

1496

WISCONSIN

FIELD BOOK

No. 555F

10.8
 4.8
 5.0

10.8
 5.1
 5.7

2+18
 16.19
 19.05

260
 15

258.5
 56.7

2+53.22
 3.85

1.8

MICROFILM
 DEC 24 1964

CITY OF
 CALIFORNIA
 ENGINEERING DEPARTMENT,
 SAN DIEGO.



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

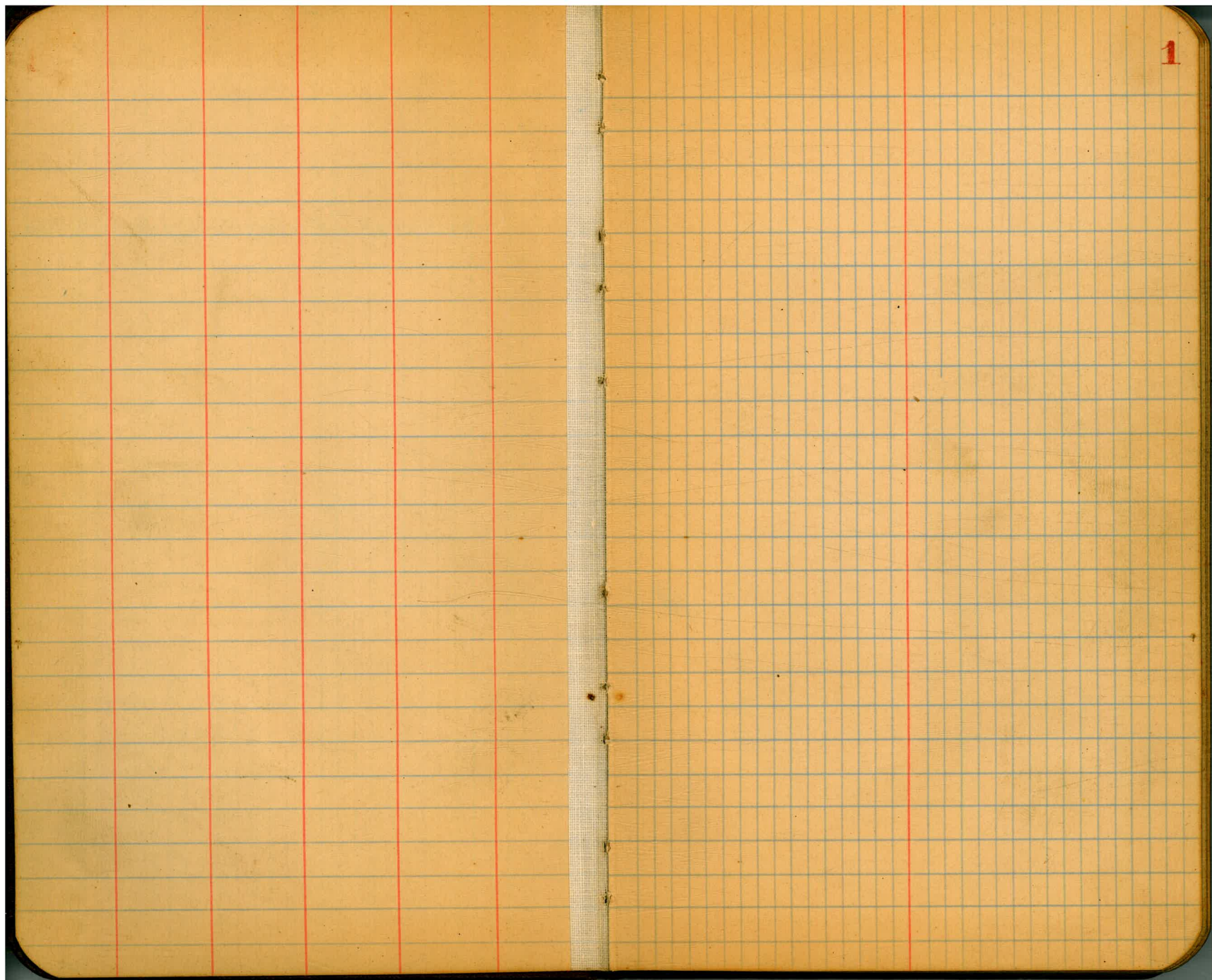
- No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.
- No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.
- No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line 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.

Causeway Intersection page 10-13-34-58



Culvert #1

Sta	+	Hi	-	Elev
B.M.	2.35	2.28		-0.07
to Pile S. Bent.			6.3	-4.0
Ground			7.5	-5.2 <u>-5.0</u>
to Pile N. Bent.			5.6	-3.3
Ground			7.1	-4.8 <u>-5.5</u>

2.31 2.24 -0.07

Ground S. Bent.	7.5	-5.3	-6.5	-5.0	Gr Rod = 7.24
Ground N. Bent.	8.3	-6.1	-7.0	-5.5	" " = 7.74

Grade W. Pt. Norma Blvd.
5' Offset S. Side Blvd.

5' Offset N. Side Blvd

Sta	+	HI	-	Elev	Grade	Note	Corr	as Grades for back tangent	Bk 6-78	HI	-	Elev	Grade	Corr
B.M.	2.10	5.34		3.24						5.34				
R.P. 10' & Outlet	} Culvert #3		9.72	-4.38										
& Intake			6.11	-0.77										
R.P. 10' & Intake			6.20	-0.86										
40+50		5.2	0.14	2.27	F2.13	$\frac{2.1}{3.2}$				8.5	-3.16	2.27	F5.43	
41+00		5.1	0.24	2.06	F1.82	$\frac{1.8}{2.7}$				7.9	-2.56	2.06	F4.62	
+50		5.1	0.24	1.85	F1.61	$\frac{1.6}{2.4}$				7.8	-2.46	1.85	F4.31	
42+00		5.0	0.34	1.64	F1.30	$\frac{1.3}{2.0}$	$\frac{1.28}{2.3}$			7.7	-2.36	1.64	F4.00	
+50		5.3	0.54							8.0	-2.66			
43+00		4.8	0.54							8.1	-2.76			
+50		4.9	0.44							void	-2.26			
T.P.	7.70	5.81	7.23	-1.89						5.81				
44+00		5.3	0.51							7.4	-1.59			
+50		5.0	0.81							9.7	-3.89			
45+00		5.81 ^{ok}	4.9	0.911	2.02	F1.11	$\frac{1.1}{1.6}$			5.81 ^{ok}	9.6	-3.79	2.14	F5.93
+50			4.8	1.01	2.37	F1.36	$\frac{1.4}{2.1}$			9.4	-3.59	2.52	F6.11	
46+00			4.7	1.11	2.71	F1.60	$\frac{1.6}{2.4}$	$\frac{1.7}{2.5}$		9.5	-3.69	2.90	F6.59	
46+01 ⁵⁶ P.C.			4.82	0.99						9.39	-3.58			
B.M.			5.46	0.35										
T.P.	7.16	5.27		-1.89	Elev Sta 43+50					5.27				
42+30 P.V.C			5.1	0.17	1.51	F1.34	$\frac{1.3}{2.0}$			8.0	-2.73	1.51	F4.24	
42+70			5.1	0.17	1.38	F1.21	$\frac{1.2}{1.7}$			7.4	-2.13	1.38	F3.51	
43+10			4.8	0.47	1.33	F0.86	$\frac{0.86}{1.3}$	$\frac{0.9}{1.2}$		8.4	-3.13	1.33	F4.46	
43+50 Apex			4.8	0.47	1.33	F0.86	$\frac{0.86}{1.3}$	$\frac{0.9}{1.2}$		7.5	-2.23	1.35	F3.58	
43+90			4.4	0.87	1.43	F0.56	$\frac{0.56}{0.9}$	$\frac{0.6}{1.2}$		7.9	-2.63	1.47	F4.10	

Grade W. Pt. Loma Blvd.
5' Offset 3 side Blvd

5' Offset N. Side Blvd

5

Sta	+	HI	-	Elev	Grade	CorF		HI	-	Elev	Grade	CorF
44+30		5.27	4.5	0.77	1.59	F0.82	$\frac{0.8}{1.2} \frac{1.0}{1.5}$	5.27	9.2	-3.93	1.65	F5.58
44+70	E.V.C.		4.5	0.77	1.82	F1.05	$\frac{1.0}{1.6}$		9.1	-3.83	1.91	F5.74
Ch 46+01.51			4.25	1.02	✓							

Grade W. Pt Loma Blvd
5' Offset N. Loma Blvd.

5' Offset S. Loma Blvd.

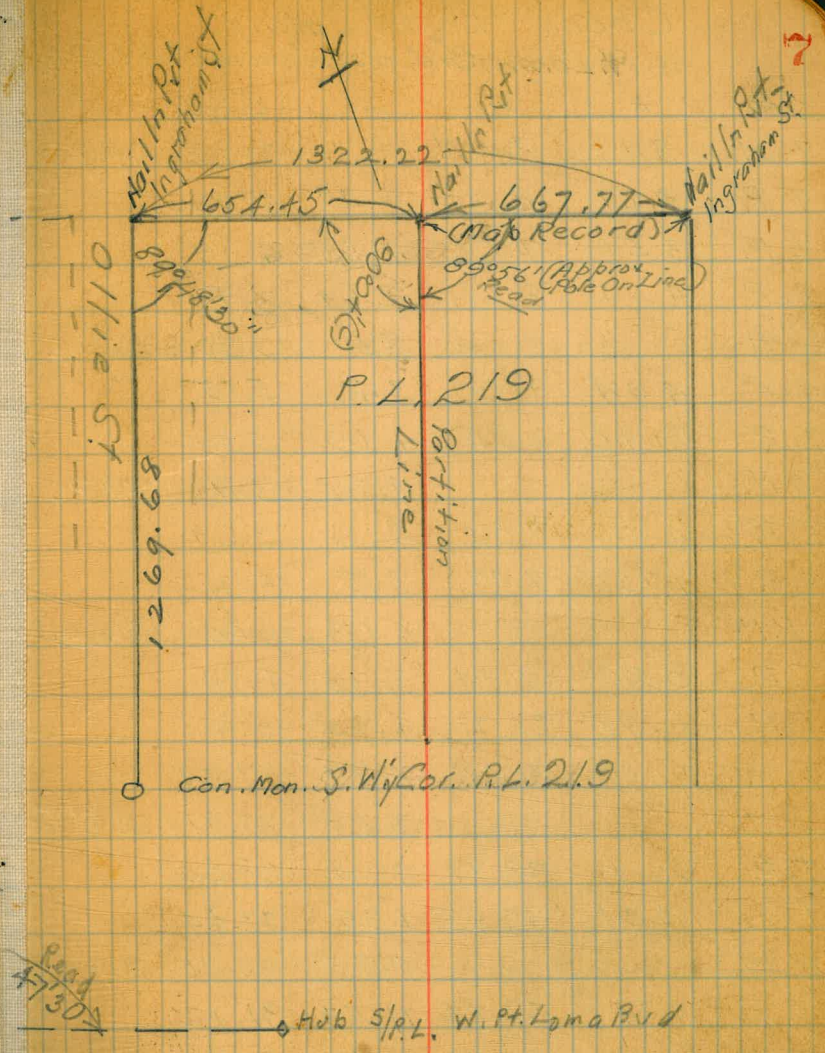
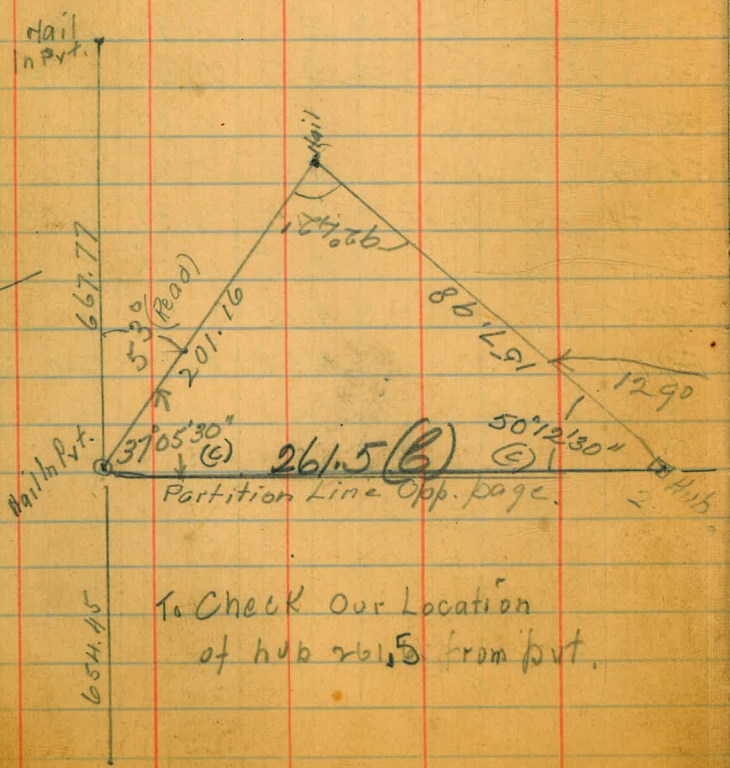
6

Sta	+	HI	-	Elev	Grade On Bridge No-	Cor F	+	HI	-	Elev	Grade	Cor F
B.M.	2.14	5.38		3.24				5.38				
40+50			8.6	-3.22	2.27	F5.49	$\frac{6.3}{7.5}$	5.1	0.28	2.27	F1.99	$\frac{3.0}{2.7}$
41+00			8.0	-2.62	2.06	F4.68	$\frac{5.8}{8.7}$	5.1	0.28	2.06	F1.78	$\frac{2.7}{2.4}$
41+40	B.V.C.		8.1	-2.72	1.89	F4.61	$\frac{5.7}{8.7}$	5.1	0.28	1.89	F1.61	$\frac{2.4}{2.3}$
41+80			8.4	-3.02	1.76	F4.78	$\frac{5.4}{9.1}$	5.3	0.08	1.76	F1.68	$\frac{2.3}{2.1}$
42+20			7.9	-2.52	1.71	F4.23	$\frac{4.5}{6.8}$	5.1	0.28	1.70	F1.47	$\frac{2.1}{2.4}$
42+60	Apex		7.7	-2.32	1.74	F4.06	$\frac{5.1}{7.7}$	5.3	0.08	1.71	F1.63	$\frac{2.4}{2.4}$
T.P.	7.4.2	5.57	7.23	-1.85				5.57				
43+00			8.4	-2.83	1.84	F4.67	$\frac{5.4}{8.1}$	5.1	0.47	1.80	F1.33	$\frac{2.3}{2.3}$
43+40			8.4	-2.83	2.02	F4.85	$\frac{5.8}{8.7}$	5.1	0.47	1.96	F1.49	$\frac{2.3}{2.3}$
43+80	E.V.C.		8.4	-2.83	2.28	F5.11	$\frac{5.5}{8.3}$	4.7	0.87	2.18	F1.31	$\frac{2.2}{2.2}$
44+00			7.1	-1.53	2.43	F3.96	$\frac{5.1}{7.7}$	5.1	0.47	2.31	F1.84	$\frac{2.8}{2.8}$
44+50			9.7	-4.13	2.81	F6.94	$\frac{5.9}{8.9}$	4.8	0.77	2.65	F1.88	$\frac{2.9}{2.9}$
45+00			9.0	-3.43	3.18	F6.61	$\frac{6.6}{9.9}$	4.8	0.77	2.98	F2.21	$\frac{3.3}{3.3}$
45+56			9.3	-3.73	3.56	F7.29	$\frac{7.3}{11.0}$	4.5	1.07	3.32	F2.25	$\frac{3.3}{3.3}$
46+00			9.3	-3.73	3.84	F7.57	$\frac{7.6}{11.4}$	4.6	0.97	3.65	F2.68	$\frac{3.3}{3.3}$
46+01 ⁵⁶	P.C.		9.14	-3.57	3.84	F7.41		4.58	0.99	3.65	F2.66	$\frac{4.0}{4.0}$
B.M.			5.23	0.34								

Dist. out just for hills

~~90-47-30~~
~~179-47-30~~
~~89-48-30~~
~~180~~
~~90-11-30~~
~~180~~
~~129-47-30~~
~~50-12-30~~

667.77
 654.45
 1022.22



Check Levels along
W. Pt. Loma Blvd. from Seaside to Graham

Cont - Pg - 9

8

Sta	+	Hi	-	Elev
B.M.	2.17	8.42'		6.25 Top
T.P.	3.27	8.30'	3.39	5.03
T.P.	3.51	7.66	4.15	4.15
T.P.	4.64	8.61	3.69	3.97
^{ck} B.M.			5.31	3.30 Bridge
T.P.	4.44	9.59	3.46	5.15
T.P.	2.46	7.85	4.20	5.39
^{ck} B.M.			4.56	3.29 R.R.P.C.
T.P.	4.17	7.86	4.16	3.69
T.P.	1.76	7.47	2.15	5.71
^{ck} B.M.			6.03	1.44 W. End Bridge (Book G. 178-73)
T.P.	8.20	12.94	2.73	4.74
T.P.	10.72	21.71	1.95	10.99
T.P.	10.18	31.52	0.37	21.34
B.M.			3.55	27.97' 25' Tie E.C. Prop line, (Book G 178-43)
T.P.	10.11	38.99	2.64	28.88'
T.P.	5.01	42.65	1.35	37.64
B.M.			0.25	42.40 Nail in Cor Fence. Montano ^{Book G 178-} (42.34; 42.40) correct.
T.P.	1.14	32.26	11.53	31.12
T.P.	0.78	21.53	11.31	20.75
T.P.	1.49	12.04	10.98	10.55
B.M.	2.75	4.25	10.54	1.50 Bottom E bank channel. (1.48)
B.M.			4.33	-0.08 ^{Book G. 178-48} (-0.07) channel
T.P.	11.93	15.32	0.86	3.39
T.P.	11.81	25.63	1.50	13.82

of U.S.G.S B.M. F 61 Bk-G-178 Pg 78

Book G 178-78 (3.24, Check This) Void this B.M.

(Book G 178-66) (+)

Bridge (Book G. 178-73)

E.C. Prop line, (Book G 178-43)

Cor Fence. Montano ^{Book G 178-} (42.34; 42.40) correct.

E bank channel. (1.48)

^{Book G. 178-48} (-0.07) channel
Hub close to bush, feet of slope W. bank of

Extremely Short Sights Necessary.

Check levels

Cont - Pg 8.

8A

Sta + HI - Elev

25.63

T.P. 8.36 32.24 1.75 23.88

B.M. 4.65 27.59 Nail in

Telephone Pole. W. Pt Loma + Seaside. Book G/78-32/27.63

Curve from B.C. 46+00.88 Data as per

pencil sketch supplied

A 15° 47' R 2869.35

15-47
7-53-30

Jan 7-53-30 2869.35 ✓

13846 ✓ 9

13861 ✓

13861 ✓

2869.35 ✓

1721610 ✓

4265480 ✓

860805 ✓

2869.35 ✓

429

397.7406005 = S.T.

10° 30' 30"

Chord
Sp. R = 2849.35 ✓

50' 15" 15"

09157 ✓

09159

1994545 ✓

09157

1424675 ✓

2849.35 ✓

2564475 ✓

260.9149795

521.8299590 = L.C. on S. P/L

E.C. 2869.35 ✓

Sp. Tan. R 2849.35

09157 ✓

4008545 ✓

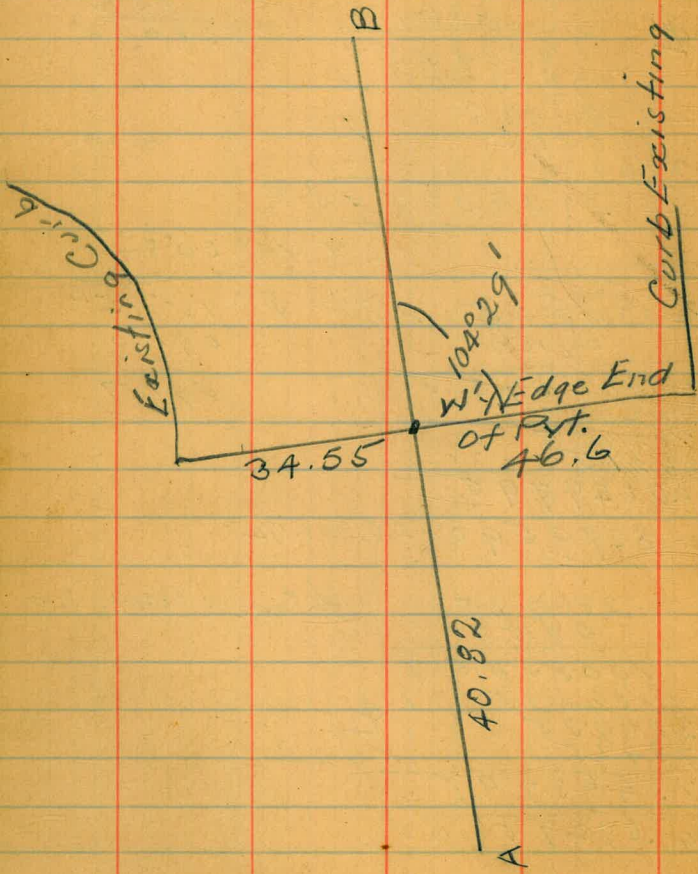
1484675 ✓

2869.35 ✓

4578475 ✓

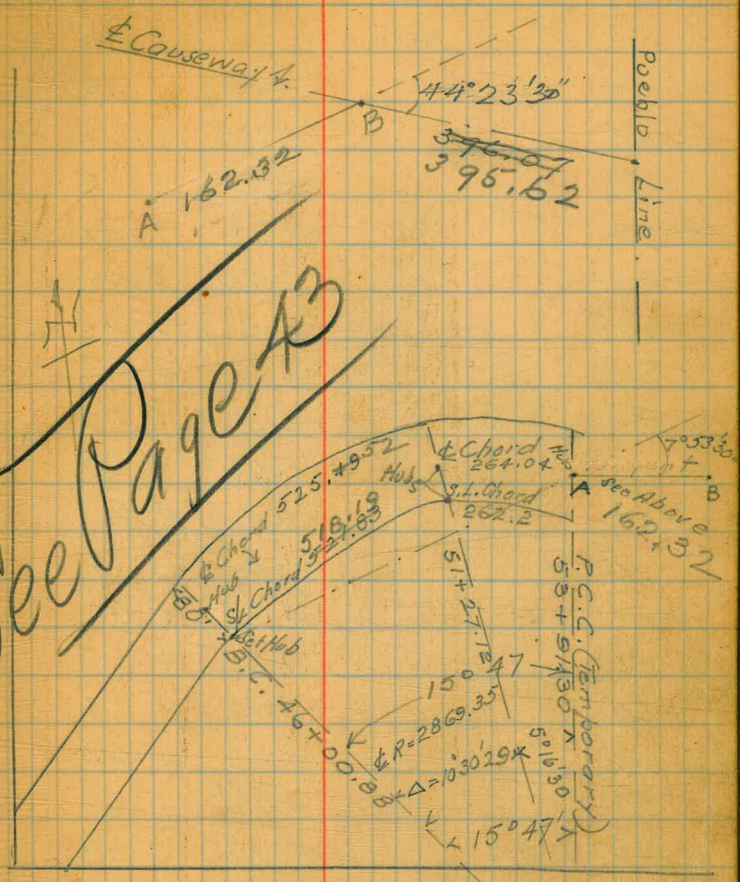
462.3463795

524.6927590 ✓



W. Pt. Loma Blvd.

See Page A3



Defl. L for 50' Chord =

Grades W. Pt Loma Blvd.
5' offset ~~to~~ Blvd.

For H 5' off See page 14

Sta	+	H1	-	Elev	Grade
	5.58	5.96		0.38	R.P. 100'
46+50			4.87	1.09	3.99
47+00			4.78	1.18	4.32
+50			4.84	1.12	4.66
48+00			4.72	1.24	4.99
+50			3.92	2.04	5.33
49+00			2.61	3.35	5.66
+50			2.13	3.83	6.00
T.P.	5.92	9.75	2.13	3.83	
50+00			5.66	4.09	
+50			5.23	4.52	
51+00			4.81	4.94	
+50			4.91	4.84	
52+00			4.20	5.55	
+50			3.81	5.94	
53+00			4.13	5.62	
+50			4.47	5.28	
+91 ³	P.C.C.		4.37	5.38	
T.P.	5.66	11.04	4.37	5.38	
5 Cb line			5.12	5.92	
Gutter 0+00			5.79	5.25	
+10			5.29	5.75	
+20			4.85	6.19	
+30			4.46	6.58	
+40			4.24	6.80	

See page 41
for later
grades

S. Side
Top of Existing Curb W/ End Of. = 0+00
Along W/ Edge of End of Existing Prt.

Handwritten calculations and notes on the right page, including various numbers and fractions such as 3.11, 2.9, 4.3, 3.1, 4.6, 3.0, 5.3, 3.8, 5.6, 3.3, 5.0, 2.4, 3.6, 2.2, 8.5, 3.3, 1.6, 4, 2.4, 3.6, 2.3, 2.8, 3.6, 2.1, 3.2, 2.1, 1.0, 3.2.

Grades W. Pt Loma Blvd.
5' Offset $\frac{1}{2}$ Blvd. (Cont.) Pg 11

Sta	+	HI	-	Elev.
		11.04		
+50		4.08	6.96	
+60		4.02	7.02	
+70		4.53	6.51	
N Gutter	+81 $\frac{1}{2}$	5.59	5.45	
N. Cb		4.94	6.10	
End Cb $\frac{1}{2}$	+25	5.19	5.88	5.85
+50		5.25	5.79	
+75		5.32	5.72	
+100		5.51	5.53	
B.M.		4.76	6.28	USGS

N'y End of Existing Pvt.

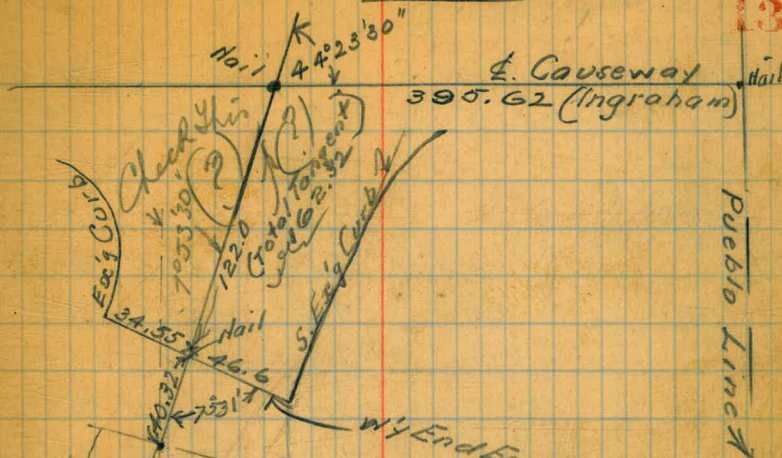
(Running Along Curb E'y from End of Curb
on S. Side

BK G Pg 78

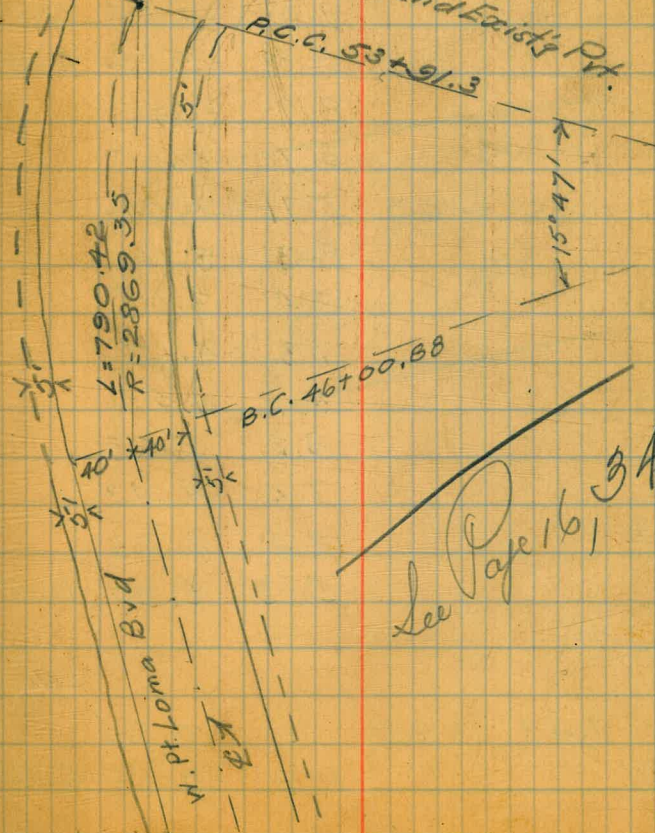
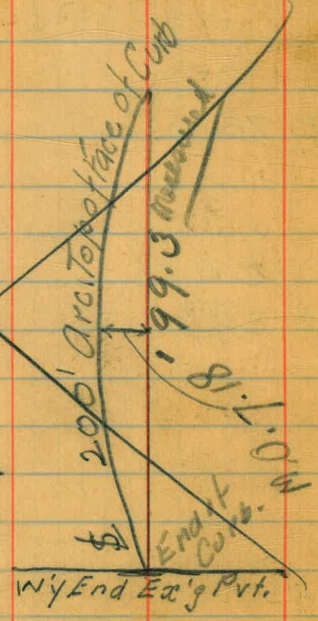
B.M.	7.47	7.85	0.38	100RP
49+81 $\frac{1}{2}$		3.72	4.13	6.21

BK G 178 Pg 78
FR.08 $\frac{2.3}{3.4}$

W. Pt. Loma Blvd



Calculated:
 Radius = 1583.05
 $\Delta = 8^{\circ}11'40''$
 Arc — 200'
 Chord — 199.3



See Page 16, 34

Grade W. Pt Loma Blvd.
5' Offset $\frac{1}{8}$ Blvd

For S/L, 5' off, see pages 11-12 14

Sta	+	HI	-	Elev	Grade	Cor F
B.M.	5.37	5.75		0.38	100' RP	See Bk G-178-Pg 78
46+00 ⁸⁸			9.5	-3.75		
+50			9.5	-3.75	4.21	F7.96
47			9.8	-4.05	4.59	F8.64
+50			9.1	-3.35	4.97	F8.32
48			9.1	-3.35	5.35	F8.70
+50			9.1	-3.35	5.73	F9.08
49			9.0	-3.25	6.11	F9.36
+50			8.8	-3.05	6.58	F9.63
50			8.9	-3.15		
+50			5.7	0.05		
T.P	11.39	11.43	5.71	0.04		
51			8.3	3.10		
+50			8.4	3.03		
52			7.3	4.13		
+50			6.9	4.53		
53			8.2	3.23		
+50			7.0	4.43		
+91 ³			7.4	4.03		
B.M			5.13	6.30	U.S.G.S	Bk. G-178 Pg 78.
B.M.	7.47	7.85		0.38		
49+81 ²⁷			11.0	-3.15	6.81	F9.9

Grade Changed
from 47+50
See page 41

8.0	8.0	7.96
12.0	12.0	3.88
8.8	8.8	11.94
13.2	13.2	
8.5	8.5	
12.8	12.8	
8.7	8.7	
10.1	10.1	
9.1	9.1	
13.6	13.6	
9.4	9.4	
14.1	14.1	
9.6	9.6	
14.4	14.4	

Culvert #2

15

Sta	+	HI	-	Flv
B.M.	1.29	6.43	-	5.14
T.P.	4.56	0.73	10.26	-3.83
3 End Bent. Ground		6.8	-6.1	-7.5
to Ground		7.5	-6.8	

Top Hub & Outlet	6.90	1.15		-5.75
Ground		7.90	-6.75	-8.5

B.M.	1.47	6.56		5.14
T.P.	{	4.67	-0.68	10.55 - 3.99 ✓
				6.17 - 5.49 ✓

Nail In Trolley Pole W. End of Bridge

Set Nail In W. Pile at Elev. -5.5, 2' above
 Set Nail -6.0, 2' above C. Off. 'cut off'

Book G-178-73 (Hand Level)

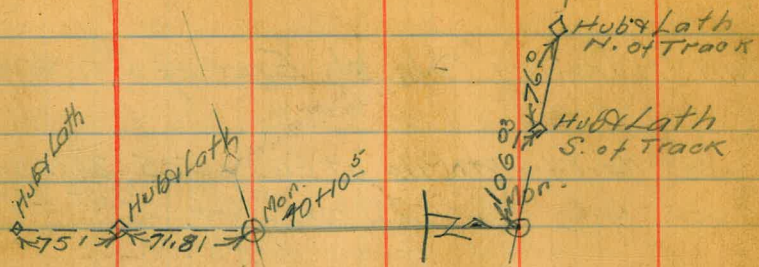
5.5 68	5.5 68	6.17 68
<u>4.82</u>	<u>4.82</u>	<u>4.82</u>
1.5	4.1	6.17
		<u>1.35</u>

~~4.1 - 6.0 Rod 5.3 ✓; Set Nail~~

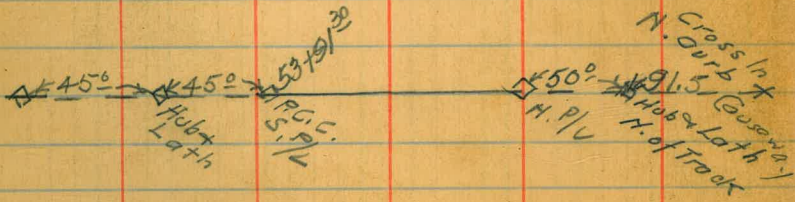
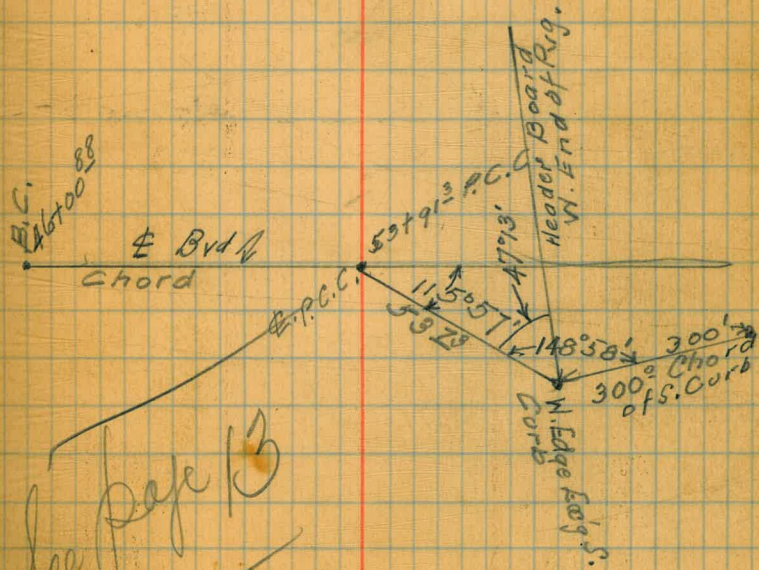
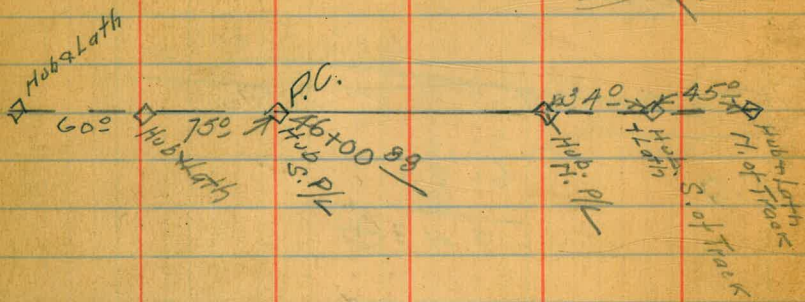
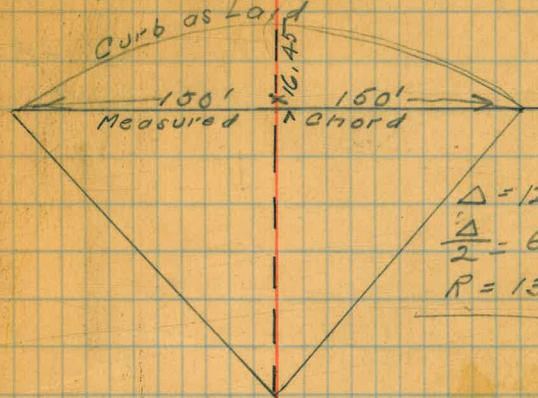
5.0	6.93
	<u>7.43</u> ⊕

W. Pt. Loma Blvd. R.P.'s

74
46
34



curb, S. Side Ingraham

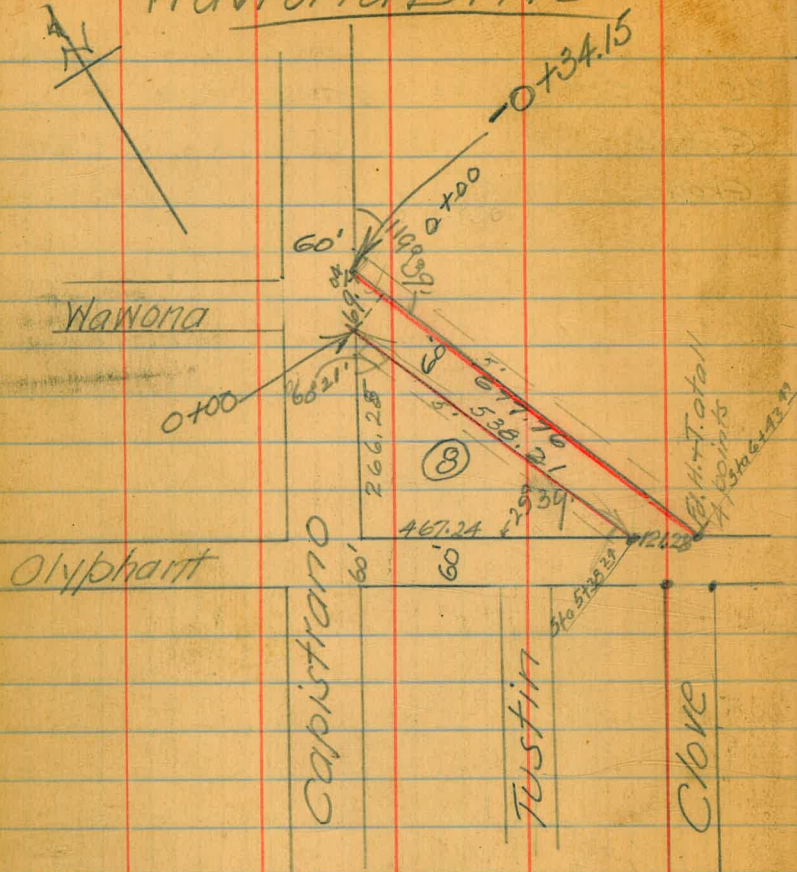


See page 13

Replacement of Grades
W. Pt Loma Blvd.

Sta	+	Hi	-	Elev		
	0.61	28.58		27.97	25' P.P.E.C. 1471.38	
9+50			6.10	22.48	22.48	Grade
10+00			6.44	21.94	22.14	Grade

Wawona Drive



671.8?
60

60
29-39
60-29
150
119-39

Tan 60°31' = 1.75675 Tan 29°39' = 1.56923

+34.15
643.49
677.64 ✓

See Sketch Page 18 For Stations

Sta	+	H1	-	Elev
B.M	6.09	77.79		71.70
T.P.	11.62	89.05	0.36	77.43
Temp. B.M.			3.15	85.90
S. Cb Ret.			3.12	85.93
N. Cb Ret.			5.13	83.92

-0+34¹⁵ Most Southerly Cor Lot 1 Blk 7

-0+24¹⁵

T.P.	11.53	99.77	0.81	88.24
------	-------	-------	------	-------

-0+10

T.P.	5.27	102.43	2.61	97.16
------	------	--------	------	-------

0+00 Most Northerly Cor Lot 1 Blk 8.

0+10

0+50

1+00

1+50

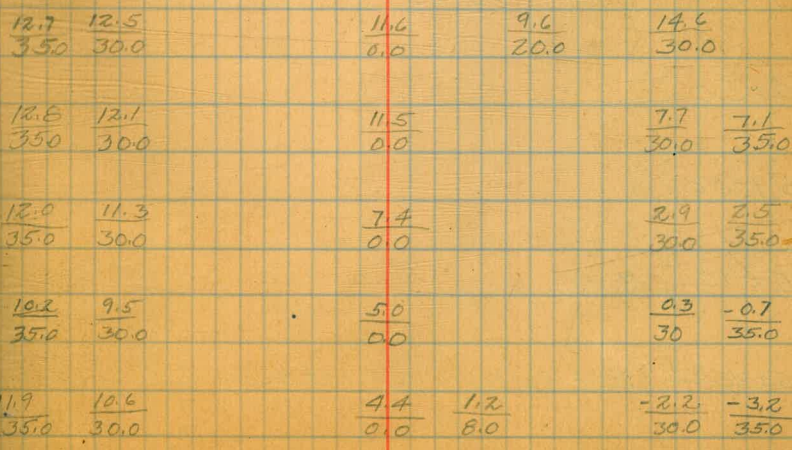
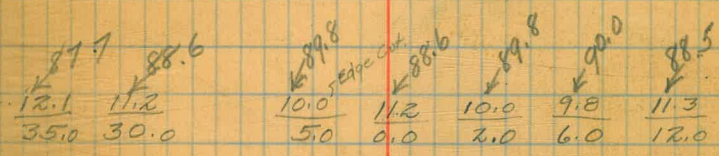
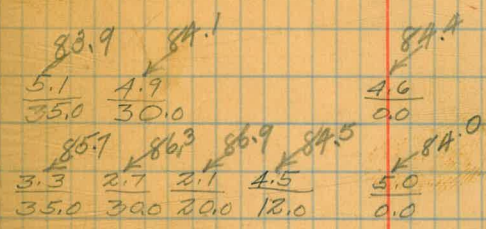
Northerly Prop Line

±

Southerly Prop.

Plug N.W. Cor Post Capistrano

South Westerly Cor Capistrano



X - Section Wawonia
Cont - Pg 19

Northerly
Prop Line

Southerly
Prop Line

20

Sta	+	H ₁	-	Elev
		102.43		
T.P.	1.33	98.49	5.27	97.16
1+85	Break			
2+00				
2+50				
3+00				
3+50				
4+00				
T.P.	0.81	93.03	6.27	92.22
4+50				
5+00				
5+10	Bottom Gully			
5+38 ²⁴				
Most Easterly Cor Lot 11 Blk. 8				

$\frac{9.8}{35.0}$	$\frac{8.6}{30.0}$	$\frac{2.5}{0.0}$	$\frac{-3.1}{30.0}$	$\frac{-4.0}{35.0}$
$\frac{10.1}{35.0}$	$\frac{8.9}{30.0}$	$\frac{1.7}{0.0}$	$\frac{-2.3}{30.0}$	$\frac{-3.4}{35.0}$
$\frac{12.1}{35.0}$	$\frac{11.3}{30.0}$	$\frac{4.7}{0.0}$	$\frac{-1.7}{30.0}$	$\frac{-2.5}{35.0}$
$\frac{13.9}{35.0}$	$\frac{12.6}{30.0}$	$\frac{7.4}{0.0}$	$\frac{1.3}{30.0}$	$\frac{0.2}{35.0}$
$\frac{13.4}{35.0}$	$\frac{12.6}{30.0}$	$\frac{8.2}{0.0}$	$\frac{4.2}{30.0}$	$\frac{3.1}{35.0}$
$\frac{15.5}{35.0}$	$\frac{14.9}{30.0}$	$\frac{11.0}{0.0}$	$\frac{7.1}{30.0}$	$\frac{6.3}{35.0}$
$\frac{14.1}{35.0}$	$\frac{13.5}{30.0}$	$\frac{10.5}{0.0}$	$\frac{6.1}{30.0}$	$\frac{6.0}{35.0}$
$\frac{22.0}{35.0}$	$\frac{21.1}{30.0}$	$\frac{15.8}{0.0}$	$\frac{11.5}{30.0}$	$\frac{10.3}{35.0}$
$\frac{24.5}{35.0}$	$\frac{23.8}{30.0}$	$\frac{18.9}{0.0}$	$\frac{12.8}{30.0}$	$\frac{12.3}{35.0}$
$\frac{19.3}{35.0}$	$\frac{18.8}{30.0}$	$\frac{14.2}{0.0}$	$\frac{11.3}{30.0}$	$\frac{10.5}{35.0}$

X-Section Wawona
Cont-Pg 20

Sta	+	H ₁	-	Elev.
5+50		93.03		

5+80 Break.

6+00

6+43⁴² Intersection of N line Wawona + Olyphant.

Northely
Prop line

17.0	16.6
35.0	30.0

12.8	12.4
35.0	30.0

13.1	12.6
35.0	30.0

12.7	12.1
35.0	30.0

Q

11.5
0.0

9.2
0.0

8.1
0.0

7.2
0.0

Southerly
Prop line

9.8	9.1
30.0	35.0

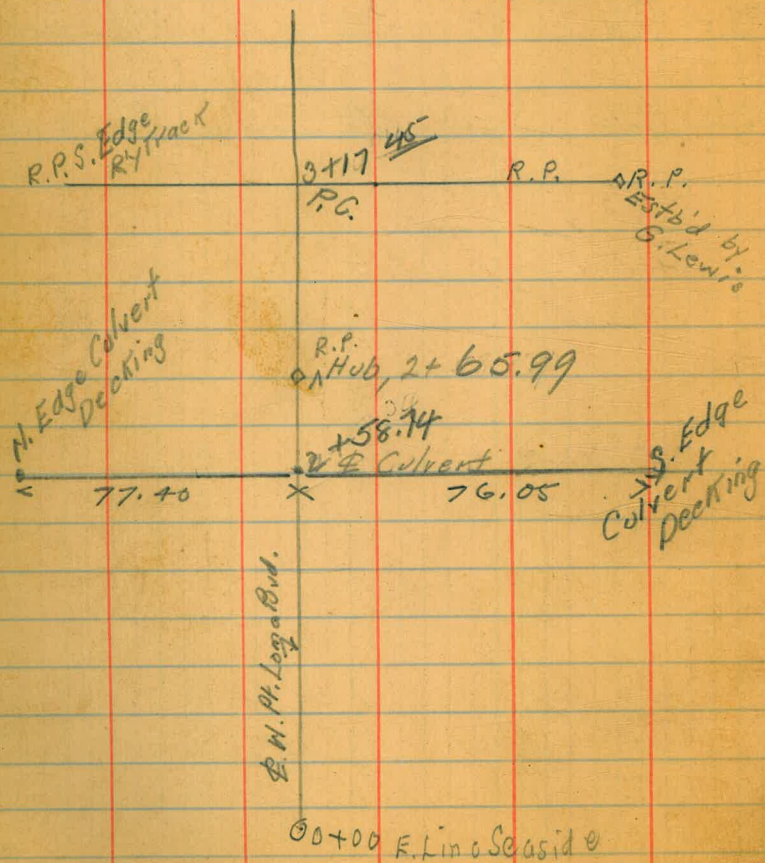
6.0
30.0

4.4
30.0

2.6
30.0

21

W. Pt. Loma Blvd.
 Culvert #1 As Is



27.03
~~22.57~~
 51.60
 25.80

2+34.19
~~25.80~~
 1759.99

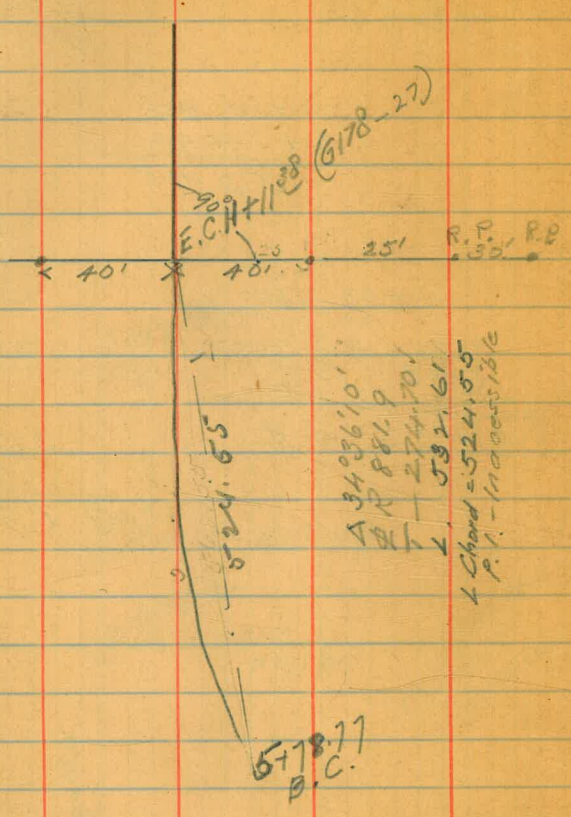
~~3+10.84~~
~~2+59.99~~
 52.05

~~76.05~~
~~77.40~~
 153.45

1+58.44
~~77.53~~
~~2+65.99~~
~~7.25~~
 2+58.74

18.19
~~251.34~~
~~7.25~~
 310.84
~~7.41~~
 317.45

W. Pt. Loma Blvd

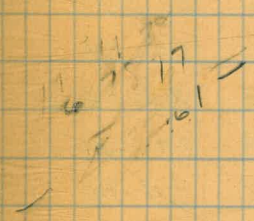


12/27/70
231
12/31/70
27

Lin 17°18'05"
2973749
231
2973980
881.9
2676582
2073998
1379424
1379184
1622752962
L.C. = 524.5505924

97-18-5
72-21-55
23
134206'10
Tan. 17°18'05"
311465
27
311492
881.9
2803428
311462
2491938
2491938
2747027948

23



59341 - 342
01047 - 361
00004 - 104
.60392
881.9
523528
60392
483136
483136
532597048

W.Pt. Loma Blvd.
Grade

Grades as shown
in Book G.178 pages 32-38
E

S. P/L
Hubs, 2' N. of S. P/L 24

Sta	+	H.I	-	EIV
B.M.	0.27	42.67		42.40
T.P.	4.76	36.30	11.13	31.54
5+78.77 5+81.74	PC. 5%		4.79	31.51
	PC. E		9.30	27.00
6+00	E		10.46	25.84
	5%L		5.90	30.40
6+50	5%L		8.16	27.84
	E		11.06	25.24
7+00	E		11.22	25.08
	5%L		8.68	27.62
7+50	5%L		8.36	27.94
	E		11.74	24.56
Set B.M.		4.35	31.95	Power
8+00	5%L		11.25	25.05
	E		12.04	24.26
T.P.	3.08	28.13	11.25	25.05
8+50	5%L		3.40	24.73
	E		4.37	23.76
9+00	E		4.65	23.48
	5%L		4.16	23.97
9+50	5%L		4.40	23.73
	E		5.42	22.71
10+00	E		5.23	22.90
	5%L		3.80	24.33
10+50	5%L		5.72	22.41

Grade Cor F
Book G.178-43+35

For Grade on $\frac{1}{8}$ Pg 40

Pole Alley between Mentore + Montalva on W.Pt Loma Blvd.
 $\frac{25.05}{23.75} = 20.73 \left(\frac{G.178}{34} \right) C \frac{1.32}{0.0}$

C 0.95
C 1.06
C 2.01

W. Pt Loma Blvd
 Grades Cont. - Pg 24

Grade according to Profile.
Prop. Line

25

Sta	+	Hi	-	Elev	Grade	C or F
		28.13				
10+50	±	5.93		22.20		
11+00	±	6.67		21.46		
	5%	6.35		21.78	21.90	F 0.12 ✓
11+11 ³⁵	EC-5%	6.25		21.88	21.83	C 0.05 ✓
	±	6.73		21.40	21.35	C 0.05 ✓
11+50	±	7.41		20.72	21.09	F 0.37 ✓
	2'N-5%	6.44		21.69	21.50	C 0.19 ✓
12+00	2'N-5%	6.62		21.51	21.18	C 0.33 ✓
	±	7.32		20.81	20.76	C 0.05 ✓
12+50	±	7.42		20.71	20.43	C 0.28 ✓
	2'N-5%	7.42		20.71	20.86	F 0.15 ✓
13+00	2'N-5%	7.56		20.57	20.54	C 0.03 ✓
	±	7.48		20.65	20.10	C 0.55 ✓
13+50	±	7.56		20.57	19.77	C 0.80 ✓
	2'N-5%	7.62		20.51	20.22	C 0.29 ✓
14+00 ⁵⁵	2'N-5%	7.33		20.80		
	±	8.03		20.10	19.13	C 0.67
B.M.		0.16		27.97	E.C.	See Bk G-178 Pg-35

Jan 2/34

Slope Stakes. Reset.
W. Pt Loma Blvd.

Sta	+	H ₁	-	Elev	Grade	F.or.C.
B.M.	1.84	29.46		27.62	Nail in	Telephone Pole Sec BK G-178-Pg 32
0+00			0.99	28.47	25.80	C.2.67
T.P.	2.73	22.55	9.64	19.82		
0+41 ²⁵			6.16	16.39	23.45	F7.06
T.P.	1.83	12.76	11.62	10.93		
T.P.	3.07	4.56	11.27	1.49		
0+82 ⁵⁰	R.V.C.		7.24	-2.68	21.10	F23.78
1+18			6.99	-2.43	19.25	F21.68
1+58			4.36	+0.20	17.55	F17.35
1+98			6.04	-1.48	16.50	F17.98
2+34 ¹⁹			7.70	-3.14	16.00	F19.14
2+58 ⁷⁹			9.46	-4.90	15.95	F20.85
Flow line Inlet			8.76	-4.20		
B.M.	2.60	2.50	4.62	-0.10		See Pg 8 W. Bank of Channel
Flow line Inlet			6.78	-4.28		
Flow line Outlet			7.28	-4.78		

3.5
5.3

21.7
32.6
21.4
32.1
12.0
18.0
16.9
25.4
19.8
28.9
20.7
31.1

Slope Stakes Reset
 N. W. Pt Loria Blvd.

Sta	+	Hi	-	Elev	Grade	Cor F	
B.M.	2.35	2.28		-0.07	Hub	W Bank	Channel See Pg 8
2+34.19			2.02	+0.26	15.80	F15.54	$\frac{18.1}{27.1}$
T.P.	5.59	5.85	2.02	+0.26			
1+98			9.70	-3.85	16.35	F20.20	$\frac{16.4}{24.6}$
1+58			8.33	-2.48	17.25	F19.73	$\frac{16.3}{14.5}$
1+18			7.32	-1.47	18.70	F20.17	$\frac{17.2}{28.8}$
0+78			9.76	-3.91	20.80	F24.71	$\frac{21.3}{32.0}$
0+39			5.15	+0.70	23.20	F22.50	$\frac{22.5}{33.7}$
2+77.29			10.11	-4.26	15.80	F20.06	$\frac{21.1}{31.6}$
3+10.39			10.15	-4.30	16.50	F20.80	$\frac{20.8}{31.4}$
3+17.42 B.C.			10.15	-4.30	16.77	F21.07	$\frac{18.5}{27.8}$

X-Section King St.

Sta		H _i	-	Elev	Grade
B.M.	3.18	9.43✓		6.25	U.S.G.S B.M. Sec Pg 8
T.P.	2.53	6.15✓	5.81	3.62	
T.P.	4.16	4.01✓	6.30	-0.15✓	
T.P.	9.23	9.51✓	3.73	+0.28✓	
Set B.M.		8.22	1.29✓	3.E.	Cor of King St. + Nashville Nail in Power Pole.
0+00 S.	5' off.	8.73	0.78✓		E Prop line Nashville
	S 1/2	8.8	0.71✓		
	⊥	8.8	0.71✓		
	N 1/2	8.6	0.91✓		
	N 5' off	8.43	1.08✓		
0+10 N	5' off.	7.27	2.24✓		
	N 1/2	7.9	1.61✓		
	⊥	8.6	0.91✓		
	S 1/2	9.1	0.11✓		
	S 5' off	9.30	0.21✓		
0+50 S	5' off	8.65	0.86✓		
	S 1/2	8.6	0.91✓		
	⊥	7.9	1.61✓		
	⊥ + 24 BK.	7.7	1.81✓		
	N 1/2	5.2	4.31✓		
	N 5' off.	4.46	5.05✓		
1+00 N	5' off.	1.23	8.23✓		
	N 1/2	1.8	7.71✓		
	N 1/2 + 2 BK	2.2	7.31✓		
	N 1/2 + 3 BK	6.7	2.81✓		

X-Section King St.
Cont.

Sta		H ₁	-	Elev
		9.51		
1+00	¢		7.6	1.91 ✓
	5 P/L		8.0	1.51 ✓
	S. 5' Off.		7.92	1.59 ✓
1+50	S. 5' Off.		6.77	2.74 ✓
	5 P/L		7.1	2.41 ✓
	¢		6.9	2.61 ✓
	¢+20 BK.		7.0	2.51 ✓
	¢+22		1.8	7.71 ✓
	N P/L		1.9	7.61 ✓
	N. 5' Off.		1.99	7.52 ✓
2+00	N. 5' Off.		1.27	8.24 ✓
	N P/L		1.7	7.81 ✓
	N P/L+1 BK.		1.7	7.81 ✓
	N P/L+3 BK.		7.2	2.31 ✓
	¢		7.4	2.11 ✓
	5 P/L.		6.9	2.61 ✓
	S. 5' Off.		6.65	2.86 ✓
2+50	S. 5' Off.		6.47	3.04 ✓
	5 P/L		6.5	3.01 ✓
	¢		6.9	2.61 ✓
	¢+22 BK.		6.3	3.21 ✓
	¢+23 BK.		1.7	7.81 ✓
	N P/L		1.6	7.91 ✓
	N. 5' Off.		1.96	7.55 ✓

X - Section King St.
Cont.

30

Sta	+	Hi	-	Elev
		9.51		
2+96	N 5' off		1.0	8.51
	N $\frac{1}{2}$		1.1	8.41
	N $\frac{1}{2}$ +1 BK		1.0	8.51
	N $\frac{1}{2}$ +2 BK		5.9	3.61
	£		6.4	3.11
	S $\frac{1}{2}$		5.7	3.81
	S-5' off		5.62	3.89
3+00	S-5' off		0.69	8.82
	S $\frac{1}{2}$		0.9	8.61
	S $\frac{1}{2}$ +5 BK		0.6	8.91
	S $\frac{1}{2}$ +6 BK		5.6	3.91
	£		6.4	3.11
	£+22 BK		6.0	3.51
	£+23 BK		1.0	8.51
	N $\frac{1}{2}$		1.0	8.51
	N 5' off		1.05	8.46
T.P.	5.72	14.54	0.69	8.82
3+30	S 5' off		4.3	10.24
	S $\frac{1}{2}$		4.4	10.14
	S $\frac{1}{2}$ +5 BK		4.6	9.94
	S $\frac{1}{2}$ +9 BK		8.9	5.64
	£		10.4	4.14

X-Section King St.
Cont.

Sta		H _i	-	Elev
		14.54		
	£+2A Bk	9.6		4.94 ✓
	N P/L	5.6		8.94 ✓
	N 5' off	6.1		8.94 ✓
3+50	N 5' off	5.88		8.66 ✓
	N P/L	5.8		8.74 ✓
	N P/L+10 Bk	7.5		7.04 ✓
	£	7.1		7.44 ✓
	S P/L	4.5		10.04 ✓
	S 5' off	4.81		9.73 ✓
3+60	S 5' off	5.1		9.44 ✓
	S P/L	5.1		9.44 ✓
	£	5.2		9.34 ✓
	N P/L	5.7		8.84 ✓
	N 5' off	5.6		8.94 ✓
4+00	N 5' off	4.87		9.67 ✓
	N P/L	5.6		8.94 ✓
	£	5.2		9.34 ✓
	S P/L	4.4		10.14 ✓
	S 5' off	4.24		10.30 ✓
4+50	S 5' off	4.93		9.61 ✓
	S P/L	5.2		9.34 ✓
	£	5.3		9.24 ✓
	N P/L	5.3		9.24 ✓
	N 5' off	5.48		9.06 ✓

X - Section King St.
Cont.

Sta		HI	-	Elev
		14.54		
5700 N	5' off		5.28	9.26 ✓
	N 1/2		5.6	8.94 ✓
	¢		5.5	9.04 ✓
	S 1/2		5.7	8.84 ✓
S	5' off		5.64	8.90 ✓
5750 S	5' off		6.56	7.98 ✓
	S 1/2		6.2	8.34 ✓
	¢		5.9	8.64 ✓
	N 1/2		5.8	8.74 ✓
N	5' off		6.11	8.43 ✓
5790 N	5' off		7.13	7.41 ✓
	N 1/2		7.5	7.04 ✓
	¢		7.6	6.94 ✓
	S 1/2		9.3	5.24 ✓
S	5' off		9.45	5.09 ✓
6700 S	5' off		10.82	3.74 ✓
	S 1/2		10.7	3.84 ✓
	¢		8.9	5.64 ✓
	N 1/2		8.2	6.34 ✓
N	5' off		8.13	6.41 ✓
T.P.	2.79	6.71	10.62	3.92 ✓
T.P.	6.14	7.31	5.54	1.17 ✓
B.M.			1.07	6.24 ✓

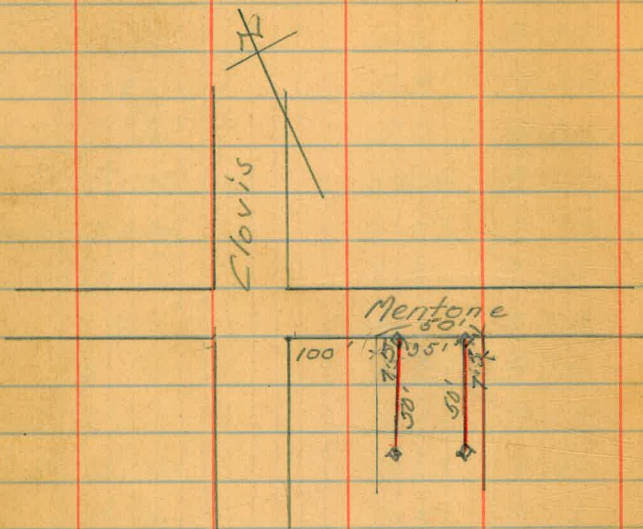
W. Prop Line Knoxville

U.S.G.S. See Pg 8.

Lots 546, BIK 25,
Loma Alta #2

Feb 1/34

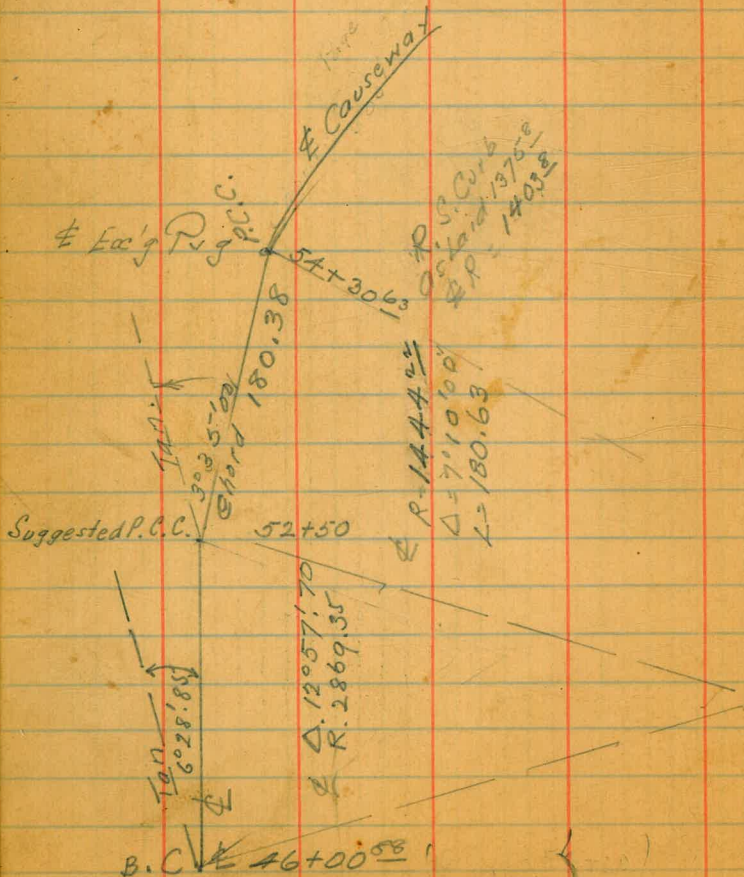
33



W. Pt. Loma Blvd.

Prop'd Comp. Curve to connect
with Paving.

O.K'd



7-109-00
3-34-30
2869.35
1575.8
14245.15
2122.5

~~628.85~~
~~12.57' 45"~~
~~180~~
~~2167.02~~
~~15"~~
83° 31' 07"
~~2869.35~~
~~1347.8~~

R 1375.8
28
1403.8
1403.8
2869.35
14245.15
2136.5

57+50
1+80.63
54+30.63

defl. per ft. = 0.599
for 0.88 = 0.527

for 50'
Δ = 0.2958 = 0.0087168
± Ch'd = 50.00
S. Curve = 49.57
N. " = 50.48

Grades W. Pt Loma Blvd
Slope Stakes

Sta	+	HI	-	Elev	Grade	Corr			
B.M.	4.32	5.76		1.44					
23+00			9.2	-3.44	2.27	F5.71	5.1	F5.4	
23+50			9.1	-3.34	2.15	F5.49	8.6	8.1	F5.5
24+00			12.2	-6.44	2.03	F8.47	8.5		8.2
							12.7		

W. Pt. Loma Blvd.
Ground along 5' off's on Proposed Compound Curve.

5.07

36

Sta	+	H.I	-	Elev.
B.M.	5.07	11.27		6.25
52+50, S.			5.28	5.99
53+00, S.			5.68	5.59
+50, S.			5.96	5.31
54+00, S.			5.90	5.37
54+30 ⁶³ , S.			5.25	6.02
52+50, N.			6.70	4.57
53+00, N.			7.79	3.48
+50, N.			6.77	4.50
54+00, N.			7.18	4.09
54+30 ⁶³ , N.			5.39	5.88

Page 8

On bank of ditch

" " "

Grades, page A1

W. Pt. Loma Blvd.
 Culvert #2
 Grade .00833 per ft.

Pile Cut Offs given 2' above 37

Sta	T	H.I	—	Ely	Grade
				1	-5.50
B.M.	2.50	3.94		1.44	

0+44					-5.87
0+77					-6.10

B.M	3.12	4.56		1.44	
0+40					-5.83
0+44					-5.87
1+20					-6.50

B.M.	2.48	3.92		1.44	
24+05 Inlet top of		5.23	-1.31	2.18	F3.19
23+84 12" Pipe		5.55	-1.63	2.10	F3.73

B.M	1.42	2.86		1.44	
		5.08	-2.22	1.0	F3.22
		5.04	-2.18	1.0	F3.18

2' Above Cut Off

Rod.	3.94	5.87
	6.10	3.94
	10.04	9.81
	10.39	
	10.43	
	11.06	

Grade	10.43	5.87
Car F	4.56	
	5.87	

	5.08	5.08
	2.86	2.86
	-2.22	-2.22
	1	1
	3	3

00833	
HH	
3332	
3332	
36654	✓

587	
-5.50	
.87	
-5.87	
-5.50	
.6	
-6.10	
00833	
72	
1666	
5831	
59976	

00833	
78	
6664	
1666	
53329	

00833	
40	
33320	
-5.50	
33	
-5.83	
456	
10.39	
-6.50	
456	
11.06	

Grades to P. Loma Blvd.
Re Det

Sta	+	H. 1	-	FIN	Grade
B.M.	0.22	32.17		31.95	
5+12.87	1/2			4.01	78.26
4+81 ⁵¹				3.96	78.21
4+76 ¹⁴				3.95	78.22
5+12 ⁸⁴				4.47	77.70
					24.10
					S/L Grade
8+00 S. P. 1/2				6.79	75.38
+50				7.43	74.74
B.M.	0.22	31.95			

Page 24

~~1/2 Bond G 178 33 C 4.16~~
~~0.00~~

C 4.81

0.00

C 4.91

0.00

C 3.6

0.00

C 1.65

0.00

C 1.35

0.00

Check

Culvert #3

39

Sta	+	Hi	-	Elev	Grade	Cor F
B.M.	5.76	9.04		3.28	42' RP PC See Pg 66 Bk G-178	
B.M.	2.60	5.87	5.77	3.27	Bridge B-A-80 See Pg 78 K G-178	
310' RP Inlet			6.70	-0.83 ✓	-0.45	F 0.38 ✓
0+00 Inlet			6.60	-0.73 ✓	-0.50	F 0.23 ✓
0+25			6.23	-0.36 ✓	-0.62	C 0.26 ✓
0+50			6.02	-0.15 ✓	-0.74	C 0.59 ✓
0+75			5.60	+0.27 ✓	-0.86	C 1.13 ✓
^{1+00 omitted} 110' RP Outlet			10.23	-4.36 ✓	-1.05	F 3.31 ✓

W. Pt. Loma Blvd.

Grades

H. Prop.

Note G-178 Pg 32

4.78
6.33/1.61

40

Sta	+ H. 1	—	EN	Grade	Cor F
B.M.	0.56	20.18		27.62	
0+00		2.26	25.92	25.60	C0.32
0+39		4.59	23.59	23.20	C0.39
0+78	P.V.C.	6.05	22.13	20.80	C2.67
1+18		9.65	18.53	18.70	F0.17
2+58.75		15.55	12.63	14.77	F2.14

C. Stake 4.78 C1.55
 Prg 6.39
 E. End Curb 5.99

6.33
6.00

4.78
1.58
6.33
5.77
-34

H. Prop.

2+58.75		14.67	13.51	15.95	F2.44
1+58		11.34	16.84	17.55	F0.71
1+18		7.19	20.99	19.25	C1.74
0+82.5	P.V.C.	5.59	22.59	21.10	C1.49
0+41.25		3.98	24.20	23.45	C0.75
0+00		0.83	27.35	25.80	C1.55

Mark at 2+58.20
 H. Gutter 14.75
 S. " 15.95

To Check					
B.M.	H. 50	37.17		27.62	
0+00	\$(Cut Stake)	4.78	27.34	25.80	C1.55, EN =
	\$ Prg	6.39	25.73		
	E. End of partial return	5.99	26.13		
	S. " "	4.57	27.60		
	Gutter at E. End "	6.61	25.51		

\$ Culvert { 14.77
 { 15.95

W. Pt. Loma Blvd. Grades

5' Offset to South

Grades set equal on N & S. Lines 41

P/L grades

Sta	+ H.I	-	ELV	Grade	C. or F.
B.M.	7.72	8.10	0.38	100' R.P.	See Bk 6-178 Pg 78
47+50		6.97	1.13	4.66	F3.53
48+00		6.87	1.23	4.77	F3.54
+50		6.07	2.03	4.88	F2.85
49+00		4.85	3.25	4.99	F1.74
+50		4.37	3.78	5.10	F1.32
50+00		4.07	4.08	5.21	F1.13
+50		3.45	4.65	5.32	F0.67
51+00		3.10	5.00	5.43	F0.43
+50		3.23	4.87	5.54	F0.67
		N/L 5' Off (Ground)			
51+50		5.1	3.00	5.66	F2.66
51+00		4.9	3.2	5.54	F2.34
50+50		8.1	0.0	5.42	F5.42
50+00		11.3	-3.2	5.29	F8.49
49+50		11.3	-3.2	5.16	F8.36
49+00		11.3	-3.2	5.04	F8.24
48+50		10.8	-2.7	4.91	F7.61
48+00		11.1	-3.0	4.79	F7.79
47+50		10.7	-2.6	4.66	F7.26
T.P.		3.23	+4.87		

For Later Grades See Page 55

14.1
12.5
1.6

5.4
3.0
8.4
12.6

13.6
11.6
2.0

13.1
11.7
1.4

12.5
11.0
1.5

Cont'd on page 43

6.00 10.87

W. Pt. Loma Blvd, Grades
N. Side $\frac{1}{2}$ on hubs

Set For P/L grade

42

For $\frac{1}{2}$ to see Pg 2A

Page 8

Sta	+	H.I	-	ELY	Grade	Cor F
B.M.	3.05	31.02		27.97		
11+11 ³⁸ F.C.			9.85	21.17	21.45	F 0.28.
11+00			9.79	21.23	21.53	F 0.30.
10+50			9.37	21.70	21.88	F 0.18.
10+00			8.94	22.08	22.23	F 0.15.
9+50			8.56	22.46	22.58	F 0.17.
9+00			9.07	21.95	22.93	F 0.98.
8+50			11.06	19.96	23.28	F 3.37.
8+00 I.P.			8.53	22.49	23.63	F 1.14.
I.P. {	7.88	30.37				
7+50			7.00	23.37	23.98	F 0.61.
7+00			7.04	23.33	24.33	F 1.00.
6+50			5.22	25.15	24.68	C 0.47.
6+00.			5.16	25.21	25.00	C 0.21.
5+81 ¹⁴ B.C. (=57787)			5.28	25.09	25.00	C 0.09.
5+12 ⁸² (to Check)			2.67	27.75		

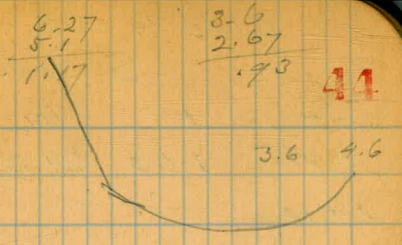
W. Pt. Loma Blvd Grades
(Cont'd from 41)

P/L Grades

Sta	+	H.I	-	Elev	Grade	C or F	
		10.87					
52+00	5'-5" off		5.30	5.57	5.65	F 0.08	$\frac{0.10}{0.15}$
+50			4.89	5.98	5.76	C 0.22	✓
53+00			5.29	5.58	5.87	F 0.29	$\frac{0.3}{0.5}$
+50			5.55	5.32	5.98	F 0.66	$\frac{0.7}{1.0}$ $\frac{1.1}{1.8}$
54+00			5.50	5.37	6.09	F 0.72	$\frac{0.7}{1.0}$ $\frac{0.6}{0.9}$
	Top S. Curb		4.97	5.90			
	N/L - 5' off						
	Top N. Curb		4.79	6.08			
54+00			6.8	4.07	6.30	F 2.23	$\frac{2.2}{3.3}$
53+50			6.4	4.47	6.17	F 1.70	$\frac{1.7}{2.6}$ $\frac{2.2}{3.3}$
53+00			7.4	3.47	6.05	F 2.58	$\frac{2.6}{3.9}$ $\frac{0.9}{7.3}$ $\frac{1.1}{1.6}$
52+50			6.3	4.57	5.92	F 1.35	$\frac{1.4}{2.1}$ $\frac{1.6}{2.4}$
52+00			6.7	4.17	5.79	F 1.62	

Curb Grade, W. of Loma Blvd.
N. Side

Sta	+ Hi -	Elev	P/L Grd.	Curb Grade	Cor F
B.M.	0.53 28.15'	27.62	Nail in	Pole Sec Pg 8.	
0+10	3.19	24.96'	25.00	24.70	C 0.26+
0+44	5.45	22.70'	22.72	22.42	C 0.28+
0+78	7.55	20.60'	20.80	20.50	C 0.10+
0+98	8.90	19.25'	19.65	19.35	F 0.10+
1+18	8.90	19.25'	18.70	18.40	C 0.85+
1+38	9.26	18.89'	17.85	17.55	C 1.34+
1+58	10.14	18.01'	17.25	16.95	C 1.06+
1+64 ²⁵	10.64	17.51'	17.05	16.75	C 0.76+
1+78	11.26	16.89'	16.70	16.40	C 0.49+
T.P.	5.48 22.37	11.26	16.89'		
1+98	5.54	16.83'	16.35	16.05	C 0.78+
2+18	6.01	16.36'	16.00	15.70	C 0.66+
2+34 ¹⁹	6.23	16.14'	15.80	15.50	C 0.64+
2+52 ²²	2' W of WE Curb Inlet	6.72	15.65'		
2+56 ²²	4' Culvert Inlet	6.58	15.79'	15.45	C 0.34+
2+61 ²²	2' E of E End Curb Inlet	6.84	15.53'		
2+72 ²⁹	7.04	15.33'	15.80	15.50	F 0.17+
2+91 ³⁴	6.90	15.47'	16.05	15.75	F 0.28+
3+10 ³⁹	6.05	16.32'	16.50	16.20	C 0.12+
3+17 ⁴²	B.C.	5.75	16.62'		



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Curb Grade W Pt Loma Blvd
S. Side

Sta	+ Hi	-	Elev	P/Grade	Curb Grade	Cor F
B.M.	1.60	29.22	27.62			
0+10		3.37	25.85	25.00	24.70	C 1.15 ✓
0+46 ²⁵		6.03	23.19	23.05	22.75	C 0.44 ✓
0+82 ⁵		7.98	21.24	21.10	20.80	C 0.44 ✓
0+98		8.55	20.67	20.20	19.90	C 0.77 ✓
1+18		10.33	18.89	19.25	18.95	F 0.06 ✓
1+38		10.65	18.57	18.30	18.00	C 0.57 ✓
1+58		11.25	17.97	17.55	17.25	C 0.72 ✓
T.P.	4.93	22.40	11.25	17.97		
1+64 ²⁵		4.58	17.82	17.35	17.05	C 0.77 ✓
1+78		5.45	16.95	16.90	16.60	C 0.35 ✓
1+98		5.79	16.61	16.50	16.20	C 0.41 ✓
2+18		6.56	15.84	16.20	15.90	F 0.06 ✓
2+34 ¹⁹		7.08	15.32	16.00	15.70	F 0.38 ✓
2+51 ²²		7.13	15.27			
2+56 ²²	± Curb Inlet	7.14	15.26	15.95	15.65	F 0.39 ✓
2+62 ²²		6.92	15.48			
2+76 ⁰⁹		7.09	15.31	16.00	15.70	F 0.39 ✓
2+97 ⁰⁹		6.85	15.55	16.20	15.90	F 0.35 ✓
3+17 ⁴²	B.C.	6.05	16.35	16.60	16.30	C 0.05 ✓

36.25
 1054
 145.00
 1812.5
 1957.50
 25
 13.05

7.25) 390.0 (53.79
 362.5
 27.50
 217.5
 57.50
 507.5
 67.50
 652.5

Grades W. Pt Loma Blvd.

Sta	+	H.	-	Elev	Grade	C or F
B.M.	0.07	27.69		27.62		
0+10			2.14	25.55	2A.70	C0.85-
0+15 ¹²			4.98	22.71	22.60	C0.11-
0+20 ²⁵			7.70	19.99	20.50	F0.51-
1+00 ²⁵			8.81	18.88	19.62	F0.74-
1+20 ²⁵			10.05	17.64	18.67	F1.03-
1+40 ²⁵			10.77	16.92	17.77	F0.85-
1+60 ²⁵			10.22	17.47	17.10	C0.37-
1+80 ²⁵			11.28	16.41	16.50	F0.09-
T.P	3.85	20.26	11.28	16.41		
2+00 ²⁵			4.59	15.67	16.12	F0.45-
2+20 ²⁵			5.05	15.21	15.80	F0.59-
2+36 ⁴⁴			5.32	14.94	15.60	F0.66-
2+56 ⁴⁴			5.45	14.81	15.55	F0.74-
2+76 ⁴⁴			5.39	14.87	15.60	F0.73-
3+96 ⁴⁴			4.91	15.35	15.82	F0.47-
3+16 ⁴⁴			3.80	16.46	16.25	C0.21-
3+17 ⁴²	B.C.		3.67	16.59		

N Curb Line W. Pt Loma Blvd.

47

Sta	+	H ₁	-	Elev	Grade	C or F.
B.M.	0.71	28.33		27.62		
0+10			3.38	24.95	24.70	C0.25
0+44			5.71	22.62	22.42	C0.20
0+78			8.20	20.13	20.50	F0.37
0+98			9.45	18.85	19.35	F0.47
1+18			9.75	18.58	18.40	C0.18
1+38			9.88	18.45	17.55	C0.90
1+58			10.32	18.01	16.95	C1.06
1+64 ²⁵			10.83	17.50	16.75	C0.75
T.P	3.50	19.91	11.92	16.41		
1+78			3.04	16.87	16.40	C0.47
1+98			3.25	16.66	16.05	C0.61
2+18			3.60	16.31	15.70	C0.61
2+3A ¹⁹			4.27	15.64	15.50	C0.14
2+56 ²²	± Curb Inlet.		4.18	15.73	15.45	C0.28
2+72 ²⁹			4.64	15.27	15.50	F0.23
2+91 ³⁴			4.49	15.42	15.75	F0.33
3+10 ³⁴			3.69	16.22	16.20	C0.0
2+17 ⁴²			3.31	16.61		

E Grades W H Loma Blvd.

48

Sta	+	Hi	-	Elev	Grade	Cor F
	4.86	6.30		1.44		
22+00			3.32	2.98	2.73	C0.25 X
22+50			4.02	2.28	2.51	F0.23 X
23+00			5.22	1.08	2.29	F1.21 X
23+50			5.25	1.05	2.08	F1.03 X
24+00			4.97	1.33	2.00	F0.67 X
24+50			3.95	2.35	2.55	F0.20 X
25+00			4.06	2.24	2.75	F0.51 X
25+50			3.95	2.35	2.95	F0.60 X

Curb + & Grades. W.P. Loma Blvd.

Sta	+	Hi	-	Elev	Curb Grade	Curb Grade	Cor F	Cor F.
B.M	6.31	9.60		3.29				
^{Set} B.M.	3.83	7.68	5.75	3.85	Power Pole	Apex Sta	36450 on Electric Railway.	20 ^d Nail.
37+08 ^{SB}	N. Cb		4.06	3.62	4.00	3.07	C. 0.57	-
	&		4.04	3.61		3.07	C. 0.57	-
	S. Cb		4.02	3.63		2.97	C. 0.56	-
37+50	S. Cb		4.13	3.55	3.26	2.96	C. 0.59	
	&		4.51	3.17				
	N. Cb		4.44	3.24		2.96	C. 0.29	
38+00	N. Cb		4.32	3.36	3.13	2.83	C. 0.51	
	&		5.12	2.56				
	S. Cb		5.14	2.54		2.83	F. 0.29	
38+50	S. Cb		5.24	2.44	2.99	2.69	F. 0.25	
	&		5.24	2.44				
	N. Cb		5.24	2.44		1.69	F. 0.25	
39+00	N. Cb		4.92	2.70	2.83	1.53	C. 0.17	
	&		4.85	2.83				
	S. Cb		6.59	1.09		1.53	F. 1.44	
39+50	S. Cb		7.05	0.63	2.66	2.36	F. 1.73	
	&		7.00	0.68				
	N. Cb		6.64	1.04		2.36	F. 1.32	
40+00	N. Cb		6.09	1.59	2.47	1.17	F. 0.58	
	&		6.38	1.30				
	S. Cb		7.10	0.58	1.47	1.17	F. 1.59	
40+50	S. Cb		7.37	0.31	2.27	1.97	F. 1.66	
	&		6.37	1.31				

See Page 52 of 201

Cont'd

Sta		H _i	-	Elev	P/L Grade	Corb Grade	Cor F
		7.68					
40+50	N.Cb		6.54	1.14 ✓		1.97	F 0.83
41+00	N.Cb		7.20	0.48 ✓ 12.06		1.76	F 1.28
	‡		7.33	0.35 ✓			
	S.Cb		7.41	0.27 ✓		1.76	F 1.49
41+40 B.V.C.	S.Cb		7.43	0.25 ✓ 1.89		1.59	F 1.34
	‡		7.13	0.55 ✓			
	N.Cb		7.12	0.56 ✓ 1.89		1.59	F 1.03
TIP	4.94	5.50	7.12	0.56 ✓			
41+80	N.Cb		4.96	0.54 ✓ 1.76		1.46	F 0.92
	‡		4.98	0.52 ✓			
	S.Cb		5.00	0.10 ✓ 1.72		1.42	F 1.32
42+20	S.Cb		5.18	0.32 ✓ 1.55		1.25	F 0.93
	‡		4.88	0.62 ✓			
	N.Cb		5.13	0.37 ✓ 1.70		1.40	F 1.03
42+60 Apex	N.Cb		4.87	0.63 ✓ 1.71		1.41	F 0.78
	‡		4.78	0.72 ✓			
	S.Cb		5.40	0.10 ✓ 1.33		1.08	F 0.98
43+00	S.Cb		5.10	0.40 ✓ 1.65		1.33	F 0.93
	‡		4.99	0.51 ✓			
	N.Cb		4.76	0.74 ✓ 1.80		1.50	F 0.76
43+40	N.Cb		4.54	0.96 ✓ 1.96		1.66	F 0.70
	‡		5.00	0.50 ✓			

Sta		H _i	Elev	P/L Grade	Curb Grd Elev	Cor F
		5.50				
43+40	S. Cb		5.22	0.28 ✓	1.92	F 1.34
43+80 EXE.	S. Cb		4.96	0.54 ✓	2.18	F 1.26
	‡		4.91	0.59 ✓		
	N. Cb		4.92	0.58 ✓	2.18	F 1.22
44+00	N. Cb		4.71	0.79 ✓	2.31	F 1.22
	‡		4.75	0.75 ✓	2.01	
	S. Cb		4.87	0.63 ✓	2.01	F 1.38
44+50	S. Cb		4.95	0.55 ✓	2.65	F 1.80
	‡		4.75	0.75 ✓		
	N. Cb		4.52	0.98 ✓	2.35	F 1.37
45+00	N. Cb		3.88	1.62 ✓	2.98	F 1.06
	‡		4.73	0.77 ✓		
	S. Cb		4.87	0.63 ✓	2.68	F 2.05
45+50	S. Cb		4.74	0.76 ✓	3.32	F 2.46
	‡		4.52	0.98 ✓		
	N. Cb		5.68	-0.78 ✓	3.04	F 3.20
46+00 ⁸⁸ B.C. N. Cb			7.17	-1.67 ✓	3.65	F 5.02
	‡		4.86	0.64 ✓		
	S. Cb		4.73	0.77 ✓	3.35	F 2.58
B.M.			5.13	0.37	100' R.P.	See Bk G-178 Pg-

W. Pt. Loma Blvd. Grades.
Curbs & Φ .

See Pages 49 to 51 for Elev's. of
hubs.

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Sta	Elev	Grade	Cor F	Line	
37+08 ⁵⁸ E.C.	3.62	4.00	F0.38	N	
"	3.61	4.00	F0.39	Φ	
"	3.63	4.00	F0.37	S	
37+50	3.24	3.26	F0.02	N	
"	3.17	3.26	F0.19	Φ	3.53
"	3.55	3.26	C0.29	S +	
38+00	3.36	3.13	C0.23	N +	
"	2.56	3.13	F0.57	Φ	3.37
"	2.54	3.13	F0.59	S	
38+50	2.44	2.99	F0.55	N	
"	2.44	2.99	F0.55	Φ	3.11
"	2.44	2.99	F0.55	S	
39+00	2.70	2.83	F0.13	N	
"	2.83	2.83	C0.00	Φ	290
"	1.09	2.83	F1.74	S	
39+50	1.04	2.66	F1.62	N	
"	0.68	2.66	F1.98	Φ	267
"	0.63	2.66	F2.03	S	
40+00	1.59	2.47	F0.88	N	
"	1.30	2.47	F1.17	Φ	2A8
"	0.58	2.47	F1.89	S	
40+50	1.14	2.27	F1.13	N	
"	1.31	2.27	F0.96	Φ	2.27
"	0.31	2.27	F1.96	S	

G178-68

G178-78

G178-78

This Book - 6

Cont'd

53

This Book - 6

Sta	Elv	Grade	Cor	F	Line
41+00	0.48	2. 06 ³⁶	F1.58	N	
"	0.35	2.06	F1.71	¢	
"	0.27	2. 06 ³⁶	F1.79	S	
41+40 B.V.C.	0.56	1.89	F1.33	N	
"	0.55	1.89	F1.34	¢	
"	0.25	1.89	F1.64	S	
41+80	0.54	1.76	F1.22	N	
"	0.52	1.76	F1.24	¢	
"	0.10	1.76	F1.66	S	
42+20	0.37	1.71	F1.34	N	
"	0.62	1.71	F1.09	¢	
"	0.32	1.71	F1.39	S	
42+60 (Apx)	0.63	1.74	F1.11	N	
"	0.72	1.72	F1.00	¢	
"	0.10	1.71	F1.61	S	
43+00	0.74	1.84	F1.10	N	
"	0.51	1.82	F1.31	¢	
"	0.40	1.80	F1.40	S	
43+40	0.96	2.02	F1.06	N	
"	0.50	1.99	F1.49	¢	
"	0.23	1.96	F1.73	S	
43+80 E.V.C.	0.58	2.28	F1.70	N	
"	0.59	2.23	F1.64	¢	
"	0.54	2.18	F1.64	S	

Cont'd.

Sta	Elv	Grade	Cor F	Line
44+00	0.79	2.43	F 1.64	N
"	0.75	2.37	F 1.62	Φ
"	0.63	2.31	F 1.68	S
44+50	0.98	2.81	F 1.83	N
"	0.75	2.73	F 1.98	Φ
"	0.55	2.65	F 2.10	S
45+00	1.62	3.18	F 1.56	N
"	0.77	3.08	F 2.31	Φ
"	0.63	2.98	F 2.35	S
45+50	-0.18	3.56	F 3.74	N
"	0.98	3.44	F 2.46	Φ
"	0.76	3.37	F 2.56	S
46+00 ⁸ B.C.	-1.67	3.84	F 5.51	N
"	0.69	3.75	F 3.06	Φ
"	0.77	3.65	F 2.88	S

This Book - 6

54

Sta	+	Hi	-	Elev	Grade	Cor F
	5.89	6.27		0.38	100' RP	See Bk G-178 Pg 78
46+50	S.Cb		5.26	1.01	3.99	F 2.98 X
	$\frac{1}{2}$		5.21	1.06	4.10	F 3.04 X
	N.Cb		7.76	-1.49	4.21	F 5.70 X
47+00	N.Cb		6.80	-0.53	4.59	F 5.12 X
	$\frac{1}{2}$		5.23	1.04	4.45	F 3.41 X
	S.Cb		5.26	1.01	4.32	F 3.31 X
47+50	S.Cb		5.10	1.17	4.66	F 3.49 X
	$\frac{1}{2}$		4.81	1.46	4.81	F 3.35 X
	N.Cb		7.15	-0.88	4.97	F 5.85 X
48+00	N.Cb		6.62	-0.35	5.14	F 5.49 X
	$\frac{1}{2}$		5.53	0.74	4.95	F 4.21 X
	S.Cb		5.47	0.80	4.77	F 3.97 X
48+50	S.Cb		4.80	1.47	4.88	F 3.41 X
	$\frac{1}{2}$		4.39	1.88	5.06	F 3.18 X
	N.Cb		6.23	0.04	5.24	F 5.20 X
49+00	N.Cb		4.80	1.47	5.36	F 3.89 X
	$\frac{1}{2}$		4.46	1.81	5.17	F 3.36 X
	S.Cb		3.64	2.63	4.99	F 2.36 X
49+50	S.Cb		2.85	3.42	5.10	F 1.68 X
	$\frac{1}{2}$		4.29	1.98	5.27	F 3.29 X
	N.Cb		2.87	3.40	5.44	F 2.04 X
50+00	N.Cb		3.59	2.68	5.50	F 2.82 X
	$\frac{1}{2}$		3.71	2.56	5.35	F 2.79 X
	S.Cb		2.79	3.45	5.21	F 1.73 X

Approx cont
of curve

Curb + G Grades W Pt Loma Blvd.

6.57
7.28 JS

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Sta		H _i	-	Elev	Grade	Cor F
		6.271				
50+50	S.Cb		1.90	4.37	5.32	F 0.95X
	⊥		2.57	3.70	5.37	F 1.67X
	N.Cb		3.34	2.93	5.42	F 2.49X
51+00	N.Cb		2.64	3.63	5.54	F 1.91X
	⊥		1.86	4.41	5.48	F 1.07X
	S.Cb		1.39	4.88	5.43	F 0.55X
51+50	S.Cb		0.80	5.47	5.54	F 0.07X
	⊥		0.62	5.65	5.60	C 0.05X
	N.Cb		2.94	3.33	5.66	F 2.33X
52+00	N.Cb		1.91	4.36	5.79	F 1.43X
T.P.	6.76	10.10	2.93	3.34		
52+00	⊥		4.24	5.86	5.72	C 0.14X
	S.Cb		4.21	5.89	5.65	C 0.24X
52+50 POC	S.Cb		3.59	6.51	5.76	C 0.75X
	⊥		4.38	5.72	5.84	F 0.12X
	N.Cb		5.54	4.56	5.92	F 1.36X
B.M.			3.80	6.30	U.563	See This Bk Pg 8

Culvert # 2

57

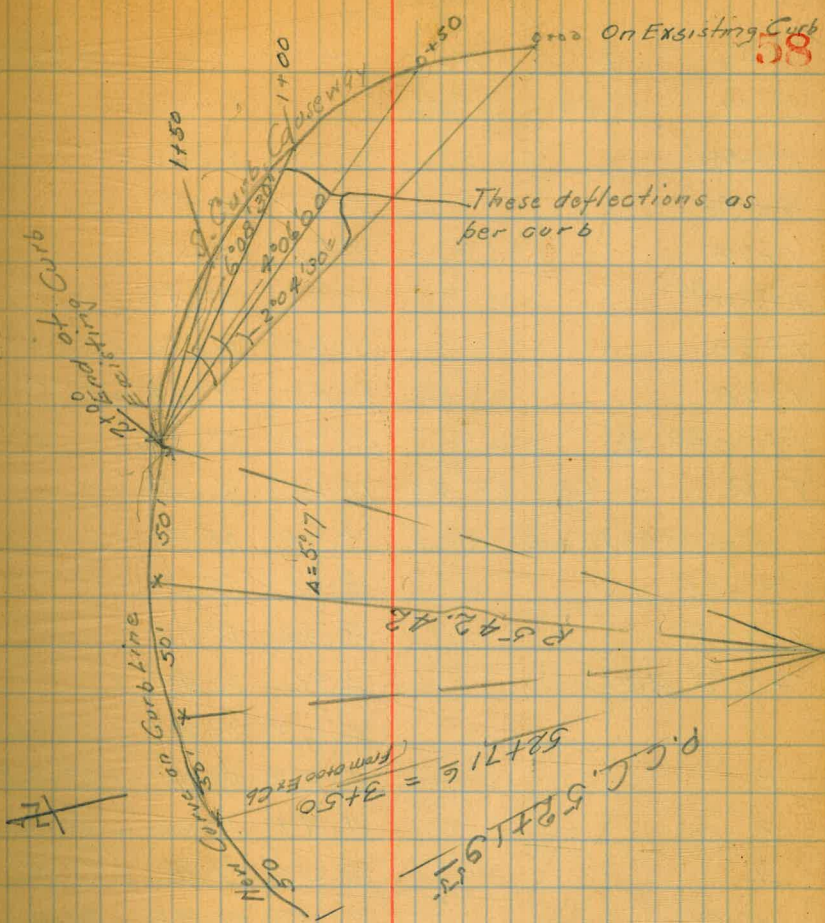
Sta	+	H.I.	-	EL	Gutter Grade	CorF
B.M.	5.72	7.16		1.44		
± Culvert N. End (23+71 ³²)			5.39	1.77	1.39	0.38
10' W. of ±			5.26	1.90	1.39	0.51
10' E. of ±			5.35	1.81	1.39	0.42
S.						
10' E. of ±			5.02	1.14	1.28	0.86
± S. (23+97 ⁰⁰)			5.02	1.14	1.28	0.86
10' W. of ±			5.17	1.99	1.28	0.71

± Curb Inlets As Laid

228

S. Side 23+98.99
 N. " 23+74.24

W. Pt. Loma Blvd. Feb. 26/34



Note: S. Curb Line only run out.

Curb Grades W Pt Loma Blvd.

Feb 28 1964

Sta	+ Hi	-	Elev	P/L Grade	Curb Grade
B.M.	0.44	28.06	27.62		
0+44		5.43	22.63 ✓		
0+78		7.97	20.09 ✓		
1+18		9.51	18.52 ✓		
1+64 ²⁵		10.66	17.40 ✓		
1+78		11.30	16.76 ✓		
1+98		11.52	16.54 ✓		
1+60 ²⁵ k		10.74	17.32 ✓		
T.P.	6.93	23.44	11.55	16.57 ✓	
2' W of W End Curb Inlet		8.04	15.40 ✓		
2' E of E " " "		8.13	15.31 ✓		
2+72 ²⁹		8.32	15.12 ✓		
3+17 ⁴² B.C.		6.96	16.48 ✓		
1		6.03	17.41 ✓	17.15	16.85 C 0.56
2		5.23	18.21 ✓	17.95	17.65 C 0.56
3		4.44	19.00 ✓	18.90	18.60 C 0.40
4		3.58	19.86 ✓	19.80	19.50 C 0.36
5		2.46	20.98 ✓	20.90	20.60 C 0.38
6		1.91	21.53 ✓	21.20	20.90 C 0.63
7		1.16	22.28 ✓	22.00	21.70 C 0.58
8		0.38	23.06 ✓	22.70	22.40 C 0.66
T.P.	5.09	28.15	0.38	23.06 ✓	
9		4.43	23.72 ✓	23.30	23.00 C 0.72
10 = F.C.		4.44	23.71 ✓	23.34	23.04 C 0.67

Elev's page 47

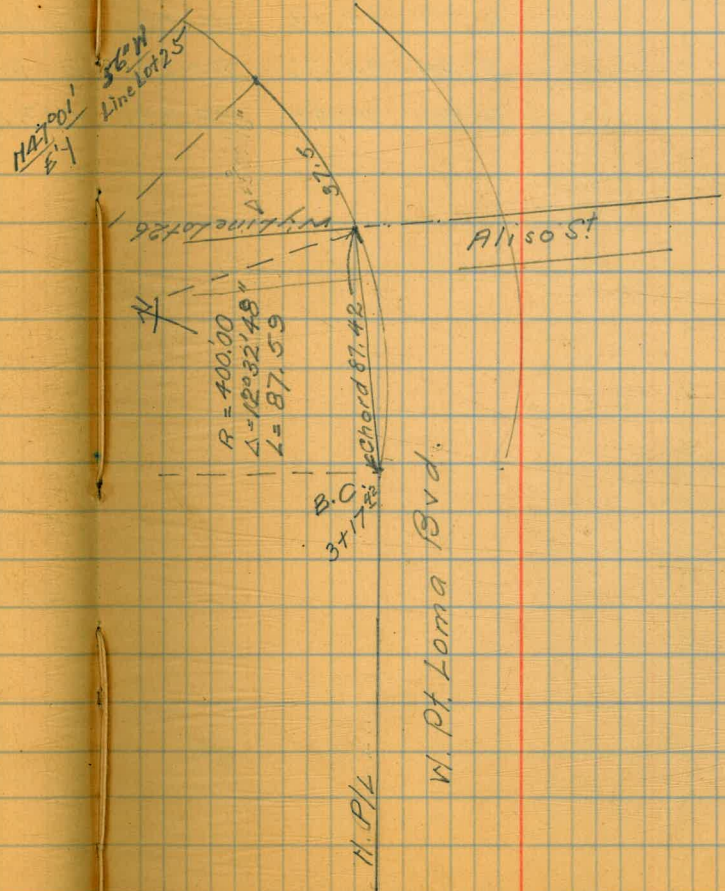
- 22.62
- 20.13
- 18.58
- 17.50
- 16.87
- 16.66
- 17.47

Fig-46

Re Set Grades W. Pt. Loma Blvd.

Sta	+ H.I.	-	EL	Grade	
B.M.	6.25	9.54	3.29	42. R.P.P.C	See Pg
30+80 ⁶		5.19	4.35	3.99	C 0.36 x
31+00		5.54	4.00	4.05	F 0.05 x
+50		5.39	4.15	4.20	F 0.05 x
32+00		4.84	4.70	4.33	C 0.37 x
+50		3.92	5.65	4.44	C 1.18 x
33+00		1.44	8.10	4.51	C 3.59 x

G178-66x69



Reset Grades on W. Pt Loma Blvd

Sta	+	HI	-	Elev	Grade	
B.M.	2.23	30.20		27.97		
10+00			6.42	23.78	22.62	+1.16
9+50			6.43	23.77	22.97	+0.80
9+16 ²			5.96	24.24	23.20	+1.04
9+00			6.17	24.03	23.32	+0.71
8+50			5.44	24.76	23.67	+1.09
10+50			7.80	22.40	22.27	+0.13

Grade for Curb Return Pt Loma Blvd +
Sea Side

Sta	+ HI -	Elev	Grade
4.51	32.13	27.62	
Prot Bron Cb Ret.	5.87	26.26	
E End of Ex Cb	7.10	25.03	25.03
W. End of Ex Cb	4.52	27.61	
#1 3' Offset Bk + 10.5	6.24	25.89	25.12 C.O. 7.2
#2 3' " Bk + 5.4	5.83	26.30	25.67 C.O. 6.3

26.26
25.03
1.23

26.26
59
25.67

63

11.3) 12.13 (10885

11.3
1000
904

26.26
59
25.67

960
204
560

10885

10885

10.5

5.4

54425

43540

108850

54425

1142925

587790

26.26

37.13

25.12

25.12

26.26

25.03

1.23

37.13

25.03

7.10

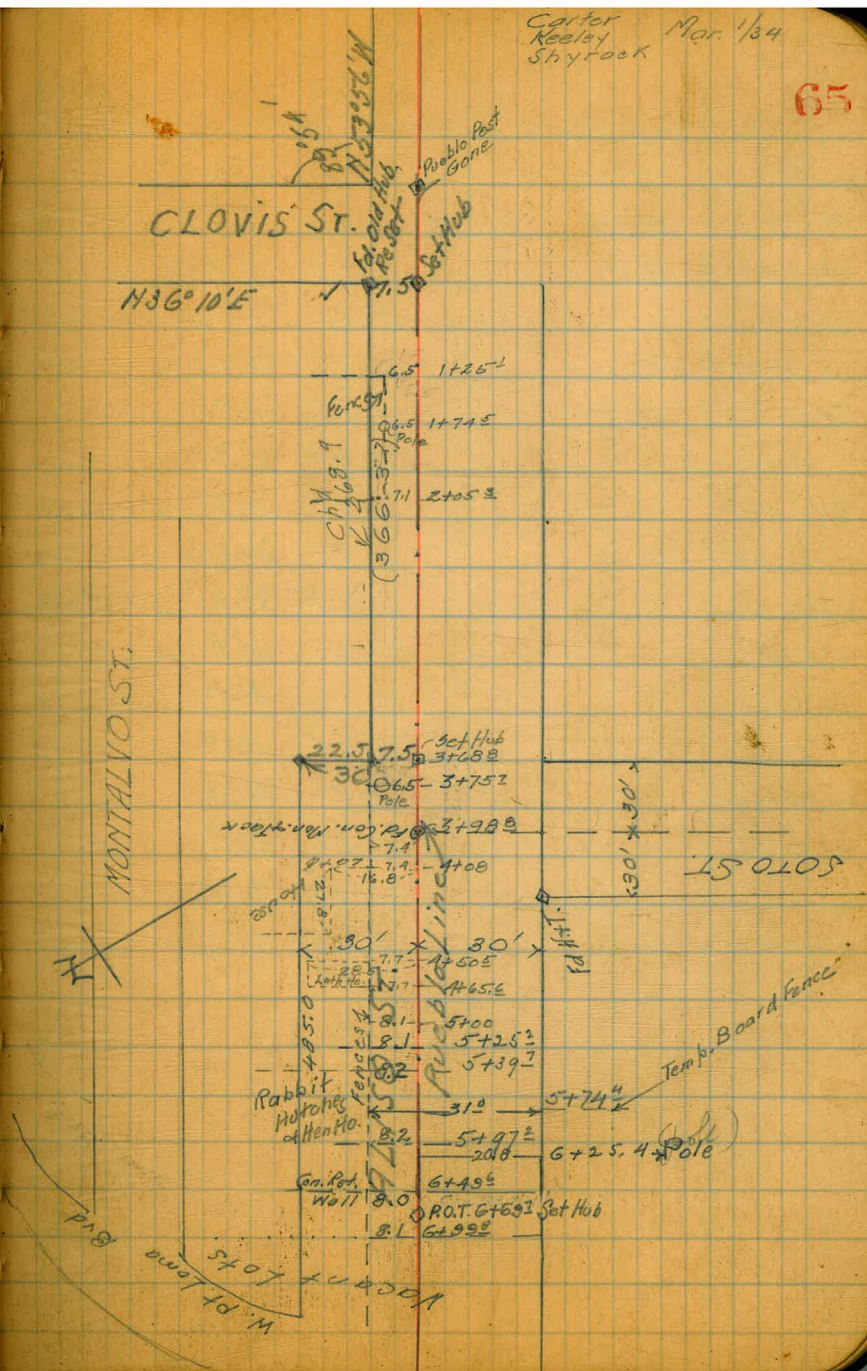
Corb Grades N. Pt Loma Blvd.

Sta	+ H ₁	-	Elev	Corb Grade	Cor F
B.M.	0.41	28.03		27.62	
T.P	9.04	25.85	11.22	16.81	
ZW of W End Box Culvert #		11.32	14.53	15.45	F 0.92
On Existing Pipe		11.62	14.23	14.95	0.22 Low
Z E of E End Box Culvert #		11.23	14.62	15.45	F 0.83
Z W of W End Box Culvert #		10.76	15.09	15.65	F 0.56
On Existing Pipe		11.58	14.27	14.65	0.38 Low
Z E of E End of Box Culvert #		10.55	15.30	15.65	F 0.35
3+17 ⁹² BC.		9.57	16.28	16.30	Grade x
#1		8.35	17.50	16.80	C 0.70 x
#2		7.43	18.42	17.40	C 1.02 x
#3		6.76	19.09	18.30	C 0.79 x
#4		5.98	19.87	19.15	C 0.72 x
#5		5.39	20.46	20.20	C 0.26 x
#6		3.93	21.92	21.50	C 0.42 x
#7		3.26	22.59	22.20	C 0.39 x
#8		2.22	23.63	22.90	C 0.73 x
#9		1.67	24.18	23.25	C 0.93 x

Aliso St. (Loma Alta #2)

Cartor
Reelley
Shyrock Mar. '34

65



Mar 2/34

W. Pt. Loma Blvd. Grades. [±] Grades CorF

Sta	+	H.I.	-	Elv		
B.M	5.79	9.08		3.29	42' R.P.P.C	See Pg 8
30+80 ⁷⁶	B.C.		5.13	3.95	3.70	C 0.25 ✓
31+00			5.12	3.96	3.75	C 0.21 ✓ 3.75
+50			4.96	4.12	3.95	C 0.17 ✓ 3.90
32+00			4.75	4.33	4.10	C 0.23 ✓ 4.03
+50			4.31	4.77	4.21	C 0.56 ✓ 4.14
33+00			4.57	4.51	4.28	C 0.23 ✓ 4.21
+50			4.55	4.53	4.29	C 0.24 ✓ 4.26
34+00			4.65	4.43	4.55	C 0.12 ✓ 4.57 ^{at H. 75} C 0.18
+50			4.38	4.70	4.21	C 0.49 ✓ 4.26
35+00			4.70	4.38	4.14	C 0.24 ✓ 4.21
+50			4.91	4.17	4.01	C 0.16 ✓ 4.14
36+00			4.77	4.31	3.84	C 0.47 ✓ 4.03
+50			4.99	4.09	3.63	C 0.46 ✓ 3.90
37+00			5.23	3.85	3.37	C 0.48 ✓ 3.72
37+08 ⁵⁷	EC		5.45	3.63	3.35	C 0.28 ✓

Curb + & Grades W/A Loma Blvd.

Sta	+	HI	-	Elev	Curb Grade	CorF	New CorF 3/23/34
B.M.	6.32	7.761		1A4	W End	Bridge	See Pg 8
25+50	N.Cb		4.79	2.97	2.10	C 0.87 ✓	C 0.57 (out)
	⊕		4.93	2.83	2.10	C 0.73 ✓	
	S.Cb		4.75	3.01	2.10	C 0.91 ✓	C 0.61
26+00	S.Cb		5.18	2.58	2.25	C 0.36 ✓	C 0.03
	⊕		5.22	2.54	2.25	C 0.29 ✓	
	N.Cb		5.10	2.66	2.25	C 0.41 ✓	C 0.11 (out)
26+50	N.Cb		4.98	2.78	2.40	C 0.38 ✓	C 0.08 (out)
	⊕		5.12	2.64	2.40	C 0.71 ✓	
	S.Cb		5.28	2.48	2.40	C 0.08 ✓	F 0.22
27+00	S.Cb		5.22	2.54	2.55	Grade ✓	F 0.31
	⊕		5.18	2.58	2.55	Grade ✓	
	N.Cb		5.19	2.57	2.55	Grade ✓	F 0.28
27+50	N.Cb		5.15	2.61	2.70	F 0.09 ✓	F 0.39
	⊕		5.13	2.63	2.70	F 0.07 ✓	
	S.Cb		5.12	2.64	2.70	F 0.06 ✓	F 0.36
28+00	S.Cb		4.90	2.86	2.85	Grade ✓	F 0.29
	⊕		4.90	2.86	2.85	Grade ✓	
	N.Cb		4.75	3.01	2.85	C 0.16 ✓	F 0.14
T.P.	5.36	8.37	4.75	3.01			
28+50	N.Cb		5.10	3.27	3.00	C 0.27 ✓	F 0.03
	⊕		5.21	3.16	3.00	C 0.16 ✓	
	S.Cb		5.08	3.29	3.00	C 0.29 ✓	F 0.01
29+00	S.Cb		5.02	3.35	3.15	C 0.20 ✓	F 0.10
	⊕		5.24	3.13	3.15	Grade ✓	

.00301

Curbst & Grades W Pt Loma Blvd.

Cont. Pg 67

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Sta	+	H ₁	-	Elev	Curb Grades	C or F	
29+00	N. Cb	8.37	4.83	3.54	3.15	C 0.39 ✓	C 0.09
29+50	N. Cb		4.63	3.74	3.30	C 0.44 ✓	C 0.14
	‡		4.79	3.58	3.30	C 0.28 ✓	
	S. Cb		4.75	3.62	3.30	C 0.32 ✓	C 0.02
30+00	S. Cb		4.60	3.77	3.45	C 0.32 ✓	C 0.02
	‡		4.72	3.65	3.45	C 0.20 ✓	
	N. Cb		4.49	3.88	3.45	C 0.43 ✓	C 0.13
30+50	N. Cb		4.15	4.22	3.60	C 0.62 ✓	C 0.32
	‡		4.38	3.99	3.60	C 0.39 ✓	
	S. Cb		4.26	4.11	3.60	C 0.51 ✓	C 0.21
30+80 ⁷⁶	BC S. Cb		4.16	4.21	3.70	C 0.51 ✓	C 0.21
	‡		4.35	4.02	3.70	C 0.32 ✓	
	N. Cb		4.27	4.10	3.70	C 0.40 ✓	C 0.10
ck B.M.			5.03	3.34	12' R.P.P.C.	See Pg 8.	

Curb + & Grades W. Pt. Lario Blvd

Sta	+	H ₁	-	Elev	Grades	Cor F
B.M.	4.39	32.31		27.92	25' T&P	See Pg 8.
11+11 ³⁰	3.0		11.27	21.04	21.28	F 0.24 ✓
	+		11.20	21.11	21.18	F 0.07 ✓
	N.Cb		11.07	21.24	21.08	C 0.16 ✓
11+50	N.Cb	21.26	10.92	21.39	20.81	C 0.58 ✓
	+		11.25	21.06	20.91	C 0.15 ✓
	3.Cb		11.45	20.86	21.01	F 0.15 ✓
T.P.	3.15	21.02	11.44	20.87		
12+00	3.Cb		3.70	20.32	20.67	F 0.35 ✓
	+		3.15	20.87	20.57	C 0.30 ✓
	N.Cb		3.27	20.75	20.47	C 0.28 ✓
12+50	N.Cb		4.29	19.73	20.13	F 0.40 ✓
	+		3.45	20.57	20.23	C 0.34 ✓
	3.Cb		3.94	20.08	20.33	F 0.25 ✓
13+00	3.Cb		4.03	19.99	20.00	Grade ✓
	+		3.56	20.46	19.90	C 0.56 ✓
	N.Cb		4.32	19.70	19.80	F 0.10 ✓
13+50	N.Cb		4.75	19.27	19.45	F 0.18 ✓
	+		4.32	19.70	19.55	C 0.15 ✓
	3.Cb		4.47	19.55	19.65	F 0.10 ✓
13+97 ²⁵	3.Cb		4.38	19.64	19.35	C 0.29 ✓
	+		4.55	19.47	19.25	C 0.22 ✓
	N.Cb		5.17	18.85	19.15	F 0.30 ✓
14+00 ⁴⁹	N.Cb		5.02	19.00		
	+	P.O.T.	4.77	19.25		

New Corf.
3/23/34

21.11	21.06	21.06
05		
11.45	20.87	
20.86	.19	
20.72	20.81	
54	20.67	
	.14	
	20.87	
	21.57	
	.70	
Hand		
Level		
11+50	4.9	
12+00	5.6	
S	5.3	
C	5.5	
D	5.5	
	5.0	
	5.2	
	11+50	
	20.39	
	20.75	
	.36	

Curb & Grades WPT Lorna Blvd.

Cont. Pg 69

Sta	+	H ₁	-	Elev	Grade	Cor F	New Cor F
14+00	^{49 P.O.K.} S.Cb	24.02	4.23	18.79			3/23/34
14+42	⁷⁷ S.Cb		5.37	18.65	18.77	F 0.12 ✓	F 0.42
	¢		5.27	18.75	18.60	C 0.15 ✓	
	N. Cb		5.85	18.17	18.42	F 0.25 ✓	F 0.55
14+88	²⁵ N. Cb		6.88	17.14	17.70	F 0.56 ✓	F 0.86
	¢		5.86	18.16	17.95	F 0.21 ✓	
	S. Cb		6.29	17.73	18.20	F 0.47 ✓	F 0.77
15+00	S. Cb		6.77	17.25	17.80	F 0.55 ✓	F 0.85
	¢		6.21	17.81	17.54	C 0.27 ✓	
	N. Cb		7.06	16.96	17.29	F 0.33 ✓	F 0.63
15+50	N. Cb		8.62	15.40	15.55	F 0.15 ✓	F 0.45
	¢		8.03	15.99	15.84	C 0.17 ✓	
	S. Cb		8.32	15.70	16.09	F 0.39 ✓	F 0.69
16+00	S. Cb		10.06	13.96	14.37	F 0.41 ✓	F 0.71
	¢		9.52	14.50	14.09	C 0.41 ✓	
	N. Cb		10.36	13.66	13.81	F 0.15 ✓	F 0.45
16+50	N. Cb		11.85	12.17	12.07	C 0.10 ✓	F 0.20
	¢		11.06	12.96	12.37	C 0.59 ✓	
	S. Cb		11.52	12.50	12.66	F 0.16 ✓	F 0.46
T.P	0.67	13.17	11.52	12.50			
17+00	S. Cb		2.68	10.49	10.94	F 0.45 ✓	F 0.75
	¢		2.03	11.14	10.64	C 0.50 ✓	
	N. Cb		2.68	10.49	10.33	C 0.16 ✓	F 0.14
17+50	N. Cb		4.68	8.49	8.59	F 0.10 ✓	F 0.40
	¢		3.82	9.35	8.91	C 0.44 ✓	

Curb & $\frac{1}{2}$ Grades W. Ft Loma Blvd.
Cont Pg 70

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Sta	+	H1	-	Elev	Grades	Cor F	New Cor F 3/23/34
17+50	S. Cb	13.17	4.11	9.06	9.23 ✓	F 0.17 ✓	F 0.47
18+00	S. Cb		5.63	7.54 ✓	7.51 ✓	C 0.03 Grade	F 0.27
	$\frac{1}{2}$		5.53	7.64 ✓	7.18	C 0.46 ✓	
	N. Cb		6.31	6.86 ✓	6.85 ✓	Grade	F 0.30
18+50	N. Cb		7.31	5.86 ✓	5.11 ✓	C 0.75 ✓	C 0.45
	$\frac{1}{2}$		7.36	5.81 ✓	5.45 ✓	C 0.36 ✓	
	S. Cb		7.36	5.81 ✓	5.80 ✓	Grade ✓	F 0.29
18+90 ⁰³	S. Cb		7.75	5.42 ✓	4.40 ✓	C 1.02 ✓	C 0.72 (Out)
	$\frac{1}{2}$		8.47	4.70 ✓	4.05	C 0.65 ✓	
	N. Cb		7.99	5.18 ✓	3.70 ✓	C 1.48 ✓	C 1.18
19+35 ⁵¹	N. Cb		8.41	4.76 ✓	3.50 ✓	C 1.26 ✓	C 0.96
	$\frac{1}{2}$		8.63	4.54 ✓	3.80	C 0.74 ✓	
	S. Cb		8.31	4.86 ✓	4.10 ✓	C 0.76 ✓	C 0.46
19+80 ²⁹	S. Cb		8.76	4.41 ✓	3.80 ✓	C 0.61 ✓	C 0.31
	$\frac{1}{2}$		8.89	4.28 ✓	3.55	C 0.73 ✓	
	N. Cb		9.06	4.11 ✓	3.30 ✓	C 0.81 ✓	C 0.51
20+00	N. Cb		9.39	3.78 ✓	3.22 ✓	C 0.56 ✓	C 0.26
	$\frac{1}{2}$		9.32	3.85 ✓	3.50	C 0.35 ✓	
	S. Cb		8.71	4.46 ✓	3.79 ✓	C 0.67 ✓	C 0.37
20+50	S. Cb		9.12	4.05 ✓	3.48 ✓	C 0.57 ✓	C 0.27
	$\frac{1}{2}$		9.59	3.58 ✓	3.24	C 0.34 ✓	
	N. Cb		9.72	3.15 ✓	3.00 ✓	C 0.45 ✓	C 0.15
T. P.	3.37	6.82	9.72	3.45			
21+00	N. Cb		3.82	3.00 ✓	2.78 ✓	C 0.22 ✓	F 0.08
	$\frac{1}{2}$		3.67	3.15 ✓	2.98	C 0.17 ✓	

Curb + $\frac{1}{2}$ Grades W. H. Loma Blvd.
 Corr. Pg 71

Sta	+	H1	-	Elev	Grades	B.C. to	Curve Inter. Aliso	87.42
21+00	S. Cb	6.82	3.31	3.51	3.18	C 0.33	^{New} _{3/23/34} C 0.03	
21+50	S. Cb		3.60	3.22	2.87	C 0.35	C 0.05	
	⊥		3.70	3.12	2.71	C 0.41		
	N. Cb		3.94	2.88	2.56	C 0.32	C 0.02	
22+00	N. Cb		4.24	2.58	2.34	C 0.24	F 0.06	
	⊥		3.87	2.95	2.45	C 0.50		
	S. Cb		3.69	3.13	2.57	C 0.56	C 0.26	
22+50	S. Cb		4.58	2.24	2.28	F 0.04	Grade F 0.34	
	⊥		4.58	2.24	2.20	C 0.04	Grade	
	N. Cb		4.81	2.01	2.13	F 0.12	F 0.42	
23+00	N. Cb		4.74	2.08	1.91	C 0.17	F 0.13	
	⊥		4.83	1.99	1.94	C 0.05	Grade	
	S. Cb		4.67	2.15	1.97	C 0.18	F 0.12	
23+45 ⁹²	S. Cb		4.99	1.83	1.70	C 0.13	F 0.17	
23+48 ⁶²	⊥		5.00	1.82	1.70	C 0.12		
	N. Cb		4.62	2.80	1.70	C 0.50	C 0.20	
24+10 ²²	N. Cb		4.74	2.08	1.70	C 0.38	C 0.08	
	⊥		4.71	2.11	1.70	C 0.41		
	S. Cb		4.86	1.96	1.70	C 0.26	F 0.04	
24+50	S. Cb		4.71	2.11	1.80	C 0.31	C 0.01	
	⊥		4.48	2.34	1.80	C 0.54		
	N. Cb		4.58	2.30	1.80	C 0.50	C 0.20	
25+00	N. Cb		4.52	2.30	1.95	C 0.35	C 0.05	
	⊥		4.37	2.45	1.95	C 0.50		
	S. Cb		4.33	2.49	1.95	C 0.54	C 0.24	
B.M.			5.45	1.37		W. End Bridge	See Pg 8	

72

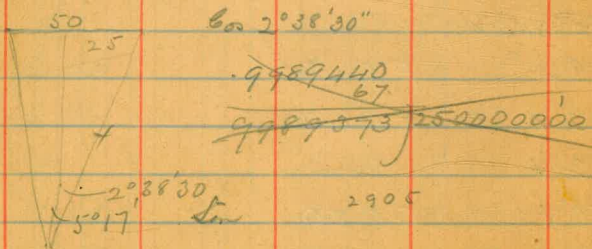
23+45⁹²
 23+48⁶²

52+1955



18°00' 00" 154
 7°26' 00" 150
 4 | 10°08' 4" 00" 400
 2°38' - 30" 77-00
 10-34-00 5-17

R=542.42
 2-38-30 140
 5-17-00 70 115
 7-55-30 120 144
 10-34-00 134

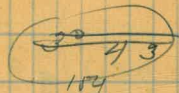


60 2°38'30"
 .9989440
 67
 9989373 250000000
 2905
 .0459442
 1452
 0460894 250000000 (542.42)
 2304470
 1958300
 1843576
 1117240
 921788
 1954520
 1843576
 1109440
 921788
 187652

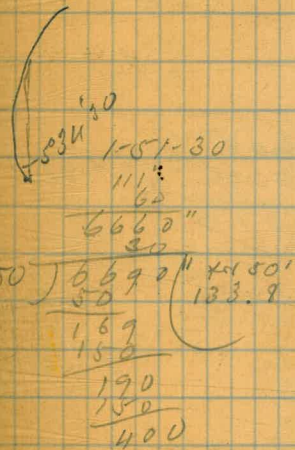
Curve #4

73

0°00' 00" 0+00
 2°04' 00" 0+50
 4°06' 00" 1+00
 6°08' 30" 1+50
 2°04' 30" 1+00
 1°51' 30" 1+50



10xfl 1°51'30" 154
 " 138" 8 pwpfl
 5°34'30" { 1-51-30
 3-43-00
 5-34-30
 7-26-00



50 | 6690" x150'
 50 133.9
 169
 150
 190
 150
 400

6-08-30
 206

1-51-30
 ⊕ 7°26' 00" ⊕
 6 08 30
 1°17' 30"
 13-
 1°30' 30"

7°26-00
 1-51-30
 9°17-30 +
 1-51-30
 11-09-00 +
 1-51-30
 13-00-30 +
 1-51-30
 14-52-00 +

2-04-30
 1-51-30
 13-00
 7°26' 00"

R $\frac{521.9}{80}$ $\Delta 48^{\circ}50'$

7247

9+16.9
~~9+47.6~~
9+50

74

$\Delta 24^{\circ}20'$

4133693	
<u>921.9</u>	
37203237	48
4133693	25
8267384	125
<u>37203237</u>	50
38108515767	625
<u>75217051534</u>	997
	<u>724.7</u>

~~00495~~
~~15~~
00510

1910
<u>76</u>
1884
<u>510</u>
18840
<u>9420</u>
960840
<u>1921680</u>

arc 724.7 R 921.9

9219	72470	(.78609	
	64583	78539	$45^{\circ}24'$
	79370	00070	
	73752		
	56180		
	55314		
	86800		
	82671		
	36290		

1884
<u>01309</u>
16956
<u>56520</u>
1884
<u>2466156</u>
4932312

$\Delta 45^{\circ}24'$
 $\Delta 22^{\circ}42' = 3859060$
921.9

3473154
<u>3859060</u>
771812
3473154
<u>3557667414</u>
7115334828

260
198
62

22.29
84.19
~~158.12~~
19.05
84.19
~~103.24~~
15

2+60.3
2+58.7

100
68
120
~~1+98~~
62

2+58 approx #1

16.19
19.05

2+93 2H low pt of grade and #1

Grade grade on N.

Quarter grade on N 14.75

S 14.95

Φ 15.55

S N

4.8 4.7

F 39 47

10
68
140

2+18
16.19

2+34.19
19.05

2+53.24

5.0 4.7 7.6

F 38 64 C

4.62 4.84

C.O.S 5.1 5.1

14 C

F 24.7
3.4
F 21.2
10.7
O 32.0
55
23

F 24.7
3.4
O 37.1
55
17.9

20.2
3.3
F 16.9
8.5
O 25.2
55
39.8

20.2
3.3
F 16.2
8.6
O 25.8
55
29.7

F 22.5
11.2

O 33.7
58

B 11.3

F 20.06
10.03
O 30.09
55
54.91

20.06
40
F 20.66
10.35
O 25.99
55
24

20.06
10.03
F 21.06
0.53
O 30.59
55
23.4

20.06
10.03
F 31.9
55
33.8

21.1 F
10.6
31.7 O
55
43.3

21.1 F
2.5
18.5 F
9.2
27.5 O
55
47.6

21.1 F
2.6
17.7 F
1.9
26.6 O
55
44.4

21.1
2.9
19.7 F
7.7
28.6 O
55
26.4

21.0
2.6
18.5 F
9.3
27.8 O
55
27.2

21.0
2.6
18.5 F
9.3
27.8 O
55
27.2

20.9 F
10.4
31.4 O
40.6

20.9 F
10.4
31.1 O
40.
8.9

~~19.3
9.6
28.9~~

~~19.14 F
9.5
18.1 O
40
21.3~~

9.

~~21.7
10.8 F
10.4
8.2 O
4
8.8 O~~

~~21.68 F
10.84
82.0 O
40
7.5 back~~

~~20.68
3
21.4 F
10.7
34.1 O
40
7.2~~

~~20.2
5.0
15.2 F
7.6
77.80
55
32.20~~

~~15.54
3.00
18.54 F
9.27
47.81 O~~

~~20.2
2.2 F
18.0 F
19.0
0-27.0~~

~~27.19~~

~~15.54
2.6 F
18.4 F
9.07
47.41 O
55
77.8~~

~~15.54
2.7
18.51 F
11.65
34.96 O~~

~~15.54
2.8
18.34 F
9.17
77.51 O
55~~

~~27.6
20.2 F
10.1
30.3 O F
55
24.7~~

~~20.7
3.5
18.4
5.2
24.6
5.5
31.4~~

~~19.14 F
9.5
16.34 F
8.17
24.51 O
55
30.49~~

~~7.14
3.4
5.5 F
1.8
6.3 O
4.0 7.00 7.06
27
10.59
40
19.4~~

~~23.8
2.1
21.7 F
10.9
32.3 O
40
7.4~~

~~23.8
1.3
42.5 F
11.2
33.7 O
40
6.3~~

~~18.2 F
8.7
26.1
40
13.9~~

~~21.7
2.1 F
19.7 F
9.0
29.6 O
40
10.4
17.4
5.4
15.0 F
6
18.0
40
12~~

~~18.0 F
6
24.0 O
40
16.0 O~~

~~18.0
1.1
16.9 F
8.5
25.4 ?
4
14.6~~

~~18.0 F
6.0
24.0 O
40
16.0~~

~~18.0
1.1
16.9 F
8.5
40
74.6~~

51

Chad Lewis

23+45.92	2.00	7.00
24+15.92	2.00	7.00
24+50	7.10	<u>3.10</u>
25+00	7.25	7.25
+50	7.40	7.40
26	7.55	<u>7.65</u>
+50	7.70	2.70
27	7.85	2.85
+50	3.00	3.00
28	3.15	3.15
+50	3.30	3.30
29	3.45	3.45
+50	3.60	3.60
30	3.75	3.75
+50	3.90	3.90
30+80 ⁷⁵	3.99	3.99

0/.130
100
300

45.58
.0026 diff
1734⁸
9116
11850⁵
376
12
3.14

584.47
24+15.92⁵⁰
34.08 4.00
2.00
7.05

58447) 205000
175341
296590
797735
1.0035

24+50 51447) 205.000
23+45.92 184341
104.08
34.08
00398
77264
30672
10224
1356384

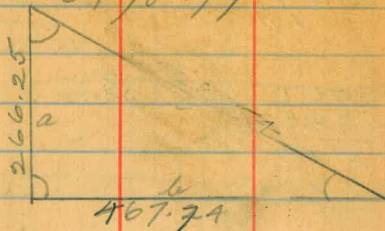
00398
25+00 = 2.25
29+00 = 3.45
400 } 1.200 (.003)
34.08
003
10224
34.08 0.150
67264
75672
45224
7.3346384

34.08
003
10224
34.08 0.150
30.76
1.003
309228

11+11.38
5+57.61

609

6+78.77



24.57
2703

57.60
25.8

9.659

133.90
17.26
170.61
13.49
198.17

5-34.03

2+34.19
21.5

55.99

0-21-45 ✓
1-37-30
+ 1-59-15 ✓
1-37-30
+ 1-36-45 ✓
1-37-30
+ 5-12-15 ✓
1-37-30
+ 6-51-45 ✓
1-37-30
+ 18-29-15 ✓
1-37-30
+ 10-06-45 ✓
1-37-30
+ 12-44-15 ✓
1-37-30
+ 13-21-45 ✓
1-37-30
+ 14-19-15 ✓
1-37-30
+ 16-36-45 ✓
41-24
+ 17-18-09

15-19-15
1-37-30

17-36-45
1-37-30

15 59-15
41-24

16 40-39
17 18-05

57-26

100 350 700 1011 12.13.14.15.16

1 2 3 4 5 6 7 8 9 10 11 12.13.14.15.16

244618.83

16928.51

244618.83

N.069203

1692851.00
1467712.98

485138.020
195695.064

494429.56
244618.83

498107.30
489237.66

885964.00
733886.49

1831075.10

2.12.13.14.15.16

66.25

1120.8
1160.0
1172.74

467.74

133.90
17.24
173.61

198.79

523.54

78

523.54 ✓
467.24 ✓
266.25 ✓

21257.03 ✓
628.51 - 5

266.25

362.26

628.51
523.54

104.97

628.51
467.24

161.27

S = 628.51
S - a = 362.26
S - b = 161.27
S - c = 104.97

sin A = $\frac{104.97 \times 161.27}{467.24 \times 523.54}$

$= \frac{16928.51}{244618.83}$
 $= N.069203$

21257.03 ✓
628.51 - 5

266.25

362.26

628.51
523.54

104.97

628.51
467.24

161.27

104.97
161.27

73479 ✓
10497 ✓
62851 ✓

10497

16928.51 19

467.24
523.54

1868.96 ✓
433.620 ✓
1401.72 ✓
733.44 ✓

733.620

449618.8296

Log of .069203

6920 = 8401068

-V₉. 8401068

.092005

~~.092005~~

.008319

Grde.

4.46
9.37

11+11³⁸

21.83

Sta 6, P/L 25.00

11+00

21.76

-.07

9.36

P/L grade

6+04⁷⁸

25.00

+50

24.68

.32

7+00

24.33

.35

+50

23.98

8+00

23.63

+50

23.28

9+00

22.93

+50

22.58

10+00

22.23

+50

21.88

11+00

21.53

+11³⁸

21.45 .08

11.88
00707
7966
79660
0804566

604.7
11.88 6+04 78
0064 22.99
4557 48.79
6828
072832

45.22
00707
31654
316540

21.9
21.83

3197054
11+11³⁸

11.88
00664

11.87
0064

0070750

4557
6828
072832

4.78
00707

05350

3346
33460

0337946

IMPROVED TABLES

22.994
9.196

AND

INFORMATION

~~19.05~~
~~15.240~~
~~20.91~~
~~62.7~~

289.69
21.90
84.19

395.78
00664

158312
737468
737468
76379792
25.00
27.37

10
68
140
16.19
152.40
19.58
7.24
62.73
36.68
91.96

604.78
395.78
10400.56

28.2.34
25.95
659.96
(15916)
2007000

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

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.

6.70	6.02
5.87	5.87
5.83	15
6.60	
5.87	5.
173	10.23
6.23	5.87
5.87	4.36
36	

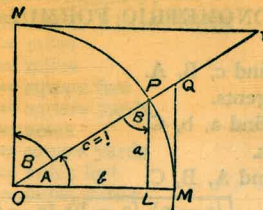


TABLE II

TRIGONOMETRIC FORMULÆ.

$\angle A = \angle MOP$ $\angle B = \angle PON = \angle OPL$
 $R = OB = c = 1$

$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$

$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$

$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$

$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$

$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$

$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$

$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$

$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$

$\text{exsec } A = PQ = \text{coexsec } B$
 $\text{coexsec } A = PT = \text{exsec } B$

$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}}$ $\cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$

$\sin 2A = 2 \sin A \cos A$ $\cos 2A = \cos^2 A - \sin^2 A$

Law of Sines $\frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$

Law of Cosines $c^2 = a^2 + b^2 - 2 ab \cos C$

Law of Tangents $\frac{a+b}{a-b} = \frac{\tan \frac{1}{2} (A+B)}{\tan \frac{1}{2} (A-B)}$

6.25
3.18
9.43
5.81
3.62
2.53
6.15
6.30
-0.15
4.16
4.01
3.73
.28
9.23
9.51

reeph 140
28.2.34
25.95
659.96
(15916)
2007000
80' S.W. Curve
40' Rad. Curve
80' S.W. Curve
40' Rad. Curve
80' S.W. Curve
40' Rad. Curve

From Bear Lake

TABLE II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

- Given a, b, C; to find c, B, A.
Use Law of Tangents.
- Given A, B, c; to find a, b, C.
Use Law of Sines.
- Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)(s-b)(s-c)}{s}} = r$$

$$\cos \frac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \frac{1}{2} A = \frac{r}{s-a}$$

$$\tan \frac{1}{2} B = \frac{r}{s-b}$$

$$\tan \frac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

PRISMOIDAL FORMULA

$$\text{Vol.} = \frac{h}{6} (E + b + 4M)$$

h = altitude; b, B = bases; M = midsection

TABLE III
INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11
$\frac{1}{16}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219
$\frac{2}{16}$	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271
$\frac{3}{16}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323
$\frac{4}{16}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375
$\frac{5}{16}$	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427
$\frac{6}{16}$	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479
$\frac{7}{16}$	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531
$\frac{8}{16}$	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583
$\frac{9}{16}$	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635
$\frac{10}{16}$	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688
$\frac{11}{16}$	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740
$\frac{3}{4}$	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792
$\frac{5}{8}$	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844
$\frac{3}{4}$	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896
$\frac{7}{8}$	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.0000
	0	1	2	3	4	5	6	7	8	9	10	11

1.28
0.70
58

25.00
22.2
39578) 2.80.000
277046
295400
277046
183540
395.78
00707
277046
277046
27981646
25.202

TABLE IV
USEFUL RELATIONS

- Lineal feet $\times .00019$ = miles
- Lineal yards $\times .0006$ = miles
- Square inches $\times .007$ = square feet
- Square feet $\times .111$ = square yards
- Square yards $\times .0002067$ = acres
- Acres $\times 4840$ = square yards
- Cubic inches $\times .00058$ = cubic feet
- Cubic feet $\times .03704$ = cubic yards
- Links $\times .22$ = yards
- Links $\times .66$ = feet
- Feet $\times 1.5$ = links

- $360^\circ = 21600' = 1296000''$
- Radius = arc of 57.2957790°
- Arc of 1° (radius = 1) = .017453292
- Arc of $1'$ (radius = 1) = .000290888
- Arc of $1''$ (radius = 1) = .000004848

$$\pi = 3.141592654$$

$$\frac{\pi}{4} = 0.785398163$$

$$\frac{\pi}{6} = 0.523598776$$

$$\sqrt{\frac{4}{\pi}} = 1.128379167$$

$$\frac{\pi}{6} = 0.523598776$$

$$\frac{4\pi}{3} = 4.188790205$$

$$\sqrt{\frac{1}{\pi}} = 0.564190$$

$$\sqrt[3]{\frac{6}{\pi}} = 1.240700982$$

$$\pi^2 = 9.869604401$$

$$\frac{1}{\pi^2} = 0.101321184$$

$$\sqrt{\pi} = 1.772453851$$

$$\frac{1}{\pi} = 0.3183099$$

Curvature of Earth's surface = about 0.7 feet in 1 mile
Curvature in feet = $0.667 (\text{Dist. in miles})^2$
Difference between arc and chord length, 0.05 feet in $11\frac{1}{2}$ miles

$$\text{Probable error of a single observation} = 0.6754 \sqrt{\frac{Mv^2}{n-1}}$$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULAE.

$$\text{Horizontal Distance} = R - R \sin^2 a + C \cos a$$

$$\text{Vertical Distance} = R \frac{1}{2} \sin 2a + C \sin a$$

$$R = \text{Reading} \times \frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

25
005
125
-0.50
12
-0.62 + 25
12
-0.74 + 50
12
-0.86 75
12
-0.98 1+50
05
1.03 1+10
118.3
00707
8281
82810
836381

22.20
184
21.36

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

C o /	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C o	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

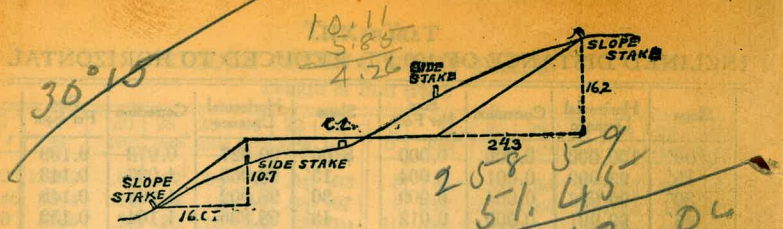
To find length of curve divide angle from P. C. to P. T. by central angle of chord and multiply by length of chord.

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	0.028	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 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 of the notebook. The page contains several columns of numbers and some geometric diagrams. At the top, there are calculations involving 'C.B.M.' and 'SLOPE STAKE'. A large triangle diagram is drawn with dimensions like '3.30', '9.76', and '5.85'. Below this, there are more calculations, including '31.52', '27.97', and '3.55'. A prominent calculation shows '86074' and '23.97'. Other numbers include '42.65', '11.53', '31.125', '1.68', '32.28', '11.70', '20.75', '0.78', '21.53', '10.98', '10.53', '1.48', '12.01', '2.75', '42.40', '7.47', '8.20', '12.94', and '1.95'. On the right side, there are vertical columns of numbers, some with horizontal lines, including '6.25', '2.17', '8.42 H1', '3.39', '5.03', '3.27+', '8.30 H1', '4.15', '4.15', '3.51', '7.66 H1', '3.69', '23.97', '4.64', '10.41', '3.96', '6.15', '4.41', '4.54', '5.20', '5.39', '2.64', '28.88', '10.11', '70.115', '3.69', '1.85', '5.19', '27.64', '2.15', '3.44', '7.47', '8.20', '12.94', and '1.95'. At the bottom right, there are more numbers: '970', '586', '386', '12.04', '10.54', '1.50', '2.75', '4.25', '86', '339', '11.93', '5.32', '1.50', '13.82', '11.81', '25.63', '1.75', '23.88', '23.634', '22.24', '4.65', '27.59', '27.62', '1.84', '29.46', '9.64', '19.82', '2.73', '22.55', '11.62', '10.93', '1.83', '12.76', '11.27', and '11.47'. There are also some scribbles and a large '45.00' written vertically.

-40
 3.1
 2.13
 1.06
 3.19
 4070
 4230
 55
 456
 383
 100
 70-04
 19-56
 2.24
 2.24
 5.50
 -6.78
 2.50
 7.5
 3.15
 5.00
 7.24
 7.74
 36428
 667.77
 654.40
 145.8
 107.5
 39.53
 10.3
 10.72
 2.24
 50
 2.08
 42
 10.26
 643
 383
 7.5
 2.24
 5.3
 107.5
 8.3
 2.2
 9.3
 10.26
 643
 383
 94.2
 107.5
 35
 2.2
 9.3
 10.26
 643
 383
 2.18
 1.06
 3.9
 1.84
 2.7
 1.4
 1.3
 1.65
 1.75
 1.54
 2.01
 1.06
 1.59
 50
 1.74
 1.5
 1.23
 24+16.29
 42.08
 24
 10428
 10429
 20857
 04.8
 07.82
 24+16.29
 17.39
 8.99
 45.8
 125
 3.3

9.6
 5
 12.6
 180
 64-03
 7.15
 115-37.1
 6.57
 9.3
 5.34
 9.7
 1.53
 5.57
 1.89
 5.57
 0.07
 2.72
 4.13
 2.90
 9.16
 7.70
 4.56
 5.12
 32
 36-10
 7.80
 5.34
 5.34
 2.50
 2.16
 S. End
 7.5(-5.2)
 6.3(-4.02)
 9.72
 N. End
 180(-100)
 53.86
 5.6(-3.58)
 537
 9.0
 4.38
 770
 2.6
 2.5
 45.47
 63.56
 557
 4.56
 3.02
 3.50
 7.8
 3.14
 7.0
 -6.5
 2.24
 2.24
 9.24
 8.74
 6.04
 4.56
 148
 581
 2116
 8.50
 8.50
 9.96
 5.38
 5.34
 4.88
 2.10
 9.39
 38
 316
 11.84
 2.81
 5.81
 5.96
 5.57
 9.74
 1.54
 2.58
 4
 5.81
 9.6
 9.50
 7.27
 2.50
 4.77
 7.16
 1.89
 7.24
 4.56
 2.68
 3.89
 6.99
 4.56
 2.43
 -3.73
 476-628
 28.58
 2294
 644
 9.80
 9.16
 9.10
 5.73
 4.56
 5.73
 1.20
 33
 099 (011)