CITY

SURVEY'S

2

F.B.2

2

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

MICROFILMED
DEC 1 1964

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

Minutes.	Lat.	Minutes.	Lat.	Minutes.	Lat.
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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STATIONERS AND PRINTERS,

SAN FRANCISCO, CAL.

Table for Running on Slopes.

In the following table the first column shows the angle, the second, the numbe 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 li
°		°		°		°	
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

2

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

City Pueblo lots 1
Lots A Blk 70 HA Grades 2
S.H. Water Co. 3
Fuquay A.F. survey 4
Park West line 5-8
B.St. Check of grades bet 7th & 8th 9
S.H. C & E R.R. survey 10
Rusconi Paul survey 11-12
S.H. C & E. R.R. " 13-14
City Hall survey 15
~~S 23rd St X Sec.~~ 20
Depot St X " 21
Front St tie point 22
Front St sewer Elev's 23-24
S.H. & C Water Co survey 25-26
Malley F.O. survey lot A Blk 169 HA 27
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S 23rd St X Sec. Harrison & N 36

Bancroft Mrs curb lines & grades
Lots K & L Blk 192 HA 39
Bancroft Mrs Curb lines & grades
lot C Blk 203 HA 40
Board of Education grades for
S 1/2 Blk 36 M.F. 41
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for sewer 42
Board of Education X B St School
house lot 43-45
Bancroft Mrs grades on west
line Blk 227 46
Elev. on walk at 5th & Beech 47
Board of Education, location of School
house 48

Memo of City Pueblo Lots in the City Limits Jan. 9th A.D. 1888

P. Lot	Acres		P. Lot	Acres	
P.M.	Side Lot	Plan measurement	PM refers to Poole Map.		
324	Side Lot		1304	160.0	160.0
1165 PM	Side Lot outside city limits		1305	62.5	63.0
1216 PM	outside city limits		1306	135.0	138.6
1217	City limits		1309	160.0	160.0
1232	82.0	81.2	1311	160.0	160.0
1241	142.0	144.2	1317	156.0	154.0
1249	160.0	160.0	1318	168.0	169.4
1253	48.0	48.0	1321	150.0	149.8
1266	48.0	48.0	1322	160.0	160.0
1269	65.0	65.8	1323	160.0	160.0
1272	172.0	176.4	1324	160.0	161.6
1273	160.0	159.6	1325	164.0	165.2
1274	146.0	144.2	1326	160.0	160.0
1275	56.0	54.6	1327	160.0	160.0
1278	137.5	135.8	1329	118.0	123.2
1279	90.0	89.6	1330	160.0	160.0
1287	107.0	106.4	1331	190.0	186.2
1293	120.0	120.4	1332	70.0	70.0
1294	125.0	128.8	1333	160.0	160.0
1298	175.0	175.0	1334	117.0	117.6

as taken from Abstracts by

9

POSTED

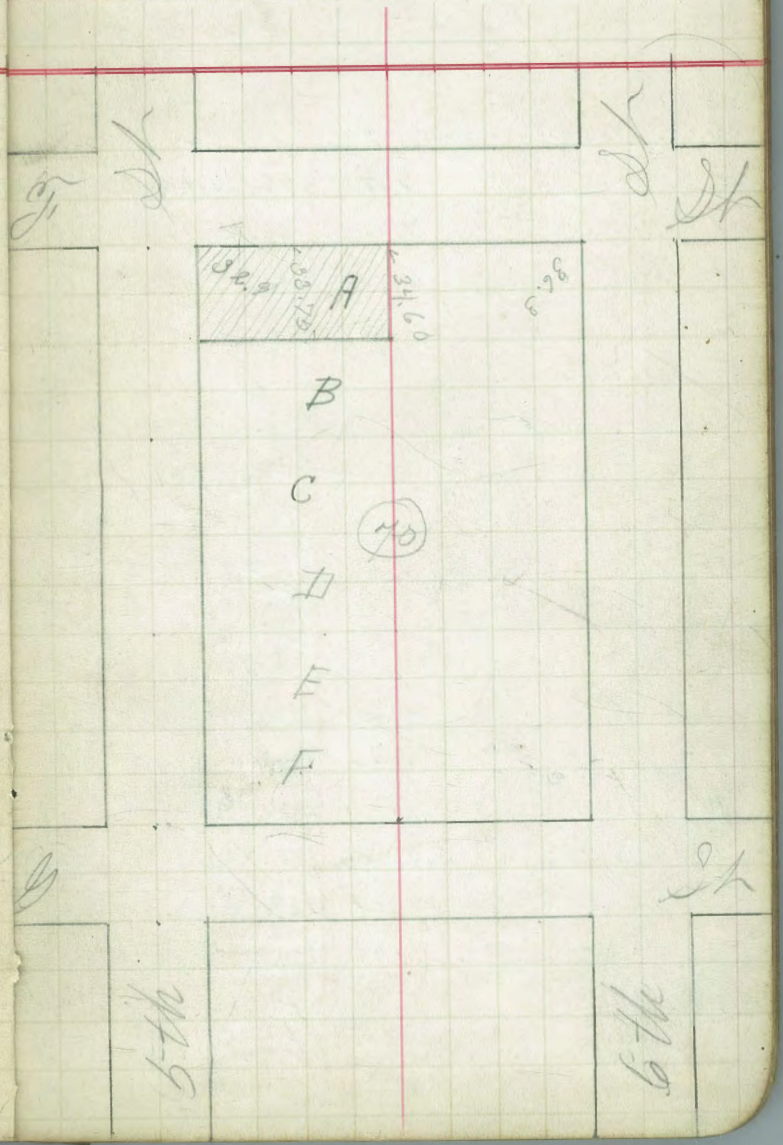
Pueblo Lot	Acres	
carried for.	4764.0	
1336	160.0	all these lots
1337	85.0	were taken from
1781	160.0	Pascoe's Map -
4½ 1785	80.0	and acreage
1353	5249.0	calculated by
1355		Scale -
1340		2 ochs = 1 inch
1360		

POSTED

	Plan. Meas.	
1336	160.0	
1337	86.8	
1781	160.0	
4½ 1785	80.0	
	5262.8	Total by Plan
	5249.0	" " Scale
	13.8	Diff

P.	BM	+	HI	Grade	Rod
32					
116	Sidewalk grade, on S.E.				
12	cor of 5th & F Sts. Lot A				
12	Blk 70 Hyntons.				
12	Jim Haskins.				
12					
12	33.43	6.00	39.43		
12				32.9	6.53
12				33.75	5.68
12				34.60	4.83
12	34.33	1.47	34.80	–	Elev.
12				5.20	34.60
12				6.05	33.75
12					
12					
12					
12					
12					
12					
12					

Hamlin
Orton
McRae
& Gano



Jan 27 1883

Lines & Grades for Waterbo 2nd St to Laurel

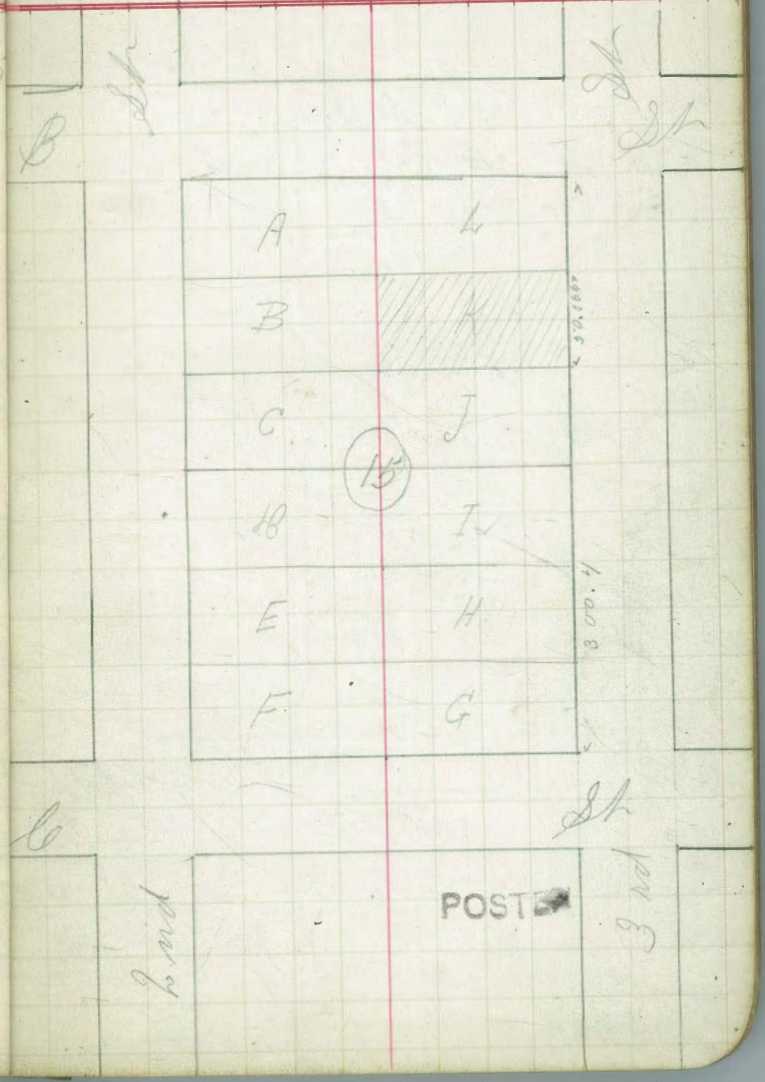
Sta	-	+	H I	—	Elev	Grade	Cu	
P. L								
B.M.		8.46	206.86		198.40			
32	3			9.95	196.91	192.17	4.7	S line Ivy St
116	0			7.11	199.75	193.17	6.5	N " " St.
121	1			4.79	202.07	197.00	5.0	
12	2			2.41	204.45	200.80	3.8	
W12	#	10.43	216.24	0.65	205.81			
W12	3			4.08	207.16	204.63	2.5	S line Juniper
W12	0			6.60	209.64	205.67	3.9	N " "
W12	1			2.64	213.56	208.50	5.1	
W12	#	4.40	225.56	0.58	215.66			
W12	2			4.95	215.61	211.38	4.2	
W12	3			7.45	218.11	214.17	3.9	S line Kalmia
W12	0			5.65	218.91	215.17	4.7	N " " "
W12	1			2.76	222.80	218.84	3.9	
W12	#	8.63	233.71	0.48	225.08			
W12	2			4.75	228.96	222.50	6.4	
W1	3			3.77	229.94	226.17	3.7	S line Laurel
W1	0			2.47	231.24	227.17	4.0	N "
W1	B.M.			8.30	225.41			
W1								
W1								

Feb 1 1884

Survey of Lot K. Blk 15
Hortons Add
for H. F. Tingway.
4 Joints.
3rd & B Sts.

Hamlin
Orton
McRae
Tinly

POSTED



Hamlin Transit
Finley Chain
Orton "
McBeane Aff Park

Feb 1 188[illegible]

5

Traverse Line along West

Sta	Angle		M.C.			
55+46.11						
53+76.11						
50+23.57	1°	0'	Left.	Hawthorn St		
46+43.86	0°	04'	Right	Ivy St.	379.65	
42+63.13				Juniper St	380.73	
38+81.93				Kalmia St	381.2	
35+02.38	0°	01'	Right.	Laurel St	79.55	
31+22.06	0°	02'	Left.	Maple St	80.32 ✓	
				Nutmeg St		
23+61.5	0°	03'	Left.	Olive St	760.56	
19+80.32	0°	0½	Right.	Palm St	381.18 ✓	
15+99.77				Quince St	80.55	
12+18.49				Redwood St	81.28 ✓	
8+37.96				Spruce St	80.53	
4+57	0°	01'	Right.	Thorn St	80.96	
0+75.6				Upas St.	81.4	

S. 14° E.

0 N.W. corner of Park. Mound & Stake

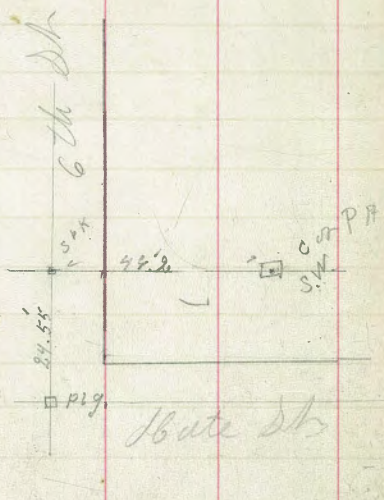
POST

379.7
80.
299.7
19.
313.7

Feb 2 1882

Traverse Line Along West Boundary of Park

Course from N W corner of Park to S.W. cor of Dato & 6th St.
= S 0° 26' 16" E Distance 6579.16



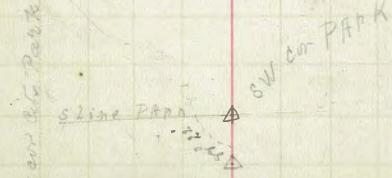
59+51.11

66+04.31

59+51.11 2° 19' Right

Traverse on West Line City Park

Course	Dist	N	S	E	W
South	457.0		457.00		
S 0° 01' W	1523.32		1523.32		0.442
S 0° 01½ W	381.18		381.18		0.166
S 0° 01½ E	760.56		760.56	0.331	
S 0° 03½ E	380.32		380.32	0.386	
S 0° 02½ E	1141.48		1141.48	0.828	
S 0° 01½ W	379.65		379.65		0.165
S 0° 58½ E	927.60		927.465	15.783	
S 1° 20½ W	653.20		653.02		15.295
	6604.31		6603.975	17.328	16.068
				16.068	
				1.26	



Closing Course = N 0° 0' 40" W

P. L		E	W			
P.						
32	Spruce	0.02				
116	Redwood	0.04				
12	Larmee	0.08				
12	Laurel		0.30			
12	Kalmia		0.57			
12	Juniper		0.79			
12	Ivy		1.03			
12	Heatheria		0.76			
12						
12						
12						
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P. L

P.
32
116
12
12
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12
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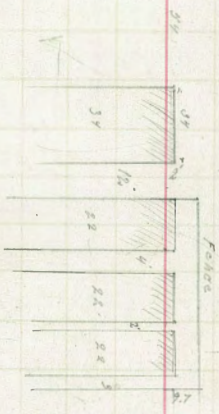
12
12
12
12

Houses along Park line between Grape & Fir

Fir St



Feb 7 1883

Check of grades B St between 7th & 8th

	+	H I	−	Elev
BM	55.4	66.22		60.68
0			4.95	61.27
+50			4.44	61.78
+75			3.80	62.42
+50			3.30	62.92
2			2.96	63.26
BM.			0.15	66.07

Hamlin
Orton
Finly
McT Rol

Feb 12 1883

P. L

P.
32
116
12
12
12
12
12
12
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12
12
12
12
12
12
12
12
12
12
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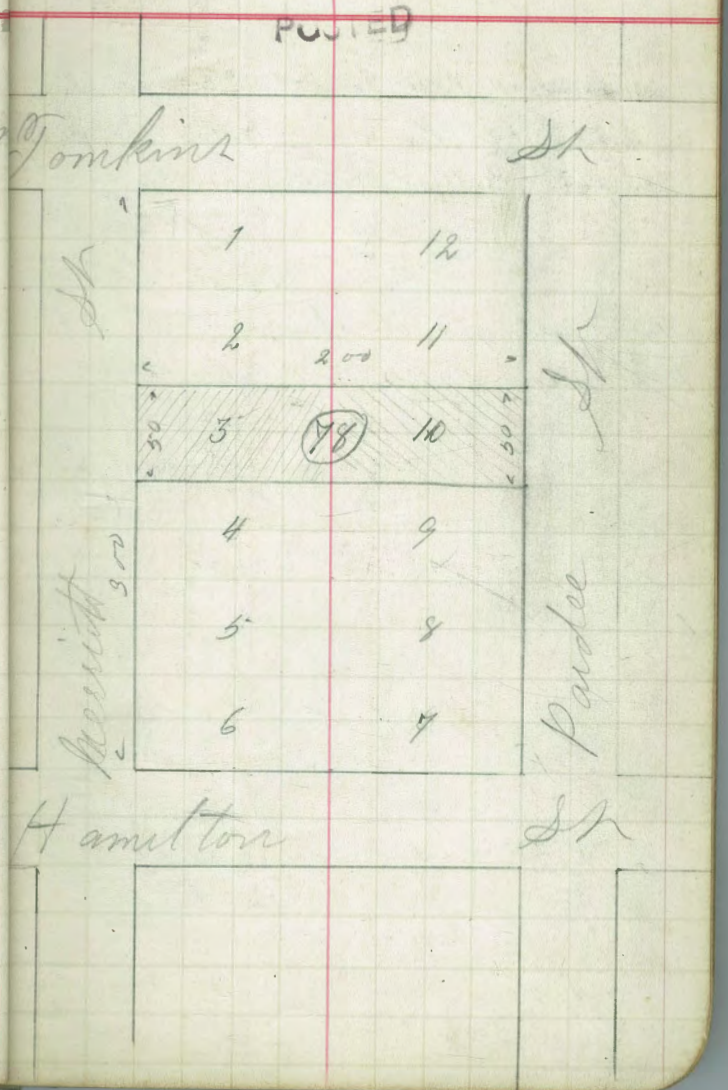
12
12
12
12

Survey of Lots 9 & 10
Blk 78 Belmore & Sandborn
Add. for S.B.C. & E. R.R.

Hamblin
Orton
Finley
Hensley

POSTED



Survey of Lot 9 Blk 287 M. F.
Add
for Paul Busconi
Feb 11 1889

Note see plat of
Blk next page

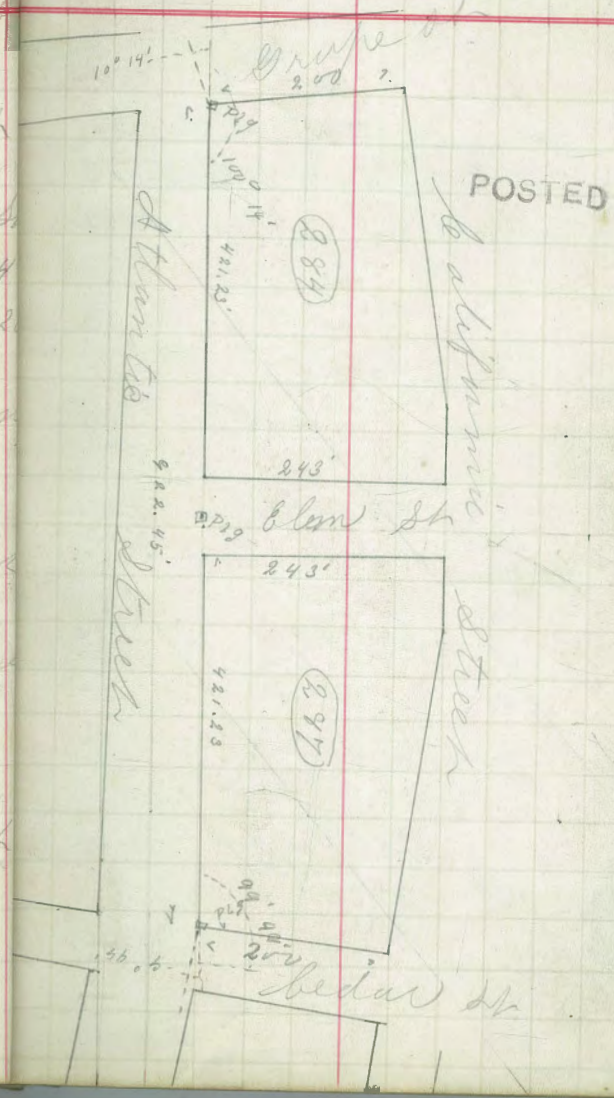
Hamlin
Orton
Finley
Lee Kol

Established points at SW cor 287 & NW 284. Muddle Town
Feb 11 1889

POSTED

Survey for P. Rusconi
Got up line of Cedar St
and set Plg at SW Blk 287
Also got up line of Grape St
and set plug at N.W. Blk 284
Measured to point at SW Blk 2
and found dist to be 922.45'
Set point midway between
at center line of Elm St
dist 421.23 from either cor;
making length of blocks
on W. side 421.23'
Δ from North line of Cedar
to NW cor Blk 284, 99° 49'
Δ from South line of Grape
St to SW Blk 287 100° 14'
Note see diagram of lot
on preceding Page.

Hamlin



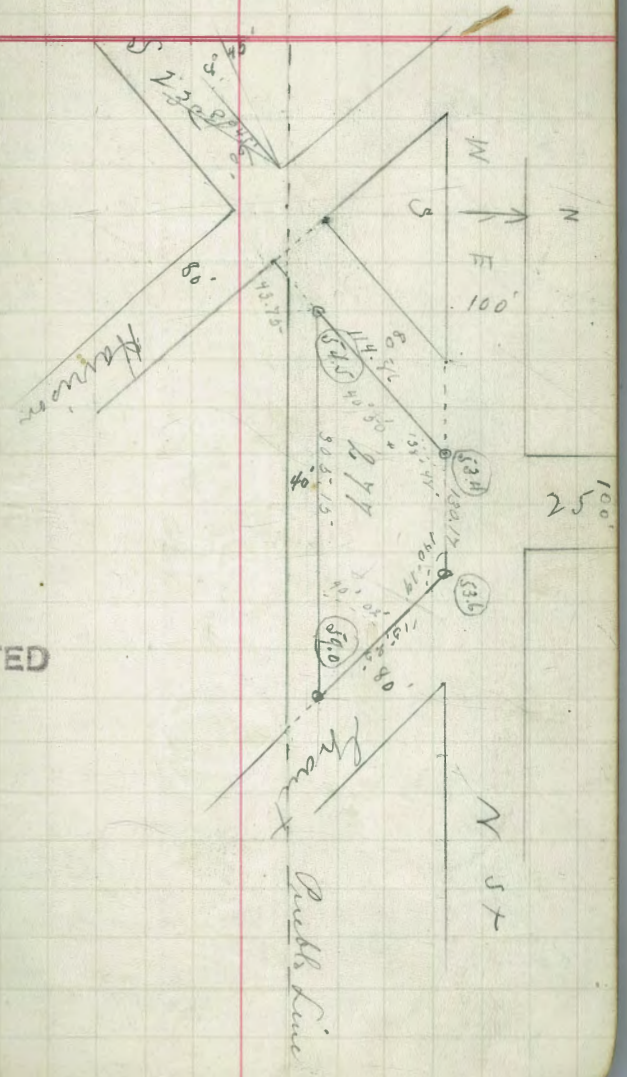
POSTED

Feb 14 1888

Survey of Blk 277. cor
of Grant Ave & N St
for Station on Cayamaca R
Ordered by J. D. Schuyler for D. Schuy
Hamlin
Orton
Finley
Hensley

POSTED

POSTED



Feb 15 1889

Fill at 4 corners of Blk Fraurys Add for S.H.C. & E R.R.

Sta	+	H I	−	Elev	Grade	Cut	Note see diagram preceding page
BM	2.00	57.30		55.30			
NE			7.17	50.13	53.60	3.47	
SE			3.40	53.90	59.00	5.10	
SW			9.80	47.50	54.50	7.00	
NW.			6.30	51.00	53.40	2.40	X [illegible]

Jan 23 1889

Survey of S 1/2 Sot C Blk 35
For City Hall

Party wall
91' x 12' x 9"
84' x 17' 6" x 8"
82' x 4' 4" x 6"

Hamlin
Orton
Egon
W. Rob.

For footing see next page

POSTED

Party wall built on South side but the building is 0.2' South of line and the building on the north side is also 0.2' for south, Party wall 8" on City measurement approx. without transit

In survey made Jan 23 1893 the line was set for cart only.

Hamlin
Apr 10 1893

157.50
157.07
314.57
300.57
150.28

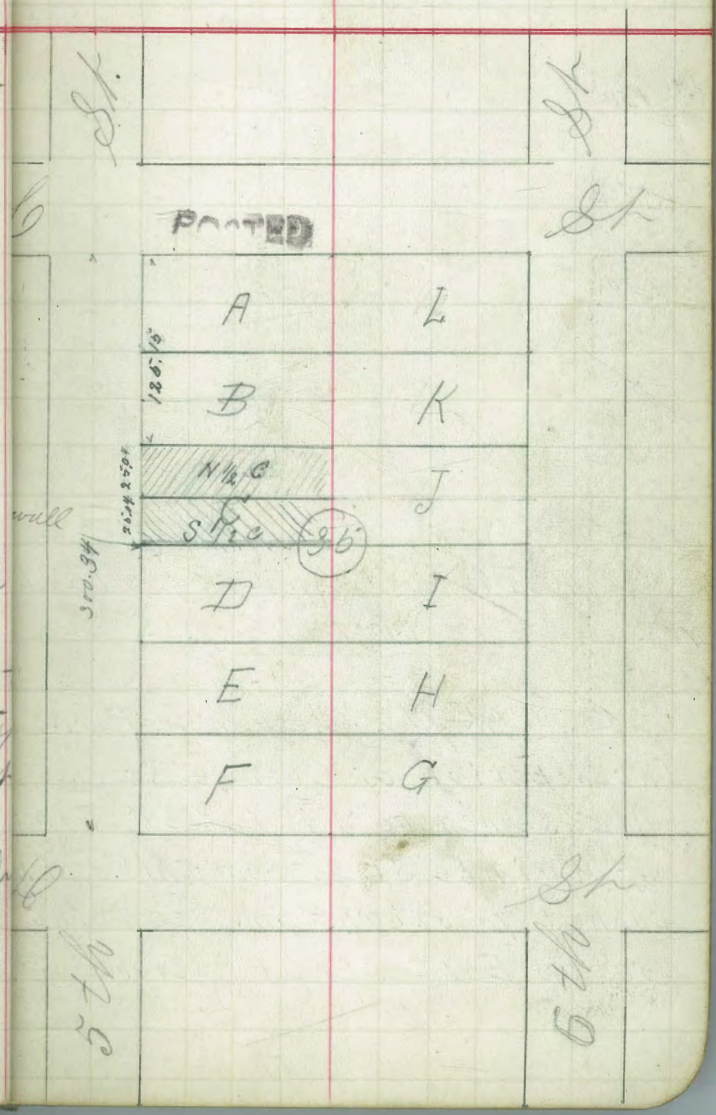
125.15
25.04
157.19

POSTED

A	L
B	K
N 1/2 C	J
S 1/2 C (35)	
D	I
E	H
F	G

St. St. St. St. 5th 6th

126.15
25.04
25.04
300.34
wall



...mlin. Transit
...ton chain
...nley
...sley

Feb 12 1889

Park Boulevard East side of West Curve

	+50	
4		
	+50	
3		15'
	+50	
2		13°
	+50	
1		
	+50	
0	B.C. 5° 9.72' Curve Left Δ 26° N of Quince St.	
	Radius. Semi-tang 261.4 Lf Curve 513.6	

A Line

Set up on Ply. West Line Park ...
Intersection of Quince St.
Measured to a Point 58' Nor...
of Quince St. From this Poin...
turned 90° Right and set point
150' on East Line Boulevard. B...

Footing for Party wall on South side of city lot

Curve Park Boulevard at side of West Drive

+88.5	E.C.						
+50							
9							
+50							
8							
+50	42'						
7							
+50	16°						
6							
+50							
+13.6	P.R.C	7° 02'	Right.	Δ 33° 24'			
5	Rad		Semi-Tang 244.5	L Curve 474.9	PI Set.		

Curves Park Boulevard Ne of Mech side of Hill

+50	16°	
7		
+50		
6		
+84.6	P.R.C 8° 38' Right Δ 33° 24'	
+50	Rad Semi-Tang Length	
5	Curve 386.7	
+50		
4		
+50	15'	
3		
+50	13°	
2		
+50		
1		
+50		
0	B.C. 4° 32' Curve Left. Δ 26° 30'	
	At a Point 58 N of N Line Quin	
	Rad. Semi Tang 296.7	
	B. Line Length Curve set.	

Feb 12 1889

Curve Park Boulevard West of Wash drive

7							
6							
5							
4							
3							
2							
1							
	+ 71.4	E.C.					
	+50						
	9						
	+50	49					
	8						

X Section extension of [illegible]th 23 St.

P.	Rod	N.W	Rod	Or	Rod	E.E.	to	+	HI	=	Elev
P				(37.40)							
32							24 ft. W.	2.07	57.37		55.30
116	9.50	47.90	8.20	49.20	6.90	50.5	e side Harrison Ave				
12	10.7	46.7	9.1	48.3	8.2	49.2					
12	10.7	46.7	9.8	47.6	9.0	48.4					
12					9.1	48.3					
12	10.8	46.6	9.7	47.7	10.9	46.5					
12	10.9	46.5	10.5	46.9	9.7	47.7					
12	12.6	44.8	10.5	46.9	9.5	47.9	25				
12					8.7	48.7	42 S. Line N. St.				
12	8.6	48.8	9.0	48.4			50				
12	8.4	49.0	5.4	52.2			75				
12	7.5	49.9	5.0	52.4							
12	6.4	51.0					20				
12											
12											
12											
12											
12											
12											
12											

(Pueblo Depot)

X section 40 ft. Ch. Sec 27 T. 21 S. R. 65 W.

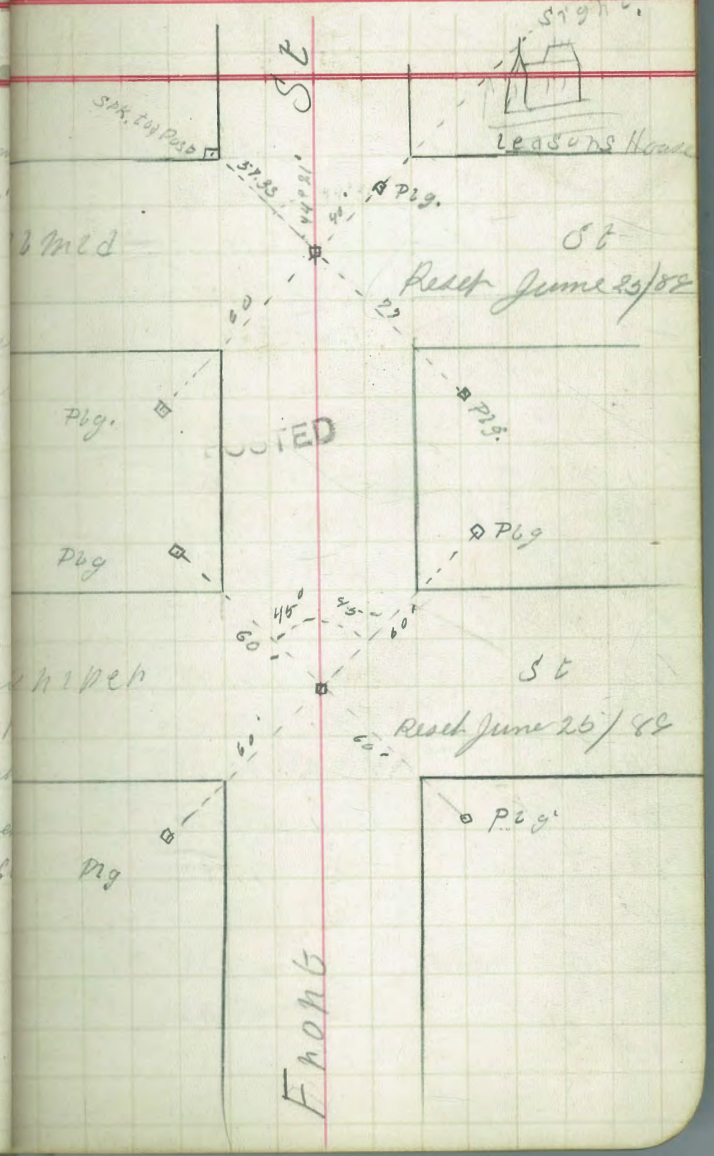
P.	Rod	N	Rod	CN	Rod	S	tu	+	H I	-	Elev
P.				57.4							
32							4 ft S N	2.07	59.37		57.30
116					9.2	48.2	Harrison Ave & 40' Street.				
12					9.2	48.2	5	46.2			
12	9.9	47.5	7.8 15' south 48.8 11.9 9.6 15' south 7.8	45.5	7.5	49.9	46				
V12	9.3	48.1	11.0	46.4	7.7 10.5 15' south	49.7	46.8 71				
V12	9.3	48.1	9.7	46.7	6.3	51.1	6				
V12	9.2	48.2	9.0	48.4	5.2	52.2	21				
V12	9.1	48.3	8.6	48.8	4.6	52.8	46				
V12	9.0	48.4	8.0	49.4	3.9	53 5	71				
V12	9.1	48.3	7.4	50.0	4.1	53.3	76				
V12	8.1	49.3	6.6	50.8	3.5	53.9	21				
V12	7.5	49.9	4.8	52.6	3.5	53.9	46				
V12	6.8	50.6	3.9	53.5	3.7	53.7	71				
V12	5.0	52.4	4.0	53.4	4.0	53.4	96				
V12	5.1	52.3	4.8	52.6	3.9	53.7	21				
V12	3.4	53.5	4.1	53.3	1.9	55.5	46				
V12	3.5	53.9	3.9	54.1	0.3	57.1	51	Grant Ave			
V12			1.3	56.1	0.5	56.9	76				
V12				56.6	1.0		7	1.62	58.59	0.40	56.97
V12					0.1	58.5	58.7				

Til Points Front - S

POSTED

Set up on Center of Kalmia a
sighted to Laurel, turned 44°21'
to BM top of Post. dist 57.33
Reversed and sep plag 77 ft
Sighted to cupola of Season
house and set plg 40. Reverse
set plg 60.

Set up on center Juniper and
sighted to Kalmia Δ 45° Le
Set plag 60' out Reverset and se
plg 60. Turned 45 Right and se
Plg 60' out, Reversed and sep plg 6



Elev.

Sewer Front St Jump Laurel

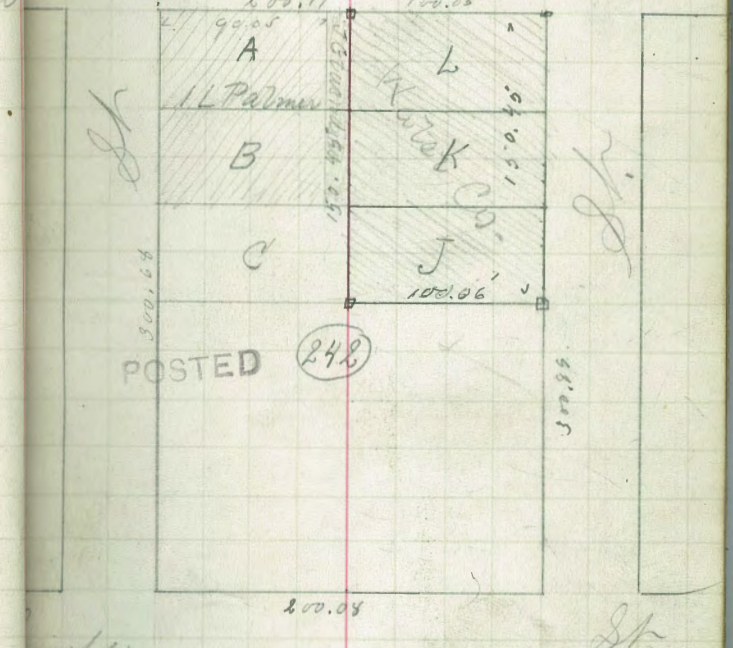
Sta	+	HI	−	Elev	
BM	6.90	196.70		189.80	uniper & Front
68+30			9.71	186.99	
+55			8.66	188.04	
+80			8.08	188.62	Sene Juniper
69			8.39	188.31	
+20			9.63	187.07	uniper
+40			10.83	185.87	
+60			8.60	188.10	V Sine Juniper St
+85			6.44	190.26	
70+10			5.60	191.10	
+35			5.37	191.33	
+60			5.05	191.65	
+85			4.50	192.20	
71+10			4.43	192.27	
+35			3.77	192.93	
+60			2.33	194.37	
+85			1.14	195.56	
#	10.63	206.29	1.04	195.66	
72+10			9.53	196.76	
+35			8.90	197.39	

P.	Sta	+	HI	−	Elev	
P						
32	72+60		206.29	8.12	198.17	Line Kalmia 198.57
116	+80			7.31	198.98	
12	P3			7.00	199.29	Kalmia St
12	+20			6.83	199.46	
12	+40			6.65	199.64	Line Kalmia St
12	BM			6.89	199.40	Front & Kalmia 199.37
12	+65			7.67	198.62	
12	+90			8.15	198.14	
12	74+15			7.70	198.59	
12	+40			7.34	198.95	
12	+65			6.70	199.59	
12	+90			5.85	200.44	
12	75+15			4.99	201.30	
12	+40			3.80	202.49	
12	+65			2.60	203.69	
12	+90			1.45	204.84	
12	76+15			1.32	204.97	
12	+40			1.08	205.29	S Line Laurel St
12	TP			0.90	204.39	
12						

Feb 20 1889

Survey Lots J. K & L Blk 2
Horton's Add 4 points
for San Diego & Bon Water Co

POSTED

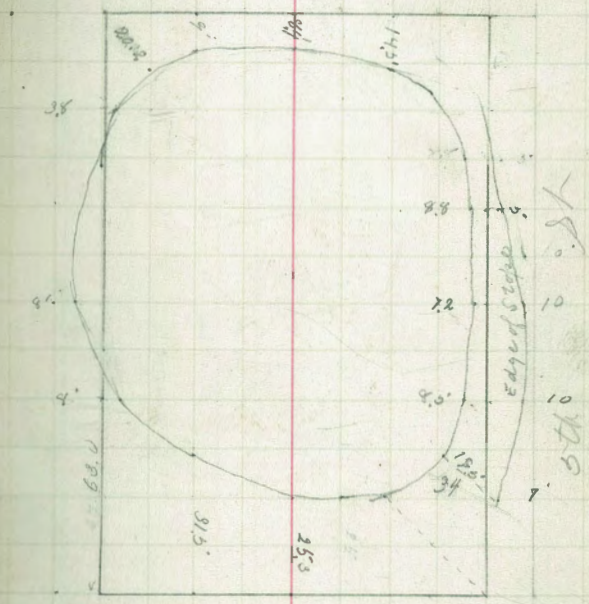


Feb 20 1889

Plat of Reservoir at Hawth

S 5th, S.H. & C Water Co.

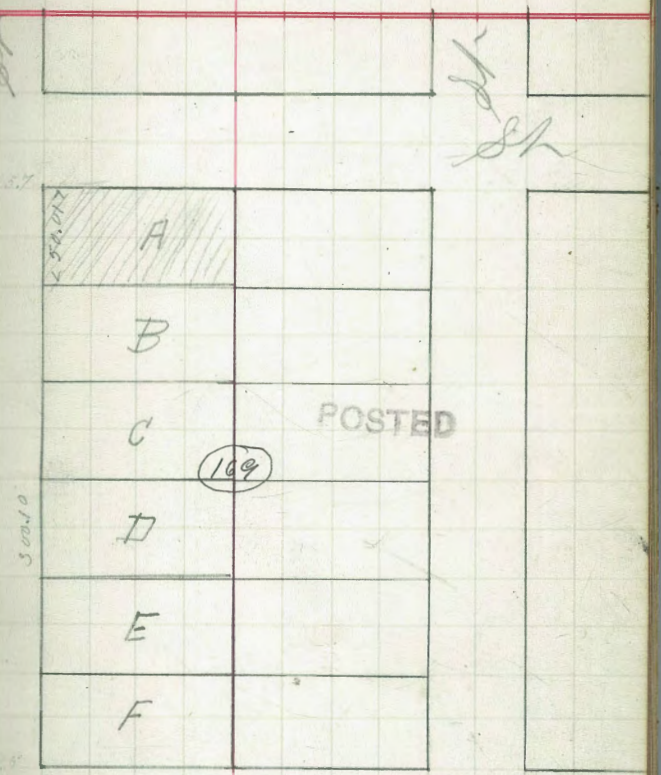
Hawthorn



Feb 23 1889

Survey of Lot A Blk 169
Hortons Add
for F. C. Malley.

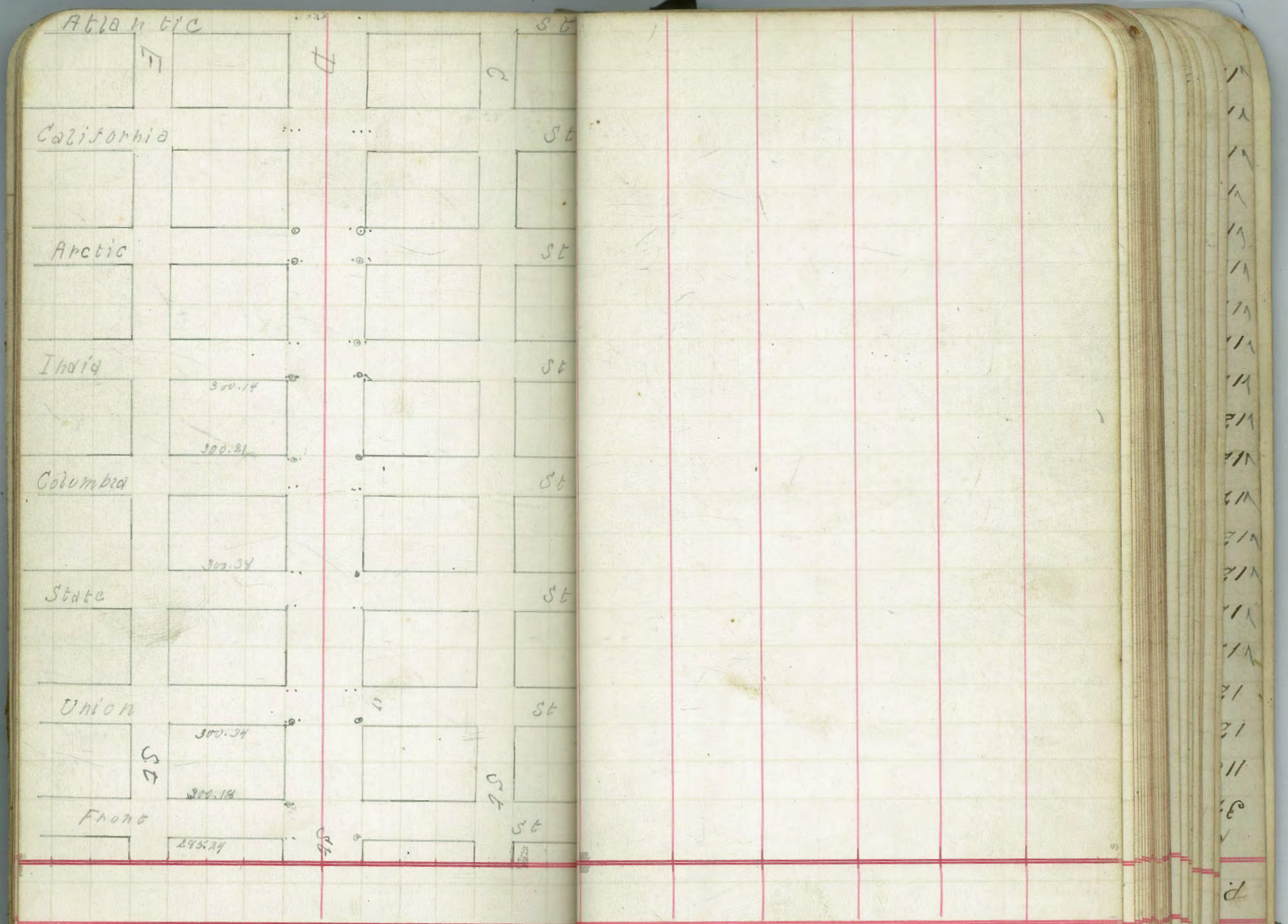
POSTED



Checked points on St — Feb 23 1889

St					
Calif St				Center	
Arctic St	0° 01'	Right	W Side		
Columbus St	0° 02½	Right	W Side		
Mission St	0° 03'	Left	E Side	6	
Front St	0° 23'	Right	W Side	2	
First St	0° 05'	Right	East Side	3	
Second St	0° 01'	Right	E Side	2	
Third St			W Side	2	

△
△
△


Atlantic
California
Arctic
India
Columbia
State
Union
Front
St
300.14
300.81
300.34
300.34
300.18
295.24

Centers in New Town. Feb 27 188

Hamlin Transit
Oxton Chain
Finley
Hensley

Checking centers on Atlant

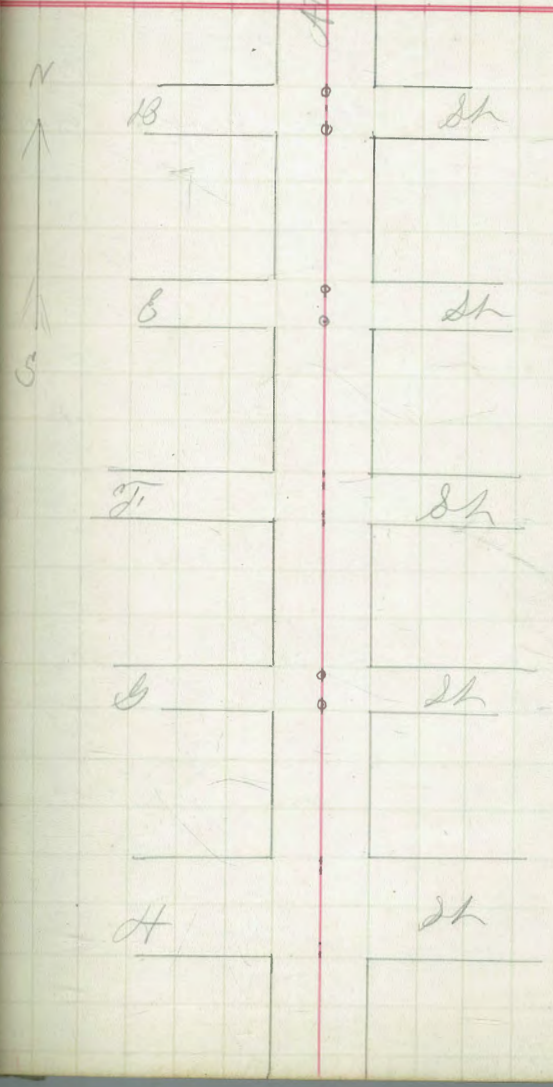
Set 7' points N & S side of H
from center.

Set 7' p N & S sides of E St from
center; moved old center W

Could not find center of F St
Set intersections at N & S sid
at seven foot points

Set 7' points from old center
on N & S sides.

Set intersections on N & S side
of H St; could not find cent



Center in New Town Feb 28 1889

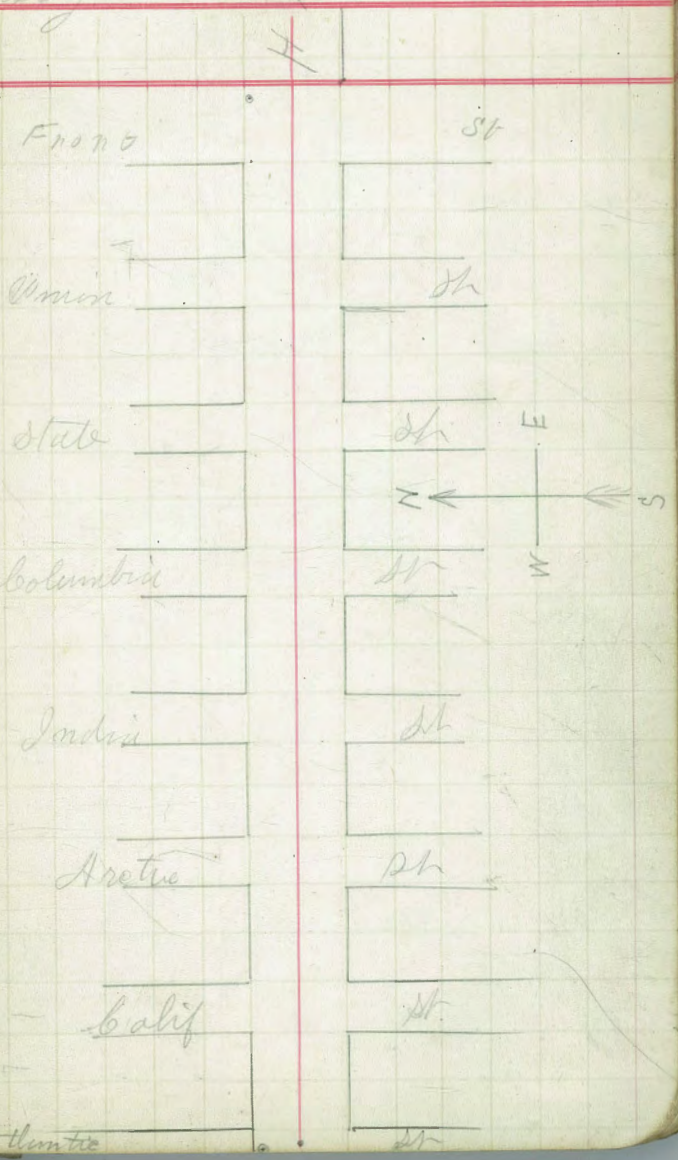
Checked 7 points along W side of H St.

Beginning at West line of Front sighted to W side Calif, and set intersect points moving line south as follows

Front	W side	S		
Union	W "	S 0.08	E "	S 0.06
State	W no point		E	S 0.12
Columbia	W side	S 0.21	E side	S 0.17
India	W side	S 0.19	E side	S 0.19
Arctic	W side	S 0.07	E side	S 0.07
California	W side	no point	E side	0.0

Intersected center line Atl. St and set Pkg.

Hamlin transit
Orton Chan
Finly
Hensley



Centers in New Town

Checked 7 lines on West side of Front St

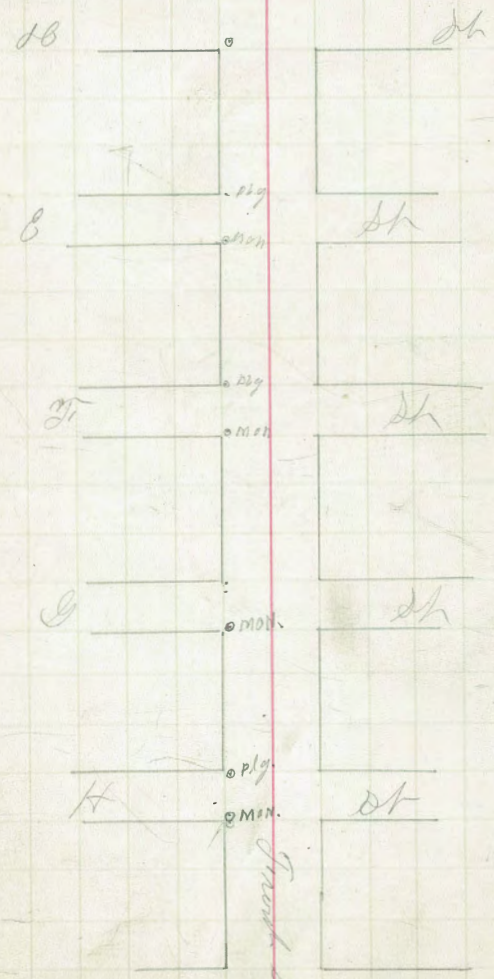
Set up at NW cor of H & Front and sighted to SW of H & Front

Points at E St all right

Fst N side plg all right, tin tack place, Cop
F St S side Mon all right

G St S side Mon all right N side pin 0.03' East; set intersect. plgs.

H St Points all right



Centre in New Town

West line of Union St

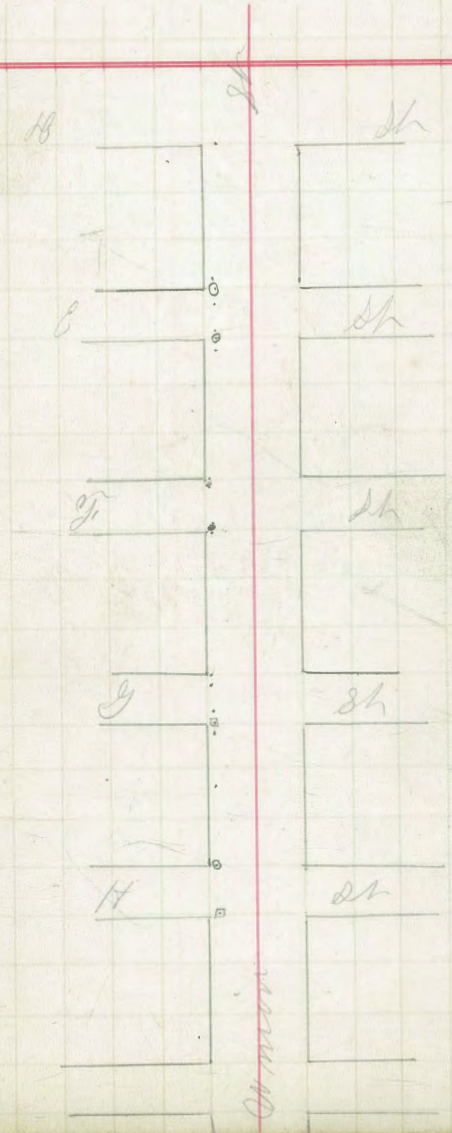
Feb 28 1889

Points all right
East side. S side E. 0.02 East
N " E 0.02 East

Ply all right
Mon SW 0.02 East

N side D could not find point set
Set intersection S line G. St

Set up on Mon SW of H & Union sighted to E St. Point N line H. reset moved 1' East. Measured 61' to 8 foot Point. moving old point 0.01 East. Inter. S side H. St



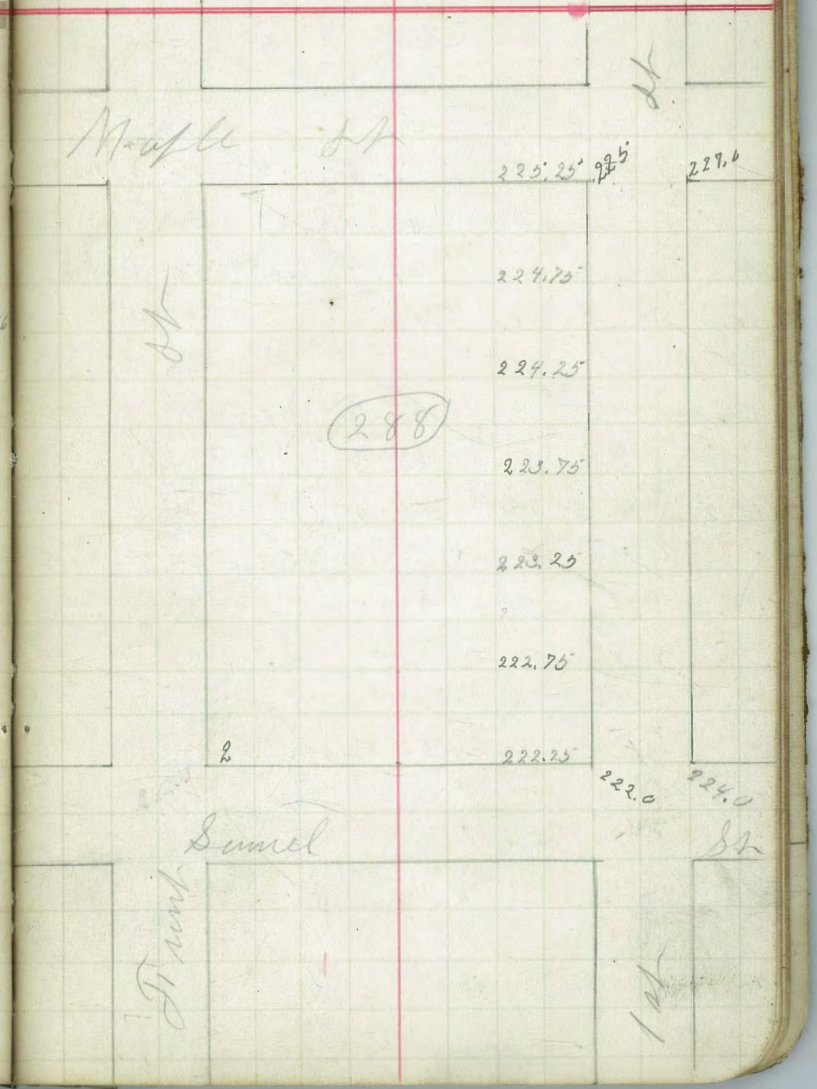
State St

Centre should be moved as follows

State St		S	0.03 E	N	0.07 E
F	S	0.04 E		N	0.02 E
E	S	0.02 E		N	0.00
D	S	0.02 W			
H	S	0.02 W	N	P	
G	S	0.00	N	0.03 E	
F	S	0.03 E	N	0.03 E	
E	S	0.02 E	N	0.00	

Grades for St Commissioner
Cor 1st & Samuel in front of Tinkins.

BM	+	HI	Grade	Rod	-	Elev
225.41	4.82	230.23				
			222.25	7.98		
			222.75	7.48		
			223.25	6.98		
			223.75	6.48		
#	4.82	233.58			1.47	228.76
229.02			4.56			

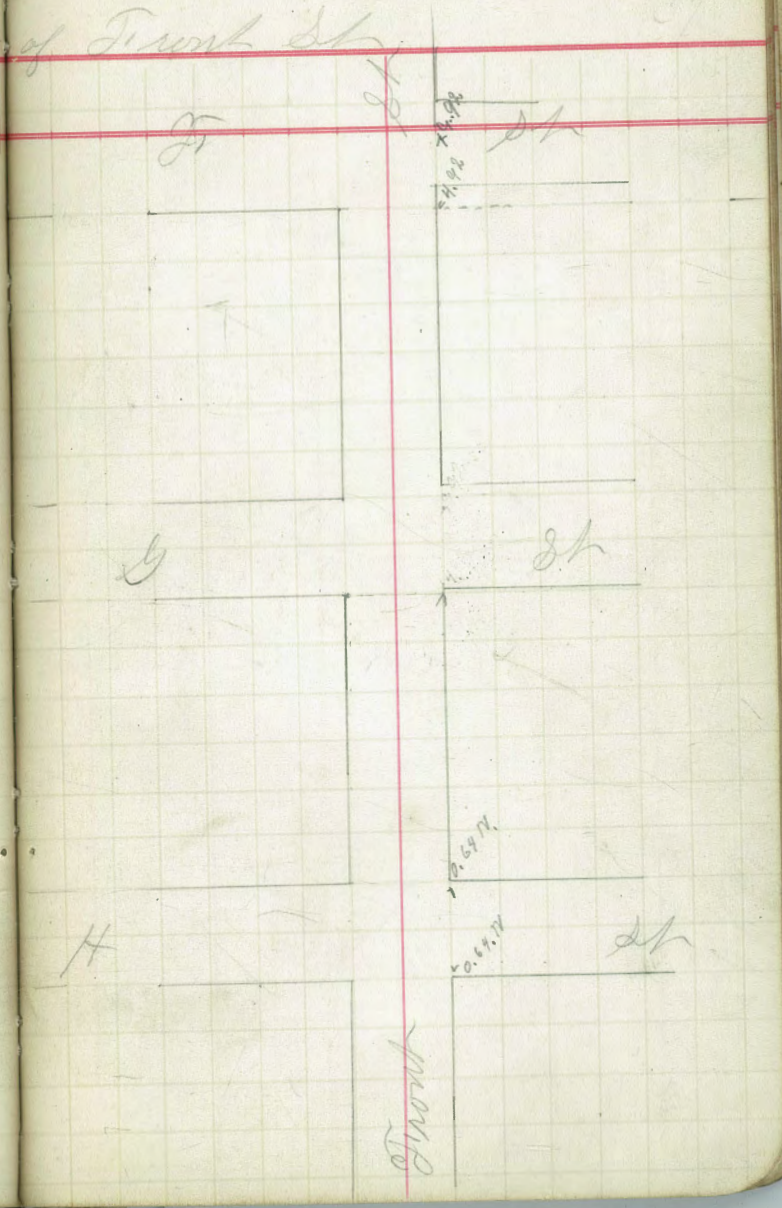


X Section of South 23rd from Harrison Ave to N St

Rod	N.W.	Rod	Ci	Rod	S E	St	+	H I	−	Elev
			(57.0)							
						BM	1.71	57.01		55.30
3.4	53.6	2.7	54.3	2.0	55.0	3	23 & Harrison Ave			
7.2	49.8	5.6	51.4	3.5	53.5	+47				
6.4	50.6	5.8	51.2	4.9	52.1	+52	Harrison Ave			
9.1	47.9	7.8	49.2	6.5	50.5	0	S.W. Line Harrison Ave			
10.3	46.7	8.6	48.4	7.7	49.3	+25				
				8.8	48.2	+44	S Line of Cuyamaca St			
10.3	46.7	9.5	47.5	8.7	48.3	+50				
			+73	8.7	48.3					
10.4	46.6	9.4	47.6	10.3	46.7	+75				
10.5	46.5	10.6	46.4	9.3	47.7	1				
				9.5	47.5	+53	N Line Cuyamaca St			
12.0	45.0	10.0	47.0	9.2	47.8	+25				
		8.6	48.4	8.2	48.8	+50				
8.3	48.7					+47 ~~+61~~	S Line of N Street Phd by +4			
		5.0	52.0	8.1	48.9	+75				
				7.1	49.9	2				
		✓		6.0	51.0	+20	S Line of N St.			

Platted

Lots along East side of Trunk St.



Mch 19- Spencer Orton Findlay Hensley 2 hours

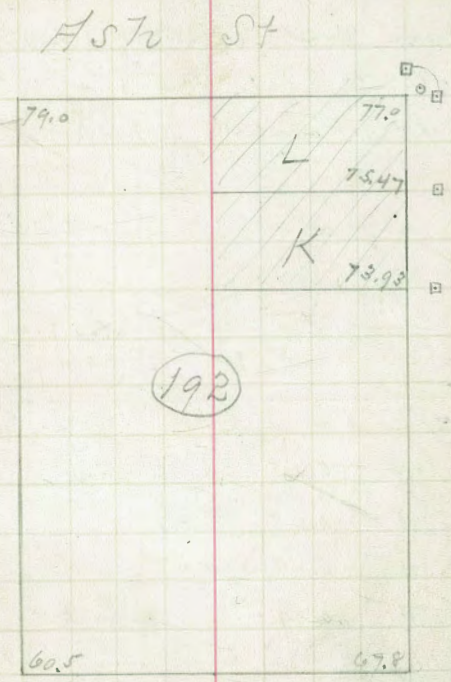
Survey for Curb + gutter grades on Lots K + L. Hortons Add - for Mrs Bancroft - G. L. Kenny Agt.

Set 4 Curb stakes to line + grade + set center of circle

BM	+	HI	-	El	Grade	Rod
83.46	1.43	84.89	8.07	76.82	77.0	1.41
	1.59	78.41 ✓			75.47	2.94
					73.93	4.48

I set the points on 5th St 2' west on account of wash. Explained to Contractor.
For check levels see next pa.

77.0	77.0	1.533
67.8	1.533	4
6)9.2	75.467	6.132
1.533	1.533	73.933
	73.933	67.800 ✓



Spencer
Orton
Findlay
Hensley

Mch 19 1 hour

Survey for Curb & gutter grades of Lot C Blk 203 -
Mrs Bancroft, G. L. Kenney Agt.

Set 2 Curb stakes to line & grade

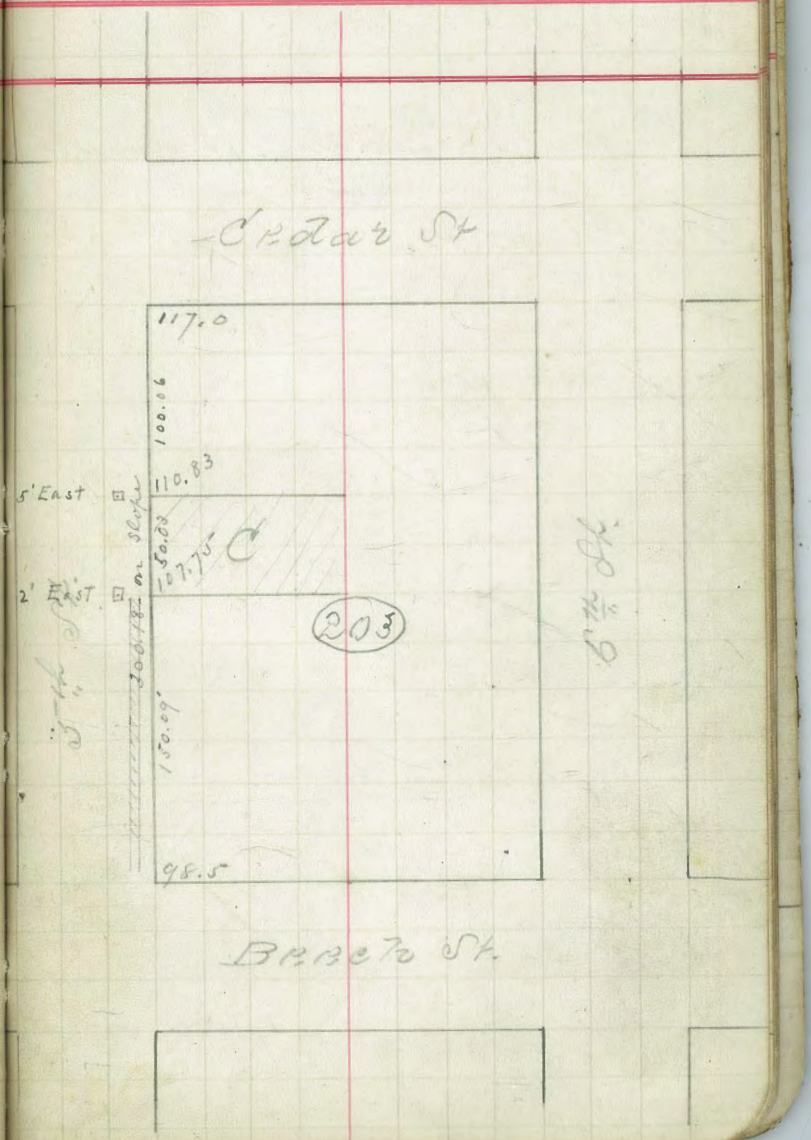
117.0	98.5	6/18.5	110.833
98.5	9.25	3.083	6.167
2/18.5	107.75	107.75	117.000 ✓
9.25		110.833	

+	H.I.	-	El	B.M. chk.	Grade	Rod
from preceding page	78.41	0.25	78.16			
11.41	89.57	0.65	88.92			
11.75	100.67	0.64	100.03			
11.44	111.47	10.59		100.845 100.88 ✓		
10.59	111.435				110.83	0.60
					107.75	3.68

The north end of Cement sidewalk on S ½ of Block is 0.7' too low.

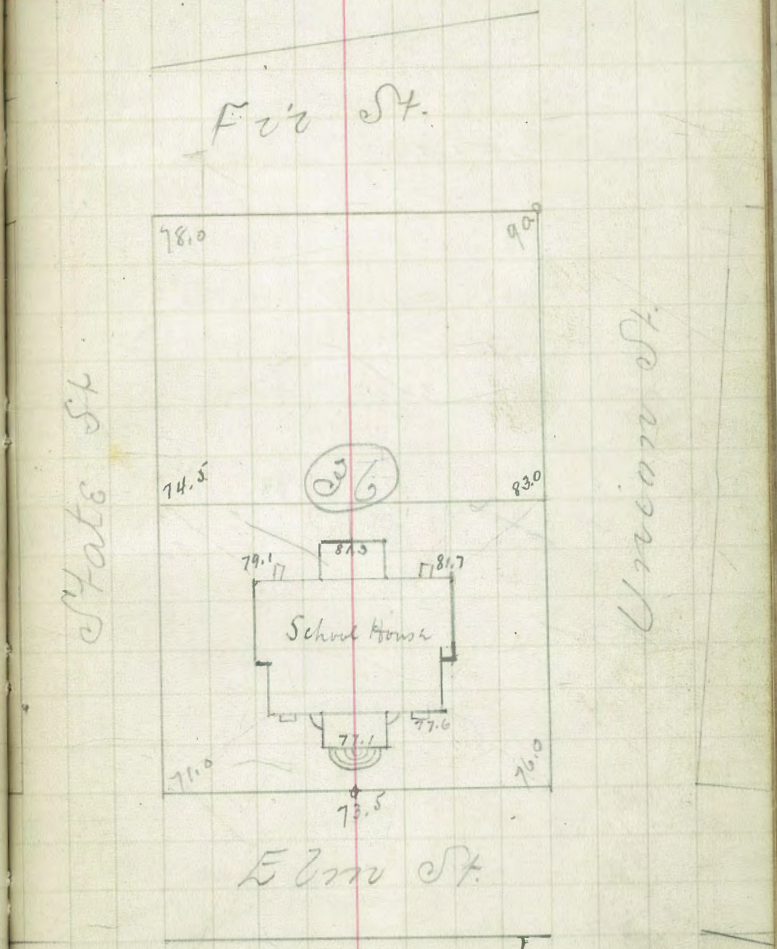
On account of gully I set stakes back as indicated in diagram and informed the Contractor.

Grades as per Ordinance #158



Grades for Board of Education at School House S/s Blk 36 Middletown.

BM	+	HI	-	Rod	El
70.604	10.96	81.564		4.46	77.10
77.473	4.08	81.553	1.04	4.00	77.56
El 80.52	5.14	85.66		3.97	81.69
				4.36	81.30
				6.56	79.10



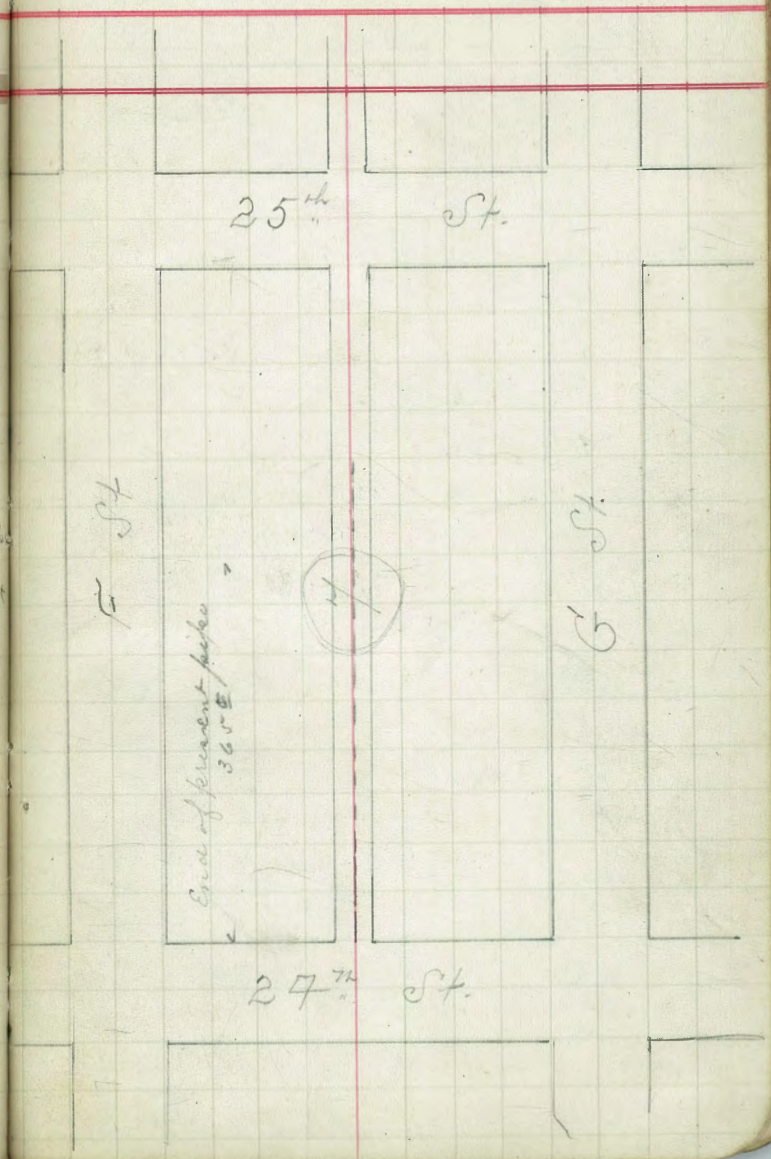
not less than 4'

Survey for Grades for Lateral Sewer in Blk 7 in Breed & Chases Addition — for Sewer Inspector

BM NE cor F & 24th (spike fence post)

158.35

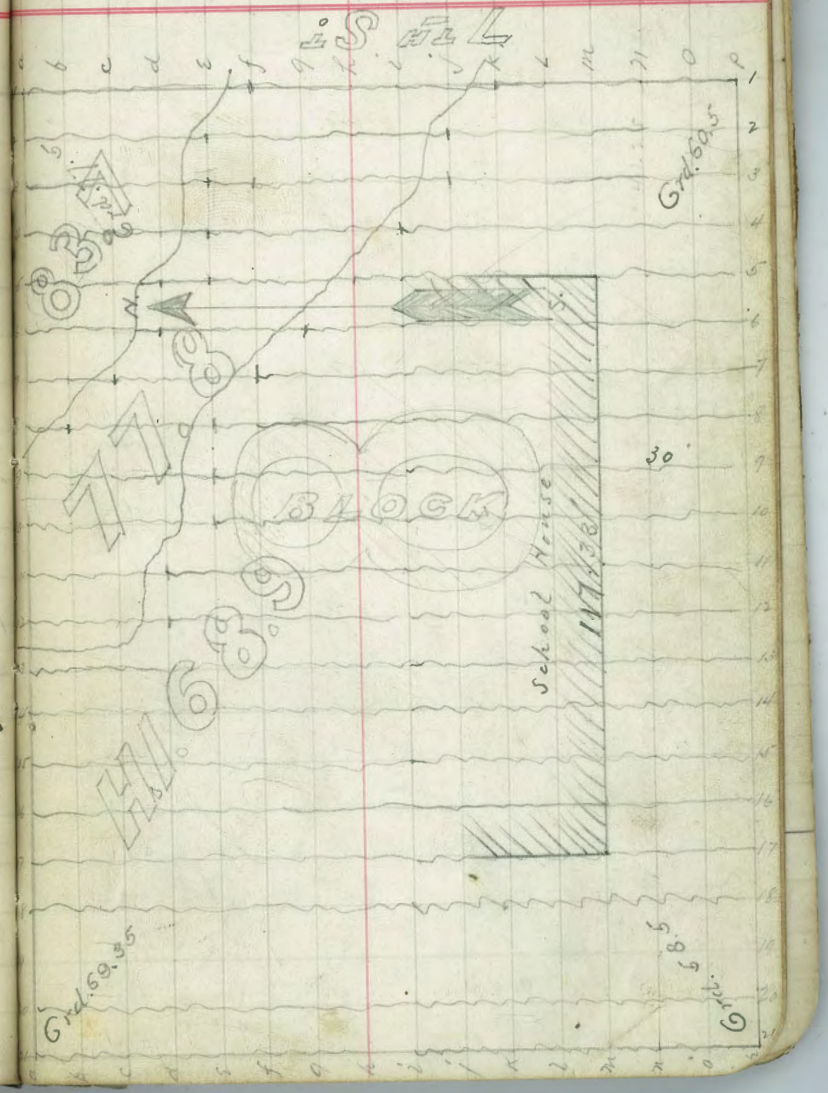
Sta	B.S.	I.H.	F.S.	El	
	8.695	167.045	1.175	165.870	
	11.395	177.265			
			11.935	165.330	= El of bottom of end of pipe
			8.310	168.955	El of ground at end of pipe
			6.00	171.265	100' dist El of ground



(H.J.) M Spencer, Orton, Findley, Hensley — Cross Sections for School Board — S ½ Blk 8 H.A.

Mch 27.

Sta		El / Rod	Sta		El / Rod	Sta		El / Rod
(68.9)					(68.9)			(68.9)
21	p	58.6 / 10.3	20	p	58.8 / 10.1	15	n	58.8 / 10.1
	o	58.5 / 10.4		o	57.6 / 11.3		m	58.9 / 10.0
	n	58.6 / 10.3		n	57.0 / 11.9		l	59.1 / 9.8
	m	59.3 / 9.6		m	56.8 / 12.2		k	59.4 / 9.5
	l	59.4 / 9.5		l	56.7 / 12.2		j	59.2 / 9.7
	k	60.2 / 8.7		k	56.6 / 12.3		i	59.5 / 9.4
	j	60.7 / 8.2		j	56.7 / 12.2	14	p	58.7 / 10.2
	i	61.2 / 7.7		i	56.9 / 12.0		o	57.6 / 11.3
18	p	58.3 / 10.6	17	p	58.4 / 10.5		n	57.6 / 11.3
	o	57.5 / 11.4		o	57.9 / 11.0		m	57.5 / 11.4
	n	57.2 / 11.7		n	57.5 / 11.4		l	58.3 / 10.6
	m	57.3 / 11.6		m	58.2 / 10.7		k	59.3 / 9.6
	l	57.3 / 11.6		l	58.0 / 10.9		j	59.5 / 9.4
	k	56.9 / 12.0		k	58.5 / 10.4		i	59.7 / 9.2
	j	57.0 / 11.9		j	57.3 / 11.6	13	p	58.5 / 10.4
	i	56.9 / 12.0		i	58.5 / 10.4		o	57.7 / 11.2
16	p	58.6 / 10.3	16	k	59.0 / 9.9		n	57.7 / 11.2
	o	58.7 / 10.2		j	58.8 / 10.1		m	57.9 / 11.0
	n	58.8 / 10.1		i	59.6 / 9.3		l	57.7 / 11.2
	m	59.0 / 9.9	15	p	58.7 / 10.2		k	58.9 / 10.0
	l	59.0 / 9.9		o	58.7 / 10.2		j	59.7 / 9.2
							i	59.8 / 9.1



(H.I.) Cu

Mch 27.

Sta		Elev / Rod	Sta		Elev. / Rod	Sta		Elev. / Rod
(68.9)			(68.9)			(68.9)		
12	p	58.7 10.2	10	k	59.6 9.3	7	n	60.5 8.4
	o	57.9 11.0		j	59.1 9.8		m	60.6 8.3
	n	57.9 11.0		i	58.9 10.0		l	60.8 8.1
	m	57.5 11.4	9	p	59.4 9.5		k	60.3 8.6
	l	58.5 10.4		o	59.0 9.9		j	60.6 8.3
	k	59.4 9.5		n	59.4 9.5		i	61.8 7.1
	j	59.5 9.4		m	59.9 9.0	6	p	60.2 8.7
	i	59.7 9.2		l	60.1 8.8		o	60.6 8.3
11	p	58.7 10.2		k	60.0 8.9		n	60.5 8.4
	o	58.5 10.4		j	59.0 9.9		m	60.7 8.2
	n	59.0 9.9		i	59.3 9.6		l	60.9 8.0
	m	58.9 10.0	8	p	59.7 9.2		k	60.5 8.4
	l	59.3 9.6		o	59.6 9.3		j	62.1 6.8
	k	59.5 9.4		n	59.7 9.2		i	64.2 4.7
	j	59.6 9.3		m	60.1 8.8	5	p	60.1 8.8
	i	59.8 9.1		l	60.4 8.5		o	60.5 8.4
10	p	59.0 9.9		k	60.0 8.9		n	60.8 8.1
	o	58.9 10.0		j	60.0 8.9		m	61.3 7.6
	n	59.3 9.6		i	60.5 8.4		l	61.3 7.6
	m	59.5 9.4	7	p	60.1 8.8		k	61.1 7.8
	l	59.7 9.2		o	60.1 8.8		j	64.6 4.3
							i	66.2 2.7

Sta		El / Rod	Sta		El / Rod	Sta		El / Rod	Sta		El / Rod
(68.9)			(68.9)			(68.9)			(68.9)		
4	p	59.6 9.3	1	p	60.6 8.3	18	h	59.4 9.5	16	c	61.6 7.3
	o	61.1 7.8		o	61.2 7.7		g	59.6 9.3		b	61.8 7.1
	n	61.6 7.3		n	62.5 6.4		f	59.7 9.2		a	61.8 7.1
	m	62.1 6.8		m	63.6 5.3		e	60.1 8.8	15	h	59.9 9.0
	l	62.1 6.8		l	64.3 4.6		d	60.6 8.3		g	59.9 9.0
	k	62.9 6.0		k	65.6 3.3		c	61.4 7.5		f	60.2 8.7
	j	66.2 2.7	21	h	61.2 7.7		b	62.0 6.9		e	60.7 8.2
	~~i~~	~~68.5 0.4~~		g	62.2 6.7		a	62.2 6.7		d	61.4 7.5
3	p	59.0 9.9		f	62.8 6.1	17	h	59.9 9.0		c	62.2 6.7
	o	61.8 7.1		e	63.8 5.1		g	59.7 9.2		b	62.0 6.9
	n	62.5 6.4		d	64.9 4.0		f	59.7 9.2		a	62.5 6.4
	m	62.7 6.2		c	65.6 3.3		e	60.2 8.7	14	h	59.7 9.2
	l	62.8 6.1		b	66.6 2.3		d	60.8 8.1		g	60.0 8.9
	k	63.7 5.2		a	67.7 1.2		c	61.3 7.6		f	60.3 8.6
	j	65.7 3.2	20	h	59.6 9.3		b	61.5 7.4		e	60.8 8.1
2	p	56.4 12.5		g	59.6 9.3		a	61.9 7.0		d	62.9 6.0
	o	59.1 9.8		f	59.9 9.0	16	h	60.1 8.8		c	64.1 4.8
	n	62.8 6.1		e	60.2 8.7		g	59.9 9.0		b	64.1 4.8
	m	63.2 5.7		d	60.7 8.2		f	58.0 10.9		a	64.5 4.4
	l	63.5 5.4		c	61.6 7.3		e	60.2 8.7			
	k	63.8 5.1		b	62.5 6.4		d	61.4 7.5			
	j	66.1 2.8		a	64.0 4.9						

H.S.

Mch 27.

Sta		El. / Rod	Sta		El. / Rod	Sta		El / Rod
(68.9)		59.6	(68.9)		60.8	(77.8)		69.6
13	h	9.3	9	h	8.1	10	d	8.2
	g	59.7 9.2		g	61.6 7.3		c	62.2 5.6
	f	60.4 8.5		f	64.9 4.0		b	74.0 3.8
	e	60.8 6.4		e	67.9 1.0		a	74.2 3.6
	d	64.8 4.1	8	h	61.1 7.8	9	d	71.0 6.8
	c	66.8 2.1		g	63.5 5.4		c	73.6 4.2
	b	67.3 1.6		f	66.7 2.2		b	75.5 2.3
12	h	59.8 9.1		e	~~67.7 4.2~~		a	76.7 1.1
	g	59.9 9.0	7	h	64.3 4.6	8	e	69.5 8.3
	f	61.5 7.4		g	66.3 2.6		d	72.5 5.3
	e	64.1 4.8		f	68.9 0.0		c	75.0 2.8
	d	66.9 2.0	6	h	66.7 2.7		b	77.5 0.3
11	h	59.9 9.0	—		—	7	e	71.5 6.3
	g	60.1 8.8	—		—		d	73.8 4.0
	f	62.8 6.1	12	a	66.4 2.5		c	76.9 0.9
	e	63.2 3.7	(77.8)					
	d	67.9 1.0	12	c	68.9 8.9	6	g	68.8 9.0
	h	68.0 8.9		b	69.9 7.9		f	71.4 6.4
10	g	60.1 8.8		a	69.6 8.2		e	73.8 4.0
	f	63.7 5.2	11	c	70.5 7.3		d	76.3 1.5
	e	66.4 2.5		b	72.0 5.8			
				a	72.1 5.7			

Sta		El / Rod	Sta		El / Rod	Sta		El / Rod
(77.8)		68.6	(77.8)		67.1	(83.7)		
5	h	9.2	1	j	10.7	4	d	78.0 5.7
5	g	71.1 6.7		i	68.8 9.0		c	79.0 4.7
	f	73.7 4.1		h	72.2 5.6		b	79.7 4.0
	e	76.1 1.7		g	75.5 2.3		a	80.6 3.1
	d	77.6 0.2		f	76.9 0.9	5	c	78.5 5.2
4	i	68.5 9.3	(83.7)				b	79.4 4.3
	h	70.5 7.3	1	e	77.0 6.7		a	80.1 3.6
	g	72.9 4.9		d	76.8 6.9	6	c	77.9 5.8
	f	75.2 2.6		c	79.5 4.1		b	78.7 5.0
	e	77.3 0.5		b	80.4 3.3		a	79.7 4.0
3	i	69.1 8.7		a	81.3 2.4	7	b	78.5 5.2
	h	71.6 6.2	2	d	78.8 4.9		a	79.2 4.5
	g	74.3 3.8		c	79.8 3.9	8	a	78.6 5.1
	f	76.7 1.1		b	80.5 3.2			
	e	77.6 0.2		a	81.1 2.6			
2	i	69.3 8.5	3	d	78.4 5.3			
	h	71.1 5.7		c	79.3 4.4			
	g	74.9 2.9		b	80.2 3.5			
	f	76.1 1.7		a	81.1 2.6			
	e	77.1 0.7						

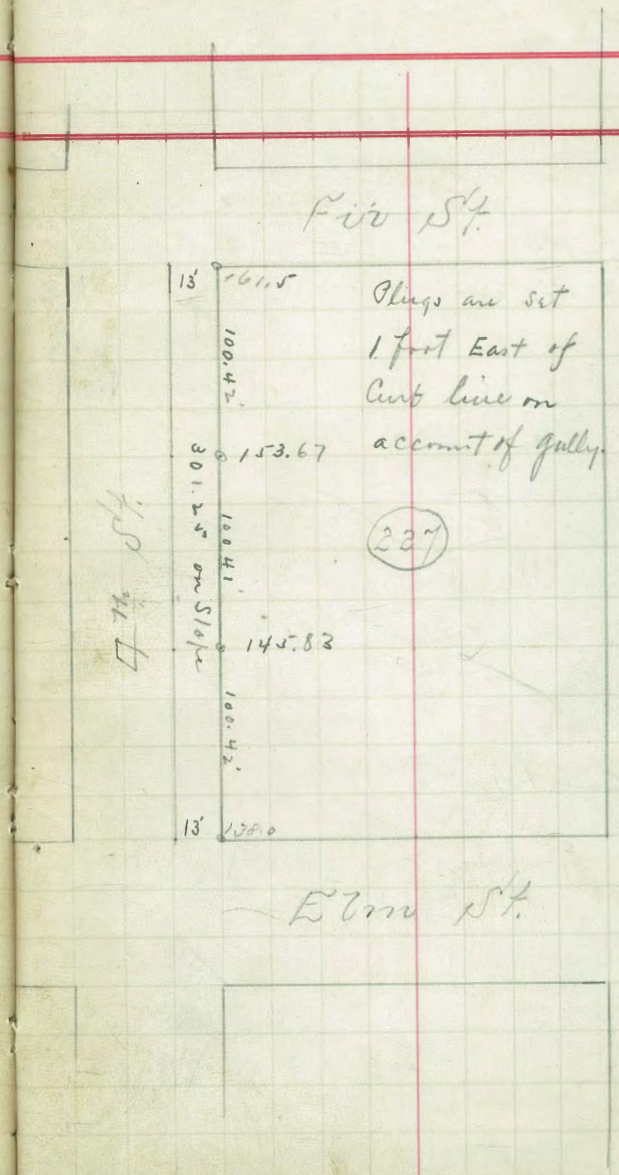
Mch 30.

161.5
138.0
3/2 3.5
7.83
138.
145.83
153.67
161.50

GHS
Orton
Findlay
Hensley

Survey for Curb line & grades for Mrs Bancroft - on West line of Blk 227 H.A.

BM	+	H.I.	−	El	Grade	Rod
137.81	12.10	149.91			138.0	11.91
					145.83	4.08
	11.53	161.22	0.22	149.69	153.67	7.55
	7.71	167.47	1.46	159.76	161.50	5.97
chk. 160.34			7.27	160.30		



Plugs are set 1 foot East of Curb line on account of gully.

(227)

Spencer
Olin
Findley
Hinsley. et al

Mch 29.

117.134
9.40
109.734

117.134
9.65
107.484

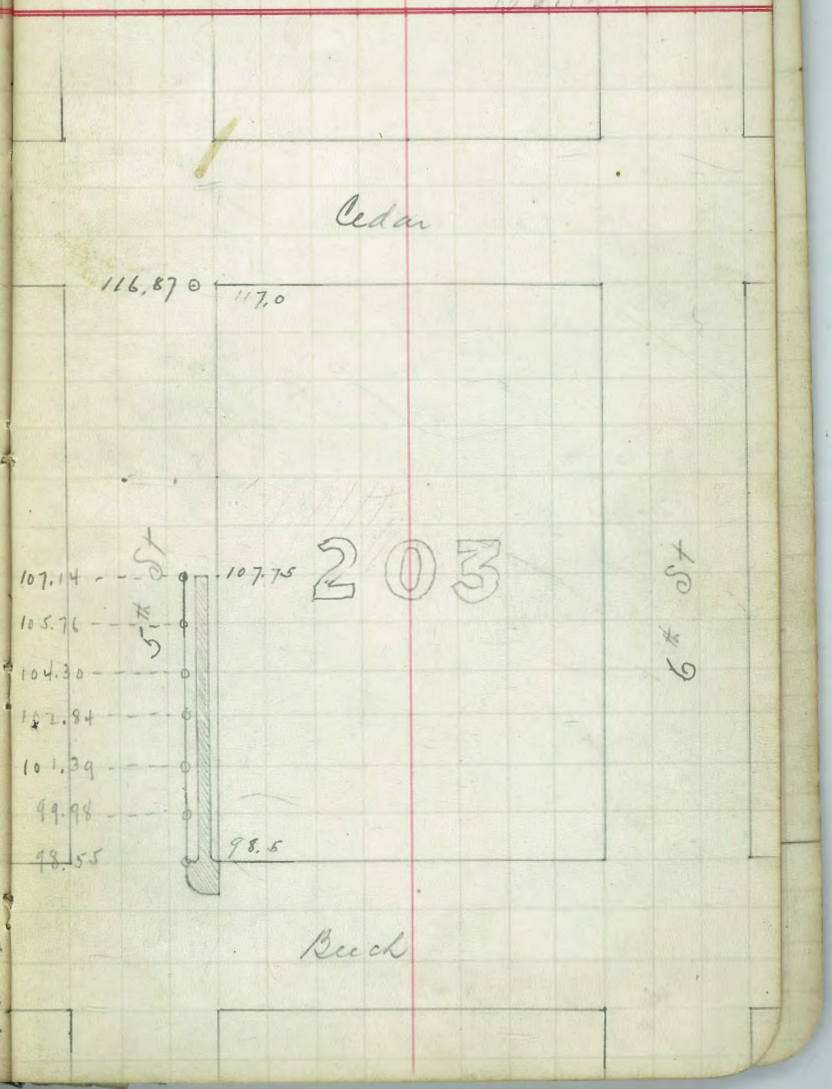
6) 18.30
3.08

117.134
10.48
106.734

47

Elevations of Cement Sidewalk

B.M.	+	H.I.	−	El.	Rod	Elev.
100.845	10.055	110.90			12.35	98.55
	8.94	117.81	2.03	108.87	10.92	99.98
					9.51	101.39
116.934	B.M.	chk	0.83	116.98	8.06	102.84
					6.60	104.30
					5.14	105.76
					3.76	107.14
116.934	off inguard post					
					3.11	107.79
116.934	0.20	117.134				
					1.43	116.38
					0.94	116.87
116.934	0.20	117.134			6.38	110.834
					9.65	107.484
			St. Car Track		7.40	109.734
			" "	"	10.40	106.734
			S Line Cedar	"	1.6	115.534
			"	"	0.05	116.484



GHS
Olin
Findley
Hively

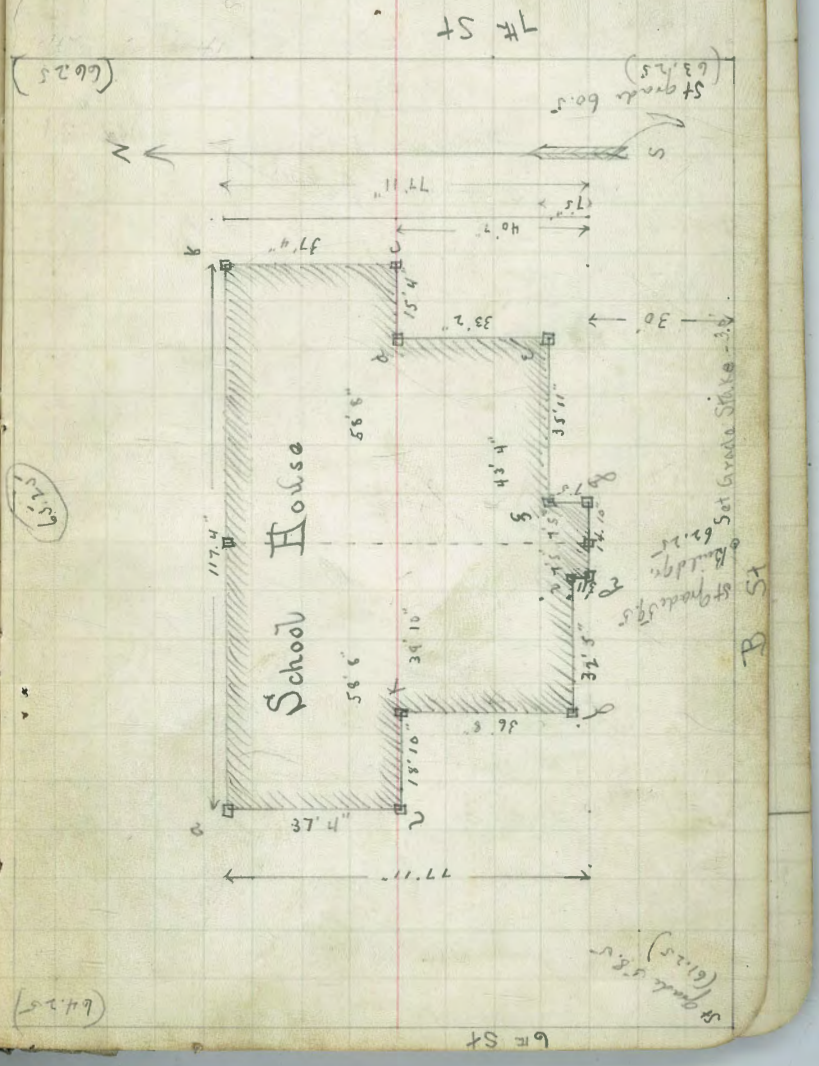
Apr 1. 1/2 day

Location of School House for School Board. Set points as indicated

El BM	+	HI	−	Sta	Rod	El. (grd.)
60.68	8.23	68.91	0.93		6.66	62.25
El 67.98	10.92	78.90	10.92		4.66	64.25
67.98	1.64	69.62	11.22		3.88	65.03
58.46 BM. ok.					5.06	63.85
58.41					4.91	64.0

(Grade Points)

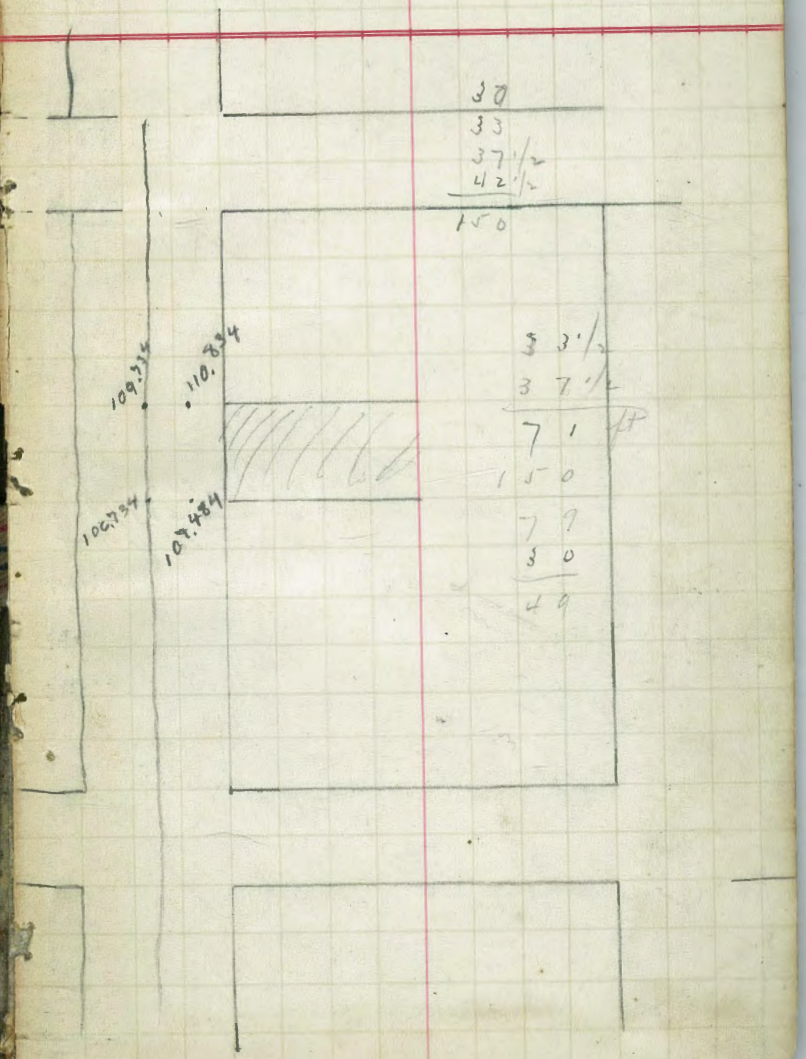
Sta	Rod	El		Rod	El
	(68.9)		A-b	(68.9)	
f	9.3	57.6	0	10.3	58.6
E	8.0	60.9	+5	11.6	57.3
+10	8.7	60.2	+15	8.6	60.3
d +33.2	6.3	62.6	+30	8.2	60.7
C	3.0	65.9	+82	0.2	68.7
c-b +12	0.0 (78.9)	68.9	a-2 0	11.3	57.6
b	3.6	75.3	+5	9.2	59.7
			+34	9.1	59.8
			2 +37.8	10.1	58.8
			K	9.3	59.8
			j-i 0	10.6	58.9
			+5	11.7	57.2
			i	11.7	57.2
			h	11.3	57.6
			g	9.5	59.4



Print St. E 0.24 E 0.10 W 0.00
Union E 0.08
State W. - 0.02 N
Columbia W. 0.25 N,
Indiana E - 0.13 N, W 0.17 N -
Archie E. 0.23 N W 0.23 N

B.M. +

110.934	0.20	117.134		6.30	110.834
				9.65	107.484



6)300.32
50.053 +
50.053

100.106 +
50.053
150.160

9°49'
421.23

421.23 = 2.624519
Tan 9°49' = 9.238120
73.0 1.862639

6)380.02
5

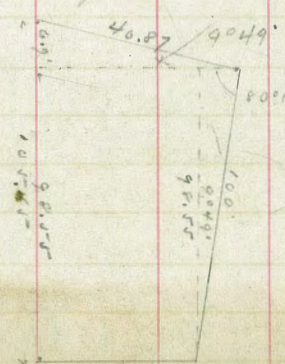
100
9°45' 98.55

100 = 2.000000
Cos 9°45' = 9.993681
98.55 = 1.993681
Tan 9°45' = 9.235103
17.05 = 1.231784

40.28 = 1.605089
Cos 9°45 9.993681
40.87 = 1.611408

B.M.
116.934

17.05
23.23
40.28 = 1.605089
Tan 9°45 = 9.235103
6.9 = 0.840192
98.55
105.45



Cedar 9° 99'
Grape 10 14'

40° 50'
138 48'
140 28'
40 02
358 110
360 400.0

$a = D^2 \times .7854$

400.0
314.00
100

1000

1000
8960
944
8011

49.57
49
57

$a = R_1 .7854$

9)346.52
14

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

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

TRAVERSE TABLE FOR TRANSIT BOOK,

From 1° to 90° for a distance of 100.

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	31.74	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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