W
479

MICROFILMED
JAN 13 1965

479

— 479 Index —

Tunnel Inner Lining Points.

Profile of Invert R.C. Concrete
Sta 1+31 - 3+50 1-2
" 3+60 - 7+00 14-16

Measured Sections inside R.C. Concrete
Sta 1+31, 1+50, 2, 2+50, 3 3-5

" 4+17.6, 4+23.6, 3+50, 4, 4+25.59, 2+50) 8-13
5, 5+50, 6, 6+50, 7

Spring Line Points 1+31 - 7+00 6-7.

Co. road 606 survey 17-48

~~Blank~~ 49-72

Survey of Route 8 Div. 1 Lakeside 50-51

Revision Pipe Line loc. in Route 8 52-54

Tie to Alternate line of 1931

Pipe line survey at sta. 411+97.52 55

Revision at sta. 342. Pipe line sta. 56-57

Road revision near El Monte Park 251+49.91 - 274+25.81 58-60

Pipeline revision at Pumping Plant 61

Cattle pass at Foster Property 62

Co. Road revision at El Monte Park 63-64

Profile of Concrete invert on ℄ and at edges. (Diversion Tunnel)

Nov. 28-1934
Simpson
Soper
Isbell
Remmen.

B.M.	6.45✓	563.67✓	557.22	Lead
1+31	℄ (W End of Plug)	3.71	559.96	
"	N. edge invert	1.59		
"	S. " "	1.59		
1+40	℄	Filled about 0.6' with Concrete		
1+50	℄	4.01	559.66	
"	N. edge invert	1.93		
"	S. " "	1.91		
1+60	℄	4.11		
+70	℄	4.27		
+80	℄	4.52		
+90	℄	4.63		
2+00	℄	4.71	558.96	
"	N. edge invert	2.72	560.96	
"	S. " "	2.67		
2+10	℄	4.72		
+20	℄	4.93		
+30	℄	5.16		
+40	℄	5.37		

Plug on ℄, Sta. 3+00

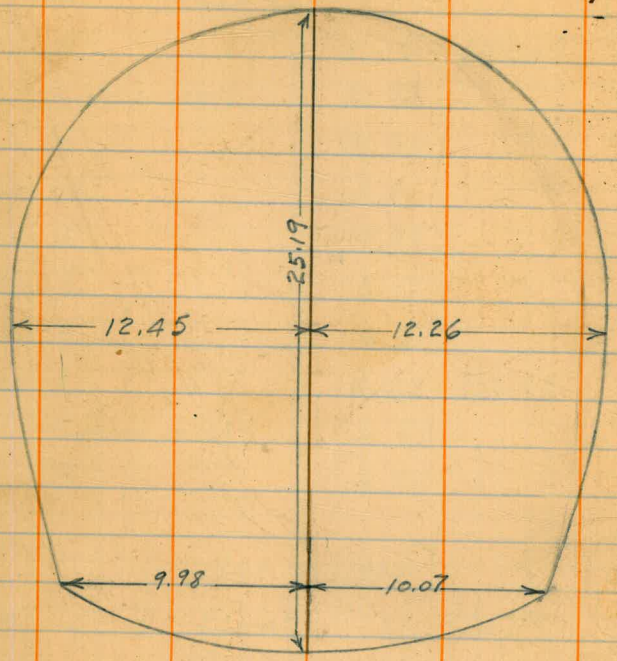
Very Hard

Profile of Concrete invert on ℄ and at edges. cont'd.

	563.67		
2+50	℄	5.62	558.05
"	N. edge invert	3.58	
"	S. " "	3.50	
2+60	℄	5.81	
+70	℄	5.99	
+80	℄	6.17	
+90	℄	6.33	
3+00	℄	6.45	557.22
"	N. edge invert	4.38	
"	S. " "	4.25	
	Dec. 12-1934		
B.M.	4.24	561.47	557.23
3+10	℄	4.51	
+20	℄	4.78	
+30	℄	4.85	
+40	℄	4.88	
+50	℄	4.92	
"	N. edge invert	2.96	
"	S. " "	3.00	

Continued on Page 14.

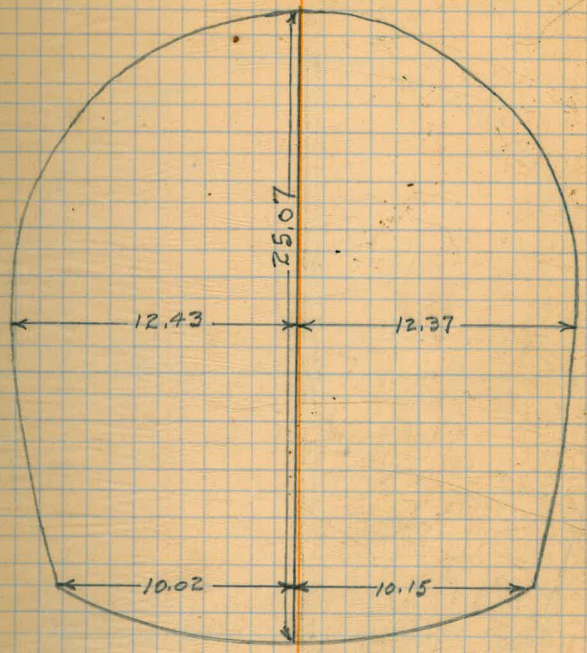
Measurments of Finished Concrete Lines in Diversion Tunnel



℄

Sta. 1+31

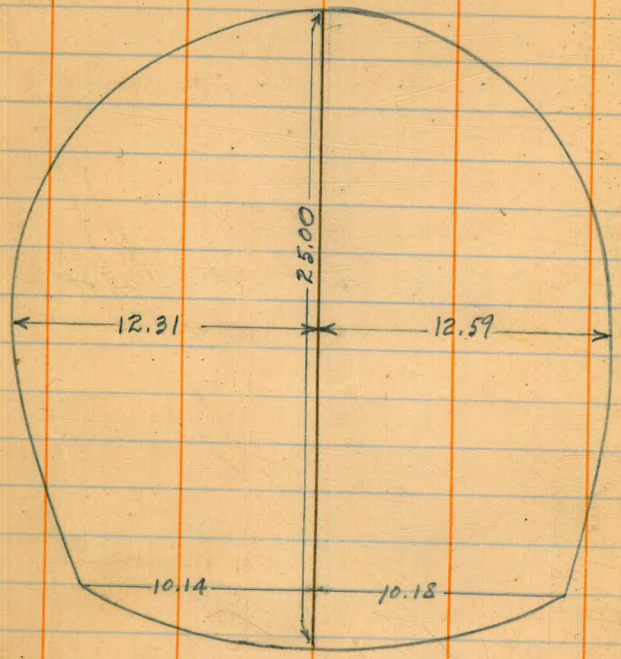
Nov. 28-1934
Simpson
Soper
Isbell
Remmen



℄.

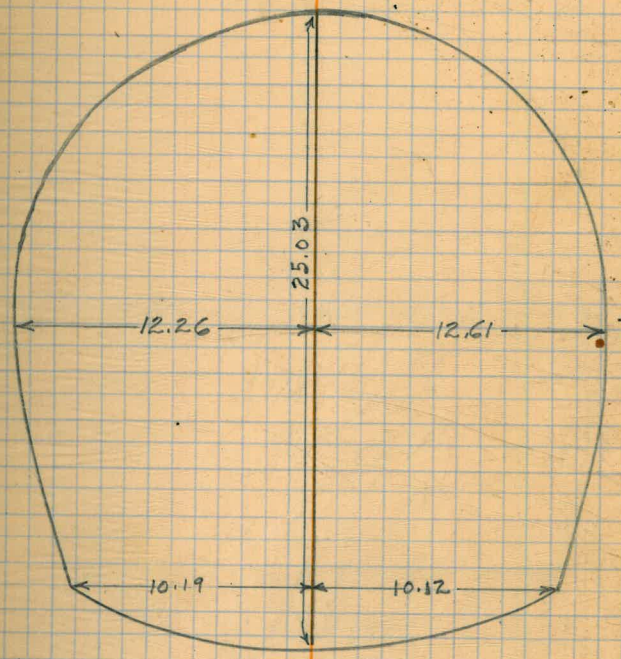
Sta. 1+50

Measurements of Finished Concrete Lines in Diversion Tunnel Cont'd.



℄

Sta. 2+00

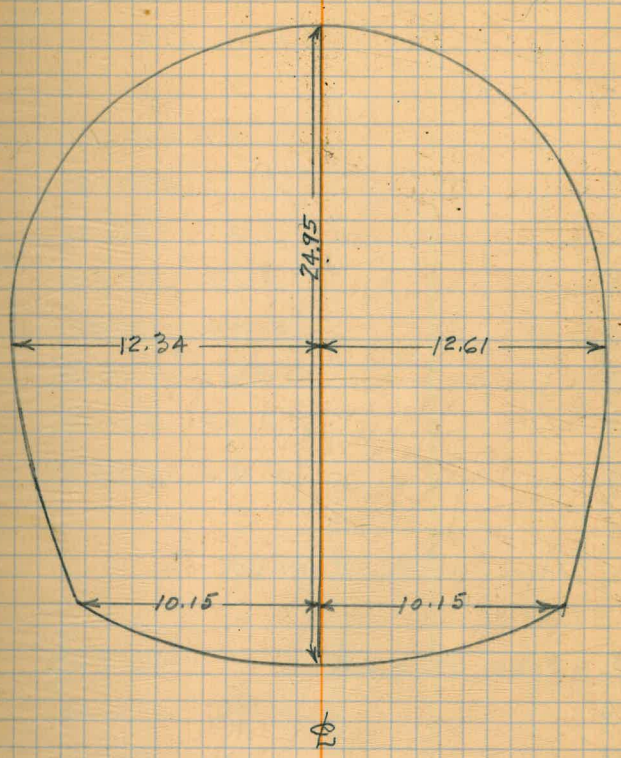


℄

Sta. 2+50

Measurements of Finished Concrete Lines in Diversion Tunnel cont'd.

Nov. 28-1934



Sta. 3+00

Continued on Page 9

Spring Line Points.

Dec. 8-1934.

B.M.	13.00	575.11		562.11	
			2.90	572.21	Rec. Elev. 572.22
1+31			2.64	572.47	
+50			2.95	572.16	
+75			3.37	571.74	
2+00			3.78	571.33	
+25			4.20	570.91	
+50			4.61	570.50	
+75			5.03	570.08	
3+00			5.44	569.67	

Dec. 12-1934

B.M.	7.26	564.48		557.22	
2+50			+6.02	570.50	
+75			+5.60	570.08	
3+00			+5.21	569.67	
+25			+4.77	569.25	
+50			+4.36	568.84	
+75			+3.94	568.42	
4+00			+3.53	568.01	
+20.59			+3.19	567.67	
T.P.			9.24	555.24	on Lead and Tack on ℄ Sta. 4+20.59.

Spring Line Points.

Dec. 12-1934.

T.P.				555.24	
	3.49	558.73			
B.M.			8.46	550.27	= check on Rec. Elev. 550.30.

B.M. on 8' offset, Lead + Tack. Sta. 8+17.5

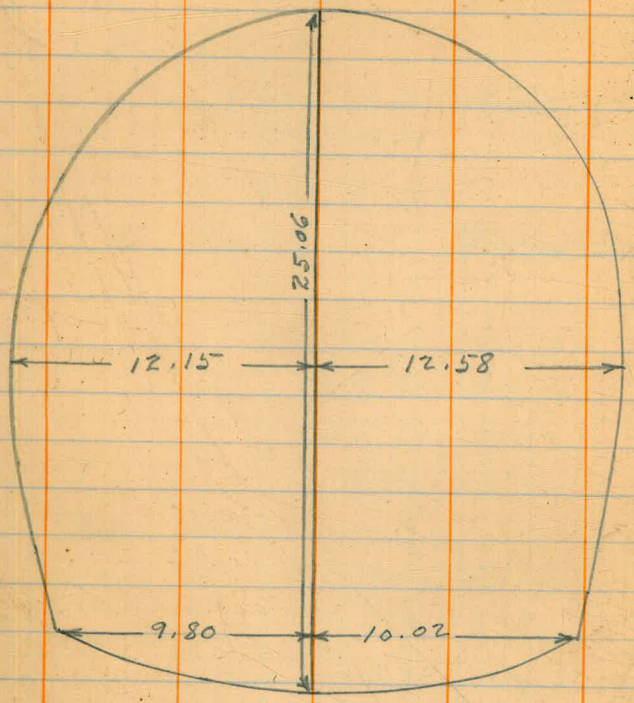
Dec. 13-1934.

B.M.	6.92	562.17		555.25	Ld. & Tk. on ℄ Sta. 4+20.59
4+50			+5.01	567.18	
+75			+4.59	566.76	
5+00			+4.18	566.35	
T.P.			6.92	555.25	
	4.88	560.13			
5+00	check		+6.22	566.35	
+25			+5.80	565.93	
+50			+5.39	565.52	
+75			+4.97	565.10	
6+00			+4.56	564.69	

Dec. 14-1934.

B.M.	4.47	559.72		555.25	
6+25			+4.55	564.27	
+50			+4.14	563.86	
+75			+3.72	563.44	
7+00			+3.31	563.03	
B.M.			9.46	550.26	Rec. Elev. 550.30

Measurements of Finished Concrete Lines in Diversion Tunnel.

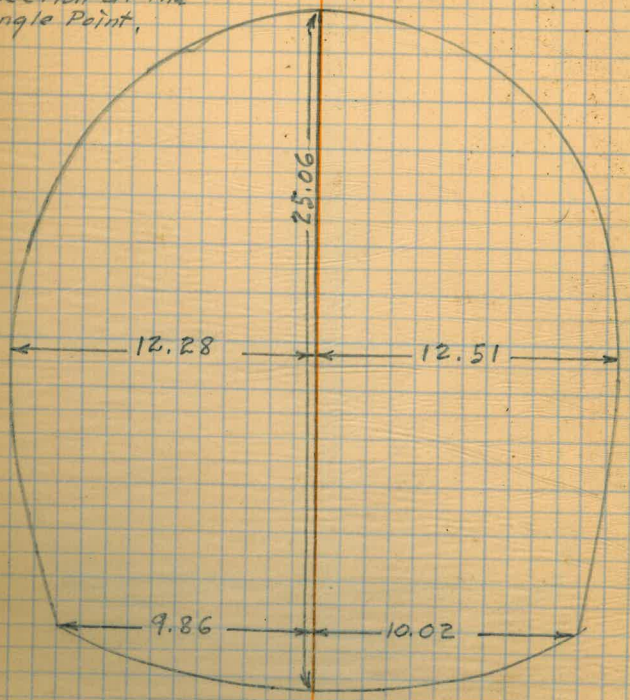


Sta. 4+17.6

Note: This X Section is taken Normal to the East tangent.

Dec. 14 - 1934.

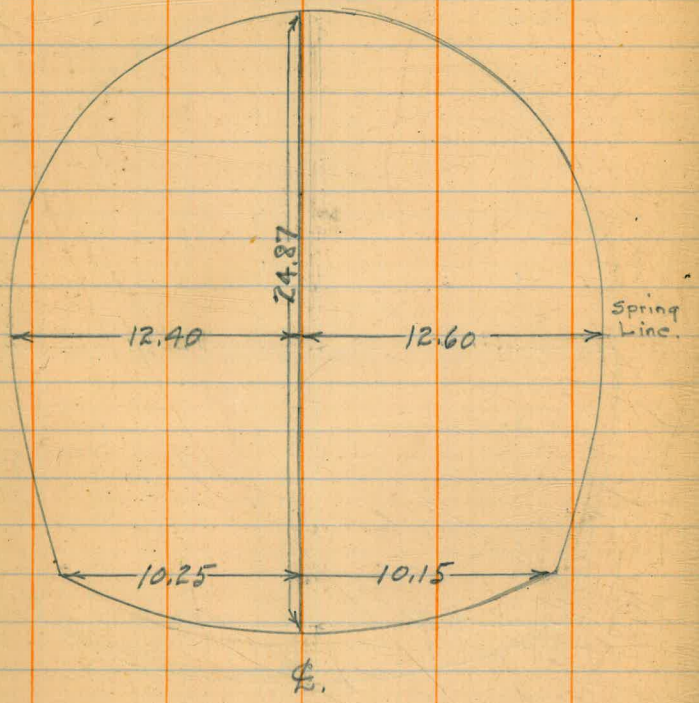
Note: See Page 10, For X Section at the Angle Point.



Sta. 4+23.6

Note: This X Section is taken Normal to the West tangent.

Measurements of Finished Concrete
Lines of Diversion Tunnel
Dec. 12-1934.

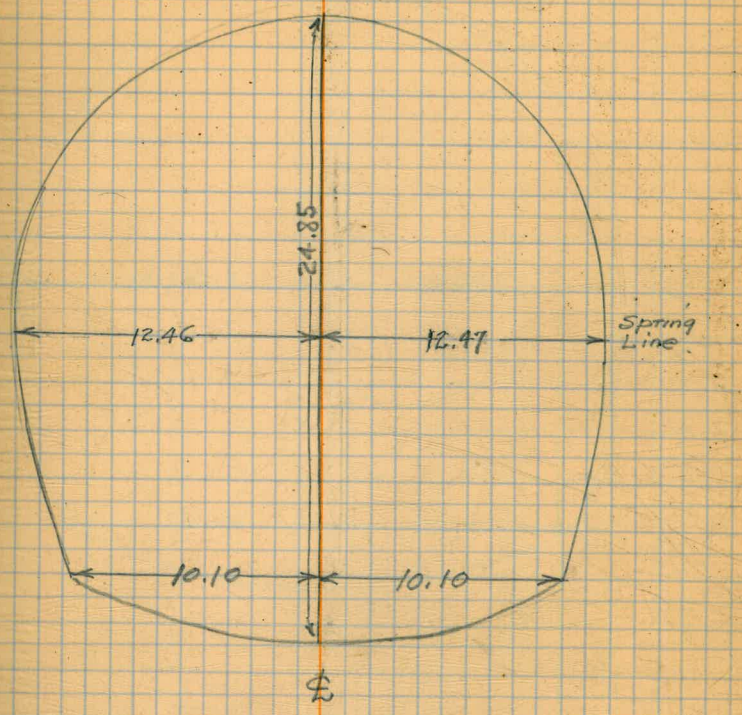


Sta. 3+50

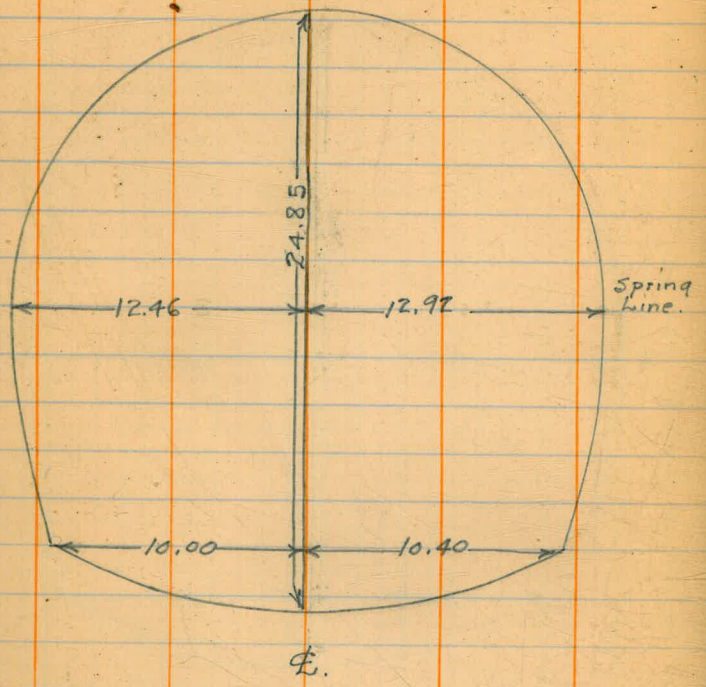
25.00

Simpson
Soper
Isbell
Remmen
Salgado

Contd. From Page 5.



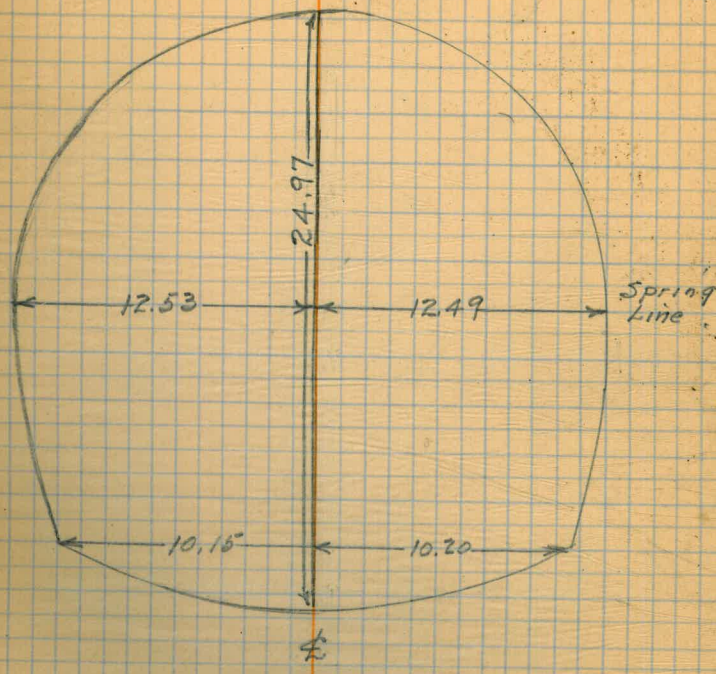
Sta. 4+00



Sta. 4 + 20$\frac{59}{}$ △

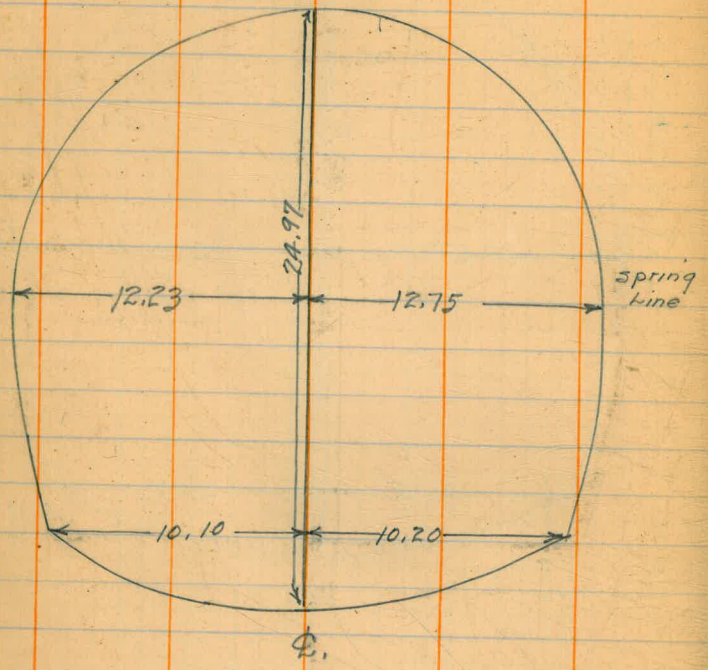
This X Section is taken on the Split of the Angle at ℄,

See Page 8, For X Section on either Side of the Angle Point,

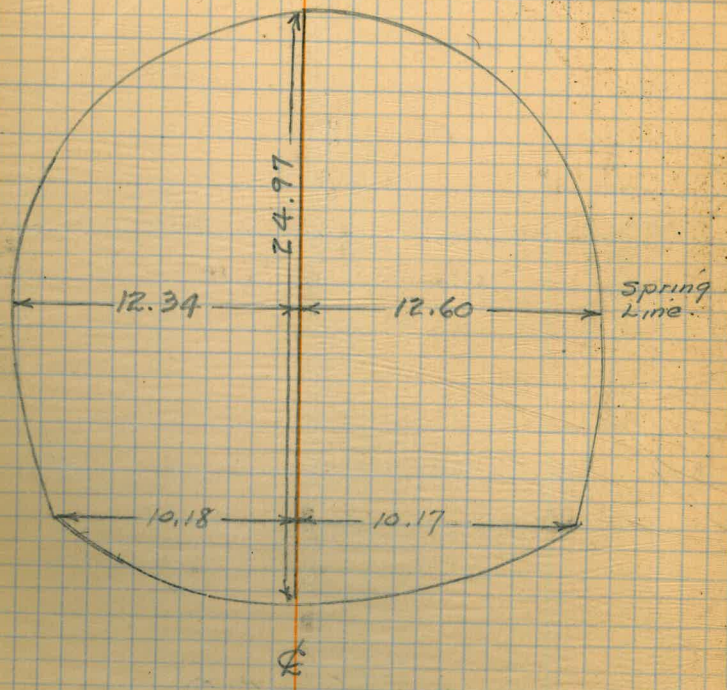


Sta. 4+50

Measurements of Finished Concrete Lines of Diversion Tunnel cont'd.

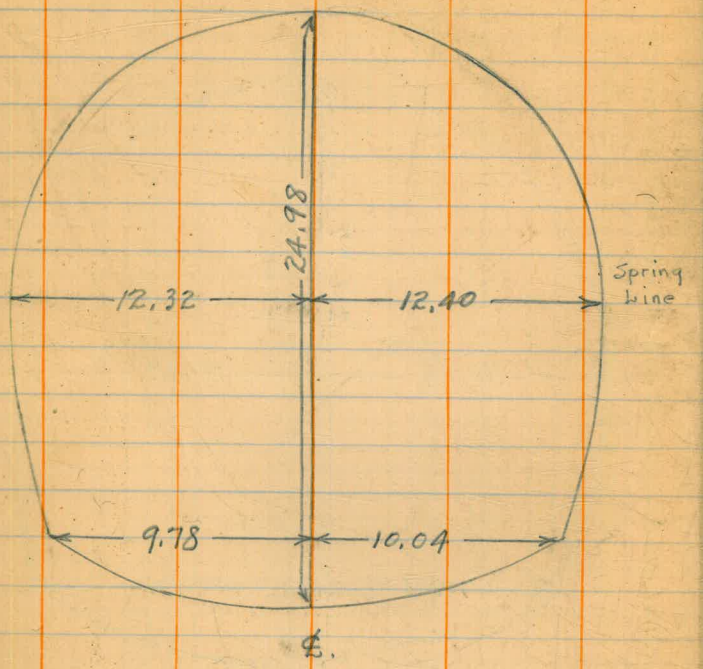


Sta. 5+00

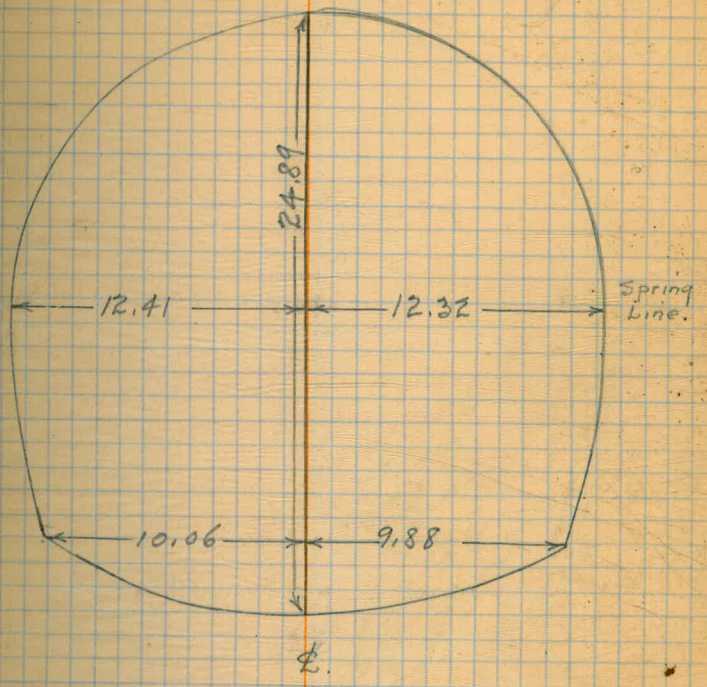


Sta. 5+50

Measurements of Finished Concrete Lines of Diversion Tunnel. Cont'd.

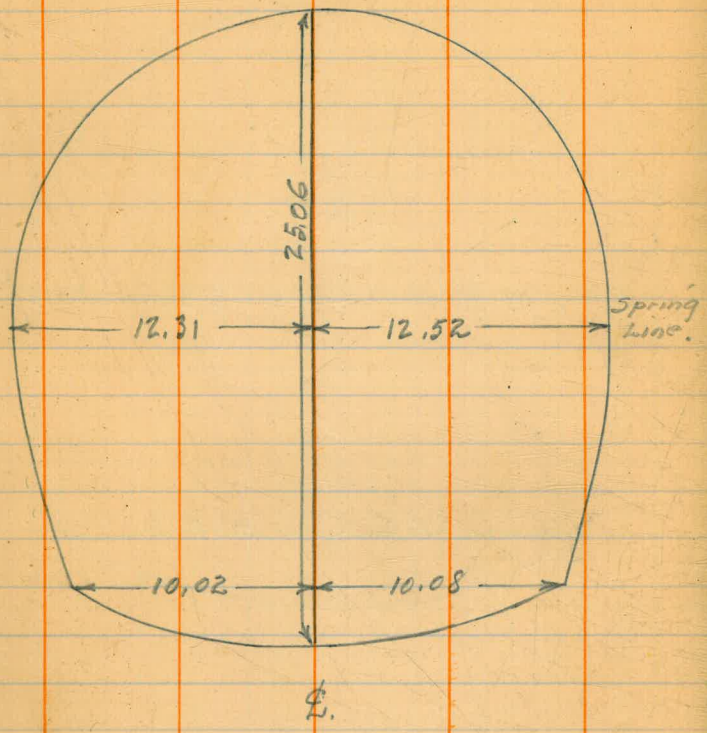


Sta. 6+00

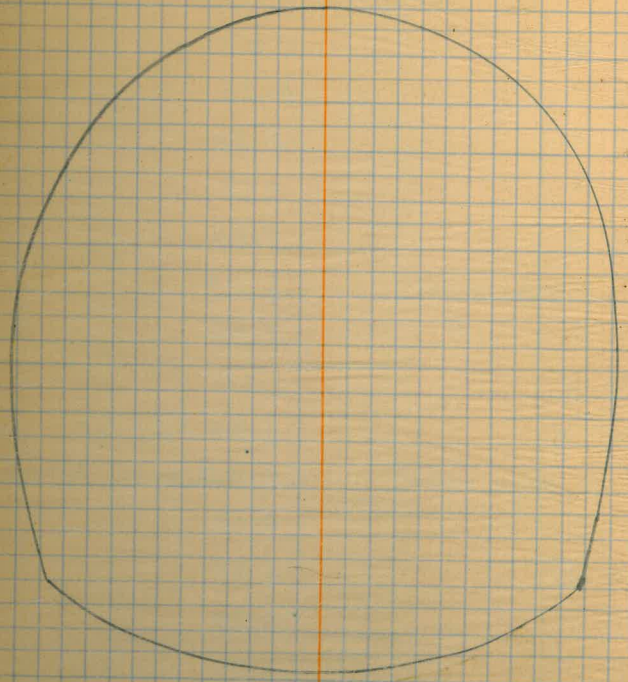


Sta. 6+50

Measurements of Finished Concrete Lines in Diversion Tunnel Contd.



Sta. 7+00



Profile of concrete invert on ℄ and at edges. Cont'd. From Page 2.

Dec. 12-1934.

561.47

3+60	℄	5.07	
+70	"	5.26	
+80	"	5.50	
+90	"	5.63	
4+00	℄	5.80	
"	N. edge invert	3.89	
"	S. " "	3.96	
+10	℄	6.03	
+20	℄	6.20	555.27
"	N. edge invert	4.25	
"	S " "	4.13	
+30	℄	6.39	
+40	"	6.60	
+50	"	6.71	
"	N edge invert	4.67	
"	S. " "	4.77	
+60	℄	6.89	
+70	"	7.04	
+80	"	7.25	
+90	"	7.40	
5+00	℄	7.53	
"	N. edge invert	5.49	
"	S. " "	5.51	

59

on split of the angle
"

Profile of concrete invert on ℄ and at edges Contd.

B.M.	7.93	558.23	550.30 = 8' offset. Ld. & rk. on South side of △ Sta. 8+17.5
5+10	℄	4.47	
+20	"	4.70	
+30	"	4.85	
+40	"	5.06	
+50	℄	5.11	
"	N. edge invert	3.03	
"	S. " "	3.05	
+60	℄	5.20	
+70	"	5.44	
+80	"	5.64	
+90	"	5.81	
6+00	℄	5.94	
"	N. edge invert	3.89	
"	S. " "	3.94	
+10	℄	6.12	
+20	"	6.23	
+30	"	6.43	
+40	"	6.52	
+50	℄	6.59	
"	N. edge invert	4.72	
"	S. " "	4.76	

Profile of concrete invert on ℄ and at edges, cont'd,

558.23

6+60	℄	6.81	
+70	"	7.02	
+80	"	7.18	
+90	"	7.43	
7+00	℄	7.68	50.55
"	N. edge invert	5.55	
"	S. " "	5.55	
		7.93	550.30 = Check.

on B.M. Elev. 550.30

Re-Tracing Co. Road Survey # 512
From El Monte Pumping Plant to El Monte Park.

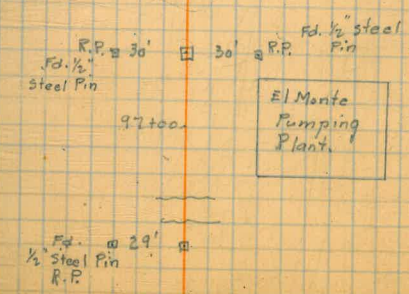
Void - see loose leaf book - J.W.W. Page 65 this book

101+85.36 E.C.	
+50	12°19'
101+00	9°27'
+50	6°35
100+00	3°43'
99+50	0°51'
99+35.20 B.C.	
81+69.80 E.C.	

Δ 28°40' R.
R-500
T-127.76
L-250.16

Plotted on Profile Pg 17-25
4/4/35 W.T.R.

March - 27-1935
Hill - Simpson
Soper - Remmen.



Cont'd. From Page 17.

Void - see J.W.W.'s loose leaf book. Page 66, this book

124+72.44 E.C.
+50
124+00
+50
123+00
+50
122+00
+50
121+00
+50
120+00
+50
119+00
+50
118+40.49 B.C.

Δ 36°12'30" L.
R. 1000'
T. 326.90
L. 631.95

March-27-1935.

152+65 P.O.T.

152+65.03 "

143+08.21 E.C.

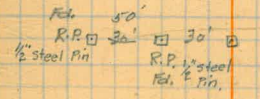
143+00	4°06.9'	Δ-8°42'30"R
+50	2°40.9	R.- 1000'
142+00	1°15'	T.- 76.14
141+56.38	B.C.	L.- 151.99

134+72.32 E.C.

+50	7°55.9'	Δ 17°40'30" R.
134+00	5°53'.1	R. 700'
+50	3°50'.3	T. 108.32
133+00	1°47'.5	L. 215.94

132+56.38 = B.C.
132+06.38

Note: 50' Error in chaining.



Cont'd. From Page 19.

187+31.57 E.C.

Δ - 33°00' R.
R. - 500'
T. - 148.11
L. - 287.98.

184+43.59 B.C.

181+34.93 E.C.

Δ 24°07'30" R.
R - 1500'
T. - 320.54
L. 631.59

175+03.34 B.C.

March-28-1935
Hill - Simpson
Soper - Remmen.

R.P. Fd. ½" Steel Pin. ⊡ 30' ⊡ 30' ⊡ R.P. Fd. ½" Steel Pin.

E.C. 181+34.93 - 12°03'45"
181+00 - 11°23.8'
+50 - 10°26.5'
180+00 - 9°29.2'
+50 - 8°31.9'
179+00 - 7°34.6'
+50 - 6°37.3'
178+00 - 5°40'
+50 - 4°42.7'
177+00 - 3°45.4'
+50 - 2°48.1'
176+00 - 1°50.8'
175+50 - 0°53.5'
B.C. 175+03.34.

⊡ 30' ⊡ R.P. Fd. ½ Steel Pin

204+67.27 E.C.

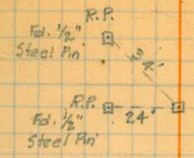
Δ - 47°22' L
R.- 600'
T.- 263.17
L.- 496.02

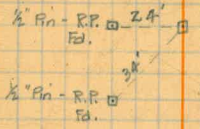
199+71.25 P.C.

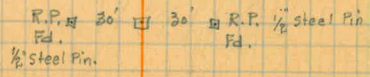
192+66.74 E.C.

Δ - 38°58' L
R.- 600'
T.- 212.27
L.- 408.06

188+58.68 P.C.







Contd. From Page 21

234+88.32 = E.C.
234+95.28 P.O.T.

O.K. to Here.
Contd. on Page 26

234+84.24 E.C.

Δ - 32°57' R.
R. - 1200'
T. - 354.89
L. - 690.10

227+94.14 B.C.

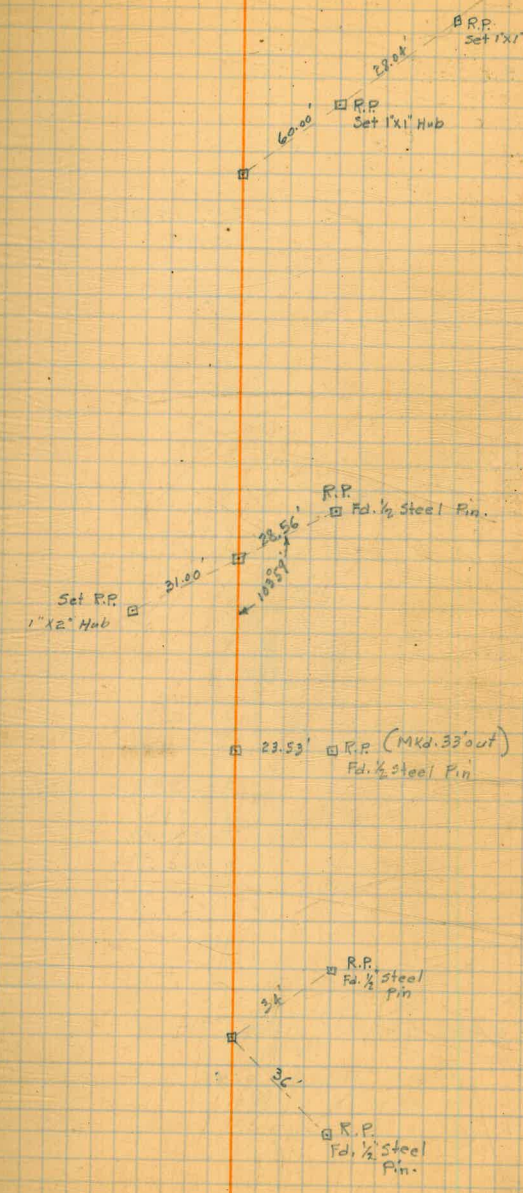
223+01.61 E.C.

Δ - 3°00' L.
R - 3500
T. - 91.65
L. - 183.26

222+10.00 P.I.

221+18.35 B.C.

March-29-1935
Hill - Simpson
Soper - Remmen.



Cont'd. From Page 22.

255+49.06 E.C.

Δ - 21°04'30" L.
R. - 1000'
T. - 186.02
L. - 367.83.

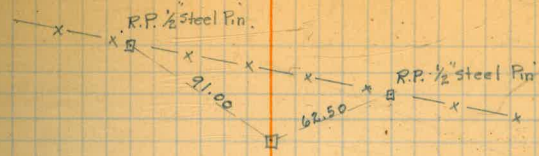
251+81.23 B.C.

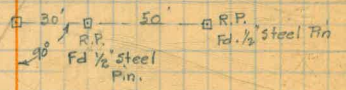
VOID
See Page 26

244+07.99 E.C.

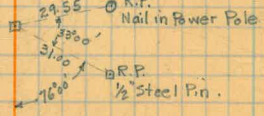
Δ - 26°30' L.
R. - 1000'
T. - 235.47
L. - 462.51

239+45.48 B.C.





VOID.



Contd. From Page 23.

March-29-1935

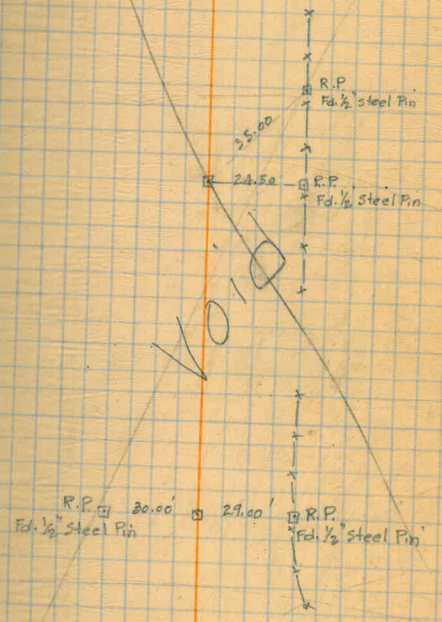
279 + 08.09 E.C.

VOID
See Pages 26'

Δ - 60°02' R.
R. - 625'
T. - 361.09
L. - 654.86

272 + 53.23 B.C.

265 + 40.75 P.O.T.



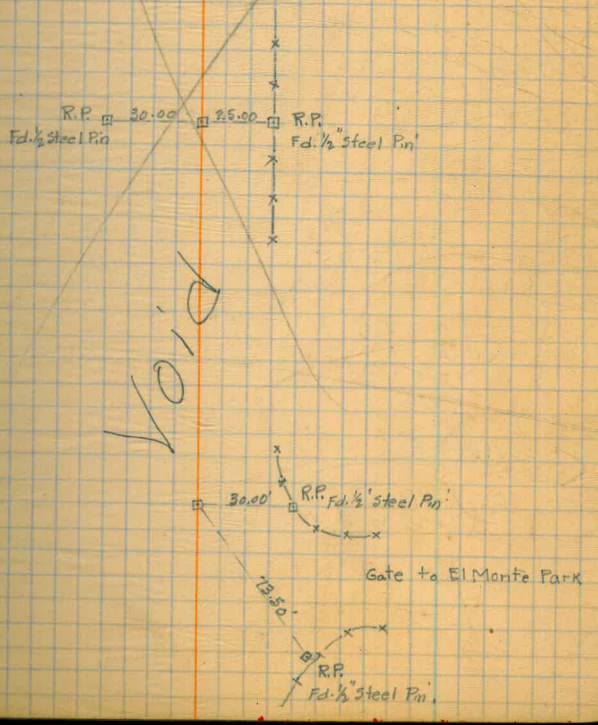
Cont'd. From Page 24.

287+29.28 E.C.

Void.
See Page 26.

Δ - 17°34'30" R.
R. - 1500'
T. - 231.88
L. - 460.11

282+69.17 B.C.



Co. Road Survey #512, Transit Notes.
Cont'd. From Page 22.

255+96.85 E.C.

Void see Page 58

Δ 25°19'50" L.
R- 1000'
T.= 224.72
L.= 442.10

251+54.75 B.C.

244+90.00 P.O.T. N 43°22'50" E.

243+88.61 E.C.

Δ 24°09'40 L.
R.- 1000'
T.- 214.03
L.-421.69

239+66.92 B.C.

N 67°32'30" E

Co. Road Survey #512, Transit Notes.
Contd. From Page 26.

287+29.28 E.C.

Δ = 17°34'30" R.
R. = 1500'
T. = 231.88
L. = 460.11

282+69.17 B.C.

N80°00'E.

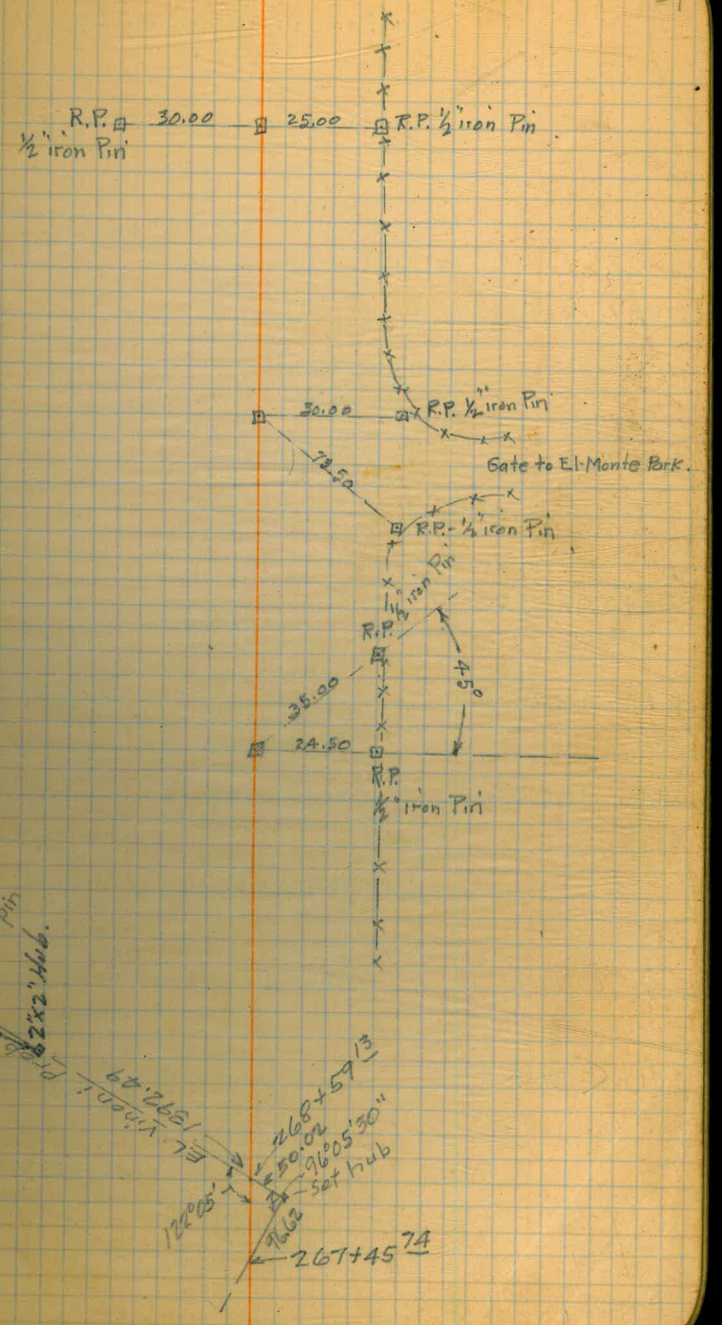
279+08.09 E.C. = Eq.
279+32.19 E.C.

Void see pages 58-59.

Δ = 61°57' R.
R = 651.53
T. = 391.09
L. = 704.45.

272+27.74 B.C.

265+40.31 P.O.T. N18°03'E.



Co. Road Survey #312 - Transit Notes.
Cont'd. From Page 27.

S47°55'E.

310+91.10 E.C.

Δ = 10°00' R.
R. = 1500'
T. = 131.23
L. = 261.80

308+29.30 S.C.

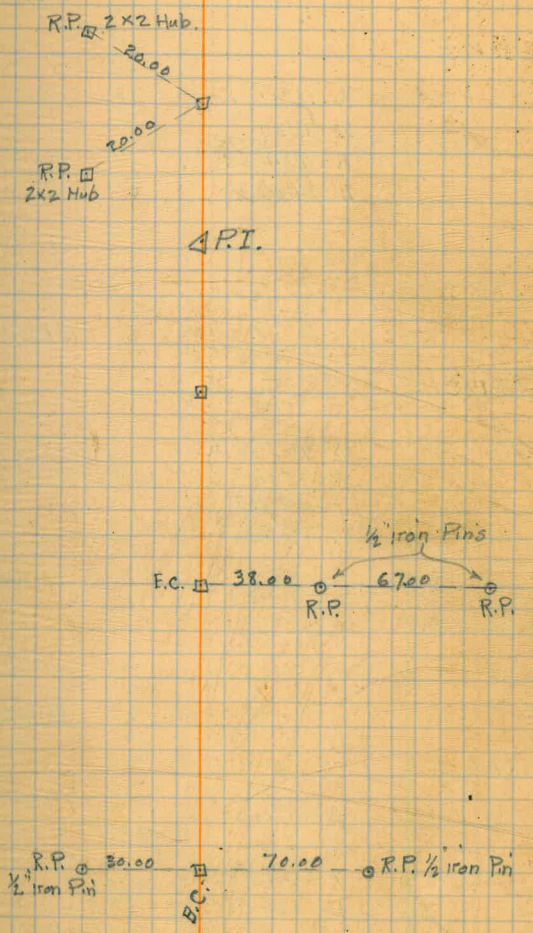
304+23.72 P.O.T. S57°55'E.

294+41.92 F.C.

Δ = 24°30'30" R.
R = 600'
T = 130.32
L. = 256.65.

291+85.27 B.C.

S82°25'30" E.



Co. Road Survey #512 - Transit Notes.
Cont'd. From Page 28.

S 78°47'E ✓

325+53.71 E.C.

Δ = 16°17' L.
R. = 1500'
T. = 214.59
L. = 426.30

321+27.41 B.C.

S 62°30'E. ✓

316+71.88 E.C.

Δ = 7°05'30" R.
R = 1500'
T. = 92.94
L. = 185.66.

314+86.22 B.C.

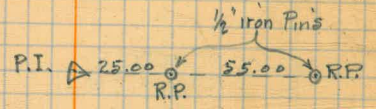
S 69°35'30"E. ✓

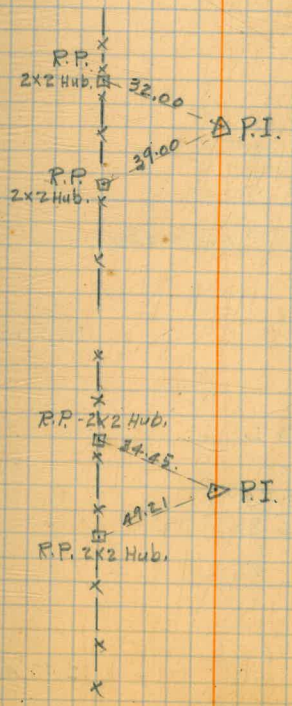
314+40.39 E.C.

Δ = 21°40'30" L.
R. = 600'
T. = 114.86
L. = 226.98.

312+13.41 B.C.

S 47°55'E.





Co. Road Survey #512 - Transit Notes.
Cont'd. From Page 29.

342+73.80 P.O.T.

S 45°02'E.

341+22.12 E.C.

Δ = 46°43' R.
R. = 500'
T. = 215.94
L. = 407.68

337+14.44 B.C.

336+30.00 P.O.T.

334+65.65 P.O.T.

330+95.78 Intersection with El Monte Ranch Line

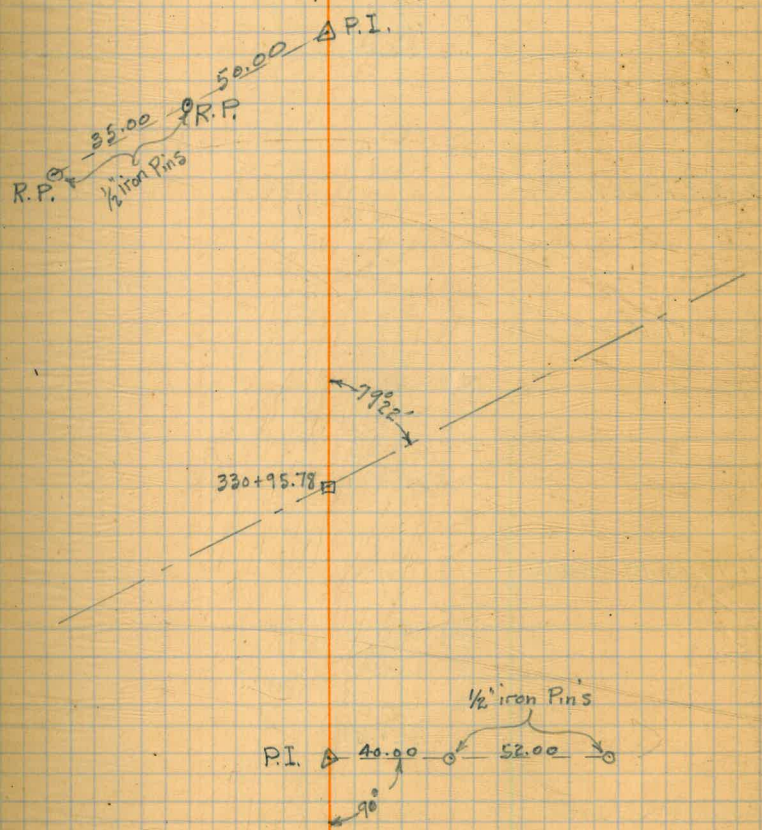
N88°15'E.

330+87.15 E.C.

Δ 12°58' L.
R. = 1000'
T. = 113.64
L. = 226.31

328+60.84 B.C.

S78°47'E.



Co. Road Survey #512 - Transit Notes.
Contd. From Page 30.

S86°11'E ✓

357+26.28 E.C.

Δ=14°31' L.
R=600'
T.=75.84
L.=152.02

355+74.26 B.C.

S71°40'E. ✓

352+17.16 E.C.

Δ 8°11'30" L.
R.=1774.25
T=127.05
L.=253.67

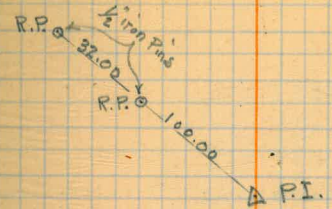
349+63.49 = P.C.C.

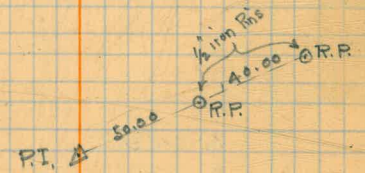
Δ=18°26'30" L.
R.=1000'
T.=162.34
L.=321.84

346+41.65 B.C.

344+89.48 P.O.T.

S45°02'E





Co. Road Survey #512.-Transit Notes.
Cont'd. From Page 31.

S79°48'E.

369+43.10 E.C.

Δ=7°55' L.
R.=1500'
T.=103.79
L.=207.06

367+35.84 B.C.

S71°53'E.

366+07.48 E.C.

Δ=20°12' L.
R.=400'
T.=71.25
L.=141.02

364+66.46 B.C.

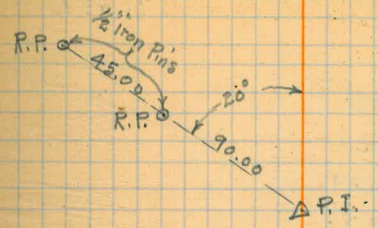
S51°41'E.

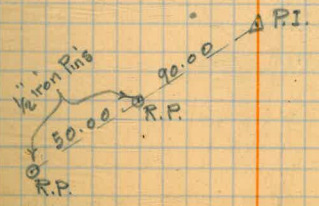
362+76.07 E.C.

Δ=34°30' R.
R.=450'
T.=139.73
L.=270.96

360+05.11 B.C.

S86°11'E.





Co. Road Survey #512 - Transit Notes.
Cont'd. From Page 82.

S71°43'E.

378+61.72 E.C.

Δ=21°50'R.
R.=500'
T.=96.44
L.=190.53

376+71.19 B.C.

N86°27'E

376+05.08 E.C.

Δ=19°45'L.
R.=600'
T.=104.45
L.=206.82

373+98.26 B.C.

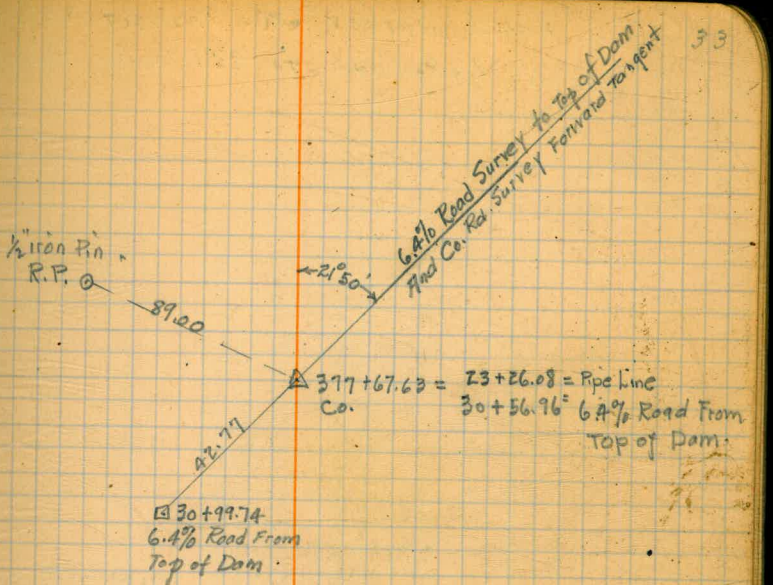
S73°48'E.

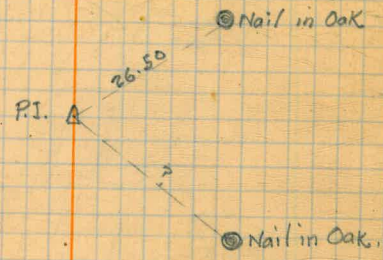
373+63.33 E.C.

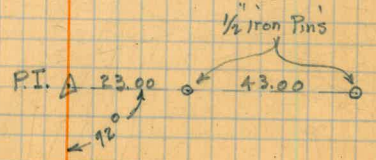
Δ6°00'R.
R.=2000'
T.=104.82.
L.=209.44

371+53.89 B.C.

S79°48'E.



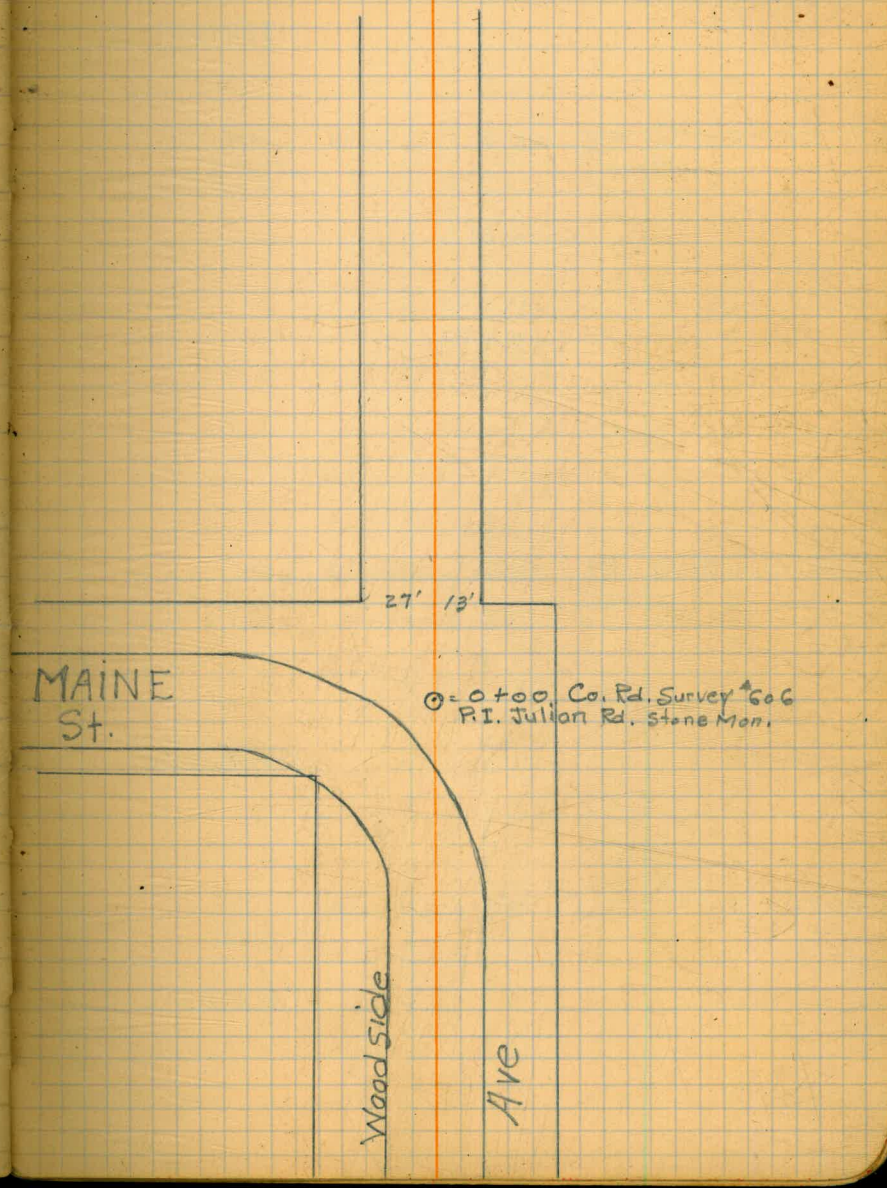




Co. Road Survey #606. Transit Notes.
From Lakeside to El Monte Pumping Plant.

N 81° 01' E

0+00



Co. Road Survey #606 - Transit Notes.
From Lakeside to El-Monte Pumping Plant
Cont'd. From Page 34.

N 25° 49' 30" E

69+34.35 E.C.

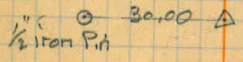
Δ = 54° 59' L.
R. = 1000'
T. = 520.40
L. = 959.64

59+74.71 B.C.

N 80° 48' 30" E

25+50.36 P.I. 0° 12' 30" L.

N 81° 01' E



Co. Road Survey #606. - Transit Notes
From Lakeside to El-Monte Pumping Plant.
Cont'd. From Page 35.

Cont'd. On Page 17-This Book.

99+35.20 B.C.

N 47°57'30" E.

81+69.80 E.C.

Δ 22°08'
R. - 1000'
T = 195.59
L. = 386.30

77+83.50 B.C.

N 25°49'30" E

May-7-1935.

Hill-Simpson
Soper-Remmen.

Tel. And Power Poles that will Have to be Moved For Pipe Line or Road Construction.

62+27	Power Pole #78768 — 7' Rt. of ℄ Rd. Surrey	
79+78	" " #74100 — 5' Rt. " " " "	
115+77	" " #173401 — 15' Rt. " " " "	Note: Location From Alternate Line #3.
116+80	36" Sycamore Tree — 14' Lf. " " " "	" " " " " "
118+89	Tel. Pole #305872H — 45' Lf. " " " "	" " " " " "
126+07.	" " #B28870P — 11' Lf. " " " "	" " " " " "
130+93	" " #D28872T — 23' Rt " " " "	*Note! Location From Orig. Co. Surrey
133+42	Power Pole # 72763 — 16' Rt. " " " "	" " " " " "
135+57	Tel. Pole #D28874T — 20' Rt. " " " "	" " " " " "
138+06	" " #D28875T — 10' Rt. " " " "	
143+94	" " #306165H — 14' Rt. " " " "	
152+32	" " #D28880T — 14' Lf. " " " "	
180+97	" " #D28895T — 2' Lf. " " " "	
190+70	" " #305919H — 9' Rt. " " " "	
194+95	Guy Pole 17' Lf. " " " "	
194+95	Power Pole #173423 — 18' Rt. " " " "	

Tel. And Power Poles That Will Have to Be Moved For Pipe Line or Road construction cont'd. From Page 37.

225+87	Tel. Pole	#D29177T	14' Lf.	of ℄ Road Survey
228+84	" "	#D29178T	4½' Lf.	" " " "
231+73	" "	#D29179T	22' Lf	" " " "
238+75	" "	#D29182T	2' Lf.	" " " "
240+71	" "	#D29183T	10½' Lf	" " " "
242+74	" "	#D29184T	14½' Rt.	" " " "
255+00	" "	#D29189T	8' Rt.	" " " "
279+82	Power Pole	#76577	14' Lf.	" " " "

May-8-1935.

Note: Location is From Revised Line

" " " " " "

" " " " " "

Location And Elev's. of Culverts And Water Lines Along Co. Rd. Survey #606.

413.3

0+16 — ℄ Elev. 0+00 − 1⅝ = Top of 6" Water Main 13' Rt. of Sta. 0+16.
This Main Runs Practically Level on North.

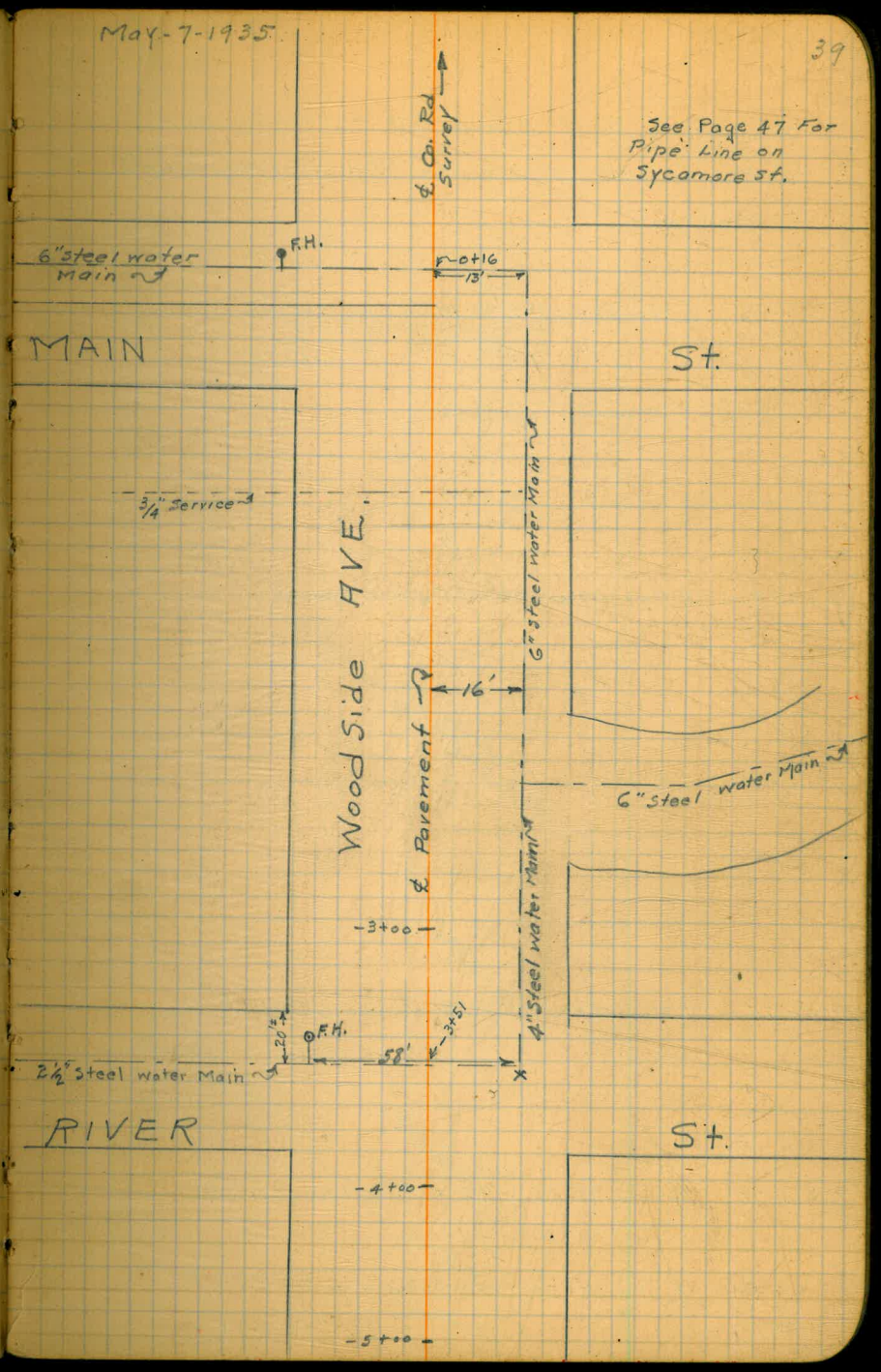
406.6

−3+51 — ℄ Elev. −3+50 − 1¼ = Top of 2½" Steel water Main 21' Lf. of ℄ Pavement.

May-7-1935

39

See Page 47 For Pipe Line on Sycamore St.



May-7-1935
Hill - Simpson
Soper - Remmen.

Location And Elevs. of Culverts and Water Lines Along Co. Rd. Survey #606 Cont'd.

83+23 ℄ Elev. 83+00 − 2' = 437.2 = Flow Line 13' Rt.
" " " " − 3' = 436.1 " " 16' Lf.

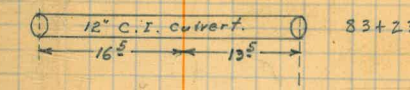
81+64 ℄ Elev. 81+50 − 2' = 439.5 = Flow Line

81+42 ℄ Elev. 81+50 − 1' = 440.6 = Flow Line.

78+95 ℄ Elev. 79+00 − 2' = 439.8 = Flow Line Culvert

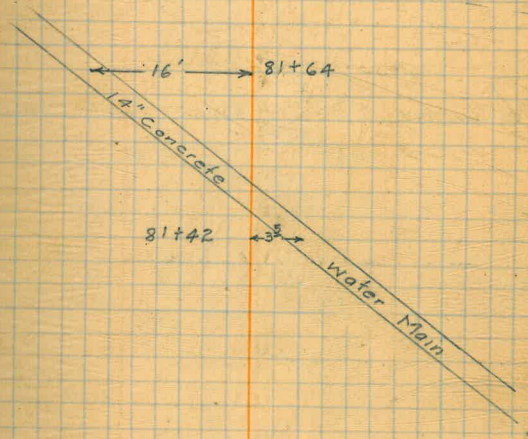
78+76 ℄ Elev. 79+00 − 1' = 440.9 = Flow Line Culvert

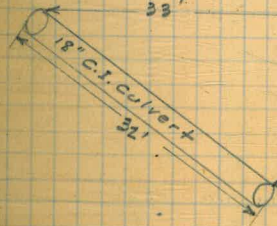
35+59 ℄ Elev. 35+50 − 2' = 417.4 = Flow Line 21' Rt. ℄,
" " " − 2' = 418.0 " " 11' Lf. ℄.

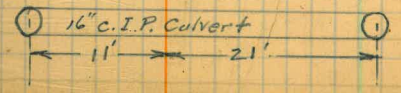


82+34 2" water Line xing ℄.

81+84 2" water Line xing ℄



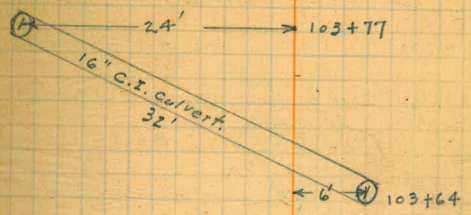




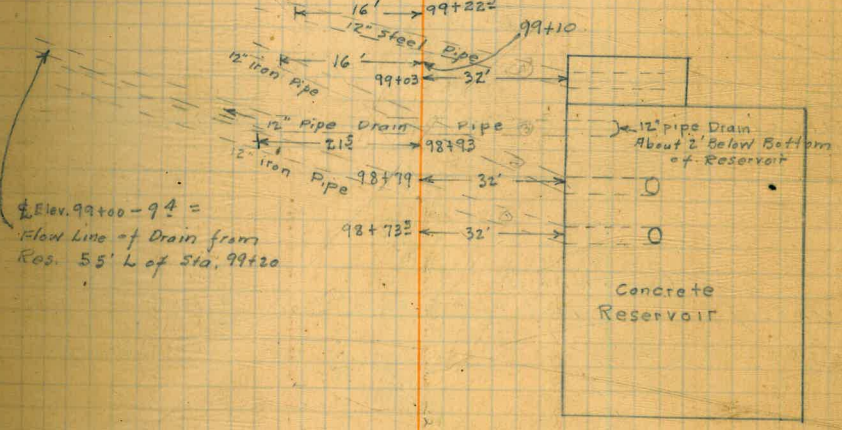
Location And Elevs. of Culverts And water Lines Cont'd.

103 + 77	℄ Elev. 103+50 (Orig. Co. Survey) − 2^{8} = 436.1 = Flow Line culvert
103 + 64	℄ Elev. 103+50 (Orig. Co. Survey) − 2^{2} = 436.7 = Flow Line "
99+22^{5}	℄ Elev. 99+00 − 4^{7} = 434.2 = Flow Line 12' steel Pipe 16 Lf. ℄
99+10	" " " − 3^{9} = 435.0 = " " 12' iron Pipe 16' Lf ℄
99+03	℄ " " − 3^{5} = 435.4 = " " " steel " 32' Rt. ℄
98+93	" " " − 5^{8} = 433.1 = " " " iron " 21^{5} Lf. ℄
98+79	" " " − 3^{3} = 435.6 = " " " " " 32' Rt. ℄
98+73^{5}	" " " − 3^{3} = 435.6 = " " " " 32' Rt ℄
	" " " − 6^{5} = 432.4 = Elev. Bottom of Reservoir
88+21	℄ Elev. 88+00 − 1^{6} = 433.8 = Flow Line 19^{5} Rt.
"	" " " − 2^{1} = 433.3 = " " 23^{0} Lf.

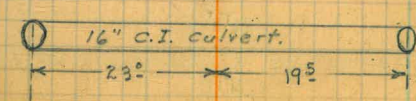
May-7-1935.



Note: Location From Alternate Line #2



El Monte Pumping Plant.



Location And Elevs. of Culverts And water Lines Cont'd.

122+22 (Alternate Line #3) ℄ Elev. 122+00 − 2.4 = 444.1 = Flow Line culvert

122+09 " − 1.9 = 444.6 = " " "

116+97 (Alternate Line #3) ℄ Elev. 117+00 − 4.0 = 443.4 = Flow Line 14' Rt. of ℄

116+85 " − 5.1 = 442.3 = " " 45' Lf. of ℄.

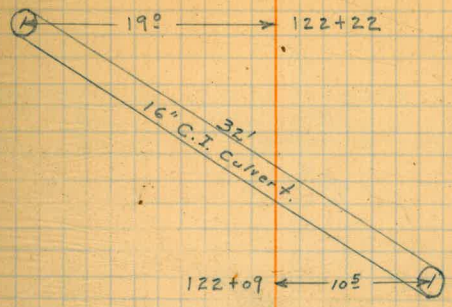
114+20 (Alternate Line #2) ℄ Elev. 114+00 − 3.2 = 442.0 = Flow Line culvert

114+11 " − 2.2 = 443.0 = " " "

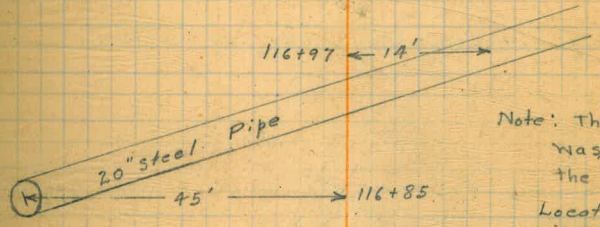
110+07 (Orig. Co. Survey) ℄ Elev. 110+00 + 0.6 = 440.3 = Flow Line 3' Rt. ℄.

" " " + 1.0 = 440.1 = " " 25' Lf ℄.

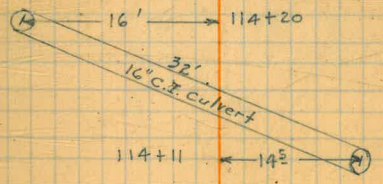
May-7-1935. 42



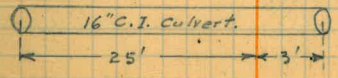
Note: Location From Alternate Line #3



Note: This Pipe is for waste water from the flume. Location From Alternate Line #3



Note: Location From Alternate Line #2



Note: Location From Alternate Line #2.

Location And Elevs. of Culverts And Water Lines Cont'd.

188+61 ℄ Elev. 188+50 − 2.0 = 477.1 = Flow Line culvert 12.5 Rt. ℄.
" " " " − 2.7 = 476.4 " " " " 17.5 Lf. ℄.

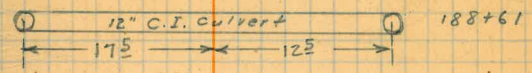
150+61 ℄ Elev. 150+50 − 2.3 = 457.4 = Flow Line Culvert 4' Rt. ℄
" " " " − 2.7 = 457.0 " " " 28' Lf. ℄.

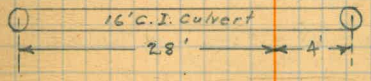
140+07 ℄ Elev. 140+00 − 3.0 = 450.0 = Flow Line Culvert

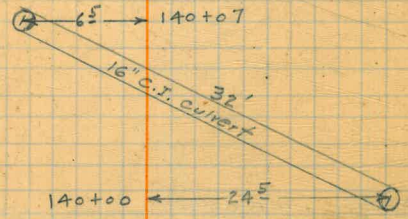
140+00 ℄ Elev. 140+00 − 1.7 = 451.3 " " "

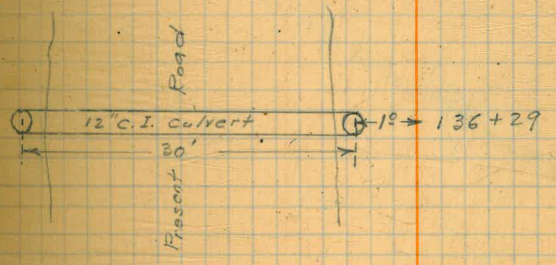
136+29 ℄ Elev. 136+50 − 1.8 = 450.1 = Flow Line Culvert 1.0 Lf. of ℄.
" " " " − 1.9 = 449.5 " " " 31' " " "

131+22 ℄ Elev. 131+00 − 2.1 = 452.1 = Flow Line Culvert 1.5 Rt. of ℄
" " " − 3.5 = 450.7 " " " 30.5 Lf. of ℄.

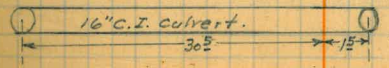








Note: Locations and Elevs. from Orig. Co. Survey from 131+22 on.



Location And Elevs. of Culverts And water Lines Cont'd.

May-8-1935

480.8
197+53 ℄ Elev. 197+50 − 2 5/5 = Flow Line Culvert

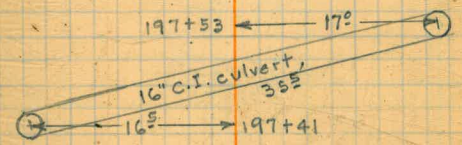
480.0
197+41 " " " − 3 3/5 = " " "

478.3
196+34 ℄ Elev. 196+00 − 4 5/5 = Flow Line Pipe

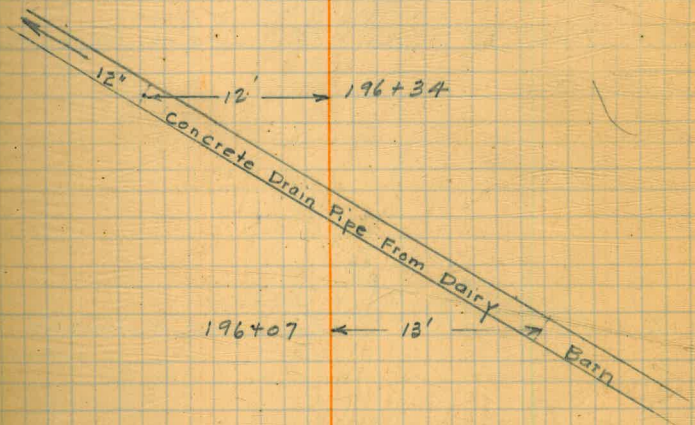
480.3
196+07 " " − 2 6/5 = " " " "

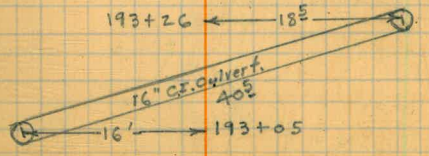
481.2
193+26 ℄ Elev. 193+00 − 1 1/5 = Flow Line Culvert

480.0
193+05 " " " − 2 2/5 = " " "



196+52 2" water line Xing ℄





Location And Elev's. of Culverts and water Lines Cont'd.

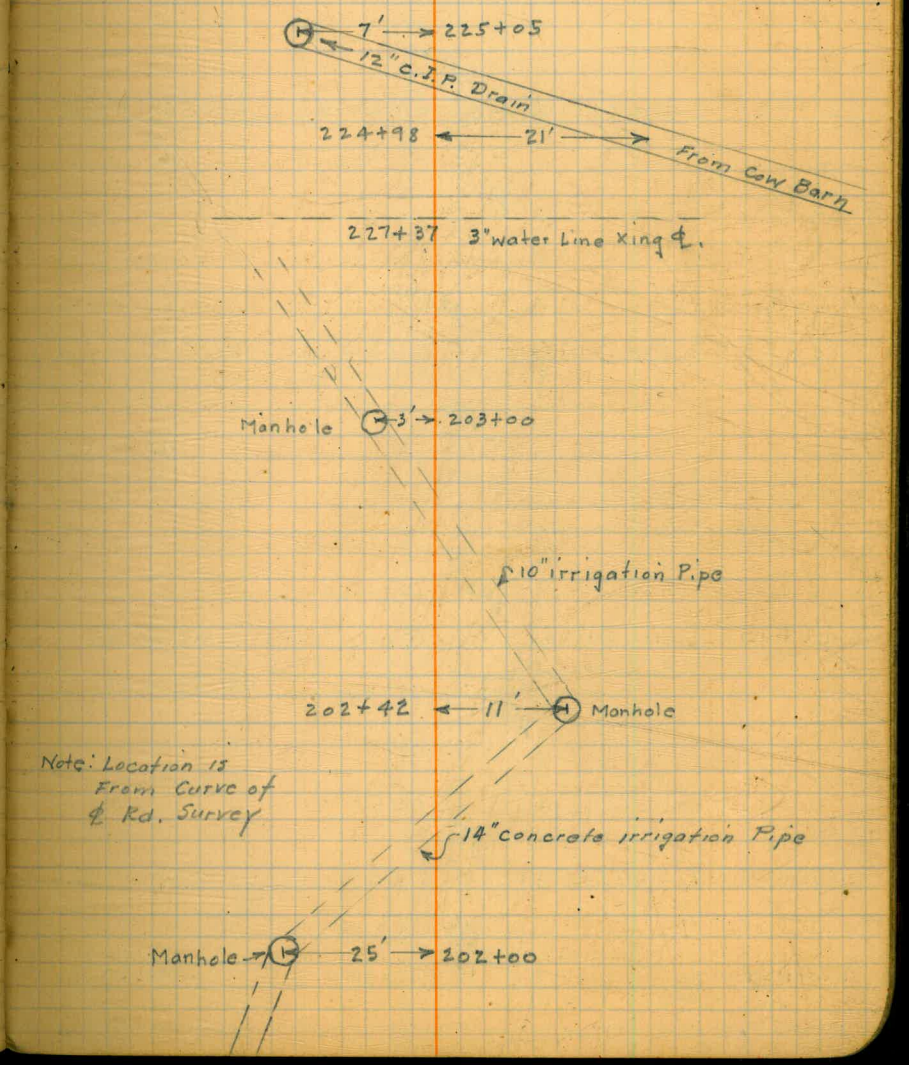
486.5
225+05 ℄ Elev. 225+00 − 2.6 = Flow Line of Pipe 7' Lf. ℄

487.6
224+98 " " " − 1.5 = " " " " 21' Rt. ℄

480.9
203+00 ℄ Elev. 203+00 − 2.9 = Flow Line in Manhole.

480.3
202+42 ℄ Elev. 202+50 − 2.4 = Flow Line in Manhole

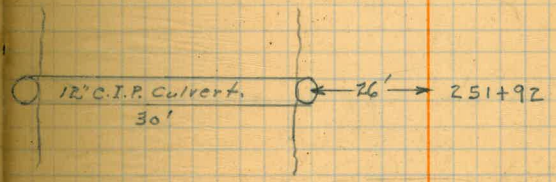
479.6
202+00 ℄ Elev. 202+00 − 2.5 = Flow Line in Manhole



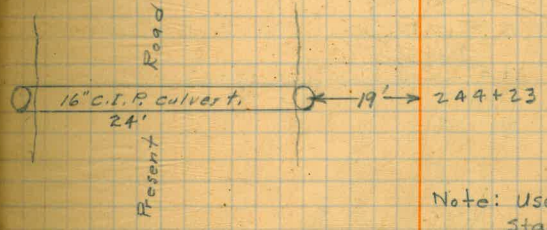
Note: Location is From Curve of ℄ Rd. Survey

Location And Elevs. of Culverts And Water Lines Contd.

251+92 ℄ Elev. 252+00 — 4.2 (499.6) = Flow Line Culvert 26' Lf. of ℄.
" " " " — 5.1 (498.7) = " " " 56' " " "

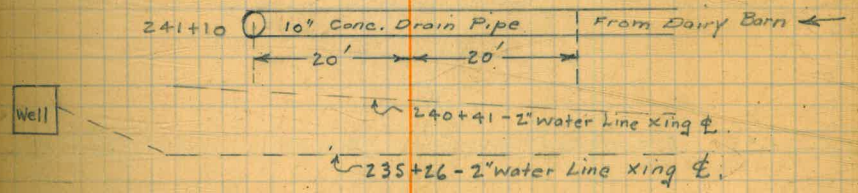


244+23 ℄ Elev. 244+00 — 17.8 (499.1) = Flow Line Culvert 19' Lf. of ℄.
" " " — 18.4 (498.5) = " " " 43' Lf. of ℄.

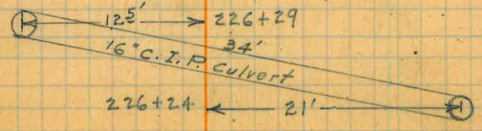


Note: Use Revised Line From Sta. 239± to Sta. 276± For Locations And Elevs.

241+10 ℄ Elev. 241+00 — 1.5 (498.1) = Flow Line Rt. of ℄.
" " " — 3.5 (496.1) = " " 20' Lf. of ℄



226+29 ℄ Elev. 226+00 — 2.9 (487.6) = Flow Line Culvert 12.5' Lf ℄.
226+24 " " " — 1.8 (488.6) = " " " 21' Rt. ℄



Location And Elev.s. of Culverts And Water Lines Cont'd.

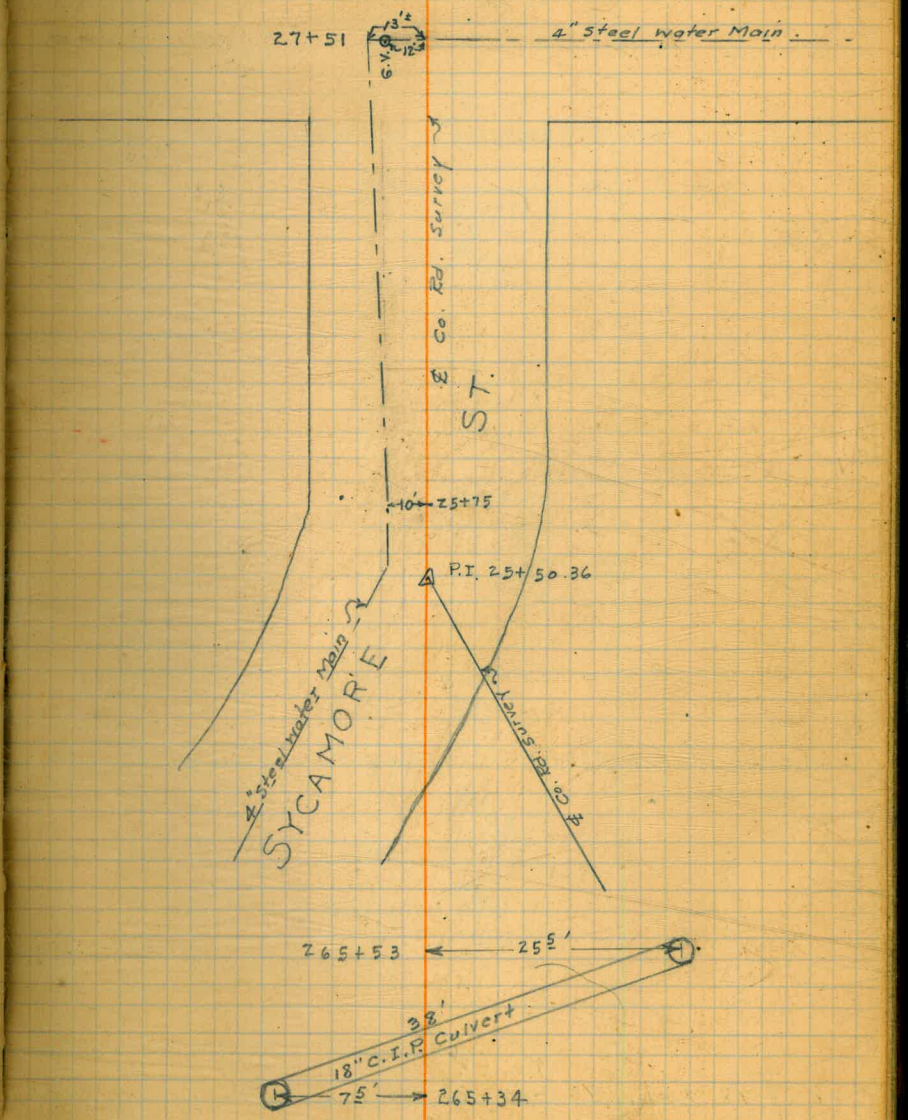
27+51 ℄ Elev. 27+50 − 1.3 (410.6) = Top of 4" pipe at Gate valve 12' Lf. of ℄.

25+75 ℄ Elev. 25+50 − 1.6 (400.9) = Top of 4" Pipe 10' Lf. of ℄

" " " + 0.4 = ℄ Elev. (on Road) 402.9

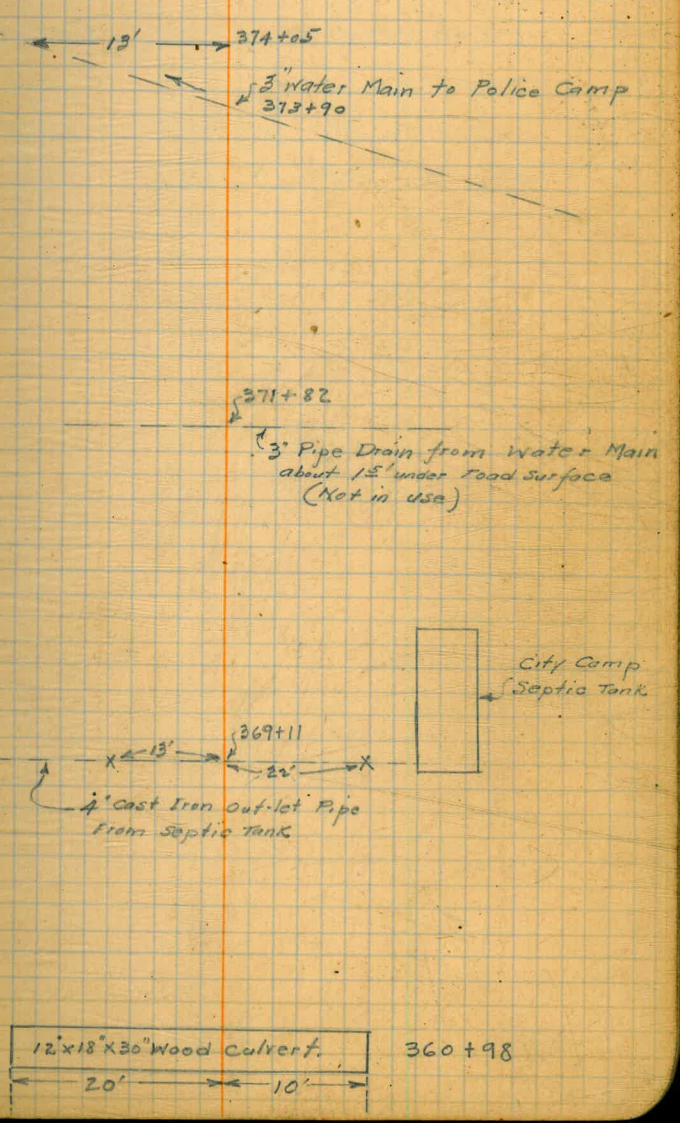
265+53 ℄ Elev. 265+50 − 3.4 (498.5) = Flow Line Culvert 25.5' Rt. of ℄

265+34 " " " − 3.8 (498.1) " " " " 7.5' Lf. of ℄.



Location And Elev's. of Culverts And water Lines Cont'd.

374+05	℄ Elev. 373+50 − 1.5 (556.1) = Top of 3" water Main 13' Lf. of ℄	Rd. Survey	
373+90	" " " − 0.3 (557.3) = " " " " on ℄	" "	
369+11	℄ Elev. 369+00 − 1.2 (550.2) = Top of 4" cast Iron Pipe 22' Rt. of ℄	Rd. Survey	
"	" " " − 2.6 (548.8) = " " " " " " on ℄	"	
"	" " " − 6.5 (544.9) = " " " " " " 13' Lf. ℄	"	
360+98	℄ Elev. 361+00 − 2.2 (540.5) = Flow Line of Culvert 10' Rt. of ℄	Rd. Survey	
"	" " " − 3.1 (539.6) = " " " " 20' Lf. "	" "	



℄ Main + Woodside to ℄ R.S. Div. 1 241.5

85.1 to B.C. of curve R. 100 Δ 39°30'15" L.
156.93 E.C. to B.C. " " R 471.16 Δ 37°00' L.
174.88 E.C. " " " R 250 Δ 35°00' R.
88.37 " " " R 150 Δ 41°23' R.
83.8 to N.R.L. Julien

30'
239.5
35.
304.5
60
244.5

220
130
90
25
115
244.5
359.5

40'
45.1
85.1

S. 50° 23' E. Outside arc 126.59
S 9°00 E.
41°23'

Survey of ℄ of Route 8 Div. 1

E.C. Δ 37°00' L
R 171.16
T 157.65

B.C.

E.C. Δ 39°30'15" L
R 100.0
T 35.90

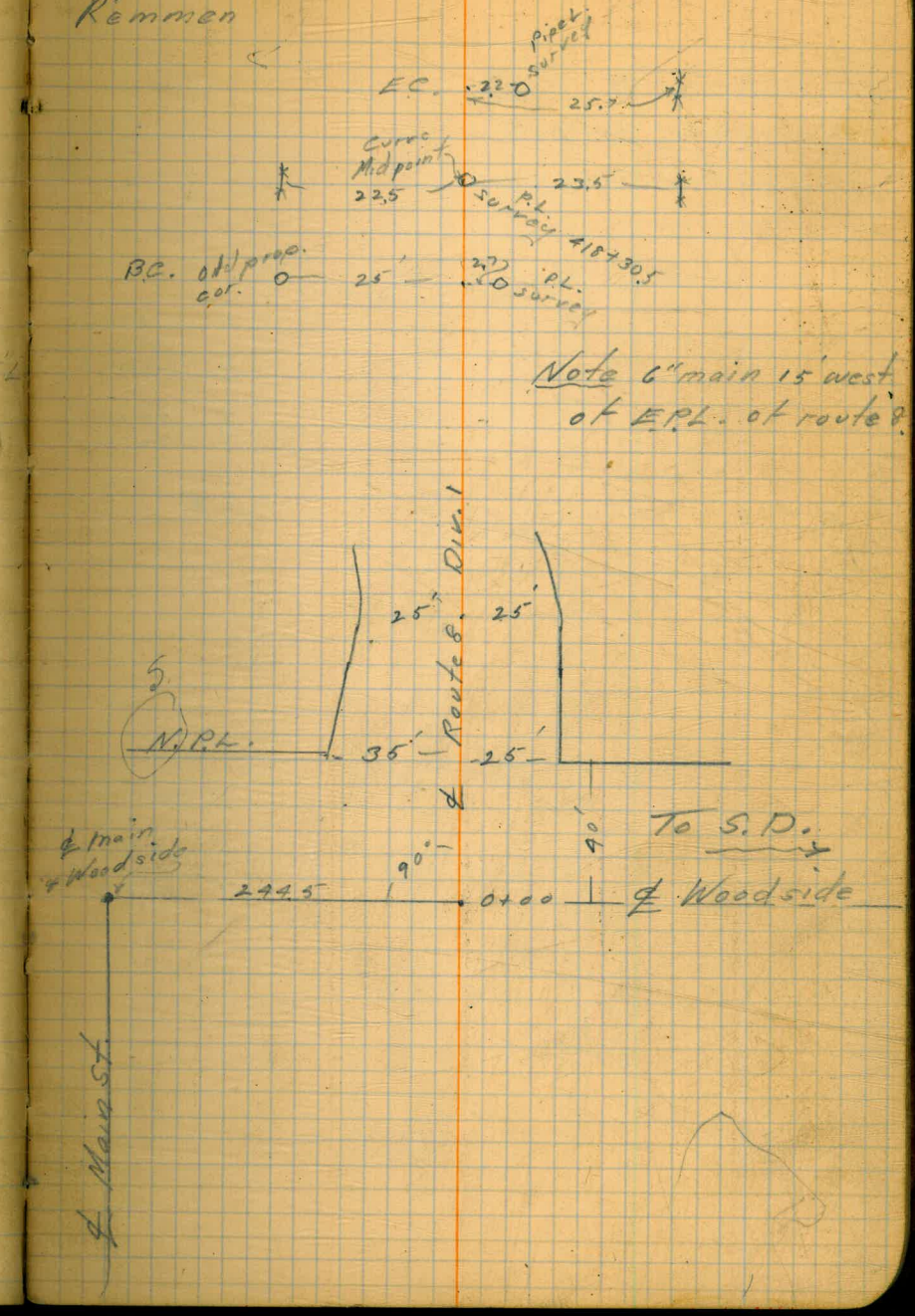
0+851 B.C.

0+00

Hill
Soper
Remmen

10/1/36

50



N. P.L. Julien

83.8

E.C.

Δ 41°27' R
R ~~175~~ 150 ?
T ~~66.10~~ 56.66 ?

B.C.

88.37

E.C.

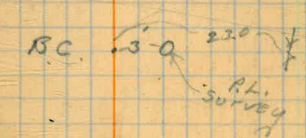
Δ 35° R
R 250
T 78.82

B.C.

17.88

E.C.

Note tie to Chestnut St. incomplete on available maps.



Revision in pipe location from sta. 416+84.49.

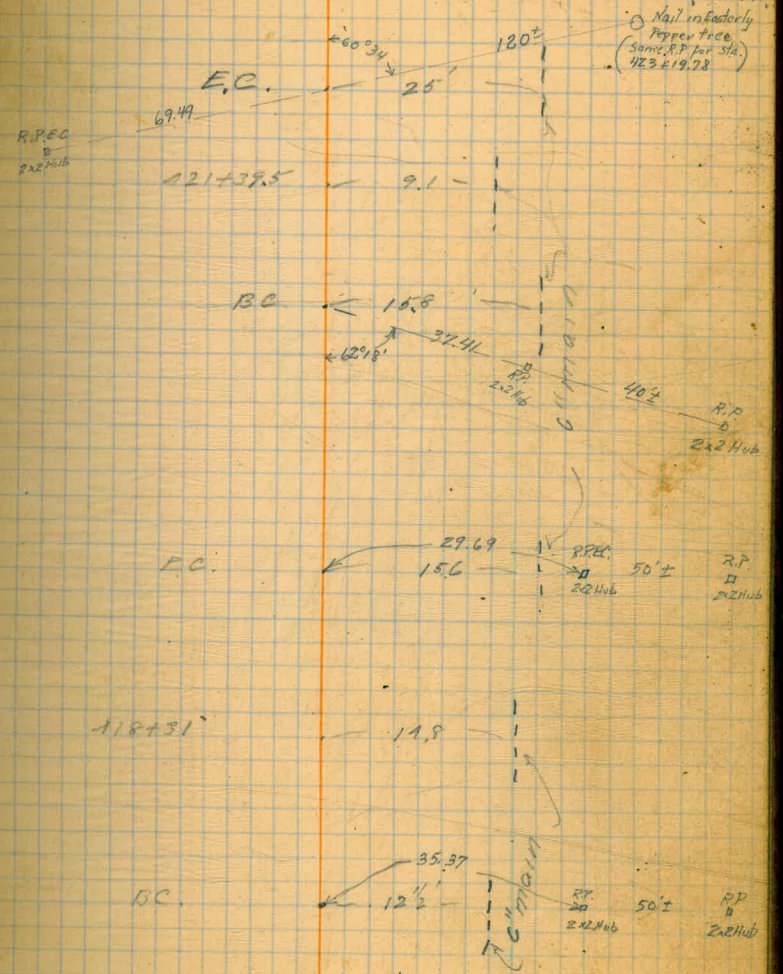
				P.I.	421+58.84
				Δ	23°27'
+36.66	11°43½'	E.C.		R	425.
		+25	10°56'		
422	9°16'			T	88.20
		+75	7°34'		
+50	8°05'3"			L	173.94
		+25	4°12'		
421	2°31'				
420+52.71	B.C.				
+81.55	18°30'	E.C.			
		+75	18°05'		
+50	15°32'			P.I.	416+36.41
		+25	14°59'		
419	13°25'			Δ	36°6'30"
		+75	11°52'		
+50	10°19'			R	460.
		+25	9°45'		
418	7°12'			T	152.92
		+75	5°38'		
+50	4°05'			L.	291.06
		+25	2°31'		
417	0°58'			d'	3.737
416+84.19	B.C.			d25'	1°33.417

Hill
Soper
Remmen
10/4/35

52

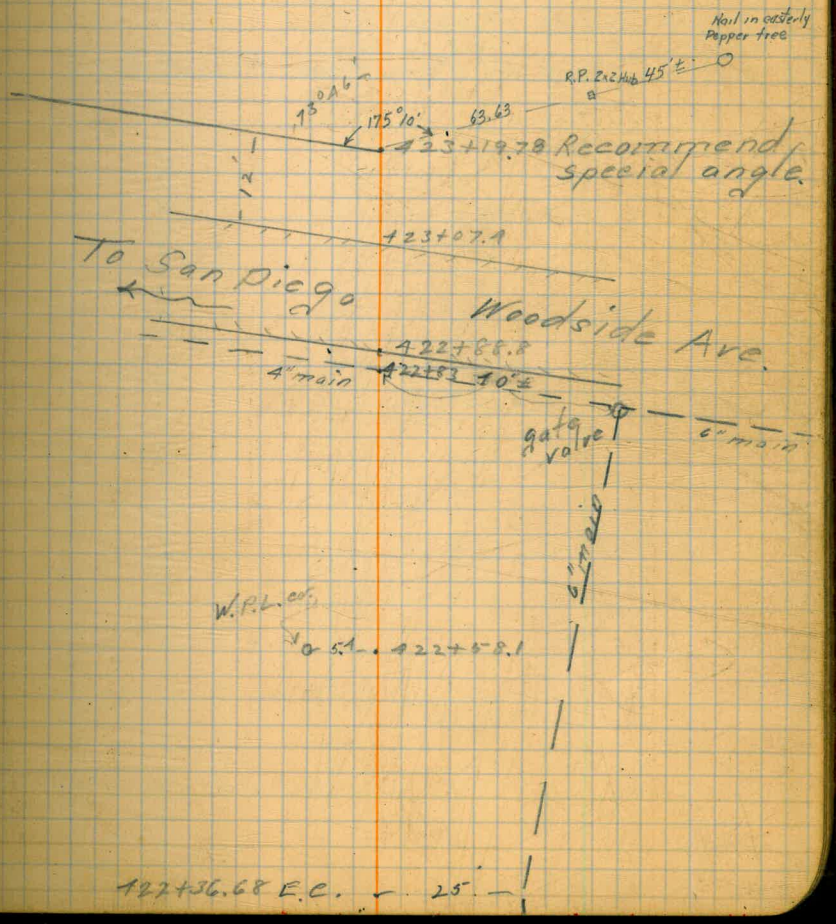
℄

Note 6" main 1.5' west of E.P.L. Route 8 D.1.



423+19.78, 73°46' L

422+36.68 E.C.



418+00.00 Route thru park.
=
426+90.18 Before revision
=
427+05.85 End El Capitan Pipe Line

R.P. Sta. 427+05.85
1x2" Hub

50'

R.P. Sta. 427+05.85
1x2" Hub

28.72

End El Cap. pipeline 1926
427+05.85 = 426+90.18

18' 12'

Railroad to San Diego

121+28.3

River St.

423+68.3

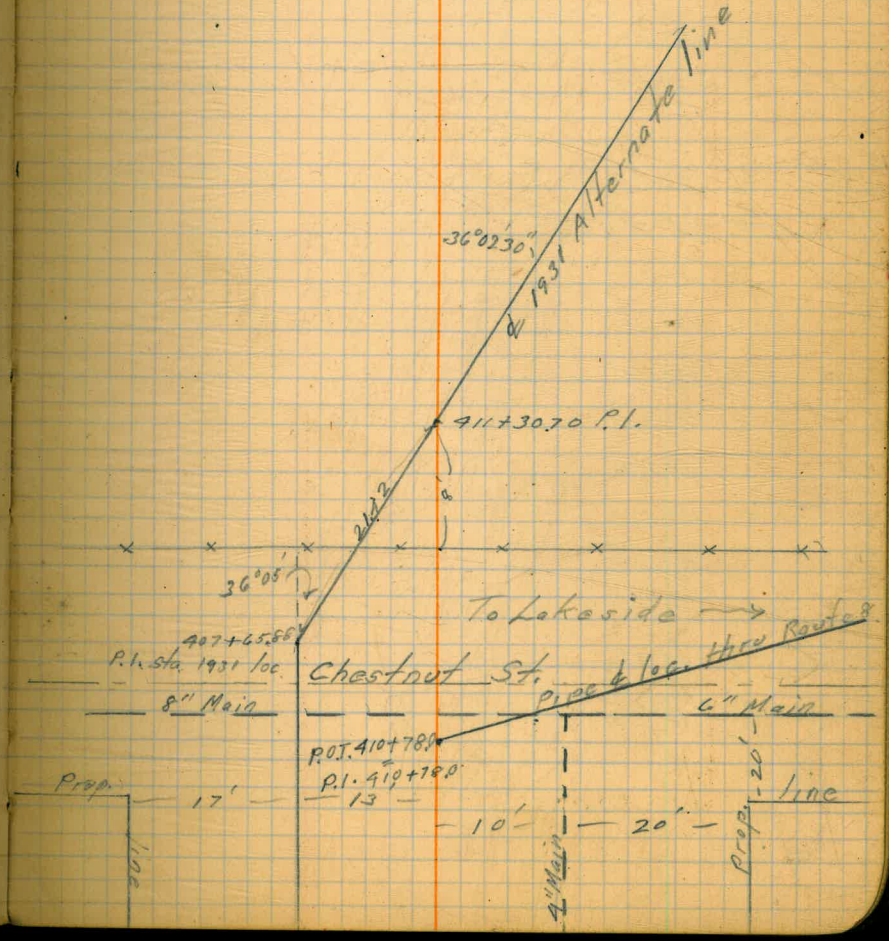
18' 12'

Tie to Alternate Line of 1931 Pipe Line Survey.

Hill 10/5/35 55
Soper
Remmen

+97.62	18°01'	EC.
+75	15°06'	
+50	11°50'	
+25	8°35'	
411	5°20'	
+75	2°04	
410+59.13	RC.	

P.I.	411+30.70
Δ	36°02'30" R.
R.	220
T	71.57
L	138.39



Line revision at Co. road & Elm St.

Line 13' N of ℄ of Final Road Location

351+58.00		
=		
351+41.80	27°29½'	E.C.
351	26°17'	
+50	24°50'	
350	23°23'	
+50	21°56'	
349	20°28'	
+50	19°01'	
348	17°34'	
+50	16°07'	
347	14°40'	
+50	13°13'	
346	11°46'	
+50	10°19'	
345	8°52'	
+50	7°25'	
344	5°58'	
+50	4°31'	
343	3°04'	
+50	1°36'	
342	0°09'	
341+94.64	B.C.	

P.I.	
Δ	54°59 R
R	987
T	513.62
L	947.16

Hill 10/10/35
Soper
Remmen

Copied into Book # 501 page 34 1/7/36

Plotted on final Profile

(cont. from page 56)

Levels on Line 13'N of ℄ Proj. Location

BM.	6.97	483.20 ✓	476.23	
341+91.64			4.4	478.8 ✓
342+20			2.1	481.1 ✓
+50			2.3	480.9 ✓
343			4.8	478.4 ✓
+50			7.5	475.7 ✓
344			8.8	474.4 ✓
+50			9.6	473.6 ✓
345			8.7	474.5 ✓
+50			8.5	474.7 ✓
346			7.8	476.4 ✓
+50			7.4	476.8 ✓
347			7.1	476.1 ✓
+50			7.7	475.5 ✓
348			8.4	474.8 ✓
TP.			8.20	475.00 ✓
	1.47	476.47 ✓		
+50			3.0	473.5 ✓
349			4.3	472.2 ✓
+50			5.7	470.8 ✓
+96			7.6	468.9 ✓
350			11.8	464.7 ✓
+50			12.7	463.8 ✓
351			14.6	461.9 ✓
+41.80			16.5	460.0 ✓
			12.7	463.8 ✓

Pow. pole Rt. of sta. 68+00 (Co. road sta.)

Check on ℄ sta. 60+50 Co. road survey El. 463.7

Line change near El Monte Park.

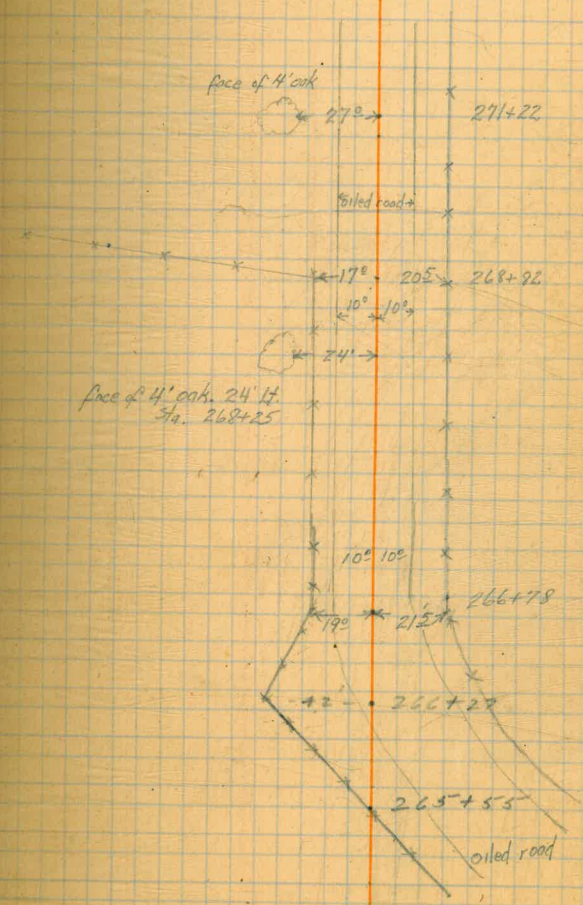
Sta.	Defloc.	Bearing	Curve Data

271+17.52 P.O.T.

Void - see page 63

+39.79	1°21'45"	E.C.
266	0°59'	
+50	0°30'	
265	0°01½'	
264+97.11	B.C.	

Δ	2°43'30" R
P.I.	265+68.49
R.	3000.
T	71.37
L.	142.68

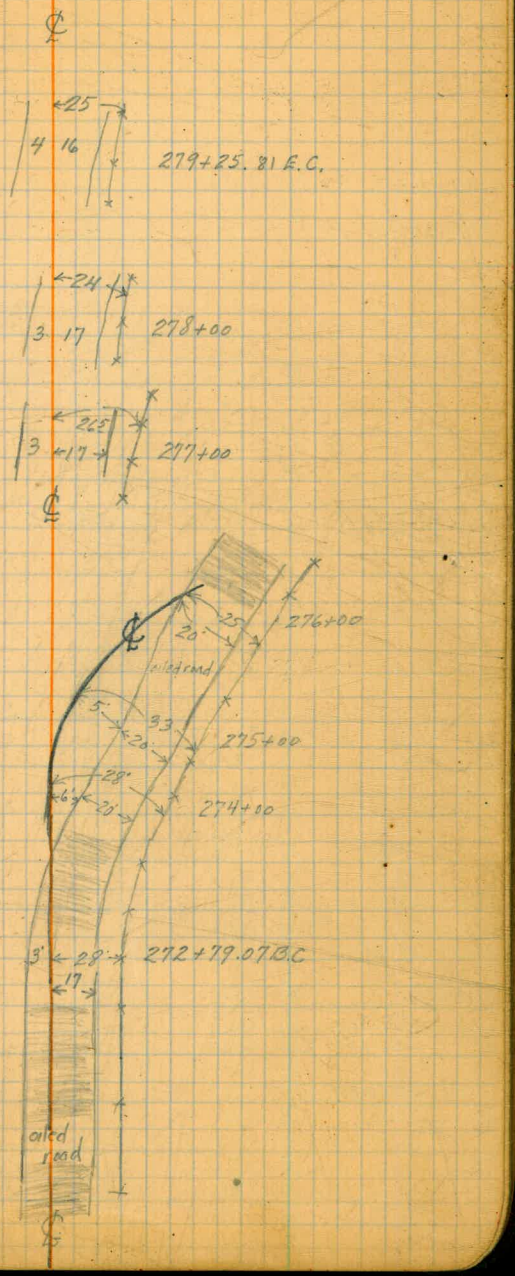


279+08.09 =
276+26.72 -

+25.81	29° 53	E.C.
279	28° 41'	
+50	26° 23'	
278	24° 04'	
+50	21° 46'	
277	19° 27'	
+50	17° 08'	
276	14° 50	
+50	12° 31'	
275	10° 12'	
+50	7° 54'	
274	5° 35'	
+50	3° 17'	
273	0° 58'	
272+79.07	B.C.	

Void see page 63

P.I. 276+35.38
Δ 59°46' R
R 620.
T 356.28
L 646.79



Revision of Pipe Line Alignment at Pumping Plant
Elevations and Sta. of cross pipes Book 509 page 76

Copied into Book 500 page 36

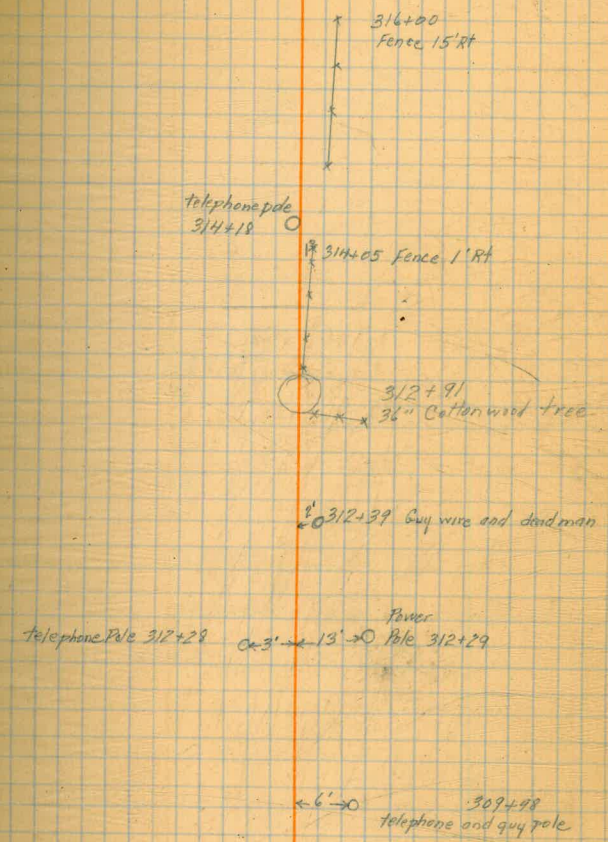
316+00 P.O.T
316+05.13 P.I

314+04.76 P.I. 3° 02' 30" Lt.

S 47° 57' 30" W.

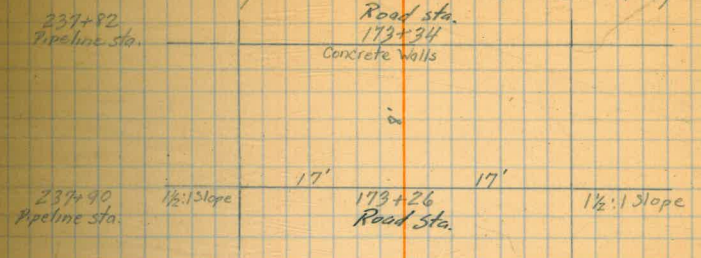
E.C. 47.96	17° 32'	Δ = 35° 04' 30" Lt.
+50	15° 32'	R = 400'
311	11° 57'	T = 126.41
+50	8° 22'	L = 244.87
310	4° 47'	P.I = 310+59.50
+50	1° 13'	
B.C. 309+33.09		

S 83° 02' W



Road
℄

8'×6' Cattle pass under road at Foster Prop.



237	Ground 469.3
237+50	468.2
238+00	467.8
238+50	467.1

Co. Road Line Revision at El Monte Park

Jan 8 1936
H.N
Soper
Remmen

268+25.70 P.O.T

N 20°38'20" E

265+78.70 E.C. 1°33'30"

+50 1°17'

265 0°48'

+50 0°20'

264+15.51 B.C.

N 17°31'20" E.

Δ 3°07' Rt
R 3000'
t 81.60
L 163.19
di 00.57295
d50 28.6475

P.I. 264+97.11

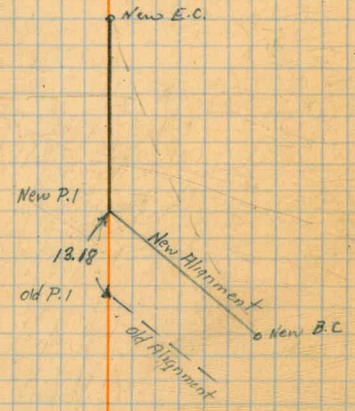
Cont'd from page 58

Cont'd on page 27

279+08.09 ahead
279+23.63 Back

279+21.56 EC	29° 40' 45"
279	28° 39'
+50	26° 16'
278	23° 53'
+50	21° 29'
277	19° 06'
+50	16° 43'
276	14° 20'
+50	11° 56
275	9° 33
+50	7° 10'
274	4° 47'
273+50	2° 23'
272+99.96 B.C.	

Δ	59° 21' 30" Rt
R.	600'
t	341.94
L	621.60
d1'	2.865
d50'	2° 23'.239
P.I.	276+41.90



May 1, 1935
H. H. - S. Simpson
Super - Rensmen

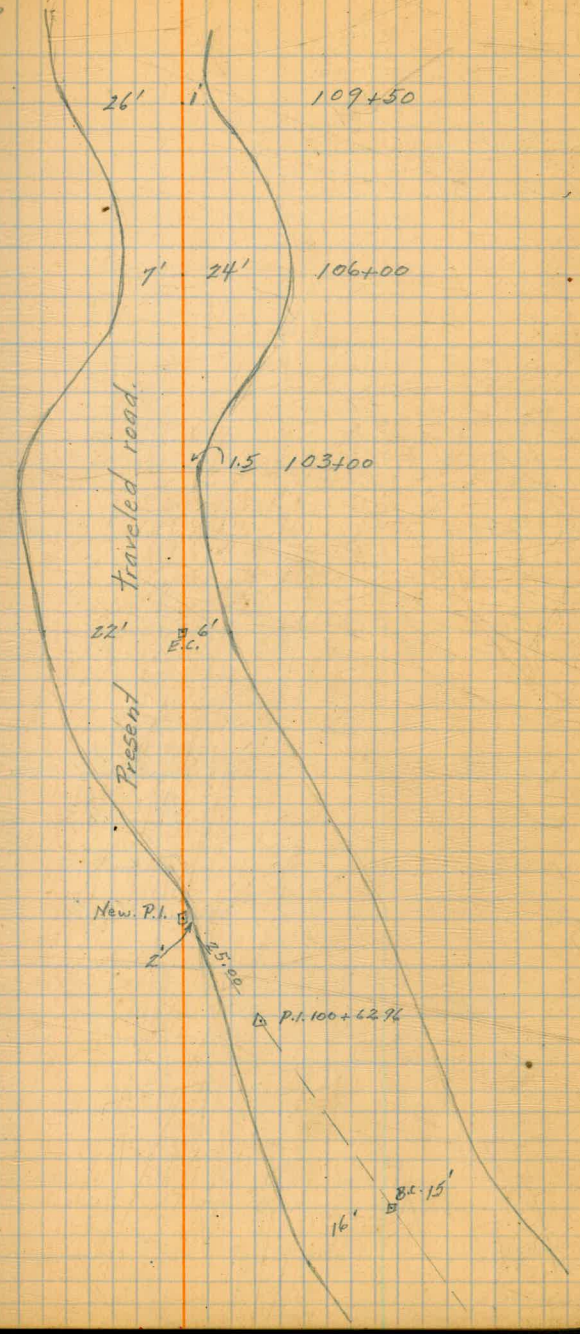
Road location - Alternate Line #2
Copied from T.W. Williams loose-leaf book. Nov. 27, 1934 H.F.S.
this line change accepted by County.

102+21.27 E.C.

Δ=35°04'30" R
R=450'
T=142.21
L=275.48

100+88.00 P.I.

99+45.79 B.C.



Cont'd. on page 19

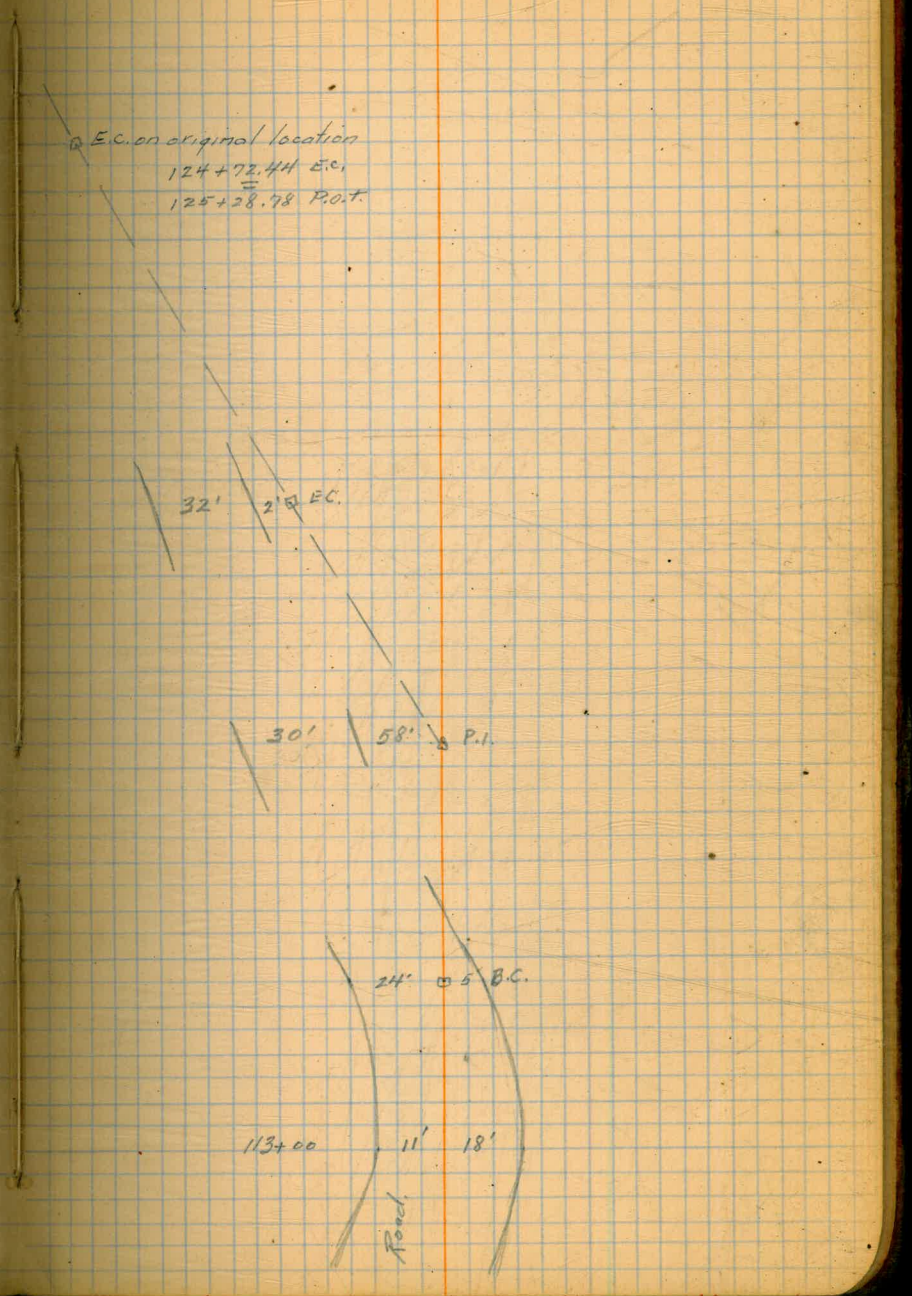
124+72.44 E.C.
=
125+28.78 P.O.T.

123+04.36 EC.

119+15.26 P.I.

Δ = 42°36'45" Lt.
R = 1100'
t = 429.00
L = 818.10

114+86.26 BC



684.60 from 8+13.6 = 0+00
0-2.35 face of plug
0+00 N. 36" pipe face of flange
0+00.12 S " " " " "
Width of 36" pipe 3.86
0.75 bet. flanges 36"
0.86 " " 36" & 48"
4.11 dia. 48"
0.50 bet. 48"
347.48 hub at portal to 8+17.15

2.50
2.38
0.12

IMPROVED TABLES

AND

INFORMATION

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ 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.

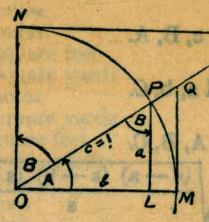


TABLE II

TRIGONOMETRIC FORMULÆ.

$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$

$R = OB = c = 1$

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

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

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

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

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

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

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

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

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

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

$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \text{Cos } A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \text{Cos } A}{2}}$

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

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

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

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

596
8860
684+60

8+156
6 84.6
1+31.0

8

8+17.15
6 84.6
255

90.00
19.78
36.22

8+17.6
6 84.6
1+33.0
23

8+17.15
6 84.60
1 32.50
2

19.8
48.5
68.3

8 50
32.83
8+17.17

8+17.15
1+33.35
6+83.80
3 47.48
10+31.28
2 15.76
12+47.03

4+20.59
1+33.35
287.24

21°35'
43°10'

308+29.30
1 31.23
309+60.53

239.5
35.0
274.5

6

239.5
30
209.5
30.0
239.

16+84.5
15+29.1
1 55.4

20+62.79
19+81.55
81.19

30.29
17
17.29
30

27

271+22
27 4 ok

38 6-20