

*Return to City Engineers Office  
City Hall, San Diego, Cal.*

400

LEVEL

**F.B.462**

*Return to City Engineers Office  
City Hall, San Diego, Cal.*

*Rockwell  
Co.*

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

**MICROFILMED**  
TABLE FOR RUNNING ON SLOPES.

DEC 10 1964  
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
°		°		°		°	
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



MANUFACTURED BY

*H. S. Crocker Co.*

SAN FRANCISCO  
and  
SACRAMENTO

Publish  
Materia

Table si  
run

MINUTE

1..  
2..  
3..  
4..  
5..  
6..  
7..  
8..  
9..  
10..  
11..  
12..  
13..  
14..  
15..  
16..  
17..  
18..  
19..  
20..  
=  
=  
In

LEVEL BOOK



W. H. ...  
...  
...

Corrison Wrightman Idaho To 30<sup>th</sup> st 5/19/19  
" 80' wide

B.M. N.E. ~~at~~ Idaho University 347.37

Sumner  
Shaw  
Regis 1

B.M. 3.32 350.69

POSTED

E.L. Idaho

N 6.3 344.4

W 6.0 344.7

S 6.6 344.1

0+25 E

S 6.7 344.0

W 5.8 344.9

N 6.1 344.6

0+50

N 6.0 344.7

W 6.3 344.4

S 6.5 344.2

0+75

S 6.4 344.2

W 6.2 344.5

N 5.9 344.8

350.69

170

N	5.2	345.5
ct	4.4	346.3
S	6.0	344.7

1725

S	6.1	344.6
ct	6.2	344.5
N	5.6	345.1

1750

N	5.2	344.8
ct	5.8	344.9
S	5.4	345.8

1775

S	6.1	344.6
ct	5.7	345.0
N	5.6	345.1

270 = W.L. Utah 80' wide

2

N	4.7	346.0
ct	5.9	344.8
S	6.1	344.6

center

S	5.8	344.9
ct	5.6	345.1
N	4.1	346.6

E.L. Utah 91'

N	4.6	346.1
ct	5.5	345.2
S	5.9	346.8

0-25 E

S	5.7	345.0
ct	5.0	345.7
N	4.6	346.1

350.69

0450

N 3.7 347.0

etc 5.7 345.0

S 5.7 345.0

0475

S 5.0 345.7

etc 5.3 345.4

N 5.2 345.5

T.P. 666 352.58 4.77 345.92

140

N 5.5 347.1

etc 7.0 345.6

S 7.7 344.9

1425

S 6.9 345.7

etc 6.4 346.2

N 6.1 346.5

352.58

1450

N 7.0 345.6

etc 6.9 345.7

S 7.3 345.3

1475

S 7.4 345.2

etc 5.9 346.7

N 6.8 345.8

S 240 = N.L. Sherman 80' wide

N 5.8 346.8

etc 6.9 345.7

S 5.8 346.8

center.

S 6.8 345.8

etc 5.9 346.7

N 5.5 347.1

352.58

E. L. Sherman

N	5.3	3473
ctw	5.0	3476
S	6.6	3460

0+25 F

S	5.8	3468
ctw	4.9	3477
N	5.9	3467

0+50

N	5.6	3470
ctw	5.7	3469
S	5.8	3468

0+75

S	5.9	3467
ctw	5.5	3471
N	5.5	3471

1+0

4

N	4.6	3480
ctw	4.5	3481
S	5.5	3471

1+25

S	4.8	3478
ctw	4.9	3482
N	5.4	3472

1+50

N	4.5	3481
ctw	5.6	3470
S	6.1	3465

1+75

S	4.6	3480
ctw	4.8	3478
N	4.8	3478

352.58

2+0 = N.L. Kansas at 80'

N	4.8	3478
ctw	3.9	3487
S	5.5	3471

Center

S	4.1	3485
ctw	3.8	3488
N	4.8	3478

E.L. Kansas

N	4.3	3483
ctw	3.9	3487
S	4.7	3479

0+25 E

S	4.6	3480
ctw	4.3	3482
N	4.0	3486

5

0+50

N	3.7	3489
ctw	3.4	349 ✓
S	4.5	3481

0+75

POST

S	4.9	3482
ctw	4.2	3484
N	3.3	3493

1+0

N	2.5	3501
ctw	3.6	3490
S	4.4	3482

1+25

S	4.3	3483
ctw	3.8	3488
N	3.4	3492

T.P. 4.79 354.74 2.63 349.95



354.74

1450

N 5.2 349.5

ctr 5.4 349.3

S 5.7 349.0

1475

S 6.0 348.7

ctr 5.1 349.6

N 4.2 350.5

240 = W.L. 30<sup>th</sup> St

N 3.5 351.2

ctr 4.5 350.2

S 5.0 349.7

Levels on Gunn St Idaho to 30<sup>th</sup> St 5/10/19  
 " 80' wide Short  
 B.M. at 50' Idaho Landis 248.82 Signal

348.36

1+0

7

B.M. 154 348.36

E.L. Idaho St

N 3.9 344.5

ctr POSTED 3.9 344.5

S 4.6 343.8

0+25 F

S 4.8 343.6

ctr 4.9 343.3

N 4.2 344.2

0+50

N 4.7 343.7

ctr 4.6 343.8

S 4.6 343.8

0+75

S 5.5 344.9

ctr 5.5 344.9

N 4.8 343.6

N 4.3 344.1

ctr 5.4 343.0

S 5.0 343.4

POSTED

1+25

S 5.3 343.1

ctr 5.1 343.3

N 4.2 344.2

1+50

N 5.2 343.2

ctr 5.9 342.5

S 6.0 342.4

1+75

S 6.0 342.4

ctr 4.5 343.9

N 5.4 343.0

348.36

2+0 W Line Utah

N	5.3	343.1
ctr	5.9	344.5
S	5.3	343.1

Center

S	6.5	341.9
ctr	5.9	344.5
N	5.4	343.0

E line Utah

N	5.3	343.1
ctr	4.3	344.1
S	6.4	344.0

0+25

S	5.5	344.9
ctr	5.8	344.6
N	5.6	344.8

348.36

0750

8

N	4.1	344.3
ctr	4.5	343.9
S	6.0	344.4

0775

S	4.2	344.2
ctr	4.5	343.9
N	5.0	343.4

7+0

N	5.1	343.3
ctr	5.1	343.3
S	6.3	344.1

7+35

S	6.0	344.4
ctr	5.3	343.1
N	5.0	343.4

T.P 6.25 349.46 5.15 343.21

349.46

1+50

N	5.7	343.8
ctr	5.8	343.7
S	6.4	343.1

1+75

S	7.4	342.1
ctr	6.8	342.7
N	6.0	343.5

2+0 W Line Sherman

N	5.8	343.7
ctr	6.7	342.8
S	6.7	342.6

Center

S	6.7	342.8
ctr	6.3	343.2
N	6.5	343.0

349.46

E Line Sherman

9

N	4.8	344.7
ctr	6.7	342.8
S	6.3	343.2

0+25

S	6.4	343.1
ctr	6.1	343.4
N	5.6	343.9

0+50

N	6.9	343.6
ctr	6.5	343.0
S	6.4	343.1

0+75

S	5.5	344.0
ctr	5.8	343.7
N	4.6	344.9

349.46

1+0

N	6.2	343.3
ctr	6.2	343.3
S	6.8	344.1

1+25

S	4.9	344.6
ctr	6.0	343.5
N	5.5	344.0

1+50

N	5.4	344.1
ctr	6.1	343.4
S	6.3	343.4

1+75

S	6.2	343.3
ctr	6.2	343.3
N	5.7	343.5

349.46

2+0 W line Kansas

10

N	5.7	343.8
ctr	5.0	344.3
S	6.6	344.9

Center

S	5.4	344.1
ctr	5.7	343.5
N	5.3	344.2

East line Kansas

N	5.3	344.4
ctr	5.9	343.6
S	6.1	343.4

0+25

S	6.3	343.4
ctr	5.7	343.5
N	5.2	344.2

TP	384	348.25	5.05	344.41
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34828

0+50

N	4.3	343.9
ctr	4.3	343.9
S	4.9	343.3

0+75

S	4.6	343.6
ctr	4.1	344.1
N	3.4	344.8

1+0

N	4.0	344.4
ctr	4.3	343.9
S	4.8	343.4

1+25

S	4.6	343.6
ctr	4.4	343.8
N	3.5	344.1

34825

1+50

N	3.6	344.6
ctr	3.9	344.3
S	4.5	343.1

1+75

S	4.0	344.4
ctr	2.7	345.5
N	3.1	345.1

2+0 W line 30<sup>th</sup> St

N	3.1	346.1
ctr	3.9	344.3
S	4.1	344.1

11

Level's Landis St. Idaho To 20<sup>th</sup> 57  
 107 Dunkle  
 109 Shaw  
 110 Dwyer  
 B.M. pub. on Idaho & Landis St 342.32  
 B.M. 2.79 346.61  
 E.L. Idaho

346.61

170

12

N 4.2 342.4

etc 6.0 340.6  
 POSTED

S 5.9 340.7

0+75 F

o 5.4 341.2

etc 5.2 341.4

N 4.8 341.8

0+50

N 4.8 341.8

etc 5.9 340.7

o 5.4 341.2

0+75

S 5.4 341.2

etc 5.0 341.6

N 4.7 341.9

N 4.8 341.8

etc POSTED 5.3 341.3

o 5.4 341.2

1725

S 5.5 341.1

etc 5.4 341.2

N 5.2 341.4

1750

N 5.2 341.4

etc 5.5 341.1

o 6.0 340.6

1775

S 6.1 340.5

N 5.8 340.8

N 5.8 340.8

34661

210 = N. L. Utah 80 wide

N 6.3 340.3

ctr 6.0 340.6

S 6.2 340.4

center

S 6.9 339.7

ctr 6.0 340.6

N 7.0 339.6

E. L. Utah

N 6.8 339.8

ctr 5.9 340.7

S 7.8 339.8

0425 E

S 7.0 339.6

ctr 7.8 339.8

N 6.3 340.3

34661

0750

N 6.6 340.0

ctr 7.1 339.5

S 8.3 338.3

0775

S 8.4 338.2

ctr 7.5 339.1

N 7.0 339.6

170

N 6.5 340.1

ctr 7.2 339.4

S 7.7 338.9

1725

S 8.1 338.5

ctr 7.6 339.0

N 7.3 339.3

13



346.61

1+50

N	76	339.0
ctr	73	339.3
S	76	339.0

1+75

S	68	339.8
ctr	64	340.2
N	71	339.5

2+0 W. line Sherman

N	64	340.2		
ctr	73	339.3		
S	83	338.3		
T.P.	5.17	344.15	7.63	338.98

center

S	5.0	339.2
ctr	4.8	339.4
N	4.1	340.0

344.15

E. line Sherman

14

N	34	340.8
ctr	46	339.6
S	49	339.3

0+25 E

S	5.0	339.2
ctr	4.5	339.7
N	3.9	340.3

0+50

N	4.4	339.8
ctr	4.7	339.5
S	4.8	339.4

0+75

S	3.7	340.5
ctr	4.2	340.0
N	3.1	341.0

344.15

1+0

N	3.8	340.4
ctr	4.2	340.0
S	4.7	339.5

1+25

S	4.0	340.4
ctr	4.1	340.1
N	3.6	340.6

1+50

N	3.2	341.0
ctr	3.8	340.4
S	4.0	340.2

1+75

S	3.0	341.2
ctr	3.9	340.3
N	3.1	341.1

344.15

2+0 W. line Kansas

15

N	2.3	341.9
ctr	3.2	341.0
S	3.9	340.3

center

S	3.3	340.9
ctr	4.1	340.1
N	3.2	341.0

E line Kansas

N	2.3	341.9		
ctr	3.2	341.0		
S	2.7	341.5		
TP	4.24	344.92	3.47	340.68

0+25 E

S	4.4	340.5
ctr	3.8	341.1
N	3.8	341.1

34491

0+50

N	3.8	341.1
ctr	3.8	341.1
S	4.4	340.5

0+75

S	4.4	340.5
ctr	3.8	341.1
N	4.3	340.6

1+0

N	4.7	340.2
ctr	4.5	340.4
S	4.6	340.3

1+25

S	4.7	340.2
ctr	4.5	340.4
N	4.4	340.5

34492

1+50

N	4.5	340.4
ctr	4.6	340.3
S	4.4	340.5

1+75

S	4.1	340.8
ctr	4.8	340.1
N	3.2	341.7

2+0 W Line 30"

N	4.74	340.2
ctr	5.2	339.7
S	5.6	339.3

111

16

Levels on Dwight St Iako To 30<sup>th</sup> St 5/17 Dunkle  
" 80' wide 189 Shaw

B.M. Hub. s. w. Idaho @ Dwight 333.16 Byriel

B.M. 2.90 342.06

E. of Idaho

N 5.6 336.5

ctc 6.3 335.8

S 6.8 335.3

0+25 F

S 6.2 335.9

ctc 5.6 336.5

N 5.5 336.6

0+50

N 5.0 337.1

ctc 5.2 336.9

S 5.7 336.4

0+75

S 5.4 336.7

ctc 5.6 336.5

N 5.2 336.9

342.06

1+0

N 4.8 337.3

ctc 5.3 336.8

S 5.2 336.9

1+25

S 5.2 336.9

ctc 4.5 337.6

N 4.4 337.7

1+50

N 4.4 337.7

ctc 4.9 337.2

S 5.0 337.1

1+75

S 4.8 337.3

ctc 4.9 337.2

N 4.1 338.0

17

342.06

2+0 = N. L. Utah 20'

N	4.1	338.0
ct	4.4	337.7
S	5.3	336.8

center

S	5.2	336.9
ct	5.1	337.0
N	5.3	336.8

E. L. Utah

N	5.3	336.8
ct	5.1	337.0
S	6.2	335.9

0+25' E

S	5.1	337.0
ct	6.2	335.9
N	6.0	336.1

342.06

0+50

N	5.6	336.5
ct	5.0	337.1
S	6.0	336.1

0+75

S	4.3	337.8
ct	6.2	335.9
N	5.6	336.5

1+0

N	5.2	336.9
ct	5.5	336.6
S	5.8	336.3

1+25

S	5.1	337.0
ct	4.5	337.6
N	5.2	336.9

T.P. 4.89 341.52 5.43 336.63

18

341.52

1450

N	4.5	337.0
etc	4.9	336.6
S	5.4	336.1

1475

S	4.8	336.7
etc	3.6	337.9
N	4.8	336.7

2+2 = Mt. Sherman rd

N	3.6	337.9
etc	4.6	336.9
S	4.8	336.7

cent of

S	3.3	338.2
etc	4.3	337.2
N	4.7	336.8

341.52

E.L. Sherman

19

N	4.0	337.5
etc	4.8	336.7
S	4.4	337.1

0+25 E

S	4.7	336.8
etc	4.8	336.7
N	4.5	337.0

0+50

N	3.9	337.6
etc	4.8	336.7
S	5.1	336.4

0+75

S	5.0	336.5
etc	4.8	336.7
N	4.2	337.3

341.52

170

N 3.2 338.3

ctw 5.0 336.5

S 3.8 337.7

1725

S 4.7 336.8

ctw 4.6 336.9

N 3.7 337.8

T.P. 5.24 343.33 343 338.09

1750

N 5.7 337.6

ctw 6.0 337.3

S 6.6 336.7

1775

S 7.0 336.3

ctw 5.7 337.6

N 5.3 338.0

343.33

270 = N. 1. Kansas 80' wide

20

N 5.9 337.4

ctw 6.7 336.6

S 7.0 336.3

Center

S 6.5 336.8

ctw 6.0 337.3

N 5.1 338.2

E. 1. Kansas

N 5.1 338.2

ctw 5.3 338.0

S 6.4 336.9

0 + 25 E

S 6.4 336.9

ctw 5.2 338.1

N 4.6 338.7

343.33

0750

N	4.6	338.7
ct	4.5	338.8
S	5.8	337.5

0475

S	5.1	338.2
ct	4.9	338.4
N	4.6	338.1

110

N	4.8	339.0
ct	4.8	339.0
S	5.4	337.9

1725

S	4.5	338.8
ct	4.6	338.7
N	4.0	339.3

343.33

1450

N	3.7	339.6
ct	4.5	338.8
S	4.5	338.8

1775

S	3.7	339.6
ct	4.3	339.0
N	3.4	339.9

210 = N L 30<sup>th</sup> 6+

N	4.7	338.6
ct	5.3	338.0
S	5.1	338.2

21



Levels on Gapps 5+ Idaho to 30th 5+ 1/4 Dunke  
 334.53 Shan  
 Digital

340.17  
 1+0

B.M. 5.64 340.17  
 E.L. Idaho

N 6.2 334.0  
 etc 6.8 333.4  
 S 6.4 333.8

0+25 F

S 5.7 334.5  
 etc POSTED 6.3 333.9  
 N 5.7 334.5

0+50

N 4.8 335.4  
 etc 5.0 335.2  
 S 5.8 334.4

0+75

S 5.5 334.7  
 etc 4.8 335.4  
 N 4.3 335.9

N 4.9 335.3  
 etc 5.7 334.5  
 S 5.4 334.8

1+25

S 4.6 335.6  
 etc 5.0 335.2  
 N 4.5 335.7

1+50

N 4.3 335.9  
 etc 4.7 335.5  
 S 5.1 335.1

1+75

S 5.8 334.4  
 etc 5.6 334.6  
 N 4.6 335.6

T.P. 6.40 341.32 5.25 334.92

341.82

2+0 - N.L. Utah 80

N	5.7	335.6
etc	5.4	335.9
S	5.9	335.4

Center

S	6.4	334.9
etc	6.1	335.2
N	5.4	335.9

E.L. Utah

N	7.0	334.3
etc	6.9	334.4
S	6.7	334.6

0+2.5' E

S	7.7	333.6		
etc	7.7	333.6		
N	7.6	333.7		
T.P.	6.05	339.84	7.53	333.79

339.84

0+50

N	6.4	333.4
etc	5.3	334.5
S	6.5	333.3

0+75

S	6.9	332.9
etc	7.0	332.8
N	7.3	332.5

1+0

N	6.8	333.0
etc	7.1	332.7
S	7.1	332.7

1+25

S	7.0	332.8
etc	7.7	332.1
N	7.7	332.1

23

339.84

1+50

N 6.6 333.2

ct 7.7 332.1

S 7.6 332.2

1+75

S 8.0 331.8

ct 7.4 332.4

N 7.7 332.1

2102 W. Sherman St 80

N 7.5 332.3

ct 7.7 332.1

S 8.4 331.4

center

S 8.7 331.1

ct 7.2 332.6

N 7.2 332.0

339.84

E. L. Sherman

24

N 7.5 332.3

ct 8.1 331.7

S 8.7 331.1

0+25 E

S 8.1 331.7

ct 7.6 332.2

N 5.7 334.1

0+50

N 6.6 333.2

ct 7.5 332.3

S 7.5 332.3

0+75

S 8.1 331.7

ct 7.3 332.5

N 6.9 332.9

T.P. 5208 339.02 5.90 333.94

339.02

1+0

N	5.3	333.7
ct	6.3	332.7
S	7.3	331.7

1+25

S	7.7	331.3
ct	7.0	332.0
N	6.3	332.7

1+50

N	6.0	333.0
ct	6.9	332.1
S	7.5	331.5

1+75

S	5.9	333.1
ct	6.9	332.1
N	6.3	332.7

339.02

2+0 = N.L. Kansas st 30'

25

N	5.5	333.5
ct	6.9	332.1
S	5.8	333.4

center

S	6.0	333.0
ct	5.2	333.4
N	5.2	333.8

E.L. Kansas

N	5.7	333.3
ct	5.9	333.6
S	5.2	333.2

0+25 E

S	3.8	335.2
ct	3.9	335.1
N	5.2	333.8

339.02

0+50

N		3.8	335.2
cte	S	4.2	334.8
S		4.7	334.3

0+75

S		3.7	335.3
cte		4.5	334.5
N		4.3	334.7

1+0

N		4.2	334.8
cte		4.5	334.5
S		2.5	336.2

1+25

S		3.0	336.0
cte		3.9	335.1
N		3.0	336.0

339.02

1+50

N		2.9	336.1
cte		2.6	336.4
S		3.8	335.2

1+75

S		2.7	336.3
cte		1.7	337.3
N		2.4	336.6

2+0 = N.L. 30<sup>#</sup> 51

N		2.80	336.2
cte		3.5	335.5
S		3.4	335.6

26

Levels Myrtle Idaho to 30<sup>th</sup> st 7/11/1910  
 " " 50' wide " 1090  
 B.M. bet N.W. Myrtle & Idaho 334.53 Digital

340.12

27

B.M.	5.59	340.12	
			E.L. Idaho st
N	5.8	334.3	
etc	7.1	332.9	
S	5.9	334.2	
	0+25		
S	6.7	333.4	
etc	6.6	333.5	
N	6.1	334.0	
	0+50		
N	5.6	334.5	
etc	6.9	333.4	
S	5.8	334.3	
	0+75		
S	6.9	333.2	
etc	6.5	333.6	
N	6.0	334.1	

1+0

N	4.1	336.0
etc	6.6	333.5
S	6.8	333.3
		1+25
S	6.8	333.3
etc	5.6	334.5
N	5.9	334.2
		1+50
N	5.2	334.8
etc	6.5	333.6
S	7.2	332.9
		1+75
S	6.5	333.6
etc	5.7	334.4
N	5.2	334.9

340.12

2+0 = N. Utah St. 80' wide

N	4.2	335.9
etc	4.5	335.6
S	6.0	334.1

Center

S	6.0	334.1
etc	5.3	334.8
N	5.1	335.0

E. Utah St.

N	4.6	335.5
etc	5.2	334.9
S	5.9	334.2

0+25' E

S	5.7	334.4
etc	5.6	334.5
N	5.4	334.7

340.12

1+50

N	5.1	335.1
etc	5.8	334.3
S	5.8	334.3

0+75

S	6.0	334.1
etc	5.3	334.8
N	5.9	334.2

1+0

N	5.8	334.3
etc	6.2	333.9
S	6.4	333.7

1+25

S	6.7	333.4
etc	5.7	334.4
N	6.6	333.5

28

340.12

1450

N		7.3	332.8
etc		7.6	332.5
S		7.1	333.0

1475

S		7.5	332.6
etc		7.4	332.7
N		7.5	332.6

240 - N.L. Sherman 50'

N	Center	8.2	331.9
etc		7.6	332.5
S		7.8	332.3

Center

S		8.5	331.6
etc		8.7	331.4
N		9.3	330.8
T.P.	427	336.01	8.32 331.74

336.01

E.L. Sherman

29

N		6.3	329.7
etc		4.9	331.1
S		6.0	330.0

0425 E

S		5.8	330.2
etc		6.0	330.0
N		6.5	329.5

0450

N		7.0	329.0
etc		7.5	328.5
S		6.5	329.5

0475

S		7.8	328.2
etc		7.0	329.0
N		5.3	330.7



336.01

140

N	5.9	330.1
cto	5.6	330.4
S	7.4	328.6

1425

S	7.6	328.4
cto	6.7	329.3
N	5.9	330.1

1450

N	6.1	329.9
cto	6.0	330.0
S	7.5	328.5

1475

S	6.7	329.3
cto	6.3	329.7
N	5.1	330.9

336.01

240 - W. L. Kansas 801

30

N	5.7	330.3
cto	6.2	329.8
S	6.8	329.2

center

S	5.6	330.4
cto	5.9	330.1
N	5.7	330.3

E. L. Kansas

N	4.0	332.0
cto	5.9	330.1
S	6.3	329.7

2425 E

S	6.0	330.0
cto	5.9	330.1
N	5.4	330.6

336.01

0+50

N	5.2	330.8
cta	4.4	331.6
S	6.3	329.7

0+75

S	6.3	329.7
cta	5.8	330.2
N	4.4	331.6

1+0

N	5.2	330.8
cta	5.0	331.0
S	5.7	330.3

1+25

S	6.2	329.8
cta	4.7	331.3
N	5.4	330.6

336.01

1+50

N	5.0	331.0
cta	5.8	330.2
S	6.4	329.6

1+75

S	5.3	330.7
cta	4.2	331.8
N	4.6	331.4

2+0 = 11.1 30<sup>th</sup> ST

N	5.3	330.7
cta	5.7	330.3
S	6.1	329.9

31

x-sec Greely St 30<sup>th</sup> To 32<sup>nd</sup> St 5<sup>th</sup> 1/2  
 " 80' wide  
 B.M. brass Plg Logan & 30<sup>th</sup> 70.91  
 Dwight  
 Shaw  
 Dryiel

7937  
 0+50

82

B.M. 8.46 79.37

E.L. 30<sup>th</sup> St

S 4.6 74.8

crk POSTED 4.8 74.6

"A 4.6 74.8

N 4.8 74.6

"A 4.5 74.9

crk 5.4 74.0

N 5.3 74.1

0+25' E

N 5.4 74.0

crk 6.2 73.3

"A 5.3 74.1

N 5.0 74.4

"A 4.9 74.5

crk 6.1 73.3

S 5.4 74.0

S 6.3 73.1

crk 6.7 72.7

"A 5.4 74.0

N 5.5 73.9

"A 5.3 74.1

crk 6.8 72.6

N 6.1 73.3

0+75

N 6.5 72.9

crk 6.9 72.5

"A 6.1 73.3

N 5.9 73.5

"A 6.0 73.4

crk 7.4 72.0

S 6.3 73.1

79.37

1+0

S	6.6	72.8
erb	7.7	71.7
"A	6.5	72.9
M	6.2	73.3
"A	6.9	72.5
erb	7.3	72.1
N	6.7	72.7

1+25

N	7.1	72.3
erb	8.0	71.4
"A	7.2	72.3
M	6.8	72.6
"A	7.3	72.1
erb	8.4	71.0
S	7.7	71.7

79.37

1+50

33

S	7.8	71.6
erb	8.5	70.9
"A	7.8	71.6
M	7.3	72.1
"A	7.6	71.8
erb	8.5	70.9
N	7.9	70.5

1+75

N	8.3	71.1
erb	8.7	70.7
"A	8.3	71.1
M	7.8	71.6
"A	8.2	71.3
erb	8.9	70.5
S	7.7	71.7

79.37

2+0

S	8.0	714
ckh	8.8	706
"A	8.2	712
M	8.1	713
"A	8.3	711
ckh	9.3	701
N	8.8	706

2+25

N	9.5	699
ckh	9.9	695
"A	8.6	708
M	8.7	707
"A	8.6	708
ckh	9.4	700
S	8.5	709

79.37

2+50

S	9.5	699
ckh	9.7	697
"A	9.5	699
M	9.6	698
"A	9.2	707
ckh	10.6	688
N	10.4	690

2+75

N	10.8	686
ckh	11.8	676
"A	10.3	691
M	10.4	690
"A	10.2	693
ckh	10.7	687
S	10.7	687

T. P. 2.12 70.80 10.69 68.68

34

70.80

3+0

S	1.7	49.1
erb	3.0	47.8
"A	2.7	48.1
M	2.6	48.3
"A	2.4	48.4
erb	4.1	46.7
N	4.8	46.0

3+25

N	5.8	45.0
erb	5.5	45.3
"A	4.2	46.6
M	3.2	47.6
"A	3.1	47.7
erb	3.7	47.1
S	2.7	48.1

70.80

3+50

S	3.3	47.5
erb	4.2	46.6
"A	4.1	46.7
M	4.9	45.9
"A	6.0	44.8
erb	7.1	43.7
N	6.8	44.0

3+75

N	8.3	43.5
erb	8.2	42.6
"A	7.0	43.8
M	6.1	44.7
"A	6.1	44.7
erb	5.5	45.3
S	3.3	47.5

70.80

4+0

S	5.1	65.7
ck	6.5	64.3
"A	6.7	64.1
M	6.9	63.9
"A	8.0	62.8
ck	9.9	60.9
N	9.5	61.3

4+25

N	11.2	59.6
ck	10.6	60.3
"A	9.8	61.0
M	8.8	62.0
"A	7.8	63.0
ck	7.4	63.4
S	6.4	64.4

70.80

4+50

S	7.5	63.3
ck	8.7	62.1
"A	9.0	61.8
M	9.8	61.0
"A	11.3	59.5
ck	13.0	57.8
N	13.5	57.3

T.P. 5.45 64.21 12.04 58.76

4+75

N	8.9	55.3
ck	9.2	55.0
"A	7.3	56.9
M	5.0	59.3
"A	3.1	61.1
ck	2.8	61.4
S	1.6	62.6

35

64.21

5+0

S	2.3	61.9
crk	3.4	61.8
"A	5.3	58.9
M	7.4	56.8
"A	10.8	53.4
crk	12.0	52.9
N	11.9	53.3

5+25

N	14.1	50.1
crk	14.2	50.0
"A	12.8	51.4
M	10.1	54.1
"A	7.6	56.6
crk	3.9	60.3
S	2.9	61.3

T.P.

64.31

5+50

36

S	6.0	58.9
crk	9.0	55.9
"A	12.2	52.0
M	14.0	50.7
"A	14.8	49.4
crk	15.5	48.7
N	16.7	47.5

T.P 0.33 52.85 11.69 52.52

5+75

N	6.0	46.9
crk	7.1	45.8
"A	5.8	47.1
M	5.3	47.4
"A	4.2	48.7
crk	2.6	50.3
S	0.9	53.0



52.85

6+0 = W.L. 31<sup>st</sup> st 60 wide

S	3.7	49.7
crk	4.8	48.1
"A	5.8	47.1
M	7.1	45.8
"A	7.9	45.0
crk	9.0	43.0
N	7.0	45.9

W. CURVE

N	8.8	44.1
crk	9.7	43.2
"A	8.8	44.1
M	8.0	44.4
"A	6.9	44.0
crk	6.1	46.8
S	4.8	48.1

52.85

W "A

37

S	5.4	47.5
crk	6.7	44.9
"A	7.9	45.0
M	9.5	43.4
"A	9.7	43.7
crk	10.4	42.5
N	9.2	43.7

Center

N	10.0	42.9
crk	11.8	41.1
"A	10.5	42.4
M	10.3	42.6
"A	9.1	43.8
crk	7.9	45.0
S	6.5	46.4

52.85

E 1/4

S	7.2	45.7
cb	7.3	43.6
1/4	10.7	42.3
M	11.5	41.4
1/4	11.9	41.0
cb	12.8	40.1
N	11.1	41.8

E. CUP 6

N	12.4	40.5
cb	13.5	39.4
1/4	12.0	40.9
M	12.1	40.8
1/4	11.4	41.5
cb	10.1	42.8
S	8.7	44.3

52.85

E. L. 31<sup>st</sup> 61

38

S	10.1	42.8
cb	11.2	41.7
1/4	12.3	40.6
M	13.1	39.8
1/4	12.9	40.0
cb	14.7	38.3
N	12.9	40.0

T.P. 3.15 43.05 12.95 39.90

0 + 25 E

N	4.7	38.4
cb	7.1	36.0
1/4	5.5	37.6
M	5.3	37.8
1/4	3.9	39.2
cb	3.4	39.7
S	2.9	40.7

43.05

0+50

S	3.5	39.6
cb	4.3	38.8
1/4	5.0	38.1
M	6.9	36.9
1/4	7.4	35.7
cb	8.7	34.4
+6	8.5	34.6
N	5.3	37.8

0+75

N	7.5	35.4
+8	9.8	33.3
cb	9.2	33.9
1/4	8.3	34.8
M	7.9	35.2
1/4	6.7	36.4
cb	6.1	37.0
S	4.5	38.4

43.05

1+0

39

S	5.4	37.7
cb	6.3	36.8
1/4	6.6	36.5
M	9.3	33.8
1/4	9.8	33.3
cb	11.2	31.9
+10	12.2	30.9
N	9.6	33.4

1+25

N	10.9	32.2
+4	13.0	30.1
cb	13.4	29.7
1/4	10.6	32.5
M	9.6	33.4
1/4	6.9	36.8
cb	6.3	36.8
S	6.6	36.5

43.05

1+50

S	6.6	34.5
erb	7.7	35.4
"A	9.5	33.6
M	11.4	31.7
"A	12.5	30.6
erb	14.0	29.1
+ 8	13.6	29.5
N	11.1	33.0

1+75

N	12.0	31.1
+ 6	14.2	28.9
erb	14.6	28.5
"A	13.8	29.3
M	12.6	30.5
"A	10.9	32.2
erb	8.9	34.7
S	6.5	36.6

4305'

2+0

40

S	8.5	34.6
erb	9.9	33.2
"A	10.4	33.7
M	12.4	30.7
"A	13.7	29.4
erb	14.9	28.2
+ 12	14.1	29.0
N	12.7	30.4

2+25

N	13.1	30.0
+ 2	14.7	28.4
erb	14.9	28.9
"A	14.3	28.8
M	12.5	30.6
"A	11.0	32.1
erb	9.8	33.3
S	7.0	36.1

43.05

2750

S	5.1	38.0
crk	7.8	35.3
"14	8.9	34.2
M	10.9	32.2
"14	13.0	30.1
+4	13.1	30.0
+5	15.0	28.1
crk	15.7	27.4
+11	15.6	27.5
N	14.6	28.5

2775

N	17.4	25.7
+4	16.2	26.9
+5	19.6	28.1
crk	12.8	30.3
"14	11.9	31.2
M	9.6	33.5
"14	8.0	35.1
crk	6.5	36.6
S	4.5	38.4

43.05

3+0

41

S	3.1	40.0
crk	4.4	38.7
"14	6.5	36.6
M	8.7	34.4
"14	11.5	31.4
crk	13.1	40.0
N	15.4	27.7

3+25

N	14.5	28.6
crk	10.2	32.9
"14	8.3	34.8
M	5.6	37.5
"14	3.6	39.5
crk	2.3	40.8
+11	1.8	41.3
+13	3.1	40.0
S	3.3	39.7

43.05

3+50

S	4.0	39.1
+1	3.7	39.4
+3	1.7	41.4
crk	2.1	41.0
"A	2.9	40.8
M	3.6	39.6
"A	6.9	36.7
crk	8.5	34.6
N	12.8	30.3

3+75

N	12.2	30.9
crk	9.4	33.7
"A	6.7	36.4
M	4.0	39.1
"A	2.9	40.2
crk	2.6	40.5
+11	2.2	40.9
+13	4.4	38.7
S	4.6	38.5

43.05

4+0

42

S	6.1	37.0
+1	5.9	37.2
+3	4.0	39.1
crk	4.0	39.1
"A	4.0	39.1
M	4.8	38.3
"A	6.5	36.6
crk	9.4	33.7
N	11.3	31.8

4+25

N	21.9	21.2
+5	19.9	23.2
+10	9.4	33.7
crk	7.9	35.2
"A	6.2	36.9
M	5.7	37.4
"A	5.8	37.3
crk	6.3	36.8
+11	6.6	36.5
+13	8.1	35.0
S	8.5	34.6

43.05

4+50

S	11.6	31.5
+1	11.5	31.6
+3	10.6	32.5
crk	9.8	33.3
"4	9.3	33.8
+11	9.3	33.8
M	10.5	32.6
+5	13.5	29.6
"4	16.9	26.2
+9	22.2	20.9
crk	22.5	20.6
N	22.8	20.3

T.P. 0.27 30.47 2.85 30.20

4+75

N	6.8	23.7
+6	9.7	20.8
crk	11.0	19.5
"4	9.8	20.7
M	10.6	19.9
+7	10.1	20.4
"4	1.7	28.8
crk	1.5	29.0
S	2.0	28.5

Note - for Location &amp; elevations of N.C.20.

Tracks see book 404 p58

5+0 43.05

43

S	4.5	38.6
crk	6.0	36.8
+6	11.3	31.8
"4	11.4	31.7
M	10.4	32.7
"4	12.2	30.9
+6	11.3	31.8
crk	8.5	34.6
N	11.0	32.1

5+25

N	15.1	28.0
crk	14.1	29.0
"4	11.5	31.6
M	11.7	31.4
"4	11.5	31.6
crk	11.1	32.0
S	10.8	32.3

30.47

5+50

S	12.9	17.6
crk	12.1	18.4
+ 9	12.1	18.4
+ 6	13.4	17.1
"A	14.1	16.4
M	15.4	15.1
"A	15.6	14.9
crk	16.7	13.8
N	17.1	13.4

5+75

N	16.6	13.9
crk	18.8	11.7
"A	18.0	12.5
M	17.3	13.3
"A	15.6	14.9
crk	14.8	15.7
S	12.3	18.2

30.47

6+0 = W.L. 32<sup>nd</sup> 5+

44

S	17.8	12.7
crk	18.3	12.3
"A	19.6	10.9
M	18.3	12.3
"A	17.2	13.3
crk	17.0	13.5
N	15.1	15.4



x-section 22<sup>nd</sup> St N St to S.L.  
 Shermans Add. 22<sup>nd</sup> 80' wide  
 B.M.P.P. 50K cot 215<sup>th</sup> N St

51.7  
 109  
 42.85

Quaker  
 Shave  
 Oil

45

B.M 8.82 51.67

S.L. "N" St

W		5.2	46.5
crk		5.2	46.5
"4		5.2	46.5
M		5.0	46.7
"4	POLED	4.8	46.9
crk		4.5	47.2
E		4.2	47.5

0+25.5

E		4.0	47.7
crk		4.4	47.3
"4	OSTED	5.0	46.7
M		5.6	46.1
"4		5.7	46.0
crk		6.2	45.5
W		6.3	45.4

0+50

W		6.9	44.8
crk		6.3	45.4
"4		6.0	45.7
M		5.7	46.0
"4		5.3	46.4
crk		5.2	46.5
E		3.9	47.8

0+75

E		4.0	47.7
crk		4.4	47.3
"4		5.2	46.5
M		5.7	46.0
"4		6.2	45.5
crk		6.6	45.1
W		7.2	44.5

51.67

1+0

W	7.3	44.4
erb	6.7	45.0
"4	6.1	45.6
M	6.0	45.7
"4	5.6	46.1
erb	5.1	46.6
E	5.4	46.3

1+29<sup>25</sup> = S.L. Shermans Add

E	5.5	46.2
erb	5.4	46.3
"4	6.0	45.7
M	6.1	45.6
"4	7.1	44.6
erb	7.9	43.8
W	8.5	43.2

46

X-500 Duince st from 100' E of 2<sup>nd</sup> st To *Quinta*  
 W.L. 3<sup>rd</sup> st Duince st 80' wide *Shaw*  
 B.M. brass sig 2<sup>nd</sup> Duince 263.03 *Reigel*

269.04

47

B.M. 6.01 269.04

170 E of Second st

N 2.6 266.4

+ 4 = con side walk 3.15 265.29

con-curb 3.32 265.72

"4 POSTED 4.10

M 4.10

"4 POSTED 5.2

con curb 5.02 264.00

S = con side walk 4.52 264.52

1725

S 5.7 263.3

curb 6.3 262.7

gutter 6.7

"4 5.8

M 4.8

"4 4.7

gutter 4.9

curb 4.7 264.8

+ 10 3.7 265.3

N 3.1 265.9

N 3.8 265.2

+ 4 4.7 264.3

curb 5.3 263.7

gutter 5.7

"4 5.9

M 5.7

"4 6.8

gutter 7.9

curb 7.2 261.8

S 6.9 262.1

1775

S 8.1 260.9

curb 8.0 261.0

gutter 8.7

"4 7.6

M 6.8

"4 6.5

gutter 6.6

curb 6.2 262.8

+ 11 5.3 263.7

N 4.5 264.5

269.04

2 to = W.L. 3 + 5 +

N	5.8	263.2
arb	6.2	262.8
gutter	6.9	
14	7.3	
M	7.5	
14	8.2	
carb	9.1	259.9
5	9.2	258.8

48

Levels at intersection of Ninth & <sup>5</sup>/<sub>21</sub> Demuth  
 Robinson St showing location of graded 109 Shaw  
 Road & Elevations  
 Dugill

B.M. 106 S.W. Cor. Robinson & Ninth St 251.22  
 No 1 251.22

B.M. 1 9.97 261.69

Sec "A"

POSTED

0+0 S.W. Cor Rob. & 9<sup>th</sup> 0.0 261.7

0+10<sup>5</sup> W. Side of graded road 11.1 250.6

0+23 = E.L. 11 11 9.8 261.9

T.P. 0.06 250.30 11.45 250.24

N.W. Rob & 9<sup>th</sup> St 12.6 137.7

Sec "B"

0+0 = S.W. Cor N 12 of Rob & 9<sup>th</sup> + 1.9 252.2

0+23 = W.L. Road 4.7 245.6

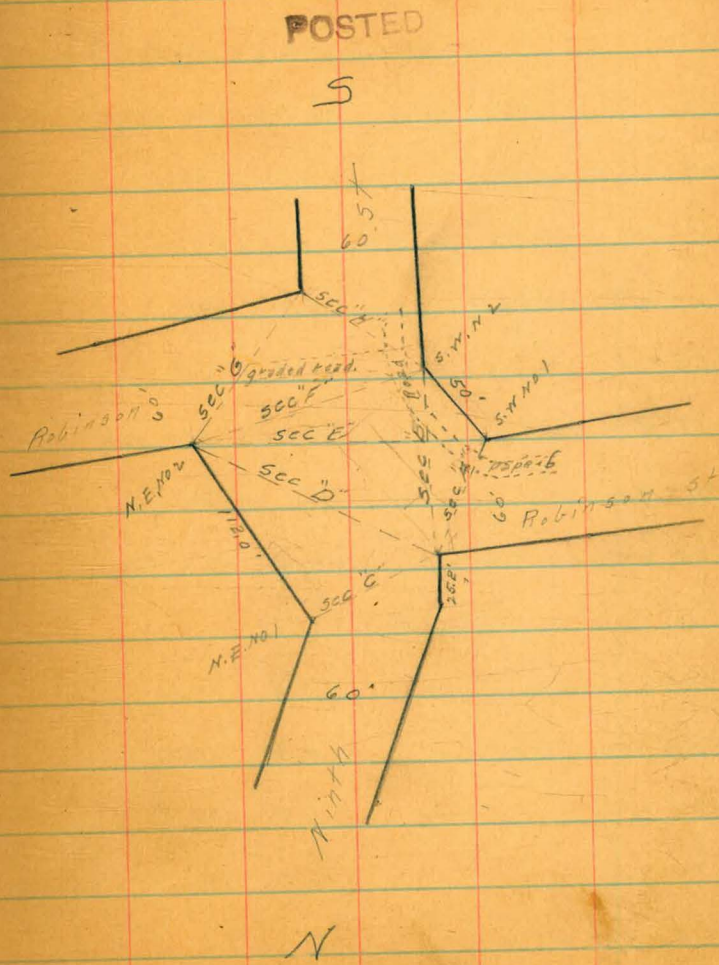
0+97<sup>5</sup> = E.L. 11 0.8 249.5

Sec "C"

0+0 = N.W. Cor Rob & 9<sup>th</sup> St 12.6 137.7

0+34 12.6 137.7

0+75 = N.E. Cor No 1 Rob & 9<sup>th</sup> 0.6 249.7



250.30

## SEC "D"

0+0 = N.W. COR Robt 9 <sup>th</sup>	12.6	237.7
0+50	13.8	236.5
1+0	10.0	240.3
1+41 = N.E. COR No 2	3.0	247.3

## SEC "E"

0+0 = N.E. COR No 2	3.0	247.3
0+50	15.7	234.6
1+09 = E.L. ROAD	3.6	246.7
1+39 = W.L. "	2.1	248.2
1+56 = S.W. COR No 1	+11.4	261.7

## SEC "F"

0+0 = S.W. COR No 2	+1.9	252.2
0+19 = W.L. ROAD	2.3	243.0
0+29 = E.L. "	2.5	242.5
0+75	16.7	233.6
1+25 = N.E. No 2	3.0	247.3

## SEC "G"

50

0+0 = N.E. COR No 2	3.0	247.3
0+34 = center road leading E. on Robinson 11.1		
0+96 = S.E. COR Robt Ninth	18.8	231.5

## SEC "G"

0+0 = S.W. COR No 2	+1.9	252.2
0+20 = W.L. ROAD	8.2	242.1
0+38	9.2	241.1
0+76 = S.E. COR Robt 9 <sup>th</sup>	18.8	231.5

Levels at intersection of Pennsylvania & 5<sup>th</sup>/<sub>109</sub> Sample  
 Ninth St showing location & levels of *Spur*  
 graded road *Drill*

B.M. 3. N.W. Cor Penna 29 <sup>th</sup> St	251.22	252.22
B.M.	9.97	241.69
T.P.	0.06	250.20
T.P.	11.45	250.24
T.P.	20.15	237.47
T.P.	12.98	237.32
T.P.	4.93	229.66
T.P.	12.29	225.23

SEC "A"

0+0 = N.W. Cor Penna & 9 <sup>th</sup> St	4.9	224.8
0+11 = W.L. Road	5.8	223.9
0+26 = E.L. "	5.9	223.8
0+64 <sup>3</sup> = N.E. Cor Penna & 9 <sup>th</sup> St	9.7	220.0

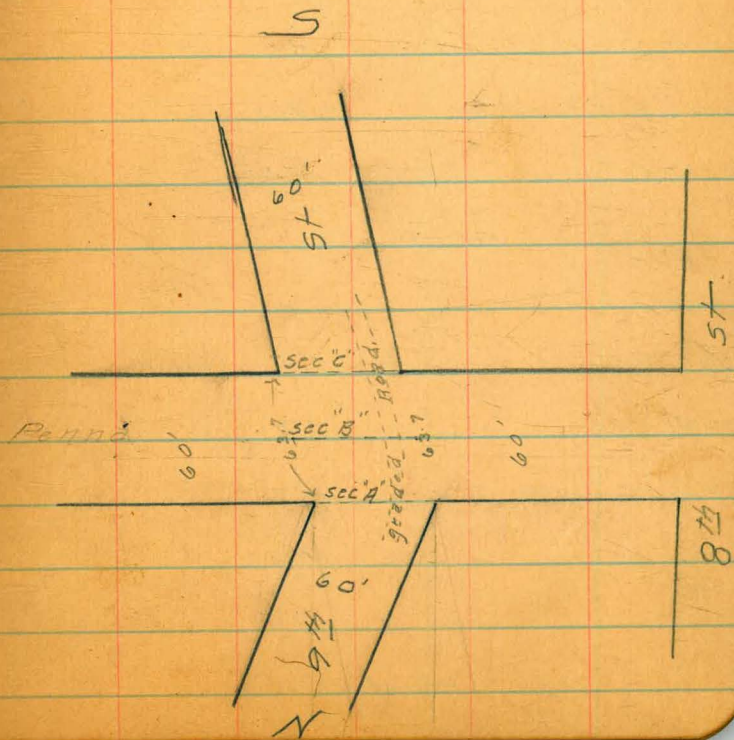
SEC "B"

0+0 = W.L. 9 <sup>th</sup> St	1.5	228.2
0+10 = W.L. Road	6.8	222.9
0+21 = E.L. "	6.7	223.0
0+64 <sup>3</sup> = E.L. 9 <sup>th</sup> St	8.4	221.3

SEC "C"

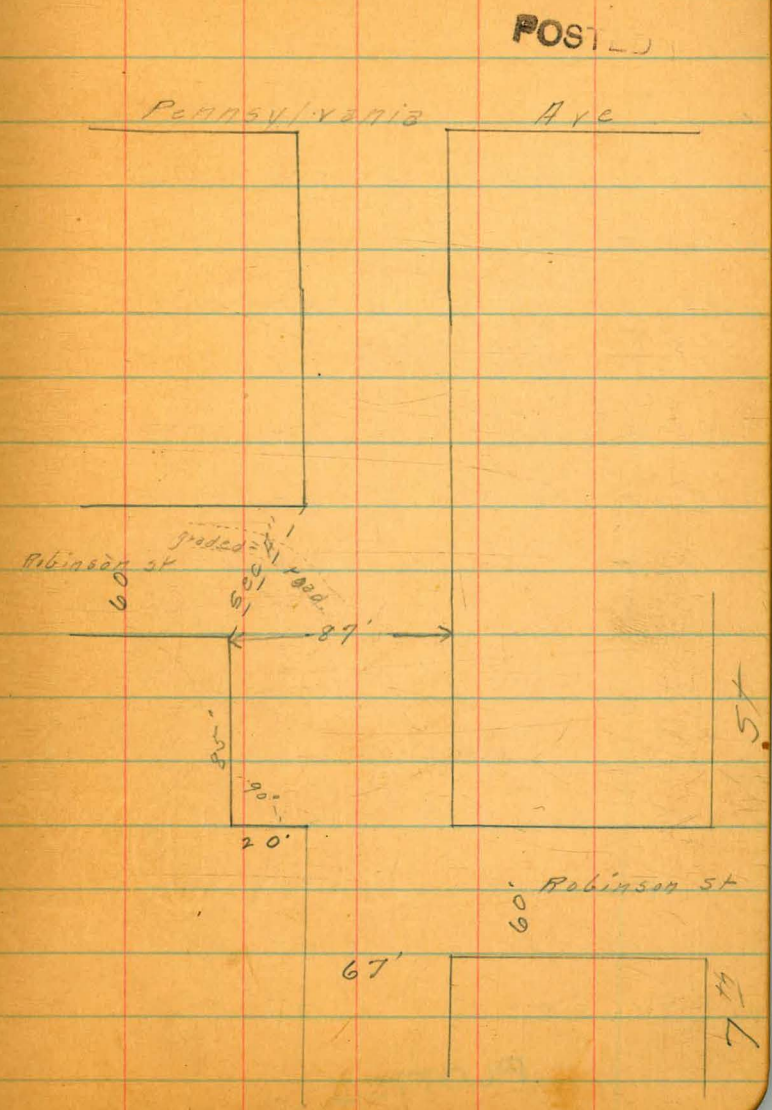
0+0 = S.W. Cor Penna & 9 <sup>th</sup> St	0.9	228.9
0+9 = W.L. Road	7.2	222.5
0+21 = E.L. "	7.9	221.8
0+64 <sup>3</sup> = S.E. Cor Penna & 9 <sup>th</sup> St	10.7	219.0

POSTED



Levels on 8<sup>th</sup> St Robinson to - 57/109 Dwyll  
 Robinson Spaw  
 B.M. base of Robinson & 6<sup>th</sup> St 285.51 Dwyll

B.M.	1.51	287.02		
T.P.	2.08	277.26	11.84	275.18
		S. L. Robinson 5 <sup>th</sup> St		
0+0 = 7 <sup>th</sup> S.W. cement walk		3.10		274.10
0+12 = Cement curb		3.3		274.0
0+33.0 = center bet present curb		5.2		272.1
0+53 = end cement curb		4.3		273.0
0+67 = E.L. for a 67' st		4.0		273.3
0+87 = E.L. for an 87' st		5.6		271.7
		0+25' S		
0+0 = E.L. 8 <sup>th</sup> St		16.6		266.7
0+21 = E.L. graded road		9.5		267.8
0+41 W.L.	11	11	8.3	269.0
0+60			15.4	261.9
0+75			14.7	262.6
0+87 = W.L. 8 <sup>th</sup> St			17.5	259.8
T.P.	0.66	266.84	11.08	266.18



POSTED



266.84

0+505

53

0+03  
W.L. 8<sup>th</sup> St 11.5 255.3

0+31 12.4 254.4

0+50 = W.L. Road 2.5 264.3

0+62 = E.L. " 2.6 264.2

0+87 = E.L. 8<sup>th</sup> St. 15.9 260.9

0+955 = N.L. Robinson

0+0  
E.L. 8<sup>th</sup> St 19.7 247.1

0+20 = E.L. Road 6.2 260.6

0+32 = W.L. " 5.8 261.0

0+50 19.2 248.6

0+87 = W.L. 8<sup>th</sup> St 21.0 245.8

SEC "A" see Plot P 52

0+22 = S.E. Cor. Plot 88<sup>th</sup> St 2.7 264.1

0+20 = S.L. Road 5.5 261.3

0+37 = N.L. " 6.7 260.1

0+63<sup>8</sup> = N.E. Plot 8<sup>th</sup> 19.7 247.1

PLOTTED

Locals Dalbergia st. from 21st to 372 To  
 City Limits " 100' wide  
 B.O. R.R. 50K Boston to 31st St 50.52

Dunk  
 Shun  
 Bignell

48.93

54

3rd	5.95	56.47		
T.P.	1.43	49.60	8.30	47.07
T.P.	4.68	48.93	5.35	44.25

POSTED 31st St

E 4.7 44.2

cta 2.5 40.4

W 14.5 34.4

2+5.0 S

W 11.3 37.6

cta 7.2 41.7

E 4.1 44.8

140

E 4.1 44.8

cta 7.6 41.3

W 11.5 37.4

PLOTTED

1+50

W 10.7 38.2

cta 7.2 41.7

E 3.8 45.1

2+10

E 3.5 45.4

cta 5.2 43.7

W 7.5 41.4

2+45

W 5.2 43.7

cta 4.7 44.8

E 5.6 43.3

2+76 on center line

center 7.4 41.5

2+97 on W. line

W 9.3 39.6

T.P. 2.92 38.78 12.57 36.36

T.P. 0.81 26.93 12.66 26.12

26.93

+70 on E line

E 8.1 18.8

3+0 on center line

center 2.5 18.4

3+17 on W line

W 7.3 17.6

+793 on E line = W rail N.C.D.O.

E 51.0 21.8

3+50

E 22.3 4.6

+759 - W rail N.C.D.O.

6.5 20.4

W 12.0 14.9

4+0

W 8.7 18.2

+75 - W rail

2.6 19.3

ctr 26.5 0.4

E 28.5 -1.6

PLOTTER

26.93

on W line

+708 - W rail N.C.D.O.

55

W 7.8 19.1

+725 on W.L. - RR bridge abutment

W Top 10.3 14.6

bottom 28.5 -1.6

T.P. 0.84 15.13 12.64 14.29

T.P. 2.46 4.93 12.66 2.97

+750

E 9.2 -4.3

ctr 6.0 -1.1

W 6.9 -2.0

5+0

W 9.9 -5.0

ctr 8.5 -3.6

E 9.0 -4.1

493

5750

E	6.1	-1.2
ctr	5.6	-0.7
W	8.0	-3.1

470 = N.L., Plots 57 60'

W	6.4	-1.5
ctr	8.3	-3.4
E	4.8	0.1

center

E	6.1	-1.2
ctr	8.3	-3.4
W	4.8	0.1

S.L. Plots.

W	8.3	-3.4
ctr	8.3	-3.4
E	6.1	-1.2

PLOTTED

493

0+50 E

56

E	6.0	-1.1
ctr	8.2	-3.3
W	8.3	-3.4

470

W	5.3	-0.4
ctr	8.3	-3.4
E	8.0	-3.1

1750

E	7.8	-2.9
ctr	7.9	-3.0
W	8.2	-3.3

270

W	7.8	-2.9
ctr	7.5	-2.6
E	7.9	-2.5

4.93

2+50

E	6.9	-2.0
ctc	7.3	-2.4
w	6.9	-1.5

3+0

w	7.1	-2.2
ctc	7.0	-2.1
E	7.2	-2.3

3+50

E	7.2	-2.3
ctc	7.3	-2.4
w	6.9	-1.5

4+0

w	6.5	-1.6
ctc	6.3	-1.4
E	7.2	-2.3

T.P.

6.52

6.73

4.72

0.21

PLOTTED

6.73

4+50

E	9.1	-2.4
ctc	7.8	-1.1
w	11.4	-4.7

5+0

w	8.8	-2.1
ctc	7.4	-0.7
E	3.4	3.3

5+50

E	3.1	3.5
ctc	5.1	1.5
w	4.2	2.5

5+55 on w.h. = E. rail N.C.O.

E rail	3.5	3.2
--------	-----	-----

5+55 on w.h. = w. rail N.C.O.

w rail	3.7	-3.0
--------	-----	------

57

6.73

6+0 = N.L. Bigel St, 60' wide

W	4.2	2.5
0+4 = w. rail	3.8	2.9
ctr	6.9	-0.2
E	5.0	1.7

6+05 = N. Rail Calif Southern R.R.

N. Rail	3.9	2.8
---------	-----	-----

Center

0+0 E Line	6.9	-0.2
------------	-----	------

0+32 = N. Rail Calif Sou.	3.9	2.8
---------------------------	-----	-----

ctr	7.7	-1.0
-----	-----	------

0+29 = w. rail N.C.O. R.R.	4.0	2.7
----------------------------	-----	-----

W	7.6	-0.9
---	-----	------

S.L. Bigel St

0+0 W. Line	8.9	-2.2
-------------	-----	------

0+17 = w. rail N.C.O.	4.1	2.6
-----------------------	-----	-----

0+29 = N. Rail Calif Sou.	4.0	2.7
---------------------------	-----	-----

center	9.2	-2.5
--------	-----	------

E	7.2	-0.5
---	-----	------

PLOTTED

6.73

58

0+24.5 = on W.L. - N. Rail Calif Sou. R.R.

N. Rail Calif Southern	4.2	2.5
------------------------	-----	-----

0+50.5

0+0 E.L.	7.4	-0.7
----------	-----	------

POSTED

ctr	10.1	-3.4
-----	------	------

0+71 = w. rail N.C.O. R.R.	4.1	2.6
----------------------------	-----	-----

W	8.4	-1.7
---	-----	------

1+0

0+0 W.L.	7.2	-0.5
----------	-----	------

0+36 = w. rail N.C.O.	4.1	2.6
-----------------------	-----	-----

ctr	4.5	2.2
-----	-----	-----

E	7.3	-0.6
---	-----	------

1+50

0+0 E.L.	6.9	-0.2
----------	-----	------

ctr	3.9	2.8
-----	-----	-----

0+57 = w. rail N.C.O.	4.3	2.4
-----------------------	-----	-----

W	7.4	-0.7
---	-----	------

6.73  
 Note: N.C.S.O. Track in center of st from sta 2+0 South  
 All center elev. taken on W. Fall,  
 2+0

W		7.3	-0.6
ctr		4.3	2.4
E		6.7	1.0

2+50

E		4.9	-3.2
ctr		4.4	2.3
W		6.5	0.2
T. P.	2.91	5.26	4.39
		3+0	2.35

W		5.5	-0.2
ctr		3.0	2.3
E		4.4	0.9

3+50

E		5.1	0.2
ctr		3.0	2.3
W		5.2	0.1

PLOTTED

5.26

4+0

W		6.6	-1.3
ctr		3.0	2.3
E		5.1	0.2

4+50

E		5.1	0.2
ctr		3.0	2.3
W		5.2	0.1

5+0

W		5.3	0.0
ctr		3.0	2.3
E		5.4	-0.1

5+50

E		4.6	0.7
ctr		3.0	2.3
W		5.5	-0.2

5.26

6+0=11.1, Side st 60' wide

W	5.5	-0.7
ctr	3.0	2.3
E	4.5	0.8

center

E	4.4	0.9
ctr	3.0	2.3
W	5.5	-0.7

S.L. Side st

W	5.5	-0.7
ctr	2.9	2.4
E	4.4	0.9

0+50.5

E	3.9	1.4
ctr	2.7	2.6
W	4.9	0.4

PLOTTED

5.26

1+0

W	4.6	0.7
ctr	2.5	2.8
E	3.9	1.4

1+50

E	7.6	-2.3
ctr	2.1	3.2
W	3.8	1.5

2+0

W	3.3	2.0
ctr	1.5	3.8
E	5.1	0.2

2+50

E	2.8	2.5
ctr	1.1	4.2
W	3.0	2.3

T.P.	11.53	14.29	2.50	2.76
------	-------	-------	------	------

59

POSTED



14.29

3+0

W	11.8	9.5
cte	9.1	5.3
E	12.9	1.4

3+50

E	11.9	2.4
cte	8.2	6.1
W	8.1	6.2

4+0

W	4.9	9.4
cte	7.2	7.1
E	13.2	1.1

4+50

E	9.1	5.3
cte	6.4	7.9
W	4.5	9.8

PLOTTED

14.29

5+0

W	4.8	9.5
cte	5.7	8.4
E	7.2	7.1

5+50

E	8.3	6.0
cte	4.8	9.5
W	5.1	9.2

6+0 = N.4 Thor st 60'

W	5.7	8.4
cte	3.9	10.4
E	8.6	5.7

T.P. 1114 19.72 5.67 8.62

center

E	12.8	6.9
cte	8.6	11.1
W	12.1	7.6

60

1972

S.L. Trout

W	10.9	9.3
ctr	8.0	11.7
E	10.6	8.1

0+503

E	8.8	10.9
ctr	6.8	12.9
W	8.1	11.6

1+0

W	5.7	14.0
ctr	5.5	14.2
E	6.9	12.8

1+50

E	4.9	14.8
ctr	4.1	15.6
W	6.3	13.4

PLOTTED

1972

2+0

W	5.3	14.4
ctr	2.9	16.8
E	2.6	17.1

2+50

E	1.1	18.6
ctr	1.6	18.1
W	3.8	15.9
T.P.	2.32	25.08
	3.46	16.26

3+0

W	6.9	18.9
ctr	5.9	19.8
E	4.4	20.7

3+50

E	2.9	22.2
ctr	5.0	20.1
W	5.4	19.7

61

25.08

4+0

W	4.0	21.1
ctc	4.5	20.6
E	2.7	22.4

4+50

E	3.3	21.8
ctc	4.4	20.7
W	4.7	20.4

5+0

W	5.4	19.7
ctc	4.4	20.7
F	4.5	20.6

5+50

E	5.5	19.6
ctc	4.4	20.7
W	6.4	18.7

PLOTTED

25.08

6+0 = Nil. Una st 60' wide

62

W	7.0	18.1
ctc	4.4	20.7
E	5.1	20.0

center

E	6.1	19.0
ctc	4.3	20.8
W	7.9	17.7

S + Una

W	7.3	17.8
ctc	4.3	20.8
E	6.5	18.6

0+50 S

E	5.3	19.8
ctc	4.2	20.9
W	6.4	18.7

POSTED

25.08

1+0

W	6.2	18.9
cte	4.2	20.9
E	7.8	20.3

1+50

E	4.1	21.0
cte	4.2	20.9
W	5.8	19.3

2+0

W	5.9	19.3
cte	4.2	20.9
E	4.40	20.7

2+50

E	5.2	19.9
cte	4.3	20.8
W	5.1	20.0

T.P. 8.51 23.11 10.48 1A.60

PLOTTED

23.11

3+0

W	5.0	18.1
cte	2.5	20.6
E	3.7	19.4

3+50

E	4.8	18.3
cte	2.9	20.7
W	5.2	17.9

4+0

W	4.9	18.3
cte	3.5	19.6
E	5.5	17.6

4+50

E	6.9	16.7
cte	4.3	18.8
W	3.5	19.6

63

23.11

5+0

W	5.0	181
ctc	5.0	181
E		

5+50

E	7.9	152
ctc	5.9	172
W	5.8	173

6+0 = N.L. Vesta st 60' wide

W	8.3	148
ctc	6.3	148
E	6.7	144

center

E	7.7	154
ctc	6.9	167
W	8.4	147

T.P.

6.66

21.73

2.09 15.07

PLOTTED

21.73

3.4. Vesta

64

W	7.4	143
ctc	5.1	166
E	6.2	155

0+50 0

E	5.6	141
ctc	5.0	167
W	7.3	144

1+0

W	7.0	147
ctc	4.8	169
E	5.7	160

1+50

E	4.8	169
ctc	4.8	169
W	6.4	153

2173

2+0

W	6.0	15.7
ct	4.7	17.0
E	5.6	16.1

2+50

E	5.9	16.3
ct	4.7	17.0
W	6.2	15.5

3+0

W	5.7	16.0
ct	4.8	16.9
E	5.1	16.6

3+50

E	4.4	17.3
ct	4.9	16.8
W	5.7	16.0

PLOTTED

2173

4+0

W	5.3	16.4
ct	5.0	16.7
E	4.4	17.3

4+50

E	4.0	17.7
ct	5.3	16.4
W	4.2	17.5

5+0

W	4.9	16.8
ct	5.7	16.0
E	3.2	18.5

5+50

E	4.3	17.4
ct	6.8	14.9
W	5.4	16.3

65

2173

640 = N. 2. 39<sup>th</sup> St 60' wide

W	6.4	15.3
ctr	2.9	13.3
E	4.9	14.8

center

E	6.9	14.8
ctr	9.3	12.4
W	8.5	13.2

5.4. 39<sup>th</sup> St

W	10.4	11.3		
ctr	10.0	11.7		
E	9.8	11.9		
T.P.	3.49	13.33	11.89	9.84

0+50.5

E	5.8	7.5
ctr	7.7	10.6
W	3.7	9.6

PLOTTED

1333

66

1+0

W	4.4	8.9
ctr	3.6	9.7
E	2.3	5.0

1+50

E	2.9	4.4
ctr	4.2	9.1
W	2.4	4.9

2+0

W	9.6	3.7
ctr	4.6	8.7
E	8.8	4.5

2+50

E	2.9	4.9
ctr	4.9	8.4
W	9.4	3.9

13.85

3+0

W	9.3	4.0
cte	4.9	8.4
F	2.3	5.0

3+50

F	2.3	5.0
cte	5.1	8.3
W	9.1	4.2

4+0

W	8.9	4.4
cte	5.1	8.3
F	2.9	5.4

4+50

F	2.0	5.3
cte	5.1	8.3
W	5.6	4.7

PLOTTED

1333

5+0

W	2.3	5.0
cte	5.0	8.3
F	7.7	5.6

5+50

W	7.5	5.8
cte	4.5	8.8
W	2.3	5.0

T.P. 11.04

$\frac{15.56}{16.56}$      $\frac{2.81}{2.81}$      $\frac{4.52}{4.52}$   
 6+0 = N.L. Yama st 60 wide  
 16.56 H.L.

W	11.1	4.5
cte	2.1	8.0
F	10.2	4.4

center

F	10.5	5.1
cte	6.7	8.9
W	10.7	4.9

67

1333  
 $\frac{2.81}{2.81}$   
 $\frac{5.02}{5.02}$   
 $\frac{11.04}{11.04}$   
 $\frac{16.56}{16.56}$   
 $\frac{71}{71}$   
 71.6

+1.0



1556

52. Varna St

W	10.6	50
cte	6.3	9.3
E	10.1	55

0+50

E	9.6	60
cte	5.4	102
W	10.7	49

1+05

W	9.8	58
cte	4.2	114
E	9.5	61

1+50

E	8.6	70
cte	3.2	124
W	10.2	54

PLOTTED

1556

68

2+0

W	10.5	51
cte	1.7	13.9
E	9.1	65

2+50

E	7.8	7.8
cte	0.1	155

W	10.3	53
T.P.	11.71	26.64
		0.63
		14.93
		3+0

W	16.3	10.3
cte	9.8	16.8

E	11.3	11.3
---	------	------

3+50

E	0.9	26.9
cte	3.1	18.5
W	5.0	21.4

T.P.

PLOTTED

	0.67	25.97
		26.01

36.45 3+50  
Plate  
5.5.4

+1.0

POSTED

	610	6.96		0.82	Bm train
Ed Rigo DR			440		Rigo
TP			1,37	5.59	
TP	400	6.76	420	276	6.96
Ed Live S Ruis			390	2.9	420
TP	1062	14.32	306	370	276
Ed Thm			255	11.8	420
TP	1040	23.26	146	12.86	370
Ed Yuma S Ruis	291	23.67	250	20.76	10.62
TP			917	14.80	14.32
Ed Vista	50		540		2.55
TP	527	22.14	530	16.87	11.8
W.L. 29			915	13.0	14.32
Ed 29	112	12.86	1040	11.74	10.62
Ed Yuma			25	183	11.8
			0.41	1240	12.86

	230	14.74	1244
Ed Yuma 2		84	63
Ed Yuma S		87	60
		10.80	
W.L. 29		120	91
100 W		22	86
100 W		18	90

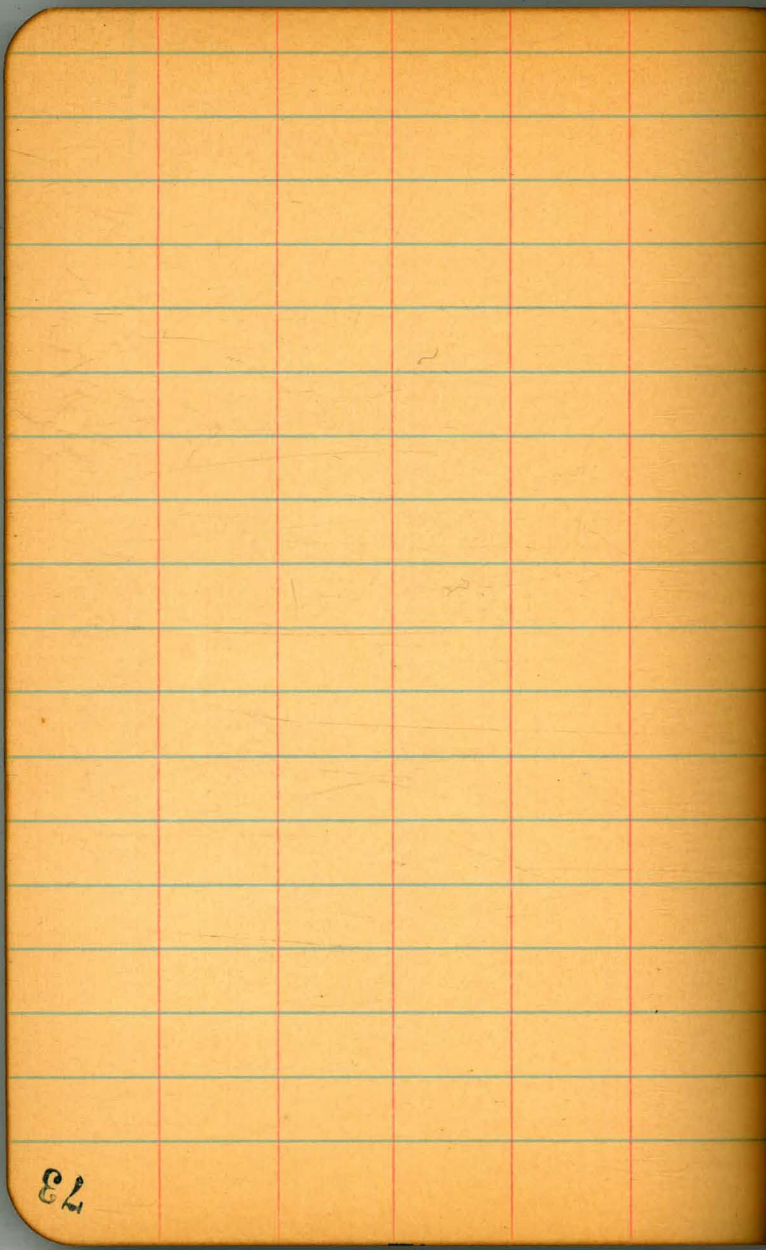


70

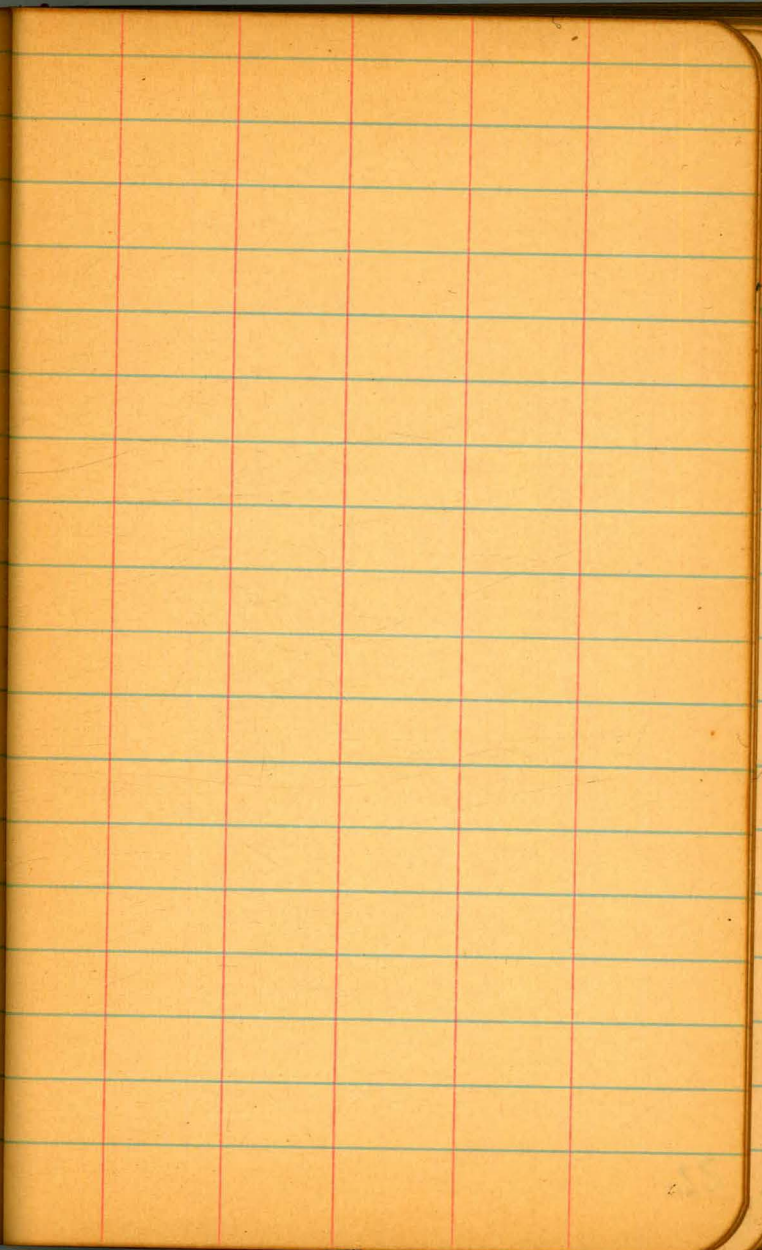




22



23





74







To	1209	1768		559	13 <sup>m</sup>
	1023	2526	265	1503	Collection
	940	2820	646	1880	13 <sup>m</sup> 17.68
	572	3300	092	2288	13 <sup>m</sup> 265
			467	2833	1503
					1023
					2526
					646
					1880
					2288
					2833
					28.20
					28.90
					27.28
					28.72
					33.00
					4.67
					28.33

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Materials, Mathematical Instruments, etc., San Francisco.

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		¼ DEGREE.		¼ 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.		¼ DEGREE.		¼ DEGREE.		¼ DEGREE.		

1080

39  
4.99  
4.58  
3.9  
14.29

40.4  
12.8  
53.2  
13.2  
67.0  
12.8  
20.2  
53.0