

273

273

FIELD BOOK

No. 300

W273

3820.03  
 3012.10  
 807.93

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

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**THE FREDERICK POST CO.**  
*ENGINEERING and DRAFTING SUPPLIES*  
 IRVING PARK STATION

CHICAGO, ILL.

**MICROFILMED**

**JAN 11 1965**



R/W thru Lots D, E & 22  
Paradise Crest Add.

Far revised line from  
Nat. ranch to Chollas see  
page 7

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8/28/50

Hill - notes  
Elliot T  
Simpson Ch.  
Walton "

Not revised. Located from previous  
Pipeline survey  
See page 1

Nat. Ranch

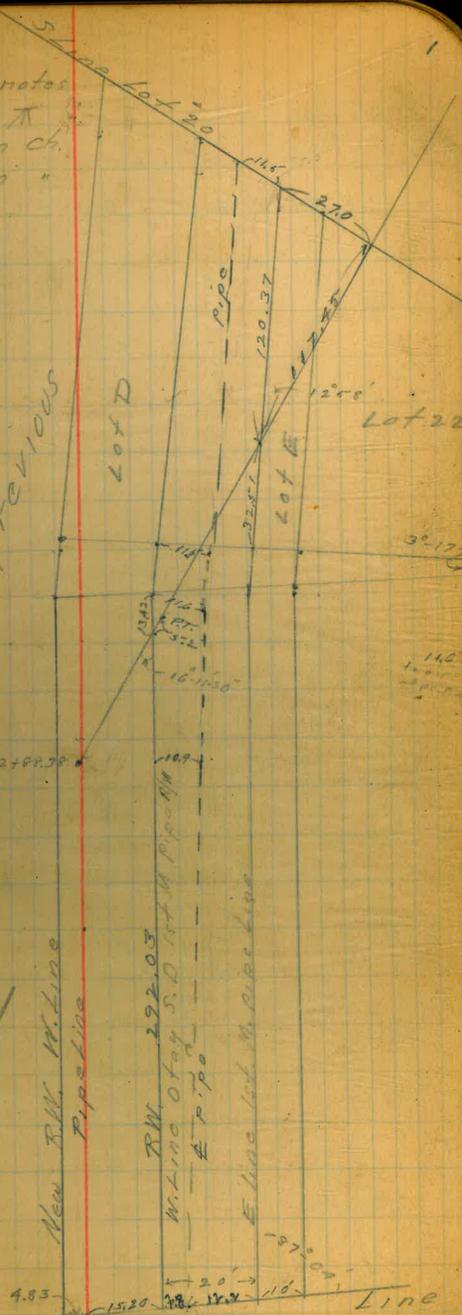
New R/W W. Line  
Pipeline

R/W 292.03

W. Line of Lot S.D. Lot 4 Pipe R/W

E. Pipe

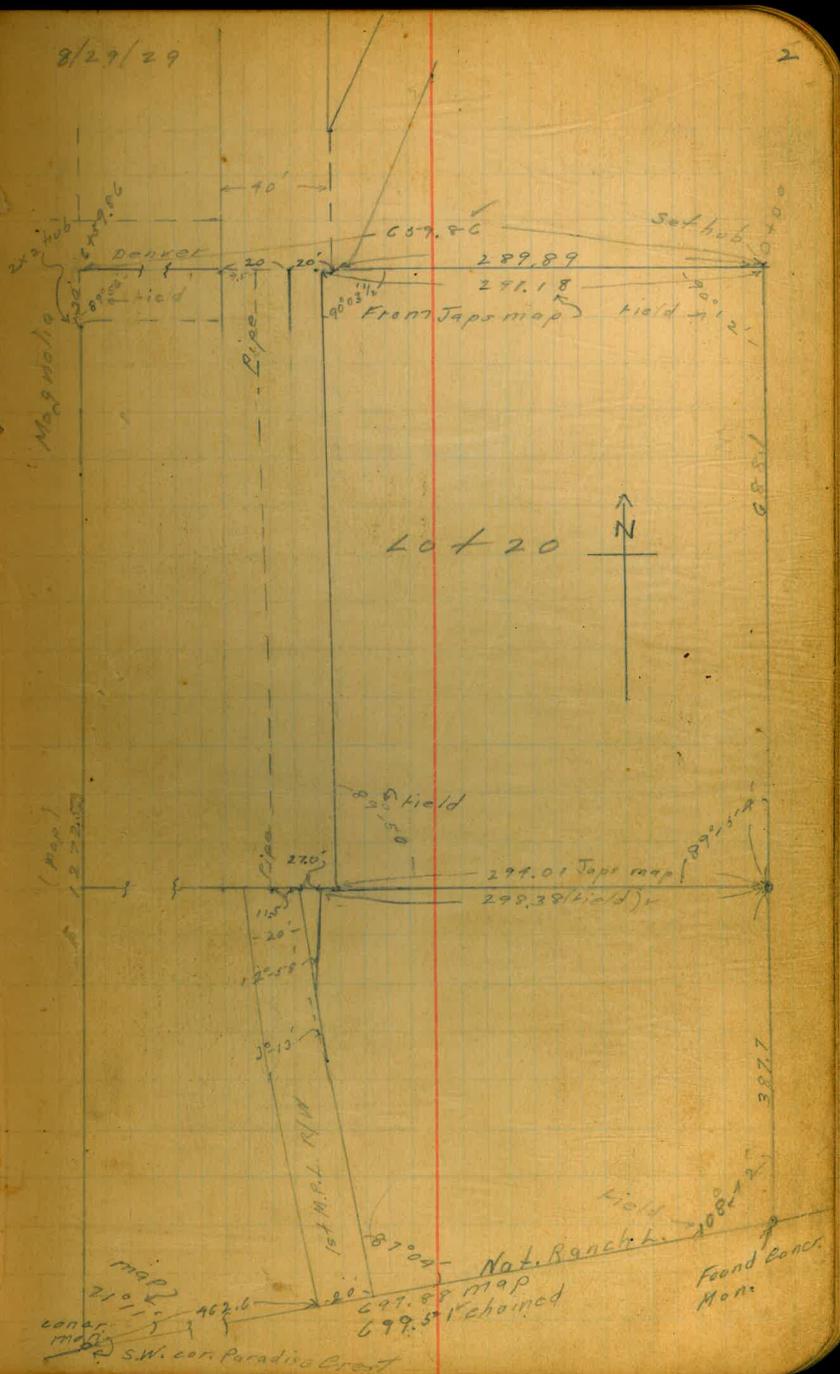
E. Line Lot 22 Pipe Line



R/W thru lots D, E + 22  
Paradise Crest Add.  
+ Lot #20

See Page #3

3/29/29



Proposed line change thru  
Lots D, E, 22 & 20 at Nat. Ranch Line

11+65.36  $\pm$  Denver St.

4+76.64 Intersec. S. Line Lot 20

3+62.21 P.T.

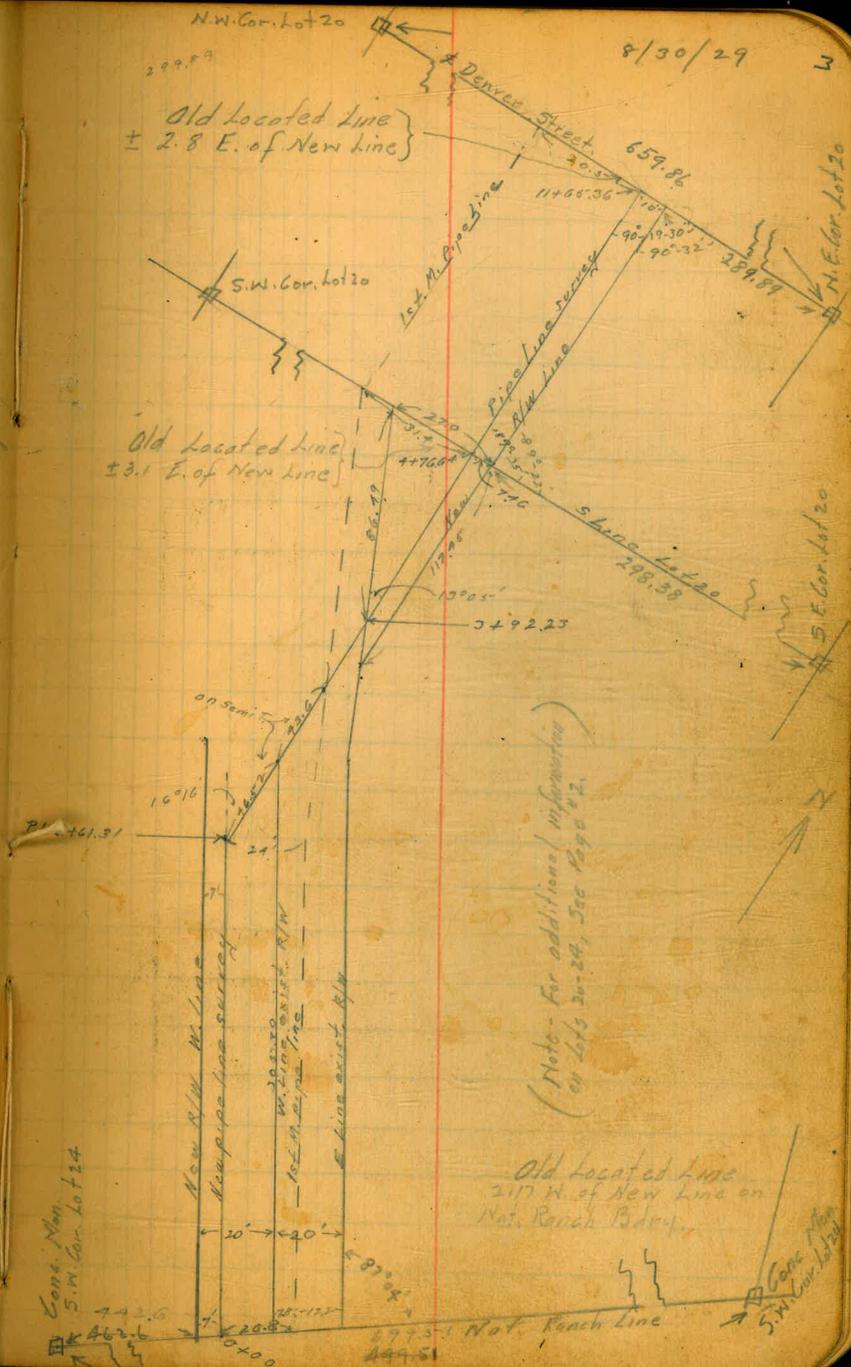
2+61.31 32-32-30  
16-16' R

1+58.88 P.C.

0+00 Nat. Ranch line

$\Delta$  16-16 R  
D 8°  
T 102.33  
L 203.33  
R 216.34

Conc. Man  
S.W. Cor. Lot 24



Found hub  
S.W. cor.  
Shaw Add

Found hub  
172.9 ch.  
173.37 Map

8/31/29

4

E Boston  
(Benston)

S.P./1

R/W from Denver to Boston Ave.

Encina De San Diego

673.91 ch Map  
674.02 Map

set hub  
20'  
10'  
3.5'

W. R/W Line

Exist. Pipe Line

E. R/W Line

New Pipe Line

E. Line Lot E

731.78

E Denver St

9.5' 10.5' 10' 10'  
20' 20'

90' 12'

N.E. cor.  
lot 20

289.89



6

O.R. S.D. 2nd. Main Pipe Line  
 A = line from Nat. Ranch line to Chollas  
 See F.B# 270, p. 55 for Divergence from Line "A"  
 Sta. Deloc. Bear Mag.

Ni-00E No-30E

635+10.39	P.T.	P.T. +07.06	8°-09'	
		635+00	7°-43'	
		+75	6°-43'	
		+50	5°-43'	
		+25	4°-43'	
634+09.49	16-16' R P.I.	634+00	3°-43'	Δ 16' 9" R
		+75	2°-43'	D 8°
		+50	1°-43'	T 102.43
				L 20.3.33
633+07.06	P.C.	633+25	0°-43'	R 716.78

Ni-16W Ni-16W

631+48.20 30-14' 12-37' L Nat. Ranch Line

Ni-33W Ni-30W

630+00 10-41-30 02-51' R.

Ni-30W

Ni-21W

Note this equation  
 in course was made at  
 the Nat. ranch line in  
 previous survey

Vol 270  
 55

Parker  
 Hill  
 Elliot  
 Simpson  
 Walton

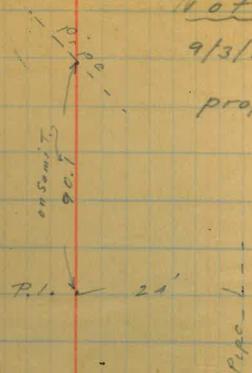
Rain

9/4/29

7

Note 9/2/29

9/3/29, Locating  
 prop. lines.



Custom  
 50' ex  
 Paradise Creek

Nat. Ranch line  
 499.6

-87.05'

631+48.20

Note stationing  
 from Otay carried  
 ahead.

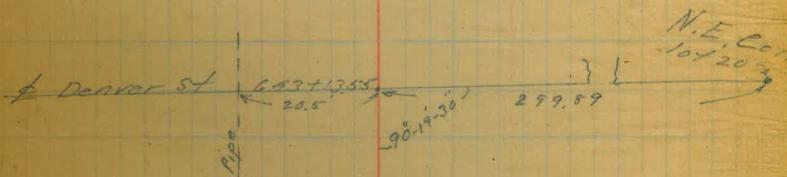
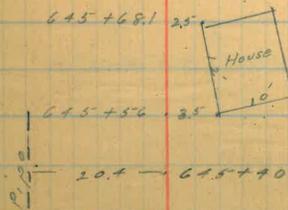
Sta DeHac Bear Mag.

643+13.53 1:02:30  
0°31' N

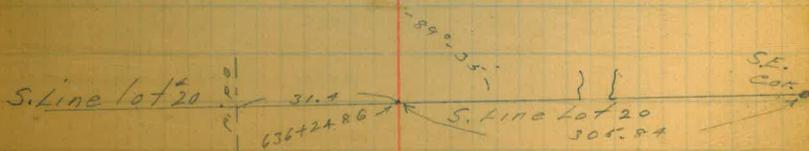
N0°29'E North

636+24.86 P.O.T.

Ni°00'E N0°30'E



Note Ties from  
page #3



Sta. Dotted Bear Mag.

0°-09'  
652+48.90 0°-04' R  
N12-42W N13°W

650+1328 P.O.T. - P.I. of R/W

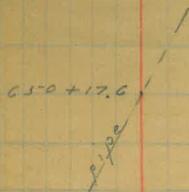
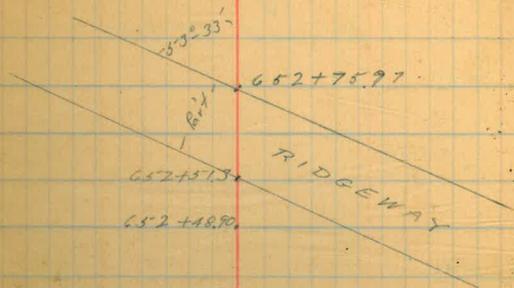
N12-40W N13°W

650+10.80 P.T.

PT. +10.80	6°-37 1/2'	
650+00	6°-12'	Δ 18'-15" L
+75	5°-12'	D 8
+50	4°-12'	T 83.25
+25	3°-12'	R 716.70
649+00	2°-12'	L 165.62
+75	1°-12'	
648+50	0°-12'	

26-30-30  
649+28.43 13°-15' L

648+15.18 P.C.





Sta. Delec. Bear. Mag

↓  
No<sup>o</sup>-29<sup>W</sup> N<sup>i</sup>-45<sup>W</sup>

664+14.82 P.T.

12-21,  
663+76.05 6°-10' R

663+37.44 P.C.

Δ 6°-10' R  
D 9  
T 38.61  
R-716.78  
L-77.08

664+15 - CA

660+78 9' - 6" pepper tree

⊙ 660+90 5" fruit tree

Concr. wall  
at W. P/L Woodman  
width 8" av. ht. 1.5'  
This wall extends  
into st. as shown

660+28.5  
0.9  
6' → 659+81

Sta. DeLoo Bear Mag.

N22-21W N3°W

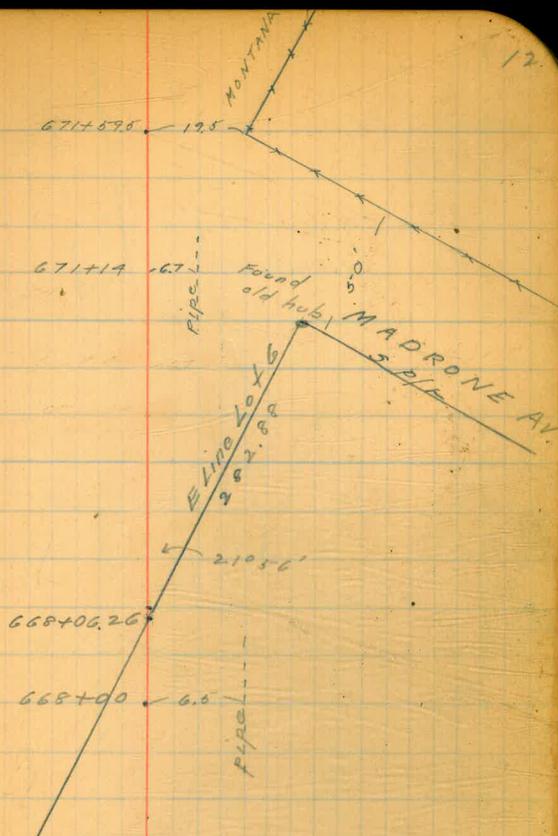
667+88.60 P.O.T.

666+75.79 P.T.

666+22.07 21°52' L

665+66.16 P.C.

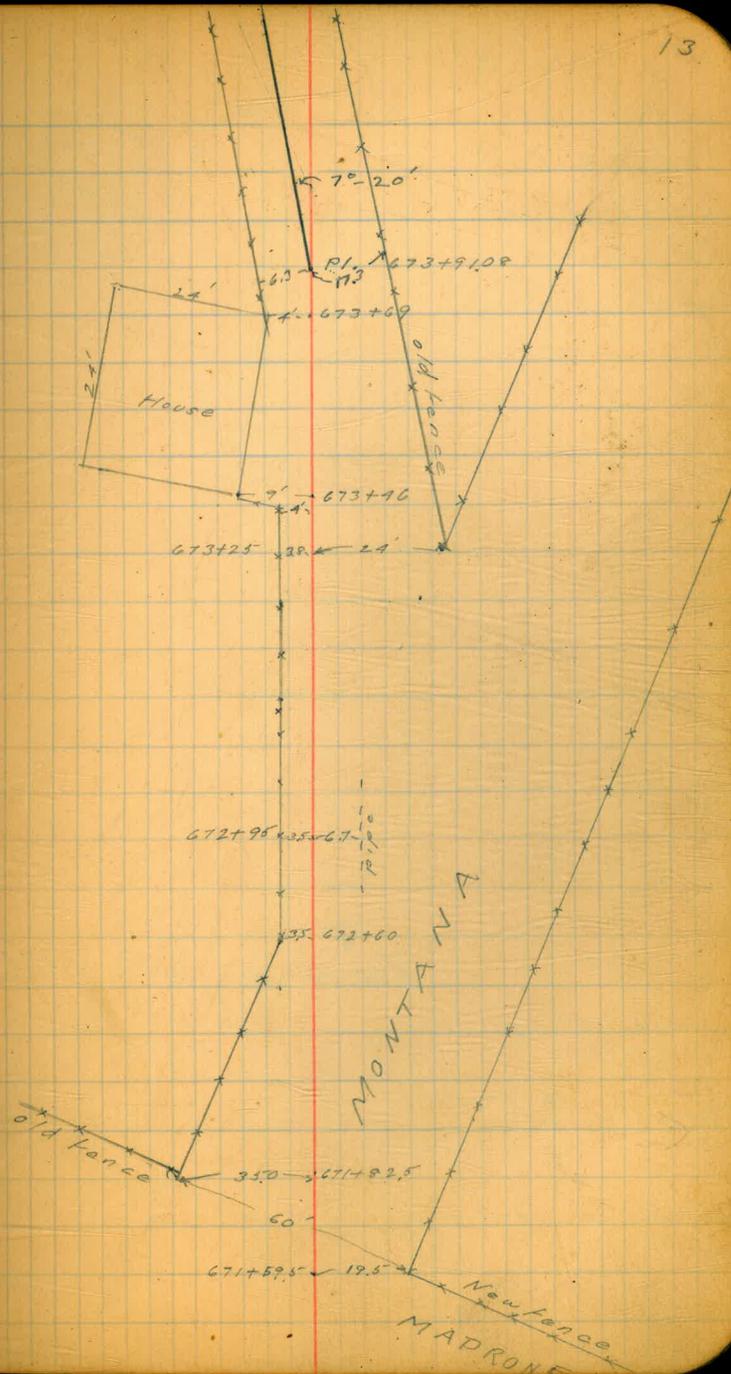
P.T. +75.79	10°56'	Δ 21°52' L
+75	10°51'	D 20°
+50	8°21'	T 55.61
+25	5°51'	R 287.9
667+00	3°21'	L 109.33
665+75	0°51'	



665+65 .58 air valve

Sta. DeHoe Bear Mag

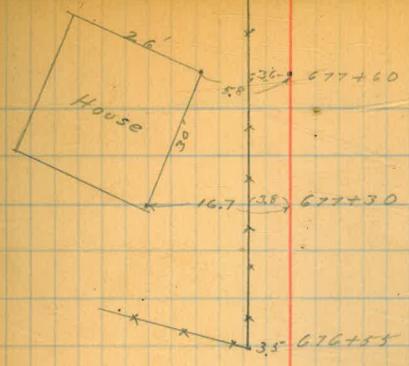
N22-21W N3°W



Sta. Dallas Bear Mag.

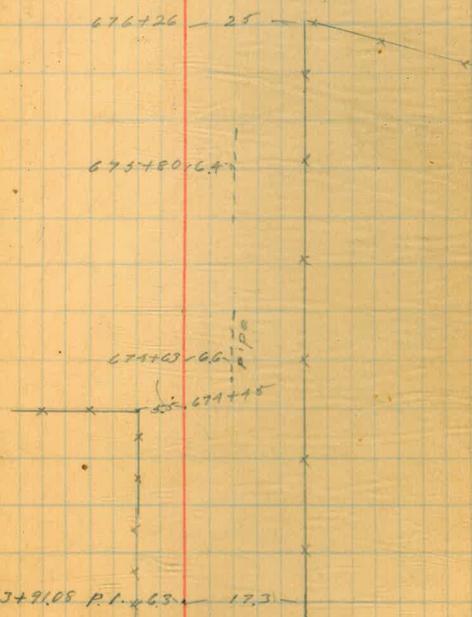
Parker Hill  
Elliot  
Simpson

9/11/29 17



Note 9/6/29  
to 9/11/29, cross  
on Hedges to  
San Diegoit conduit

road 676+40



↓  
N29-41W N30-30W

674+36.82 P.T.

17-39-30  
673+91.08 7°-20' L

673+45.15 P.C.

Δ 7° 20' L  
D 8°  
T 45.93  
R 716.78  
L 91.67

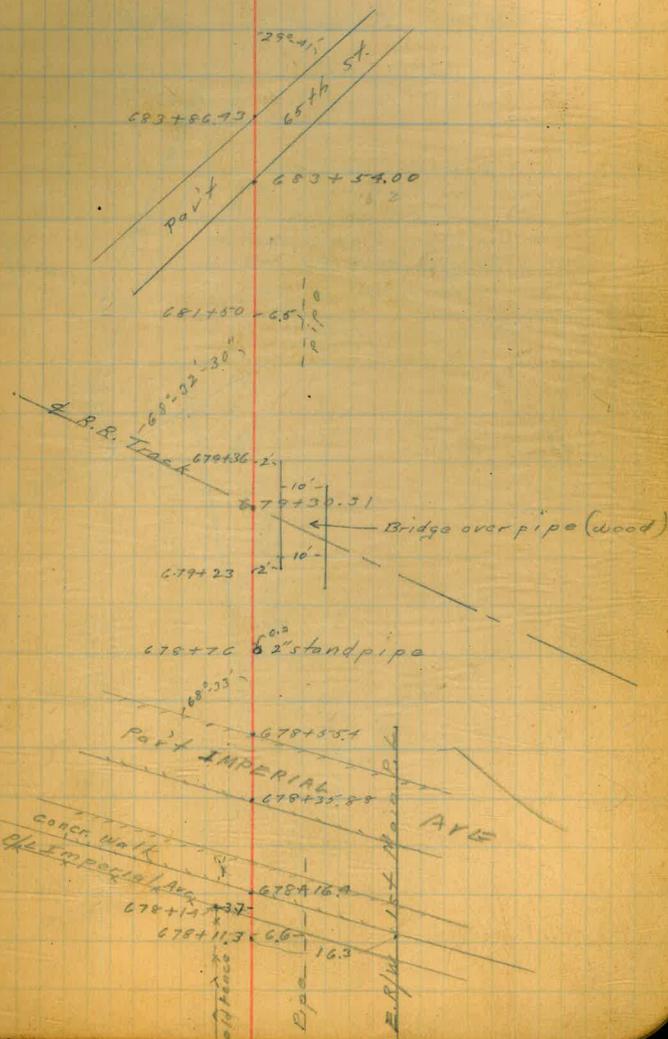


Sta Detlec Bear Mag.

683+54.00 P.O.T. A<sup>2</sup> = 60°

678+15.78 P.O.T.

685+00 -7.5  
684+59.5 -16.5



Sta. DeLee Bear Mag

Note For alternate line requiring  
no additional R/W see page 39

688+86.3 S P/L Brooklyn Ave.

Note Using a 16° curve  
gives an external of  
about 5' which throws line  
outside of R/W, however as  
an angle would also need  
additional R/W, the 16° curve  
was used.  
Curva data on page 17.

~~Abandon~~  
See page 39

Found 2x2 hub  
at Cor 12

CYPRESS LANE

New survey  
89.00'

BROOKLYN AVE

P.I. 689+80.23

19° 12'

190°

3.08'

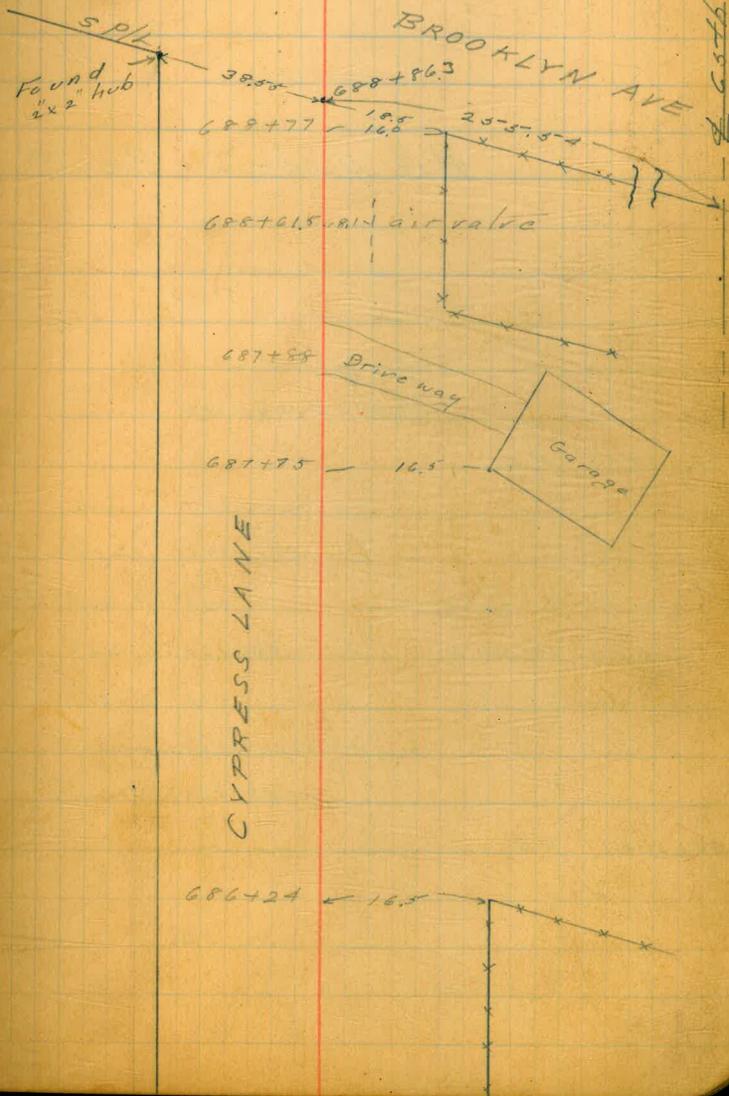
263.2 to W/E/C 688+86.3

688+86.3

19.5'

9/12/29

16



Found  
2x2 hub

38.00'

688+86.3

BROOKLYN AVE

689+77

1.88'

16.2'

25-57.8-4

688+61.5 air valve

687+85

Driveway

Garage

687+75

16.5'

CYPRESS LANE

686+24

16.5'

686+54

Sta. Detlec Bear. Mag.

Not used - See Page 39.

~~N48°55'W N50°30'W~~

690+39.47 P.C.

PT. +39.47 9°-36' Δ 19-12' L

+25 8°-26 1/2' T 60.76

R 359.26

689+80.23 19° 12' L

690+00 6°-26 1/2' L 129.00

+75 1°-26 1/2'

+150 2°-26 1/2'

689+25 0°-26 1/2'

689+19.47 P.C.

692+43 7.2 10" cones abut.

692+28 1.7 0

692+13 4.8 0

691+98 3.4 0

691+83 2.1 0

691+68 1.3 0

691+53 0.7 0

691+38 0.1 0

691+23 0.5 0

Trestle

691+08 1.5 0

690+93 2.5 0

690+78 3.7 0

690+63 6.7 0

8"x12" coner. blocks supporting struts  
sand or coner. abut 1/16" thick

690+25 6.7

Note Ties to pipe

made from

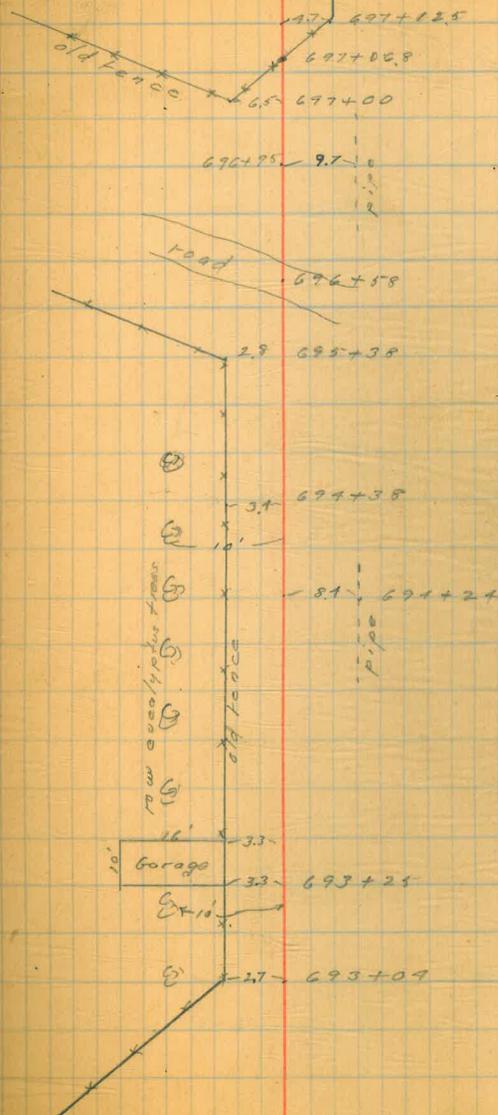
points on curve

689+75 7.7

689+35 7.5

Sta. Dotted Bear Mag.

692+92.16 P.O.T.

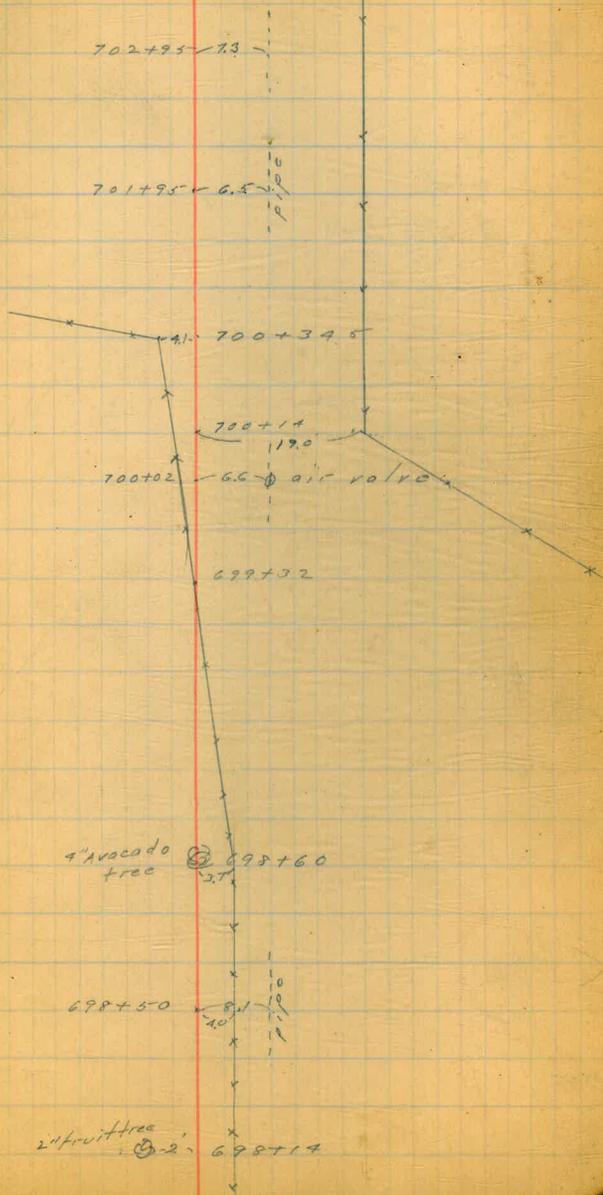


Sta Petlee Bear Mag.

~~700+18.25 P.O.T.~~

698+54.94 P.O.T.

19





N37-10W

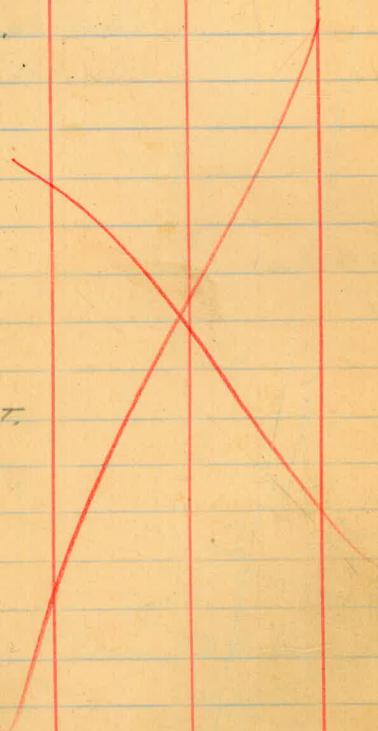
709+7.79 P.T.

A 22-31  
D 20°  
T 57.32  
R 297.94  
L 112.5E

709+19.53 22°-31'R

708+62.21 P.C.

706+30.05 P.O.T.



Concr. Man hole

on semit. 21.0  
709+19.53 P.I.

708+15 - 4.7

707+00 - 6.8

706+40 - 6.8

705+00 - 7.0



Sta. Dakota Bear Mag.

~~N20-0+W~~

712+29.97 P.T.

711+77.10 17-06R

711+23.09 P.C.

Δ 17-06R  
D 16°  
T 54.01  
R 359.26  
L 106.88

9/18/29

22

Parker  
Converse  
Hill  
Elliot  
Simpson

713+357.67

P.C. 74

709+79 8.10 air valve

Sta Deflec Bear Mag.

N 51° 00' W

7184+29.72 P.T.

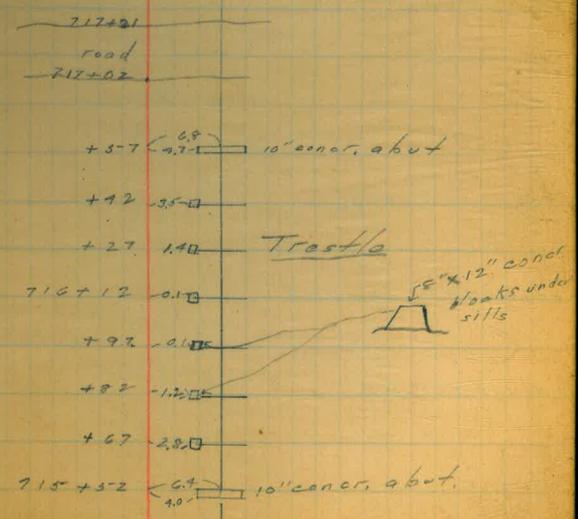
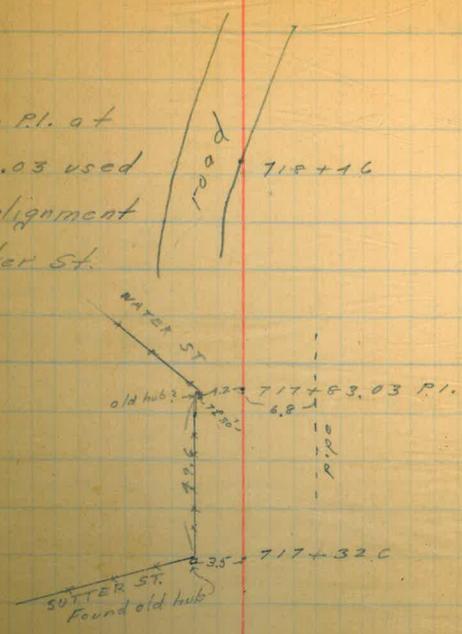
62-09 1/2  
717+83.03 31° 05' L

717+32.58 P.C.

PT +29.72	15° 32' 1/2	Δ 31-05-L
+25	14° 45'	D 32°
718	10° 47'	T 50.95
+75	62° 47'	R 181.40
717+50	2° 47'	L 97.14

Note For alternate line that would require no additional R/W see back of book. A<sup>3</sup> Line. Page 478

Note from P.I. at sta. 717+83.03 used previous alignment along Water St.



Sta. Deflec. Bear. Mag.

N10-59E

	P.T. +2240	21°-16'	
	+25	20-40 1/2	
	722400	18-40 1/2	
724+3240	+75	16-40 1/2	
	+50	14-40 1/2	
	+25	12-40 1/2	
	723700	10-40 1/2	Δ 42-32R
	+75	8-40 1/2	D 16°
723+06.10	+50	6-40 1/2	T 139.83
	+25	4-40 1/2	R 357.26
	722700	2-40 1/2	L 265.83
721+66.57	721+75	0°-40 1/2	

N31-33W

719+78.07	P.T.		
719+44.97	19°-36'R		Δ 19-36R
			D 29
			T 34.94
			R 199.70
719+10.78	P.C.		L 67.59

Sta. DeHoc Bear Mag.

N26-17W

730+95.21 P.T.	RT. +95.21	15°-28'	
	+75	14°-21'	
	+50	12°-21'	
	+25	10°-21'	Δ 31-56 L
	730+100	8°-21'	D 16°
729+98.72 31°-56' L	+75	6°-21'	T 102.79
	+50	4°-21'	R 359.26
	+25	2°-21'	L 199.58
728+95.63 P.C.	729+100	0°-21'	

N5-07E

727+96.30 P.T.			
			Δ 8°-15 R
727+62.05 8°-15 R			D 12°
			T 39.50
			R. 478.34
			L 68.75
727+27.55 P.C.			

N3-06W

725+58.28 P.T.			
			Δ 17-05 L
725+19.64 17°-05 L			D 16°
			T 11.38
			R 36-92
			L 88.02
724+70.26 P.C.			

Sta. Detlec. Bear. Mag.

Parker  
Converse 9/20/29  
Hill  
Simpson  
Walton

Rain in P.M.

26

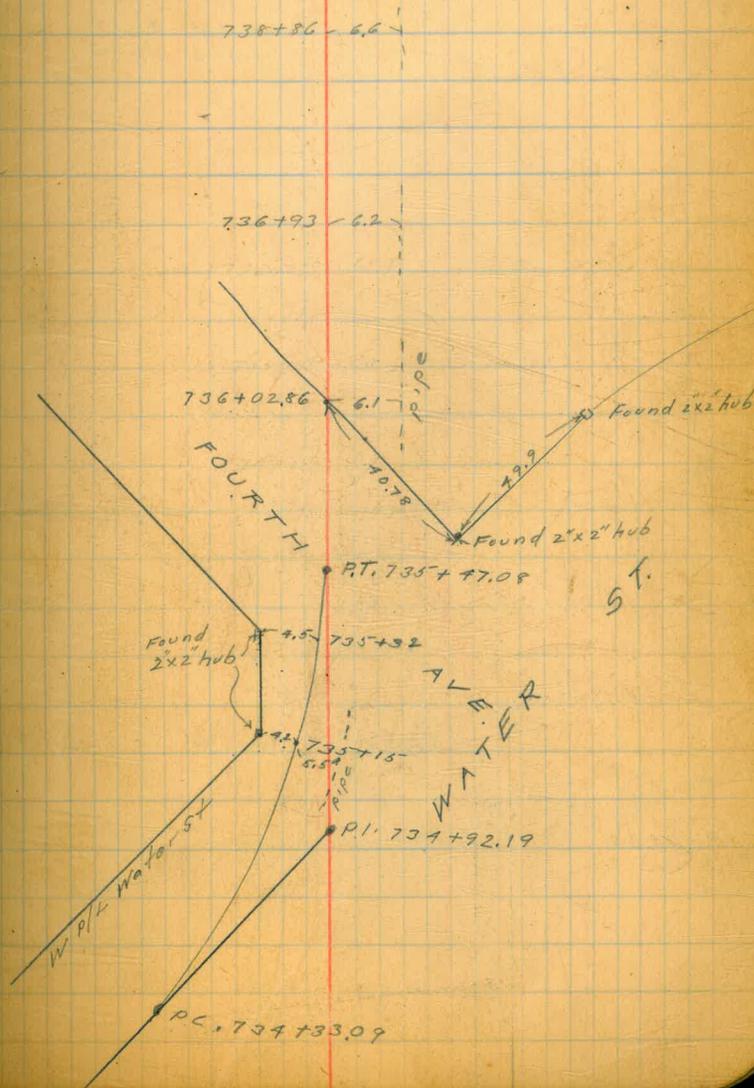
~~735+47.08 P.T.~~

~~63°-50'  
734+92.19 31°-55'~~

~~734+33.09 P.C.~~

~~P.T. +47.08 15°-55'  
+25 12°-52'  
735+00 9°-22'  
+75 5°-52'  
734+50 2°-22'~~

~~A 31°-55'  
D 280  
T 5910  
R 206.69  
L 113.99~~



Sta. Deftco. Bear, Mag.

713+66.28 P.T.

P.T. +66.28 2+04'

+50 21°-17'

+25 18°-17'

Δ 48°-08'

713+00 19°-17'

D 28°

712+86.69 48°-08' R

+75 11°-17'

T 92.31

+50 7°-17'

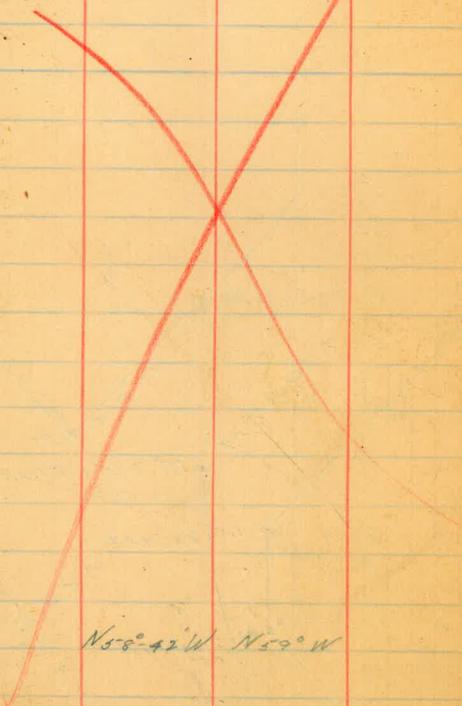
R 206.68

+25 4°-17'

L 171.90

711+94.38 P.C.

712+00 0°-17'



739+08.08

road

16'-0" 713+60-6.5-0

Ties from curve

712+85-6.7-0

712+30-8.1-0

road

711+19-6.5-0 air valve

710+50-6.7-0

road 710+35

58'-25"

99.69

found 2'x2' hub

739+08.08

W. Line Empire Add

Sta. Delee Bear Mag.

N32-30W N32°W

747+66.97 P.T.

747+17.33 44-33  
22° 16' L

746+65.76 P.C.

P.T. +66.97 11-08  
+50 9-16  
+25 6-31  
747+00 3-46  
+75 12-01

Δ 22-10 L  
D 22°  
T 51.57  
R 262.04  
L 101.21

N10-34W N12°-30W

748+15 - 70' air valve

747+85

10' 2  
P.T. - 6.7

747+17 - 6.5 (on curve)

P.C. 6.5

746+52 - 6.5

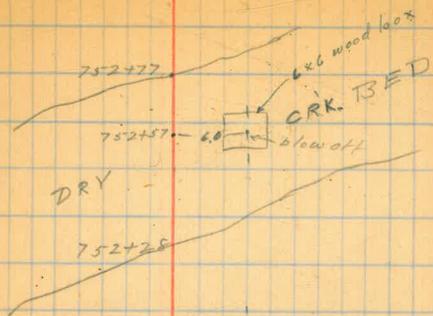
745+60 - 5.9

744+72 - 6.6

744+22 - 6.6

10' 2  
road

Sta. D.H.C. Bear. Mag.



751497 - 6.8

750453 - 6.0



719400 - 6.1

~~N32-50W N32W~~

~~718498.58 P.O.T.~~

~~718443.16 P.O.T.~~

Sta. Det/loc

~~758+41.68 P.O.T.~~

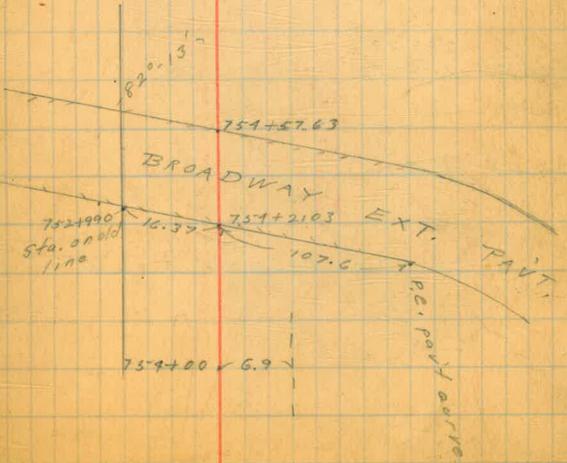
~~754+21.03 P.O.T.~~

760+80 - 6.8

752+50 - 6.5

758+08 - 6.7

756+26 - 6.3



Sta. Delec Bear Mag  
N58-30W N57°W

766+17.03 PT.

16-52,  
765+8201 89-264

765+16.75 P.C.

Contd. from Page 49.

763+19.88 PT

38° 28'  
763+26.54 15° 14'

763+02.28 P.C.

N48-09W

N32-50W N38W

A 88.26  
D 12°  
T 35.26  
R 478.34  
L 70.28

A 150.44  
D 32°  
T 24.26  
R 181.40  
L 47.60

Parker  
Converse  
Hill  
Simpson  
Walton

9/21/29

31

65-766+12

65-765+11

air valve 6.8-764+09

6.1-PT.

7.0-P.I.

PIPE  
762+98

762+50, 6.5

A2

Sta. Det/loc. Bear Mag.  
 N75-55W N76W

770+458.71 P.T.

P.T. 458.71 9°-42' 1/2

+50 8°-40'

Δ 19°-25'

D 16°

T 41.14

R 240.89

L 80.90

770+18.95 19°-25'

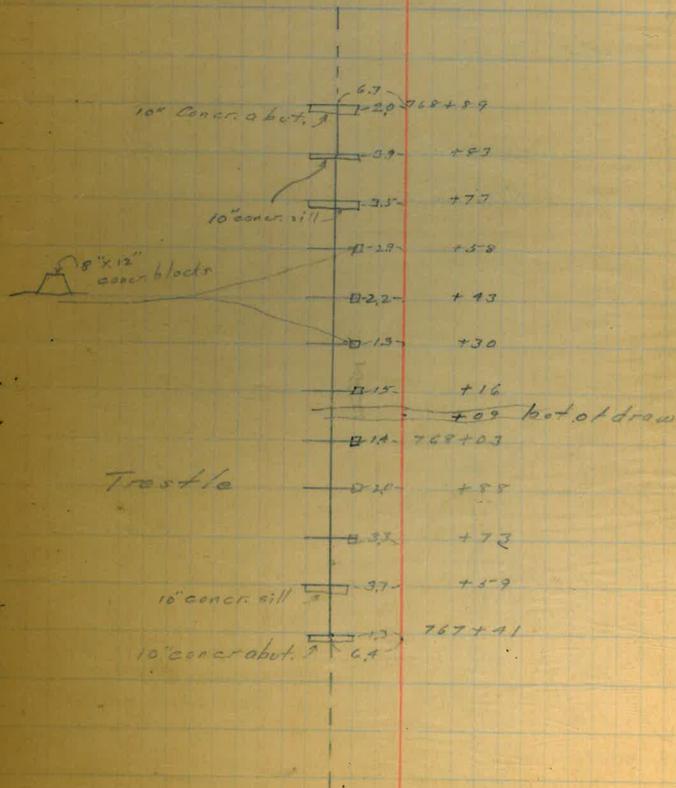
+25 5°-40'

770+00 2°-40'

769+77.81 P.C.

32

7.4 - 770+40



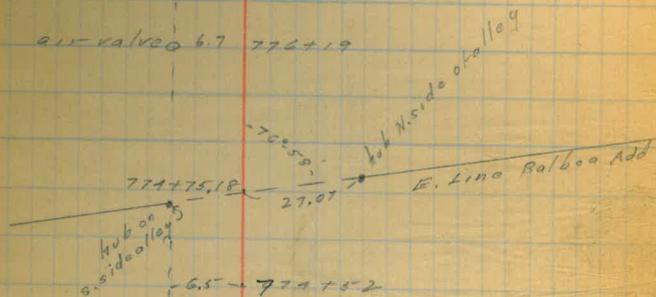
Sta Deflec Bear Mag

✓  
N. 75° 40' W

774+75.18 0° 15' R.

N. 75° 55' W.

air valve 6.7 772+19



6.5 - 774+52

6.5 - 772+15

air valve 6.5 - 772+22

6.5 - 771+18

Sta. Deflec. Bear Mag.

✓  
N. 0° 09' E. N. 0° 30' W

779+16.79 P.T.

777+98.27

151° 38'  
75° 49' R

776+25.19 P.C.

N. 75° 40' W

Δ = 75° 49'  
D = 26°  
R = 222.27  
T = 173.08  
L = 291.60

776+25.19  
+50 3-13.5  
+75 6-28.5  
777 9-43.5  
+25 12-58.5  
+50 16-13.5  
+75 19-28.5  
778 22-43.5  
+25 25-58.5  
+50 29-13.5  
+75 32-28.5  
779 35-43.5  
+16.79 37-54.5

30  
x 8.5 > 787+60

Air Valve x 8.4 > 786+00

x 8.4 > 784+53

x 8.8 > 783+35

x 8.9 > 781+85

x 7.9 > 780+83

x 8.5 > 779+80

x 7.6 > 779+16.79

x 6.7 > 778+75

x 10.1 > 778+25

x 12.1 > 777+15

Sept. 23, 1929.  
Parker  
Converse  
Elliott  
Walton  
Clear + Warner

Sta. Deflec. Bear Mag

797 +18.13 P.O.T.

789 +81.74 P.O.T. N. 20° 11' E

789 +04.22 P.T.

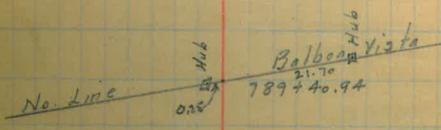
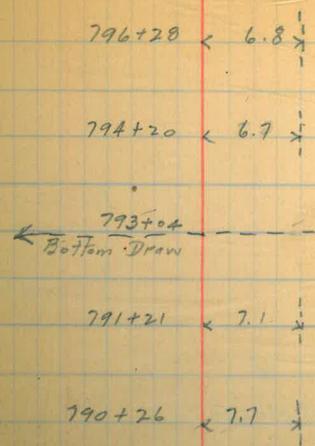
788 +42.47 40° 04' 20° 02' R.

787 +79.01 P.G.

N 0° 09' E

$\Delta = 20^{\circ} 02'$   
 $D = 16'$   
 $R = 359.27$   
 $T = 63.46$   
 $L = 125.21$

787 +79.01  
788 +00 - 1-41  
+25 - 3-41  
+50 5-41  
+75 7-41  
789 9-41  
+04.22 10-01



788 +97.7 < 7.2 Air Valve

Line crosses W.S. Pipe  
line on this curve.  
W.S. Pipe buried 6 to 10 ft.

Sta. Deflec. Bear Mag

802+09.66 P.T.

801+67.67 55°36'  
27°48'R.

801+22.78  
+50 - 4-21 Δ=27°48'  
+75 - 8-21 R=181.40  
802 - 12-21 D=32°  
+09.66 - 13-54 T=44.89  
L=86.88

= 801+67.67 A<sup>2</sup> P.I. =  
= 800+11.05 P.I. =

801+22.78 P.C. ✓

N 0°55'E

801+03.96 P.T.

800+56.50 19°16' L.L.

Δ=19°16'  
R=287.94  
D=20°  
T=48.87  
L=76.33

800+07.63  
+25 - 1-44  
+50 - 4-14  
+75 - 6-44  
801 - 9-14  
+03.96 - 9-38

800+07.63 P.C.

799+45.00 P.O.T.

800+04  
Sp. Property M. x Fence Coppel's Res.  
797+97 < 6.5 Air Valve

797+50 < 6.4

797+18.13 P.O.T. N.20°1'E

Sept. 24. 1929  
Parker  
Converse  
Elliott  
Walton.  
Clear + Warm

Sta Deflec Bear Mag

8.79  
09.66  
18.45

Could in FB # 274, Pg. 9

I have assumed a deflection  
angle here of 90° left.

# 10/25/29

Equation -

802+21.04 End of A<sup>2</sup> Line

802+18.45 P.O.T.

N. 28° 43' E

802+09<sup>66</sup> P.T.

# D" Line

= 800+66.20 D" P.I. =  
802+21.04 A<sup>2</sup>

= 802+18.45 A<sup>2</sup> P.O.T. =  
800+63.61 P.T.

802+14.5 24" W.S. Pipe



A<sup>2</sup> Line - An alternate line from Encanto School to Balboa Vista, keeping within Present 20' R/W and on E. Side Present W.S. Pipe

Sta. Deflec. Bear Mag.

✓  
N. 48° 54' W

690+29.84 P.T.

T.C. 689+54.16 Δ: 24° 13'  
+75 - 3° 20' D: 32°  
690 - 7° 20' R: 181.40  
+25 - 11° 29' T: 38.92  
P.T. +29.84 - 12° 06.5 L: 75.68

689+93.08 P.I. 48° 26' 20"  
24° 13' L

689+54.16 P.G.

✓  
N. 24° 41' W

A<sup>1</sup> 688+85<sup>00</sup> P.I. 5° 0' R.  
A<sup>2</sup> 688+85<sup>00</sup> P.O.T.

✓  
N. 29° 41' W

683+54<sup>00</sup> A<sup>2</sup> P.O.T.

39

0.0 691+71.3  
0.0 691+56.5  
0.0 691+50  
0.0 691+41.5

Trestle

0.0 691+27  
1.3 691+11.5  
2.6 690+97  
3.0 690+82  
10" Conc. Abut. 2.7  
6.2 690+66 End Trestle

Note - Abut. of new Trestle at Sta. 691+00 Length ± 100.0

6.6 690+29.84

N.E. Cor. Lot 22 Encanto Hts. Map # 1063

2.0 689+64  
5.0

689+54.76 Line crosses Pipe

2.5 689+37

688+85 7.5

685+00 7.4

Oct. 2, 1929.  
Clear + Warm  
Parker  
Converse-X  
Elliott  
Walton

A<sup>4</sup> Line

699+01.12 P.O.T.

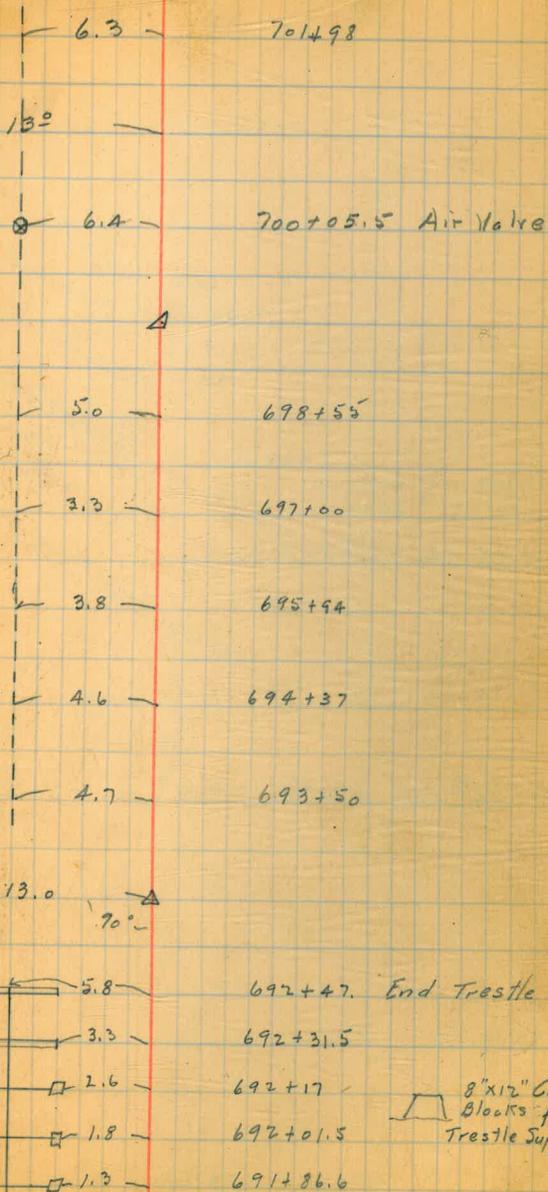
N. 48° 54' W

692+96.80 P.O.T.

A<sup>2</sup> P.O.T.  
700+18.25

A<sup>2</sup> P.O.T.  
692+93.16

Conc. Sill 1<sup>2</sup>  
Wide



8" x 12" Conc. Blocks for Trestle Supports

A+ Line

N. 59° 42' W

703+84.34 P.T.

703+50.80 P.I. 10° 48' L

703+16.84 P.C.

N. 48° 54' W

$\Delta = 10^{\circ} 48'$   
 $D = 16'$   
 $R = 359.26$   
 $T = 33.96$   
 $L = 67.50$

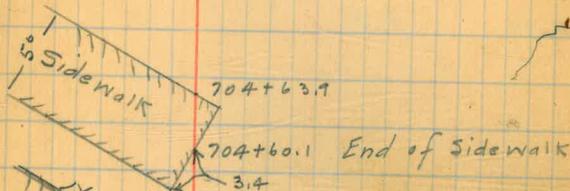
A2 P.I.  
703+46.09

Line

A2 95° 24'

6.4 706+44

6.1 705+07



End Curb

No. Edge

Back

So. Edge

Manhole for Gas Line  
704+26 24" x 24"

703+84.34 P.T.

704+48.7

704+26

703+84.34

704+26

704+26

704+26

704+26

704+26

704+26

704+26

704+26

704+26

704+26

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704+26

704+26

704+26

704+26

704+26

704+26

704+26

7.6 Point on S. Tangent

13.06

703+50.80 P.I.

5.4 702+98

A<sup>1</sup> Line

713+01.84

P.O.T.

N. 20° 05' W

712+36.99

P.T.

711+75.78 P.I. 17° 19' R.

$\Delta = 17^{\circ} 19'$   
 $D = 14'$   
 $R = 410.28$   
 $T = 62.48$   
 $L = 123.69$

711+13.30

P.C.

N. 37° 24' W

709+69.97

P.T.

709+20.26 P.I. 22° 18' R.

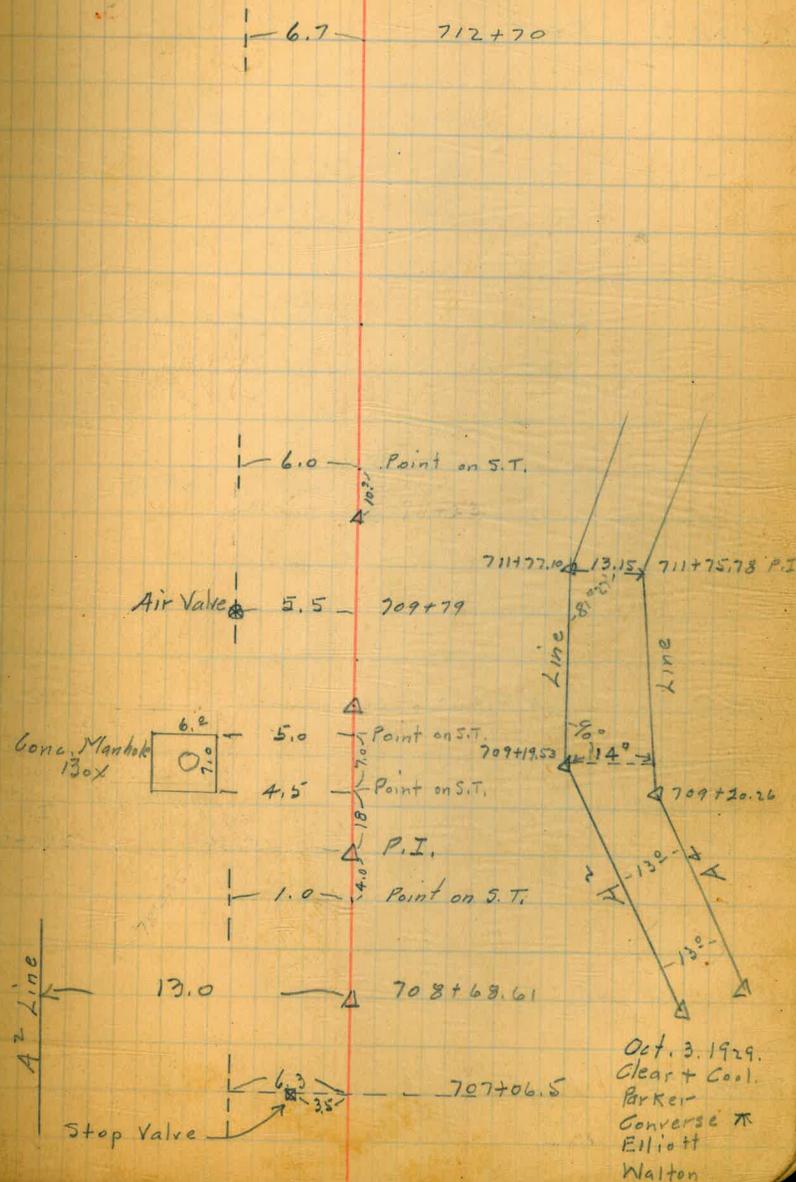
$\Delta = 22^{\circ} 18'$   
 $D = 22'$   
 $R = 262.04$   
 $T = 51.65$   
 $L = 101.36$

708+68.61

P.C.

N. 59° 42' W

42

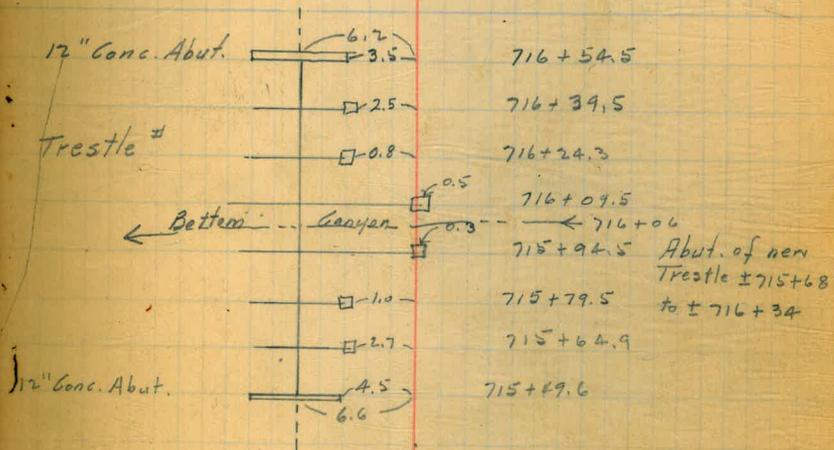
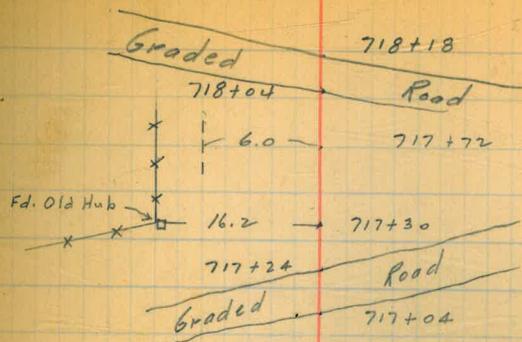


718+16<sup>03</sup> P.O.T.

N. 20° 05' W

715+31.12 P.O.T.

713+01.84 P.O.T.



714+61

3.0 18" Euc. Tree

6.3

713+34

713+12

4.0 18" Euc. Tree

N. 3° 12' W

725+09.56 P.T.

724+57.36 16° 53' R

724+04.04 P.C.

722+89.57 P.O.T.

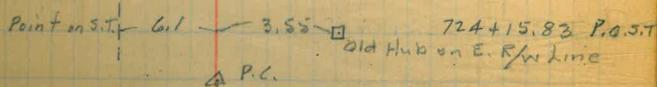
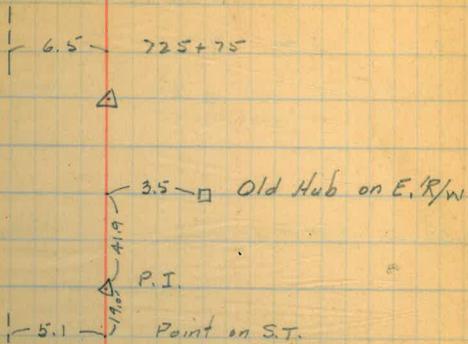
N. 20° 05' W

719+60.00 P.O.T.

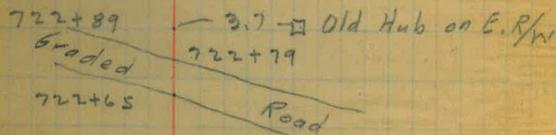
718+16.03 P.O.T.

$\Delta = 16^{\circ} 53'$   
 $D = 16^{\circ}$   
 $R = 359.26$   
 $T = 53.32$   
 $L = 105.52$

Oct. 4, 1929  
 Clear + Warm  
 Parker  
 Converse &  
 Elliott  
 Walton



Air Valve 6.5 723+92



6.2 722+10

5.9 719+20

Old Hub. 9.6 718+16.23

N. 26° 53' W

730 + 29.36 P.T.

728 + 49.82 P.C.

+ 75 - 2 - 16

729 + 25 - 4 - 31

+ 50 - 6 - 46

+ 75 - 9 - 01

730 + 27.36 - 11 - 16

+ 27.36 - 13 - 31

- 16 - 09.5

 $\Delta = 32^\circ 19'$  $D = 18^\circ$  $R = 319.62$  $T = 92.61$  $L = 179.54$ 

729 + 42.43 32° 19' L.

728 + 49.82 P.C.

N. 5° 26' E

727 + 21.41 P.T.

726 + 94.57 8° 38' R

 $\Delta = 8^\circ 38'$  $D = 14^\circ$  $R = 359.26$  $T = 27.12$  $L = 53.96$ 

726 + 67.45 P.C.

N. 3° 12' W

725 + 09.56 P.T.

6.7

731 + 72

7.0

730 + 52

P.T.

3.5

Old Hub on E. R/W  
Point on S.T.

6.0

729 + 37 Point on Curve

6.7

Point on S.T.

3.5

Old Hub on E. R/W

P.C.

6.6

728 + 36

P.T.

3.5

Old Hub on E. R/W

5.0

P.T.

3.5

Old Hub on E. R/W

P.C.

741+34.80 P.O.T.

N. 58° 41' W

735+43.58 P.T.

733+89.00 63-35  
31° 48' L.

732+25.58	P.C.
+50	-1-13
+75	-2-28
733	-3-43
+25	-4-58
+50	-6-13
+75	-7-28
734	-8-43
+25	-9-58
+50	-11-13
+75	-12-28
735	-13-43
+25	-14-58
+43.58	-15-54

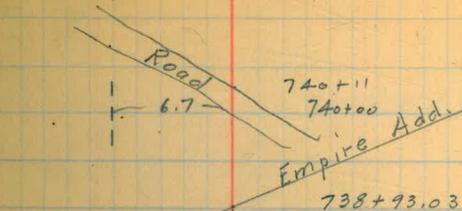
A = 31° 48'  
D = 10°  
R = 573.64  
T = 163.42  
L = 318.00  
E = 22.82

732+25.58 P.C.

N. 26° 53' W

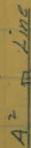
730+29.36 P.T.

Air Valve 6.5 740+96



W. Line 6.5 738+64

A<sup>2</sup> P.O.T.  
736+02.86



13.0

7.0 735+70

6.2 733+75

Air Valve 7.0 733+20

732+21 - 3.5 - Old Hub. on E. R/W

A<sup>4</sup> Line

747+40.24 P.T.

746+85.53 <sup>44-34</sup> 22°17' L

746+28.82 P.C.

↓  
N. 10° 33' W

743+37.64 P.T.

742+58.05 48°08' R

741+65.74 P.C.

N. 58° 41' W

741+34.80 P.O.T.

$\Delta = 22^{\circ}17'$   
 $D = 20$   
 $R = 287.94$   
 $T = 56.71$   
 $L = 111.42$   
 $E = 5.53$

741+65.74

+75 - 1-18

742 +25 - 4-48

+25 - 8-18

+50 - 11-48

+75 - 15-18

743 -18-48

+25 - 22-18

+37.64 - 24-04

$\Delta = 48^{\circ}08'$   
 $D = 28$   
 $R = 206.68$   
 $T = 92.31$   
 $L = 171.90$

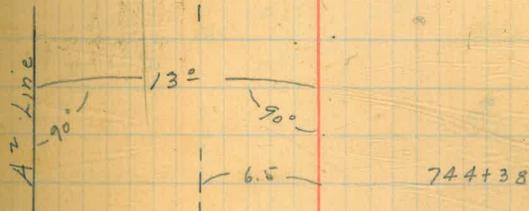
47

6.1 747+40

6.3 746+85.5 Point on Curve.

Oct. 5, 1929.  
Parker  
Converse &  
Elliott  
Walton

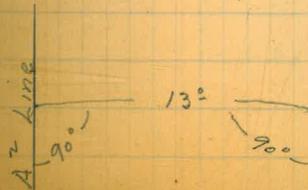
6.5 746+17



6.8 743+25

7.4 742+50

5.5 742+06



A<sup>+</sup> Line

753+89.75 P.O.T.

748+50.29 P.O.T.  
N. 32° 50' W

748+23.97 P.O.T.

747+40.24 P.T.

← T.S.D.

A<sup>+</sup> Line  
90°

757

x 283

210

Line Revision

Pgs. 44-46 sta 505+27.29  
to 510+46.73

F.B. #271 pg. 2

273 pg.

4500  
2800  
0000  
1700

749+18.08

751+18.18

754+00.

755+74.18

762+19.86 B.C.

762+78.45

A<sup>+</sup> 763+22.51 =

A<sup>+</sup> 763+49.88 =

Otago 2<sup>nd</sup> Main P.L.

Cement Mortar Lining

585+90 } F.B. # 270 pgs. 52-55  
630+00 }

630+00 } F.B. # 273 pgs. 7-15  
683+54 }

683+54 } F.B. # 273 pgs. 39-48  
747+40 }

755+74.18

755+74.00

A<sup>4</sup> Line

753+89.75

P.O.T.

748+50.29

P.O.T.

N. 32° 50' W

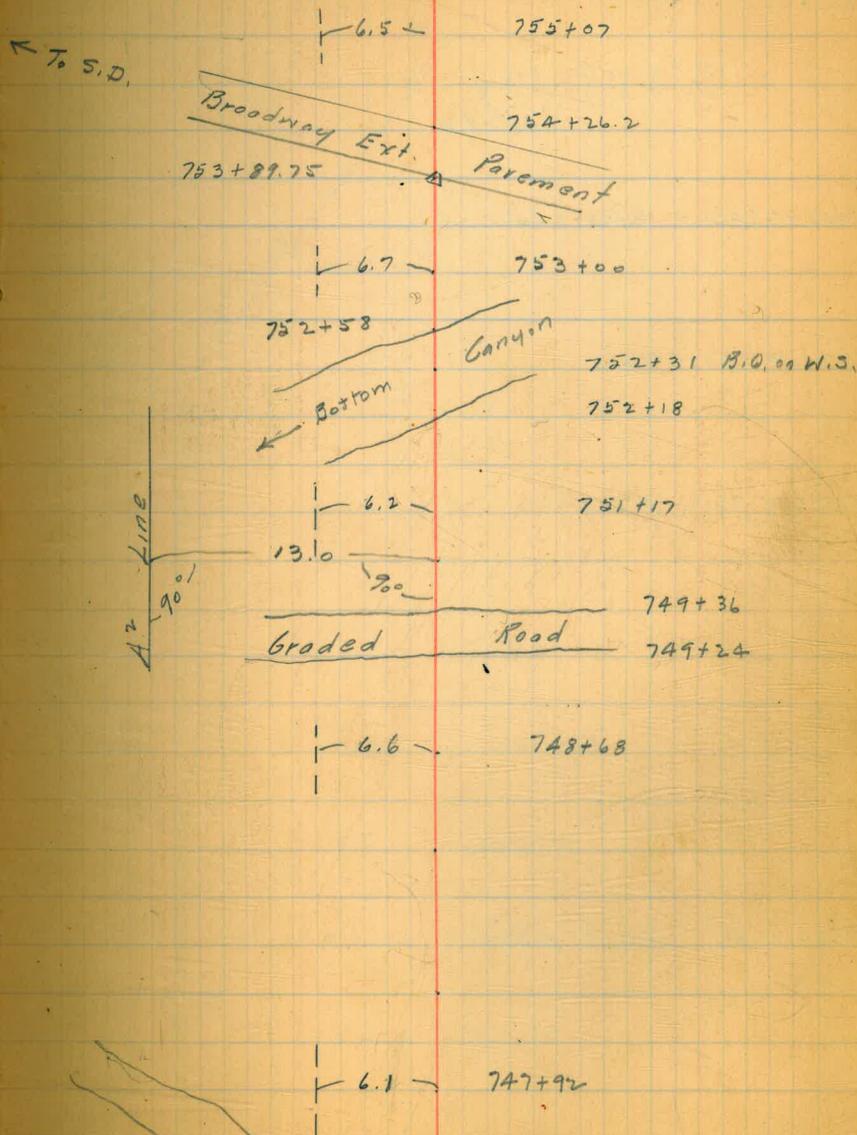
748+23.97

P.O.T.

747+40.24

P.T.

48.



A<sup>+</sup> Line

Contd. on Page 31.

$$763+49.88 - A^2 \text{ P.T.} =$$

$$763+22.51 - A^+ \text{ P.O.T.} =$$

End of A<sup>+</sup> Line

Equation -

N. 48° 04' W

762+78.45 P.T.

A = 15° 14'  
 D = 26°  
 R = 222.27  
 T = 29.72  
 L = 58.59  
 E = 2.09

30-28  
 762+49.58 45° 14' L

762+19.86 P.C.

758+12.56 P.O.T. N. 32° 50' W

753+89.75 P.O.T.

End of A<sup>+</sup> Line

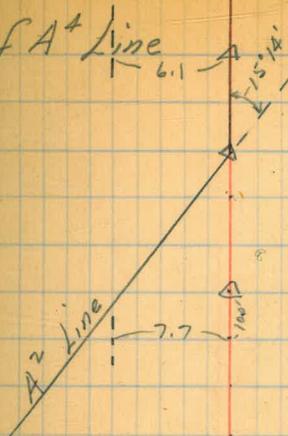
A9

$$= 763+49.88 - \text{P.T.} - A^2 =$$

$$= 763+22.51 - \text{P.O.T.} - A^+ =$$

$$= 763+26.54 - A^2 \text{ P.I.} =$$

$$= 762+48.25 - A^+ \text{ P.O.T.} =$$



762+78.45 P.T.

P.I. - Nail.

6.6

762+19.86 P.C.

6.7

762+21

6.7

760+53

6.5

759+21

A<sup>+</sup> Line

13.0

90°

90°

6.4

757+78



Stadia survey along Broadway Extension from  
Bonita Pipe Line at 45th + Broadway to 2nd Main Pipe line.

Hill - notes 4/2/40  
Saper - T  
Brookes - rod

57

Pt. to Pt.	Dist	Hor. Δ	Vert. Δ	H.I.	Elev.
24+57.3 Pt. 3 to 4*	541.3 (542')	-	-2°06'	5.2	170.0
16+06.3 Pt. 3 to 2C	509.7 (511')	-	-3°43'	5.2	149.9
19+16.0 Pt. 2 to 3	836.0 (836')	-	-0°16'	5.1	189.8
14+30.9 Pt. 2 to 2B	350.9 (351')	-	-1°01'	5.1	187.5
13+35.8 Pt. 2 to 2A	258.8 (256')	-	-1°30'	5.1	187.0
10+80.0 Pt. 1 to 2*	840.7 (841')	-	+1°11'	4.8	193.7
11.3 5+16.3 Pt. 1 to 1A	272.0 (272')	-	+0°41'	4.8	179.6
2+39.3 Pt. 0 to 1*	239.3 (240')	-	+3°13'	4.9	176.4
Pt. 0	(202)	90° ± R	+0°49'	4.9	162.8 = Elev. Pt. 0

Shot back in hole from pt. 3

N.B. Elers carried  
back from 13M. at  
2nd Main + Back St

2A = ± 47th St

± Broadway Ext  
Mag. B. N. 70° E

Pt. 0 = apt. of pipeline at 45th + Broadway Ext. (Hill top)

Tie to gate valve

Broadway  
Pt. 0

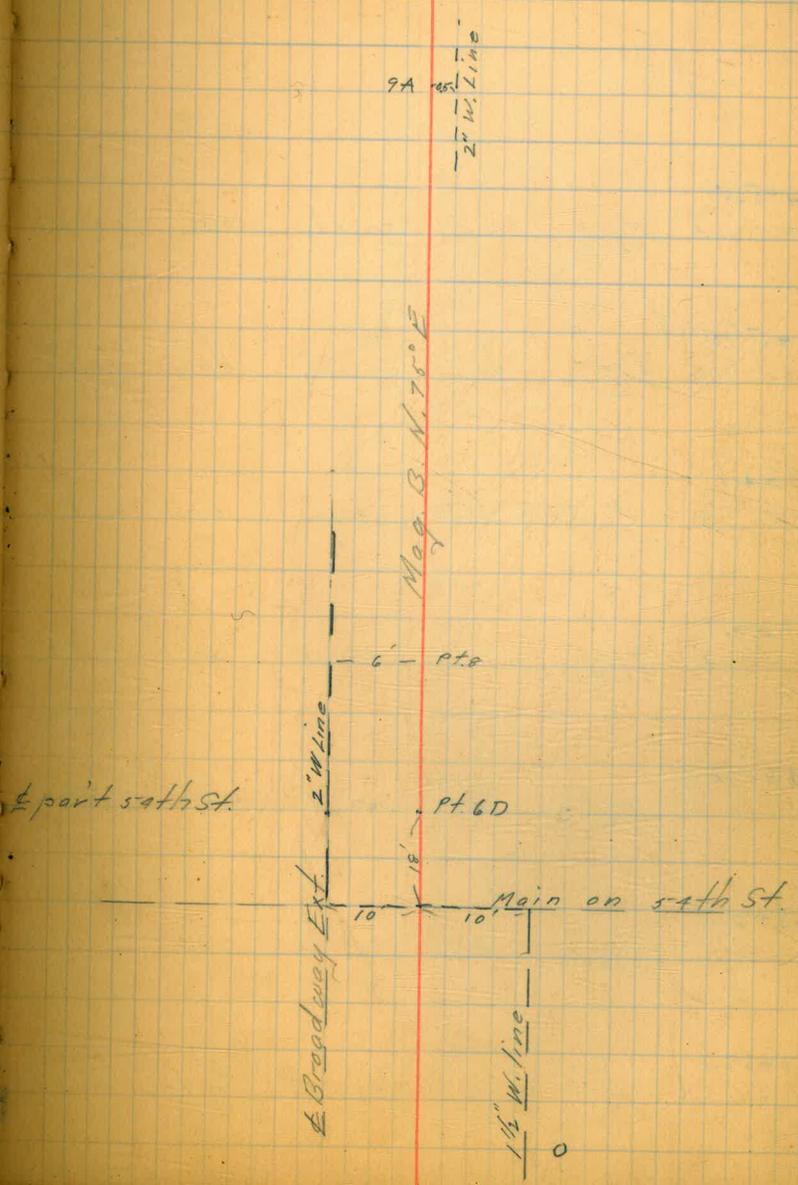
90° ±  
45th St  
20" Main  
202

gate center of gate  
valve 2.8' below  
observed pt.

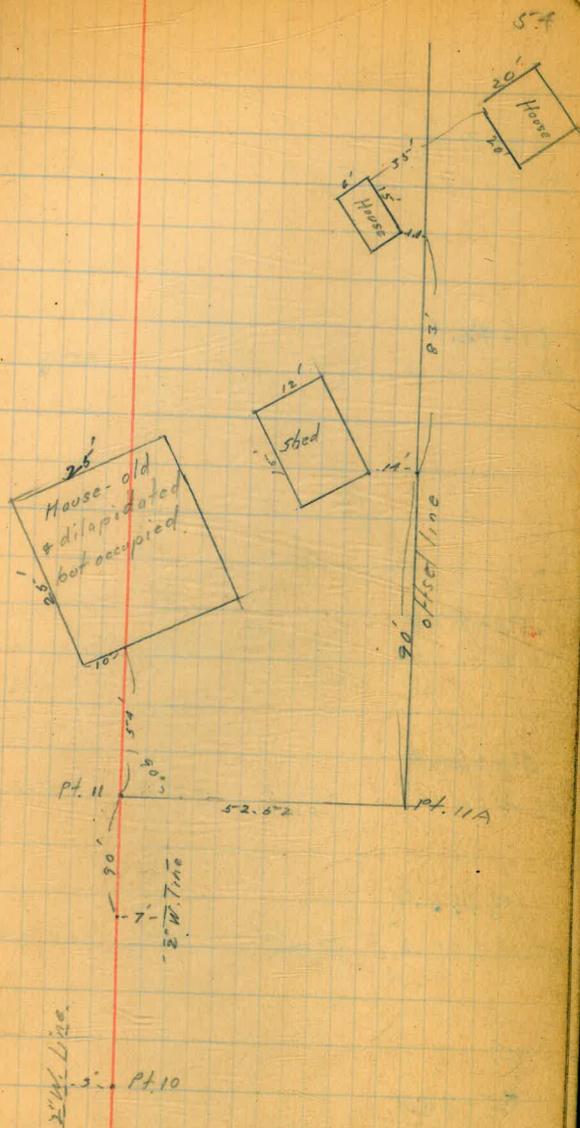
Pt. to Pt.	Dist	Horz	Vert. A	H.I.	Elev.
38+49.9 Pt. 6 to 6B	210.8 (210)	-	+0°08'	4.8	160.9
37+66.3 Pt. 6 to 6A	127.2 (132)	-	-11°03'	4.8	136.6
36+39.1 Pt. 5 to 6*	540.8 (541)	-	-1°08'	5.1	160.4
34+91.10 Pt. 5 to 5C	392.8 (393)	-	-1°16'	5.1	161.9
33+94.4 Pt. 5 to 5B	296.1 (297)	-	-3°19'	5.1	153.9
32+19.2 Pt. 5 to 5A	120.9 (121)	-	-1°5'	5.1	160.7
30+98.3 Pt. 4 to 5*	641.0 (641)	-	+0°03'	5.0	170.6
29+47.2 Pt. 4 to 4B	489.9 (490)	-	-0°46'	5.0	163.6
27+19.0 Pt. 4 to 4A	261.7 (261)	-	-5°27'	5.0	146.0

Mag. B. N. 75° E

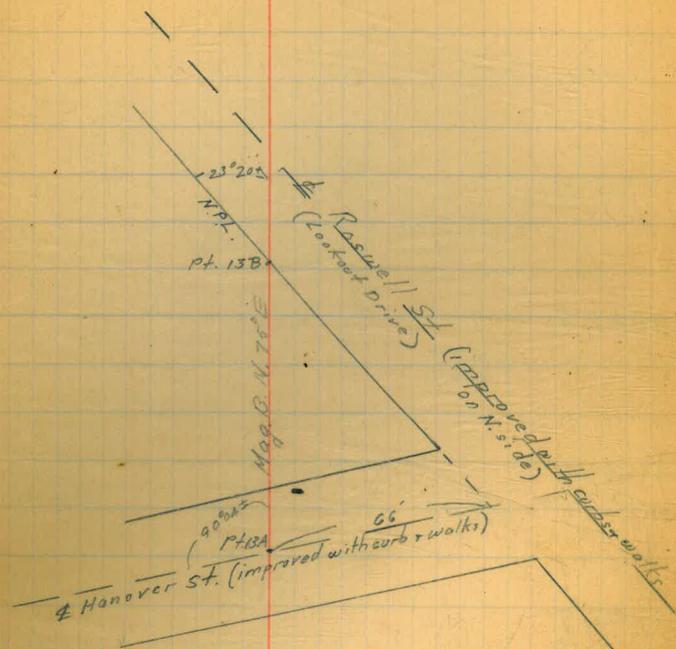
Pt. to Pt.	Dist.	Horz. Vert. A	H.I.	Elev.
46+52.0 Pt. 9 to 9A	65.5 (66')	-	+5°16'	4.9 136.8
45+86.5 Pt. 8 to 9*	486.1 (487')	-	-2°38'	4.8 130.8
42+83.4 Pt. 8 to 8B	183.0 (187')	-	-8°32'	4.8 126.7
41+29.2 Pt. 8 to 8A	288 (32')	-	-18°54'	4.8 143.4
41+00.4 Pt. 7 to 8*	108.3 (109')	-	-4°42'	5.0 153.1
39+61.3 Pt. 7 to 6D	30.8 (31')	-	-4°56'	5.0 159.3
39+92.1 Pt. 6 to 7*	353.0 (353')	-	+0°10'	4.8 162.0
39+24.1 Pt. 6 to 6C	285.0 (285')	-	+0°39'	4.8 163.6



Pt. to Pt.	Dist	Hor. A	Vert. A	H.I	Elev.
56+50.9 Pt. 11A to 12A	516.8 (517)	-	+1°02'	4.8	241.0
53+59.0 Pt. 11A to 11B	224.9 (225)	90°L	+1°11'	9.8 rod 9.8 H.I.	231.2
51+34.1 Pt. 11 to 11A	52.5 (meas) (53)	90°R	+1°20'	5.0	231.7
51+34.1 Pt. 10 to 11	311.6 (317)	-	+7°35'	5.0	227.7
48+72.3 Pt. 10 to 10A	49.8 (50)	-	+3°11'	5.0	189.1
48+22.5 Pt. 9 to 10	236.0 (249)	-	+13°14'	4.9	186.3
47+69.7 Pt. 9 to 9B	183.2 (193)	-	+13°49'	4.9	175.6



Pt	63+51.4 Pt. 13 to 14*	519.5 (520')		+1°59'	4.8	271.6
Pt	60+42.6 Pt. 13 to 13B	210.7 (211')	-	+2°17'	4.8	262.8
Pt	58+87.8 Pt. 13 to 13A	55.9 (56')	-	+1°43'	4.9	256.1
Pt	58+31.9 Pt. 12 to 13*	181.0 (182')	90° R	+1°12'	4.8	254.4
Pt	56+50.9 Pt. 12A to 12	52.5 (meas.) (53')	90° L	+0°14'	4.8	241.2
Pt	55+83.9 Pt. 12A to 11D	67.0 (69')	-	-9°46'	4.8	229.0
Pt	54+67.9 Pt. 12A to 11C	183.0 (191')	-	-11°55'	10.8 Rad 4.8 H.L.	196.4



shot back

shot back into draw

offset line

Pt. to Pt.	Dist.	Hor. Δ	Vert. Δ	H.I.	Elev.
70+67.1 15 to 15B	236.0 (236)	-	-0°26'	4.7	257.2
69+68.5 15 to 15A	137.4 (140)	-	-7°55'	4.7	239.9
68+31.1 14 to 16	179.7 (180)	-	-1°31'	4.9	258.9
66+90.6 14 to 14E	339.2 (342)	-	-5°10'	5.9 rod 4.9 H.I.	240.2
66+05.9 14 to 14D	254.5 (256)	-	-4°22'	4.9	252.4
65+37.7 14 to 14C	186.3 (188)	-	-5°33'	10.9 rod 4.9 H.I.	247.7
64+78.8 14 to 14B	127.4 (128)	-	-3°55'	4.9	263.1
64+51.8 14 to 14A	100.9 (101)	-	-4°37'	4.9	263.8

Aproximate edge of Emerald Hills Golf Course.

20' lower 25' back

15' lower 25' further

14A = ~~to~~ road = Bererly St?

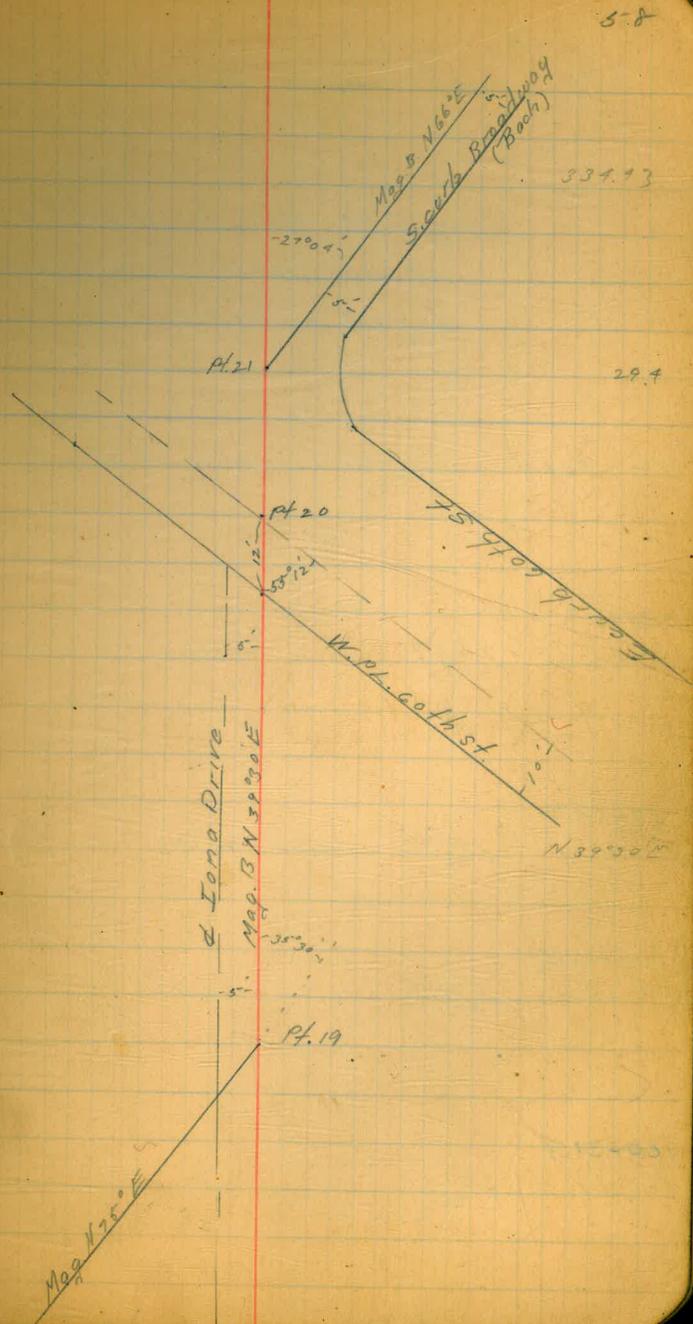
Mag. B N 76° E

Pt to Pt.	Dist.	Hor Δ	Vert Δ	H.I.	Elev
88+17.0 17 to 17F	843.8 (844')	- A	+0°51'	4.9	273.8
86+35.2 17 to 17E	662.0 (664')	-	-3°15'	4.9	223.7
85+29.5 17 to 17D	556.3 (559')	-	-4°08'	4.9	221.0
84+47.9 17 to 17C	474.7 (483')	-	-7°30'	4.9	198.8
82+57.3 17 to 17B	284.1 (289')	-	-7°30'	4.9	223.9
81+63.8 17 to 17A	190.6 (200')	-	-12°34'	4.9	218.8
79+73.2 16 to 17*	394.2 (396')	-	-3°55'	4.9	261.2
75+79.0* 15 to 16	747.9 (749')	-	+2°14'	4.7	288.1

E. side of golf course

Mag. B. N 75° E

Pt to Pt	DIST	Hor A	Ver A	H.I.	Elev
97+40.4 Pt. 21 to 22*	464.9 (465')	27° 04' R	+1° 00'	5.2	289.3
92+75.5 Pt. 20 to 21*	29.1 meas	-	-2° 29'	5.0	281.2
92+46.1 19 to 20	287.0 (287')	35° 30' L	-0° 23'	6.2 rod 5.2 H.I.	282.5
89+59.1 18 to 19	23.1 meas	-	+3° 39'	5.0	285.4
89+35.7 17 to 18*	962.5 (963')	-	+1° 21'	4.9	283.9



Pt. to Pt. Dist. Horiz. Vert. H.I. Elev.

Note S.P.L. Broadway 2.5' S. of S. edge  
of corner walk. Pipe line might be  
laid in this space.

Pt. 26 = 0.5' lower than fire plug at 03 + Broadway El. 334.43

109+72.2

25 to 26 263.0  
(263) - +0°08' 5.2 333.9

107+09.2

24 to 25 198.9  
(199) 11°57' R +1°38' 5.2 333.2

105+10.3

Pt. 23 to 24 478.4  
(479) - +2°02' 5.1 327.6

100+31.9

Pt. 22 to 23 291.5  
(293) - +4°10' 5.2 310.0

Mag. B. N. 430.5  
0 to 2nd Main  
Pt. 26  
A Pt. 24

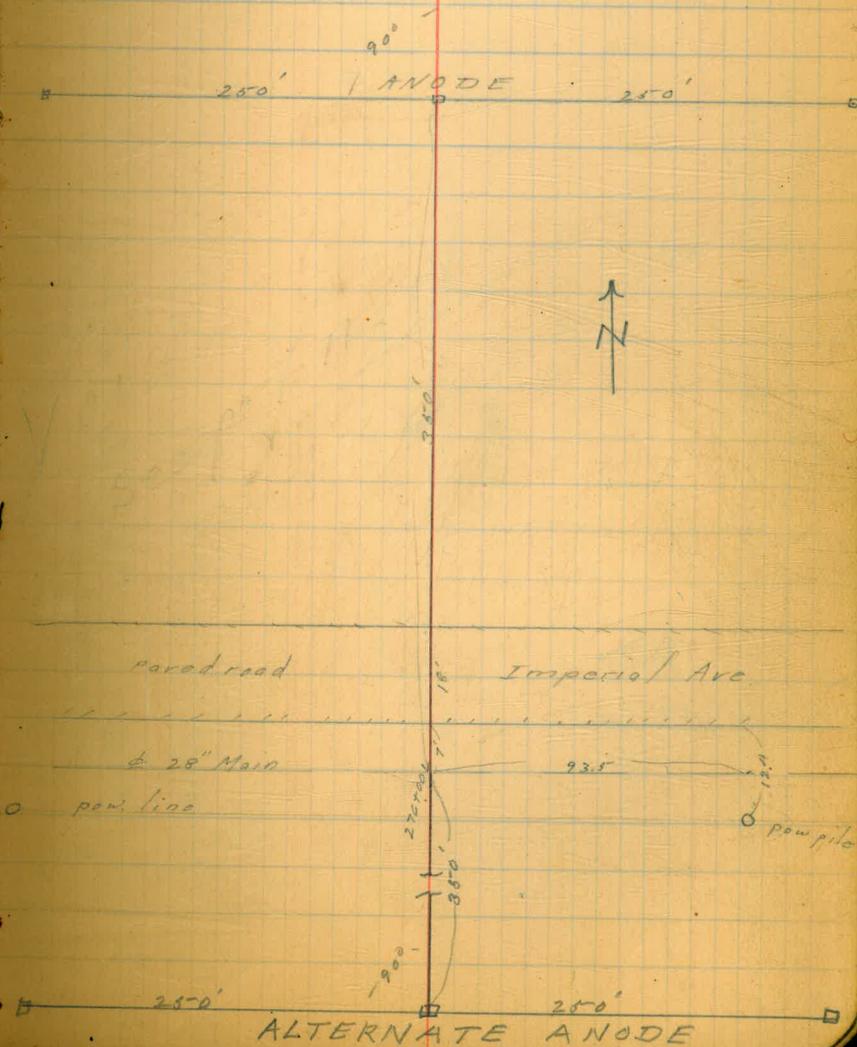
Loc. of Anode on Imperial Ave - Pipe Line Sta. 2764.00

8/6/40

Hill  
Soper  
Brooks

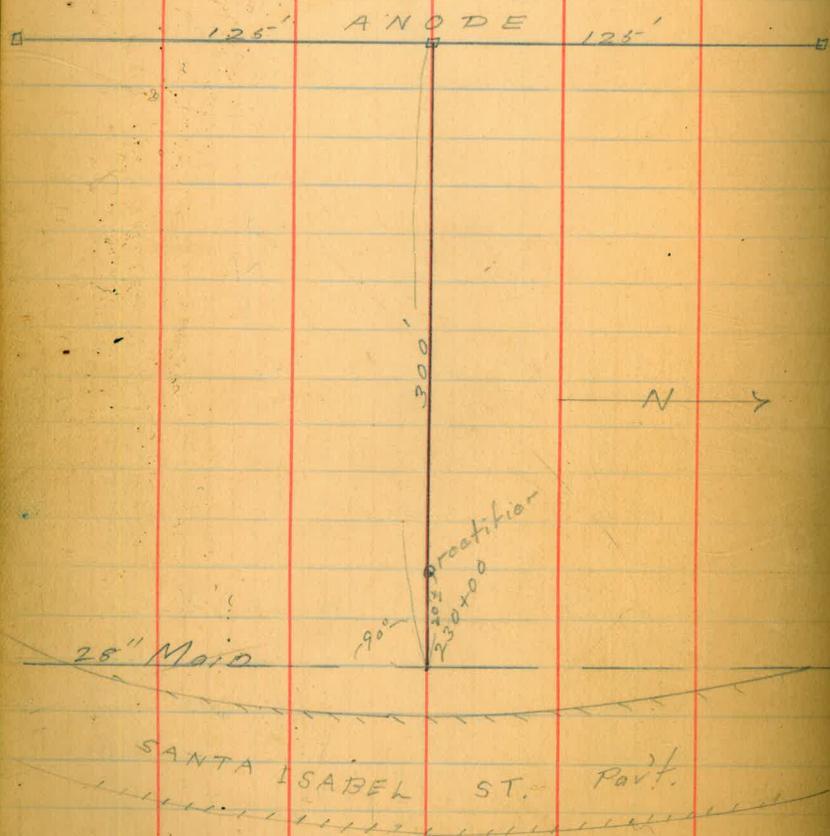
60

Sail Conglomerate with adobe  
& gravel predominating.



Loc. of Anode in Valencia Park Add.  
Pipeline Sta. 230+00 8/6/40

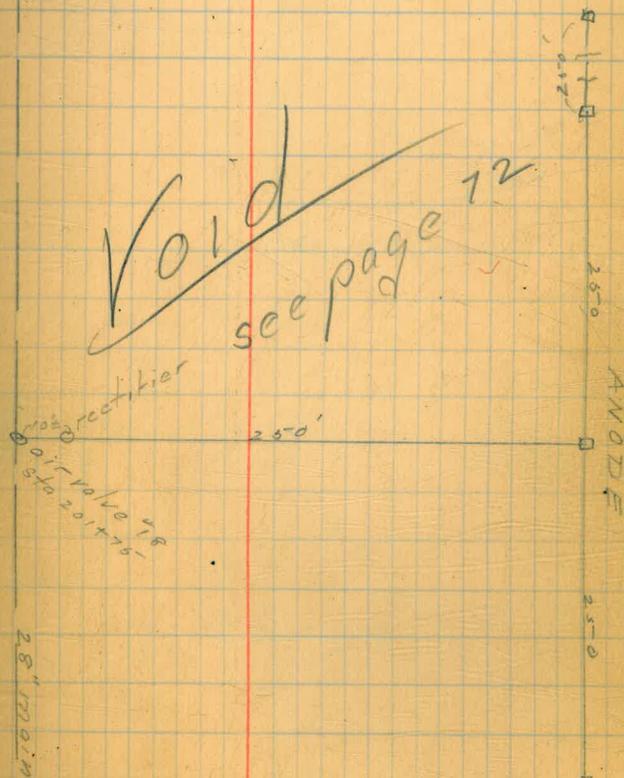
Soil Top 2' solid adobe. Remainder  
adobe, sand & gravel.  
For power line tie see Addition Map.



61  
Loc. Anode at 201+75

pow. pole  
Air valve #17  
Sta. 197+25

Soil At center of  
Anode in middle of drain  
principally adobe. Sides  
adobe & gravel

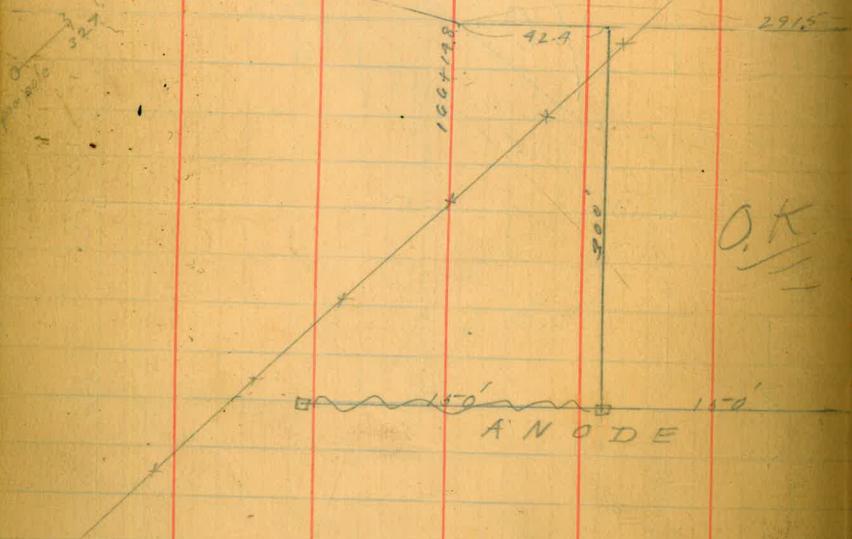


Anode & Alternate near Δ pt  
at Sta. 166+14.8

Soil Adobe & gravel.

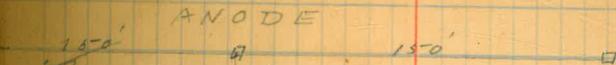
Void

19°  
valve 14  
170+00  
115°52'

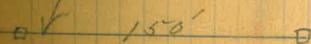


O.K.

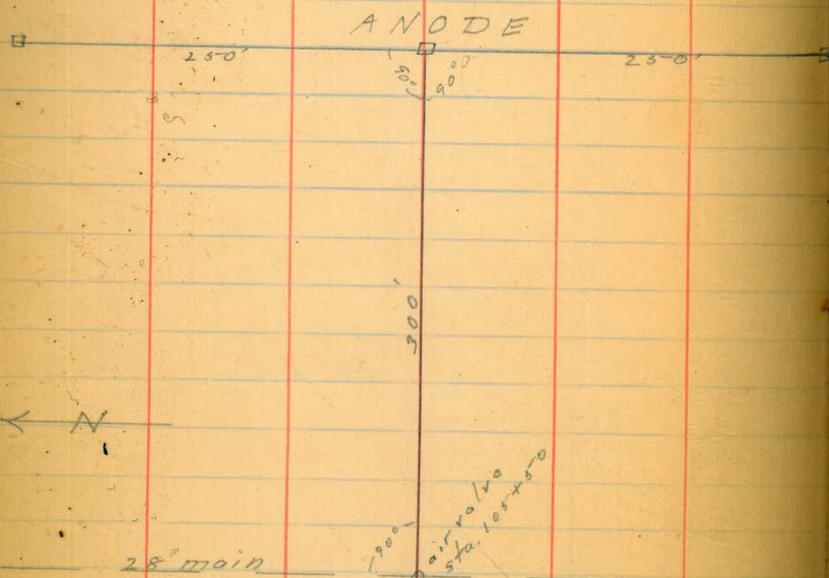
ANODE



3-28-45 Cable Relocation of March 1945 on page 75



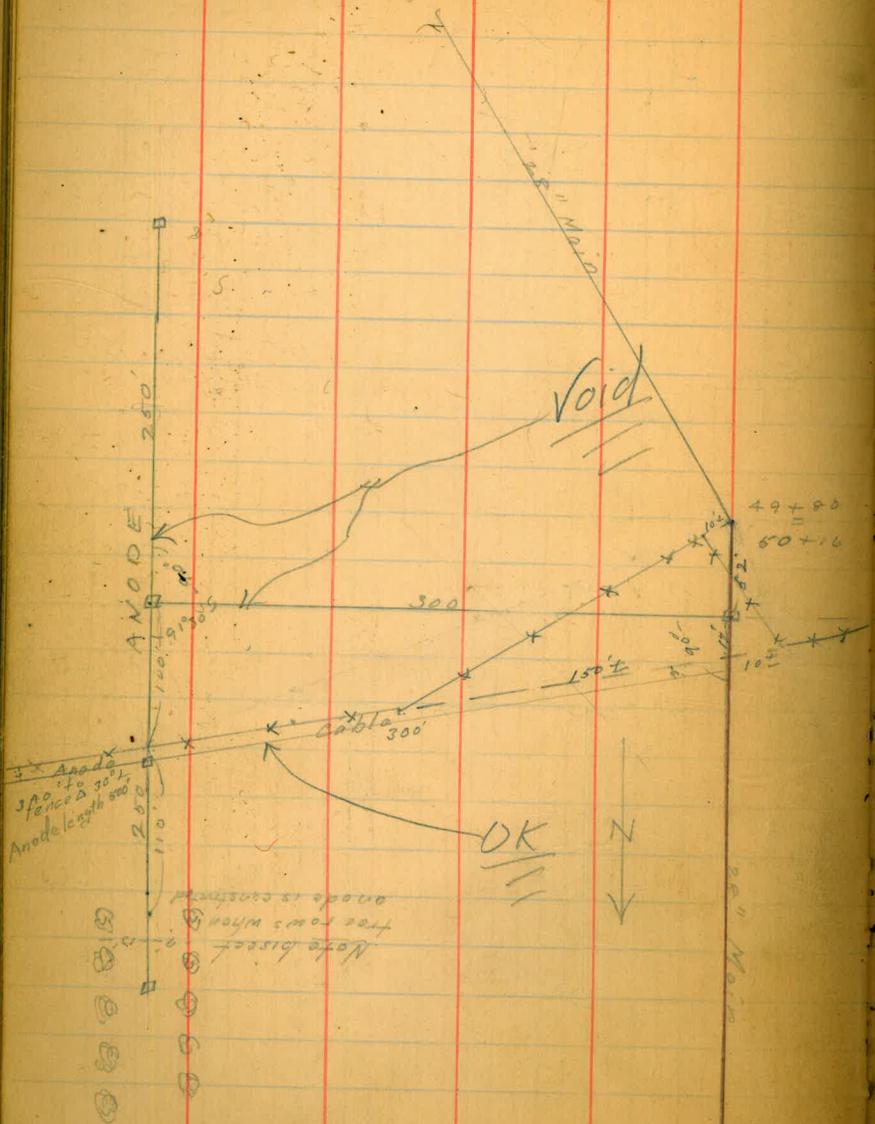
Anode at sta. 105+50



Soil Sandy with large proportion of gravel & rocks



Anode near sta. 50+00



Soil Sand in bottom  
adobe, sand & rock N. of fence

0

0  
Pipe line

1205 (studio)

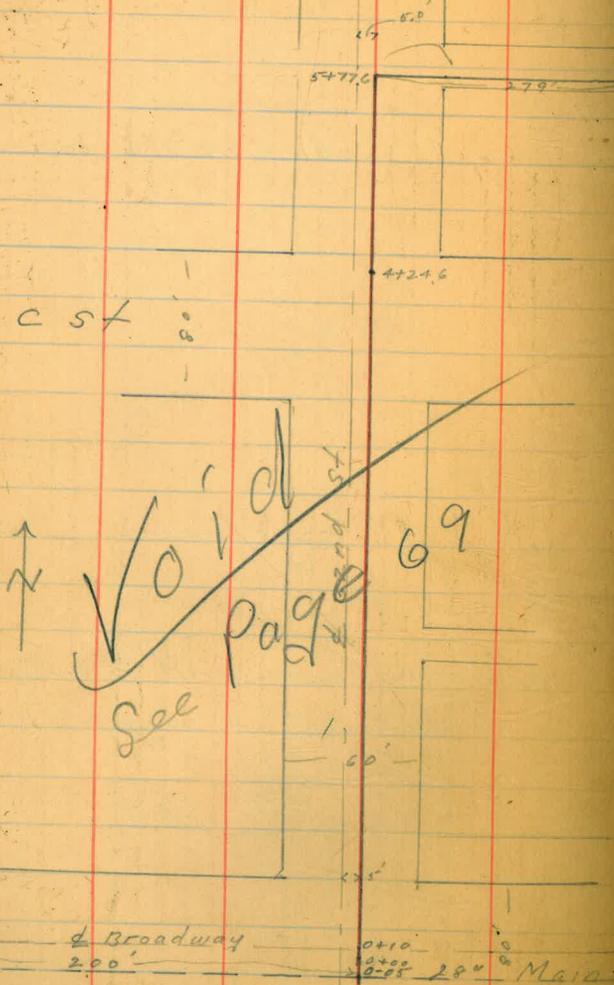
0  
Poa. p.

Note recommend bisection of  
pipe line angle as shown on  
drawing PH.

0

Loc. of Anode at 32nd & Broadway

65



soil largely cemented sand & gravel.

Note recommend moving anode  
1 block east

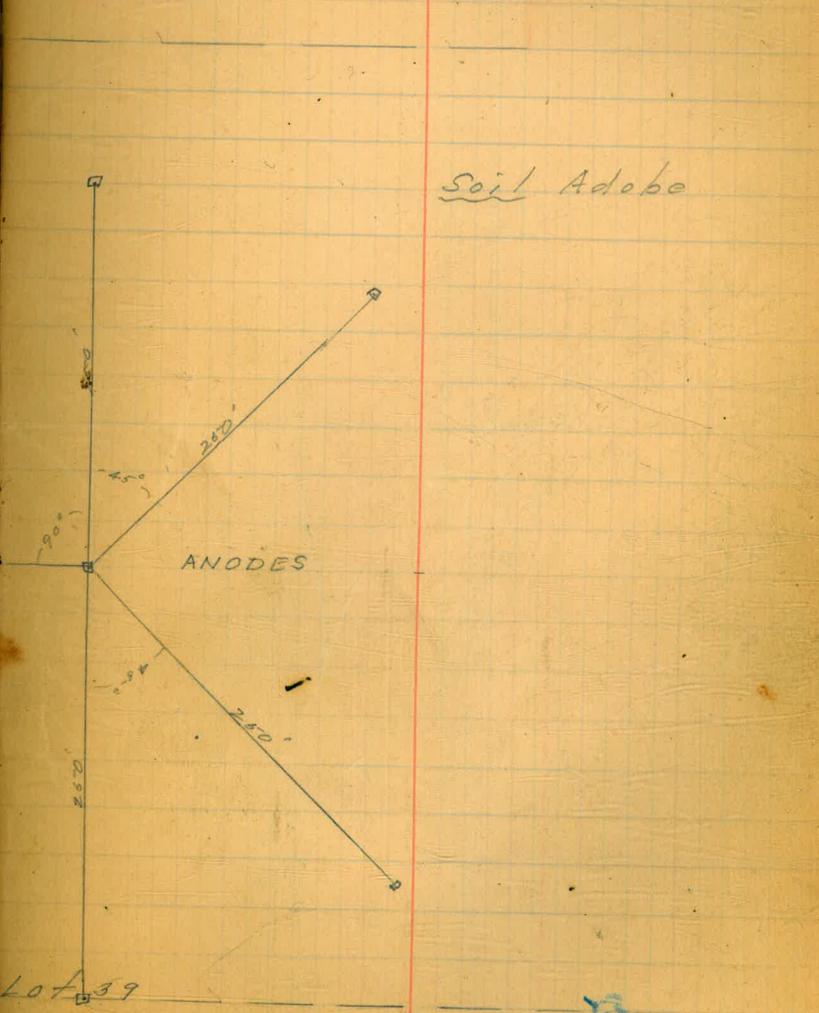
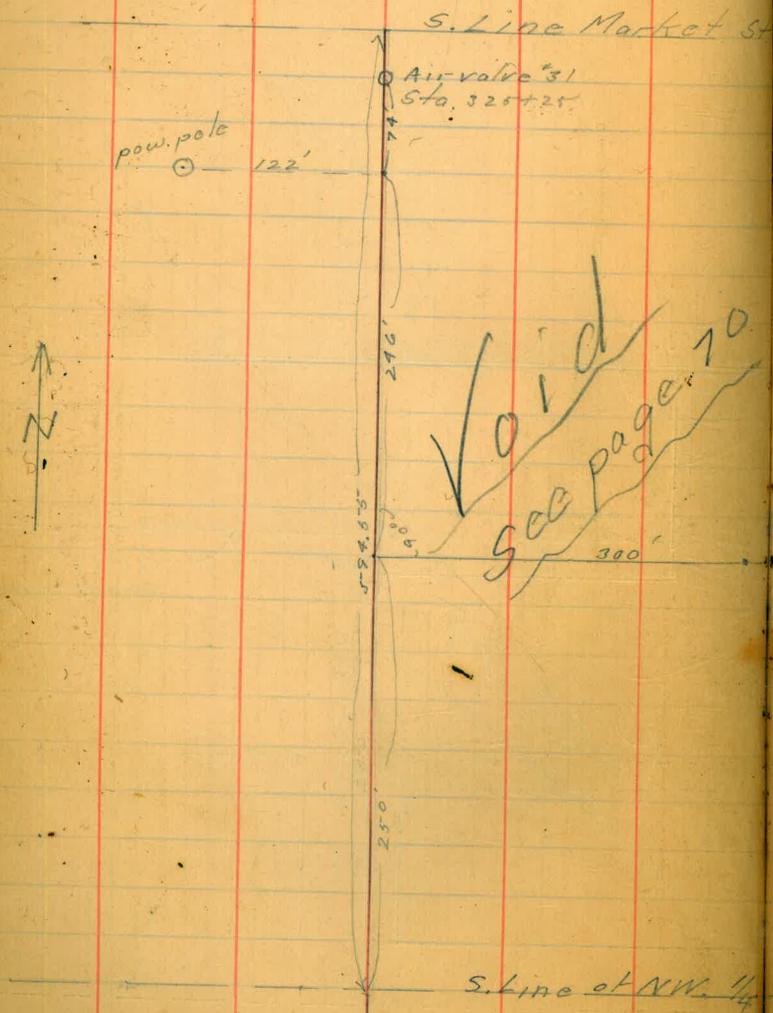
244  
017010  
5/4 122100?

5th - 0 mm. pole

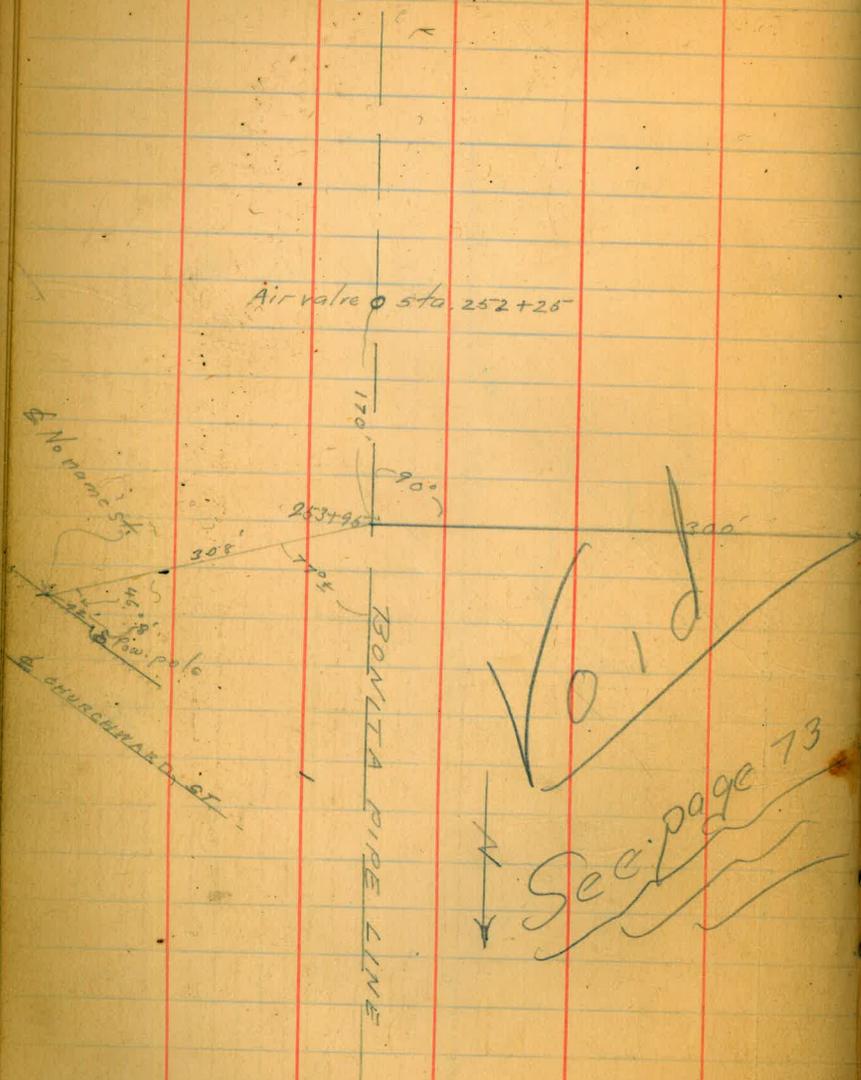
Broadway 200' 0+10 50+00 30-00 28' Main



Loc. of Anode at Market St. & Benita Pipe Line



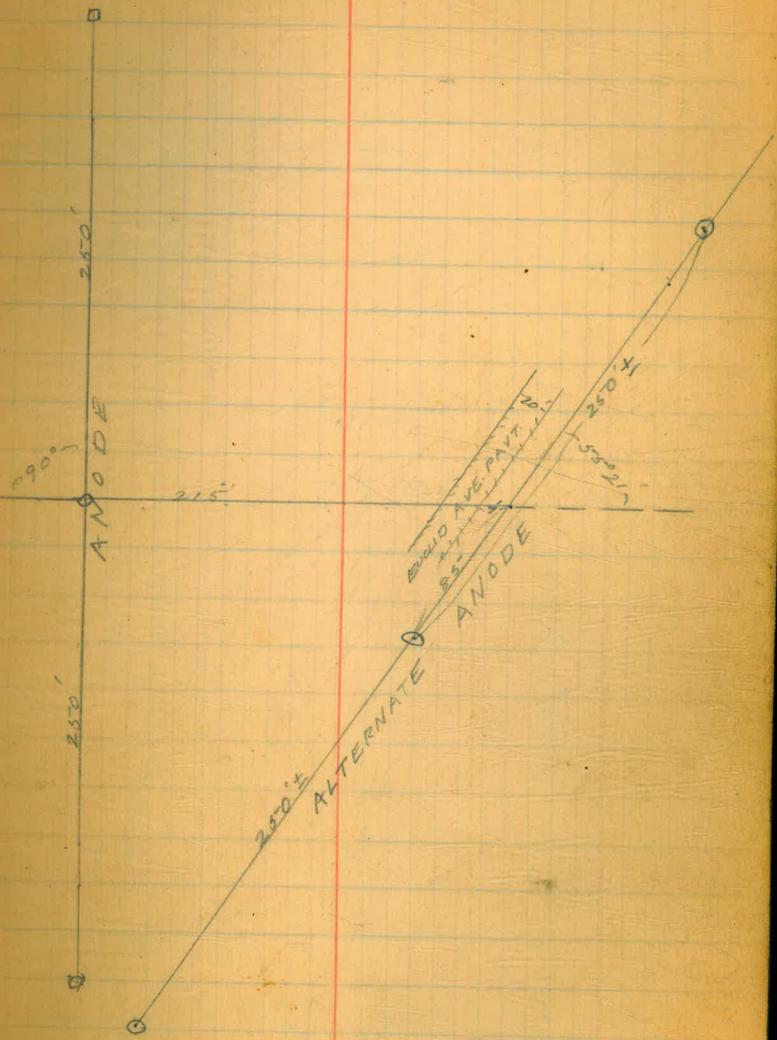
Loc. of Anode Churchward &  
Euclid Ave.



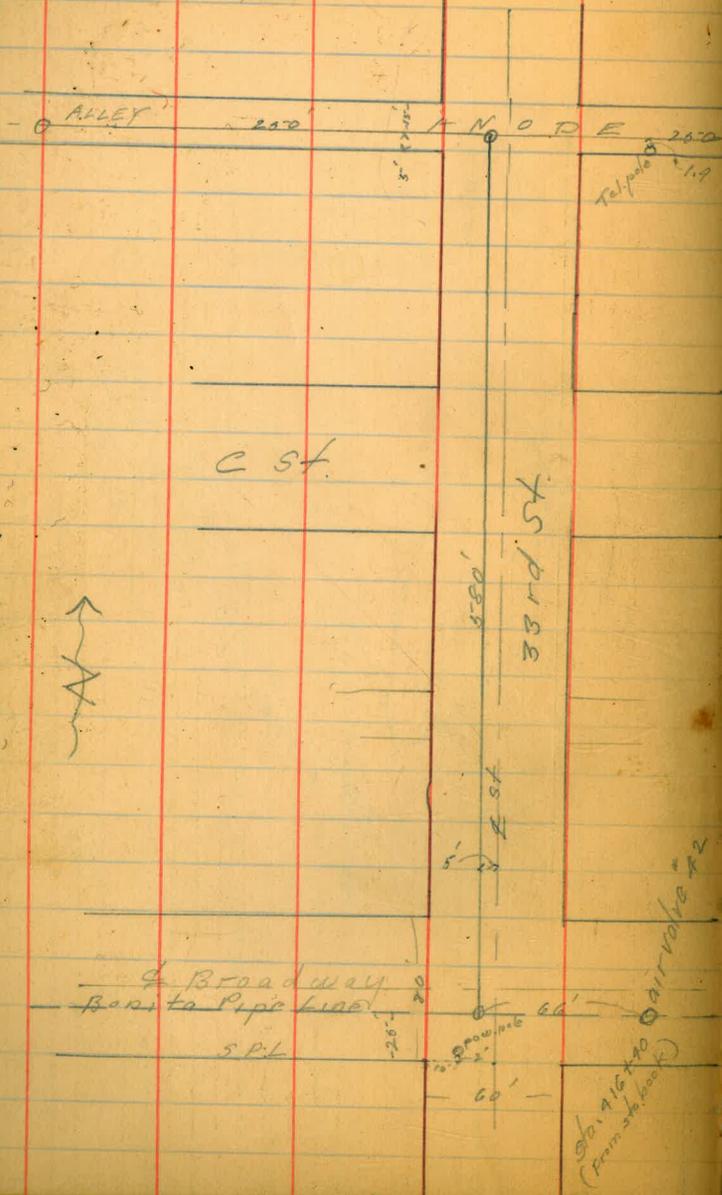
9/3/40 Hill

Soper  
Brooks

68



Loc. of Anode at 33rd & Broadway



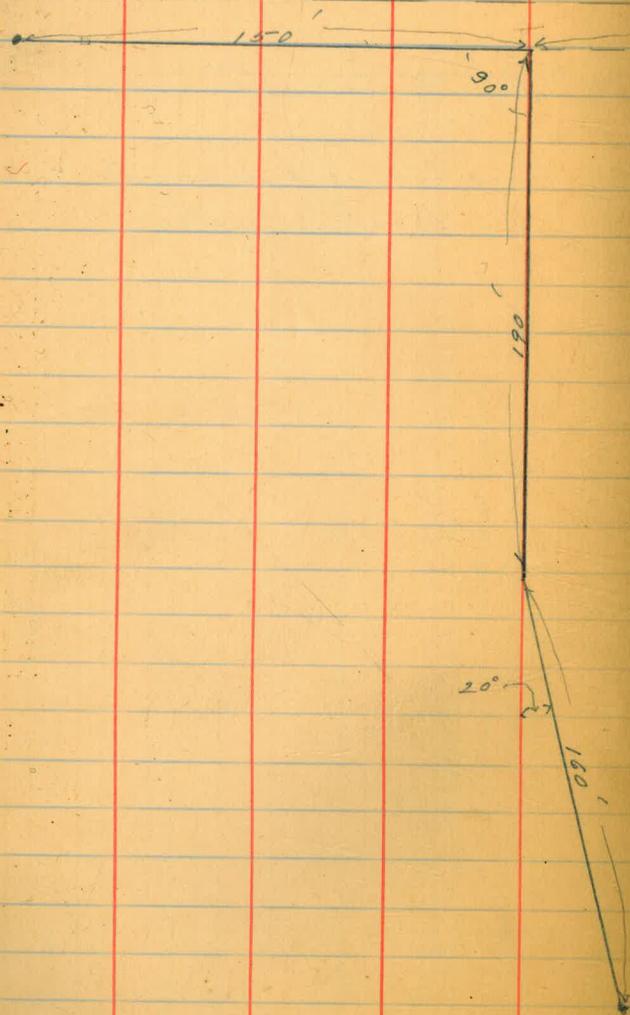
10/3/40

Hill  
Soper  
Brooks

69

0  
19 pos. + tel. pole  
N.B. Make trench for anode 2' N. of loc.  
line to clear poles.

Relocation of Anode at 45th Market St



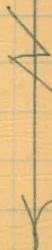
1/22/40 rain 70

H. H.  
Soper  
Brooks  
Hodgeson

S. line of the NW. 1/4 of Lot 39

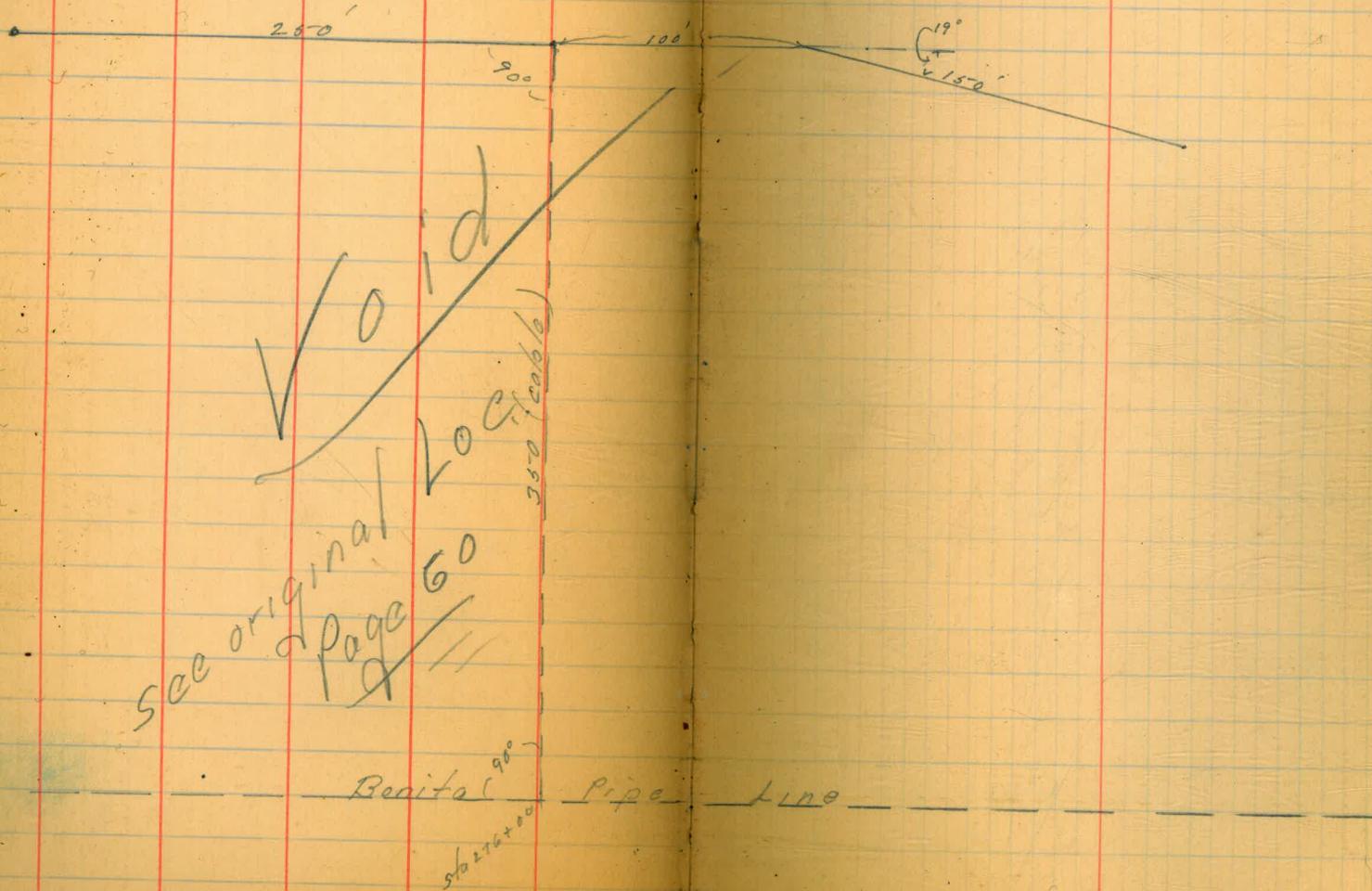
300'

San Benito Pipe Line



1/22/40 71

Relocation of Anode at Imperial Ave + Bonita Pipeline Sta 276+00

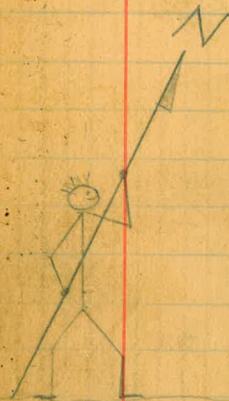


3/12/41 Rain 72

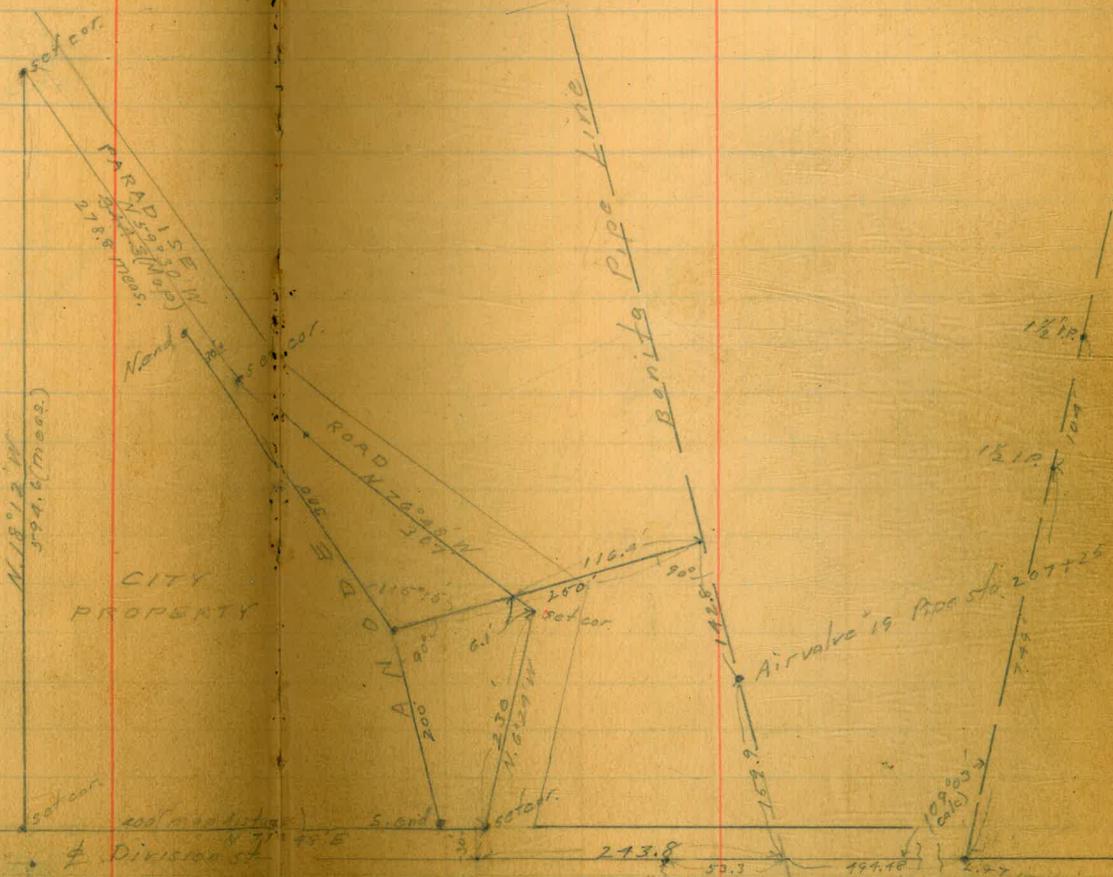
H. H.  
Sapor  
Brooks  
Hodgson

Loc. of Anoda at Division St.

See Map 1687 Florence Resubdivision



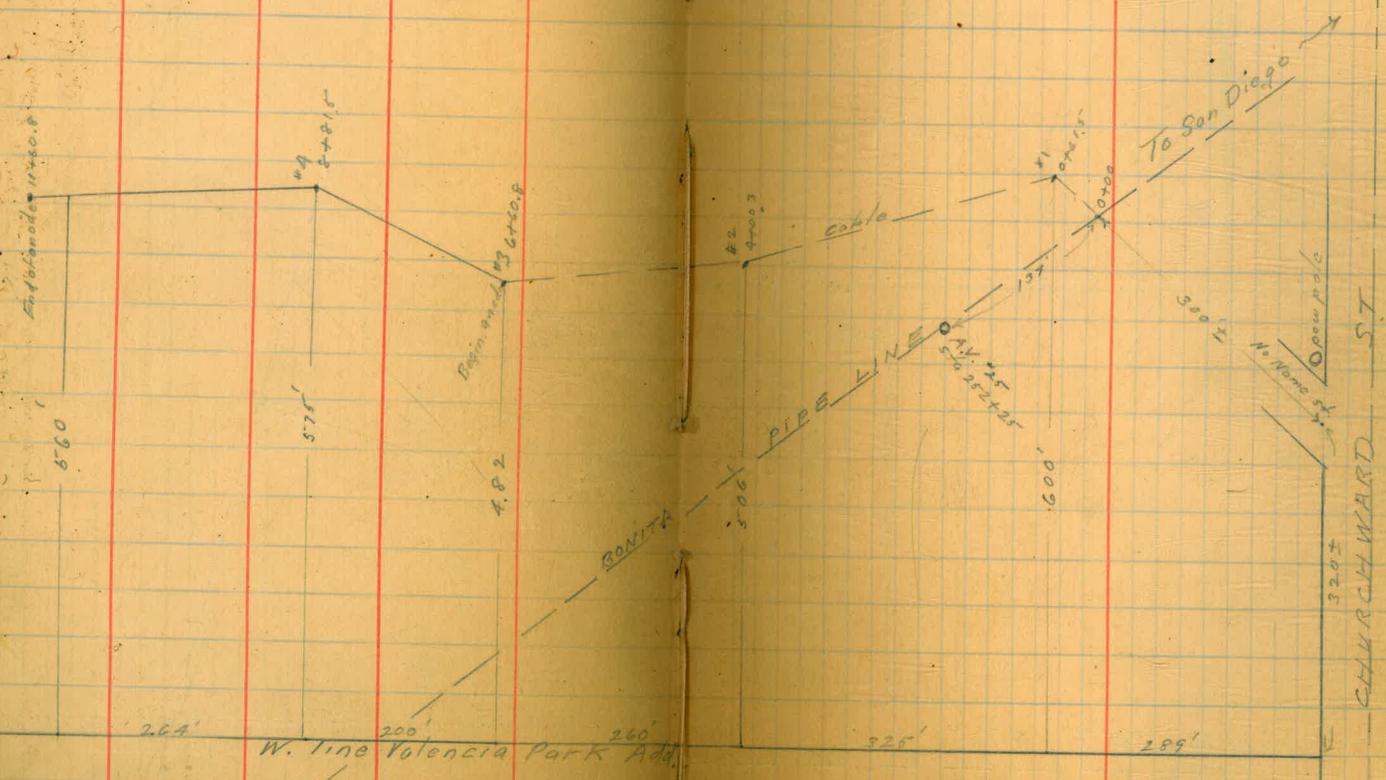
(See F.B. #789  
Notes by Beatty)



X in Paradise rd  
3-48152  
LAT 548395  
232226 246395  
11-30 20

2-27 in part  
SE cor 4 lots 1st time  
in 11 5-1-45  
(Map 591 Loc. Alamosa 267)

Location of anode at Churchward on No Name St (Relocation)





MARCH 28 1945

75

Hill  
Soper  
King  
Stephens

# CABLE RELOCATION FOR ANODE

NEAR Sta. 166+14.8

4" x 4" Post.  
Scribed "C" on East and  
West face and 103 on the  
North face

Fd. old nail

M.S.  
GAIN 5-4-45

70° 20'

30'

125' USE

4" 28" BONITA STEEL MAIN

RELOCATED CABLE

300'  
L.A.S.  
5-4-45

EXISTING ANODE

EXISTING CABLE

166+14.8

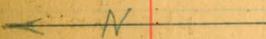
M.S.

685'

FILE NO 309A-MC

Fd. old nail

12" x 12" CONC MON.



85

234

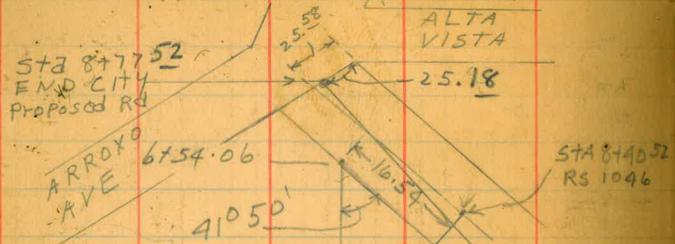
TIES CITY Property Line To  
R.S. 1046 Bonita Pipe Line  
See Page 72 This book

9-25-46

clear-cool

(see our files - 726-2843+3564 for maps)

Nelson  
Leonard 76.  
Phillips  
M.P.V.



5+99.6  
Fd HUB  
& TACK  
set by HILL

← 6.3 →

NEW ANODE LINE

L. & TACK  
Euclid Ave

Fd Hub  
set by HILL  
NO TACK

DIVISION ST.

399.15

3820.03

100 feet let  
to prop line

Alignment PROPOSED CITY Rd

10-3-46 Nelson &  
Clear-cool AM Leonard  
Cloudy-cool P.M. Phillips  
GRIFFIN

E OF ROAD PROPOSED  
by CITY of S.D.

$\Delta = 36^{\circ} 07' 30''$   
P.I. 1+87.61

Hub & TACK  
P.O.T. 0+30.45  
R.S. 1046

CROSS  
IN PVT  
O.T.D.  
R.S. 1046

1130.00  
ERR.

0+30  
1+1 Rd

4-21-48

25.33

57.22

749.01

0+00 CITY proposed Rd  
5.24 Rt of 0+00 R.S. 1046

Fd Hub NO TACK  
set by HILL

Fd 1/2 Iron PIN

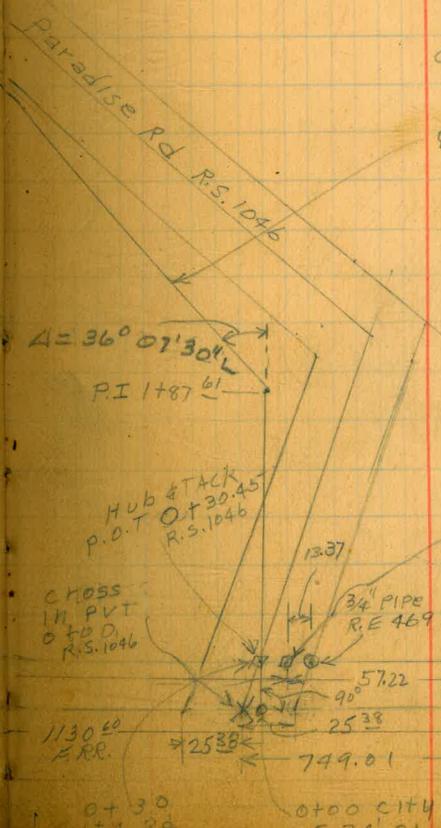
50.51

Lead  
TACK

547.66

L. & TACK  
584

This point  
NOT FOUND

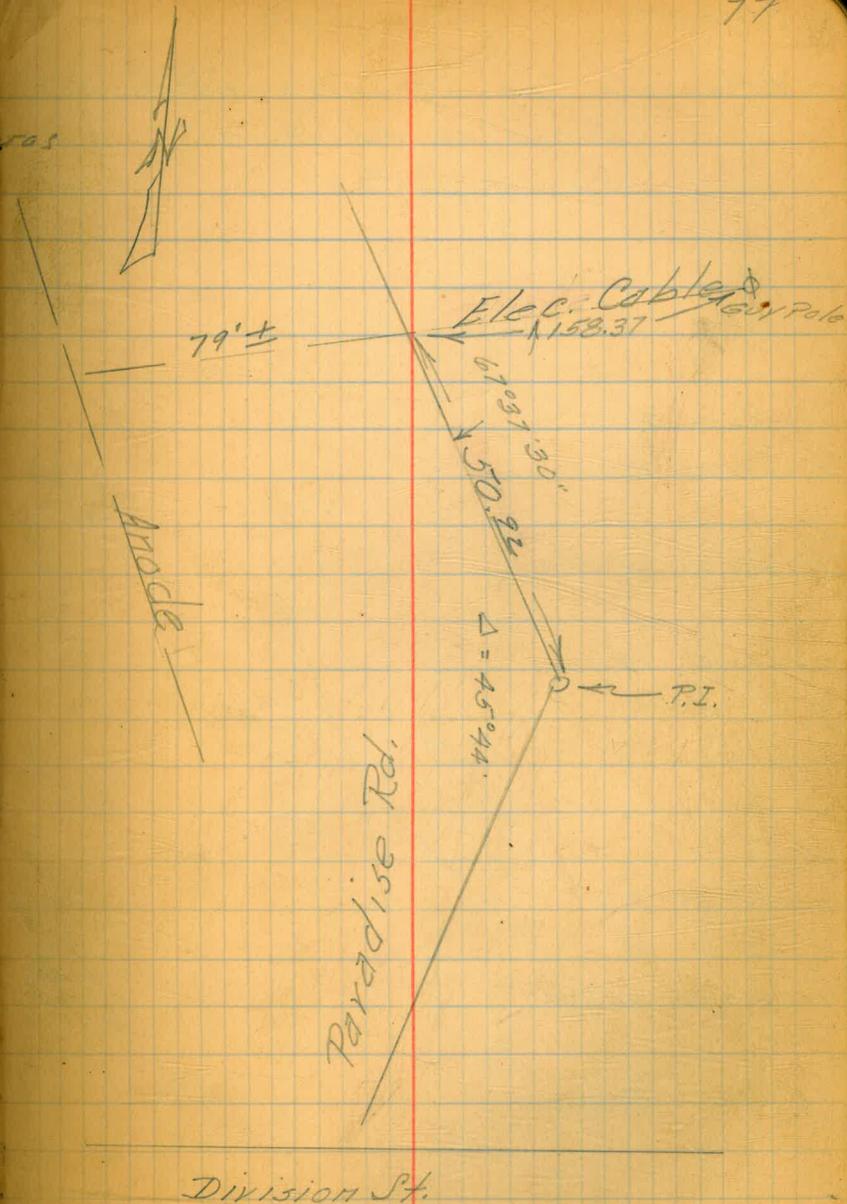


Rainey  
June 23, 1947 Niemo  
Baker

Bonito P.L.  
Tie to anode cable on Los Altos  
Tract at Division Area Paradise Rd

7/11

77



A<sup>3</sup> Line

Alternate line at Sutter + Water Sts  
Empire Addition  
See page #23

719+82.50 P.O.T.

=  
719+85.66 P.T.

719+36.33 28°-31'R

718+83.81 P.C.

718+13.39 P.T.

718+13.12 46°-00'L

717+76.72 P.C.

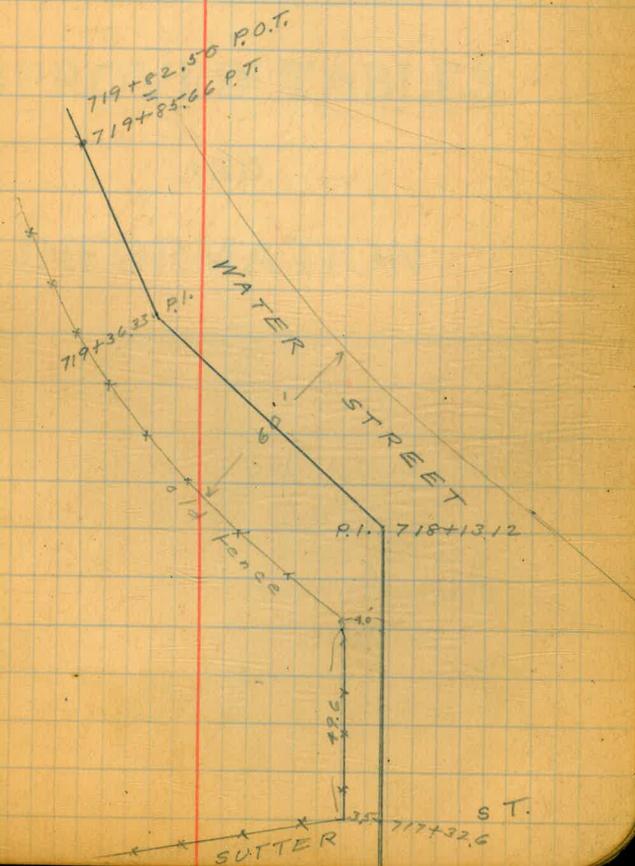
Δ 28°-31'R  
D 28°  
T 52.52  
R 206.68  
L 101.85

Δ 46°-00'L  
D 60°  
T 36.40  
R 100.0  
L 66.67

Hill  
Elliot  
Simpson

9/20/29

78



Soper - 6328 Brooklyn - Encanto  
Brooks - 1330 G. St.

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

from side stake to slope stake. If ground is not amount if cut, elevate if fill. Add this amount to cut or fill and find place in table. Set up rod at this point, and line of sight should cut tangent.

**IMPROVED TABLES  
AND  
INFORMATION**

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of correction. Degree of curve with a given  $L$  may be found by dividing tangent (or external), opposite  $L$  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.

