scellaneous Survey

9

TRANSIT

F.B.7

7

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	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

PUBLISHED BY
EDWARD DENNY & CO.
DRAWING PAPER & MATERIAL, MATHEMATICAL INSTRUMENTS, ETC.
STATIONERS AND PRINTERS,
SAN FRANCISCO, CAL.

Table for Running on Slopes.

In the following table the first column shows the angle, the second, the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle.	Cor. in links	Angle.	Cor. in links.	Angle.	Cor. in links.	Angle.	Cor. in links
°		°		°		°	
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

Return to City Engineers Office
City Hall, San Diego, Cal.
MICROFILMED
DEC 1964

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

7875
406
8.25
4.07
4.67

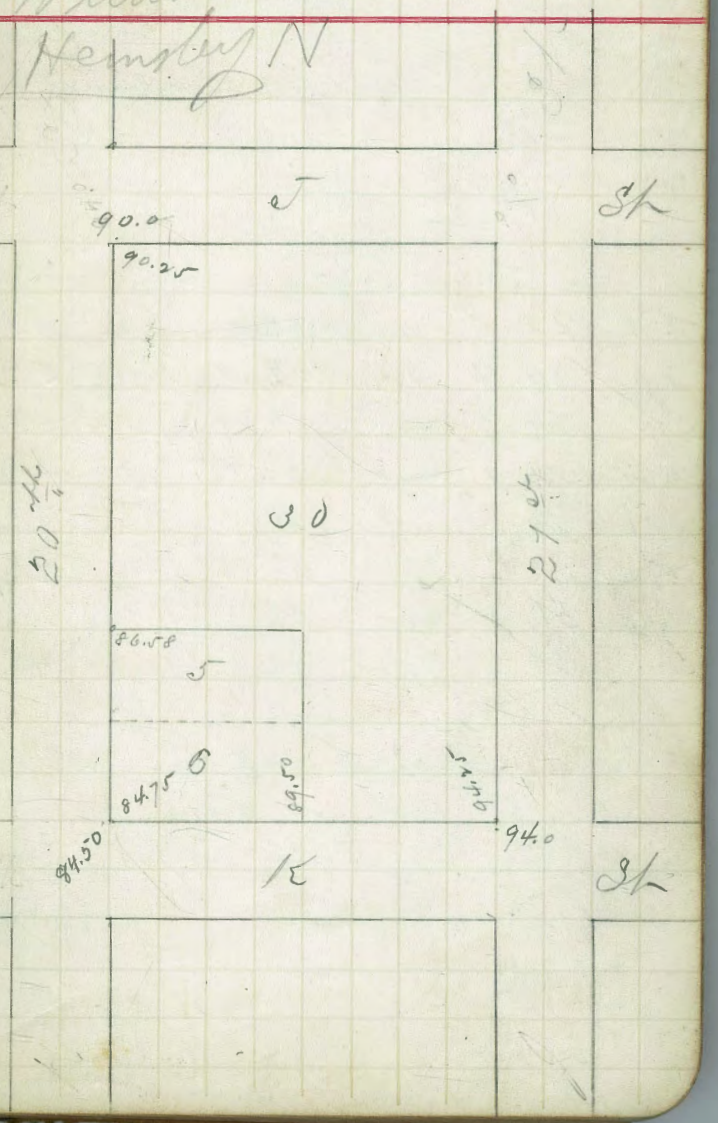
61 B.M. S end Cap E end of Bridge

70 B.M. on Cap on dam by tree

		Page
Sprigg Grades for lot 5 & 6	Blk 30 HA	1
Olive St X sections		2
Morse Whaley & Halton Survey	C & H Blk 44 H.A.	3
San Diego River above bridge	in Old Town	6 - 13
Board of Education. - Extra wall		15
Witherbee St measurements		16 - 18
Haller Geo. Survey Blks 3 & 4 Depuys	Add	19
Board of Education, Wall		20 - 21
" " " Calculations on	wall	22 - 23
Missner Frank Lines for wall		
lots D, E, F. Blk 244 H.A.		24
Pringle Capt. curb lines & grades	lot G Blk 122 H.A.	25
H.A. North Line		26 - 38
Haskins grades for gutter at	Pauly & Gassen Block	39
5th St Sewer Elev for.		40 - 42
1148 East line distances from	23rd St	45
Hawthorn St cut & fill Sutcher	bet 4th & 5th	46
Newhall & Cleaveland Ave con-	nections	47 - 48
1124 Random Line along North	k line	49. - 51
1125 " " " " "		52

Hamlin
Orton
Williams
Hemsley N

	BM	+	HI	Grade	Rod
Spr		Grades	for		Spriggs
Ol	on	Lots	5 & 6	S.	A.
Mor	85.56	5.74	91.30		
Sam				89.50	1.80
Boa				87.13	4.17
Wit				84.75	6.55
Ha				85.67	5.63
Boa				86.58	4.72
				—	Elev
"	BM 20th & J Sts				
Mis				3.00	88.30
lot					
Pr					
H.					
Ha					
5th					
114					
Ha					
Ne					
1124					
1125					

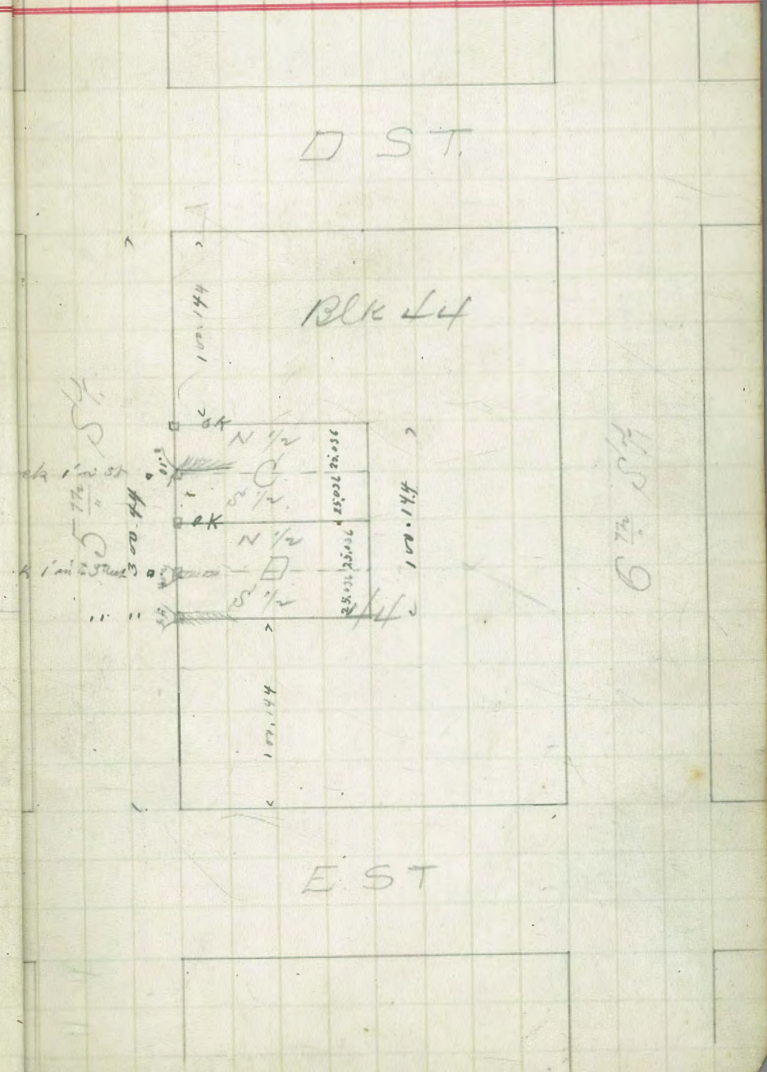


Cross Section of Olive St from 32nd to Brewery track

	South		Cent		North		Sta	+	HI	−	Elev
	Rod	Elev	Rod	Elev	Rod	Elev					
Sp				28th & National			BM	9.29	66.65		57.36
El							#	7.85	73.77	0.73	65.92
Mor							#	8.12	81.15	0.74	73.03
Sam							#	0.42	69.65	11.92	69.23
Boa			(58.4)				#	0.64	58.42	11.87	57.78
Wil	3.9	54.5	5.0	53.4	7.9	50.5	6+0	West of 32nd St			
Ho	3.6	54.8	5.6	52.8	6.2	50.2	+30	32nd St			
Boa	3.5	54.9	5.5	52.9	7.7	50.7	0	East of 32nd St			
"	3.5	54.9	5.5	52.9	6.9	51.5	+50				
Ma	4.4	54.0	6.9	51.5	7.8	50.6	+0				
Lo	5.6	52.8	7.7	50.7	10.0	48.4	+50				
Pr	7.0	51.4	8.3	50.1	11.1	47.3	+0				
H.	8.1	50.3	9.3	49.1	12.1	46.3	+35	Brewery track			
Ha											
5th			Set BM NE cor 32 & Olive							6.63	49.79
114			Tack Bral round.								
Ho											
Ne											
1124											
1125											

Oct. 21/89

Survey for Morse Whaley & Dalton



El Sidewalk on E at N.E. 6th

	+	HI.	−	El	BM		Sta
Sp	2.70	47.39	3.95	43.44	44.69	Curb	0
Ol			3.50	43.89		Prop	0
Mor			2.45	44.94		Curb	1
Sam							
Boa							
Wil		B.St School lot.					
Ha							
Boa	11.14	71.82	Gr 69.75	Rod 2.07	60.68		
"			65.	6.82			
Mis			7.84	65.0 63.98		-1.02	
lot	11.23	81.48	1.57	El 70.25			
Pr			2.77	78.75 78.71		-.04	
H.			6.80	74.67 74.68		+.01	
Ha	1.37	71.50	11.35	70.13			
5th	1.48	67.93	5.05	66.45			
114			9.34	58.46 58.59	BM.		
Ha							
Ne							
1124							
1125							

Huber & Spencer Oct 24/89

Grd N End 78.75

" 75' ~~69.75~~ 70.25

" S End 61.75

Shaw & Spencer

Shaw
Spencer Oct 25

El Curb on 3rd St

	+	H.I.	-	El	BM		
Sp	3.72	43.72	4.27	39.45	40.0	Curb	W.D & 3rd
El			6.73	36.99		"	5' N NW E
Mor			5.32	38.40		"	- NE -
San							
Boa							
Wit							
Ha							
Boa							
"							
Cri							
lo							
Pr							
H							
Ha							
5th							
114							
Ha							
N.e							
112							
112							

Location of River above bridge at Old San Diego

Spencer
Hamlin
Orton
Williams
Hemsley

Sta	Angle				
	From center of Taylor St & East line of Old Town				
	Measured East to River bank and 100' stations up river				
0	= 126 from Taylor St				
1+0	42° 35	2 edt		N 69°	15' E
2+0	56° 56'	"	"	N 54°	45' E
3+0	60° 12'	"	"	N 51°	40' E
4+0	53° 16'	"	"	N 58°	35' E
5+0	52° 37'	"	"	N 59°	15' E
6+0	50° 28'	"	"	N 61°	25' E
7+0	47° 32'	"	"	N 64°	20' E
8+0	42° 37'	"	"	N 69°	20' E

Sta	Angle	Magnetic course
9+0	37° 02'	Left N. 74° 50' E
		"
10+0	93° 20'	" N 78° 30' E
11+0	29° 17'	" " N 82° 35' E

(Correction - Angle of 0° 01' Left to center of Smith St and East Line of Old-town. (Set-flag 50 e centre))

From intersection of center line of Smith St with East line of Old-town (on centre line of Smith St to Sta 9+46.5 = 513'

To south bank of River 330'

From sta. 9+0 River runs parallel with N line of Old Town. about 500' feet.

Levels along San Diego River of Bridges

	Sta	+	HI	−	Elev	
Sp	B.M.				28.61	
Cl	#				− 2.82	
Mor	#	0.87	26.86		25.79	
San	(BM)?			4.32	22.34	
Boa	#	4.93	25.69	5.90	20.76	
Wi	#	5.52	21.94	9.27	16.42	[illegible] center of Pine & Jackson Sts
Ha	[illegible]			6.0	15.9	Top of [illegible] center line of Pine Street
Boa	"			7.4	14.5	Bot bank on river bed
"				10.5		
Mis	C			10.5	11.4	river at a point 70' south of center of Taylor
Lo	"			1.0	20.9	Top of [illegible] alnu sts.
Pr						
H.	F			5.6	16.3	Bottom St intersection of center line of Taylor St
Ha	"			3.7	18.2	Top with river bank (see map)
5th						
114	b			3.1	18.3	Top [illegible] 40' South of center of Taylor & Pine Sts
Ha	"			5.3	16.6	Bottom [illegible] " " " " " " " "
Ne						
1124						Top [illegible] 15' N of center of Jackson & Cedar
1125	E			6.7	15.2	[illegible] " "
	"			4.8	17.1	Bott[illegible]

Sta	+	HI	−	Elev	
		21.94			
d			3.1	18.8	Top Bank 228' N of centre of Jackson & Cedar
"			5.7	16.2	Bott. " " " "
#	4.67	21.71	4.90	17.04	Centre of Jackson & Cedar Str.
					Intersection of N. Bank of River with
					East line of Old Town. 126' S of centre of Taylor
10 =	126 S of centre of Taylor St		2.0	19.7	Top Bank
			6.3	15.4	Riveted
1			1.2	20.5	Top
			6.3	15.4	Bottom
2			1.3	20.4	Top
			6.2	15.5	Bottom
3			2.7	19.0	Top
			6.0	15.0	Bottom
4			2.0	19.7	Top
			5.8	15.9	Bottom
5			5.0	16.7	Top
			6.0	15.7	Bottom
6			4.8	16.9	Top
			5.6	16.1	Bottom
7					

	Sta	+	HI		Elev		
Sp	7		21.71	4.5	17.2	Top	
Ol				5.4	16.3	Bottom	
Mor	8			4.1	17.6	Top	
Sam				5.5	16.2	Botto	115°
Boa	9			3.9	17.8	Top	
Wi				5.5	16.2	Botton	
Ha	10			3.9	17.8	Top	
Boa				5.4	16.3	Botto	
"							
Mi				2.1	19.6	Bottom	East on center line of Smith St to
lo				5.1	16.6	Top	River Bank 330
Pr							
H	#	4.23	24.37	1.57	20.14	B M	
Ha	0	115 0' Left or 65° Right					Set up on center of Taylor & East line of
5th	1+0			5.0	19.4		Old Town, sighted to South along
114	2+0			4.4	20.0		Boundary Angle 115° 0' Left
Ha	3+0		Right ~~Left~~	5.0	19.4		
Ne	+50	100° 0'	~~Right~~	7.4	17.0		
1124	#	2.32	20.26	6.43	17.94		
1125	4			3.5	16.8		
	5+0			3.4	16.9		

Sta	+	HI	-	Elev
6+0	Δ 25° Right	20.26	4.0	16.9
#	2.38	20.17	1.47	17.79
7+0			5.4	14.8
8+0			6.8	13.4
9+0	Δ 30°	Left Right	6.4	13.8
#	2.37	17.24	5.30	14.87
10+0			5.2	12.
11			4.7	12.5
12			4.4	12.8
13			5.2	12.0
14+40			6.7	10.5
14+40			6.7	10.5
15+0	107 117° 04	Left Right	4.0	13.2
#	2.93	18.20	1.92	15.32
16			2.1	15.1
17	Δ		1.6	15.4
#	6.66	22.98	2.90	15.32
18			4.4	18.6
19			4.6	18.4
20			4.0	19.0
21			4.7	18.3

Sta	+	HI	−	Elev	
22		22.98	5.6	17.54	
#	4.45	22.56	4.47	18.11	
23			4.4	18.2	
24			5.1	17.5	
25			4.2	18.4	
26			4.0	18.6	
27			4.0	18.6	
28			3.3	18.3	Approach to bridge
29					
+08					end of Bridge
#	2.81	22.57	2.80	19.76	
#	3.41	20.08	5.90	16.67	

Levels along RR Bridge

Sta	+	H.I.	–	Elev	
		20.08			
Beginning at Edge of Right measured along Bridge (RR)					
1			3.1	17.1	
1+0			3.8	16.3	
2			6.0	14.1	
3			5.0	15.1	
4			4.7	15.4	
5			7.2	12.9	
5+44			7.3	12.8	Edge of Bank
6			6.3	13.8	
6+40			4.0	16.1	Top of Bank
7			1.3	18.8	

Check on Elev's in Old Town

Sta	+	HI	-	Elev	
Stockton & Conde					
A	5.61	22.73		17.12	Stockton & Conde
			2.70	20.00	✓
Aristo & Stockton					
BM	5.83	27.28		21.45	2
			0.4	26.9	✓
Aristo & Moore St					
BM	4.01	31.57		27.56	
0+50			3.1	28.5	✓
+65			8.0	23.6	✓
Congress & Aristo.					
BM	11.47	37.45		25.98	
+50 in S. side E of congress			6.8	30.7	✓
San Diego Ave & Aristo					
	9.30	46.48	0.27	37.18	
center of S. D. Ave.			5.00	41.5	
			1.5	45.0	
Ampudia & Congress					
BM	7.01	51.17		43.46	
NE cor			7.7	43.5	✓
SE cor.			5.1	46.1	✓

Checks at points in Old San Diego

Nov. 7. 89.

Cen Aristo & S. D. Ave	a
0+50 Congress on S side Aristo ✓	b
NE and SE Congress and Ampudia	c
SE Stockton and Aristo	d
NE Stockton & Conde	e
0+50 Aristo on E side Moore	f

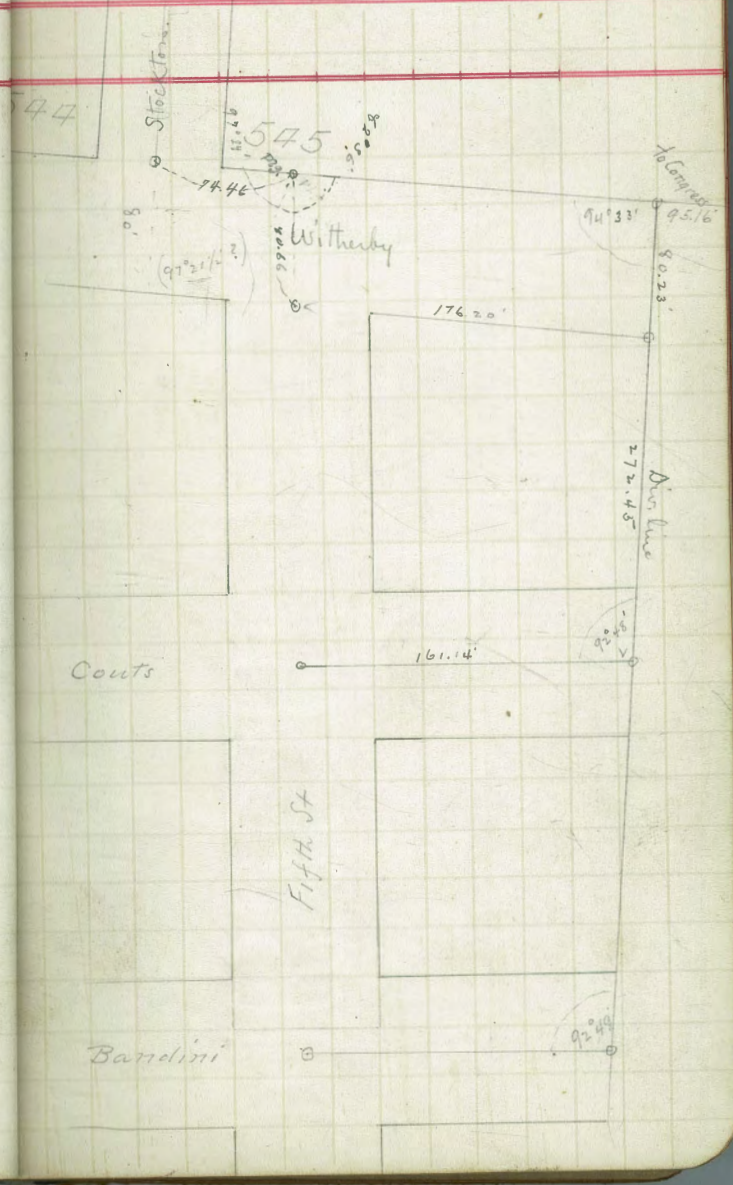
El trench back line B St School l[illegible]

for Calculating Extra wall — Nov 6. Hubon & Spencer — & Shaw

	BM	+	HI	Rod	El	from N Cornu[illegible]		Dif	Not including Buttresses	Cu. ft
Sp[illegible]	58.46	11.02	68.48	5.76	62.72	0	3	- 0.58		
Ol[illegible]				6.22	62.46	10	4	- 0.94	10 × .76 × 1.5	11.4
Mor[illegible]				6.84	61.64	14	14	- 1.80	4 × 1.37 × 1.5	8.22
San[illegible]				7.08	61.40	20	5	2.10	6 × 1.95 × 1.5	17.55
Bo[illegible]				7.34	61.14	30	6	2.46	10 × 2.28 × 1.51	34.43
Wi[illegible]				7.60	60.88	40	7	2.82	10 × 2.64 × 1.51	39.86
Ho[illegible]				7.90	60.58	50'	8	3.22	10 × 3.02 × 1.51	45.6
Bo[illegible]				7.90	60.58	57'	87	3.29	7 × 3.25 × 1.52	34.78
"				5.35	63.13	60'	9	0.77	3 × 2.03 × 1.52	9.26
										201.10
Mi[illegible]		9.13	67.59	11.02	58.46					
lo[illegible]				6.88	60.71	B.M. c[illegible] 60.6			Buttresses	
Pr[illegible]							1/2		.67 × 3. × 1.80 =	3.62
H[illegible]							1/2		.70 × 3. × 2.46 =	5.17
H[illegible]							1/2		.75 × 3 × 3.00 =	6.75
5th							1/2		.77 × 3 × 3.29 =	7.60
114										23.14
Ho[illegible]			✓							201.1
N[illegible]										224.24 (8.3 Cu. Yds
1124										216
1125										82

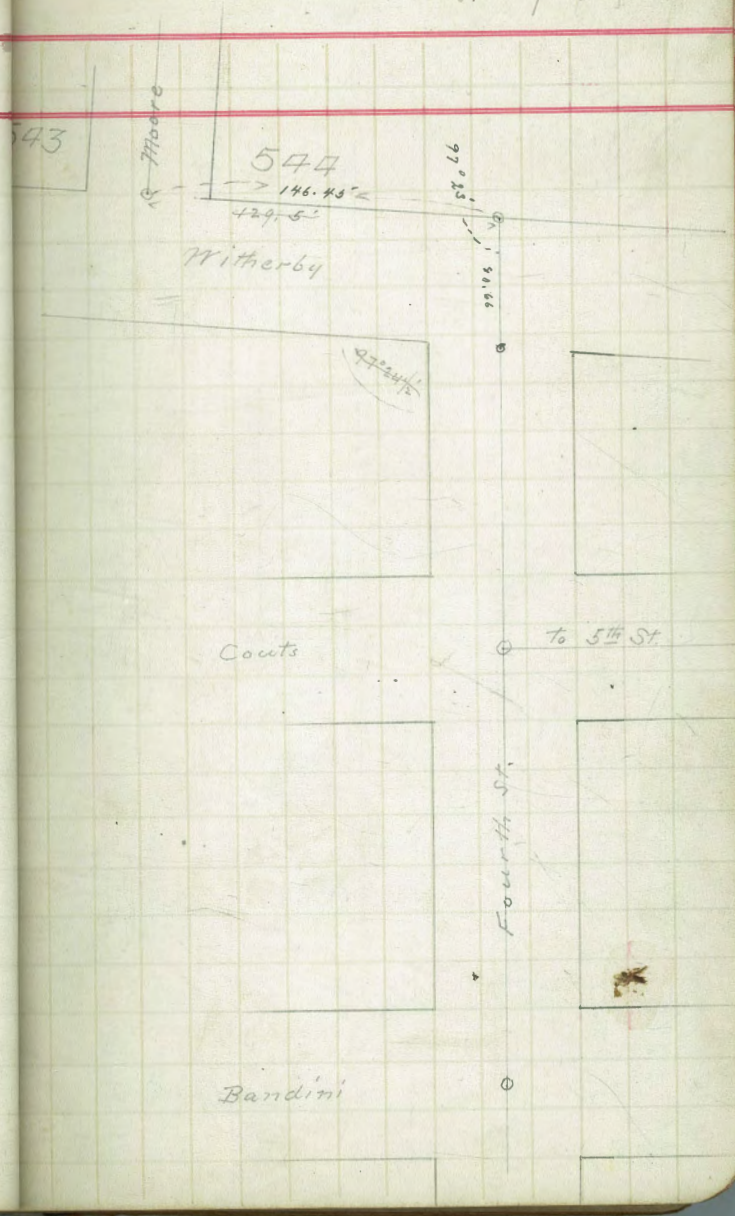
Connections:
Middletown and Old Town

Nov 7. 89
Hamlin & Party

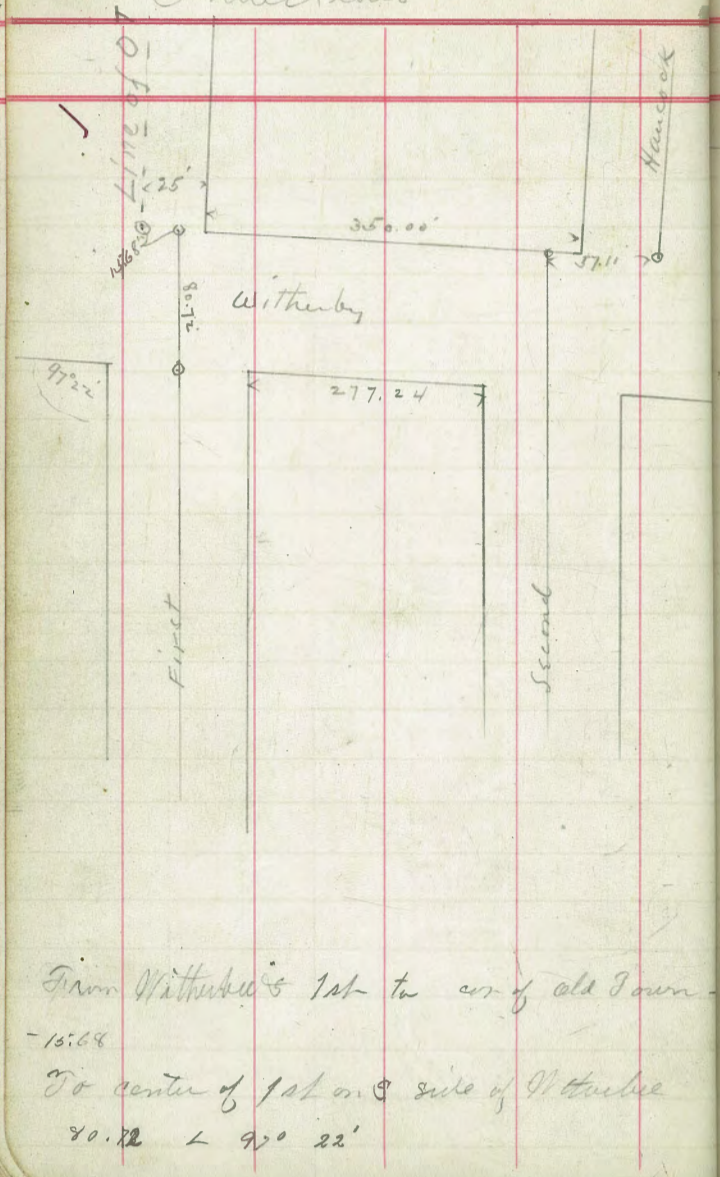


Connection

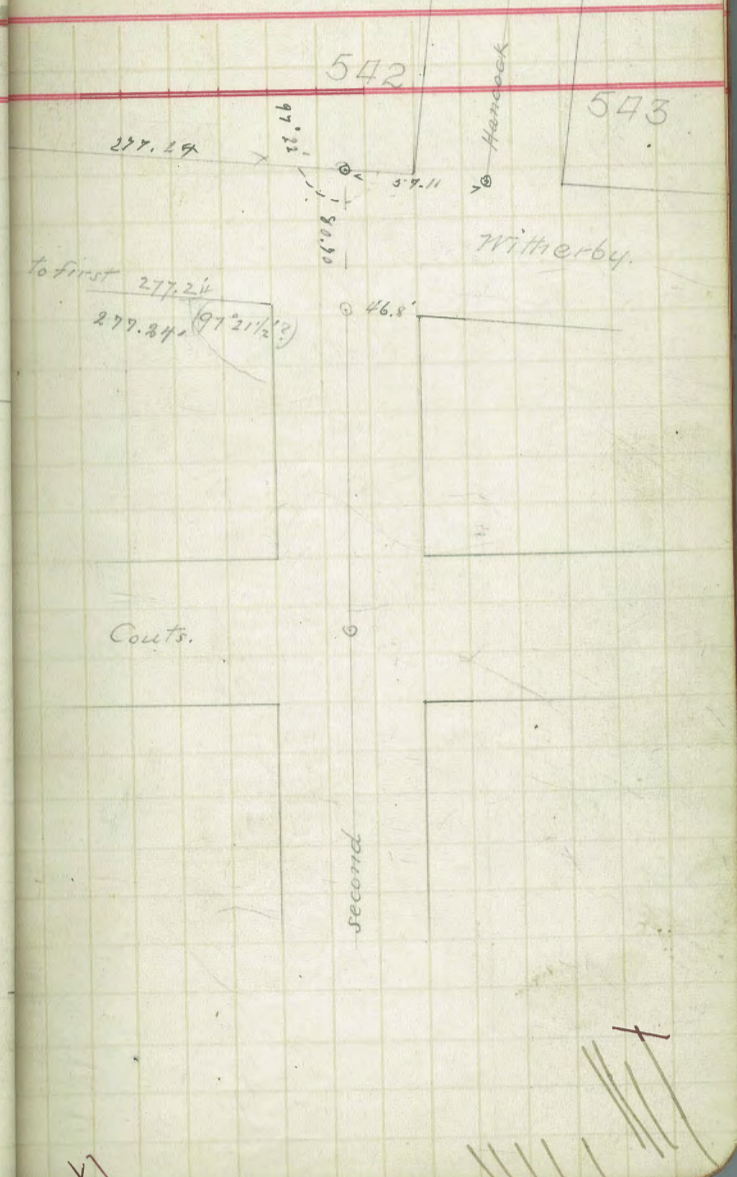
Nov 7 89



Connections



Nov 7.89



From Witherby's 1st to cor of old Town -
- 15.68

To center of 1st on ℄ side of Witherby
80.72 ∠ 97° 22'

Spencer
Hamlin
Orton
Williams
Hensley

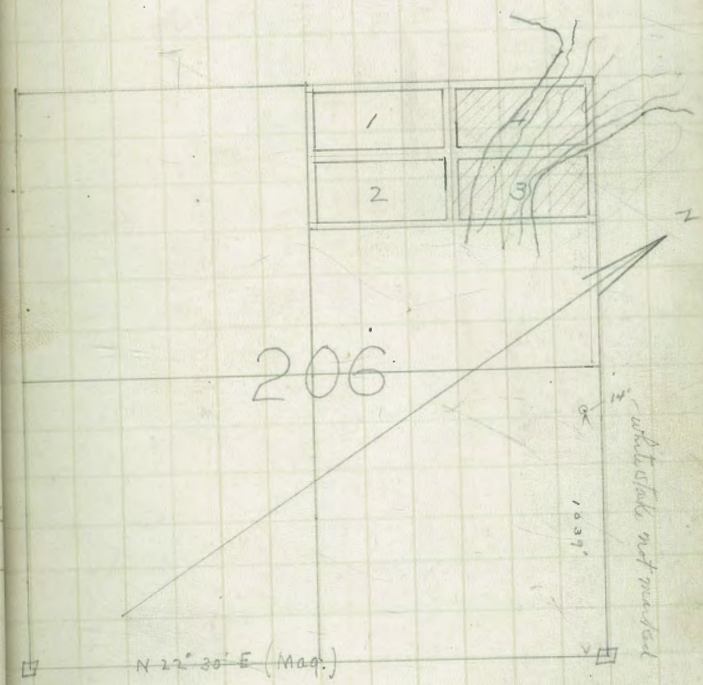
Survey Blocks 3 and 4 — Nov 7. 89.

J. M. Depuys Subdivision for

George Haller
Pasadena
L. A. Co. Calif.

Set up at N E Corner 206 - sight on S.E. Corner. Angle 90° Right and measured carefully 2350' to point (set p on shore of slough. Deflect 41° Right 200' along shore (set plug B). From plug A sig on plg B - Ang 31°04' left to old stake inaccessible in slough - supposed to be NW corner 206. From plg B - sight on A Ang 99°58' Right to same.

plg A - sight on B. Def	Station on E Shore	Sta on W Shore	plg A - ang. L from B	plg B - ang. R from A	
R 3°56'	1	1	53°25'	100°56'	point
R 10°45'	2	2	78°30'	68°57'	
R 17°37'	3	3	108°21'	45°34'	Stake M (Boulevard B.21.
from Sta 3 Sharp bend to left.		4	138°0'	30°35'	
		Sharp to left			



Elev on unfinished wall around B
School lot.

Hamlin Williams Nov 9 1889
Orton Kemsley

Sta	+	HI	−	Elev	
B.M.	60.68	72.30		11.62	7th & B St
a 1			7.6	67.7	Begining at cor of 7th & B St took
b 2			7.2	65.1	Elev on the pilaster
t.2b			7.3	65.0	
c 3			6.9	65.4	
d 4			5.5	66.8	
e 5			4.1	68.2	
f 6			2.6	69.7	
g. 7			1.3	71.0	
h 8			1.0	71.3	
#	6.89	73.2 / 73.15	6.04	66.26	
i 9			2.1	71.1	
j 10			1.9	71.3	
k 11			1.6	71.6	
L 12			1.0	72.2	150 ft from B St cor of Back wall
Back Wall					
b 13			1.5	72.1	first buttress west of 7th St
c 14			2.2	71.0	
P 15			3.6	69.6	
Q 16			4.3	68.9	

Elev on unfinished wall around B.S. School lot

Sta	+	HI	−	Elev	
		73.2			
F 17			4.6	68.6	
BM	9.24	67.69		58.45	th of B Sta
#	6.48	70.60	3.57	64.12	
G 18			1.4	68.4	
H 19			1.6	69.0	
I 20			2.1	68.5	
J 21			4.4	66.2	nd of Wall.

B. St. School Wall — to determine if ½ of wall is finished Nov 9/89

Calculations by M. Spencer

	Sta	El. Wall	Grade top	Dist	Height	Av. thick	Cu ft in Wall	Cu ft in Buttresses	
Sp	1	64.7		0	0				
Ol	2	65.1		16.5 / 16.5	0				
Mon	28	65.0		12.5 / 29.0	0				
Sam	3	65.4		2.5 / 31.5	0				
Bo	4	66.8		13 / 44.5	0				
Wi	5	68.2		13 / 57.5	0				
H	6	69.7		13 / 70.5	0				
Bo	7	71.0	70.43	13 / 83.5	0				
"	8	71.3	71.86	13 / 96.5	0.28 / 0.56	.02 / .83	3.09	.02	
Mu	9	71.1	73.29	13 / 109.5	1.37 / 2.19	.12 / .83	13.75	.49	
Lo	10	71.3	74.72	13 / 122.5	2.81 / 3.42	.23 / .84	39.35	1.94	
Pr	11	71.6	76.15	13 / 135.5	3.98 / 4.55	.33 / .83	60.02	3.93	
H	12	72.2	77.75	14.5 / 150.	5.05 / 5.55	.42 / .83	91.52	6.36	
H			Grade bot	Totals			207.73	12.74	Amt in 7th St Wall to be Completed
5th	12	72.2	65.3		6.93 / 6.90	.86	170.82	17.88	
114	13	72.1	65.15	14.5	6.95	.84	139.41	16.09	
H	14	71.0	65.02	13. / 27.5	6.46 / 5.98	.83 / .83	116.15	12.85	
N	15	69.6	64.89	13. / 40.5	5.35 / 4.71	.84 / .83	95.96	11.01	
112	16	68.9	64.76	13. / 53.5	4.42 / 4.14	.83 / .84	87.61	10.11	
112	17	68.6	64.63	13 / 66.5	4.06 / 3.97	.83 / .83	88.05	10.04	
	18	68.8	64.50	13 / 79.5	4.13 / 4.30	.81 / .83			
							698.00	77.98	

To be built

Already built

Sta	El. Wall	Grade bot.	Dist	Height	Av. thi			Completed	to be Completed	Total Amts
Already built 19	69.0	64.37	13. 92.5	4.46 4.63	.75 .84	92.19	10.03			
20	68.5	64.24	13. 105.5	4.44 4.26	.71 .83	88.89	9.46			
21	66.2	64.11	13. 118.5	3.18 2.09	.73 .83	66.04	6.96			
						47.12	264.5			
						98.00	77.98			
Amt in North Wall						45.12	104.43	1049.55	1935.55	2985.10
7th St wall								1071.23	220.47	1291.70
6th St wall								0.00	667.10	667.10
Totals								2120.78	2823.12	4943.90

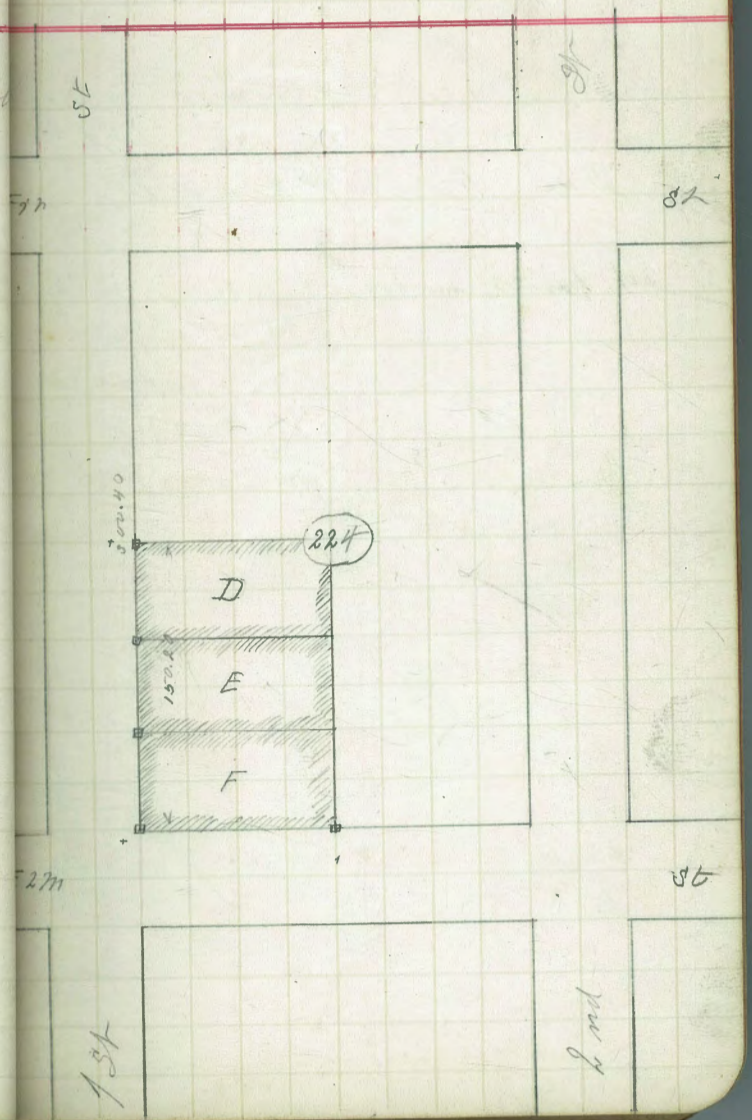
1/2 total Cu ft	2471.95
total Completed	2120.78
Deficiency Nov. 9.	351.17

Nov. 11 1883

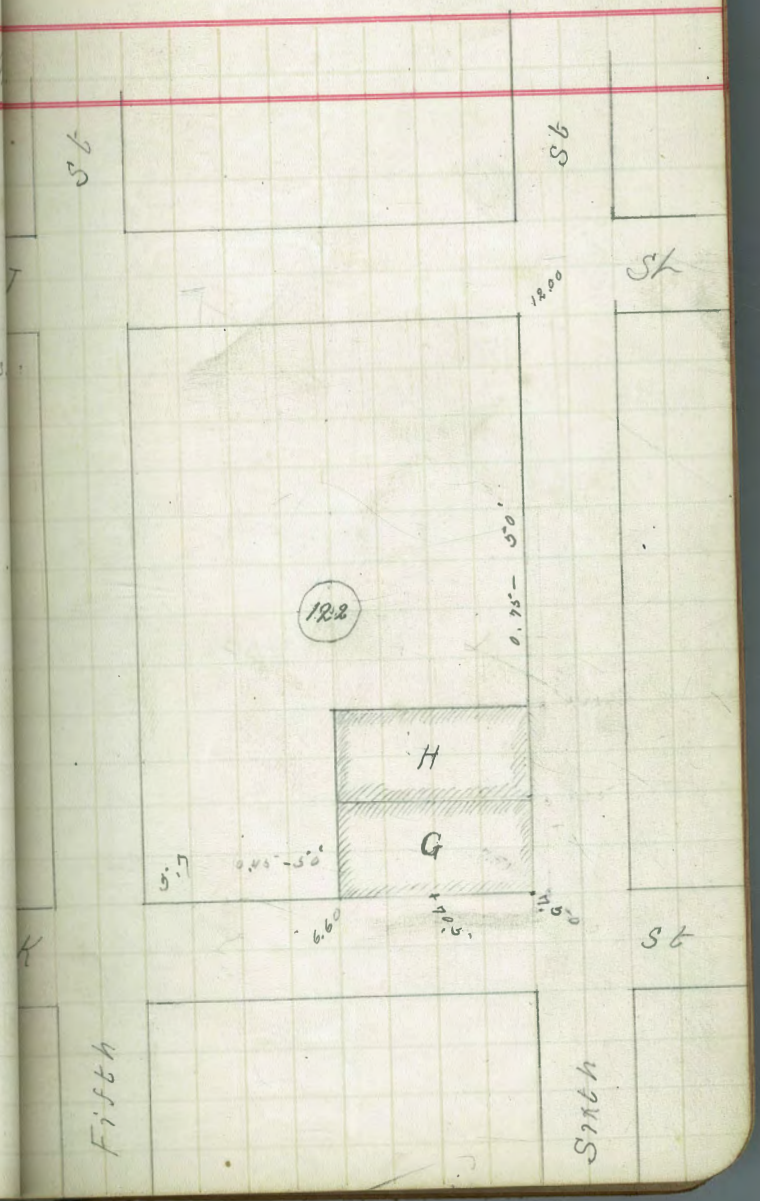
Liner for Wall Lots H, E & F Bl
224 H.A.
For. Frank Missner

Set points marked +

Hamlin
Acton
Williams
Hensley



Sta	+	H.I.	Grade	Rod	B.M.
Curb lines & grades at Lots G & H Blk 122 H.A. For Capt Pringle					
	2.77	11.09		6th & K St	8.3
			7.50	3.59	
			7.05	4.04	
			6.60	4.49	
B.M. 3th & K St				3.71	7
Hamlin.					
Alton.					
Williams.					
Hensley.					



Line along N Line of H.A.

Nov. 17

Hamlin
Orton
Williams
Hemsley

Sta	Magnetic Course
+67.0	
+67.1	
5+0	
+86.95	
4+0	
3+0	
+87.1	
+07.2	
2+0	
1+0	
0+20	S 76° 25' W
0	

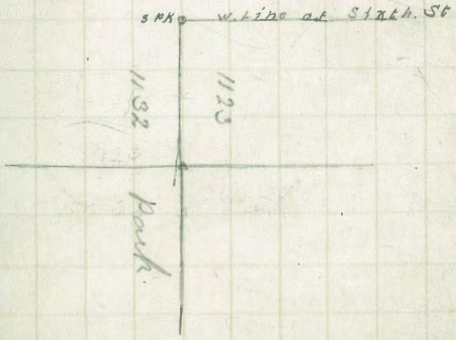
Beginning at cor of P.L. 1123, 1132, cor of Park, run S 76° 25' W. along North Line of Hontons Hold.

Old Stake E.W. of 4th (Pig) 0.3 - .35 @ SPK. W. of 4th. N&B Add in H.A.

No. Point 0.35 @ SPK E of 4th St. N.& B. Ad.

W. of 5th St — SPK
5th St.

E. of 5th St — SPK



Line Along N Line of H A

14+0		
+28.1		× .40 ▫ Plg E of 1st St in H A
48.5	Stone set in ground (pit to North) ?	× .40 ⊗ Pit
13+0	cor of E & W 1/2 P.L. 1123	
12+0		
+27.75		.0.25 ▫ Plg W of 2nd H. Add.
+27.1		.63 ⊙ SPK. W. of 2nd N & B. Add
11+0		
0+46.95		
	No point in H.A.	.0.5 ⊙ SPK E of 3rd N.& B. Add.
10+0		
9+0		
+47.2	Plg. W of 4th. H.A.	▫
+47		▫ .30 ⊙ SPK. W of 2nd N & B Add
8+0		
+67	No point in H.A.	.32 ⊙ SPK. E. of 3rd St N.& B. Add.
7+0		
6+0		

N Line of H A

+50					
24+0					
23+0					
+48.5					
22+0					
21+0					
20+0					
+68.2					
19+0					
18+0					
17+0					
16+0					
15+0					

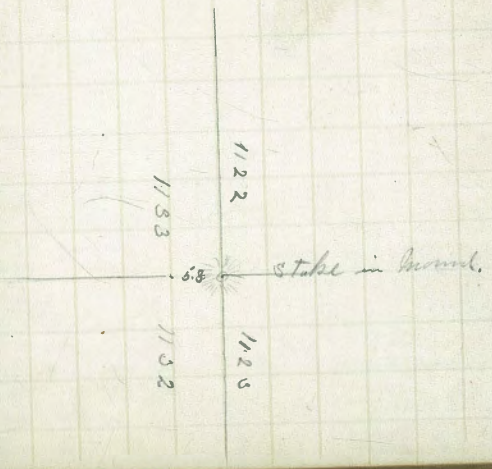
Pl g □ 4.2 · E. Line of Curlew St

Pl g. W of Branch □ 3.7 ·
St in H A

Pl g. □ 2.30 · West of Albatross St H A.

N Line H.A.

+37.1					
26+0					
25+0					



N Line H A

+33

7+0

+53

6+0

5+0

4+0

379.9

0

Begining 5.3 S of Pueblo cor 1122, 1123, 1133, 1132, B.S. — — turned angle of 9° 12' Left and measured 375' sep plug. from this point turned 90° Right and measured 60.74' to line.

W of Folsom St. 6.2 Plg

E of Folsom St. Plg 6.1

$\frac{a}{b}$ = tan of A

a = b tan of A

Log of b .375 = 2.574031

Log tan of 9° 12' = 9.209426

Log of a = 1.783451 = 60.74

$\frac{a}{c}$ = sin A

a = c sin A

$c = \frac{a}{\sin A}$

Log of a = 1.783451

Colog sin A = 0.796203

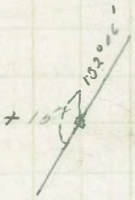
log of c = 2.579654 = 379.9

N Line H A

15 + 97						
+ 77						W of Ibis St
15 + 0						8.6 P2g
14 + 0						
+ 18						Stake in Mound 7.75
13 + 0						
+ 14.8						2.5 E of Hawk St (?) P2g
12 + 0						
11 + 0						
10 + 77						
+ 14.6						W of Goldfinch 7.5 P2g
10 + 0						
+ 34.6						E of Goldfinch St 6.8 P2g
9 + 0						
+ 10						
8 + 0						

to intersection with of M.T. div. line

22+15 132° 06' Left to intersection of cent
line of Upper St in M.T. with div line; dist 223.0' from Sta 22+15



22+0

21+0 106° 10' Left △ 106.3 To stake & mound

+50.6 cor of Kite, St (?) □ 9.3 Plg

20+0

19+0

+56 W of Jay. St □ 9.2 Plg.

18+0

17+0

16+0

Elev for sewer on 5th N of Juniper Nov 14 1889

Hamlin
Elston
Williams
Hemsley.

Sta	+	HI	−	Elev		
B.M.	10.01	240.89		230.88	✓	Juniper & 5th St.
3+0			9.74	231.15	✓	S line of Juniper St
+20			9.25	231.66	✓	
+40			8.72	232.17	✓	
+60			8.23	232.66	✓	
0			7.80	233.09	✓	N line of Juniper St
+25			7.27	233.62	✓	
+50			6.89	234.00	✓	
+75			6.41	234.48	✓	
1+0			6.14	234.75	✓	
+25			5.75	235.14	✓	
+50			5.06	235.83	✓	
+75			4.26	236.63	✓	
2+0			3.45	237.44	✓	
+25			2.40	238.49	✓	
+50			1.48	239.41	✓	
+75#	6.23	246.74	0.38	240.51	✓	
3+0			5.24	241.50	✓	Kalmia St S line
+20			4.56	242.18	✓	
+40			4.16	242.58	✓	Kalmia St
B.M.			4.69	242.05		

Elev of curb to set gutter at 4th & E for Haskins

Grade at NE cor 4th & E. 37.[illegible]
" " SW cor 5th " 40.80

Sta	+	HI	Grade	Rod	BM
B.M.	4.64	43.04			38.4[illegible]
				1.40	41.6[illegible]
			3.91	39.13	
				38.23	Gutter
				0.90	to

Grade 100' E of SW cor of 4th & E St 38.90
.67
38.23

39.13
38.90
.23
.67
.90

grade
" " from Top of curb

Hamlin
Habon

Elev for sewer on 5th N of Juniper Nov 14 1883

Hamlin
Acton
Williams
Hemsley

Sta	+	HI	−	Elev	BM	
BM	8.61	250.66			242	Kalmia & 5th St
3+40			8.08	242.58		Kalmia St
+60			7.62	243.04		
0			7.21	243.45		N Line of Kalmia St
+25			6.66	244.00		
+50			5.94	244.72		
+75			5.38	245.28		
1+0			4.70	245.96		
+25			4.03	246.63		
+50			3.64	247.02		
+75			3.15	247.51		
2+0			2.65	248.01		
+25			2.30	248.36		
+50			1.78	248.88		
+75			1.06	249.60		
3+0			0.51	250.15		S Line of Laurel St
BM #	9.54	259.21	0.99	249.67		
+20			8.63	250.58		
+40			8.23	250.98		Center of Laurel St
+60			7.81	251.40		
0			7.50	251.71		North Line of Laurel.

Elev for 5th St Sewer.

Stn	+	HI	−	Elev	
		259.21			
+25			7.03	252.18	
+50			6.33	252.88	
+75			5.56	253.65	
1+0			4.95	254.26	
+25			4.67	254.54	
+50			4.21	255.00	
+75			3.65	255.56	
2+0			3.22	255.99	
+25			2.77	256.44	
+50			2.42	256.79	
+75			2.01	257.20	
3+0			1.52	257.69	S Line of Maple St
+20			1.40	257.81	
B.M.			0.77	258.44	On Maple & 5th
+40#	8.33	266.32	1.22	257.99	Center of Maple St
+60			8.10	258.22	
0			7.82	258.50	N Line of Maple St
+25			7.45	258.87	
+50			6.93	259.39	
+75			6.71	259.61	

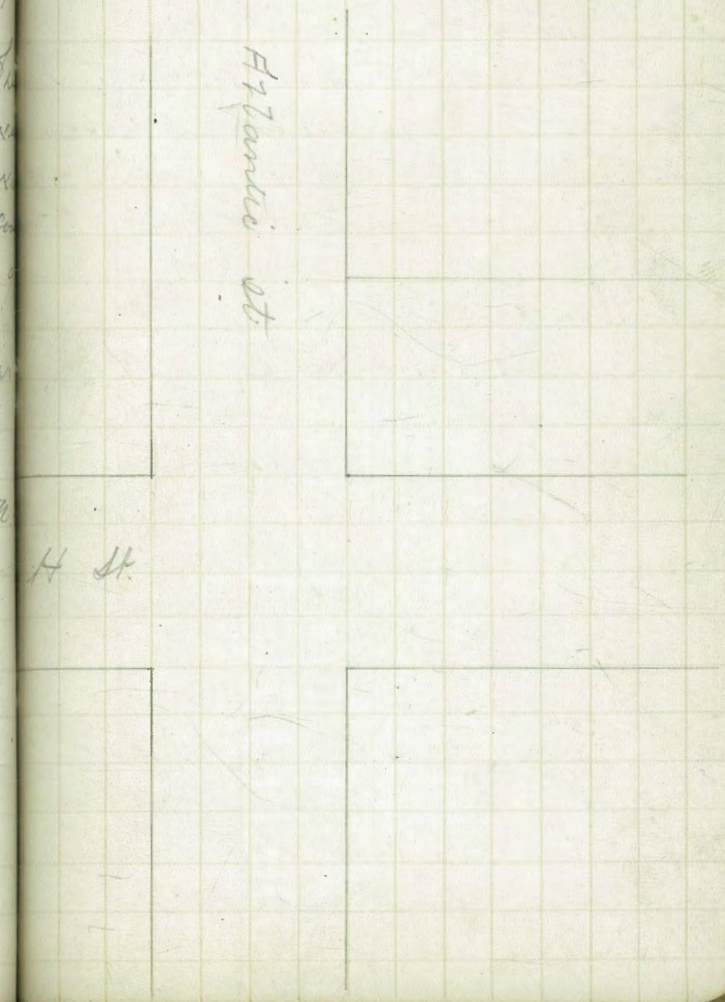
Stn	+	HI	−	Elev	
		266.32			
1+0			6.31	260.01	
+25			5.84	260.48	
+50			5.33	260.99	
+75			5.02	261.30	
2+0			4.65	261.67	
+25			4.20	262.12	
+50			3.77	262.55	
+75			3.26	263.06	
3+0			2.66	263.66	S Line of Nutmeg
BM			2.37	263.95	Nutmeg & 5th

Shaw Level
Spencer Rod

Nov. 16th 1889

	B.S.	H I	F S	Elev.	
B M					-0.39
	0.82	0.43			
			4.05	-3.62	cor. of Bulk
			5.02	-4.59	30' W
			6.38	-5.95	50' W
			5.75	-5.32	50' So
			0.82	-0.39	
	4.83	4.44			
N.E. cor Cal + H St			5.38	-0.94	Mr B M
			7.00	-2.56	

Elev taken on Lot L Blk 8 N



Hamlin & Party Nov 19, 89

Hamlin { Orton, Williams, Hensley

Intersected East line of 1148 with S 7' line on C St. dist from SW 7' point on C & 23 to intersection 189.75

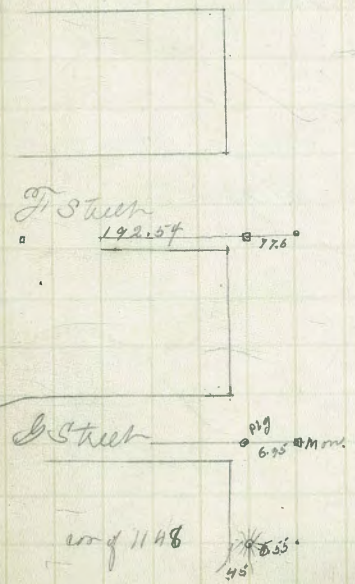
Set point 9.39 West of SW 7' point on 24th & H St. It being on random line dist from S.W. cor 7' on 23rd & H to Pueblo line 190.93

Set Point at 8.57 west of SW. 7' Point on 24th & E St. from Random line on dist from SW cor of 23rd & E St. 191.78

Set point 7.76 West from Random line on S 7' line of F St. dist from S.W. cor of 23rd & F St. 192.54

Beginning at a point (6.55 E of SE cor Pueb Lot 1148,) on West 7' line of 24th St. run to a point 2.9 N of S.W. 7' point on 24th & H St.; found I was 9.40 E of 1/4 cor of (1148 & 1149) corrected Random line as follows at G St. 6.95' West, F St. 7.76

10.64 West of SW 7' point on 24th St



At E St. 8.57, At H St 9.39 All, west

Plat showing distances to East Line 1148 from 24th & 23rd Sts

Intersected East 1148 with S 7' line on B St, measured from SW 7' point on 23rd & B to intersection 188.48

From Intersection to SW 7' point on 24th & B St 11.91

Intersected East Line of 1148 with S 7' line of A St, measured from SW 7' point 23 & A 187.17.

Dist from Intersection to SW 7' on 24th & A 13.03

All distances are on South 7' lines and West 7' lines

23rd		24th	
	Cor.	13.67	
187.17		13.03	A St
188.48		11.91	B St
189.75		10.64	C St
190.93		9.39	D St
191.78		8.57	E St
192.54		7.76	F St
No point		6.95	G St
	SE cor	6.55	
		This point is in the St	H St

Cut & Fill stakes on Hawthorn bet 4th & 5th. Hamlin { Oxton, Williams, Hemsley

Nov. 30 1889

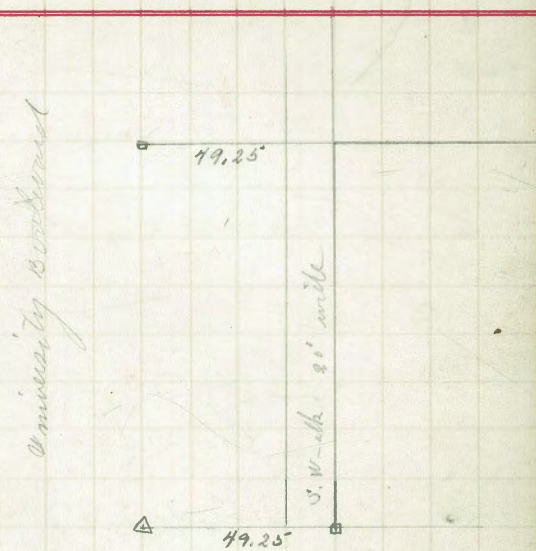
Sta	+	HI	−	Elev	Grade	Cut		
B.M.	9.69	205.97		196.28			4th & Hawthorn	
0			7.95	198.02	195.5	2.52	East of 4th St	North
+50			4.97	201.00	197.25	3.75 ✓		
1			2.90	203.07	199.00	4.07 ✓		
+50			0.30	205.67	198.75	6.92 ✓		
2+0			7.03	198.94	198.50	0.44 ✓	West of 5th St	
0			10.62	195.35	194.50	0.85 ✓	East of 4th St	South
+50			8.44	197.53	196.50	1.03 ✓		
1			5.93	200.04	198.50	1.54 ✓		
+50			7.92	198.05	197.25	0.80 ✓		
2+0			11.62	194.35	196.00	1.65 ✓	West of 5th St	
			7.20	198.77				

Offsets bet Newhall & Cleveland Ave

8					
7					
6					
5					
4					
3					
2+0					
1+0					
+63.67	89° 40	Right.	intersection with center line of Cleveland Ave		
+28	90° 0'	Left			
0	West Line 6th St				

From West of Newhall & 6th measured 28' East

+24.3	0° 33'	Right ~~West~~ East	Sill of Blk 14			~~31~~
14						
13						
12	crosses	water	main			
11						
10						
9						



Line along North Line 1124

Sta		
8+0		
+66	East Line of 8th St.	stake ⊡ 8.5
7+0	West Line of 8th St	stake ⊡ 8.0
6+0		
5+0		
4+0	East Line of 7th St	stake ⊡ 4.4
+34	West Line of 7th St	stake ⊡ 3.8
3		
2		
1+0		
+33	East Line of 6th St	
0	Beginning at NW cor 1123 Run East along N Line 1124.	Iron Pin in stone mound

N 76° 0' E

Line along North Line of 1124

+47	West Line of Vermont St	Pzg.	⊡5.2 ✓
18			
17			
16			
15			
14			
+67	West Line of Blk 14 W.H. Add.	Pzg.	⊡4.2 ✓
13			
12			
11			
10			
+66	West Line of 9th St	Stake	⊡11.0 ✓
9+0			

Line along North Line 1124

2608/58

+66 = 0

+08 East line of Yale St

26

+28 West line of Yale St

25

24

23

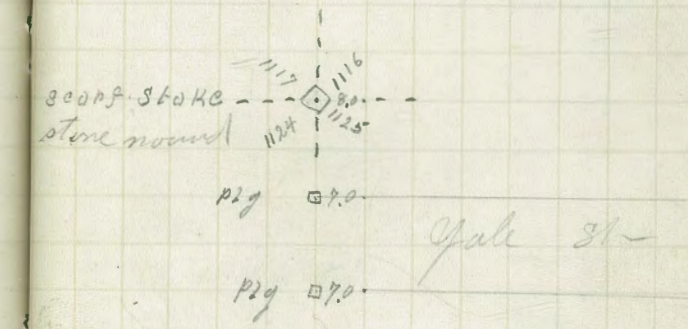
22

21

20

+27 East line of Vermont St

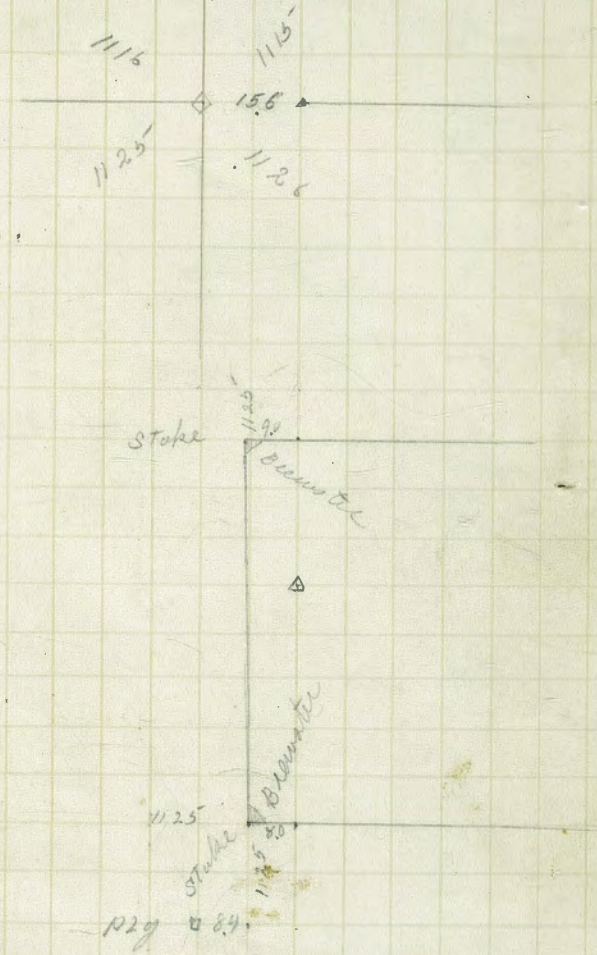
19



pig 5.5

Line along N Line 1125

Sta				916 636 280	
26+72	N E cor of 1125 scarf stake				
				74 58 16 13 20 4 13,364	
9+16	stake marked as shown —				
7+0					
6+36	Stake marked as shown				
3+91	Angle in University Bd				
0	Begining at a point 8' 30 of cor 1125				



~~III~~ ~~III~~ III + 20 + Prog. 1, ~~III~~ ~~III~~ 1

At sta 26 + 66 (8' to S of cos

found cos of ~~1124~~ 1 1117 | 116 / 1124 | 1125

Measured on from Sash ser 636' to stake marked as follows

1125 ▽ Brewster

7 + 0 △

9 + 16 — — — — Brewster ▽ 1125 (9' south of cos)

13 + 20 △

+ 37 stake 10.6 N of line 1/4 cos (?)

26 + 72 stake 15.5 N. of our line

marked 1116 1125 ⊡ 1115

89° 40' Right

16.4
12.1
3) 28.5
14.25

bet Haw. + Ivy -
A, B, C + D, G, H, I + J.
Concrete curb + gutter (3½ ft)
Date + Elm - Lot J. curb

Date + Cedar -
Lot L. curb + gutter
" G + H curbed -

Beech + Cedar
Lots D, E + F curb + gutter
" C curb + gutter (too high)

Ash + Beech
G + H - H cement curb
G wooden sidewalk
Small cobble gutter

A + Ash
Lots K + L curb + gutter

Lot J. bet Map. + Nut.

B. + A.
East side curb cobble gutter
West " " cem. cob. Gut

1,3,5-3

Line bet 1148 - 1149

222.6
221.58
1.02

9017) 1.0200 (113
9017
11830
9017
28130

9100
90
89.20

Return to City Engineer's Office
City Hall, San Diego, Cal.

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

Return to City Engineer's 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.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

lished by Edward Denny & Co., Stationers, Drawing Materials, Mathematical Instruments, Etc., San Francisco.