EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

677

This Field Book is manufactured of a High Grade 50% Rag Paper having a WATER RESISTING SURFACE, and is sewed with Bing Special Enamel Waterproof thread.

Made in U. S. A.

Indexed to p 54 - 7/7/46
✓ ✓ 69 - 9/30/48
✓ 73 - 11/4/48

INDEX

Not to scale

PROPOSED AGATE ST. P.L.
ALIGNMENT

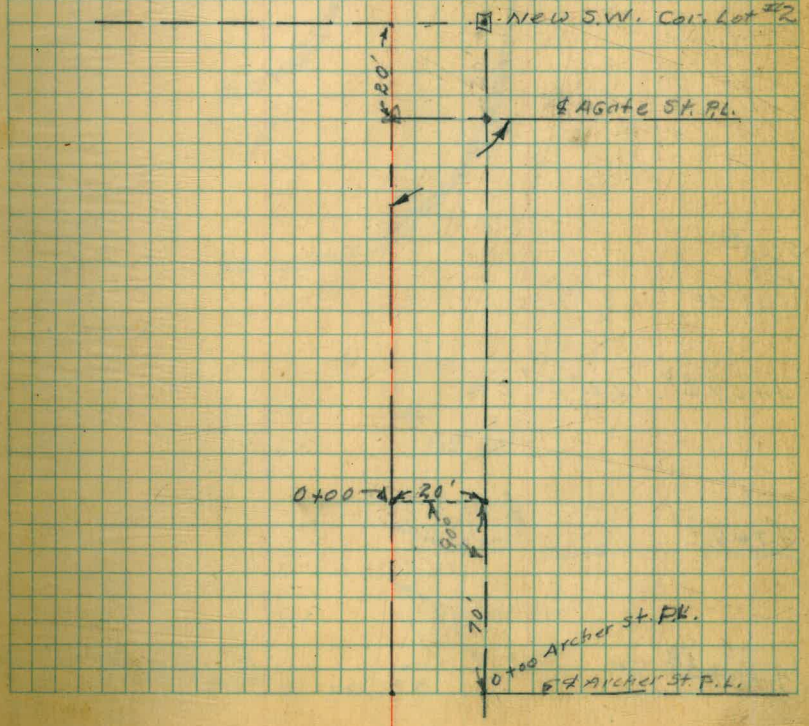
PROFILE PAGE 14

2+40.80 L 90°16' Rt.

0+00

8-11-44

Byler
Irving
Otten
Stephens



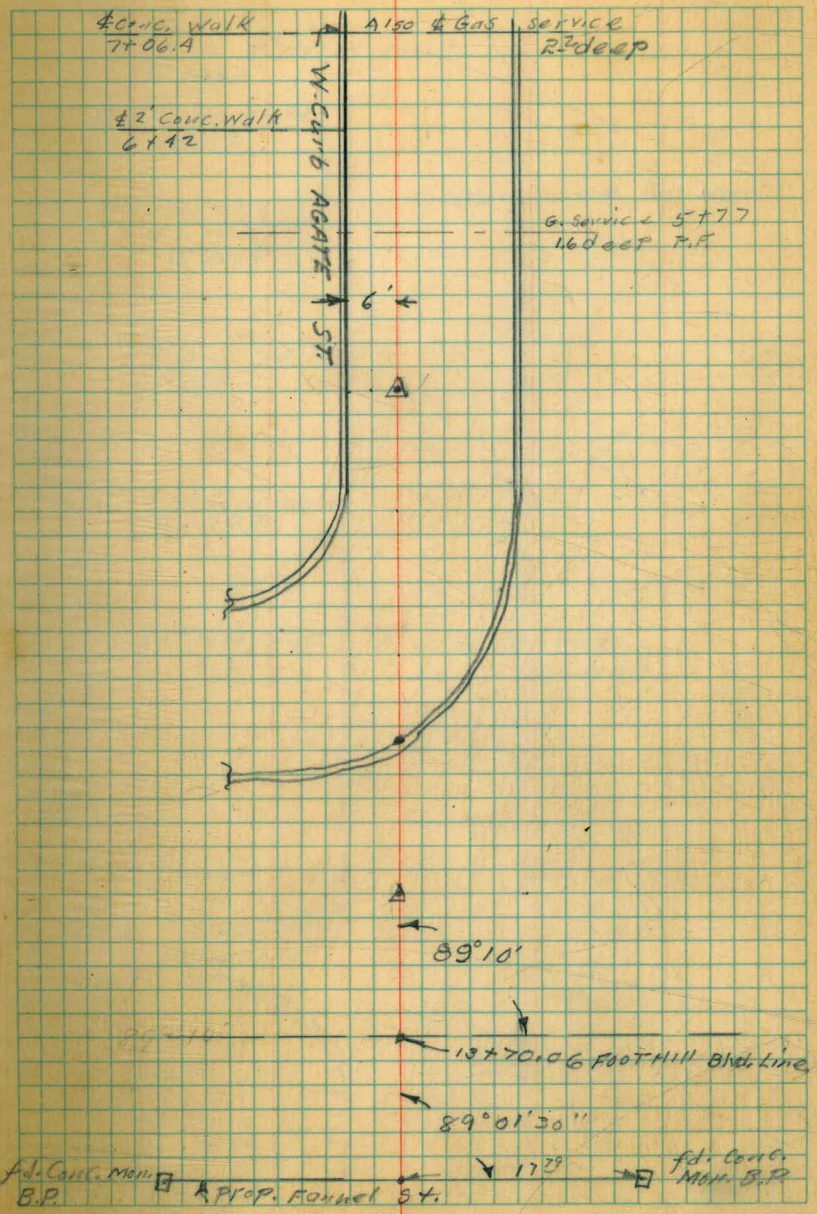
5+51 80 22° 32' Rt.

5+03 30
W.O.B.
8-23-11

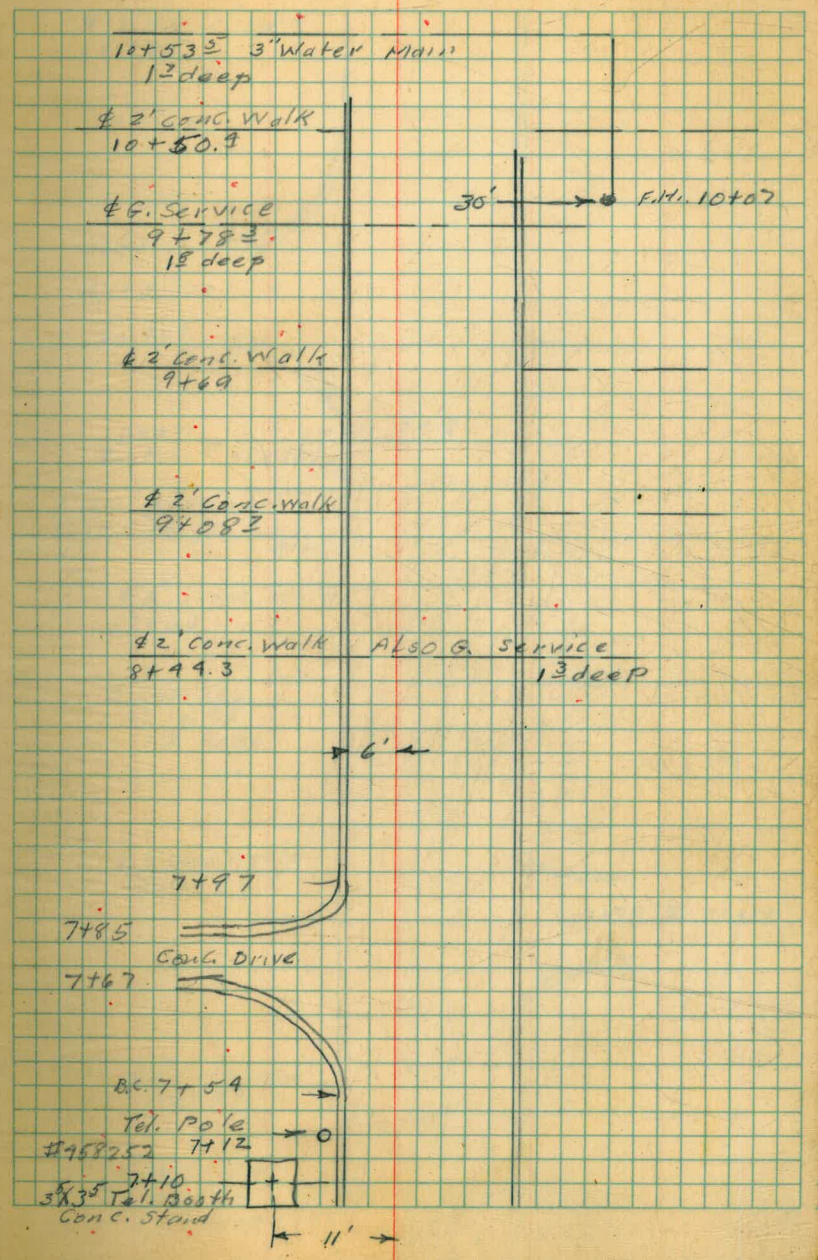
4+69 69 22° 30' Lt.

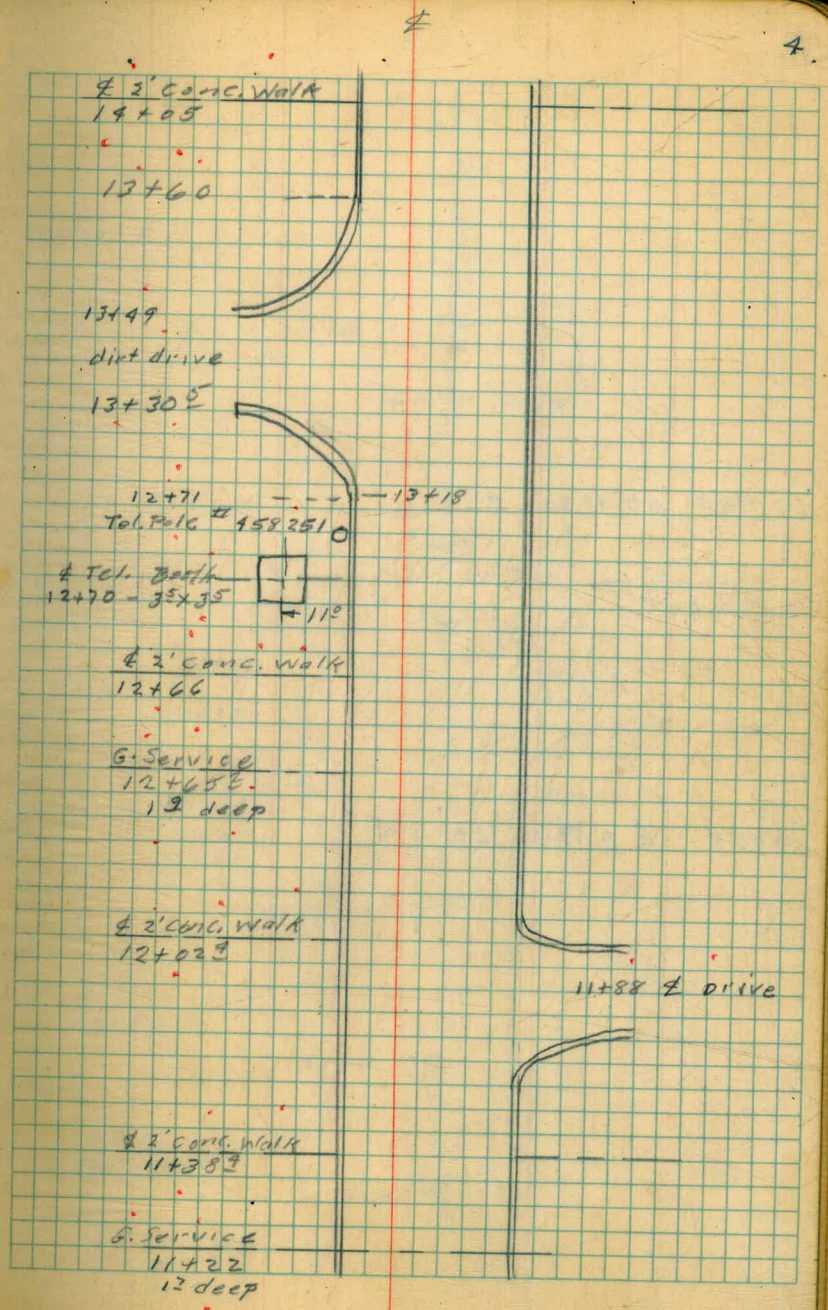
4+60 20

4+39 10



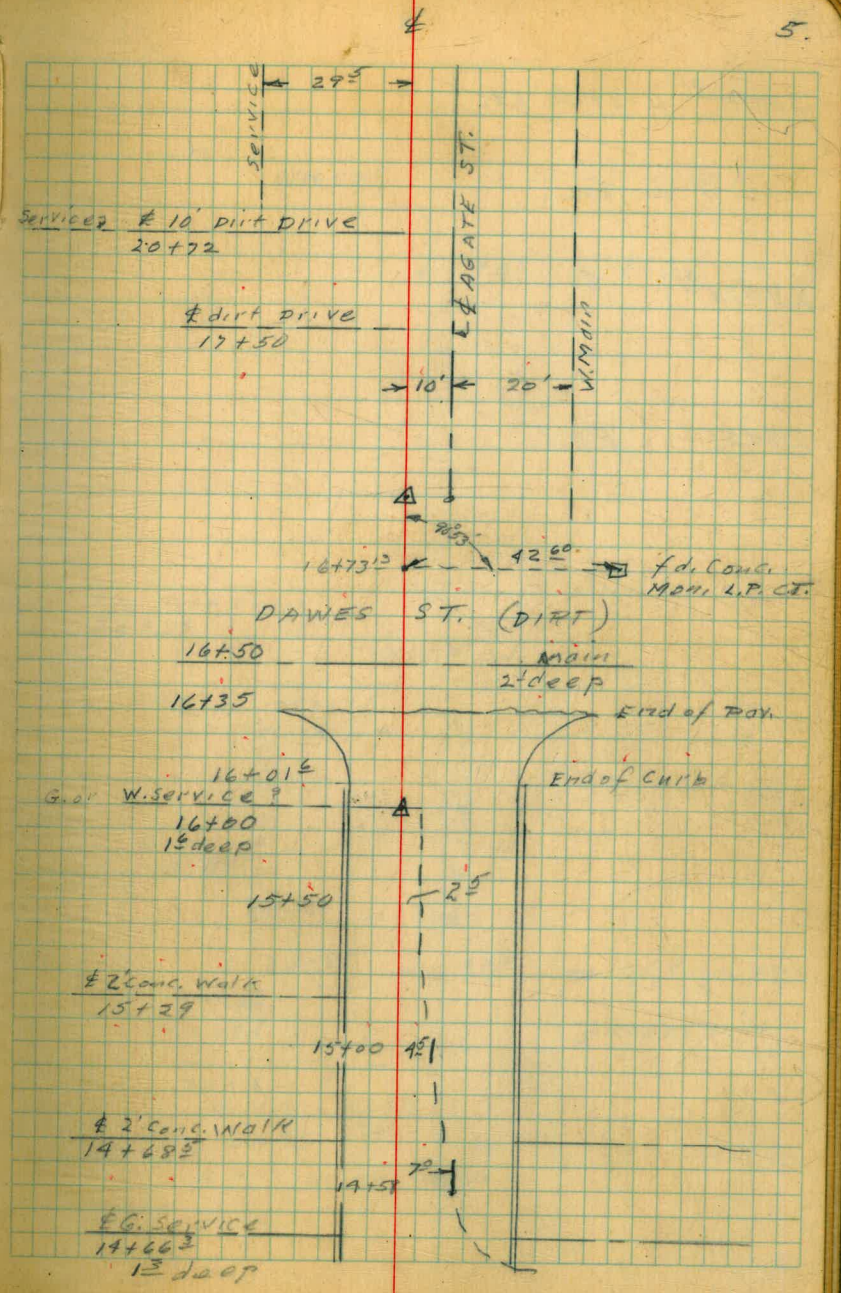
℄


10+53.5 3" Water Main
1.5 deep
℄ 2' Conc. Walk
10+50.9
℄ G. Service
9+78.3
1.5 deep
30'
F.H. 10+07
℄ 2' Conc. Walk
9+69
℄ 2' Conc. Walk
9+08.7
℄ 2' Conc. Walk
8+49.3
Also G. Service
1.5 deep
6'
7+97
7+85
Conc. Drive
7+67
B.C. 7+54
Tel. Pole
#458252
7+12
7+10
3'3.5" Tel. Booth
Conc. Stand
11'


℄
℄ 2' Conc. Walk
14+05
13+60
13+49
dirt drive
13+30 ℄
12+71
13+18
Tel. Pole # 458251
℄ Tel. Bank
12+70 - 35'x35'
+11'
℄ 2' Conc. Walk
12+66
G. Service
12+65 ℄
12' deep
℄ 2' Conc. Walk
12+02'
11+88 ℄ drive
℄ 2' Conc. Walk
11+38'
G. Service
11+22
12' deep

17+00 Δ 0°49'30" Rt.

16+00 Δ 0°59'30" Lt.



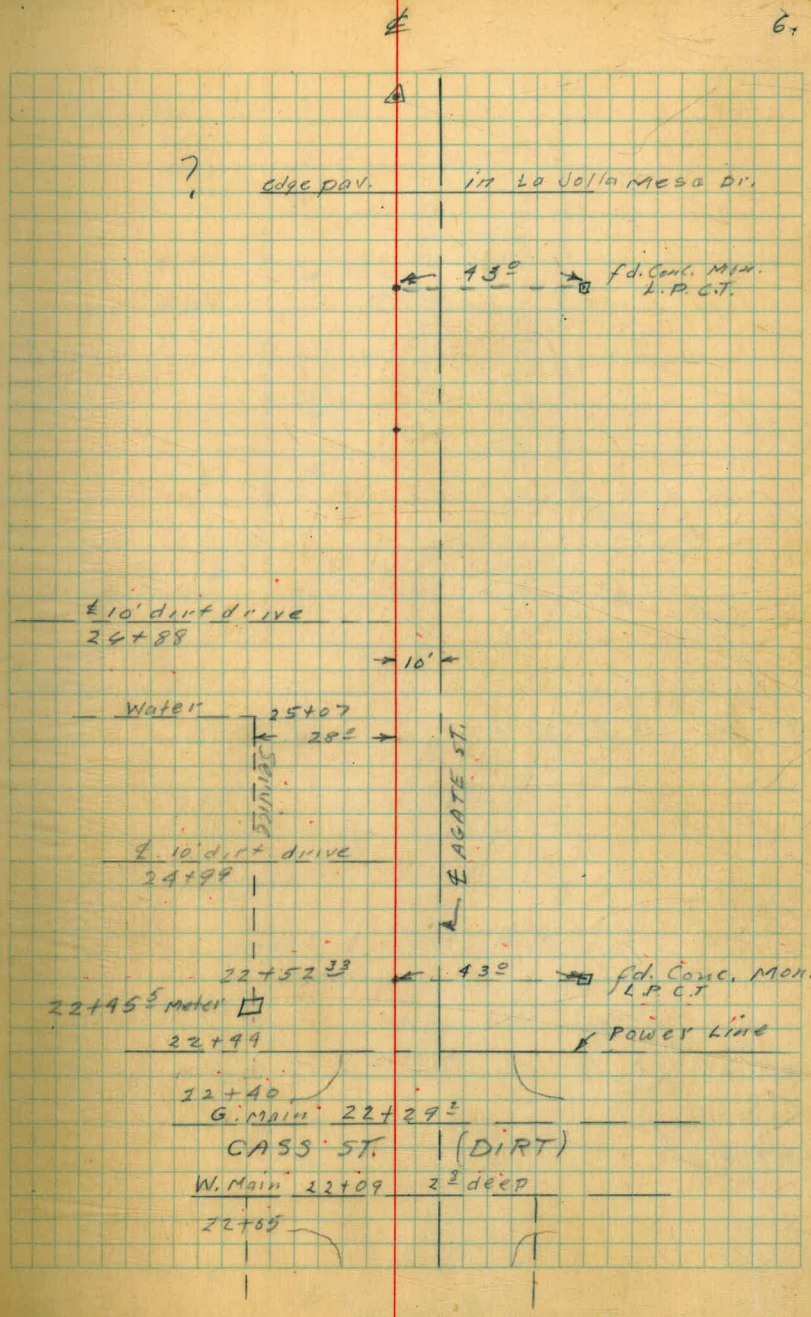
89° 50'

33+98.21 L. 89°50' Lt.

?. on Sta.

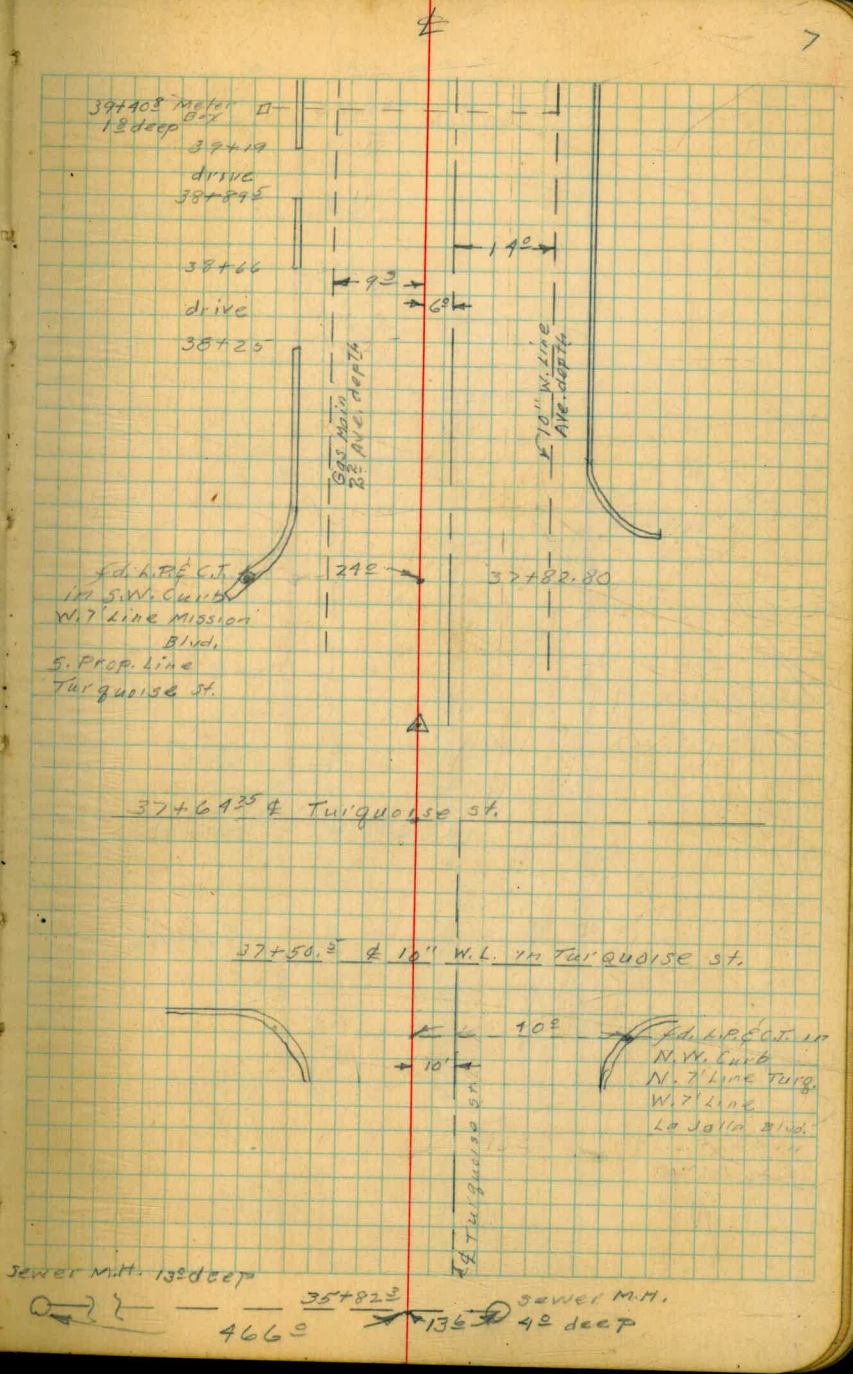
33+78.91

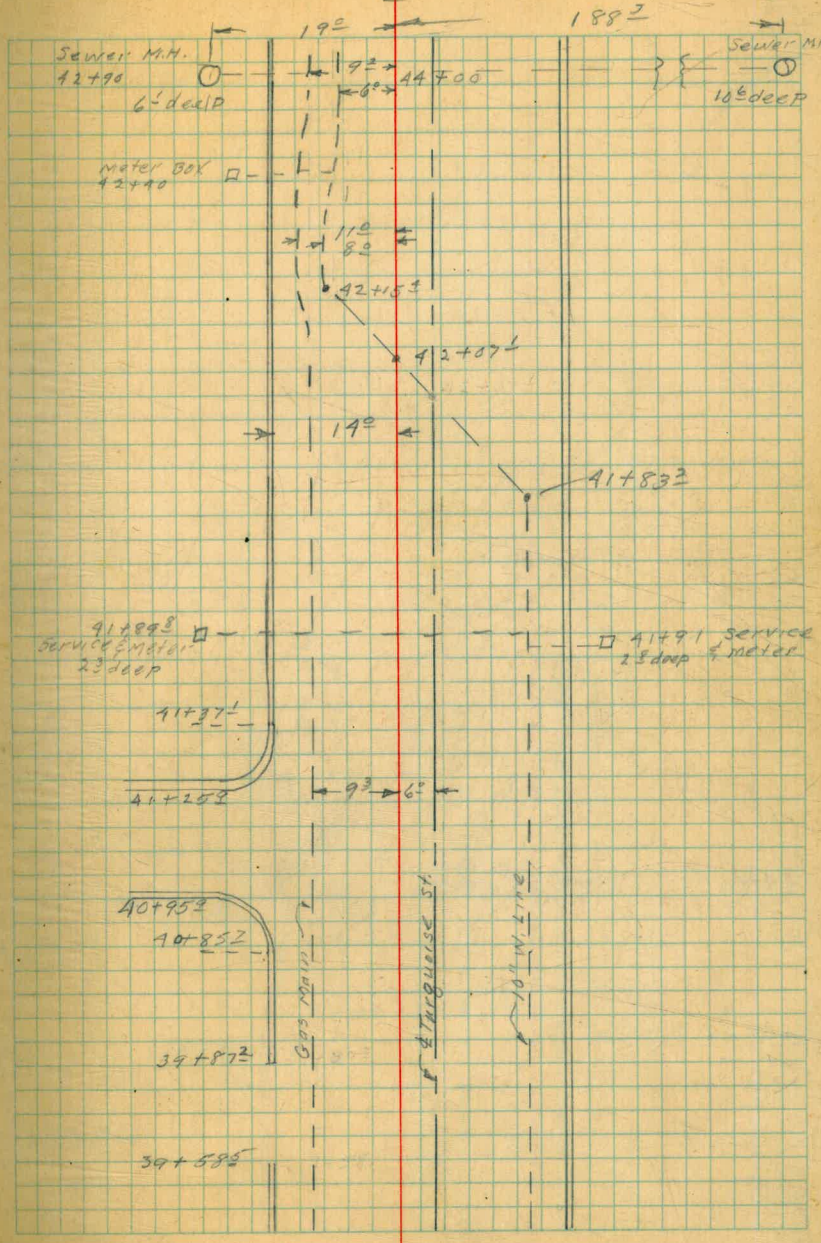
29+55.6 P.O.T.



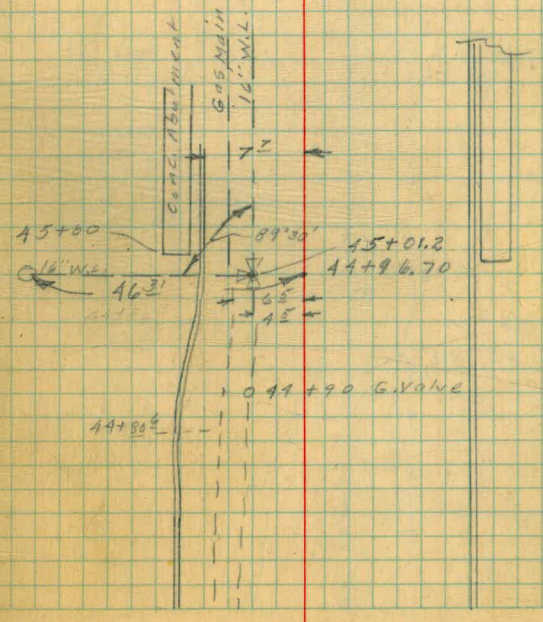
37+70.75 L 89° 51' Rt.

37+41.85




℄
19⁰
188.7
Sewer M.H.
12+90
6.5 deep
9.2
6.0
44+00
Sewer M.H.
10.6 deep
Meter Box
42+40
11.0
8.0
42+15.3
42+07.1
14.0
41+83.2
41+89.8
Service & Meter
2.3 deep
41+79.1 Service
2.3 deep & meter
41+37.1
41+25.2
9.3
6.0
40+95.2
40+85.2
39+87.2
39+59.5
Gas Main
8" Drainage St.
Sanitary Main

44+96.2 End. of work.



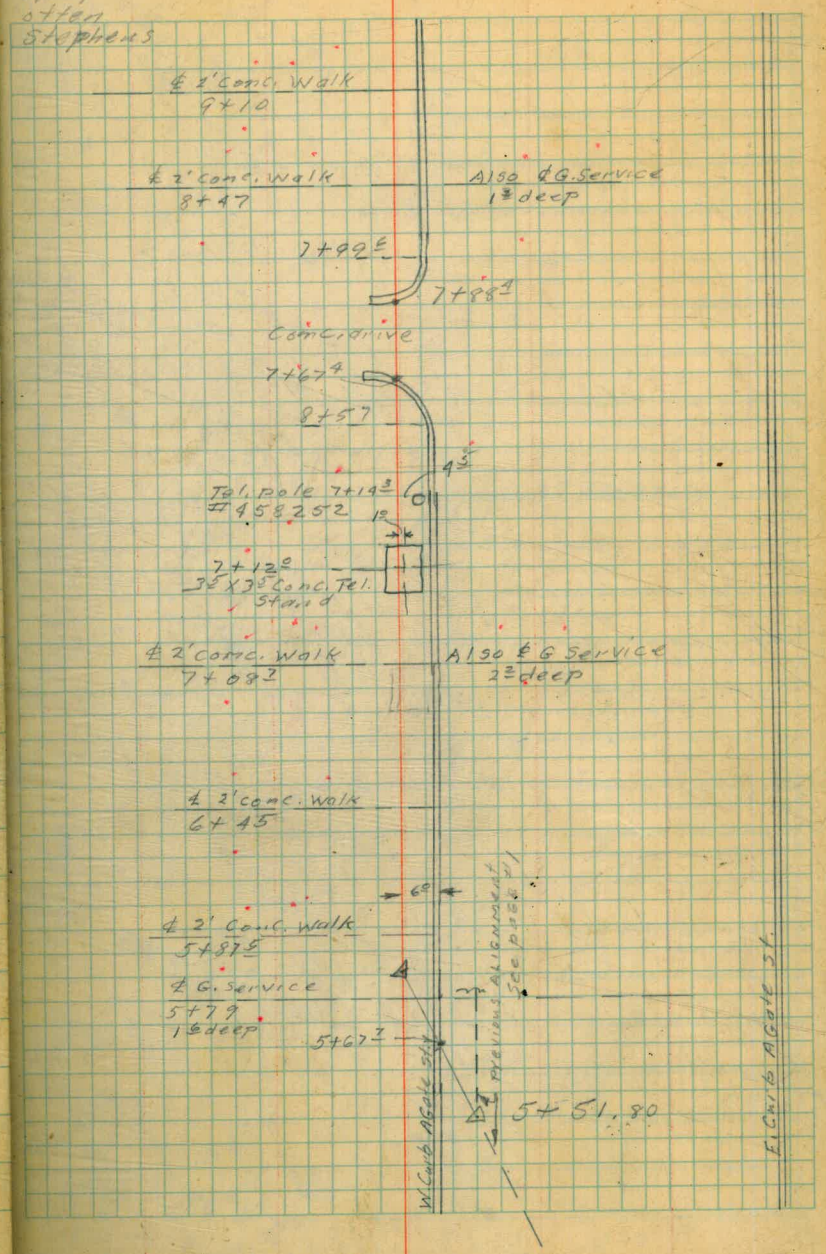
8-14-44

ALTERNATE ALIGNMENT
AGATE ST. P.L. STA 5+51.80

TO 34+01.26

PROFILE PAGE 34

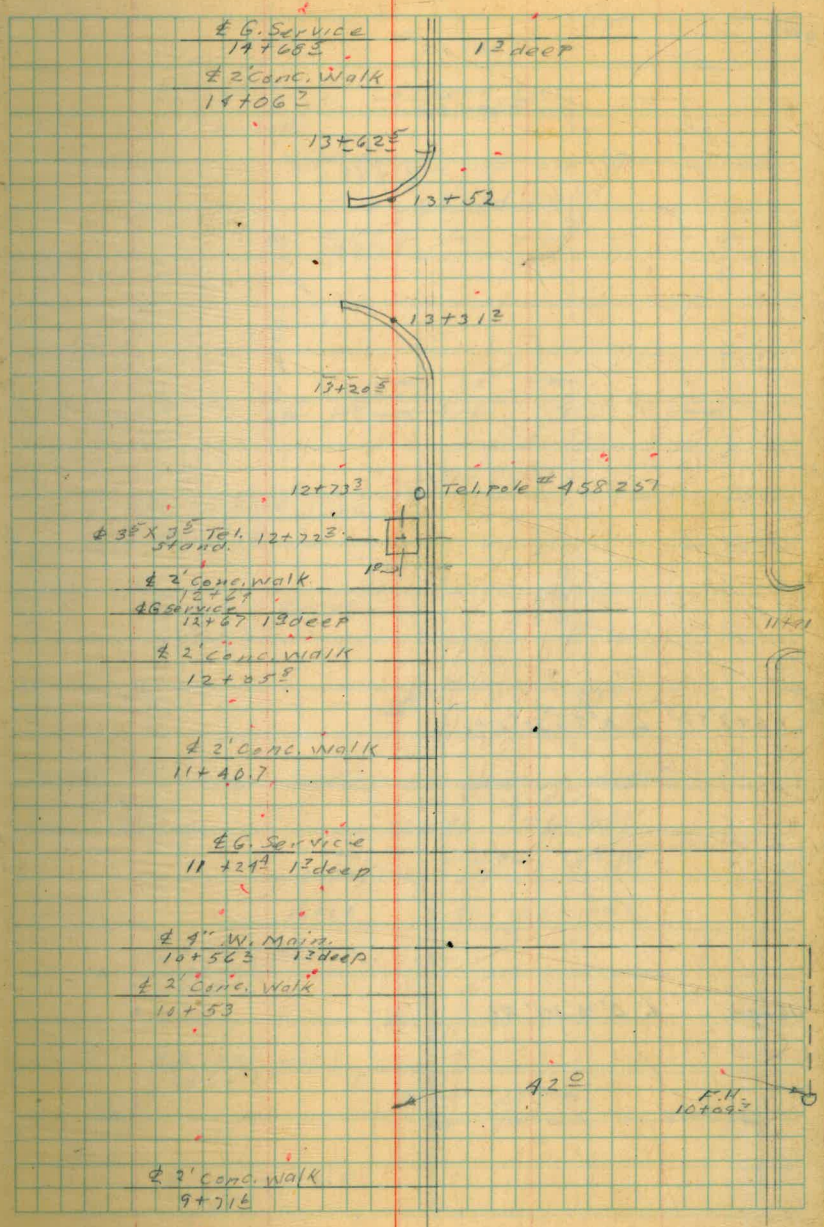
5+83.35 L. 22° 32' Rt.



Alternate

℄

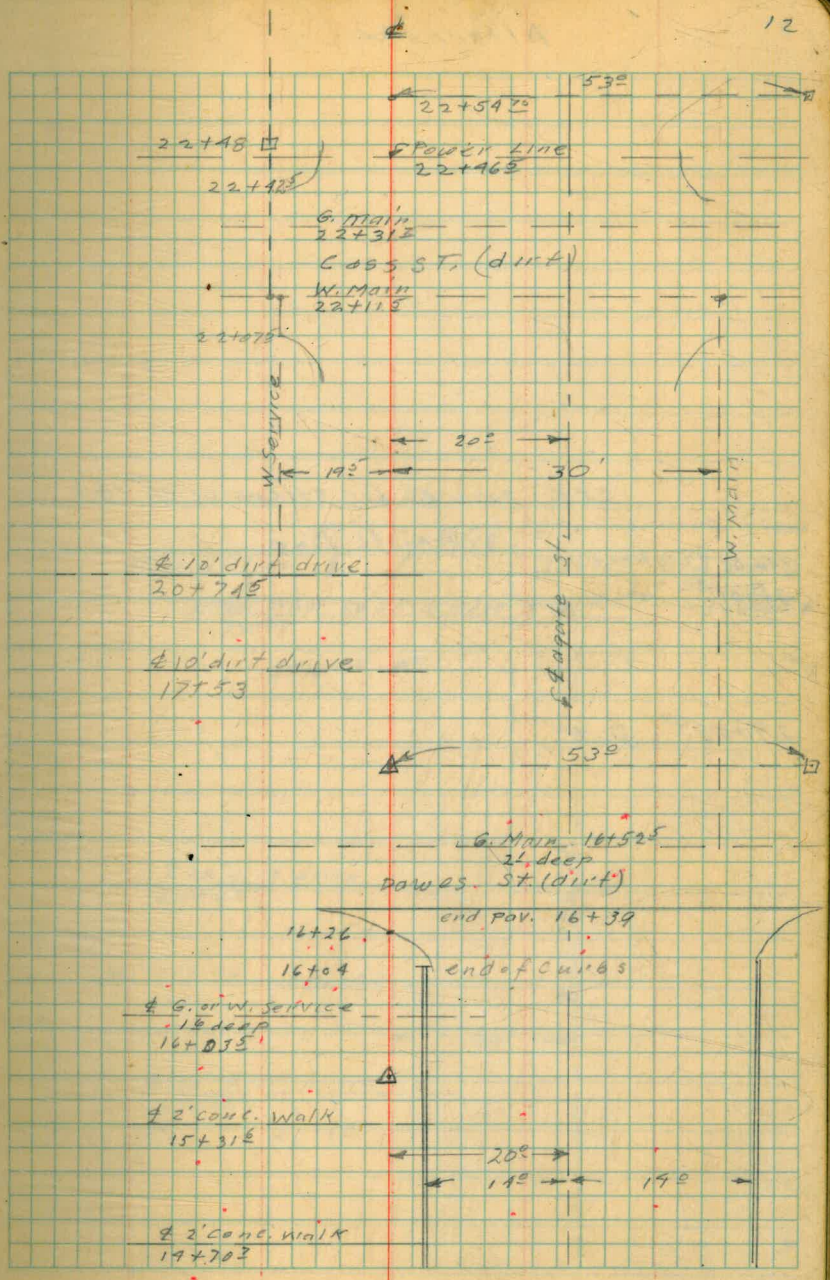
11



Alternate

16+75.35 L 0°2C'30" Lt.

16+00 L 0°16'30" Rt.

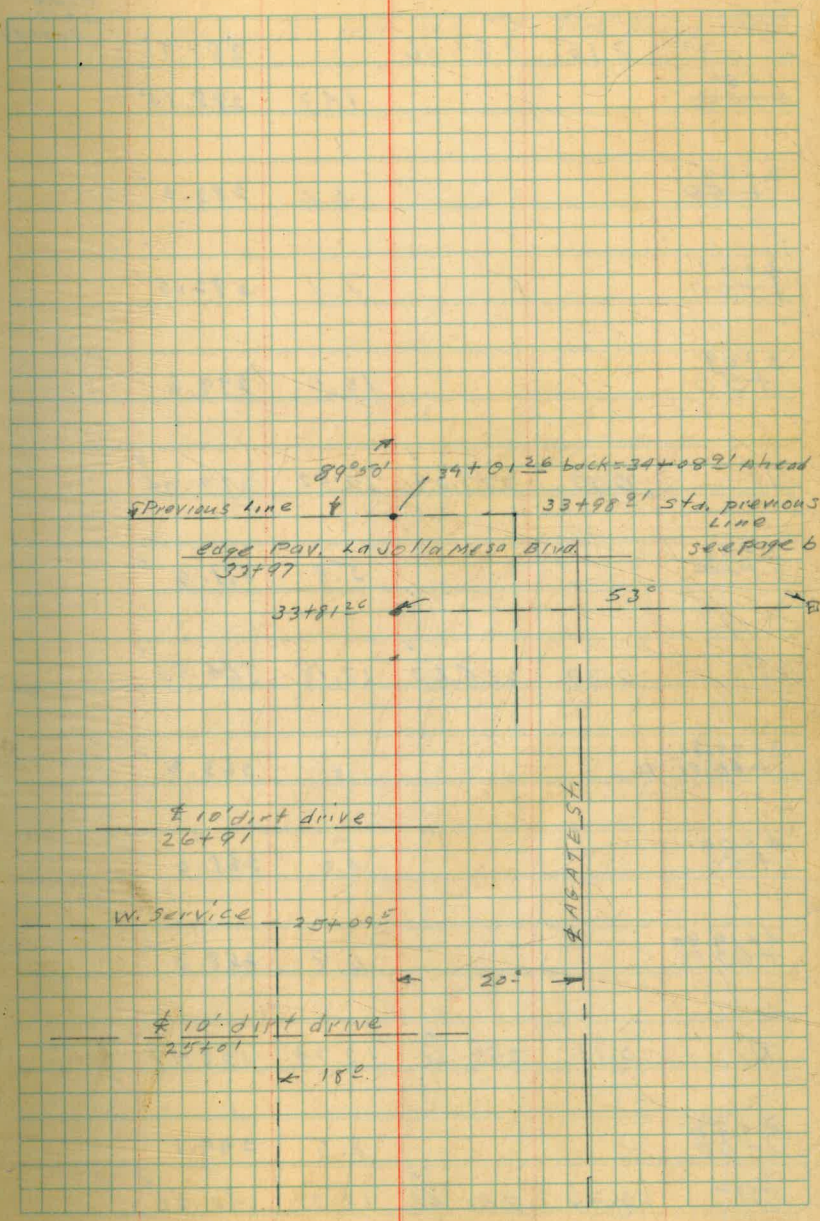


Alternate

SEE Page A6 for extension of this Alternate Line.

34+08.91 ahead
34+01.26 back

29+58.07 Pot



PROFILE PROPOSED AGATE ST. PIPE LINE

8-15-44
By Carl King after Stephens

	2.15	289.56 ✓		287.41
~~0+00~~ 1+59			1.42	288.14 ✓
2+09 +50			6.6	283.0 ✓
2+59 +00			7.1	282.5 ✓
3+09 +50			10.0	279.6 ✓
TP	0.00	277.04 ✓	12.52	277.04 ✓
~~2+00~~ 3+59			5.8	271.2 ✓
TP	0.37	265.23 ✓	12.18	264.86 ✓
~~+40.84~~ 3+99.80	L		1.9	263.3 ✓
4+09 +50			4.2	261.0 ✓
4+19.80 +60.80			6.9	258.3 ✓
TP	0.11	252.60 ✓	12.74	252.49 ✓
3+00 4+59			8.5	244.1 ✓
TP	0.26	240.48 ✓	12.38	240.22 ✓

B.M. Cut Strike for test hole #9 Pac. Beach Res. Site

		240.48		
5+09 3+50			13.0	227.5
TP	0.02	227.89	12.61	227.87
	0.78	215.92	12.75	215.14
5+59 4+00			1.8	214.1
5+98.2 +39.2			10.4	205.5
TP	0.36	203.39	12.89	203.03
6+19.2 4+60.2=			2.1	201.3
+69 69	Δ		3.9	199.5
+93			9.4	194.0
5+06			12.8	190.6
TP	0.53	191.00	12.92	190.47
TP	1.57	190.92	1.65	189.35
+03 ℄			1.25	189.7

189.19

O.M. Spike in P.V. 10'So. of N. Curb @ Gate ℄ 20' W. of W. Curb Elev. 1.5'.
El. 189.35

Top curb

		190.92 ✓		
5+51.8	Δ		2.4	188.5 ✓
Top curb			2.2	188.7 ✓
6+00			3.9	187.0 ✓
Top curb			3.6	187.3 ✓
+50			5.3	185.6 ✓
Top curb			5.0	185.9 ✓
7+00			6.6	184.3 ✓
Top curb			6.4	184.5 ✓
+50			8.1	182.8 ✓
Top curb			7.9	183.0 ✓
+76			9.0	181.9 ✓
8+00			9.7	181.2 ✓
Top curb			9.5	181.4 ✓
+50			11.4	179.5 ✓
Top curb			11.1	179.8 ✓
TP	0.98	180.60 ✓	11.30	179.62 ✓

1m drive way

		180.60 ✓		
9+00			3.4	177.2 ✓
Top Curb			3.1	177.5 ✓
+50			6.0	174.6 ✓
Top Curb			5.8	174.8 ✓
10+00			8.8	171.8 ✓
Top Curb			8.6	172.0 ✓
TP/B.M.	0.29	175.44 ✓	5.45	175.15 ✓
+50			6.4	169.0 ✓
Top Curb			6.1	169.3 ✓
11+00			9.0	166.4 ✓
Top Curb			8.7	166.7 ✓
+50			11.4	169.0 ✓
Top Curb			11.2	169.2 ✓
TP	1.58	164.02 ✓	13.00	162.44 ✓
12+00			2.2	161.8 ✓
Top Curb			2.0	162.0 ✓

Top F.H.

		164.02 ✓		
+50			4.1	159.9 ✓
Top curb			3.8	160.2 ✓
13+00			5.9	158.1 ✓
Top curb			5.5	158.5 ✓
+40			7.2	156.8 ✓
+50			7.6	156.4 ✓
In drive			7.8	156.2 ✓
14+00			9.1	154.9 ✓
Top curb			8.8	155.2 ✓
+50			10.4	153.6 ✓
Top curb			10.2	153.8 ✓
15+00			11.6	152.4 ✓
Top curb			11.4	152.6 ✓
TP	2.49	155.06 ✓	11.45	152.57 ✓
+50			3.7	151.4
Top curb			3.5	151.6

In driveway

		155.06 ✓		
16+00	△		4.5	150.6
Top Curb			4.3	150.8
+25			5.4	149.7
+45			4.8	150.3
+50			4.9	150.2
+55			5.0	150.1
17+00	△		3.7	151.4
TP	6.95	159.23 ✓	2.78	152.28 ✓
+50			6.5	152.7
18+00			5.4	153.8
+50			4.9	154.3
19+00			4.6	154.6
+50			4.4	154.8

In gutter

#54

gutter

Top Conc. Mon. N.W. 7' off. Dawes & AGATE ST.S

		159.23		
20+00			4.3	154.9
+50			4.0	155.2
21+00			4.3	154.9
TP	6.03	160.96	4.30	154.93
TP	7.19	166.31	1.84	159.12
TP/B.M.	3.33	166.31	3.33	162.98
TP/B.M.	0.90	155.32	11.89	154.42
21+50			1.2	154.1
22+00			2.7	152.6
+06			3.2	152.1
+23			2.9	152.4
+42			3.7	151.6
+50			3.4	151.9
23+00			4.2	151.1

B.M. Top Conc. Mon S.W. Cor Cass & Archer Sts.
El. 162.98 See Book 572 Page 38

Set B.M. Top Conc. Mon. N.W. Cor. Cass & AGATE ST.

In gutter

℄ roadway

In gutter

		155.32 ✓		
23+50			5.5	149.8
24			6.5	148.8
+50			8.1	147.1
25			10.3	145.0
+50			12.0	143.3
TP	0.81	143.83 ✓	12.30	143.02 ✓
26			2.8	141.0
+50			5.8	138.0
27			8.8	135.0
+50			10.1	133.4
+77			13.9	129.9
TP	0.68	133.45 ✓	11.06	132.77 ✓
+82			9.3	124.2

		133.45 ✓		
28			10.3	123.2
+09			10.4	123.1
+18			7.2	126.3
+50			7.2	126.3
+62			7.5	126.0
+78			5.1	128.4
29			4.3	129.2
+50			3.7	129.8
30			4.9	128.6
+50			7.0	126.5
31			8.6	124.9
+50			10.5	123.0
TP	1.09	124.00 ✓	10.54	122.91 ✓

		124.00 ✓		
32+00			3.0	121.0
+50			5.0	119.0
33			6.7	117.3
+50			9.0	115.0
TP	7.75	124.54 ✓	7.21	116.79 ✓
TP/B.M.	1.64	116.39 ✓	9.79	114.75 ✓
33+92.91			4.8	111.6
33+98.91	L		4.3	112.1
34+50			5.5	110.9
35			6.7	109.7
+50			7.8	108.6
+82			8.51 12.51	107.88 103.88
+82			+5.84 −7.16	122.23 109.2
36			9.1	107.3
+50			10.5	105.9

Set B.M. Top Conc. Mon. M.E. Cor: AGATE & La Jolla Mesa Dr.

in gutter

Top M.H. 13[6] Rt.
FL. Line

Top M.H. 466 Lt.
FL. Line

		116.39 ✓		
37			11.8	104.6
TP/B.M.	2.78	106.23 ✓	12.94	103.45 ✓
+50			1.8	104.4
+64.75			1.7	104.5
37+70.75	4		1.7	104.5
38			2.6	103.6
+50			3.7	102.5
39			4.7	101.5
+50			5.8	100.4
40			6.8	99.4
+50			7.8	98.4
41			8.9	97.3
+50			10.4	95.8

B.M. on L.P.& C.T. N.W. Curb Turquoise & La Jolla Mesa

over W. Main

& Turquoise

		106.23 ✓			
TP	0.63	96.37 ✓	10.49	95.74 ✓	
		10.00	To M.H.		
42			2.9	93.5	
+07			3.3	93.1	over W. Main
+50			5.7	90.7	
42+90			8.1	88.3	Top grnd. over Sewer
			7.82	88.55	Top M.H. 18° Lt.
+90			13.92	82.45	Fl. Line
			0.77	95.60	Top M.H. 188.3 Rt.
+90			11.37	85.00	Fl. Line
43			8.7	87.7	
+50			11.7	84.7	
TP	1.20	85.21 ✓	12.36	84.01 ✓	
44			3.6	81.6	
+50			6.5	78.7	
+96.20			8.7	76.5	
45+01.3 ±					over 7"
TP/B.M.	12.18	88.43 ✓	8.96	76.25 ✓	Set B.M. X in Curb 3' W. of end of Abutment

Cont. Page 27 for Turn back to B.M.

ALTERNATE Line, to Apate St PL. IN TURQUOISE ST

STA. 37+56.25 TO 44+96.7

PROFILE PAGE 32

44+82.70

37+56.75

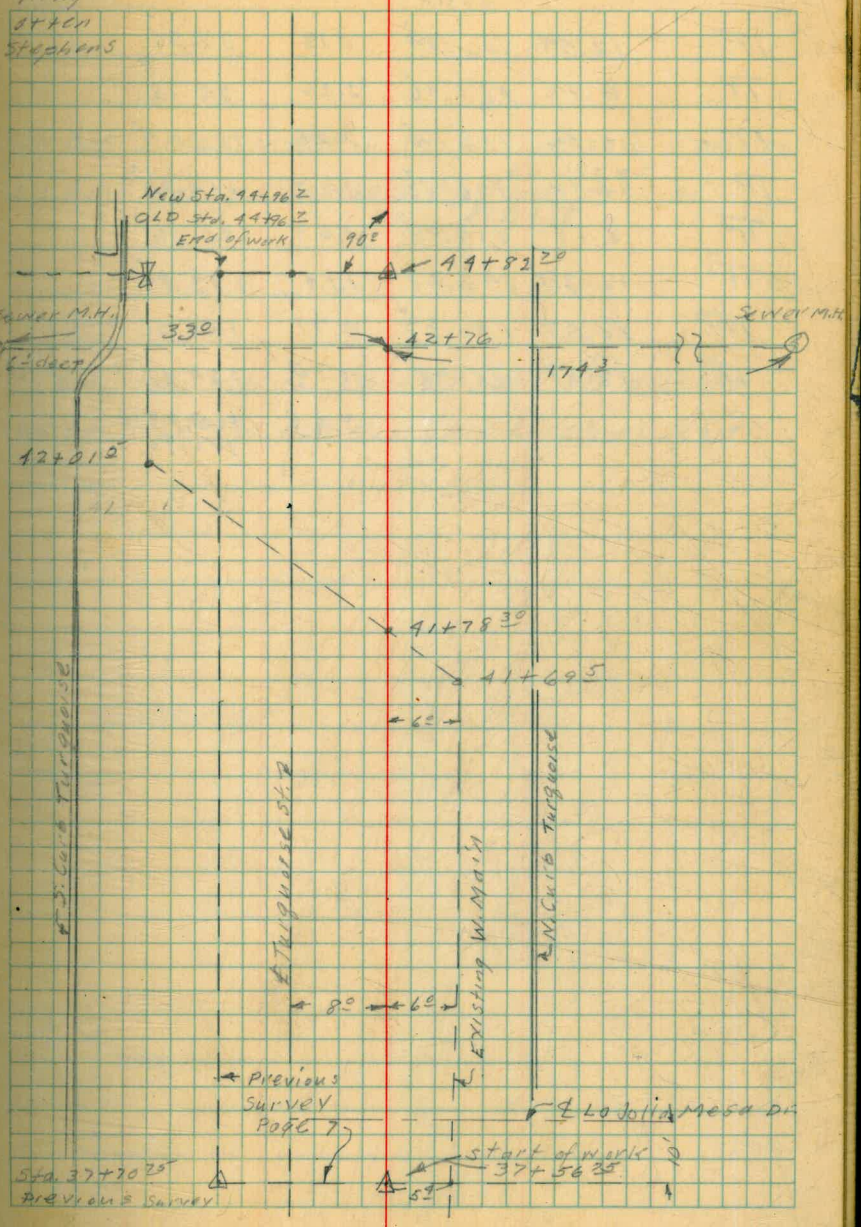
5-16-44

Bylar

King

St+Cn

Stephens



Cont. from Page 25

Check Levels Back To B.M. 88.93 ✓

TP	12.54	100.84 ✓	0.13	88.30 ✓
TP	6.92	105.70 ✓	2.06	98.78 ✓
TP	12.56	116.00 ✓	2.26	103.44 ✓
TP	12.10	126.83 ✓	1.27	114.73 ✓
TP	8.18	134.98 ✓	0.03	126.80 ✓
TP	12.37	146.21 ✓	1.14	133.84 ✓
TP	10.57	156.07 ✓	0.71	145.50 ✓
TP	12.01	166.38 ✓	1.70	154.37 ✓
			3.45	~~163.93~~ ✓ 162.93

ON B.M. L.P.C.T. N.W. Cor. Turquoise & La Jolla Mesa Dr. El. 103.45.

ON B.M. Mon. N.E. Cor AGATE & La Jolla Mesa Dr. El. 114.75

ON B.M. Mon. N.W. Cor. Coss & AGATE ST. El. 159.42

ON B.M. Mon S.W. Cor. Coss & Aiken St. El. 162.98

ALTERNATE AGATE ST. RL.

Turquoise St. from Sta. 37+38.7 To Sta. 44+96.80

44+64.80 L

37+38.7 L 89°51' Rt

8-23-44
Byler
King
offer
Stephens

28.

44+96.80 Ahead
44+96.80 back =

44+61.80

13° Tel. pole 44+61.3

6° Tel. pole 42+27.5 #125

42+56

22° Tel. pole 41+74 #124

30 Meter Box 41+59

Tel. pole 40+26.6 #123

E. Curb Turquoise St.

46 Tel. pole 38+77 10" dia. #122

6°

88 37+77

43 Tel. pole 37+88 #121 1' dia.

L.P.C.T.

38 37+78.22

Meter Box 37+78 1' x 1' x 1'

N. Prop. Line La Jolla mesa

E.7' Line Turquoise

85 Stub guy power 37+71

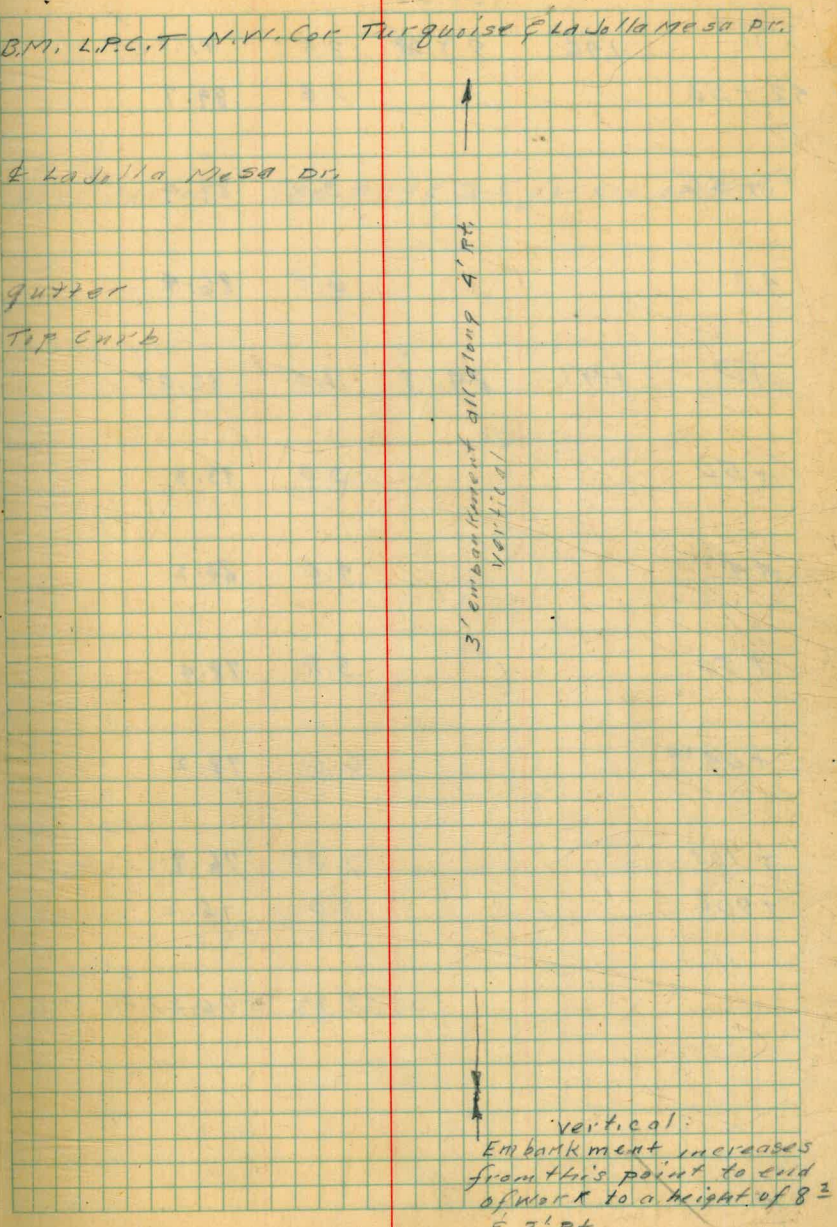
37+45 2 end Cu-6

Previous Line
Page 7

37+38.7

	0.90	104.35 ✓		103.45
37+38			0.1	104.3
+50			0.2	104.2
+74.5			1.4	103.0
+79.5			0.9	103.5
38+00			0.9	103.5
+50			2.1	102.3
39			3.2	101.2
+50			4.1	100.3
40			5.1	99.3
+50			6.3	98.1
41			7.7	96.7
+50			9.5	94.9
42			12.2	92.2

B.M. L.P.C.T N.W. Cor Turquoise & La Jolla Mesa Dr.



		104.35		
TP	1.46	93.28	12.53	91.82
42+50			3.6	89.7
+56			3.9	89.4
43			6.9	86.4
TP	1.91	84.18	11.01	82.27
+50			0.9	83.3
44			4.0	80.2
+50			5.8	78.4
+64.80			6.0	78.2
+70.8			7.30	76.9
+70.2			8.0	76.2
			7.91	76.27

over sewer See page 25 for els of M.H.'s

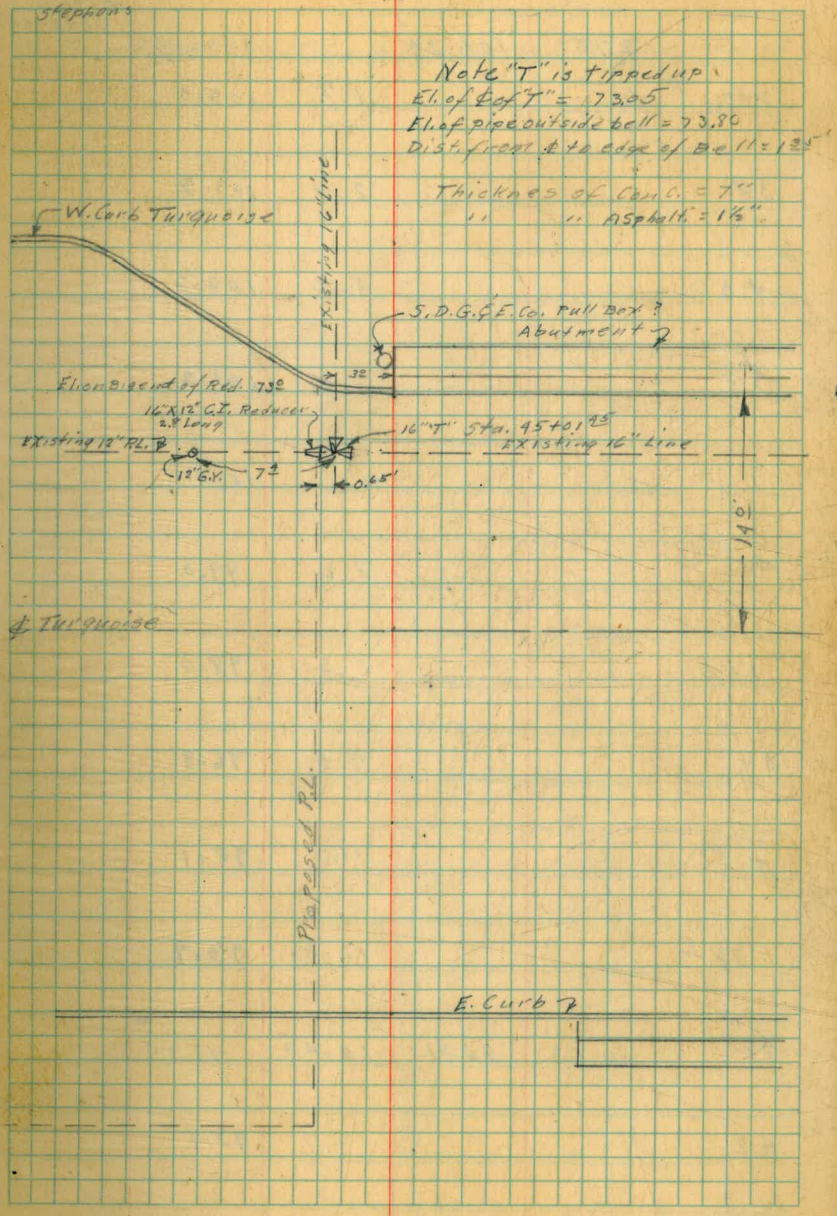
Tap curb gutter

B.M. "X" in curb El. 76.25

Hookup of AGATE St. P.L. to Existing 16" P.L. in Turquoise St.

Byler
King
otten
skeptons

9-10-14



Profile Alternate Line, in Turquoise ST. to Agate St Pl.

8-16-44
Byler
King
Otten
Stephens

	.278	106.23 ✓		103.45
37+36.75	L		1.7	104.5
38			2.9	103.3
+50			4.0	102.2
39			5.0	101.2
+50			6.1	100.1
40			7.2	99.0
+50			8.2	98.0
41			9.4	96.8
+50			11.1	95.1
+78.3			12.3	93.9
		✓		✓
TP	0.63	96.37	10.49	95.74
42			3.7	92.7

B.M. L.P.E.C.T. N.W. Curb Turquoise & La Jolla Mesa Dr.

over W. Main

		96.37 ✓		
42+50			6.5	89.9
42+90			8.7	87.7 ✓
+90			7.82 / 13.92	88.55 / 82.45
+90			0.77 / 11.37	95.60 ✓ / 85.00
43			9.5	86.9
+50			12.5	83.9
TP	1.20	85.21 ✓	12.36	84.01 ✓
44			4.4	80.8
+50			7.3	77.9
82.70			8.7	76.5
			8.96	76.25 ✓

Top grnd. over sewer
Top M.H. 32.9 Lt.
R.L. Line
Top M.H. 174.3 Rt.

End of work.

B.M. X in curb 3'W. of end of S. abutment El. 76.25

Profile Alternate Line in AGATE St.

8-16-44
Byler
King
Otten
Stephens

	1.53	190.88		189.35
5+67.7 Top Curb			3.1	187.8
			2.64	188.24
5+83.35	L.		3.4	187.5
Top Curb			3.0	187.9
5+87.4			3.6	187.3
6+00			3.9	187.0
Top Curb			3.5	187.4
+45			5.1	185.8
+50			5.3	185.6
Top Curb			1.9	186.0
7+00			6.7	184.2
Top Curb			6.3	184.6
+08.7			7.0	183.9
+12			6.8	184.1
+50			8.0	182.9
Top Curb			7.8	183.1

B.M. SPike in Pak. Fannel & AGATE N.W. Cor.
See page 15

In gutter

On walk

On walk

On walk

On Tel. Stand.

		190.88 ✓		
+67.4			8.27	182.6
+77.2			9.0	181.9
+88			9.01	181.87
8+00			9.9	181.0
Top Curb			9.5	181.4
8+47			11.4	179.5
8+56			11.5	179.4
Top Curb			10.9	180.0
TP	0.11	179.47 ✓	11.52	179.36 ✓
9+00			2.3	177.2
Top Curb			1.8	177.7
+10				
+10			2.8	176.7
+50			5.1	174.4
Top Curb			4.5	175.0
19+71.5			6.1	173.37

Top Curb

℄ drive

Top Curb

Top Walk

on walk

Top Walk

		179.47 ✓		
10+00			7.6	171.9
Top curb			7.3	172.2
+50			10.3	169.2
Top curb			10.0	169.5
+53			10.5	169.0
+56 ±			10.7	168.8
11			13.1	166.4
Top curb			12.6	166.9
TP	0.55	167.92 ✓	12.10	167.37 ✓
+46 ⁷			3.4	169.5
+50			4.0	163.9
Top curb			3.6	164.3
12+00			6.1	161.8
Top curb			5.8	162.1
12+05 ⁸			6.3	161.6

Top walk

Top walk

Top walk

		167.52 ✓		
12+50			8.0	159.9
Top curb			7.7	160.2
+69			8.6	159.3
+72.3			8.5	159.4
13+00			9.9	158.0
Top curb			9.3	158.6
+31.2			10.32	157.60
+41.2			11.3	156.6
+50			11.7	156.2
6' Left of pav			11.8	156.1
13+52			11.56	156.4
TP	1.96	157.68 ✓	12.20	155.72 ✓
14+00			3.1	154.6
Top curb			2.5	155.2
+06.2			3.4	154.3
+50			4.5	153.2
Top curb			3.8	153.9

Top walk

Tel. stand

Top curb

E drive

Top curb

Top walk

		157.68 ✓		
14+70			5.1	152.6
15+00			5.7	152.0
Top curb			5.0	152.7
+31.6			6.5	151.2
+50			6.9	150.8
Top curb			6.1	151.6
16+00	L		7.5	150.2
Top curb			6.9	150.8
+29			8.5	149.2
+46			7.8	149.9
+50			7.9	149.8
+57			8.4	149.3
+75.35	L		6.9	150.8
TP	6.81	159.09 ✓	5.40	152.28 ✓

Top walk

Top walk

In gutter

E Davies St.

In gutter

B.M. Conc. Mon. N.W. Cor. AGATE & DAVIES El. 152.28

		159.09 ✓		
17+00			7.8	151.3
+50			6.8	152.3
18			5.5	153.6
+50			5.0	154.1
19			4.6	154.5
+50			4.7	154.4
20			4.4	154.7
+50			4.2	154.9
TP	3.51	158.97 ✓	3.63	155.46 ✓
21			4.2	154.8
+50			4.8	154.2
22			5.1	153.9
+06			5.4	153.6

		158.97 ✓		
22+10			7.3	151.7
+25			7.0	152.0
+44			7.7	151.3
+50			7.4	151.6
TP	1.77	156.21 ✓	4.53	154.44 ✓
23			5.2	151.0
+50			6.3	149.9
24			7.5	148.7
+50			9.2	147.0
25			11.0	145.2
+50			13.1	143.1
TP	0.79	144.45 ✓	12.55	143.66 ✓
26			2.4	142.1

10 gutter

& Cass St.

In gutter

B.M. Mon. N.W. Cor Cass & AGATE ST. El. 154.42

		144.45		
26+50			6.7	137.8
27			9.0	135.5
+50			10.1	134.5
+74			10.5	134.0
+83			14.3	130.2
TP	1.68	134.95	11.68	132.77
+87			11.3	123.2
28			11.9	122.6
+14			11.5	123.0
+22			9.3	125.2
+50			8.1	126.4
+84			9.3	125.2
29			6.5	128.0

		134.45		
29+21			4.0	130.5
+50			4.4	130.1
30			6.0	128.5
+50			8.0	126.5
31			9.4	125.1
TP	1.27	126.12	9.60	124.85
+50			3.6	122.5
32			5.6	120.5
+50			7.3	118.8
33			8.9	117.2
+50			10.1	116.0
+96			14.9	111.2
34+01 ZC			14.2	111.9
			11.35	114.77

Inquittoir

B.M. N.E. Cor. AGATE & La Jolla Mesa Dr. El. 114.75

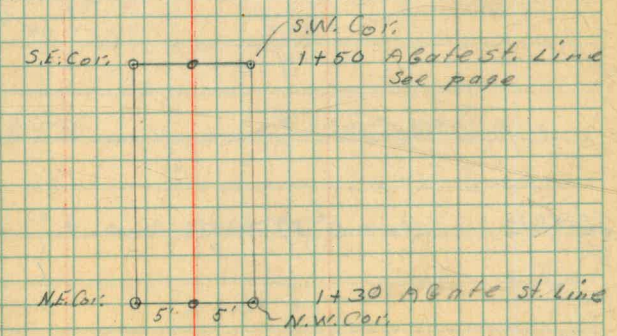
Location	℄ El.	Valve Box	POC
Beach Reservoir Site.			
2.44	289.85 ✓		287.41
N.E. Cor:		7.3	282.6
℄ 1+30		8.6	281.3
N.W. Cor:		9.7	280.2
S.E. Cor:		8.6	281.3
℄ 1+50		10.3	279.6
S.W. Cor:		11.9	278.0

8-23-44
Byler
King
otter
Stephens

279.6

13

B.M. Cut stake for test hole #9 POC Beach Res. Site



ALTERNATE LINE IN AGATE ST. PL.

Profile page 47

9-7-44

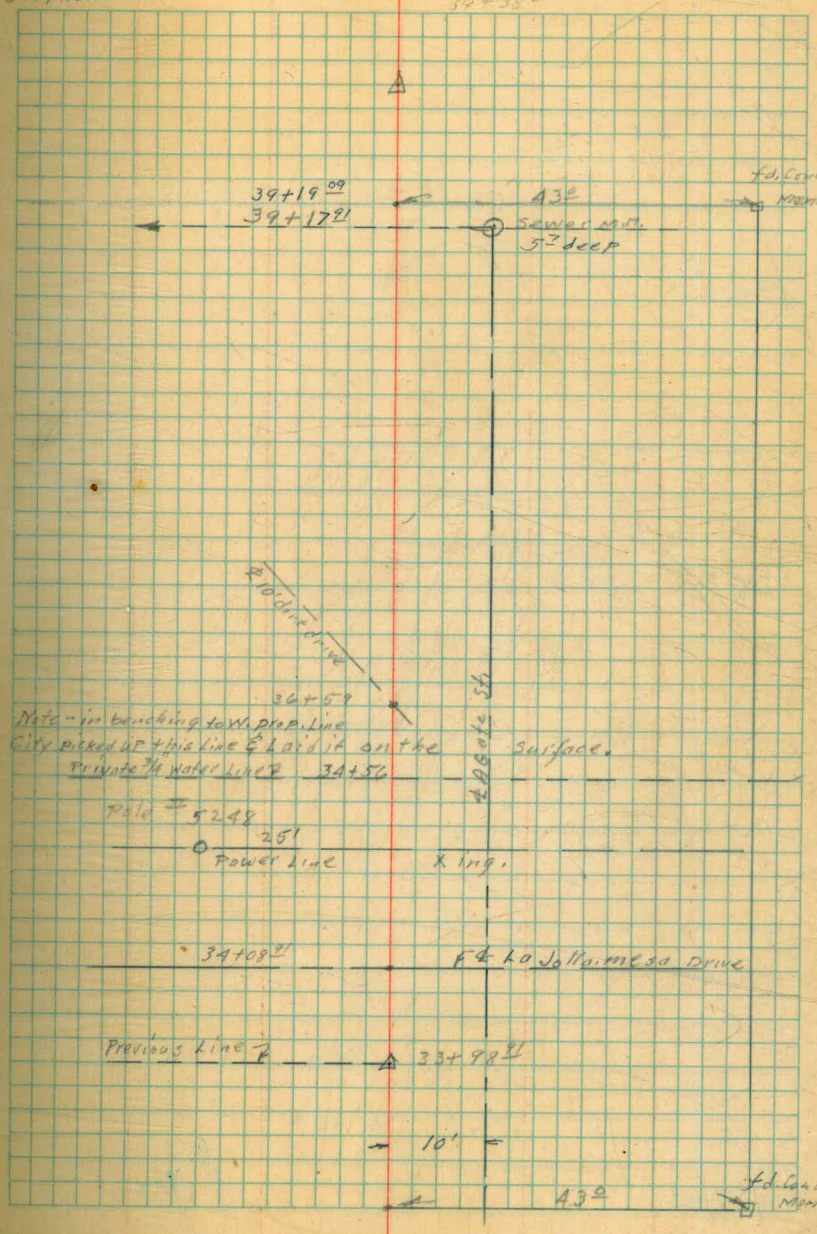
39+39.09 ℄ 89° 47' 30"

33+98.21 Start of Alternate Line

Byler
King
Otten
Stephens

℄

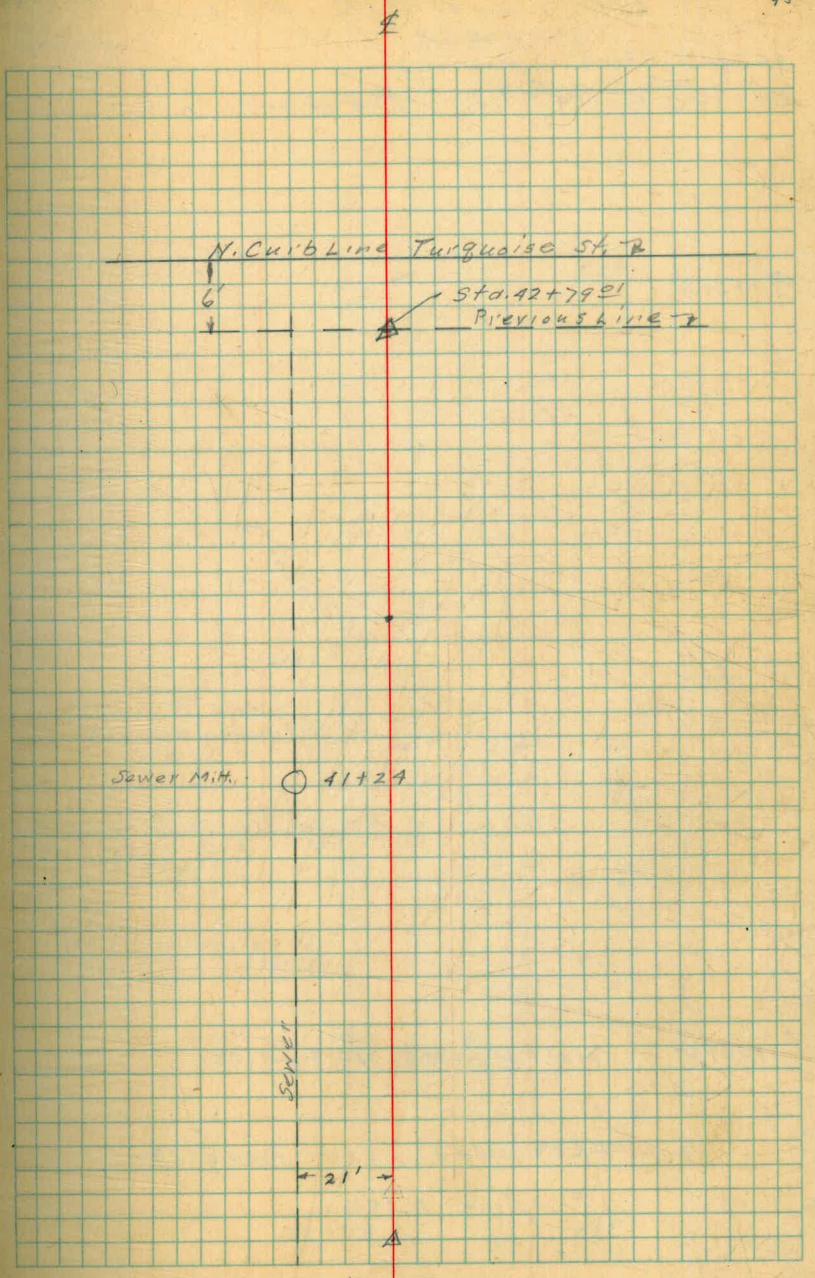
44.



42+79.06

42+70 P.O.T.

39+39.09



9-7-44

Extension of Alternate Line in AGATE St.

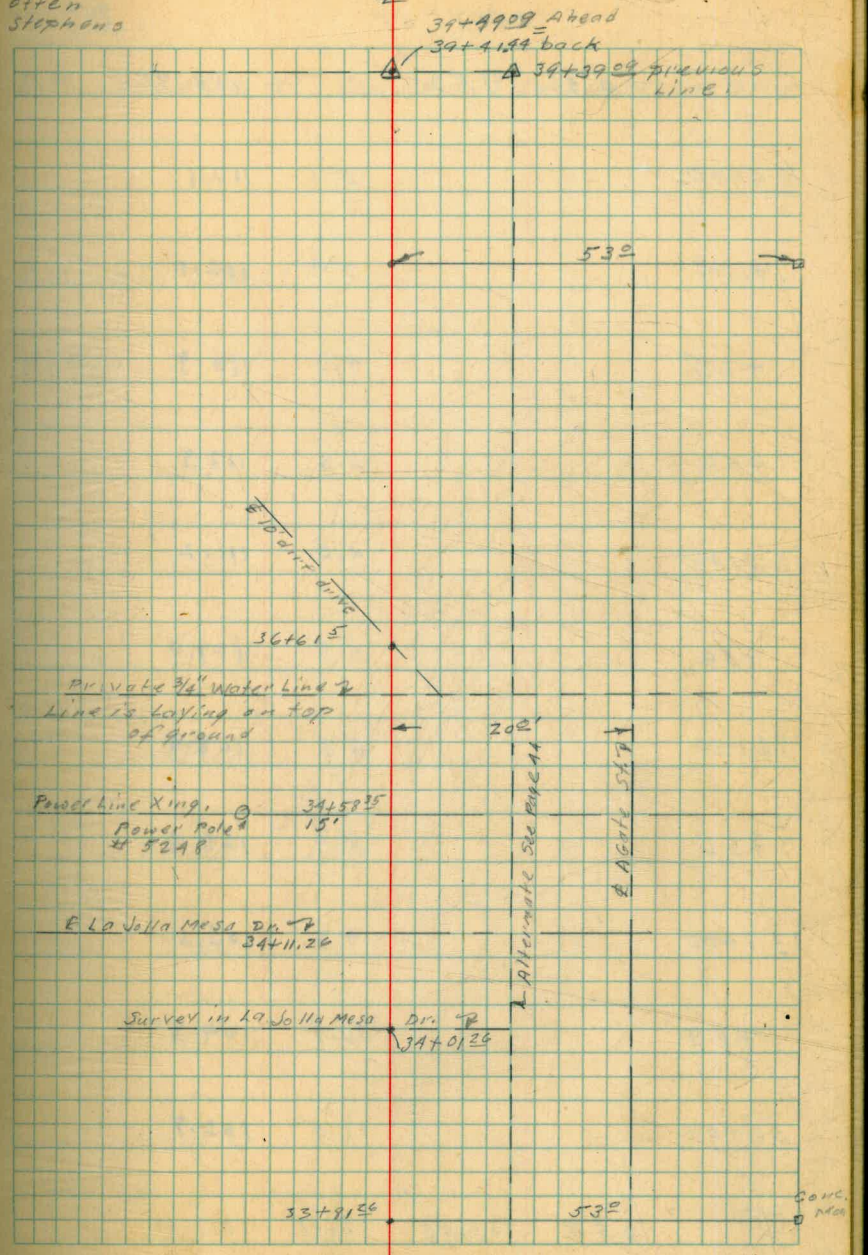
39+49.09 Ahead.
39+41.99 = ℄ 89°47'30" End of work.

39+21.99

31+01.26 start of work see page 13

Extended from page 13
Profile page

Byler
King
otten
Stephens



Profile Alternate line in AGATE St. 9-7-44

	0.46	115.21 ✓		114.75
34+00			3.1	112.1
+089'			3.1	112.1
+25			4.3	110.9
+50			2.3	112.9
35+00			4.0	111.2
+50			5.3	109.9
36+00			6.8	108.4
+50			8.4	106.8
37+00			9.7	105.5
+50			10.9	104.3
38+00			12.5	102.7
TP	2.53	105.62 ✓	12.12	103.09 ✓

Byler
King
Otten
Stephens

47.

B.M. Conc. Mon. NE. Cor. AGate & La Jolla Mesa Drive

& La Jolla Mesa Dr.

Gutter

		105.62 ✓		
38+50			4.4	101.2
39+00			6.0	99.6
39+17.9			6.10 11.80	99.52 93.82
39+39.9	L		7.1	98.5
TP/B.M.	2.01	101.85 ✓	5.78	99.84 ✓
39+50			3.8	98.1
40+00			5.3	96.6
40+50			6.1	95.8
41+00			6.9	95.0
+24			6.25 17.85	95.60 84.00
+50			7.2	94.7
42			7.6	94.3
+50			8.0	93.9

95.60
85.00

Top M.H. 10' Rt.
Fl. Line Sewer

Set B.M. Top Conc. Mon. 43' Rt. of Sta. 39+19.9

Top M.H. 21' Lt.
Fl. Line Sewer

		101.85 ✓		
42+74			8.2	93.7
TP	5.21	94.32 ✓	12.74	89.11 ✓
42+77			6.4	87.9
42+79.66			6.8	87.5
			5.76	88.56 ✓

Top of Bank.

Toe of Bank

Top sewer mh. W. side Turquoise El. 88.55

Profile of Alternate Extension to Agate St P2.
34+01.26 to 39+41.94

	0.96	115.21		114.75
34+01	℄		3.30	111.9
34+11.26			3.3	111.9
+27.74			4.6	110.6
+50			2.7	112.5
35+00			3.7	111.5
+50			5.4	109.8
36+00			6.9	108.3
+50			8.2	107.0
37+00			10.1	105.1
+50			11.4	103.8
38+00			12.9	102.3
TP	2.53	105.62	12.12	103.09

B.M. Conc. Mon. N.E. Cor. Agate & La Jolla Mesa Drive

℄ La Jolla Mesa Drive

gutter

		105.62		
38+50			4.6	101.0
39+00			6.0	99.6
39+			6.10 11.80	99.52 93.82
~~39+19.99~~ 39+41.23 = L			7.5	98.1
			5.78	99.84

95.60
95.00

Tee M.H. 26' Rt.
Fl. line Sewer

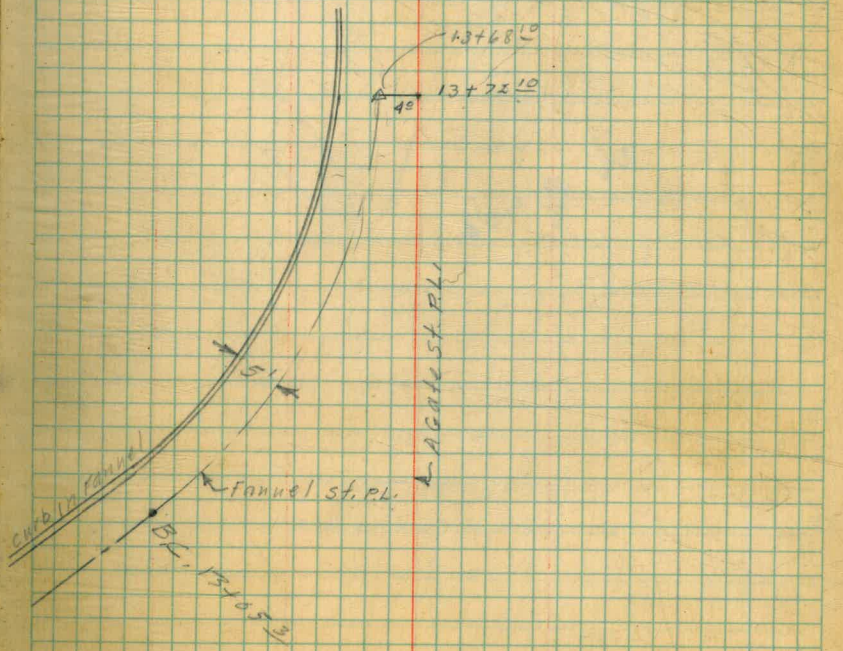
ON BM. Conc. Mon. 53' Rt. of Stn. 39+21.4 El. 99.84

Intersection of FOOTHILL
& ℄ AGATE ST. P.L.'s

13+68.10	29°05'	
13+50	20°42'30"	
13+25	9°07'	
13+05.3 B.C.		Curve Lt.

Byler 9-10-44
King
Otten
Stephens

5-2



Profile & X-Sections. of Work
on previous Page

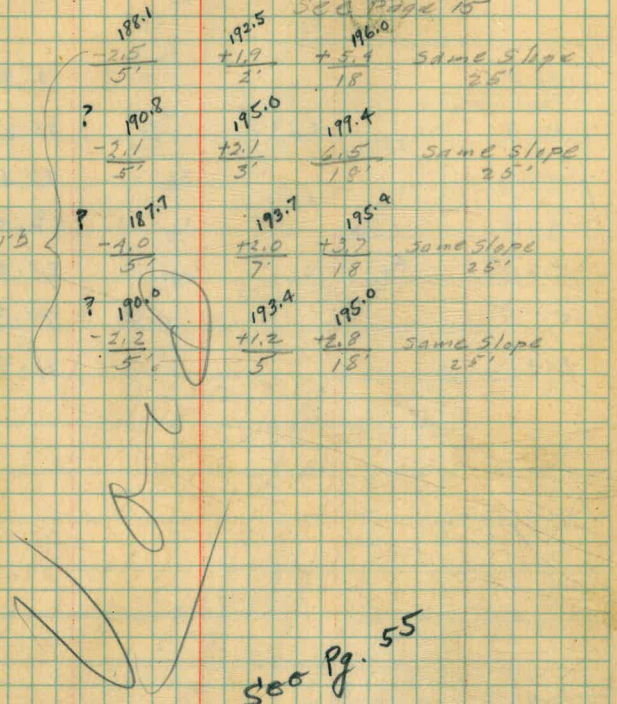
	8.72	198.07		189.35
13+05 3	B.C.		7.5	190.6
+25			5.2	192.9
+50			6.4	191.7
+68 1			5.9	192.2

Byler
Kipp
Otten
Stephens

10
9-10-44

53.

B.M. Spike in Pav. Int. AGATE & Fanuel Sts
See Page 15

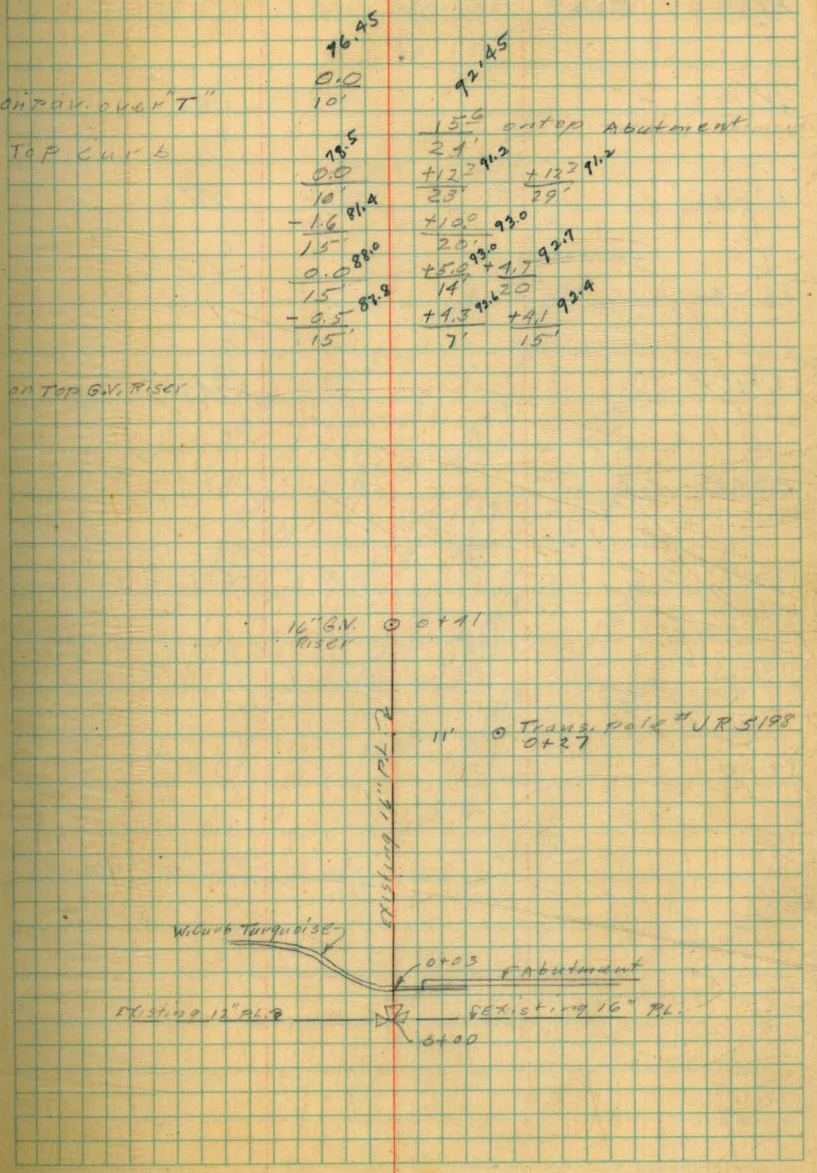


See Pg. 55

Profile of Existing 16" P.L. at Junct. of AGATE St. P.L. at Turquoise St.

	14.20	90.45		76.25
0+00			14.0	76.45
0+03			13.6	76.85
0+06			12.0	78.5
+14			7.5	83.0
+25			2.5	88.0
+35			2.3	88.3
+41			0.0	90.45

10-13-44
By Ickes
King
Olsen
Stephens



	Profile Inters	+X-Sects Agate & Fawnel	of intersec. of Foothill Bvld & Agate St PL's	
B.M.	10.14	199.49 ✓		189.35
12+50			15.5	184.0 ✓
12+75			12.9	186.6 ✓
13+80			9.8	189.7 ✓
BC 13+05.3			9.0	190.5 ✓
13+25			6.6	192.9 ✓
13+50			7.8	191.7 ✓
13+68 L			7.3	192.2 ✓
13+75			7.7	191.8 ✓
			9.85	189.64 189.7

KING
OTTEN
STEVENS

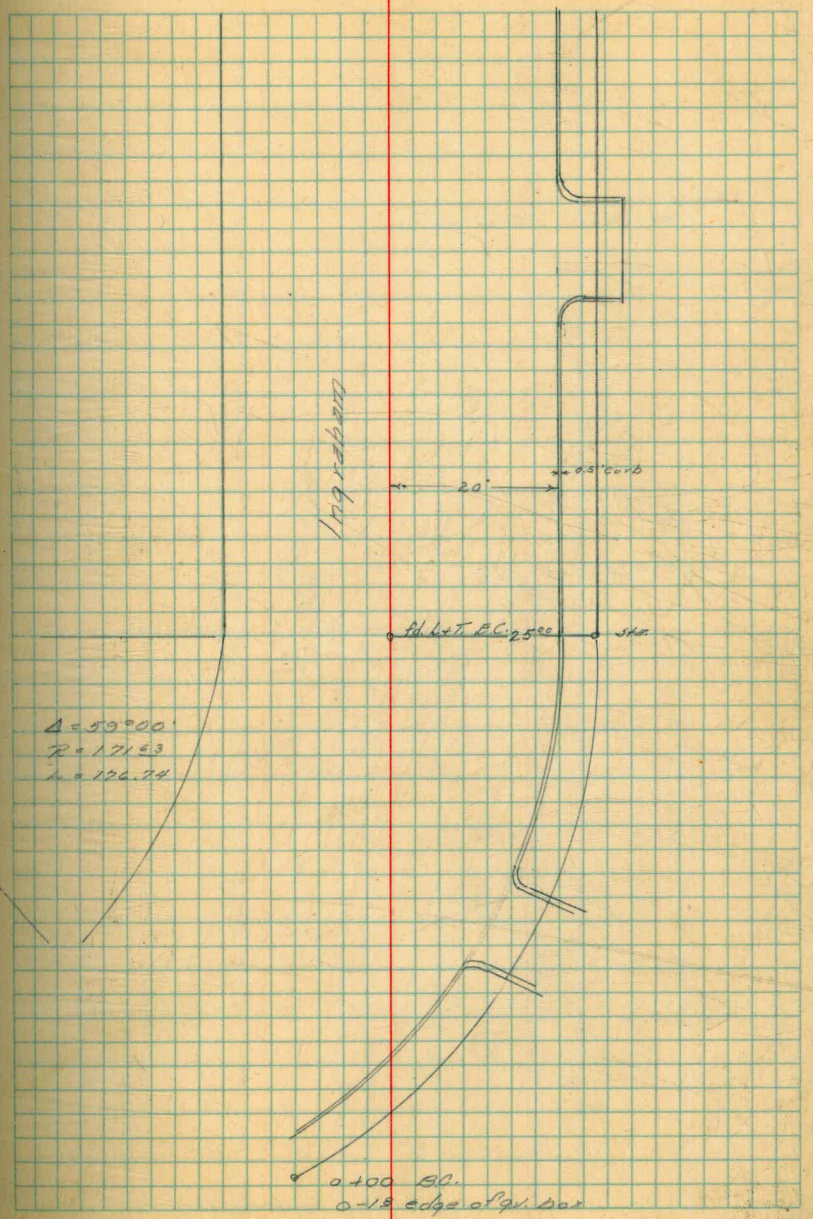
10-20-44

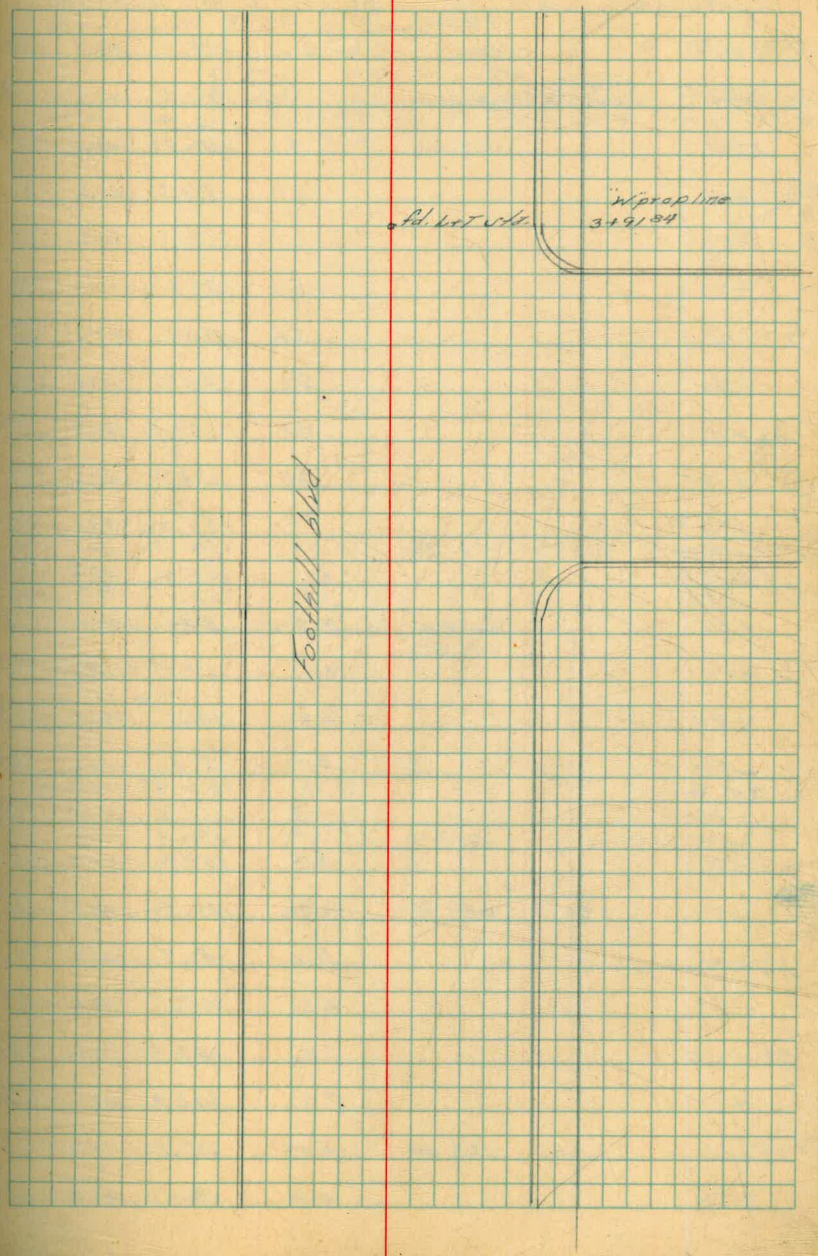
Spike IN Pav. Inters. Fawnel & Agate

	187.0	15.5	185.0
	16.5		14.5
	5 Chkd.		13
	188.8 ✓		188.7
	18.7	12.9	10.8
	5'		18
	187.9 ✓		192.2
	11.6	9.8	7.3
	5'		18
	188.2 ✓		193.3 ✓
	11.3	9.0	7.6 6.2
	5'		5' 18
	188.9 ✓		195.0
	10.6	6.6	4.5
	5'		6
	189.5 ✓		193.9
	10.0	7.8	5.6
	5'		3'
	189.6 ✓		194.0
	9.9	7.3	5.5
	5'		2'
	189.7 ✓		194.7
	9.8	7.7	4.8
	5'		5'

	197.0 ✓
	2.5
	18
	198.3 ✓
	1.2
	18
	197.8 ✓
	1.7
	18
	197.3
	2.2
	18

Topchd. 5+03.30


Δ = 59°00'
R = 171.63
L = 176.74
20'
0.5' Curb
Pd. L+T. P.C. 25+00
Sta.
0+00 P.C.
0-18 edge of Sq. Bar


Foothill Blvd
Wiprapline
3491.34

Sept. 1 1949
Deahy
Rogers
Finney

GRADES SET @ 154.96 — Electric Ave Pipeline

25+04.49			5.5	149.5	143.7	C5.8
+34.46	31.45 Meas. ARCo. Plans neglect		3.25	151.5	145.5	C6.0
CK BM on Mon	T.20 EQUATION 25+17.48 @ 25+16.00 Ah		2.52	152.42	152.28	
+50		159.64	8.1	151.5	146.0	C5.5
26+00			6.9	152.7	147.5	C5.2
+50			6.0	153.6	148.6	C5.0
+75			5.7	153.9	149.1	C4.8
27+00			5.4	154.2	149.2	C5.0
+50			5.1	154.5	149.4	C5.1
28+00			4.8	154.8	149.5	C5.3
+50			4.9	154.7	149.7	C5.0
+80.91			4.4	155.2	149.9	C5.3
(P) 29+00	2.25	158.32	4.67	154.97	150.0	C5.0
29+12.41			3.1	155.2	150.2	C5.0
+25			3.2	155.1	150.3	C4.8
+50			3.5	154.8	149.4	C5.4
30+00			4.1	154.2	147.6	C6.6
+50			6.6	151.7	145.8	C5.9
31+00			6.5	151.8	145.6	C6.2
CK BM Mon			3.85	154.47 = 154.42		
+50			7.5	150.8	145.4	C5.4
+75			7.9	150.4	145.3	C5.1
32+00			8.2	149.9	144.4	C5.5
(P) +50	1.30	149.86	9.76	148.56	142.7	C5.9
33+00			3.0	146.9	140.9	C6.0
+50			4.8	145.1	139.2	C5.9
34+00			7.0	142.9	137.4	C5.4
+50			9.0	140.9	135.7	C5.2
(P) 35+00	1.62	139.44	12.04	137.82	134.0	C3.8
+50			4.6	134.8	132.2	C2.6

9/9/49

FIRE HYDT. 21' LT STA 24+63.00

C	4.76	149.0	
④ East	4.85	148.9	GRADE AT Flange 148.90
④ West	4.85	148.9	4.85 GRD Rod

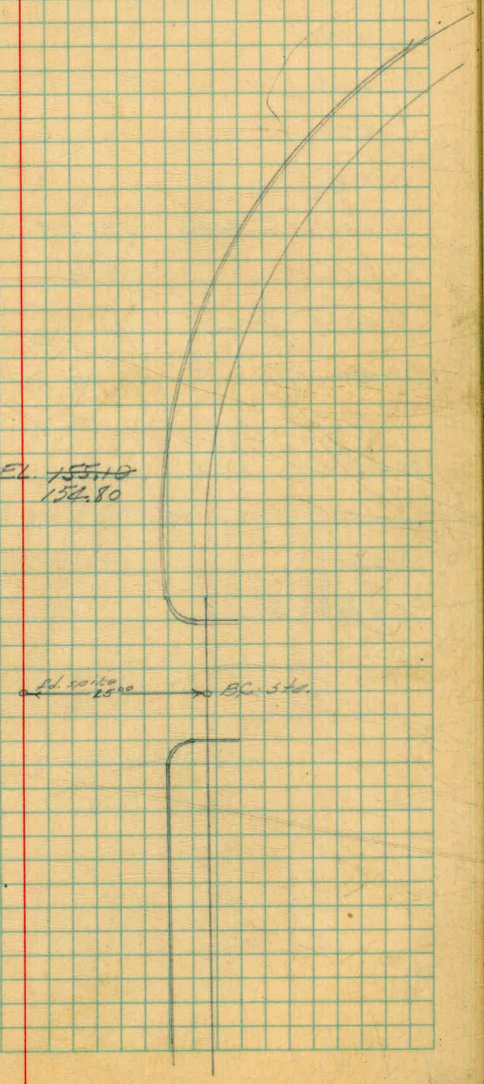
BM 153.44
1.21
H 153.75

Sept. 6 1949

31.45
1.48
29.97
4.69
34.46

29+12.3 AHA SET FIN. EL. ~~155.10~~ 154.80

154.42 BM
7.30
161.72 H.
155.10
6.62 GRD Rod



154.42

Sept. 6, 1929

Electric Ave — 139.44 — Grades Set for Pipe Excav.

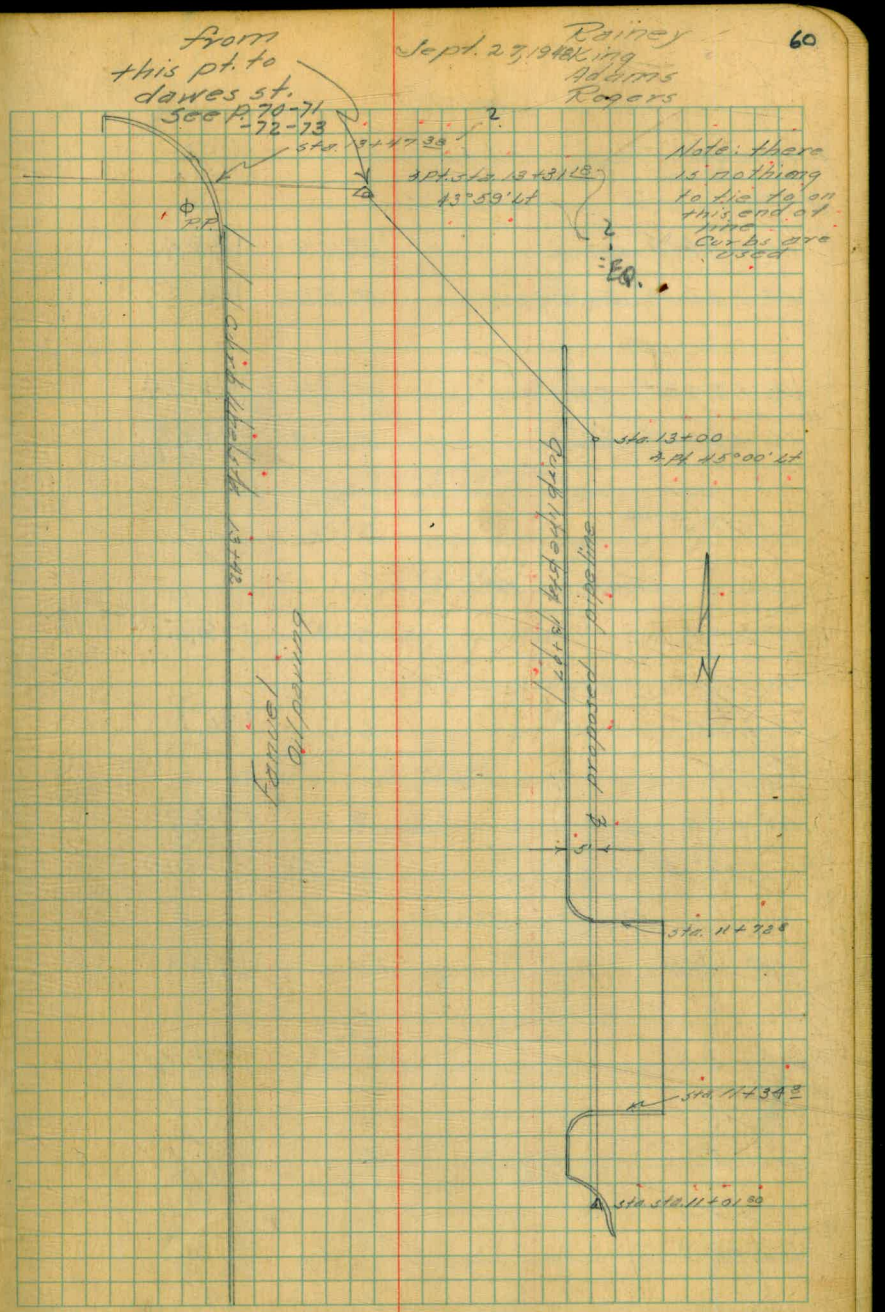
36+00			5.4	134.0	130.5	C 35
+50			12.2	127.2	128.7	F 5
37+00			14.1	125.3	127.00	F 7
+06			14.8	124.6	126.8	F 2
+14			14.2	125.2	126.5	F 3
+22			13.6	125.8	126.2	F 4
+30			13.3	126.1	126.0	C 0
+50	2.45	131.09	10.80	128.64	125.3	C 33
38+00			0.9	130.2	123.6	C 66
+50			2.9	128.2	121.8	C 64
39+00			4.8	126.3	120.0	C 63
+50			6.3	124.8	118.3	C 65
40+00			8.5	122.6	116.5	C 61
+50			10.8	120.3	114.7	C 56
41+00			12.6	118.5	113.0	C 55
+10 37			12.7	118.4	112.6	C 51

Agate st pipeline

BM. F.H. SE Cor.		+ Fannel turquoise		167.16
	12.98	180.08		
12+00			1.3	178.8
T.P.#1			0.95	179.13
	12.29	191.42		
12+50			7.4	184.0
13+00	2 Pt.		1.9	189.5
13+07	top Curb		3.34	188.08
13+07	Gutter		3.91	187.51
13+31 Lt	2 Pt.		2.62	188.80
13+47.38	Gutter		2.59	188.83
13+47.38	top Curb		2.12	189.30
14+00			3.5	187.9
14+50			5.0	186.4
15+00			6.4	185.0
15+50			7.7	183.7

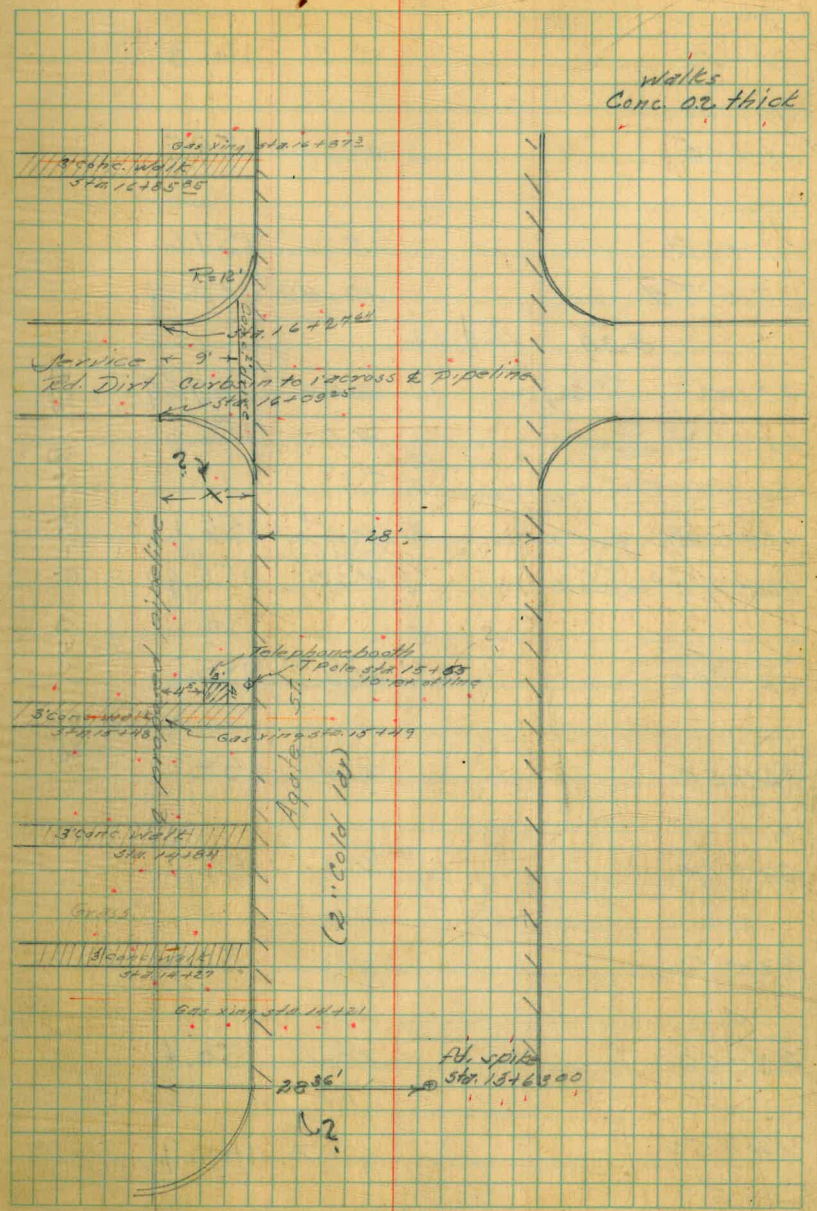
REDUCED 9/29/48 E.E.

Rainey
Sept. 23, 1948 King
Adkins
Rogers



		191.42		
16+00			9.1	182.3
16+09.25	Top Curb		8.96	182.46
16+09.25	Gutter		9.59	181.83
16+27.94	gutter		10.18	181.24
16+27.94	Top Curb		9.43	181.99
T.P. #2			9.43	181.99
	1.02	193.01		
17+00			4.5	178.5
17+50			6.9	176.1
18+00			9.3	173.7
T.P. #3			12.54	170.47
	0.31	170.78		
18+50			+0.2	171.0
19+00			-2.5	168.3
19+50			5.1	165.7
20+00			7.5	163.3

REDUCED 9/29/48 EE

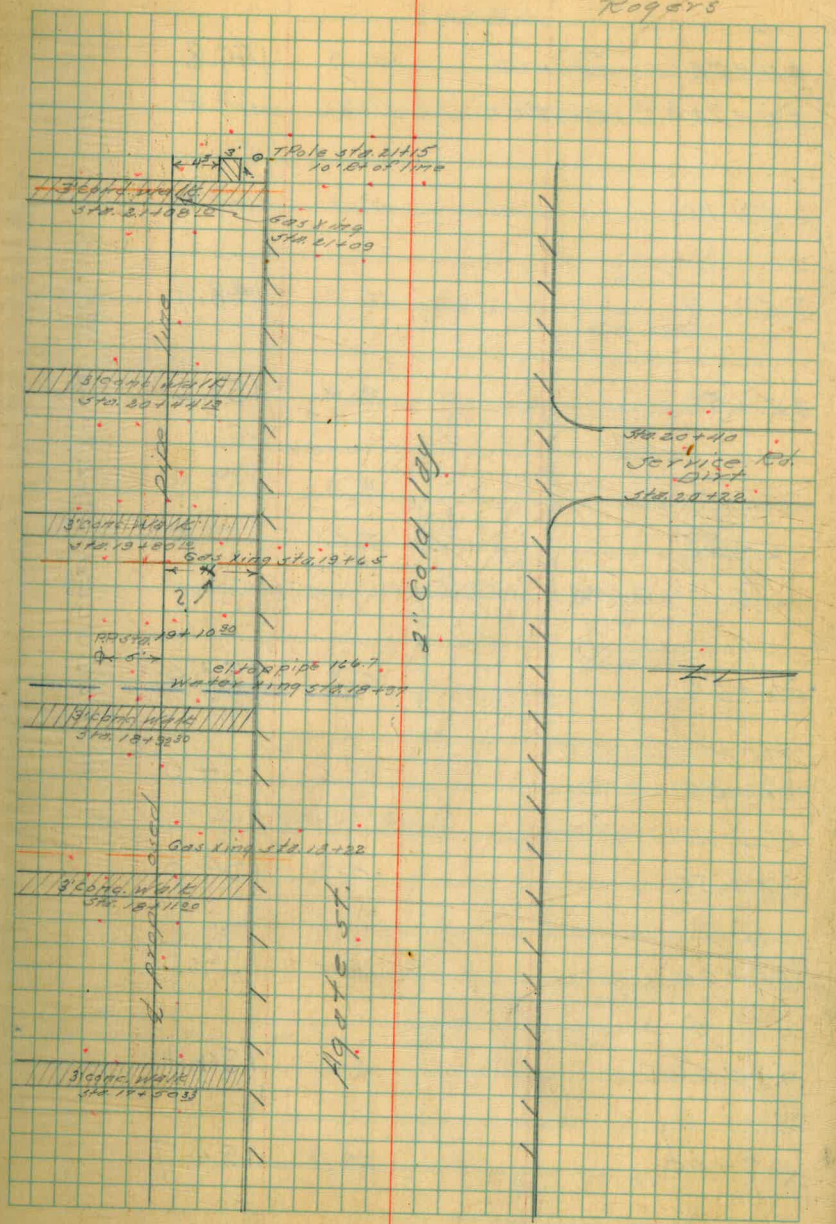


Agate St. pipeline.

		170.78		
20+50			9.5	161.3
21+00			11.3	159.5
21+50			13.2	157.6
T.P.#4			12.49	158.29
	2.33	160.62		
21+72 21	top Curb		3.03	157.59
21+72 21	gutter		4.0	156.6
21+91 53	gutter		4.5	156.1
21+91 53	top Curb		4.20	156.42
22+00			4.9	155.7
22+50			6.4	154.2
23+00			7.9	152.7
23+50			9.0	151.6
24+00			10.2	150.4
24+50			10.7	149.9

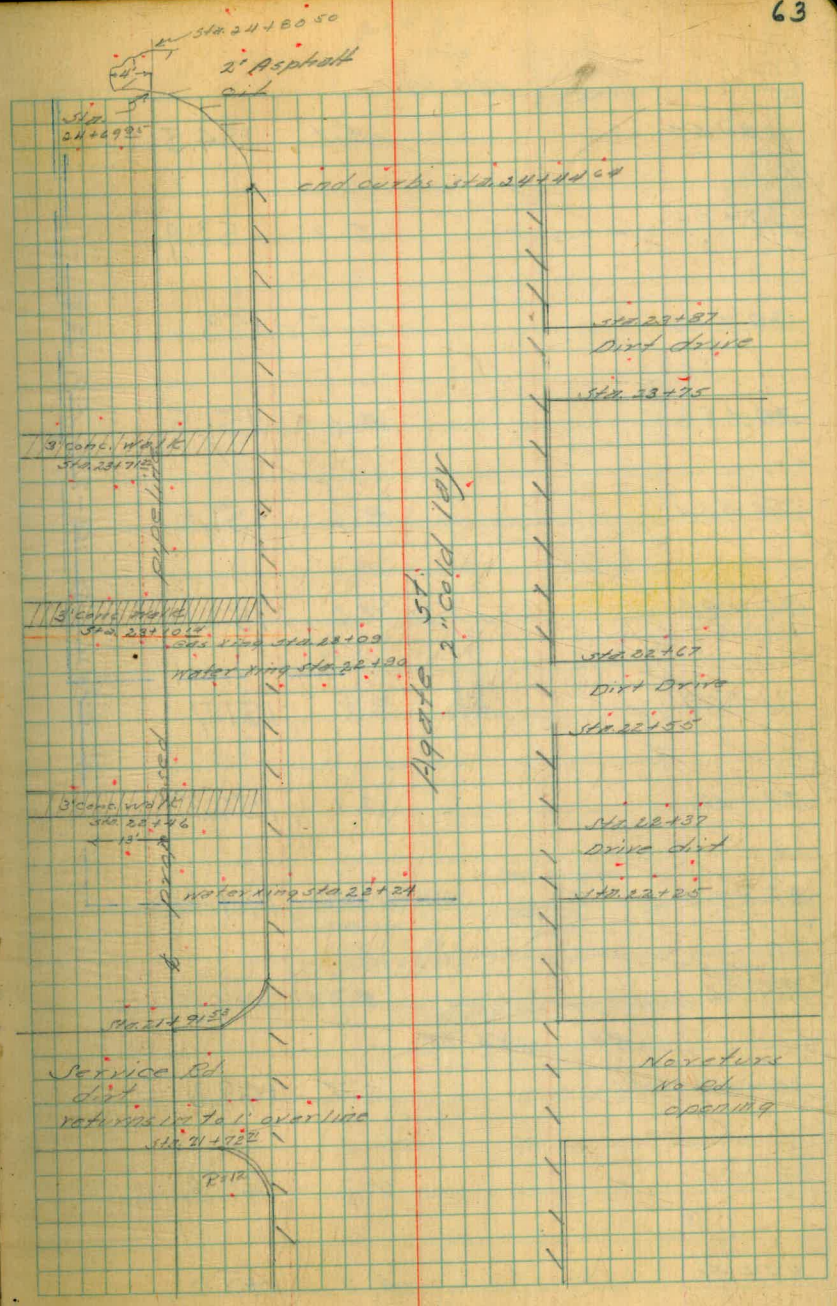
REDUCED 9-29-46 EE.

Sept. 27, 1948 — Rainey, King, Adams, Rogers



	160.62		
24+72[3]	Top of curb	10.8	149.8
24+72[3]	gutter	11.2	149.4
25+00		11.3	149.3
25+04		11.7	148.9
25+50		9.4	151.2
26+00		8.3	152.3
TP #5		7.61	153.01
	6.58	159.59	
26+50		6.2	153.4
27+00		5.6	154.0
27+50		5.3	154.3
28+00		5.1	154.5
28+50		5.2	154.4
29+00		4.9	154.7

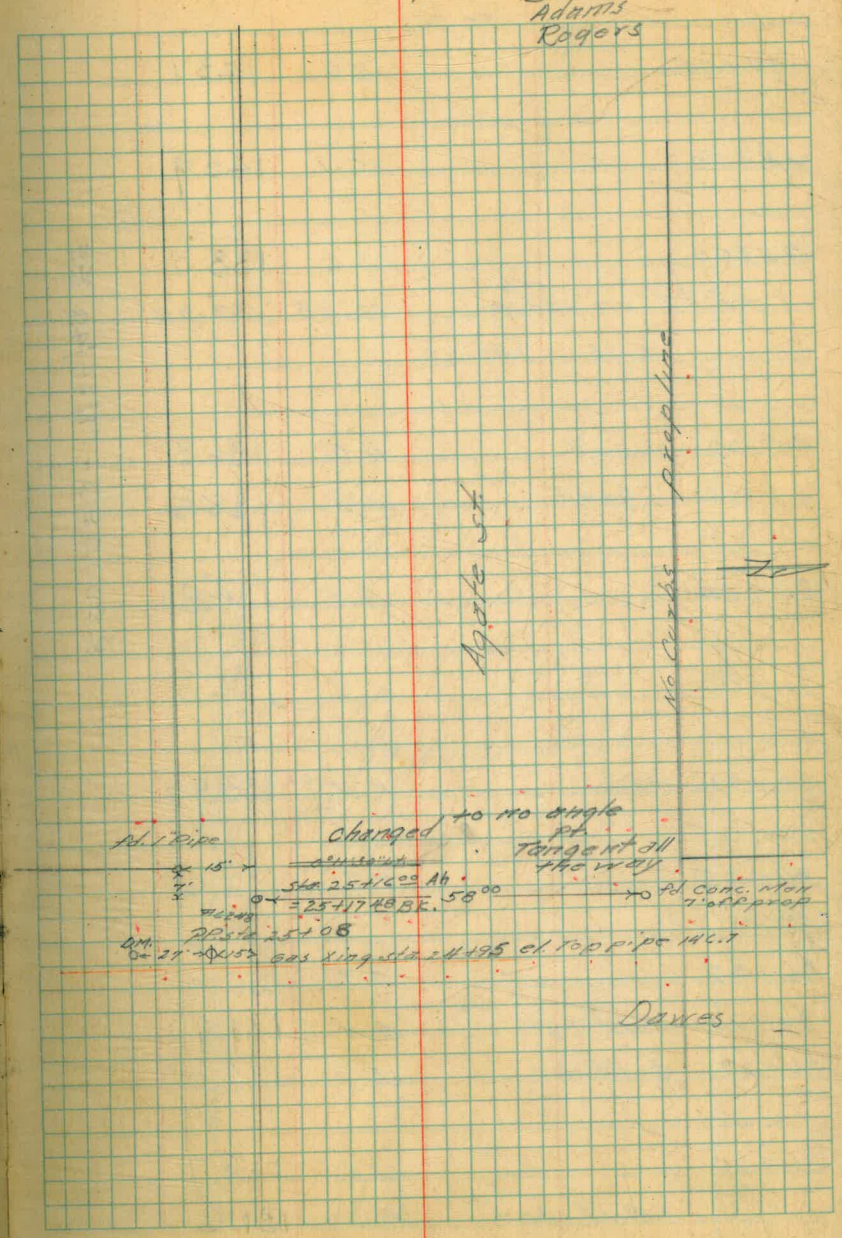
REDUCED 9-27-48 EE



		159.59		
29+50			5.1	154.5
30+00			5.7	153.9
30+40			6.5	153.1
30+50			8.1	151.5
30+84			8.6	151.0
30+88			7.6	152.0
31+00			7.9	151.7
31+50			9.1	150.5
32+00			10.0	149.6
T.P. #6			9.08	150.51
	0.44	150.95		
32+50			2.7	148.3
33+00			4.2	146.8
33+50			6.0	145.0

REDUCED 9-29-48 E.E.

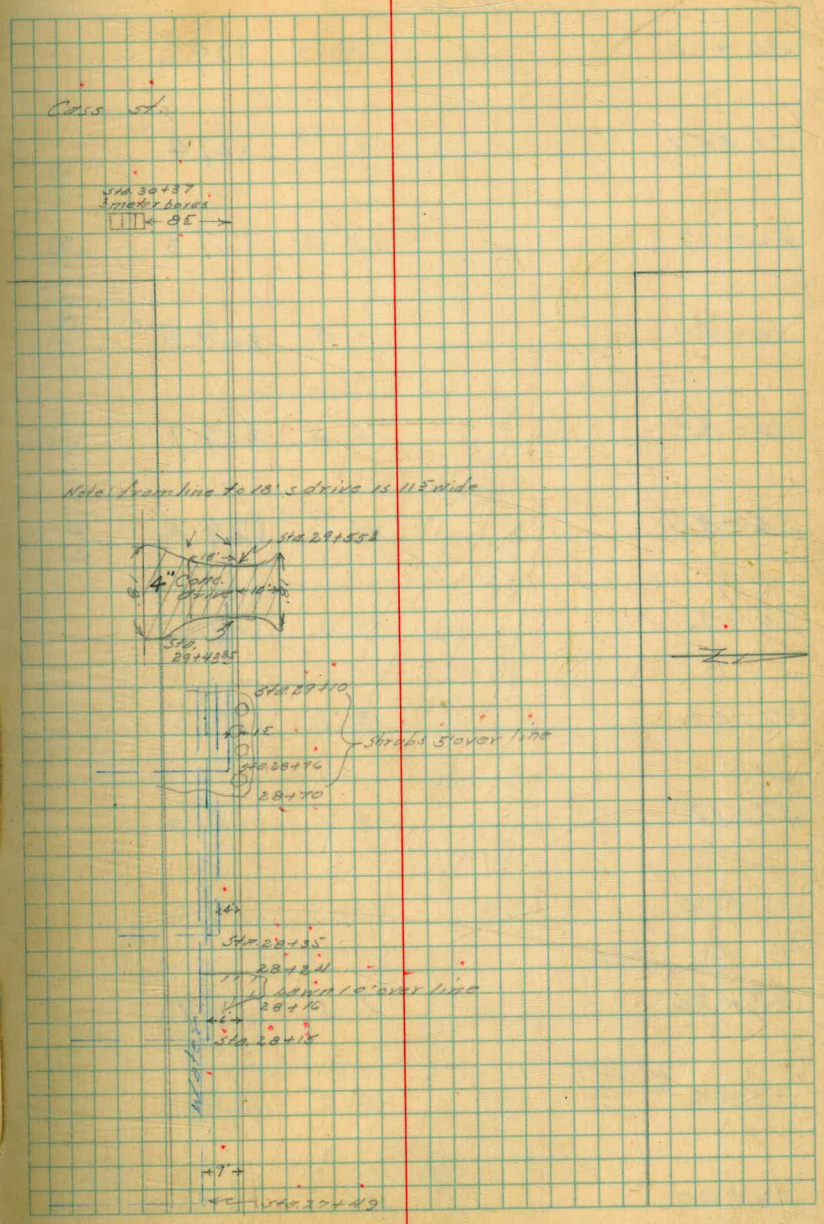
Sept. 29 1948
Rainey
King
Baker
Adams
Rogers



Agate st. pipeline

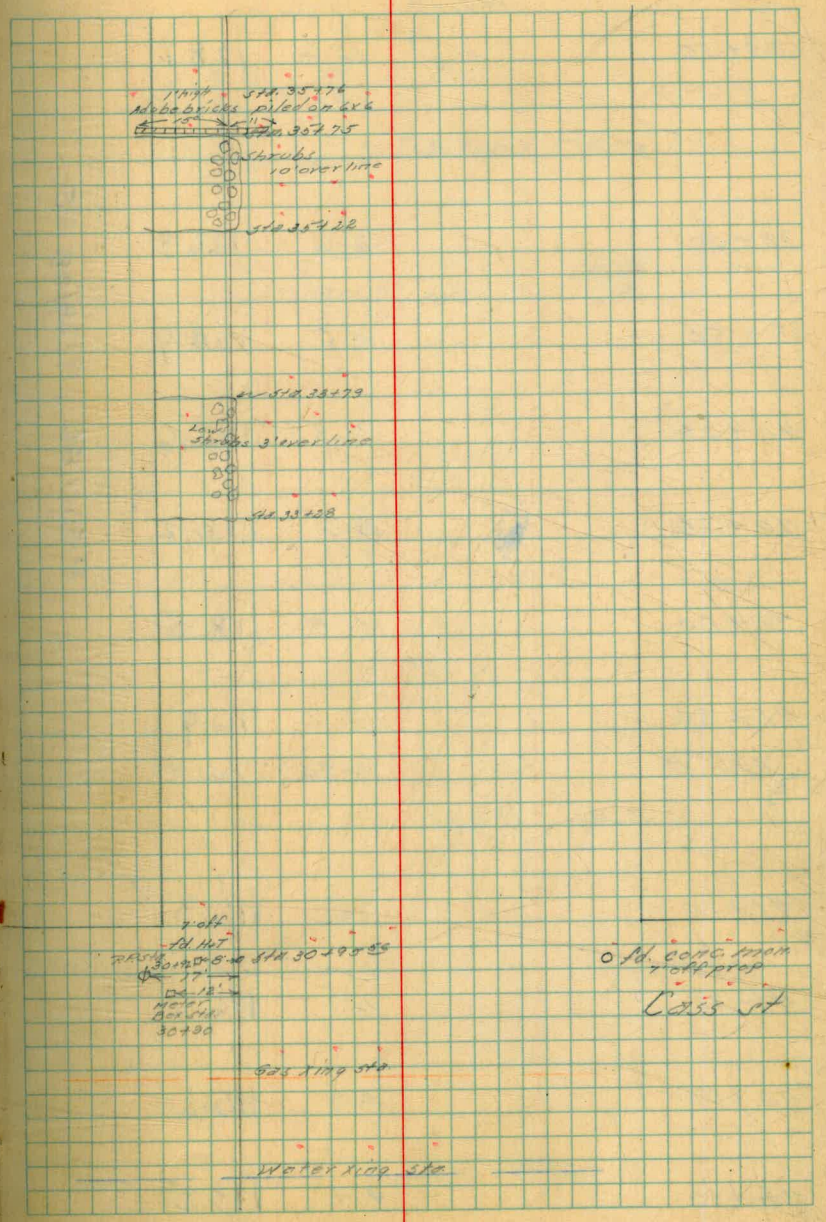
		150.95		
34+00			7.9	143.1
34+50			10.1	140.9
35+00			13.0	138.0
T.P. #9 on 35+00 Hub			12.98	137.97
	2.32	140.29		
35+22	grnd.		4.0	136.3
35+22	grnd		4.8	135.5
35+50			5.5	134.8
36+00			6.3	134.0
36+21	top		6.4	133.9
36+25			7.7	132.6
36+27			9.7	130.6
36+27	6' Lt. top		8.4	131.9
36+27	8' Rt. toe		12.3	128.0
36+50			11.6	128.7
	8' Lt. top		8.7	131.6
	6' Rt toe		13.2	127.1

REDUCED - 9/29/48 E.E.



	140.29		
36+60		10.7	129.6
36+67		12.9	127.4
36+77		13.0	127.3
36+84		11.8	128.5
36+88		12.6	127.7
36+91		11.1	129.2
36+96		13.2	127.1
37+00		12.8	127.5
37+12		16.7	123.6
37+50		13.3	127.0
37+76		11.6	128.7
37+85		10.5	129.8
38+00		10.3	130.0

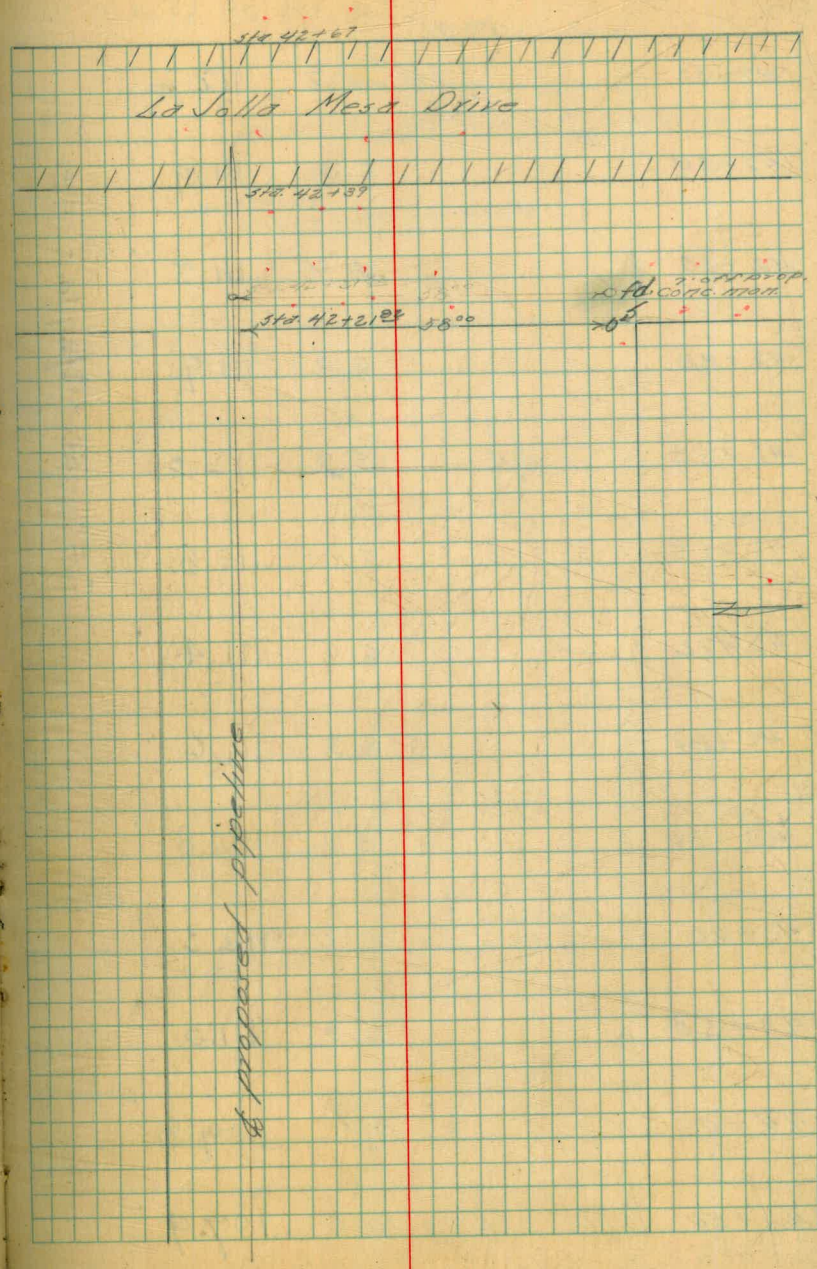
REDUCED 9/29/48 EE



Agate St. pipeline

		140.29	
38+50		12.2	128.1
T.P.#7		12.19	128.10
	0.75	128.85	
39+00		2.6	126.3
39+50		4.0	124.9
40+00		6.3	122.6
40+50		8.7	120.2
41+00		10.4	118.5
41+50		12.0	116.9
T.P.#8		11.96	116.89
	1.02	117.91	
41+70		1.6	116.3
41+72		1.3	116.6
42+00		2.8	115.1
42+18		4.4	113.5

REDUCED 9/29/48 EE.



Agate St. line

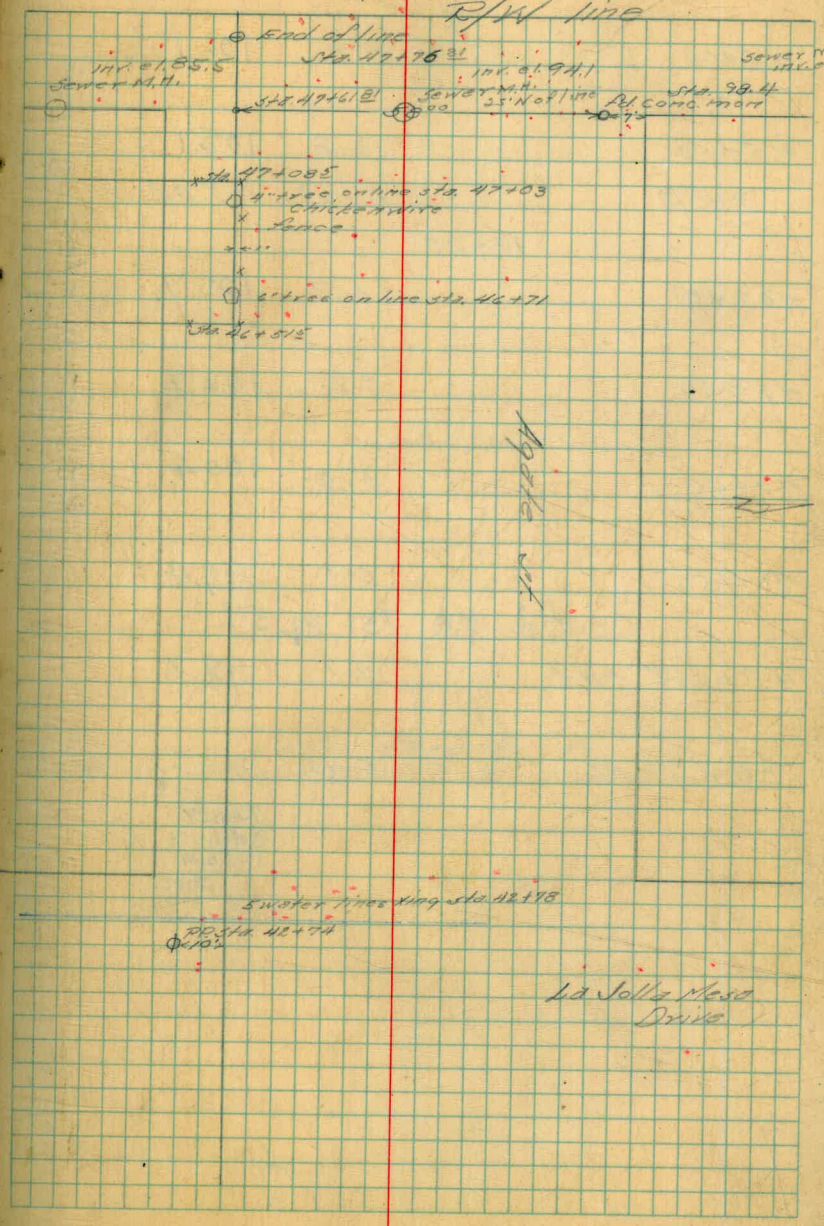
	117.91		
42+22		5.7	112.2
42+34		6.0	111.9
42+36		6.4	111.5
42+38		6.0	111.9
42+50		5.9	112.0
42+65		7.1	110.8
42+72		6.5	111.4
42+84		6.3	111.6
42+86		5.1	112.8
43+00		5.6	112.3
43+50		6.9	111.0
44+00		8.1	109.8
44+50		10.0	107.9

REDUCED 9/29/48 E.E.

105.39 95.4

Cont'd. F.B. 731, pg. 57

R/W line



Agate St. pipeline

		117.91		
45+00		11.8	106.1	
45+50		12.8	105.1	
I.P. 9		12.68	105.38	
	0.11	105.39		
46+00		1.7	103.7	
46+50		3.2	102.2	
47+00		5.0	100.4	
47+50		6.0	99.4	

Contd. F.B. 731, pg. 57

47+76.2 end		7.1	98.3	
ck. to B.M.		5.42	99.97	Corr. 99.84

RAINEY stated, USE this B.M. E.W.E.

REDUCED 9/29/48 E.E.

Conc. mon. 58' Rt. 47+61.2 this elev. has been wrong before see Elec. Ave F.B.

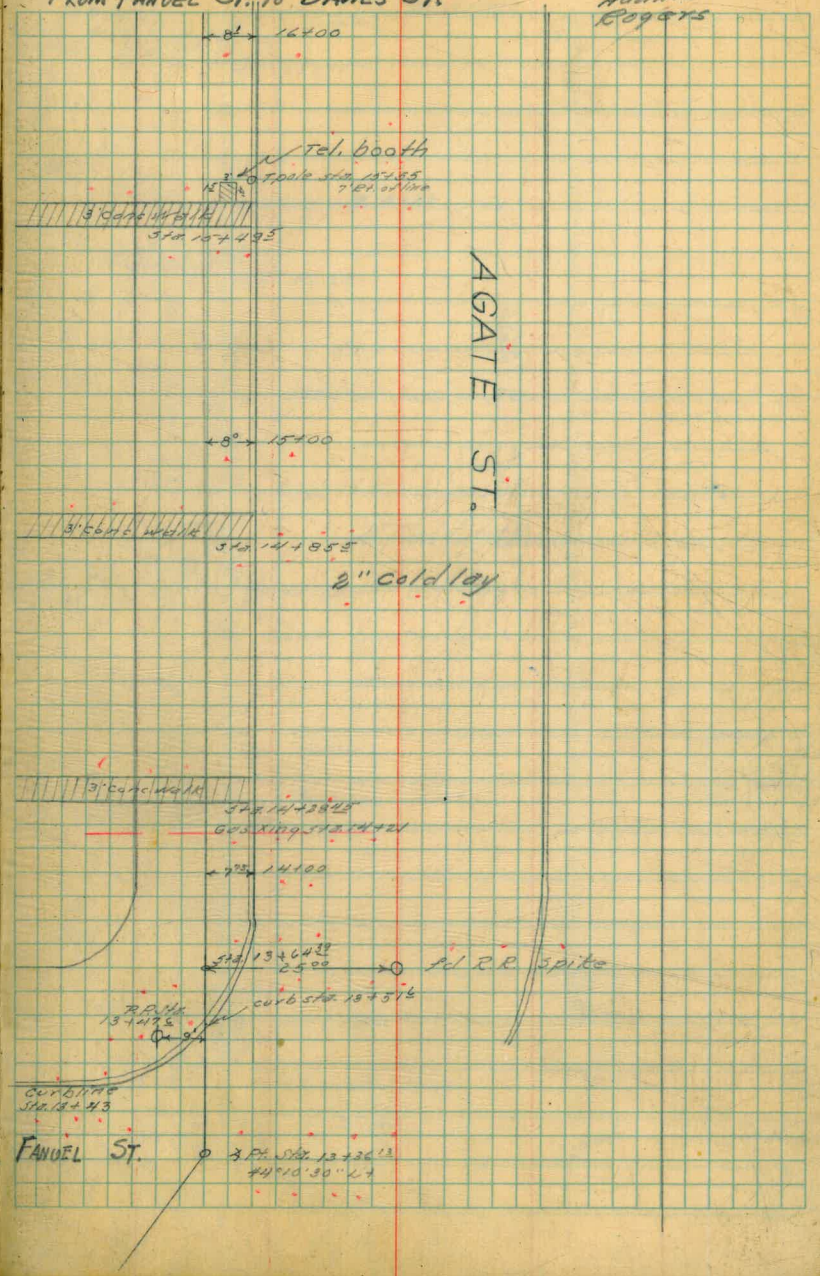
15+00	8 2
16+00	8 1
17+00	8 55
18+00	8 2
19+00	8 85
20+00	9 40
21+00	9 65
22+00	9 8
23+00	10'
24+00	10.45
25+17.43	25+16.00 Ah.

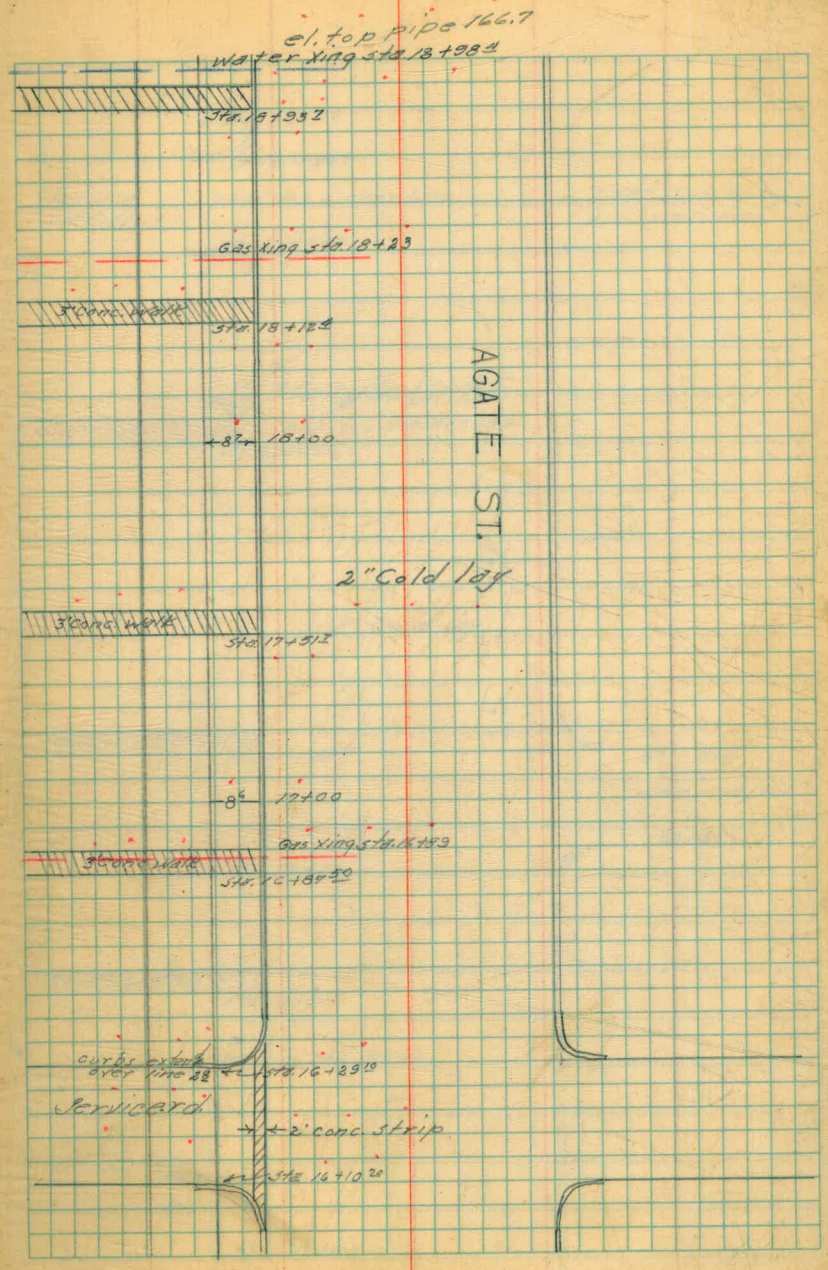
Oct. 29, 1948

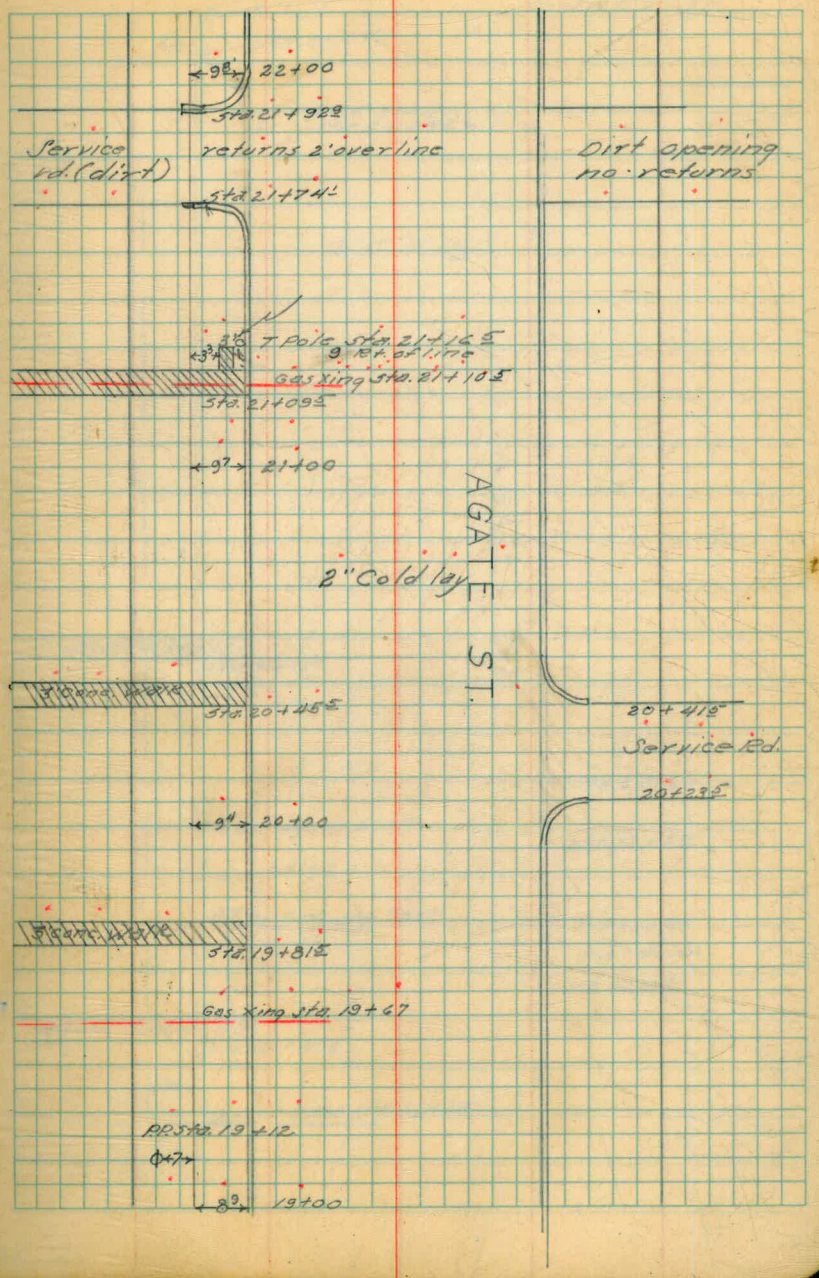
Revised Alignment Agate St.
From Fanuel St. To Dawes St.

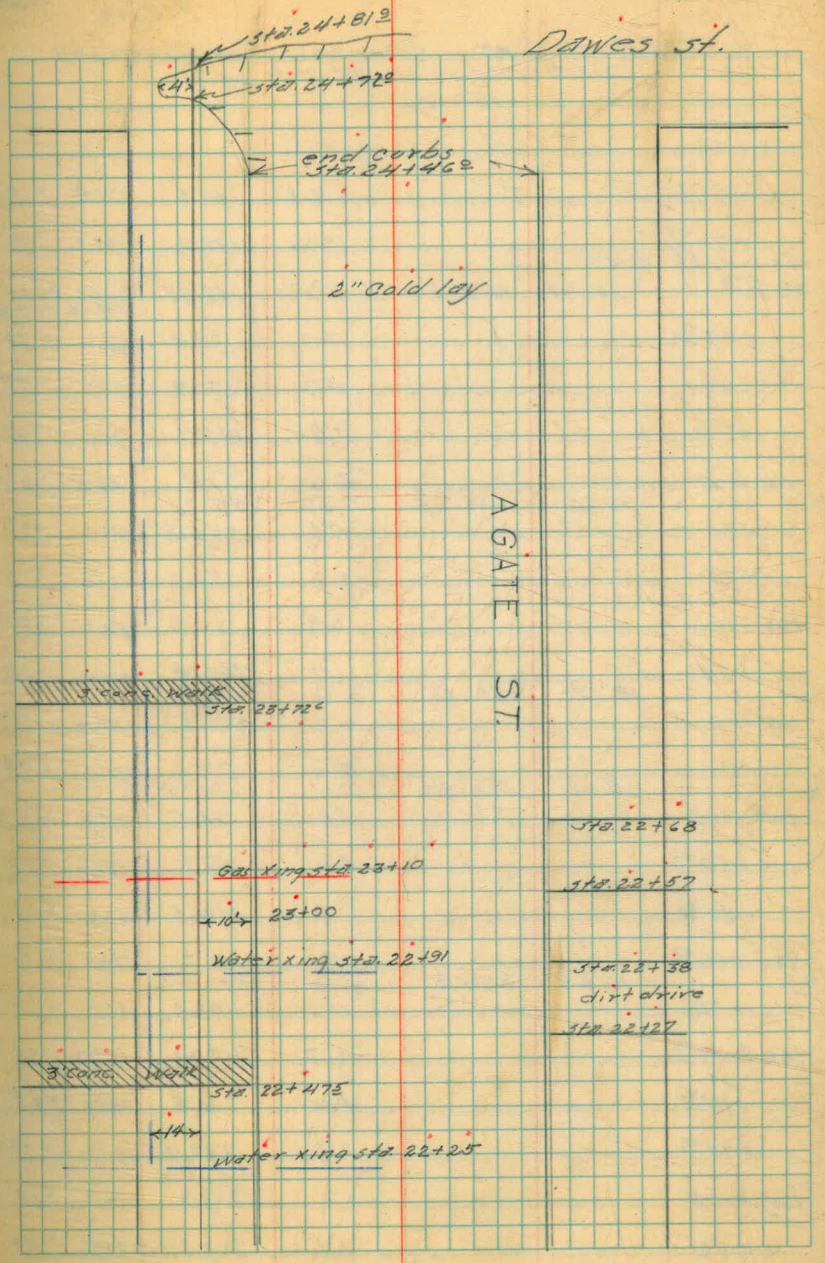
Rainey
King
Baker
Adams
Rogers

70




el. top pipe 166.7
Water xing sta. 18+98±
Sta. 18+93±
Gas xing sta. 18+23
Sta. 18+12±
18+00
AGATE ST.
2" Cold lay
Sta. 17+51±
12+00
Gas xing sta. 11+89
Sta. 11+89.50
curbs extend over line 28
Sta. 16+29.10
Serviced
2' conc. strip
Sta. 16+10.20


98'
22+00
Sta. 21+92±
Service rd. (dirt)
returns 2' over line
Dirt opening no returns
Sta. 21+74±
T Pole Sta. 21+16±
3'
℄ Ret. of line
Gas Xing Sta. 21+10±
Sta. 21+09±
97'
21+00
AGATE ST.
2" Cold lay
Sta. 20+45±
20+41±
Service Rd.
20+23±
94'
20+00
Sta. 19+81±
Gas Xing Sta. 19+67
RP Sta. 19+12
Ø47'
83'
19+00


Dawes St.
Sta. 24+81
24'
Sta. 24+72
end curbs
Sta. 24+46
2" cold lay
AGATE ST.
3' conc. walk
Sta. 23+72
Sta. 22+68
Gas xing Sta. 23+10
Sta. 22+57
10'
23+00
Water xing Sta. 22+91
Sta. 22+38
dirt drive
Sta. 22+27
3' conc. walk
Sta. 22+75
14'
Water xing Sta. 22+25

8/10/49 Beatty Rogers Finney
8/12/49

GRADES SET — Electric Arc PIPELINE

Continued from Bk 767 pg 71

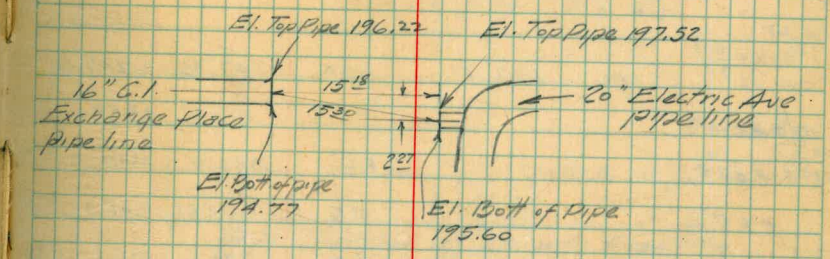
		150.62				
159+00						
+52.23			12.8	137.8	131.4	C74
+71.90			11.6	139.0	132.6	C64
159+75.88	4 PT.					
CK II	12.68	155.61	7.69	142.93	= 142.96	
					139.30 767 BK	
+79.86			16.6	139.0	133.4	C56
160+00			14.7	140.9	135.2	C57
+50			9.9	145.7	139.7	C62
161+00			4.6	151.0	144.2	C68
II	12.80	168.05	0.36	155.25		
+50			11.3	156.8	148.7	C81
+75			9.3	158.8	151.0	C78
162+00			6.9	161.2	154.1	C71
+50			1.7	166.4	160.4	C60
II	12.12	180.01	0.16	167,89		
163+00			6.9	173.1	165.4	C77
+50			0.4	179.6	170.4	C92
II	12.62	192.52	0.11	179,90		
164+00			8.0	184.5	175.4	C91
+50.06			4.2	188.3	180.8	C75
+81.46			2.4	190.1	183.3	C68
165+17.90			1.3	191.2	184.9	C62
II	12.55	204.97	0.10	192.42		
+50			11.1	193.9	188.3	C56
166+07.12			6.7	198.3	193.2	C51
+38.50			4.2	200.8	194.3	C65
+70.00			2.8	202.2	194.6	C76
167+00			1.8	203.2	194.7	C85
+50			1.2	203.8	194.8	C90

FOR-

Aug 12, 1949

GRADES SET — 204.97 — ELECTRIC AVE P.L.

168+00			1.6	203.4	1949	C85
PI	2.74	206.69	1.02	203.95		
+50			3.8	202.9	1950	C79
169+00			4.1	202.6	1952	C74
+50			4.4	202.3	1953	C70
170+00			4.5	202.2	1955	C67
+28 02			4.9	201.8	1956	C62
+50					1956	
+68 12			5.5	201.2	1956	C56
+72 37	℄ PT.					
+76 86						
CK PI			2.59	204.10	= 204.14	
				AUGUST 18 1949 Beatty, Rogers, Finney		
PI	8.28	212.42		204.14		
170+76 86			11.3	201.1	1959	C52
171+08 27			7.9	204.5	1982	C62
+25			6.3	206.1	1996	C65
+39 99			4.6	207.8	2017	C61
+55 73			2.6	209.8	2038	C62
+71 49			0.6	211.8	2060	C58
PI	12.92	225.32	0.02	212.40		
+87 38			11.5	213.8	2073	C65
172+03 27			9.6	215.7	2086	C71
+34 46			7.0	218.3	2107	C75
CK. BM			5.39	219.93	= 219.93	
+65 64			3.9	221.4	2152	C62
+82 54			2.3	223.0	2179	C51
℄ PT +86 49						
PI +90 44			1.1	224.2	2192	C50
	12.89	238.13	0.08	225.26		
173+21 54			9.0	229.1	2247	C48
+52 64			3.9	234.2	2293	C49
PI	10.93	248.79	0.27	237.86		



GRADES SET — Electric Ave P.L.

248.79

173+83.86			9.4	239.4	232.8	C66
+99.98			7.2	241.6	234.6	C70
(℄ DT 174+04.21)						
OK. ⓦ	1.66	248.81	1.64	247.15	= 247.16	
174+04.00					234.8	
174+04.00	(SW. 3 SPLIT)		6.2	242.6	234.8	C78
+09.71			7.5	241.3	235.3	C60
+20			6.2	242.6	235.5	C71
				Aug. 22, 1929		
ⓦ	10.69	257.85		247.16		
174+32			8.6	249.2	249.0	C02
ⓓ +54.33	12.02	269.31	0.56	257.29	258.3	C24
+36			8/6	260.7	259.0	C98
+60.33			1.5	261.8	265.1	F03
+62			4.5	264.8	265.1	E02
+74			4.0	265.3	265.3	C00
ck ⓓ			4.71	264.60	= 264.60 NW Cor Conc. Pedestal	
B.M	9.21	188.78		179.47	Top F.H.	
0+05.42			10.3	178.5	172.4	C61
+22.63			9.1	179.7	172.4	C73
+53.87			8.1	180.7	173.4	C73
+85.05			9.6	179.2	174.3	C49
1+16.23			8.2	180.6	175.2	C54
+47.41			6.8	182.0	175.9	C61
+78.83			6.4	182.4	176.7	C57
2+10.25			6.9	181.9	176.7	C52

264+60 BM
6.15
270.75

265.67
5.09

270.7
265.3
5.4
Bottom of 8" @ Conc.

270.7
265.39
5.31
Bottom of 6" @ Conc.

BM 264.60
+ 5.82
Hi. 270.42

Valve Chamber at La Jolla Reservoir

1.33/FT	W SW	"	5.11	265.31	263.0	C23
	S SW	"	5.05	265.37	"	C24
	S SE	"	4.99	265.43	263.25	C23
	N NE	"	5.19	265.23	262.90	C23
	N NW	"	5.62	264.80	262.66	C21
4.16/FT	W WW		5.68	264.74	"	C21
1.913/FT						

BM 179.47
5.81
Hi 185.28

NOTE: For Elev. Top of Box See pg. 79

VALVE CHAMBER Foothill @ Tourmaline
Sta 0+06.09 to 6+20.92

E	SE Cor ⑤		5.16	180.12	169.60	C10.5
S	"	"	7.21	178.07	"	C8.5
S	SW	" "	7.49	177.79	170.05	C7.7
W	SW	" "	8.18	177.10	"	C7.0
W	NW	" "	7.67	177.61	170.30	C7.3
N	NW	" "	6.56	178.72	"	C8.4
N	NE	" "	5.38	179.90	170.13	C9.8
E	NE	" "	5.28	180.00	"	C9.9

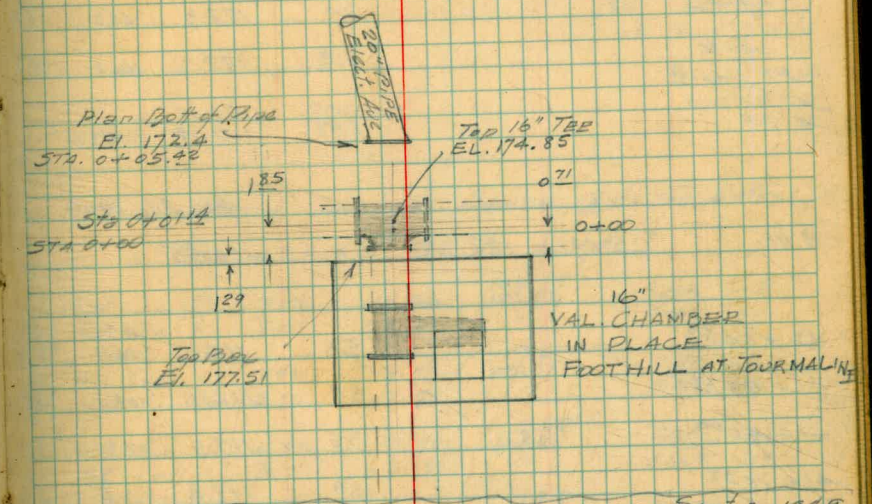
2-GAS LINES CROSSING Sta 0+08.35 Approx @ 90°
Elev Top 1½" pipe 4.5' LT = 175.70 11.5' RT = 177.33
Elev. Bottom 1" pipe " " = 175.20 " " 176.93

Aug 22 1949

GRADES SET — Electric Ave P.L.

		188.78				
2+50			5.3	183.5	176.8	C67
3+00			3.7	185.1	176.8	C83
+50			3.2	185.6	177.0	C86
+67 75			2.9	185.9	177.0	C89
+99 18			3.8	185.0	179.2	C58
4+30 57			3.0	185.8	179.2	C66
+62 06			3.8	185.0	178.7	C63
TD +93 55	2.42	186.35	6.85	183.93	177.9	C60
5+24 89			4.0	182.4	175.7	C67
+50			6.4	180.0	173.5	C65
+87 73			6.7	179.7	171.2	C85
TD	1.92	175.57	12.70	173.65		
CK BM	10.04	177.20	8.39	167.18	=167.86	
TP	5.03	180.63	1.60	175.60		
6+19 28			2.0	176.6	170.0	C86
+50 80			4.3	176.3	169.0	C73
+82 32			4.6	176.0	167.9	C81
7+13 84			5.5	175.1	166.8	C83
+45 36			6.7	173.9	165.7	C82
+76 88			8.7	171.9	164.6	C73
8+08 40			9.0	171.6	163.5	C81
				170.9		C85
+39 92			9.7	+69.9	162.4	C75
+71 44			11.6	169.0	161.4	C76
9+02 98			13.0	167.6	160.8	C68
+34 44			11.8	168.8	160.8	C80
+65 86			12.4	168.2	161.8	C64
TD	7.04	176.16	11.51	169.12		

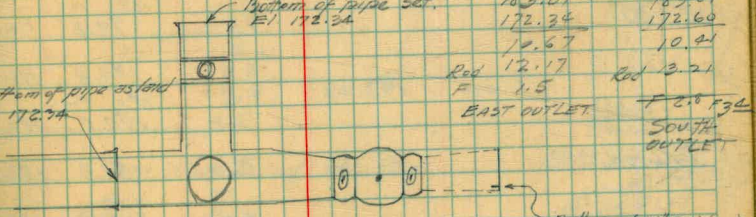
Sept. 2, 1949



Sept. 2 1949

BM 179.47
3.54
H 183.01

183.01
8.57
174.44 Top of 20" pipe
2.10
172.34 Bott of 20" pipe as laid (+172.4)



183.01
172.34
10.67
Red 12.17
F 1.5
EAST OUTLET

183.01
172.60
10.41
Red 3.21
F 2.0 F34
SOUTH OUTLET

172.34
1.05
173.39
.79
172.60

174.65
1.55
172.30 Bot. Tee

Aug. 24 1949

GRADES SET — Electric Ave Pipeline

176.16

9+97.37			8.8	167.4	162.8	C4.6
10+25			7.4	168.8	163.6	C5.2
+50			5.5	170.7	164.6	C6.1
+91.85			3.9	172.3	166.3	C6.0
+97.80			3.9	172.3	166.5	C5.8
℄ PT 11+01.80						
SET ℙ curb.			0.00	176.16		
OK BM			8.98	167.18	= 167.16	6.2

Aug. 25, 1949

B.M.	5.43	120.28		114.85		
					105.4 / 105.7	C9.1 / C5.6
42+04.63			5.8	114.5		
41+73.21			3.7	116.6	108.0	C8.6
41+41.79			3.0	117.3	110.3	C7.0
41+10.37			1.9	118.4	112.6	C5.8

Aug. 30, 1949

ℙ	11.99	188.15		176.16		
11+05.79			15.6	172.6	166.9	C5.7
+50			13.8	174.4	169.4	C5.0
12+00			9.0	179.2	174.0	C5.2
+50			3.8	184.4	178.6	C5.8
Ⓟ	6.04	193.29	0.90	187.25		
+94.17			3.3	190.0	182.7	C7.3
℄ PT 13+00						
13+04.00			2.0	191.3	183.3	C8.0
+32.13			4.4	188.9	183.9	C5.0
℄ 13+56.13						
+40.13			4.1	189.2	184.0	C5.2
+71.63			3.8	189.5	184.0	C5.5
OK BM RR Spike			3.95	189.34	= 189.35	

12.77
7.1
14.87 IN PLACE
105.41 Bottom Pipe
.24 low
105.65 PIPE Grade

VALVE CHAMBER AGATE @ La JOLLA MESA DR

Sta 42+10.23 to Sta 42+20.17

S	SW Cor Ⓢ	7.02	113.26	102.77 / 102.07		C10.2	10.5
W	SW Cor "	8.07	112.21	"		C9.1	9.4
W	NW Cor "	7.73	112.55	103.21 / 103.51		C9.4	9.3
N	NW " "	7.50	112.78	"		C9.3	9.6
N	NE Cor "	6.50	113.78	103.55 / 103.85		C9.9	10.2
E	NE Cor "	5.77	114.51	"		C10.7	11.0
E	SE Cor "	4.90	115.38	103.21 / 103.21		C12.2	12.2
S	SE Cor "	4.78	115.50	"		C12.1	12.4

Elev. at rear corners of Valve Chamber for Excav. Quant.'s

NE	1.6	6.3	114.0
NW	2.1	7.6	112.7
SW	1.6	7.1	113.2
SE	0.7	5.2	115.1

Elev's	Set Rod	For Top of Val. Box El.
NW Cor	7.35	112.94
NE Cor	7.05	120.29
NW Bottom Slab	7.31	112.98
NW Top Slab	6.48	113.81
NE Bott Slab	6.97	113.32
NE Top Slab	6.12	114.15
SW Cor	6.29	114.00
SE Cor	5.97	120.29

BM 114.85
5.24
Hi 120.09

GRADES SET ↪ 193.29 Electric Ave Pipeline

14+00			4.8	188.5	183.6	C49
+25			5.6	187.7	183.3	C44
+50			6.3	187.0	182.6	C44
15+00			7.7	185.6	181.2	C44
+50			9.2	184.1	179.8	C43
16+00			10.5	182.8	178.2	C46
P on curb	0.70	190.05	10.85	~~182.44~~ 189.35 (Destroyed)		
BM RR Spike +50			9.0	181.1	176.6	C45
	(Sept. 1, 1949)					
17 +00			10.7	179.4	175.0	C44
P +50	0.56	177.60	13.01	177.04	172.4	C46
18+00			3.4	174.2	169.8	C44
+50			5.9	171.7	167.2	C45
19+00			8.7	168.9	164.5	C44
+50			11.4	166.2	161.9	C43
P on curb.	0.47	165.25	12.82	164.78		
20+00			1.4	163.9	159.4	C45
+50			3.5	161.8	157.5	C43
21+00			5.3	160.0	155.7	C43
+50			7.2	158.1	153.8	C43
22+00			9.0	156.3	152.0	C43
+50			10.9	154.4	150.6	C38
23+00			12.1	153.2	149.2	C40
P on curb.	1.80	154.96	12.09	153.16		
+50			2.9	152.1	148.0	C41
24+00			4.4	150.6	146.8	C38
+10.29			4.6	150.4	146.5	C39
+41.49			4.7	150.3	143.7	C66
+72.99			5.5	149.5	143.7	C58

Continued on page 58 this book

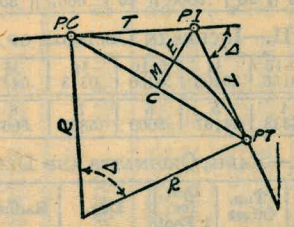
Elev. Top of Val. Box Foothill & Tourmaline

179.47 BM
2.92
182.39 Hi

	Rod	Elev.
S.W. Cor Curb	4.63	177.76
" " Top Box	4.61	177.78
SE Cor Top of Box	4.35	178.04
NW Cor Curb	4.19	178.20
" " Top Box	4.17	178.22
NE Cor Top of Box	3.91	178.48
(Sidewalk @ NE Cor	2.72	179.67)

152.28

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius=R=$\frac{50}{\sin. D/2}$(1) Degree of Curve=D and sin. $\frac{D}{2}=\frac{50}{R}$ (2)

Tangent=T=Rtan$\frac{\Delta}{2}$ (3) Length of Curve=L=100$\frac{\Delta}{D}$ (4)

Middle ordinate=M=R(1—cos. $\frac{\Delta}{2}$) (5)=Rvers $\frac{\Delta}{2}$ (6)

External=E=Ttan$\frac{\Delta}{4}$-(7)=R÷cos.$\frac{\Delta}{2}$—R(8)=Rexsec$\frac{\Delta}{2}$(9)

Long Chord=C=2 R sin.$\frac{\Delta}{2}$ (10) △=Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. △=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and ÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157 +45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 $(54.50 \div 100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 688.26)$=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′ ÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 115.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=115.27 and from Table V correction=.10 or E=115.37 ft. Or suppose △=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.

204.14
4.40
208.54

208.54
11.02 Top 16" Conc
197.52
195.60 Bott

208.54
12.32 Top 16" C.I
196.22
1.45
194.77 Bott C.I

C.I.

176.5

176.25
3 20.
173

395
15

176.25 176.25
2.95 3.2
173.80 173.05

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9+(20—16)÷2 or 2 ft. added to 41.9 =43.9. For slopes of 1 on 1 see inside of front cover.

MADE IN U.S.A.