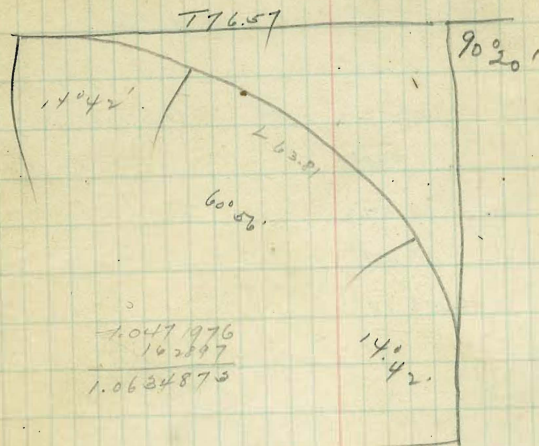
30th - 83.40

83.78

5024

Fern





$\frac{1047.976}{162597}$   
 1.0634873

1.0634873  
 67.3542

4 2 12 6 9 7 4 6  
 5 3 1 7 4 3 6 5  
 3 1 9 0 4 6 1 9  
 2 1 2 6 9 7 4 6  
 6 3 8 6 9 2 3 8  
 6 6 5 1 8 9 9 8 0 1 6 6  
 66-3 1/4

1.0634873  
 57.6458

8 5 0 7 8 9 8 4  
 5 3 1 7 4 3 6 5  
 4 2 5 3 9 4 9 2  
 6 3 8 6 9 2 3 8  
 7 4 4 4 4 1 1 1  
 5 3 1 7 4 3 6 5  
 6 1 3 0 5 5 7 6 1 9 8 3 2  
 61-3 1/16

25+44 B

O.G. 60.875

T. 76.22

G.S. 15.342  
 76.217

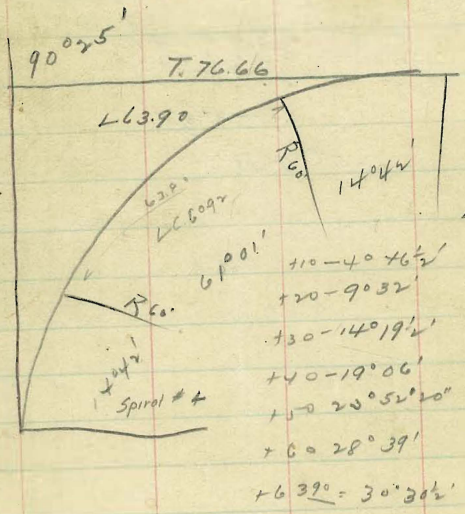
L.O.G. 63.45



Sta  
5.13  
10.27  
15.40  
20.51  
25.62  
30.70

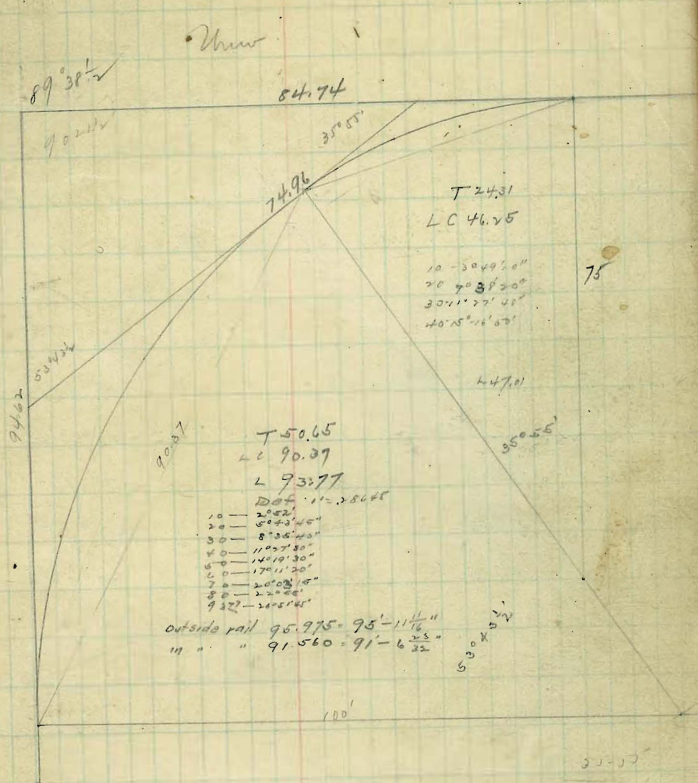
#1  
Def. for Spirals C.C.R. = 60'  
0° 22'      O.C. 60.875 } Spiral #4  
0° 52 1/2'      G.S. 15.342 } C.C. 60R  
1° 38'  
2° 37 1/2'  
3° 51'  
5° 18 1/2'

Curve 18th & Beach  
Def 1160'R = 47746



66'-2 1/2"  
Length outside rail 66.40  
" " " " 61.39  
61'-4 1/4"

Curve 30th & Union Ave  
53452  
5555  
8938

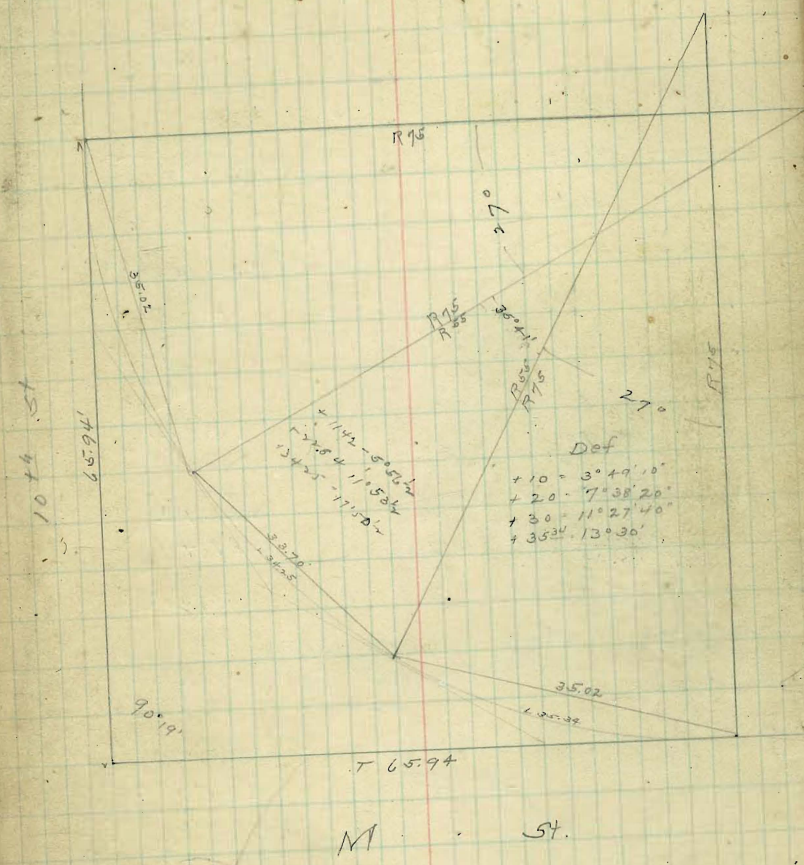


outside rail 95.775 = 95' - 11 1/2"  
" " " 91.560 = 91' - 6 3/4"

Δ 89° 38'  
Δ 75° 35'  
Δ 100° 03' 41"



Curve - 10<sup>th</sup> & M



Curve 30<sup>th</sup> & Ups No

Sta	Spiral Δ	CTR Curve R 60' Δ 90°
5.13	0°22'	Def T. 7624
10.27	05°22'	10 - 47746 4°46' 1/2 C.C. 63.46
15.40	1°38'	20 - 95492 9°33'
20.51	2°37 1/2'	30 - 143238 14°19'
25.64	3°51'	40 - 190984 19°06'
30.70	5°18 1/2'	50 - 238730 23°52 1/2'

Curve 30<sup>th</sup> & Ups - 50

Sta	Spiral Δ	Curve 30 <sup>th</sup> & Ups - 50
5.24	0°30'	10 54.29 5°43' 1/2" T. 63.94
10.47	1°15'	20 11.458 11°27 1/2'
15.70	2°20'	30 17.187 17°11'
20.92	3°46'	40 22.916 22°55'
26.10	5°30'	50 28.654 30°08 1/2'

Inside Curve 30<sup>th</sup> 50

Δ 90°06'  
T 63.93  
L 52.45

Outside Rail C.C. = 54.72 54' - 11 3/4"  
In " " " = 49.97 49' - 11 5/8"



Grades for Temporary track 27th to Bridge

196.97	196.60	3.62	52.5	43.5
3.40	3.25	196.83	21.9	40.0
200.46			21.9	
		39.7	83.0	
		6.0	14.4	
		33.3	39.7	27.2
		14.4	14.4	14.7
		4.7	5	42.6
		2.3	21.9	
		1.1	21.9	
			50.0	
		43.4	346.6	
		3.6		
		46.4		

E.L. 27th	196.60
+50	196.63
1	196.67
+50	196.70
2	196.73
+50	196.76
3	196.80
21.90 + 46.0	196.83

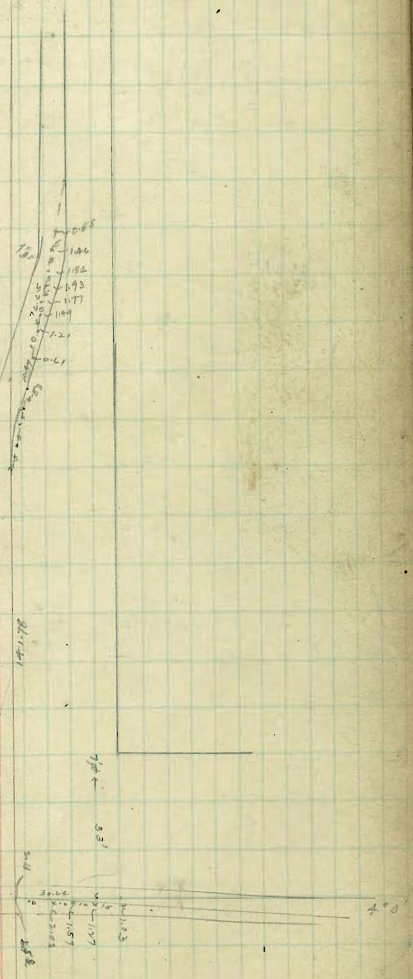
Temporary Grades for tracks from 27th to Bridge at 15 St

347	2300	6628
	2082	
	2180	
	2082	
	980	
	600	
	2860	
	2776	
	80.0628	
	47	
	41396	
	26852	
	141456	
	06628	
	02314	

196.97	196.63	196.67	196.70
3.86	4.20	4.16	4.13
200.83	196.80	196.76	196.73
	4.03	4.07	4.10

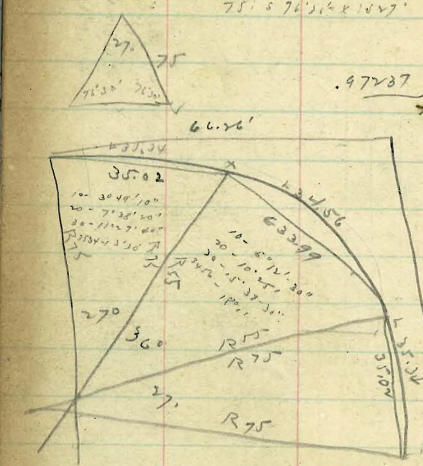
5° 17'	To 4.415	0.0107	46.4	196.60
2° 38'	23.070 ST.	E 0.533	45	0.3312
				196.63312
				196.6628
				196.69942
				196.73256
				196.76570
				196.79884
				03.112
				196.82998

5° 00'	04366	0.0095
8500	T 21.820	E 1.175





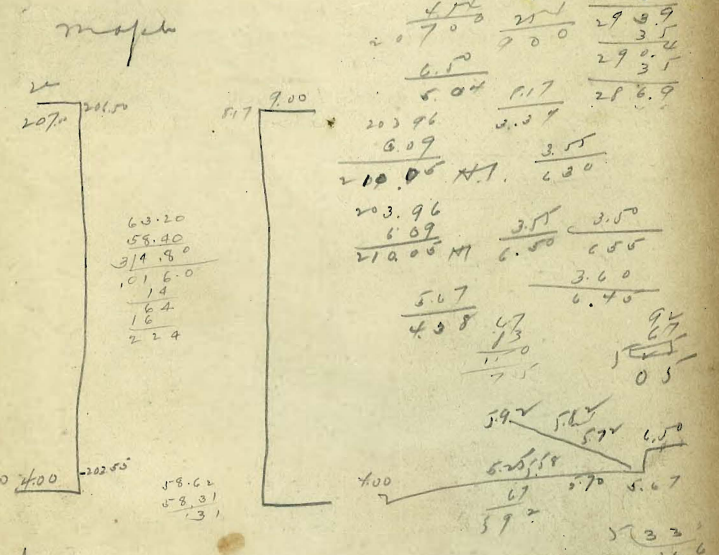
$4712389$   
 $23561945$   
 $32986723$   
 $853429195$



$75 \cdot 576318187$   
 $497237$   
 $34561800015208$   
 $17280$   
 $7200$   
 $6912$   
 $21800$   
 $22648$   
 $10 - 5.208 - 5012'30''$   
 $20 - 10.416 - 10'45''$   
 $30 - 15.624 - 15'37'30''$   
 $3453 17.995 - 18^{\circ}-0'$

Land Curve 108K  
 $20 - 7.64 - 7^{\circ}38'30''$   
 $30 - 14.6 - 11^{\circ}27'40''$   
 $35.34 13.50 - 13^{\circ}-30'$   
 $45399$   
 $75$   
 $72$   
 $226996$   
 $317795$   
 $3404925$   
 $291711$   
 $163000$   
 $487875$   
 $486185$   
 $163000$   
 $6283185$   
 $50$   
 $31415925$   
 $31415925$   
 $345576176$   
 $58779$   
 $55$   
 $293895$   
 $290890$   
 $3202045$   
 $2883185$   
 $379465$   
 $285318$   
 $94344$   
 $855950$   
 $875160$   
 $855950$   
 $192080$

~~200 1190 17~~  
 8  
 Laurel 203.96  
 $7.59$   
 $21.154$



Land  
 $400$   
 $300$   
 $587$   
 $6.00$   
 $40$   
 $5.5$   
 $570$   
 $5.67$   
 $533$   
 $0.66$



NE 19-66.901  
 63.93  
 15.58  
 6.80  
 6.47  
 20-84.479  
 21-  
 22-97.722  
 504 S.W. SPR  
 263  
 76.6  
 6.55  
 30.03  
 31.94  
 32.01  
 37.02  
 36.22  
 10<sup>th</sup> Street Benches  
 10<sup>th</sup> K-2003 NW  
 10<sup>th</sup> M 748 - NE  
 10<sup>th</sup> L 1411 - NW  
 B Street Benches  
 170 1.400  
 196.92  
 196.92  
 196.97  
 196.96  
 28.00  
 6.05  
 21.65

Published by H. S. CROCKER COMPANY, Stationers, Drawing  
 Materials, and Mathematical Instruments, San Francisco.

Table showing the difference of latitude and departure in  
 running 80 chains at any course from 1 to 60 minutes.

MINUTES.	LKS.	MINUTES.	LKS.	MINUTES.	LKS.
1	2 $\frac{1}{2}$	21	49	41	95 $\frac{1}{2}$
2	4 $\frac{1}{2}$	22	51 $\frac{1}{2}$	42	98
3	7	23	53 $\frac{1}{2}$	43	100 $\frac{1}{2}$
4	9 $\frac{1}{2}$	24	56	44	102 $\frac{1}{2}$
5	11 $\frac{1}{2}$	25	58 $\frac{1}{2}$	45	105
6	14	26	60 $\frac{1}{2}$	46	107 $\frac{1}{2}$
7	16 $\frac{1}{2}$	27	63	47	109 $\frac{1}{2}$
8	18 $\frac{1}{2}$	28	65 $\frac{1}{2}$	48	112
9	21	29	67 $\frac{1}{2}$	49	114 $\frac{1}{2}$
10	23 $\frac{1}{2}$	30	70	50	116 $\frac{1}{2}$
11	25 $\frac{1}{2}$	31	72 $\frac{1}{2}$	51	119
12	28	32	74 $\frac{1}{2}$	52	121 $\frac{1}{2}$
13	30 $\frac{1}{2}$	33	77	53	123 $\frac{1}{2}$
14	32 $\frac{1}{2}$	34	79 $\frac{1}{2}$	54	126
15	35	35	81 $\frac{1}{2}$	55	128 $\frac{1}{2}$
16	37 $\frac{1}{2}$	36	84	56	130 $\frac{1}{2}$
17	39 $\frac{1}{2}$	37	86 $\frac{1}{2}$	57	133
18	42	38	88 $\frac{1}{2}$	58	135 $\frac{1}{2}$
19	44 $\frac{1}{2}$	39	91	59	137 $\frac{1}{2}$
20	46 $\frac{1}{2}$	40	93 $\frac{1}{2}$	60	140

TABLE FOR RUNNING ON SLOPES.

In the following table the first column shows the angle, the second the  
 number of links to be added to a chain on the slopes, to make one  
 chain, horizontal measurement.

ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS
0		0		0		0	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24	9.47	35	22.07