85

TRANSIT.

F.B.85

85

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

Minutes.	Links.	Minutes.	Links.	Minutes.	Links.
1	2⅓	21	49	41	95⅔
2	4⅔	22	51⅓	42	98
3	7	23	53⅔	43	100⅓
4	9⅓	24	56	44	102⅔
5	11⅔	25	58⅓	45	105
6	14	26	60⅔	46	107⅓
7	16⅓	27	63	47	109⅔
8	18⅔	28	65⅓	48	112
9	21	29	67⅔	49	114⅓
10	23⅓	30	70	50	116⅔
11	25⅔	31	72⅓	51	119
12	28	32	74⅔	52	121⅓
13	30⅓	33	77	53	123⅔
14	32⅔	34	79⅓	54	126
15	35	35	81⅔	55	128⅓
16	37⅓	36	84	56	130⅔
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

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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

85

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

Minutes.	Links.	Minutes.	Links.	Minutes.	Links.
1	2	21	1.49	41	95
2	4	22	51	42	98
3	7	23	53	43	100
4	9	24	56	44	102
5	11	25	58	45	105
6	14	26	60	46	107
	16	27	63	47	109
	18	28	65	48	112
	21	29	67	49	114
	23	30	70	50	116
11	25	31	72	51	119
12	28	32	74	52	121
13	30	33	77	53	123
14	32	34	79	54	126
15	35	35	81	55	128
16	37	36	84	56	130
17	39	37	86	57	133
18	42	38	88	58	135
19	44	39	91	59	137
20	46	40	93	60	140

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°		°		°		°	
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

85

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Book no 85

date.

name.

Index.

Park Survey Preliminary Work

On west line of Park S 7' line on Hate St. St Plugs 5 S & 8' S of 7' Point.

On South line of Park West 7' line of 6th St Set plugs 5 & 9' West of 7' Point

On South line of Park West 7' line on 7th St. Set plugs 5 & 9' West of 7' point

On South line of Park West 7' line on 8th St. Set plugs 5 & 9' West of 7' line

On South line of Park West 7' line on 9th. Set Plugs 5 & 9' West of 7' point

On South line of Park West 7' line of 10th St. Set plugs 5' West

On West line of Park South 7' line on Cedar St. Set plugs 5 & 9' South of 7' Point

On West line of Park and S 7' line on Beech St set plugs 5 5 & 9' from 7' point

On west line of Park S 7' line on Ash St. Sets plugs 5 & 9' South of 7 Point

Park Survey Preliminary Work

On Eleventh St Set a plug on S line of Park and 38' West of Center of 11th St.

On 12th St Set joint 10' North of S line of Park on West line of 12th St fence post at corner

on 13th St cor of Barn is Correct

On 14th St. Set plugs on Park line 2' East & 2' West of W line of 14th St

On 15th St Same as above

On 16th St " "

On 17th St " "

Triangulation for location of S.E. cor of Bay View add

Feb 16 1872

Hamlin & Party

3

a : b :: Sin 41°38' : Sin 104° 47' =

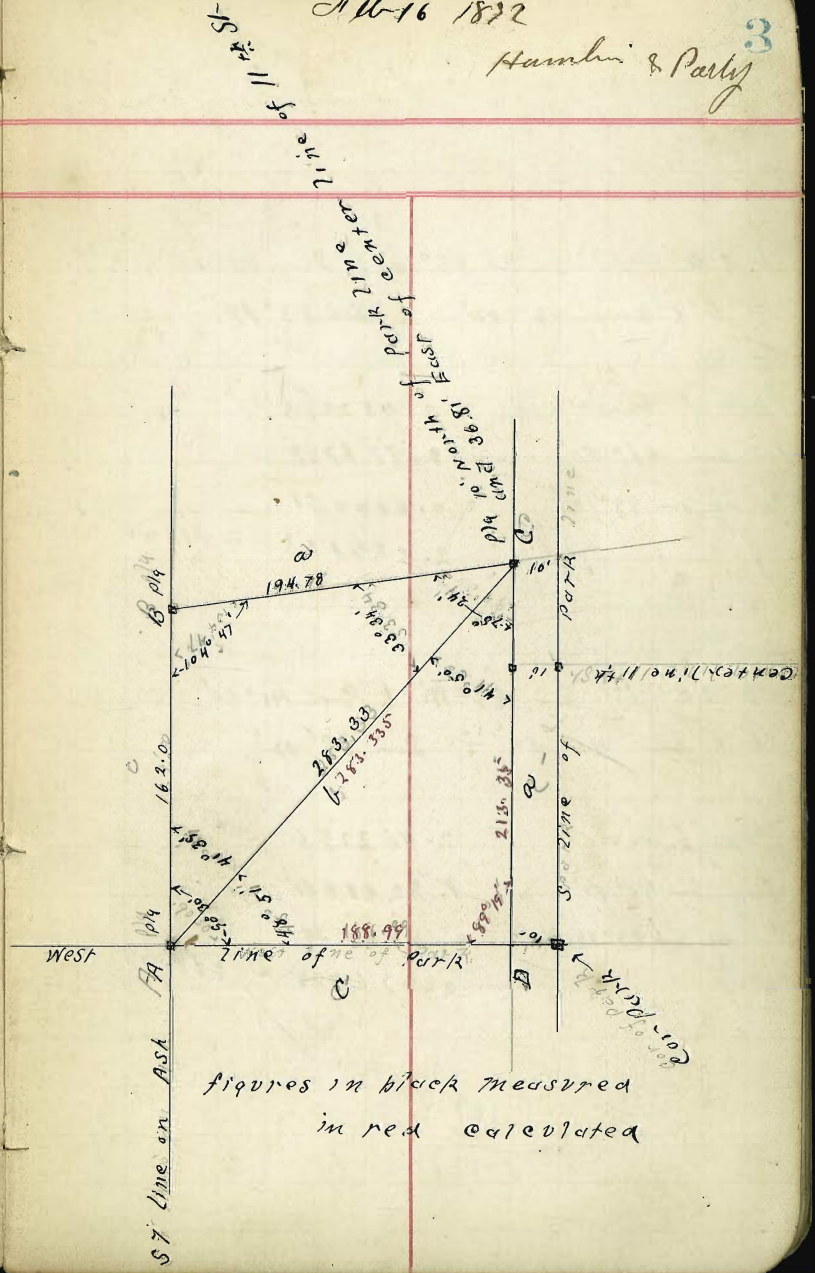
a × Sin 104° 47' ÷ Sin 41° 38'

Log a	=	2.289544
Log Sin 104° 47'	=	9.985380
Colog Sin 33° 23'	=	0.174454
Log b	=	2.452378 = 283.39'

c : b :: Sin 33° 34' : Sin 104° 47' =

c × Sin 104° 47' ÷ Sin 41° 50'

Log c	=	2.209515
Log Sin 104° 47'	=	9.985350
Colog Sin 41° 50'	=	0.257848
		2.452213 = 283.28
		283.39
Log b	=	2)566.67
		Mean 283.335



b : a' :: Sin 89°19' : Sin 48°51' 48°51'
= b x Sin 48° 51' ÷ Sin 89° 19'

log of b = 2.452293
log Sin 48° 51' = 9.876788
Colog Sin 89° 19' = 0.000031
log a' = 2.329113 = 213.35

b : c' :: Sin 89° 19' : Sin 41° 50'
b x Sin 41° 50' ÷ Sin 89° 19'

log b b = 2.452293
log Sin 41° 50' 9.824104
Colog Sin 89° 19' 0.000031
log of c' = 2.276428 = 188.99

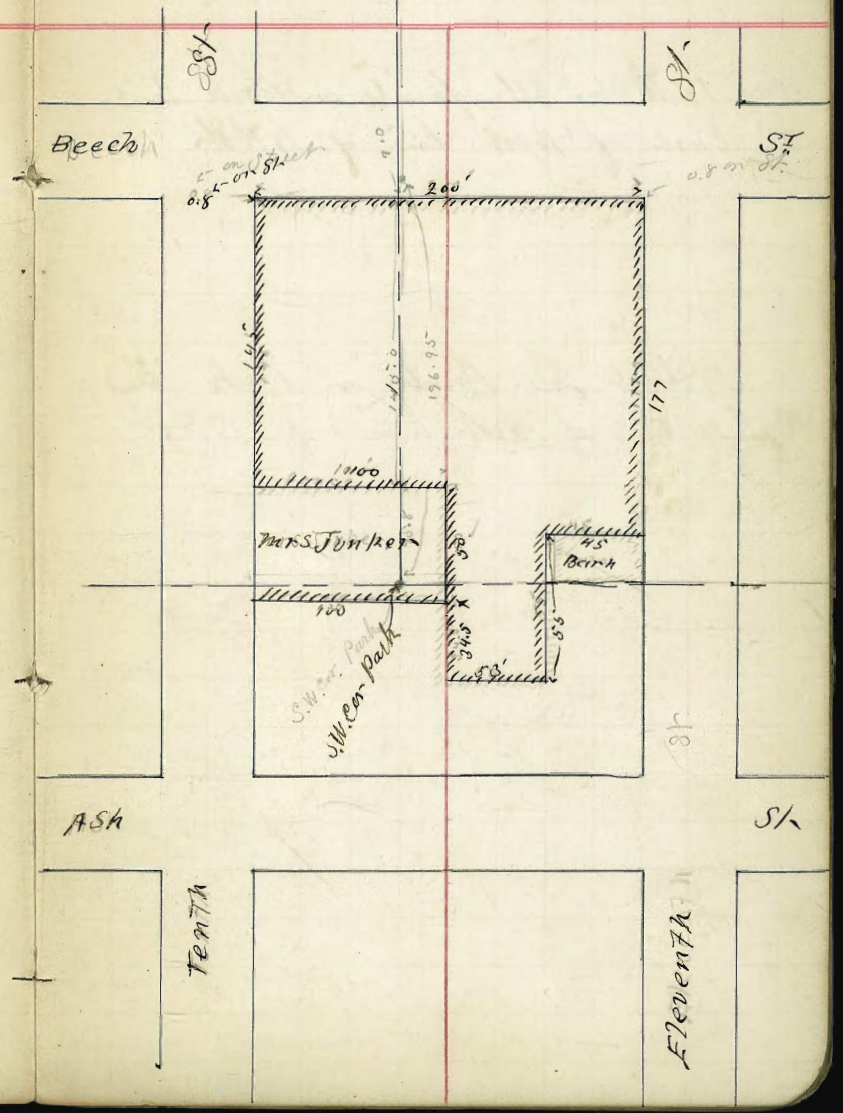
188.99 + 10' = 198.99
10
198.99

Found old Stub of Stake 8" below Surface 1 x 2 x 8"
Replaced it with redwood stake 4x4x30" painted white and marked Park on N.E., SW/14 of 1144 on SW and 1147 on SW & SE

This point is 196.95' South of 7' pine on Ash & Park line offset .06 to West

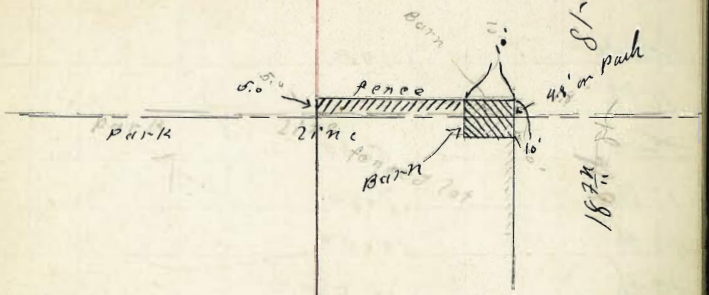
Sketch showing fences in S.W. cor of City Park Feb 16 1872

H. Hamlin and Party



On 18th St. Set points on Park line 2' East of West line of 18th St

On 19th St Set Points on Park line 2' E & 2' W of West line of 19th St



Offsets measured from a straight line from bet N.E. cor & N.W. cor of Pueblo Lot 1148

Feb 17th 1892. Hamlin, Shaw, Williams, cummings

7

Street	Offset	to South		
Pb. Cor	0.0		Iron pin at cor	fence (not cor Pl.)
15th	3.10		West 7' line	
16th	5.60		West 7' line	
17th	7.90		" " line	
18th	10.50		" " "	
19th	12.95		" " "	
20th	10.10		East intersection	Stake
21st	7.30		" "	"
22nd	4.60		" "	"
23rd	1.85	North to Plug.	1x1" stake with copper tack (center?)	
Pl. Cor	0.0		Stub of old stake	in mound

N. 70° 30' E. Mag.

Levels across Carbonera Valley along South line of Park; to determine length of Proposed Ham

Feb 20 1893. Hamlin Shaw Williams Cummings

Sta	+	HI	−	Elev.	
B.M.	6.30	89.77		83.47	18th & A St.
0			5.5	84.3	Sta 0 is a point 43' West of West
#	1.75	79.80	11.72	78.05	line of 20th St on South line of Park
#	5.2	74.9	10.1	69.7	
+50			13.4	61.5	Bottom of Ravine
1			11.3	63.6	Bar
+50			12.4	62.5	
2			9.5	65.4	
+50			8.9	66.0	
3			6.5	68.4	
+50			7.4	67.5	In depression
4			6.0	68.9	
+50			4.9	70.0	
5			2.3	72.6	
#	11.3	85.5	0.7	74.2	
+50			6.5	79.0	
+77			5.0	85.5	1.3 higher than Sta 0 which is top of
#	11.9	96.8	0.6	84.9	Bank on west side
#	11.1	107.7	0.2	96.6	

Levels for length of proposed Dam across Carbonero Valley near the forks

Feb 20 1893

Hamlin
Shaw
Williams
Cunningn

Sta	+	HI	−	Elev
		107.7	See preceding Page	
0			0.6	107.1
#	0.3	96.1	11.9	95.8
+50			8.9	87.2
#	0.0	84.5	11.6	84.5
1			8.8	75.7
+50			9.8	74.7
2			10.3	74.2
+50			11.6	72.9
3			14.6	69.9
+50			10.6	73.9
#	12.1	96.5	0.1	84.4
4			10.2	86.3
#	11.5	107.2	0.8	95.7
+50			0.3	106.9

Sta 0 is a point on the East side of valley which bears N 13° E mag from a point 650 East of West end of preceding site

Center line of dam bears N 59° 30' W Magnetic

Top of R.R. Model

Feb 20th 1893, In afternoon went to the S.E. Cor of City Park Found 3"x5" stake set for corner offset a point 15' to North of line, Did likewise at 27th St on Park line
Set up on offset point on 27th St B.S. to point offset from S.E. Cor of Park, — Produced line west (S.76° W. mag.) and measured the offsets South at the following points

Set point on ridge bet. 26th & 27th about 50' from Barn

at 26 St	12.11	S. to center
at 25 St	12.22	S to "
at 24th St	14.75	S " "
at Pueblo Cor.	14.99	S to old stake

Street centers or Park line between
20th & 24th Streets

Street Center or Park line bet

Got up West 7' line of 22nd St
and intersected Park line with it
Set permanent plug.

Got up West 7' line on 21st St
offset 4' East and projected
line to an intersection with the S
line of the Park, Set permanent
plug 4' West on West 7' line
of 21st St

Got up West 7' line on 20th St and
projected it north to an intersection
with S line of Park Set permanent
Plug.

Plug.

19th & 24th Sts

Survey of North line of Pueblo Lot 1149 along South line of City Park

Sta	Angle	Bearing	Mag. Bearing
+88.73			N 76° 0' E
10			
9			
8			
7 +05.1	13' line on 25th St		
6			
5			
4			
3			
2			
1			
0			S 89° 59' E N 75° 60' E

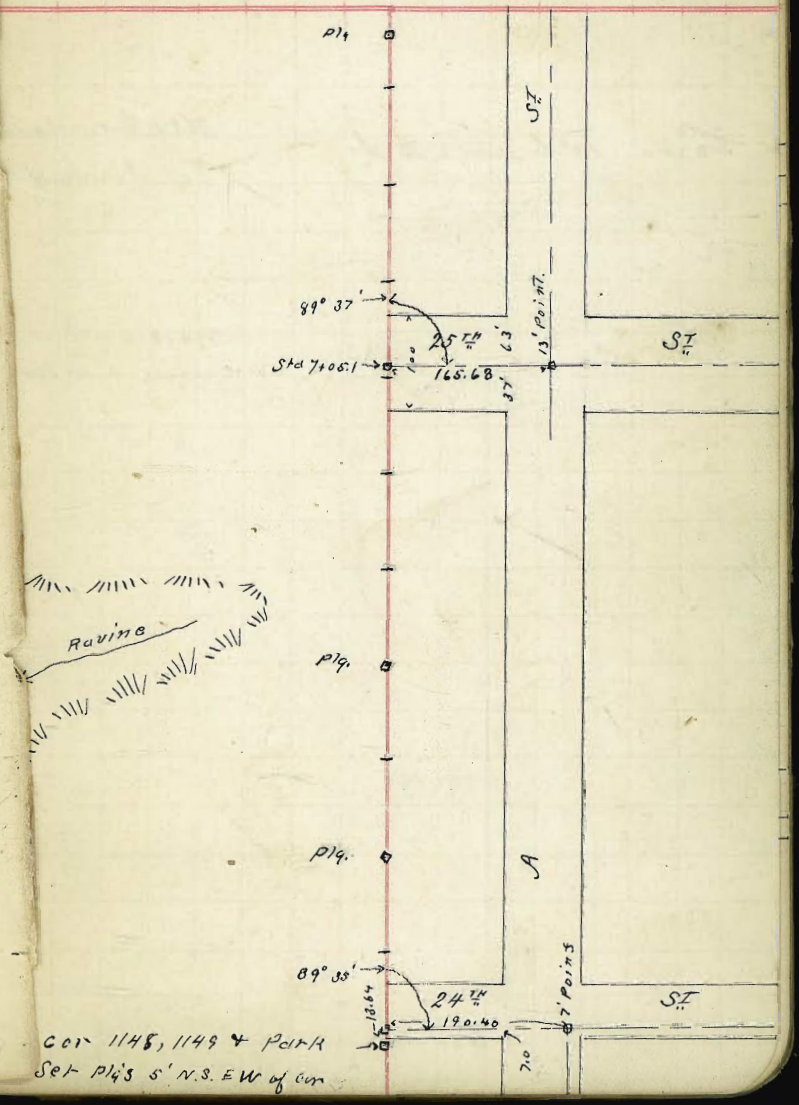
May 24 1893

— Flat Stake

□ Plg.

Hamlin transit
Shaw head-chain
Cummings rear chain
Williams Stake

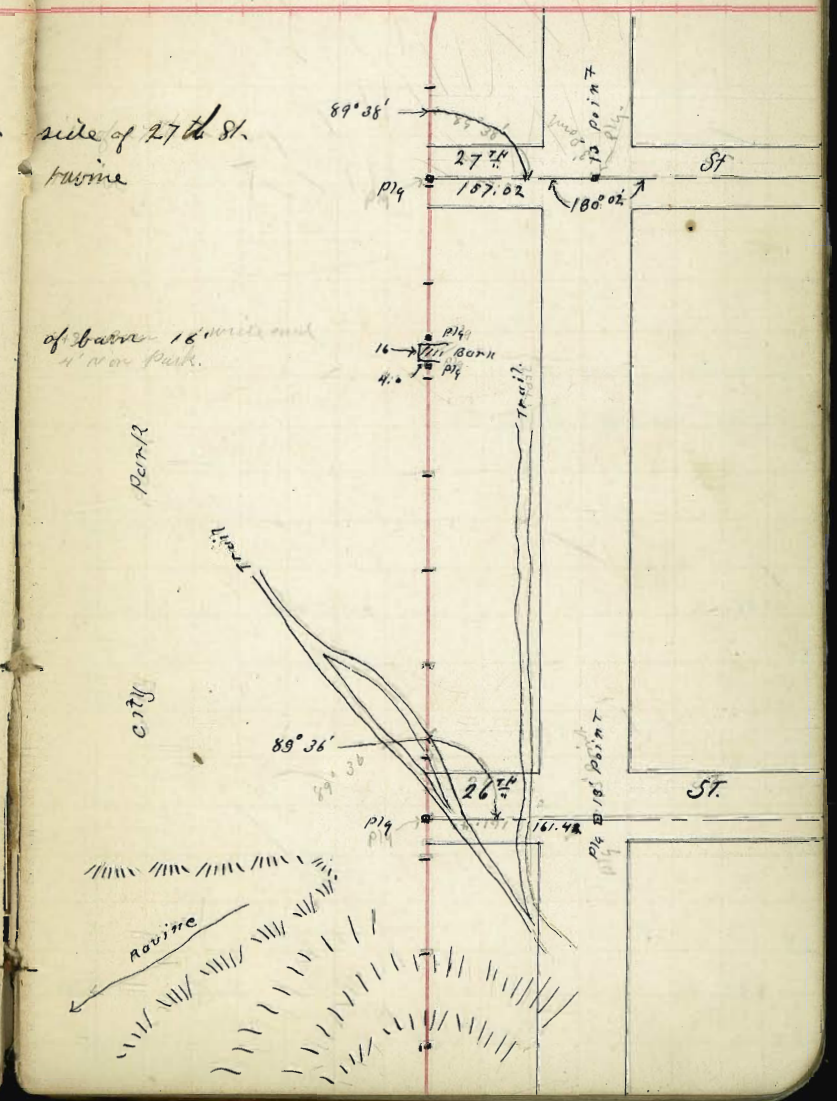
12



Cor 1148, 1149 & Park
Set Plg's 5' N.S. E.W. of Cor

Survey of North line of Pueblo Sot 1149
along South line of City Park

Sta	angle	Bearing	Mag Bearing	
10 21				
9 20 +50 +07.4	13' line on 27th St			Old Blk cor East side of 27th St. Top of bank of ravine
8 19				
7 18 +40.52 +19.0 +17.47				18+19 West side of barn 16' wide 4' on Park
6 17				
5 16				
4 15				
14				
13				
12				
11		S 89° 59' E		



Survey of North line of Pueblo Sub 1149 along South line of City Park

Station	Angle	Azimuth	Mag Bearing
8			
7			
6			
6			
	+46.12		N75°45'E
4 26			
5 25			
224			
23			
	+85		Bottom of ravine
22		S89°59'E	

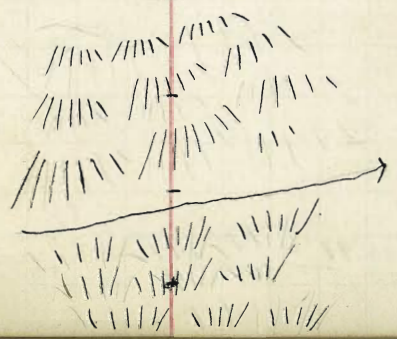
41.9' to center of 28th St. from Pueblo cor.

Iath fence E. side Park St. (N14°W mag)

Set intersects 7' each way

3x3" stake 2' above ground

SE cor of Park



Survey of the west line of Pueblo lot 1141 along the East line of the City Park

Station	Angle	Bearing	Mag. Bearing
+83.5	Stake hole in mound 1.5' East of line		
10 +61.60	90°31' R along North line of Amherst St		
9			
8			
7			
+80.65	▫ 90°21' R to old stake SE Bay & Hartmouth		
6	Stake at S.E. Bay & Hartmouth may have been moved		
5			
4			
3 +00.25	▫ 90°30' R to SE. cor Park & Harvard St		
2			
1			
	89°47' ← Dif angle		
0	90° 13'	N0° 15' E	N14°05' W

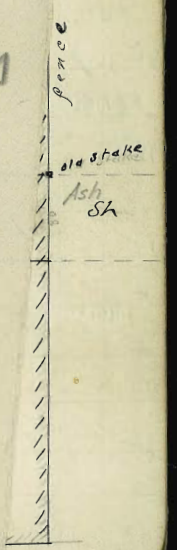
Mar ... 1893 Hamlin transit
... Head chain

▫ Pla
— flat ...

15

These notes were probably taken in Feby 1893, as the old time book indicates that Cummings started work in Jany 1893.

G.R.H.



...edar

Beech St

fence

old stake

Ash St

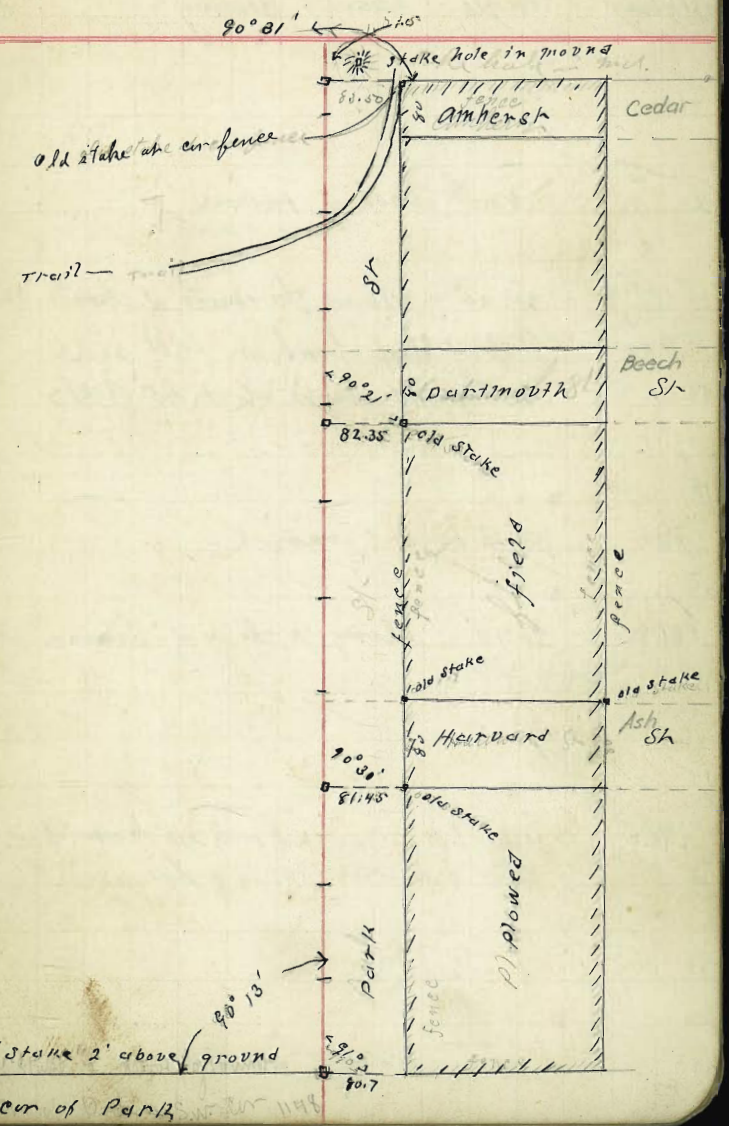
S.E. cor of Park

Survey of the west line of Pueblo lot 1141 along the East line of the City Park

Mar 25-26 1893 Hamlin transit
Shaw - Head chain
Cummings Rear - chain
Williams Stake

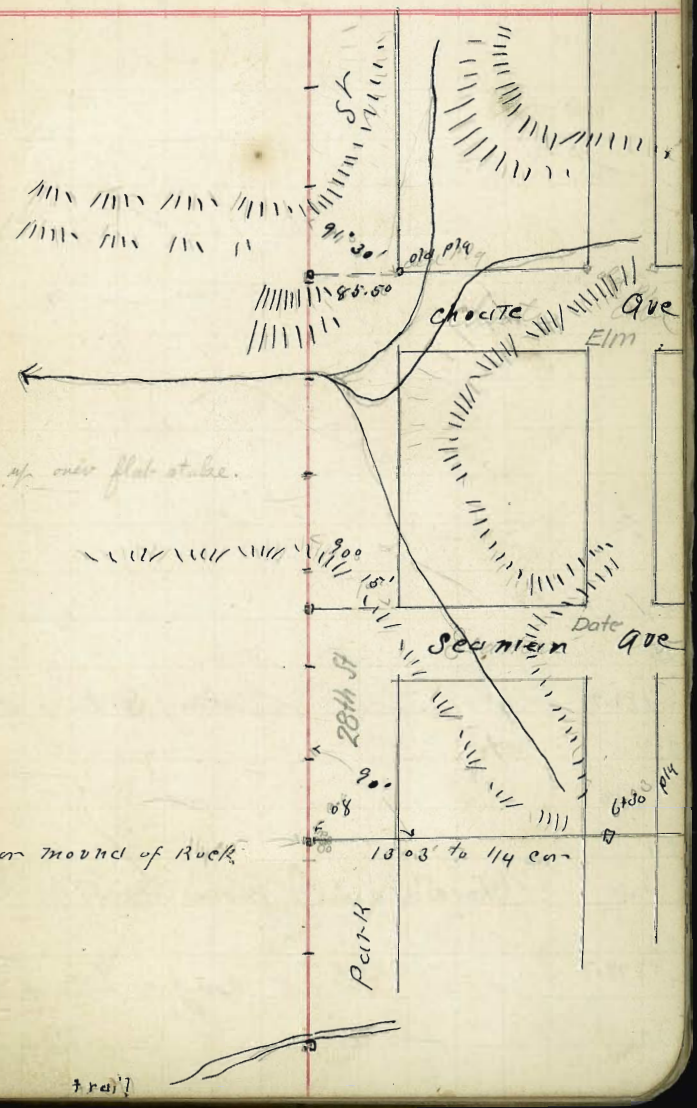
□ Pla 2x2x8"
- flat stake 1½"x½"x16"

Station	Angle	Bearing	Mag. Bearing
+83.5		Stake hole in mound 1.5' East of line	
10 +61.60		90°31' R along North line of Amherst St	
9			
8			
7			
+80.65		□ 90°21' R to old stake SE Bay & Hartmouth	
6		Stake at S.E. Bay & Hartmouth may have been moved	
5			
4			
3 +00.25		△ 90°30' R to SE cor Park & Harvard St	
2			
1			
		89°47' ← Dif angle	
0		90°13'	N0°15' E N14°05' W



Survey of the west line of Pueblo lot 1141 along the East line City Park

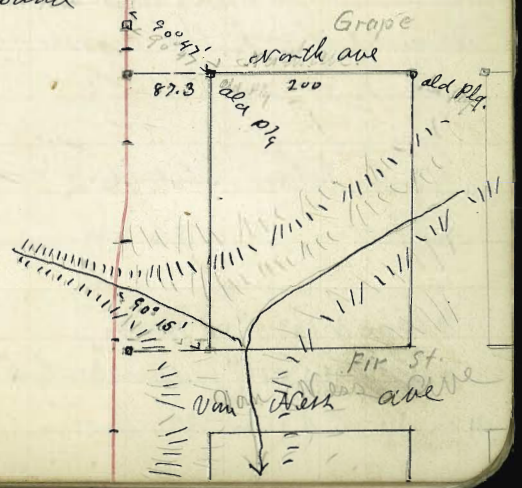
Station	Angle	Bearing	mag. Bearing
21			
20		North bank of ravine	
19 +03.4	91° 30'	Along the north of Choate ave	
+60		Top of Steep bank on hill side	
18		Bottom of ravine about 45' deep	
17			
+50		South bank of ravine	
16			
+61.85	90°15'	along N line of Seamen Ave	
15			
14			
+16.1		Stake hole in mound of rock 0.8' East of	
13		line N.W. cor S.W. 1/4 of 1141	
12			
11		N0° 15' E N14° 05' W 11+10 Crossed	



Survey of the west line of Pueblo lot 7141 along East line of City Park

N 0° 15' W

Station	angle	Bearing	mag Bearing	
+ 27				Flat stake in mound
26				
+81.7	90° 47'	along S	along S line of North ave	
25				
+50				
24				
+60	Cross creek small ravine about 10' deep			
23				
+78.7	90° 15'	N 0° 15' E	along N line of Vista	Vista ave
22				



Mar. 31 1893

Hamlin Transit
Cumings Head chain
William's rear chain
Shaw Stake

Search for old corners in A. A. Walace's Add W1/2 of 1128

Set up over a 1 1/2 x 1 1/2" redwood stake the corner common to Lots 3, 4 5 & 6 ; Which is 22' South of a wire fence

Thence run (N 75° 50' E mag) on a random line 330' set a plug 4' East of fence which runs north from this point 22' South of corner

Thence Def. 1°07' Right

200' West bank of ravine

230' bottom of ravine which bears S by SE

270' East bank of ravine

333' to a 1 1/2 x 1 1/2" redwood stake in mound of rock the corner common to Lots 1, 2, 7 & 8

North between lots 1 & 2

Deflect. S.S. on

Thence N 14° 30' W mag.

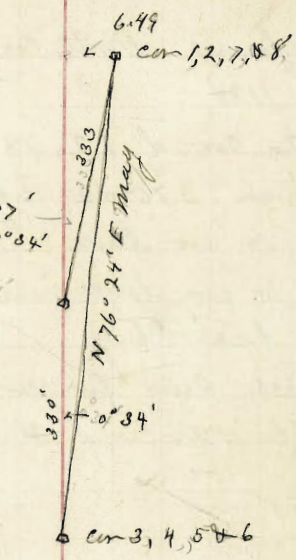
691' to 1 1/2 x 1 1/2" redwood stake marked 11 on SW and 1 on SE. face

Nat Sin 1°07' = .01949
333
5847
5847
5847
6.49017

663.) 6.490
5967
5230
4641
5890

1.00978 = Sin 0°34'

1°07'



North Line of Weldon Sub of 1128 | Mar 31 1893 | Hamlin & Parks

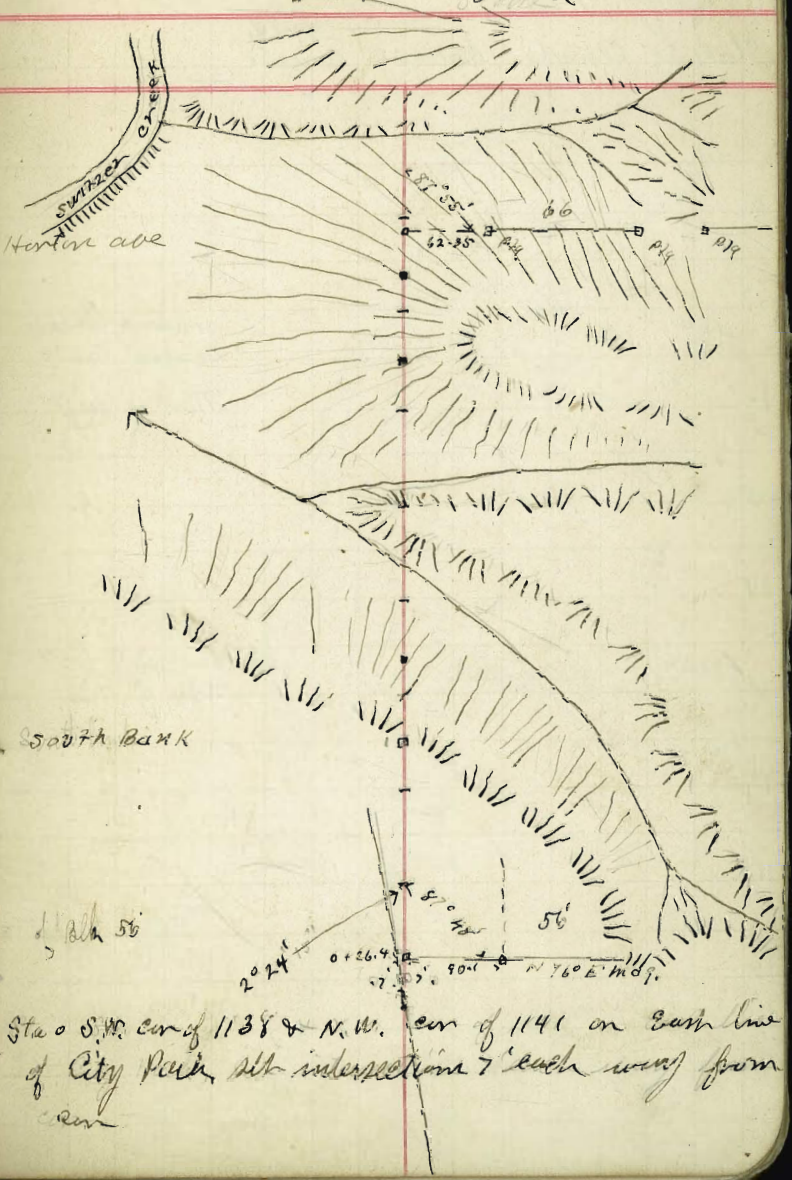
"West from North cor of 142 to N.W. cor of 1128
B.S. to cor of 1.2, 788 def 88° 26'
and run S 76° 0' W mag.
334.6' to cor fence running South
489.0 to cor fence running North
500' Iron Plug
663 Set Plug for cor of 384
995.7 to N.W. cor of Park

Survey of the west line of Pueblo Lot 1138 along East line of City Park

Apr 1 1893

Hamlin Transit
Cumings Head Chain
Williams Rear Chain
Shaw Stake

Station	Angle	Bearing	Mag Bearing	
+50				Bottom of ravine
8				
+86.3				North line of Horton ave
+40	△			
7				
+50	△			
6				
+10				Bottom of ravine
5				
+75				Top of small spur
+45				Bottom of ravine
4				
+40	△			plg & Witness
3				
+50	△			plg & Witness on South Bank
2				of ravine
1				
+26.4				to the South line of Blk 56
0	2° 24' Right	N 2° 39' E	N 10° 35' W.	

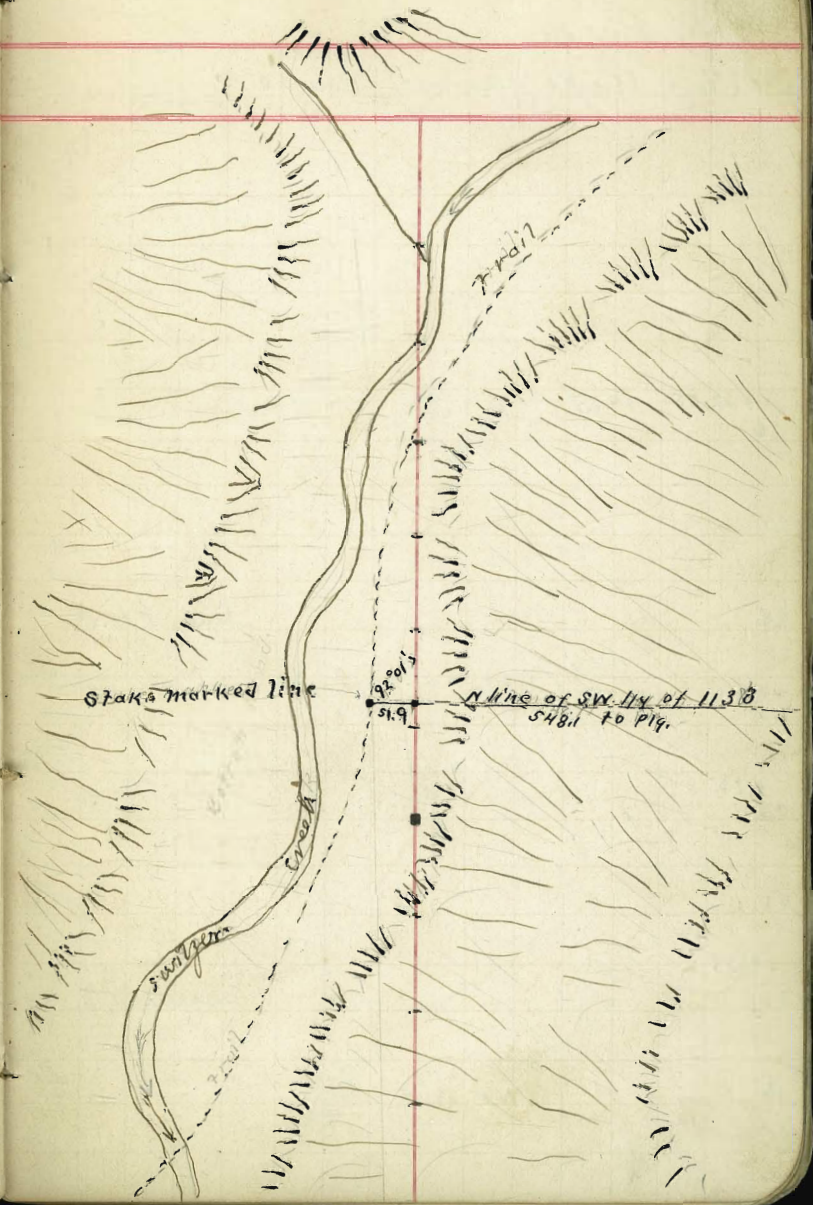


Set up over cor. Back Sight to Sta 11 on West line of 1141 deflected 2° 24' to Right

Sta 0 S.W. cor of 1138 & N.W. cor of 1141 on East line of City Park sit intersection 7' each way from cor

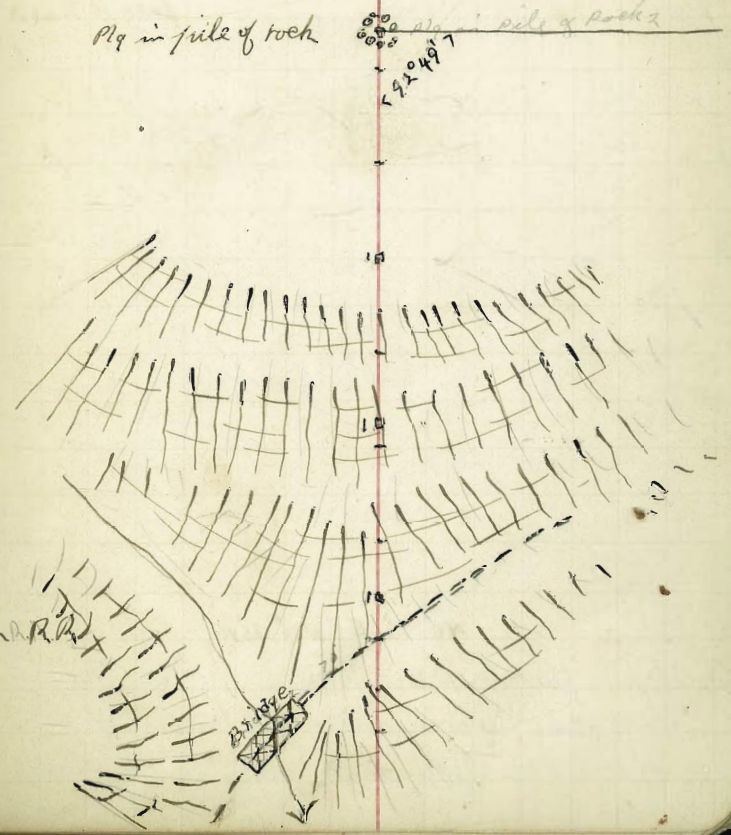
Survey of the west line of Pueblo Lot 1138, along the East line of the City Park

Station	Angle	Course	Mag. Course	
18				
17	+90°			crossed creek
8	+35			Crossed trail
16				Foot of hill
15				
14				
13	+22.66			Crossed N. line of SW1/4 of 1138
12				
11				
10				
9		N2° 39' E		



Survey of the west line of Pueblo Lot 1138, along the East line of the City Park

Station	Angle	Course	mag. Course	
26	+82.55	2° 37'		
25				
24				Iron Plug.
23				
22	+25			Iron Plug
21				
20	+46.18			Crossed P.B. Mex.
19		N2° 39' E		

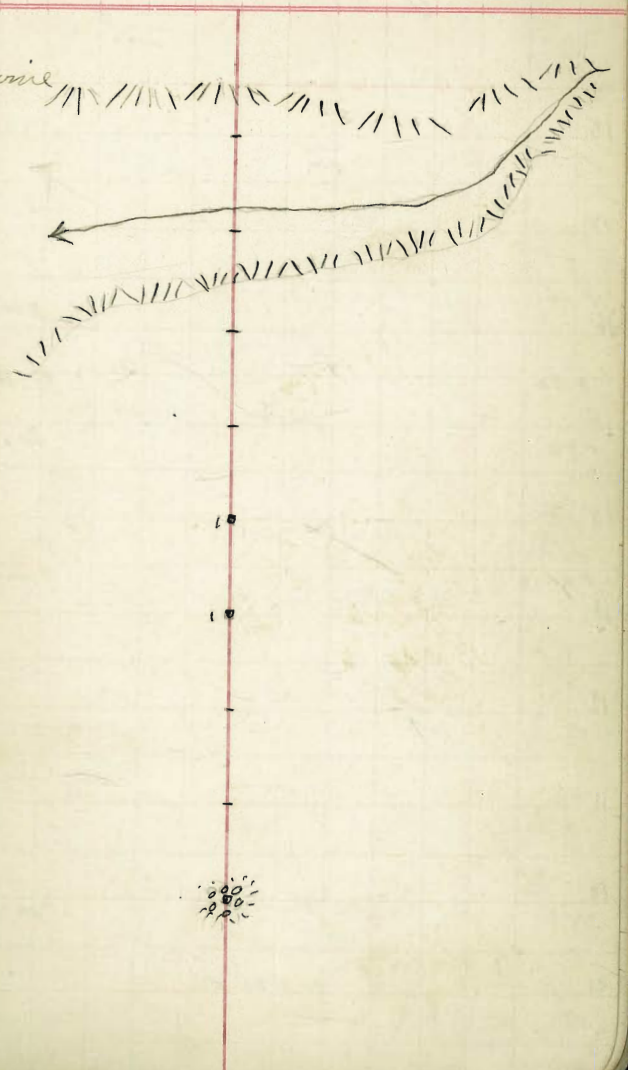


May 22 – 1893 Hamlen
Shaw
Williams
Crowell

Survey of the west line of Pueblo Lot 1128. along the east side of the City Park

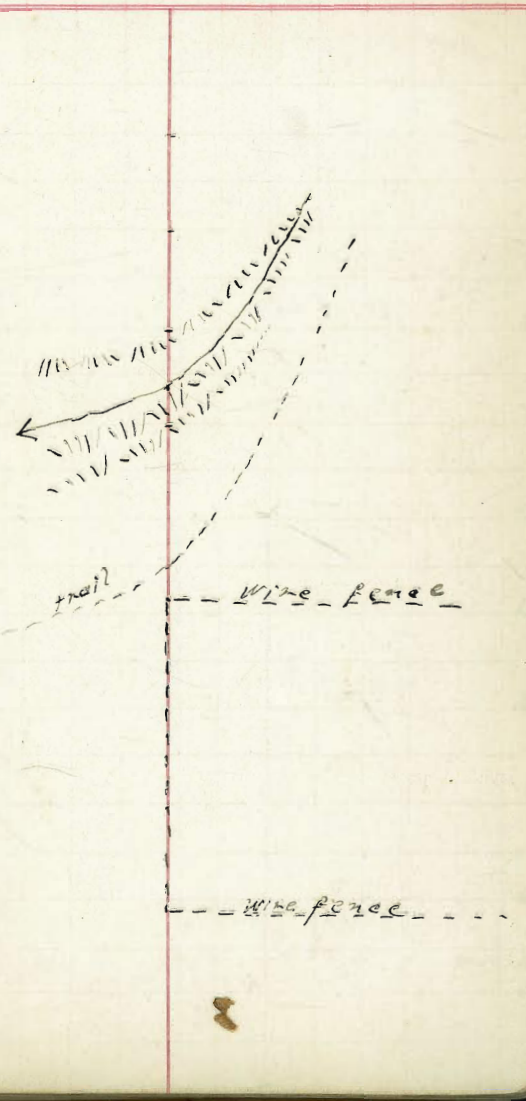
Sta	Angle	Bearing	mag. Bearing	
			8+50	North
8				
+30			7+90	Bottom of
7				
+50			6+50	S Bank of
6				
5				
4				
3				
2				
1				
0		N0° 02' E	N10° 25' W	

Set up over plug at N.W. cor 1138 & S.W. cor 1128
B.S. South along the West line of 1138 the fleetheel
2° 37' to Left along West line of 1128



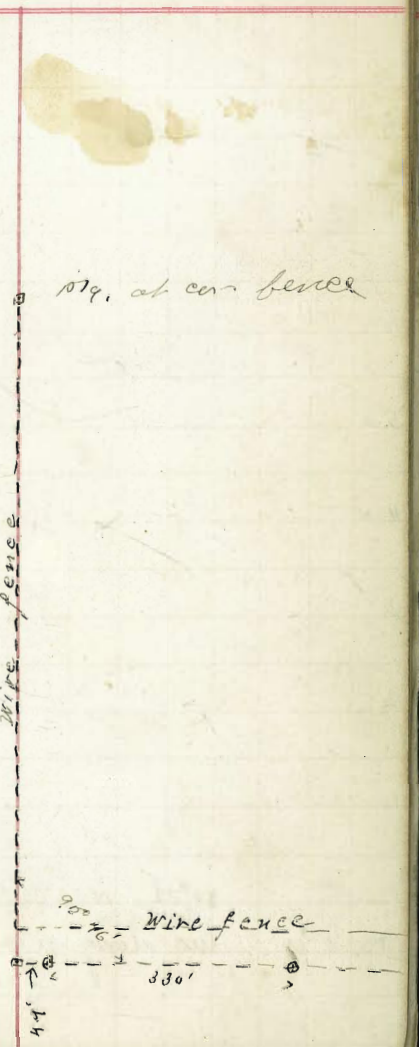
Survey of the west line of Pueblo Sot 1128. along the East side of the City Park

Sta	angle	Bearing	Mag Bearing		
18					
17					
16	+10			North bank	of ravine
	+30			Bottom of	ravine
15	+80			South bank	of ravine
14					
	+45.0			crossed trail	
	+20.4			cor of fence	
13					
12					
11					
10					
	+90			cor of fence	
9		N 5°02' E			



Survey of the west line of Pueblo Lot 1128, along the East side of the City Park

Sta	Angle	Bearing	Mag Bearing		
26 + 39.2	89° 32' Left			To the N.W. cor	of Pueblo Lot 1128
25					
24					
23					
22					
21					
20					
Sa + 76 + 56.4				Cor. of Wire fence	.5' East
B 19		N0° 02' E		along line of old	stakes corr. in Walacer



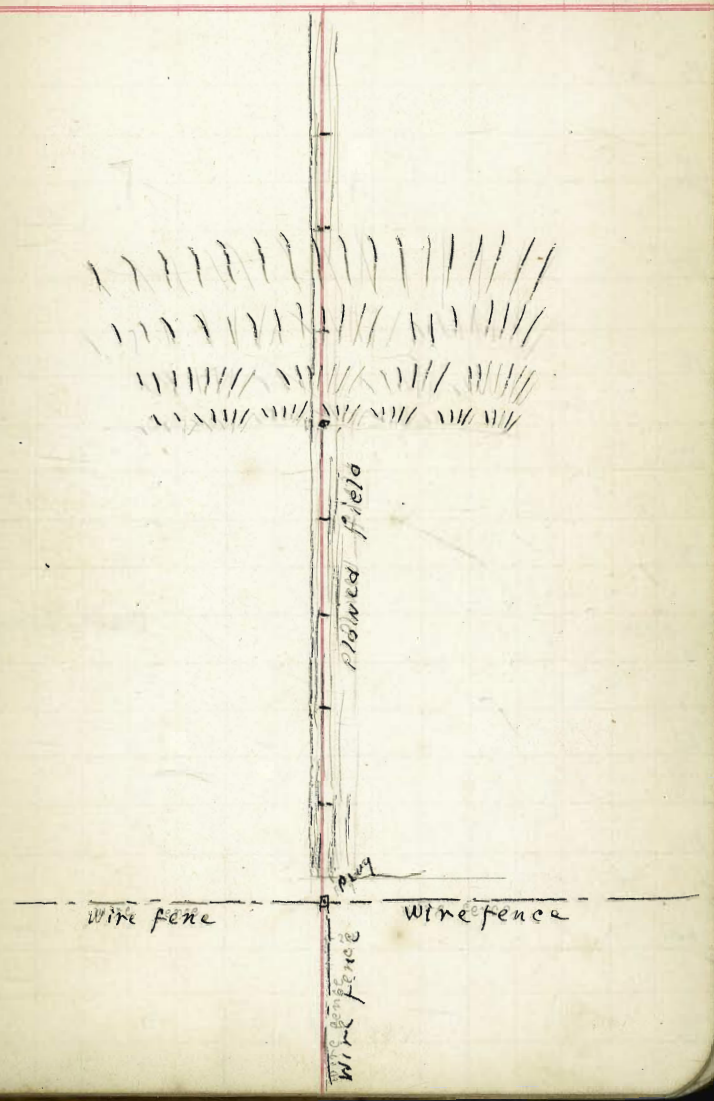
Survey of South line of Pueblo lot 1126 along the North line of the City Park.

May 18–1893

Hamlin
Shaw
Williams
Crowell

Station	Angle	course	mag course	
8				
7				Bottom of hill
6				
5 △			S 76°10'W	top of hill
4 △				
3				
2				
1				
0		85°32'	N 89°30'W	S 76°10'W

Sta 0 is a plug along side of Post the corner of

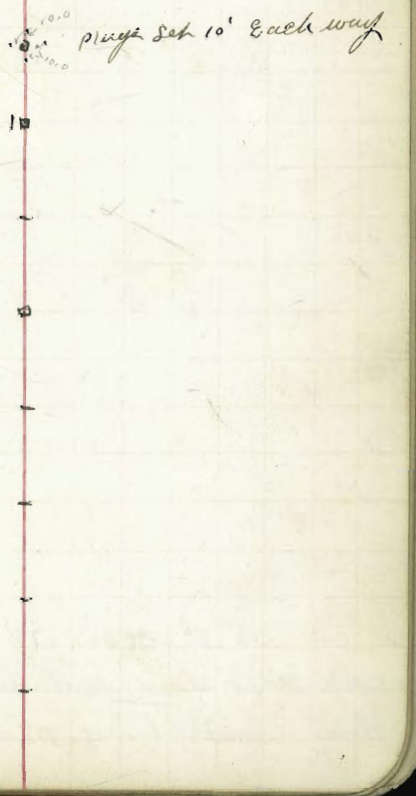


Survey of the South line of Pueblo Lot 1126, along the North line of the City Parks

Sta	Angle	Course	Mag. Course	
19 △				
18				
17				
16				
15				
14				
13 +15				West side of plowed field
12				
11				
10				
9		N 89° 30' W		

Survey of South line of Pueblo Lot 1126 along the North line of the City Park

Station	Angle	course	mag. course		
+ 76.84	0° 53' L	S 89° 37' W		Cor of	1½ x 1½" redwood stake marked S.E. 1126
26					
25					
24					
23					
22					
21					
20		N 89° 30' W			



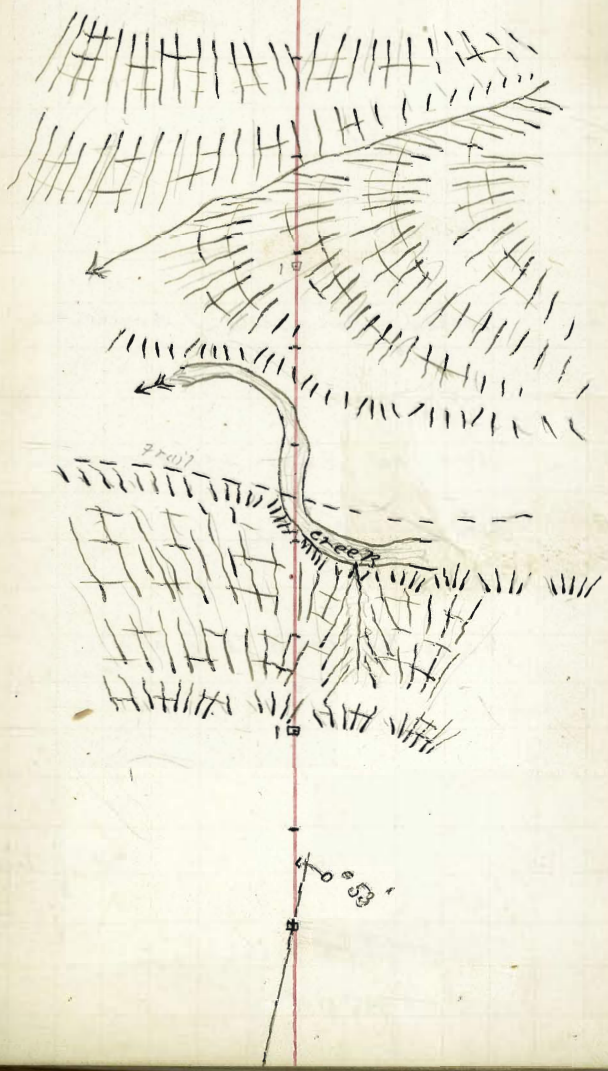
Survey of South line of Pueblo Lot 1125 along North line of City Park

May 18 1893

Hamlin
Shaw.
Williams
Crowell.

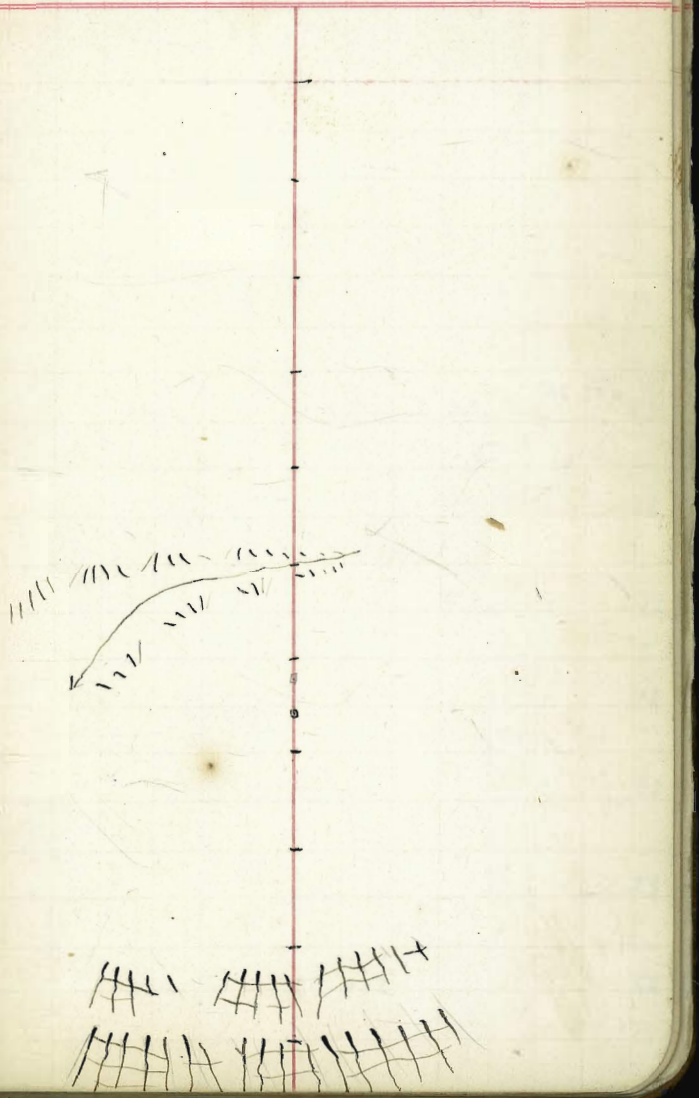
Station	Angle	course	Mag. Course	
9				
8 +85				ravine
7 +80				Plg top of Spur
6				
5				+35 West bank creek
4 +20				East bank of Creek
3				
2 Δ				top of steep hillside
1				
0	0° 53' Left	S89° 37' W	S75° 30' W	down gentle slope

Back sight along south line of 1126 0° 53' to 4 along South line of 1125



Survey along the South line of Pueblo Lot 1125, along the North line of the City Park

Sta	Angle	Course	Mag Course
20			
19			
18			
17 +06		Crossed west side of Boulevard	
16 +85		Crossed East side of Boulevard	
15		Head of ravine	
14 +55 +30		1' South to Plug & Scrib stake	Plug & witness
13			
12			
+50			top of hill
11			
10		S89° 37' W	



Survey of the South line of Bubble Lot 1125, along the North line of the City Park

Sta	Angle	Course	Mag. Course		
27 +08.95	0°06'L				
26					
25					
24					
23					
22 △					
22		S 89° 37'			

⊙ Plug in mound the cor's 1125, 1124 and City Park.

May 22 1893 Hamlin Shaw Williams Crowell

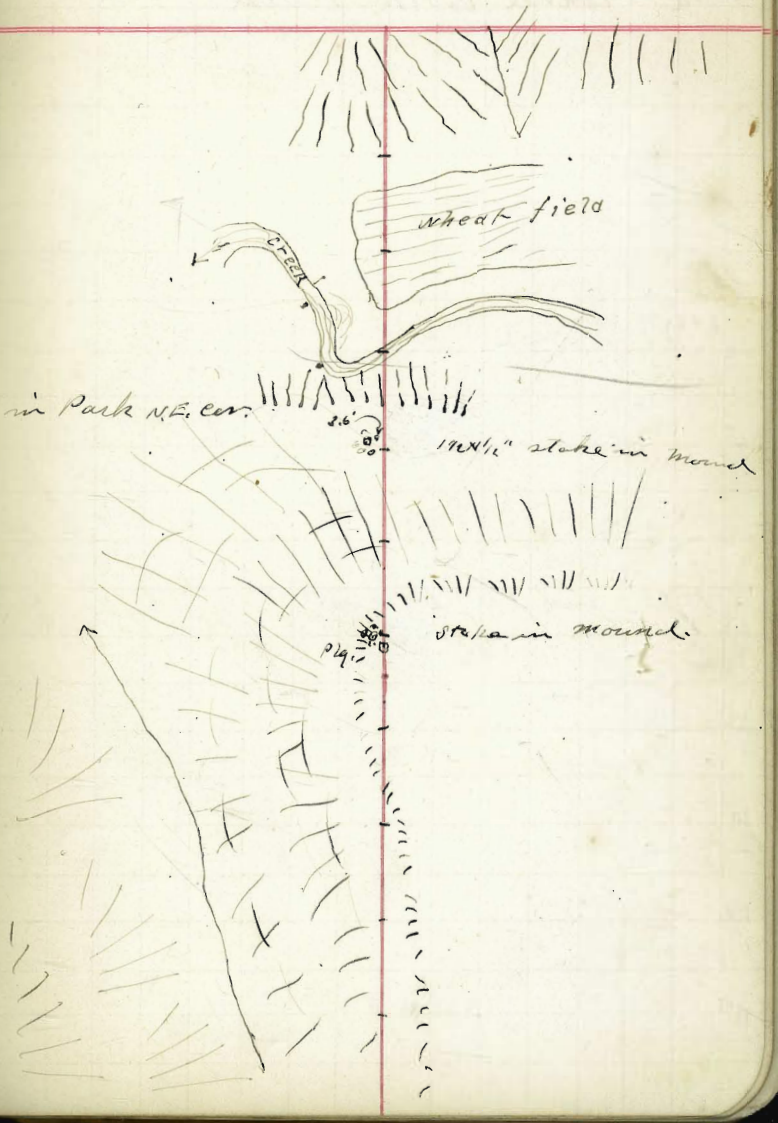
Survey of the South line of Pueblo Lot 1124, along the North line of the City Park

Sta	Angle	Course	Mag. Course
8			
	+65	Crossed bottom of ravine	
7			
	+90	East bank of ravine	
6			
5			
4			
3		Crossed head of ravine	
2			
1			
0		0° 06' L	S 89° 31' W S 75° 30' W

Set up over plug at the cor. of 1125, 1124 and Park B.S. along the South line of 1125 angle 0° 06' to left.

Survey of the South line of Pueblo Lot 1124, along the North line of the City Park

Sta	Angle	Course	Mag Course
18			
+60		West side of flowed patch	
17			
+50		East side of flowed patch	
16		Crossed creek bed	
+0.3		3.6' South to cor of miss Sessions' survey	in Park N.E. cor.
15			
14			
13 +96		4.3' to stake in mound of rock	
+80			
12			
11			
10			
9		S 89°31' W	



Survey of the South line of Pueblo Lot 1124, along the North line of the City Park

Sta	angle	course	mag. Course		
26	+02.7	89°29' L			2×2" redwood stake in mound the N.W. cor of Park
25					
24					
23	+40.8	line Pkg by fence			
22					
21					
20					
S	+55				
1	19		S 89°31' W		

Survey of the East line of Pueblo Lots 1132, 1134 & 1145 along West line of Park

Sta	Angle	Course	Mag Course
8			
7			
6			
5			
4			
3			
2			
1			
0	89° 29' L	30° 03' W	S 14° 0' E

This line to East of Park line

Pig. 0 7' 0 N.W. Cor Park

Set up over stake at the N.W. Cor of Park
B.S. East along North line of Park. Reversed
and reflected 89° 29' L along West line of
Park

Survey of the East line of Pueblo Lots 1132, 1134 & 1145 along west line of Park

Sta	Angle	Course	Mag. Course
19			
18			
17			
16			
15			
14			
13			
12			
11			
10		50° 03' W	S 14° 0' E
9			S 14° 0' E

This line 7½' East of Park line

Survey of the East line of Pueblo Lots 1132, 1134 & 1145 along the West line of Park

Sta	angle	course	mag. course
29			
28			
27			
26			
25			
24			
23			
22			
21			
20		S0° 03' W	S14° 0' E

This line is 70 East of Park line

Survey of the East line of Pueblo Lots 1132, 1134 & 1145 along West line of Park

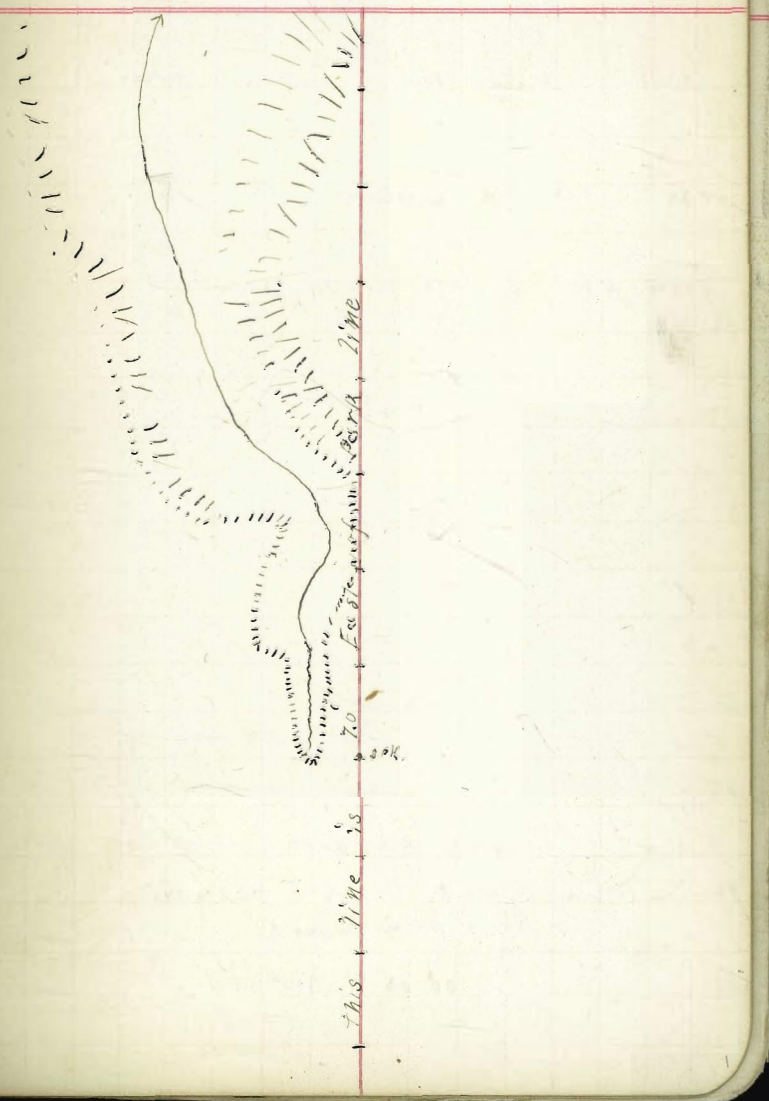
Sta	Angle	Course	Mag course		
39					
38					
37					
36					
35					
34					
33					
32					
31					
30		S 0° 03' W	S 14° 0' E		

This line is 7.0' East of Park line

Finished to Sta 32
May 24 1893
Hamlin
Shaw
Williams
Crowell

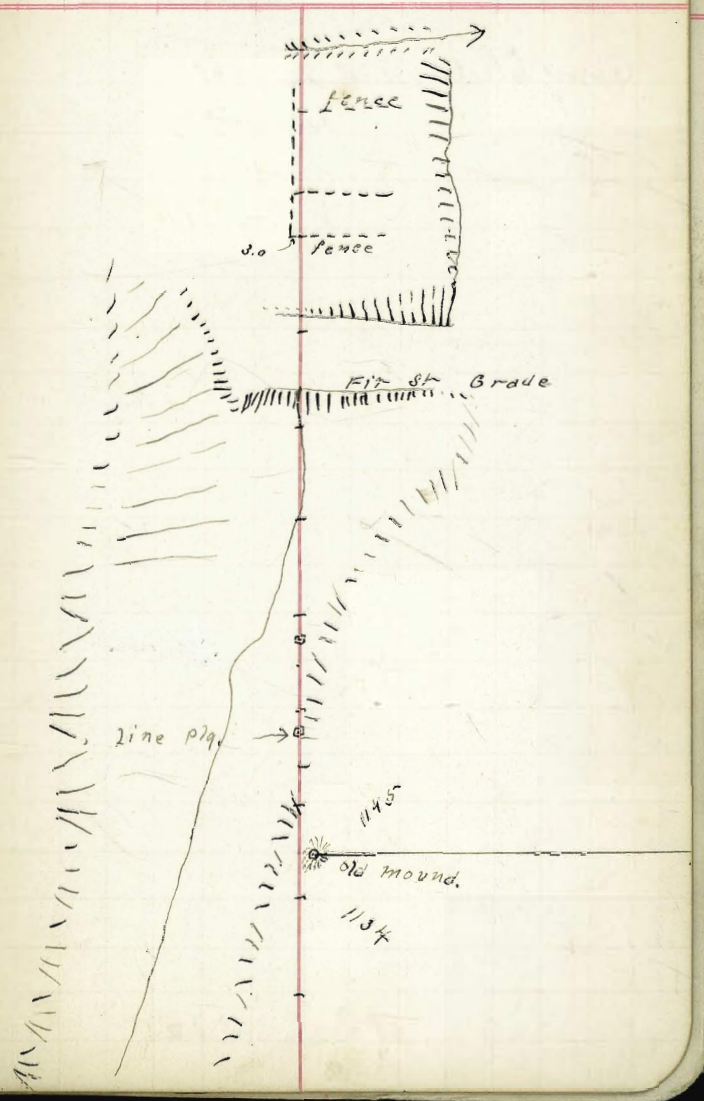
Survey of the East line of Pueblo Lots 1132, 1137 & 1145 along West line of Park

Sta	angle	course	Mag. course
50			
49			
48			
47			
46			
45			
44			
43			
42			
41			
40		30° 03' W	S 14° 30' E



Survey of the East line of Pueblo Lots 1132, 1134 & 1145 along the West line of Park

Sta	Angle	Course	Mag. Course
+ 50	Small ravine running West		
60			
+ 29	Crossed partition fence		
59			
+ 42.5	N line of fence cor 3.0 East		
58			
57			
56	Crossed bottom of ravine		
55			
+ 75			
54			
+ 75			
53			
+ 86	7' West to old mound with pits dug on E, N & S. the cor of 1134 & 1145 set flap stake in mound		
52			
51		90° 05' W	S 14° 0' E



Survey of the East lines of Pueblo Lots 1132, 1134 & 1145 along West line of Park

Sta.	angle	course	Mag course
Completed May 25 1893			
		Hamlin	
		Shaw	
		Williams	
		Crowell	
		Ferrar	
66 +04.1			
65			
64			
63			
62			
61		S0° 03' W	S14° 0' E

Angles taken from C & G. Survey Meridian to West line of Park

Set up over a stake 3.95 South of U.S. C & G Survey Mon in Park B.S. North to point set in meridian; deflected 26° 39' to Right to Sta 66 on west line of Park, course S 26° 39' W.
Set up over Sta 66 B.S. to point set South of U.S. C & G Survey Mon; deflected 26° 36' to Left, which gives a course along the west side of the Park of 30° 03' W (true course)

Completed — May 25 1893

Hamlin
Crowell
Williams
Shaw
Ferrar

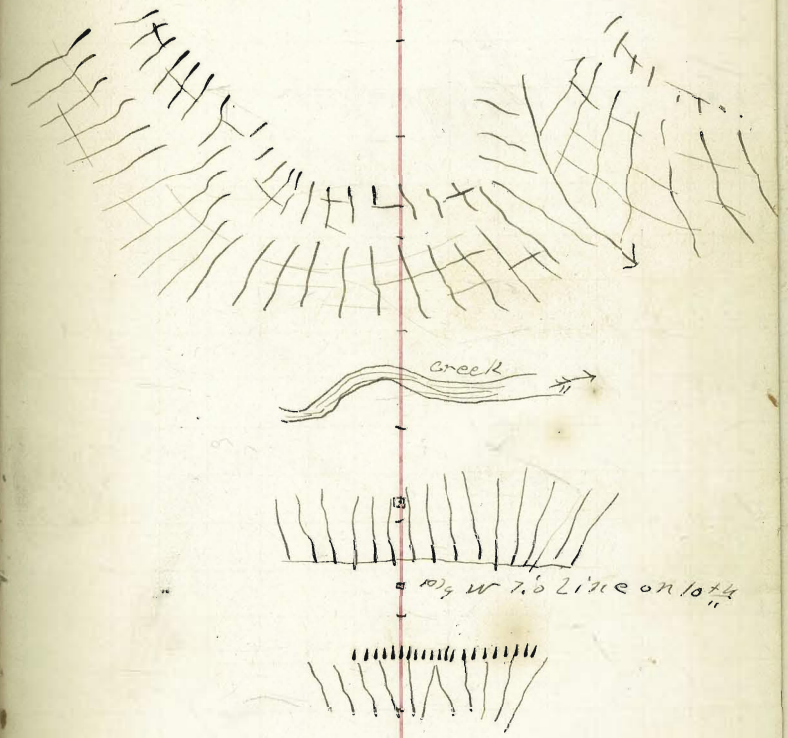
Survey of the North line of the S.W. 1/4 of Pueblo Lot 1144 along South line of Park

Sta	Angle	Course	Mag Course
8			
7			
6			
5			
4			
3			
2 + 07	West side of Barn		
1 + 22	To fence 17.5 North to corner.		
+42	Bank at W side of 6th St		
0	90° 17' to N89°46'E N75°50'E.		

Set up over plug at N.W. cor of S.W. 1/4 of 1144. B.S. N along West line of 1144 1145?; R eversed and deflected 90° 17' to Left along N line of S.W. 1/4 of

Survey of the North line of the S.W. 1/4 of Pueblo Lot 1144 along the South line of Park

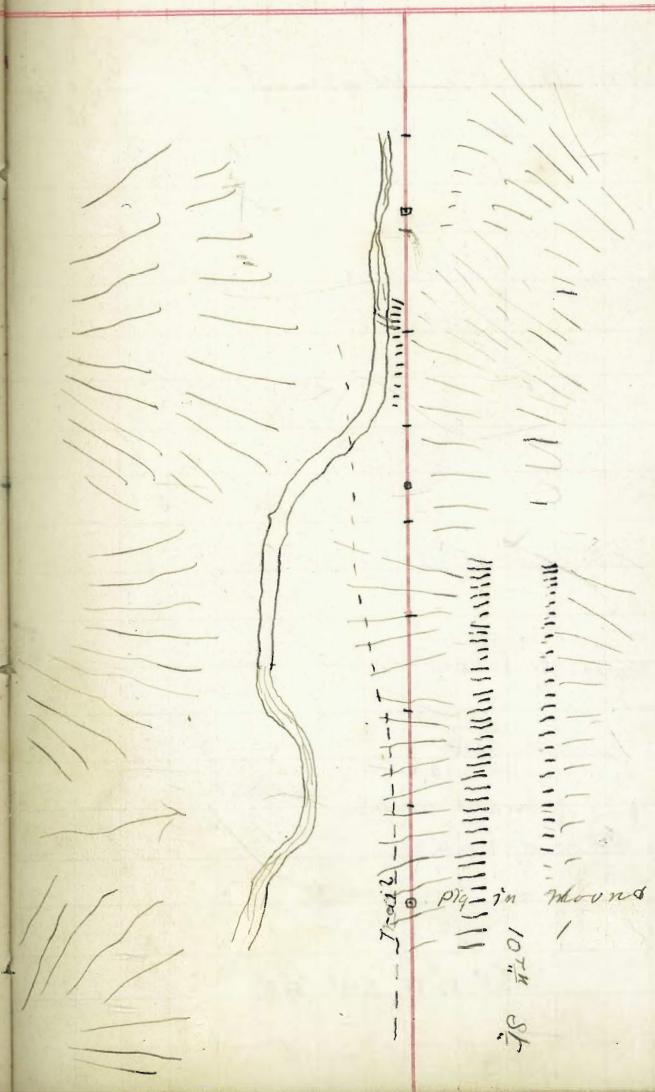
Sta	Angle	Course	Mag. Course
		Completed May 25 1893	
		Hamlin	
		Shaw	
		Williams	
		Crowell	
		Ferrar	
13	+ 20.4	to N.E. cor of SW 1/4 of	
12	+ 30.17		
11			
10			
9		N 89° 46' E	N 75° 50' E



Survey of the East line of S.W. 1/4 of Pueblo Lot 1144 along West line of Park

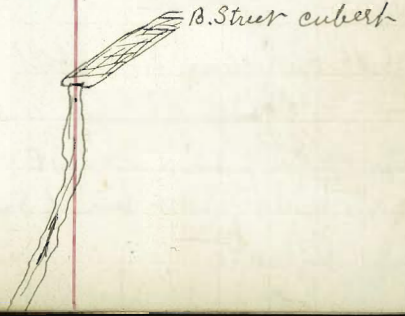
Sta	Angle	course	Mag course
8			
+34.12	S 7.0' line on Beech St		
7			
6			
5			
+29.7	Line Plug		
4			
3			
2			
1			
0	90° 29' R.	S 0° 12' W	S 13° 50' E

Set up over N.E. cor. of S.W. 1/4 of 1144, B.S. along North line of SW 1/4 of 1144; Reversed and deflected 90° 29' Right along East line of said lot



Survey of the East line of the SW1/4 of Pueblo Lot 114, along West line of Park

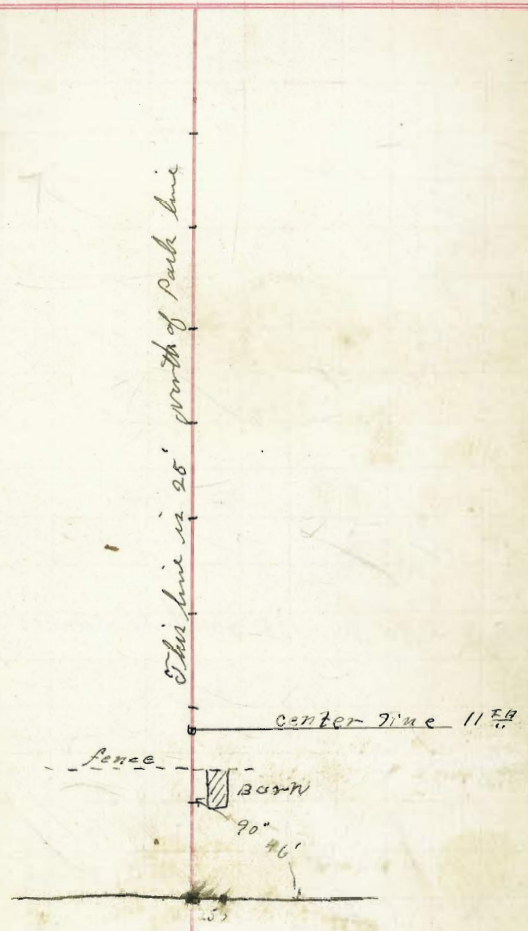
Sta	Angle	Course	mag Course	
				Completed May 26 1893
				Hamlin
				Crowell
				Shaw
				Williams
				Ferrar
				1313.65
				1114.38
				199.27
	+13.65			Set flat stake for cr
13				
	+66			Crossed fence
12				
	+21.4			Crossed fence
	+14.38			S. 7.0 limb on ash 8"
11				End of bridge culvert
	+39			
	+20			Bottom of Creek
10				
9		S 0° 12' W	S 13° 50' W	



Survey of the North line of Pueblo Lot 1147 along the South line of Park

Sta	Angle	Course	Mag Course
8			
7			
6			
5			
+23.80		West 7.0'	line on 12th St
4			
3			
2			
+76.54		Intersected center line of 11th St	
+38		Crossed fence West side of 11th St	
1			
	add .33	correction for offset	
0		90° 46' left	N 89° 26' E N 75° 30' E

Set up over plug 25' North of SE cor of SW 1/4 of 1147
B.S. North along East line of Said 1/4 Sec, Reversed and deflected along a line 25' North of South line of said Park



Survey of the North line of Pueblo Lot

Sta	Angle	Course	Mag Course
13			
+86.18	90° Rt	25' South to corner	
12			
11			
10			
9		N89°26'E	

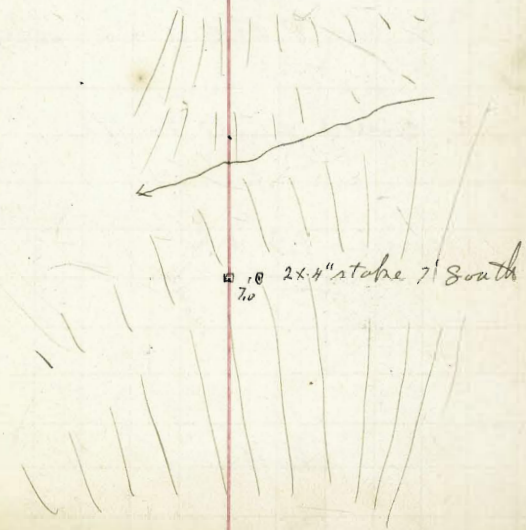
1147 along South line of Park

E'ly line is 25' north of Park line

Survey of the North line of the NW 1/4 of Pueblo Lot 1148 along South line of Park

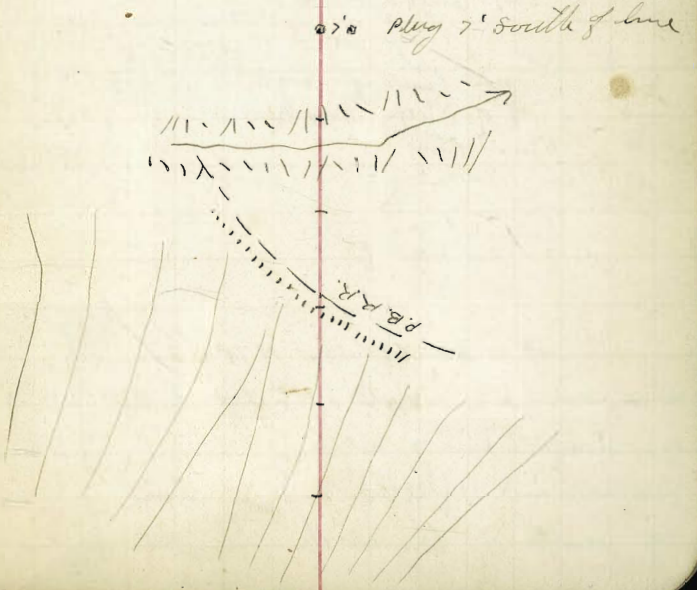
Sta	Angle	Course	Mag Course
7			
6			
5			
4			
3			
2			
+35		crossed bottom of ravine	
1			
0	90° 34' Right	East =	N 76° 45' E

Set up over plug set 7.0 North of Cor of Pueblo Lots F.S. North along a line which bears N 0° 34' W. Deflected 90° 34' to Right which makes bearing of line (East)



Survey of the north line of the NE. 1/4 of Pueblo Lot 1148, along South line of Park

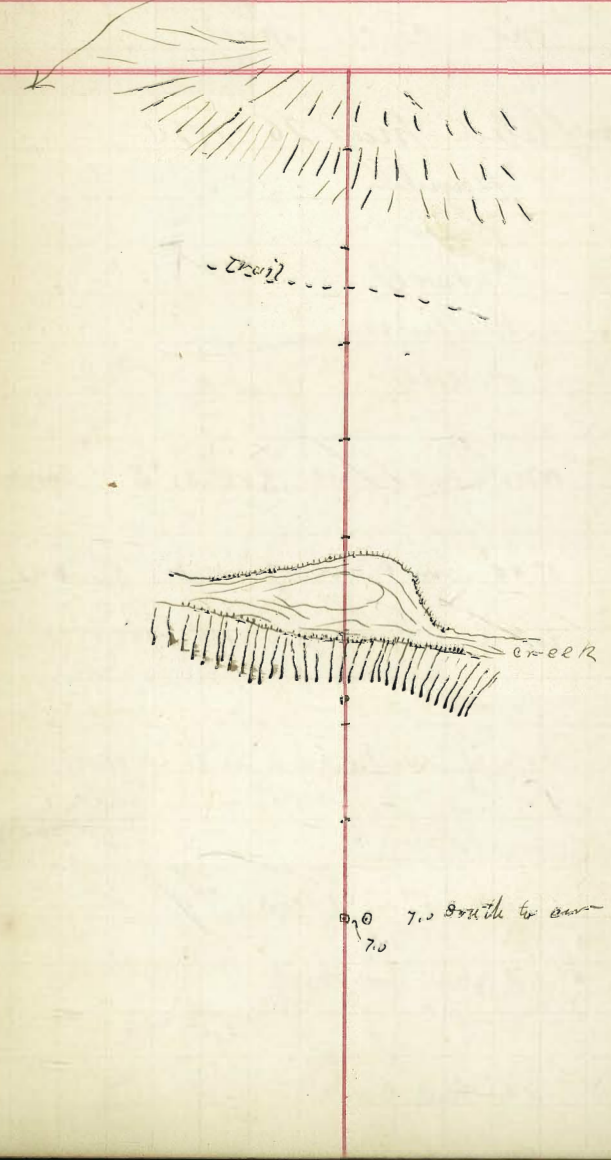
Sta	Angle	Course	Mag Course
		completed May 26 1893	
		Hamlin	
		Crowell	
		Shaw	
		Williams	
		Berrar	
13			
+94.1		to cor .8' West of old fence	
12			
+80		crossed small ravine	
11			
+18		crossed P.B. R.R.	
10			
9			
8		East	



Survey of the North line of the N.E. 1/4 of Pueblo Lot 1148

Sta	Angle	course	Mag course
8			
+50	foot of hill		
7			
+60	crossed trail up ravine		
6			
5			
4			
+75	East bank of creek		
3			
+75	west bank of creek		
+30	top of Steep Bank		
+25	⊙ line plug		
2			
1			
0	1° 04' L	N 88° 56' E	N 74° 45' E

Set up over plug 7' north of N.E. cor of NW 1/4 1148
B.S. along a line 7' north of North line of NW 1/4 1148
reversed and deflected 1° 04' L along a line
7' north of the North line of NE 1/4 of 1148



Survey of the North line of the N.E. 1/4 of Pueblo Lot 1148 along y South line of Park

Sta	Angle	course	Mag course	

completed May 26 1883

Hamlin
Shaw
Crowell
Williams
Tierney

North line bears S 88° 57' E Error of 0° 01'

1° 05' from B.S. along S North line of 1148

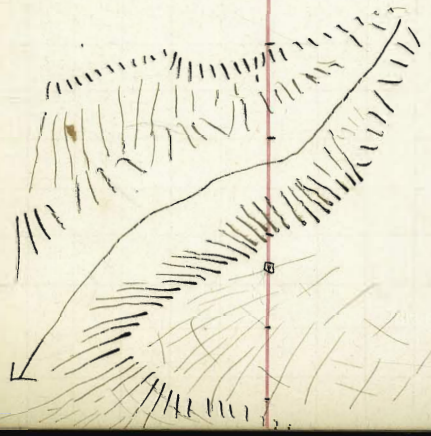
13 +14.9 90° R 7.0 South to N.E. cor 1148

12 Top of bank East side of ravine

11
+80 crossed bottom of canon

10
+70 Top of spur line Plug.

9
+85 top of steep Bank



Sta	angle	course	mag course		

Park Boundary (Traverse) — Computed June 29. by Hamlin

Dist.	Course	Latitude +	Latitude −	Departure +	Departure −	
6604.10	S0° 03' W	0.0	6604.1	0.0	5.8	Begining at N.W. cor of Park
1320.40	N89°46' E	5.4	0.0	1320.3	0.0	North line of SW 1/4 of 1144
1313.65	S0° 12' W	0.0	1313.6	0.0	4.6	East " " " " "
1286.51	N89°26' E	12.7	0.0	1285.4	0.0	North " " N.E. 1/4 of 1147
1294.10	East	0.0	0.0	1294.1	0.0	" " " N.W. 1/4 of 1148
1314.90	N88°56' E	24.5	0.0	1314.7	0.0	" " " NE 1/4 of 1148
2646.12	S89°59' E	0.8	0.0	2646.1	0.0	" " " 1149
2627.00	N0° 15' E	2626.4	0.0	11.5	0.0	West line of Pueblo Lot 1141
2632.55	N2° 39' E	2629.7	0.0	121.7	0.0	" " " " " 1138
2639.20	N0° 02' E	2639.2	0.0	1.5	0.0	" " " " " 1128
2675.81	N89° 30' W	23.3	0.0	0.0	2675.7	South " " " " 1126
2708.95	S89° 37' W	0.0	18.1	0.0	2708.9	" " " " " 1125
2602.70	S89° 31' W	0.0	21.9	0.0	2602.6	" " " " " 1124 — To NW
		7962.0	7957.7	7995.3	7997.6	corner of Park
		7957.7			7995.3	
		4.3			2.3	

$\overline{4.3}^2 = 18.49$

$\overline{2.3}^2 = 5.29$

$23.78 \quad \sqrt{23.78} = 4.8$ Error in closing

By charging 1/2 error to chaining & 1/2 to Error in chaining 1 – 13200, and angular

angular Error 0° 0' 31"

angular Error the Error 0° 0' 15"

Location of D. C. R.R.
from Sta 681+36

Sta.					
681+36					
691+00	2°00' R	12°00'			
697+00	E.C.				
700+00	2°00' L	27°30'			
713+75	E C				
755+80	2°00' R	50°24'			
781+00	E C				
786+71.2	5°00' L	41°54'			
795+09.2	E.C.				
796+05 = 796+00					
797+90	6°00' R	20°30'			
801+31.7	E C				
802+10.8 = 802+00					
812+95.5	4°00' L	16°48'			
817+15.5	E C				
817+53.8 = 818+00					
831+14	5°00' R	46°48'			
840+50	E C				
851+00	2°00' R	26°30'			
864+25	E.C.				

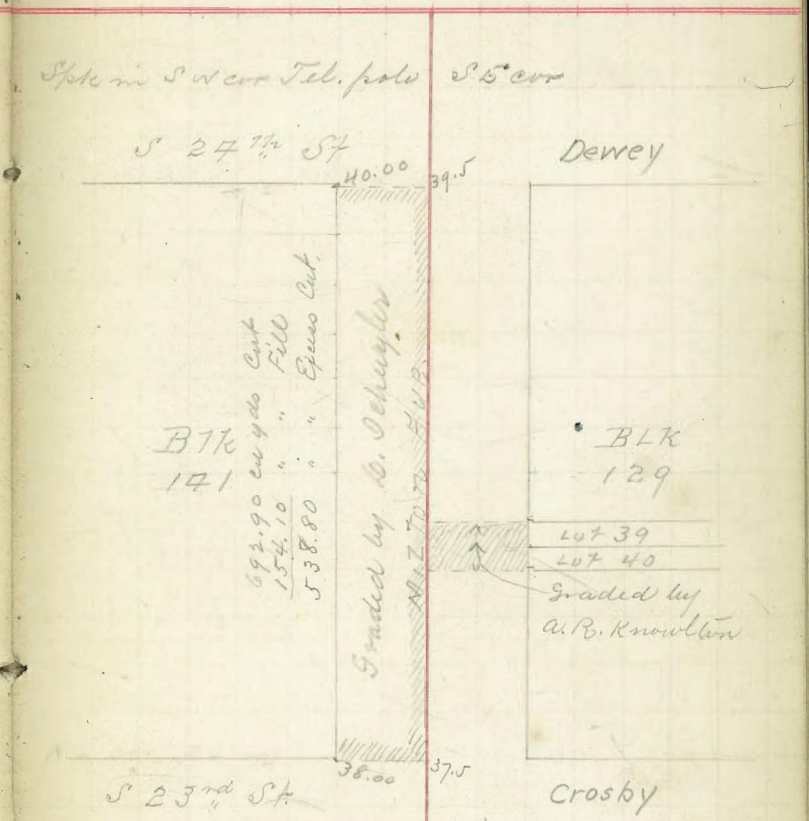
1449' East of N.W cor R.L. 1208. on line bet 1208 & 1209

874+86	3°00'R	30°25'
885+00	E.C.	
894+50	5°00'L	17°30'
898+00	EC	
902+00	3°00'R	13°30'
906+50	E.C.	
915+30	3°00'L	9°36'
918+50	EC	
926+97.4	3°00'R	9°30'
930+14	E.C.	
930+90	=	
931+00		
937+25	4°00'L	19°00'
942+00	E.C.	
951+50	4°00'R	28°00'
958+50	P.C.C. 5°00'R	20°00'
962+50	EC	
965+25	2°00'L	7°30'
969+00	EC	
980+00	1°00L	15°00'
995+00	EC	
1000+75	2°00'L	16°30'
1009+00	EC	
1014+72.5	City limits	
1018+50	2°00'L	13°00'

Check Levels on Milton Ave
S 23rd St to S 24th St East Side

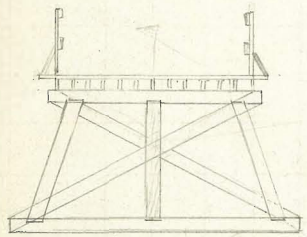
F. M. Shaw Level
S. M. Williams Rod
F. J. Shaw Chain
July 21st 1894

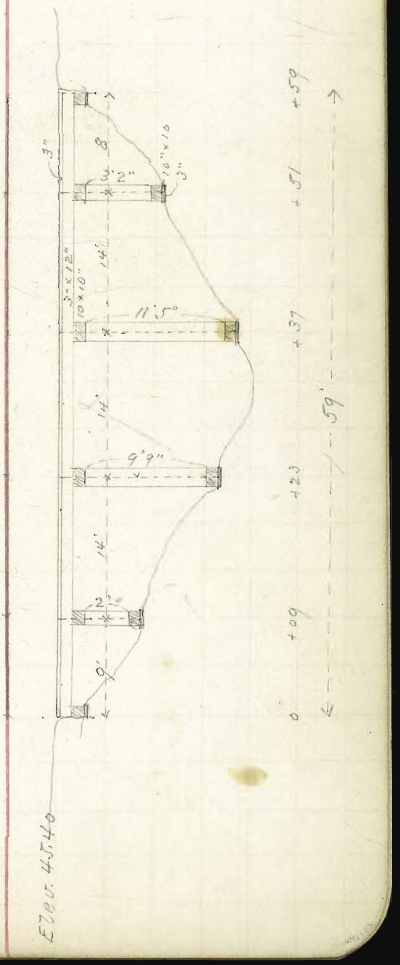
Sta	+	H I	−	Elev	
B M	4.80 Elev. Centre	44.76 Root Centre	Rod Curb	39.96 Elev Curb	
0	39.53	5.13	4.80	39.96	
+50	39.43	5.33	4.97	39.79	
1	39.11	5.65	5.14	39.62	
+50	38.89	5.87	5.30	39.46	
2	38.68	6.08	5.45	39.31	
+50	38.56	6.20	5.64	39.12	
3	38.43	6.33	5.82	38.94	6.47
+50	38.31	6.45	5.97	38.79	6.67
4	38.22	6.54	6.10	38.66	6.88
+50	38.09	6.67	6.28	38.48	
5	37.79	6.97	6.45	38.31	
+50	37.61	7.15	6.60	38.16	
6	37.46	7.30	6.77	38.00	



	+	H I	Elev	Elev.	
	5.70	49.73		44.03	
	2.27	46.94	5.06	44.67	
			1.53	45.41	
+ 00			3.77	43.17	W. Brick
+ 09			6.58	40.36	
+ 51			7.80	39.14	
+ 59			3.95	43.09	
TP	3.45	40.23	10.16	36.78	
			8.54	31.69	East
+ 37			9.33	30.90	wing
+ 23			7.83	32.40	

S. 22nd & Logan N.E. cor. N Hinge of Hydrant





July 25th 1894 (A.M.)

Survey of Lots K and L Blk 225 H.A.

for M. German

			Rod.		
	6.12	167.66		161.54	
B			4.66	163.00	curb
				163.00	curb
A			9.16	158.50	curb
	1.60	158.24	11.22	156.44	
D			3.07	155.17	curb
	1.20	147.81	11.63	146.61	
			9.28	138.53	chk BM

Grade points set 18" in from Curb line
Point at S.E. cor Lot K set 12" East

4 points and 3 grades.

F. M. Shaw Transit and Level
S. M. Williams Rod and chain
F. J. Shaw Chain and stakes

B.M. SW cor 2nd and Fir (4" N E of cor) spk	153.472
B M S E " 3 " " (spk. cor post)	163.480
B M S.E. " 4th " " (spk in Tel. pole)	161.54
B M S E " 3 " Elm (Hinge of Hydrant)	138.54

Ordered by Over and Nagle

2700) .2700 (.0001
2700

500
240
125
47

1312
1310
2628

.0001

158.24
155.17
3.07

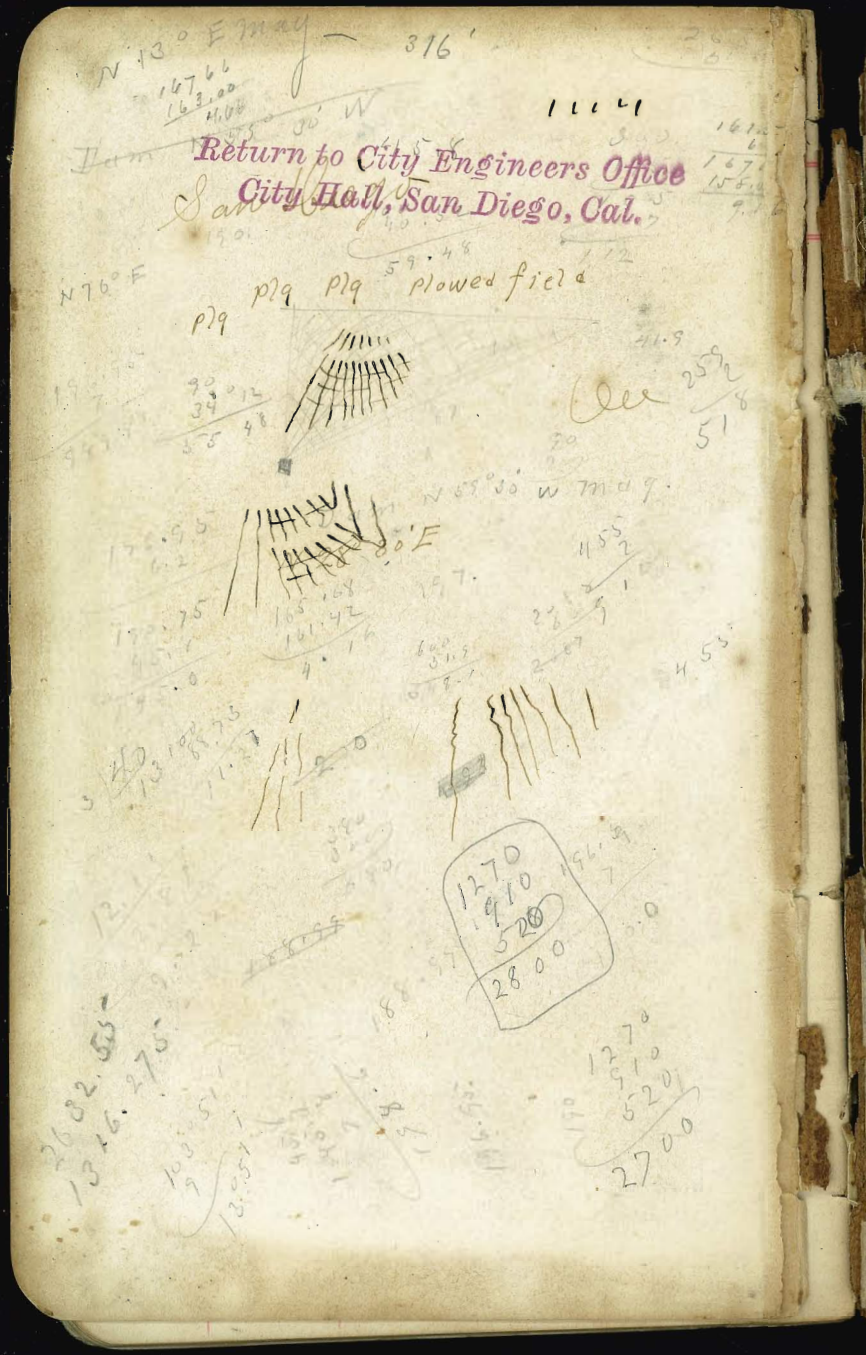
.1270
910
.2181

163
139.5
3) 23.50
7.83
16300
155.17

Offset 1.38 bet
pin & stake

9.511776
2
1.51177

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.	DEGREES.		¼ DEGREE		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10 45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38 27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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