

1139

DEIZEN
1877

ENGINEERS
FIELD BOOK
No. 404

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 $30.6 + (20 - 16) \cdot 2$ 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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Senior Levels E Alley
 Between Oliver Street From Bayard to Ingraham
 " Road & Thomas " Ingraham to Vanport
 B.M. 57. Co Pacific 30.215
 ON Top Hydr. 5.53 10.15 4.68 See sketch Page 8

	5.53	10.15	4.68
0+00 = 5th N. Bldg Pacific Ave.		11.30 11.23	9.2
+ 15			8.8
+ 20			6.8
+ 50			2.4
1+00			5.6
1+47.30 = E Alley out East = O.P. From East			5.6
2+00			4.9
+ 50			4.4
+ 13			4.0
+ 18			5.1
+ 87			5.8
3+05.20 = E OLIVER ST.			5.4
+ 23			5.7
+ 25			5.0
3+42			4.9
3+45.30 = N L St			4.3
4+00			4.8
+ 50			4.4
4+80.30 = Ad Alley			4.4
5+00			4.2
T.P. 5.97 12.38			3.79
5+50			5.80
6+00			5.4
+ 50			5.2
7+00			5.4

12.38

+ 50	5.0	7.4
8+00	4.7	7.7
+ 40	6.0	6.4
+ 60	6.0	6.4
+ 62	6.5	5.9
8+77.50 = d Cass St	6.17	6.21
+ 95	6.3	6.1
9+00	5.9	6.5
+ 15	5.5	6.9
+ 50	5.0	7.4
10+00	4.6	7.8
+ 50	4.8	7.6
11+00	5.3	7.1
+ 50	6.4	6.0
12+00	6.8	5.6
+ 50	7.0	5.4
13+00	7.0	5.4
+ 50	6.3	6.1
14+00	5.8	6.6
757.50 = cl. Dimes St	5.1	7.3
+ 75	5.8	6.6
+ 78	5.2	7.2
15+00	4.8	7.6
+ 50	4.5	7.9
16+00	4.2	8.2
T.P. 10.42 19.60	3.80	9.8

Returned

1960

16+50		11.0	8.6
17+00		10.1	9.5
7 50		8.9	10.7
18+00		7.4	12.2
7 50		6.7	12.9
19+00		5.8	13.8
4 50		4.8	14.8
20+00		4.2	15.4
7 37.50 = 6 ZVERTS st.		3.7	15.9
21+00		2.3	17.3
4 50		1.5	18.1
22+00		0.2	19.4
T.P. 10.29 2946		0.43	19.17
22+50		9.4	20.1
23+00		8.6	20.9
4 50		8.2	21.3
24+00		7.9	21.6
4 50		7.3	22.2
25+00		6.8	22.7
4 50		6.2	23.3
26+00		5.6	23.9
4 17.50 = 6 KNUVELL st.		5.5	24.0
4 50		5.0	24.5
27+00		4.1	25.4
4 50		3.5	26.0
28+00		3.0	26.5

2946

7 50		2.4	27.1
29+00		1.8	27.7
4 50		0.8	28.7
T.P. 12.45 41.80		0.11	29.35
30+00		12.2	29.6
4 50		11.9	29.9
31+00		11.9	29.9
4 50		12.4	29.4
31+27.50 = 4 Gresham st.		12.7	29.1
32+50		13.1	28.7
33+00		13.4	28.4
4 50		13.4	28.4
4 75		13.1	28.7
34+00		12.3	29.5
4 50		11.8	30.0
35+00		9.1	32.7
4 50		5.9	35.9
36+00		1.8	40.0
T.P. 9.35 50.26		0.89	40.91
36+50		7.4	42.9
37+00		5.9	44.4
37+17.50 = 4 HAYNES st.		4.6	49.7
38+00		4.8	45.5
4 50		5.4	44.9
39+00		5.5	44.8
4 50		5.2	45.1

50.76

40+00		4.6	45.7
+ 50		3.9	46.4
41+00		3.2	47.1
+ 50		2.6	47.7
42+00		2.5	47.8
+ 50		2.7	47.6
43+00		3.4	46.9
+ 40		4.9	46.4
+57.50 =	10 W. of	3.8	46.5
44+00	INGRAM ST.	4.1	46.2
+ 50		4.4	45.9
45+00		5.4	44.9
+ 50		5.0	49.3
46+00		4.8	43.5
+ 50		4.6	45.7
T.P.	10.66	3.64	46.62
T.P.	7.38	7.38	49.90
47+07.50 =	DR	10.6	46.7
+ 45		11.8	45.5
+ 50		11.1	46.2
+ 64		10.8	46.5
+ 70		13.0	44.3
48+00		14.5	42.8
+ 50		16.3	41.0
49+00		17.4	39.9
+ 50		16.4	40.9

10 W. of INGRAM ST.

antipar...
Robt St...
Wky + INGRAM

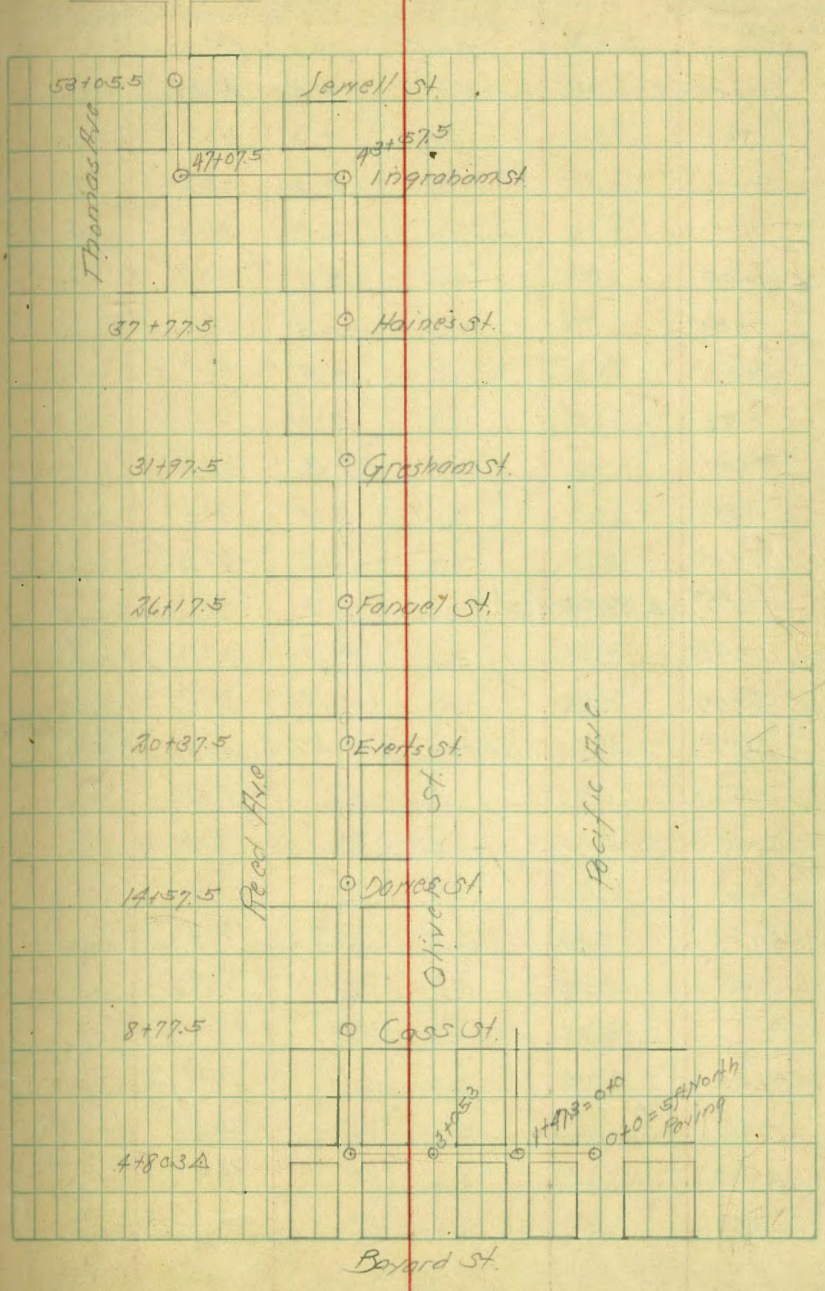
57.88

50+00		16.3	41.0
+ 50		15.9	41.4
51+00		14.5	42.8
+ 50		11.4	45.9
52+00		7.5	49.8
+ 50		2.3	55.0
T.P.	7.05	63.88	0.45
53+05.50 =	JEWELL ST.	5.9	58.0
+ 50		4.3	59.6
54+00		3.3	60.6
+ 50		3.4	60.5
55+00		4.3	59.6
+ 50		5.4	58.5
56+00		6.9	57.0
+ 50		7.5	56.4
57+00		8.2	55.7
+ 50		8.8	55.1
58+00		9.4	54.5
+ 50		10.1	53.8
T.P.	1.42	55.01	10.29
58+85.50 =	Kendall St.	7.6	52.4
59+00		3.0	52.0
+ 50		3.3	51.7
60+00		5.1	49.9
+ 50		6.5	48.5
61+00		7.4	47.6

5501

61+50	8.3	46.7
62+00	8.8	46.2
+50	9.2	45.8
63+00	10.0	45.0
+50	11.0	44.0
64+00 = D.E. 25' W.W. LAMONT ST. NW cor Lamont + Filley	12.3	42.7
T.P. on top Gas Ground stk.	11.43	43.58'

64+00.5 = 25' W.W. Lamont
58+96.5



B.M. SE Cor
 Engle & Alley
 on Top Fence Post
 See Page 3

Sewer Levels & Alley

Between Reed & Thomas
 From 25' W. L. Loggans to N. S. Alley & Boyard
 5.62 55.52 49.90

0+00	25' W. L. Loggans	6.5	49.0
+50		5.3	50.2
1+00		4.7	50.8
+50		4.8	50.7
2+00		5.2	50.3
+50		5.5	50.0
3+00		5.5	50.0
+50		5.4	50.1
4+00		4.9	50.6
+50		4.0	51.5
5+00		3.5	52.0
+15	= E. HAYNES St.	3.4	52.1
+50		4.1	51.4
6+00		5.8	49.7
T.P.	0.45 50.40 ✓	5.57	49.95 ✓
+50		4.2	46.2
7+00		7.0	43.4
+50		8.7	41.7
8+00		10.5	39.9
+50		12.5	37.9
T.P.	1.50 39.61 ✓	12.29	38.11 ✓
9+00		3.2	36.4
+50		4.2	35.4
10+00		4.8	34.8
+50		4.9	34.7

34 T.P. mark on
 S. S. Alley next
 to spray house

Pacific Beach

39.61

10+95	E. Grashorn	4.9	34.7
11+00		4.8	34.8
+50		4.5	35.1
12+00		4.8	34.8
+50		5.0	34.6
13+00		5.5	34.1
+50		6.1	33.5
14+00		7.0	32.6
T.P.	0.17 33.38 ✓	6.40	33.21 ✓
+50		1.8	31.6
15+00		2.9	30.5
+50		3.6	29.8
16+00		4.5	28.9
+50		4.9	28.5
+75	E. Founell	5.0	28.4
17+00		5.3	28.1
+50		6.2	27.2
18+00		7.1	26.3
+50		7.7	25.7
19+00		8.2	25.2
+50		8.9	24.5
20+00		9.4	24.0
T.P.	3.54 22.28 ✓	8.64	24.74 ✓
+50		4.7	23.6
21+00		5.3	23.0

10
 10.725
 5.500
 3.125
 10.000

		28.28		
21+50		56	22.7	
22+00		55	22.8	
+55	B. Everts	50	23.3	
23+00		44	23.9	
+50		57	22.6	
24+00		6.3	22.0	
+30		6.9	21.4	
+50		8.7	19.6	
25+00		11.5	16.8	
+25		12.4	15.9	
TP	1.94	18.06	16.12	
+50		2.6	15.5	
26+00		3.8	14.3	
+50		4.5	13.6	
27+00		4.3	13.8	
+50		5.1	13.0	
28+00		5.2	12.9	
+17		4.8	13.3	
+20		5.7	12.4	
+35	L. Jones	5.1	13.0	
+50		5.7	12.4	
29+00		6.5	11.6	
+50		6.0	12.1	
30+00		5.3	12.8	
+50		5.4	12.1	

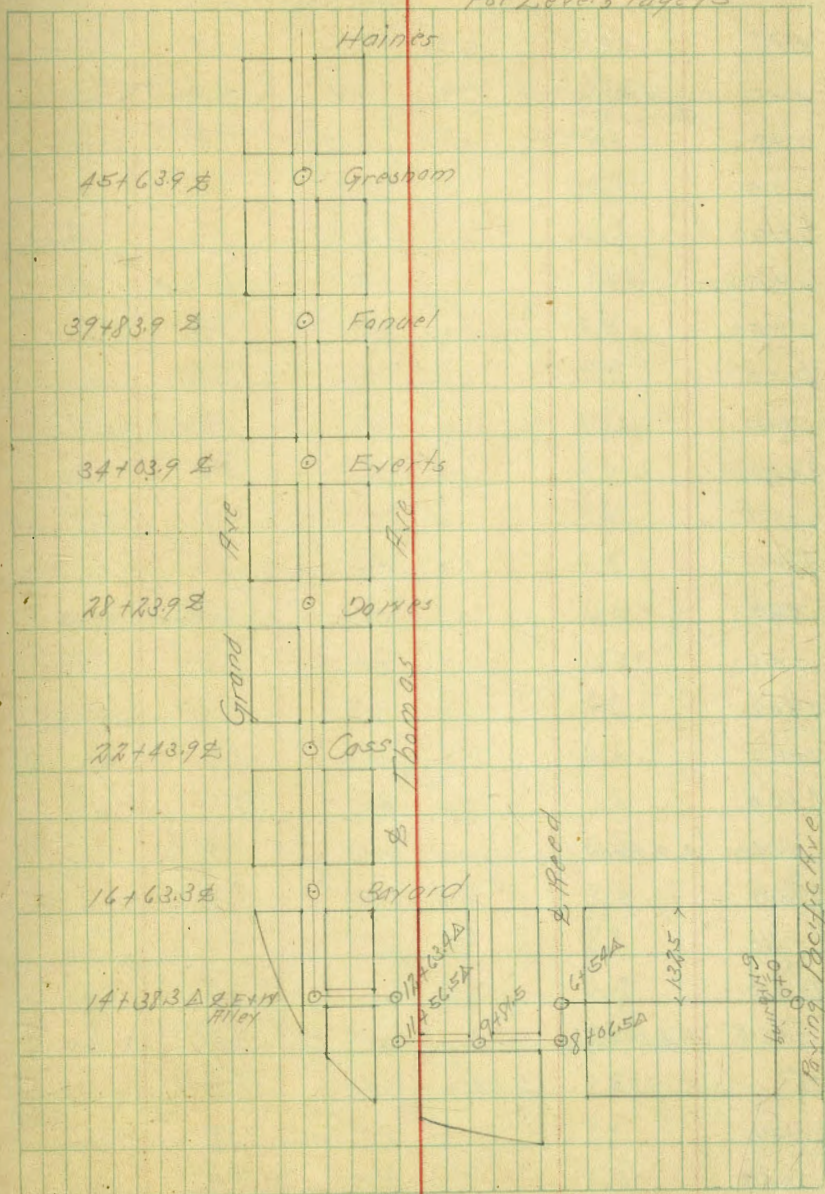
		18.06		
TP	3.14	16.42	4.98	13.22
31+00			3.8	12.6
+50			4.1	12.3
32+00			4.6	11.8
+50			4.9	11.5
33+00			5.3	11.1
+50			5.7	10.7
34+00			6.2	10.2
	L. Cass			
+17.5	Top B. 109		6.29	10.13
TP	2.35	13.18	5.59	10.23
35+00			3.5	9.7
+50			3.7	9.5
36+00			4.0	9.2
+50			4.3	8.9
37+00			4.8	8.4
+50			5.2	8.0
38+00			5.7	7.5
+50			6.2	7.0
39+00			6.7	6.5
+50			6.8	6.4
+80			7.8	5.4
+82			8.7	4.5
+97.0	L. Boyard		8.2	5.0
40+00			8.2	5.0
+17			8.9	4.3

2 Nails Pile
500 Coorsy 2/14

		13.18		
40+71			9.3	4.9
TP	0.09	4.80 [✓]	8.47	4.71 [✓]
+50			0.4	4.4
41+00			0.9	3.9
+75			1.4	3.4
+50			2.3	2.5
42+00			3.7	1.1
+50			5.2	-0.6
+65			5.7	-0.9
43+00			5.5	-0.7
+15			5.7	-0.9
+75			5.05	-0.25 [✓] on stop
TP	6.24	6.06 [✓]	4.98	-0.18 [✓]
BN			1.56	4.5

SFOR
Pacific

For Levels Page 15



Sewer Levels & Alley

Pacific Beach

Between Thomas & Grand

From Pacific N to 71st St. R59 Then East to Ingraham

See sketch Page 14

SE Cor
Pacific +
Grand

B.M.	1156	618 [✓]	468	
010 = S.N. Paving Pacific Ave			6.4	-0.2
+2			6.6	-0.4
+5			5.8	0.4
+50			6.0	0.2
1+00			5.7	0.5
+50			5.6	0.6
2+00			5.4	0.8
+50			5.3	0.9
3+00			5.2	1.0
+50			5.1	1.1
4+00			4.8	2.0
+30			5.0	1.2
+50			4.6	1.6
5+00			4.5	1.7
+50			4.3	1.9
6+00			4.5	1.7
+54.0 A & Reed			4.38	1.80
7+00			5.3	0.9
+50			6.0	0.2
8+00			6.6	-0.4
+06.5 A & N + S Alley			6.40	-0.2
TP	7.85	7.63 [✓]	6.40	-0.22 [✓]
+47			8.3	-0.7
+62			9.5	-1.9

on stub

7.63

9+00	9.3	-1.7	
+81.5 A & E + W Alley	7.78	-0.15	on stub
10+00	7.9	-0.3	
+50	7.8	-0.2	
11+00	7.4	0.2	
+56.5 A & T + Thomas	6.41	1.22	on stub
12+00	5.2	2.4	
+50	3.2	4.4	
+63.4 A & N + S Alley	3.10	4.63	on stub
13+00	3.6	4.0	
+50	3.0	4.6	
14+00	2.1	5.5	
+38.8 A & E + W Alley	1.00	6.6	on stub
TP	6.47	13.10 [✓]	1.00
+50	6.5	6.6	
15+00	6.5	6.6	
+50	5.9	7.2	
+62	6.3	6.8	
16+00	5.5	7.6	
+30	4.8	8.3	
+45	5.2	7.9	
+50	6.0	7.1	
+63.32 BAYVIEW	5.3	7.8	
+23	5.7	7.4	
+93	4.9	8.2	

		13.10			
17+00			49	8.2	
+50			46	8.5	
18+00			42	8.9	
+50			38	9.3	
19+00			28	10.3	
+50			23	10.8	
20+00			16	11.5	
+50			0.8	12.3	
T.P.	5.71	18.26	0.55	12.55	
21+00			51	13.2	
+50			49	13.4	
22+00			49	13.4	
+439	Cass		426	14.00	Top Rivin
+60			51	13.2	
+62			40	14.3	
T.P.	8.14	22.46	2.94	15.32	3107.5 East 100' E Cass N side 1164
23+00			91	14.4	
+50			89	14.6	
24+00			84	15.1	
+50			77	15.8	
25+00			70	16.5	
+50			65	17.0	
26+00			64	17.1	
+50			61	17.4	
27+00			56	17.9	

		23.46			
27+50			49	18.6	
28+00			43	19.2	
+66			44	19.1	
+72			47	18.8	
+739	Cass		34	20.1	
+43			40	19.5	
+46			34	20.1	
29+00			36	19.9	
+50			40	19.5	
30+00			42	19.3	
+50			36	19.9	
31+00			34	20.1	
+50			30	20.5	
32+00			15	22.0	
T.P.	12.63	34.23	1.36	22.10	
+50			11.5	23.2	
33+00			82	26.5	
+50			63	28.4	
34+039	C. Events		51	29.6	
+10			46	30.1	
+15			37	31.0	
+50			33	31.4	
35+00			33	31.4	
+50			28	31.9	
36+00			27	32.0	

10.23.25
5.5.27
No. 10.23.25
5.5.27
5.5.27
5.5.27

3473

36+50			29	31.8
37+00			36	31.1
+50			48	29.9
38+00			51	29.6
+50			50	29.7
39+00			46	30.1
TP	11.05	41.68 ✓	410	30.63 ✓
+50			10.9	30.8
+83.9	E. Fanoel		105	31.2
40+00			10.0	31.7
+50			9.5	32.2
41+00			8.7	33.0
+50			7.8	33.9
42+00			7.0	34.7
+50			6.1	35.6
43+00			5.0	36.7
+50			4.2	37.5
44+00			3.3	38.4
+50			2.6	39.1
45+00			2.3	39.4
+63.9	E. Giesbarn		18	39.9
46+00			15	40.2
+50			11	40.6
47+00			0.3	41.4
TP	12.96	54.45 ✓	0.15	41.53 ✓

54.45

47+50			18.0	42.5
48+00			10.2	44.3
+30			8.5	46.0
+50			8.0	46.5
49+00			6.4	48.1
+50			4.7	49.8
50+00			3.4	51.1
+50			1.8	52.7
TP	11.27	64.72 ✓	1.00	53.45 ✓
51+00			9.6	55.1
+25			8.0	56.7
+44	E. Hains		7.3	57.4
+75			6.9	57.8
52+00			6.6	58.1
+50			5.8	58.9
53+00			5.4	59.3
+50			4.5	60.2
54+00			4.1	60.6
+50			4.0	60.7
55+00			3.9	60.8
+25			4.2	60.5
+50			5.2	59.5
56+00			6.5	58.2
+59	= 25' 11" 100'		9.6	55.1
	Giesbarn			

21 Some Levels B 9/10
 Between Grand And Hornblend
 From 25' W Line In Graham to 25' N S Hill in Allison
 Pacific Beach

TP	11.01	65.30 ✓	10.43	54.77 ✓
0+0	25' W Line In Graham		8.5	62.8
+50			1.5	63.8
T.P.	2.69	67.4% ✓	0.57	64.73 ✓
+100			2.3	65.1
+10			2.0	65.4
+50			2.3	65.1
2+00			3.8	63.6
+50			5.5	61.9
3+00			7.8	59.6
+20			8.7	58.7
+50			8.8	58.6
4+00			8.8	58.6
+50			8.5	58.9
5+00			7.8	59.6
+10			8.0	59.4
+15	£ Haines		7.3	60.1
+50			7.6	59.8
6+00			7.7	59.7
+50			9.0	58.4
7+00			10.2	57(57.2)
TP	0.27	57.90 ✓	9.79	57.63 ✓
+50			2.7	59.2
8+00			4.9	53.0
+50			7.4	50.5

57.90

9+00		9.4	48.5
+50		10.5	47.4
10+00		11.5	46.4
+50		11.9	46.0
+9.5	£ Grubshaw	12.6	45.3
11+00		12.6	45.3
TP	2.02	45.36 ✓	45.34 ✓
+50		1.4	44.0
12+00		2.5	42.9
+50		3.2	42.2
13+00		3.9	41.6
+50		4.5	40.9
14+00		5.1	40.3
+50		6.0	39.4
15+00		6.1	39.3
+50		6.8	38.6
16+00		6.6	38.8
+50		6.6	38.8
+50		6.4	39.0
+60		5.9	39.5
+7.5	£ Farciel	5.9	39.6
17+00		6.1	39.3
+50		6.0	39.4
18+00		6.3	39.1
+50		6.4	39.0

45.36

19+00			7.0	38.4
TP	0.93	39.60 ✓	6.69	38.67 ✓
+50			1.9	37.7
20+00			2.6	37.8
+50			3.7	35.9
21+00			4.6	35.0
+50			5.4	34.2
22+00			6.6	33.0
+55	2 Everts		8.3	31.3
23+00			9.5	30.1
+50			10.8	28.8
24+00			11.7	28.4
+50			11.4	28.2
25+00			11.6	28.0
+50			12.7	27.4
TP	0.19	28.17 ✓	11.62	27.78 ✓
26+00			11	27.1
+50			1.9	26.3
27+00			2.5	25.7
+50			3.3	24.9
28+00			4.0	24.2
+10			4.1	24.1
+13			4.6	23.6
735	2 Dames		4.4	23.8
+50			5.1	23.1
+54			4.7	23.5

28.17

29+00			5.7	23.0
+50			5.8	22.4
30+00			6.5	21.7
+50			7.0	21.2
31+00			7.7	21.0
+50			7.3	20.9
32+00			7.6	20.6
+50			8.0	20.2
33+00			8.5	19.7
TP	7.59	27.73 ✓	8.03	20.14 ✓
TP	6.71	31.99 ✓	8.45	25.28 ✓
BM			3.53	28.46 ✓
TP	2.34	22.54 ✓		20.22 ✓
+50			3.0	19.6
34+00			3.5	19.1
+1% @ 55			3.52	19.04
+3.5			4.7	17.8
+40			3.5	19.0
+50			3.4	19.1
35+00			3.7	18.8
+50			4.5	18.0
36+00			5.1	17.4
+50			5.8	16.7
+75			5.0	17.5
+95			5.9	16.6

BPNE
Gorndt Kass
7/5/51

Corrected up

Top Point

2256

37+00		59	16.6
+50		62	16.3
38+00		67	15.8
+50		73	15.3
39+00		74	15.2
+50		77	14.9
+70		79	14.7
+74		84	14.2
+87		81	14.5
+92 <i>z</i> Boyard		83	14.3
40+00		87	13.9
TP	204	844	14.12 ✓
+8		20	14.2
+50		22	14.0
41+00		27	13.5
+50		28	13.4
42		34	12.8
+50		40	12.2
43+00		46	11.6
+50		48	11.4
44+00		54	10.8
+3		76	8.6
+6		78	8.9
+14		57	10.5
+50		69	9.3

1616 ✓

1616

+70		85	7.7
45+00		86	7.6
+25		90	7.2
+50		76	8.6
+72 <i>z</i> Allison		82	8.0
+74		84	7.8
+75		94	6.9
+78.0 <i>Top Rail</i> <i>Elkhart RR.</i>		836	7.80
+97		96	6.6
+90		77	8.5
46+00		79	8.3
+50		79	8.3
47+00		74	8.8
+50		67	9.5
+72 <i>z</i> N+S Alley		69	9.3
TP	1831	686	9.30 <i>on steps</i>

27 Section Levels of Mill
 Between Hornblow & Garden
 From N. S. Alley West of Allison to 75th St. on Logcham
 18.31

0+0	S. N. S. Alley West of Allison	5.00	13.3	009 Feb
+35		5.0	13.3	
+46		4.4	13.9	
+50		5.8	13.1	
1+00		5.5	12.8	
+50		5.8	12.5	
+77		6.0	12.3	
+85		7.5	10.8	
+94	Top East Rail Electric RR	6.36	11.95	
+98		7.5	10.8	
2+00	E. Allison	5.2	13.1	
+50		7.3	11.0	
+55		6.6	11.7	
3+00		6.6	11.7	
+50		6.5	11.8	
4+00		5.2	13.1	
TP	877	2218 ✓	9.90	13.41 ✓
+50		7.4	14.8	
5+00		6.3	15.9	
+50		6.0	16.2	
+85		5.0	17.2	
6+00		5.4	16.8	
+50		4.9	17.3	
7+00		4.0	18.2	
+50		3.7	18.5	

22.18

+65		3.3	18.9	
+75		3.7	18.5	
+80	E. Bayard	3.3	18.9	
+85		3.0	19.2	
+98		3.2	19.0	
8+00		3.4	18.8	
+10		2.5	19.7	
+50		2.5	19.7	
9+00		2.0	20.2	
+50		1.8	20.9	
10+00		0.9	21.3	
TP	877	30.01 ✓	0.45	21.23 ✓
+50		2.3	21.7	
11+00		2.4	22.6	
+50		2.2	22.8	
12+00		6.6	23.4	
+50		6.2	23.8	
13+00		5.3	24.7	
+80		5.1	24.9	
+40		5.9	24.1	
+50		5.4	24.6	
+60	E. Cass	5.33	24.68	Top of 100
+70		4.9	25.1	
+75		6.5	23.5	
+80		6.6	23.4	

100
7

3001

13+80			5.0	25.0
14+00			4.7	25.1
+50			4.6	25.4
15+00			4.3	25.7
+50			4.0	26.0
16+00			3.8	26.2
+50			3.4	26.6
17+00			3.6	26.4
+50			3.3	26.7
18+00			2.9	27.1
TP	10.57	37.95	2.63	27.38
+50			10.1	27.9
19+00			9.4	28.6
+20			9.0	29.0
+26			9.4	28.6
+40	2 Dams		8.7	29.3
+50			8.7	29.3
+60			9.1	28.9
+70			8.5	29.5
20+00			8.3	29.7
+50			7.4	30.6
21+00			6.8	31.2
+50			6.5	31.5
22+00			5.9	32.1
+50			5.2	32.8

3795

23+00			4.9	33.1
+50			4.5	33.5
24+00			4.0	34.0
+50			3.1	34.9
25+00			1.5	36.5
+20 & Events			1.4	36.6
+50			1.1	36.9
26+00			0.4	37.6
TP	8.49	44.99	1.45	36.50
+50			1.4	38.6
27+00			5.7	39.3
+50			5.2	39.8
28+00			4.7	40.3
+50			4.5	40.5
29+00			4.0	41.0
+50			3.3	41.7
30+00			2.1	42.9
+50			1.1	43.4
31+00 & Fodder			1.1	43.9
+50			0.4	44.6
TP	7.71	52.35	0.55	44.44
32+00			7.0	45.4
+50			6.6	45.8
33+00			6.7	46.2
+50			5.8	46.6

No. 11 Mile
N.H. Everts
+ 27.164
1-12-25

52.25

34+00			5.6	46.8
+50			5.6	46.8
35+00			5.3	47.1
+50			4.9	47.5
+85			4.5	47.9
36+00			4.1	48.3
+50			2.4	50.0
+80	to Gresham		2.0	50.4
37+00			1.6	50.8
+50			0.7	51.7
TP	12.75	64.29 ✓	0.81	51.54 ✓
38+00			11.6	52.7
+50			10.3	54.0
39+00			8.5	55.8
+50			6.3	58.0
40+00			4.2	60.1
+50			2.0	62.3
41+00			0.4	63.9
TP	7.51	70.64 ✓	1.16	63.13 ✓
+50			5.0	65.6
42+00			4.1	66.5
+40			4.0	66.6
+60	to Haines		4.6	66.0
43+00			4.6	66.0
+50			5.1	65.5

70.64

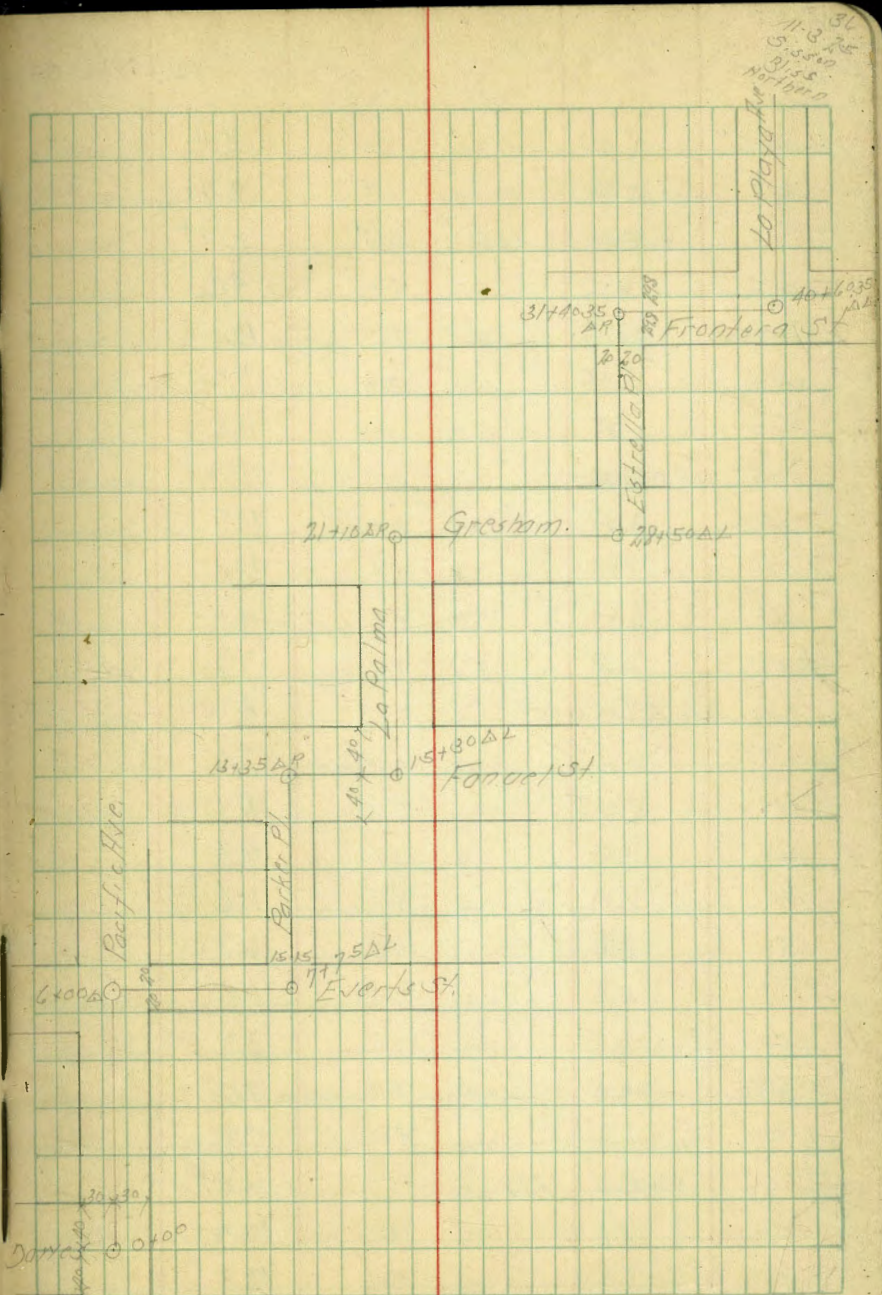
44+00			5.9	64.7
+50			6.0	64.6
45+00			6.6	64.8
+50			7.1	63.5
46+00			7.8	62.8
+50			8.7	61.9
47+00			8.9	61.7
TP	5.47	69.13 ✓	8.98	61.66 ✓
+50			5.7	61.4
+75	to 25th St. to Gresham		5.8	61.3
48+00			3.91	63.22 ✓
				5th St. to Gresham

This page is a ledger-style sheet with horizontal green lines and four vertical red lines. The red lines are positioned at approximately 10%, 20%, 30%, and 40% of the page width from the left edge, creating five columns of varying widths. The page is otherwise blank.

This page is a ledger-style sheet with horizontal green lines and a single vertical red line at approximately 10% of the page width from the left edge. The right portion of the page is filled with a grid of green lines, forming a table with 15 columns and 25 rows. The page is otherwise blank.

35 Section Levels & Pacific-Everts-Parker Pl. Fancel
 La Palma - Gresham - Estrella - Frontera See 1130-45

B.M	4.45	3.04 ✓	Pacific Beach	-1.39	Pacific Coast Toothaker Beach
0+00	2 Pacific Dunes		4.20	-1.14	on stub
TP	9.03	7.76 ✓	4.33	-1.27 ✓	
+50			9.0	-1.2	
1+00			9.0	-1.2	
+50			8.2	-0.4	
2+00			7.9	-0.1	
+50			6.7	1.1	
3+00			5.3	2.5	
+50			4.4	3.4	
4+00			3.5	4.3	
+50			2.3	5.5	
5+00			1.1	6.7	
TP	26.4	10.27 ✓	0.05	7.71 ✓	
+50			2.5	7.9	
6+00	Δ Pt. Everts on Se.		1.31	9.06	on stub
+50			2.5	7.9	
7+00			3.9	6.5	
+50			4.9	5.5	
+7.5	Δ L. & Parker		5.67	4.70	on stub
8+00			5.5	4.9	
+50			4.8	5.6	
9+00			4.4	6.0	
+50			3.7	6.7	
10+00			3.0	7.4	



		1037		
10+50			20	8.4
11+00			17	8.7
TP	427	1346	118	9.19 ✓
+50			39	9.6
12+00			28	10.7
+50			23	11.2
13+00			19	11.6
+35	Δ P B Food		166	11.80 on stub
+50			20	11.5
14+00			34	10.1
+50			44	9.1
15+00			58	7.7
+30	Δ L 2. Lo P. 1000		662	6.84 on stub
+50			65	7.0
16+00			66	6.9
+50			66	6.9
17+00			67	6.8
+50			68	6.7
18+00			66	6.9
+50			62	7.3
+65			59	7.6
19+00			36	9.9
TP	1260	2291 ✓	215	10.31 ✓
+50			107	12.2
+70			100	12.9

		2291		
20+00			72	15.7
+50			37	14.2
+70			26	20.3
21+00			15	21.4
+10	Δ P 2. Graham		131	21.60 on stub
+50			16	21.3
22+00			23	20.6
+50			29	20.0
23+00			38	19.1
+50			48	18.1
24+00			52	17.1
+50			69	16.0
25+00			81	14.8
TP	0.71	1549 ✓	813	12.78 ✓
+50			17	13.7
26+00			31	12.4
+50			47	10.8
27+00			60	9.5
+50			72	8.2
28+00			83	7.2
+50	Δ L 2. Estidlo P.		940	6.09 on stub
29+00			94	6.1
+50			93	6.2
30+00			88	6.7
+50			77	7.8

		15.49		
31+00			6.3	9.2
+40.35	AP E Frontera		2.6	10.83 on stub
+50			4.9	10.6
32+00			5.8	9.7
+50			6.7	8.8
33+00			6.6	8.9
TP	11.02	20.29 ✓	6.22	9.27 ✓
+20			10.8	9.5
+50			8.5	11.8
34+00			8.4	11.9
+50			4.6	15.7
35+00			1.0	14.3
TP	7.15	26.74 ✓	0.70	19.59 ✓
+50			4.6	22.1
36+00			3.4	23.3
+50			3.1	23.6
37+00			3.5	23.2
+50			3.9	22.8
38+00			4.7	22.0
+50			5.2	21.5
39+00			5.9	20.8
+50			6.5	20.2
40+00			7.1	19.6
+63.3	AL E La Playa		7.63	19.11 ✓ on stub
TP	6.20	25.79 ✓		19.59 ✓

		25.79		
41+00			5.8	20.0
+50			4.7	21.1
42+00	E N+S Alley Between Haines + Frontera		3.15	22.64 on stub
+50			1.5	24.3
TP	9.13	32.90 ✓	1.02	24.27 ✓
43+00			6.1	26.8
+50			4.1	28.8
44+00			2.5	30.4
+50			1.8	31.1
+90	E N+S Alley Between Haines + Promontory		1.90	31.00 on stub
45+00			1.8	31.1
+50			1.8	30.1
46+00			4.8	28.1
+50			7.0	25.9
47+00			9.3	23.6
+50			9.9	23.0
+80	E N+S Alley between Promontory + Ingraham		9.56	23.34 on stub
48+00			9.1	23.8
+50			8.5	24.4
+80			8.0	24.9
49+00			6.6	26.3
+50			7.0	25.9
50+00			7.1	25.8
TP	3.20	29.47 ✓	6.63	25.27 ✓
+50			8.4	26.1

29.47

50+70	2 N+S Alley Between Ingotman + Yosemite	3.45	26.02	on Stob
51+00		3.7	25.8	
+50		3.7	25.8	
52+00		4.2	25.3	
+50		4.7	24.8	
53+00		5.0	24.5	
+60	N+S Alley between Yosemite + Jewell	5.16	24.31	on Stob
54		5.1	24.4	
+50		5.1	24.4	
55		5.3	24.2	
+05	2 Jewell	6.03	23.44	on Map
+50		5.3	24.2	
56		4.1	25.4	
+50	2 N+S Alley	2.9	26.6	
57		2.0	27.5	
+50		1.1	28.4	
+95	2 Shasta	0.8	28.7	
TP	3.17	31.41	28.24	
58+0		2.7	28.7	
+50		3.1	28.3	
59+0		3.6	27.8	
+50		4.4	27.0	
60+00		5.8	25.6	
+50		6.6	24.8	
+85	2 Kendall	6.9	24.5	
TP	NE Top Curb La Playa + Kendall	6.72	24.69	
		6.53	24.88	

43 Sewer Levels & Alley
Between Sexell And Yosemite
From 52° 50' N La Playa to 75° 50' S Pacific

	7.19	31.50	24.31	on stab 58+60 2/60 Pa
0+0		5.9	25.6	
1+00		5.6	25.9	
+50		5.5	26.0	
2+00		5.2	26.3	
+50		5.0	26.5	
3+00		4.5	27.0	
+50		4.6	26.9	
4+00		5.0	26.5	
+50		6.0	25.5	
5+00		7.2	24.3	
+25	La Playa - 82+60	7.19	24.31	on stab
+40		7.6	23.9	
+50		6.4	25.1	
6+00		9.5	22.0	
+50		10.0	21.5	
7+00		10.3	21.2	
+50		9.9	21.6	
8+00		9.6	21.9	
TP	8.84	31.62	22.28	
+50		9.2	22.4	
9+00		8.6	23.0	
+50		8.2	23.4	
10+00		7.6	24.0	
+50		6.6	25.0	

31.62

11+00		5.6	26.0	
+50		4.6	27.6	
12+00 & Roosevelt		3.9	27.7	
+50		5.5	28.1	
12+00		3.1	28.2	
+50		3.7	28.4	
14+00		3.1	28.5	
+50		3.0	28.6	
15+00		2.6	29.0	
TP	11.74	41.44	19.72	29.90
+50		11.7	29.7	on top sta 15+00 11.9.75
16+00		11.0	30.4	
+50		10.3	31.1	
17+00		9.1	32.3	
+50		8.0	33.4	
18+00		7.0	34.4	
+50		5.7	35.7	
+25 & Sunset		5.3	36.1	
19+00		4.2	37.2	
+50		3.3	38.2	
20+00		2.1	39.3	
+50		1.5	39.9	
21+00		0.8	40.6	
TP	8.02	49.22	0.29	41.15
+50		8.1	41.1	

49.23

22+00	7.3	41.9
+50	7.4	41.8
23+00	7.0	42.2
+50	6.7	42.5
24+00	6.3	42.9
+12.5 DE = 25' S. Pacific	6.3	42.9

Center Levels & Alley
 between Yosemite & Inyo
 From 25' S. Pacific to 25' S. & La Playa
 49.23

24+25 DE	5.3	43.9
24+00	5.4	43.8
+50	5.6	43.6
23+00	5.1	44.1
+50	4.5	44.7
22+00	4.1	45.1
+50	4.5	45.2
21+00	4.8	45.0
+50	4.5	44.7
20+00	5.3	43.9
+50	6.0	43.2
19+00	7.0	42.2
+7.5 @ Sunset	7.5	41.7
+50	7.7	41.5
18+00	7.7	41.5
+50	9.0	40.2
17+00	9.6	39.6
T.P. 0.51 10.87 ✓	8.87	40.36 ✓
+50	7.6	38.3
16+00	8.7	37.2
+50	9.5	36.4
15+00	5.5	35.4
+50	5.9	35.0
14+00	6.8	34.1
+50	7.5	33.4

40.87

13+00			7.9	33.0
+50			8.3	32.6
12+00			9.1	31.8
+50			9.6	31.3
11+00			10.2	30.7
+50			10.9	30.0
10+00	A. Roosevelt		11.4	29.5
TP	286	33.00 ✓	10.73	30.14 ✓
+50			3.7	29.3
9+00			3.8	29.2
+50			4.0	29.0
8+00			4.3	28.7
+50			4.5	28.5
7+00			4.6	28.4
+50			4.5	28.5
6+00			4.4	28.6
+70			3.9	29.1
+65			6.8	26.2
+50			7.3	25.7
125	2 1/2 Pk 10		7.03	25.77 ✓
-50+70				26.02
5+0			7.1	25.9
+50			5.8	27.2
4+00			6.6	26.4
+50			7.4	25.6
3+00			7.6	25.4

33.00

2+50	7.2	25.8
2+00	6.0	27.0
+50	4.3	28.7
1+00	3.3	29.7
+50	2.5	30.5
0+00 DE	2.1	30.9

49

Seiver Levels 2 H/101

Between Promontory + Ingra ham

From 525 S. to La Playa to 2.5 S. Pacific

B.M.	8.37	31.71 ✓	20.34	on stab 471802 La P.
0+00			20.8	
+50			20.0	
1+00			29.3	
+50			28.7	
2+00			27.7	
+50			26.4	
3+00			25.1	
+50			24.3	
4+00			23.6	
+50			23.1	
+75			23.3	
+75			24.4	
5+00			23.9	
+75			23.34	on stab
+50			23.5	
+60			23.9	
+75			22.7	
6+00			22.9	
+50			23.6	
7+00			24.2	
+50			25.1	
8+00			26.4	
+50			27.7	
9+00			28.7	
T.P.	12.80	41.78 ✓	28.98 ✓	on top of 9

50
11-10-25

		41.78		
9+50			12.1	29.7
10+00			10.8	31.0
+50			9.5	32.3
11+00			8.1	33.7
+50			6.3	35.5
12+00			4.6	37.2
+50			2.4	39.4
13+00			0.7	41.1
T.P.	9.93	51.77 ✓	0.44	41.34 ✓
+50			8.6	42.7
14+00			9.6	43.7
+50			6.6	44.7
15+00			6.0	45.3
+50			5.5	45.8
16+00			5.3	46.0
+50			4.4	46.9
17+00			4.2	47.1
+50			3.9	47.4
18+00			3.5	47.8
+50			2.8	48.5
+7.52 S. to 2nd			2.7	48.4
19+00			3.2	48.1
+50			4.0	47.3
20+00			4.8	46.5
+50			6.8	44.5
T.P.	9.43	54.31 ✓	6.89	44.88 ✓

on top of 13.0

on top of 20.0

5431

21+00	11.0	43.3
+50	11.2	43.1
22+00	10.9	43.4
+50	10.4	43.9
23+00	10.2	44.1
+50	10.0	44.3
24+00	9.5	44.8
1/2 DE = 25' So SL Pacific	9.4	44.9

Sever Levels & Allev
Between Promontory + Haines
From 52.5' So. S. Lapland to 25' So. SL Pacific

5431

24+75 DE = 25' So SL Pacific	0.8	53.5
24+00	1.2	53.1
+50	4.7	50.1
23+00	6.2	48.1
+50	7.7	46.6
22+00	8.5	45.8
+50	9.2	45.1
21+00	9.4	44.9
+50	9.9	44.4
20+00	10.2	44.1
IF	4.98	49.88 ✓
+50	5.5	43.8
19+00	6.1	43.2
+75 & Sarsed	6.2	43.1
+50	5.9	43.4
18+00	4.7	44.6
+50	4.2	45.1
17+00	4.2	45.1
+50	4.6	44.7
16+00	5.1	44.2
+50	5.6	43.7
15+00	6.0	43.3
+50	6.9	42.6
14+00	7.4	41.9

		49.29		41.4	
13+50			79	41.4	
13+00			85	40.8	
TP	0.14	41.46 ✓	797	41.32 ✓	
+50			1.3	40.2	
12+00	E. Roosevelt		18	39.7	
+50			28	38.7	
11+00			35	38.0	
+50			43	37.2	
10+00			50	36.5	
+50			6.0	35.5	
9+00			68	34.7	
+50			73	34.2	
8+00			77	33.8	
+50			81	33.4	
7+00			87	32.8	
+50			92	32.3	
6+00			97	31.8	
TP	3.76	36.11 ✓	9.11	32.35 ✓	on top Sta 6+0
+50			48	31.3	
+25	E. La Playa = 44+90		518	30.93	on stub 31.00
5+00			52	30.9	
+50			52	30.9	
4+00			53	30.8	
+50			51	31.0	
3+00			51	31.0	

		36.11			
2+50			48	31.3	
2+00			4.4	31.7	
+50			3.0	32.2	
1+20			28	33.3	
+50			1.3	34.8	
0+00	= 5251.5, 54 La Playa		0.0	36.1	

Sewer Levels & Allev

Between Maines & Fronters

From 28° S & La Playa to 35° S & Pacific

36.11

0+00	52° S & La Playa	13.0	23.1	
+50		14.0	22.1	
1+00		14.9	21.2	
+50		14.8	21.3	
2+00		14.8	21.3	
+50		14.7	21.4	
3+00		14.6	21.5	
+50		13.8	22.3	
4+00		13.8	22.3	
+50		13.8	22.3	
5+00		13.7	22.4	
TP	10.94	33.69 ✓	13.25	22.86 ✓
+75	8 La Playa		11.00	22.6
+50	-48+00		10.6	23.0
6+00			9.9	23.7
+50			9.2	24.4
7+00			8.5	25.1
+50			7.8	25.8
8+00			6.9	26.7
+50			6.0	27.6
9+00			5.0	28.6
+50			3.7	29.9
10+00			2.7	30.9
+50			1.6	32.0
11+00			1.6	32.0

on steps
27.6

11.13.25

33.10

11+50			2.0	31.6
TP	0.98	32.95 ✓	1.63	31.97 ✓
12+00	8. Prosserwell		3.0	30.0
+50			5.8	29.2
13+00			9.4	23.6
+50			11.5	21.5
14+00			10.5	20.5
+50			12.0	20.2
15+00			12.9	20.1
+50			12.5	20.5
16+00			11.7	21.8
TP	10.90	33.42 ✓	10.37	22.59 ✓
+50			10.0	23.5
17+00			8.2	25.3
+50			6.4	27.1
18+00			4.9	28.6
+50			3.3	30.2
+75	8. Sarsset		2.6	30.9
19+00			2.0	31.5
+50			0.8	32.7
TP	11.66	33.56 ✓	1.58	31.90 ✓
20+00			10.0	33.6
+50			8.9	34.7
21+00			7.5	36.1
+50			5.8	37.8

4356

22+00	42	39.4
+50	29	40.9
23+00	15	42.1
+50	12	42.4
24+00	14	42.2
+125 DE	16	42.0
TP	846	3510

Top of Stake
3510 846-5

Sewer Levels & Front of Street
From & Estrella Place to 100'S S Pacific Ave. on West

TP	1318	24.01	10.89	on stake 91+40.5 1997
0+0 = & Front of Estrella Place	1318		10.83	
= 31+40.35				
+50		17.1	11.9	
1+00		10.8	13.2	
+50		9.4	14.6	
2+00		7.8	16.2	
+50		5.9	18.1	
3+00		4.3	19.7	
+50		3.9	21.2	
4+00		1.6	22.4	
TP	1815	35.32	23.17	on top of 10
+50		11.7	23.6	
5+00		10.9	24.4	
+50		10.0	25.3	
6+00		8.8	26.5	
+50		7.9	27.4	
7+00		7.0	28.3	
+50		5.9	29.4	
8+00		5.3	30.0	
+50		4.7	30.6	
9+00		4.4	30.9	
+50		4.2	31.1	
+80 = 100'S S Pacific on West		4.3	31.0	
TP		019	35.13	Top of Stake 91+40.5 3510 1997 59

59 *Saver Levels & Frontier St*
From B. Frontier & La Playa

1/16/85

	3.82	22.93 ✓	19.11
0+0	3.82		19.11
+50	4.3		18.6
1+00	4.5		18.4
+50	4.6		18.3
2+00	4.7		18.2
+50	5.3		17.6
3+00	5.4		17.5
+50	5.7		17.2
4+00	6.0		16.9
+50	6.2		16.7
5+00	6.3		16.6
+25	5.8		17.1

on stab 2110
 2 La Playa & Frontier

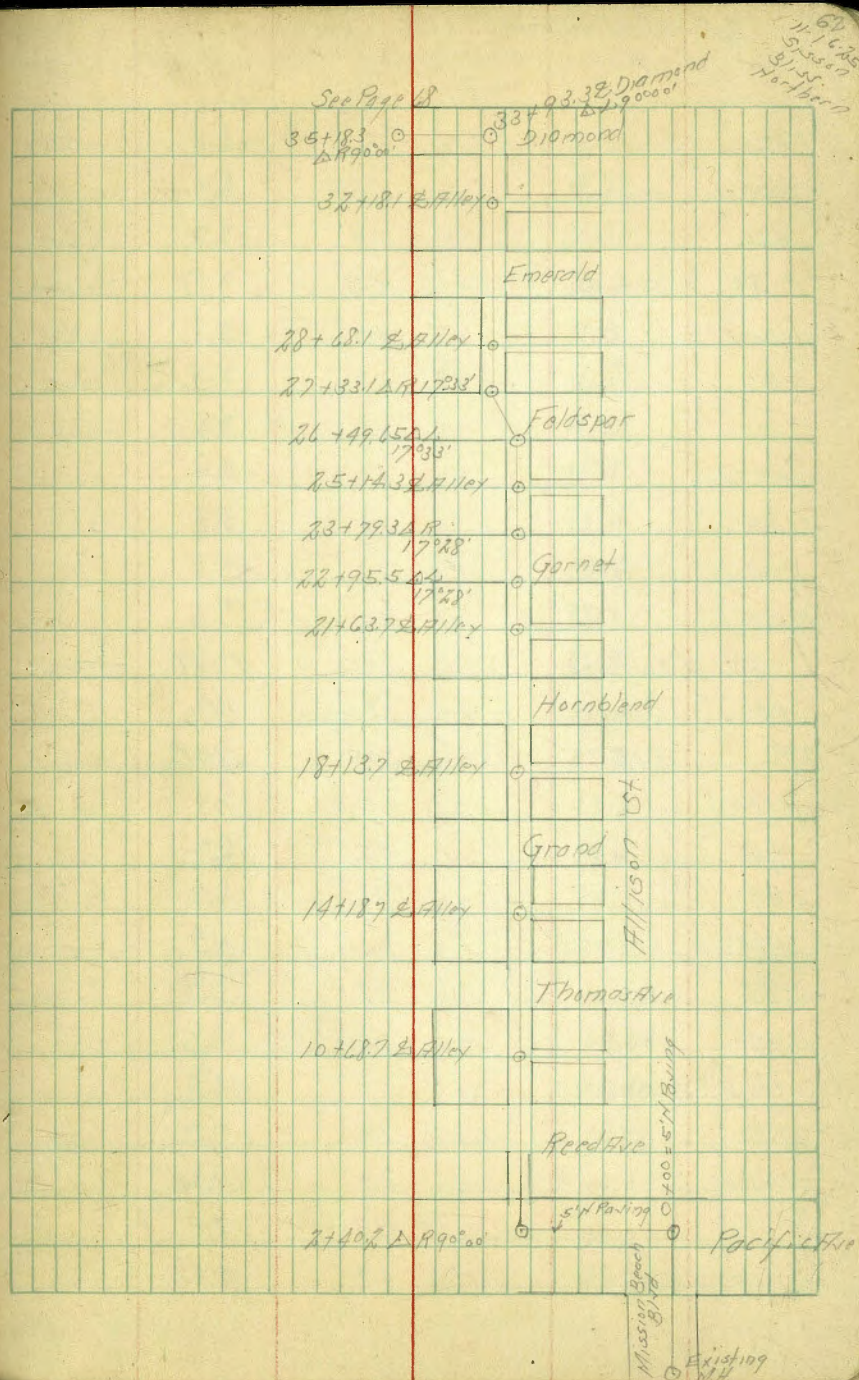
60 *Saver Levels & Gresham*

	4.41	26.01	21.60
0+0 = B. Gresham	4.41		21.6
+50	4.6		21.4
1+00	4.9		21.1
+50	5.4		20.6
2+00	5.3		20.7
+50	4.9		21.1
3+00	4.7		21.3
+10 = S. Pacific	4.3		21.7

on stab 2110
 2 La Playa & Gresham

61 Server Levels & Alley West Allison
From Pacific Ave. to Wilbur.

BM	0.78	4.90 ✓	4.62	SE Top of Chl Pacific Blvd
TP	8.55	6.71 ✓	6.74	-1.84 ✓
0+00	5th Paying Pacific Ave and Mission Street Blvd.		8.55	-1.84 on Stab
+2.5	Tap Effort LSD Elec RR		7.85	-1.14
+47			83	-1.59
+750			91	-2.4
1+00			95	-2.8
+150			90	-2.3
2+00			7.5	-0.8
+40.2	L.S. Alley of Allison		6.14	0.6 on Stab
+50			6.2	0.5
3+00			5.3	1.4
+50			4.7	2.0
4+00			4.5	2.2
+50			3.9	2.8
5+00			4.1	2.1
+50			4.7	2.0
6+00			4.9	1.8
+50			4.7	2.0
7+00			4.2	2.5
+50			3.7	3.0
TP	3.83	7.59 ✓	7.85	3.76 ✓
8+00			4.6	3.0
+50			4.6	3.0
9+00			4.6	3.0



7.59

9.50			4.3	3.3	
10.00			4.5	3.1	
+50			4.4	3.2	
+68.7	E. H. Alley		4.42	3.17	on stub
11.00			4.5	3.1	
+50			4.7	2.9	
12.00			4.1	3.5	
+50			4.2	3.4	£
13.00			3.8	3.8	
+50			3.6	4.0	
14.00			3.9	4.6	
+18.7	E. H. Alley		3.92	4.67	on stub
+50			2.8	4.8	
TP	9.12	13.92	2.79	4.80	✓
15.00			8.5	5.4	
+50			7.7	6.2	
+80			7.6	6.3	
+85			9.8	4.7	
+90			7.7	6.2	
16.00			7.3	6.6	
+16.2	E. Grand		7.0	6.9	
+50			6.6	7.3	
17.00			6.3	7.6	
+50			5.5	8.4	
18.00			4.7	9.2	

13.92

18.00	13.92	E. H. Alley	4.6	9.3	
+50			4.2	9.7	
19.00			3.8	10.1	
+50			3.3	10.6	
+85			2.9	11.0	
+90			2.4	11.5	
20.00			2.7	11.2	
+50			2.0	11.9	
+82			1.5	12.4	
+92			0.7	13.2	
21.00			0.8	13.1	
+50			1.0	12.9	
TP	8.52	11.52	0.92	13.00	✓
+10.2	E. H. Alley		8.2	13.3	
22.00			7.8	13.7	
+50			7.1	14.4	
+85			6.4	15.1	
+95.5	A. P. 17.28		7.25	14.27	Tap Boring
+52	Garrett		9.27	14.25	" "
23.00			7.52	14.00	" "
+11	Gutter		6.42	15.10	" "
+40	E. Grand		6.50	14.96	" "
+67	Gutter		6.21	15.31	" "
+79.3	A. P. 17.28		5.5	16.0	" "
+52	Garrett		4.8	16.7	" "
24.00					
+50					

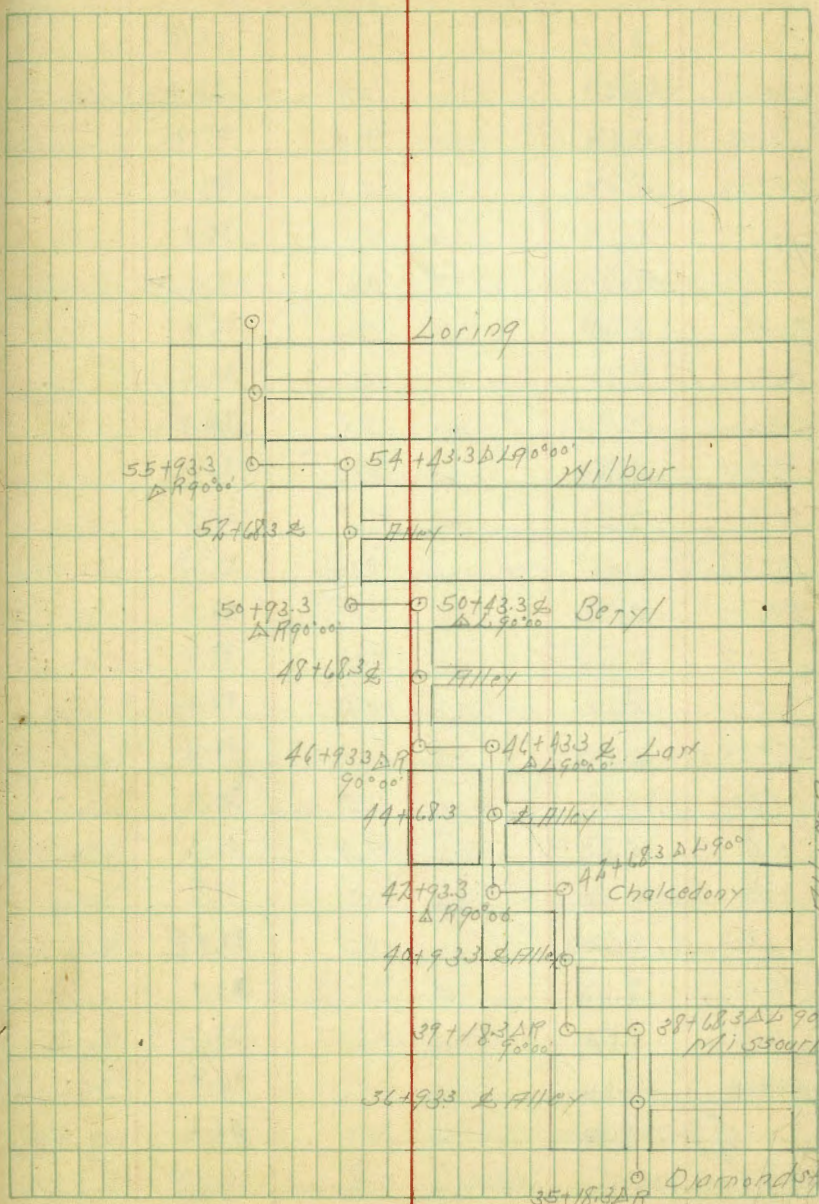
		21.52		
25+00			1.5	17.0
+14.3	E. W. Alley		4.30	17.22 ✓ on stub
+50			4.0	17.5
26+00			3.7	17.8
+49.65	A. L. 1733		2.62	18.90 on stub
+68			2.70	18.8
+90			1.2	20.3
27+00			1.6	19.9
+17			2.3	19.2
+26			1.2	20.3
+33.1	A. P. 1733		1.34	20.18 ✓
TP	10.66	30.84 ✓	1.34	20.18 ✓
+50			10.8	19.9
28+00			10.8	19.9
+50			10.3	20.5
+68.1	E. W. Alley		10.14	20.70
29+00			9.4	21.4
+50			8.4	22.4
30+00			7.5	23.3
+50			6.8	24.0
+83	Top Paving M. L. Emerald		5.64	25.20
31+00	Top Paving		5.42	25.42
+50			4.61	26.23
32+00			3.92	26.92
+18.1	E. W. Alley		3.69	27.15

30+50	Top Paving		3.08	27.76
33+00			2.27	28.57
+53.3	End S. L. Diamond		1.41	29.43
TP	9.96	39.39 ✓	1.41	29.43 ✓
+55			9.1	30.3
+70			8.1	31.3
+93.3	E. Diamond		7.67	31.72 on stub
34+00			7.6	31.8
+50			7.5	31.9
35+00			7.5	31.9
+18.3	A. P.		7.52	31.87
+50			7.1	32.3
36+00			6.4	33.0
+50			5.7	33.7
+92.3	E. W. Alley		5.04	34.35 on stub
37+00			5.0	34.4
+50			4.2	35.2
38+00			3.5	35.9
+50			2.7	36.7
+18.3	A. P. Missouri		2.15	36.94 ✓ on stub
39+00			2.8	36.6
+43.3	A. P. E. W. Alley		2.78	36.61 ✓ on stub
TP	0.77	30.70 ✓	9.96	29.43 ✓
TP	2.28	28.46 ✓	10.02	20.18 ✓
B/M			8.39	14.09 ✓ G. P. 11500 14.05

67 Senior Levels to Alley West Allison
From Pacific to Hilbur

TP	599	4293 ✓	3694	onstak
39+18.3	AR	633	36.60	onstak
+50		5.9	37.0	
40+00		5.2	37.7	
+50		4.2	38.7	
493.3	R FWH/Ally	313	39.90	onstak
41+00		3.0	39.9	
+50		2.2	40.7	
+62		3.0	39.9	
+67		5.1	37.8	
+75		3.6	39.3	
+80		5.8	37.1	
+90		4.4	38.5	
42+00		7.2	35.7	
+05		6.7	36.2	
+12		9.8	33.1	
+15		8.8	34.1	
+25		11.6	31.3	
+32		10.1	32.8	
+40		12.4	29.5	
+54		14.0	28.9	
+64		10.8	32.1	
+68.3	Al. & Chalcedony	10.91	32.02	onstak
+80		12.7	30.2	
+93.3	AP. & N. & Ally	12.14	30.77	onstak

68
11-18-25



4293

43+00		12.1	30.8	
+70		7.5	35.4	
+50		9.0	33.9	
44+00		8.3	34.6	
+50		6.8	36.1	
TP	6.72 L. F. W. Miller	42.97 ✓	36.35 ✓	on stub
45+00		6.0	36.8	
+50		7.3	35.5	
46+00		7.3	35.5	
+43.3	Al. G. Low	7.16	35.61	on stub
+50		7.8	35.0	
+93.3	ΔP L. H. S. Alley	9.80	32.97	on stub
47+00		9.8	33.0	
+57		9.1	33.7	
+70		10.6	32.2	
48+00		11.4	31.4	
+30		12.2	30.6	
+40		11.2	31.6	
+50		11.0	31.8	
+68.3	L. F. W. Miller	10.28	32.49	on stub
49+00		9.7	33.1	
+50		5.6	37.2	
50+00		3.4	39.4	
+43.3	Al. G. Beryl	12.0	41.6	on stub
TP	11.21	52.78 ✓	41.57 ✓	

5278

50+75		9.2	43.6	
+93.3	ΔP L. H. S. Alley	9.85	42.93	on stub
51+00		9.8	43.0	
+50		7.8	45.6	
52+00		5.1	47.7	
+3		5.1	47.7	
+18		7.2	45.6	
+20		7.4	45.4	
+68.3	L. F. W. Miller	6.46	48.32	on stub
53+00		3.8	49.0	
+77		2.4	50.4	
TP	7.23	60.55 ✓	52.62 ✓	
+40		5.4	55.2	
+50		5.4	55.2	
+75		6.8	53.8	
54+00		3.4	57.2	
+43.3	Al. G. Beryl	1.07	59.48	
+50		1.4	59.2	
+75		5.2	55.4	
+9.5		4.6	56.0	
55+00		5.1	55.5	
+15		8.5	52.1	
+47		11.5	49.1	
+50		14.0	46.6	
TP	0.73	48.99 ✓	48.76 ✓	
+93.3	ΔP L. H. S. Alley	1.57	44.4 ✓	
56+20		6.7	42.3	
+80		16.4	32.6	

71 Seyer Levels & Alley
Between Garnet and Feldspar
From S. Alley West Allison to 25 N N L Jaxell

BM	600	20.08 ✓	14.08	8 PSE Good Allison
2700 S. Alley Allison		286	17.22	
+8		3.2	16.9	
+11		2.3	17.8	
+50		2.3	17.8	
1400		2.8	17.3	
+50		3.8	16.3	
2100		4.2	15.9	
+7		4.3	15.8	
+9		4.9	15.2	
+14 Top N 9 Elac RR		3.9	16.14	
+23		4.6	15.5	
+25 S. Allison		3.4	16.7	
+50		4.4	15.7	
+93		5.0	15.1	
310		5.9	14.2	
+7		4.9	15.2	
+50		5.2	14.9	
4100		4.2	15.9	
+15		3.6	16.5	
+50		2.1	18.0	
5100		1.9	18.2	
+50		0.7	19.4	
TP	7.92	27.18 ✓	19.76 ✓	
6100		7.4	20.3	

72
11-1925

2718

6150		6.9	20.8	
7100		6.1	21.6	
+30		5.6	22.1	
+45		4.9	23.0	
8100		4.9	22.8	
+0.5 S. Bayard		4.8	22.9	
708		4.4	23.3	
718		4.4	23.3	
+20		4.7	23.0	
+25		3.5	24.2	
250		3.9	23.8	
9100		3.2	24.5	
+50		2.5	25.2	
10100		2.1	25.6	
+50		1.4	26.3	
11100		0.9	26.8	
TP	7.20	35.47 ✓	27.62 ✓	on Top 36140
+50		8.0	27.4	
12100		7.4	27.8	
+50		7.0	28.4	
13100		6.7	28.7	
+36		6.6	28.8	
+158 N L Case Top Riv		5.80	29.62	
+54		6.22	29.40	
+85 S. Case		5.08	30.34	

		35.42			
14.11	Top Paving		5.53	29.89	
+25	ELCOS		4.86	30.56	
+50			5.0	36.4	
15+00			4.5	30.9	
+50			3.7	31.7	
16+00			3.2	32.2	
+50			3.4	32.0	
17+00			3.0	32.4	
+50			2.5	32.9	
18+00			2.0	33.4	
TP	7.34	41.86 ✓	0.92	34.50 ✓	00TopStk/Sp
+50			7.9	34.0	
19+00			7.1	34.8	
+45			5.9	36.0	
+17			6.9	35.0	
+65	2. Jones		5.9	36.0	
+78			6.6	35.3	
+85			5.7	36.2	
20+00			5.1	36.8	
+50			4.5	37.4	
21+00			4.2	37.7	
+50			3.8	38.1	
22+00			3.2	38.7	
+50			2.7	39.2	
23+00			2.3	39.6	

		41.86			
23+50			2.0	39.9	
24+00			1.5	40.4	
+50			1.2	46.7	
TP	10.30	51.10 ✓	1.06	40.80 ✓	
25+00			9.7	41.4	
+30			9.3	41.8	
+45	2. Events		8.2	42.9	
+65			8.5	42.6	
26+00			7.7	43.4	
+50			6.6	44.5	
27+00			6.2	44.9	
+50			5.9	45.2	
28+00			5.5	45.6	
+50			5.1	46.0	
29+00			4.7	46.4	
+50			4.3	46.8	
30+00			4.0	47.1	
+50			3.7	47.4	
31+00			3.5	47.6	
+75	2. Fouvel		3.0	48.1	
+40			3.7	47.4	
+43			3.2	47.9	
32+00			2.3	48.8	
+50			1.1	49.5	
33+00			1.3	49.8	

51.10

33+50			1.2	49.9
34+00			0.8	50.3
TP	9.11	60.21 ✓	0.00	51.10 ✓
+50			9.2	51.0
35+00			8.3	51.9
+50			7.6	52.6
36+00			6.8	53.4
+50			6.4	53.8
37+00			5.3	54.9
+05	Grasham		5.1	55.1
+23			4.3	55.9
+25			3.6	56.6
+45			2.4	57.8
+78			3.0	57.2
38+00			2.2	58.0
TP	12.67	72.34 ✓	0.54	59.67 ✓
+50			12.3	60.0
39+00			9.8	62.5
+50			7.7	64.6
40+00			5.5	66.8
+50			3.9	68.4
41+00			2.4	69.9
+50			1.5	70.8
42+00			1.3	71.0
+50			1.8	70.5

72.34

42+85	Haines		2.1	70.2
43+00			2.6	69.7
+50			3.5	68.8
44+00			4.2	68.1
+30			4.8	68.0
+50			3.5	68.8
45+00			3.5	68.8
TP	12.6	71.10 ✓	3.50	68.24 ✓
+50			2.1	69.0
46+00			2.8	68.3
+50			3.2	67.9
47+00			4.0	67.1
+50			4.8	66.3
48+00			5.6	65.5
+53			6.1	65.0
+57			7.0	64.1
+75	Ingraham		6.0	65.1
49+00			6.9	64.2
+2			6.1	65.0
+50			6.5	64.6
50+00			7.78	63.32 ✓
+50			6.6	64.5
+50			6.5	64.8
51+00			5.8	65.3
+50			4.8	66.3

5054
Parrish

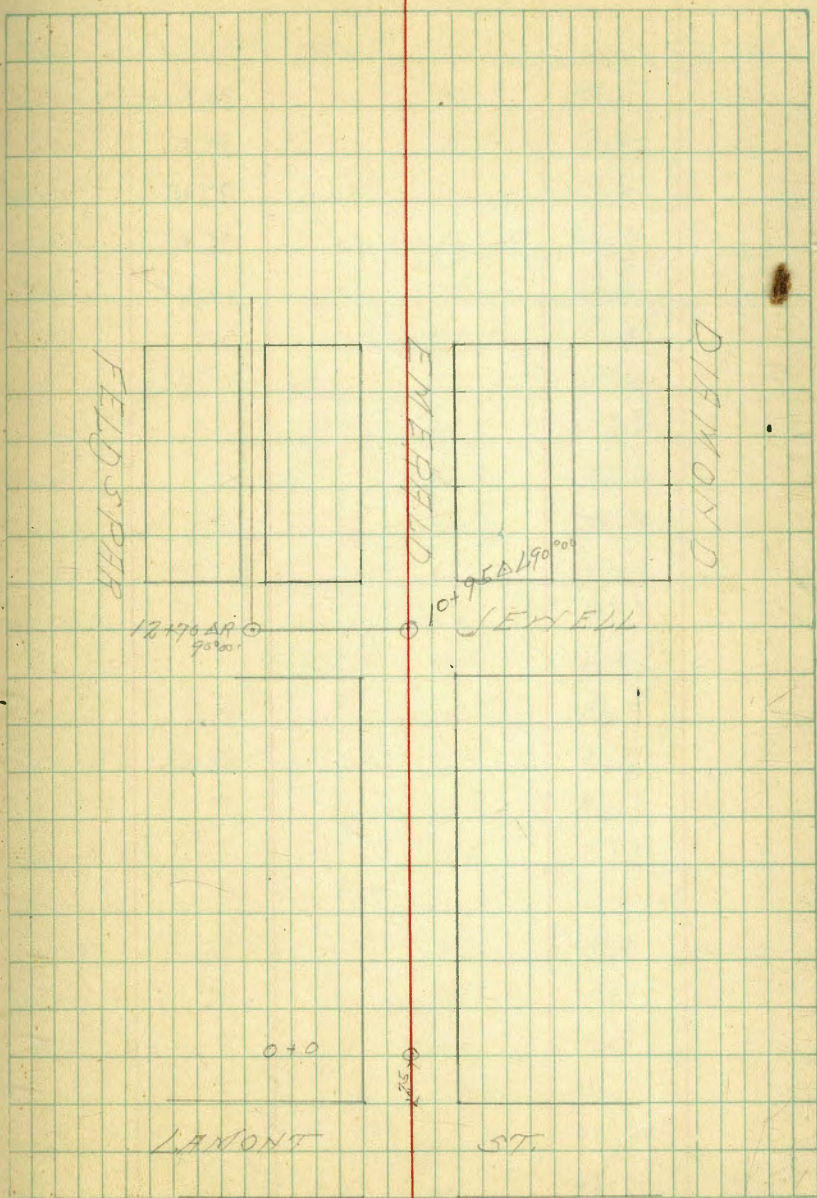
		71.10		
52+00			2.6	67.5
+50			3.0	68.1
TP	7.41	75.60	2.91	68.19 ✓
53+00			7.2	69.4
+50			6.6	69.0
54+00			6.3	69.3
+15			5.9	69.7
+45			5.6	70.0
+47			6.3	69.3
+65	2	Jettell	5.7	69.9
+83			6.1	69.5
55+00			5.6	70.0
+50			5.6	70.0
56+00			5.2	70.4
+50			4.8	70.8
57+00			4.1	71.5
+50			2.9	72.7
58+00			1.8	73.8
+20			0.7	74.9
+50			0.8	74.8
+63			0.8	74.8
+65				
43' So. of Hill Ground at Septic Tank			1.7	73.9
At 58+05 Holy Mary Academy				
BM			0.43	75.17
TP	3.74	70.65 ✓	8.49	66.91 ✓

antapvent
septic pipe
of tank

		70.65		
BM			4.71	65.94 ✓ B.P. 511 Garnett & Lamin 65.83
BM	12.87	78.70 ✓		65.83 B.P. 511 Garnett & Lamin
TP	12.97	91.53 ✓	0.14	78.56 ✓
TP	11.66	102.63 ✓	0.56	70.97 ✓ H.H. Cor
TP			2.67	99.96 ✓ Lamin & Garnett

99 Series Levels @ Emerald and Jewell
 And 3' Alley between Feldspar and Emerald
 From Lamont to N + S Alley West Allison

	0.04	100.00		99.96
0+0	-25 ft. W. Lamont		0.9	99.1
+50			1.9	98.1
1+00			2.5	97.5
+50			3.1	96.9
2+00			4.0	96.0
+50			4.5	95.5
3+00			5.2	94.8
+50			6.0	94.0
4+00			6.7	93.3
+50			7.5	92.5
5+00			8.6	91.4
+50			9.8	90.2
TP	0.43	90.50 ✓	9.93	90.07 ✓
6+00			1.8	88.7
+50			3.3	87.2
7+00			5.0	85.2
+50			6.7	83.8
8+00			7.9	82.6
+50			9.3	81.2
9+00			9.3	81.2
TP	3.02	84.31 ✓	9.21	81.29 ✓
+50			3.3	81.0
10+00			3.8	80.5
+50			4.1	80.2



84.31

10+95	Δ L & Emerald Swell 90°00'	4.04	80.27	00 Stab
11+00		4.2	80.1	
+50		5.3	79.0	
12+00		6.7	77.4	
+50		8.3	76.0	
+70	Δ R & Fairy Hill 90°00'	8.87	75.44 ✓	00 Stab

Cont. 1143 Page 1

Survey Levels & Alley
Between Pacific and Oliver
From E.L. Haines to 2597 1/2 Lament

82
11-25-25

BM	409	57.26 ✓	53.13	Ways to Lane Eucalyptus 11/11/11
0+0	EL Haines	8.7	48.5	
+50		7.0	50.2	
1+00		5.6	51.6	
+50		4.7	52.3	
2+00		4.4	52.8	
+50		3.1	53.8	
3+00		2.8	54.0	
+50		3.4	53.8	
4+00		4.6	52.6	
+50		6.0	51.2	
4+93		6.8	50.4	
5+07		7.5	47.7	
+16		7.7	47.4	
+22		10.3	46.9	
+50 Δ Ingraham		9.5	47.7	
773		10.1	47.1	
6+00		9.5	47.7	
TP	3639	57.26 ✓	47.85 ✓	6+16 M Edge Crotch
+50		3.8	47.4	Tree Box 25' 13/24
7+00		4.1	47.1	
+50		4.5	46.7	
8+00		4.5	46.7	
+50		4.2	47.0	
9+00		4.5	46.7	

		5184		
9+50			1.5	46.7
10+00			4.0	47.2
+50			3.3	47.9
11+00			2.3	48.9
+40	E. Jewell		1.6	49.6
TP	5.90	5582 ✓	1.32	49.2 ✓
12+00			4.9	50.9
+50			4.2	51.6
13+00			4.1	51.7
+50			4.6	51.2
14+00			5.4	50.4
+50			6.4	49.4
15+00			7.3	48.5
+50			8.0	47.8
16+00			8.2	47.6
+50			7.6	49.2
+75			8.0	47.8
+81			9.1	46.7
+95			8.8	47.0
17+00			9.7	46.1
+05			8.9	46.9
+20	E. Kendall		9.2	46.6
+30			8.8	47.0
+35			9.6	46.2 ✓
+40			9.0	46.8

		5582		
18+00			8.9	47.9
TP	1.00	49.14 ✓	7.68	48.14 ✓
+25			5.1	46.0
+50			3.7	49.4
19+00			4.8	44.3
+50			5.8	43.3
20+00			6.9	42.2
+50			8.3	40.2
21+00			9.3	39.8
+50			10.0	39.1
22+00			10.7	38.4
+35	-25 MWD Lamont		11.0	38.1
TP			6.63	45.51 ✓

on Top of 1570
& 1110 of Oliver

Setter Levels 2/7/10
Between Oliver and Reed
From 10'x & Ingraham to 25'x W.L. Lammont

BM	1.18	54.31 ✓		53.13	Nails in Line Eucalyptus Page 82
TP	97.5	57.22 ✓	68.2	47.49 ✓	
0+00 = 10'x & Ingraham			10.7	46.5	
+30			11.2	46.0	
+40			10.5	46.7	
1+00			10.1	46.6	
+50			9.8	47.4	
2+00			8.4	48.8	
+50			6.8	50.4	
3+00			5.6	51.6	
+50			5.1	52.1	
4+00			4.6	52.6	4186 Top 3000000
+50			4.0	53.2	
5+00			2.9	54.3	5+270000 3000000
+50			1.4	55.8	
6+00	2.50		0.5	56.7	
TP	3.27	59.87 ✓	0.64	56.60 ✓	
+50			2.2	57.7	
7+00			2.1	57.8	
+25			2.4	57.5	
+50			2.8	57.1	
8+00			3.7	56.2	
+50			5.3	54.6	
9+00			6.5	53.4	
+50			7.8	52.1	

10+00				8.7	51.7
+50				8.9	51.0
11+00				9.3	50.6
+30				9.4	50.5
+50				10.3	49.6
TP	0.36	50.22 ✓		9.80	50.0 ✓
+57				1.2	49.2
+10				1.8	48.6
+80 & Kendall				1.5	48.9
+98				1.9	48.5
12+00				1.7	49.2
+18				0.8	49.6
+50				3.1	47.3
13+00				4.7	45.7
+50				6.3	44.1
14+00				7.6	42.9
+50				8.2	42.2
15+00				8.7	42.2
BM				7.90	42.53
+50				8.7	42.2
16+00				8.4	42.0
+50				8.5	41.9
79.5 - 25'x W.L. Lammont				8.8	41.6
TP	6.90	46.50 ✓		2.80	41.60 ✓
BM				2.85	43.15 ✓

Top Gas Guard set
Next to Reed
4251 Page 87

87 *Sexton levels & Alley*
Between Missouri and Chalcedony
From E. Alley to Alto

B.M.	786	4766 ✓	39.80
0+0	<i>E. Alley to Allison</i> = 781933	784	39.80
+50		77	40.0
+68		75	40.2
+90		68	40.9
1+00		70	40.7
+7		73	40.4
+50		71	40.6
2+00		69	40.8
+50		61	40.6
3+00		55	42.2
+50		50	42.7
4+00		47	43.0
+10		55	42.2
+14	<i>Top of Rail E. of RR</i>	428	43.38
+23		53	42.4
+25	<i>E. Allison</i>	49	42.8
+40		50	42.7
+45		43	43.4
+70		42	43.5
+78		34	44.3
5+00		31	44.6
+50		26	45.1
6+00		22	45.5
+50		19	45.8

on station
 Page 47

88
 11-27-25
 Sexton
 Allison

4766

7+00		1.1	46.3
+50		1.1	46.6
8+00		0.9	47.0
TP	937	56.56 ✓	47.19 ✓
+50		9.0	47.6
9+00		8.6	48.0
+50		8.2	48.4
+97		8.3	48.3
10+00		7.8	48.8
+0.5	<i>E. Bayard</i>	7.5	49.1
+15		7.8	48.8
+18		8.5	48.1
+20		7.6	49.0
+50		6.9	49.7
11+00		6.5	50.1
+50		5.8	50.8
12+00		4.8	51.8
+50		4.3	52.3
13+00		3.7	52.9
+50		3.5	53.1
14+00		3.2	53.4
+50		2.8	53.8
15+00		2.0	54.6
+50		0.7	55.9
TP	906	45.34 ✓	56.20 ✓

rails in place
W. Case

65.34

15+65		9.3	56.0
+66		10.0	59.3
+85	↳ Cass. Top Boring	8.5	56.39
16+0		9.4	55.9
+7		10.3	55.0
+8		9.4	55.9
+17		8.0	57.3
+21		10.8	54.4
+25		10.5	54.8
+26		8.0	57.3
+50		7.6	57.7
17+00		7.1	58.2
+50		6.6	58.7
18+00		6.2	59.1
+50		5.5	59.8
19+00		4.9	60.4
+50		4.4	60.9
20+00		3.6	61.7
+50		2.3	63.0
21+00		1.5	63.8
+42		0.7	64.6
+45		1.0	64.3
+65	↳ Dames	0.3	65.0
TP	11.4	75.90 ✓	64.96 ✓
22+00		10.8	65.1

75.90

22+50		9.7	66.2
23+00		9.2	66.7
+50		8.1	67.8
24+00		7.4	68.5
+50		6.5	69.4
25+0		5.8	70.1
+20		4.7	71.2
+50		4.4	71.5
26+00		3.7	72.2
+50		3.0	72.9
27+00		2.0	73.9
TP	7.10	81.61 ✓	72.15 ✓
+150	↳ Flocks	7.6	74.0
+95		9.1	72.5
28+00		8.3	73.3
+8		7.7	73.9
+50		7.9	73.7
+75		7.3	74.3
29+00		7.1	74.5
+50		6.2	75.4
+75		6.3	75.3
30+00		5.8	75.8
+50		5.2	76.4
+60		4.8	76.8
31+00		4.6	77.0

81.61

31 +25			41	77.0
+45			38	77.8
+65			42	77.4
32 +00			39	77.7
+50			30	78.6
33 +00			24	79.2
+12			27	79.4
+25	♀ Fossil		18	79.8
+50			17	79.9
+80			0.8	80.8
34 +00			1.2	80.4
TP	7.88	89.19	0.30	81.31
+50			7.6	81.6
+65			7.3	81.9
35 +00			7.3	81.9
+50			6.7	82.5
36 +00			6.0	83.2
+25			6.5	82.7
+50			5.8	83.4
37 +00			5.2	84.0
+50			5.0	84.2
38 +00			4.7	84.5
+50			4.6	84.6
39 +00			4.6	84.6
+0.5	♀ Gersham		4.6	84.6

39 +50			41	85.1
40 +00			43	84.9
+50			39	85.3
41 +00			37	85.5
+50			37	85.5
42 +00			38	85.4
TP	6.19	92.55	2.23	86.26
+50			1.8	85.8
43 +00			5.9	86.7
+50			5.2	87.4
44 +00			5.2	87.4
+50			5.3	87.3
+61			5.2	87.2
+63			5.2	86.8
+8.5	Haines		5.1	87.5
+90			5.1	87.5
45 +00			5.9	86.8
+5			5.1	87.5
+20			5.8	86.8
+50			5.5	87.1
46 +00			4.9	87.7
+50			4.7	87.9
47 +00			4.8	87.8
+50			4.5	88.1
48 +00			2.7	88.9

		97.55		
48+50			3.6	89.0
49+00			1.8	90.8
TP	8.10	99.75	0.90	91.65
+50			7.1	92.7
50+00			5.8	94.0
+37			4.8	95.0
+45			4.8	95.0
+65 to Ingham			3.5	96.3
BM			0.76	98.99

Top Sta. 4920

Spk 10 Loo
Cypress Tree
2.17 to E Ingham

Sewer Levels to Alley
Between Chokedory And Lom
From to Alley West Allison to Ingham

BM	12.95	49.30		36.35	old stub 12+183 B77
0+00 = 44+83			12.95	36.35	
+50			11.0	38.3	
1+00			7.8	41.5	
+50			5.6	43.7	
+65			4.4	44.9	
+95			3.0	46.3	
2+00			2.5	46.8	
+50			2.0	47.3	
3+00			1.0	48.3	
+50			0.6	48.7	
TP	8.55	52.13	0.22	49.0	
4+00			5.2	49.4	
+19			7.6	50.0	
+37			5.7	51.9	
+33			7.6	50.0	
+39.4 Top of Wall			6.65	50.98	
+50 to Allison			7.8	49.8	
+60			8.0	49.6	
+63			6.9	50.7	
+75			6.1	51.5	
5+00			6.6	51.0	
+15			6.0	51.6	
+50			5.8	51.8	
1+00			5.3	52.3	

57.63

6+39		48	52.8
+50		3.9	53.7
+70		47	52.9
7+00		4.1	53.0
+50		4.3	53.3
8+00		3.7	53.9
+50		3.0	54.6
9+00		2.7	54.9
+50		2.3	55.3
10+00		1.8	55.8
+4		1.8	55.8
+6		2.5	55.1
+30 & Bayard		1.1	56.5
+53		2.0	55.6
+55		1.0	56.6
11+00		0.8	56.8
TP	9.70	64.57	57.87
+50		9.1	57.5
12+00		8.8	57.8
+50		7.9	58.7
+7.5		7.4	59.2
13+00		7.0	59.6
+50		6.3	60.3
14+00		5.7	60.9
+50		5.0	61.6

62.57

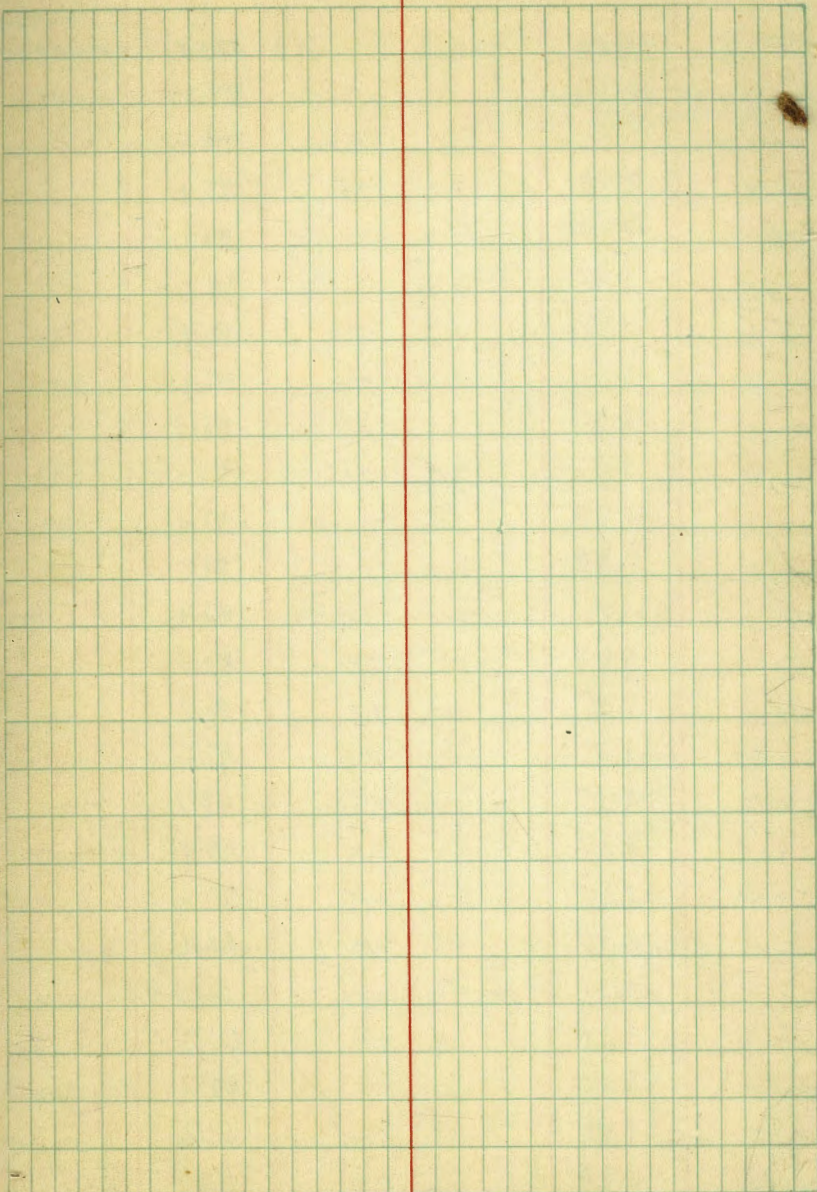
15+00		4.3	62.3
+50		3.1	63.5
+90		2.1	64.2
+91		4.1	62.5
16+00		3.0	63.6
+10 & Cass		2.78	63.79
+30		2.6	63.0
+31		1.4	65.2
+41		2.8	63.8
+47		4.8	61.8
+41		4.5	62.1
+50		1.4	65.2
17+00		0.5	66.1
TP	10.66	74.77	68.11
+50		9.7	68.1
18+00		9.8	68.6
+50		8.7	69.1
19+00		8.8	69.0
+55		8.5	69.3
20+00		7.8	70.6
+50		5.4	72.4
21+00		4.7	73.1
+50		4.2	73.6
+90 & Doves		4.0	73.8
22+00		3.5	74.3

7877

22105			3.5	74.3
+09			2.9	74.9
+50			2.3	75.5
23100			1.4	76.4
+50			0.3	77.5
TP	9.61	⁵ 26.75	0.63	77.14
24100			8.1	78.7
+50			2.5	79.3
+65			7.1	79.7
+80			6.2	80.6
25100			6.5	80.3
+50			5.6	81.2
26100			4.7	82.1
+50			3.8	83.0
27100			3.1	83.6
+50			2.9	83.9
+70	B Exerts		3.0	83.8
28100			3.1	83.7
TP			2.65	84.10

OOTOP
Start

Cont 1143 Page 11



99 Center Levels & Alley
Between Beryl and Millbur
From E. Alley of Allison to E. Events

TP	1253	6085	4832	on stub
0+00 - E. Alley of Allison	1253	4832	118.37	on stub
52+08.3 Between Beryl & Millbur				
+10		117	49.2	
+19		7.8	53.1	
+31		90	51.9	
+37		71.1	49.8	
+40		10.0	56.9	
+55		7.0	53.9	
+65		8.3	52.7	
+90		7.9	53.0	
+100		7.1	53.8	
+15		9.1	51.8	
+85		8.1	52.8	
2+00		5.8	55.1	
+10		4.0	56.9	
+20		3.3	57.6	
+55		2.2	58.7	
3+00		2.0	58.9	
+50		1.3	59.6	
4+00		0.5	60.4	
TP	879	6938	6059	
+50		8.1	61.3	
5+00		7.1	62.3	
+25		6.8	62.6	
+26		2.5	61.9	

100
12.3.25

69.38

+39.5 Top E. Rail of E. RR	6.34	63.04
+45	7.9	61.5
+50.8 Allison	7.20	62.2
+60	6.9	62.5
+63	6.0	63.4
6+00	6.3	63.1
+50	6.1	63.3
7+00	5.3	64.1
+50	4.6	64.8
8+00	3.3	66.1
+50	2.2	67.2
9+00	0.5	68.9
TP	734	7120
+50	0.52	68.86
+50	6.3	69.9
10+00	5.5	70.7
+27	5.1	70.1
+48	4.0	72.2
+60	4.9	71.5
11+00	5.0	71.2
+30.2 Bayard	4.9	71.3
+50	4.7	71.5
12+00	4.1	72.1
+50	3.1	72.8
13+00	3.1	73.1
+50	3.0	73.2

		76.20	
14+00		2.6	73.6
+50		2.3	73.9
15+00		2.0	74.2
TP	11.07	86.07	75.00
+50		11.4	74.7
16+00		10.5	75.6
+50		9.4	76.7
+75		8.6	77.5
+76		9.0	77.1
+89		8.8	77.3
+93		10.1	75.0
17+00	Edge Parings	8.87	77.20
+10	1/2 Cass Top Pav	8.77	77.30
+29		9.7	86.4
+34		7.7	78.4
+37		8.0	78.1
+40		9.5	76.6
+43		9.7	76.4
+46		7.7	78.4
B.M.		8.56	77.51
18+00		7.0	79.1
+50		6.0	80.1
19+00		5.1	81.0
+50		5.3	80.8
20+00		4.8	81.3

Spr 1/2
in case

		86.07	
20+50		3.2	82.9
21+00		1.0	85.1
TP	9.94	95.87	85.88
+50		9.6	86.2
22+00		8.0	87.8
+50		6.7	89.1
+70		6.0	89.8
+72		6.5	89.3
+90	E. Dams	5.8	90.0
23+00		5.4	90.4
+23		5.4	90.4
+28		4.8	91.0
+50		4.0	91.8
24+00		2.9	92.9
+50		2.2	93.6
25+00		0.7	95.1
TP	12.78	107.80	95.52
+50		11.4	96.4
26+00		10.5	97.3
+50		8.9	98.9
27+00		8.2	99.6
+50		6.9	100.9
28+00		5.2	102.6
+75		4.6	103.2
+70	E. Dams	3.2	104.6
B.M.		3.59	104.21

N.W. Prop Hot
Everts + 5714

103 Survey Levels & Alley
 Between Wilbar and Lorion
 From E. Allison to E. Everts
 107.80 B.H. Ford

TP	11.20	118.85	0.15	107.65
23+20 - E. Everts			2.1	116.8
23+00			3.0	115.9
+23			3.1	115.8
+70			3.8	115.1
+50			5.0	113.9
22+00			6.5	112.4
+50			7.7	111.2
21+00			8.6	110.3
+50			9.9	109.0
20+00			11.2	107.7
+50			12.7	106.2
TP	0.68	106.96	18.57	106.28
19+00			2.1	104.9
+50			3.3	103.7
18+00			5.1	101.9
+63			6.3	100.7
+58			6.6	101.0
+53			6.9	100.1
+40 - E. Daries			7.2	99.8
+28			7.2	99.8
+25			8.5	98.5
+20			7.7	99.3
+15			7.4	99.6
17+00			7.9	99.1

106.96

16+50			9.4	98.6
16+00			11.2	95.2
TP	1.90	96.91	11.95	95.01
+50			2.7	94.2
15+00			4.0	92.9
+50			5.0	91.9
14+00			6.2	90.7
+50			7.2	89.7
13+00			8.1	88.8
+50			9.2	87.7
12+00			10.0	86.9
+95			10.4	86.5
+90			12.8	84.1
+85			9.7	87.2
+83			9.8	87.1
+80			11.9	85.0
+60 - Cross to B.H. Ford			10.61	86.30
+45			10.6	86.3
+40			11.8	85.1
B.M.	1.55	87.72	10.74	86.19
+35			2.3	85.4
+32			1.9	85.8
11+00			2.2	85.5
+150			2.6	85.1
10+00			2.8	84.8

Nails Pole
54 Cross Alley

87.72

9150		3.5	84.2	
9100		4.0	83.7	
750		4.6	83.1	
8100		5.4	82.3	
750		5.8	81.9	
7100		6.1	81.6	
750		6.3	81.4	
6100		6.9	80.8	
780		6.7	81.0	
770		7.0	80.7	
742		6.7	81.0	
5100		8.4	79.3	
TP	0.31	80.24	79.90	on St 570
750		2.0	78.2	
4100		3.3	76.9	
750		4.3	75.9	
3700		5.1	75.1	
750		6.3	73.9	
2700		7.4	72.8	
792		7.4	72.8	
780		8.4	71.8	
750		8.9	71.3	
700		9.5	70.7	
750		9.8	70.4	
710		10.3	69.9	

78		9.4	70.8	
75		10.3	69.9	
74		9.6	70.6	
TP	1.25 E. Allison	71.1	70.06	on St 41
311		8.98	68.13	on St 45 E. Allison 5160 E. Allison 6218
Set of Levels & Allev Between Hilber And Loring From E. Allison To				
71.11				
0700		10.5	70.06	
789		7.9	69.2	
743		3.5	67.6	
753		4.1	67.0	
758.5	Top of Rail Elev. 99.5	3.91	67.20	
772		4.2	66.9	
774		2.7	68.4	
7700		3.0	68.1	
750		4.0	67.1	
7100		5.0	66.1	
750		5.6	65.5	
770		5.1	66.0	
3700		5.8	65.3	
785		6.7	64.4	
750		8.8	62.3	
4700		14.5	56.6	
750		19.5	51.6	

109. Section Levels PL 1793 Pacific Birch
 From 17' Line Kendall to La Playa to 8' Hoop + 11' by Gutman
 Read Road + 11' Hoop

BM	3.18	3.14		27.46	La Playa + Shasta
0+0	La Playa N 7' L Kendall		6.6	24.5	
+22	Kendall		6.9	24.2	
+700			7.4	23.7	
+50			8.3	22.8	
+60	W Edge 13.109		8.5	23.04	
+70			8.6	22.5	
+05	E Edge 13.109		8.73	22.41	
+572	P.O.T.		10.33	20.81	on 5' L
TP	1.66	19.72	13.08	18.06	
+72			4.9	14.8	
+83			11.2	8.5	
+52	0.64	8.33	12.03	7.69	
+98			9.5	-1.2	
3+05	Δ L 52° 27'		10.79	-2.46	on 5' L
+50			9.5	-1.2	
+100			10.8	-2.5	
+50			12.0	-3.7	
5+00			12.3	-4.0	
+254	Δ R 27° 49'		11.75	-3.42	on 5' L
+50			12.6	-4.3	
6+00			13.3	-5.0	
+50			14.0	-5.7	
7+00			13.6	-5.3	
+50			18.2	-2.9	

109
12-3-25

	N 4° 51' E	
23+90.9	Δ R 52° 59' ✓	
	N 49° 08' W	
21+97.6	Δ L 50° 53' 30" ✓	
	N 2° 15' 30" E	
20+56.15	Δ L 35° 29' ✓	
	N 37° 41' 30" E	
18+159.5	Δ R 21° 59" ✓	
	N 10° 15' 30" E	
12+04.45	Δ R 12° 18' ✓	
	N 1° 28' 30" W	
10+06.25	Δ R 24° 09' 30" ✓	
	N 25° 42' W	
8+14.8	Δ L 61° 04' ✓	
	N 35° 22' E	
5+25.4	Δ R 27° 49' ✓	
	N 7° 33' E	
3+05	Δ L 52° 27' ✓	
	N 68° 05' E	
0+00	Δ L 10 P 12 10 N 7' L Kendall	0+100 Kendall

Sequoia

Shasta

17' Hoop

385

16+50		6.3	-2.4	
+80		6.4	-2.5	
+85		7.5	-3.6	
17+00		6.9	-3.0	
+27		6.5	-2.6	
+47		7.9	-4.0	
+80		8.6	-4.7	
18+00		6.4	-2.5	
+19.95	AP 76°59'	5.57	-1.67	on stick
+50		7.5	-3.6	
19+00		8.1	-4.2	
+50		8.1	-4.2	
20+00		8.2	-4.3	
+23		7.9	-4.0	
+31		7.0	-3.1	
+18		4.4	-0.5	
+56.15	AL 35°29'	4.70	-0.85	on stick
21+00		3.9	-0.0	
+50		4.4	-0.5	
TP +97.6	4.07 AL 50°23'35" 7.59	5.33	-1.48	
22+0		6.6	-4.0	
+50		6.6	-4.0	
23+0		7.3	-4.7	
+25		6.6	-4.0	
+50		5.5	-2.9	

259

23+90.9	AP 52°59'	3.56	-0.97	on stick
24+00		4.1	-1.5	
+10		4.7	-2.1	
+50		7.0	-4.4	
25+00		6.5	-3.9	
+50		6.3	-3.7	
26+00		5.9	-3.2	
+10		5.4	-2.8	
+50		6.4	-3.8	
27+00		6.5	-3.9	
+45		6.6	-4.0	
+50		7.5	-4.9	
+60		6.3	-3.7	
+80		6.8	-4.2	
28+00		6.7	-4.1	
+15		6.5	-3.9	
+25		6.2	-3.6	
TP +48.1	7.11 AL 24°45'30" 5.03	4.67	-2.08	on stick
29+0		6.2	-1.2	
+30		6.4	-1.4	
+38		5.1	-0.6	
+50		6.0	-1.0	
+60		6.8	-1.8	
+80		5.3	-0.3	
30+00		5.9	-0.7	

5.03

30105			6.0	-1.0
+56			7.9	-2.9
31100			8.0	-3.0
+50			8.1	-3.1
32100			7.6	-2.6
+1160	AL 18" of 4 pipes		7.15	-2.12
+50			6.4	-1.4
33100			4.8	0.2
+40			3.7	1.3
34100			3.6	1.4
+50			3.2	1.8
35100			1.9	3.9
TP	12.18	17.09	0.12	4.91
+50			11.6	5.5
36100			9.0	8.1
+50			6.3	10.8
+70			5.2	16.9
+85			3.3	13.8
37100			2.5	14.6
+20			1.3	15.8
+30			0.0	17.1
TP	13.11	29.87	0.83	16.76
+60			10.6	19.3
38100			7.3	22.6
+30			5.3	24.6

56162.85
6.90
91.72.55

2987

38100	383	26.04	on stub
38100 55' 11" 1100 38100 11" 1100			
TP	1.94	27.14	4.67 25.20
BM		3.66	23.48 Pacific + Merrill 23.52

115 Cross Section Filley
Between National and Newton From 1/2 35 1/2 to 25 1/2

BM	1.52	45.71	44.19	SE of road + 357554 Top of H ₂ O
	H Line 35 1/2 St.			
N		59	39.8	
+2		63	39.4	
±		65	39.2	
S		66	39.1	
	75' H			
S		73	38.4	47' H on 4.8 in Filley Top Conc. Floor 6.78 38.93
±		73	38.4	
N		70	38.7	
	50' H			
N		73	38.4	
+5		77	38.0	
±		76	38.1	
S		78	37.9	
	75' H			
S		83	37.4	
±		80	37.7	
N		76	38.1	
	100' H			
N	Door	66.7	39.04	Conc. Floor Laundry
N		77	38.0	
±		80		
S		79		
	135' H			

	45.71		
-4 Garage Dirt Floor	9.1	36.6	
S	8.9	36.8	
±	8.5	37.2	
N	8.6	37.1	
+3 Do Garage Dirt Floor	8.6	37.1	
TP	7.79	39.95	8.55 37.16
	180' H		
-3 Garage Conc Floor	3.99		
N	4.0	35.9	
±	4.1	35.8	
S	3.7	36.2	
+5 Do Garage Dirt Floor	3.6	36.3	
	187' H		
S	3.9	36.0	
±	4.4	35.5	
N	4.1	35.8	
	70.5' H		
N	5.9	34.1	
±	5.3	34.6	
SL	4.8	35.1	
+0.7 Garage Dirt Floor	4.6	35.3	
	220' H		
-0.7 Garage Dirt Floor	5.5	34.4	
S	5.5	34.4	
+7	5.7	34.2	

3995

£	6.0	33.9
+4	6.6	33.3
H	6.9	33.0

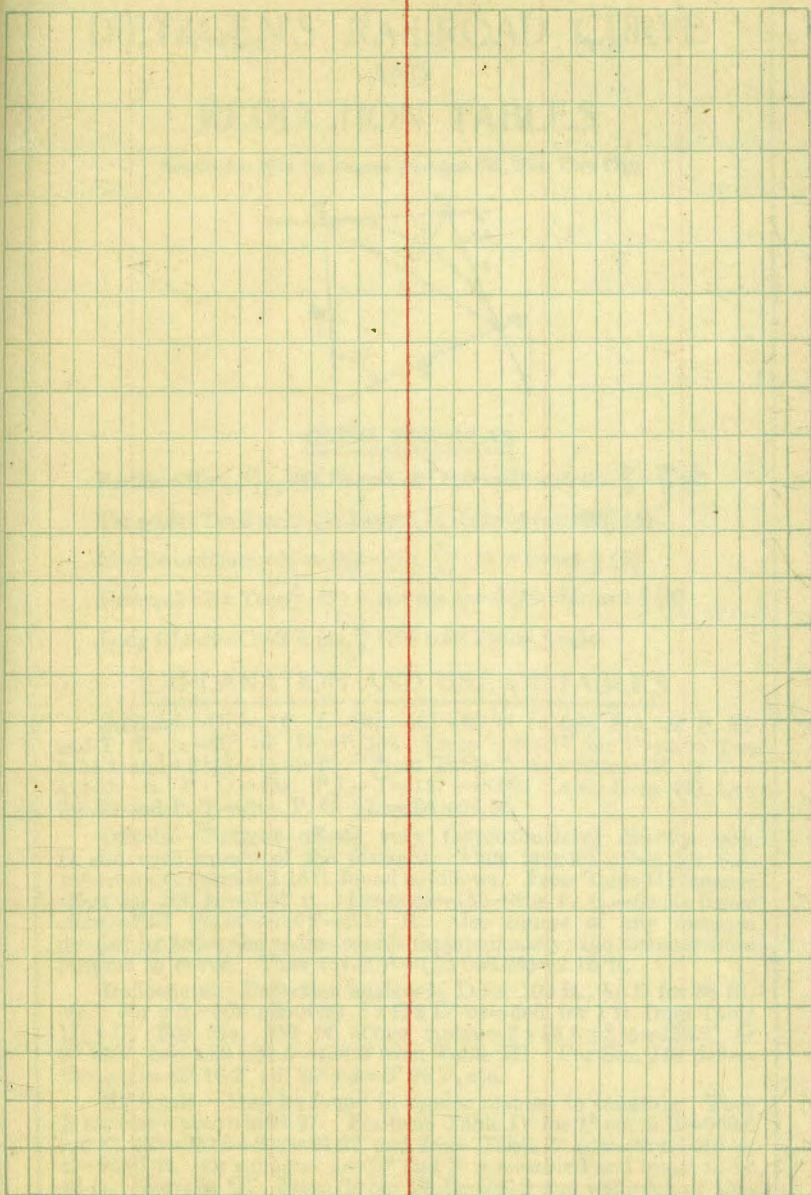
235.11

H	8.8	31.1
+3	7.9	
£	8.0	31.9
+6	7.6	
+8	6.7	
S	6.4	33.5

255.11

S	9.9	30.0
+7	10.5	
£	10.9	29.0
H	10.7	29.2
+5	10.9	29.0

Garage Dict Floor

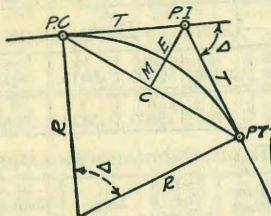


Levels on North Gutter on St. A California St. 1 1/2 - 3 - 2 1/2
 119 Across R.T. + S.F. R.R. Tracks

BM	1.02	16.02	15.00	B.P. NE H + K + H + H
0.10	= H. L. Kettner			
+109.3' W. E. End 18" x 18" Wood Cohert			7.60	So Gutter Line Top Rail
+125.05' H				536
+1417.5' Top E. Rail			5.73	
+1467.6' Top Rail			5.29	
+1521.5' " "			5.33	
+156.85' " "			5.40	
+180.7' W " "			6.23	
+185.4' W on Frog			6.26	
+190.4' W Top Rail			6.29	
+198.8' W " "			6.53	
+203.55' H " "			6.55	Top Rail 677
+222.25' " "			6.53	
+227.0' W " "			6.53	
+235.3' W " "			6.96	
+237.9' W " "			6.97	
+240.05' W " "			6.98	
+242.7' W " "			6.93	
+263.25' W " "			7.42	
+264.5' W " "			7.41	
+268.0' W " "			7.44	
+269.2' W " "			7.47	

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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CURVE FORMULAS

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

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

Middle ordinate = $M = R(1 - \cos \frac{\Delta}{2}) = R \text{vers} \frac{\Delta}{2}$ (5)

External = $E = T \tan \frac{\Delta}{4} = R \div \cos \frac{\Delta}{2} - R$ (6) = $R \text{exsec} \frac{\Delta}{2}$ (9)

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

EXPLANATION AND USE OF TABLES

Stations.—Given P. I. = Sta. 161 + 60.35 to find Sta. of P. C. and P. T. $\Delta = 62^\circ 10'$ $D = 8^\circ 20'$. From Table IV for 1° curve $T = 3454.1$ and $\div 8 \frac{1}{2} = 414.49$ 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 = $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft. = (in minutes) $.3 \times C \times D^2$ or = defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve = $.3 \times 54.5 \times 8 \frac{1}{2} = 136.2'$ or $2^\circ 16.2'$, or = $2.50 \times 54.5 = 136.2'$ from Table III. For Sta. 159 deflection angle = $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve $E = 960.6$ for $8^\circ 20' = 960.6 \div 8 \frac{1}{2} = 91.27$ and from Table V correction = .10 or $E = 91.37$ ft. Or suppose $\Delta = 32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E = 230.9$ and $\div 42 = 5.5$ or $D = 5^\circ 30'$.

