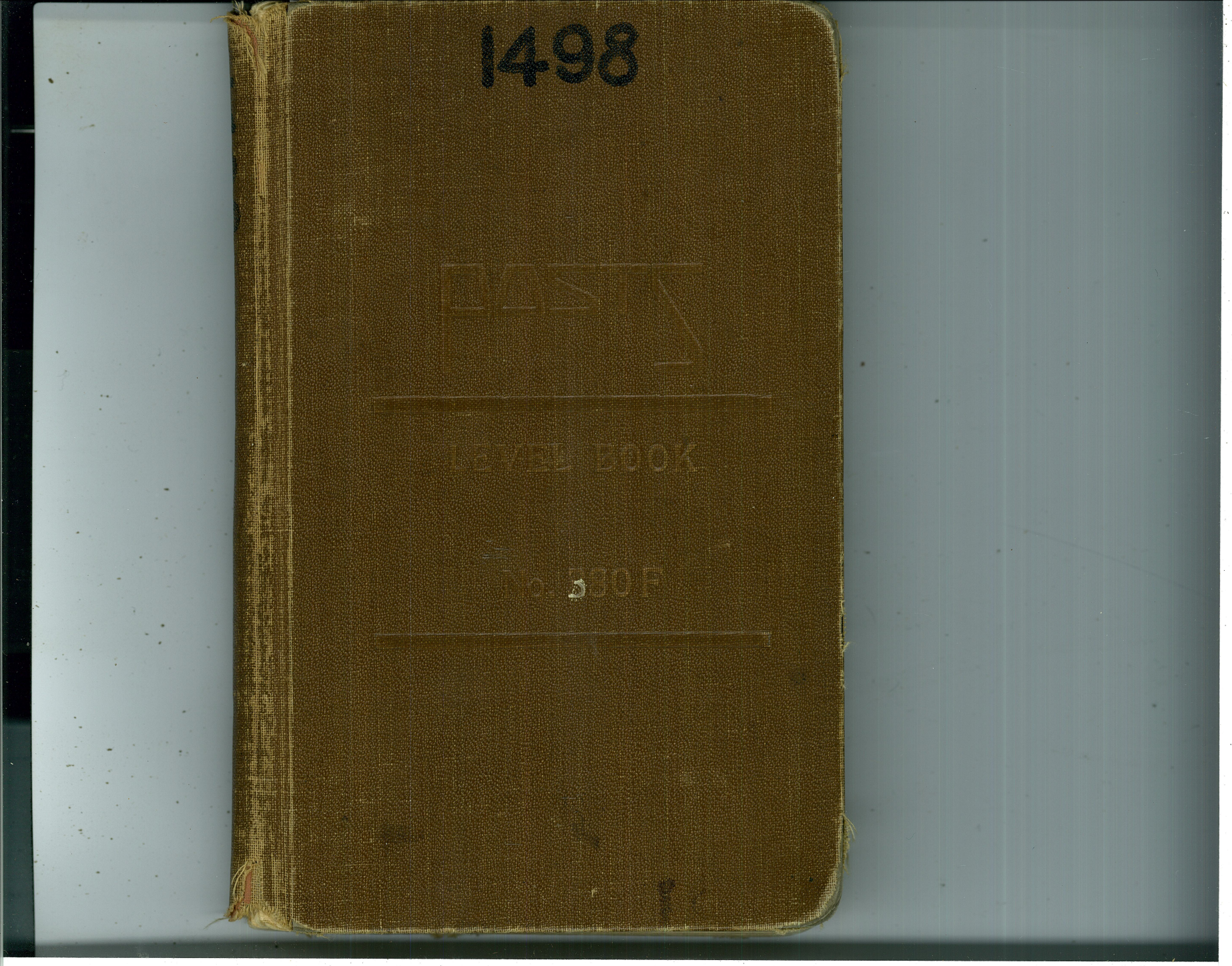
1498

Our Leather Bound Engineers Note Books are carried in the following rulings:

No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.

No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.

No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.

No. 385 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 8 vertical and 4 horizontal lines to the inch, Center Line Red.

We also carry the Note Books listed above, bound in extra strong Fabri-Hide (otherwise the same quality of book), which can be furnished at a somewhat lower price.

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THE FREDERICK POST CO.

ENGINEERING and DRAFTING SUPPLIES

IRVING PARK STATION

CHICAGO, ILL.

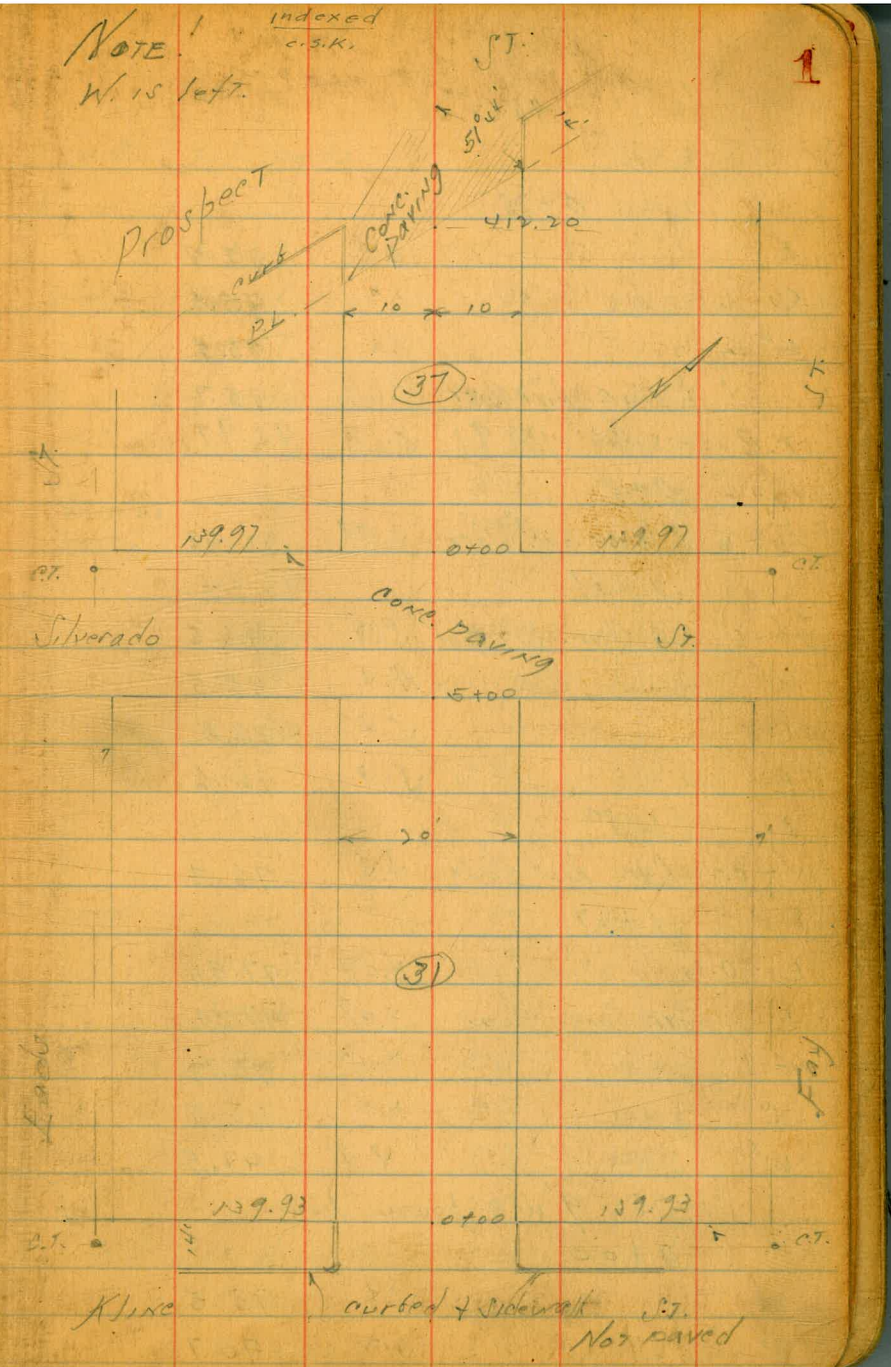
Xsec. of Alleys 20 wide
Blks. 31-37 La Jolla Park

Moore
Sisson
Northcott
5-10-24

Fay & Kline	0.66 96.6 V		95.99 SE BP
	SW Fay & Kline		
Top cb. return		0.7 V	95.91
paving out		1.4 V	95.24
	SE. Kline & Eads		
Top cb return		5.37	91.28
paving out		5.87	90.78
	00 - 1 V		
W Top alley return		3.23	93.42
E " " "		3.76	93.89
	0+00 = NL Kline = Blk 31 La Jolla Park		
E Top return		3.6 V	94.03
gr.		3.8	93.9
℄		3.1	93.5
gr.		3.3	93.4
W Top return		3.8 V	93.83
	0 + 4 V		
W - 7.5	Conc. Hour Gar.	7.12	94.53
W	" Mbrox	3.21	94.44
C		2.7	94.5
+7		2.3	94.4
E		1.7	95.0
	0+47 Tel. pole 9' E ℄		
	0+51 power pole 9' W ℄		

NOTE! Indexed C-3-K.
W. is left.

1



		96.6		
	0+N			
E		0.8	95.9	
C		1.2	95.5	
W		1.2	95.5	
+4	& Gar. dirt floor	1.0	95.7	
T.P.	5.9	101.91	0.68	95.97
	0+80			
E-6	& Double Gar. Conc floor	5.99	96.92	24' wide level
	1+11			
W-6	& Gar. dirt floor	5.3	96.6	
W		5.4	96.5	
C		5.4	96.5	
E		5.3	96.6	
	1+37			
W-0.5	Gar. dirt floor	4.5	96.4	
	1+43			
E-0.6		4.07	97.84	
E	Gar. Conc. floor	4.07	97.84	
+1		4.12	97.79	
C		4.4	97.5	
W		4.4	97.5	
	1+75 9' W & power pole			
	2+00			
W		3.4	98.5	
C		3.2	98.7	

		101.91		
C+9	Tel. pole	3.1	98.8	
E		3.1	98.8	
	2+18			
W-1	Conc. drive	2.94	98.97	6' wide
	2+47			
E	& 4' wide Conc walk	2.55	99.36	
+1		2.9	99.0	
C		3.0	98.9	
W		3.2	98.7	
	2+70			
W	4' wide Conc walk	2.94	98.98	
	2+77 9' W pole power			
	2+90			
W		3.2	98.7	
C		3.2	98.7	
E		3.1	98.8	
+9	& Double Gar Conc floor	1.8	100.19	24' wide level
	3+00 9' E Tel. pole			
	3+20			
E	4' wide Conc walk	3.0	98.9	
+1		3.3	98.6	
C		3.3	98.6	
W		3.5	98.4	
+18	Gar. dirt floor	3.3	98.6	
	3+40			
W-1	& Double Gar.	3.4	98.5	dirt floor

10/1.91

3+76

W/			2.0	97.9
C			2.8	98.1
E			2.7	98.2
+1	4' wide	conc. walk	2.4	98.5
T.P.	2.11	100.13'	2.89	98.02

3+87

W	4' wide	conc. walk	2.10	98.03

4+00 9' W/ power p/o

4+30

E	2 wide	conc. walk	1.90	98.23
+1			2.5	97.6
C			2.5	97.6
W			2.6	97.5

4+35 9' E & Tel. pole

4+65

W			3.0	97.1
C			2.9	97.2
E			2.9	97.2
+1	4' wide	conc. walk	2.43	97.70

5+00 = 54 Silverado

E	Top cb		2.79	97.34
E	par.		2.91	97.22
C	"		3.21	96.92
W	"		3.23	96.90
W/	Top cb		3.17	96.98

B/K 37 La Jolla Park — Moore 7-10-54

100.13

NL Silverado = 0+00

W	Top return	3.88	96.25
W	paving	3.96	96.17
C	"	4.00	96.13
E	"	3.59	96.54
E	Top return	3.41	96.72
	0+04	8' W of ℄ 8" Acasia tree	
	0+13	10' " " to ℄ 3' round Incinerator	
	0+20		
E		4.6	95.5
C		4.5	95.6
W		4.7	95.4
+0.5	℄ 2' Conc. walk	4.07	96.06
	0+39	8' W of ℄ 16" Acasia Tree	
	0+50		
W		4.9	95.2
+2	power pole	5.1	95.0
C		5.1	95.0
+8	Tel. pole	4.7	95.4
E		4.7	95.4
	0+60		
E	3' wide Conc. walk	4.94	95.19
	0+80	9' W of ℄ 10" Acasia Tree	
	E = ℄ 10" Acasia		

100.13

0+82

E		5.6	94.5
C		5.6	94.5
W		5.7	94.4
+2	℄ 2' wide Conc. walk	5.42	94.68
T.P.	2.94	97.18	5.79	94.34
	1+17		
W-6	doorway	3.68	93.60
W		3.7	93.6
C		3.4	93.9
+8	Tel. pole	3.1	94.2
E		3.1	94.2
	1+26		
W-6	Gar. Conc. floor	3.85	93.43
	1+38		
W-6	Gar. Conc. floor	3.89	93.39
	1+50		
E		4.3	93.0
C		4.3	93.0
+9	power pole		
W		4.6	92.7
	1+63		
E	3' wide Conc. walk	5.17	93.11
	1+86		
W-	Gar. dirt floor	5.3	92.0
W		5.3	92.0

97.28

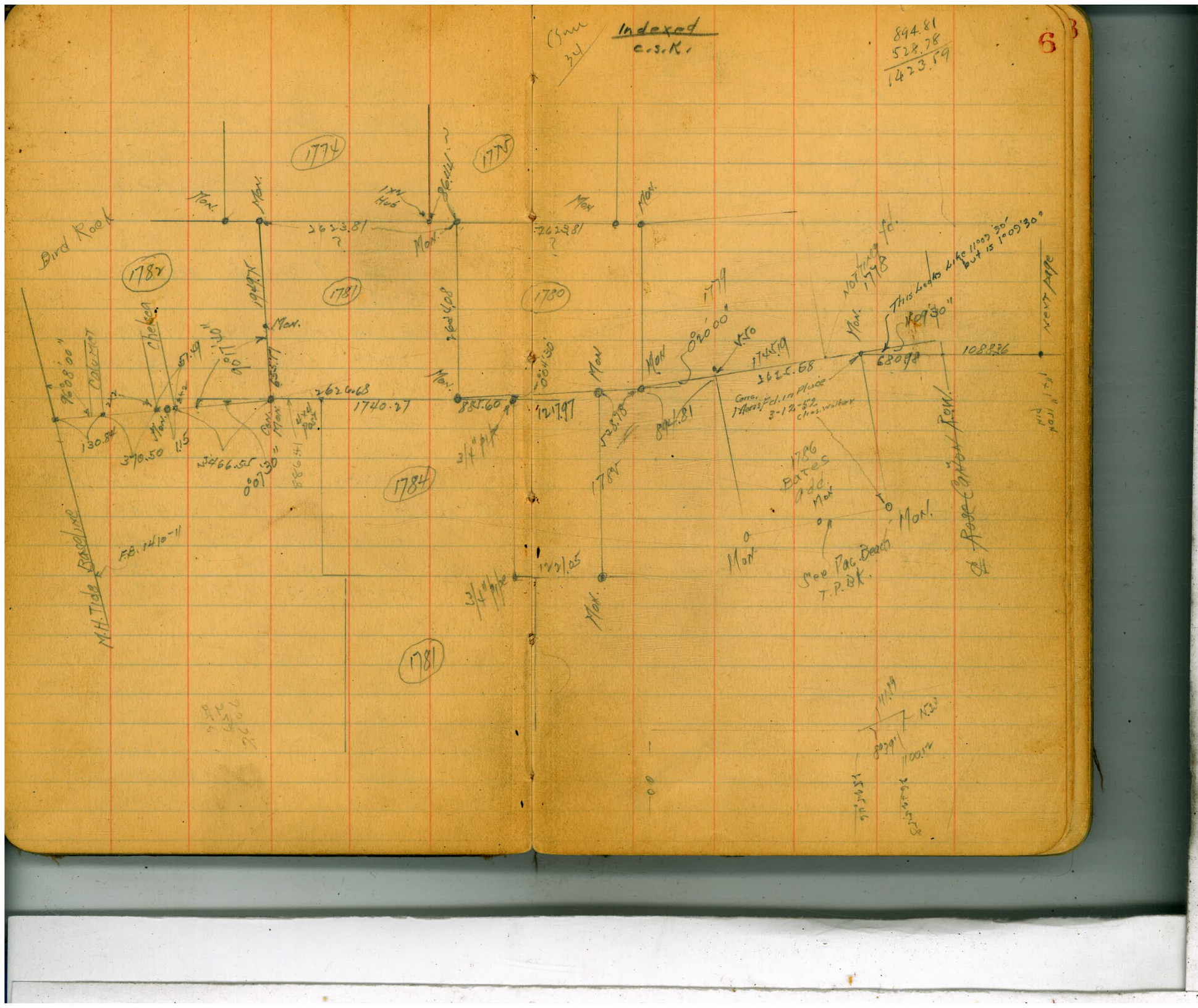
C		5.6	92.3
E		4.8	92.5
	2+05		
W on line Conc. floor		5.47	91.81
	2+19		
E		5.3	92.0
C		5.4	91.9
W		5.6	91.7
W + or -	3' wide Conc. walk	5.61	91.67
	2+28 9' E &	Tel. pole	
	2+50		
W		5.9	91.4
C		5.8	91.5
E		5.7	91.6
	2+89		
E	4' Wide conc. walk	6.1x	91.14
	2+94 9' W of E	power pole	
	3+00		
E		6.7	90.6
C		6.6	90.7
W		6.8	90.5
T.P.	⊥10 94.46	6.9x	90.56
	3+25		
E-1	Conc. Apron	3.8x	90.62
	3+43 Wedge Sand		
E-1		4.0x	90.42

about 15 ft back

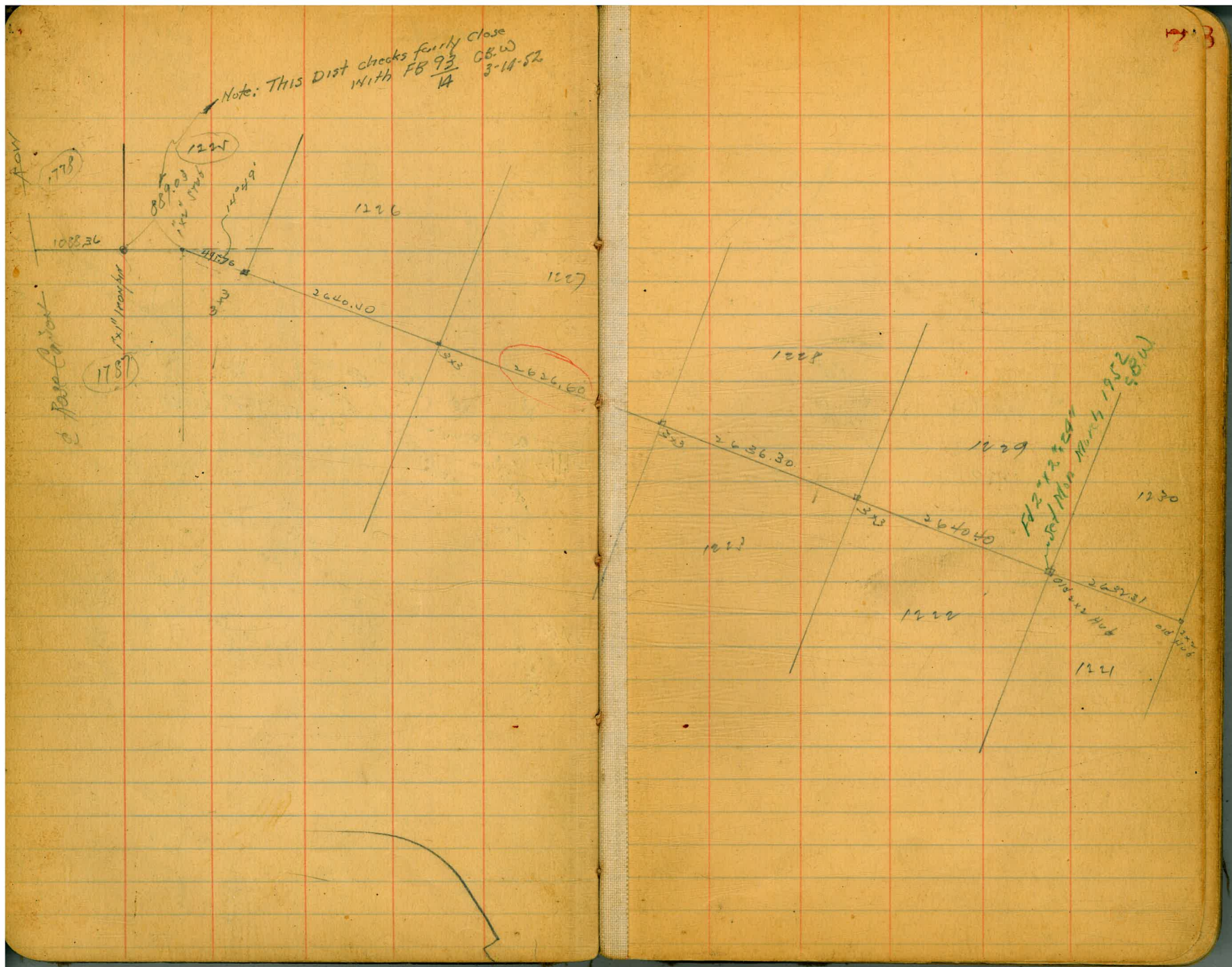
94.46

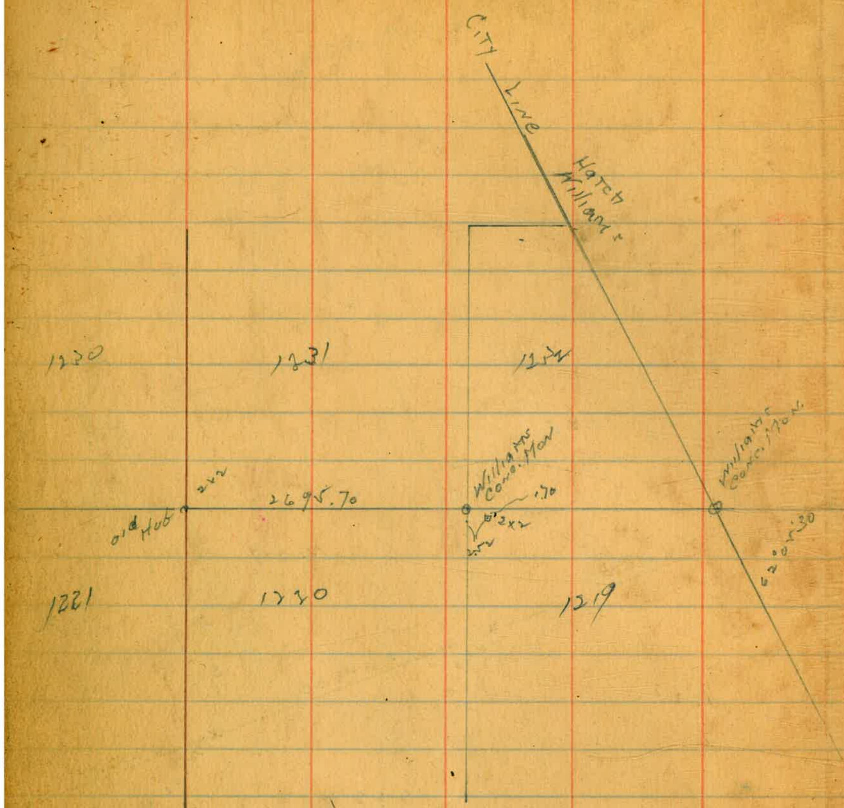
	3+50			
W - or +	Gar. Conc. Apron	4.60	89.86	
W		4.80	89.66	
C		4.2	90.3	
+9	Tel. pole	4.0	90.5	
E		4.0	90.5	
	3+78 9' W of E	power pole		
	3+87			
E	3' wide Conc. walk	4.17	90.19	
	4+00			
E		4.7	89.8	
C		4.7	89.8	
W		5.0	89.5	
	4+17.20	Taken on Line Prospect		
W of & par.		4.97	89.49	
C	"	5.05	89.41	
E of & par		4.64	89.82	
T.P.	5.82 93.53	6.75	87.71	
check to SEBP		5.70	87.83	87.91
			error 0.08	Ends of Prospect

bottom of ditch


Indexed
C.S.K.
894.81
528.78
1423.59
6
1774
1775
1778
1779
1780
1781
1784
Bird Rock
Mon.
2623.81
1740.27
1621.97
1622.68
1745.19
1088.36
680.93
Chelsea
Corner
Mon.
Mon. Tide Baseline
F.B. 1410-11
Corno. Mons. Fd. in Place
3-12-52
Chas. Walker
1786
Bates
1 dd.
See Pac. Beach
T.P.B.K.
Old Road Corner
R.O.W.
This Course Like 1100'30"
But is 1009'30"
Not Used
1778
Fd.
Iron Pipe

Note: THIS Dist checks fairly close with FB 93/14 CB.W 3-14-52

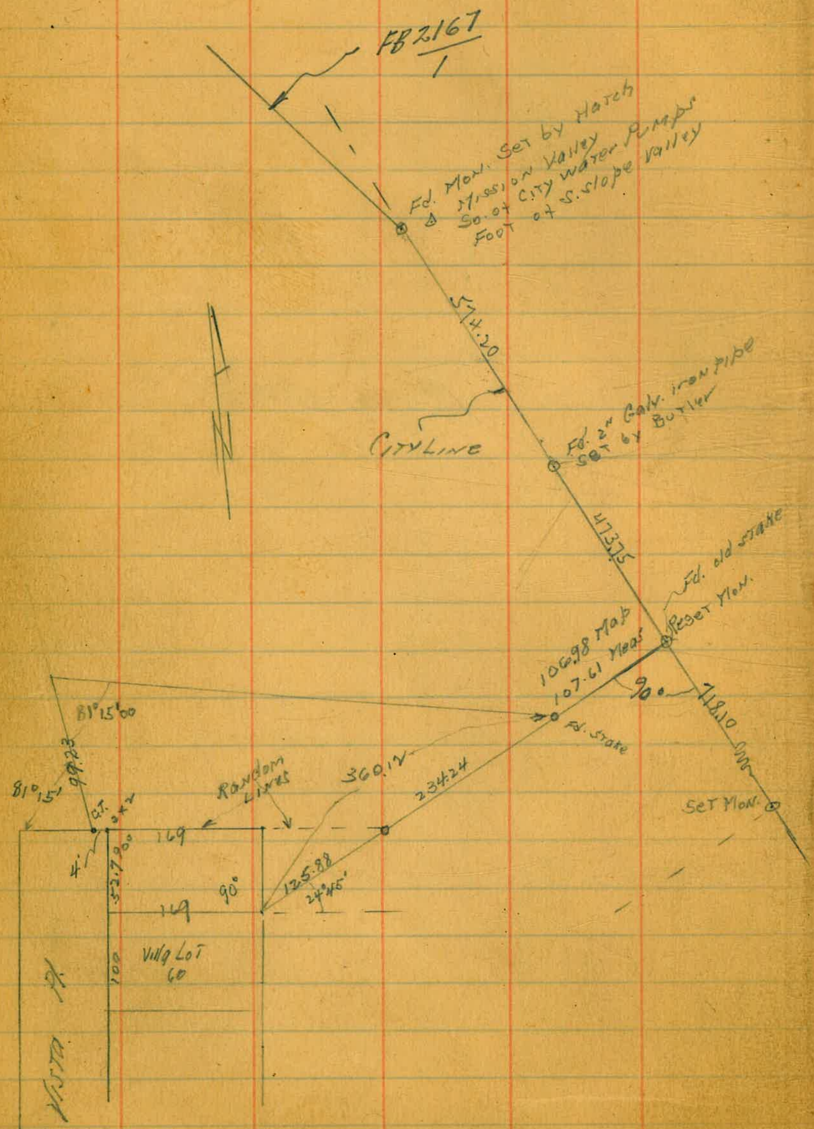



City Line
Hatch
Williams
1230
1231
1232
2x2
2695.70
old Hub
Williams Conc. Mon
1.70
2x2
Williams Conc. Mon.
620.30
1221
1220
1219

Survey to check Butler Survey
So. of Δ in City Line
So. side Mission Valley

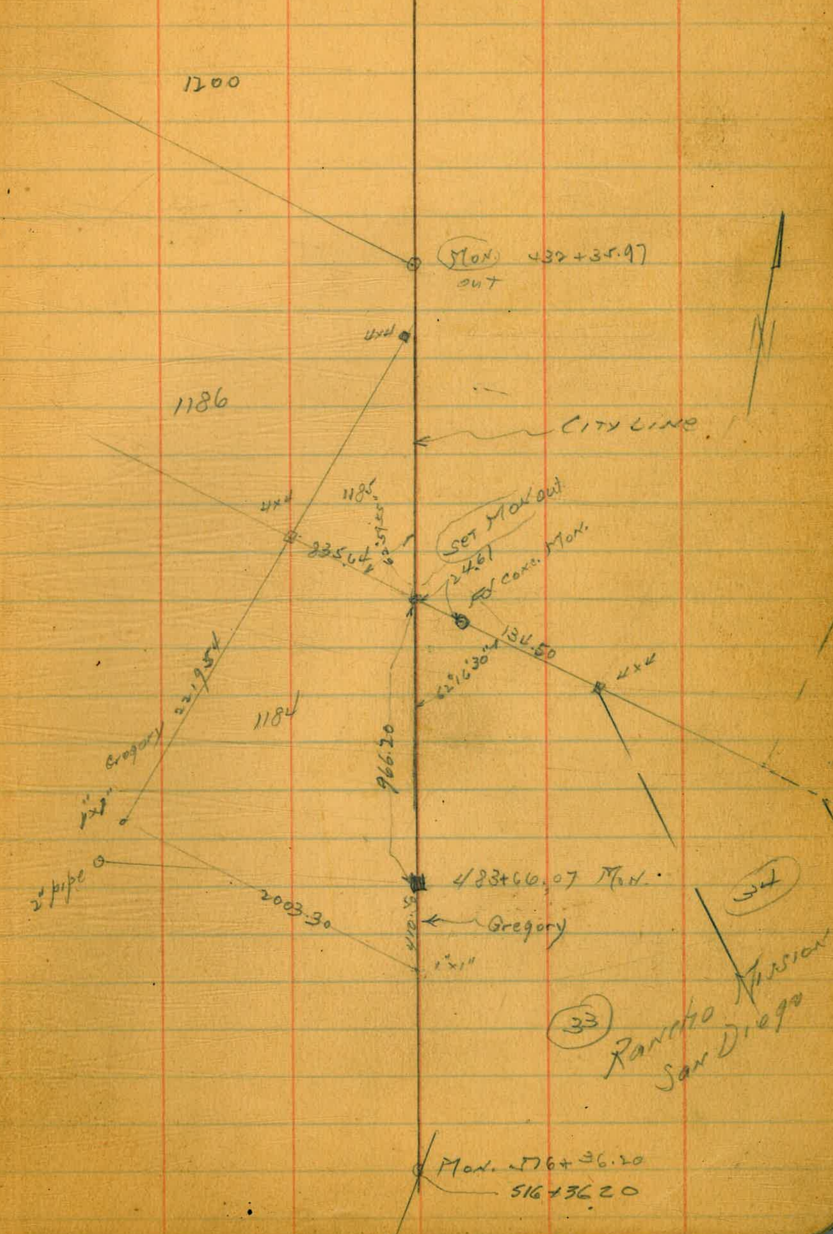
Moore
10-34

Indexed
c.s.k.



Indexed
c.s.k.

Tie Survey
Rancho Mission to
City Line as Surveyed
by P.C. Hatch.



Moore
Swason
Northern
5/35

Sorrento Rd. or 100 wide
Proposed Secondary State Highway & P.L. Ties.

Eidelweiss N/ly to City Line.

22+05 N/ly end bridge

21+17.5 = Line fence
21+00 S/ly end bridge

This Mon. is shifting
entire Hillside has
been slipping down

11+46.27 Set 2x2 Hub 6" deep

C.S.M.
Sonnenberger
W.F.M.
4-9-45

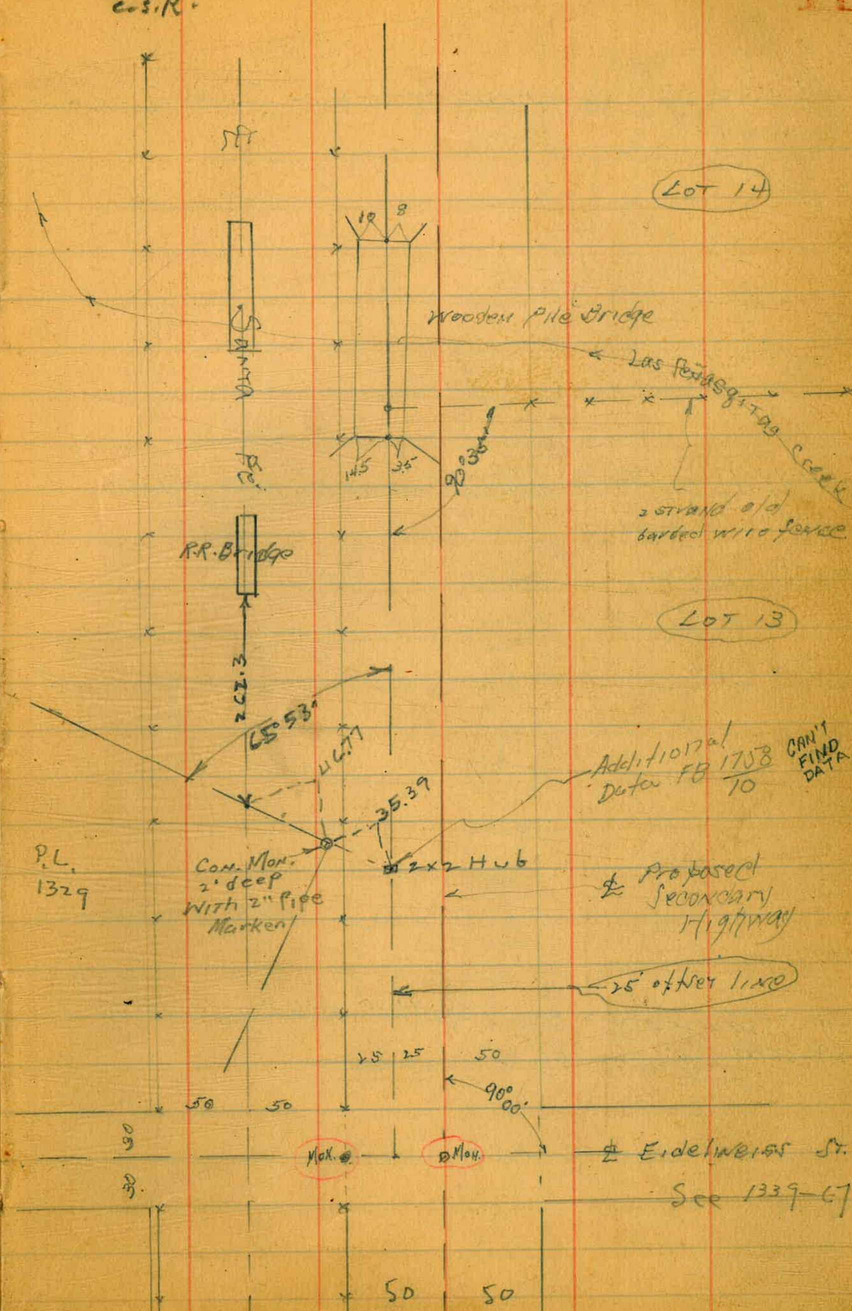
Con. Mon.

0+00

See 1440-42 and p. 46

F.B. 1671-74

indexed
C.S.K.



Sorrento Rd.

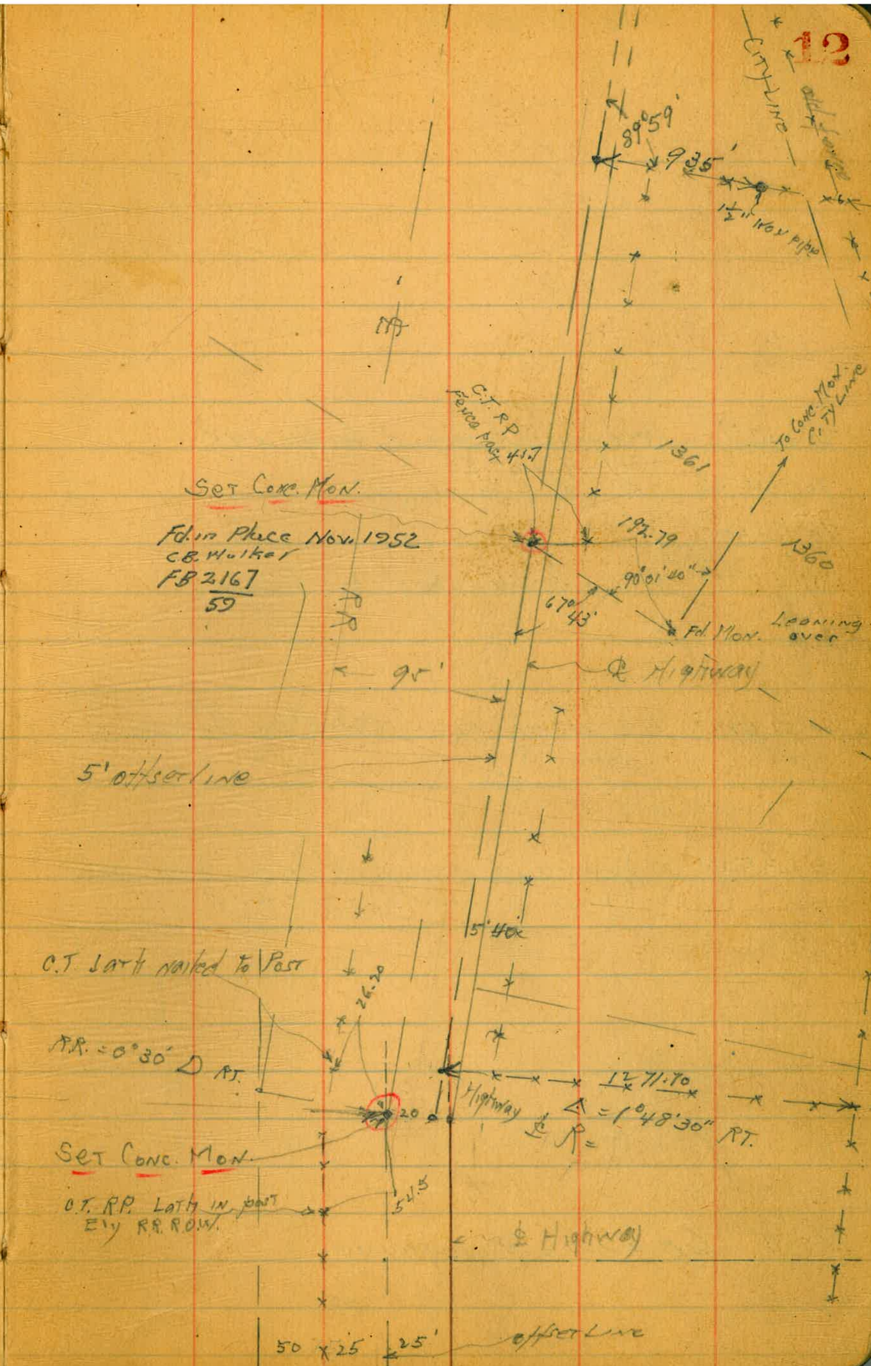
49+85.27 old 3 strand barbed wire fence = Lin between Lot 16 + 17

39+98.97 = Int. Sec. of S/ly line of P.L.s 1360 + 1361

39+67.20 = 25' offset P.I.
29+66.88 = 5' " P.I.

29+99.84 = Old Fence line N/y of Lot 14

30' Curve ℄ R.R = 11459.2



Sorrento Rd.

70+41.89 {old fence 3 strand barbed wire S'ly & Lot 20

70+25.46 = P.C. ∠ Highway

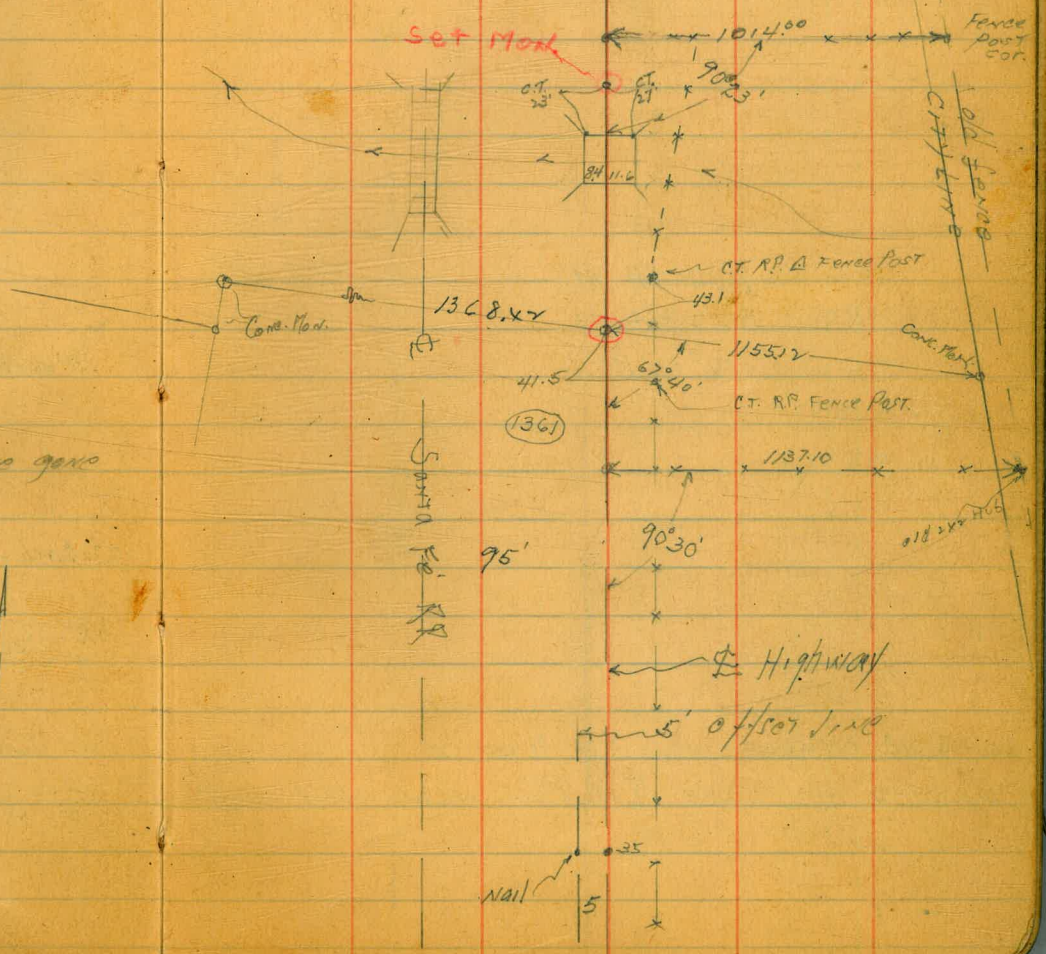
70+03.00 N'ly " " " " "

69+87.00 S'ly end single span pile bridge

68+51.67 Int. of N'ly 1361 Set Conc. Mon.

63+35.45 {remains of very old fence wire gone Line between Lot 18 & 19

P.O.T. 60+00 = ℄ Highway



Sorrento Rd.

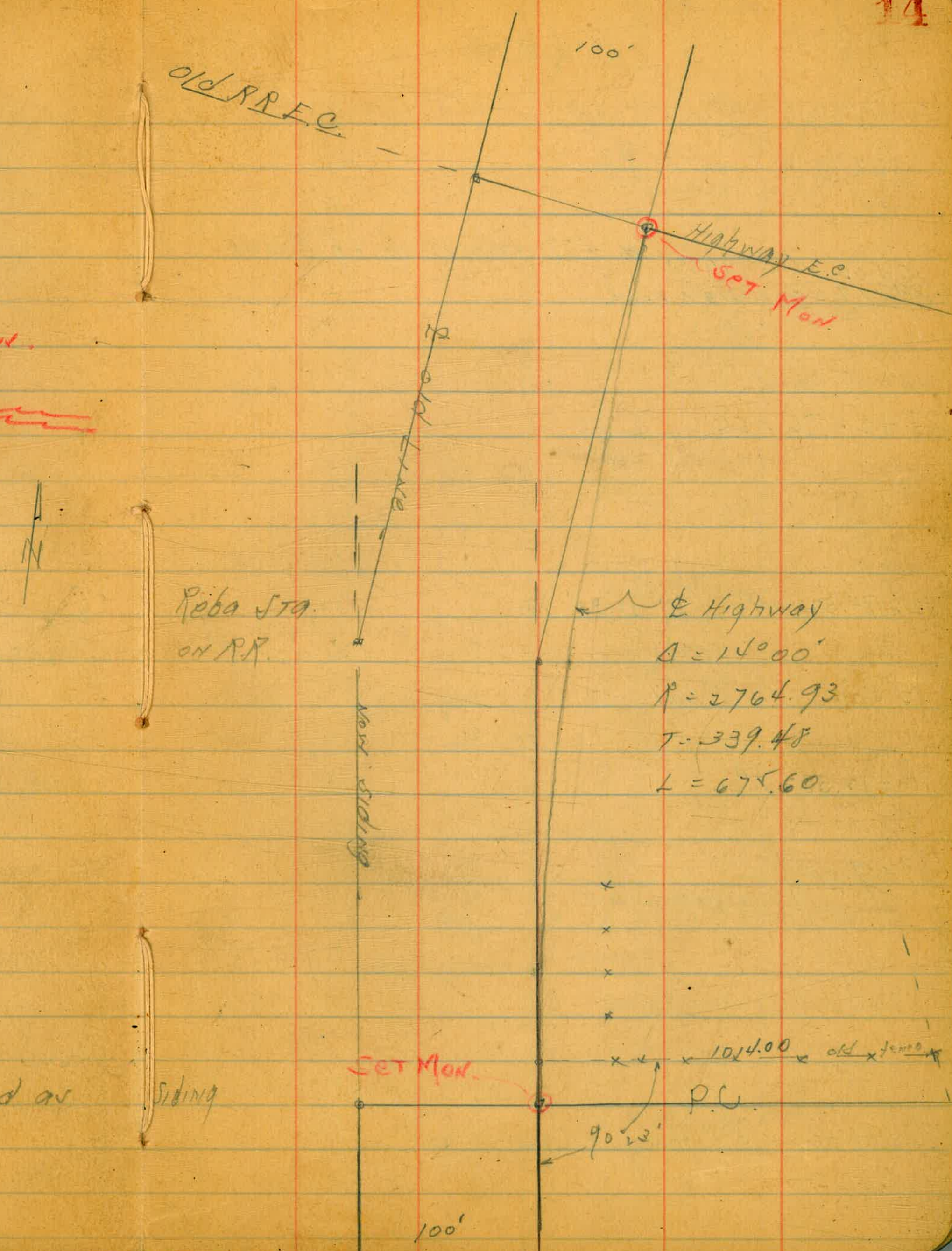
90.36
73.84
264.20

77 + 01.06 = Highway E.C.

See proposed change of align.
F.B. 1639 - 23

P.I. RR ℄ Δ = 14°00' RT.
R = 2864.93
2°00' RT.

70 + 41.89 Int. fence Line = Sly A Lot 20
70 + 25.46 B.C. Old RR P.C. now used as Siding



Sorrento Rd.

0+00 = Co. Survey # 477 relocation of #301

89+19.25 = City Line

85+24.76 = EC

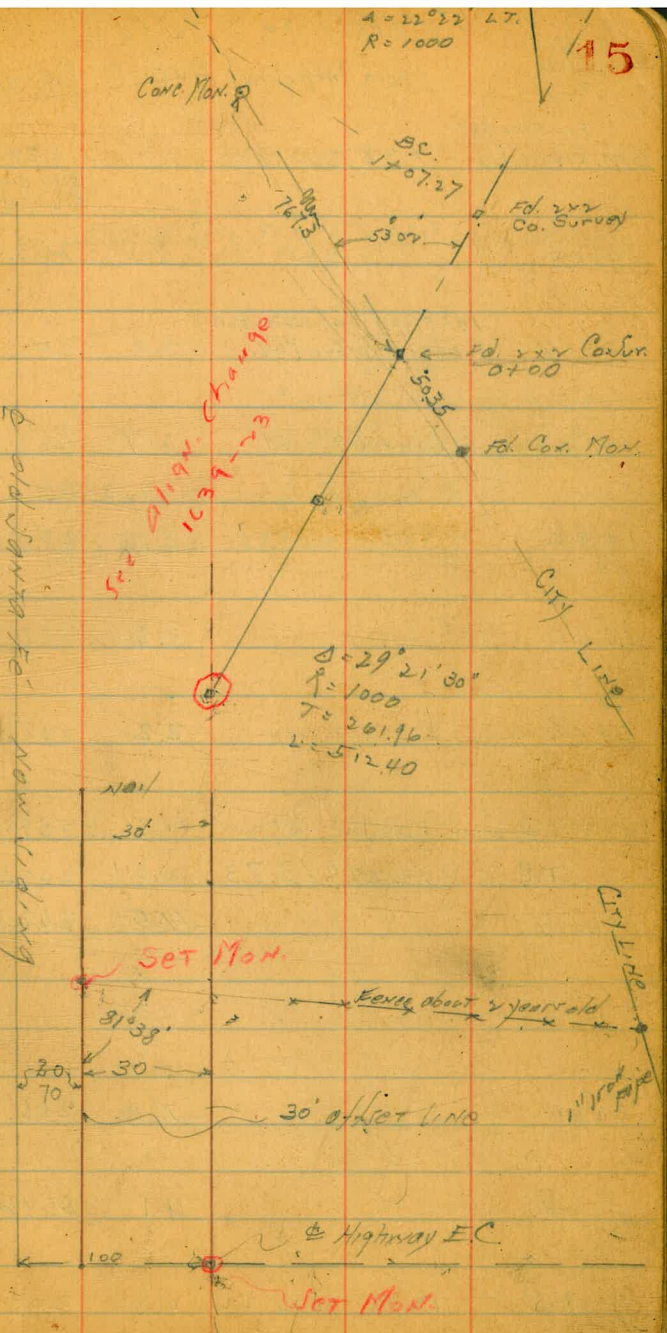
82+74.32 = P.I. 29° 21' 30" Rt. Set Mon.

82+00 P.O.T. nail

80+12.36 PC.

79+19.00

77+01.06 = ℄ Highway E.C.



6-18-36
Miller
Walker
Bliss

6" Water Line 10' S. of ℄ Lisbon St from Imperial Ave to Pidgeon St.

	Top. Pine SW								
B.M.	Cor Bridge	7.38	260.82		253.44 Elev. stub 5' S. of ℄	S. W. / Imperial & Lisbon St.			
0+00				7.4	253.4		0+00 W. Line Sub #5. of Lot. 12 Ex Miss. R. L.S. #63		
0+08		10' S. of ℄ E. edge Imp	at. water Main Ave Pav.	7.3	253.5				
0+50	= E. Line 69th St.			6.9	253.9 ✓	℄ G. 253.9 . 250.9	+3.0	Fire Plug 10' W. of W. Line Chester 16.6' S. of ℄	
1+00				5.3	255.5 ✓	252.5	+3.0	B.M. 260.48 ✓ 6.89 ⊼ 267.37	℄ G. 259.20 ⊼ S. of G. 259.40 7.97 1.72 +6.25
1+50				3.6	257.2	254.0	+3.2 ✓		
2+00				2.2	258.6	255.6	+3.0 ✓		
2+30	W. Line Chester St.			1.3	259.5	℄ G. 259.5 256.5	+3.0 ✓	℄ 1.0	259.8
	T.P.	13.25	273.73	0.34	260.48				
2+80	E. "	"	"	11.5	262.2	℄ C. 262.2 259.2	+3.0 ✓		
3+50				7.3	266.4	263.5	+2.9 ✓		
4+00				4.1	269.6	266.7	+2.9 ✓		
	T.P.	12.85	286.22	0.36	273.37				

		286.22		Elev stub 5' S. of ℄		
4+64	= W Line Flicker St		12.1	274.1	℄ G 274.1 270.9	+3.2 ✓
5+14	E. Line Flicker St		9.6	276.6	℄ G 276.6 273.3	+3.3 ✓
5+50			8.2	278.0	275.0	+3.0 ✓
6+00			6.3	279.9	277.4	+2.5 ✓
6+50			2.9	283.3	279.9	+3.4 ✓
T.P.	5.28	291.50	0.00	286.22		
7+14	= W Line Pidgeon St.		5.3	286.2	℄ G 286.2 283.0	+3.2 ✓
7+64	= E. " " St.		2.5	289.0		
Set B.M. 2 Nails			3.09	288.41	Elec Pole S. W Pidgeon + Lisbon	
T.P.	0.87	280.06	12.31	279.19		
T.P.	0.89	268.07	12.88	267.18		
T.P.	2.76	260.09	10.74	257.33		
orig. B.M.			6.64	353.45 - 353.44		

BM. Nails Pole 10.76	299.17		288.41	S.W. Pidgeon & Lisbon	
7+64 E. Line Pidgeon		10.2	289.0	288.0 284.8	+4.2
7+72 Fire Hydt 16.6 s. of ℄		9.1	290.1	288.8	+1.3
8+00		9.1	290.1	℄ G 289.2 286.0	+4.1
8+50		8.2	291.0	286.6	+4.4
9+00		8.4	290.8	287.2	+3.6
9+50		8.2	291.0	287.8	+3.2
10+04.5 T		8.3	290.9	288.4	+2.5
10+50		7.2	292.0	288.9	+3.2
11+00		6.2	293.0	℄ G 292.7 289.5	+3.5
11+50		4.1	295.1	291.7	+3.4
12+00		0.6	298.6	℄ G 297.2 294.0	+4.6

Survey Mission Valley Rd.
Thru Marcellena Tract
Fairmont to College Way via Cotton Canyon

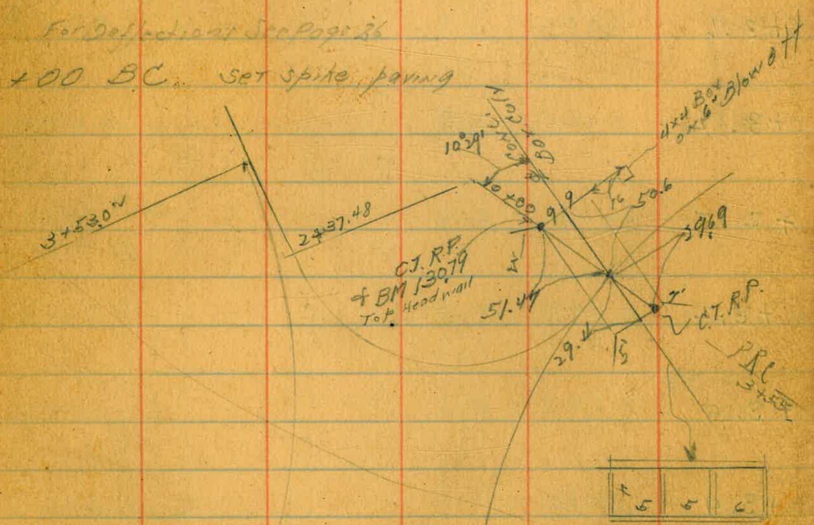
For ℄ Levels Page 32-37

3+53.02 E.C. set stub

Δ = 50°34' LT set spike paving
R = 400
T = 188.94 4.2972' per ft.
L = 353.02 3°34.86' per 50'

For Deflections See Page 36

0+00 B.C. set spike, paving



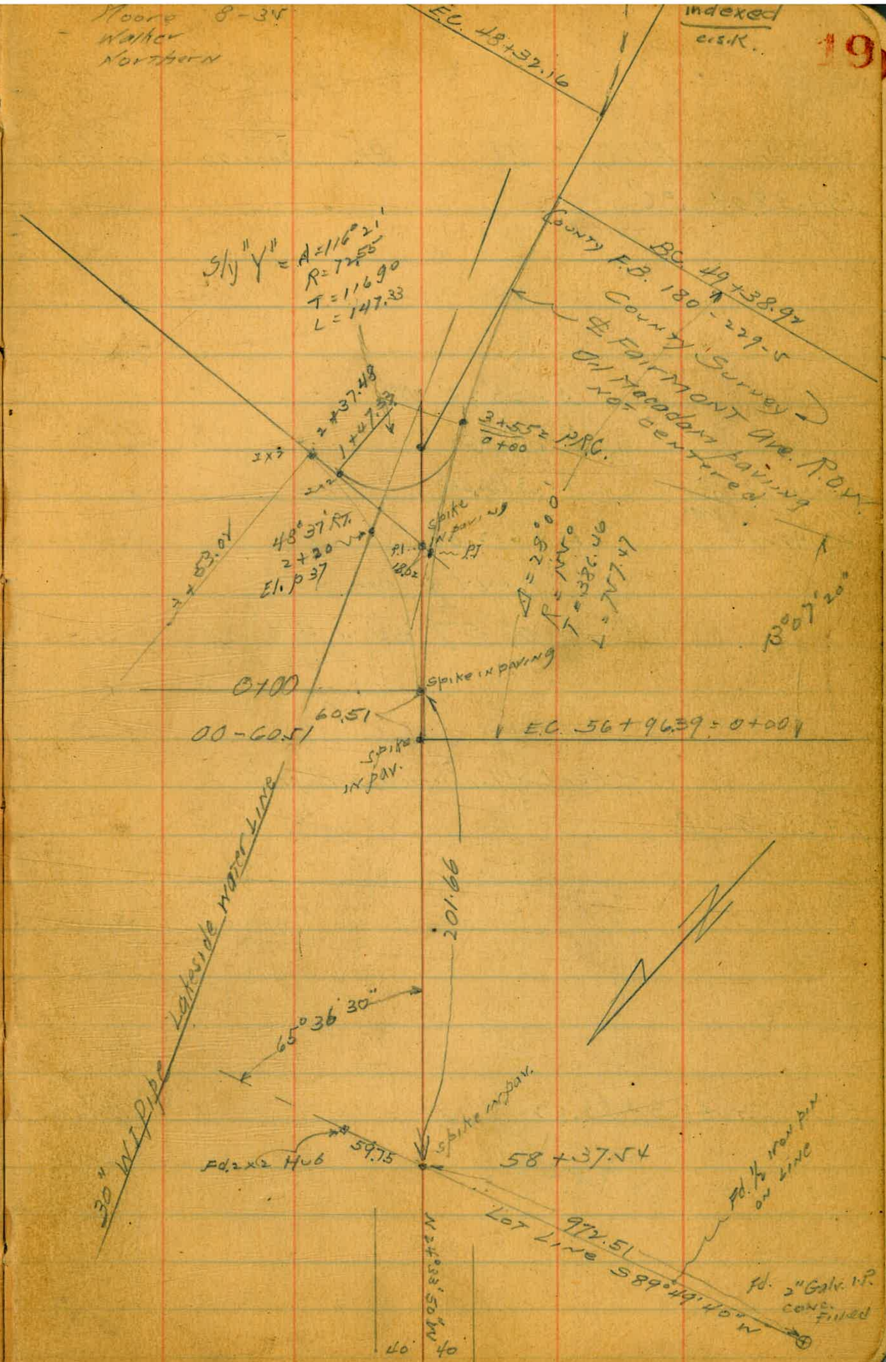
Set spike in old macadam paving Ex. Conc. Box Culv.

Page 36 - Book 180

Moore 8-35
Walker
Northern

Indexed
C.S.K.

19



E.C. 48+32.16
S'ly "Y" = Δ = 116°21'
R = 72.50
T = 116.90
L = 147.33
B.C. 49+38.92
County F.B. 180 - 229-5
County Survey
℄ Fairmont Ave. R.O.W.
Old Macadam paving not centered
2+37.48
1+47.33
3+55 = P.R.C.
0+00
48°37' Rt.
2+20
El. p 37
Spike in paving
P.I.
Δ = 28°00'
R = 420
T = 104.76
L = 205.25
3°07'20"
0+00
Spike in paving
00-60.51
60.51
E.C. 56+96.39 = 0+00
Spike in pav.
201.66
30" W.I. Pipe Lakeside Water Line
65°36'30"
spike in pav.
Fd. 2x2 Hub
59.75
58+37.54
Lot Line 972.51
S 89°49'40" W
Fd. 1/2 iron pin on line
Fd. 2" Galv. I.P. conc. filled
N 0°05'00" E
40
40

Sta	Align	Lt.	Rt.	True Bearing	Mag Bearing
13+38.09	E.C.				

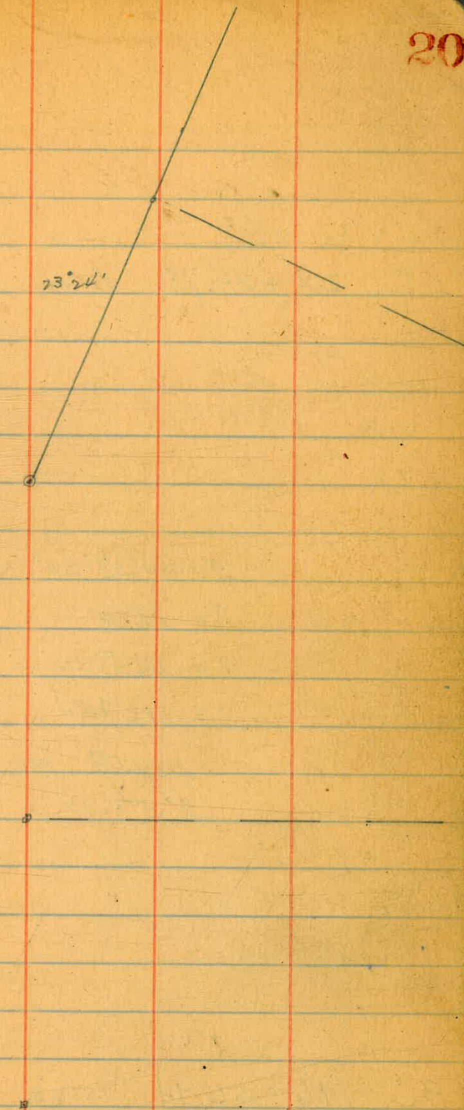
Loudon P.I. Hub changed angle see 1402-4

$\Delta = 23°24'$ Rt
R = 1500
T = 310.64
L = 612.61
1.1 x 59 per 4T
0° 57.30 " 50'

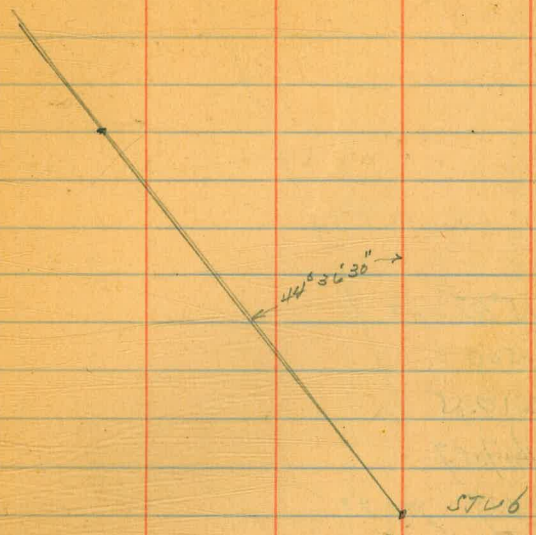
For Deflections See Page 37

7+25.48 BC

E.C. stub 3+53.02
374.46



E.C. 28+24.78 STUB



Δ = 44°36'30" LT
R = 1500
T = 615.32
L = 1167.84
1.1459 per ft
0°57.30' " 50'

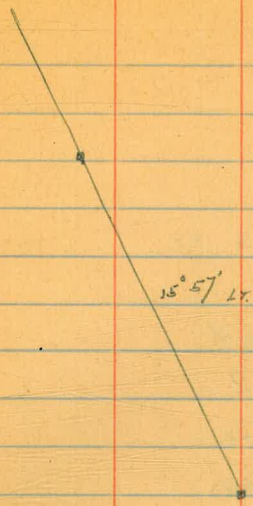
Note!
see page 46
for Line "A"

B.C. 16+56.94 STUB

E.C. 13+38.09

E.C. 36+50.17

Δ = 15°57' Lt
R = 1500
T = 210.15
L = 417.57
1.1459 per ft
0°57.30' " 50'



B.C. 32+37.60 STUB

E.C. 28+24.78 STUB

8-16-85
Sisson
Northern
Partridge
Bowers
Grabarski

E.C. 59+94.66

Δ = 47° 33' Rt.
R = 1200
T = 528.64
L = 995.88
1.4334' per ft.
1° 11.62' = 50

47° 33'

B.C. 49+98.78 } = Equation
49+48.78 }

43+0 P.O.T.

E.C. 36+50.17

E.C. 66+89.52

Δ = 26° 13' LT
R = 1200
T = 279.43
L = 549.08
1.4324 per ft.
1° 11.62' .. 50'

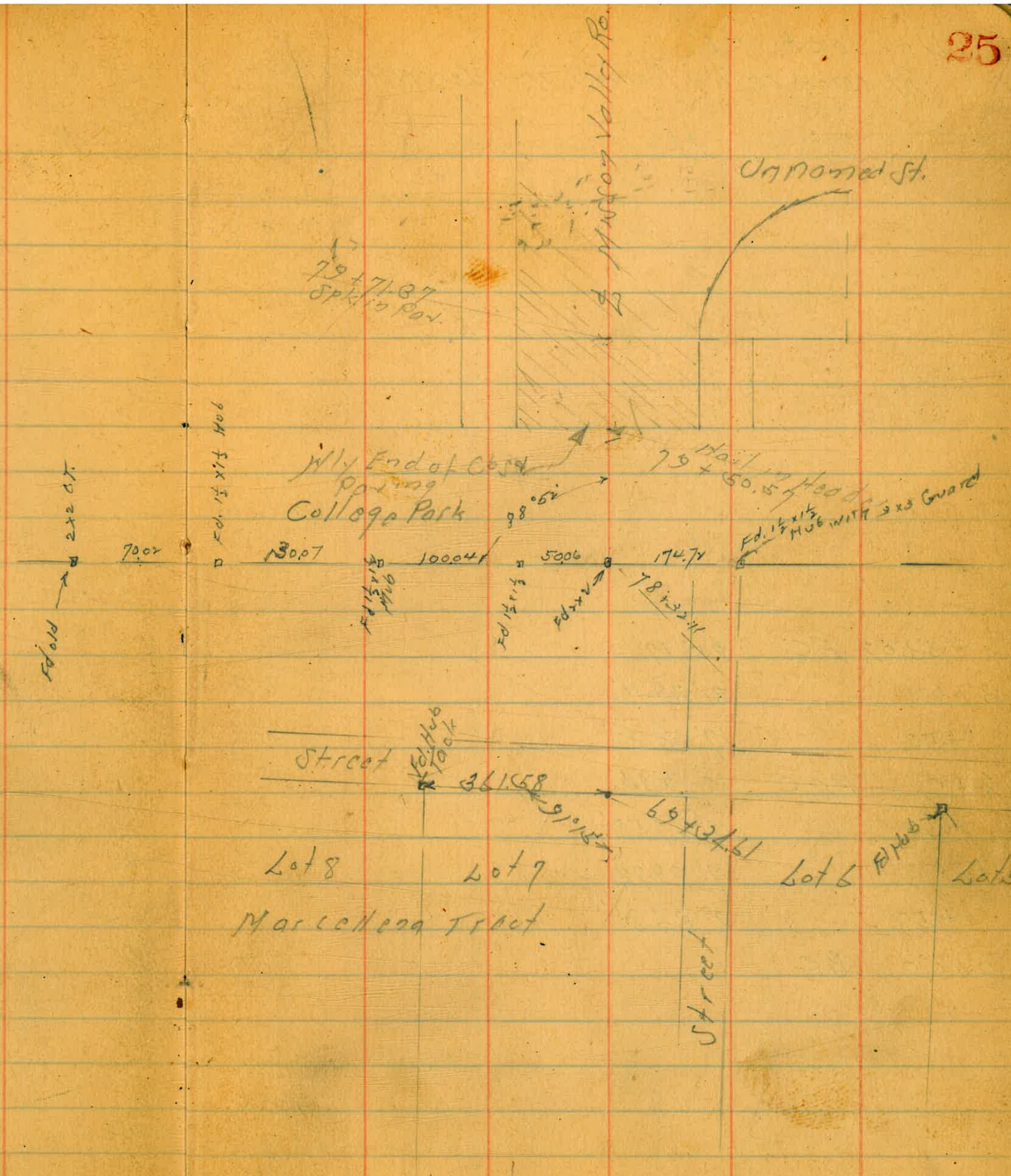
B.C. 61+40.44

E.C.

79+71.37 Fd. Spk in Paving

79+50.57 = Wly Imp.

77+50
82.11



Deflections
Mission Valley Road Thru Marcellino Tract.

8-16-35
Sisson
Harberg
Boston

26

Lt

+53.02	E.C.	25° 17'
3+0		21° 29.16'
+50		17° 54.30'
2+0	P.O.C.	14° 19.44'
+50		10° 44.58'
1+0		7° 09.72'
+50		3° 34.86'
0+00	B.C.	

			Rt.
+38.09	E.C.		11°42'
13+0			10°58.25'
+50			10°01.05'
12+0			9°03.75'
+50			8°06.46'
11+0			7°09.16'
+50			6°11.87'
+25	P.O.C.		5°43.22'
10+0			5°14.57'
+50			4°17.28'
9+0			3°19.98'
+50			2°22.69'
8+0	P.O.C.		1°25.39'
+50			0°28.10'
7+25.48	B.C.		

		Lt.
+24.78	E.C.	22° 18.35'
28 + 0		21° 49.83'
+ 50		20° 52.54'
27 + 0		19° 55.24'
+ 50		18° 57.95'
26 + 0	P.O.C.	18° 00.65'
+ 50		17° 03.36'
25 + 0		16° 06.06'
+ 50		15° 08.77'
24 + 0	P.O.C.	14° 11.47'
+ 50		13° 14.18'
23 + 0		12° 16.88'
+ 50	P.O.C.	11° 19.59'
22 + 0		10° 22.29'
+ 50		9° 25.00'
21 + 0	P.O.C.	8° 27.70'
+ 50		7° 30.41'
20 + 0		6° 33.11'
+ 50		5° 35.82'
19 + 0		4° 38.52'
+ 50		3° 41.23'
18 + 0	P.O.C.	2° 43.93'
+ 50		1° 46.64'
17 + 0		0° 49.34'
16 + 56.94	B.C.	

		Lt.
+50.17	F.C.	7°58.50
36+0		7°01.05
+50.		6°03.72
35+0		5°06.41
+50	P.O.C.	4°09.12
34+0		3°11.82
+50		2°14.52
33+0		1°17.23
+50		0°19.94
32+32.60.	B.C.	

		Rt.
+ 94.66	E.C.	23° 46.50'
+ 50	P.O.C.	22° 42.53'
59 + 0		21° 30.91'
+ 50		20° 19.29'
58 + 0		19° 07.67'
+ 50		17° 56.05'
57 + 0		16° 44.43'
+ 50		15° 32.81'
56 + 0		14° 21.19'
+ 50		13° 09.57'
55 + 0		11° 57.95'
+ 50		10° 46.33'
54 + 0		9° 34.71'
+ 50	P.O.C.	8° 23.09'
53 + 0	P.O.C.	7° 11.47'
+ 50		5° 59.85'
52 + 0		4° 48.23'
+ 50	P.O.C.	3° 36.61'
51 + 0		2° 24.99'
+ 50		1° 13.37'
50 + 0		out.

49 + 98.78 B.C. - Equation
49 + 48.78

Lt.

+89.52	E.C.	13°06.50'
+50		12°09.85'
66+0		10°58.27'
+50		9°46.65'
65+0		8°35.03'
+50		7°23.41'
64+0		6°11.79'
+50		5°00.17'
63+0	P.O.C.	3°48.55'
+50		2°36.93'
62+0		1°25.31'
+50		0°13.69'
61+40.44	B.C.	

R = 1200'

2nd Levels Mission Valley Road
Through Marcellena Tract
Fairmont Ave to College Way

For Alignment Page 19 to 31

BM	1.23	151.06		149.83	42+14.72 E 1402 Page 11 Loudon
TP	1.16	139.90	12.32	138.74	
TP	5.50	137.01	8.39	131.51	
BM Cap Tack	℄ Rt. Fairmont		6.22	130.79	NE Cor. Conc Culv. Fairmont Ave
0 0 - 60.51	on Paving		15.72	121.29	Lt [illegible] 51.47 [illegible]
0+00	B.C. on Paving		14.64	122.37	0+00 / 3+56 [illegible]
+50	"	"	13.04	123.97	
1+0	= Ely Edge	"	11.45	125.56	
+50			11.2	125.8	
+70			2.6	134.4	
2+0			1.0	138.0	
+25			6.7	130.3	
+50			0.6	136.4	
TP	9.25	145.84	0.42	136.59	
3+0			7.5	138.3	
+53.02	E.C. on Stub		8.38	137.46	
+75			7.1	138.7	
4+0			10.7	135.1	
+50			12.3	133.5	
5+0			11.2	134.6	
+50			9.4	136.4	
+75			12.4	133.4	
6+0			10.6	135.2	
+50			7.8	138.0	
7+0			5.0	140.8	

Indexed
e.s.K.

Aug. 1935
Sunny
Northern
Partridge
Bowen

		145.84			
7+35.48	B.C. Rt		2.96	142.88	on Stub
+50			1.1	144.7	
TP	13.05	158.60	0.29	145.55	
8+0			8.6	150.0	
+50			7.0	151.6	
9+0			7.5	151.1	
+50			5.1	153.5	
10+0			2.4	156.2	
TP	7.02	165.06	0.56	158.04	
+25			6.9	158.2	
+50			8.1	157.0	
11+0			10.5	154.6	
+50			12.5	152.6	
12+0			12.8	152.3	
+50			10.2	154.9	
13+0			7.5	157.6	
+38.09	E.C.		4.8	160.3	
+50			6.0	159.1	
14+0			8.9	156.2	
+50			5.4	159.7	
15+0			3.9	161.2	
TP	12.20	175.51	1.75	163.31	
+50			10.7	164.8	
16+0			5.8	169.7	
+56.94	B.C. Lt.		3.4	172.1	

		175.51			
TP	12.40	187.39	0.52	174.99	
17+0			10.9	176.5	
+50			4.2	183.2	
TP	10.53	197.37	0.55	186.84	on Rock 5' Rt. 17+90
18+0			7.7	189.7	
+50			6.5	190.9	
+80			9.1	188.3	
19+0			13.5	183.9	
+12			16.5	180.9	
+35	= Bot. Wash From N.		16.7	180.7	
+50			15.8	181.6	
+82			5.3	192.1	
20+0			2.9	194.5	
+50			1.3	196.1	Top & Stake 20+50
TP	12.76	209.59	0.54	196.83	
21+0			11.9	197.7	
+50			9.3	200.3	
22+0			5.7	203.9	
+50			2.5	207.1	
TP	9.77	217.44	1.92	207.67	on Stake 22+50
23+0			8.6	208.8	
+50			6.6	210.8	
24+0			5.4	212.0	
+50			4.7	212.7	
+90	Bot. Wash From N.		8.1	209.3	

		217.44			
25+0			8.5	208.9	
+20			5.7	211.7	
+50			5.0	212.4	
+60			6.7	210.7	
+70			4.6	212.8	
26+0			3.9	213.5	
TP	6.57	219.85	4.16	213.28	
+50			8.7	211.1	
27+0			9.8	210.0	
+50			9.1	210.7	
+85			9.2	210.6	
28+0	= Bot. Wash From N		12.1	207.7	
+10			11.0	208.8	
+24.78	FC		5.52	214.33	on Stub
+50			3.1	216.7	
29+0			5.6	214.2	
+50			8.0	211.8	
30+0			5.1	214.7	
TP	12.08	229.35	2.58	217.27	
+50			8.1	221.2	
TP	12.41	240.35	1.41	227.94	
31+0			9.2	231.1	
+30			6.8	233.5	
+40			9.4	230.9	
+50			12.5	227.8	

		240.35			
31+65 = Bot. Wash From N			21.2	219.1	
32+0			0.8	239.5	
TP	12.82	252.65	0.52	239.83	Top & Stake 32+0
+32.60	B.C. Lt.		5.1	247.5	
+50			1.7	250.9	
TP	12.35	264.84	0.16	252.49	
33+0			3.1	261.7	
TP	12.37	276.99	0.22	264.62	
+50			2.7	274.3	
TP	13.01	289.70	0.30	276.69	
34+0			5.9	283.8	
TP	12.75	302.02	0.43	289.27	
+50			10.2	291.8	
35+0			8.8	293.2	
+40			11.7	290.3	
+50 = Bot. Wash From N.			15.1	286.9	
+65			12.6	289.4	
+80			6.7	295.3	
36+0			5.7	296.3	
+50.17	E.C.		6.33	295.69	on Hub
+60			4.8	297.2	
TP	4.55	306.51	0.06	301.96	
37+0			1.6	304.9	
+50			2.9	303.6	
+90			4.5	302.0	

		306.51			
38+0			6.3	300.2	
+50			12.4	294.1	
TP	0.43	294.87	12.07	294.44	Top & Stake 38+50
39+0			5.0	289.9	
+50			10.5	284.4	
TP	0.82	283.25	12.44	282.43	
40+0			5.3	277.9	
+50			15.8	267.4	
+90 = Bot. Wash From N			29.6	253.6	
41+0			27.7	255.5	
+20			20.2	263.0	
+50			14.1	269.1	
42+0			8.7	274.5	
+50			5.6	277.6	
43+0			6.8	276.4	Top & Stake 43+0
TP	4.03	280.90	6.38	276.87	
+25			7.4	273.5	
+50			14.3	266.6	
+70 = Bot. Wash From N			18.3	262.6	
+85			14.0	266.9	
44+0			12.7	268.2	
+35			10.0	270.9	
+50			6.7	274.2	
+75			4.3	276.6	
45+0			5.4	275.5	

		280.90			
45+50			5.0	275.9	
+65 = Bot. Mark From N.			5.5	275.4	
TP	12.33	293.10	0.03	280.87	
46+0			3.2	289.9	
TP	11.75	304.61	0.24	292.86	
+25			7.5	297.1	
TP	12.35	316.49	0.47	304.14	
+50			6.4	309.1	
TP	12.48	328.86	0.11	316.38	
47+0			6.7	322.2	
+50			0.8	328.1	
TP	13.09	341.33	0.72	328.14	
48+0			8.6	332.6	
+50			1.7	339.5	
TP	11.79	352.34	0.68	340.55	
49+0			3.9	348.4	
TP	13.00	365.01	0.33	352.01	
+48.78 BC = Equation +98.78			6.68	358.33	0 = Hub
50+50			1.2	363.8	
TP	5.90	370.66	0.25	364.76	
51+0			5.4	365.3	
+50			4.6	366.1	
52+0			5.4	365.3	
+50			9.1	361.6	

		370.66			
53+0			13.0	357.7	
TP	1.35	359.65	12.36	358.30	Top & Stake 53+0
+50			7.2	352.4	
TP	0.97	348.66	11.96	347.69	
54+0			12.3	336.4	
+30			26.0	322.7	
+40 = Fly Mark			32.1	316.6	
+50			31.3	317.4	
55+0 = Fly Mark			28.9	319.8	
+50			5.7	343.0	
TP	12.69	360.68	0.67	347.99	
TP	12.79	372.98	0.49	360.19	
56+0			4.0	369.0	
TP	13.10	385.48	0.60	372.38	
+50			7.1	378.4	
TP	13.28	398.21	0.55	384.93	
57+0			11.0	387.2	
+50			1.4	396.8	
TP	13.01	410.64	0.88	397.63	Top & Stake 57+50
58+0			5.2	405.1	
TP	12.99	422.82	0.51	409.83	
+50			11.1	411.7	
59+0			8.2	414.6	
+50			9.0	413.8	
+9.66 EC =			9.87	412.95	0 = Hub

		422.82			
60+50			6.3	416.5	
61+0			2.8	420.0	
+40.44	BC Lt		1.04	421.78	
TP	11.62	433.40	1.04	421.78	on ℄ Hub 61+40.44 BC
+50			12.1	421.3	
62+0			8.6	424.8	
TP	12.95	446.20	0.15	433.25	
+50			9.0	437.2	
63+0			5.0	441.2	
+50			3.1	443.1	
TP	12.37	457.23	1.34	444.86	
64+0			12.4	444.8	
+50			10.9	446.3	
65+0			9.9	447.3	
+50			8.6	448.6	
66+0			6.6	450.6	
+50	5.0% Grade		6.1	451.1	
+89.52	EC.		3.85	453.38	on Hub
67+50			4.3	452.9	
TP	6.86	462.74	1.35	455.88	
68+0			7.8	454.9	
+50			7.5	455.2	
69+0	Note Cut 5.0 5.0% Grade 64 to 69 Suggested CSM		7.3	455.4	
+50			6.7	456.0	
70+0			6.6	456.1	

		462.74			
70+25			5.0	457.7	
+50			8.2	454.5	
71+0			7.2	455.5	
+50			7.7	455.0	
+75			5.0	457.7	
72+0			6.4	456.3	
+50			6.2	456.5	
73+0			7.6	455.1	
+25			5.7	457.0	
+50			7.6	455.1	
TP	5.22	460.98	6.98	455.76	Top ℄ Stake 73+50
74+0			7.2	453.8	
+50			6.9	454.1	
75+0			6.9	454.1	
+50			6.6	454.4	
+80			4.5	456.5	
76+0			6.1	454.9	
+50			5.4	455.6	
+80			4.0	457.0	
77+0			5.0	456.0	
+50			4.6	456.4	
+75			4.2	456.8	
78+0			3.2	457.8	
+10			4.5	456.5	
+50			4.3	456.7	

Levels on 30" Water Line
Location p19

		460.98								
79+0			4.9	456.1		B.M. C.T.	12.47	143.26		130.79	NE Cor. Box. C/L
+25			4.3	456.7						
+45			7.9	453.1		7+20 ℄ Top 30" I pipe		12.56		130.70
+50.57	= W'ly of Mission Valley Road.	Imp	7.42	453.58	N.W. End Ob 452.66 Manhole Ob.	25 RT " " "		14.40		116.86
BM			7.27	453.71		70 LT " " "		4.0		139.46
BM	0.66	466.91		466.25	S.E. Top Hyd Adams & Collegeway					
TP	1.10	459.90	8.11	458.80						
TP	4.41	455.92	8.39	451.51						
TP	6.46	457.15	5.23	450.69						
BM			3.51	453.64	Mission Valley Road W'ly of Imp.					

Mission Valley Rd.
Hand level xsec for Prel. Q. Est.
See p 32 for ℄ Y level notes.

Moore
Strøm
Northam
Oct. 19-34

Sta.	Lt.	℄ El.	Rt.
+75	145.8 (+15.5/45); 139.9 (+9.6/20)	130.9	132.5 (+2.2/15); 127.5 (−2.8/40)
	145.8 (+7.8/45); 143.0 (+5.0/35); 136.3 (−1.7/20); 138.0 (0.0/10)	138.0	127.6 (−10.4/25); 129.0 (−9.0/40)
+70	148.6 (+15.2/50); 142.9 (+8.5/40); 144.1 (+9.7/30); 137.9 (+3.5/13)	135.4	126.2 (−8.2/5); 128.3 (−6.1/40)
+60	146.1 (+20.3/50); 150.0 (+24.2/37); 140.2 (+14.4/20); 137.3 (+11.5/8)	125.8	126.4 (+0.6/15); 127.2 (+1.4/40)
1	147.4 (+21.8/40); 143.6 (+18.0/30); 124.1 (−1.5/19)	125.56	124.1 (−1.5/30); 127.1 (+1.5/40)
+50	128.5 (+5.5/44); 122.5 (−1.5/37); 120.9 (−3.1/32); 122.9 (−1.1/25)	123.97	123.5 (−0.4/25); 120.1 (−3.8/32); 118.1 (−5.8/40)
00 = B.C.	120.7 (−1.7/40); 122.6 (+0.2/15)	122.37	121.7 (−0.7/18); 117.4 (−5.0/40)
0-60.51 = P.C. Rt on Fairmont	120.8 (−0.5/40); 119.6 (−1.7/35); 121.3 (0.0/15)	121.29	121.3 (0.0/15); 116.9 (−4.4/25); 115.8 (−5.5/40)

Plotted 12/26-35
W.D.S.

		147.1	139.9		134.6	134.4	134.9	132.2	132.9	
+50		+10.7 4W	+3.5 20	136.4	-1.8 1W	-2.0 4W	-1.5 7W	-4.2 27	-3.5 100	
		147.0	141.3	137.6		133.6	132.9	133.2		
5		+12.4 4W	+4.7 2W	+3.0 1W	134.6	-1.0 2W	-1.7 4W	-1.4 100		
		148.6	143.0	134.7		132.9	129.8	130.8		131.1
+50		+15.1 4W	+9.5 2W	+1.2 10	133.5	-0.6 22	-3.7 2W	-2.7 4W	creek	-2.4 100
		149.3	146.6	141.8		133.7	128.8	129.5	131.1	131.1
4		+14.2 4W	+11.5 2W	+6.7 10	135.1	-1.2 6	-6.3 12	-5.6 2W	-4.0 creek	-4.0 100
		145.7	140.2		135.0	128.7	129.9			129.3
+75		+7.0 4W	+1.2 1W	138.7	-3.7 10	-10.0 12	-8.8 4W	creek		-9.4 100
		148.7	141.3		136.9	128.5	129.5			128.9
+30.7 EC		+11.2 4W	+3.8 20	137.46	-0.6 4	-9.0 17	-8.0 4W	creek		-8.6 100
		145.4	142.3		132.9	128.8	128.0			128.2
3	Beginning channel change	+7.1 4W	+4.0 20	138.3	-5.2 2W	-9.2 20	-10.2 4W			-10.1 100
		144.7			131.7	130.7				
2+50		+8.3 4W		136.4	-4.7 20	-5.7 40				

	✓	158.0	154.6		148.4	146.0	143.5	139.6	140.7
+V0		+6.4 4V	+2.0 2V	NV.6	-V.2 2V	-V.6 4V	-8.1 60	-12.0 4V	-12.9 100
	✓	157.7	154.7		147.5	144.5	143.7	140.0	139.5
8		+7.7 4V	+4.7 2V	NO.0	-2.5 2V	-V.5 4V	-6.3 V3	-10.0 60	-10.V 100 Creek
	✓	153.5	146.3		143.7	141.6		138.9	
+V0		+8.8 4V	+1.6 20	144.7	-1.0 20	-3.1 4V		-V.8 100	Creek
	✓	152.3	142.5		141.9	140.1	139.3	136.9	
+12.48 BC		+9.V 4V	-0.V 20	142.88	-1.0 20	-2.8 4V	-3.6 100	-6.0 180	
	✓	148.9	141.4		140.4	139.3	138.8	136.4	
7		+8.1 4V	+0.6 2V	140.8	-0.V 20	-1.V 4V	-2.0 100	-4.V 150	Creek
	✓	147.0	138.7		137.7	137.5	137.6	135.0	
+V0		+9.0 4V	+0.7 20	138.0	-0.3 20	-0.V 4V	-0.4 100	-3.0 150	Creek
	✓	143.9	139.4	135.2	135.5	135.7		135.5	
6		+8.7 4V	+4.V 2V	0.0 20	135.2	+0.3 20	+0.V 4V		+0.3 100
	✓	145.4	139.2		134.7	135.2	134.4	133.4	
V+V		+12.0 4V	+5.8 V	133.V	+1.3 20	+1.8 4V	+1.0 90	0.0 100	

12	✓	171.5	157.5		149.1	150.6	147.8				149.8
		19.5	+5.2	152.3	-8.5	-1.7	-6.5	creek			-7.5
		4.5	4.5		15	30	4.5				100
+50	✓	170.8	154.4		150.1	149.2	148.2	150.2			
		+18.2	+1.8	156	-2.5	-3.2	-4.4	-2.0			
		4.5	17		2.5	4.5	4.5	100			
							creek				
11	✓	165.1	158.1		150.9	149.6					145.9
		+10.5	+3.5	154.6	-4.7	-5.0					-8.7
		4.5	23		20	4.5					100
											creek
+50	✓	164.5	161.0		152.9	150.8	146.5	144.5			
		+7.5	+4.0	157.0	-4.1	-6.2	-10.5	-12.5			
		4.5	2.5		2.5	4.5	4.5	100			
								creek			
+25	✓	166.2	162.5		153.5	151.2					
		+8.0	+4.3	158.5	-4.7	-7.0					
		4.5	2.5		2.5	4.5					
10	✓	164.5	160.5		154.0	150.6	143.8	144.0			
		+8.3	+4.3	156.5	-2.7	-5.6	-12.4	-12.2			
		4.5	2.5		2.5	4.5	6.5	100			
								creek			
+50	✓	159.0	156.5		150.3	147.0					142.5
		+5.5	+3.0	153.5	-3.3	-6.5					-11.0
		4.5	2.5		2.5	4.5					100
											Creek
9	✓	156.1	153.8		146.2	145.5	144.5	148.0			140.5
		+5.0	+2.7	151.1	-4.9	-5.6	-6.6	-10.1			-10.6
		4.5	2.5		30	4.5	40	7.5			100
											Creek

16 + 00.17 = B.C. Line "A" see page 46 for change of alignment.
levels cont'd. p 53

			197.8	183.2		162.5	159.4			
			+28.1	+13.5	169.7	-7.2	-10.3			
			40	20		20	45			
	+50		191.9	183.0		160.2	158.3	158.6		
✓			+27.1	+19.0	164.8	-4.6	-6.5	-6.5		
			40	25		13	35	45		
	15	end channel change	187.9	180.5		157.4	157.2	155.2		
✓			+26.7	+19.2	161.2	-3.8	-4.0	-6.0		
			50	30		25	45	100	creek	
			184.2	173.9		156.2	158.0	154.7	155.3	
✓	+50		+24.5	+14.5	159.7	-3.5	-1.7	-5.0	-4.4	
			50	27		25	45	65	100	
			183.2	169.7		155.5	155.4	153.2	153.8	
✓	14		+27.0	+13.5	156.2	-0.7	-0.8	-3.0	-3.4	
			50	27		25	45	65	100	creek
			167.2	162.1		158.1	151.3	152.4	152.9	153.1
✓	+50		+8.1	+3.0	159.1	-1.0	-7.8	-6.7	-6.2	-6.0
			45	15		5	45	25	45	65
							creek			
			168.3	163.5		151.1	152.6	152.5		151.3
✓	+3809	EC.	+8.0	+3.5	160.3	-9.2	-7.7	-7.8		-8.0
			45	20		15	45	65		100
						creek				
			177.5	170.3		156.2	151.1	151.4	151.9	152.0
✓	13		+19.9	+12.7	157.6	-1.2	-6.5	-6.2	-5.7	-5.6
			45	25		5	7	25	45	65
							creek			
			175.1	164.6		152.9	149.5	149.4	150.2	149.7
✓	12 + 50		+20.5	+9.7	154.9	-2.0	-5.4	-5.5	-4.7	-5.2
			45	20		8	10	45	65	100
								creek		

+2.5

+1.5

19

+8.0

+5.0

18

+5.0

17

16 + 56.9 L B.C.

+9.0 / 40	+2.5 / 25	180.7	-3.0 / 20	-5.2 / 45
+14.9 / 40	+6.8 / 15	180.9	-3.5 / 25	-4.1 / 45
+15.5 / 40	+8.1 / 20	183.9	-6.5 / 15	-6.5 / 45
+14.1 / 40	+7.0 / 20	188.3	-11.6 / 25	-13.1 / 45
+15.5 / 40	+6.3 / 20	190.9	-6.5 / 25	-13.3 / 45
+19.5 / 40	+10.3 / 23	189.7	-9.6 / 22	-21.3 / 45
+24.6 / 40	+15.1 / 30	183.5	-16.4 / 30	-18.7 / 45
+30.5 / 40	+16.5 / 22	176.5	-11.1 / 22	-13.6 / 45
+33.5 / 40	+14.5 / 20	179.1	-8.1 / 20	-10.5 / 45

23

+50

27

+50

21

+50

20

+84

19+50 ~~Culv. #1 30" Radial~~

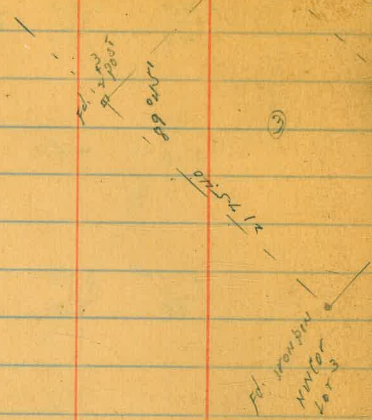
+ 21.6 / 40	+ 10.5 / 20	205.8	− 12.4 / 20	− 29.1 / 50	
+ 21.1 / 40	+ 9.7 / 20	207.1		− 12.4 / 25	− 30.0 / 55
+ 20.6 / 40	+ 9.4 / 20	203.9	− 9.1 / 20	− 18.3 / 35	− 27.4 / 55
+ 20.4 / 40	+ 9.1 / 20	200.3	− 6.0 / 20	− 13.5 / 40	− 21.7 / 55
+ 18.8 / 40	+ 8.0 / 20	197.7	− 6.5 / 20	− 13.4 / 40	− 20.6 / 55
+ 17.7 / 40	+ 7.3 / 20	194.1	− 6.7 / 20	− 12.7 / 40	− 18.0 / 50
+ 8.1 / 40	+ 9.0 / 30	194.5		− 12.7 / 40	− 15.6 / 45
+ 4.0 / 40	+ 5.4 / 20	192.1	− 5.6 / 35	− 13.3 / 65	− 19.3 / 55
+ 5.5 / 55	+ 3.7 / 25	181.6	− 3.0 / 30	− 8.5 / 55	

+70	+11.4 / 40	+6.0 / 20	212.8	-8.0 / 24	-16.7 / 50
+60	+16.4	+8.1	210.7	-7.0 / 20	-14.7 / 50
+50	+15.4 / 40	+7.0 / 20	212.4	-8.3 / 24	-16.9 / 50
+20	+14.8 / 40	+7.0 / 20	211.7	-7.7 / 24	-17.8 / 50
25	+11.5 / 40	+4.2 / 20	208.9	-8.4 / 30	-14.6 / 50
+90	+15.4 / 40	+6.7 / 20	209.3	-8.5 / 30	-14.4 / 50
+50	+17.8 / 40	+7.4 / 20	212.7	-6.5 / 20	-21.7 / 50
24	+20.7 / 40	+9.0 / 20	212.0	-8.4 / 20	-22.2 / 50
23 +50	+21.5 / 40	+9.5 / 20	210.8	-10.5 / 24	-23.7 / 50

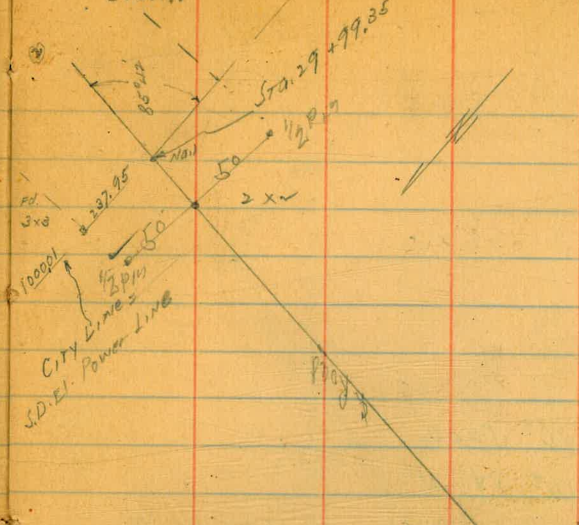
Beginning change of Life
Line "A" from p 21

Indexed
C.S.R.

29+99.35 = Prop. Tie City Line		
	+25.91 = E.C.	21° 30.00'
27		21° 00.36'
	+50	20° 03.06'
26		19° 05.76'
	+50	18° 08.46'
25		17° 11.16'
	+50	16° 13.86'
24		15° 16.56'
	+50	14° 19.26'
23		13° 21.96'
	+50	12° 24.66'
22		11° 27.36'
	+50	10° 30.06'
21		9° 32.76'
	+50	8° 35.46'
20		7° 38.16'
	+50	6° 40.86'
19		5° 43.56'
	+50	4° 46.26'
18		3° 48.96'
	+50	2° 51.66'
17		1° 54.36'
	+50	0° 57.06'
16+00.17 B.C. Line "A"		

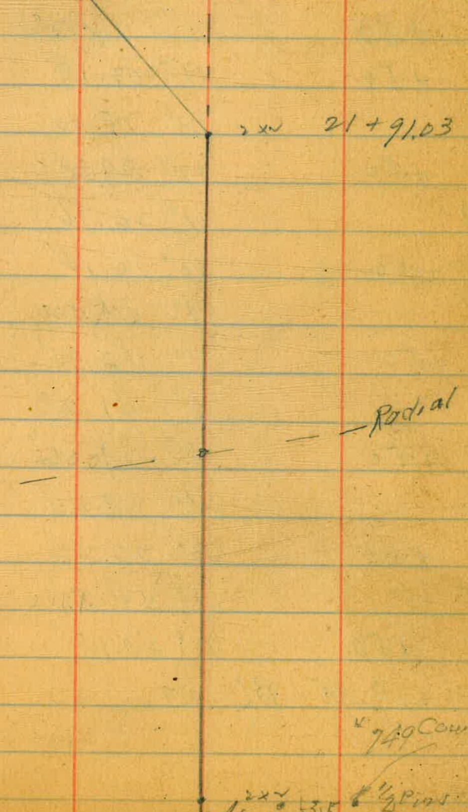


19+40 Prop. Culv. 24"

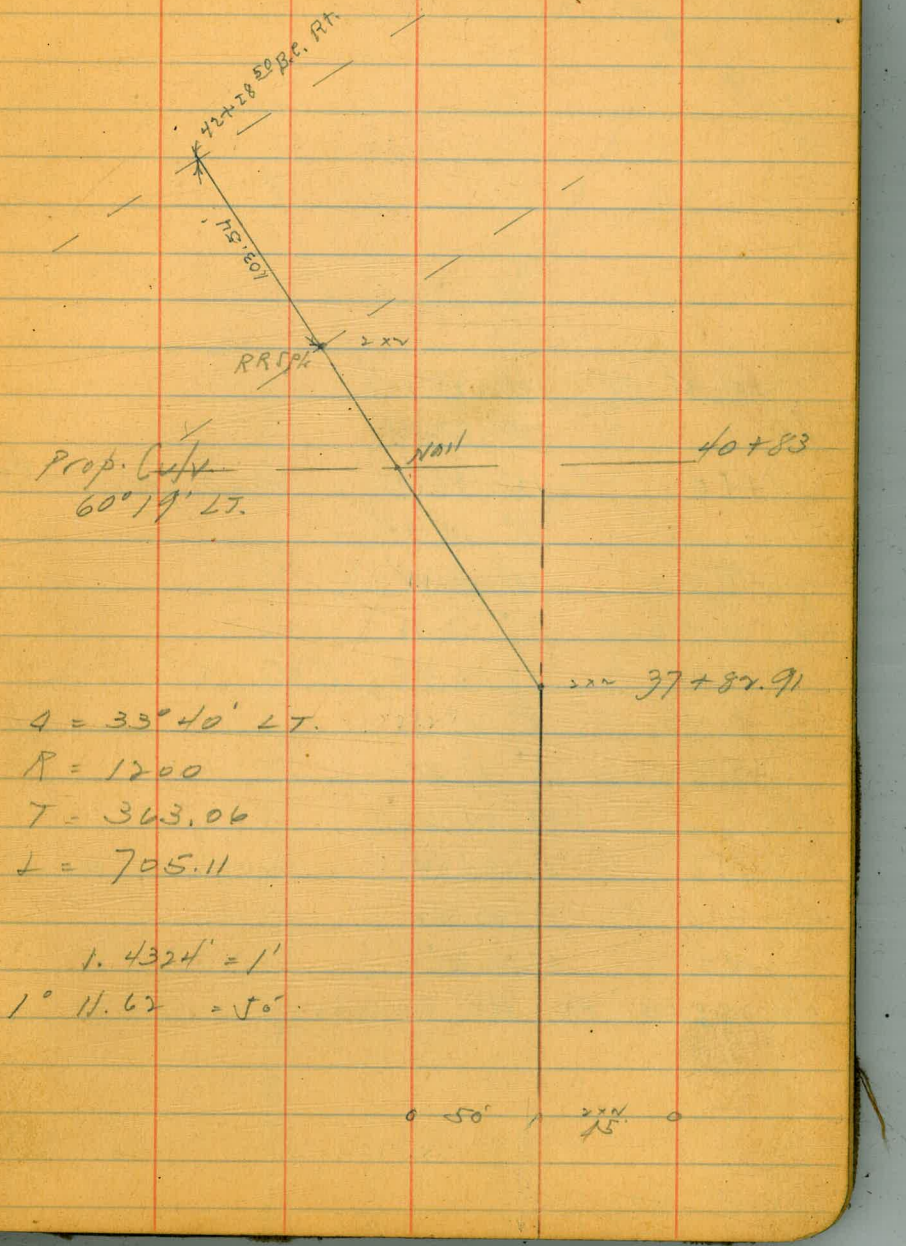


Δ = 43°00' Lt.
R = 1500
T = 590.86
L = 1125.74

1,14.59' = 1'
0° 57.30' = 50'

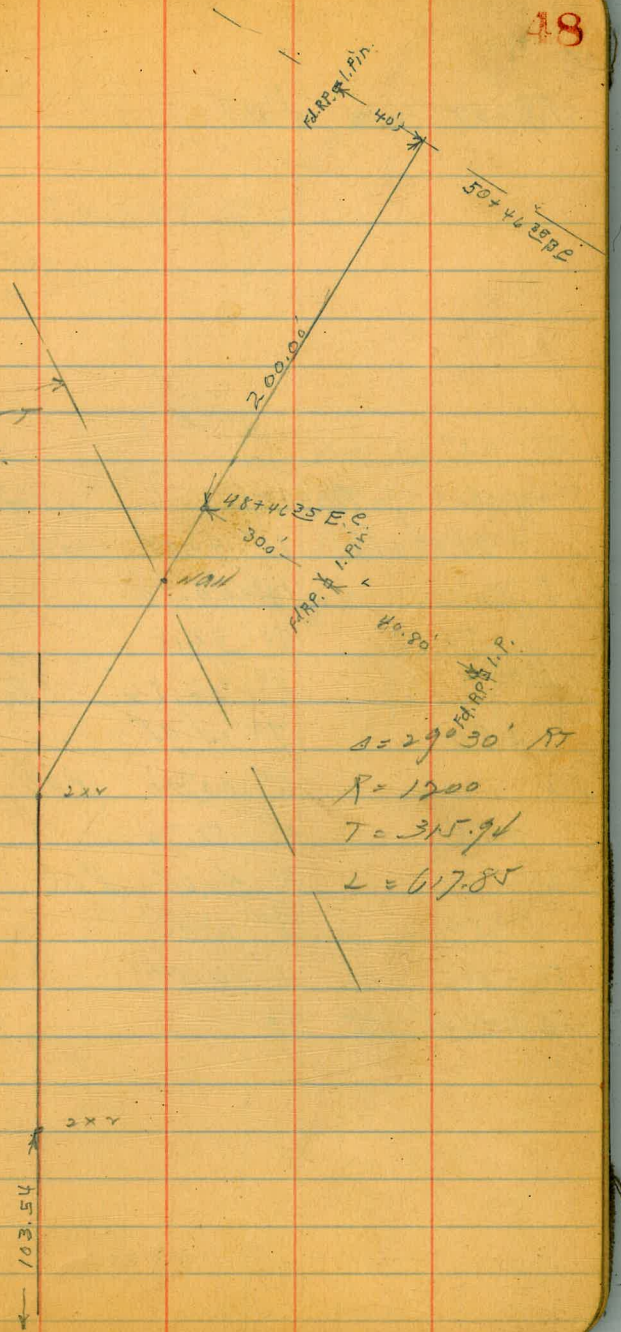


	+ 24.96 E.C.	16° 50.00'
41		16° 14.24'
	+ 83	Prop. Culvert #2
	+ 50	15° 02.69'
40		13° 15.00'
	+ 50	12° 39.38'
39		11° 26.76
	+ 50	10° 16.14'
38		9° 04.52
	+ 50	7° 52.90'
37		6° 41.28' P.O.C.
	+ 50	5° 29.66'
36		4° 18.04'
	+ 50	3° 06.42'
35		1° 54.81'
	+ 50	0° 43.18'
34	+ 19.85 BC	LT.



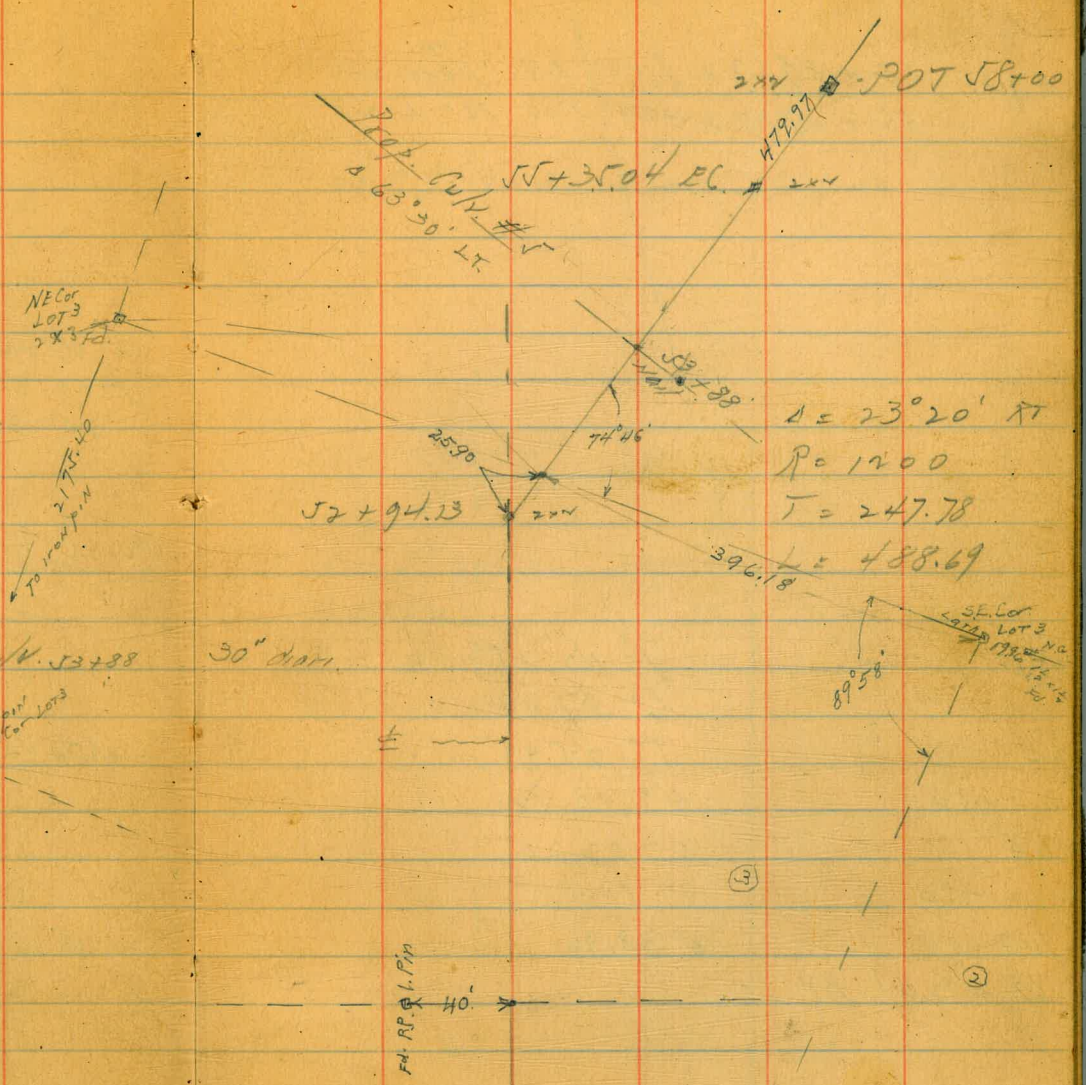
	+46.35 E.C.	14° 45.00'	
4/8		13° 38.58'	
	+50	12° 26.96'	Prop. Culvert #3.
4/7		11° 15.34'	
	+50	10° 03.72'	
4/6		8° 52.10'	
	+50	7° 40.48'	POC
4/5		6° 28.88'	
	+50	5° 17.28'	
4/4		4° 05.66'	
	+50	2° 54.04'	Prop Culv. on Radial. #4 . 18"
4/3		1° 42.42'	
	+50	0° 30.80'	
4/2	+28.50	BC RT.	

41+24.96 E.C.



5 8+00 2xx P.O.T.

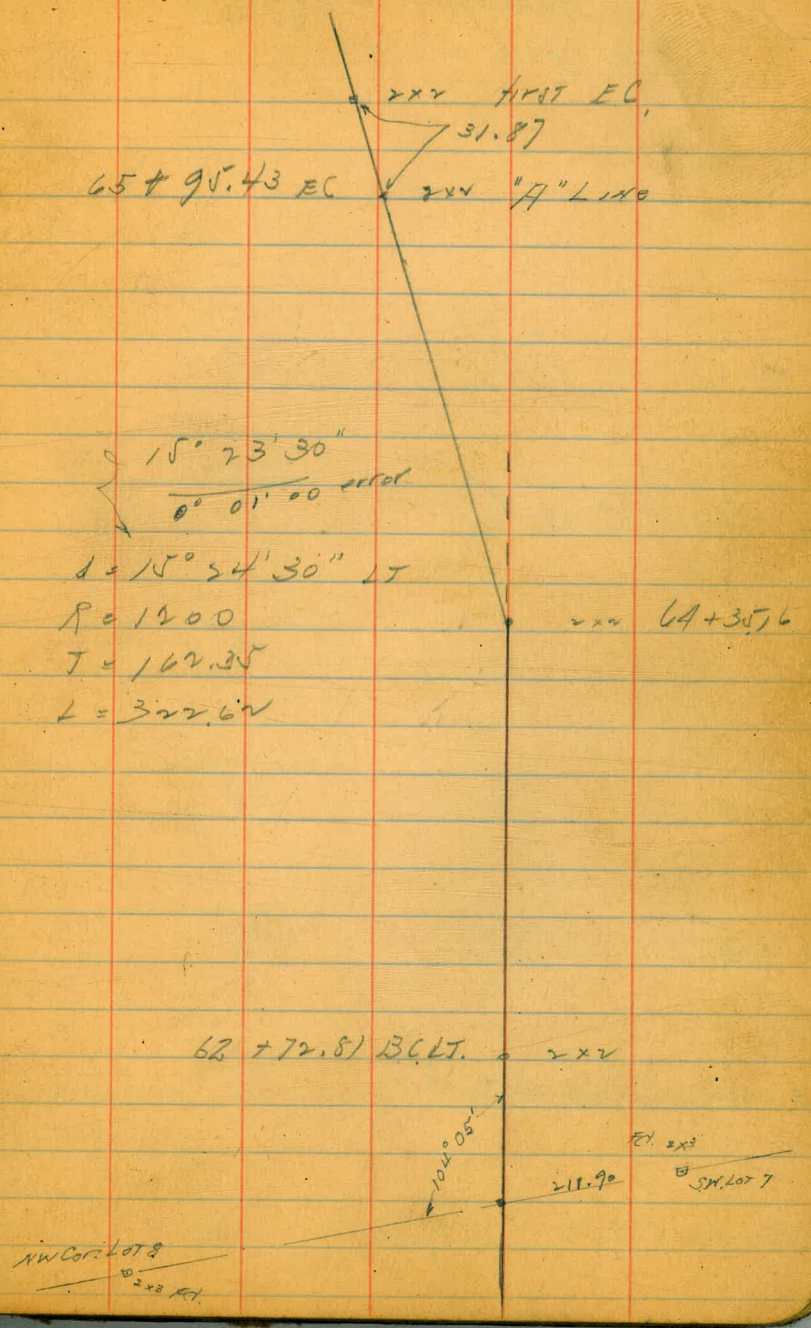
5 3+20.03	= Prop. T.C.	Length of C.T.	
+35.04 E.C.	11° 40.00'		
5 5	10° 49.80'		
+50.	9° 38.18'		
5 4	8° 26.56	Prop. C/L 5 3+88	30" diam.
+50	7° 14.94'		
5 3	6° 03.32'	POC	
+50	4° 51.70'		
5 2	3° 40.08	POC	
+50	2° 28.46'		
5 1 +00	1° 16.84'		
5 0 + 46.35	BC. RT		



Equ. $\frac{66+89.52 = \text{first E.C.}}{66+27.30 = \text{Sta. Pot "A" Line}}$ See page 24

65 +95.43 EC — 7° 42' 15"
+50 — 6° 37.08'
65 — 5° 25.42'
+50 — 4° 13.82'
64 — 3° 02.20'
+50 — 1° 50.58'
63 +00 — 0° 38.96
62 +72.81 BC LT

60+16.06 Prop. TIC



Levels + Location of Ex. paving on Fairmont 00 = 60.51 to 4+00 (56+96.39)

Paving = 3" oil Mac.

Station			LT	RT
4+00			5.05 / 18	5.47 / 2
3+55 = PRC of "Y"		5.80 / 21	6.05 / 1	
3		6.76 / 21	7.11 / 1	
2+00			9.21 / 22	9.76 / 1
1+00			12.83 / 16	13.00 / 4
0 − 60.51	Co. E.C. 56+96.39 = 0+00	E edge pav	15.59 / 15.5	15.44 / 3.5 = W edge pav

B.M. Ld.&C.I. 5.50 136.29 130.79 5.47 E of 0+00 PRC 3+55 NE Cor Culv. 136.29

Levels on Sly Spur "Y"
at Fairmont & Mission Valley Rd.

Station			LT	℄	RT			
2+37.48 = 3+53.0r E.C. see p 39 & 19								
2				+1.6	+0.5/11	7.9/26	9.0/40	8.0/120
1+47.33 E.C.			+0.7/10	0.67		4.5/28 6.6/30		5.9/45
1+00		3.9/30	6.1/15	5.5	3.9/30	8.2/42	6.9/70	
0+50			7.06/20	6.52	6.3/27	5.8/27	7.5/48	7.1/62
00 = 3+55 PRC	12.86/29.69 F.L. Culv	7.24/29.69 Top Hd Wall		6.05	5.9/33	3.1/45	5.50/51.47 Top Hd wall	11.21/55.47 FL Culv inlet

136.29

136.29

R = 9.4/72.55 in creek

Xsec of "A" Line
Mission Valley Rd. from p 42

Oct. 28-35

Sta.						Lt.		℄		Rt.	
+50						209.6 / +12.1 / 40	201.2 / +8.7 / 20'	193.1 / 4.4	188.3 / 9.2 / 20'	179.7 / 17.8 / 50'	
18+0						209.7 / +12.2 / 40'	201.4 / +3.9 / 20'	192.3 / 5.2	184.3 / 13.2 / 20'	174.4 / 23.1 / 40'	167.9 / 29.6 / 55'
TP	10.69	197.53	0.44	186.84				197.53			
+50						209.1 / +21.8 / 40'		186.3 / 1.0	166.0 / 21.3 / 30'	163.7 / 23.6 / 50	
17+0						206.4 / +19.1 / 40'	191.6 / +4.3 / 20'	178.5 / 8.8	165.4 / 21.9 / 20	163.0 / 24.3 / 50	
16+50						202.5 / +15.2 / 40'	186.6 / 0.7 / 20'	172.30 / 15.0	164.1 / 23.2 / 20'	160.5 / 26.8 / 50'	
T.P. on Rock	0.44	187.28		186.84	5' RT. 17+90 first line p33			187.28			

	Lt.	℄	Rt.
+75	187.8 / 9.7 / 50'	186.8 / 10.7 / 25'	193.7 / 3.8 / 5' — 193.7 / 3.8 — 189.6 / 7.9 / 20' — 185.7 / 11.8 / 50'
+50	187.2 / 10.3 / 50'	185.6 / 11.9 / 25'	182.3 / 15.2 — 180.2 / 17.3 / 25' — 177.2 / 20.3 / 50'
+40 = Prop. Culv.	187.1 / 10.4 / 50'	184.8 / 12.7 / 25'	182.3 / 15.2 — 179.4 / 18.1 / 25' — 175.2 / 22.3 / 50'
+15	193.9 / 3.6 / 40'	189.3 / 8.2 / 20'	181.8 / 15.7 — 178.8 / 18.7 / 20' — 176.4 / 21.1 / 50'
19+00	199.7 / +2.2 / 40'	193.7 / 3.8 / 20'	187.7 / 9.8 — 177.4 / 20.1 / 25' — 177.8 / 19.7 / 50'
18+75	206.7 / +9.8 / 40'	199.3 / +1.8 / 20'	191.8 / 5.7 — 189.0 / 8.5 / 10' — 183.2 / 14.3 / 25' — 174.9 / 22.6 / 50'

197.53

197.53

22+0				
TP	18.21	220.87	1.17	202.66
+50				
21+0				
+50				
+20				
TP	11.95	208.83	0.65	196.88
20+0				
			197.53	

Lt. ℄ Rt.

✓ 235.7	226.1	214.7	203.3	195.7
+14.8 / 40.	+5.2 / 20.	6.2	17.6 / 25.	25.2 / 45.

220.87

✓ 229.8	219.2	208.8	199.1	192.3
+21.0 / 40.	+10.4 / 20.	0.0	9.7 / 25.	16.5 / 45.

✓ 224.6	214.8	204.4	195.0	188.9
+15.8 / 40.	+6.0 / 20.	4.4	13.8 / 25.	19.9 / 45.

✓ 220.3	211.9	202.4	193.6	187.8
+11.5 / 40.	+3.1 / 20.	6.4	15.4 / 20.	21.0 / 45.

✓ 216.8	210.0	200.5	192.7	186.7
+8.0 / 40.	+1.2 / 20.	8.3	16.1 / 20.	22.1 / 45.

208.83

✓ 204.6	205.2	198.2	192.6	186.0
+7.1 / 40.	+7.7 / 20.	+0.7	4.9 / 20.	11.5 / 45.

197.53

	Lt.	℄	Rt.	
✓	234.9	230.6	221.6	210.6	205.6
	+3.2	1.1	10.1	21.1	26.1
	40'	20'	℄	25'	45'
✓	245.6	235.5	224.1	214.7	207.5
	+13.9	+3.8	7.6	17.0	24.2
	40'	20'	℄	25'	45'
✓	245.6	236.7	225.9	214.0	206.0
	+13.9	+5.0	5.8	17.7	25.7
	40'	20'	℄	25'	45'
✓	245.0	235.7	224.5	212.0	203.2
	+13.3	+4.2	7.2	19.7	28.5
	40'	20'	℄	25'	45'
✓	242.4	232.7	221.9	209.1	198.1
	+10.7	+1.0	9.8	22.6	33.6
	40'	20'	℄	25'	45'
			231.74		
✓	239.9	229.9	218.9	206.10	195.2
	+9.0	+9.0	2.6	14.8	25.7
	40	20'	℄	25'	45'
			220.87		

+75					
+50					
24+0					
+50					
23+0					
TP	11.39	231.74	0.57	220.35	
22+50					
		220.87			

27+0				
+50				
26+0				
+50				
TP	9.52	232.42	8.84	222.90
25+05				
24+90				
		231.74		

Lt.	Δ	Rt.	Oct. 29-35

✓ 247.7 (+15.3 40') 239.5 (+7.1 30') 228.4 (4.0) 217.3 (15.1 20') 207.9 (24.5 15')

✓ 248.0 (+15.6 40') 237.4 (+5.0 30') 225.8 (6.6) 217.1 (15.3 20') 208.1 (24.8 15')

✓ 246.4 (+14.0 40') 235.2 (+3.8 30') 224.4 (8.0) 217.6 (14.8 20') 209.6 (23.6 15')

✓ 244.6 (+12.2 40') 232.9 (+0.5 30') 223.5 (8.9) 213.8 (18.6 25') 209.3 (23.1 15')

232.42

✓ 240.0 (+8.3 40') 230.0 (1.7 30') 222.5 (9.2) 214.3 (17.4 25') 207.2 (24.5 15')

✓ 241.1 (+9.4 40') 224.1 (7.6 30') 217.1 (14.6) 210.6 (21.1 25') 205.1 (26.6 15')

231.74

						Lt		℄		Rt
+09						✓ 227.2 / 9.3 / 45	221.4 / 15.1 / 20'	217.1 / 19.4	213.1 / 23.4 / 20'	213.8 / 22.7 / 45
28+0						✓ 232.2 / 4.3 / 40'	223.4 / 13.1 / 20	217.1 / 19.4	213.1 / 23.4 / 20	212.3 / 24.2 / 45
+80						✓ 243.8 / +7.3 / 40'	235.7 / 0.8 / 20'	225.7 / 10.8	216.5 / 20.0 / 20'	206.5 / 30.0 / 45
+50						✓ 247.8 / +11.3 / 40'	238.7 / +2.2 / 20'	228.5 / 8.0	218.7 / 17.8 / 20'	209.9 / 26.6 / 45
27+25.91	E.C.					✓ 248.3 / +11.8 / 40'	240.2 / +3.7 / 20	229.1 / 7.4	218.3 / 18.2 / 20'	208.8 / 27.7 / 45.
TP	7.45	236.45	3.42	229.00	on ℄ Hub 27+25.91			236.45		
		232.42						232.42		

TP	12.23	246.76	1.92	234.53
30+0				
+50				
29+0				
+50				
28+20				
		236.45		

Lt.			℄		Rt.
256.3	247.3	238.1	227.1	215.9	203.3
+19.8 40'	+10.8 20'	+1.6	9.4 20'	20.6 35'	33.2 50'
252.7	243.9	233.9	221.4	205.0	
+15.2 40'	+7.4 20'	2.6	15.1 20'	31.5 45'	
250.3	242.1	232.5	222.0	209.5	
+13.8 40'	+5.6 20'	4.0	14.5 20'	27.0 45'	
243.9	236.5	227.4	220.8	212.9	
+7.4 40'	0.0 20'	9.1	15.7 20'	23.6 45'	
226.5	224.7	222.5	218.7	212.9	
10.0 45'	14.8 20'	14.0	17.6 20'	23.6 45'	
		236.45			

						Lt	℄	Rt
						250.0	248.5	246.1	242.3	234.8
						3.8 / 40.	5.3 / 20	7.7	11.5 / 20.	19.0 / 45.
+90										
						232.6	227.4	224.7	222.8	218.6
						21.2 / 50	26.4 / 20	29.1	31.0 / 20	35.2 / 55.
+60										
						237.6	230.3	228.2	223.8	215.8
						16.2 / 50.	23.5 / 20.	25.6	30.0 / 20.	38.0 / 55.
+50										
								253.79		
XP	9.19	253.79	2.16	244.60	31+0					
						251.3	246.2	242.2	236.7	225.0
						+4.5 / 40.	0.6 / 20.	4.6	10.1 / 20.	21.8 / 45.
+25										
						263.8	250.1	244.5	237.5	226.0
						+17.0 / 40.	+3.3 / 20.	2.3	9.3 / 20.	20.8 / 45.
31+0										
						259.2	250.3	242.7	231.8	211.3
						+12.4 / 40.	+3.5 / 20.	4.1	15.0 / 20.	35.5 / 50.
30+50										
		246.76						246.76		

							Lt		℄		Rt
TP	12.70	304.20	0.27	291.50	on ℄ Stake 34+0						
34+0						✓	312.0 / +20.2 / 40'	302.8 / +11.0 / 20'	291.1 / 0.7	282.2 / 9.6 / 20'	271.0 / 20.8 / 45
+50						✓	302.0 / +10.2 / 40'	293.5 / +1.7 / 20	285.5 / 6.3	276.5 / 15.3 / 20'	265.0 / 26.8 / 45'
TP	13.05	291.77	0.86	278.72					291.77		
33+0						✓	290.6 / +11.0 / 40'	276.1 / +3.5 / 20'	274.0 / 5.6	265.4 / 14.2 / 20'	255.2 / 24.4 / 45'
TP	12.78	279.58	0.17	266.80					279.58		
+50						✓	278.3 / +11.3 / 40'	270.2 / +3.2 / 20'	265.1 / 3.9	255.8 / 11.2 / 20'	247.0 / 20.0 / 50'
TP	13.19	266.97	0.01	253.78					266.97		
BM #3			6.79	247.00	on 8"x8 RR Hub 50' Rt. 32+50						
32+0						✓	257.0 / +3.2 / 40	253.0 / 0.8 / 20'	249.6 / 4.2	244.6 / 9.2 / 20'	237.9 / 15.9 / 45'
		253.79							253.79		

	Lt	℄	Rt.
+50	✓ 300.0 / 4.2 / 40'	292.8 / 11.4 / 20'	287.1 / 17.1	280.4 / 23.8 / 20'	269.9 / 34.3 / 45'
+30	✓ 297.6 / 6.6 / 40'	289.9 / 14.3 / 20'	284.9 / 19.3	276.7 / 27.5 / 20'	267.5 / 36.7 / 45'
+20	✓ 300.2 / 4.0 / 40'	294.2 / 10.0 / 20'	286.9 / 17.3	279.1 / 25.1 / 20'	269.5 / 34.7 / 45'
3570	✓ 305.7 / +1.5 / 40'	297.7 / 6.5 / 20'	289.1 / 15.1	280.4 / 23.8 / 20'	270.9 / 33.3 / 45'
+50	✓ 313.9 / +9.7 / 40'	303.9 / 0.3 / 20'	293.7 / 10.5	284.9 / 19.3 / 20'	275.2 / 29.0 / 45'
34+19.85 B.C. Lt	✓ 312.50 / +8.3 / 40'	303.7 / 0.5 / 20'	293.7 / 10.45 on Hub	284.3 / 19.9 / 20'	273.9 / 30.3 / 45'

304.20

304.20

						Lt.		℄	Rt.	
+50					✓	296.4 / +7.6 / 40'	288.0 / 0.8 / 20'	278.7 / 10.1	269.7 / 19.1 / 20'	259.6 / 29.2 / 45'
TP	4.73	288.78	12.75	284.05				288.78		
38+0					✓	301.0 / +4.2 / 40'	291.5 / 5.3 / 20'	282.6 / 14.2	272.9 / 23.9 / 20'	261.9 / 34.9 / 45'
+50					✓	306.0 / +9.2 / 40'	296.0 / 0.8 / 20'	286.6 / 10.2	278.1 / 18.7 / 20'	265.8 / 31.0 / 45
TP	4.92	296.80	12.32	291.88				296.80		
37+0					✓	308.4 / +4.2 / 40'	297.9 / 6.3 / 20'	287.2 / 17.0	277.1 / 27.1 / 20'	263.8 / 40.4 / 45'
+50					✓	304.0 / 0.2 / 40	294.9 / 9.3 / 20'	284.9 / 19.3	276.6 / 27.6 / 20'	264.6 / 39.6 / 45
36+0					✓	304.6 / +0.4 / 40'	296.4 / 7.8 / 20'	287.3 / 16.9	278.0 / 26.2 / 20'	266.3 / 37.9 / 45'
		304.20						304.20.		

Sta.					Mark	Lt.		℄		Rt.	
+83 = Prop Culv. Taken on Dwg. 18"					X	260.1 / 20.3 / 60'	255.0 / 25.4 / 20'	253.7 / 26.7	252.9 / 27.5 / 20'	249.0 / 31.4 / 60	248.8 / 31.6 / 70'
+83					✓	265.7 / 14.7 / 60'	258.0 / 22.4 / 20'	253.7 / 26.7	253.0 / 27.4 / 20'	253.9 / 26.5 / 60'	
+50					✓	274.4 / 6.0 / 40'	268.7 / 11.7 / 20'	263.4 / 17.0	258.6 / 21.8 / 20'	249.6 / 30.8 / 55 = Bot. Wash	
40+0					✓	283.6 / +3.2 / 40'	278.3 / 2.1 / 20'	272.0 / 8.4	265.3 / 15.1 / 20'	256.0 / 24.4 / 50'	
TP	4.37	280.39	12.76	276.02				280.39			
+50					✓	289.9 / +1.1 / 40'	282.2 / 6.6 / 20'	276.4 / 12.4	271.0 / 17.8 / 20'	263.6 / 25.2 / 45'	
39+0					✓	293.7 / +4.9 / 40'	286.4 / 2.4 / 20	278.4 / 10.4	271.3 / 17.5 / 20'	262.2 / 26.6 / 45'	
		288.78						288.78			

+50				
+38.50	BC. Rt			
TP	7.38	286.69	1.08	279.31
42+0				
+50				
+24.96	E.C.			
41+0				
		280.39		

Lt				Rt
287.8	285.5	283.2	279.8	277.5
✓ +1.1 45'	1.2 25'	3.5	6.9 25'	9.2 45'
285.8	284.0	281.76	279.1	277.9
✓ 0.9 45'	2.7 25'	4.93 07 Hub	7.6 25'	8.8 45'
		286.69		
280.6	280.0	278.6	276.8	275.4
✓ +0.2 45'	0.4 25'	1.8	3.6 25'	5.0 45'
270.3	271.2	271.3	270.9	270.4
✓ 10.1 45'	9.2 25'	9.1	9.5 25'	10.0 45'
263.2	265.2	266.72	267.6	269.0
✓ 17.4 50'	15.4 25'	13.67 07 Hub	12.8 25'	11.4 45'
261.8	257.9	260.0	261.2	262.9
✓ 18.6 55'	22.5 25'	20.4	19.2 20'	17.5 45'
		280.39		

+50				
TP	10.05	308.62	0.35	298.57
4+50				
+50				
TP	12.91	298.92	0.68	286.01
4+50				
+50 = Prop Calc. on Radial Line 18"				
4+50				

286.69

4+ 2 R1

✓ 310.3 306.3 301.3 292.6 280.8
+1.7/40 2.3/20 7.3 16.0/25 27.8/55

308.62

✓ 307.5 304.5 299.9 294.0 287.6
+8.6/40 +5.6/20 +1.0 4.9/25 11.3/45

✓ 294.0 292.4 291.3 288.0 283.8
4.9/40 6.5/20 7.6 10.9/25 15.1/45

298.92

✓ 282.0 280.4 279.6 278.9 277.1
4.7/45 6.3/25 7.1 7.8/25 9.6/45

✓ 273.0 271.9 270.3 268.6 266.9 ✓
13.7/50 14.8/25 16.4 18.1/25 20.4/50

✓ 285.8 283.5 280.6 278.0 275.5
0.9/45 3.2/25 6.1 8.7/25 11.2/45

286.69

		Lt	℄	Rt.
TP	13.08	320.23	1.47	307.15
				291.8 / 16.8 / 120' — 286.8 / 21.8 / 135' — 280.3 / 28.3 / 145' = Bot Wall
+50	= Prop Culv. Takes on Diag 18"			302.6 / 6.0 / 105' — 305.6 / 3.0 / 98' — 301.3 / 7.3 / 78' — 300.8 / 7.8 / 50' — 298.6 / 10.0 / 25' — 295.5 / 13.1 — 294.9 / 13.7 / 25' — 291.8 / 16.8 / 50' — 287.4 / 21.2 / 75' — 287.4 / 21.2 / 90' — 290.9 / 17.7 / 100'
+50				✓ 311.3 / +2.7 / 40' — 301.7 / 6.9 / 30' — 295.5 / 13.1 Bot Wall — 306.9 / 1.7 / 20' — 318.0 / +9.4 / 40'
47+0				✓ 316.1 / +7.5 / 40' — 306.4 / 2.2 / 20' — 297.0 / 11.6 — 291.7 / 16.9 / 20' = Bot. Wall — 305.9 / 2.7 / 45'
+50				✓ 317.3 / +8.7 / 40' — 308.2 / 0.4 / 20' — 297.2 / 11.4 — 288.2 / 20.4 / 20' — 286.0 / 22.6 / 33' Bot Wall — 295.3 / 13.3 / 50'
46+0				✓ 304.9 / 3.7 / 40' — 297.5 / 11.1 / 20' — 292.3 / 16.3 — 286.5 / 22.1 / 25' — 280.6 / 28.0 / 55' = Bot Wall
		308.62		308.62

						Lt.		℄		Rt.	Oct. 31-35 48+0
TP	13.10	370.23	0.07	357.13							
+50						✓ 351.4 / 5.8 / 40'	353.3 / 3.9 / 20	354.7 / 2.5	357.4 / +0.2 / 25'	360.1 / +2.9 / 40	
								357.20			
TP	12.99	357.20	1.33	344.21							
49+0						✓ 331.1 / 14.4 / 45	337.7 / 7.8 / 20'	342.5 / 3.0	342.9 / 2.6 / 20'	344.0 / 1.5 / 40'	
BM #4			9.77	335.77	o 7 2"x2" RWt 50' Rt 48+46.3						
								345.54			
TP	13.11	345.54	0.32	332.43							
+46.35	E.C.				✓	307.3 / 25.5 / 60 ; 304.1 / 28.7 / 52' = Bot. Wash	308.4 / 24.4 / 45'	320.1 / 12.7 / 20'	325.54 / 7.21 on Hub	330.5 / 2.3 / 20' ; 334.2 / +1.4 / 40'	
								332.75			
TP	13.21	332.75	0.69	319.54							
+25						✓ 308.8 / 11.4 / 60' ; 302.2 / 18.0 / 50' = Bot. Wash	309.8 / 10.4 / 25'	319.0 / 1.2	326.0 / +5.8 / 20'	310.6 / 9.6 / 40'	
48+0						✓ 309.4 / 10.8 / 50' ; 305.5 / 14.7 / 40'	300.2 / 20.0 / 20.0' = Bot. Wash	307.9 / 12.3	314.1 / 6.1 / 20'	324.2 / +4.0 / 40'	
		320.23						320.23			

TP	0.81	357.36	18.18	357.05
+50				
52+0				
+75				
+50				
51+0				
+46.35	B.C.R.			
50+0				

370.23

	Lt.			℄		Rt.	
✓	362.8	358.6	353.9	348.6	333.8		
	7.4 40'	11.6 20'	16.3	21.6 20'	36.4 45'		
✓	369.5	364.1	360.3	355.5	347.9		
	0.7 40'	6.1 20'	9.9	14.7 20'	22.3 45'		
✓	373.1	366.9	364.7	359.9	350.0		
	+2.9 40'	3.3 20'	5.5	10.3 20'	20.2 40'		
✓	376.8	370.4	364.4	358.9	354.0		
	+6.6 40'	+0.2 20'	5.8	11.3 20'	16.2 40'		
✓	378.1	371.9	366.7	362.2	357.9		
	+7.9 40'	+1.7 20'	3.5	8.0 20'	12.3 40'		
✓	373.9	370.9	367.46	363.6	360.0		
	+3.7 40'	+0.7 20'	2.77 on Hub	6.6 20'	10.2 40'		
✓	365.5	365.5	364.9	362.7	359.6		
	4.7 40'	4.7 20'	5.3	7.5 20'	10.6 40'		

370.23

		Lt.	℄	Rt.
25		317.8 / 15.1 / 80' Bot. Wash	319.5 / 13.4 / 65'	318.3 / 14.6 / 50'
		317.1 / 15.8 / 35'	316.5 / 16.4	
		313.4 / 19.5 / 28'	319.4 / 13.5 / 38'	325.2 / 7.7 / 75'
54+0		✓ 325.4 / 7.5 / 70'	317.5 / 15.4 / 55'	315.9 / 17.0 / 20'
		314.9 / 18.0	311.6 / 21.3 / 35'	310.5 / 22.4 / 43' Bot. Wash
		313.6 / 19.3 / 50'	315.4 / 17.5 / 70'	
53+88 = Prop Colv. Taken on Drop 30"		✓ 317.7 / 15.2 / 80'	316.2 / 16.7 / 50'	316.5 / 16.4 / 30'
		315.6 / 17.3	310.2 / 22.7 / 35'	308.0 / 24.9 / 50' Bot. Wash
		309.2 / 23.7 / 60'	307.8 / 25.1 / 80'	
25		✓ 331.5 / 1.4 / 65'	327.5 / 5.4 / 50'	322.3 / 10.6 / 25'
		316.9 / 16.0	300.9 / 32.0 / 30'	298.9 / 34.0 / 43' Bot Wash
		301.5 / 31.4 / 50'	301.9 / 31.0 / 75'	
TP	0.56	332.88	12.73	332.32
		332.88		
TP	0.63	345.05	12.94	344.42
50		✓ 341.8 / 15.6 / 50'	338.7 / 18.7 / 40'	333.1 / 24.3 / 20'
		327.3 / 30.1	315.2 / 42.2 / 35'	308.5 / 48.9 / 45' Bot Wash
		310.6 / 46.8 / 75'		
25		✓ 350.1 / 7.3 / 40'	345.1 / 12.3 / 20'	339.4 / 18.0
		332.1 / 25.3 / 30'	321.5 / 35.9 / 40'	307.2 / 50.2 / 65' Bot Wash
		308.1 / 49.3 / 75'		
53+0		✓ 356.1 / 1.3 / 40'	351.9 / 5.5 / 20'	346.6 / 10.8
		337.4 / 20.0 / 20'	327.4 / 30.0 / 40'	315.9 / 41.5 / 60'
	357.36		357.36	

+50				
56+0				
+50				
TP	13.15	381.53	0.76	368.38
+35.04	F.C.			
55+0				
TP	12.66	369.14	1.56	356.48
TP	13.10	358.04	0.50	344.94
TP	13.14	345.44	0.58	332.30
54+50				

332.88

	Lt.		℄		Rt.			
✓	384.9 / +3.4 / 40'	383.0 / +1.5 / 20'	380.6 / 0.9	377.7 / 3.8 / 20'	374.1 / 7.4 / 45'			
✓	378.1 / 3.4 / 40'	376.3 / 5.2 / 20'	375.8 / 5.7	373.8 / 7.7 / 20'	370.7 / 10.8 / 45			
✓	371.5 / 10.0 / 40	371.3 / 10.2 / 20	369.8 / 11.7	368.7 / 12.8 / 20	367.6 / 13.9 / 40			

381.53

✓	368.1 / 1.0 / 40	368.8 / 0.3 / 25	368.39 / 0.75 on Hub	367.3 / 1.8 / 25	365.3 / 3.8 / 40			
✓	341.9 / 27.2 / 40'	348.1 / 21.0 / 40'	354.9 / 14.2 / 20'	359.9 / 9.2	361.0 / 8.1 / 25	360.4 / 8.7 / 45'		

369.14

✓	320.5 / 12.4 / 80'	313.5 / 14.4 / 50'	321.4 / 11.5 / 25	328.3 / 4.6 / 10'	328.6 / 4.3	332.1 / 0.8 / 20'	337.9 / +5.0 / 40'	341.1 / +8.2 / 60'

332.88

60+0				
+50				
59+0				
+50				
TP	12.48	404.73	1.21	392.25
58+0				
+50				
57+0				
TP	12.17	393.46	0.24	381.29
		381.53		

Lt		℄		Rt.
✓ 415.5	411.7	405.0	396.7	387.7
+10.8 40	+7.0 20	+0.3	8.0 25	17.0 50
✓ 410.7	406.1	400.5	392.8	387.1
+6.0 40	+1.4 20	4.3	11.9 25	17.6 45
✓ 408.4	403.7	399.3	393.2	388.2
+3.7 40	1.0 20	5.1	11.5 25	16.5 45
✓ 405.8	401.4	396.3	391.9	386.9
+1.1 40	3.3 20	8.1	12.8 20	17.8 45
		404.73		
✓ 403.5	398.5	393.4	387.8	383.0
+10.0 40	+5.0 20	0.1	5.7 25	10.5 45
✓ 397.8	393.8	389.8	384.9	380.9
+4.3 40	+0.3 20	3.7	8.6 20	12.6 45
✓ 391.4	390.8	386.0	382.4	378.2
2.1 40	2.7 20	7.5	11.1 20	15.3 45
		393.46		

+50				
TP	11.46	452.37	0.32	440.91
62+0				
+70				
+50				
TP	12.80	441.23	0.43	428.43
61+0				
TP	12.55	428.86	0.41	416.31
60+50				
TP	13.14	416.72	1.15	403.58
		404.73		

	Lt.		℄		Rt.	
✓	443.3 / 9.1 / 40'	441.8 / 10.6 / 20'	441.4 / 11.0	440.3 / 12.1 / 20'	438.7 / 13.7 / 40'	
			452.37			
✓	439.4 / 1.8 / 40'	438.5 / 2.7 / 20'	438.0 / 3.2	436.5 / 4.7 / 20'	435.8 / 5.4 / 30'	
✓	435.7 / 5.5 / 40'	436.5 / 4.7 / 20'	434.7 / 6.5	432.1 / 9.1 / 20'	430.5 / 10.7 / 40'	
✓	430.0 / 11.2 / 40'	426.7 / 14.5 / 30'	428.50 / 12.7 / 20'	429.0 / 12.2	429.4 / 11.8 / 20'	428.0 / 13.2 / 40'
			441.23			
✓	424.9 / 4.0 / 40'	419.9 / 9.0 / 20'	415.7 / 13.2	417.7 / 11.2 / 20'	418.8 / 10.1 / 40'	
			428.86			
✓	421.5 / +4.8 / 40	416.5 / 0.2 / 20'	409.5 / 7.2	401.2 / 15.5 / 25'	395.2 / 21.5 / 40' Set Hub	398.8 / 17.9 / 50'
			416.72			

BM #5			8.86	451.65	07+72 RW Hub 50' Rt 65+95.43
	7.13	460.51		453.38	07+82 Hub 66+89.52 Rc Page 86
+50					
TP	10.72	460.61	2.48	449.89	
65+0					
+50					
64+0					
+50					
63+0					
62+72.81	BC Lt				
		452.37			

Lt	℄	Rt
✓ 451.3 (9.8 / 40')	451.0 (9.6 / 20')	450.7 (9.9)	450.8 (9.8 / 20')	450.3 (10.3 / 40')
	460.61	
✓ 450.1 (2.3 / 40')	450.3 (2.1 / 20')	449.0 (3.4)	448.5 (3.9 / 20')	448.7 (3.7 / 40')
✓ 448.4 (4.0 / 40')	448.4 (4.0 / 20')	447.9 (4.5)	447.2 (5.2 / 20')	446.9 (5.5 / 40')
✓ 447.5 (4.9 / 40')	446.8 (5.6 / 20')	447.2 (5.2)	446.1 (6.3 / 20')	444.6 (7.8 / 40')
✓ 446.5 (5.9 / 40')	445.9 (6.5 / 20')	445.0 (7.4)	444.0 (8.4 / 20')	443.3 (9.1 / 40')
✓ 445.0 (7.4 / 40')	444.1 (8.3 / 20')	443.4 (9.0)	442.6 (9.8 / 20')	442.4 (10.0 / 40')
✓ 444.3 (8.1 / 40')	443.0 (9.4 / 20')	443.74 (8.63 07 Hub)	442.7 (9.7 / 20')	441.3 (11.1 / 40')
	452.37	

	Lt.	℄	Rt
69+0	456.6	457.6	456.2	456.5	456.4
	4.0 / 40'	3.0 / 20'	4.4	4.1 / 20'	4.7 / 40'
+50	455.2	455.4	455.5	455.8	457.0
	5.4 / 40'	5.2 / 20'	5.1	4.8 / 20'	3.6 / 40'
68+0	454.7	455.0	455.3	455.6	455.3
	5.9 / 40'	5.6 / 20'	5.3	5.0 / 20'	5.3 / 40'
+50	454.3	454.3	455.1	454.2	454.3
	6.3 / 40'	6.3 / 20'	5.5	6.4 / 20'	6.3 / 40'
67+0	454.5	453.2	453.1	453.3	453.5
	6.1 / 40'	7.4 / 20'	7.5	7.3 / 20'	7.1 / 40'
66+89.62 → Equa.	452.5	452.7	452.5	452.6	452.7
66+27.30 → Equa.	8.1 / 40'	7.9 / 20'	8.1	8.0 / 20'	7.9 / 40'
	452.2	452.4	452.3	452.6	452.9
	8.4 / 40'	8.2 / 20'	7.13	8.0 / 20'	7.7 / 40'
65+95.42 EC.	451.8	451.7	451.46	451.4	451.8
	8.8 / 40'	8.9 / 20'	9.15 / 07 Hub	9.2 / 20'	8.8 / 40'

460.61

460.61

Nov. 4-85

	Lt		Σ	Rt	
	455.5	457.3	456.7	456.1	459.2
	6.2	4.4	5.0	5.6	3.5
	40	20		20	40
	455.7	456.2	456.4	458.1	458.3
	6.0	5.5	5.3	3.6	3.4
	40	20		20	40
	455.8	458.0	457.4	455.9	455.9
	5.9	3.7	4.3	5.8	5.8
	40	20		20	40
	454.6	455.0	455.1	456.0	456.5
	7.1	6.7	6.6	5.7	5.2
	40	20		20	40
	454.9	454.8	455.6	456.0	455.3
	6.8	6.9	6.1	5.7	6.4
	40	20		20	40
			461.67		
	456.4	455.6	454.7	455.1	455.7
	4.2	5.0	5.9	5.5	4.9
	40	20		20	40
	456.0	456.0	456.2	455.5	455.6
	4.6	4.6	4.4	5.1	5.0
	40	20		20	40
			460.61		

+50				
72+0				
+75				
+50				
71+0				
TP	4.76	461.67	3.70	456.91
+50				
70+0				
		460.61		

TP	6.13	461.03	6.77	454.90
76+0				
+50				
75+0				
+50				
74+0				
+50				
73+0				

461.67

Lt.	Δ	Rt.
✓ 454.7 / 7.0 / 40'	454.7 / 7.0 / 20'	455.0 / 6.7	456.9 / 4.8 / 20'	456.0 / 5.7 / 40'
✓ 455.7 / 6.0 / 40'	454.6 / 7.1 / 20'	454.4 / 7.3	454.9 / 6.8 / 20'	454.8 / 6.9 / 40'
✓ 453.9 / 7.8 / 40'	453.9 / 7.8 / 20'	454.1 / 7.6	454.7 / 7.0 / 20'	454.9 / 6.8 / 40'
✓ 455.2 / 6.5 / 40'	454.50 / 7.2 / 20'	454.2 / 7.5	454.1 / 7.6 / 20'	454.4 / 7.3 / 40'
✓ 453.2 / 8.5 / 40'	454.6 / 7.1 / 20'	453.9 / 7.8	456.6 / 5.1 / 20'	457.1 / 4.6 / 40'
✓ 453.7 / 8.0 / 40	456.0 / 5.7 / 20'	455.2 / 6.5	456.7 / 5.0 / 20'	455.4 / 6.3 / 40'
✓ 456.2 / 5.5 / 40'	457.4 / 4.3 / 20'	455.2 / 6.5	455.0 / 6.7 / 20'	457.1 / 4.6 / 40'

461.67

	Lt.	℄	Rt.		
42+	454.5	453.4	453.4	453.7	454.7
	6.5 / 40	7.6 / 20	7.6	7.3 / 20	6.3 / 40
25+	456.4	455.7	456.7	456.1	455.9
	4.6 / 40	5.3 / 20	4.3	4.9 / 20	5.1 / 40
79+0	456.4	456.4	456.1	456.3	456.2
	4.6 / 40	4.6 / 20	4.9	4.7 / 20	4.8 / 40
50+	457.9	456.5	456.7	456.3	456.7
	3.1 / 40	4.5 / 20	4.3	4.7 / 20	4.3 / 40
78+0	456.5	457.8	457.8	457.0	458.0
	4.5 / 40	3.2 / 20	3.2	4.0 / 20	3.0 / 40
50+	456.8	456.8	456.5	456.7	457.5
	4.2 / 40	4.2 / 20	4.5	4.3 / 20	3.5 / 40
77+0	455.9	455.9	456.0	456.1	456.2
	5.1 / 40	5.1 / 20	5.0	4.9 / 20	4.8 / 40
76+50	456.8	456.7	455.6	455.5	456.0
	4.2 / 40	4.3 / 20	5.4	5.5 / 20	5.0 / 40

461.03

461.03

Note! Prop. Ties ¢ 19 - 25 - 46 - 49 - 50

BM			7.29	453.74	H.W. End Cb. Wly End of Imp Mission Valley Road See Page 37
79+50.57 = Wly End of Imp Mission Valley Road					
		461.03			

Lt		℄		Rt		
454.23	453.74	453.07	453.58	453.15	453.79	454.33
6.8 40	7.29 26 = Top Cb.	7.96 26 = Gutter	7.45	7.88 26 = Gutter	7.24 26 : Top Cb	6.7 40'
			461.03			

Walker
Bliss
8-16-37

Elevations For Water Tank site
MARCELLENA TRACT
Lots 5 And 6

Also Levels West Line 55th St.
South of station 69+34.61 Page 25

	7.9	461.3		453.38	Elev E.C. 2 Hub 66+81 P-36
chk. Ground 69+50 page 56			5.2	456.1	on W. Line 55th st.
207' South £ 69+34.61			4.2	457.1	
350' " "			3.7	457.6	"
440 " "			3.8	457.5	"
605 " "			4.5	456.8	"
T.P.	3.8	460.6	4.5	456.8	
700 South £ 69+34.61			5.5	455.1	"
793 " "			10.7	449.9	"
T.P.	5.3	455.2	10.7	449.9	
Vert ∆ 20°40 Stad. 35'			34.3	420.9	"
793' South £ 69+34.61					

Elevations West of W.L. 55th

Temp. B.M. Elev Ground 440' South of 69+34.61	5.6	463.1		457.5	Elev Ground 440' South of Proposed Road.
			5.2	457.9	
			8.7	454.4	
			12.5	449.6	
			14.7	448.4	
			17.6	445.5	
			19.1	444.0	
			19.1	444.0	
			18.8	444.3	
			11.5	451.3	

IMPROVED TABLES

AND

INFORMATION

463.1

8.8 454.3

5.7 457.4

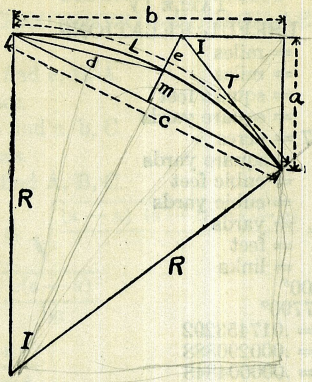


Table V

CURVE FORMULAE FOR SIMPLE CURVES

Compiled by J. Calvin Locke, C.E.

(1) $c = \sqrt{2Ra}$ (2) $c = \sqrt{a^2+b^2}$

(3) $c = \sqrt{2R\,(R-\sqrt{(R+b)\,(R-b)}} = \sqrt{2R(R-\sqrt{R^2-b^2})}$

(4) $c = 2\sqrt{m\,(2R-m)}$

(5) $c = 2R \sin \frac{1}{2} I$ (6) $c = 2T \cos \frac{1}{2} I$

(7) $e = R \operatorname{exsec} \frac{1}{2} I$

(8) $e = R \tan \frac{1}{2} I \tan \frac{1}{4} I$ (9) $e = T \tan \frac{1}{4} I$

(10) $b = \sqrt{a\,(2R-a)}$

(11) $b = \sqrt{\left(c+\frac{c^2}{2R}\right)\left(c-\frac{c^2}{2R}\right)} = \sqrt{c^2-\frac{c^4}{4R^2}}$

(12) $b = R \sin I$ (13) $b = a \cot \frac{1}{2} I$

(14) $R = \frac{a^2+b^2}{2a} = \frac{c^2}{2a}$ (15) $R = \frac{d^2}{2m} = \frac{c^2+4m^2}{8m}$

(16) $d = \sqrt{R\,(2R-\sqrt{(2R+c)\,(2R-c)}} = \sqrt{R(2R-\sqrt{4R^2-c^2})}$

(17) $d = \sqrt{2Rm}$ (18) $d = 2R \sin \frac{1}{4} I$ (19) $m = \frac{d^2}{2R}$

(20) $m = R \mp \sqrt{\left(R+\frac{c}{2}\right)\left(R-\frac{c}{2}\right)} = R \mp \sqrt{R^2-\frac{c^2}{4}}$

(21) $m = R \operatorname{vers} \frac{1}{2} I$ (22) $m = R \sin \frac{1}{2} I \tan \frac{1}{4} I$ (23) $m = \frac{1}{2} c \tan \frac{1}{4} I$

(24) $a = \frac{c^2}{2R}$ (25) $a = R - \sqrt{(R+b)\,(R-b)} = R - \sqrt{R^2-b^2}$

(26) $a = 2\,R\,(\sin^2 \frac{1}{2} I)^2$ (27) $a = R \operatorname{vers} I$ (28) $a = R \sin I \tan \frac{1}{2}$

(29) $a = b \tan \frac{1}{2} I$ (30) $a = T \sin I$ (31) $T = R \tan \frac{1}{2} I$

(32) $I = \frac{L}{R} \times 57.295780$ (33) $R = \frac{L}{I} \times 57.295780$

(34) $L = IR \times 0.01745329$ (35) $L = \frac{8d-c}{3}$

(36) Area Seg. $= \frac{LR - R^2 \sin I}{2} = \frac{LR - Rb}{2}$

Table VI

SINES, COSINES, TANGENTS, COTANGENTS

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.
0	0000	0000	0029	0029	0058	0058	0087	0087	0116	0116	0145	0145	89
1	175	0175	0204	0204	0233	0233	0262	262	291	291	320	320	88
2	349	349	378	378	407	407	436	437	465	466	494	495	87
3	523	524	552	553	581	582	610	612	640	641	669	706	86
4	698	699	727	729	756	758	785	787	814	816	843	864	85
5	872	875	901	904	929	934	958	963	987	992	1016	1022	84
6	1045	1051	1074	1080	1103	1110	1132	1139	1161	1169	190	198	83
7	219	228	248	257	279	287	305	317	334	346	363	376	82
8	392	405	421	435	449	465	478	495	507	524	536	554	81
9	564	584	593	614	622	644	650	673	679	703	708	733	80
10	736	763	765	793	794	823	822	853	851	883	880	914	79
11	908	944	937	974	965	2004	994	2035	2022	2065	2051	2095	78
12	2079	2126	2108	2156	2136	186	2164	217	193	247	221	278	77
13	250	309	278	339	306	370	334	401	363	432	391	462	76
14	419	493	447	524	476	555	504	586	532	617	560	648	75
15	588	679	616	711	644	742	672	773	700	805	728	836	74
16	756	867	784	899	812	931	840	962	868	994	896	3026	73
17	924	3057	952	3089	939	3121	3007	3153	3035	3185	3062	217	72
18	3090	249	3118	281	3145	314	173	346	201	378	228	411	71
19	256	443	283	476	311	508	338	541	365	574	393	607	70
20	420	640	448	673	475	706	502	739	529	772	557	805	69
21	584	839	611	872	638	906	665	939	692	973	719	4006	68
22	746	4040	773	4074	800	4108	827	4142	854	4176	881	210	67
23	907	245	934	279	961	314	987	348	4014	383	4041	417	66
24	4067	452	4094	487	4120	522	4147	557	173	592	200	628	65
25	226	663	253	699	279	734	305	770	331	806	358	841	64
26	384	877	410	913	436	950	4462	986	488	5022	514	5059	63
27	540	5095	566	5132	592	5169	617	5206	643	243	669	280	62
28	695	317	720	354	746	392	772	430	797	467	823	505	61
29	848	543	874	581	899	619	924	658	950	696	975	735	60
30	5000	774	5025	5812	5050	851	5075	890	5100	930	5125	969	59
31	150	6009	175	6048	200	6088	225	6128	250	6168	275	6208	58
32	299	249	324	289	348	330	5373	371	398	412	422	453	57
33	446	494	471	536	495	577	519	619	544	661	568	703	56
34	592	745	616	787	640	830	664	873	688	916	712	959	55
35	736	7002	760	7046	783	7089	807	7133	831	7177	854	7221	54
36	878	265	901	310	925	355	948	400	972	445	995	490	53
37	6018	536	6041	581	6065	627	6088	673	6111	720	6134	766	52
38	157	813	180	860	202	907	225	954	248	8002	271	8050	51
39	293	8098	316	8146	338	8195	361	8243	383	292	406	342	50
40	428	391	450	441	472	491	494	541	517	591	539	642	49
41	561	693	583	744	604	796	626	847	648	899	670	952	48
42	691	9004	713	9057	734	9110	756	9163	777	9217	799	9271	47
43	820	325	841	380	862	435	884	490	905	545	926	601	46
44	947	657	967	713	988	770	7009	827	7030	884	7050	942	45
45	7071	1.0000	7092	1.0058	7112	1.0117	133	1.0176	153	1.0235	173	1.0295	44
deg.	60′ cos	60′ cot	50′ cos	50′ cot	40′ cos	40′ cot	30′ cos	30′ cot	20′ cos	20 cot	10′ cos	10′ cot	deg.

TABLE X.

MIDDLE ORDINATES OF RAILS

Length of Rail (feet)

C ° ′	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C °	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 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	2.47	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.

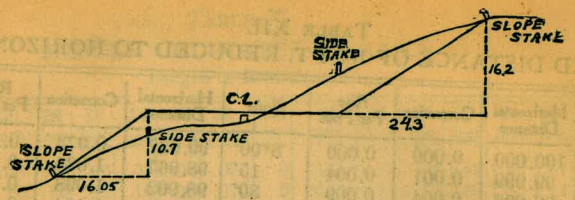
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

Slope	Horizontal Distance	Correction	Rise Per Foot	Slope	Horizontal Distance	Correction	Rise Per Foot
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

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



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ 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.

294.13
46.35
247.78

5975
1472
45.03

2+25 30" Delivery Water Line

66+89.52 = old E.C.
31.87 in to new EC

66+57.65
64 95.43
1 62.22

6 9 34.61
871.2
6 863.41

201.66
60.5
141.15

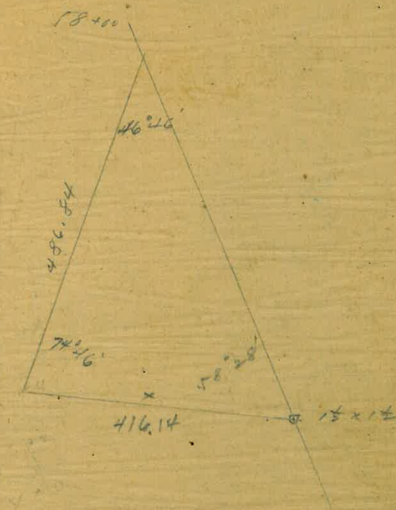
P 19
P 25 ~ P 46
P 49
P 50

58+37.54
56+96.39
141.15

213.35 to Nail
104° 05' 15"

88 12
17 6 24

1.44
18
1152
144
2592



S. 47° 02' 54" E
S. 75 00 36" W.
122° 03' 30"