ys

F.B.1

2

1

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 | 2⅓ | 21 | 49 | 41 | 95⅔ |
| 2 | 4⅔ | 22 | 51⅓ | 42 | 98 |
| 3 | 7 | 23 | 53⅔ | 43 | 100⅓ |
| 4 | 9⅓ | 24 | 56 | 44 | 102⅔ |
| 5 | 11⅔ | 25 | 58⅓ | 45 | 105 |
| 6 | 14 | 26 | 60⅔ | 46 | 107⅓ |
| 7 | 16⅓ | 27 | 63 | 47 | 109⅔ |
| 8 | 18⅔ | 28 | 65⅓ | 48 | 112 |
| 9 | 21 | 29 | 67⅔ | 49 | 114⅓ |
| 10 | 23⅓ | 30 | 70 | 50 | 116⅔ |
| 11 | 25⅔ | 31 | 72⅓ | 51 | 119 |
| 12 | 28 | 32 | 74⅔ | 52 | 121⅓ |
| 13 | 30⅓ | 33 | 77 | 53 | 123⅔ |
| 14 | 32⅔ | 34 | 79⅓ | 54 | 126 |
| 15 | 35 | 35 | 81⅔ | 55 | 128⅓ |
| 16 | 37⅓ | 36 | 84 | 56 | 130⅔ |
| 17 | 39⅔ | 37 | 86⅓ | 57 | 133 |
| 18 | 42 | 38 | 88⅔ | 58 | 135⅓ |
| 19 | 44⅓ | 39 | 91 | 59 | 137⅔ |
| 20 | 46⅔ | 40 | 93⅓ | 60 | 140 |

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

MICROFILMED

PUBLISHED BY
EDWARD DENNY & CO.
DRAWING PAPER & MATERIAL, MATHEMATICAL INSTRUMENT
STATIONERS AND PRINTER
SAN FRANCISCO, CAL.

**Table for Running on Slopes.**

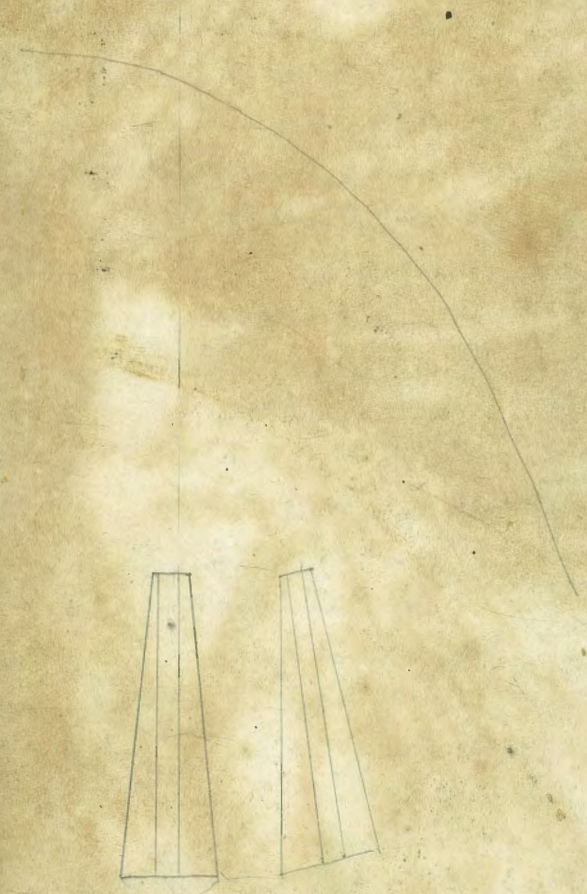
In the following table the first column shows the angle, the second, th
links to be added to a chain on the slopes, to make one chain, horizontal measu

| Angle. | Cor. in links. | Angle. | Cor. in links. | Angle. | Cor. in links. | Angle. |
|---|---|---|---|---|---|---|
| ° | | ° | | ° | | ° |
| 4 | 0·24 | 11 | 1·88 | 18 | 5·14 | 25 |
| 5 | 0·38 | 12 | 2·24 | 19 | 5·76 | 26 |
| 6 | 0·55 | 13 | 2·63 | 20 | 6·42 | 27 |
| 7 | 0·76 | 14 | 3·06 | 21 | 7·11 | 28 |
| 8 | 0·98 | 15 | 3·53 | 22 | 7·85 | 29 |
| 9 | 1·24 | 16 | 4·02 | 23 | 8·64 | 30 |
| 10 | 1·55 | 17 | 4·56 | 24 | 9·47 | 35 |

City Surveys Jan 1 1889 to
City Engineers Office

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

E. T. Wheeler transit



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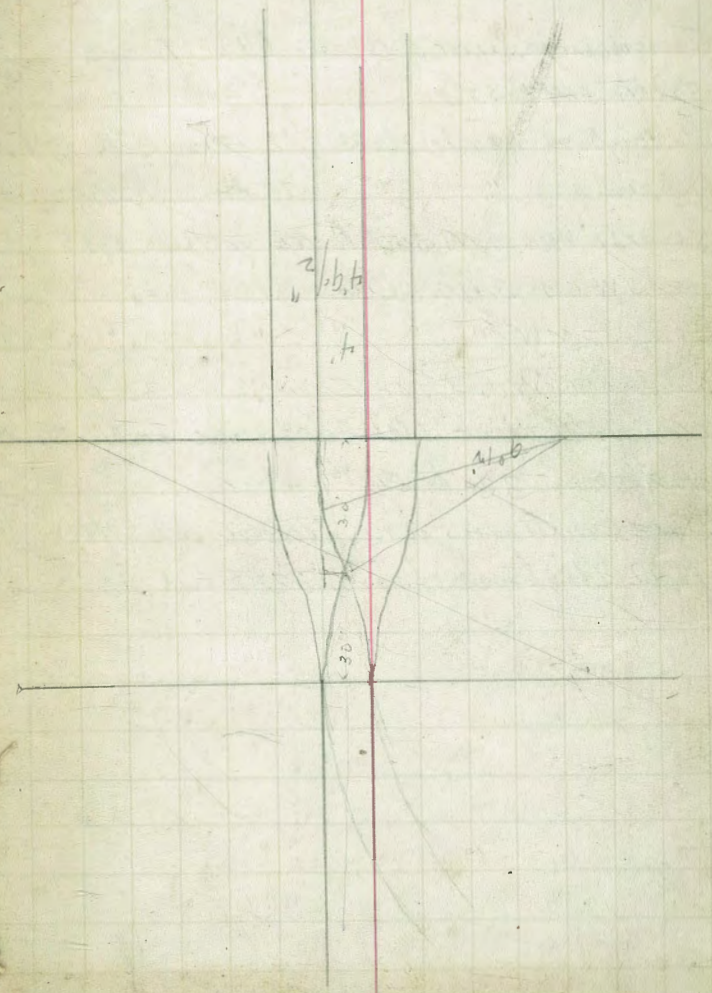
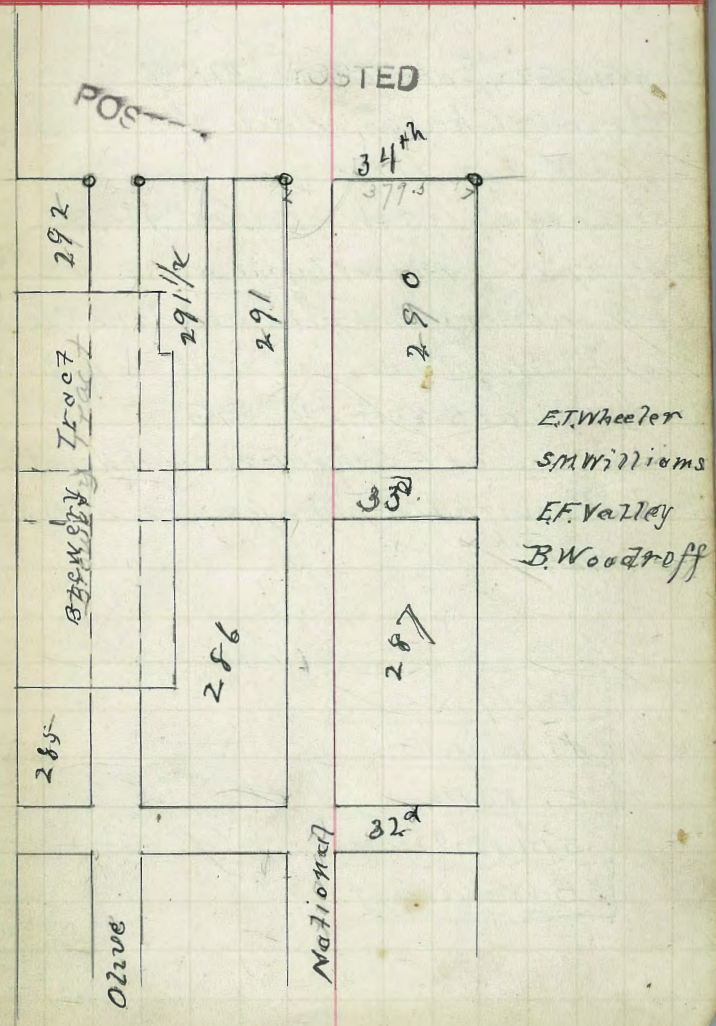


January 3 1889

Running line of Olive Ave from 32d to 34th Sts
Set up on scarf stake S.E. Cor Blk 290
B.S. on " " S.E. cor Blk 290
Reverse Meas W 300" to N.E. cor Blk 291 1/2
on S W cor 34th & Olive Ave set stake
380" to N W " " " " " "
~~Meas 600' West for East line 33d St~~
We found that the distance falls short
4.5 from 32d to 34th St
The x sections are taken at the
full distance from 32nd St




E.T. Wheeler
S.M. Williams
E.F. Valley
B. Woodroff

January 5 1889 (PM)

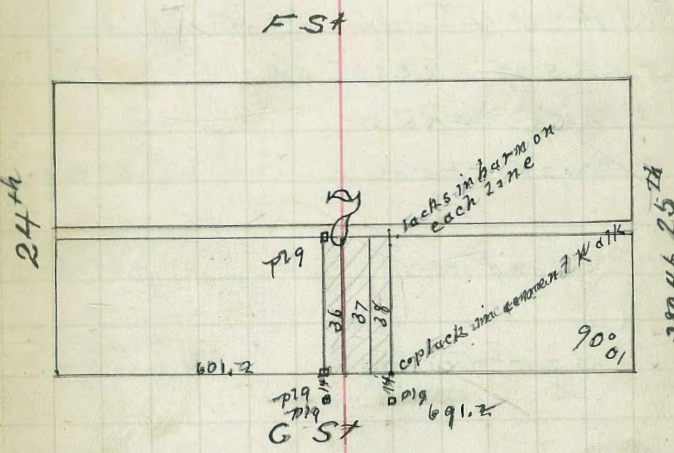
Checking Svy of Lots 36, 37, 38 BLK 7
Breed & Chase's Add for
O W Sanford

set up on plg 13'S & W of Cen 25th & G, B.S. on pt. 27" N of Plg set by me at SE cor 26th & G Reversed & produced line West to 24th St. This line is 18.06 feet N of Mon at SW cor 24th & G
The line of F St centers which we use checks with old plg & fence cor at NE F & 24th

| Party |
|---|
| E.T. Wheeler. |
| E.F. Valle. |
| S.M. Williams. |
| B. Woodruff. |

1/4 day

J. M. Cultom owner




(These cors were set Dec 6 1888

3905
10162
14467

242
3329
275.29

Measurements to high water line

Jan 9 1889

| | | |
|---|---|---|
| from S.E. cor 28th & Colton South | 146.00 | |
| " 13 Pt 27th & Colton " | 13.70 | |
| " 13 Pt 26 & Topeka " | 242.0 plg on edge of bluff | |
| " E cor S. 27 & RR St S.W. | 177.0 | |
| " 13 Pt S 26th & RR St | | |
| " " " S 25th & Pierce | 690.0 | 594.15 to line plug on embankment |
| " " S 23 & Pierce | 748.00 | 7.1698 line plg near edge of Bluff |
| S 21st & Pierce | | 609.14 line plg on TPRR embank. |

74.23
594.11
568.38

Jan 12 1889

| B.M. | + | H.I. | − | Grade | Rod |
|---|---|---|---|---|---|
| Grades for M.A. Sexemeser at cor of Laurel & First St | | | | | |
| 225.41 | 1.65 | 227.06 | | 223.25 | 3.811 |
| | | | | 220.75 | 6.311 |
| # | 2.99 | 219.91 | 10.14 | Elev. 216.92 | |
| | | | 6.45 | 213.46 | |

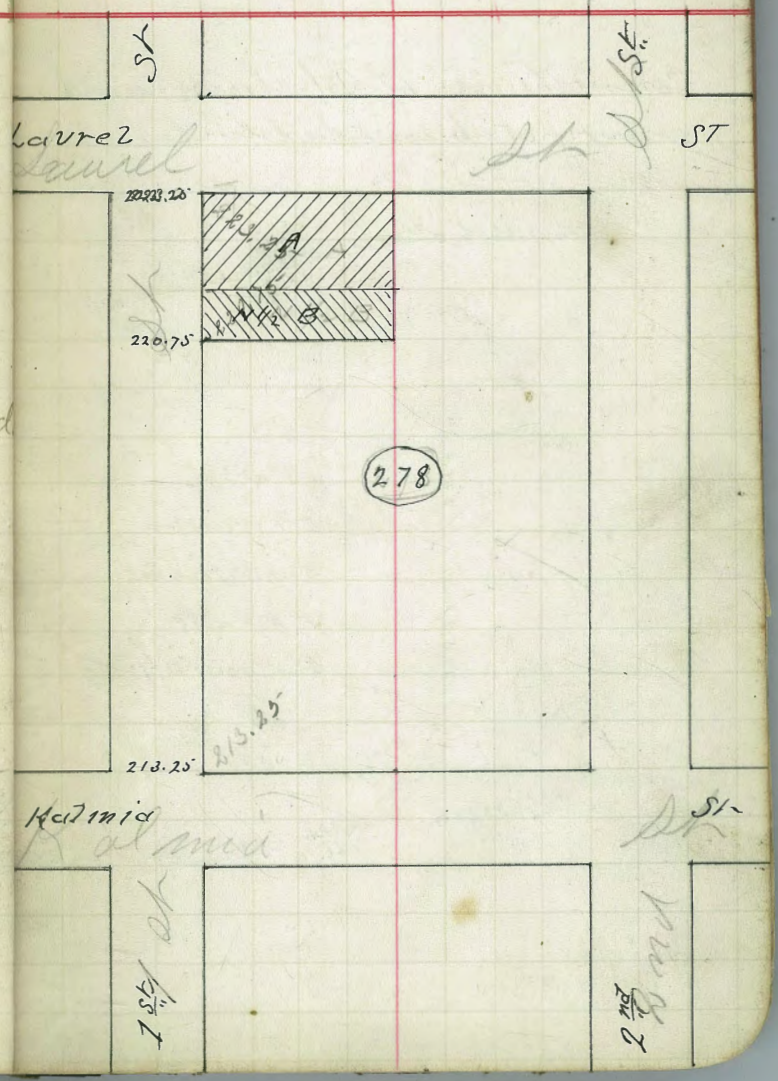
Lot A & N1/2 B Blk 278 Hortons Ad

H. Hamlin

H. P. Orton

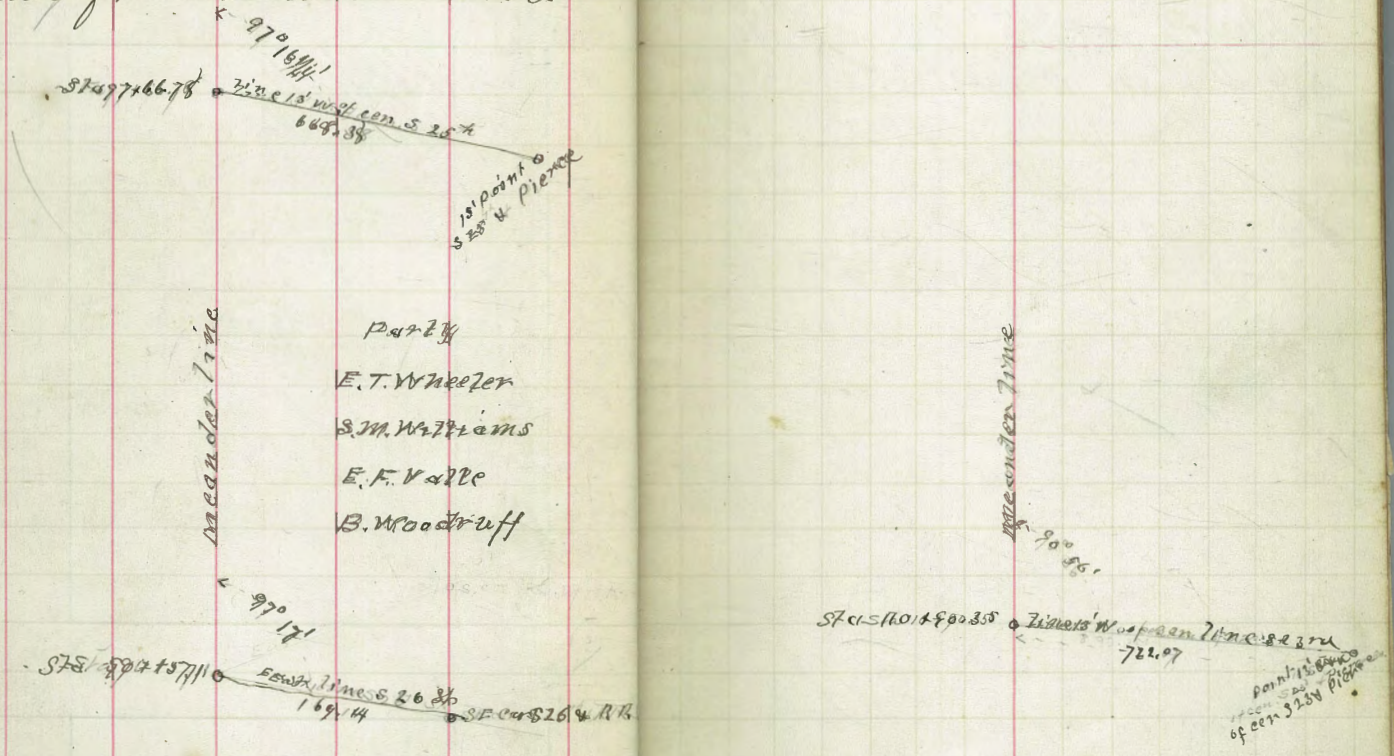
H. Hamlin Level

Jan. 12 1889 H.P. Orton Rod.



June 16 1889

Connections of St. lines with water front meander line



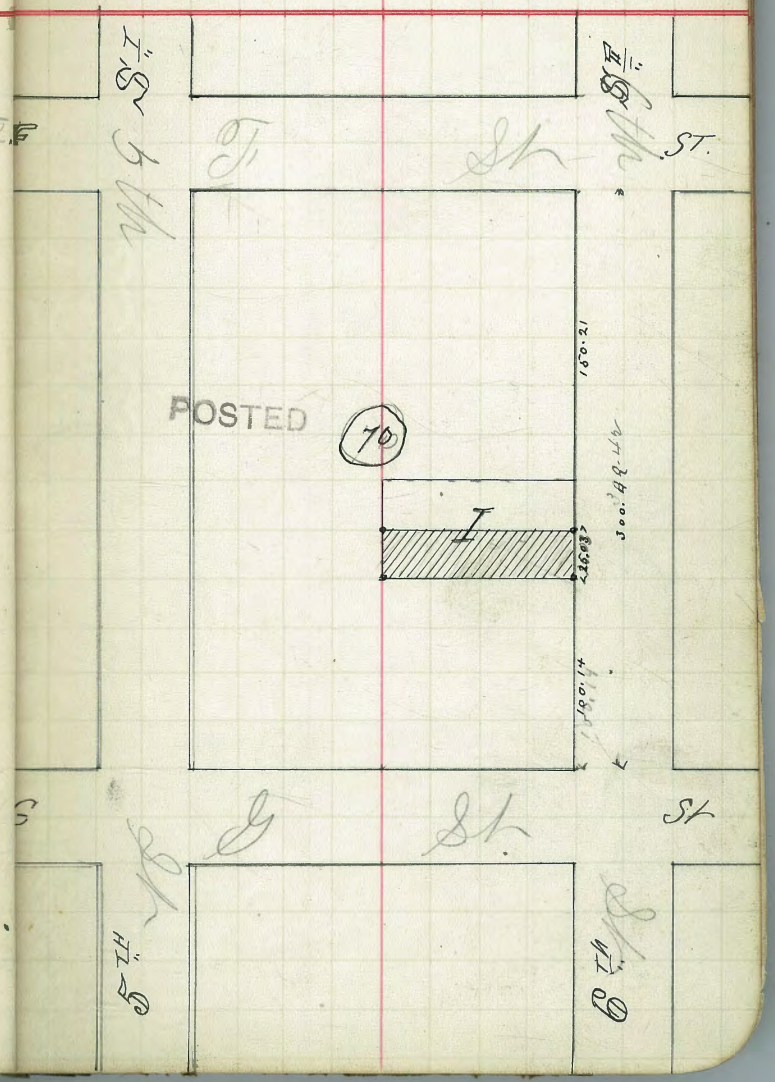
Jan 21 1889

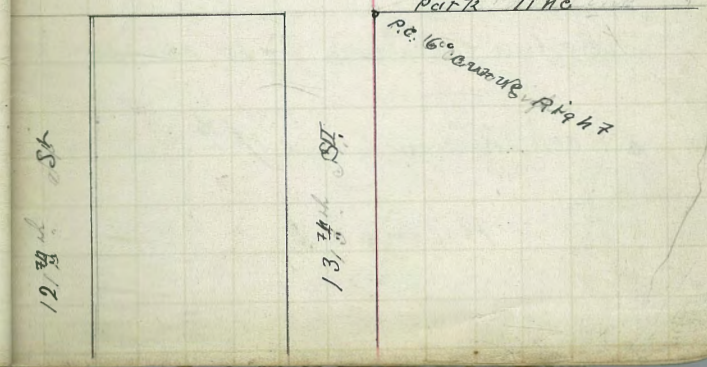
Jan 21 st 1889

Hamlin
Orton
Egan.

Survey of S 1/2 of Lot 1 of Blk 70
Horton Add H for H Hamlin pts
H Lewis per. S G Ingle.
S. G. Ingle Owners 0.0.72

H Hamlin
H P Orton
H. Egan




Park line
P.C. 16°
12/29th St
13/24th St

POSTED

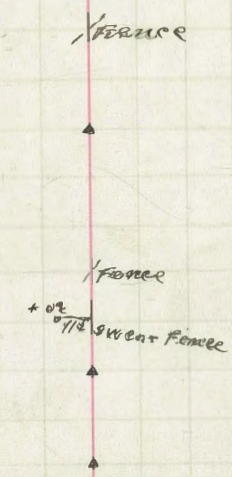
5
+50
4
+500 9°41
3
+97.8 P.C.C. 5°30'R Δ 42° Rad. 1041.84 Semi Tang 40
+50
2
+50 11°30
1
+85.5 P.R.C. 10°50'R Δ 23° Rad. 529' Semi tang 1007.
+42.8 5°40
0 B.C. 20°30'L Rad. 280 Semi tang 483.
Tot ang 17°30'

Radius calculated for 50' chords

Back sight on E line 13th St

B line

2.978
855
7.123




Sta 0 is at the intersection of the South line of the City Park with the East line of 13th St

8
7
6
+45.4 E.C.
5
+55
4
+55
3
+55
+04' B.C. 10° L Δ 34°08' Semi tang 175.9
2
1
0 0

N 1° 07' W (Mag.)

N 33° 01' E (Mag.)

Sta 12+32.4 A 75 90° 90° 75 Sta 10+61.4 B

Continuation of Centre Line of Boulevard Alton Line of Park.

26
25
24
23
22
21
20
19
18
17
16
*73.6 Δ 48°15' Right.
15
14
13
12
11
10
9
8*50 Δ 7°23' Left

N 42° 44' E

N 55°30' W
mag.

| | | |
|---|---|---|
| 44 | | |
| 43 | | |
| 42 | | |
| 41 | | |
| 40 | | |
| + 149.4 | △ Δ 33°56" Right | |
| 39 | | |
| 38 | | |
| 37 | | |
| 36 | | |
| 35 | | |
| + 64.2 | △ Δ 23°30' Left | |
| 34 | | |
| 33 | | |
| 32 | | |
| 31 | | |
| + 31.1 | △ Δ 56°14' Left | |
| 30 | | |
| 29 | | |
| 28 | | |
| 27 | | |

POSTED

N 3°04' W

N 37°05' W

N 13°30" W

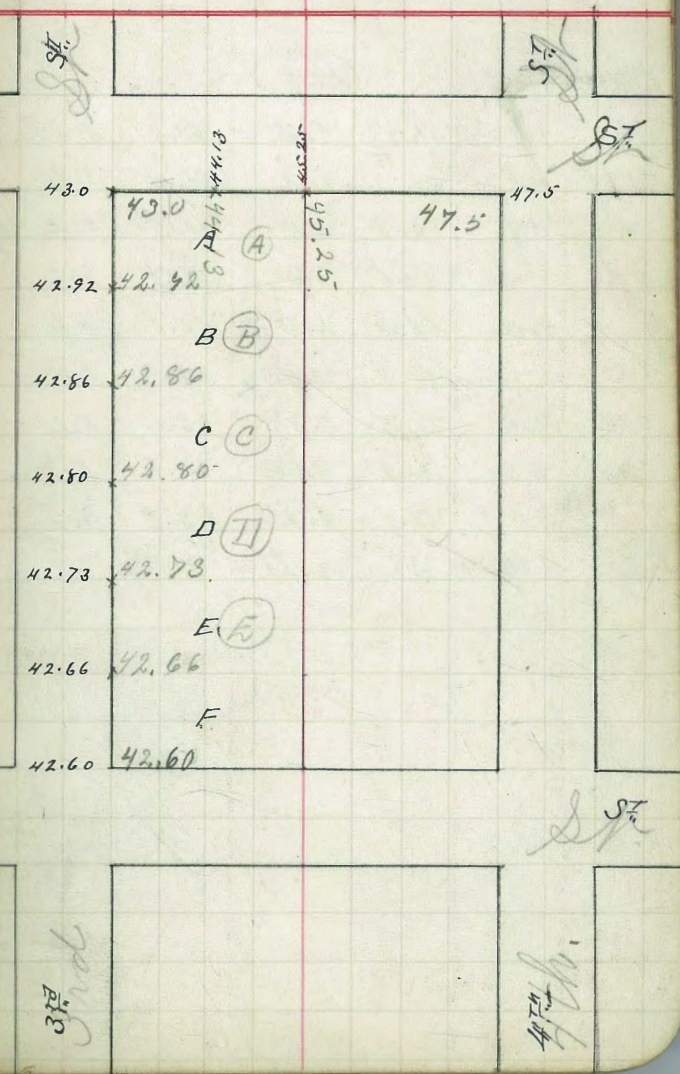
Jan 23 1889

| B.M. | + | H.I. | Grade | Rod | |
|---|---|---|---|---|---|
| Lines & Grades for curb for Horton House Blk 250' S from S.E.C. Cor of 3rd & C. and 100' East on C from S.E. Corner 3rd & C | | | | | |
| 40.00 | 7.67 | 47.67 | 42.66 | 5.01 | |
| | | | 42.73 | 4.94 | |
| | | | 42.80 | 4.87 | |
| | | | 42.86 | 4.81 | |
| | | | 42.92 | 4.75 | |
| | | | 43.00 | 4.67 | |
| | + | | | — | Elev |
| | 2.55 | 47.65 | | 2.57 | 45.10 |
| | | | 44.13 | 3.52 | |
| | | | 45.25 | 2.40 | |

H Hamlin
H. P. Orton
H Egan

Order J. Coleman
H. Hamlin
Orton
Egan

Jan 23 1889



Cross Sections of B.St. from 7th to 8th

Hamlin
Orton
Egan.



Cross For John H Gay Esq. 7th to 8th Jan 23 1893 Jan 23 1893

| Sta | N | Elev. | S.W. | Elev | Centre | Ele | + | H.I. | − | Elev. |
|---|---|---|---|---|---|---|---|---|---|---|
| B.M. | | | H.I. 66.7 | | | | 5.97 | 66.65 | | 60.68 |
| 0 | 4.9 | 61.88 | 5.3 | 61.44 | 6.0 | 60 | | | | |
| +25 | 6.4 | 60.33 | 5.3 | 61.44 | 5.66 | 61 | | | | |
| +50 | 5.9 | 60.88 | 55.4 | 61.33 | 5.5 | 61 | | | | |
| +75 | 5.6 | 61.11 | 55.0 | 61.7 | 5.2 | 61 | | | | |
| 1 | 4.2 | 62.5 | 4.6 | 62.1 | 4.4 | 62 | | | | |
| +25 | 55.3 | 61.4 | 44.4 | 62.3 | 4.6 | 62 | | | | |
| +50 | 5.0 | 61.7 | 3.7 | 63.00 | 5.1 | 61 | | | | |
| +75 | 4.8 | 61.9 | 3.66 | 63.11 | 5.2 | 61 | | | | |
| 2 | 4.6 | 62.1 | 3.2 | 63.5 | 4.7 | 62 | | | | |
| B.M. | 8th & B.St. Streets | | | | | | | | 0.58 | 66.07 |

POSTED

Hamlin
Orton
Egan

For John H. Gay Jr

POSTED

Indexed in C x books
Indexed in Cross Section Book.

Cut & Fill stakes on B. St.
between 7th and 8th Streets

61.5 63.5
61.5 63.25

| Sta | East line Grade | East line Elev | East line cut or fill | Center line Grade | Center line Elev | Cut |
|---|---|---|---|---|---|---|
| 0 | 61.5 | 61.4 | -0.1 | 61.5 | 60.7 | -0. East line of 7th St. |
| +25 | 61.75 | 61.4 | -0.35 | 61.72 | 61.1 | -0. |
| +50 | 62.00 | 61.3 | -0.7 | 61.94 | 61.2 | -0 |
| +75 | 62.25 | 61.7 | -0.55 | 62.16 | 61.5 | -0. |
| 1 | 62.50 | 62.1 | -0.4 | 62.38 | 62.3 | -0 |
| +25 | 62.75 | 62.3 | -0.45 | 62.60 | 62.1 | -0 |
| +50 | 63.00 | 63.00 | Grade | 62.82 | 61.6 | -1. |
| +75 | 63.25 | 63.1 | -0.15 | 63.04 | 61.5 | -1. |
| 2 | 63.5 | 63.5 | Grade | 63.25 | 62.00 | = West line of 8th St. |

Park Boulevard

Park Boulevard



63

62

+50 ▲ Δ 12° 30' Left

61

60

59

58

57

56

55

+05 ▲ Δ 47° 16' Right

54

53

52

51

50

49

48 ▲ Δ 56° 55' Left

47

46

45

N 25° 18' W

N 12° 43' W

N 59° 59' W

| | | |
|---|---|---|
| + 82.3 | | — — North Line City Park — — — |
| 80 | | |
| 79 | | |
| 78 | | |
| 77.7 | Δ 1°58' Right | N 4°05' E |
| 76 | | |
| 75.5 | | |
| 74 | | |
| 73 | | |
| 72 | | |
| + 55.0 | Δ 27°25' Right | N 20°12' E |
| 71 | | |
| 70.0 | | |
| 69 | | |
| 68 | | |
| + 50 | | N 25°13' W |
| 67 | | |
| 66 | | |
| 65.5 | | |
| 64 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| +12 6 | E.C. | | | | | |
| 6 | | | | | | |
| +50 | | | | | | |
| 5 | | | | | | |
| +50 | 16°18' | | | | | |
| 4 | | | | | | |
| +50 | | | | | | |
| 3 3 | | | | | | |
| +50 | | | Rad 694 4 | | | |
| +19 5 | P.R.C. 8°16' Left | | Δ 32°30' | Semitang 202 4 | | |
| 2 | | | | | | |
| +50 | 22°30' | | | | | |
| 1 | | | | | | |
| +50 | | | | | | |
| 0 | B.C. 20°30' Rig | | Δ 45° | Semitang 116.0 | | |
| | | | | | | |
| | A Line | | | | | |

6 1 2 6
2 1 9 5
3 9 3 1

...a to 0 is at the Intersection of the South
...ine of Cleitop Park with the extension of 2 of 12th
...ft.

+32.4 E.C.

12

+50

11

+50

100

+50

99

+50

88

+50

77

+73.5 B.C. 6°16' R Δ 35° Semi tang. 288.5

6+50

17°30'

12.324
6.735
5.589

6.735
6.126
.609

= 2 + 76 D line
+ 25 ℄ △
3
+ 50
2
+ 56 ℄ △ P.R.C. 7°24' Left △ 25°02½"
+ 50
1
+ 50
0 △ B.C. 28°44' Right △ 45° Semitang. 82.8

12° 31¼

Radius 200'

"C" Line

3.258
1566
1692

...ta 0 is at the Intersection of the South ...ine of the City Park with the East line of 2 th St

= 3+25.8 C Line
#76 ⊙
+50
2
+50 10°6½
1
#60.9 ▲ P.R.C 9°24 Rq 27 Δ 20°13
#50 Rad 200
0 ▲ B.C. 28°44' Left Δ 17°30' Semi tang 30.8

D Line

Note 0 is at the intersection of the South line of City Park with the West line of 13th St

POSTED



## 40 acre Tract

Description of J.O. Hattleberg's Track conveyed by City of San Diego

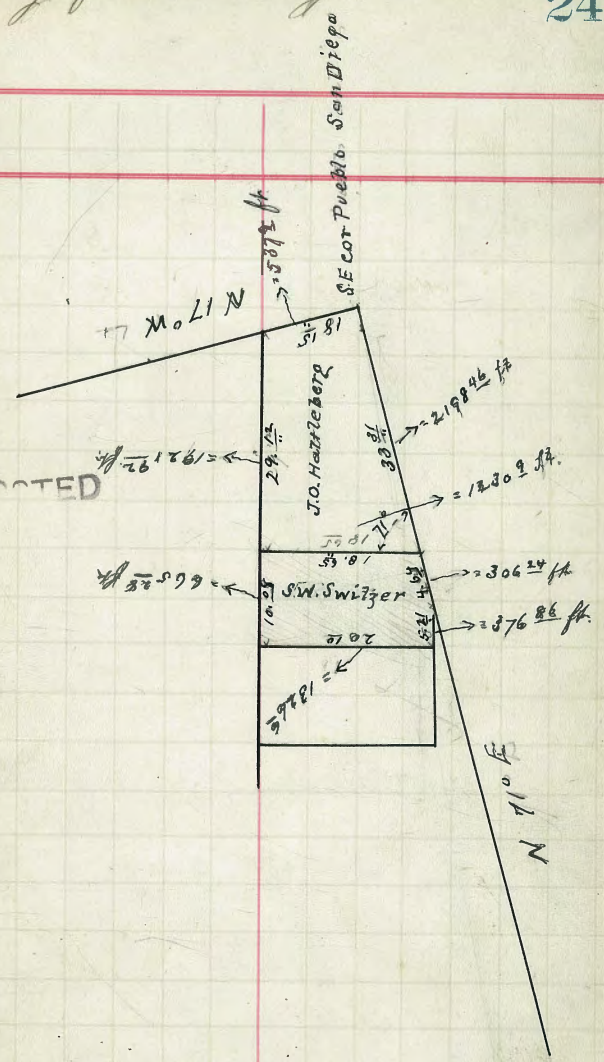
Beginning at a point on the North line of National Ranch where it is intersected by the Eastern line of the Pueblo of San D being N 71° E 98 20/100 chains from the N.W. cor of National Ranch thence N 17° W along the E line 8 16/100 chs, thence West 29 12/100 chs thence South 18 65/100 chs to the North line of National Ranch thence N 71° E 33 31/100 chs to pt of beginning

Twenty acres more or less of the above

Beginning at the N.E. cor of the 40 acre Tract running thence west 10 08/100 chs thence South 20 chs thence East 5 71/100 chs to the boundary line betw the Pueblo of S. D. & Natl. Ranch thence along the boundary line N 71° E 4 64/100 chs thence North 18 65/100 chs to pt of beginning

J.O. Hattleberg

S.W. Switzer



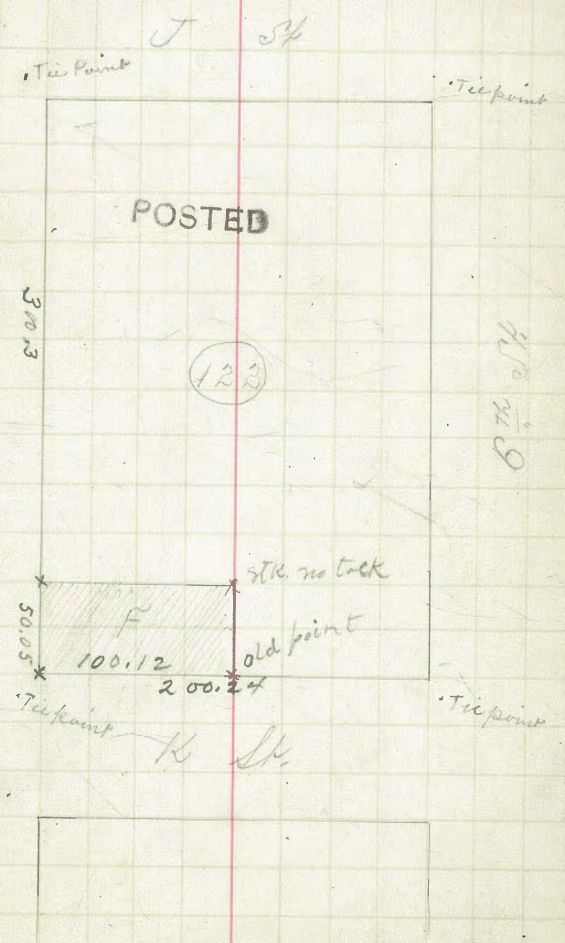

POSTED

April 1st 1889

Survey of Lot F. Blk 122 H
for Attyn & Ballou order of J. M. B.

R. Cadwallader
Valle
Williams
Woodruff
McRae





Section of Hawthorn St East from East line of 5th St to the West line of Park Boulevard.

Jan. 28/89

Shaw Egan Chain 1/4 day
Humlin Level
Orton Rod McRae

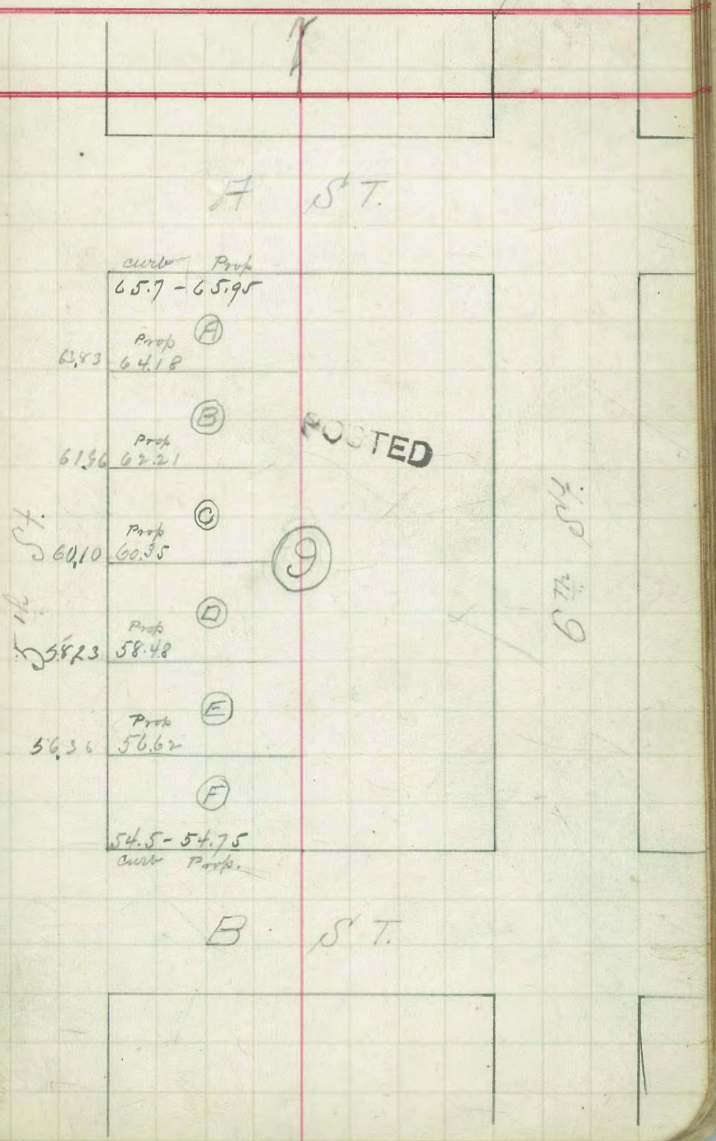
Indexed with Cross X Books

| Sta | N Rd. | N Elev | Centre Rd | Centre Elev | South Rd | South Elev | + | HT | − | Elev |
|---|---|---|---|---|---|---|---|---|---|---|
| E. 5th & Hawthorn | | | (204.93) | | | | | | | B.M. NW cor Hawt & 5th St |
| 0 | 6.5 | 198.4 | 8.3 | 196.6 | 9.5 | 195 | | | | 198.76 |
| +25 | 6.9 | 198.0 | 5.0 | 199.9 | 5.0 | 199. | 6.17 | 204.93 | | |
| +50 | 9.4 | 204.7 | (214.09) 6.1 | 208.0 | 7.1 | 207 T.P. | | | 1.02 | 203.91 |
| 1 | 2.4 | 211.7 | 2.8 | 211.3 | 4.0 | 210 | 10.18 | 214.09 | | |
| +50 | 1.8 | 212.3 | 2.5 | 211.6 | 3.9 | 210. | | | | |
| Park line +69 | 2.5 | 211.6 | 3.5 | 210.6 | 5.0 | 209. | | | | |
| 2 | 5.5 | 208.6 | 7.4 | 206.7 | 9.1 | 205 T.P. | | | 11.25 | 202.84 |
| +50 | 2.6 | 202.0 | (204.60) 4.0 | 200.6 | 4.7 | 199. | 1.76 | 204.60 | | |
| +75 | 8.7 | 195.9 | 5.4 | 199.2 | 7.3 | 196. T.P. | | | 11.96 | 192.64 |
| 3 | 7.4 | 186.9 | (194.26) 2.1 | 192.2 | 5.3 | 189 | 1.62 | 194.26 | | |
| +25 | 3.2 | 179.8 | (183.01) 2.9 | 180.1 | 4.2 | 178. T.P. | | | 11.73 | 182.53 |
| +47 | -14.4 11.4 | 168.6 171.6 | 14.0 | 169.0 | 11.6 | 171 | 0.48 | 183.01 | | |
| +50 | 9.1 | 173.9 | 12.0 | 171.0 | -16.0 13.0 | 167 170. T.P. | | | 0.01 | 183.00 |
| +75 | 11.4 | 183.5 | 194.86 14.4 | 180.5 | 17.7 | 17 | 11.86 | 194.86 | | |
| 4 | 0.7 | 194.1 | 3.8 | 191.1 | 5.6 | 189 T.P. | | | 0.35 | 194.51 |
| +25 | 9.0 | 208.8 | (217.82) 16.0 | 201.8 | 18.3 | 199. | 12.16 | 206.67 | | |
| +50 | +2.2 | 220.0 | 1.30 | 216.5 | 4.9 | 212 T.P. | 11.42 | 217.82 | 0.29 | 206.40 |
| +75 | -2.4 | 224.2 | (226.61) 2.9 | 223.7 | 4.4 | 222 T.P. | 10.37 | 226.61 | 1.58 | 216.24 |
| +84 | 1.6 | 225.0 | 2.3 | 224.5 | 3.2 | 223 | S. line 4+75 B.M. | | 3.84 | 222.77 |

Feb. 20th 1889.

| BM | + | H.I. | Grade | Rod | | Sta |
|---|---|---|---|---|---|---|
| Survey for Curb line and Sidewalk Grades on West side of Blk 9 Hortons add. for Mrs M. G. Bancroft. ordered by Geo L Kenny Agt. | | | | | | |
| 55.60 | 5.67 | 61.27 | | | | |
| | | | 54.5 | 6.77 | | 0 |
| | | | 56.36 | 4.91 | | +50 |
| | | | 58.23 | 3.04 | | 1 |
| # | 8.43 | 68.53 | 60.10 | 1.17 | | +50 |
| | | | 61.96 | 6.57 | | 2 |
| | | | 63.80 | 4.70 | | +50 |
| | | | 65.70 | 2.83 | | 3 |
| | | | | Elev | | |
| # | 2.52 | 67.28 | 3.77 | 64.76 | | |
| | | | 8.94 | 59.24 | | |
| 55.60 | 338 | 58.98 | | | | |

Hamlin & Party



GHS
Olson
Finley
Hensley

Survey of J. F. Wadham —

Set corners on C. St. at cor of 16th & 17th
+ 100' N on 16th
and set grades at cor of 16th St. at 100'
+ 200 East on C. St - at 100' North on 16th St

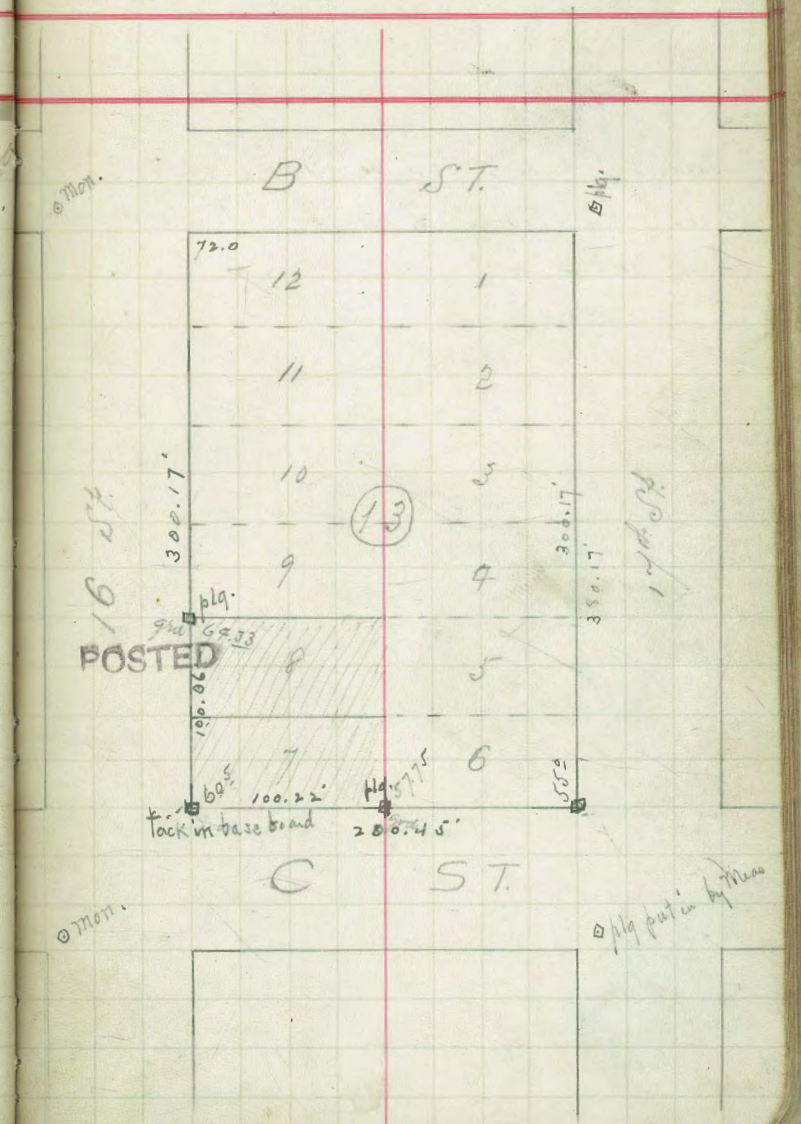
| | + | HI | - | Grade | Rod |
|---|---|---|---|---|---|
| 60.71 | 2.82 | 63.53 | | 60.50 | 3.03 |
| | | | | 57.75 | 5.78 |
| | | | | 55.00 | 8.53 |
| 60.71 | 4.00 | 64.71 | | 64.33 | 0.38 |

Grades set with transit

| | Adjustment. | |
|---|---|---|
| 60.71 | 3.02 | 63.73 |
| 52.24 | 11.49 | 63.73 |
| 60.71 | 0.51 | 61.22 |
| 49.24 | 11.98 | 61.22 |

POSTED

72.0
60.5
3)11.5
3.83
64.33
60.5
55
2)5.5
2.75
57.75

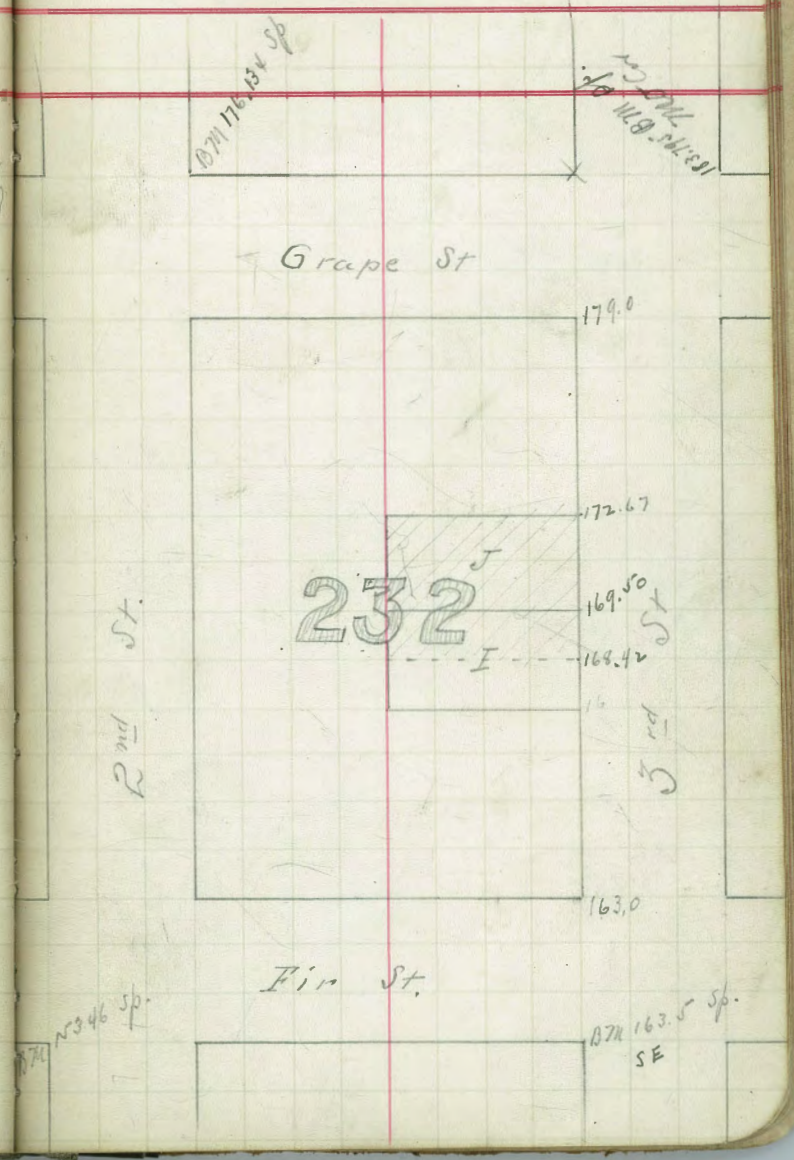



POSTED

Apr 15.

Grades & lines for 4' Side walk for H. T. Christian Lot J + N 1/2 Lot I Blk 232

| | | | | | |
|---|---|---|---|---|---|
| 163.50 | 11.46 | 174.96 | | | |
| | | | | 172.67 | 2.29 |
| | | | | 169.50 | 5.46 |
| El | | | | 168.42 | 6.54 |
| 173.78 | 9.995 | 183.7255 | 1.23 | | |
| 183.755 | | | -.03 | | |
| 176.120 | | | 7.605 | | |



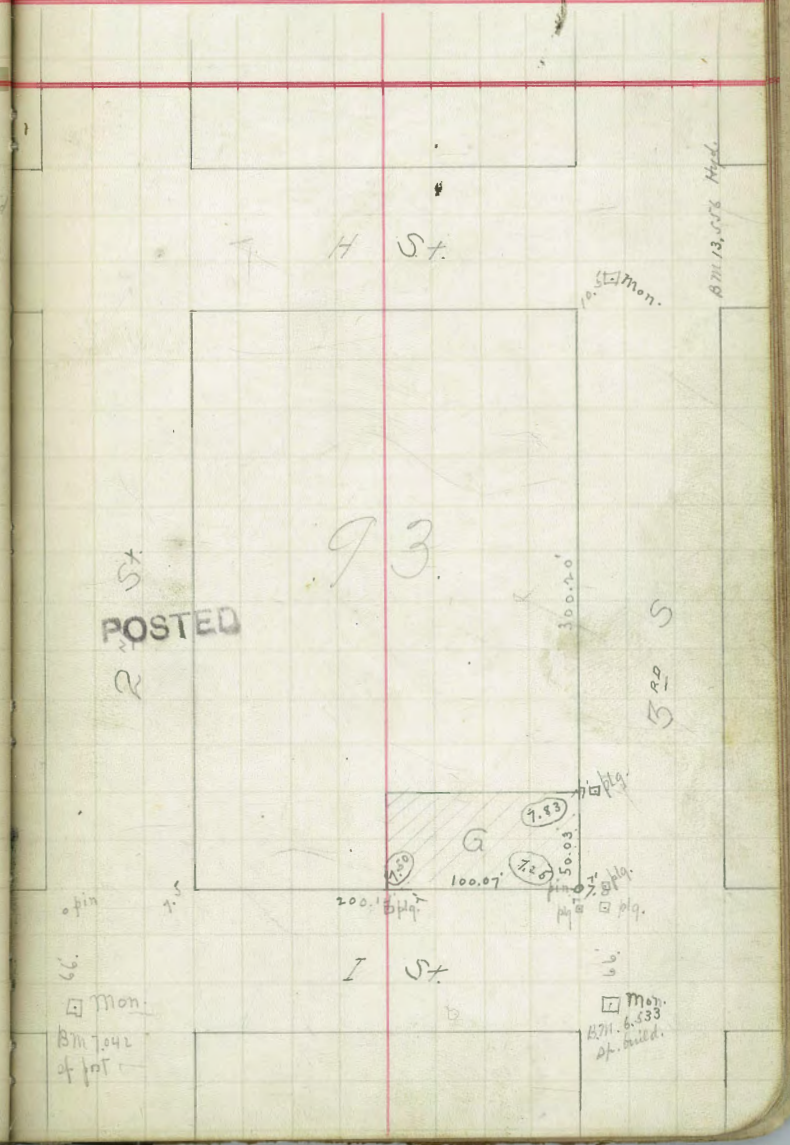
W.H.S.
Orton
Williams
Hinsley

Monday. Apr 16/89

Survey & Grades Lot G Blk 93. H.A.
for Tom W. Graham. set points as indicated
Replaced 1 point at N.W. Cor.

| B.M. | + | H.I. | − | Grade Rod | |
|---|---|---|---|---|---|
| 7.042 | 4.83 | 11.87 | | | |
| 6.533 | 5.35 | 11.88 ck. | | 7.50 | 4.38 |
| | | | | 7.25 | 4.63 |
| | | | | 7.83 | 4.05 |

POSTED



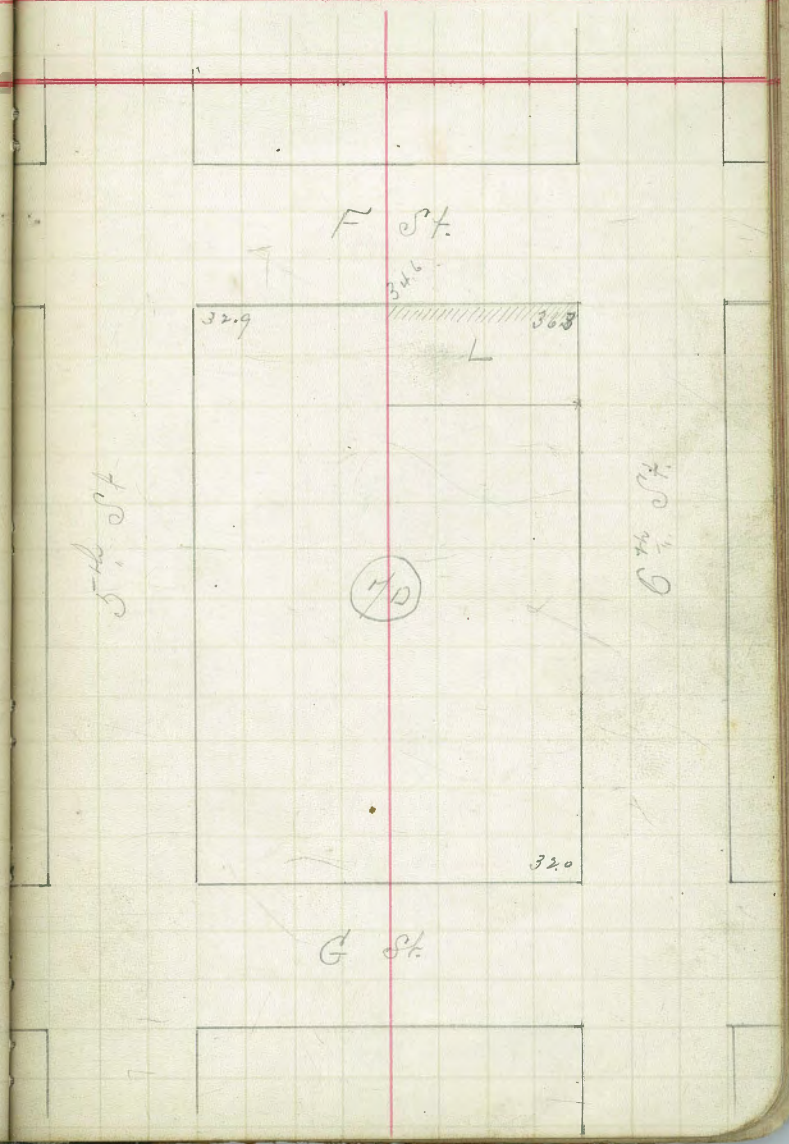
Spencer & Party



Apr 16th

Sidewalk Grades for J. Cowman on Lot L Blk 70 H.A.

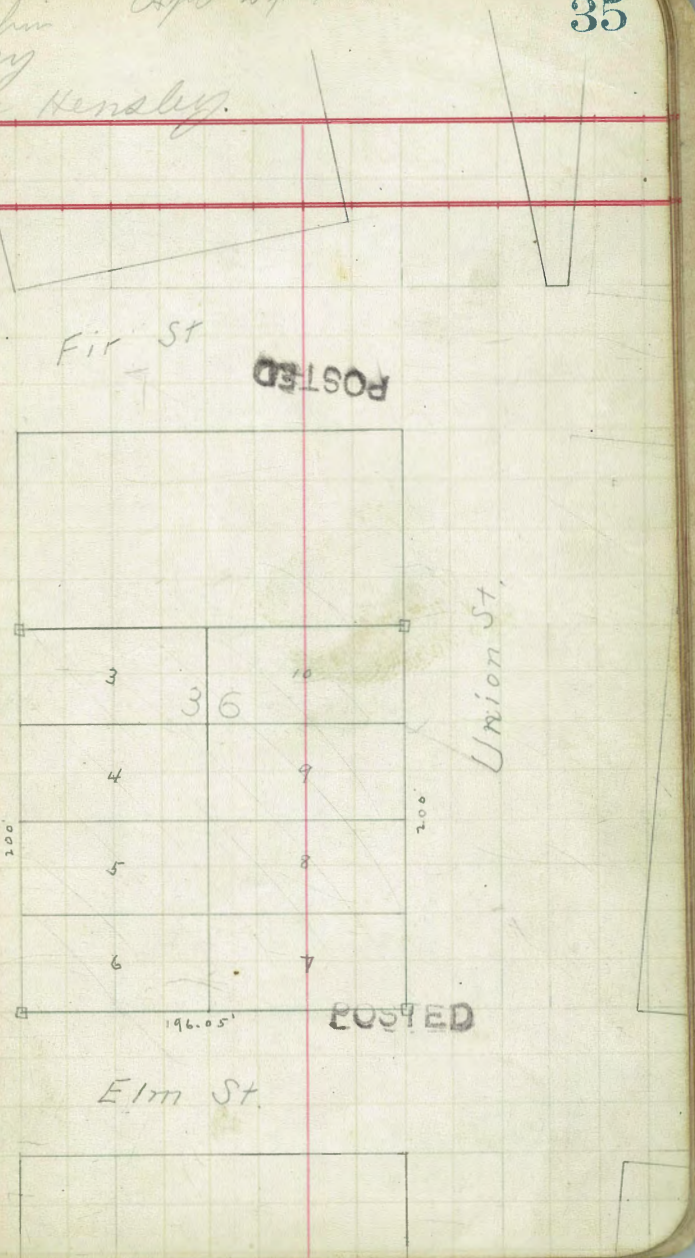
| | | | | | |
|---|---|---|---|---|---|
| 38.327 | 2933 | 41.26 | | 36.30 | 4.96 |
| 33.554 | 7.706 | 41.26 | | 34.60 | 6.66 |



Middletown School-house

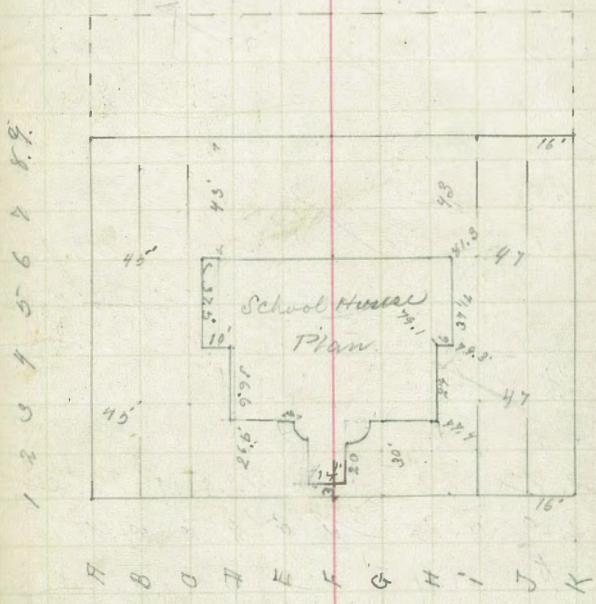
Apr 24 1889

Hamlin
Finley
Orton Henaley



| Sta | Rod | Elev | Rod | Elev | Rod | Elev |
|---|---|---|---|---|---|---|

Middletown School Lot
Elm, State & Union Sts.



X Section of Middletown School house lot

| Sta | Rod | Elev | | Rod | Elev | | BM | + | RO |
|---|---|---|---|---|---|---|---|---|---|
| | | | 83.1 | | | | | | |
| | | | | 13.2 | 69.8 | | | | |
| K 1 | 8.5 | 74.6 | J 1 +10 | 7.1 | 76.0 | | 77.47 | 5.59 | 83.06 |
| 2 | 6.4 | 76.2 | 2 | 6.7 | 76.4 | | | | |
| 3 | 6.1 | 77.0 | 3 | 6.0 | 77.1 | | | | |
| 4 | 5.5 | 77.6 | 4 | 4.7 | 78.4 | | | | |
| 5 | 4.10 | 79.0 | 5 | 3.5 | 79.6 | | | | |
| 6 | 2.6 | 80.5 | 6 | 2.3 | 80.8 | | | | |
| 7 | 1.8 | 81.3 | 7 | 1.5 | 81.6 | | | | |
| 143 8 | 0.8 | 82.3 | 8 | 0.5 | 82.6 | | | | |
| | | | NE. cor of Building 47' from Property. | | | | | | |
| I 1 | 14.8 | 68.3 | 6 | 1.8 | 81.3 | | | | |
| +10 | 7.1 | 76.0 | | | | | | | |
| 2 | 6.4 | 76.7 | Along 5 | 2.4 | 80.7 | | | | |
| 3 | 5.4 | 77.7 | 37½ from S.W. Cor. Along 6' to W | | | | | | |
| 4 | 3.9 | 79.2 | Elev at Cor. | 3.8 | 79.3 | | | | |
| 5 | 2.6 | 80.5 | Elev of | Recess. 4.0 | 79.1 | | | | |
| 6 | 2.0 | 81.1 | 4 | 4.0 | 79 1 | | | | |
| 7 | 1.5 | 81.6 | 3 | 4.9 | [illegible] | | | | |
| 143 8 | 0.5 | 82.6 | SE Cor of Building 29 ft from | 5.7 | 77.4 | | | | |
| H 8 | 0.8 | 82.3 | H. 2 | 6.3 | | | | | |
| | | | +5 | 6.8 | 76.3 | | | | |
| 7 | 1.5 | 81.6 | 1 | 8.6 | 74.5 | | | | |
| 6 | 1.8 | 81 3 | | | | | | | |

X Section of Middletown School house lot

| Sta | Rod | Elev | Sta | Rod | Elev | BM | + | HI | - | Elev |
|---|---|---|---|---|---|---|---|---|---|---|
| | | (79.3) | | | | | | | | |
| G 1 | 3.2 | 76.1 | F 1 | 4.5 | 74.8 | 77.47 | 1.80 | 79.27, | 9.19 | 70.08 |
| 2 | 3.0 | 76.3 | 2 | 2.6 | 76.7 | | | | | |
| +30 ~~3~~ | 2.3 | 78.0 | Along steps, 5 E of line F | | | | | | | |
| 4 | | (86.7) | 4 | | | | | | | |
| 5 | steps 4 W of line | | 5 | | | | | | | |
| 6 | 6.7 | 80.0 | 6 | | | | | | | |
| 7 | 6.0 | 80.7 | 7 | 6.4 | 80.3 | | | | | |
| 143 8 | 4.9 | 81.8 | 143 8 | 6.1 | 80.6 | | | | | |
| E 1 | 4.1 | 75.2 | D 1 | 4.1 | 75.2 | | | | | |
| 2 | 3.1 | 76.2 | 2 | 3.0 | 76.3 | | | | | |
| 26.5' from St ~~3~~ | 2.8 | 76.5 | 26.5' from St Line ~~3~~ | 2.40 | 76.9 | | | | | |
| 4 | | (86.7) | - 4 | HI on page 39. | | | | | | |
| 5 | | | 5 | | | | | | | |
| 6 | 6.6 | 80.1 | 6 | 7.5 | 79.2 | | | | | |
| 7 | 6.7 | 80.0 | 7 | 8.0 | 78.7 | | | | | |
| 8 | 7.0 | 79.7 | 8 | 7.6 | 79.1 | | | | | |

these points are 3.5' W of 20 line

X Section of Middletown School House lot

| Sta | Rod | Elev | Sta | Rod | Elev | | BM | + | H.I. | - | Elev |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (79.3) | of building | | | | | | | | |
| C 1 | 4.3 | 75.0 | NW Cor | 1.3 | 78.0 | | | | | | |
| 2 | 3.5 | 75.8 | | 2.0 | 77.3 | At 30 7 1/2 S of SW cor. | | | | | |
| 3 | 3.0 | 76.3 | | 1.5 | 77.8 | At new cen 27 1/2 S of SW cor. | | | | | |
| 4 | 2.1 | 77.2 | | 2.8 | 76.5 | At S cor of Building | | | 79.27 | 1.57 | 77.70 |
| 5 | 1.6 | 77.7 | | | | | | 8.96 | 86.66 | | |
| 6 | 1.3 | 78.0 | | | | | | | | | |
| 7 | 1.4 | 77.9 | | | | | | | | | |
| 8 | 1.8 | 78.5 | | | | | | | | | |
| A 1 | 5.1 | 74.2 | B 1 | 4.5 | 74.8 | | | | | | |
| 2 | 4.5 | 74.8 | 2 | 3.4 | 75.5 | | | | | | |
| 3 | 4.0 | 75.3 | 3 | 3.5 | 75.8 | | | | | | |
| 4 | 3.9 | 75.4 | 4 | 3.0 | 76.3 | | | | | | |
| 5 | 3.5 | 75.8 | 5 | 2.6 | 76.7 | | | | | | |
| 6 | 3.1 | 76.2 | 6 | 2.3 | 77.0 | | | | | | |
| 7 | 2.8 | 76.5 | 7 | 1.8 | 78.5 | | | | | | |
| 8 | 2.1 | 77.2 | 8 | 1.6 | 78.7 | | | | | | |

X section of Lots 8 & 9 on S side of Lot for grading of Middle town school yard

May 8 1889

Hamlin transit
Alton Level
Finley
Henley.



| Sta | Rod | Elev | Sta | Rod | Elev | BM | + | H.I. | - | Elev |
|---|---|---|---|---|---|---|---|---|---|---|
| | | (84.4) | J | 15.0 | 69.4 | | | | | |
| K | 9.8 | 74.6 | +10 | 8.8 | 75.6 | 77.47 | 6.97 | 84.44 | | |
| +20 | 8.5 | 75.9 | +20 | 8.2 | 76.2 | | | | | |
| +40 | 7.5 | 76.9 | +40 | 7.4 | 77.0 | | | | | |
| +60 | 6.8 | 77.6 | +60 | 6.0 | 78.4 | | | | | |
| +80 | 5.5 | 78.9 | +80 | 4.8 | 79.6 | | | | | |
| 1+00 | 4.0 | 80.4 | 1+00 | 3.6 | 80.8 | | | | | |
| +20 | 3.2 | 81.2 | +20 | 2.9 | 81.5 | | | | | |
| +40 | 2.1 | 82.3 | +40 | 1.9 | 82.5 | | | | | |
| +43 | 1.5 | 82.9 | +43 | +.80 | 85.2 | | | | | |
| | | | | | | | | | | |
| I | 15.7 | 68.7 | H | 10.2 | 74.2 | | | | | |
| +10 | 8.5 | 75.9 | +20 | 7.6 | 76.8 | | | | | |
| +20 | 7.8 | 76.6 | +29.2 | 6.9 | 77.5 | | | | | |
| +40 | 6.8 | 77.6 | At S.E. Cor of S-house | 6.9 | 77.5 | | | | | |
| +60 | 5.4 | 79.0 | +40 along Sills house | 6.4 | 78.0 | | | | | |
| +80 | 4.0 | 80.4 | +60 " " | 5.4 | 79.0 | | | | | |
| 1+00 | 3.4 | 81.0 | +62.43 at Jog to east | 5.4 | 79.0 | | | | | |
| +20 | 2.8 | 81.6 | +62.43 of Cor | 5.2 | 80.7 | | | | | |
| +40 | 1.9 | 82.5 | +80 | 3.7 | 81.2 | | | | | |
| +43 | 0.0 | 84.4 | ++0(9' West of Cor on H line | 3.2 | 81.4 | | | | | |

| Sta | Rod | Elev | Sta | Rod | Elev | BM | + | HI | - | Elev |
|---|---|---|---|---|---|---|---|---|---|---|
| H | | (84.4) | | | | | | | | |
| 1+20 | 2.9 | 81.5 | | | | | | 84.44 | | |
| +40 | 2.4 | 82.0 | | | | | | | | |
| +43 | 1.9 | 82.5 | | | | 77.47 | 128 | 78.75 | | |
| | (78.8) | | | | | | | | | |
| G | 2.5 | 76.3 | | | | | | | | |
| +20 | 2.3 | 76.5 | | | | | | | | |
| +29.2 | 1.2 | 77.6 | | | | | | | | |
| At beginning of curve | 1.7 | 77.1 | | | | | | | | |
| At end of curve | 2.4 | 76.4 | | | | | | | | |
| At f of curve near eng. | 2.6 | 76.2 | | | | | | | | |
| At back side s/ep | 2.7 | 76.1 | | | | | | | | |

7.377
3.37
10.747
6.85
3.897

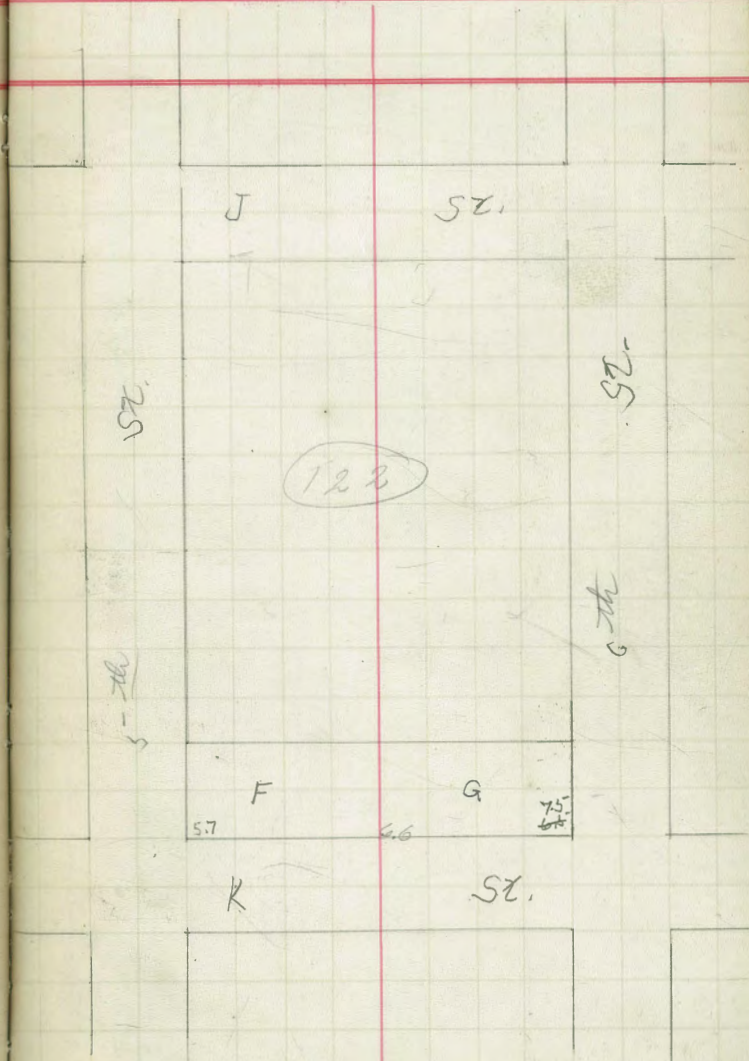
Set grade at pt. 100 ft E of 5th on K st.

| | + | H.I. | − | Grade rod. | |
|---|---|---|---|---|---|
| 7.377 | 3.37 | 10.747 | | 6.85 | 3.897 |
| | | | | 6.40 | 4.34 |
| | | | | Elev | |
| | | | 4.683 | 6.064 | |
| | 5.123 | 11.177 | | | |
| | | | 3.387 | 7.79 | |
| | 6.823 | 14.613 | | B.M. check | |
| | | | 0.985 | 13.628 | |

5.7
7.5
13.2
6.6

~~7.5~~
5.7
~~13.2~~

1.8



40
13
53
9
46

13
6

40
6

234

11.177
3.387
7.790
6.823
14.613
0.985
13.628

13,654

6 | 3.5
0.58
7.25
7.83

4

60
14
6

2.91
7.83
10.75

6.91

37
53
0

50
13
37

37
53
90

200

10.747
4,683
6.064
5.123
1.866
11.177
.912
10.265

65.7
54.5
6 ) 11.2
6
52
48
40
36

1260
234
1026

.08

24

54.5
1.86 2/3
56.36 2/3
1.86 2/3
58.23 1/3
1.86 2/3
60.10
1.86 2/3
61.96 2/3
1.86 2/3
63.83 1/3
1.86 2/3
65.70

.05

250
37.5
287.5
125

2.61

2.47
5 1/4
.62

12.35
.62
13.00

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

# AVERSE TABLE FOR TRANSIT BOOK,

From ¼ to 90° for a distance of 100.

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

| DEGREES. | | ¼ DEGREE. | | ½ DEGREE. | | ¾ DEGREE. | | Degrees |
|---|---|---|---|---|---|---|---|---|
| at. | Dep. | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | |
| | | 100.00 | 0.44 | 100.00 | 0.87 | 99.99 | 1.31 | 89 |
| .98 | 1.75 | 99.98 | 2.18 | 99.97 | 2.62 | 99.95 | 3.05 | 88 |
| .94 | 3.49 | 99.92 | 3.93 | 99.91 | 4.36 | 99.88 | 4.80 | 87 |
| .86 | 5.23 | 99.84 | 5.67 | 99.81 | 6.10 | 99.79 | 6.54 | 86 |
| .76 | 6.98 | 99.73 | 7.41 | 99.69 | 7.85 | 99.66 | 8.28 | 85 |
| .62 | 8.72 | 99.58 | 9.15 | 99.54 | 9.58 | 99.50 | 10.02 | 84 |
| .45 | 10.45 | 99.41 | 10.89 | 99.36 | 11.32 | 99.31 | 11.75 | 83 |
| .25 | 12.19 | 99.20 | 12.62 | 99.14 | 13.05 | 99.09 | 13.49 | 82 |
| .03 | 13.92 | 98.97 | 14.35 | 98.90 | 14.78 | 98.84 | 15.21 | 81 |
| .77 | 15.64 | 98.70 | 16.07 | 98.63 | 16.50 | 98.56 | 16.93 | 80 |
| .48 | 17.36 | 98.40 | 17.79 | 98.33 | 18.22 | 98.25 | 18.65 | 79 |
| .16 | 19.08 | 98.08 | 19.51 | 97.99 | 19 94 | 97.90 | 20.36 | 78 |
| .81 | 20.79 | 97.72 | 21.22 | 97.63 | 21.64 | 97.53 | 22.07 | 77 |
| .44 | 22.50 | 97.34 | 22.92 | 97.24 | 23.34 | 97.13 | 23.77 | 76 |
| .03 | 24.19 | 96.92 | 24.62 | 96.81 | 25.04 | 96.70 | 25.46 | 75 |
| .59 | 25.88 | 96.48 | 26.30 | 96.36 | 26.72 | 96.25 | 27.14 | 74 |
| .13 | 27.56 | 96.00 | 27.98 | 95.88 | 28.40 | 95.76 | 28.82 | 73 |
| .63 | 29.24 | 95.50 | 29.65 | 95.37 | 30.07 | 95.24 | 30.49 | 72 |
| .11 | 30.90 | 94.97 | 31.32 | 94.83 | 31.73 | 94.69 | 32.14 | 71 |
| .55 | 32.56 | 94.41 | 32.97 | 94.26 | 33.38 | 94.12 | 33.79 | 70 |
| .97 | 34.20 | 93.82 | 34.61 | 93.67 | 35.02 | 93.51 | 35.43 | 69 |
| .36 | 35.84 | 93.20 | 36.24 | 93.04 | 36.65 | 92.88 | 37.06 | 68 |
| .72 | 37.46 | 92.55 | 37.86 | 92.39 | 38.27 | 92.22 | 38.67 | 67 |
| .05 | 39.07 | 91.88 | 39.47 | 91.71 | 39.87 | 91.53 | 40.27 | 66 |
| .35 | 40.67 | 91 18 | 41.07 | 91.00 | 41.47 | 90.81 | 41.87 | 65 |
| .63 | 42.26 | 90.45 | 42.66 | 90 26 | 43.05 | 90.07 | 43 44 | 64 |
| .88 | 43.84 | 89.69 | 44.23 | 89.49 | 44.62 | 89.30 | 45.01 | 63 |
| .10 | 45.40 | 88.90 | 45.79 | 88.70 | 46.17 | 88.50 | 46.56 | 62 |
| .29 | 46.95 | 88.09 | 47.33 | 87.88 | 47.72 | 87.67 | 48.10 | 61 |
| .46 | 48.48 | 87.25 | 48.86 | 87.04 | 49 24 | 86.82 | 49.62 | 60 |
| .60 | 50.00 | 86.38 | 50.38 | 86.16 | 50.75 | 85.94 | 51.13 | 59 |
| .72 | 51.50 | 85.49 | 51.88 | 85.26 | 52.25 | 85.04 | 52.62 | 58 |
| .80 | 52.99 | 84.57 | 53.36 | 84.34 | 53.73 | 84.10 | 54.10 | 57 |
| .87 | 54.46 | 83.63 | 54.83 | 83.39 | 55.19 | 83.15 | 55.56 | 56 |
| .90 | 55.92 | 82 66 | 56.28 | 82.41 | 56.64 | 82.16 | 57.00 | 55 |
| .92 | 57.36 | 81.66 | 57.71 | 81.41 | 58.07 | 81.16 | 58.42 | 54 |
| .90 | 58.78 | 80.64 | 59.13 | 80.39 | 59.48 | 80.13 | 59.83 | 53 |
| .86 | 60.18 | 79.60 | 60.53 | 79.34 | 60.88 | 79.07 | 61.22 | 52 |
| .80 | 61.57 | 78.53 | 61.91 | 78.26 | 62 25 | 77.99 | 62.59 | 51 |
| .71 | 62.93 | 77.44 | 63.27 | 77.16 | 63.61 | 76.88 | 63.94 | 50 |
| .60 | 64.28 | 76.32 | 64.61 | 76.04 | 64.94 | 75.76 | 65.28 | 49 |
| .47 | 65.61 | 75.18 | 65.93 | 74.90 | 66.26 | 74.61 | 66.59 | 48 |
| .31 | 66.91 | 74.02 | 67.24 | 73.73 | 67.56 | 73.43 | 67 88 | 47 |
| .14 | 68.20 | 72.84 | 68.52 | 72.54 | 68.84 | 72.24 | 69.15 | 46 |
| .93 | 69.47 | 71.63 | 69.78 | 71.33 | 70.09 | 71.02 | 70.40 | 45 |
| .71 | 70.71 | | | | | cos | Sin | |
| . | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | Lat. | Degrees. |
| EGREES. | | ¼ DEGREE. | | ½ DEGREE. | | ¾ DEGREE. | | |

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