

1021

TRANSIT-BOOK  
1309

MICROFILMED  
DEC 17 1964

ENGINEERING DEPARTMENT,  
CITY OF  
SAN DIEGO,  
CALIFORNIA.

Gravel  
Corp  
Miller

Survey of Boundary  
of Escanto Pipe

1322.21

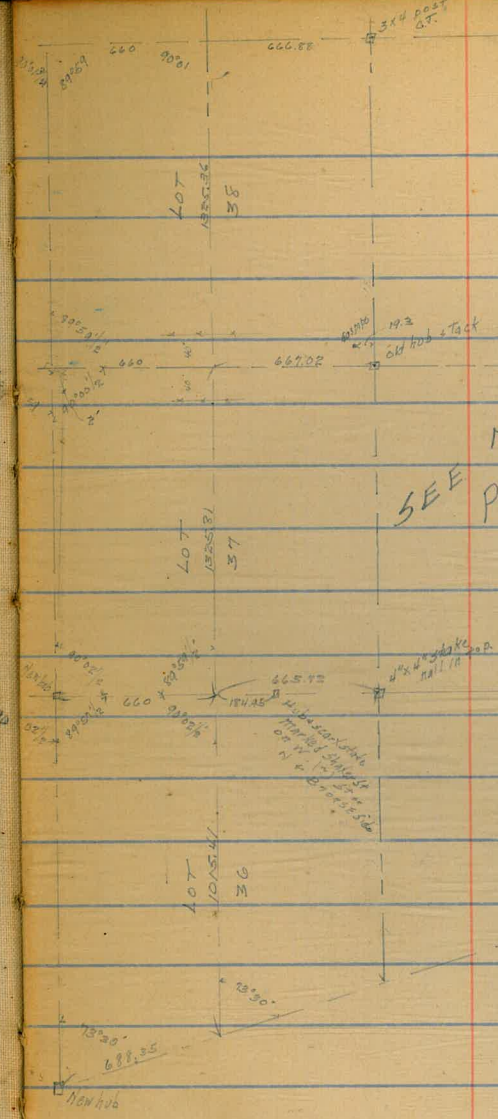
Lot 33

1321.21

Lot 34

1320.78

Lot 35







TRANSIT LINE  
from SE. cor  
Lot 41 East +  
30.

2+64.38

3.27  $\square$  2" x 4" CT in Top

36+35.33 = 00 on line South from NE cor Lot 45

37+52.18

$\square$  0.8  
2" x 4" hub +  
white stone  
marked  
Transit  
cor 1

36+35.33

$\square$  264.38  
#34  
1.34 no. 6  
Hub  
Pt.  
NE cor  
Lot 45  
3.97

31+036.3 @ P.O.T.

26+38.55

1" x 2" State reset from  
Co. Highway tri hubs  
by Davis  
old hub 07 so. of Line

1319.55

89252  
old hub SE of  
Lot 41  
To SW Cor Lot 41

00

19+91.10

25.0

18+36.7

3.8

16+35

5.4

14+58.13 POT.

13+26.03

6.54  
 2"x4"  
 in mound of  
 rocks road

10+56.13

4.10  
 2"x3" post  
 scribed C  
 on NE side

7+85 approx @ POT.

↓  
 N

28+2330

30'  
AUB

35+97

27.8

31+115

21.9

36+97

13.5

26+66.50

26.25

25+80 - POT.

21+96

20.2  
AUB Gravel  
XXX



13+66

< 1.70 2" pipe

12+80.0

1.6 # 2"x2" hole white stone  
marked N.E. 1/4 Sec 105

6+48.28

1.00 # concrete box no track

00 = Pipe beside 4" x 4" State on Nat'l Rancho Line

1.450 pipe

53+44.30 = Nat'l Rancho Line

< 72.00

48+136.4 P.O.T.

42+65

1.5 # 2"x2" hole  
white stone

17+49.76 P.O.T.

14+47.42

11+21.9

07+39.55

00 = 38+90.65

38+90.65 = Sta. 53+44.30 on Line from No. sec. preceding page

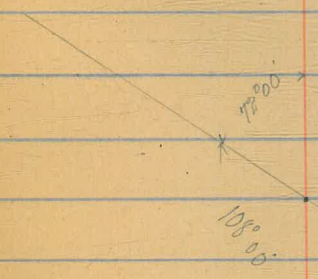
26+89.60

20+16.40

27  $\square$  3x3 stake  
marked 79 on SE side  
104 SW

24  $\square$  3x3 stake  
marked 104 on SE side

22  $\square$  2x4 stake  
marked 142 on E  
142 on E



15  $\square$  2x4 stake notched

165  $\square$  1 x 1/2 stake White stake  
marked 165 on West  
112 106 on East

40+84.70

40+77.55

40+34.92

35+49.55

34+26.85

27+66.0

26+25 @ POT.

20+50 @ POT.

20+09.90

.05 # 2x2 hub + guard marked 78 on SE  
79 - SW

.05 # 2x2 hub

.04 # 2x2 hub

# 2x2 hub

⊙ 2" pipe.  
West Line Stake/200d

0.70 # pipe + white stake  
marked 79

# 0.43  
W post  
Darker Log 13  
10.2

69+81.10

2x2 hub & guard  
marked 25 on W  
26 on E

67+36.60

2x2 hub & guard  
marked 78 on SW  
53 on SE

67+84.73

2x2 hub  
white state marked  
24 on W  
25 - E  
127 - N

61+30 @ POT.

55+85.80

guard state  
no hub 0.6  
marked 21 on E  
23 - W

44+72.75

06 @ 2x2 hub

44+78.65

44 @ 2x2 hub & scarlet state  
marked 27 on W

113+50.80

106+91.20

105+19.90

13+74.10

13+51.10 @ POT.

77+11.15

74+89.37

70+91.40 @ POT.

70+41.00

2x2 whitestone  
# 3.5  
marked NW corner  
of E 1/2 of NE 1/4  
of 1/4 sec 52  
3x3 post  
# 3.0  
marked NE  
corner of Rancho  
52 on 50.

0.5' 0 0 mound of rocks.

3x3 post  
# 2.05  
marked SE corner  
52 - 55

3x3 post  
# 0.21  
no mark

2x2 4x4 guard  
post  
marked 26 on NW

2x2 4x4 = SE corner  
Encina De San Diego

113+5 43+41.1<sup>00</sup> Δ 90°05'30" Left

106+6 21+41.5

105+1 27+30.40 POT

137 22+24

135 16+12.6

77+1 07+03.90

74+8 120+06.65<sup>00</sup> Δ 72°19' Left

70+ 114+06.40 O POT

3' x 3' post  
tack into  
N.W. cor Harrington  
Hqts

Nov. 11.20

x x x Xard on Nt.  
Pennsylvania Ave

○ pipe

○ ○ Mound of rocks, S.W. cor. of  
Harrington Hqts

24630 @ P.O.T.

23753.90

14776.45

47689 @ P.O.T.

14772.50

2" pipe in center  
of Woodrow Ave

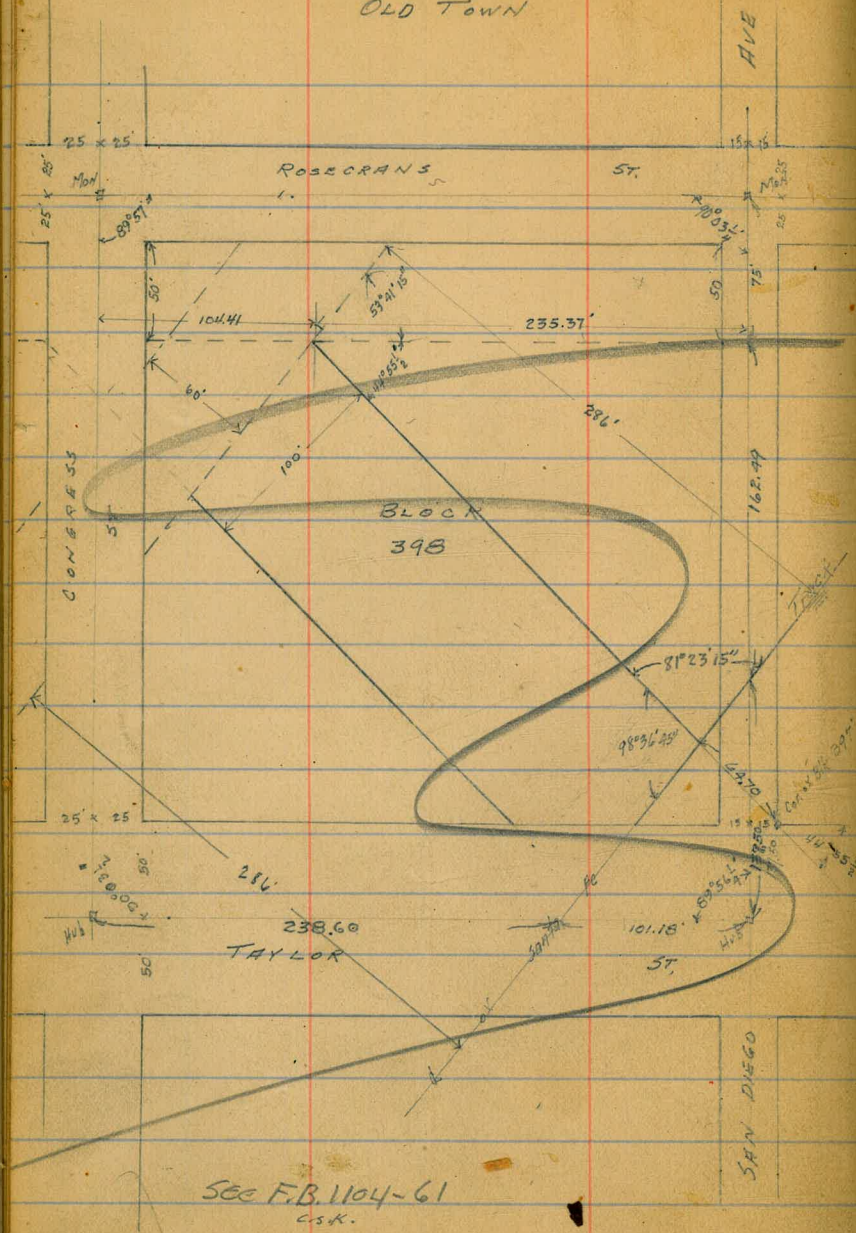
2" pipe in center  
of Woodrow Ave

2" pipe in center  
of Woodrow Ave



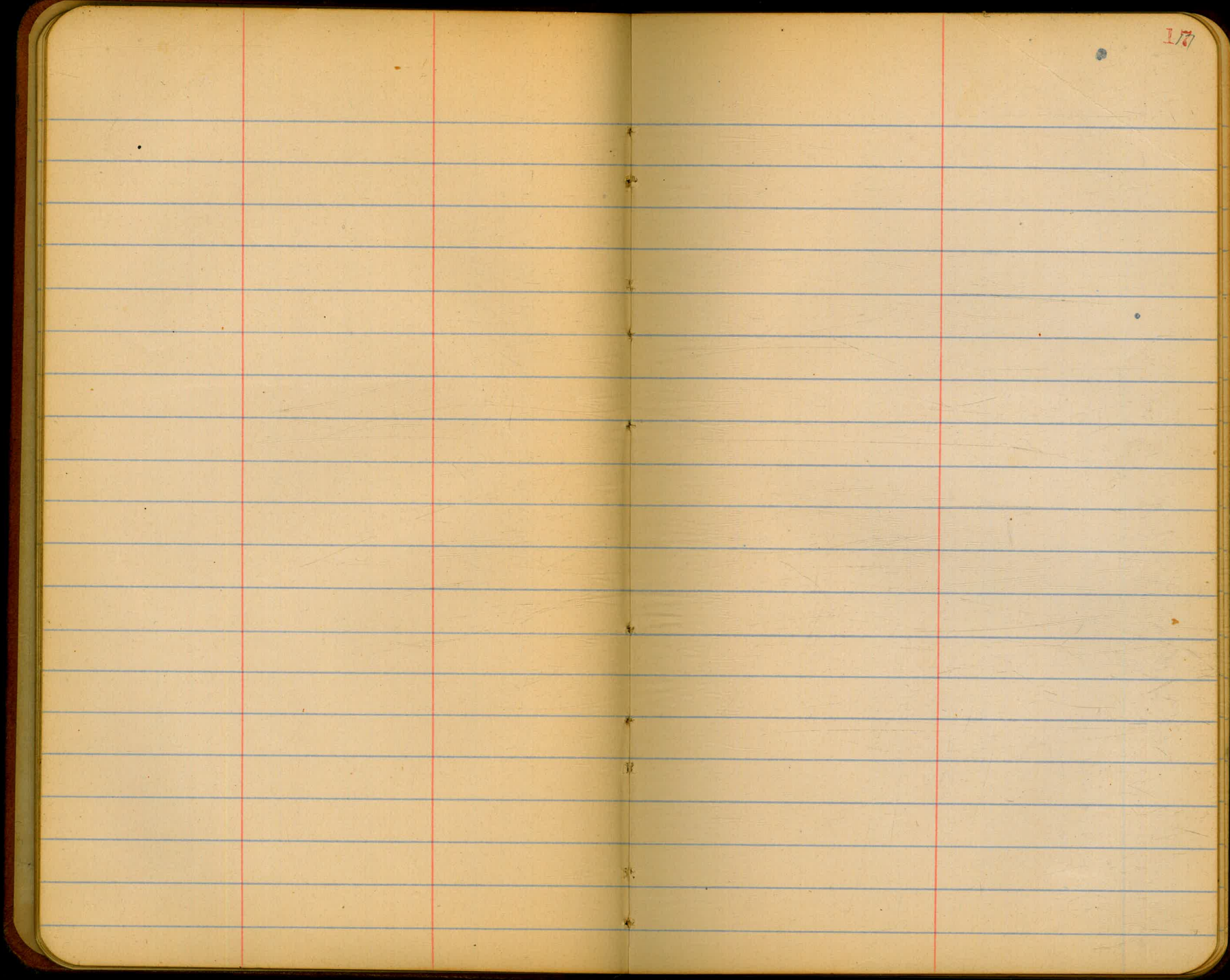


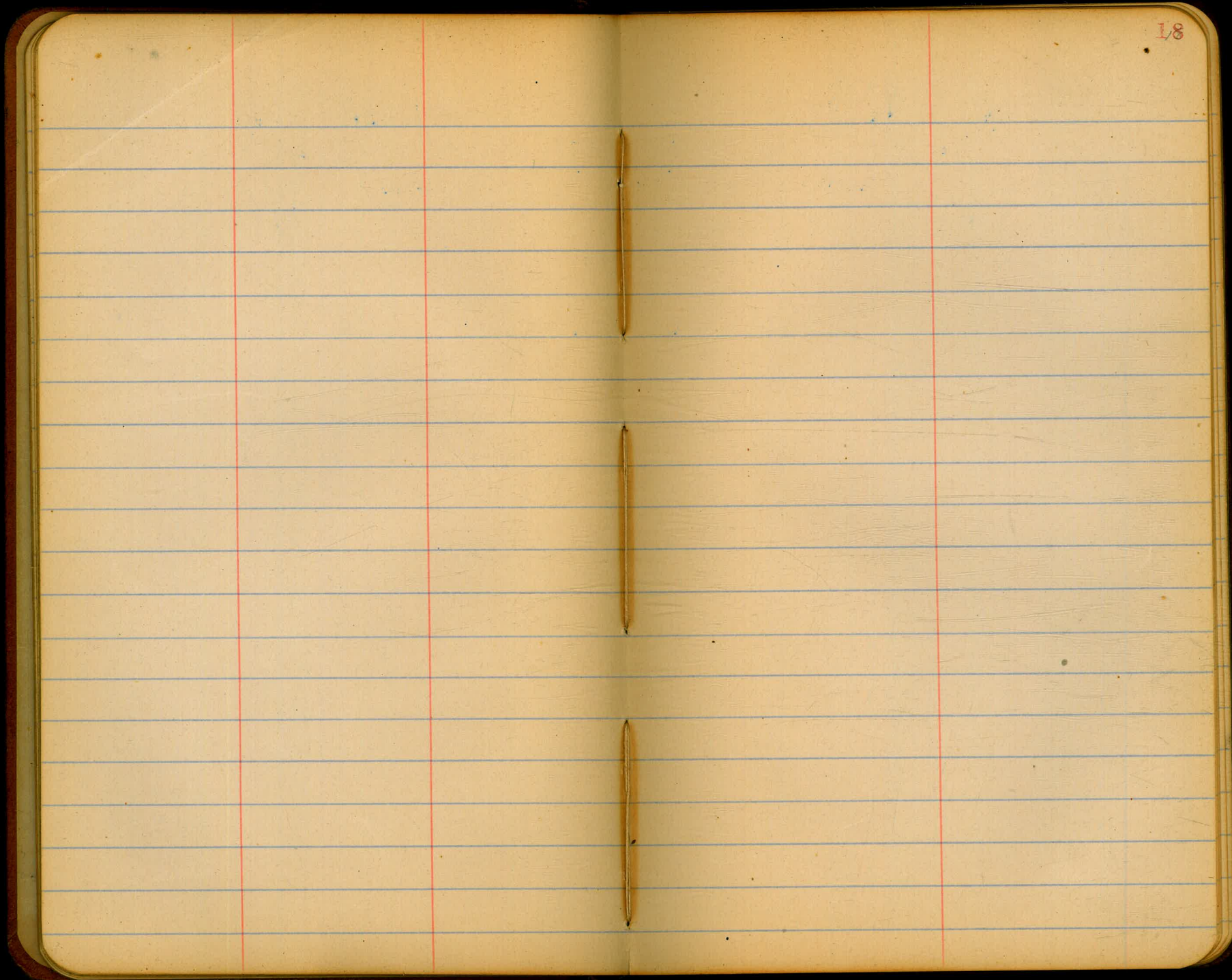
Survey of Opening  
Thru Block 398  
Old Town

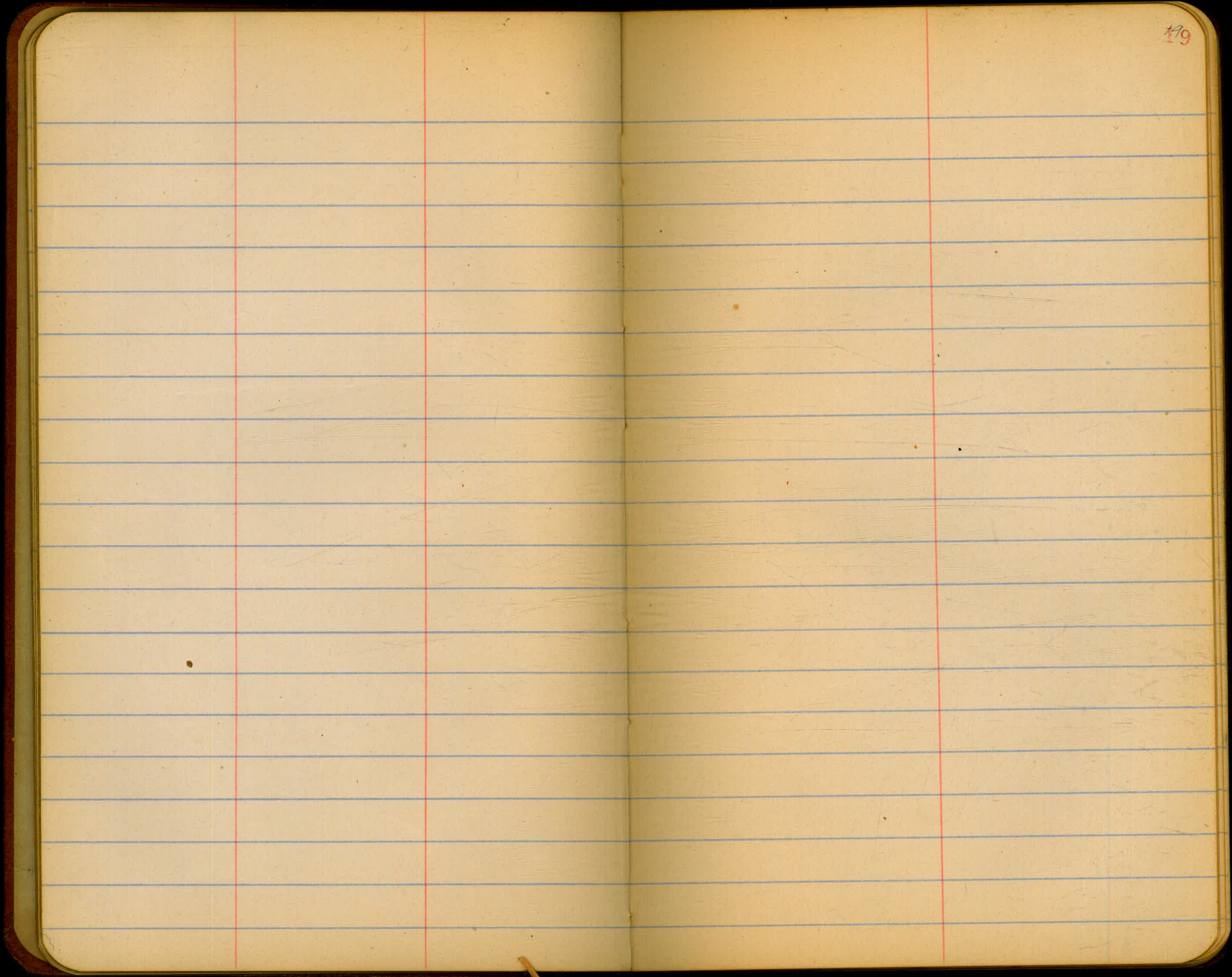


See F.B. 1104-61  
C.S.K.

















23

13

11/20/17 Grapard Survey of road from Sta  
 Moore Miller  
 38+62.62 on  
 Market St. Extension Survey  
 Book 1004 - p 2  
 to No. City Line  
 60' road

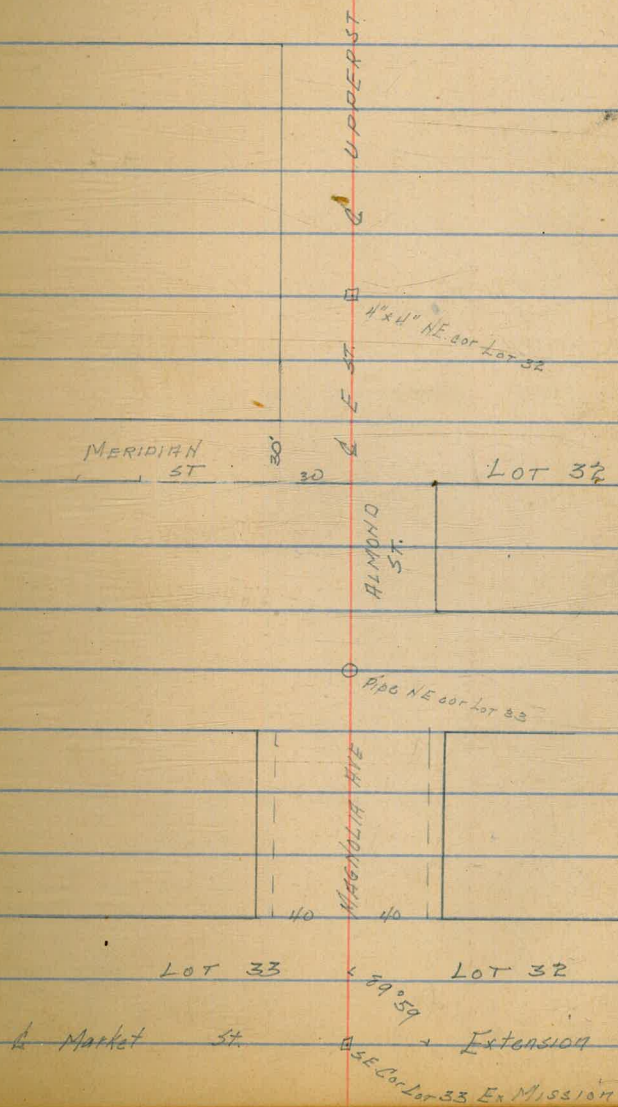
39+75.6 = NE cor Lot 27

26+49.68  $\Delta$  89°58' L.

19+35.91

13+22.21  $\Delta$  90°00' R.

0+00 = 38+62.62 Book 1004 p 2





11/20/17

Gregory Levels over Survey  
 from Sta 38+62.62  
 To No. City Line  
 60' wide

168.36

26

					C	7.6	60.8
BM.	7.47	168.36	160.89	pag 80 of Sta #1500 Market St	W	8.7	59.7
		0+00 = Market St.				2+00	
E		12.4	56.0		W	8.3	60.1
C		12.9	55.5		C	7.4	61.0
W		13.4	55.0		E	7.7	60.7
		0+04.0				2+50	
W		8.9	59.5		E	6.8	61.6
C		9.2	59.1		C	5.6	62.8
E		12.6	55.8		W	7.5	60.9
		0+50				3+00	
E		10.2	58.2		W	6.4	62.0
C		9.0	59.4		C	5.3	63.1
W		9.2	59.1		E	6.2	62.2
		1+00				3+50	
W		8.5	59.9		E	4.8	63.6
C		8.7	59.7		C	4.6	63.8
E		10.5	57.9		W	5.0	63.4
		1+50				4+00	
E		9.4	59.0		W	4.3	64.1

O 29 65.5

E 34 65.0

4+50

E 21 66.3

C 1.2 67.2

W 41 64.3

5+00

W 33 65.1

C 1.5 66.9

E 0.6 67.8

T.P. 291 170.28 1.05 67.31

5+35

S word 4.2

= Meter Malt  
finding  
parallel to  
2

5,50

E 2.8 67.5

C 3.2 67.1

W 41 66.2

6+00

W 5.8 64.5

C 5.6 64.7

E 57 64.6

6+50

E 74 62.9

C 7.0 63.3

W 8.0 62.3

7+00

W 9.1 61.2

C 9.0 61.3

E 9.8 60.5

7+25

E 10.5 59.8

C 10.9 59.4

W 11.2 59.1

7+65

W 12.3 58.0

C 11.7 58.6

E 10.5 59.8

8+00

E 10.4 59.9

C 10.8 59.5

W	123	58.0
	8+50	
W	115	58.8
C	106	59.9
E	80	62.3
	9+00	
E	73	63.0
C	93	61.0
W	98	60.5
	9+50	
W	84	61.9
C	72	63.1
E	50	65.3
	10+00	
E	53	65.0
C	58	64.5
W	64	63.9
	10+50	
W	51	65.2
C	39	66.4

E	32	67.1
	11+00	
E	1.8	68.5
C	3.8	66.5
W	3.9	66.4
	11+50	
W	1.8	65.5
C	3.4	66.9
E	2.2	68.1
T.P.	6.63	173.41
	3.50	166.78
	12+00	
E	4.8	68.6
C	6.5	66.9
W	9.3	64.1
	12+50	
W	9.5	63.9
C	7.1	66.3
E	5.3	68.1
	12+92.21 = 5L. of 60 survey to Rt.	
E	6.9	66.5

C	88	64.6	C	0.7	72.7	
W	9.5	63.9	T.P. 130	186.01	0.40	173.01
	1322.21 = $\Delta$ on $\Delta$		S		12.2	173.8
W	12.5	60.9		15+00		
C	9.61	63.80 or pipe	S		11.4	74.6
E	7.1	66.3	C		11.1	74.9
	30' 170.0 x 1322.21 = 1/2 of 60' survey		N		12.6	73.4
E	8.4	65.0		15+50		
C	10.9	62.5	N		9.4	76.6
W	15.5	57.9	C		9.4	76.6
	13452.21		S		8.2	77.8
N	8.4	65.0		15+75		
C	7.1	66.3	S		8.8	77.2
S	6.9	66.5		16+00		
	14+00		S		5.6	80.4
S	3.6	69.8	C		8.8	77.2
C	4.3	69.1	N		9.6	76.4
N	5.3	68.1		16+50		
	14+50		N		9.5	76.5
N	2.2	71.2	C		8.3	77.7

S	63	79.7
	16+65	
S	78	78.2
	17+00	
S	67	79.3
C	83	77.7
N	89	77.1
	17+50	
N	72	78.8
C	80	78.0
S	51	80.9
	18+00	
S	61	79.9
C	72	78.8
N	86	77.4
	18+50	
N	68	79.2
C	67	79.3
S	47	81.3
	18+75	
S	50	81.0

	19+00	
S	28	83.2
C	60	80.0
N	51	80.9
	19+50	
N	47	81.3
C	43	81.7
S	25	83.5
	20+00	
S	06	85.4
C	22	83.8
N	32	82.8
	20+50	
N	16	84.4
C	09	85.1
	T.P. 12.50 197.69	082 185.19
S	11.4	86.3
	21+00	
S	10.2	87.4
C	10.7	87.0



19769

97.69

31

N	10.4	86.3	S	52	92.5
	21+50			24+00	
N	86	89.1	S	44	93.3
C	86	89.1	C	39	93.8
S	86	89.1	N	25	95.2
	22+00			24+50	
S	71	90.6	N	31	94.6
C	67	91.0	C	42	93.5
N	71	90.6	S	47	93.0
	22+50			25+00	
N	56	92.1	S	55	92.2
C	55	92.2	C	53	92.4
S	59	91.8	N	53	92.4
	23+00			25+50	
S	62	91.5	N	61	91.6
C	54	92.3	C	72	90.5
N	49	92.8	S	81	89.6
	23+50			26+00	
N	40	92.7	S	95	88.2
C	41	93.6	C	79	89.8

19769

N 73 90.4  
 26+19.68 = WL of 60' Survey to Left

N\* 8.0 89.7  
 C 8.0 89.7  
 S 9.0 88.7

26+49.68 =  $\Delta$  of 60' Survey to Left

S 10.2 87.5  
 C 9.0 88.7  
 N\* 8.3 89.4

30' East of  $\Delta$  pt

N\* 8.8 88.9  
 C 9.1 88.6  
 S 10.9 87.8

26+79.68 taken @ Pt L's as usual

E 8.8 88.9  
 C 8.3 89.4  
 W 8.0 89.7

27+00

W 6.5 91.2  
 C 7.2 90.5

19769

32

E 7.8 90.4

27+50

E 6.4 91.3  
 C 5.5 92.2  
 W 6.3 91.4

28+00

W 5.6 92.1  
 C 5.3 92.4  
 E 5.5 92.2

28+50

E 6.2 91.5  
 C 5.8 91.9  
 W 6.3 91.4

29+00

W 7.5 90.2  
 C 7.0 90.7  
 E 7.4 90.3

29+50

E 8.6 89.1  
 C 8.2 89.5

197.69

W	87	89.0
	30+00	
W	101	87.7
C	92	88.5
E	94	88.3
	30+50	
E	112	86.5
C	109	86.8
W	105	87.2
	30+75	
W	122	85.5
	31+00	
W	114	86.3
C	113	86.4
E	104	87.3
	31+25	
W	97	88.0
	31+50	
E	98	87.9
C	10.9	86.8

97.69

33

W	111	86.6
	32+00	
W	101	87.6
C	97	88.0
E	99	87.8
	32+30	
W	80	89.7
	32+50	
E	86	89.1
C	82	89.5
W	88	88.9
	33+00	
W	79	89.8
C	73	90.4
E	77	90.0
	33+50	
E	68	91.2
C	58	91.9
W	71	90.6

19769

34+60

W	69	90.8
C	57	92.0
E	51	92.6

34+50

E	41	93.6
C	65	93.2
W	53	92.4

34+70

E	24	95.3
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35+00

W	34	94.3
C	28	94.9
E	19	95.8

T.P.	12.66	20754	2.81	194.88
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35+50

E	98	97.7
C	113	96.2
W	117	95.8

2076'

34

36+00

W	81	99.4
C	90	98.5
E	96	97.9

36+30

E	73	00.2
---	----	------

36+50

E	73	00.2
---	----	------

C	75	00.0
---	----	------

W	66	00.9
---	----	------

36+65

E	56	1.9
---	----	-----

36+75

W	63	1.2
---	----	-----

37+00

W	40	3.5
---	----	-----

C	55	02.0
---	----	------

E	58	1.7
---	----	-----

37+50

E	39	3.6
---	----	-----

207.54.

C		2.9	4.6
W		3.5	4.0
	38400		
W		1.5	6.1
C		1.8	5.7
E		1.8	5.7
TP	8.90	215.09	135
			206.19

38750

E		8.0	7.4
C		7.8	7.3
W		7.5	7.6

38770

E		6.0	9.1
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39400

W		6.1	9.0
C		6.0	9.1
E		6.3	8.8

39450

E		3.5	11.6
C		4.6	10.5

35

W		3.3	11.8
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39475.6

= No. City Limits

W		3.9	11.2
---	--	-----	------

C		3.91	211.18
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BM. on pipe

E		2.9	12.2
---	--	-----	------

12/21/17 Gregory Moore Miller

Cross Section of

66<sup>th</sup> St (30' wide)

for Bridge at Alvin St.

(52' is considered to be the East half of a 60' St in taking sections. Quarters are 10' wide a 10' curb.)

BM	11.37	215.47	204.10	215.23
J.P.	9.42	224.66	0.24	215.23
J.P.	55.3	226.12	4.07	220.59

204.10 pole 23rd St  
RR 20th St  
pole No. 2100  
at track  
W Sec 60th

Center of County Highway

E	0.08	226.04
W = center of a 60' St	.88	225.24

No. 1200 of Co. Highway (taken on diagonal)

W	2.6	223.5
1/2	2.5	223.6
1/4	1.8	224.3
E	1.4	224.7

25' No. (taken on diagonal)

E	2.5	223.6
1/2	2.8	223.3
1/4	4.3	221.8
C = W	4.8	221.3

39' No. Taken on diagonal

C = W	5.1	221.0
1/2	4.5	221.6
1/4	3.9	222.7
1.5	2.9	223.2

226.17

25 223.3

E 24 223.7

42' No. taken on diagonal

E 25 223.6

1/2 28 223.3

1/4 28 223.3

C = W 30 222.5

45.98' No = 2' No of RR Track (taken on diagonal)

C = W 33 222.8

1/2 30 223.1

1/4 28 223.6

E 24 223.7

on South Rail

E 23.1 223.81

W or C 27.5 223.37

55.07' No = 2' No of No Rail (taken on diagonal)

E 29 223.2

1/2 26 223.5

1/4 32 222.9

W = C 34 222.7

60' No. of Co. Highway (taken on diagonal)

C-W	36	222.5
1/4	34	222.7
N	32	222.9
E	35	222.6

64' No. (taken on diagonal)

E	44	221.7
dt	40	222.1
1/4	44	221.7
C	66	219.5

80' No. (taken on diagonal)

C	69	219.2
1/2	68	219.3
1/4	62	219.9

1/2	57	220.4
dt	55	220.6
E	52	220.9

101.03' No. of Co. Highway = 51. Akin St. see sketch

E	59	220.2
dt	62	219.9

1/4	65	219.6
C-W	66	219.5

10.12 No. = 50 Curb taken on diagonal

1/4	65	219.6
1/2	63	219.8
dt	60	220.1
E	59	220.2

7.57 No. = 50 Quarter taken ditto

E	64	219.7
dt	66	219.5
1/4	65	219.6
1/2	65	219.3
1/2	62	219.9
1/4	65	219.6

7.57 No. = Center ditto

1/4	62	219.7
1/3	62	219.9
1/4	74	218.7
1/4	73	218.8
dt	70	219.1
dt	60	220.1
E	65	219.6

7.57' No. = No Quarter ditto

E	63	219.8
d	70	219.1
1/4	79	218.2
+6	79	218.7
+9	72	218.9
C=W	60	219.1
+4	64	219.7
+6	95	216.6
+10	96	216.5

1.5' No. of No 1/4 (taken ditto)

-10	10.1	216.0
C	94	216.7
+3	82	217.9
1/4	82	217.9
+8	77	218.4
d	70	219.1
+4	67	219.4
E	64	219.7

6' No. of No 1/4 (taken ditto)

E	60	220.1
1/4	85	217.6
d	84	217.7
1/4	88	217.3
1/4	87	217.4
C=W	88	217.3
C=W	101	216.0
1/4	108	215.3

7.57' No. of No 1/4 = No Curb (taken ditto)

-10	108	215.3
C	102	215.9
+5	87	217.4
1/4	88	217.3
+5	89	217.2
d	73	216.8
+6	92	216.9
E	83	217.8
+5	62	219.9



5' No. of No. Cb (taken ditto)

-10	96	216.5	
E	96	216.5	
cb	97	216.4	
+3	97	216.4	
+5	92	216.9	on hill
1/2	90	217.1	on hill
+5	94	216.7	on hill
W=C	114	214.7	
+10	116	214.5	

10.12' No. of No. Cb = NL AK in 5' (taken ditto)

-10	117	214.4	
C-W	115	214.6	
+5	96	216.5	on hill
1/2	91	217.0	✓✓
+4	95	216.6	✓✓
+7	107	215.0	
cb	104	215.7	
E	99	216.2	

13.5' No. of NL AK in on W (one) = Sect A

F	99	216.2	
1/2	108	215.3	
+3	110	215.1	
+6	95	216.6	on hill
1/2	93	216.8	
+5	96	216.5	
W=C	115	215.1	

7' No. of "A" (all sections from here are normal)

-10	96	216.5	
W=C	104	215.7	
+3	99	216.8	on hill
1/2	99	216.8	
+4	98	216.3	
+7	114	214.7	
1/2	114	214.7	
E	111	215.0	
1/2 No.	115	214.6	
+5	103	215.8	

10.1	216.0
8.5	217.6
8.5	217.6
8.1	218.0
7.6	218.5
6.3	219.8
6.8	219.3

16 No

6.3	219.8
6.0	220.1
7.5	218.6
8.0	218.1
7.8	218.8
7.2	218.9
6.4	219.7
8.0	218.1
8.7	217.4
10.4	215.7
11.3	214.8

18 No

11.0	215.1
------	-------

7.6	216.5
7.7	218.4
7.5	218.6
7.0	219.1
6.1	220.0
6.2	219.9
7.4	218.7
7.7	218.4
7.3	218.8
6.0	220.1
6.2	219.9

21 No

6.1	220.0
6.0	220.1
6.8	219.3
7.2	218.9
7.0	219.1
5.9	220.2
5.5	220.6
5.9	220.4
5.8	220.6

50' No

E	58	220.3
dt	61	220.0
1/5	62	219.9
W=C	68	219.3

100' No

W=C	64	219.7
+3	55	220.6
1/4	55	220.6
dt	56	220.7
E	49	221.2

150' No

E	46	221.5
dt	44	221.7
+5	39	222.2
1/6	41	222.0
+5	40	222.1
W=C	47	221.4

175' No

-10	20	219.1
5	24	218.7
W=C	54	220.7

22614

+3	29	223.2
1/5	29	223.2
+5	30	223.1
dt	54	220.7
E	54	220.7

100' No

E	63	219.8
dt	60	220.1
+6	16	224.5
1/5	16	224.2
+5	16	224.5
W=C	36	222.5
+5	60	220.1
+10	67	219.4

221' No

-10	01	226.0
TP 11/40	031	225.51
W=C	104	226.8
+4	90	228.2
1/5	91	228.1

237.21

+3	88	228.4
df	139	223.3
F	175	219.4
+10	176	219.6

235' No.

-10	167	225.5 - house
E	92	228.0
+4	77	229.5
df	73	229.9
1/2	68	230.4
W	70	230.2
+3	81	229.1
+8	83	228.9

241' No.

-3	65	230.7
W-C	60	231.2
1/2	58	231.4
+2	58	231.4
+5	68	230.4
df	70	230.2

237.21

7.5 229.7 = walk to house

241' No. all alike except E

E	55	231.7 - top wall
df	70	230.2
+5	68	230.4
+8	58	231.4
1/2	58	231.4
W-C	60	231.2
13	65	230.7

260' No.

W-C	29	234.3
1/2	29	234.3
+2	26	234.6
+5	36	233.6
df	36	233.6
F	16	235.6
TP. 5.72	241.85	108 236.13

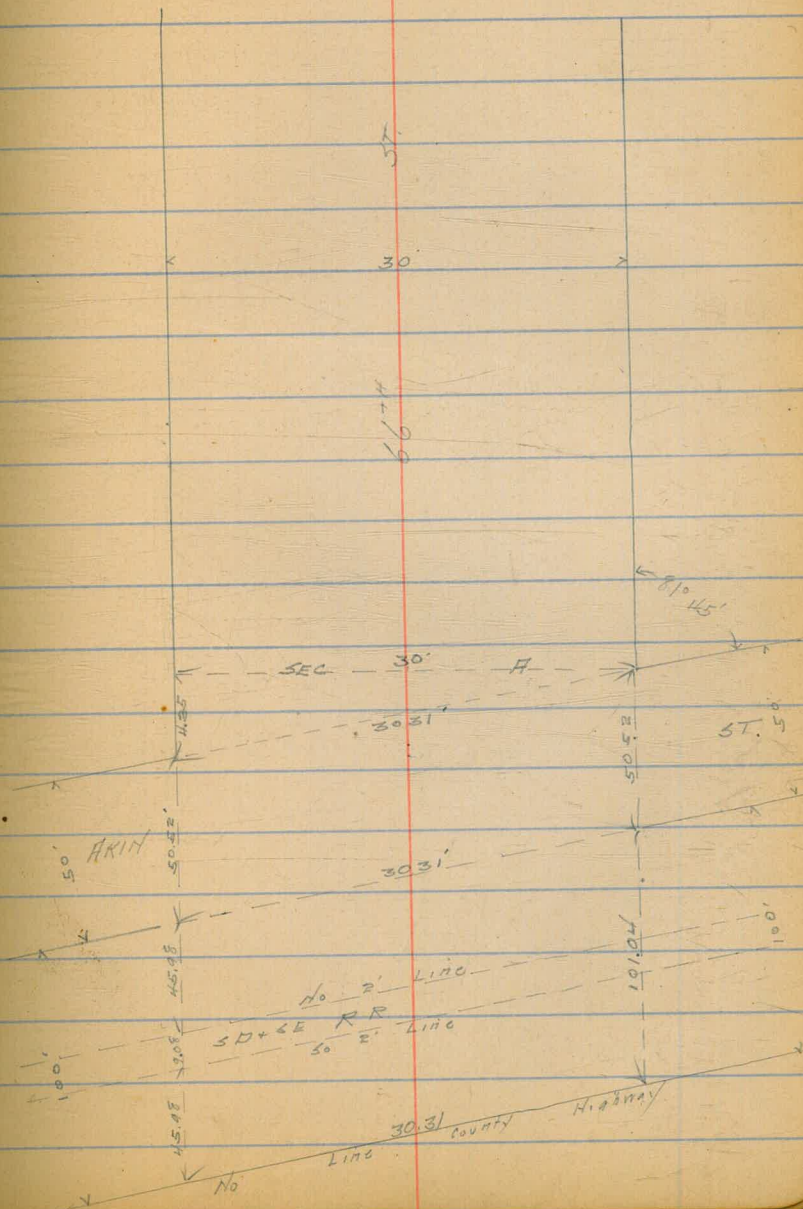
280' No.

E	25	239.4
+6	41	237.8

66 57 42

1/2	42	237.7
1/4	51	236.8
W-C	51	236.8
300 No		
W-C	30	238.9
1/4	29	239.0
1/2	20	239.9
1/4	13	240.4
E	25	241.4

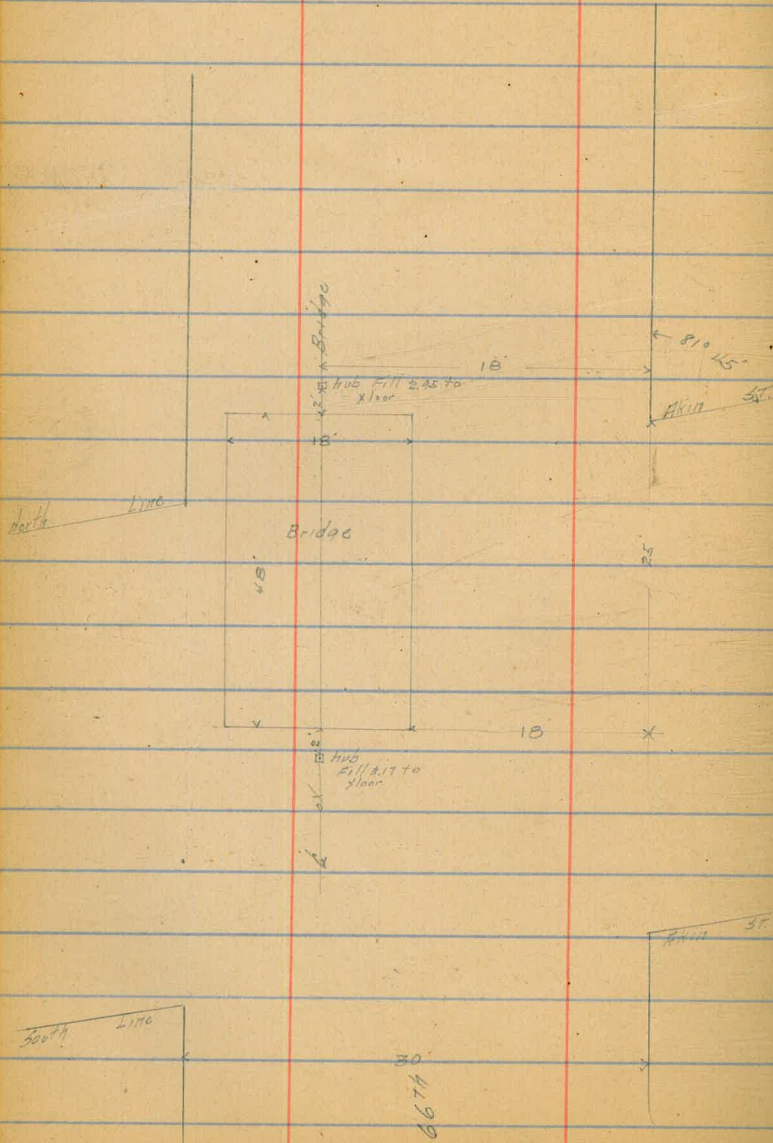
Top of hill is 150' No. of this + 6' higher.



1/3/18 Gregory  
Mauro  
Miller

Staking Bridge at  
66<sup>th</sup> + Akin Sts  
Encanto

57



BM on pole W side 66<sup>th</sup> + No Side R.R

220.59  
4.23  
224.82

222 = elev at floor

2.82  
5.99 = rod on So. hub &  
-3.17

222

2.82  
5.77 = rod on No hub  
-2.95

3/2/98 Gregory  
170010  
Miller

Elevations on Track to  
Spreckels Wharf  
on Tide Lands

B.M.	298	8.17	5.45	BASE Archie	4400		
Distances are chord Lengths on Q of Track							
0.0 = 52.3 No. of N.L. F. St + 27.23 E. of W.L. of 44 land							
W rail		4.0	4.17	E ✓	4.73		3.44
E rail		4.0	4.17	T.P. 437	8.04	4.50	3.67
0 + 52.3 = N.L. F ST				4485 = E.L. Belt St. = opp. Pt switch			
W rail		4.24	3.93	W rail	4.17		3.67
E ✓		4.23	3.94	E ✓	4.01		4.03
1400				5100			
W rail		4.43	3.74	W rail	4.18		3.86
E ✓		4.40	3.77	E ✓	3.97		4.07
1425 = S.L. F ST				5488.85 = W.L. Belt St.			
W rail		4.56	3.61	W rail	4.05		3.99
E ✓		4.37	3.80	E ✓	3.84		4.20
2400				5488.85 on Spur = 8.8 west of Cox Main			
W rail		4.63	3.54	W rail of Spur	4.41		3.63
E ✓		4.42	3.75	E ✓ - ✓	4.20		3.89
3400				6400			
W rail		4.53	3.64	W rail	4.05		3.99
E ✓		4.37	3.80	E ✓	3.86		4.18

6+54 = App. EC.

6+59.20 = East End of Scales

W rail	3.81	4.23
--------	------	------

E -	3.77	4.27
-----	------	------

7+03.2 = West End of Scales

W rail	3.76	4.28
--------	------	------

E rail	3.77	4.27
--------	------	------

7+42.3 = Line of Temporary Bulkhead

W rail	3.76	4.28
--------	------	------

E rail	3.77	4.27
--------	------	------

7+42.3 + 18.4 No. = End of Spur.

W rail of Spur	4.14	3.90
----------------	------	------

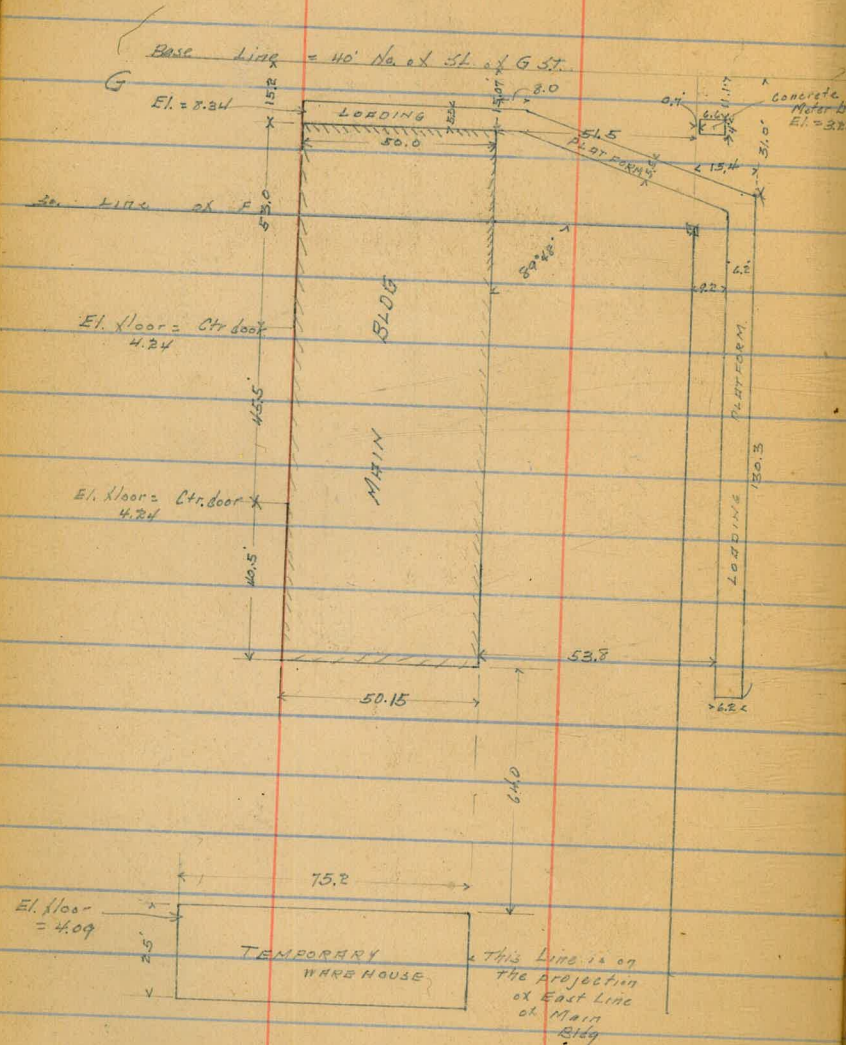
E - - -	4.14	3.90
---------	------	------

T.P.	4.30	3.74
------	------	------



3/2/13  
 GREGORY  
 MOORE  
 MILLER

## LOCATION OF STANDARD CANNING CO BUILDINGS ON BLK 18 of Municipal Trade Lands



ATLANTIC

2.74 T.P. on preced. map  
 3.80  
 7.54

4.24  
 3.28 = meter box

+ 0.8  
 8.34 = floor of bldg  
 no. end

3.30  
 4.24 = elev. of floor of  
 doors

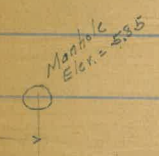
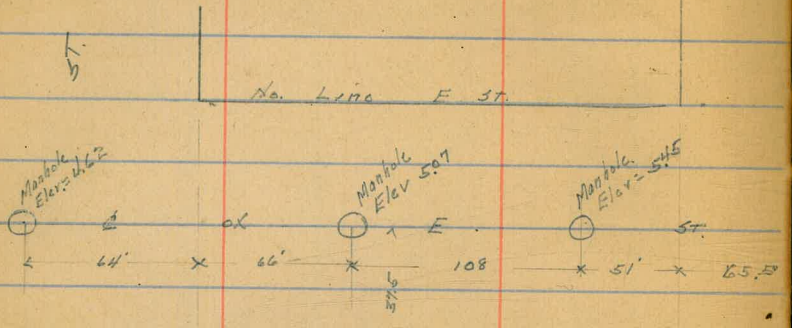
2.45 = elev. floor of  
 Warehouse.

3/2/18 Grand  
Mason  
Miller

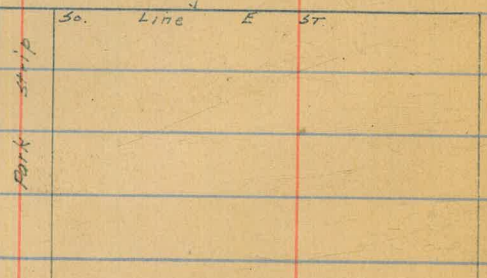
Elevations & Location  
S.D. Electric Conduit  
Manholes Footok  
E. St.

on T.P.	5.80	7.54		374	TP
TP	5.93	6.15	7.32	0.22	

6.15	6.15	6.15	6.15
0.3	0.22	0.86	1.70
5.85	5.29		4.45



HARBOR



Elev. floor of S.D. Fish Co. E.L. Harbor + 100 No. of F 5.54  
 ✓ - - - - - Elev. D. - - - - - + 20' - - - - - 5.54

3/1/18

Gardner  
Moore  
MillerElevations on  
Temporary Bulkhead  
from 128.5 No. of the No. Line of  
E St to Market St.

No. from preceding page

6.15

Readings - top sheet piling

00 is 128.5 No. of E St &amp; 100 W of E.L. Harbor St.

No. 6.15

00	1.70	4.5
1+00	1.70	4.5
1+28.5 = N.L. E St	1.80	4.4
2+03.5 = St. ✓	1.70	4.5
3	1.60	4.6
3+40.5 = N. Edge fish wharf.	1.60	4.6
3+80.5 = S - - -	1.60	4.6
H	1.70	4.5
5	1.60	4.6
T.P. 466 7.34 P(5+02) wire	1.47	4.68
6+00 = N.L. F St.	4.80	4.5
6+27 = drop in bulkhead	4.80	4.5
6+27.1	7.80	1.5
6+78 = S.L. F St.	8.0	1.3
7	8.0	1.3
7+9.5 = drop in bulkhead.	7.9	1.4
7+9.6	4.7	4.6

49

8

4.70

4.6

T.P. 38 8.49

4.65

4.69

9

3.8

4.7

9+98.5 = Δ in bulkhead

3.7

4.8

10+26 = drop in -

4.6

3.9

10+25.1

7.0

1.5

10+66 = S. / inc of wharf = drop

6.9

1.6

10+66.1

7.7

0.8

11

7.6

0.9

12

7.1

1.4

13

8.5

0.0

13+21 = drop

8.5

0.0

13+21.1

7.6

0.9

14.0

7.5

1.0

14+25 = end of prod bulkhead

7.6

0.9

Rest of it is all jagged

chk T.P.

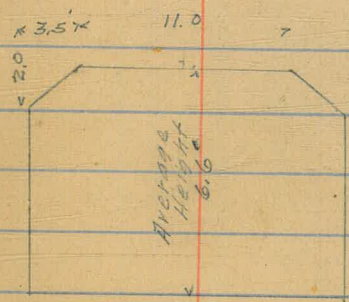
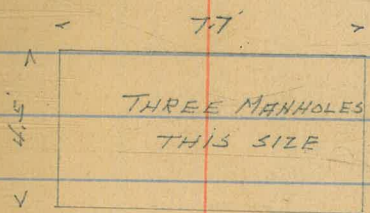
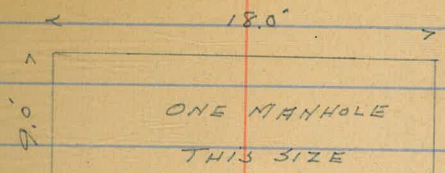
4.75

3.74

3/5/8 Gregory Cross of Conduit Opening  
 Moore Miller at Foot of E St

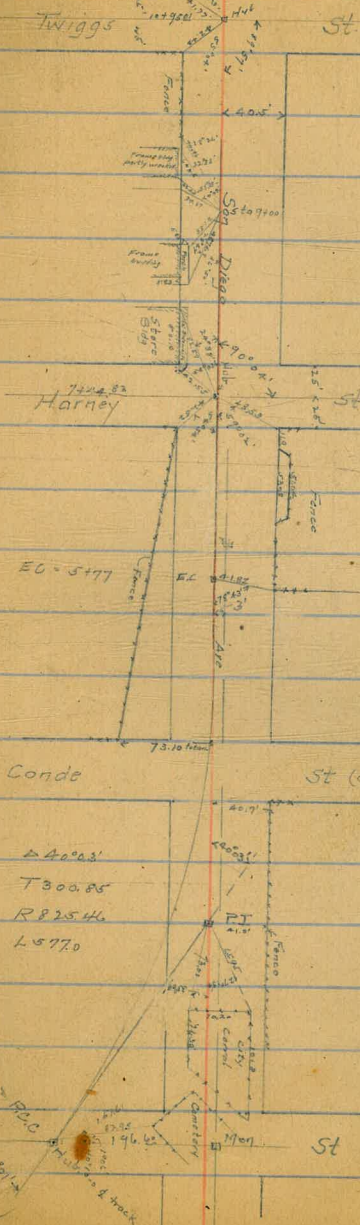
00 is 85.5 East of W. Belt St.

0.0	$\frac{+9.0}{3.2}$	$\frac{6}{3.4}$	$\frac{+9.0}{3.7}$
0+1.0	$\frac{+9.0}{0.5}$	$\frac{6}{0.0}$	$\frac{+9.0}{-0.5}$
0+15.5	$\frac{\text{Top BH} +28.0 +21.5}{3.8 \quad 0.9}$	$\frac{+9.0}{-2.5}$	$\frac{6}{-1.4}$
0+16	$\frac{\text{Top} +31.5 +27.1 +24.0}{4.7 \quad 0.0 \quad -7.7}$	$\frac{+9.0 +9.0}{-9.7 -12.2}$	$\frac{6}{-10.4}$
0+25	$\frac{\text{Top} +32 +28.1 +28}{4.7 \quad 0.0 \quad -9.8}$	$\frac{+2.0 +9.0}{-12.2 -13.7}$	$\frac{6}{-14.7}$
1+00	$\frac{\text{Top} +39.0 +32.0}{3.4 \quad -6.7}$	$\frac{6}{-14.8}$	$\frac{+2.7 +3.5}{-10.7 \quad -0.2}$
2+00	$\frac{\text{Top} +46.0 +41.0}{2.3 \quad -6.7}$	$\frac{6}{-14.8}$	$\frac{+3.5 +4.0}{-9.7 \quad 0.0}$
3	$\frac{+5.6 +49.0}{3.0 \quad -6.7}$	$\frac{6}{-14.9}$	$\frac{\text{Top} +4.0 +4.6 +4.7}{-10.7 \quad -6.7 \quad 0.0}$
4+10 = End.	$\frac{+67.0 +66 +30 +9.0}{3.0 \quad -8.2 \quad -8.7 \quad -14.7}$	$\frac{6}{-15.0}$	$\frac{\text{Top} +9.0 +5.4 +1.5}{-15.3 \quad -6.7 \quad -0.2}$



Location of Improvements and Relocation of L.A. & SD Beach Ry  
on San Diego Ave Old Town

3 Davis  
76 Hancock  
18 McShaine

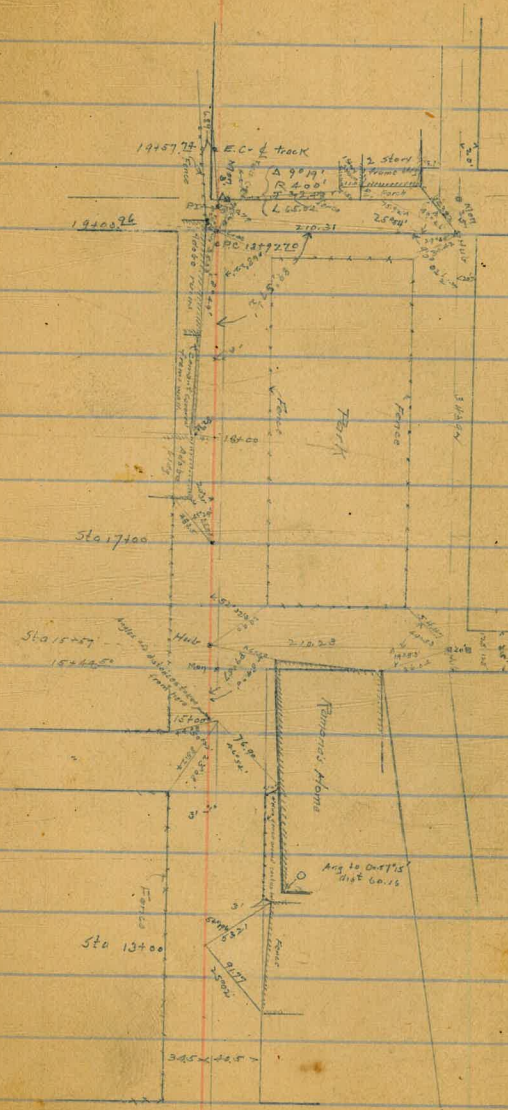


362-54 curve

Compass  
ST

26/10/1908

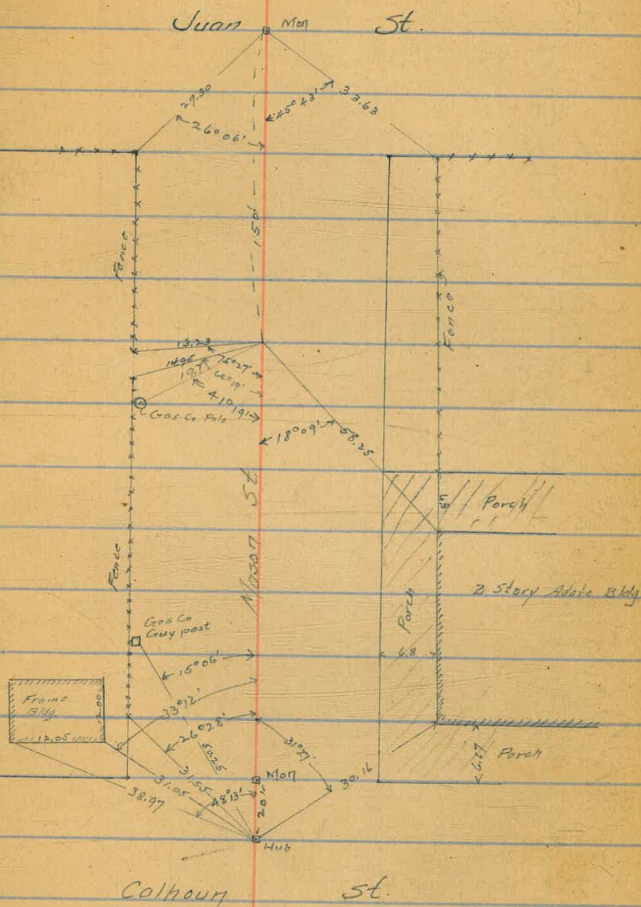
15  
 14  
 13  
 12  
 11  
 10  
 9  
 8  
 7  
 6  
 5  
 4  
 3  
 2  
 1



Davis  
Hancock

6-22-18

53



45.0

5

45.0

54

MAIN

ST

44.0

44.0

5

35.0

35.0

39.0

35.0

COLTON

33.0

33.0

35.0

33.0

31.0

32.0

31<sup>st</sup> St Water Main  
Stakes 2' E of 6" x pipe

298 46.86

43.88

So Line Main

Grade

43.75

50' So

43.8

42.48

42.25

0.23

100' So

41.78

41.19

41.59

40.73

0.84

150' So

40.8

39.78

39.25

0.53

200' So

39.31

38.44

37.75

0.69

Ave. 250' So

40.0

39.58

36.25

1.33

300' So - W. Colton

38.8

36.40

34.75

1.65

10' So x CL Colton

40.0

38.88

35.41

1.11

Colton Ave Main  
Stakes set 2' W of 6" x pipeEL 31<sup>st</sup>

40.0

34.64

33.44

1.10

50' E

40.31

34.49

33.63

0.84

100' E

40.59

35.11

33.88

1.59

150'

40.86

36.04

34.01

0.01

200'

41.16

36.32

34.20

0.12

250'

41.54

37.24

34.38

0.96

300'

38.94

42.0

38.10

34.57

3.53

250'

42.76

38.18

34.76

3.42



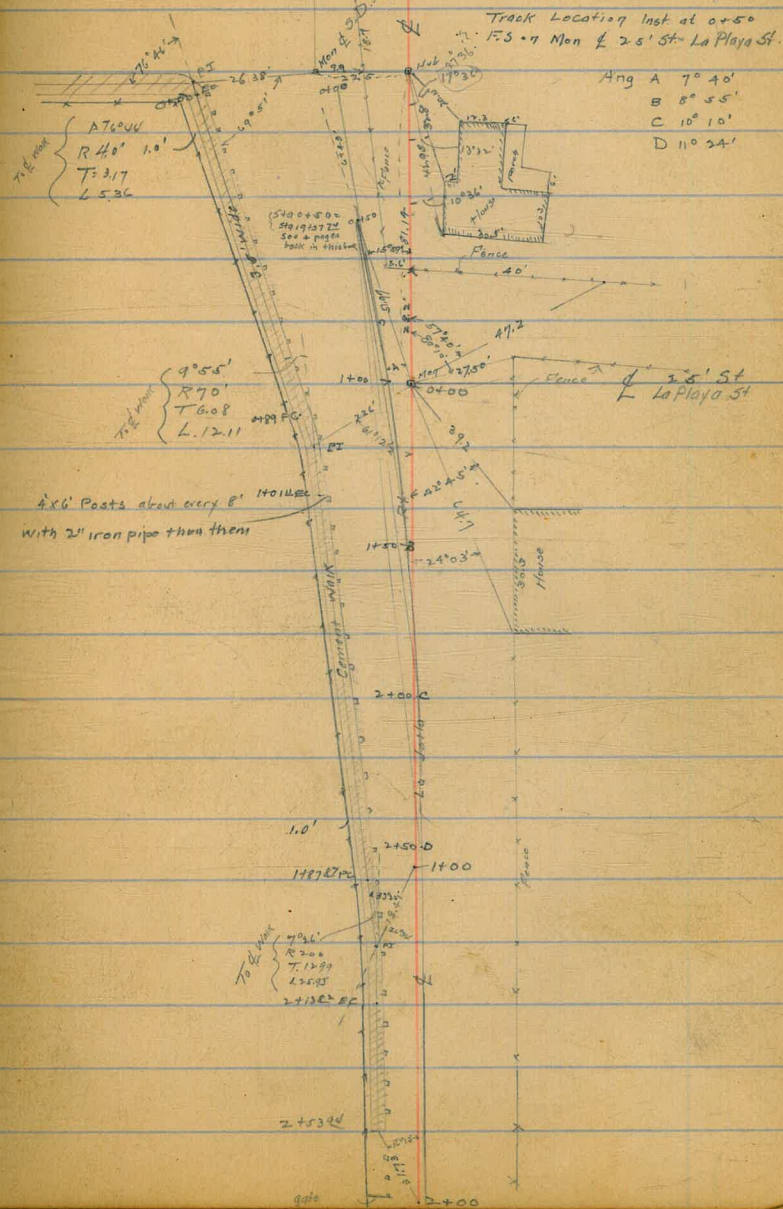
400 E	128	37.66	34.95	2.71
450	186	37.08	35.14	1.94
500	244	36.50	35.33	1.17
549: NL 32nd	312	35.82	35.44	0.38
10 E of Q 32nd	494	34.0	34.00	

Levels over Rail of La Playa Track on Garden St

Station	Offset	Station	Offset	Notes
	4.68	10.72		6.04 BM Mon St Taylor & Chestnut
T.P	4.46	10.13	5.05	5.67
T.P	3.05	8.38	4.80	5.32
T.P	5.32	12.90	0.81	7.57 - Top red & white post NE Taylor & Garden
	6+63.5	W.L Taylor	7.20	5.70
	6+135	W.L Taylor	7.00	5.90
	6		6.85	6.05
	5+63.5	E.L Taylor	6.48	6.42
	5		5.74	7.16
	+50		5.02	7.88
	4		4.10	8.80
	+50		3.15	9.75
	3		2.33	10.57
	+50		1.80	11.10
T.P 2	6.29	18.05	1.11	11.79
	+50		5.65	12.43
	1		5.22	12.85
	+50 = 19+57.74		4.76	13.32
	0+00		4.22	13.86

Location of Improvements on Garden St

1) Davis  
3) Roche  
19) Sherwin



Track Location lost at 0+50  
F.S. on Mon & 25' St - La Playa St.

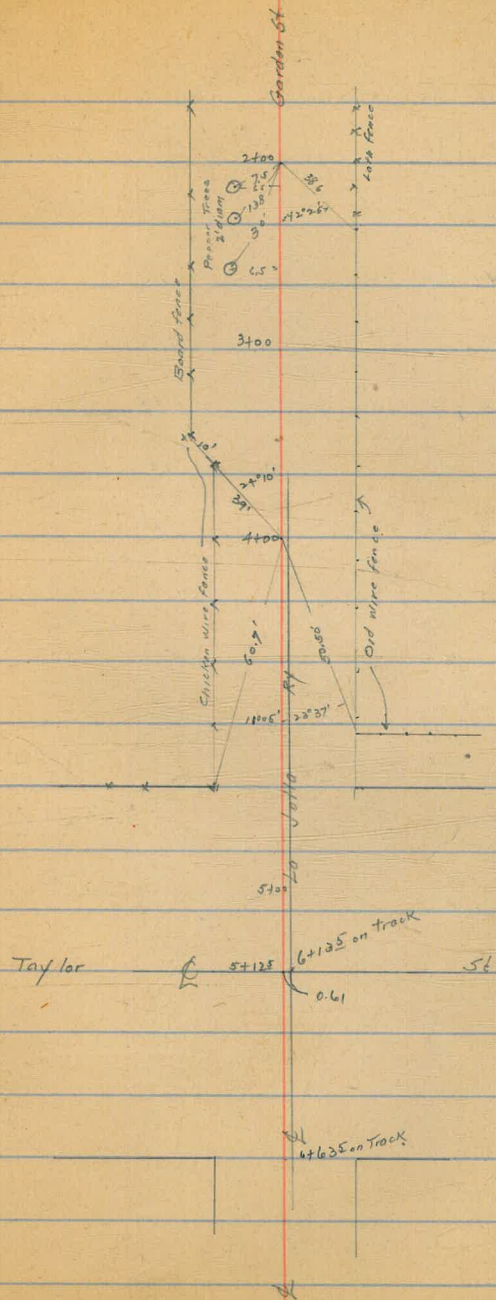
Ang A 7° 40'  
B 5° 55'  
C 10° 10'  
D 11° 24'

Fence of 25' St  
La Playa St

#X6 Posts about every 6'  
with 2\"/>

18.00  
Levels over Murdoch's Sidewalk on Gordon St.

0+00	4.07	14.01
+25	4.54	13.54
+50	4.85	13.23
+75	5.14	12.94
+89.0 P.C.	5.17	12.91
+101.4 E.C.	5.19	12.89
+125	5.22	12.86
+150	5.24	12.84
+175	5.21	12.77
+187.8 P.C.	5.33	12.75
+213.8 E.C.	5.60	12.48
+225	5.72	12.36
+232.9 END	5.90	12.18



FOR XSECTION OF CURVE SEE

BOOK 1060

Cross Section Taylor St. Garden to Juan

1 (Doris)  
4 (Roché)  
19 (Dorwin)

58

Ht.

125 8.82

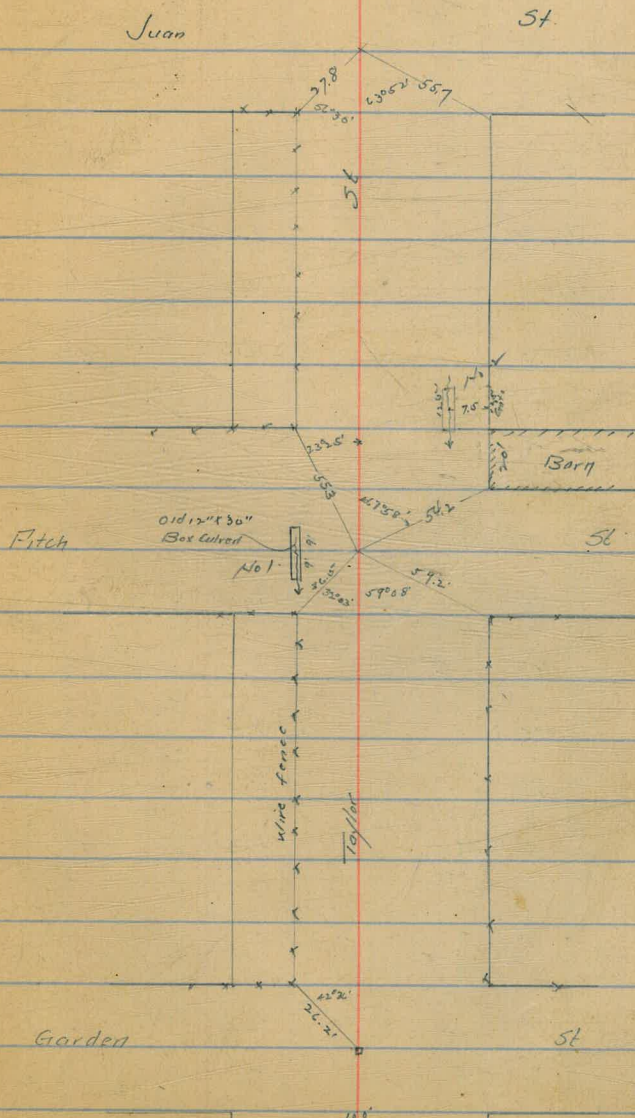
7.57 B.M. Top post NE Taylor-Garden

No line Garden

W.L. Taylor	7.0	1.8
15' W Ctr	7.2	1.6
10 " "	7.0	1.8
C	6.9	1.9
10 E	7.0	1.8
15 "	7.1	1.7
E Line	6.6	2.2

6' No Garden

E Line	7.5	1.3
15' E Ctr	8.1	0.7
10 E	7.7	1.1
C	8.3	0.5
12' W	8.2	0.6
15 "	8.0	0.8
W. Line	8.3	0.5



Taylor 54

8.82

25' N. Garden

W. Line	86	0.2
15' W Ch	85	0.3
10"	86	0.2
C	84	0.4
10' E	82	0.6
15"	83	0.5
E Line	81	0.7

30' N.

E Line	83	0.5
15' E Ch	81	0.7
10"	82	0.6
C	83	0.5
10' W	83	0.5
15"	84	0.4
W. Line	84	0.4

59

75' N.

W. Line	83	0.5
15' W Ch	84	0.4
10"	83	0.5
C	83	0.5
10' E	83	0.5
15"	84	0.4
E Line	83	0.5

10' N.

E	79	0.9
15' E Ch	82	0.6
10"	79	0.9
C	81	0.7
10' W	82	0.6
15"	82	0.6
W. L.	78	1.0

Taylor St  
8.82  
125 No Garden

W.L.	77	1.1
15 Wctr	79	0.9
10	78	1.0
C	82	0.6
10' E Ctr	79	0.9
15"	79	0.9
E.L.	78	1.0

150 No

E.L.	72	1.6
15' E Ctr	78	1.0
10 "	75	1.3
C	75	1.3
10' W	79	0.9
15"	79	0.9
W.L.	76	1.2

165 No

15 Wctr	78	1.0
10	76	1.2
C	73	1.5
10 E	73	1.5
15 "	73	1.5

60

175 No

W.L.	75	1.3
15 Wctr	65	2.2
10 "	67	2.1
C	60	2.8
10' E	62	2.6
15"	68	2.0
E.L.	70	1.8

194 No

15' E Ctr	64	2.4
10 "	63	2.5
C	62	2.4
10' W	77	1.1
15' W	81	0.7

195 No S. Line Fitch

W.L.	78	1.0
15' W Ctr	81	0.7
10 "	78	1.0
C	74	1.4
10' E	76	1.2
15' E	75	1.3
E.L.	71	1.7

Taylor St

882

15' N of SL Fitch.

EL.	55	33
15' E ctr	55	33
10' "	55	33
C	57	31
10' W	58	30
15' "	58	30
W.L.	58	30

☿ of 40' St.

W.L.	56	32
15' W ctr	56	32
10	56	32
C	52	32
10' E	52	34
15' "	52	34
EL	52	36
No. End Cyl. N. 1	8.2	0.5
5. " "	8.3	0.5

61

6' N of ☿ 40' St

EL	53	35
15' E ctr	56	32
10' "	56	32
C	55	33
10' W	58	30
15' "	56	33
W.L.	60	28

15' N. ☿ 40' St

W.L.	78	10
15' W ctr	78	10
10'	77	11
C	80	08
10' E	80	08
15' "	83	05
EL	81	07

Taylor St  
8.82 (Calhoun)

No Line Pitch - 40' St

EL	67	21
46' E $\phi$	81	0.7
15' E $\phi$	79	0.9
10"	8.0	0.8
C	78	10
16' W	80	0.8
15"	81	0.7
W.L.	78	10

30' W. of 40' St: N.L. 70' St on W Side Taylor = 0100

W.L.	62	26
15' W Ctr	66	22
10'	67	21
C	65	23
10' E	64	24
15"	65	24
EL.	61	27
N. End Cal No. 2	77	11
5 " "	77	11

62

0125

W.L.	72	1.6
15' W $\phi$	69	1.9
10"	68	2.0
C	70	1.8
10' E $\phi$	67	2.1
15"	67	2.1
35"	66	2.2
45"	72	1.6
EL	55	3.3

0150

EL	51	3.7
45' E $\phi$	68	2.0
30"	60	2.8
15"	63	2.5
10	60	2.8
C	63	2.5
10' W $\phi$	63	2.5
15	61	2.7
W.L.	70	1.8

B.M. Nail Telephone NW Taylor-Fitch 421

4.61



318	7.75	4.61	
	6.75		
WL	54	2.4	
15Wd	46	3.7	
10"	48	3.0	
C	50	2.8	
10'E	51	2.7	
15"	50	2.8	
34"	51	2.7	
38"	63	1.5	
EL	47	3.1	
	1400		
EL	48	3.0	
39'Et	61	1.7	
31"	52	2.6	
15"	50	2.8	
10"	50	2.8	
C	53	2.5	
10W	51	2.7	
15"	50	2.8	
W.L.	53	2.5	

	1425	
WL	51	2.7
15Wd	51	2.7
10"	50	2.8
C	53	2.5
10'E	52	2.6
15"	52	2.6
32"	51	2.7
37"	58	2.0
EL	47	3.1
	1450	
EL	37	4.1
43'Et	58	2.0
34"	48	3.0
15	54	2.4
10	55	2.3
C	52	2.6
10Wd	51	2.7
15	50	2.8
W.L.	54	2.4

Taylor St

2.29

1+75

W.L.	52	26
15' W $\phi$	53	25
10 "	53	25
C	53	25
10' E	53	25
15 "	54	24
34 "	49	29
45	57	21
E.L.	42	36

2+00

E.L.	37	4.1
45' E $\phi$	53	25
32 "	48	30
15 "	49	29
10 "	51	27
C	54	24
10' W	55	23
15 "	55	23
W.L.	62	16

64

2+25 = S.L. Juan

W.L.	52	24
15' W $\phi$	44	34
10 "	46	32
C	43	35
10' <del>W</del>	40	38
15 "	48	40
32 "	47	31
43 "	55	23
44	47	31
E.L.	44	34
S.O. End Cut + 3	6.1	17
No "	54.5	2.34

15 No of S.L. Juan

15' E $\phi$	21	57
10 "	24	54
C	27	5.1
10' W	39	39
15 "	39	39

Taylor St

 $\frac{779}{E \text{ Juan}}$ 

15 W E	28	5.0
10 "	27	5.4
C	2.3	5.5
10 E	25	5.3
15 "	24	5.2

No line Juan

15 E E	3.3	4.5
10 "	3.1	4.7
C	2.7	5.1
10 W	2.5	5.3
15 "	2.2	5.4

Sept Ed prob N.E. Taylor & Juan	1.80	5.99
---------------------------------	------	------

3.52

11.09

7.57 - No. 1 top post N.E. Taylor &amp; S.D.

$$\begin{array}{r} 1.92 \\ 39.2 \\ \hline 41.18 \\ 20.57 \\ \hline 45.57 \end{array}$$

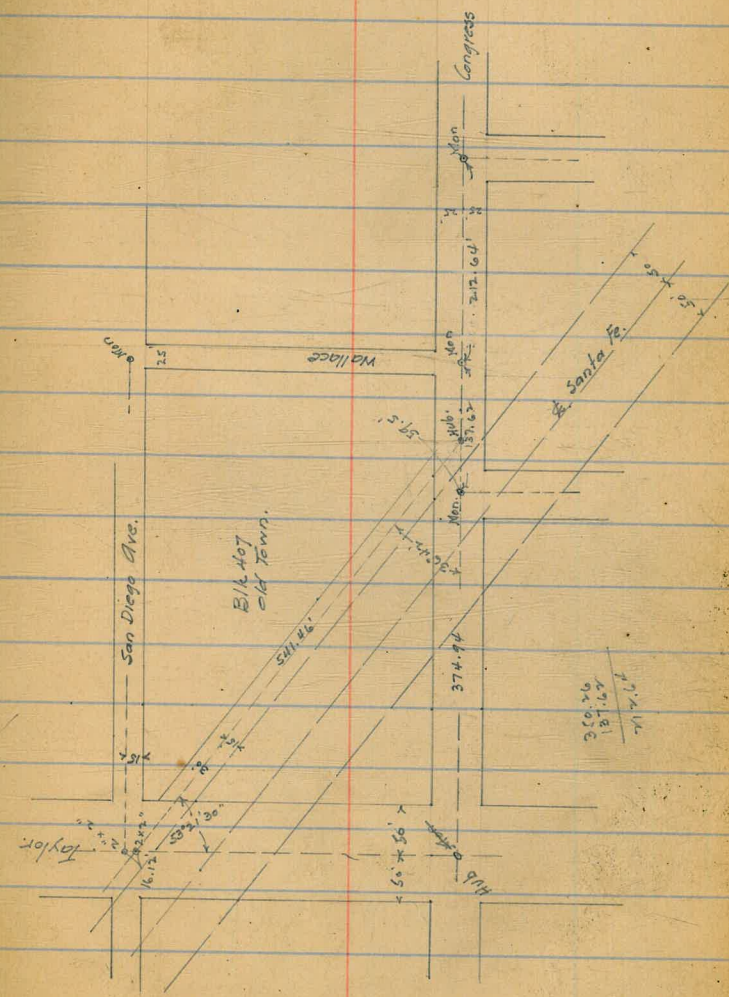
53-21-30"  
 26-18-30  
 73-74  
 36-14

$$\begin{array}{r} 74.75 \\ 86.73 \\ \hline 158.48 \\ 121.80 \\ \hline 280.28 \\ 120.39 \\ \hline 165.39 \end{array}$$

$$\begin{array}{r} 74.75 \\ 17.05 \\ \hline 171.80 \\ 786 \\ \hline 351 \end{array}$$

$$\begin{array}{r} 51.7 \\ 126.08 \\ \hline 177.78 \\ 88.87 \\ \hline 113.89 \end{array}$$

511.46



FOR X SECTION OF CURVE  $\frac{2}{6}$  } Davis  
 HERE SEE BOOK 1060  $\frac{6}{19}$  } Rocks  
 } Sherwin

Cross Section 30' Roadway on San Diego Ave. Taylor to Nelson St

+ 25

	352	11.09 W.L. Taylor	7.57 Nail Top post NE Taylor & S.D.
25' No. 1		10.5	0.6
18 "		10.1	1.0
15 "		9.2	1.8
12 "		9.1	2.0
9 "		6.5	4.6
3 "		6.1	5.0
C		5.6	5.5
10' 50		6.7	4.4
15 "		8.2	2.9
20 "		9.6	1.5
25 "		10.2	0.9
	+ 25		
25' 50		9.7	1.4
20 "		9.0	2.1
15 "		8.0	3.1
12 "		6.6	4.5
10 "		6.3	4.8
C		5.9	5.2
3' No.		6.1	4.7
10 "		7.7	3.4
15 "		9.5	1.6
17 "		10.4	0.7
20 "		10.7	0.4
25 "		10.6	0.5
	E. Taylor		
25' No.		10.6	0.5
20 "		10.4	0.7
15 "		9.0	2.1
10 "		7.5	4.1
6 "		5.3	5.8
C		5.5	5.6
10' 50		6.3	4.8
15 "		7.9	3.2
20 "		8.8	2.3
25 "		9.5	1.6

25' 50	9.6	1.5
20 "	8.8	2.3
15 "	6.8	4.3
13 "	6.1	5.0
10 "	5.9	5.2
C	5.3	5.8
6' No.	6.2	4.9
10 "	7.5	3.6
15 "	8.9	2.2
20 "	10.2	0.9
25 "	10.4	0.7

E. L. Taylor = 8+73.47

25' No.	9.9	1.2
20 "	9.7	1.4
15 "	8.9	2.2
10 "	7.4	3.7
6 "	5.7	5.2
C	5.0	6.1
10' 50	5.5	5.6
15 "	5.9	5.2
15 "	7.1	4.0
20 "	8.8	2.3
25 "	9.6	1.5

8+50

25' 50	9.9	1.2
40 "	9.1	2.0
15 "	7.1	4.0
17 "	5.2	5.9
10 "	5.2	5.9
C	4.8	6.3
+6	5.5	5.6
+10	7.5	3.6
+15	10.0	1.1
+45	10.8	0.3

8+00

+25 No	107	0.4
+17	103	0.8
+15	9.0	1.7
+10	7.0	4.1
+6	4.8	6.3
C	41	7.0
+10 50	44	6.7
+15	75	3.6
+20	92	1.9
+30	10.4	0.7
+30 50	10.7	0.9
+20	9.1	2.0
+15	6.3	4.8
+10	3.8	7.3
C	3.3	7.8
+6 No.	3.8	7.3
+10	5.9	5.2
+15	8.6	2.5
+30	10.9	0.2

7+50

+30 No.	10.5	0.6
+20	9.9	1.2
+15	8.3	2.8
+10	5.6	5.5
+7	3.5	7.6
C	2.5	8.6
+10 50	3.3	7.8
+15	5.9	5.2
+25	9.8	1.3
+35	10.9	0.2

7+00

6+65

+35 50	10.3	0.8
+15 "	6.5	4.6
+10 "	3.0	8.1
C	1.8	9.3
+5 No.	2.9	8.2
+10	6.4	4.7
+15	7.8	3.3
+25	8.9	2.2
+25 No.	5.0	6.1
+15 "	5.3	5.8
+10	3.7	7.4
+6	2.3	8.8
C	1.5	9.6
+10 50	2.4	8.7
+15	4.0	7.1
+25	7.6	3.5
+35	9.7	1.4
+25 50	1.4	9.7
+15 "	0.5	10.6
+10	1.9	9.2
C	1.2	9.9
T.P. 6.89	17.09	0.87
+10 No.	6.0	11.1
+12	6.0	11.1
+13	9.1	8.0
+15	9.1	8.0
+25	9.3	7.8

6+39

17.09

6+32

+25 N.	70	10.1
+15	69	10.2
+13	68	10.3
+12	59	11.2
+10	59	11.2
C	70	10.1
+7.50	69	10.2
+8	63	10.8
+10	62	10.9
+15	59	11.2
+25	67	10.4

6+00

+15.50	56	11.5
+10 "	55	11.6
+5 "	64	10.7
C	66	10.5
+10 N.	52	11.9
+15 "	52	11.9

5+50

15 N.	47	12.4
10 "	47	12.4
C	61	11.0
10.50	53	11.8
15	55	11.6

69

5+00

+15 S.	52	11.7
10	52	11.9
C	55	11.6
10 N.	44	12.7
15 "	43	12.8
4+88.35 = EC		
+15 N.	43	12.8
+10	45	12.6
C	54	11.7
+10.50	53	11.8
+15	55	11.6

4+75

+15.50	56	11.5
+10 "	53	11.8
C	51	12.0
+10 N.	44	12.7
+15 "	43	12.8

4+50

+15 N.	43	12.8
+10	44	12.7
C	47	12.4
+10.50	51	12.0
+15	55	11.6

	4+25		
+25 So	6.5	10.6	
+15	5.6	11.5	
+10	5.0	12.1	
C	4.5	12.6	
+10 No	4.3	12.8	
+15	4.2	12.9	
	4+0726 = P.C		
+15 No	4.2	12.9	
+10	4.3	12.8	
C	4.3	12.8	
+10 So	4.5	12.6	
+15	5.3	12.8	
+25	6.5	10.6	
	3+7326 = EC		
15 So	4.1	13.0	
10	4.1	13.0	
C	4.2	12.9	
10 No	4.1	13.0	
15	3.9	13.2	
	3+50		
15 No	3.6	13.5	
10	3.9	13.2	
C	3.9	13.2	
10 So	3.9	13.2	
15	4.1	13.0	

	3+25		
15 So	3.5	13.6	
10	3.6	13.5	
C	3.7	13.4	
10 No	4.1	13.0	
15	3.7	13.4	
	3+00		
15 No	3.8	13.3	
10	3.7	13.4	
C	3.5	13.6	
+10 So	3.4	13.7	
15	2.1	15.0	
	T.P 7.16	21.39	2.86
		2+7932 = P.C	14.23
15 So	6.3	15.1	
10	7.4	14.0	
C	7.5	13.9	
10 No	7.7	13.7	
15	7.8	13.6	
	2+50		
15 No	7.2	14.2	
10	6.9	14.5	
C	7.0	14.4	
10 So	6.8	14.6	
15	6.9	14.5	



21.39

2+0°

15 So	6.4	15.0
10	6.2	15.0
C	6.3	15.1
10 No	6.1	15.3
15	6.2	15.0
15 No	5.1	16.3
10 "	5.6	15.8
C	5.9	15.5
10	5.7	15.7
15 So	5.3	15.9
15 So	5.3	16.1
10	5.2	16.2
C	5.2	16.2
140145. Ang Pt		
15 So	4.6	16.8
10	5.0	16.4
C	5.1	16.3
10	4.6	16.8
15 No	4.5	16.9

71

0+5°

15 No	3.1	18.3
10	3.3	18.1
6	4.0	17.4
C	4.2	17.2
10 So	4.1	17.3
15	4.2	17.2
0+00° W.L. Masony St		
15 So	3.3	18.1
10	3.0	18.4
C	2.2	19.2
10	2.2	19.2
15 No	1.8	19.6
+27.5° E Masony St		
15 No	0.9	20.5
10	0.8	20.6
C	1.3	20.1
10	1.9	20.5
15 So	2.1	19.3
+55° E Line Masony		
15 So	1.1	20.0
10	1.1	20.3
C	0.9	20.5
10	0.8	20.6
15 No	0.4	21.0
B.M. Nail Light Pole NE Cor Masony St		
	0.12	21.29

Curb	Property
0+00 19.4 C.0.81	19.96 C.130
+50 18.53 C.0.4	19.05 C.0.63
1+00 17.67 C.0.38	18.14 C.0.56
1+50 16.80 C.0.60	17.23 C.0.90
2+00 15.93 C.1.01	16.34 C.0.53
2+50 15.06 C.1.32	15.41 C.0.80
2+76 <sup>50</sup> 14.60 C.1.60	14.93 C.0.88

ENGINEERING DEPARTMENT,  
 CITY OF SAN DIEGO,  
 CALIFORNIA.

$$\begin{array}{r}
 19.4 \\
 14.6 \\
 \hline
 276.50 \int 4.800 = 0.01736 \\
 \hline
 276.5
 \end{array}$$

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.  
 Distance of slope stake from side or slope stake for any width roadway, slope 1 to 1. If ground is nearly level, the cut or fill at a stake is located by the double entry method. The left column and top row. The number in the left column gives distance.

## IMPROVED TABLES AND INFORMATION

To find Tangent and External for curve of any other degree, divide by degree of curve and add connection found in column of connections. Degree of curve with a given I may be found by dividing tangent (or external), opposite I by given tangent (or external). The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

TABLE No. 2.

TABLE VI (continued)  
SINES, COSINES, TANGENTS, COTANGENTS (continued)

deg	sin 0'	tan 0'	sin 10'	tan 10'	sin 20'	tan 20'	sin 30'	tan 30'	sin 40'	tan 40'	sin 50'	tan 50'	deg
46	7193	1.0355	7214	1.0416	7234	1.0477	7254	1.0533	7274	1.0599	7294	1.0661	43
47	314	.0724	333	.0786	353	.0850	373	.0913	392	.0977	412	.1041	42
48	431	.1106	451	.1171	470	.1237	490	.1303	509	.1369	528	.1436	41
49	547	.1504	566	.1571	585	.1640	604	.1708	623	.1778	642	.1847	40
50	660	.1918	679	.1988	698	.2059	716	.2131	735	.2204	753	.2276	39
51	771	.2349	790	.2423	808	.2497	826	.2572	844	.2647	862	.2723	38
52	880	.2799	898	.2876	916	.2954	934	.3032	951	.3097	969	.3190	37
53	986	.3270	9004	.3351	8021	.3452	8039	.3514	8056	.4106	8073	.3680	36
54	8090	.3764	107	.3848	124	.3934	141	.4019	158	.4041	175	.4193	35
55	192	.4281	208	.4370	225	.4460	241	.4550	258	.4520	274	.4733	34
56	290	.4826	307	.4919	323	.5013	339	.5108	355	.5098	371	.5301	33
57	387	.5399	403	.5497	418	.5597	434	.5697	450	.5626	465	.5900	32
58	480	.6003	496	.6107	511	.6212	526	.6319	542	.7090	557	.6534	31
59	572	.6643	587	.6753	601	.6864	616	.6977	631		646	.7205	30
60	660	1.7321	8675	1.7437	8689	1.7556	8704	1.7675	8718	1.7797	8732	1.7917	29
61	746	.8040	760	.8165	774	.8291	788	.8418	802	.8546	816	.8676	28
62	829	.8807	843	.8940	857	.9074	870	.9210	884	.9347	897	.9486	27
63	910	.9626	923	.9768	936	.9912	949	2.0057	962	2.0204	975	2.0353	26
64	988	2.0503	9001	2.0655	9013	2.0809	9026	.0965	9038	.1123	9051	.1283	25
65	9063	.1445	075	.1609	088	.1775	100	.1943	112	.2113	124	.2286	24
66	135	.2460	147	.2637	159	.2817	171	.2998	182	.3183	194	.3369	23
67	205	.3559	216	.3750	228	.3945	239	.4142	250	.4342	261	.4545	22
68	272	.4751	283	.4960	293	.5172	304	.5386	315	.5605	325	.5826	21
69	336	.6051	346	.6279	356	.6511	367	.6746	377	.6985	387	.7228	20
70	397	2.7475	9407	2.7725	9417	2.7980	9426	2.8239	9436	2.8502	9446	2.8770	19
71	455	.9042	465	.9319	474	.9600	483	.9887	492	3.0178	502	3.0475	18
72	511	3.0777	520	3.1084	528	3.1397	537	3.1716	546	.2041	555	.2371	17
73	563	.2709	572	.3052	580	.3402	588	.3759	596	.4124	605	.4495	16
74	613	.4874	621	.5261	628	.5656	636	.6059	644	.6470	652	.6891	15
75	659	.7321	667	.7760	674	.8208	681	.8657	689	.9136	696	.9617	14
76	703	4.0108	710	4.0611	717	4.1126	724	4.1653	730	4.2193	737	4.2747	13
77	744	.3315	750	.3897	757	.4494	763	.5107	769	.5736	775	.6382	12
78	781	.7046	787	.7729	793	.8430	799	.9152	805	.9894	811	5.0658	11
79	816	.1446	822	5.2257	827	5.3093	833	5.3955	838	5.4845	843	.5764	10
80	9848	5.6713	9853	5.7694	9858	5.8708	9863	5.9758	9868	6.0844	9872	6.1970	9
81	877	6.3138	881	6.4348	886	6.5606	890	6.6912	894	.8269	899	.9682	8
82	903	7.1154	907	7.2687	911	7.4287	914	7.5958	918	7.7704	922	7.9530	7
83	925	8.1443	929	8.3450	932	8.5555	936	8.7769	939	9.0098	942	9.2553	6
84	945	9.5144	948	9.7882	951	10.078	954	10.385	957	10.711	959	11.059	5
85	962	11.430	964	11.826	967	12.250	969	12.706	971	13.197	974	13.727	4
86	976	14.300	978	14.924	980	15.605	981	16.350	983	17.169	985	18.075	3
87	986	19.081	988	20.206	989	21.470	990	22.903	992	24.542	993	26.432	2
88	994	28.636	995	31.242	996	34.368	997	38.189	997	42.964	998	49.104	1
89	9998	57.290	9999	68.750	9999	85.940	9999	114.58	1.000	171.88	1.000	343.77	0
90	cos	60'	cos	50'	cos	40'	cos	30'	cos	20'	cos	10'	cos

TABLE VII  
RODS IN FEET AND INCHES

Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches
1	16-6	21	346-6	41	676-6	61	1006-6	81	1336-6
2	33-0	22	363-0	42	693-0	62	1023-0	82	1363-0
3	49-6	23	379-6	43	709-6	63	1039-6	83	1369-6
4	66-0	24	396-0	44	726-0	64	1056-0	84	1386-0
5	82-6	25	412-6	45	742-6	65	1072-6	85	1402-6
6	99-0	26	429-0	46	759-0	66	1089-0	86	1419-0
7	115-6	27	445-6	47	775-6	67	1105-6	87	1435-6
8	132-0	28	462-0	48	792-0	68	1122-0	88	1452-0
9	148-6	29	478-6	49	808-6	69	1138-6	89	1468-6
10	165-0	30	495-0	50	825-0	70	1155-0	90	1485-0
11	181-6	31	511-6	51	841-6	71	1171-6	91	1501-6
12	198-0	32	528-0	52	858-0	72	1188-0	92	1518-0
13	214-6	33	544-6	53	874-6	73	1204-6	93	1534-6
14	231-0	34	561-0	54	891-0	74	1221-0	94	1551-0
15	247-6	35	577-6	55	907-6	75	1237-6	95	1567-6
16	264-0	36	594-0	56	924-0	76	1254-0	96	1584-0
17	280-6	37	610-6	57	940-6	77	1270-6	97	1600-6
18	297-0	38	627-0	58	957-0	78	1287-0	98	1617-0
19	313-6	39	643-6	59	973-6	79	1303-6	99	1633-6
20	330-0	40	660-0	60	990-0	80	1320-0	100	1650-0

TABLE VIII  
LINKS IN FEET AND INCHES

Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches
1	0-7.92	18	11-10.56	35	23-1.20	52	34-3.84	69	45-6.48	86	56-9.12
2	1-3.84	19	12-6.48	36	23-9.12	53	34-11.76	70	46-2.40	87	57-5.04
3	1-11.76	20	13-2.40	37	24-5.04	54	35-7.68	71	46-10.32	88	58-0.96
4	2-7.68	21	13-10.32	38	25-0.96	55	36-3.60	72	47-6.24	89	58-8.88
5	3-3.60	22	14-6.24	39	25-8.88	56	36-11.52	73	48-2.16	90	59-4.80
6	3-11.52	23	15-2.16	40	26-4.80	57	37-7.44	74	48-10.08	91	60-0.72
7	4-7.44	24	15-10.08	41	27-0.72	58	38-3.36	75	49-6.00	92	60-8.64
8	5-3.36	25	16-6.00	42	27-8.64	59	38-11.28	76	50-1.92	93	61-4.56
9	5-11.28	26	17-1.92	43	28-4.56	60	39-7.20	77	50-9.84	94	62-0.48
10	6-7.20	27	17-9.84	44	29-0.48	61	40-3.12	78	51-5.76	95	62-8.40
11	7-3.12	28	18-5.76	45	29-8.40	62	40-11.04	79	52-1.68	96	63-4.32
12	7-11.04	29	19-1.68	46	30-4.32	63	41-6.96	80	52-9.60	97	64-0.24
13	8-6.96	30	19-9.60	47	31-0.24	64	42-2.88	81	53-5.52	98	64-8.16
14	9-2.88	31	20-5.52	48	31-8.16	65	42-10.80	82	54-1.44	99	65-4.08
15	9-10.80	32	21-1.44	49	32-4.08	66	43-6.72	83	54-9.36	100	66-.000
16	10-6.72	33	21-9.36	50	33-0.00	67	44-2.64	84	55-5.28	101	66-7.92
17	11-2.64	34	22-5.28	51	33-7.92	68	44-10.56	85	56-1.20	102	67-3.84

TABLE X.  
MIDDLE ORDINATES OF RAILS  
Length of Rail (feet)

C	R	30	28	26	24	22	20	C	R	30	28	26	24	22	20
o /	Feet	Inch	Inch	Inch	Inch	Inch	Inch	o	Feet	Inch	Inch	Inch	Inch	Inch	Inch
0-20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0-40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1-0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1-20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1-40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	3.47	2.15	1.81	1.54	1.26
2-0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2-20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2-40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3-0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3-20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3-40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4-0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4-20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4-40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

TABLE XI.  
SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

To find length of curve divide angle from P. C. to P. T. by central angle of chord, and multiply by length of chord.

TABLE XII.  
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

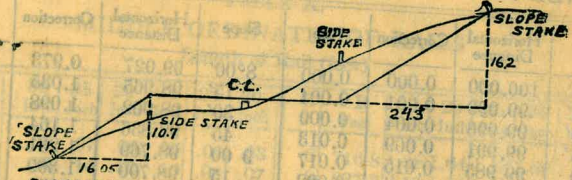
Slope	Horizontal Distance	Correction	Rise	Slope	Horizontal Distance	Correction	Rise
0°00'	100.000	0.000	0.000	8°00'	99.027	0.973	0.139
15'	99.999	0.001	0.004	15'	98.965	1.035	0.143
30'	99.996	0.004	0.009	30'	98.902	1.098	0.148
45'	99.991	0.009	0.013	45'	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

For each foot take one one-hundredth of each reading.

TABLE XIII.  
MINUTES IN DECIMALS OF A DEGREE.

0 30"	.00833	10' 30"	.17500	20' 30"	.34167	30' 10"	.50833	40' 30"	.67500	50' 10"	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000

INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0 30	0 45	0 60	0 75	0 90	1 05	1 20	1 35	0
1	1 50	1 65	1 80	1 95	2 10	2 25	2 40	2 55	2 70	2 85	1
2	3 00	3 15	3 30	3 45	3 60	3 75	3 90	4 05	4 20	4 35	2
3	4 50	4 65	4 80	4 95	5 10	5 25	5 40	5 55	5 70	5 85	3
4	6 00	6 15	6 30	6 45	6 60	6 75	6 90	7 05	7 20	7 35	4
5	7 50	7 65	7 80	7 95	8 10	8 25	8 40	8 55	8 70	8 85	5
6	9 00	9 15	9 30	9 45	9 60	9 75	9 90	10 05	10 20	10 35	6
7	10 50	10 65	10 80	10 95	11 10	11 25	11 40	11 55	11 70	11 85	7
8	12 00	12 15	12 30	12 45	12 60	12 75	12 90	13 05	13 20	13 35	8
9	13 50	13 65	13 80	13 95	14 10	14 25	14 40	14 55	14 70	14 85	9
10	15 00	15 15	15 30	15 45	15 60	15 75	15 90	16 05	16 20	16 35	10
11	16 50	16 65	16 80	16 95	17 10	17 25	17 40	17 55	17 70	17 85	11
12	18 00	18 15	18 30	18 45	18 60	18 75	18 90	19 05	19 20	19 35	12
13	19 50	19 65	19 80	19 95	20 10	20 25	20 40	20 55	20 70	20 85	13
14	21 00	21 15	21 30	21 45	21 60	21 75	21 90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23 10	23 25	23 40	23 55	23 70	23 85	15
16	24 00	24 15	24 30	24 45	24 60	24 75	24 90	25 05	25 20	25 35	16
17	25 50	25 65	25 80	25 95	26 10	26 25	26 40	26 55	26 70	26 85	17
18	27 00	27 15	27 30	27 45	27 60	27 75	27 90	28 05	28 20	28 35	18
19	28 50	28 65	28 80	28 95	29 10	29 25	29 40	29 55	29 70	29 85	19
20	30 00	30 15	30 30	30 45	30 60	30 75	30 90	31 05	31 20	31 35	20
21	31 50	31 65	31 80	31 95	32 10	32 25	32 40	32 55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33 60	33 75	33 90	34 05	34 20	34 35	22
23	34 50	34 65	34 80	34 95	35 10	35 25	35 40	35 55	35 70	35 85	23
24	36 00	36 15	36 30	36 45	36 60	36 75	36 90	37 05	37 20	37 35	24
25	37 50	37 65	37 80	37 95	38 10	38 25	38 40	38 55	38 70	38 85	25
26	39 00	39 15	39 30	39 45	39 60	39 75	39 90	40 05	40 20	40 35	26
27	40 50	40 65	40 80	40 95	41 10	41 25	41 40	41 55	41 70	41 85	27
28	42 00	42 15	42 30	42 45	42 60	42 75	42 90	43 05	43 20	43 35	28
29	43 50	43 65	43 80	43 95	44 10	44 25	44 40	44 55	44 70	44 85	29
30	45 00	45 15	45 30	45 45	45 60	45 75	45 90	46 05	46 20	46 35	30
31	46 50	46 65	46 80	46 95	47 10	47 25	47 40	47 55	47 70	47 85	31
32	48 00	48 15	48 30	48 45	48 60	48 75	48 90	49 05	49 20	49 35	32
33	49 50	49 65	49 80	49 95	50 10	50 25	50 40	50 55	50 70	50 85	33
34	51 00	51 15	51 30	51 45	51 60	51 75	51 90	52 05	52 20	52 35	34
35	52 50	52 65	52 80	52 95	53 10	53 25	53 40	53 55	53 70	53 85	35
36	54 00	54 15	54 30	54 45	54 60	54 75	54 90	55 05	55 20	55 35	36
37	55 50	55 65	55 80	55 95	56 10	56 25	56 40	56 55	56 70	56 85	37
38	57 00	57 15	57 30	57 45	57 60	57 75	57 90	58 05	58 20	58 35	38
39	58 50	58 65	58 80	58 95	59 10	59 25	59 40	59 55	59 70	59 85	39
40	60 00	60 15	60 30	60 45	60 60	60 75	60 90	61 05	61 20	61 35	40
41	61 50	61 65	61 80	61 95	62 10	62 25	62 40	62 55	62 70	62 85	41
42	63 00	63 15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64 35	42
43	64 50	64 65	64 80	64 95	65 10	65 25	65 40	65 55	65 70	65 85	43
44	66 00	66 15	66 30	66 45	66 60	66 75	66 90	67 05	67 20	67 35	44
45	67 50	67 65	67 80	67 95	68 10	68 25	68 40	68 55	68 70	68 85	45
46	69 00	69 15	69 30	69 45	69 60	69 75	69 90	70 05	70 20	70 35	46
47	70 50	70 65	70 80	70 95	71 10	71 25	71 40	71 55	71 70	71 85	47
48	72 00	72 15	72 30	72 45	72 60	72 75	72 90	73 05	73 20	73 35	48
49	73 50	73 65	73 80	73 95	74 10	74 25	74 40	74 55	74 70	74 85	49
50	75 00	75 15	75 30	75 45	75 60	75 75	75 90	76 05	76 20	76 35	50

Computed by L. Leland Locke.

Handwritten calculations and notes on the right page, including:

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