

W
1917

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
on Slopes of 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 $30.6 + (20 - 16) \div 2$ or 2 ft. added to $30.6 = 32.6$. For slopes of 1 on $1\frac{1}{2}$ see inside of back cover.

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#547

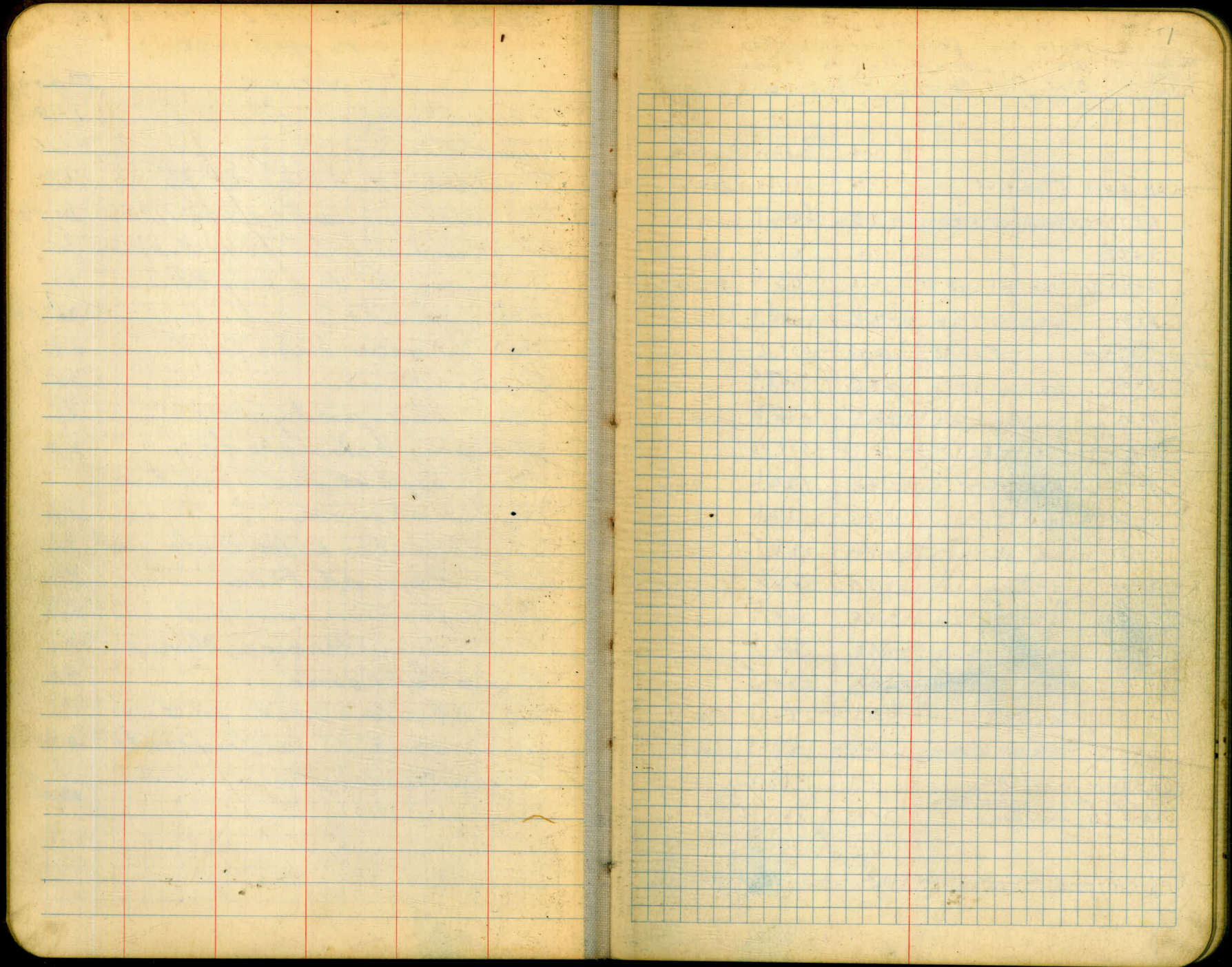
This Field Book is manufactured
of a high grade 50% Rag Paper
having a WATER RESISTING surface.

COLLEGE RESERVOIR & PIPE LINE

OCT. 1937 TO MAY 1938

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COLLEGE RESERVOIR; ELEV. of OVERFLOW	38. ✓ alice



10-4-37

Levels & grades on 16"

Miller
Walker
BlissWater Main from Tower on Lots 647
Blk. 16, La Mesa Colony, to El Cajon
Blvd. and Amherst St. To connect
with existing 20" Water Main.

± Rod. ± Elev.

— Chk. B.M. ± Hub 72nd & Mohawk. — 9.38 — 500.64 = 500.64 City

5+70 = 0+00 + 20' S. of N. Line 9.3 500.7

5+67 7.6 02.4

5+50 = N. Line Mohawk St. 4.5 03.5 95.496.3

5+35 4.9 05.1

— T.P. — 1.86 — 510.02 — 12.83 — 508.16 —

5+00 13.1 07.9

4+50 6.7 14.3

— T.P. — 1.04 — 520.99 — 12.95 — 519.95 —

3+90 Δ 90°-00' Lt. 10.3 22.6

3+70 = E. Line 72nd St. 10.3 22.6

3+50 10.4 22.5

3+00 10.3 22.6

2+50 10.0 22.9

2+00 8.3 24.6

1+50 6.4 26.5

1+10 5.2 27.7

0+60 Δ 90°-00' Rt. ± Alley. 5.1 27.9

0+50 = N. Line of Alley 4.7 28.2

0+15.71 Begin. school #2

0+00 = Ctr. Water Tower 3.85 529.05 on Hub

— City B.M. — 4.90 — 532.90 — — 528.00 —

2

Position of R.P. Stub	Rod. on stub 6.0' from ±	R.P. Elev.	Grade	± Cut	End Area	Ch. Yds.
6' W.	9.25	500.77	495.65	5.12		
6' W.	5.28	04.74	498.04	6.70		
6' W.	13.58	07.91	502.11	5.30		
6' West	7.06	13.93	507.92	6.01		
6' N.	9.67	23.23	514.90	8.33		
6' N.	10.49	22.91	515.51	6.90		
6' N.	10.08	22.82	516.28	6.54		
6' N.	9.99	22.91	517.05	5.86		
6' N.	8.45	24.45	518.77	5.48		
6' N.	6.43	26.47	520.73	5.74		
6' North	5.16	27.74	522.21	5.53		
6' South	5.28	527.62	523.34	4.28		
			524.40			
— T 532.90 —						

Cone. Mon. S.W. Cor. Lot 6 Blk. 16, La Mesa Colony.

	± Rod	± Elev
8+50	13.5	87.3
8+00	12.3	88.5
chk. B.M. - Nails in Elec. Pole	8.02	492.77 = 492.76 ^{City S.W. 71st} + Mohawk
7+50	9.7	91.1
7+09 = ± 71 st St.	7.4	93.4
7+00	7.4	93.4
6+50	8.8	92.0
6+00	8.6	92.2
5+95 ± 10" Cor. Iron Culvert	10.3	90.5 ^{outlet S. End. F.L. = 4.5 ± Main}
5+50	8.1	92.7
5+00	6.9	93.9
4+50	4.8	96.0
4+00	2.8	98.0
3+50	1.1	99.7
T.P. 0.53 - 5.00.79	9.76	500.26
3+00	9.1	500.9
2+60	9.9	500.1
2+10	11.2	98.8
1+60	11.4	99.6
1+10	11.2	99.8
0+75	11.9	99.1
0+30 = ± 72 nd St.	9.4	500.6
0+20 Δ 90° - 00' Rt.	8.9	501.1 ^{Main 10' S. of d.}
	510.02	

3

Position of R.P. Stub	Rod on stub	R.P. Elev	Grade	± g
6' S.	14.32	486.47	487.42	Cut 2.05
6' S.	12.34	488.75	486.05	3.30
6' S.	9.43	491.36	485.87	5.49
6' S.	7.83	492.96	486.40	6.36
6' S.	9.73	491.06	487.25	3.81
6' S.	10.36	490.43	487.87	2.56
6' S.	9.54	491.25	486.48	2.77
6' S.	8.46	492.33	489.11	3.22
6' S.	6.35	494.44	489.72	4.72
6' S.	4.43	496.36	490.33	6.03
6' S.	0.70	500.09	490.95	9.14
6' S.	8.98	501.01	491.50	9.51
6' S.	10.19	499.83	492.05	7.78
6' S.	11.66	498.36	492.67	5.69
6' S.	12.11	497.91	493.28	4.63
6' S.	12.09	497.93	493.90	4.03
6' S.	11.34	498.68	494.33	4.35
6' South	9.45	500.57	495.00	5.57

	± Rod	± Elev.	
16+50	9.1	72.5	
16+00	8.0	73.6	
15+50	7.1	74.5	
15+00	5.0	76.6	
14+50	4.0	77.6	
chk. City BM. Top. Fire Hydr	(S. E. 70 th St + Mohawk.	5.44	476.12 = 476.12
14+19 ⁺ = W. Line 70 th St.	7.65	73.91	East. Pavmt.
14+00	7.4	74.2	
13+89 ⁺ ± 70 th St. Δ 0° or 30° Rt.	7.33	74.23	oh. Pavmt.
13+59 ⁺ = E. Line 70 th St.	7.70	73.86	West. Pavmt.
13+50	7.3	74.3	
13+25	5.6	76.0	
T.P. — 4.78 — 481.56 —	12.82	476.78	
13+00	12.6	77.0	
12+50	10.3	79.3	
12+00	8.1	81.5	
11+50	6.1	83.5	
11+00	4.0	85.6	
T.P. — 1.54 — 489.60 —	12.73	488.06	
10+50	12.5	88.3	
10+00	10.7	90.1	
9+50	13.1	87.7	
9+00	13.5	87.3	486.3
————— 500.79 —————			11/15/35

4

Position of R.P. Stub	Rod on stub	R.P. Elev.	Grade	+ or -
6' S	9.60	471.96	466.00	Cut 5.96
6' S	8.43	473.13	467.00	5.53
6' S	7.40	474.16	468.69	5.47
6' S	5.20	476.36	468.78	7.58
6' S	4.01	477.53	468.87	8.68
5pk. 6' S.	7.57	473.99	468.96	5.03
13+75		473.70	469.00	4.70 / 10/30
6' S.	7.12	474.41	470.00	4.41
6' S	11.95	477.65	472.19	5.46
6' S	9.33	480.27	471.32	8.95
6' S	7.91	481.69	476.15	5.54
6' S	6.13	483.47	478.57	4.90
6' S	4.08	485.52	480.70	4.82
6' S	12.87	487.92	482.15	5.77
6' S	11.46	489.33	482.86	6.47
6' S	13.53	487.26	483.28	3.98
6' S	15.00	485.79	485.15	0.64
			483.70	2.09

		± Rod	± Elev.
25+50		11.2	49.6
25+00		9.9	50.9
24+50		7.9	52.9
24+00		5.3	55.5
T.P.	3.60 — 460.82	12.84	457.22
23+50		12.6	57.5
23+00		11.0	59.1
22+50		9.5	60.6
22+00		8.6	61.5
21+50		7.5	62.6
CHK. BM Top. Fire Hydr. + Mohawk.	(S.W. 29 th St.)	5.31	464.75 = 464.75 City
21+00		6.5	63.6
20+69 ^S	± 69 th St Δ 0°-06'-30" Rt.	6.0	64.1
20+39 ^S	(E. Line 69 th St.) Δ 5°-44'-20" Lt.	5.4	64.7 Main 5 th St.
19+89 ^S	Δ 5°-44'-20" Rt.	3.9	66.2 Main 10 th St.
19+50		3.1	67.0
19+00		1.9	68.2
T.P.	0.85 — 470.06	12.35	469.21
18+50		12.1	69.5
18+00		11.2	70.4
17+50		9.0	72.6
17+00		9.0	72.6
	— 481.56 —		

Position of R.P.	R.P. Rod.	R.P. Elev.	Grade	+ or - Cut
6 S.	10.95	499.87	447.37	2.50
6 S.	9.52	451.30	448.25	3.05
6 S.	8.07	452.75	449.54	3.21
6 S.	5.48	453.34	460.83	4.51
6 S.	12.84	457.22	462.13	5.09
6 S.	11.25	458.81	463.42	5.39
6 S.	9.61	460.43	464.71	5.74
6 S.	8.66	461.40	466.00	5.10
6 S.	7.60	462.46	467.30	5.16
6 S.	6.90	463.16	468.59	4.57
6 S.	5.44	464.62	461.03	3.59
6 S.	4.20	466.01	461.35	4.66
6 S.	3.11	466.87	461.60	5.35
6 S.	2.18	467.88	462.76	5.12
6 S.	12.35	469.21	463.91	5.30
6 S.	11.60	469.96	465.07	4.89
6 S.	10.31	471.25	466.22	5.03
6 S.	9.72	471.81	466.36	5.38

	± Rod	± Elev.	
35+50	10.7	50.1	
35+00	11.2	49.6	
34+50	11.1	49.7	
34+36 ² = S. Line Mohawk St.			
34+11 ³ Δ 90°-00 Lt.	11.2	49.6	Main 20' W. of E. Line
33+91 ³ = E. Line 67 th St.	10.8	50.0	
33+50	10.0	50.8	Main 5' S. of
33+00	9.0	51.8	
32+50	7.7	53.1	
32+00	5.6	55.2	
31+50	3.9	56.9	
31+00	3.6	57.2	
30+50	4.0	52.8	
30+00	4.9	55.9	
29+50	5.8	55.0	
29+00	7.0	53.8	
28+50	8.0	52.8	
28+00	8.1	52.7	
B.M. Top Fire Hydr. { S. E. Cor 68 th & Mohawk.	5.54	455.28 = 455.28 City	
27+50 Δ 68 th St. Δ 0°-06' Lt.	8.2	52.6	
27+00	9.5	51.3	
26+50	11.2	49.6	
26+00	11.7	49.1	

460.82

Position of R.P.	R.P. Rod	R.P. Elev.	Grade	± or -
Nail 6' W	10.62	450.20	444.35	5.85
Nail 6' W	11.12	449.70	444.49	5.21
Nail 6' W	11.17	449.65	444.63	5.02
Nail 6' West	11.20	449.62	444.74	4.88
	10.08	450.74	444.89	5.88
6' S	9.25	451.57	444.93	6.64
6' S	7.89	452.93	446.01	7.92
6' S	5.88	454.94	445.08	9.86
6' S	4.10	456.72	445.16	11.56
6' S	3.76	457.06	446.23	11.83
6' S	4.13	456.69	445.31	11.38
6' S	5.03	455.79	445.38	10.41
6' S	5.95	454.87	445.46	9.41
6' S	7.25	453.57	446.53	8.04
6' S	8.08	452.74	446.61	7.13
6' S	8.14	452.68	446.68	7.00
6' S	8.11	452.71	446.76	6.96
6' S	9.66	451.16	445.98	5.18
6' S	10.79	450.03	446.45	3.58
6' S	11.40	449.42	446.91	2.51

	¢ Rod	¢ Elev.	
44+95	12.2	34.4	¢ Main 5' S. of S. curb
44+50	10.7	35.9	
44+00	8.6	38.0	
43+50	6.3	40.3	
43+00	3.8	42.8	
42+50	1.2	45.4	
T.P.	0.56	446.55	12.43 — 445.99
42+00	10.8	47.6	
41+50	8.9	49.5	
41+00	△ 1° 00' Lt.	7.6	50.8 ¢ Main 5' S. of S. curb
40+50	△ 3° 05' Lt.	6.8	51.6 " " " " "
40+00	△ 2° 27' Lt.	6.1	52.3 " " " " "
39+50	△ 3° 27' Lt.	5.2	53.2 " " " " "
39+00	△ 0° 26' Lt.	4.7	53.7 ¢ Main 5' S. of S. curb
ch B.M. B.P. S.W. 67 th & E/Cajon.	4.72	453.70 = 453.70	
38+56 ⁶⁴	△ 69° 24' Rt.	4.8	53.6 ¢ Main 26' W. of E. line
38+00		4.4	54.0
37+50	△ 3° 15' Rt.	5.1	53.3 ¢ Main 20' W. of E. line
37+46 ⁵⁰	N. Line E/Cajon Blvd.	5.1	53.3 ¢ Main 20' W. of E. line
37+00		6.2	52.2
36+50		6.8	51.6
T.P.	7.68	458.42	10.08 — 450.74
36+00		10.1	50.7
		460.82	

7

Position of R.P.	R.P. Rod	R.P. Elev.	Grade	7' -
Cross In drive 4.5N	12.35	434.20	430.21	3.99
Cross In curb 4.5N	10.63	435.92	432.08	3.84
" " " 4.5N	8.68	437.87	434.17	3.70
Cross In drive 4.5N	6.86	439.69	436.25	3.44
	3.78	442.77	438.33	4.44
Cross In curb 4.5N	1.19	445.36	440.92	4.44
" " " 4.5N	10.75	447.67	442.50	5.17
" " " 4.5N	8.77	449.65	442.65	7.00
" " " 4.5N	7.52	450.90	442.79	8.11
" " " 4.5N	6.63	451.79	442.93	8.86
" " " 4.5N	5.95	452.47	443.07	9.40
" " " 4.5N	5.20	453.22	443.21	10.01
Cross In curb 4.5N	4.73	453.69	443.36	10.33
Nail 6' S. curb	4.87	453.55	443.49	10.06
Nail 6' W	4.43	453.99	443.64	10.35
Nail 6' W	5.22	453.20	443.78	9.42
Nail 6' W	6.16	452.26	443.92	8.34
Nail 6' W	6.67	451.75	444.07	7.68
Nail 6' W	10.08	450.74	444.21	6.53

	± Rod	± Elev.	
City B.M. R.P.	2.79	452.47 = 452.46	S.W. Rolando + El Cajon Blvd.
T.P.	11.41	455.26	2.70
48+09 ¹⁰	09.66	439.91	Top. 20" Main
48+09 ¹⁰	2.8	43.8	± 4' E. of End. of Return
47+94 ²³	3.8	42.8	± 7' S. of S.C.
47+50	7.1	39.5	± 5.5' S. of S.C.
47+00	9.7	36.9	± 5' S. of S.C.
46+50	11.4	35.2	
46+00	12.4	34.2	
45+66	17.3	29.3	
45+66	12.39	34.16	Discharge to North
45+50	12.4	34.2	± Main's S. of S.C.
	446.55		
45+12			E. End. of Fill

Position of R.P.	R.P. Rod	R.P. Elev.	Grade	+ or - cut	
± 5.12 Curb 3.5 W.	2.71	443.84	438.15	5.69	
± 5.51 Curb 6.5 N.	3.73	442.82	437.78	5.34	
± 5.51 Curb 5.0 N.	6.80	439.75	436.49	4.26	
± 5.51 Curb 4.5 N.	9.56	436.99	433.25	3.74	
" " " "	11.29	435.26	431.00	4.26	
" " " "	12.30	434.25	430.67	3.58	
			434.16	429.66	4.50
				429.74	4.37
" " " "	12.44	434.11	430.33	3.78	

Topography on Proposed 16"
Water Main in La Mesa Colony.

3+95 Crossing Ex 6" Water Main

3+90 Δ 90° 00' Lt.

3+73 ϕ 10' Travel A. Roadway.

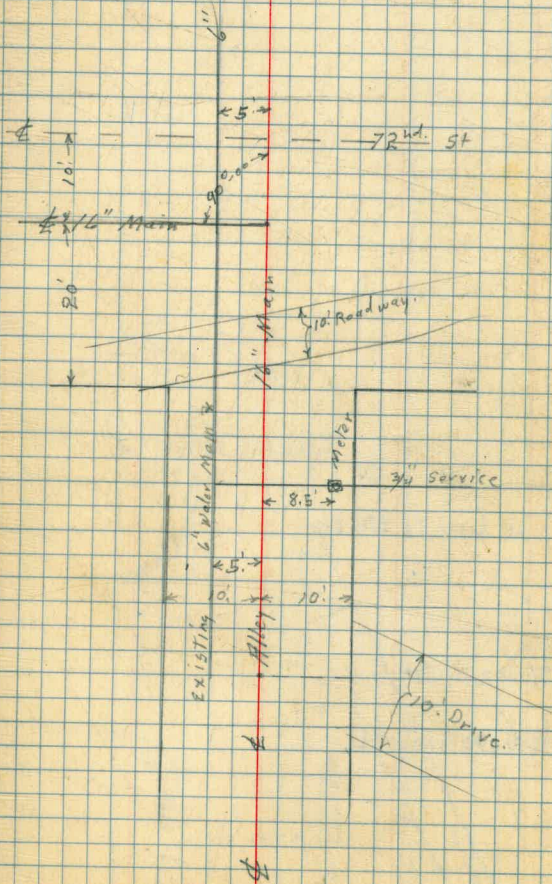
3+70 E. Line = 72nd St.

3+13 $\frac{3}{4}$ " Water Service & Meter

2+57 ϕ 10' Drive into yard North of Alley

0+60 Δ 90° 00' Rt. ϕ Alley

0+00 Proposed Water Tower



19+25 ± 8' Drive to house on South

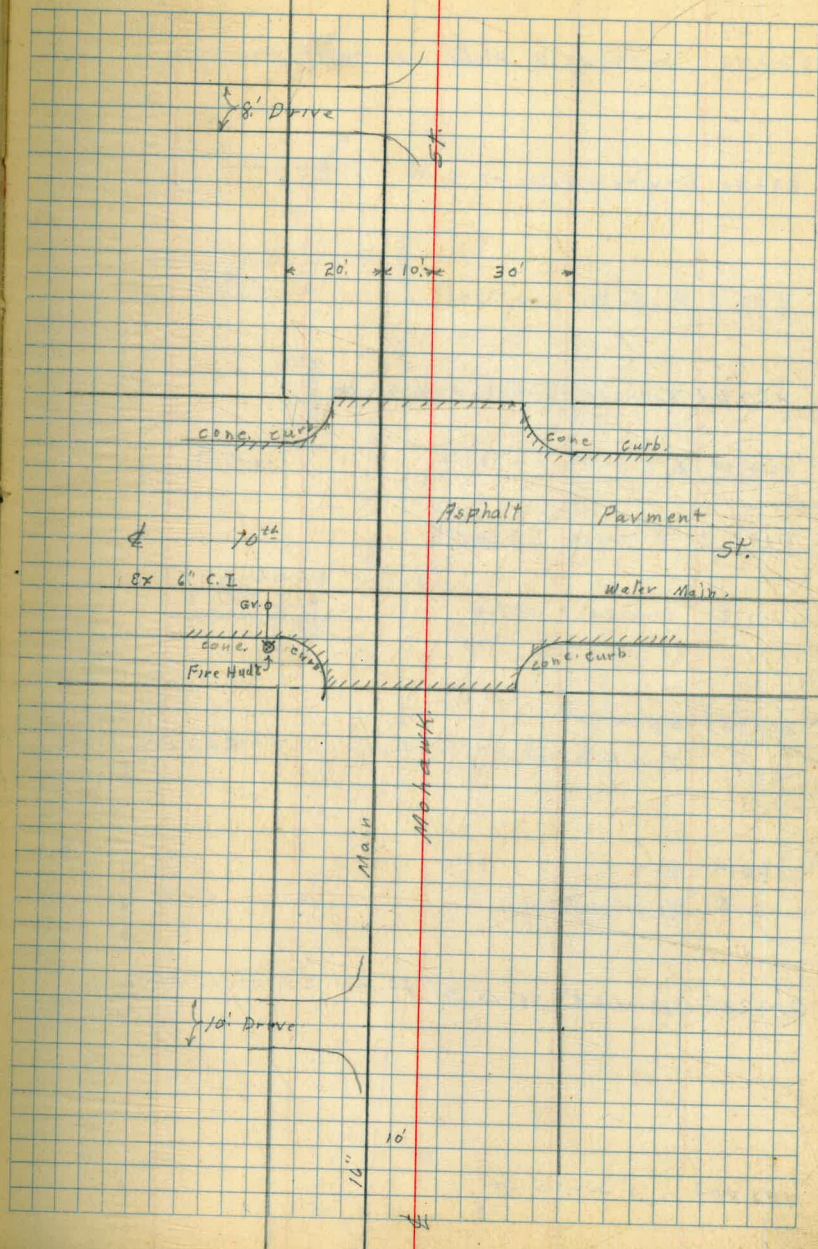
14+19¹/₂ W. Line 70th St.

13+89¹/₂ ±

13+79¹/₂ crossing Ex. 6" C.I. Main

13+59¹/₂ = E. Line 70th St.

9+50 ± 10' Drive to House on South



22+70 Service & Meter on South

23+50 Service & Meter on South

23+17 \pm 8' Drive on South

22+58 Service + Meter on South

22+18 \pm 8' Drive on South

21+99 \pm 8' Drive on South

21+62.5 Service + Meter

20+99.5 W. Line 69th

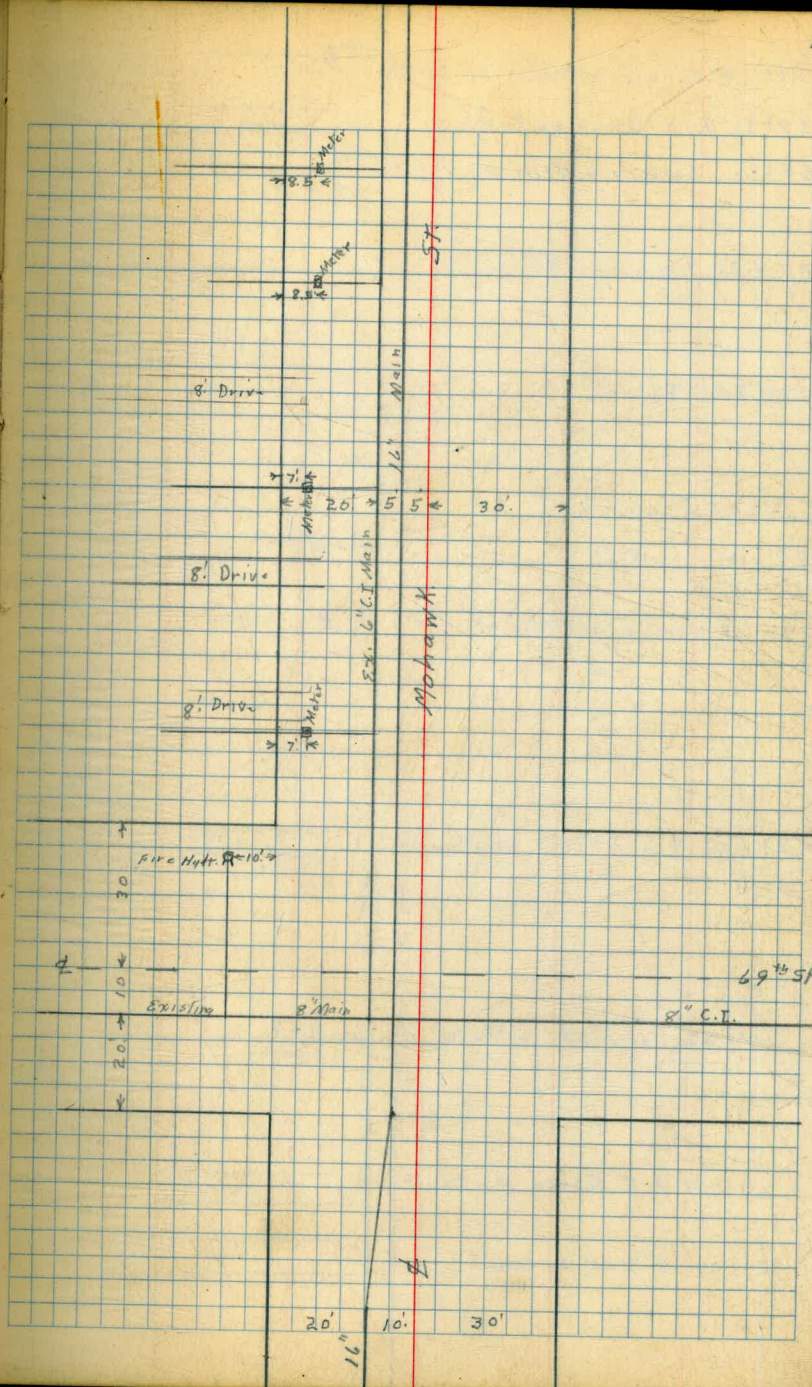
20+91 Fire Hydr. 35' S. of 16" Main

20+69.5 \pm

20+59.5 Ex. 8" Main.

20+39.5 E. Line 69th St. Δ 5'-44"-20" L.F. on 16" Main

19+89.3 Δ 5'-44"-20" Rt.



44+21 W. side drive

44+02 E. side drive to service station

43+58 W. side Drive

43+39 E side drive to service station

43+02 Elec Pole 15" Diam.

41+51 Elec Pole 16" Diam

41+00 Δ 1°-00' Lt

40+50 Δ 3°-05' Lt.

40+00 Δ 2°-27' Lt

39+68 Elec Pole 17" Diam

39+50 Δ 3°-27' Lt.

39+44 Ded Man Elec Pole Guy wire

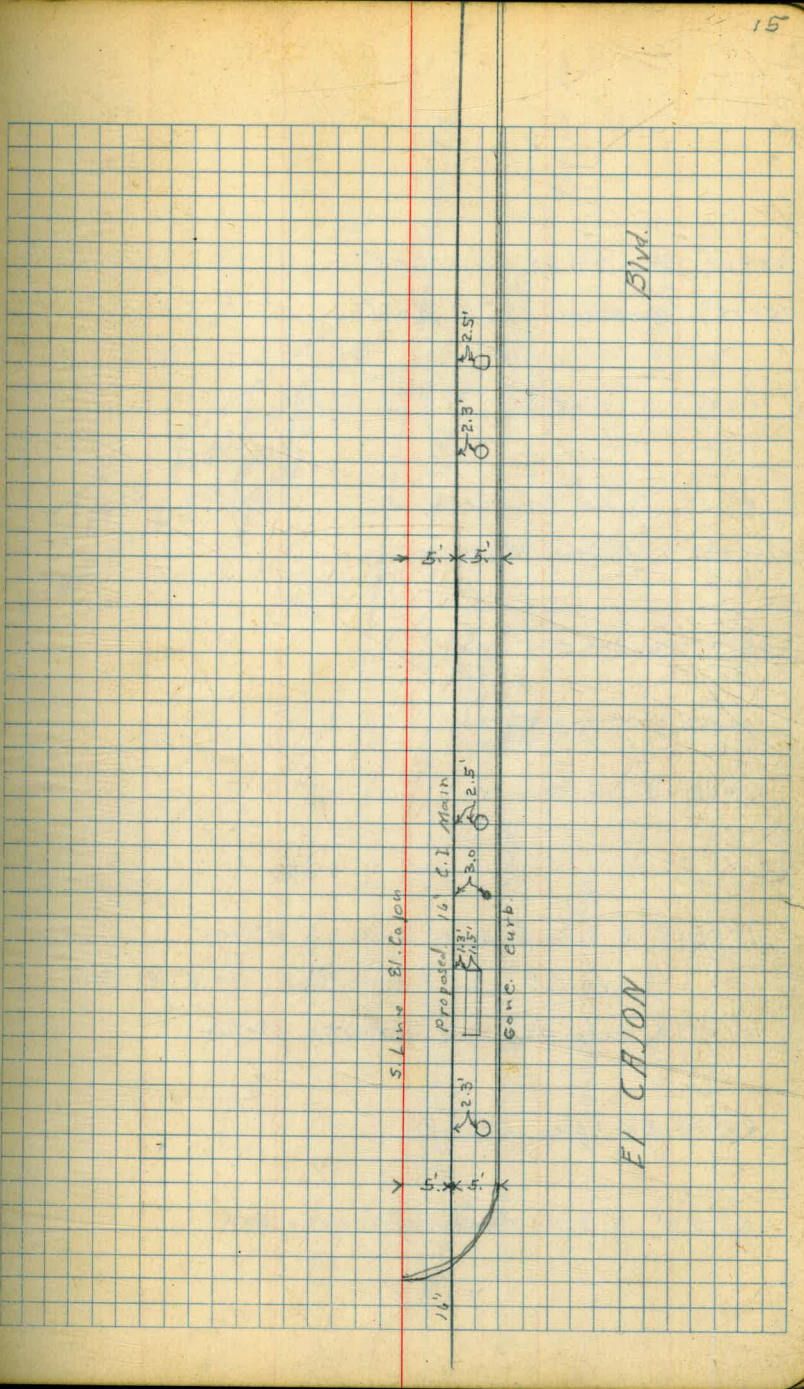
39+35 W. End.

39+28 E end. wooden mail box support. 7' long 1.5' wide

39+03 Elec pole. 16" Diam 2.3' ϕ to Pole

39+00 Δ 0°-26' Lt. Main $\left\{ \begin{array}{l} 5' \text{ S. of S. Curb.} \\ 5' \text{ N. of S. Line El Cajon.} \end{array} \right.$

38+91/2 crossing conc. curb



B.W.

EL CAJON

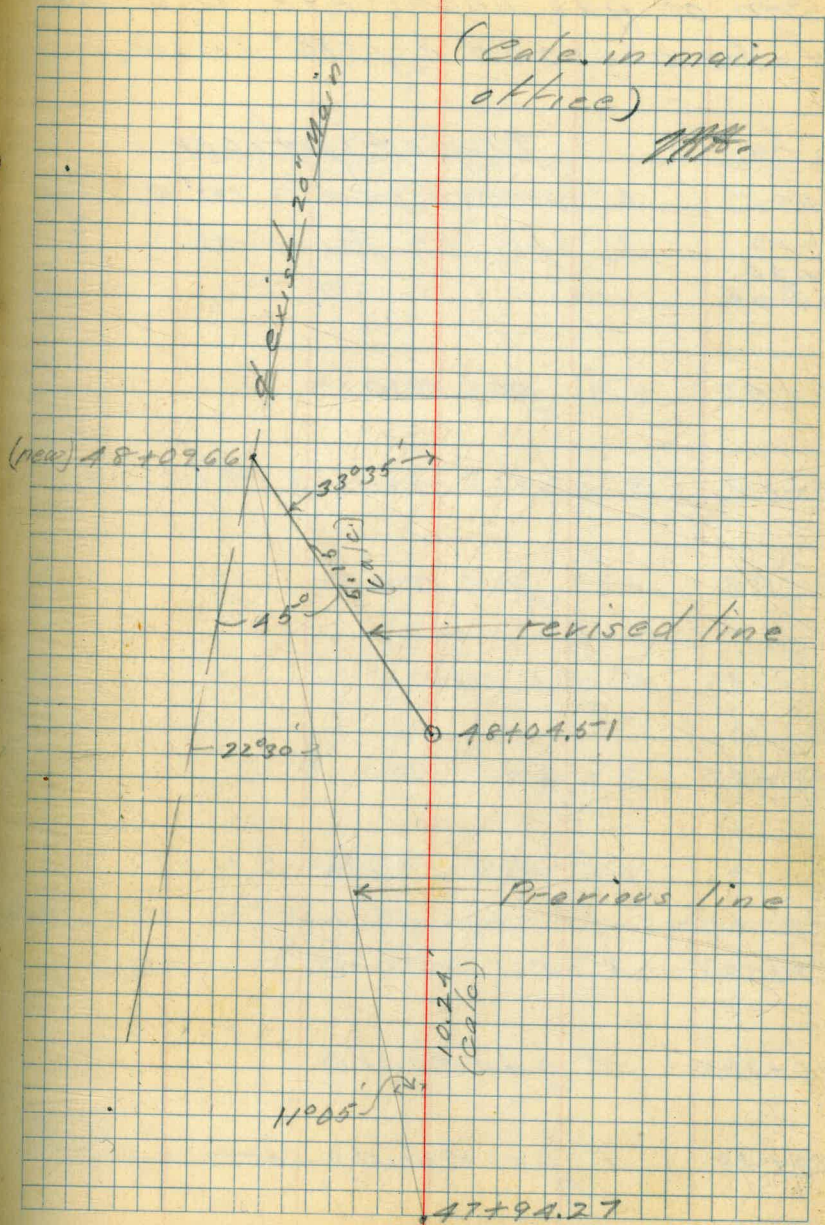
Line revision at Amherst and
El Cajon to permit use of
standard 45° Y branch at con-
nection with 20" existing main.

11/8/37

17

(Calc. in main
office)

~~11/8/37~~



Sta. of gas, water etc. mains
to be crossed by 16" line.

<u>Sta.</u>	<u>Description</u>
3+95	6" water main in alley
3+13	3/4" service to north
5+70	
0+00	
0+40	1 1/4" gas main
6+87	3" water main L.M.I.D.
7+20	1 1/4" gas main
13+796	6" C.I. main
14+02	2" gas main
20+57.5	20" R.S. main L.M.I.D. }
20+59.5	8" C.I. main }
20+79.5	2" gas main
30+48	1" gas main - service south

11/12/37
M.H.

18

N.B. New 16" line crosses over these
mains.

check sta.

30+⁷⁸68

3/4" water service - north

check sta. ✓

31+36

1" gas service - south

" " ✓

31+79

3/4" water service - north

" " ✓

32+14

3/4" " " "

" " ✓

35+68

1" gas main

37+40±

3" steel pipe L.M.I.D.

38+06

10" cast iron main

38+75±

2" tile duct - Tel. Co.

38+80±

3" gas conduit

Flowline elev. of catch basin
between 67th & Amberst

11/15/37 Hill
Coote P

20

BM.	5.26	439.37	434.11
45+60		5.21	434.16
		10.11	429.26

X on curb at sta. 45+50.
Top of curb at catch basin
bottom of catch basin.

Hill 4/27/37
 Brachman

Cut stakes for Piers - Ground Eler's

B.M. 6.06 34.06 528.00

Mon S.W. cor. city prop.

Pier #1	4.7	529.40	5.49
2	4.8	529.3	5.49 6.00 523.9
3	4.7	529.4	"
4	4.7	529.4	"
5	5.1	529.0	"
6	6.6	527.5	"
7	7.2	526.9	"
8	6.8	527.3	"
9	5.9	528.2	"
10	5.3	528.8	"
Center pier	5.0	529.1	522.10

523.91	C. 5.5
5.4	
5.5	
5.5	
5.1	
3.6	
3.0	
3.4	
4.3	
4.9	
7.0	

Eler top of piers 530.35
 " " bot. " 523.91
 " bot. center pier 522.10
 " top of anchor bolts 530.91

Grades in bot. of piers

B.M. 4.2 532.42 528.00
 523.91 8.51

11/2/37

B.M. 5.78 533.78 528.00
 523.91 9.87
 5.89

B.M. 5.88 533.88 528.00
 523.91 9.97

B.M. 6.32 534.32 528.00
 523.91 10.41
 9.71 529.61

5.94 533.94 528.00
 523.91 10.03

Hill 7/30/37
 Brachman

Grade bot. of pier "6"

9.87
~~5.59~~ 4'
 4.28 = 4' 3 3/8"

pt. pier "5"

529.61
~~23.91~~
 5.70

12/3/37

Meas. pier #8

dist. below screed (2' above)

E end

1.5	1.9	1.9	1.7	1.2
5.5N	2N	C	2.5	5.5S

2' W

1.5	1.7	1.7	1.9	1.2
5.5	2'N	C	2.5	4

5.5 W

1.0	1.2	1.5	2.0	1.2
5.5	2'N	C	1.5	3.5

11 W

0.9	1.0	1.2	1.0	1.7	1.1
5.5	2N	1N	C	1.5	3.5

below screed

W end

Pier #9

~~1.9~~

0.9	0.9	1.3	1.0	1.5	1.1
5.5S	3.5	1.5	C	2N	3

E Pier

0.95	0.95	1.3	1.0	1.2
5.5	1.5	C	1N	2N

E end

0.9	1.0	1.1	1.0	1.2
5.5S	2.5	C	1N	2

Pier #5 at 2 1/2' low

= 0.91 CY below grade

24

Mix pier footings

5, 6, 7 + 8

Av. 0.45 low

232 sand 2.44 cu. ft.

" 130 1" max 1.37 " "

" 188 1 1/2" " 1.98 " "

1.3 Av. 0.41 "

5.5S

1.2 Av. 0.285 "

5.5S

1.1 Av. 0.2 "

5.5S

4/11.20 (32) = 1.43 CY below grade

$$\frac{4 \times 11.20}{12} = 3.73$$

0.9

5.5S

Av. 0.15 low

0.95

3

Av. 0.1 low = 0.42 CY below grade

0.95

2N

3

Av. 0.1 low

0.95

2N

3

= 0.91 CY below grade

12/4/37

25

Elevs on pier #5 (forms)

BM	5.91	533.91	528.00
		530.35	3.56
S.E. cor.		3.53	30.38
S.W. "		3.51	30.40
N.W. "		3.53	30.38
N.E.		3.51	30.40

Mix bal. of concrete (12/4/37)

" 220 sand = 2.32 cu. ft.
 " 142 1" = 1.51 " "
 " 188 1 1/2" = 1.98 " "

Check cler's on Piers

12/6/37

5.58 533.58 528.00

8.78 524.80

8.82 524.76

2.77 530.84

12/7/37

6.08 534.08 528.00

530.35 3.73 grid

3.62

3.63

3.60

3.62

530.91 3.17 anchor bolts

N.W. cor.

3.70 530.38

N.E. "

3.68 530.40

S.E. "

3.69 530.39

S.W. "

3.67 530.41

N.W.

3.70 30.38

N.E.

3.67 30.41

S.E.

3.71 30.37

S.W.

3.71 30.37

9.31 524.77 screed pier 3 (this feet on 1 1/2" low) = 2.54 ex below gr.

Exact footing #5
Foot #4

3 1/8" H

3 1/4"

1 1/4"

1/4"

Over Digging in Piers 12/8/37

523	533.23	52800	
	524.77	8.96	scraped strip Pier #10
	523.91	9.32	bot pier
		5	N.
	1.3	9.8	9.8 1.3
	1.2	9.7	9.5 1.0
	1.4	9.9	9.6 1.1
	1.1	9.6	9.5 1.0
	1.4	9.9	9.7 1.2
	1.1	9.6	9.6 1.1
	1.0	9.5	9.7 1.2
	8.5		9.9
	530.91	2.32	anchor
	N.E. cor	2.83	30.40
	S.E. "	2.81	30.92
	S.W. "	2.85	30.38
	N.W. "	2.84	30.39
	530.35	2.88	

Elvis pier #1 12/9/37

330	534.21	530.91
	3.81	530.37
	3.83	530.38
	3.83	
	3.82	530.39
	530.35	3.86

strip Pier #10

Pier #10

534 Cy.

10 base

(1.2 cy below grade)

bolts

Handwritten calculations on graph paper:

$$\begin{array}{r} 12 \\ 11 \\ \hline 12 \\ 132 \\ 117 \\ \hline 929 \\ 132 \\ \hline 1061 \end{array}$$

$$\begin{array}{r} 121 \\ 117 \\ \hline 897 \\ 121 \\ \hline 12157 \\ 1415 \\ \hline 136 \end{array}$$

$$\begin{array}{r} 121 \\ 117 \\ \hline 897 \\ 121 \\ \hline 12157 \\ 1415 \\ \hline 136 \end{array}$$

$$\begin{array}{r} 121 \\ 117 \\ \hline 897 \\ 121 \\ \hline 12157 \\ 1415 \\ \hline 136 \end{array}$$

$$\begin{array}{r} 121 \\ 117 \\ \hline 897 \\ 121 \\ \hline 12157 \\ 1415 \\ \hline 136 \end{array}$$

$$\begin{array}{r} 121 \\ 117 \\ \hline 897 \\ 121 \\ \hline 12157 \\ 1415 \\ \hline 136 \end{array}$$

12/9/37

Loc. of 16" pipe at tank

ϕ overflow pipe 1.0' N. of ϕ tank
 $1' 8\frac{1}{2}" \phi$ to ϕ 16" & 10" pipes
 $1' 8\frac{1}{2}" - 10" = 8\frac{1}{2}" = 0.71$ dist from ϕ of
 tank to ϕ 16" inlet.

Dist. S of 90° bend of 16" pipe = 36"
 $12' + 3' + 0.71 = 15.71 =$ starting point
 for contractor on sched. $\frac{1}{2}$ "

Top of Pier Elevs

12/10/37

	3.36	534.26	530.91	Pier 3
S.W. cor		3.87	30.39	
N.W. "		3.85	30.41	
N.E. "		3.86	30.40	
S.E. "		3.86	30.40	
	3.96	539.37		
N.E. cor		3.97	30.40	
S.E. "		3.96	30.41	
		3.97	30.40	
		3.97	30.40	
N.W. cor		3.95	30.42	Pier 4
N.E. "		3.98	30.39	
S.E. "		3.97	30.40	
S.W. "		3.97	30.40	
		530.35	f. 02	

28

ST 1	398
2	396
2	396
	396

12/11/37

Check on exist 6" main at 72' + alley

580 528.62 522.82 R.P. hole sta 5100

11.34 517.28 on 6" pipe

514.90 514.40 New hole at 3190

2.38

558 523.58 528.00

2.68 530.90

3.24 530.34 NW.

3.23 530.35 N.E.

3.23 " S.E.

3.23 " S.W.

12/13/37

350 531.11 530.91

NE cor 4.00 530.41

SE " 4.00

S.W. " 4.00

N.W. " 3.98

BM. 134 532.26 530.92

SE cor 1.82 530.44

SW " 1.82 530.44

N.W. " 1.82

NE " 1.80 530.46

2.38

83

1.55

.83

517.28

514.30

2.98

2'

283

16"

18"

2.33

7.50

1.67

83

2.50

11/13/37

426	532.26	528.00	
S. W. Cor.		1.83	530.43
S. W. "		1.83	"
N. W. "		1.85	530.41
N. E. "		1.81	530.47
		1.36	530.90

11/14/37

3.48 534.39

530.91

5.0

529.4

522.1

cut 7.3 center pier

11/15/37

652 534.52

528.00

522.1

12.4

6.08 534.08

528.00

523.91 10.17

522.10 11.98

Pier #10

pier

6.27	534.27	528.00
	523.91	10.36

6.11	534.11	528.00	5
	521.73	9.38	

12/19/37

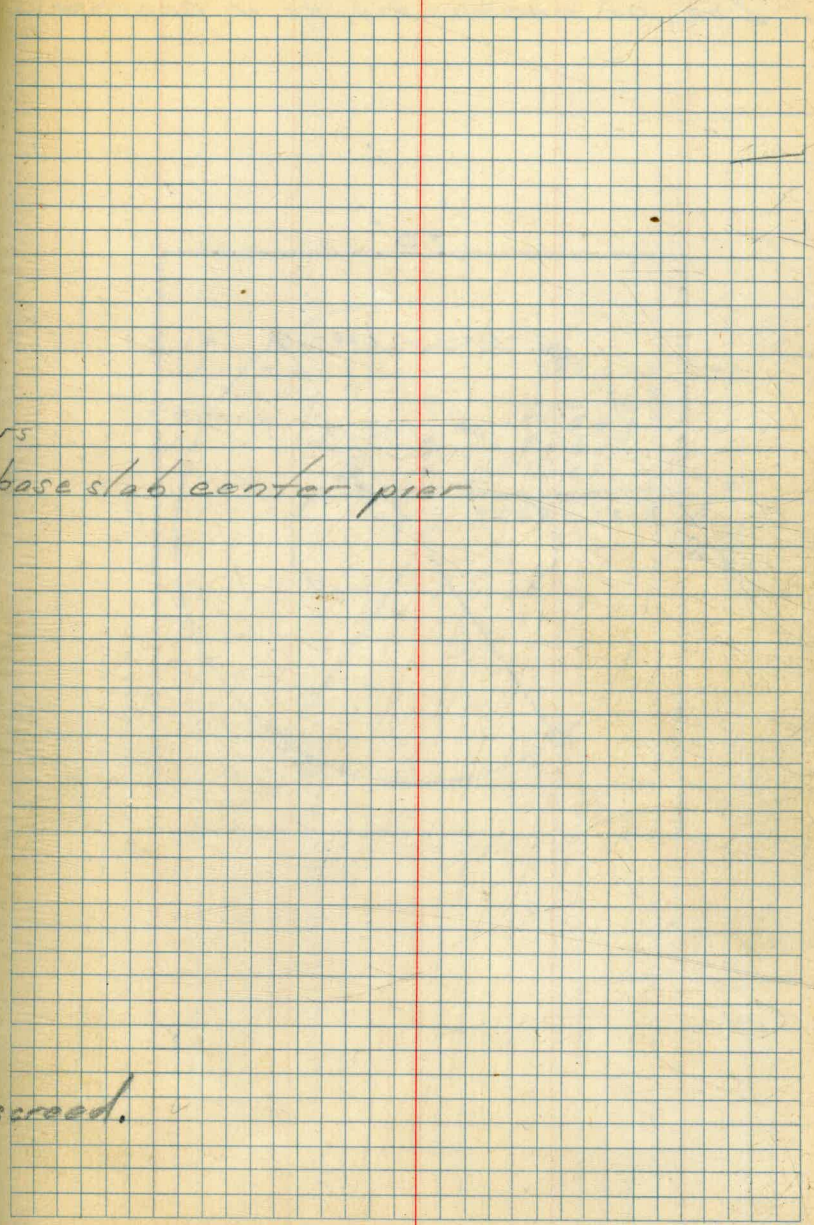
6.13	534.13	528.00
	523.91	10.22 bot. piers
	523.60	10.53 top of base slab center pier
		$\frac{.06}{10.59}$ (set $\frac{3}{4}$ " in)

Pier "2"

Depth below screed

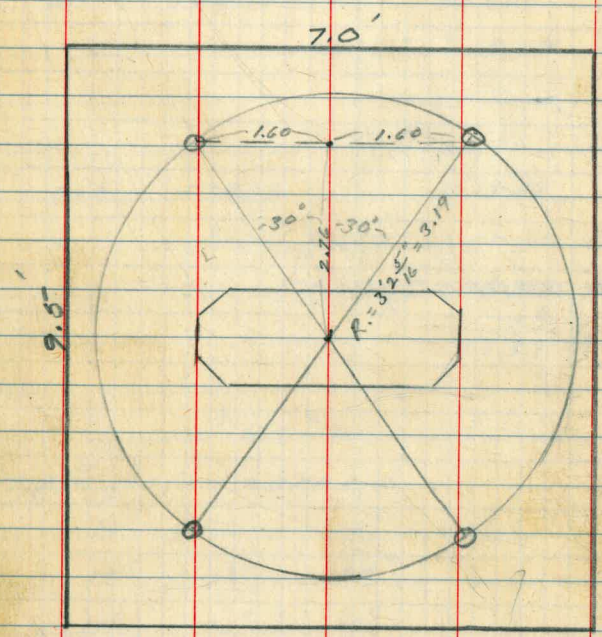
	^c	^s
10"	10"	10"
14"	13"	14"
11"	11"	11"
13"	14"	14"
12"	11"	12"
11"	10"	10"

6.27	533.27	528.00
	521.73	8.54 top of screed.
	23.91	9.26



12/17/37
pier

Loc. of anchor bolts in center



$$\begin{array}{r}
 3.19 \\
 \times .5000 \sin 30 \\
 \hline
 1.5950 = 0
 \end{array}$$

$$\begin{array}{r}
 .86603 \cos \\
 \times 3.19 \\
 \hline
 779.427 \\
 86603 \\
 \hline
 259809 \\
 \hline
 27626357
 \end{array}$$

Elev. top of Piers

520 53320 52800

53091 2.29

53035 2.85

S.E. cor.	9.63	523.57
N.E. "	9.63	"
N.W. "	9.63	"
S.W. "	9.62	523.58

487 532.87 528.00

S.E. cor. 2.53 530.34

N.E. " 2.51 530.36

N.W. " 2.57 530.33

S.W. " 2.57 530.36

12/21/37

595 533.95 528.00

53035 3.60

N.W. cor 3.59

S.W. " 3.59

S.E. " 3.59

3.60

80

52

26

Over run in Depth of piers

Pier	Average depth low	E.V
1	0.25	1.12
2	0.10	0.42
3	0.12	0.54
4		
5	0.21	0.94
6	-	-
7	-	-
8	0.32	1.43
9	0.10	0.42
10	0.27	1.20
Center	0.17	0.42
		<u>6.49</u>

530.35

3

527.35

527.35

523.3

4.0

Loc. of appurtenances Mains etc. 12/30/37

~~Add excor. of CP. for blow-off~~

2' x 2.5' x 4.7

Loc.	6" Main 27th + Mahawk	Sta. 34+07	El. top	446.9
"	1" Gas " " alley	Sta. 35+93	El.	448.2
"	4" L.M. 10' Main " El Cajon	Sta. 37+90	El.	450.1 (Diag. xing)
"	2" Water Main " "	Sta. 37+12	El.	450.0 (dead line)
"	4" Water " " "	Sta. 37+83	El.	451.8

Loc. 16" x 6" T Sta. 21+10 = 10' W. of WPL 27th St
 " " 9.5' N. of gate valve at tank at 30.3

Loc. 6" ci. water main 27th + Mahawk - Sta. 13+79.6 El top 471.4
 " 6" " " " 72nd + Alley
 " 16"

1/24/38

BM	0.00	530.35	530.35	top of pier
0+39.8		1.55	528.80	ground at gate valve
			16" gate valve	FL. of 523.80

Pipe leftover on
the work.

Amherst + El Cajon

1 pc. 18'0"
1 " 12'8"

(condemned - pipe split) B+S.
B+S. cut for backup

67th + Mohawk

1 pc. 6'0"
1 " 1'0"

B+S
cracked - cut off

72nd + Alley

1 pc. 1'4"

B+S

At tank

1 pc. 18'0"
1 " 10'5"
1 " 6'6"
1 " 0'6"

B+S

"

"

"

79'5"

Copied from Inspector
Brachman's report.

2/3/88

~~1/1/88~~

H.N. 2/5/38
Brochmann

37

Tower Footing Elevs

B.M.	7.32	5.35.32	5.28.00
Pier 1		4.99	
2		4.98	
3		4.93	
4		4.97	
5		4.96	
6		4.96	
7		4.95	
8		4.97	
9		4.97	
10		4.95	
Center		4.97	
Valve box		5.32	

2/5/38

Adjustment Lutz Level " 10268

	2.12	E. point
Level midway	<u>1.68</u>	W. "
	0.44	
Level at E. pt	3.70	W. point
	<u>4.15</u>	E. "
	0.45	

2/5/38

Lutz Level " 10268

Level at mid pt	2.00	E. pt
	<u>1.55</u>	W. "
	0.45	
Level at E. pt	3.55	W. pt
	<u>4.00</u>	E. "
	0.45	

ELEVATION OF
OVER FLOW AT
COLLEGE RESERVOIR

BM	12.34	492.80		480.46
R	12.87	505.41	0.26	492.54
R	13.06	518.25	0.12	505.29
R	13.30	531.39	0.26	518.09
			1.00	530.39 = 530.41 19.28
SET TBM	4.45	534.33	1.51	529.88
R			3.70	530.63
			+67.20	<u>601.53</u>
R	1.12	531.75		530.63
R	0.28	519.28	12.75	519.00
R	0.14	506.06	13.36	505.92
R	0.45	493.36	13.15	492.91
CK BM			12.91	480.45 = 480.46

JAN. 6 1955

BETTY
SHOREY
MARTELL
ALEXANDER

38

SW BP 72nd & El Cañon

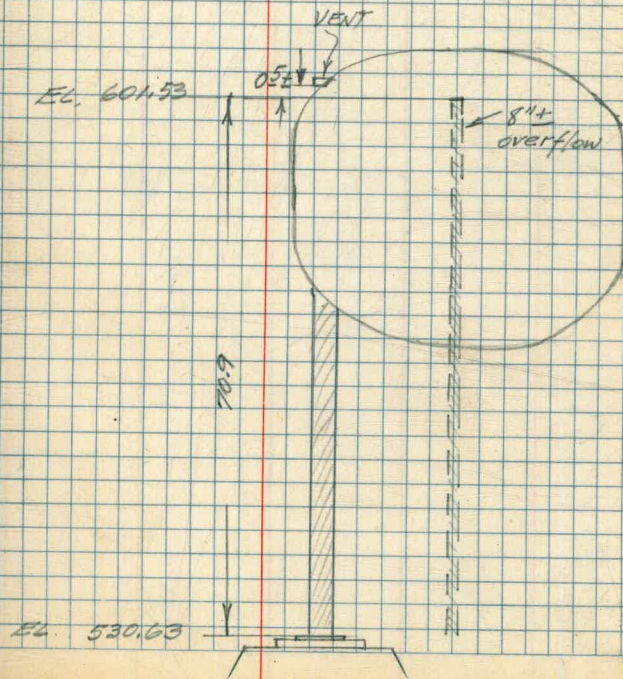
Top of Footing, NW Cor Pier #3

Chis II SW Cor Valve Chamber

Top steel Column base plate, directly under Ladder.

Top 8" overflow in center of elevated tank.

71.40
.50
70.90
3.70
67.20



Steel-Valve Boxes

Length Pcs Mark

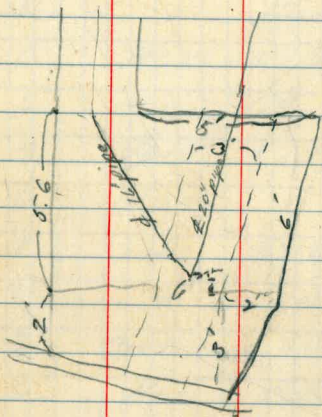
8'	2	Vert. at sump	7/8 ✓
"	"	"	"
3'8"	5	Top M.H.	✓
2'6"	2	At end	✓
7'	5	Vert. sides	✓ 7/8
7'	5	" Ends	✓
7'9"	6	Hor. sides	✓
7'	5	" Ends	✓
7'	4	Vert. sides	✓ 7/8
7'9"	6	Hor.	✓
5'9"	7	" Ends	✓
5'9"	7	" "	✓
5'9"	3	Cross bars Top	✓
2'9"	6	Hor. sides	✓
7'	5	Vert. sides	✓
8'	4	Around pipe	✓

F.D.P.

P.B.

Gomer Evans

Earle Thomas



Depth 1' below
exist. pipe

Car Mileage

Date	Speed	Mileage
Mon, Nov 22	Speed.	56,020 +
Weds AM Dec. 1	"	56,298
12/6/37	"	56,522
12/7/37	"	56,542
12/8/37	"	56,573
12/10/37 PM.		56,631
12/13/37 AM.		56,676
12/14/37 "		56,734
12/15/37 "		56,754
12/16	"	"
12/17	"	56,790

Handwritten calculations on the left page of the notebook, including:

- 466.5
- 714.7
- 21.8
- 10.3
- 1.8
- 12.1
- 34.1
- 16.5
- 17.6
- 1.8
- 1.7
- 1.6
- 1.4
- 1.2
- 1.8
- 2.9
- 1.2
- 530.0
- 521.4
- 533.3
- 46.40
- 25.
- 71.40
- 530.63
- 11.
- 602.03
- 601.53
- 3.10
- 2.55
- 0.55
- 48
- 34
- 140
- 530.35
- 530.91
- 565
- 565
- 535
- 530.35
- 82.5
- 522.10
- 1.50
- 523.60
- 833.3
- 16 | 9.1665
- 32
- 96
- 96
- 6.1
- 7.26
- 5.5
- 3.71
- 3.10
- 6.61
- 6.1
- .51

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2.

For Single Track Embankment.

215
21.5
32.5
56.5
89.0

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.