Misc. Surveys.

9

TRANSIT

F.B. 13

13

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

MICROFILMED
DEC 2 1964

Table showing the difference of latitude and parture 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	130⅓
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

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Table for Running on Slopes.

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

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

13
Return to City Engineers Office
City Hall, San Diego, Cal.

Thomas M. Shaw

San Diego

Keating Blk survey for 1
Payne front line lots 5 & 6 Blk 43
Jutts Add 2
Masonic Hall Sidewalk 3
S.H. Cable Co. survey of Blk 10 and
of W mi Ave. 4
Court house survey & grades
for — — — — — 5
Tie points of NE cor of 1123 and
N.W. cor 1124 — — — 6
B St flume grades 7
Keating Estate check of survey
cor 5th & F St 12
4th St track to coal yard 10
Pueblo line on coronado
Beach 11
Loring Hrs survey of lot C
and 10' of lot D Blk 230 HA 13
Shaw T.M. x sec of lot K
Blk HA 14

Garboye wharf soundings
at foot of 9th St 15
Cable road drain from turn
table at foot of 6th St 24
House on R & H and L & F
cor Adds 19-23
6th St x sect L to M 18
Courthouse grades 25
Keating Estate grades 26
Cable road drain from
conduit 28
Charpiok Mrs Geo Survey
of E 1/2 Blk 136 MT 29
Court House grades 33
Board of Education 8th ward school
house survey of lot 35
Sixth Street drain at lower end 37
Philips Survey 38
Board of Education 8th ward 39
Plaza grades 41
Courthouse Sewer 42
Elm St x sec walk bet State & Union 43

April 18th 1890

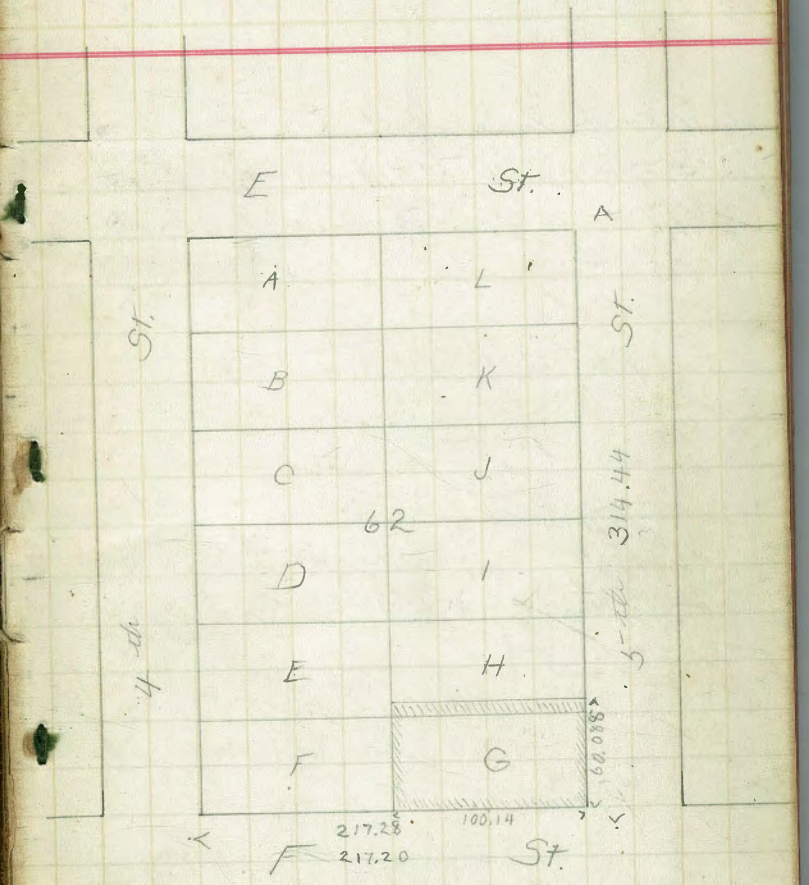
Survey of Lot G. and South 1/5 Lot H. Block 62 Hortons Add, for the Keating Estate per order of Read Bros. Arch.

Hudson. Transit
Orton chain
Hensley "

POSTED

Note. Line of 5-th St. chained to slope
F St. chained level
Points set one ft off true corner

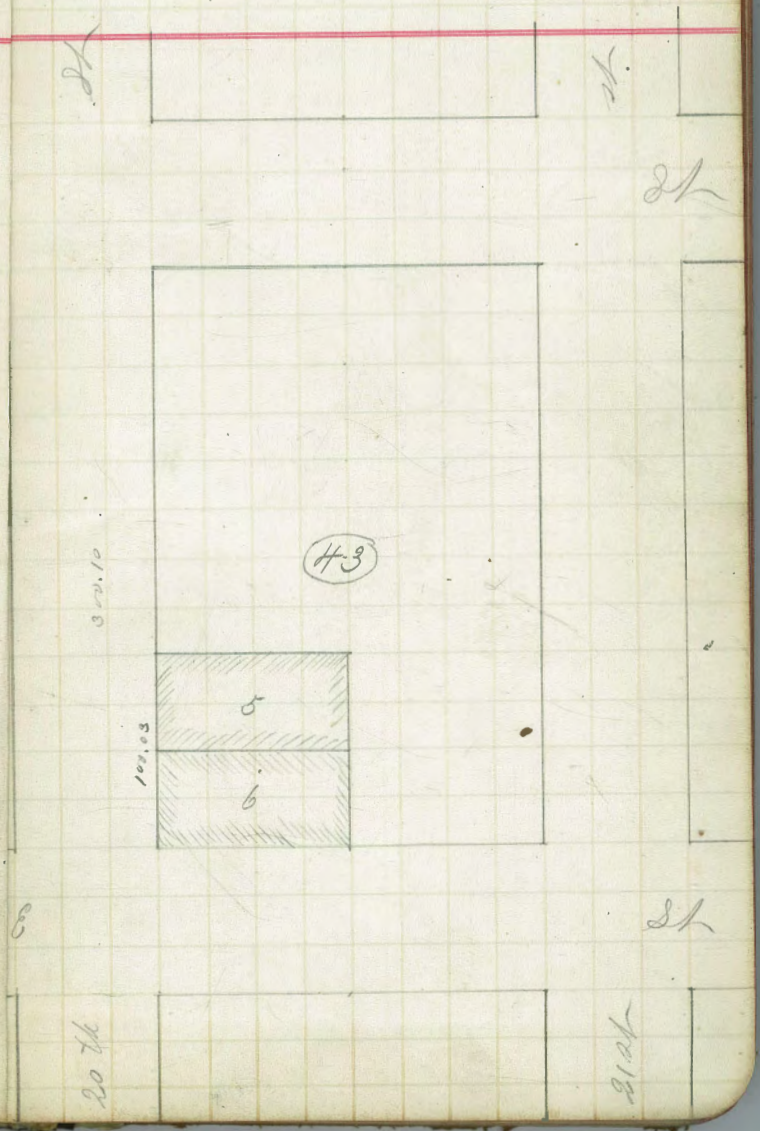
Checked May 1st by Hamlin and party



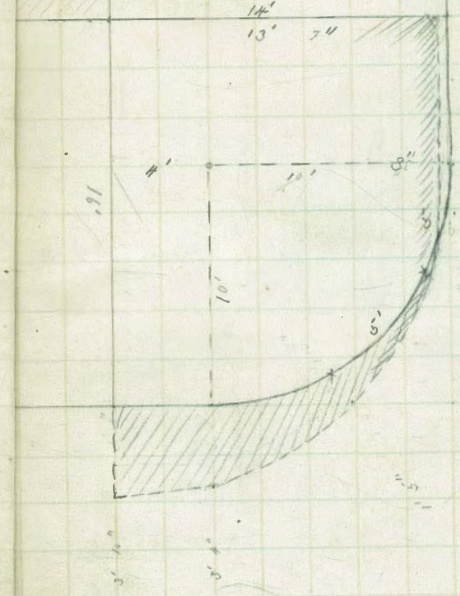
Front line of lots 5 and 6
Blk 43 Wtts Add Ht to
N.E. cor of 20th and E St.
for Payne

Completed Wed May 28

Hamlin { Acton
Williams
Hemsley

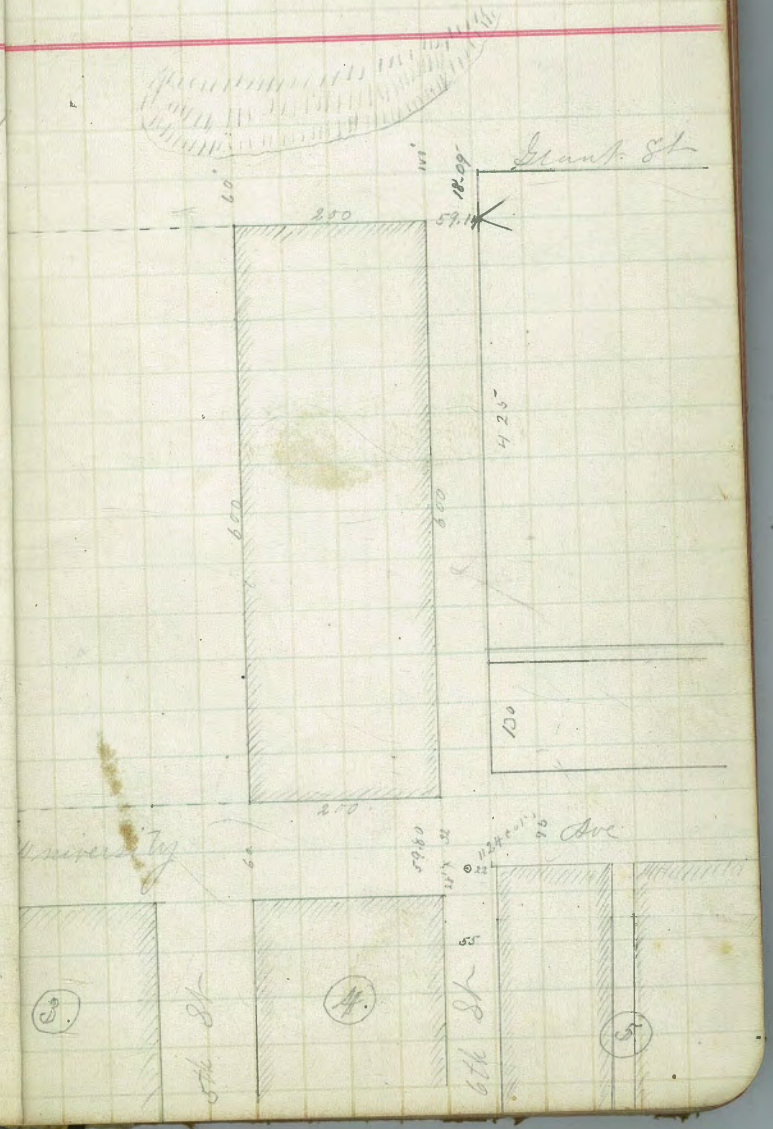


Sketch of sidewalk at NW cor of 6th and H St



June 6 1890

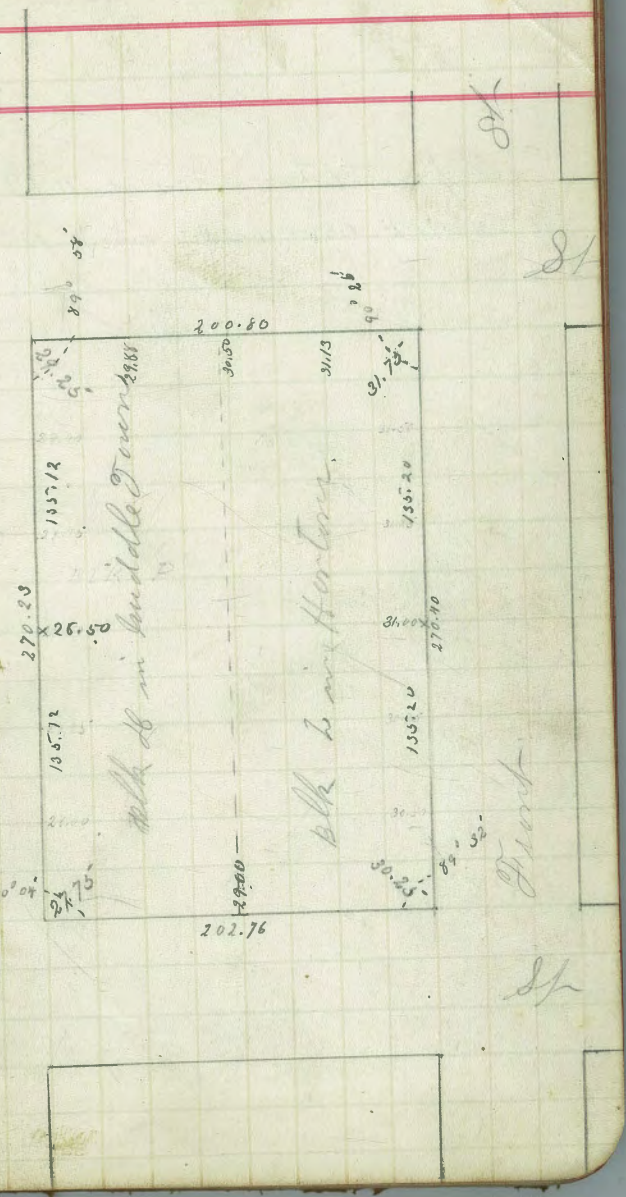
Cable co survey of Blk N. of Univ Ave



June 10 1890

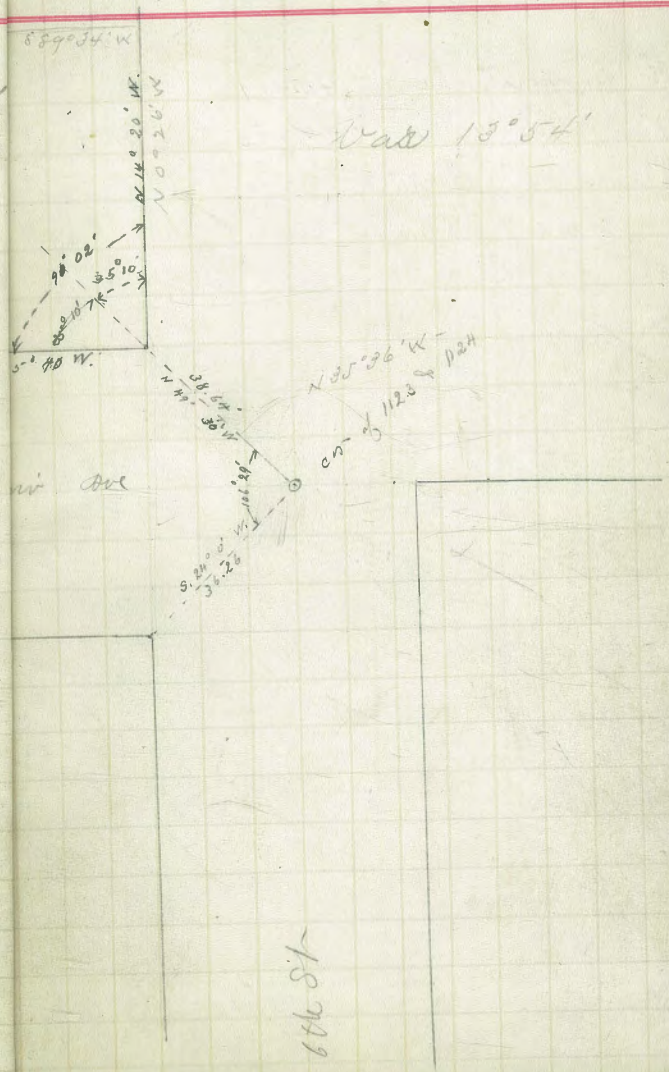
Sta	+	HS	Gull	Rod	
Survey of Court house block being Blk Z in Horton Add and Blk D in Middle Town for Co. of San Diego.					
B M	3.97	36.11	H and Front		32.14
			30.25	5.86	
			31.00	5.11 (75)	
			31.75	4.36 (75)	
#	2.81	34.56		4.36	31.7
			30.50 (1.25)	4.06 (1.25)	
			29.25 (1.25)	5.31 (1.25)	
B.M.	Union and Cdr.			5.13	29.43
#	2.60	31.85		5.31	29.25
			28.50	3.35	
			27.75	4.10 (75)	
B.M.				4.83	27.02

Hamlin and Party



June 6 1820

Tie points to cor's of 1123 and 1124 N.E. cor 1123 and NW 1124



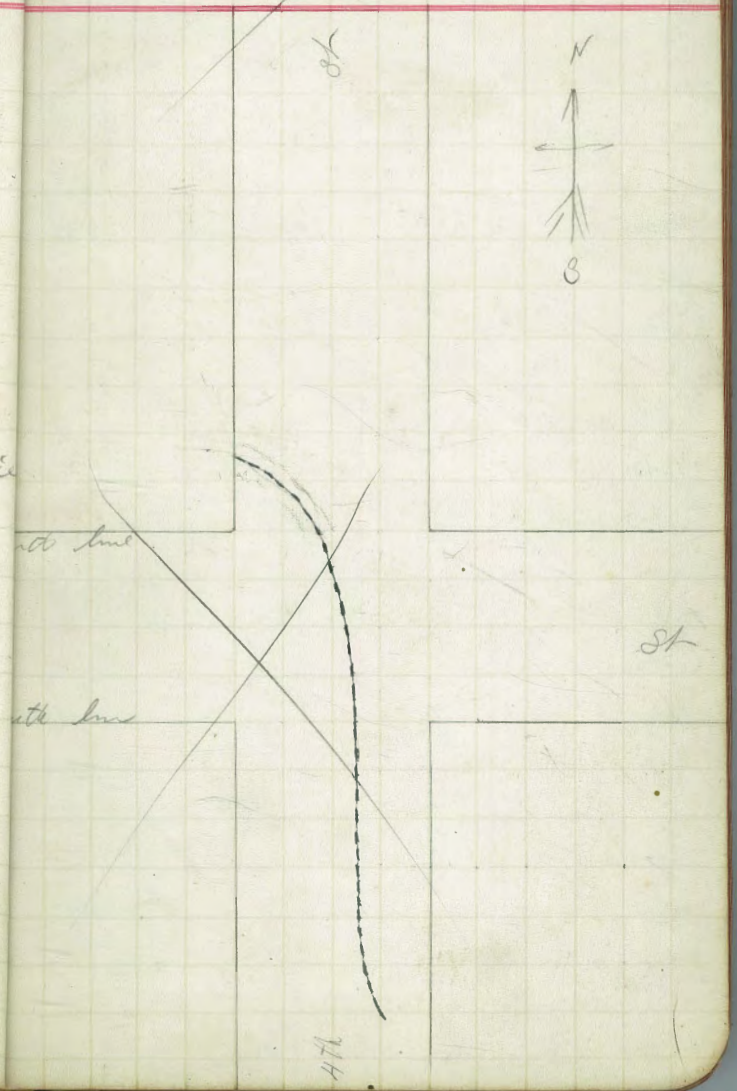
Grades bottom of side walls of flume across 4th on B. St.

E property line	40.417	
W " "	40.250	
Height of Culvert over all		8' 11"
Thickness of pavement		6"

June 27 1890 Hamlin { Arterbetch showing location of RR track
Hemslading from P.C.S.S. wharf to coal (8)
Cord on 4th St. bet K and I St

See next page

29.9t		
+30.9	Sta at which track crosses West line	
0	3.8	West of center
+72.4	track crosses center of St.	
+4.0	8.0	East center
3	13.5	East of center
2+30	13.5	East of center
2	13.5	East of center
1+50	20.1	East of center



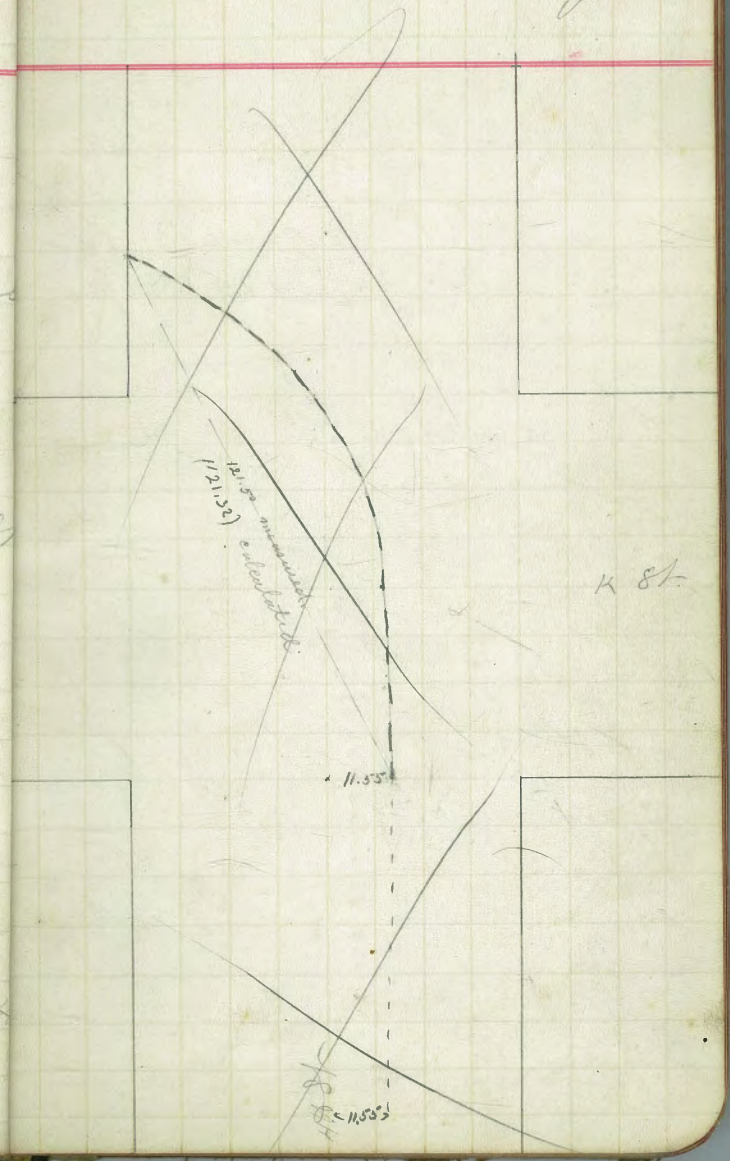
Sketch Showing location of RR track at foot of 4th St

June 28 1890

Hamlin { Acton, Williams, Hemsley

1+29.65	25°	08'	Left	West line of 4th
1+15	25°	08'	"	
+90	20°	30'	"	
+82.13	13°	07'	"	North line of K St
+65	10°	55'	"	
+40	7°	47'	Left	
0	5°	02		

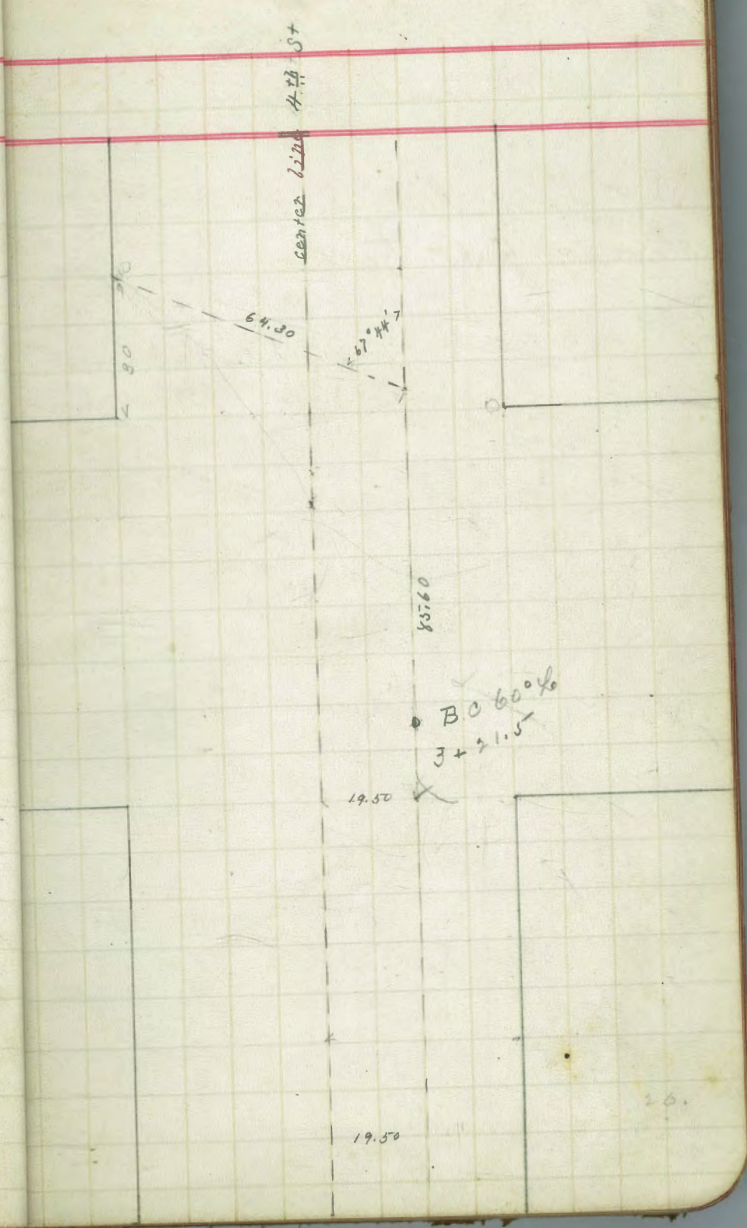
Beginning at south line of K St.
B.S. on a line 11.55 from center
and parallel to center line of 4th



67°44
33°52' –

1.980003
9.826805
1.806808

closed with a 60° curve



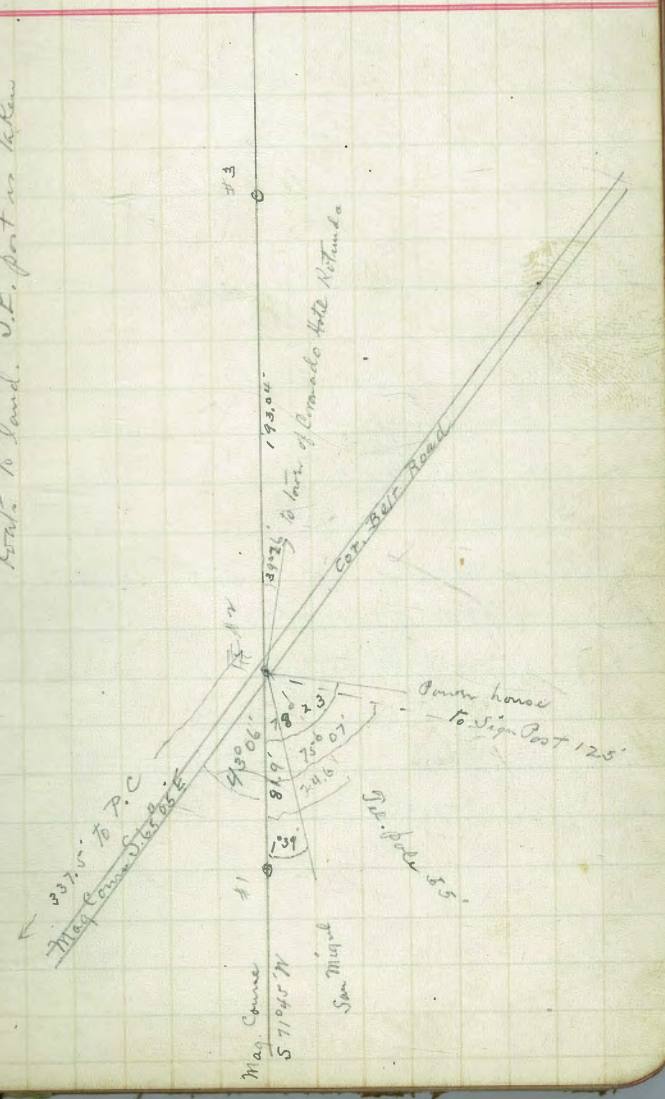
Location of line bet. SW Corner of San Diego & Old Light house across Coronado Sand Spit

July 11 1890

Shaw
Spencer
Hamlin
Otton
Williams

Set up on line in the Center of the Coronado Belt track

#1 & 3 are Cap. tacks in Stakes 2 x 2 x 36
#2 " " 2 x 2 x 12

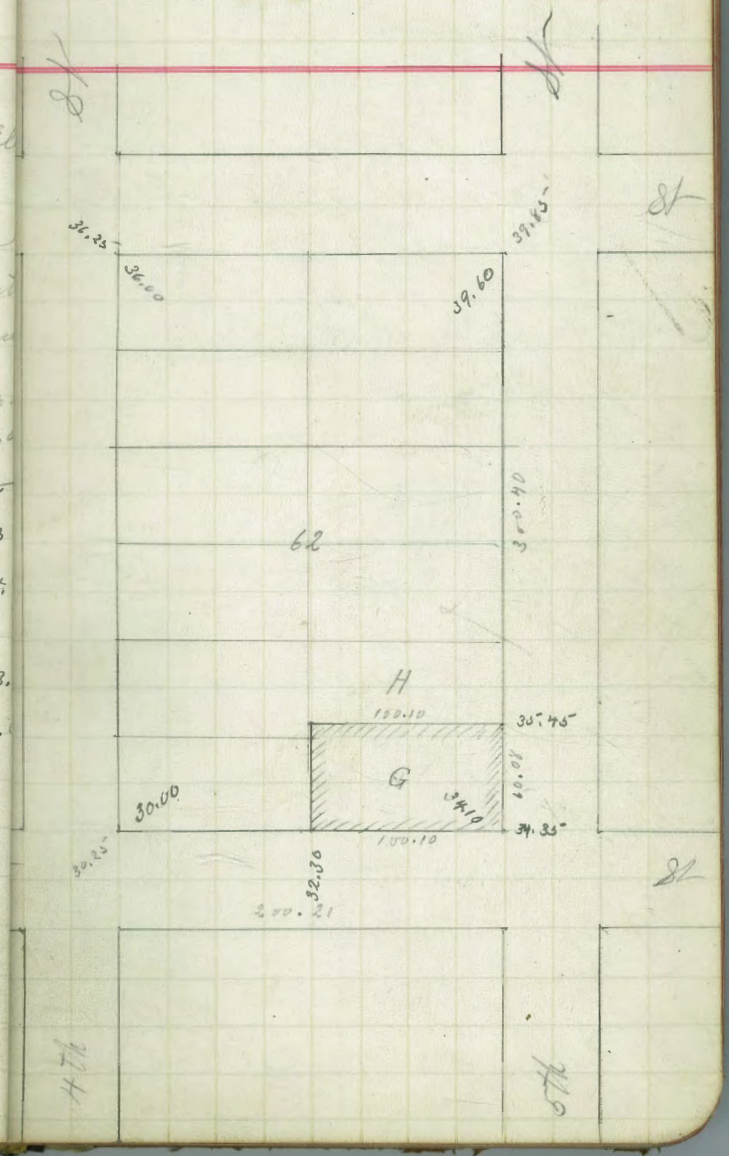


Resurvey of Lot G and S10' of l[illegible] July 12 1890
H Blk 62 H.H. for the

Keating Estate

Sta	+	HI	Grade	Rod	El
	10,583 below property grade of				
	cor of 5th = grade of bottom of cellar				
	Points on 5th St set 3' from line int				
	5th St points on back of lot on tru				
	corners.				
B.M.	5.63	36.68			4th 31.[illegible]
~~B.M.~~	~~5th and F St~~			~~1.00~~	~~37.~~
B.M.	5th and F St			3.25	33
#	2.21	27.15		11.74	24.
	Bottom of cellar		23.767	3.383	
#	11.98	35.747			23.
B.M.	4th and F St			4.71	31.
			~~34.35~~	~~1.40~~	
			~~23.77~~	~~10.58~~	
				~~1.98~~	

POSTED



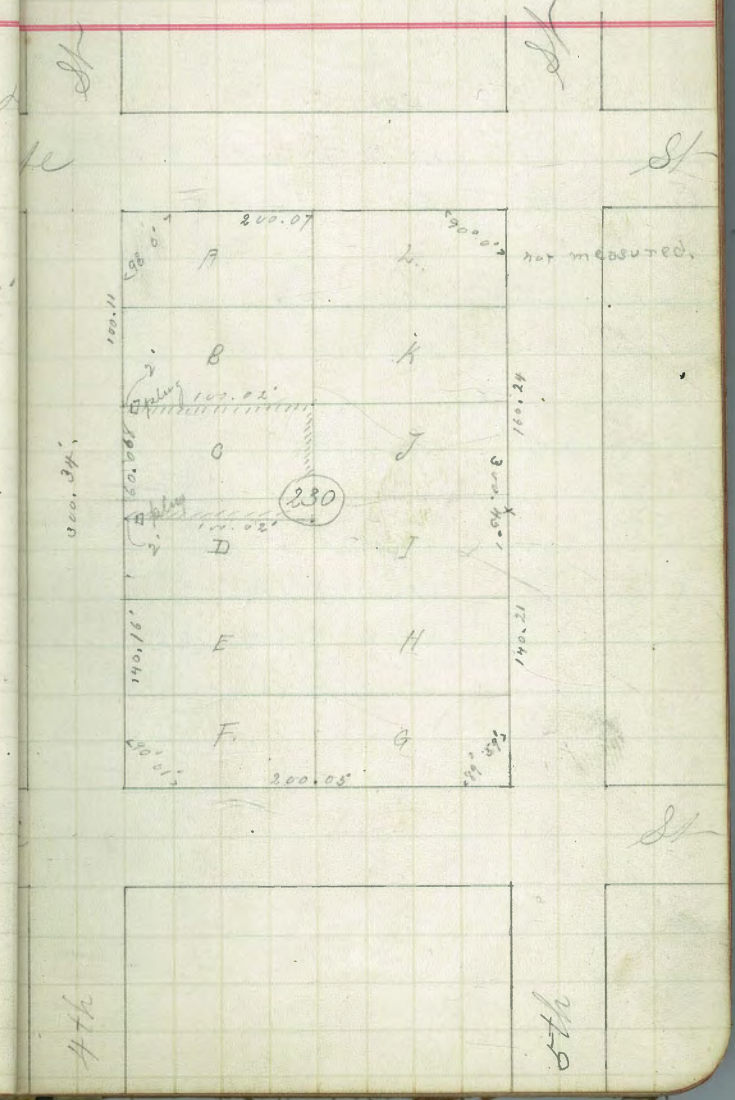
July 21 1890

3½" west

Survey of Lot C & 10' of Lot D
Block 230 Hortons Add.
For Dr Soring.

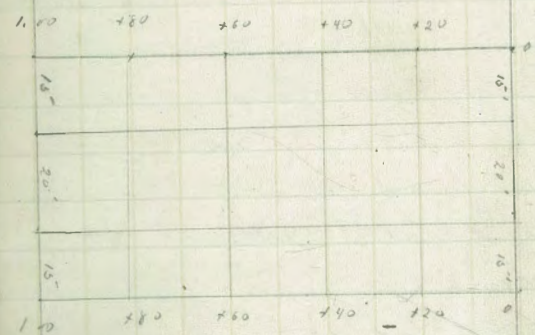
Set points for front of lot 2'
east of front

POSTED



Cross section of Sub K 1 Aug 2 1890 Hamlin level 14
Hortons Add for T.M.S.h Williams rod
Hemsley chain

Sta	Rod	Elev	Sta	Rod	Elev	+	H.I.	−	Elev
		(157.7)				0.72	166.34	11.16	165.62
						2.54	157.72		155.18
a 0	0.7	157.0	b 0	1.8	15				150.21
a + 20	1.6	156.1	b + 20	2.8	15	Trunk & Hawthorn		7.53	150.19
a + 40	3.1	154.6	b + 40	3.9	15	1st & Grape		12.19	
a + 60	5.0	152.7	b + 60	5.6	15				
a + 80	6.7	151.0	b + 80	7.2	15				
a.1	8.4	149.3	b 1.	9.2	14				
c 0	4.0	153.7	d 0	6.2	15				
c + 20	4.5	153.2	d + 20	6.4	15				
c + 40	5.3	152.4	d + 40	7.0	15				
c + 60	6.7	151.0	d + 60	7.8	14				
c + 80	8.3	149.4	d + 80	9.1	14				
c 1	10.0	147.7	d 1	11.1	14				



Soundings for garbage wharf at foot of 9th

Hamlin
Clifton
Williams
Hensley

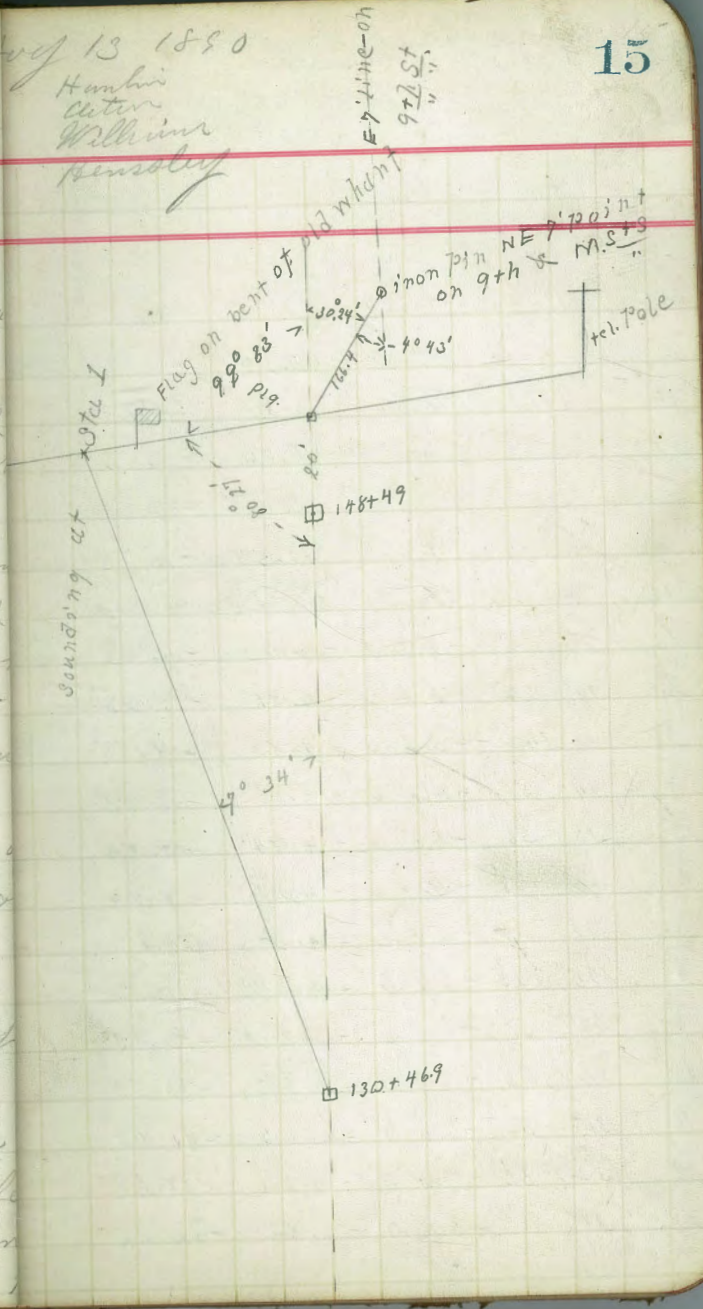
Beginning at Mon at Sta 148+4
on shore line B.S. to Sta
130+46.9 on shore line measured
20' farther on this line and se
plug.

From this point turned an
angle of 99° 33' Left and
set a flag on line on last
bent of old wharf also
in line with tel. pole nea
10th & N-Sts.

B.S. on Sta 130+46.9 angle
30° 24' Right to NE 7' point o
9th & N St. dist 166.40

From this point 4° 43' Left
on East 7' line of 9th St

Set up at Sta 130+46.9 on
shore line, F.S. on Sta 148+49 and took the folle
ing angle. the boatman lin
ing in with flag and tel



Soundings for garbage wharf at foot of 9th St Aug 13 1890

Sta	+	HI	−	Elev	
B.M.	2.18	10.68		8.50	th & M St
B.M.			4.59	6.09	H & M St spk cor fence S.W.
#	2.13	5.84	6.97	3.71	
B.M.			6.66	−0.82	of B.M. on Mon at Sta 148+49
#			10.70	−4.86	Height of water at 8h 45m AM
			10.57	−4.73	" " " " 9h 05m " "

Sta	Angle	Sound	Height of tide	corrected sounding	
1	7° 34′	−2.6 0	−4.86	−7.46	Taken at 8h 45 min AM
2	10° 24′	−3.4 0	−4.85	−8.25	
3	12° 40′	−3.7 0	−4.85	−8.55	
4	14° 50′	−4.1 0	−4.85	−8.95	
5	16° 58′	−4.5 0	−4.84	−9.34	
6	20° 08′	−4.9 0	−4.84	−9.74	
7	22° 29′	−5.4 0	−4.84	−10.24	
8	25° 25′	−5.7 0	−4.83	−10.53	
9	27° 51′	−6.0 0	−4.83	−10.83	
10	29° 55′	−6.7 0	−4.83	−11.53	
11	31° 52′	−7.0 0	−4.82	−11.82	
12	33° 53′	−7.5 0	−4.82	−12.32	
13	36° 11′	−8.0 0	−4.82	−12.82	

Soundings for garbage pier 13 1890
wharf at foot of 9th St

Sta	Angle	Sounding	Height of tide	corrected Sounding	
14	38° 55'	-8.80	-4.81	-13.61	
15	40° 36'	-9.00	-4.81	-13.81	
16	42° 28'	-9.30	-4.81	-14.11	
17	44° 31'	-9.20	-4.81	-14.01	
18	46° 09'	-9.70	-4.80	-14.50	
19	48° 12'	-10.80	-4.80	-15.60	
20	49° 36'	-12.00	-4.80	-16.80	aken at 8h 55m AM
Sta	+	HO	—	Elev	
		5.84			
#	5.63	7.26	4.21	1.63	
BM #	4.80	11.39	0.67	6.59	th & Ind St
B.M.			2.27	9.12	th & D St

Sewer on line for drain pu
to take water from foot 6 H St (along curb lines produced)

Rod East	Elev. East		Rod West	Elev West	S	+	H I	−	Elev.
					6th &				
					B.M	0.77	9.09		8.32
		(5.4)			6th &				
					B M	1.50	5.41	5.18	3.91
2.7	2.7		3.1	2.3		North line of S St			
2.5	2.9		3.2	2.2	+				
3.1	2.3		3.8	1.6	+	South line of S St.			
3.9	1.5		4.1	1.3	1+				
4.8	0.6		4.7	0.7	+				
4.4	1.0		4.9	0.5	2+				
4.9	0.5		4.5	0.9	+				
5.4	0.0		4.0	1.4	3+				
			4.0	1.4	+3	centre RR track			
			4.4	1.0	+4	Edge of Bank			
4.0	1.4		10.4	-5.0	+6				
4.0	1.4		10.4	-5.0	+7	Centre of track			
4.0	1.4				+8				
4.5	0.9				+8	Edge of Bank			
10.4	-5.0				4+				
					#	6.16	7.73	3.84	1.57
									6.61
			8th & M.		B.M			1.11	6.62

Profile 8 Box. U

Number of Houses on Le
Ave from South 20th St to 26th

South	20th	to South	21
"	21st	"	22nd
"	22nd	"	23rd
"	23rd	"	24th
"	24th	"	25th
"	25th	"	26th
"	26th	"	26th St

No of Houses on Street in Land & Town & R & H & Streets having water pipe laid

	No	East	West	
Milton Ave				
South 20th to South 21st		3	1	2 Huts
" 21st to " 22nd		6	3	
" 22nd to " 23rd		5	4	
" 23rd to " 24th		0	4	
" 24th to " 25th		2	2	
" 25th to " 26		8	3	
" 26th to " 27th		3	8	
End of Street		27	25	
			27	
			52 on Milton	
Logan Ave				
South 20th to South 21st		10	5	
" 21st to " 22nd		10	5	
" 22nd to " 23rd		9	3	
" 23rd " " 24th		5	0	
" 24th " " 25th		7	5	
" 25th " " 26th		7	3	
" 26 to 26th St		1	2	
End of Street		49	23	
			49	
			72 on Logan	

No. of Houses connected with water pipe on L & T and R &

	East	West
Kearney Ave		
South 24th to South 25th	5	10
" 25th to " 26th	2	4
	7	14 / 21 Kearney
Julian Ave		
South 25th to South 26th	1	1/2 on Julian
Inter Ocean Ave		
South 26th St to South 27th	5	4 9 on Inter Ocean
Harrison Ave		
South 24th St to South 25th.	2	0
" 25th " " " 26th	0	4 6 on Harrison
Grant Ave		
South 24th St to South 25th	3	4 7 on Grant

Houses in R & H and Whi
Ada connected with wa
pipes

			North	South
Olive Ave				
26th	to	27th	5	5
27th	to	28th	4	1
28th	to	29th	1	2
29th	to	30th	5	4
30th	to	31st	2	3
31st	to	32nd	5	2
			22	17
National Ave				
26th	to	27th	4	6
27th	to	28th	3	8
28th	"	29th	9	11
29th	"	30th	12	5
30th	"	31st	4	9
31st	"	32nd	0	3
			32	42
Grand Ave				
26th	to	27th	2	7
27th	to	28th	2	2
28th	"	29th	6	4
29th	"	30th	2	1

26

Houses connected with wa
pipe in R & H and Whitneys

	North	South
Grand Ave		
30 St to 31 nd	1	2
31 St to 32 nd	2	3
Boston Ave		
28 th to 29 th	0	4
29 th to 30 th	2	4
30 th to 31 St	1	2
31 St to 32 nd	2	0
	8	15
		8
		23
Topeka Ave		
27 th to 28 th	2	0
Colton Ave		
28 th to 29 th	2	0
	4	

Drain from turn table p Aug 27. 1890
at foot of 6th St at S. this line is 6' East of West curb

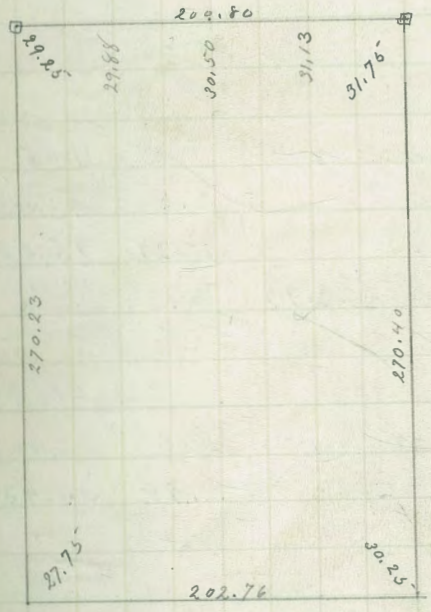
Sta	+	HI	−	Elev	Sheet			
BM	2.20	6.11		3.91		'	"	
0			3.99	2.12	−4.12	6'	1 1/2"	N. of S. St
+20			3.72	2.39	−4.44	6'	5 1/4"	
+40			3.80	2.31	−4.41	6	3 7/8"	Centre of S St
+60			4.18	1.93	−4.28	6	1"	
+80			4.51	1.60	−4.20	5'	9 5/8"	S. of S. St
1+05			4.76	1.35	−4.11	5	7 3/8"	
+30			4.81	1.30	−4.13	5'	7 5/8"	
+55			5.13	0.98	−4.17	5'	4 1/2"	
+80			5.36	0.75	−4.10	5	2 3/8"	
2+05			5.63	0.48	−4.19	4	11 7/8"	
+30			5.59	0.52	−4.10	5	1 1/4"	
+55			5.37	0.74	−4.18	5'	4 5/8"	
+80			5.15	0.96	−4.16	5'	7 7/8"	
3+05			5.30	0.81	−4.17	5	6 7/8"	
+30			4.73	1.38	−4.81	6	2 5/8"	
+50			5.05	1.06	−4.84	5'	11 1/4"	
+80								North line In St
			9.91	−3.80				Bottom of Pit of turn-table
#	6.95	9.58	3.48	2.63				
B.M.			1.27	8.31				6th & K St

Guide for Steps of court block Aug. 28.

Hamlin { Acton, Williams, Hemsley

B.M.	+	HI	Guide	Mod
Set the N.E. & N.W. cor of Courthouse Block.				
27.01	6.21	33.22		
North of H			27.75	5.47
Steps 84' N of H			28.22	5.00 (.47)
South of C St			29.25	3.97 (1.03) ✓
1 + 85 Steps			28.78	4.44 (.47) ✓
			29.25	3.97 ✓
#	2.47	31.25		4.44 28
B.M. State & C St				6.25 25
Front & C				
28.78	7.24	36.02		
			31.75	4.27 ✓
			30.25	5.77 (1.50)

check



Aug 2 1891

10.58
4
10.62

23.72

+	HI	Grade	Rod	Elev

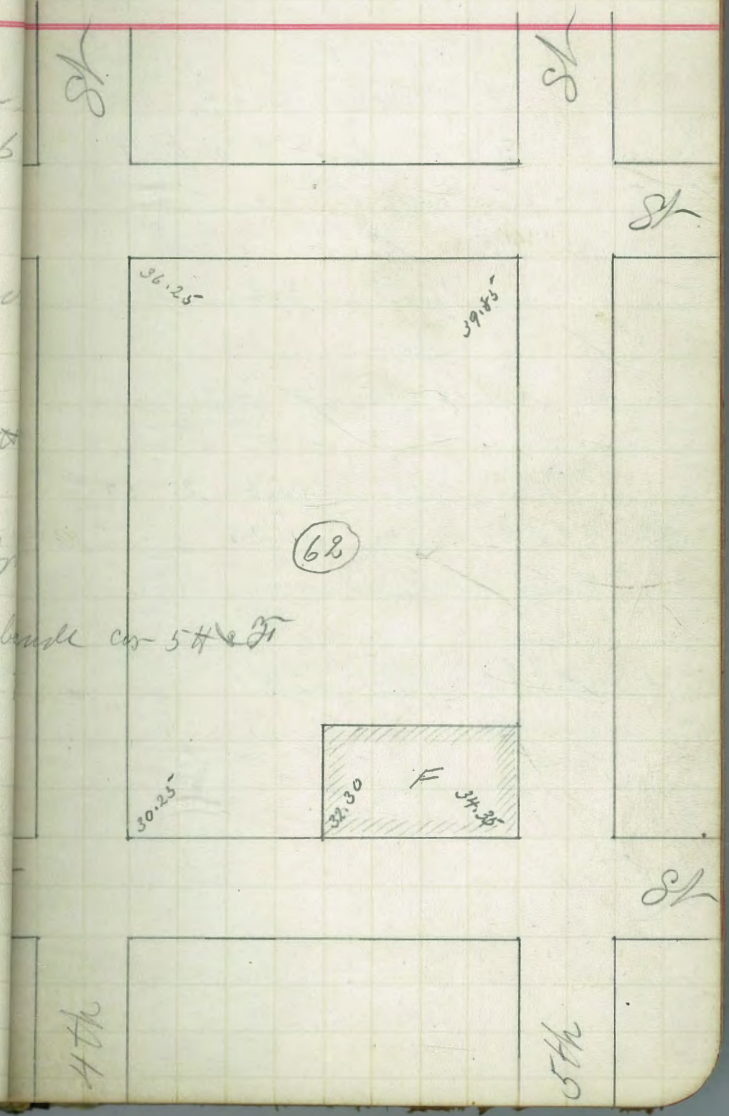
Grades in cellar for
F & S 10' of lot G Block 6
Hortons Add for the
Keating Estate,
By order of J Simpson

4.57	35.62			BM.4 ⊥ & F 31.05
BM			2.19	33.43 5⊥
2.83	28.23		10.22	25.40
		23.72	4.51	→ grade fr

Bottom of iron pillars = 10' 7½" beside cor 5⊥ & F

9.54	35.95		1.82	26.41
			2.52	33.43

Hamlin
Orton
Williams
Hensley

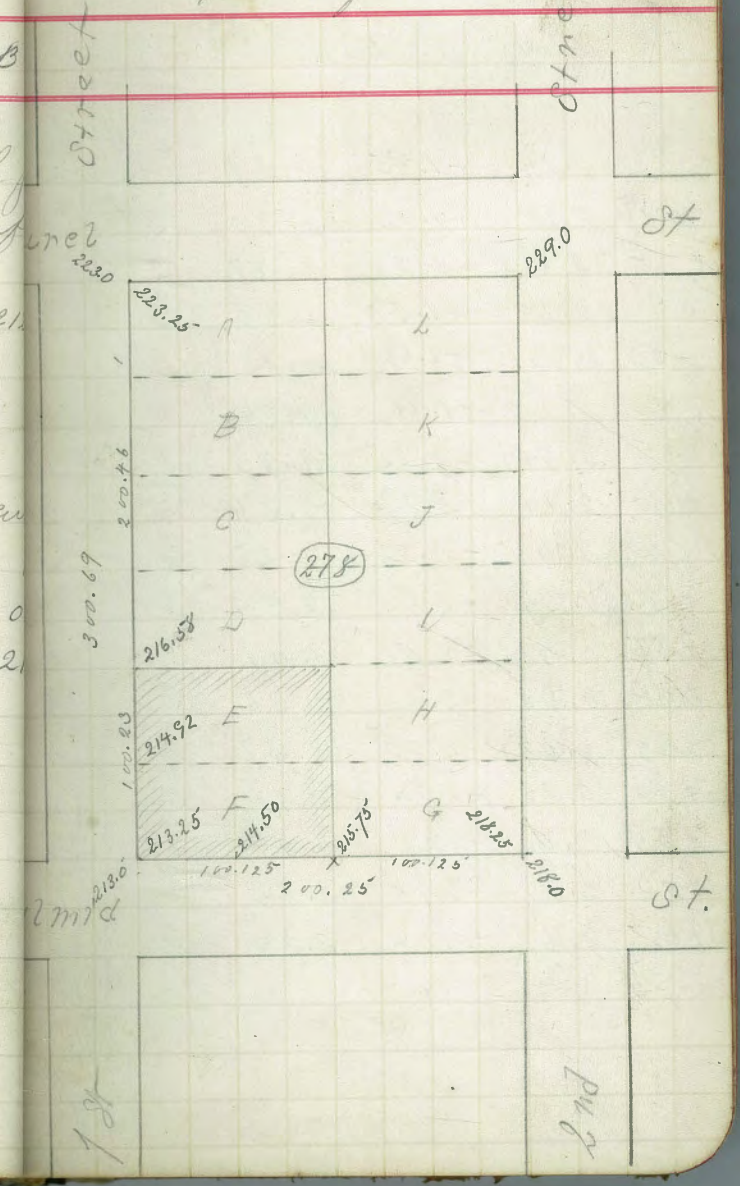


Sept 17 1890

Hamlin { Oaton
Williams
Hensley

+	HI	Grade	Rod	-	B
		Lines & grades for wall f			
		lots E & F Blk 278 H.A.: f			
		King			
7.53	219.79				21
		216.58	3.21		
			1.66		
		214.92	4.87		
			1.67		
		213.25	6.54		
		-	Elev	Grade	cu
		4.18	215.61	214.50	
6.82	223.07	3.54	216.25	215.75	0
BM	2nd & Kalmia			1.62	22

(checked) Sept 29
Hamlin
Oaton
Williams



Grades for drain from ble conduit at foot of ~~60~~

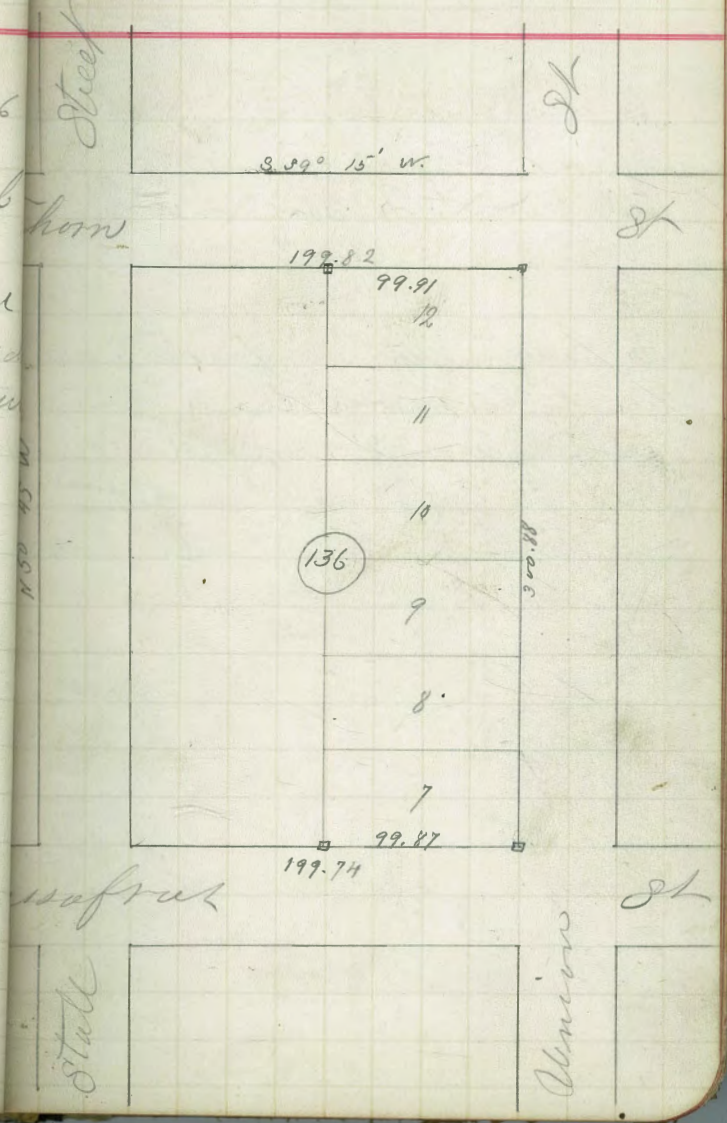
Sta	Elev	Grade	Cut	1		
+64	3.24	-1.05	4.29	4		
+50	2.78	-1.12	3.90	3	10	
+25	2.21	-1.26	3.47	3	5	
0	2.48	-1.40	3.88	3	1	Catch Basin
+20	2.12	-1.61	3.73	3	8	
+40	2.25	-1.81	4.06	4		Center of S St
+60	1.91	-2.02	3.93	3	1	
+80	2.14	-2.22	4.36	4	4	South of S St
1+05	1.95	-2.32	4.27	4	3	
+30	1.34	-2.41	3.75	3	9	
+55	0.90	-2.51	3.41	3	4	
+80	0.76	-2.60	3.36	3	4	
2+05	0.67	-2.70	3.37	3	4	
+30	0.32	-2.79	3.11	3	1	
+55	0.60	-2.89	3.49	3	5	
+80	0.87	-2.98	3.85	3	10	
3+05	0.62	-3.08	3.70	3	8	Joins old flume

Sept 11 1890

Survey of East 1/2 of Blk 136
Middle Town.
for Mrs Geo Charpiot

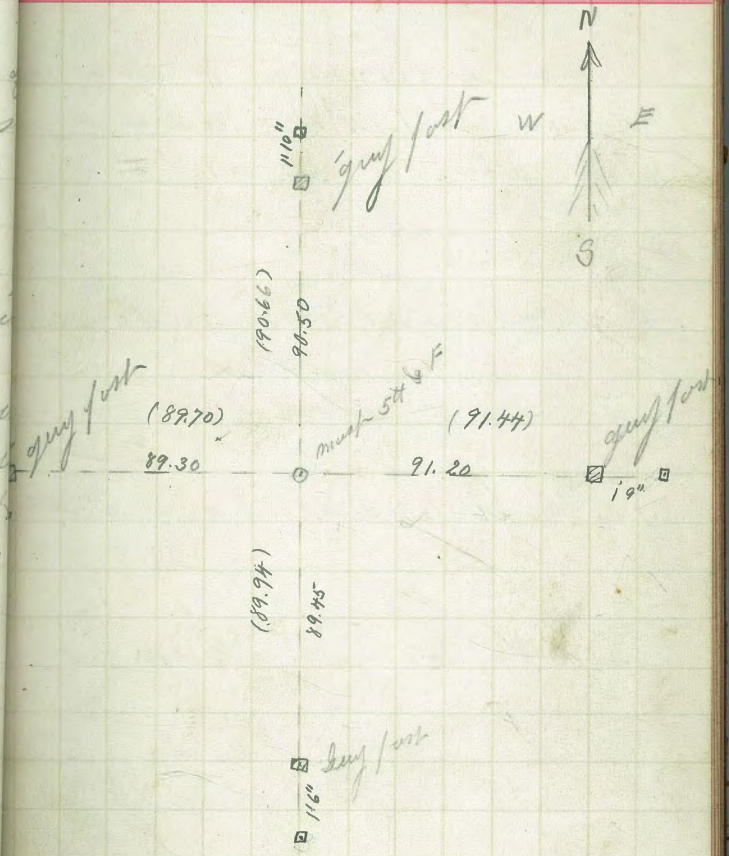
Set plugs N.E. & N.W. of lot 12 and
S.E. & S.W. of lot 7 all intermed
points are only line; measur
ment approximate

POSTED



Measurements from cents of
mast to face of guy post
on 5th & F St. for
S.B. Gas & Electric Co.

Measurements in parenthesis
are to turn buckle.
Set plug 2' beyond measu-
ments not in parenthesis
making face of post dist.
shown from plugs



Ditch is 17' North of centre of New Track -

1) Distance from 16th St Car Tr to where Bullock pointed out a place where he fell = 83' from E

2) Dist from 16th St Car Track to a pt 20' E of where Bullard fell = 103'

3) 7' Sothn to N. rail of new Track where Bullard fell

4) 44' to N. side 36' to South

5 201 to Edge of old line cut on

6 243' to Edge of old line cut

7) 136' to Edge of cut 149' to centre of New Track

8) 16th St Car Track centre of 16th

16 End C Sts Each 80' wide

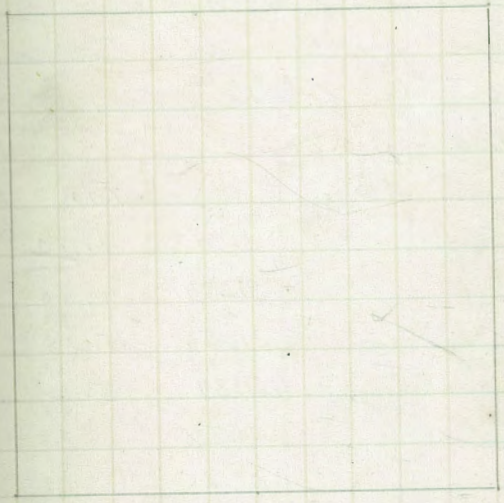
Su
1/5
Ad
per

Note.
slo

co

Che
and

N



Maple St

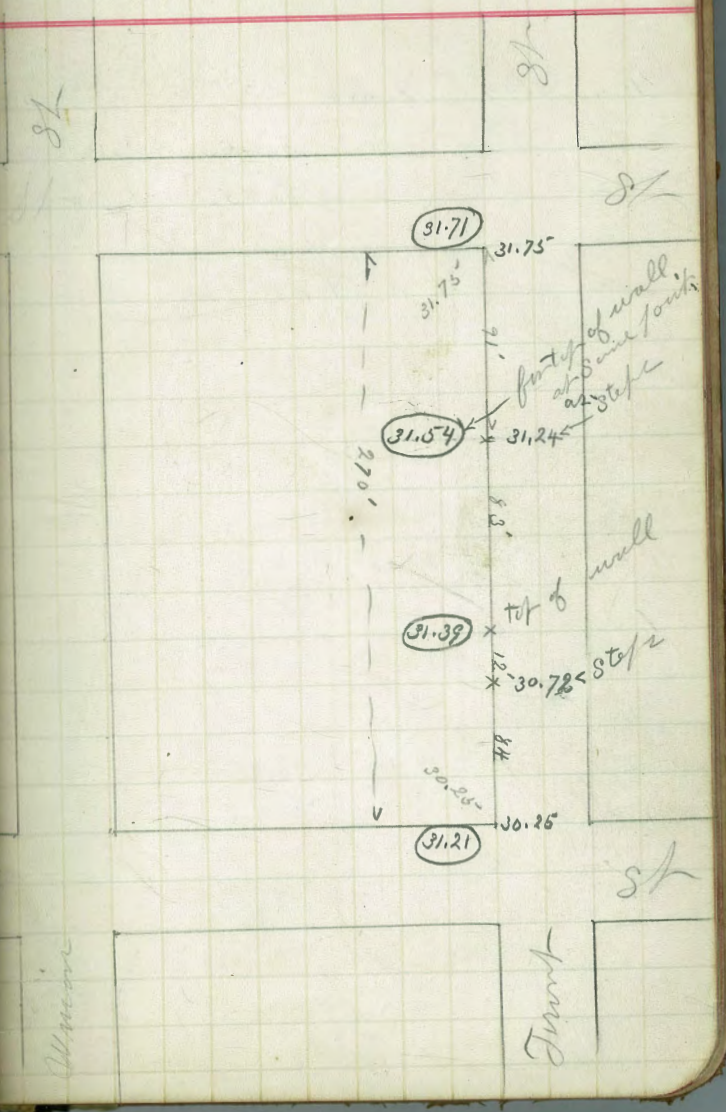
Sept 17 1890
Court House

Hamlin
~~Arthur~~
Williams
Hensley

Sta	+	H I	Grade	Ore	El

Bottom of coping is 11½" above property grade at B St and ½" below property grade at C St. Grades in circles are grades for wall. the other grades are property grades

B M	4.36	36.50			Front & I 32[illegible]
Union & C St				7.70	28.[illegible]
			31.75	4.75	
			21	21	
			31.54	4.96	
			30	30	
			31.24	5.26	
			15	15	
			31.39	5.11	
			.67	.67	
			30.72	5.78	
			31.21	5.29	
				.96	
			30.25	6.25	
B.M. nozzle of hydt				2.90	33[illegible]



Elev on top of main serv
at curb line of S St.

7.36
25
4.86

Sta	+	HI	−	Elev		
B.M.	3.45	7.36			3.9	6th & S St
0			5.05	2.31		gutter on E of 6th N of S St
			.60	.60		
			5.65	1.71		top of pipe where curb line crosses
						is on 6th St

Note.
sl o
co
Ch
and

Board of Education

Lots 1 2 3 4 5 6 7 & 38 to 48

Sept 19 1890

Survey of lots 1 to 7, 38 to 48 Blk 192
S. & T. Add. for Board of Educ

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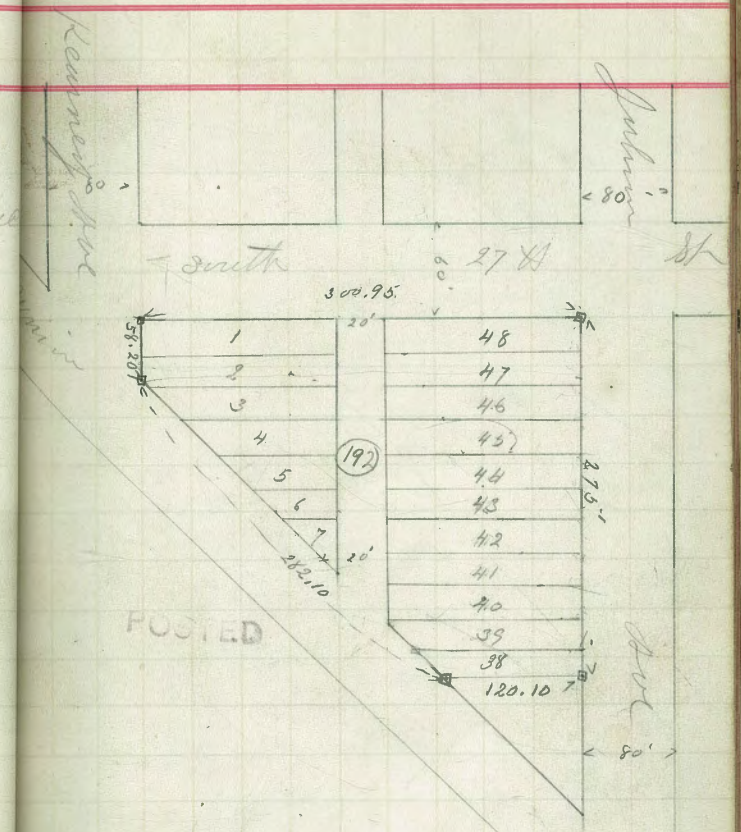
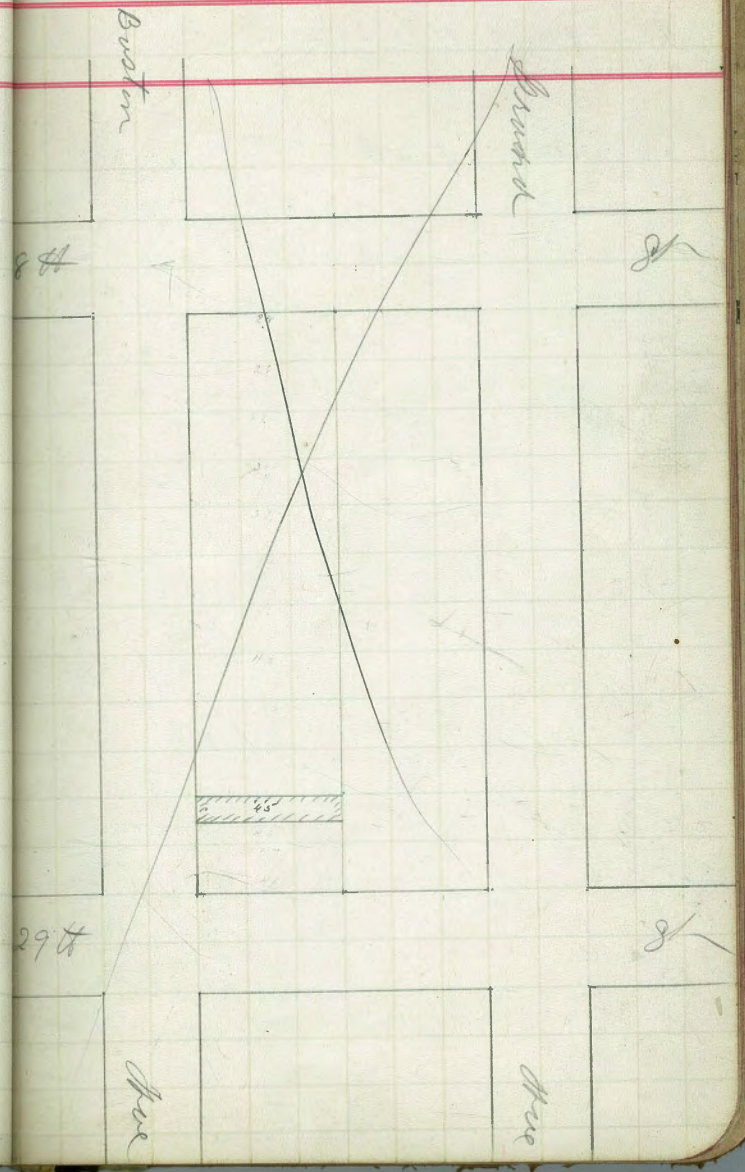


Survey of Lot 45 Blk 15 D & H for T. M. Shaw.

Set a temporary plug 600' N of center of 29th St



Grades for drain from [illegible] gutter at foot of 6th St

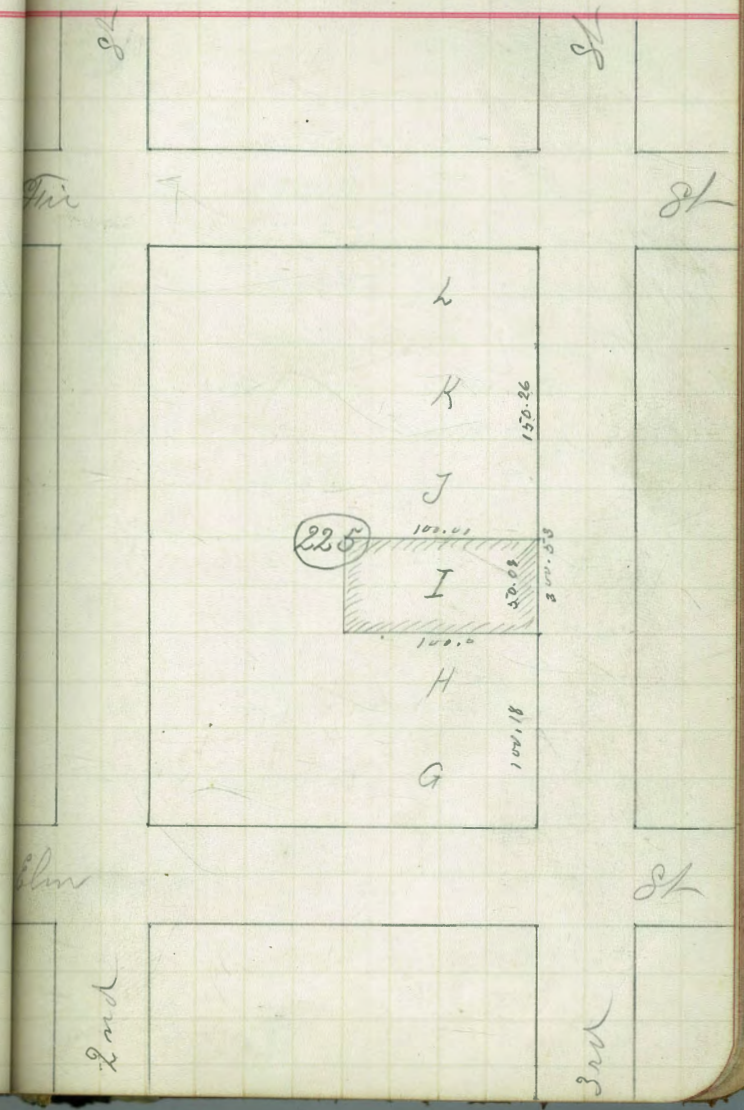
Sta	+	HI	−	Elev	Grade			
BM	3.69	7.60		3.91				6th & L St
0			5.25	2.35	0.02	2'	0 1/4"	Catch Basin
+25			4.95	2.65	−1.62	4	7 1/2"	Sewer pipe
+50			5.26	2.34	−2.40	4	4 3/4"	
+75			5.62	1.98	−2.13	4'	1 5/8"	
+93			5.45	2.15	−2.37	4'	4 1/2"	0 of L St
BM	3.96	7.87		3.91				
0				2.25	0.33	.02		
+16			5.39	2.48	−1.97	4.45	4'	5 1/4"
+25			5.23	2.64	−2.00	4.64	4	7 3/4"
+50				2.34	−2.09	4.43	4	5"
+75				1.98	−2.18	4.16	4	2"
+93				2.15	−2.22	4.37	4	4 5/8"

Sept 25 1890

Survey of Sot I Blk 225 H.A.
for R F Philips

Hamlin
Acton
Williams
Ketchum

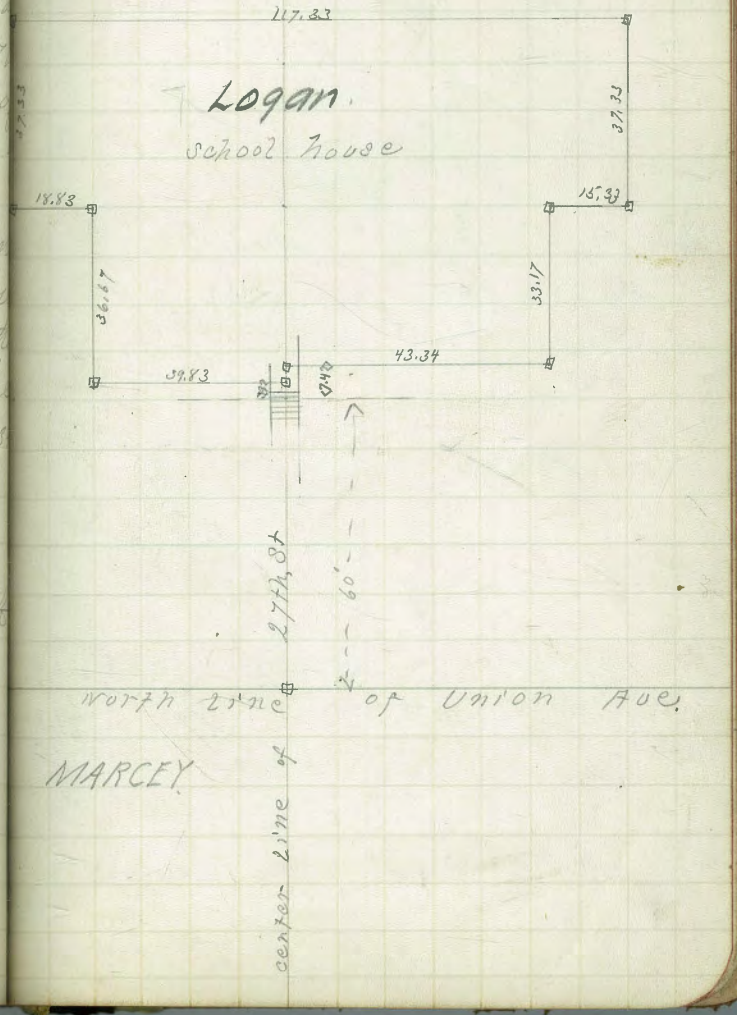
POSTED



Sectation of 8th Ward School Feb 6th 1891 Hamlin Transit
Oxton
Williams } Chain
Hemsley Flag

Begining at a point 60' N
of where the center line of 27
St intersects the North line o
Union Ave to the Point
begining, thence North
3.92', thence West 39.83', then
N.36.67', thence West 18.83', then
N.37.33', thence East 117.33' th
S.37.33' thence West 15.33' then
South 33.17' thence West 43.3
thence South 7.42' to Point of
begining,

(□ Plug) set as shown in sketch



Elevations for foundation wall for the 8th Ward School House

Feb 9 1891 Hamlin level and rod William Stone

Sta	+	H I	-	Elev.
B.M.,	7.09	72.86		65.47
#	5.90	76.26	2.50	70.36
B.M.			1.27	74.99
			7.61	68.65

Wmain & 29th St

Julian & 27th St.

6" below the top of floor.

Curb stakes around Plaza Feb 20 1891

Hamlin Book
Hemsley Rod
Williams level
Acton Stake

Beginning at N.W. cor to SW cor to SE cor to NE cor

Sta	+	HI	Grade	Road	Ele	
BM	4.26	44.26			40.0	Sid & 18 St
			41.00	3.26	0.06 hi	N.W. cor
0			39.00	5.26		SW cor
				1.26		
1			40.26	4.00 ✓		100' E of SW cor.
				1.26		
2			41.53	2.73 ✓		SE cor
0			43.70	0.56		NE cor
#	3.95	47.67		0.54	43.7	
B.M.				1.17	46.5	

F 0.9' at NW cor Return
F 0.9' at SE cor Return

Grades for court house Sew

Feb 20 1891

Hamlin Book
Williams level
Hemsley Rod
Caton Stake

Sta	+	HI	-	Elev	Grade	Rod
B.M.	2.93	36.53		33.60		Front & C St.
B.M.			7.77	28.76		W min & C St.
			8.93	27.60		Elev of upper end of pipe
				23.70		Elev of Y 9.93 3
B.M.	5.45	34.23		28.78		W min & C St. 9.63
0			23.70	10.53 ✓		elev of Y 10.30
+50			24.65	.95 9.58 ✓		
1		1.902 - 100	25.60	.95 8.63 ✓		
+50			26.55	.95 7.68 ✓		
2			27.50	.95 6.73		
+05		✓	27.60			point where pipe goes under closet
B.M.			0.63	33.60		Front & C St.

Cross Section of Walk bet. State and Union on Elm (North Walk)

Mar 2 1891 Hamlin Acton Williams Hemsley

Sta	N Rod	N Elev.	Curb Rod	Curb Elev		+	HI	−	Elev
B M		(78.4)			State	Elm 8.31	78.36		70.05
0	4.3	74.1	5.0	73.4		East line of State St			
+25	4.5	73.9	4.5	73.9					
+50	3.7	74.7	4.3	74.1					
+75	3.4	75.0	4.5	73.9					
1	2.1	76.3	4.7	73.7					
+25	2.9	75.5	3.9	74.5					
+50	2.4	76.0	3.2	75.2					
+75	2.2	76.2	2.6	75.8					
+96	2.1	76.3	2.6	75.8		West line of Union			
					B.M.	State		0.90	77.46

Degrees

Degrees

(7.28) 11½" (4.36) ½' below

31.75
30.25
1.50

Motor 1' P.M.
from centre of mast to
face of guy post

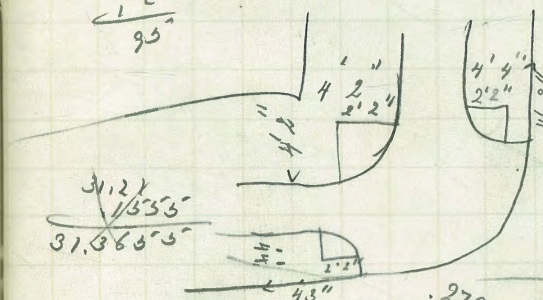
84
12
96

30.25
96
31.21

92
4
96

31.75
4
31.71

83
12
95



91
83
12
84
270

31.21
.1555
31.3655

31.71
31.21
.270) .500 (.185
270
2300
2160
1400
1350

.00185
96
1110
1665
.17760

.00185
84
740
1480
.15546

.00185
91
185
1665
16835

.00185
83
555
1480
.15555

81.9
193.04

31.21
.1776
31.3876
1535
31.5411
1683
31.7094

93
16
67

222
197
.25

53
75
18

25
10
9

67) .250 (.373
201
490
469
210
201

.00373
9
.03357 + 25

.00373
25
1865
746
.09325 + 25

1.973
.033
2.003 + 25
.093
2.096 + 30
.093
2.189 + 75
.007
2.256

.00373
18
2984
1373
.06714

30.25
4662
30.7162
5273
31.2435
505
31.7485

31416) 26400000 (840.3
251328
126720
125664
105600

Wire S	0	0
1 fur	1	3/8 .10
2 "	2	6/8 .10
3 "	3	1 1/8 .10
4 "	4	1 4/8 .10
5 "	5	1 7/8 .10
6 "	6	2 2/8 .10
7 "	7	2 5/8 .10
Check	8	3 .10

33
7
40

270) 1.500 (55
1350
1500
1350
150

17
5
22

.00555
84
2220
4440
.46620

.00555
95
2775
4995
.52725

.00555
91
555
4995
.50505

36.53
8.54
28.00
25
27.75

8.53
40
893

36.53
8.93
27.60

99.87
37.50
137.37

99.87
375
137.37
137.37
274.74

4/5 x .083

275) .0500 (1
75

190) .0300

40/190 x .03

120

274.74
37.50
247.24
230
07.24

274.74
675
137.24
130
7.24

3) 332 (066
30
32
30

10.38
67
10.75

10.38
07
10.65

34.35
10.65
23.70

39 15
30 43
90 00

9.91

20.0

Rod Upper Co #1 3.22
#2 3.17
Lower Cor #2 3.47
#1 4.48
Water 8.00
lower end of tank 1' above water

1½' at lower end 4' wide
to 1' at upper end 3' wide
wall batter from 2' to 1' at lower end
same batter all through
floor 1' ~~above~~ below lower #1

	15.52	5.27	20.79	16.78	4.01 -
#3	5.47	15.32	15.32	0.0	
#1	3.47	17.32	19.32	+ 2.0	
#2	4.47	16.32	19.32	+ 3.0	
#4	4.47	16.32	15.32	- 1.0	

24.05
25
24.3

.84
59/100
7.78
17
174 7.61 60/100 x
91
83

3/5 x 4
3) 12 (
02

3/5
169/300

16.78
16.83
16.53
15.52
12.00

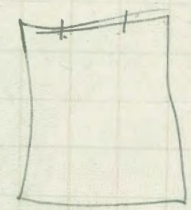
72.86
6.85
66.01

8/15 x 45
15) 360 (24
30
60
60

Bottom tank

300
160
140
300

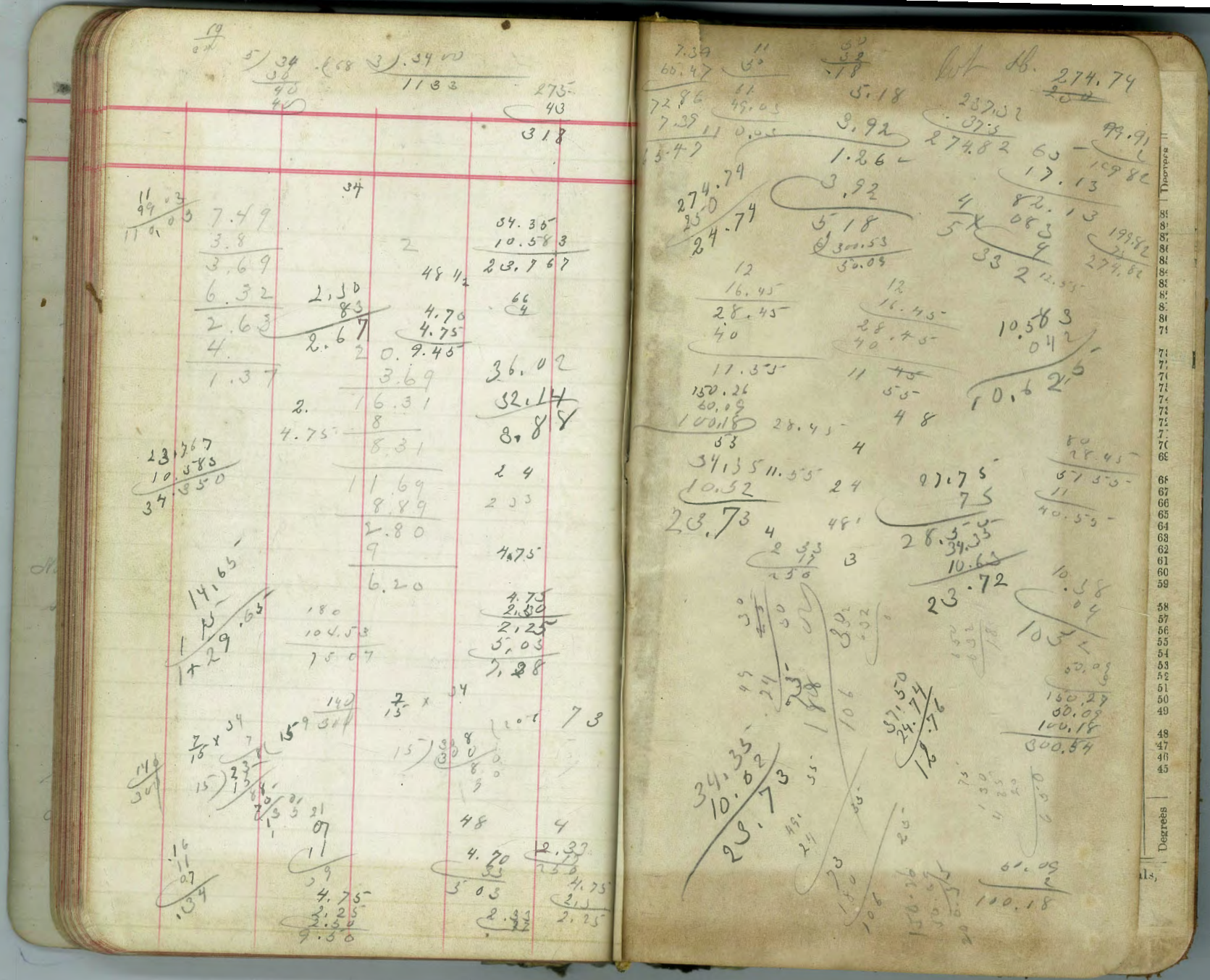
7/15 x
15) 45 (21
30 5 24
45



20.71

24.19
23.95
.24

300.40



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

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° 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
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
		100.00	0.44	100.00	0.87	99.99	1.31	89
99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
99.25	12 19	99.20	12.62	99.14	13.05	99.09	13.49	82
99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
91.35	40.67	91 18	41.07	91.00	41.47	90.81	41.87	65
90.63	42.26	90.45	42.66	90 26	43.05	90.07	43 44	64
89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
87.46	48.48	87.25	48.86	87.04	49 24	86.82	49.62	60
86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
82.90	55.92	82 66	56.28	82.41	56.64	82.16	57.00	55
81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
78.80	61.57	78.53	61.91	78 26	62.25	77.99	62.59	51
77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
74.31	66.91	74.02	67.24	73.73	67.56	73.43	67 88	47
73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
70.71	70.71							
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees
DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		

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