

Engineers Office  
San Diego, Cal

400

LEVEL

F.B. 433

Rockwell  
Quartz

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	40 $\frac{1}{2}$	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

Crocker Quality

## LEVEL BOOK

No. 400



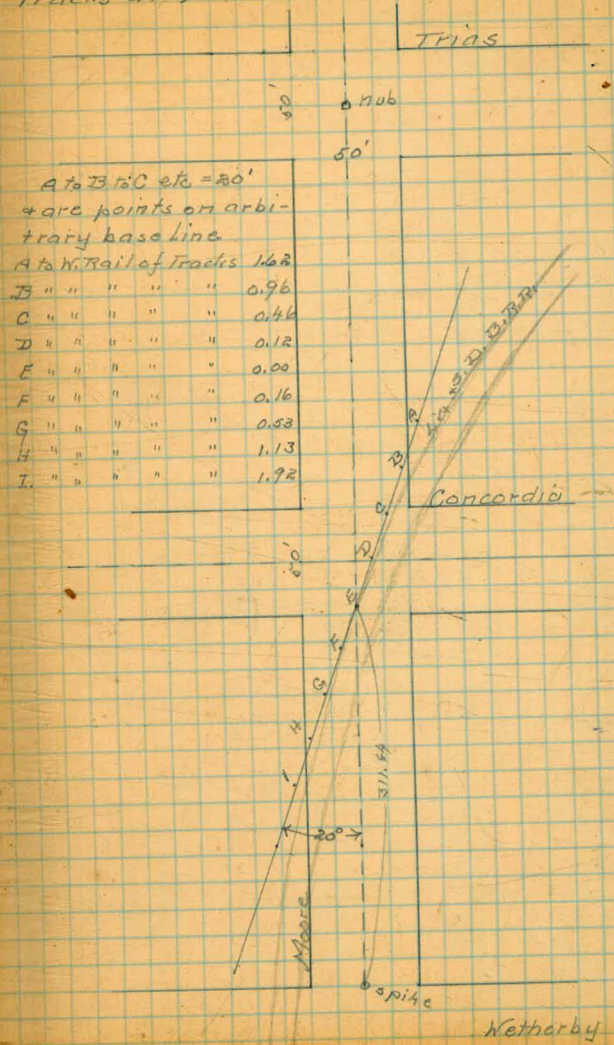
FROM  
Loring's Book Store

MANUFACTURED BY

A.S. Crocker Co.

SAN FRANCISCO  
and  
SACRAMENTO

Platt showing Location of La Jolla  
tracks at Moore & Concordia Sts.



LEVEL BOOK

No. 400



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W. B. CHANDLER  
SAN FRANCISCO

351.42 B777 Spk Pale NW Mad - Blvd.

340.11 Cr lower Cement Stp. Home NW Cor.  
Rhode Island - Madison

311.88 Hut SF Garfield - Madison  
Park.

North Ave

Campus

Cleveland

Maryland

Delaware

New York

Rhode Island

Massachusetts

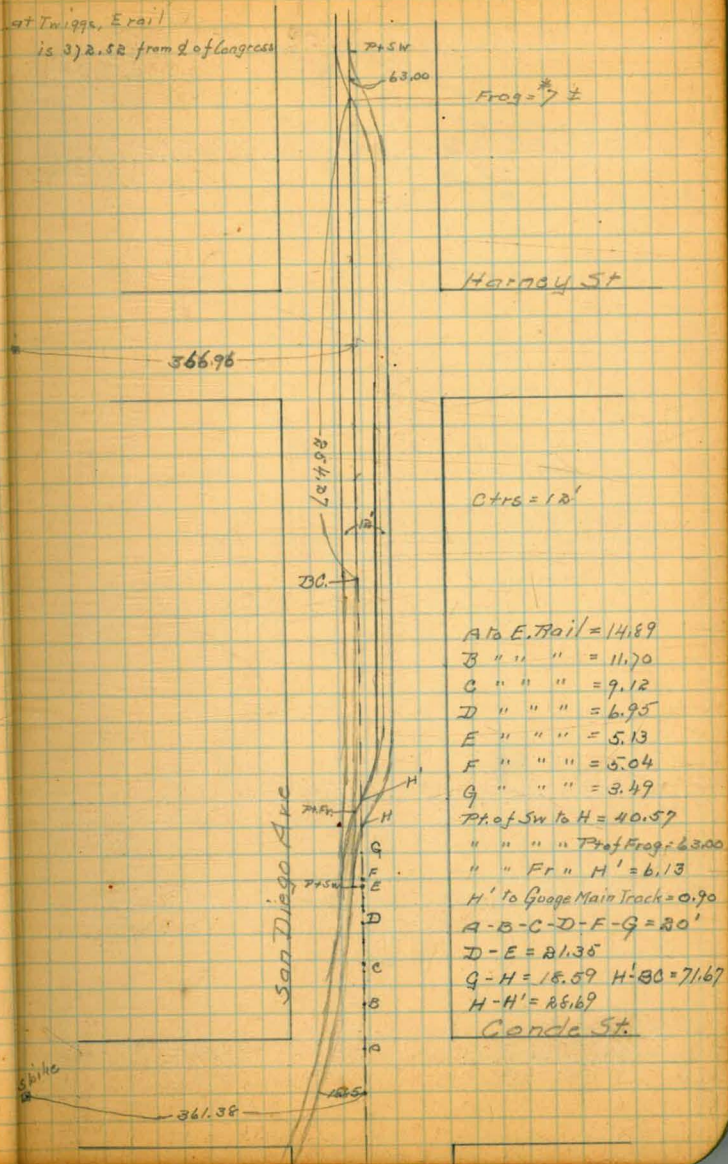
New Hampshire

Garfield

Location of La Jolla tracks on San Diego Ave  
Old Town.

at Twigg's, E rail

is 372.52 from 2 of Langress



Frog = 7.5

Hornay St

366.96

124.98

Ctr = 12'

DC

A to E, Rail = 14.89

B " " " = 11.70

C " " " = 9.12

D " " " = 6.95

E " " " = 5.13

F " " " = 5.04

G " " " = 3.49

TR of Sw to H = 40.57

" " " " " Prof Frog = 63.00

" " Fr " H' = 6.13

H' to Gauge Main Track = 0.90

A-B-C-D-F-G = 30'

D-E = 21.35

G-H = 15.59 H'-B0 = 71.67

H-H' = 28.69

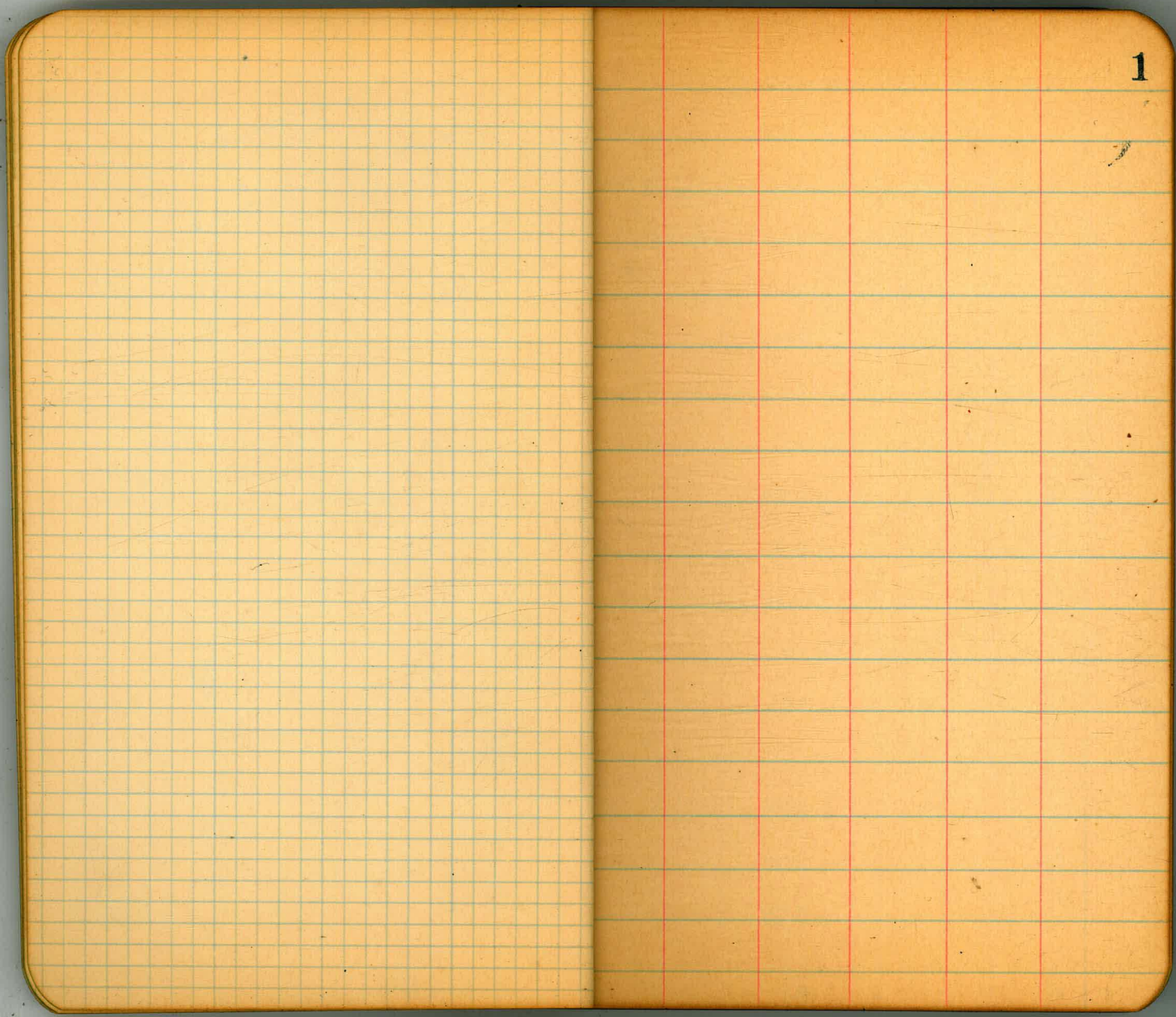
Conde St.

San Diego Ave

White

361.38





Wattelsey  
Taylor  
Churchman

Section of Conde St

Congress to Juan

E. Line of Congress (40.524) *Out. Tail 27*  
0.63 41.15 11.43 27.78

TP 3.05 32.77 18.42 20.35

N 9.11 29.46 10.10

C 9.80

1/4 9.40

2 P 8.80

1/4 8.70

C 8.70

S 8.70

50' E of Congress

S 7.50

C 7.80

1/4 7.60

2 7.90

1/4 8.00

C 8.60

N 19.00

100' E of Congress

N 6.20

C 6.60

1/4 6.20

2 6.10

1/4 5.80

C 5.30

S 5.10

127' E of Congress = W.L. of Church

S 4.50

C 6.20 P

1/4 5.30

2 5.30

1/4 5.20

C 5.00

N 5.00

All streets in Old Town = 50' wide except San -

Diego Ave which is 75' wide (s.g.h.)



## 150' E of Congress

N	29.46	4.50
C		4.70
1/4		4.70
⊕		4.80
1/4		5.00
15		

## 284' E of Congress = E. of Church

S		3.40
C		3.50
1/4		2.90
⊕		2.80
1/4		2.90
C		3.30
N		3.60

## 200' E of Congress

N		3.40
C		3.30
1/4		3.20
⊕		3.00
1/4		2.90
C		2.80
S		2.60

## 250' E of Congress

S		2.00
C		2.10
1/4		2.20
⊕		2.10
1/4		2.20
C		2.20
N		2.10

300' E of Congress = W. of San Diego Ave

N	29.46	0.40	
C		0.50	
1/4		0.50	
ϕ		0.50	
1/4		0.40	
C		0.40	
S		0.00	
HP	2	0.00	29.46

2' N. of La Jolla tracks (For location of tracks see page 279)

S	8.43	37.89	6.40
C			6.40
1/4			6.30
ϕ			6.30
1/4			6.40
C			6.40
N			6.40

W. Trail of Tracks

N	5.83
C	5.83
1/4	5.83
ϕ	5.82
1/4	5.80
C	5.79
S	5.78

2' E of Track

S	5.80
C	5.90
1/4	5.60
ϕ	5.70
1/4	6.00
C	6.00
N	6.30

superior = 0.40

## E' E of E. rail of Track

N	37.67	8.30
C		8.20
1/4		8.10
1/2		8.00
3/4		8.10
C		8.50
S		8.30

## W 1/4 of San Diego Arc

S		6.20
C		6.50
1/4		6.60
1/2		6.70
3/4		6.30
C		6.90
N		6.60

## 1/2 of San Diego Arc

N		5.60
C		5.50
1/4		5.30
1/2		5.20
3/4		5.20
C		5.20
S		5.20

## E 1/4 of San Diego Arc

S		7.20
C		7.30
1/4		7.60
1/2		7.80
3/4		7.80
C		8.00
N		8.10

## E. Curb of San Diego Arc

N	37.89	6.90
C		6.80
1/4		6.70
1/2		6.50
3/4		6.40
C		6.20
S		6.00

## E. L. of San Diego Arc

S		0.90
C		6.00
1/4		6.20
1/2		6.40
3/4		6.60
C		6.80
N		6.90

## 50' E of San Diego Arc

N		4.80
C		4.70
1/4		4.70
1/2		4.50
3/4		4.20
C		3.70
S		3.50

## 100' E. of San Diego Arc

S		0.90	
C		1.40	
1/4		1.50	
1/2		1.70	
3/4		2.10	
C		1.90	
N		2.20	
T.P.		0.52	37.37

185' E of San Diego Ave  
37.37

N	12.33	49.70	12.30
C			12.10
1/4			12.10
2			11.50
1/4			11.30
C			10.90
S			9.70

150' E of San Diego Ave

S			8.00
C			5.50
1/4			6.90
2			7.60
1/4			8.10
C			8.10
N			10.10
TP		0.00	49.70

200' E of San Diego

7

N		49.70	0.70	(49.70)
C	12.14	62.84	13.40	
1/4			12.40	
2			11.40	
1/4			9.50	
C			9.50	
S			8.30	
TP			0.41	62.13

250' E of San Diego

S	12.46	74.89	5.00	
C			5.00	P
1/4			5.50	
2			7.60	
1/4			9.00	
C			10.00	
N			11.70	
TP			1.33	73.56

300' E of San Diego (2356)

N	13.22	8678	4.20	
C			3.20	
1/4			2.80	
1/2			1.50	
3/4			0.20	
TP			0.29	8649
C	13.20	99.69	12.30	
S			11.10	
TP			0.70	9699

350' E of San Diego

S	13.11	112.10	5.60	
C			6.30	
1/4			6.60	
1/2			7.60	
3/4			8.00	
C			9.20	
N			10.40	
TP			0.96	111.14

400' E of San Diego (11.14)

N	12.33	123.47	7.00	
C			6.60	
1/4			5.80	
1/2			5.20	
3/4			5.50	
C			5.30	
S			5.00	

450' E of San Diego = E. of Jean

S			5.50	
C			6.10	
1/4			6.60	P
1/2			6.90	
3/4			7.40	
C			8.00	
N			9.10	
TP				

TP 123.47 13.11 110.36

0.47 110.83 13.02 97.81

0.40 98.81 13.23 84.98

2.60 87.68 13.00 74.38

0.53 74.71 12.03 62.88

12.66 60.28

P

7. 10. 1949

Xsection of HARNEY ST - Juan to Congress <sup>9</sup>

445± E of S.D. Ave. W. L. of Juan St (62.68)

N 4.63 67.51 5.00 42.5

C 4.60

1/4 3.90

2 2.60 44.9

1/4 1.60

C 0.80

S 7.020 67.70

400' E of S.D. Ave

S 8.20 59.3

C 9.00

1/4 9.20

2 9.30 58.2

1/4 9.30

C 9.40

N PLOTTED 9.60 57.9

PLOTTED

X

350' E of S.D. Arc

N	67.51	14.10	53.4
C		14.10	
1/4		14.20	
2		14.20	53.3
1/4		14.30	
C		14.20	
S		13.50	54.0
TP		13.11	54.40

300' E of S.D. Arc

S	0.47	54.57	5.60	49.3
C		5.40		
1/4		5.50		
2		5.50	49.4	
1/4		5.50		
C		5.30		
N		5.10	49.8	

PLOTTED

200' E of S.D. Arc

N	54.57	8.50	44.4
C		8.90	
1/4		9.30	
2		9.50	45.4
1/4		9.50	
C		9.40	
S		9.40	45.5

200' E of S.D. Arc

S		11.70	43.2
C		12.00	
1/4		12.20	
2		12.10	42.8
1/4		11.90	
C		11.90	
N		11.60	43.1
TP		13.15	41.72



150' E of S.D. Arc 4172

N	0.24	41.96	1.20	40.8
C			1.60	
1/4			1.70	
℄			1.60	40.4
1/4			1.50	
C			1.40	
S			1.20	40.9

100' E of S.D. Arc

S			3.50	38.5
C			3.60	
1/4			3.60	
℄			3.60	38.4
1/4			3.60	
C			3.50	
N			3.60	38.4

PLOTTED

4190

50' E of S.D. Arc

11

N			5.90	36.1
C			6.00	
1/4			6.10	
℄			6.00	34.0
1/4			5.90	
C			5.70	
S			5.70	34.3

E. L. of San Diego Arc

S			8.60	33.4
C			8.80	
1/4			9.00	
℄			8.80	33.2
1/4			9.00	
C			9.20	
N			9.20	32.8

71' 5"

X

4196

12

E. Curb of S. D. Ave

N	41.96	9.50	32.5
C		9.60	
1/4		9.50	
E		9.30	32.7
1/4		9.20	
C		9.10	
S		9.10	32.9

E. of Siding (L.A. &amp; S.D.B. Ry)

S		9.70	32.3
C		9.80	
1/4		9.80	
E		9.80	32.2
1/4		9.80	
C		9.80	
N		9.70	32.3

PLOTTED

W. Rail of Siding

N		9.60	32.2
C		9.78	
1/4		9.78	
E		9.73	32.3
1/4		9.75	
C		9.82	
S		9.75	32.3

W. Rail of Main track

S		9.64	32.32
C		9.64	
1/4		9.65	
E		9.66	32.30
1/4		9.67	
C		9.70	
N		9.70	32.24

JUN 1 1909

## a'W of Siding

N	41.96	10.50	31.4
C		10.50	
1/4		10.60	
1/2		9.90	32.1
3/4		9.80	
C		9.80	
S		9.80	32.2

## W. 1/4 of S.D. Arc

S		10.50	31.5
C		10.40	
1/4		10.30	
1/2		10.30	31.7
3/4		10.30	
C		10.20	
N		10.40	31.6

PLOTTED

4196  
W. Corb of S.D. Arc

13

N		10.90	31.1
C		10.70	
1/4		10.70	
1/2		10.80	31.2
3/4		10.60	
C		10.90	
S		10.90	31.1 X

## W. 1/4 of S.D. Arc

S		11.80	30.2
C		12.00	
1/4		12.00	
1/2		12.30	29.7
3/4		12.20	
C		12.10	
N		11.90	30.1

## 50' W of S.D. Arc

N	41.96	12.70	29.3
C		12.90	
1/4		12.60	
ϕ		13.10	28.9
1/4		13.30	
C		13.20	
S		12.90	29.1
TR		13.16	28.60

## 100' W. of S.D. Arc

S	1.54	30.34	3.00	27.3
C		3.00		
1/4		3.30		
ϕ		3.40	24.9	
1/4		3.40		
C		3.50		
N		3.60	24.8	

PLOTTED

## 150' W of S.D. Arc

N	30.34	4.30	24.0
C		4.50	
1/4		4.70	
ϕ		4.80	25.5
1/4		5.00	
C		5.20	
S		5.10	25.3

## 200' W of S.D. Arc

S		6.10	24.2
C		6.00	
1/4		6.70	
ϕ		5.90	24.4
1/4		5.60	
C		5.30	
N		5.00	25.3

200' W of S.D. Arc

N	30.24	6.70	23.6
C		6.90	
1/4		7.20	
2		7.10	23.7
1/4		7.10	
C		6.50	
S		6.50	23.5

300' W of S.D. Arc = E.L. of Congress

S		7.30	23.0
C		7.60	
1/4		7.60	
2		7.50	22.8
1/4		7.60	
C		7.60	
N		7.30	23.0
T.P.		6.50	23.84

PLOTTED

PLOTTED

X section of Triggs St - Congress to Juan 15

E.L. of Congress (23.84)

S	6.64	30.48	8.00	22.48
C			8.60	
1/4			8.50	
2			8.70	21.78
1/4			8.90	
C			8.90	
N			8.50	21.98

50' E of Congress

N			8.30	22.18
C			8.10	
1/4			8.10	
2			8.10	22.38
1/4			8.20	
C			8.10	
S			8.20	22.28

## 100' E of Congress

S	40	30.45	7.10	23.38
C			7.20	
1/4			7.20	
2			7.80	23.68
1/4			6.70	
C			6.60	
X			6.60	23.88

## 150' E of Congress

X			5.80	24.68
C			6.10	
1/4			6.10	
2			6.10	24.38
1/4			6.00	
C			5.90	
S			5.90	24.58

## 200' E of Congress

S			3.50	26.98
C			3.80	
1/4			4.10	
2			4.40	26.08
1/4			4.30	
C			4.10	
X			4.00	26.48

## 250' E of Congress

X			2.50	27.68
C			2.50	
1/4			3.00	
2			2.80	27.68
1/4			2.40	
C			2.00	
S			1.80	28.68

## 300' E of Congress = W. h. of S. D. Arc

S	30.48	0.40	30.08
C		1.00	29.48
1/4		0.60	29.88
♀		0.70	29.78
1/4		0.80	
C		1.10	
N		1.30	29.18
TR		0.21	30.27

## N. Curb of S. D. Arc

N	13.05	43.32	14.10	29.27
C			14.00	
1/4			13.70	
♀			13.40	29.97
1/4			13.30	
C			13.30	
S			13.10	30.22

## N. 1/4 of S. D. Arc

17

S	43.32	13.00	30.32
C		13.00	
1/4		13.10	
♀		13.20	30.12
1/4		13.30	
C		13.50	
N		13.70	29.62

## 2' W of tracks

N		13.60	29.72
C		13.30	
1/4		13.30	
♀		13.20	30.12
1/4		13.30	
C		13.30	
S		13.20	30.12

## N. Rail of La Jolla tracks

S	43.32	12.40	30.9v
C		12.48	
1/4		12.55	
1/2		12.64	30.68
3/4		12.73	
C		12.80	
N		13.02	30.30

## S. E. of La Jolla tracks

N		12.40	29.9v
C		13.20	
1/4		13.20	
1/2		13.00	30.3v
3/4		13.00	
C		13.10	
S		13.10	30.2v

## E. Curb of S. D. Arc

S		11.40	31.9v
C		11.40	
1/4		11.40	
1/2		11.50	31.8v
3/4		11.60	
C		12.00	
N		12.70	30.6v

## E. L. of S. D. Arc

N		11.70	31.6v
C		11.10	
1/4		10.50	
1/2		10.60	32.7v
3/4		10.60	
C		10.50	
S		10.50	32.8v



## 50' E of S.D. Arc

S	43.32	9.20	34.1
C		9.30	
1/4		9.30	
φ		9.30	
1/4		9.30	
C		9.50	
N		9.90	33.4

## 100' E of S.D. Arc

N		7.70	35.6
C		7.90	
1/4		7.90	
φ		7.80	
1/4		7.90	
C		7.70	
S		7.40	35.9

## 150' E of S.D. Arc

S		5.60	37.7
C		5.70	
1/4		5.80	
φ		6.00	
1/4		6.00	
C		6.10	
N		6.20	37.1

## 160' E of S.D. Arc = W.L. Couts = 40' Wide

N		6.00	37.3
C		5.70	
1/4		5.60	
φ		5.40	37.9
1/4		5.40	
C		5.30	
S		5.20	38.1

## E of Couts

S	43.32	57.20	38.1
C		5.40	
1/4		5.70	
ϕ		5.90	
1/4		6.30	
C		6.40	
N		6.90	36.4

## E. L. of Couts

N		5.40	37.9
C		4.70	
1/4		4.50	
ϕ		4.30	
1/4		4.00	
C		3.80	
S		3.80	39.5

## 50' E of Couts

S		0.90	42.4
C		1.10	
1/4		1.50	
ϕ		1.60	
1/4		1.80	
C		2.00	
N		1.90	41.4
T.P.		0.02	43.30

## 100' E of Couts

N	10.13	53.43	9.30	44.1
C			9.80	
1/4			9.00	
ϕ			8.70	
1/4			8.30	
C			7.70	
S			7.20	46.2

## 150' E of Couts

S	53.43	3.70	49.7
C		4.20	
1/4		4.60	
2		5.10	
1/4		5.50	
C		6.00	
N		6.40	47.0

## 200' E of Couts

N		3.40	50.0
C		2.80	
1/4		2.40	
2		2.10	
1/4		1.70	
C		1.30	
S		0.40	53.0
TP		1.54	51.89

245' E of Couts = W.L. of Juan  
51.69

21

S	5.42	57.31	1.40	55.9
C			2.20	
1/4			2.80	
2			3.70	
1/4			4.70	
C			5.40	
N			6.00	51.3
TP			5.42	51.89
TP	0.34	52.23	13.25	38.98
TP	1.11	40.09	10.56	29.53
B.M.	6.02	35.55	2.68	32.87
	0.69	30.22	10.77	19.45
	0.11	19.56	7.01	12.55
	0.23	12.78		

OT, Choh

32.88

X section of Taylor St - Fitch to Sta F track

W. of Fitch

N	12.78	11.70
C		11.70
1/4		12.10
1/2		12.30
3/4		11.70
C		11.70
S		11.20

VOID

SEE PAGE 21

50' W of Fitch

S		12.00
C		11.80
1/4		11.60
1/2		11.60
3/4		12.20
C		12.30
N		12.00

NB

100' W of Fitch

N	12.40
C	12.50
1/4	12.50
1/2	12.40
3/4	12.40
C	12.50
S	12.80

T

150' W. of Fitch

S	11.80
C	12.40
1/4	12.50
1/2	12.50
3/4	12.50
C	12.60
N	12.70

185' N of Fish = E.L. 1st of May

N	12.78	12.60
C		12.20
1/4		12.10
Φ		12.10
1/4		12.10
C		11.80
S		11.50

194' W of Fish

S		6.70
C		6.90
1/4		7.00
Φ		6.90
1/4		7.20
C		7.20
N		7.20

2' E of La Jolla tracks

N		7.30
C		7.10
1/4		7.00
Φ		7.00
1/4		6.90
C		6.80
S		6.60 6.03

W. Rail of La Jolla tracks = 204' W. of

S		5.82
C		6.00
1/4		6.10
Φ		6.24
1/4		6.41
C		6.50
N		6.60

25  
21' N of La Jolla tracks

N	12.18	7.20
C		7.10
1/4		7.00
φ		6.80
1/4		6.80
C		6.70
S		6.70

212' W of Fitch

S		6.90
C		6.70
1/4		6.80
φ		6.90
1/4		7.00
C		7.30
N		7.30

217' N of Fitch

24

N		10.80
C		11.00
1/4		10.60
φ		10.80
1/4		11.00
C		11.50
S		11.10

250' W of Fitch

S		11.40
C		11.20
1/4		11.00
φ		10.80
1/4		11.00
C		11.80
N		12.10

270' W of Fitch

N	10.90
C	12.40
1/4	12.30
φ	12.20
1/4	11.80
C	11.60
S	11.00

(see sketch front  
of Book) on Line AB - 17' from Sta Fe tracks

S	9.80
C	10.00
1/4	10.10
φ	10.70
1/4	11.20
C	11.10
N	10.90

2' E of Sta. Fe tracks

N	7.80
C	7.70
1/4	7.80
φ	7.80
1/4	7.80
C	7.90
S	7.90

W. Rail of Santa Fe tracks

S	7.37
C	7.35
1/4	7.35
φ	7.35
1/4	7.35
C	7.35
N	7.34

25

Re-section of Taylor St Fitch to State tracks

N. side of Fitch - Taylor = 100' wide  
12.55

N 0.18 12.73 11.40

C 11.40

1/4 11.60

1/2 12.00

3/4 12.50

C 11.50

S 11.30

16' walls 12 1/2

50' W of Fitch

S 11.90

C 11.70

1/4 11.50

1/2 12.30

3/4 12.00

C 11.50

N 11.80

X

100' W. of Fitch

N 12.00

C 12.40

1/4 12.40

1/2 12.30

3/4 12.50

C 12.30

S 12.10

150' W of Fitch

S 11.70

C 12.30

1/4 12.40

1/2 12.40

3/4 12.40

C 12.30

N 12.40

X



185' W of Fitch

N	12.73	12.40
C		12.50
1/4		12.20
Φ		11.90
1/4		11.90
C		12.20
S		11.70

195' W of Fitch = E. of Garden Place

S		6.60
C		6.70
1/4		6.70
Φ		7.00
1/4		7.20
C		7.30
N		7.40

20' W of La Jolla Tracks

N		7.30
C		7.30
1/4		7.10
Φ		7.00
1/4		6.80
C		6.70
S		6.50

W. Rail of La Jolla tracks

S		6.80
C		6.82
1/4		6.80
Φ		6.41
1/4		6.52
C		6.65
N		6.76

## 2' W. of tracks

N	12.73	7.60
C		7.30
1/4		7.20
1/2		7.00
3/4		6.90
C		6.90
S		6.70

## 15' W. of E.L. of Garden Pl. = 6' W. of W. Trail

S		6.80
C		6.60
1/4		6.80
1/2		7.20
3/4		7.50
C		7.40
N		7.80

## W.L. of Garden Place

N		12.30
C		11.80
1/4		11.70
1/2		11.40
3/4		11.30
C		11.40
S		11.50

## 23' W. of Garden place

S		11.20
C		10.90
1/4		10.80
1/2		11.90
3/4		12.30
C		11.10
N		10.40

on Line A-B (see sketch front of Book)

N	12.73	10.40
C		10.30
1/4		10.30
Φ		10.60
1/4		10.90
C		10.50
S		10.00

2' W of Sta Fc tracks

S		7.90
C		7.90
1/4		7.50
Φ		7.90
1/4		7.70
C		7.70
N		7.80

W. Trail of Sta Fc tracks

N		7.25
C		7.30
1/4		7.30
Φ		7.30
1/4		7.31
C		7.31
S		7.33

λ

1/2 Hatch  
15 Moore  
19 Deziel

X sec. Madison  
Park Blvd to Garfield

Note { All elevations are a.1 high  
by change in bench  
35568

NW Madison + Park Blvd.

BM Sph. Pole 126 355.68 351.42

W. Park Blvd.

S	5.1	350.6
cb	5.2	350.5
1/4	5.3	350.4
c	5.0	350.7
1/4	5.2	350.5
cb	4.8	350.9
N	5.2	350.5

25 W

A	4.0	351.7
cb	3.7	352.0
	4.0	351.7
+7	3.0	350.7
1/4	5.1	350.6
c	4.8	350.9
1/4	5.1	350.6
cb	5.2	350.5
S	5.2	350.5

POSTED

100 W

S	5.2	350.5
cb	6.0	350.7
1/4	4.8	350.9
c	4.7	351.0
1/4	5.0	350.7
cb	5.1	350.6
N	5.1	350.6
N	3.6	352.1
cb	3.0	350.6
1/4	5.1	350.6
c	4.6	351.1
1/4	4.6	351.1
cb	4.9	351.8
S	5.2	350.5

POSTED

35568

140' W

S	4.8	350.9
cb	4.8	350.9
1/4	4.5	351.2
c	4.4	351.3
1/4	4.9	350.8
cb	5.0	350.7
N	4.4	351.3

160' W

N	4.5	351.2
cb	4.8	350.9
1/4	4.8	350.9
c	4.4	351.3
1/4	4.7	351.0
cb	4.6	351.1
S	4.6	351.1

35568

200' W

S	4.5	351.2
cb	4.6	351.1
1/4	4.4	351.3
c	4.4	351.3
1/4	4.5	351.2
+4	4.0	351.7
cb	3.7	352.0
N	4.0	351.7

250' W

N	4.2	351.5
cb	3.7	352.0
1/4	4.1	351.6
c	3.8	351.9
1/4	4.1	351.6
cb	4.3	351.4
S	4.3	351.4

35368

300' W = EL. North Ave.

S	39	351.8
cb	39	351.8
1/2	4.3	351.4
c	39	351.8
1/4	3.8	351.9
cb	3.8	351.9
N	3.6	352.1

W. North Ave

N	1.9	353.8
cb	3.4	352.3
1/2	4.0	351.7
c	3.5	352.2
1/4	3.8	351.9
cb	2.5	353.2
S	3.2	352.5
T.T.	5.49	357.64
	3.53	352.15

35764

50' W

S	53	352.3
cb	54	352.2
1/2	52	352.4
c	49	352.7
1/4	49	352.7
cb	48	352.8
N	49	352.7

100' W

N	52	352.4
cb	43	353.6
1/2	{ 4.4 5.2	{ 353.2 352.4
1/4	5.2	352.4
c	49	352.7
1/4	50	352.6
cb	5.5	352.1
S	4.6	353.0

32

35764

140' W

S	4.2	353.4
cb	5.2	352.4
1/4	5.0	352.6
c	4.8	352.8
1/4	5.2	352.4
cb	5.1	352.5
N	5.1	352.5

160' W

N	5.1	352.5
cb	5.1	352.5
1/4	5.7	352.5
c	4.6	353.0
1/4	4.6	353.0
cb	4.7	352.9
S	4.7	352.9

35764

200' W

N	4.5	353.1
cb	4.8	352.8
1/4	4.9	352.7
c	4.6	353.0
1/4	5.0	352.6
1/4	4.6	353.0
cb	4.5	353.1

S	POSTED	5.2	352.4
---	--------	-----	-------

350' W

S	5.1	352.5
cb	4.7	352.9
1/4	5.0	352.2
c	5.0	352.8
1/4	5.2	352.4
cb	5.3	352.3
N	4.5	353.1

POSTED

357.64

300' W = El. Campus

S	46	353.0	
B.M.	501	3526.3	Voluntary level 352.53
cb	49	352.8	
1/4	53	352.3	
c	51	352.5	
1/4	54	352.2	
cb	47	352.9	
N	43	353.3	

WL Campus

N	59	351.7	
cb	56	352.0	
1/4	52	352.4	
c	51	352.5	
1/4	56	352.0	
cb	58	351.9	
S	54	352.2	

357.64

50' W

S	62	351.4	
cb	63	351.3	
1/4	61	351.5	
c	61	351.5	
1/4	63	351.3	
cb	57	351.9	
N	66	352.0	

100' W

N	68	350.8	
cb	60	351.6	
79	57	351.9	
1/4	65	351.1	
c	62	351.4	
1/4	64	351.2	
cb	65	351.1	
S	66	351.0	



357.64

140' W

S	6.9	350.7
cb	7.0	350.6
1/4	6.5	351.1
c	6.8	350.8
1/4	6.8	350.8
cb	6.8	350.8
N	7.0	350.6

160' W

N	7.0	350.6
cb	7.2	350.4
1/4	7.2	350.4
c	7.0	350.6
1/4	7.2	350.4
cb	7.3	350.3
S	7.3	350.3

T.T.	2.77	354.09	6.32	357.32
------	------	--------	------	--------

354.09

200' W

S	3.6	350.5
cb	3.8	350.3
1/4	3.6	350.5
c	3.7	350.4
1/4	3.9	350.2
cb	3.2	350.9
N	3.3	350.8

280' W

N	4.2	349.9
cb	4.5	349.6
1/4	4.6	349.5
c	4.0	350.1
1/4	3.6	350.3
cb	4.3	349.8
S	4.9	349.2

POSTED

35409

500' W = EL. Cleveland

S	4.3	349.8
cb	4.7	349.4
1/4	4.5	349.6
c	4.4	349.7
1/4	4.9	349.2
cb	5.1	349.0
N	4.4	349.7

WL. Cleveland

N	5.1	349.0
cb	5.3	348.8
1/4	5.0	349.1
c	4.4	349.7
1/4	5.1	349.0
cb	5.1	349.0
S	5.0	349.1

35409

50' W

S	5.2	348.9
cb	5.3	348.8
1/4	4.9	349.2
c	4.8	349.3
1/4	5.2	348.9
cb	5.3	348.8
N	4.9	349.2

100' W

N	5.5	348.6
cb	5.6	348.5
1/4	5.2	348.9
c	4.7	349.4
1/4	5.1	349.0
cb	5.3	348.8
S	5.6	348.5

35409

140' W

S	5.2	348.9
cb	5.2	348.9
1/4	5.4	348.7
c	5.1	349.0
1/4	5.3	348.8
cb	5.4	348.7
N	5.4	348.7

160' W

N	5.4	348.7
cb	4.5	349.6
1/4	5.2	348.9
c	5.0	349.1
1/4	5.5	348.6
cb	5.7	348.4
S	5.9	348.2

35409

200' W

S	5.5	348.6
cb	6.9	347.2
1/4	5.6	348.5
c	5.1	349.0
1/4	5.4	348.7
cb	5.6	348.5
N	5.1	349.0

250' W

N	3.9	350.2
cb	3.8	350.3
1/4	4.2	349.9
1/4	5.6	348.5
1/4	5.7	348.4
c	5.3	348.8
1/4	5.6	348.5
cb	5.8	348.3
S	6.2	347.9

POSTED

35209

300 W = EL. Maryland

S	64	347.7
cb	53	348.8
1/4	59	349.2
c	56	348.5
1/4	59	348.2
cb	56	348.5
N	58	348.3

E cb. Maryland

N	6.1	348.0
cb	6.2	347.9
1/4	5.9	348.2
c	6.4	348.7
1/4	5.6	348.5
cb	6.3	347.8
S	6.2	347.9

35209

E 1/2 Maryland

S	6.7	347.4
cb	6.4	347.7
1/4	6.0	348.1
c	5.9	348.2
1/4	5.8	348.3
cb	6.5	348.3
N	5.9	348.2

c.

N	5.5	348.6
cb	5.3	348.6
1/4	5.5	348.6
c	5.6	348.5
1/4	5.6	348.5
cb	6.1	348.0
S	6.2	347.9

35409

N. 1/2 Maryland

S	6.7	347.4
cb	6.5	
1/4	5.8	
c	6.2	347.9
1/4	6.2	
cb	6.2	
N	6.2	347.9

N. cb

N	3.9	350.2
cb	5.9	
1/4	6.3	
c	5.9	348.2
1/4	4.5	
cb	4.9	
S	6.7	347.4

35409

N. 1/2 Maryland

S	7.3	346.8
cb	6.3	347.8
1/4	5.4	348.7
c	5.8	348.3
1/4	6.4	347.7
cb	6.9	347.2
N	6.2	347.9

N. 1/2

N	6.6	347.5
cb	7.3	346.8
1/4	6.9	347.2
c	6.5	347.6
1/4	6.9	347.2
cb	6.3	347.8
S	5.2	348.9

38

POSTED

35209  
100' W

S	8.2	345.9
cb	7.8	346.3
1/2	6.6	347.5
c	7.1	347.0
1/4	7.5	346.6
cb	7.3	346.8
N	7.6	346.5

140' W

N	8.3	345.8
cb	7.0	347.1
+7	6.4	347.7
1/4	8.0	346.1
c	7.5	346.6
1/4	7.5	346.6
cb	8.4	345.7
S	8.6	345.5

35209  
160' W

S	7.8	346.3
cb	6.9	347.2
1/2	7.4	346.7
c	8.0	346.1
1/2	8.2	345.9
cb	7.7	346.4
N	8.4	345.7

200' W

N	8.6	345.5
cb	8.6	345.5
1/2	8.5	345.6
c	8.1	346.0
1/2	7.4	346.7
cb	8.6	345.5
S	9.0	345.1
TR	192	347.83
	818	345.91

39

POSTED

34783

250' W

S	2.8	345.0
cb	1.2	346.6
1/2	1.6	346.2
c	2.2	345.6
1/4	2.5	345.3
cb	2.6	345.2
N	2.7	345.1

300' W = EL Delaware

N	1.5	346.3
cb	2.3	345.5
1/2	2.9	344.9
c	2.4	345.4
1/4	2.4	345.4
cb	3.6	344.2
S	3.6	344.2

from El. Delaware the hands, halves of  
Madison are sectioned separately.

34753

40

E of Delaware (south)

S	3.6	344.2
cb	3.4	344.4
1/2	1.8	346.0
c	2.5	345.3
	E 1/4	
c	2.6	345.2
1/2	2.4	345.4
cb	3.0	344.8
S	3.2	344.8
	c	
S	2.9	344.9
cb	2.6	345.2
1/4	2.1	346.7
c	2.5	345.3
	W 1/4	
c	2.8	345.0

34783

1/4		2.5	345.2
cb		3.0	344.8
s		3.9	344.4
	1/4 cb		
s		4.0	343.8
cb		3.0	344.8
1/4		2.4	345.4
c		2.9	344.9
	WL		
e		3.0	344.8
1/4		3.5	344.3
cb		3.9	343.9
s		4.2	343.6
	50' W of Delaware		
s		4.2	343.6
cb		4.1	343.7
1/4		3.1	344.7
c		3.5	344.3

34783

41

	100' W		
e		4.1	343.7
1/4		3.1	344.7
cb		4.0	343.8
s		5.3	342.5
	140' W		
s		4.0	343.4
cb		5.1	342.7
1/4		3.9	343.9
e		4.3	343.5
	160' W		
e		4.4	343.4
1/4		4.7	343.1
cb		5.3	342.5
s		5.2	342.6
	200' W		
s		5.9	341.9

POSTED



347.83

cb	5.5	342.3
1/4	5.0	342.8
0	4.7	344.1
200' W		
c	5.1	342.7
1/4	5.8	342.0
cb	4.4	343.4
s	4.5	343.3
200' W = EL New York		
s	6.7	341.1
cb	5.3	342.5
1/4	5.5	342.3
c	5.8	342.0
E cb New York		
c	5.9	341.9
1/4	5.3	342.5
cb	6.0	341.8

347.83

42

s	6.2	341.6
E 1/4		
s	6.1	341.7
cb	5.5	342.0
1/4	5.6	342.2
c	6.0	341.8
cr		
c	6.0	341.8
1/4	5.5	342.3
cb	5.7	342.1
s	5.7	342.1
W 1/4		
s	6.0	341.8
cb	5.8	342.0
1/4	5.6	342.2
c	6.0	341.8

POSTED

34783

VI eb.

e	6.3	341.5
1/2	6.1	341.7
cb	5.8	342.0
s	6.0	341.8

W.L. New York.

s	6.5	341.3
cb	6.5	341.3
1/2	6.5	341.3
e	6.3	341.5

E eb. Delaware (North)

N.	31	344.7
cb	29	344.9
1/2	3.0	344.8
c	26	345.2

E 1/4

e	25	345.3
---	----	-------

34783

1/2	30	344.8
cb	30	344.8
N	29	344.9

cr

N.	29	344.9
cb	29	344.9
1/2	3.2	344.6
c	28	345.0

W 1/2

e	29	344.9
1/2	3.3	344.5
cb	30	344.8
N	33	344.5

W eb.

N	30	344.8
cb	31	344.7
1/2	34	344.4
c	30	344.8

POSTED

347.83

W / Delaware

o 3.2 344.6

1/2 3.7 344.1

cb 3.0 344.8

N 3.0 344.8

50' W

N 3.0 344.8

cb 3.2 344.6

1/2 4.1 343.7

c 3.7 344.1

100' W

c 4.1 343.7

1/2 4.6 343.2

cb 4.1 343.7

N 4.0 343.8

140' W

N 4.5 343.3

347.83

44

cb 4.8 343.0

1/2 4.8 343.0

c 4.4 343.4

160' W

c 4.5 343.3

1/2 5.0 342.8

cb 4.6 343.2

N 4.7 343.1

200' W

N 5.2 342.6

cb 5.2 342.6

1/2 5.0 342.8

c 5.0 342.8

POSTED

250' W

c 5.6 342.2

1/2 6.2 341.6

cb 6.1 341.7

N 5.6 342.2

34783

300 W = EL. New York.

N	5.9	341.9
ob	6.2	341.6
1/4	6.5	341.3
0	6.0	341.8

E ob New York

c	6.0	341.8
1/4	6.5	341.3
cb	6.5	341.3
N	6.4	341.4

E 1/4

N	7.0	340.8
cb	6.8	341.0
1/4	6.7	341.1
c	6.2	341.6

34783

45

cr.

c	6.2	341.6
1/4	6.7	341.1
cb	6.8	341.0
N	7.2	340.6

W 1/4

N	6.6	341.2
ob	6.8	342.0
1/4	6.7	341.1
c	6.2	341.6

W ob.

c	6.2	341.6
1/4	6.8	341.0
1/4	5.4	342.4
cb	5.2	342.6
N	6.1	341.7

W h. New York.

N	5.4	342.4
---	-----	-------

	34783		
cb		5.4	342.4
1/4		6.8	341.0
c		6.2	341.6
TP	483	34553	313 344.70
	50' W of New York		
s		4.2	341.3
cb		4.2	341.3
1/2		2.5	343.0
+9		2.8	342.7
c		4.2	341.3
	100' W		
c		4.3	341.2
1/2		4.9	340.6
cb		4.9	340.6
s		4.6	340.9
	140' W		
s		4.2	341.3

	34553		
cb		5.1	340.4
1/2		4.7	340.8
c		4.9	341.1
	160' W		
c		4.4	341.1
1/2		4.7	340.8
cb		5.6	339.9
s		5.2	340.3
	200' W		
s		5.5	340.0
cb		5.1	340.4
1/2		5.3	340.2
c		4.8	340.7
	250' W		
c		5.0	340.5
+5		4.0	341.5
1/2		4.3	341.2

1/16  
16  
89  
Ketch  
Murre  
Daguer

34553

cb 5.7 340.4

S 5.1 340.4

300' W = EL Rhode Island

S 6.0 339.5

cb 6.0 339.5

1/2 5.9 338.6

c 5.0 340.5

E cb

c 5.1 340.4

1/4 5.4 340.1

cb 5.9 339.6

S 6.1 339.4

E 1/4

S 5.6 339.9

cb 5.4 340.1

1/4 5.1 340.4

c 5.1 340.4

34553

47

cr

c 5.7 340.4

1/2 4.9 340.6

cb 5.1 340.4

S 5.2 340.3

W 1/2

S 5.7 339.8

cb 5.6 339.7

1/4 5.3 340.2

c 5.2 340.3

W cb

c 5.4 340.1

1/4 5.9 339.6 POSTED

cb 6.2 339.3

S 6.4 339.1

Wh Rhode Island

S 6.1 339.4

34553

cb 6.3 339.2

1/4 5.1 340.4

c 5.6 339.9

50' W of Rhode Island

c 5.7 339.8

1/2 6.0 339.5

cb 6.4 339.1

s 6.3 339.2

100' W

s 5.6 339.9

cb 4.9 340.3

1/4 5.8 339.7

c 5.9 339.6

140' W

c 6.3 339.2

1/4 6.4 339.1

cb 6.6 338.9

s 6.7 338.8

34583

48

160' W

s 7.9 337.6

cb 7.3 338.2

1/4 6.4 339.1

c 6.6 338.9

200' W

c 7.4 338.1

1/4 6.7 338.8

cb 7.3 338.2

s 8.6 336.9

250' W

s 9.0 336.5

cb 9.1 339.4

1/2 8.4 337.1

c 8.4 337.1

300' W = 1 1/2 mi. Massachusetts

c 9.6 335.9

POSTED

30553

1/4		10.2	335.3	
cb		10.8	334.7	
s		11.5	334.0	
C. Power Cement step 137' off house NW corner of Island				
	50' W of New York.	5.29	340.14	340.11
N.		4.0	341.5	
cb		3.2	342.3	
+7		3.5	342.0	
1/4		4.8	340.7	
c		4.4	341.1	
100' W				
c		4.0	341.1	
1/4		4.8	340.7	
cb		5.2	340.3	
N		5.5	340.0	
140' W				
N		5.6	339.9	1

34553

49

cb		5.4	340.1	
1/4		5.1	340.4	
c		4.5	341.0	
160' W				
c		4.8	340.7	
1/4		5.2	340.3	
+8		4.1	341.4	
cb		4.2	341.3	
N		5.2	340.3	
200' W				
N		4.9	340.6	
d		5.7	339.8	
1/4		5.4	340.1	
c		5.1	340.4	
250' W				
c		5.0	340.5	
1/4		5.4	340.1	

POSTED



34553

cb	5.8	339.7
N	5.8	339.7
300' W - EL Rhode Island		
N	6.0	339.5
cb	5.7	339.8
1/2	5.7	339.8
c	5.3	340.2
E cb.		
c	5.5	340.0
1/2	5.9	339.6
cb	5.9	339.6
N	6.0	339.5
E 1/2		
N	5.4	340.1
cb	5.9	339.6
1/2	6.0	339.5
c	5.6	339.9

34553

50

02.

c	5.7	339.8
1/2	6.1	339.4
cb	5.9	339.6
N	5.4	340.1
W 1/2		
N	5.4	340.1
cb	6.0	339.5
1/2	6.2	339.3
c	5.6	339.9
W cb		
c	5.7	339.8
1/2	6.1	339.4
cb	5.6	339.9
N	5.4	340.1
W 1/2		
N	5.5	340.0

POSTED

32553

cb 5.7 339.8

1/4 6.0 339.5

c 5.8 339.7

50' W of Rhode Island.

c 6.1 339.4

1/4 6.2 339.3

cb 5.7 339.8

N 5.9 339.6

100' W

N 6.4 339.1

cb 6.6 338.9

1/4 6.9 338.6

c 6.6 338.9

140' W

c 7.5 338.0

1/4 7.8 337.7

cb 7.2 338.3

N -6.9 338.6

32553

51

160' W

N 7.1 338.4

cb 7.5 338.0

1/4 8.0 337.5

c 7.9 337.6

200' W

c 8.7 336.8

1/4 8.8 336.7

cb 8.1 337.4

N 8.1 337.4

250' W

N 9.3 336. POSTED

cb 9.6 335.9

1/4 10.2 335.3

c 9.9 335.6

300' W - El. Mass.

c 11.9 333.6

34552

1/4		115	333.7
cb		11.2	334.3
N		108	334.7
T.P.	071	334.94	11.30
	Ecb Mass		
N		0.6	334.3
cb		0.9	334.0
1/4		2.0	332.9
c		1.9	333.0
	E 1/4		
c		2.4	332.5
1/4		2.0	332.5
cb		1.6	333.3
N		1.2	333.7
	C.		
N		1.6	333.3
cb		2.4	332.5

334.94

1/4		3.0	331.9
c		2.7	332.2
	W 1/4		
c		3.4	331.5
1/4		3.5	331.4
cb		3.0	331.9
N		2.2	332.7
	w cb.		
N		2.2	332.7
cb		3.0	331.9
1/4		4.0	330.9
c		4.3	330.6
	WL. Mass		
c		4.7	330.2
1/4		4.5	330.4
+4		{ 4.4	330.5
		{ 3.6	331.3
cb		3.1	331.8
N		2.2	332.7

POSTED

33494

50' W

N	5.2	329.7
cb	5.6	329.3
1/4	6.7	328.2
e	6.7	328.2

100' W

e	8.3	326.6
1/4	8.4	326.5
+4	{ 8.6	326.3
	{ 7.9	327.2
cb.	7.3	327.6
N.	6.4	328.5

140' W

N.	8.5	326.4
cb	9.4	325.5
1/4	10.1	324.8
c	10.5	324.4

33494

160' W

e	10.8	324.1
1/4	10.7	324.2
cb	10.2	324.7
N	9.4	325.5

200' W

N.	10.8	324.1
cb	11.4	323.5
1/4	12.3	322.6
c	12.4	322.5

E cb. Mass.

S	1.5	333.4
cb.	0.6	334.3
1/4	0.0	334.9
c	+0.8	335.7

E 1/4

c	+0.3	335.2
---	------	-------

53

POSTED

33494

1/4		0.2	334.7
cb		1.0	333.9
s		1.9	333.0
	cr.		
s		1.9	333.0
cb		0.8	334.1
1/4		0.2	334.7
c		40.2	335.1
	w 1/4		
c		0.3	334.6
1/4		0.6	334.3
cb		1.8	333.1
s		2.5	332.4
	w cb.		
s		3.3	331.1
cb		2.0	332.9
1/4		0.9	334.0
c		0.8	334.1

33494

54

W.L. Mass.

c		1.4	333.5
1/4		1.5	333.4
cb		2.4	332.5
s		3.8	331.1
	50' W		
s		5.4	329.5
cb		4.2	330.7
1/4		3.3	331.6
c		3.1	331.8

100' W

c		5.4	329.5
1/4		5.9	329.0
cb		7.0	327.9
s		7.8	327.1

POSTED

33494

125' W

s	{ 82	326.7
	{ 85	326.4
cb	{ 74	327.5
	{ 78	327.1
1/2	70	327.9
c	66	328.3

145' W

c	74	327.5
1/2	76	327.3
cb	83	326.6
s	87	326.2

170' W

s	89	326.0
cb	89	326.0
1/2	85	326.4
c	78	327.1

33494

220' W

c	10.5	324.4
1/2	10.2	324.7
cb	10.6	324.3
s	11.2	323.7

371' W = EL. New Hampshire

s	13.4	321.5
cb	12.8	322.1
1/2	12.6	322.3
c	11.7	323.2

T. 168 320.82 1180 323.14

= cb.

c	2.0	322.8
1/2	2.8	322.0
cb	3.2	321.6
s	3.8	321.0

POSTED

55

32482

E 1/4

s 4.4 320.4

cb 3.5 321.3

1/4 2.7 322.1

c 2.2 322.6

cr.

c 2.2 322.6

1/4 2.7 322.1

cb 3.4 321.4

s 4.1 320.7

W 1/4

s 4.6 320.2

cb 3.9 320.9

1/4 3.1 321.7

c 2.6 322.2

W cb.

c 3.1 321.7

56

32482

1/4 3.6 321.2

cb 4.5 320.3

s 5.1 319.7

W New Hampshire

s 5.3 319.5

cb 4.7 320.1

1/4 4.1 320.7

c 3.3 321.5

50' W

c 4.6 320.2

1/4 5.4 319.4

cb 5.9 318.9

s 6.5 318.3

100' W

s 4.6 317.2

cb 7.0 317.8

1/4 6.4 318.4

c 5.6 319.2

POSTED

32482

150' W

c	7.4	317.4
1/2	7.9	316.9
cb	8.5	316.3
s	9.4	315.4

200' W

s	10.8	314.0
cb	10.2	314.6
1/2	9.6	315.2
c	9.1	315.7

W = El Garfield

c	11.4	313.4
1/4	11.9	312.9
	13.0	311.8
cb	12.2	312.6
B	12.9'	311.91 316.55

32482

250' W of Mass.

N.	1.4	323.4
cb.	2.1	322.7
1/2	3.2	321.6
d	3.2	321.6

300' W = El New Hampshire

c	4.5	320.3
1/2	4.6	320.2
cb.	3.1	321.7
N.	2.4	322.4

E Cb New Hampshire

N.	2.7	322.1
cb	3.4	321.4
1/2	4.8	320.0
c	4.7	320.1

57



32482

E 1/4

C	4.7	320.1
1/4	6.0	319.8
cb	3.6	321.2
N	3.4	321.4

cr

N	3.3	321.5
cb	4.0	320.8
1/4	5.3	319.5
C	5.1	319.7

W 1/4

C	3.6	319.2
1/4	5.5	319.3
cb	4.3	320.5
N	3.7	321.1

32482

W cb

N	4.5	320.3
cb	4.7	320.1
1/4	5.9	318.9
C	6.0	318.8

W. New Hampshire

C	6.4	318.4
1/4	6.4	318.4
cb	5.3	319.5
N	4.6	320.2

S 1/4 W

N	6.6	318.5
cb	7.2	317.6
1/4	8.4	316.4
C	8.6	316.2

58

35482

100' W

c	10.0	314.8
1/2	10.0	314.8
cb	8.5	316.0
N	8.6	316.3

120' ± W = St. Garfield

N	9.5	315.3
cb	10.7	314.1
1/2	11.4	313.4
c	11.5	313.3

POSTED

2  
5  
29 Hatch  
Moore  
Deziel

Xsec Massachusetts St.  
from  
Madison North -

from Xsec  
Madison St  
TP

803 Feet

7.57 341.70 334.13

341.70

50' N

Nh. Madison

E 7.0 334.7

cb 7.5

1/2 POSTED 8.1

c 8.6 333.1

1/4 9.0

cb 9.1

W 9.0 332.7

25' N

W 8.4 333.3

cb 8.1

1/4 8.0

c 7.2 334.5

1/4 6.9

cb 6.8

E 6.2 335.5

E 5.8 335.9

cb 6.2

1/4 6.4

c 6.8 334.9

1/4 6.9

cb 7.0

W 7.0 334.7

75' N

W 6.3 335.4

cb 6.4

POSTED

1/4 6.4

c 6.0 335.7

1/4 5.8

cb 5.9

E 5.7 336.0

34170

100' N

E	5.1	336.6
cb	5.8	
1/a	5.9	
c	5.9	335.8
1/a	6.1	
cb	5.9	
W	6.0	335.7

125' N

W	5.8	335.9
cb	6.0	
1/a	6.0	
c	5.3	337.4
1/a	5.3	
cb	5.2	
E	4.7	337.0

34170

150' N

E	4.9	336.8
cb	5.1	
1/a	5.1	
c	4.9	336.8
1/a	4.9	
cb	4.9	
W	5.0	336.7

175' N

W	4.9	336.8
1/a	4.1	337.6
c	4.9	336.8
1/a	5.2	
cb	4.8	
E	4.7	337.0

341.70

300 N

E	4.8	336.9
cb	4.8	
1/4	5.1	
c	5.3	336.4
1/4	5.2	
cb	5.2	
W	5.2	336.7

225 N

W	4.9	336.8
cb	4.6	
1/4	5.0	
a	5.6	336.1
1/4	5.5	336.2
cb	5.0	
E	4.9	336.8

341.70

250 N

E	4.8	336.9
cb	5.2	
1/4	5.4	
c	5.5	336.2
1/4	6.0	
cb	5.5	
W	5.7	336.0

275 N

W	6.5	335.2
cb	6.5	
1/4	6.3	
c	6.3	335.4
1/4	6.3	
cb	5.7	
E	5.3	336.4

34170  
300' N - SL Garfield

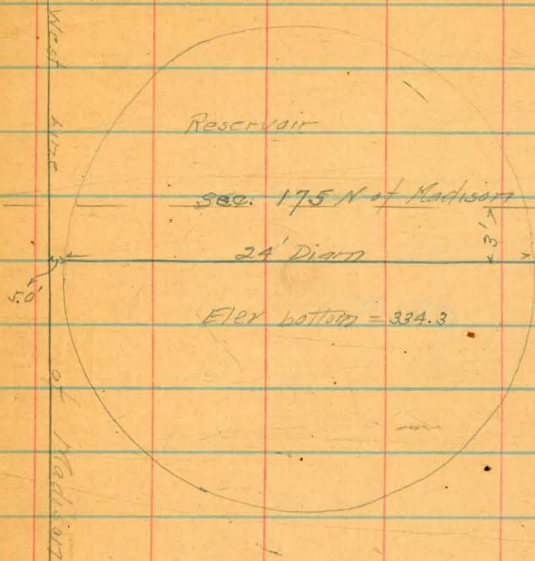
E	5.8	3359
cb	6.8	
1/2	7.0	
c	7.1	334.6
1/2	7.1	
cb	7.2	
W = edge of Bluff	7.3	334.4
332' N (on East line)		
E edge of Bluff	7.1	

POURED

N



63



B.M. 30<sup>th</sup> National N.W. Brs P19 64.988  
 " " Logan " " " " 70.913

TP 8.47 80.35  
 0.33 74.96 5.75 74.63

Xsec. of Martin (30<sup>th</sup> to 32<sup>nd</sup>)  
 80' wide

E. h. of 30<sup>th</sup>

N 74.96 5.50 69.5

C 5.00

1/4 POSTED

4.10

E 3.90 71.1

1/4 3.70

C 3.50

S 3.00 72.0

25' E

S 3.90 71.1

C 4.00

1/4 4.30

E 4.40 70.6

1/4 5.00

C 6.30

N 6.40 68.6

50' E

N 74.76 7.70 67.3

C 7.50

1/4 6.30

E 6.20 69.8

1/4 6.20

C POSTED

6.20

S 4.60 70.5

75' E

S 6.10 68.9

C 6.00

1/4 6.20

E 6.10 68.9

1/4 7.40

C 9.00

N 8.20 66.8

1+00

N	7+96	9.70	65.3
C		10.70	
1/4		9.50	
Φ		7.60	67.4
1/4		7.70	
C		7.30	
S		6.70	68.3

1+25

S		7.60	67.4
C		8.70	
1/4		9.70	
Φ		9.60	65.4
1/4		11.40	
C		13.30	
N		12.80	62.2

65

1+50

N	7+96	15.50	59.2
C		16.50	
1/4		12.90	
Φ		12.00	63.0
1/4		11.70	
C		11.20	
S		9.90	65.1

1+75

S		12.90	62.1
Φ			
TD	0.60	62.51	13.07
C		1.80	
1/4		2.00	
Φ		2.30	60.2
1/4		2.30	
C		4.90	
N		7.30	55.2



2+00

N	62.51	10.4	$\sqrt{2.1}$
C		9.2	
1/4		7.6	
E		6.6	$\sqrt{5.9}$
1/4		6.5	
C		6.2	
S		4.9	$\sqrt{7.6}$

2+25

S		8.1	$\sqrt{4.4}$
C		8.5	
1/4		8.7	
E		8.7	$\sqrt{3.8}$
1/4		10.5	
C		11.7	
N		12.3	$\sqrt{0.2}$

2+50

N	62.51	13.1	49.4
C		12.1	
1/4		11.3	
E		10.0	$\sqrt{2.5}$
1/4		10.0	
C		9.8	
S		7.6	$\sqrt{2.9}$

2+75

S		10.9	$\sqrt{1.6}$
C		11.2	
1/4		11.3	
E		11.5	$\sqrt{1.0}$
1/4		11.4	
C		10.7	
N		11.2	$\sqrt{1.3}$
T.P.	3.75	51.92	11.34 $\sqrt{1.17}$

3+00

N	54.92	10.3	44.6
C		9.4	
1/4		8.1	
Φ		5.4	49.5
1/4		5.0	
C		4.6	
S		4.3	50.6

3+25

S		4.5	50.4
C		5.7	
1/4		5.9	
Φ		6.4	48.5
1/4		9.2	
C		10.2	
N		11.1	43.8

3+50

N	54.92	11.7	43.2
C		10.9	
1/4		9.7	
Φ		7.5	47.4
1/4		7.1	
C		6.4	
S		5.6	49.3

3+75

S		4.15	50.8
C		6.1	
1/4		7.3	
Φ		7.6	47.3
1/4		10.1	
C		11.3	
N		12.2	42.7

4+00

N	54.92	9.9	45.0
C		9.0	
1/4		8.5	
Φ		7.0	47.9
1/4		6.4	
C		4.2	
S		4.0	50.9

4+25

S		3.8	51.1
C		4.1	
1/4		6.3	
Φ		6.4	48.5
1/4		7.1	
C		6.8	
N		6.9	48.0

4+50

68

N	54.92	6.2	49.7
C		6.1	
1/4		5.8	
Φ		4.7	50.2
1/4		3.8	
C		3.3	
S		1.6	53.3

4+75

S		1.0	53.9
C		1.6	
1/4		1.7	
Φ		2.3	52.6
1/4		2.9	
C		4.0	
N		3.4	51.5

5+00

N	54.92	4.2	$\sqrt{0.7}$
C		3.6	
1/4		1.8	
Q		0.4	$\sqrt{4.5}$
1/4		0.4	
C		1.1	
S		0.7	$\sqrt{4.2}$

5+25

S		1.4	$\sqrt{3.5}$
C		2.3	
1/4		1.3	
Q		1.5	$\sqrt{3.4}$
1/4		2.9	
C		5.0	
N		6.7	48.2

5+50

N	54.92	7.5	47.4
C		6.7	
1/4		5.6	
Q		4.2	$\sqrt{0.7}$
1/4		4.0	
C		4.0	
S		4.5	$\sqrt{0.4}$

5+75

S		7.1	47.8
C		6.9	
1/4		6.5	
Q		6.6	48.3
1/4		5.0	
C		9.3	
N		9.3	45.6

6+00 = W.L. 30<sup>th</sup>

N 54.92 11.9 43.0

E 11.9

1/4 9.9

Q 8.6 46.3

1/4 8.2

C 8.6

S 10.0 44.9

TP 0.82 43.96 11.78 43.14

E.L. 30<sup>th</sup> = 0+0

S 2.30 41.7

C 2.0

1/4 1.6

Q 0.2 43.8

1/4 1.1

C 1.6

N 1.1 42.9

0+25

N 43.96 4.1 39.9

C 5.0

1/4 2.9

Q 0.7 43.3

1/4 1.2

C 1.8

S 1.7 42.3

0+50

S 1.6 42.4

C 1.7

1/4 1.4

Q 3.5 40.5

1/4 5.2

C 6.9

N 7.3 36.7

2+75  
 N 43.96 11.6 32.4  
 cb 11.1  
 1/4 9.1  
 ct 7.7 36.3  
 1/4 5.9  
 cb 4.0  
 S 2.5 41.5

1+00 = A.LINE

S 6.8 37.2  
 cb 9.2  
 1/4 11.9  
 cen 12.0 32.0  
 1/4 13.2  
 cb 14.0  
 N 13.6 30.4

X sec B = 4' W of Tail + 1/2 bit 71

# 0.78 43.98 43.14  
 TP 1.17 32.50 12.59 31.33  
 N 2.10 30.1  
 C 2.9 29.6  
 1/4 3.5  
 # POSTED 4.0 28.5  
 1/4 4.5  
 C 5.1

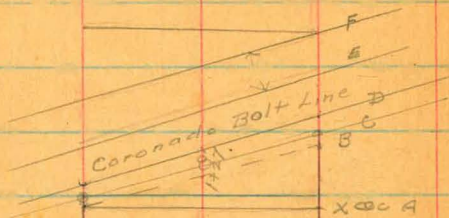
S 6.9 25.6

X sec B = 2' W of Tail

S 4.3 28.2  
 C 3.9  
 1/4 3.6  
 # 3.1 29.4  
 1/4 3.0  
 C 2.4  
 N 1.8 30.7

1+71.6 = W. Rail of S.

1+04. = W. " of N



D W. Rail of Tracks

72

N	32.50	1.20	31.3
C		1.60	
1/4		2.02	
1/2		1.48	31.0
3/4		2.93	
C		3.33	
S		3.67	28.8

E W. Rail of Tracks

S		4.9	27.6
C		4.4	
1/4		4.1	
1/2		3.9	28.6
3/4		3.6	
C		3.2	
N		2.9	29.6

F = 1+56 on N + sta 2+000075

N	27.50	10.3	22.2
C		10.7	
1/4		11.0	
1/2		11.4	21.1
3/4		12.0	
C		12.3	
S		12.5	20.0

2+00

S		12.5	20.0
C		13.6	
1/4		13.2	
1/2	POSTED	11.8	20.7
3/4		10.8	
C		9.0	
N		7.8	24.7

2+25

N	32.50	3.8	28.7
C		6.4	
1/4		7.9	
1/2		9.2	23.3
3/4		11.2	
C		14.1	
S		13.5	19.0

2+50

S		11.2	21.3
C		10.3	
1/4		7.5	
1/2		5.9	26.6
3/4		3.7	
C		1.1	
N		0.0	32.5

73



2+25

N	43.92	8.0	36.0
C		9.1	
1/4	22.50	+0.3	
2		2.2	30.3
1/2		4.6	
O		7.5	
S		19.1	22.4

3+00

S		8.8	23.7
O		5.8	
1/4		3.4	
2		1.4	31.1
1/4	43.92	10.3	
C		8.9	
N		6.6	37.3

3+55 74

N	43.92	5.2	38.7
C		7.0	
1/4		8.3	
2		10.7	33.2
1/4	22.50	1.4	
C		3.9	
S		6.6	25.9

3+50

S		3.4	29.1
C		1.3	
TP	12.30	43.92	0.88
1/4		10.8	
2		7.1	34.8
1/4		7.1	
C		6.1	
N		4.6	39.3

3+25

N	43.92	7.1	39.8
C		6.0	
1/4		6.6	
Φ		7.2	36.7
1/4		8.4	
C		10.5	
S		10.8	33.1

4+00

S		8.3	35.6
C		8.3	
1/4		7.0	
Φ		6.2	37.7
1/4		5.2	
C		4.8	
N		3.0	40.9

4+25

75

N	4392	2.0	41.9
C		3.6	
1/4		7.5	
Φ		5.2	38.7
1/4		5.8	
C		7.0	
S		7.0	36.9

4+50

S		6.2	37.7
C		5.8	
1/4		4.6	
Φ		4.1	39.8
1/4		3.0	
C		2.5	
N		0.7	43.2
TP	5.82	42.41	2.33 41.59

47

4+25

N	47.41	3.1	44.3
O		4.9	
1/2		5.6	
E		6.4	41.0
1/4		7.4	
C		9.0	
S		9.3	38.1

5+00

S		8.5	38.9
C		8.1	
1/2		6.6	
E		5.5	41.9
1/4		4.4	
C		3.8	
N		1.9	45.5

76

5+25

N	47.41	2.0	45.4
C		3.6	
1/2		4.3	
E		4.8	42.6
1/4		6.0	
O		7.8	
S		8.6	38.8

5+50

S		8.3	39.1 POSTED
C		7.6	
1/2		6.5	
E		4.9	42.5
1/4		3.9	
C		3.7	
N		3.0	44.4

5.75

N 42.4 5.1 42.3

C 5.1

1/4 5.1

ϕ 5.6 41.8

1/4 6.6

C 5.5

S 7.4 40.0

6.00

S 6.7 40.7

C 6.2

1/4 6.4

ϕ 5.7 41.7

4 POSTED 5.8

C 6.0

N 6.2 41.2

TP 4.06 44.81 6.66 40.75

BM 6.52 35.99 32m + 4.06 44.81

78

			12	
	12.78	0.23	12.55	
6.99	19.54	0.09	19.45	
10.67	30.12	0.59	29.53	
5.91	35.44	2.57	32.87	32.88

#400

Ork. chd. sp. in pale

32,660

O. T. J. J. J.

40,525

338 - 29

Handwritten calculations and notes on the left page of the notebook. Includes numbers like 12.23, 5.62, 6.73, 12.28, 5.82, 6.96, 67.51, 5.26, 6.25, 502.76, 497.22, 511.6, 517.74, 300, 517.74, 75, 444.74, 366.84, 497.22, 497.22, 392.12, 361.24, 49, 497.22, 444.74, 412.74, 27.48, 75.00, 27.48, 47.52.

Lat. Town St to East Branch of the Tullahoma 502.76

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TRAVERSE TABLE FOR TRANSIT BOOK.  
From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		1/2 DEGREE.		1/2 DEGREE.		1/2 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	22.02	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.	DEGREES.		1/2 DEGREE.		1/2 DEGREE.		1/2 DEGREE.		Degrees.
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	