

105

G105

DEETZGEN  
INC.

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ENGINEERS

FIELD BOOK

No. 494

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# 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  $30.6 + (20 - 16) \div 2$  or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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32.00  
24.00  
8.00

20  
22  
23

MICROFILMED

APR 7 1965

MICROFILMED  
APR 1988

Judicial  
R

3/26/24  
 69901 GRADES ON  
 DUMAS ST  
 CLOVE NORTH

W.L. WCB

21.8 N = End of present Cb.	139.26
17.5 N	136.83
17.5 N	134.02
15.1 N	131.20
2.5 N = EC. of 43' R. Cur. on Cb Line	128.40
N.L. Clove	127.0
S.L. ✓	126.0
2.5 S = EC. of 43' R. Cur. on Cb Line	124.8

74513 BP SE Chatsworth + Dumas

032  
 14543  
 1054  
 13407  
 148  
 13667

1

W	137.08	124.27	131.45	128.65	125.05
	<del>11</del>	2.42	5.24	8.0	11.6
	+ 0.4	3.9	4.9	6.0	10.5
	<u>0.9</u>	<u>-0.6</u>	<u>+0.3</u>	<u>+2.0</u>	<u>+1.1</u>
	-1.3				

3/26/44

Gregory

GRADES ON  
CLOVE ST  
from Dumas to526  
526222  
3237

13469 from page 1

2

W.L. Thomas

126.0

25 W = EC

128.50

127.75

100 ✓

130.86

129.5

175 ✓ = R.C. of 43 R.C. on 66

131.25

200 ✓ = E.L. Curtis

134.0

133.0

N	129.0	130.75	132.50
	7.7	5.9	1.2
	6.1	5.2	1.8
	+1.6	+0.7	+2.4
S	128.0	129.75	131.50
	8.7	6.9	5.2
	9.2	7.2	3.8
	-0.5	-0.3	+1.4

133.  
126.  
7.000  
0.000  
1000

0.035  
1.75  
72

126.27 = 00  
127.72  
128  
129.29

0.35  
50  
12.50

133.  
57  
12.12

129.5  
129  
0.35  
25  
175  
75  
575

4/24

GRADES ON  
ALLEY BLK 28  
H.M. HIGGINS  
NL S.L.  
B+C  
25+26

W. 26<sup>th</sup>

20 W	break	197.5	197.5
50 ✓		201.25	201.25
80 ✓	break	205.0	205.0
100 ✓	break	206.0	206.0
120 ✓	break	206.2	206.2
160 ✓	break	205.0	205.0
190 ✓		203.7	203.7
220 ✓	break	202.4	202.4
270 ✓		200.75	200.7
320 ✓	break	199.10	199.0
366.67 200		197.90	197.77
41333		196.70	196.53
460 ✓	break	195.50	195.30
510 ✓		94.39	94.65
560 ✓ = E.L. 25 <sup>th</sup>		94.28	94.00

4/25

19096 SW 25<sup>th</sup> + C

207								
192.03								
2.84								
194.78								
203.34	N	94.89	95.50	26.00	97.00	99.10	200.75	202.4
7.27		4.24	5.53	2.50	1.00	1.24	7.59	5.94
200.87		5.26	2.53	7.23	1.00	1.24	6.50	4.94
2.85		+0.18	+1.0	+1.0		+1.0	+1.0	+1.0
203.35	S	94.65	95.30	26.50	97.44	99.0	200.7	202.4
		4.38	3.73	11.81	1.54	1.24	7.64	5.94
		3.88	2.72	11.81	1.24	1.24	6.64	4.94
		+0.50	2.0	2.0	+1.0	+1.0	+1.0	+1.0
	N	203.7	205.0	206.20	206.0	205.0	203.5	197.50
		4.64	3.34	2.14	2.34	3.34	2.14	5.85
		3.64	2.34	1.14	2.34	3.34	2.14	5.75
		+1.0	+1.0	+1.0	+2.0	+1.0	0.0	+0.1
	S	203.7	205.0	2.14	2.34	3.34	2.14	5.85
		4.64	3.34	1.14	1.04	2.34	1.14	5.85
		3.64	2.34	+1.0	+1.0	+1.0	+1.0	0.0

29860  
447  
30259

870 840  
411 447

795 740  
482 45

780  
7.07

10/37

29860  
280  
30140

9830  
451  
10281

9162  
551  
10313

517  
796

471  
822  
Kalamia

368  
445

400  
853

493  
820

516  
757

267  
946  
399  
714

9914  
9850

9945 9895  
9953  
9880

8.00 953  
9555  
795

9777  
7.10

32ND

30

9890  
9946

9170  
9800  
9820 951

710  
9763  
910 966

Kalamia

726

625  
666

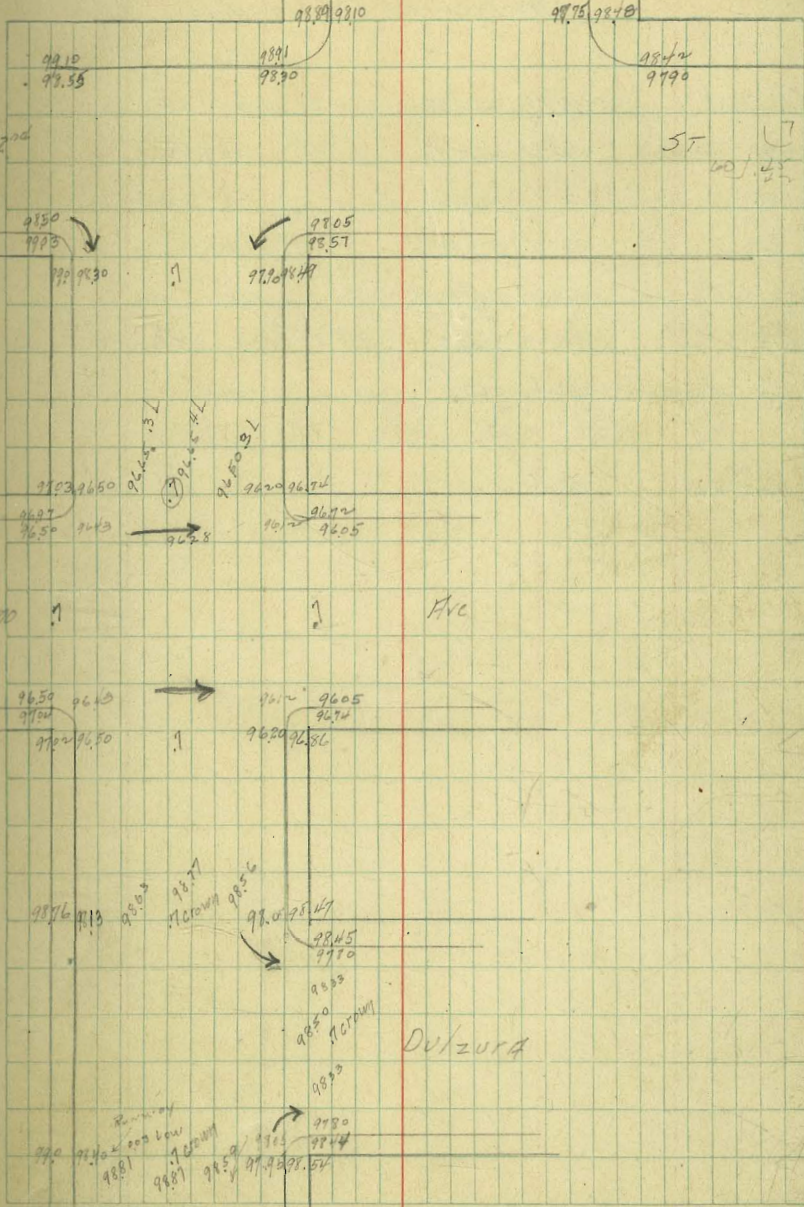
640  
9073

54  
710

32nd

5T

10/25



9804  
LAVRE  
950695.66

GRADES ON  
DOVE ST  
Washington to Douglas

raised to get gutter

3L Wash	264.75	264.50	264.25
50'	263.75	263.77	263.89
100'S	262.75	263.04	263.52
150'S	261.75	262.32	262.15
200'S	260.75	261.59	261.79
250'S	259.75	260.84	261.43
275'S = N.L. Douglas	258.75	260.15	261.45
3L Douglas	258.75		

plan grades

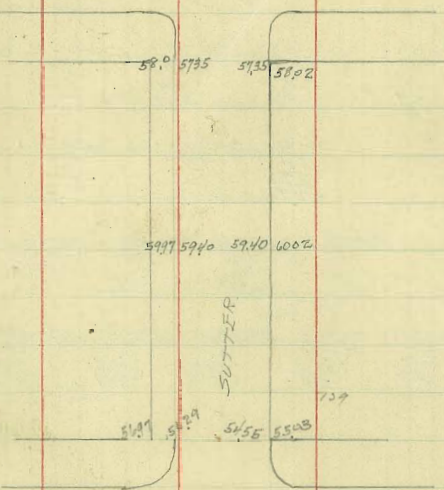
	264.47						
	570						
	270.18						
F	26389	26352	26315	26279	26243	26207	
	63	69	70	74	77	79	
	42	42	41	43	50	78	
	121	127	129	131	127	20	
W	26275	26275	2617	2607	25975	25921	
	64	74	84	94	104	100	
	47	51	57	66	81	89	
	117	123	127	128	113	110	
264.47	264	26361	26327	26290	26254	26218	2620
331	378	414	451	488	524	560	598
267.78	47	377	420	481	544	603	661
	-379	1037	1031	1007	1040	-003	1017
	26450	26377	26304	26232	26159	26086	2605
	358	401	474	526	619	692	738
	366	318	274	540	628	735	738
	-033	1042	00	1006	-009	-043	



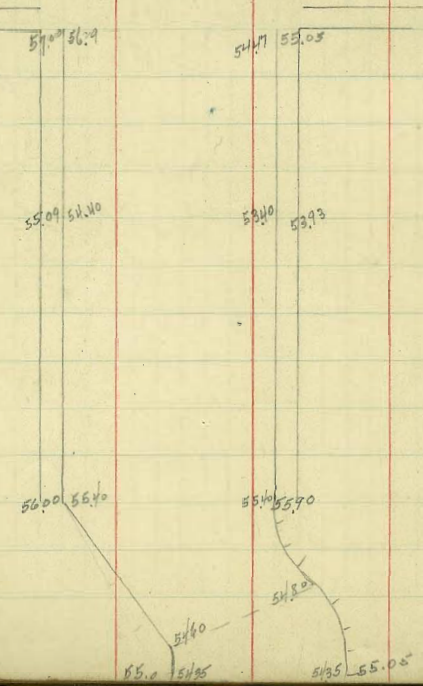
Eagle

~~56.99  
243  
59.42~~

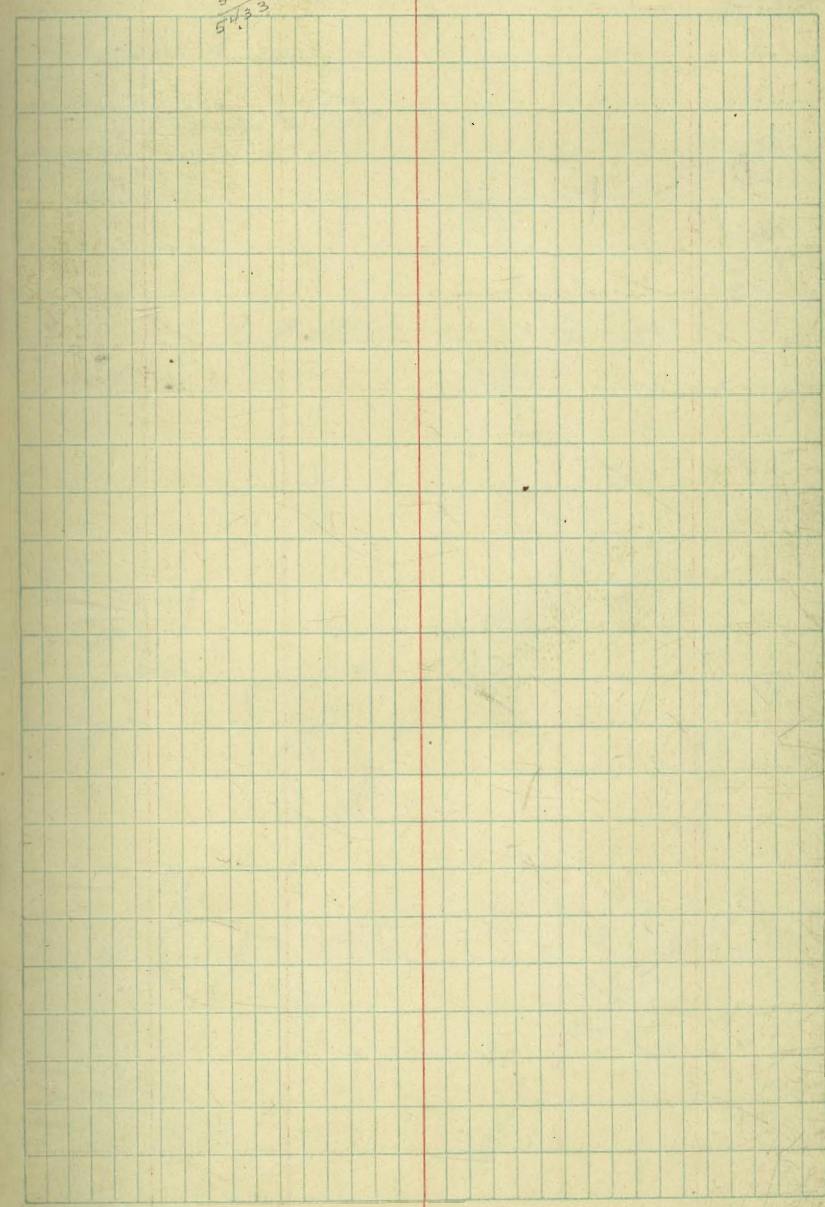
56.99  
243  
59.42



Goldfinch



~~50.9  
54.33~~





9232  
1.77  
94.11

8940  
934  
9874  
427  
9147  
561  
97.08

275  
137

87.72

89.59

8962

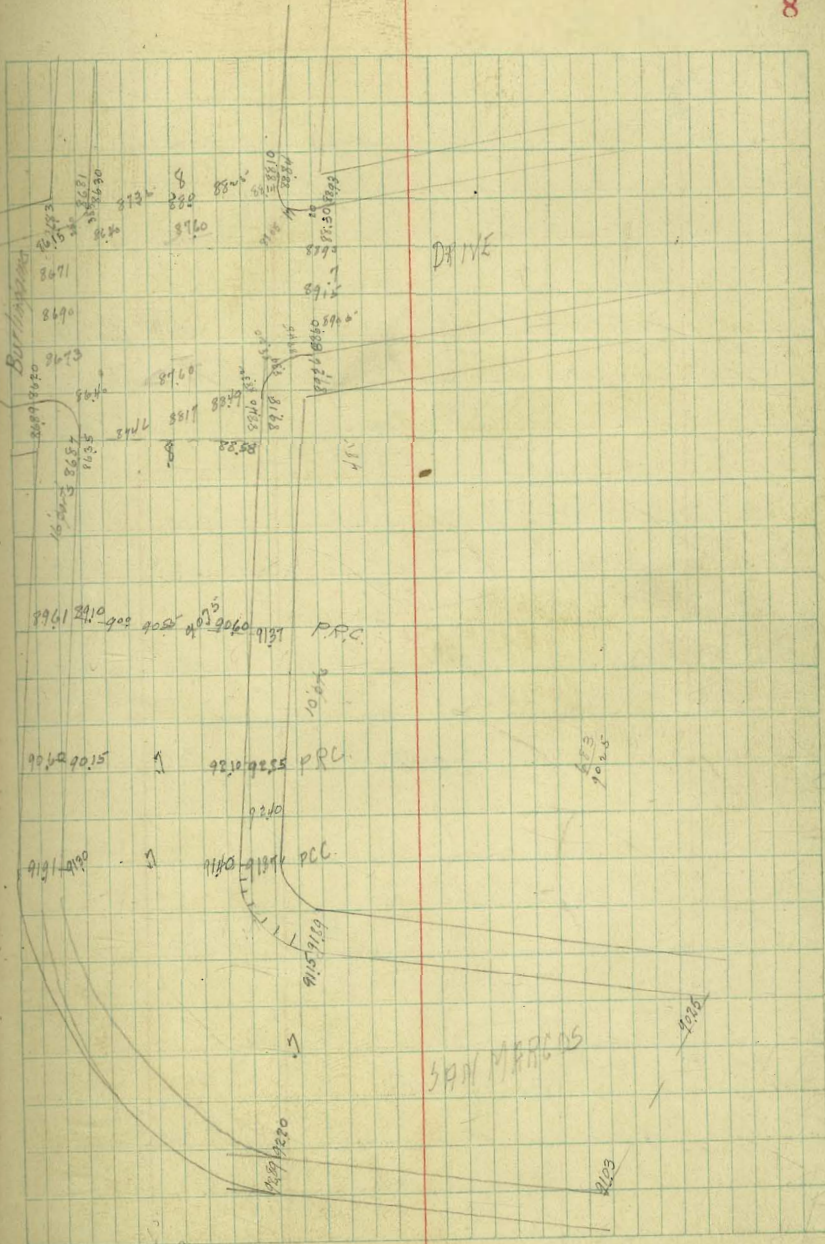
9125

9133

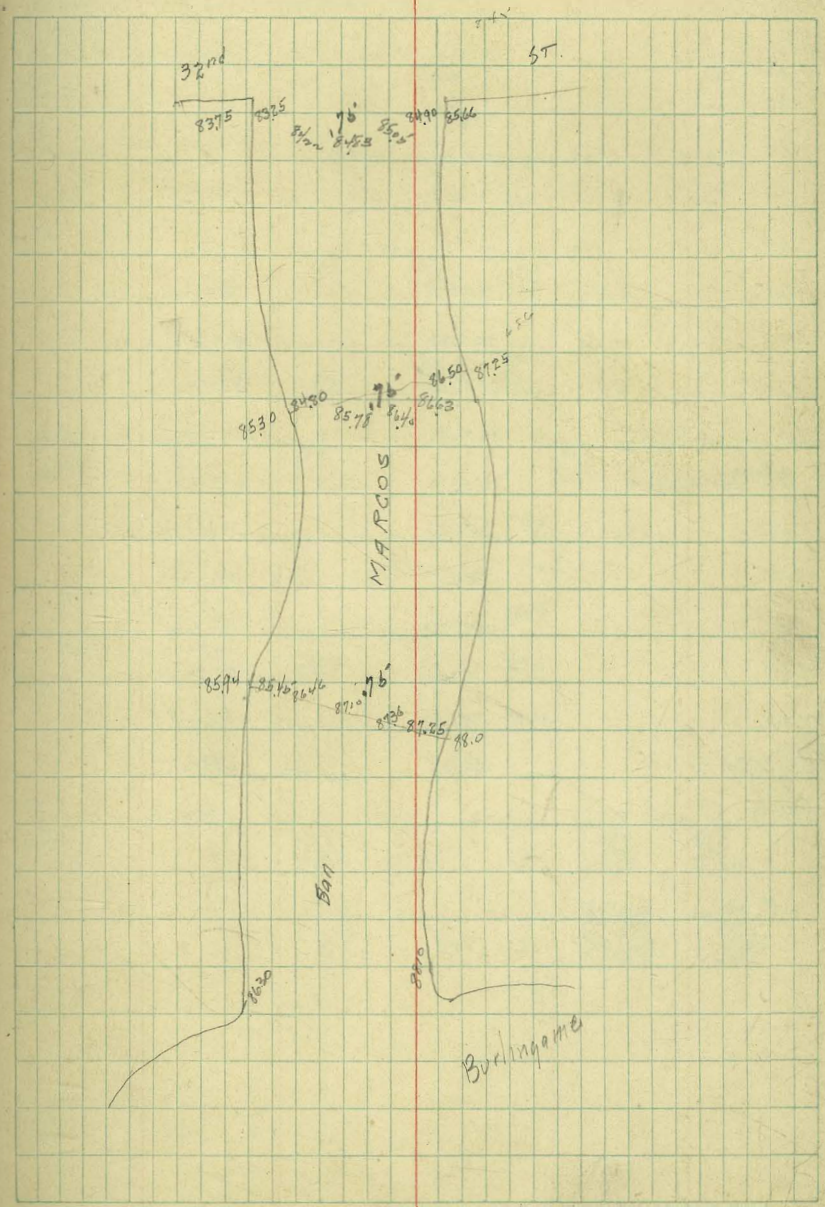
5.11  
9187

239

20.5



94.11

$$\begin{array}{r}
 8490 \\
 643 \\
 \hline
 9133
 \end{array}$$


GRADES ON  
BLAINE AVE  
Cleveland To Center

	H. 26	300	
W.L. of Center 8 W. EC	303.0	302.40	
50	303.08	302.25	
100	303.19	303.23	
140	304.51	303.99	
150	305.0	304.5	
160	305.23	304.59	
200	305.51	304.70	
250	305.80	304.80	
300 = E L Normal	305.70	304.80	
W.L. Normal	304.92	304.93	
50	304.15	304.17	
100	303.36	303.50	
150	302.61	303.02 EL Alley.	
200	301.81	302.85	
250	301.07	302.68 W.L. Alley	
301.45 = PC 200 N	300.00	302.20	
319.49 = PC 00 S		301.55	
		300.70	
		300.65	

30 + 70  
532  
31083

30 + 70  
613  
518  
095

45  
437  
531  
532  
118

305.99 4.24 310.22	N	305.24	304.43	305.61	306.8	306.54	306.30	
			5.8 5.8 0.0	4.6 4.5 -0.7	3.4 3.4 -1.5	2.7 2.7 0.0	3.9 3.4 +0.5	
305.95 2.35 308.93			303.85 6.4 6.4 -0.2	305.11 5.1 5.6 -0.5	306.34 3.9 4.4 -0.6	305.9 4.3 3.9 +0.4	305.5 4.7 4.1 +0.6	
	N	305.18	304.22	305.64	306.24	306.17		
		5.0 5.9 -0.9	5.8 6.8 -1.2	6.6 6.8 -0.2	7.3 7.4 -0.1	8.1 8.2 +0.2		
	S	304.66	303.74	305.10	306.45	306.80	306.15	
		5.5 5.5 -0.7	6.5 7.2 -1.2	7.1 7.6 -1.4	7.8 8.2 -1.0	8.4 8.7 -0.8	9.1 9.1 +0.2	
305.98 2.82 308.80	S	305.80	304.25			303.50	303.07	302.97
		3.02 3.02 -0.02	4.65 4.40 +0.25			5.30 4.88 +0.42	5.78 6.18 -0.40	5.83 6.20 -0.37
	N	304.80	304.80	305.70	306.92	306.15	306.2	
		4.00 3.12 +0.20	4.00 4.07 -0.07	5.10 3.74 -0.14	5.87 3.79 +0.09	4.65 4.84 -0.10		
	S	W.L. Alley 302.68	1st W 302.61	2nd W 301.34	PC 300.65			
		6.12 5.81 +0.15	6.79 6.84 +0.15	7.46 7.53 -0.07	8.15 8.35 -0.20			
	N	303.35	304.61		301.54	301.07		
		5.02 5.55 -0.13	6.19 6.35 -0.16		6.96 6.67 +0.29	7.73 7.57 -0.14		
305.98 3.02 309.22	S	304.40	304.54	304.5	304.45	303.99	303.23	
		4.82 4.41 +0.7	4.65 3.71 +0.8	4.72 4.1 +0.51	4.77 3.8 +0.97	5.23 4.84 +0.34	5.99 5.91 +0.08	
		3.71 3.9 +0.32	3.99 3.71 +0.28	3.05 4.24 +0.56	304.96 4.26 3.77 +0.49	304.51 4.71 4.22 +0.49	303.79 5.23 4.74 -0.41	

W.L. Alley  
4.67  
3.02  
+1.43

EL Alley  
304.75  
4.47  
5.91  
0.62

4.45  
3.6

4.9

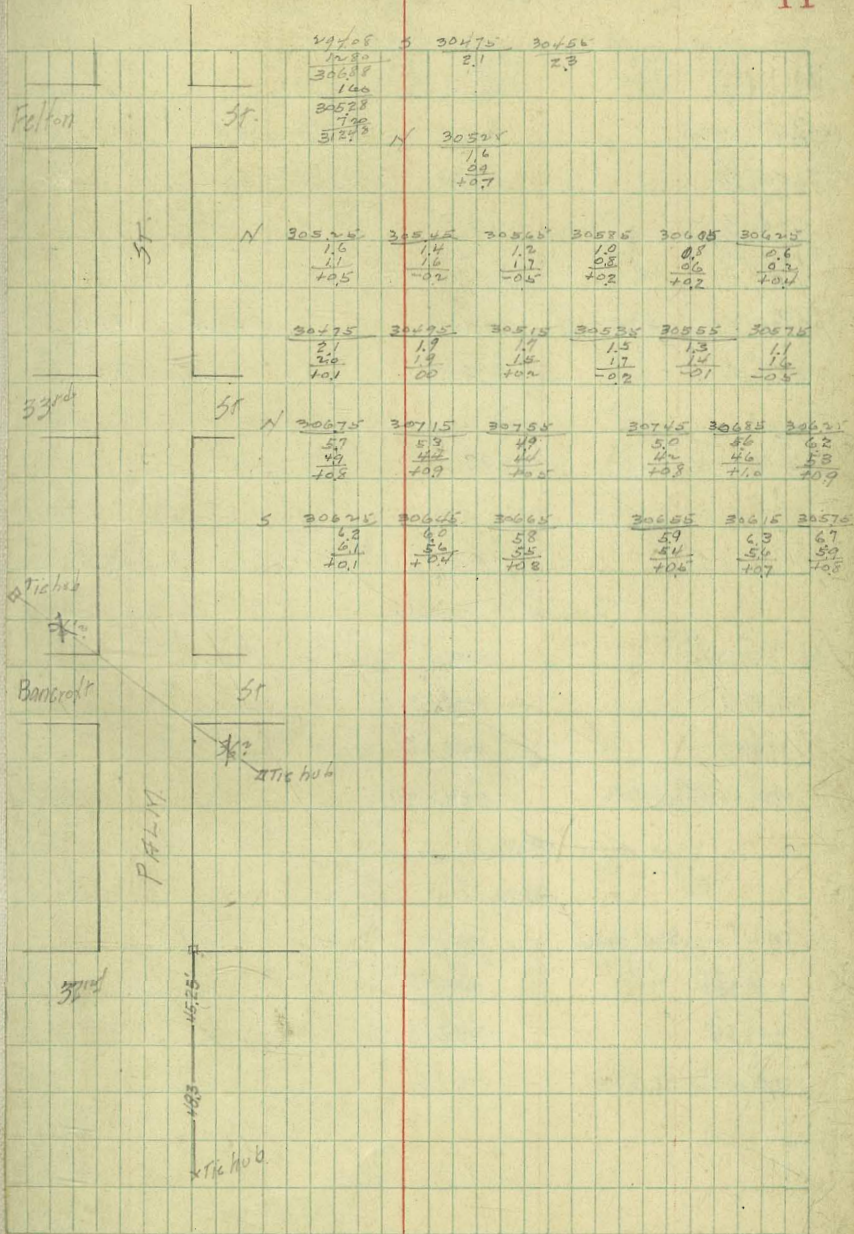
GRADES ON PALM ST.  
32<sup>nd</sup> To Felton.

E.L. Felton	-0.4	306.0	305.5	-0.1
W. ✓	+0.9	306.0	305.5	+0.8
50' W		306.6	305.9	
100' ✓		307.2	306.3	
125' ✓		307.5	306.5	
150' ✓		307.3	306.4	
200' ✓		306.9	306.2	+0.1
250' ✓ = EL 33 <sup>rd</sup>		306.5	306.0	+0.1
W.L. 33 <sup>rd</sup>		306.0	305.5	
50' W		305.8		
100' ✓		305.6		
150' ✓		305.4		
200' ✓		305.2		
250' ✓ = EL Bancroft <sup>+0.5</sup>		305.0	304.5	
W.L. Bancroft	+0.1	305.0	304.5	+0.1
50' W	+1.2		304.30	+0.5
100' ✓	+1.2			+0.8
150' ✓	+1.3			+1.4
200' ✓	+1.0			+2.2
250' ✓ = EL 32 <sup>nd</sup> +0.9		304.0	303.5	+2.8

SEE BOOK 1094

B.M. care at walk S.W. of house N side E. of Alley bet 33<sup>rd</sup> & Felton. 308.34

11



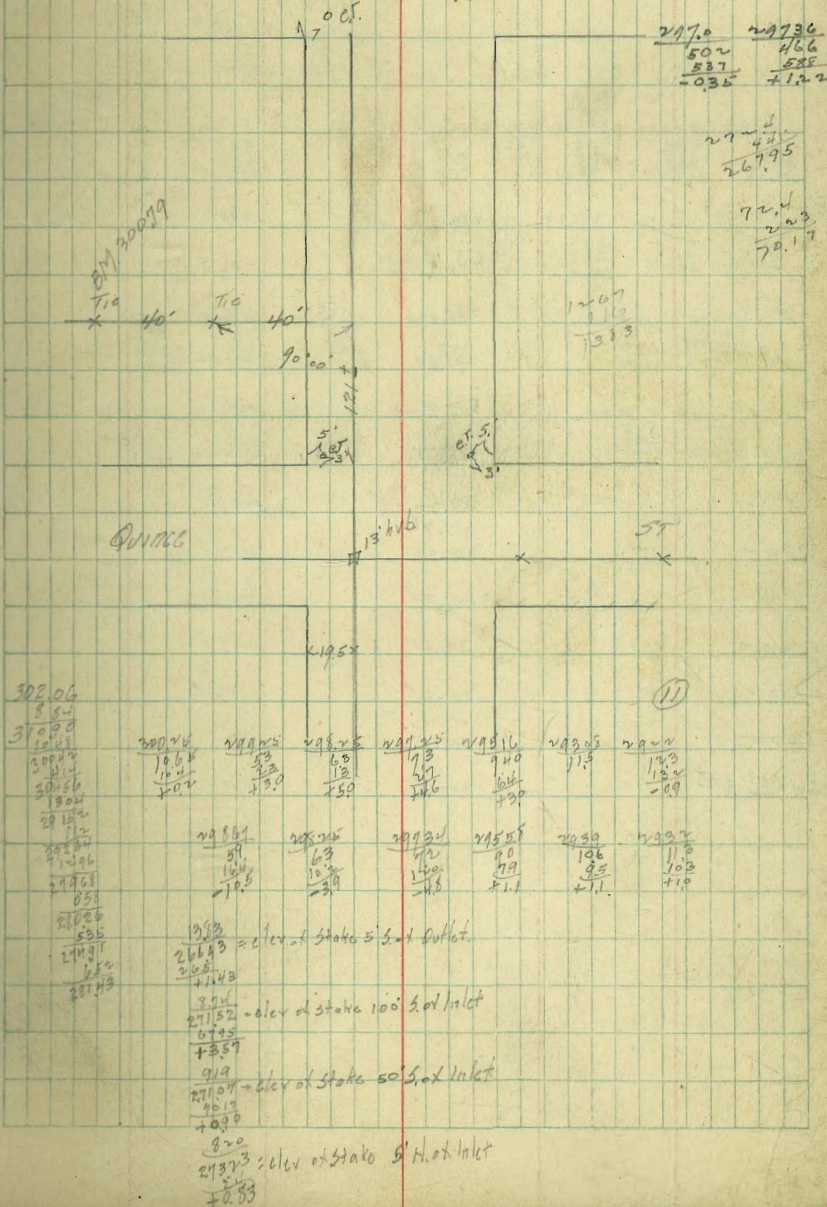
GRADES ON  
3<sup>rd</sup> ST  
Quince to Redwood

5L Redwood	300.0	299.5	299.0	
50' S	299.0	298.67	-10.5	
45' S		298.25	-3.9	
100' S	298.0			
143' S	297.4	297.09	-4.8	
150' S	297.0	297.0		
200' ✓	294.41	295.33	+1.1	
250' ✓	292.83	293.67	+1.1	
270' S	2			
NL Quince	-0.9	298.0	293.0	+1.0

Side walk grades

5L Redwood	300.0		
41.33 S	299.17		
82.66 S	298.35		
124' S = Alley Stake	297.52		
	297.91		
	297.39		297.96
146' S = Alley Stake	297.02	297.0	
187.33 S	295.34	295.67	
228.66	293.67	294.33	
270.00 S = NL Quince	297.0	293.0	

304.67	300.0	299.17	298.35	297.52	297.11	297.39	297.02
299.63	467	285	367	450	421	463	500
302.02	504	270	350	415	422	450	444
	-237	285	40.17	40.25	7009	2013	1036
	Wendell						12
	+0.11	295.34	293.67	294.0	293	294.33	295.67
		668	835	1002	902	767	635
		256	823	952	822	777	401
		201	212	4049	2049	2008	1030



4/25/4

GRADES ON REDWOOD  
31st to 32nd

H.C.C.

20 41

98  
85 } 1.5  
1.5 } 5.0  
1.0 } 1.5

301.59

301.69  
2.58  
6.9  
-0.09

EL. Herman

295.26

295.0

295.0

W. Herman

296.0

296.0

20 W

297.46

297.20

40 "

298.69

298.30

60 "

299.76

299.21

80 "

300.61

299.92

100 "

301.24

300.44

120 "

301.28

300.74

140 "

301.34

300.58

160 "

301.81

300.30

180 "

301.55

300.55

220.5 W

300.77

299.77

265 W = EL 31st

300.0

299.0

245  
301.19

81.0  
83

116  
15.3  
13

300000 TP	N	295.25	298.04	300.86	301.9	302.06	301.8	301
0.25		13.0	9.8	1.3	6.3	6.1	6.0	4.2
308.20		11.0	2.3	2.0	22.1	2.4	3.0	14.0
		-2.18	+1.5	+1.3	+4.1	+2.7	+3.0	-2.8

	S	295.25	296.25	295.5	300.17	301	301	300.8
		13.0	12.0	9.6	8.0	7.2	7.4	7.4
		12.0	8.8	6.6	6.0	6.8	4.8	7.1
		+0.9	+3.7	+3.0	+2.0	+0.4	+0.1	+0.1

302.06	N	301.19	301.51	301.81	301.84	301.28	301.24	200.61
10.28		3.48	3.2	2.8	2.8	3.3	3.3	4.06
312.74		4.6	2.9	2.0	2.8	3.9	3.5	3.5
19.07		-0.88	-0.11	0.24	0.2	+0.21	-0.16	4.84
301.67								
2.00								
304.67								

	S	300.84	302.38	300.74	300.44	299.92
		3.83	3.79	3.93	4.23	4.75
		4.31	3.85	3.86	4.29	4.71
		-0.53	-0.10	4.07	-0.06	-0.16

N	299.76	298.69	297.40	296.0	295.0	294.6
	4.91	5.98	7.27	8.47	9.67	10.27
	4.15	4.90	3.40	8.89	9.56	10.03
	+0.16	+0.08	-0.13	-0.22	+0.11	-0.36

S	299.21	298.30	297.20	296.0	295.50	295.0
	5.46	6.87	7.47	8.47	9.17	9.67
	4.66	6.64	7.53	8.43	9.11	9.56
	-0.20	-0.27	-0.06	+0.01	-0.04	-0.17

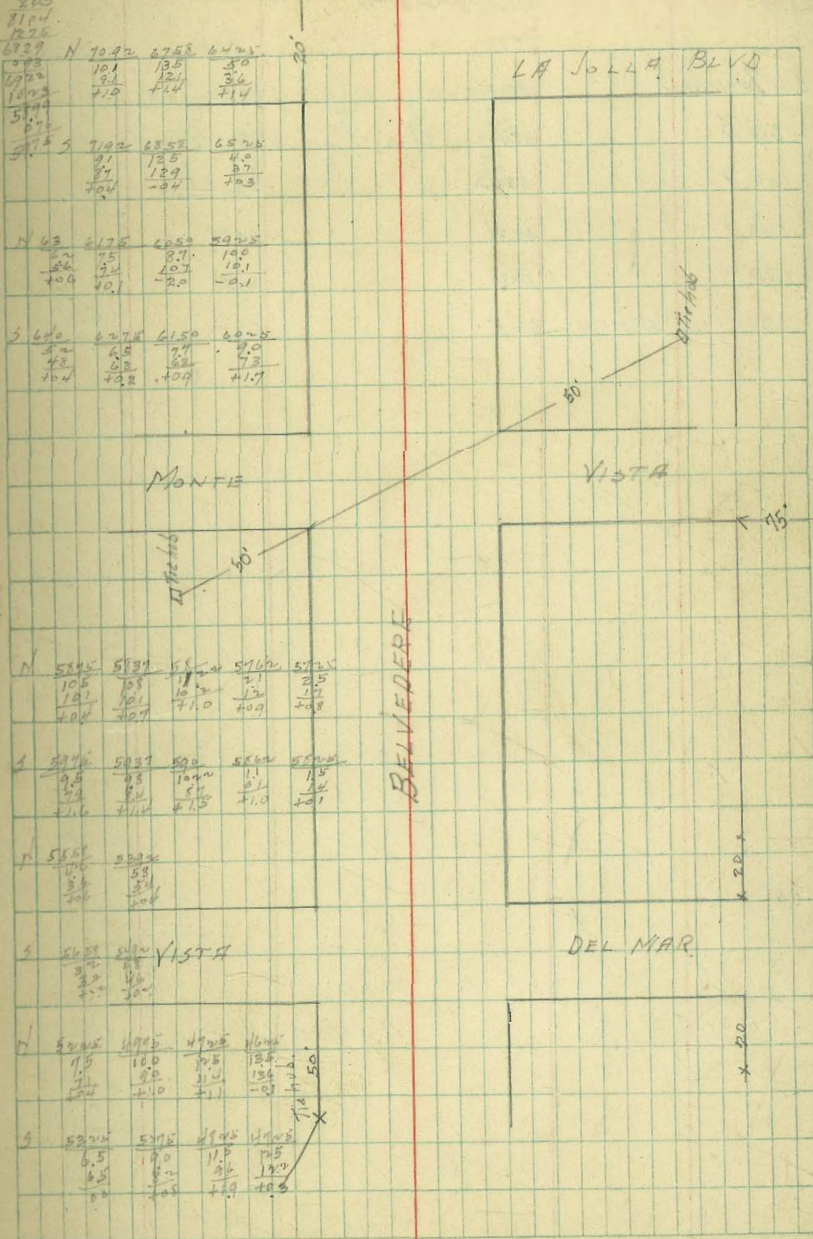


4/29/24 Grego. f

GRADES ON  
BELVEDERE ST.

	71.0	56.6
W.L. La Jolla Blvd	74.0	75.0
60' W	70.69	71.67
120' V	67.33	68.33
180' V break	64.0	65.0
250' V	62.75	63.75
320' V	61.50	62.50
390' V	60.25	61.25
460' = EL Montellista	59.0	60.0
W.L. Montellista	58.5	59.5
42.5' W	58.12	59.12
85' V	57.95	58.95
127.5' V	57.81	58.81
170' V break	57.0	58.0
230' V	55.33	56.33
290' V	53.69	54.69
350' V break	52.0	53.0
405' V	49.50	50.5
460' W = EL Vista Del Mar	47.0	48.0
W.L. Vista Del Mar	46.0	47.0

7901 SE Westbourne



4/29/20 Gregory

GRADES ON  
MONTE VISTA

50' wide

	Web	Feb
54. Belvedere	59.5	60.00
60.5	62.0	62.5
100 ✓	62.63	63.13
140 ✓	63.26	63.75
180 ✓	63.88	64.38
220 ✓ - Westbourne	64.5	65.0

15

6922 W

	62.25	62.88	63.50	64.13	64.75
	7.0	6.5	5.7	5.1	4.5
	6.2	6.2	5.4	4.9	4.5
	5.4	5.0	4.3	3.8	3.0
E	62.75	63.38	64.01	64.63	65.25
	6.5	5.8	5.2	4.6	4.0
	5.7	5.1	4.4	3.8	3.4
	4.9	4.7	4.1	3.5	3.0

4/29/24

GRADES ON  
VISTA DEL MAR.

55 wide

W 66

St. Belvedere

47.0

48.0

55'S

47.87

48.87

110' ✓

48.75

49.75

165' ✓

49.62

50.62

220' ✓ - N/2 Westbourne

50.5

51.5

4812  
11.6

16

599'	W	47.87	49.80	49.87	50.75
		11.7	11.2	9.8	9.0
		11.8	10.9	9.8	9.0
		-0.2	-0.2	-0.5	-0.7
	E	49.13	50.0	50.87	51.75
		10.6	9.75	8.9	8.0
		8.8	7.7	7.1	6.2
		71.5	70.0	71.8	71.8



4/30/24

GRADES ON McCALL ST  
San Gonzalo to San Fernando.

EL San G.	-53	145	+6.3	146.0
60		136.6		137.6
120		128.2		129.2
180		119.8		120.8
240		111.4		112.4
300 E. WL San F		103.0		104.0

9.456  
10.5  
11.6

51.9  
53.9  
55.9  
57.9

1301  
1320  
1322

146.40	N	137.80	120.15	121.05	112.65	
12.71		15.55	6.4	12.8	9.52	
33.67		4.45	1.4	2.2	5.1	
4.23		7.0	3.0	3.0	4.0	
138.86		134.85	120.84	120.05	115.6	
12.49	S	3.0	5.7	13.8	10.5	
127.36		3.7	0.8	13.6	3.7	
0.61		-0.7		10.2	1.8	
120.17						
146.95		145.0				
8.18		5.13				
150.13		3.50	+1.25	+0.72	+0.34	+0.40
		+1.63				+0.10

WL San F

5/1/34 Gregory

SEWER Construction  
& Alley of Blocks  
75 & 46 Park Villas  
from NW 5' S. of NL Balboa Park  
To 30' S. of Dwight St.NW 5' S. of NL of  
Park 0+006.17  
567285.18  
280.08

1077

279.01  
274.41NE Arnold  
+ Myrtle

260.0

0+50

1244

267.64

262.33

+5.31

1

1045

269.63

264.66

+4.97

+50

838

271.70

266.99

+4.71

2

1282

287.23

567

274.41

269.32

+5.99

+50

944

277.79

271.65

+6.14

3

840

278.83

273.98

+4.85

+50

505

282.15

276.31

+5.35

+86.31

Drop.

M.L. Myrtle

300

284.23

278.0

+6.43

300

284.23

281.0

+3.23

4

T.P.

808

293.93

240

284.83

281.11

+3.72

138

285.85

738

286.55

281.53

502

+50

5

623

287.70

281.24

676

+50

613

287.80

282.36

544

6

742

286.51

282.77

374

+56.6 = M.K.

778

286.15

283.25

290

7

784

286.09

283.60

249

+50

692

287.01

284.02

+2.99

8

603

287.90

284.13

+3.49

+50

508

288.85

284.86

+4.00

9

394

289.99

285.29

+4.74

+50

344

290.49

285.69

+4.80

+86.31 = DE 30' S. of Dwight

370

290.23

286.0

+4.23

386.1

270

656.6

330

386.6

46

36

276

138

165

19



24th St Job.

20195  
433  
2628

0025  
452  
510

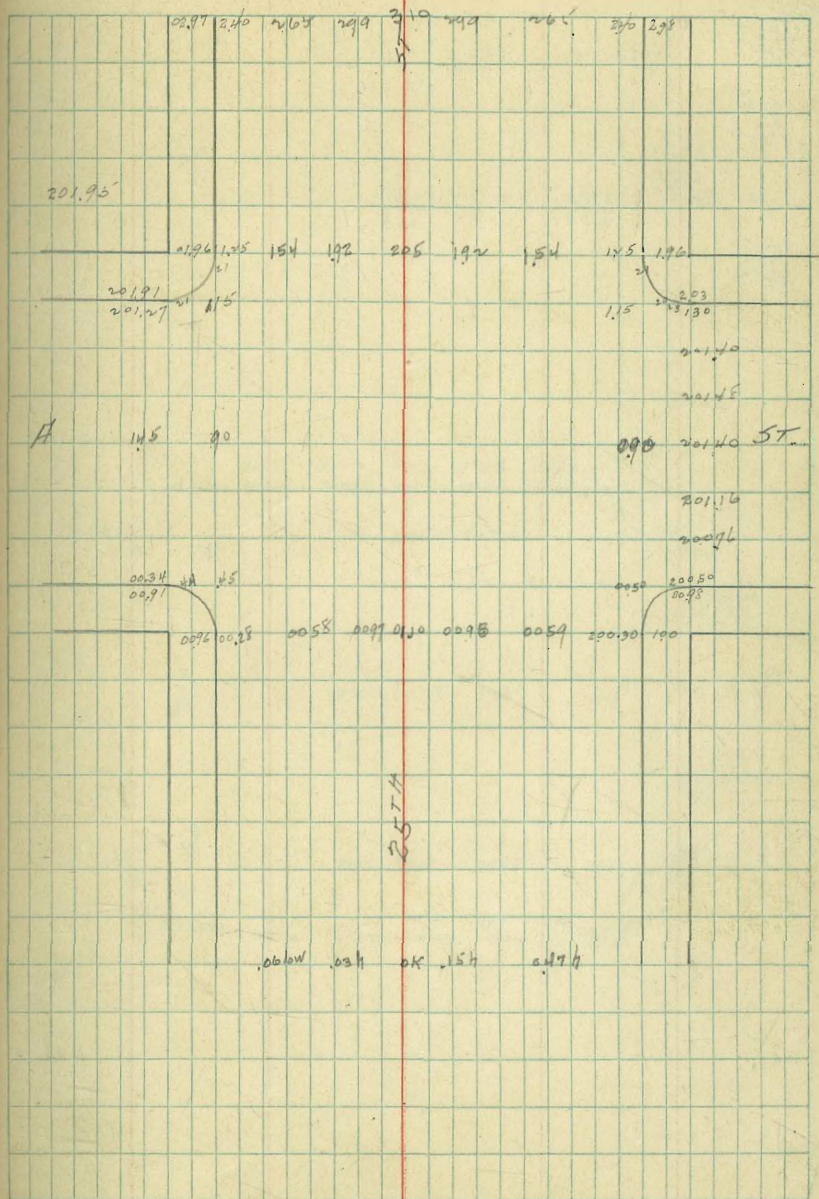
452  
196

0034

251

21

201.95



2574



17985  
560  
185.48

7983 8017 8031  
4.58 4.24 4.10

8025  
416  
84.41

79.20  
486

86.90 84.16

7983 8017 8031  
4.83 3.99 3.85

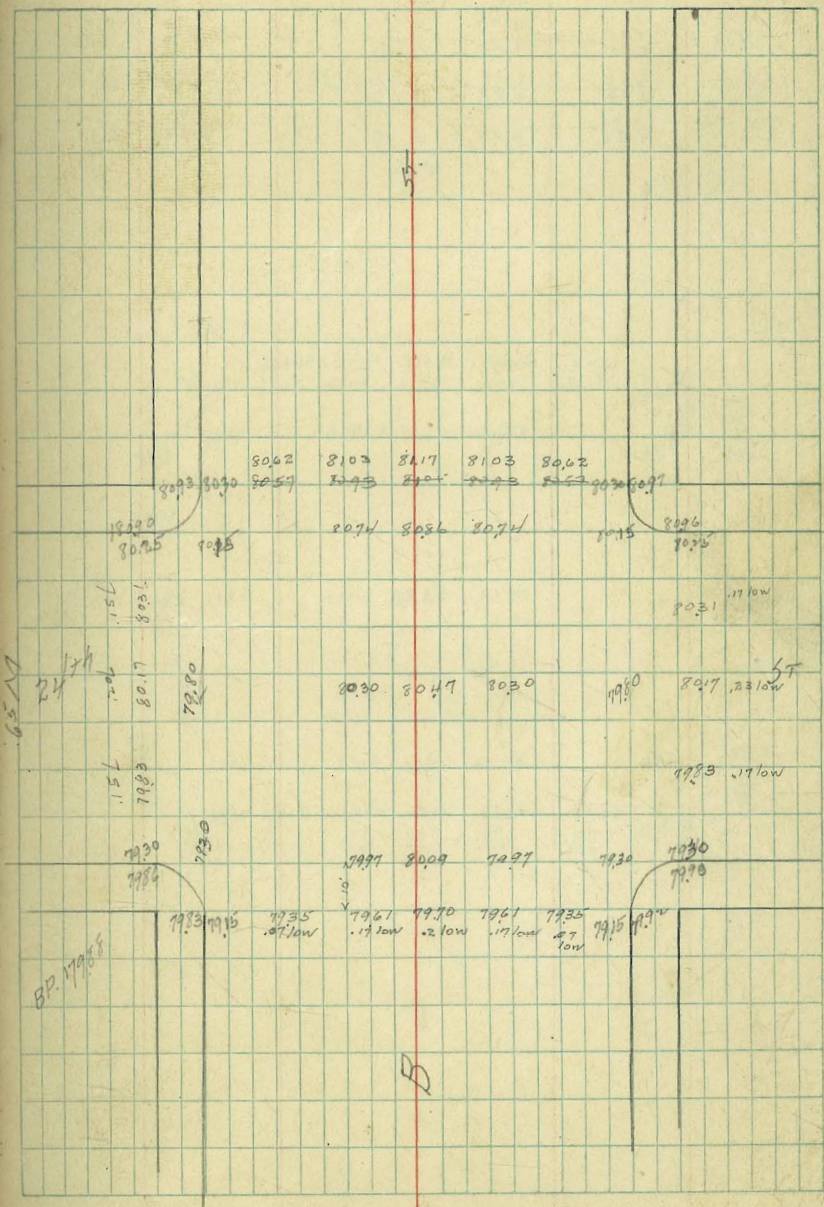
8025  
487  
85.12

50/4

473/7

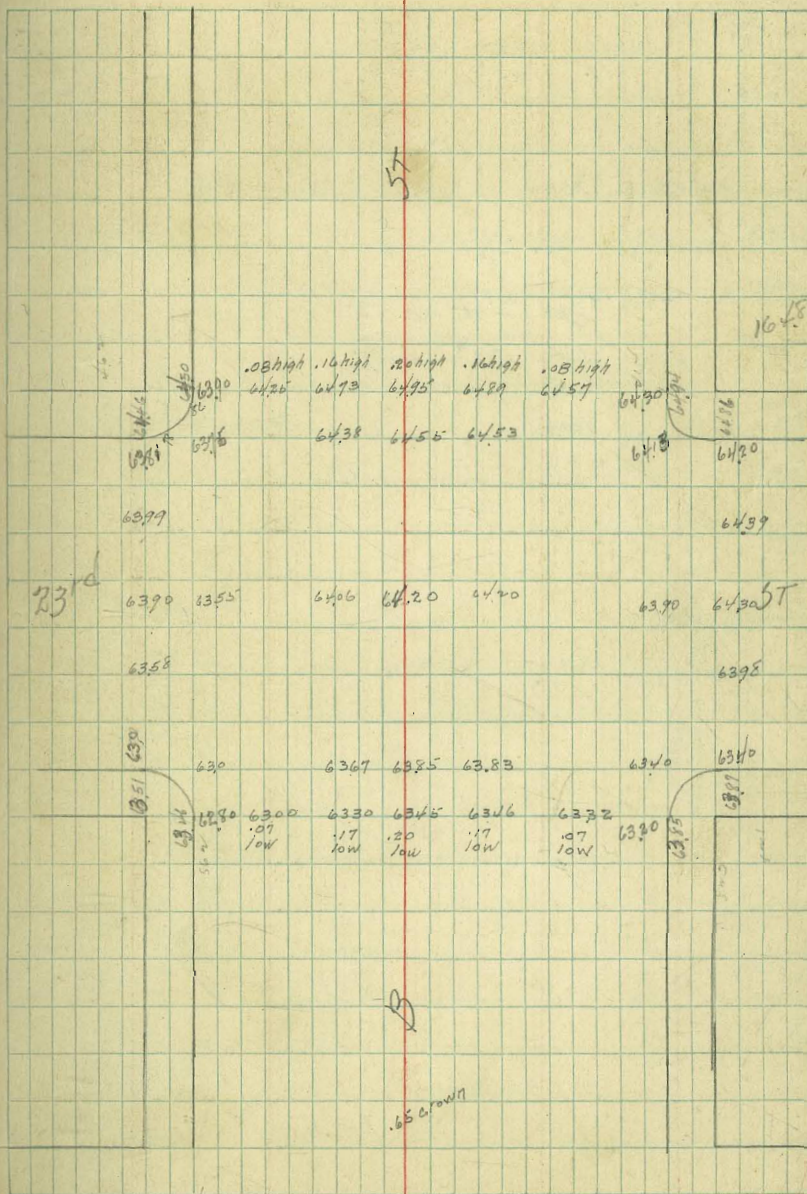
25th

ST  
22



164.87	64.2	4.39	4.30	3.98	3.40	3.90
4.59	4.40	4.49	4.81	5.39	4.89	
164.87	4.13	4.57	4.89	4.95	4.73	4.25
4.21	4.66	4.22	3.90	3.84	4.06	4.54
168.08	3.75	4.34	4.54	4.53	4.20	4.06
5.04	4.81	4.24	4.26	4.59	4.73	
164.87	3.55	3.99	3.40	3.58	3.00	3.67
3.92	5.24	4.80	4.89	5.21	5.79	5.12
168.77	3.85	3.83	3.32	3.46	3.45	3.30
4.84	4.96	5.47	5.33	5.34	5.49	

23



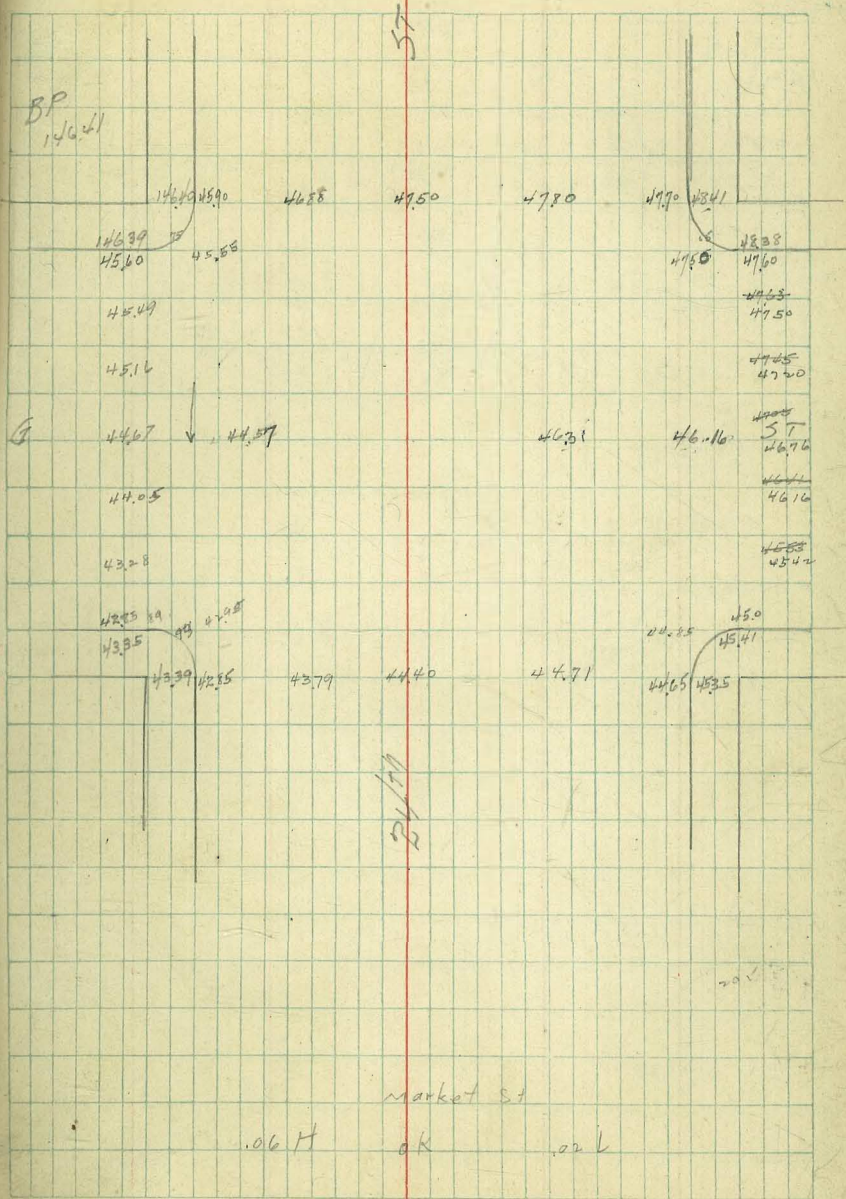
146.41  
3.50  
149.91

42.85  
41.3  
46.98

146.41  
2.69  
149.10

4379 3.19	4440 2.58	4471 2.27				
4298 6.88	4328 5.84	4405 5.05	4467 4.83	4516 3.94	4549 3.61	4545 65
4400 4.68	4487 4.53	4485 2.8	53 5.1	41 6.9	85 1.05	4690 3.20
4705 2.05	4745 1.65	4763 4.7	4780 1.60			

BP  
146.41



1150  
373  
15.23

$\frac{1052}{4.71}$   $\frac{1102}{4.21}$   $\frac{1090}{4.331}$   $\frac{1053}{4.70}$

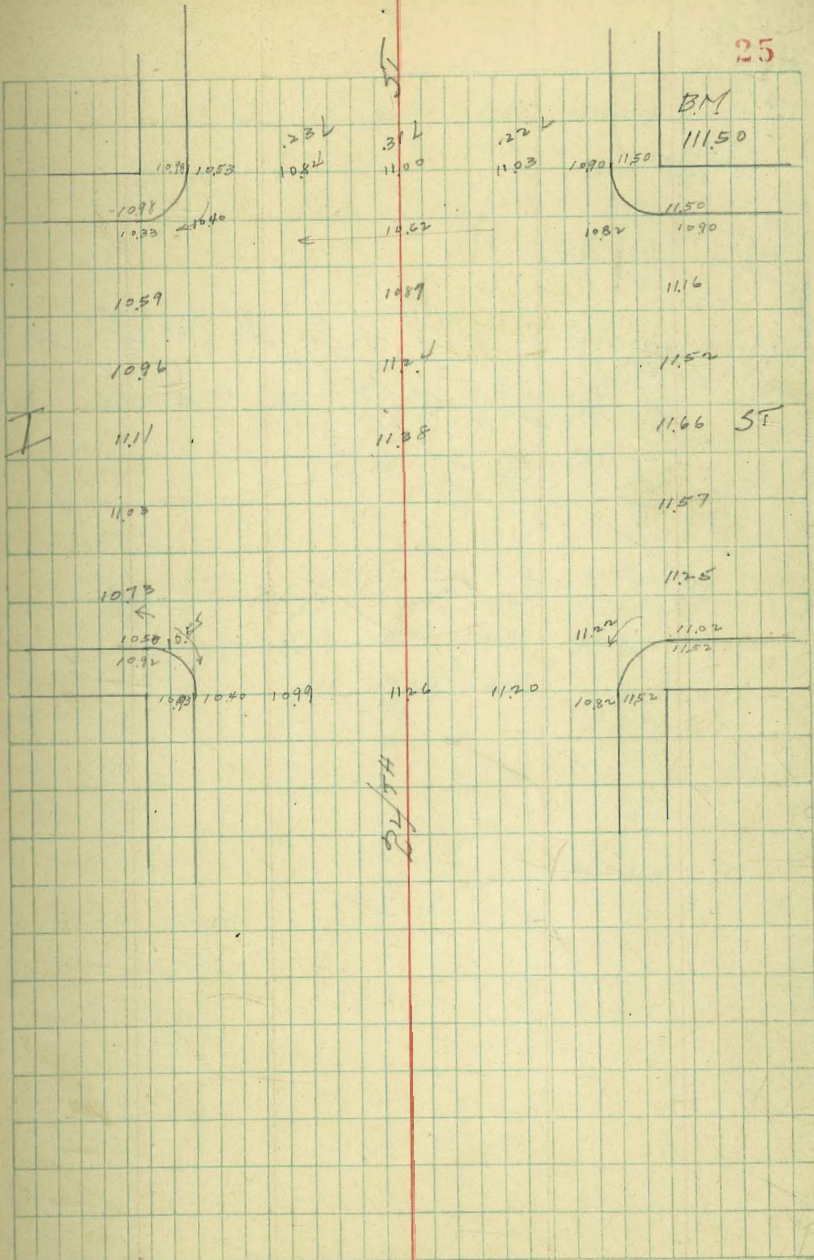
1090  
562  
1652

$\frac{1052}{5.68}$   $\frac{1100}{5.52}$   $\frac{1103}{5.49}$   $\frac{38}{20}$   
62

1150  
431  
581

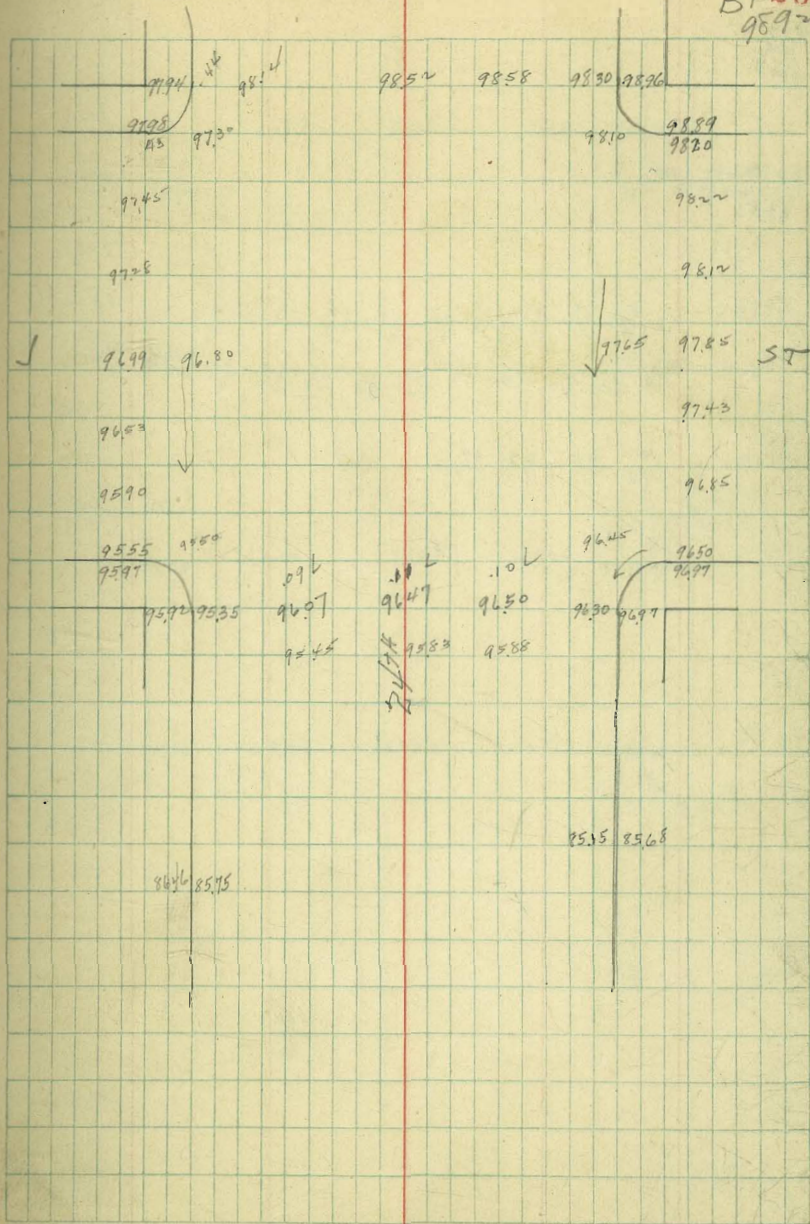
$\frac{1120}{4.61}$   $\frac{1126}{4.55}$   $\frac{1135}{4.28}$   $\frac{1060}{5.19}$   $\frac{1111}{4.70}$   $\frac{1096}{4.85}$   $\frac{1059}{5.22}$   $\frac{1040}{5.04}$   $\frac{1030}{4.99}$

$\frac{1116}{4.65}$   $\frac{1152}{4.29}$   $\frac{1166}{4.15}$   $\frac{1157}{4.24}$   $\frac{1125}{4.56}$   $\frac{1122}{4.59}$   $\frac{87}{92}$



$$\begin{array}{r} 9892 \\ 1004 \\ \hline 10090 \\ 2714 \\ \hline 209 \\ \hline 8923 \end{array}$$
$$\begin{array}{r} 9892 \\ 37 \\ \hline 0063 \end{array}$$
$$\begin{array}{r} 9892 \\ 320 \\ \hline 10262 \end{array}$$
$$\begin{array}{r} 9858 \\ 3.05 \\ \hline 9852 \\ 4.11 \\ \hline \end{array}$$
$$\begin{array}{cccccccc} 9820 & 825 & 810 & 810 & 820 & 820 & 785 & 743 & 685 & 648 \\ \hline 1.22 & 3.1 & 4.4 & 5.2 & 6.0 & 5.0 & 4.77 & 5.17 & 5.77 & 5.94 \end{array}$$
$$\begin{array}{cccc} 650 & 650 & 647 & 647 & 645 & \textcircled{645} & 705 \\ \hline 1.4 & 3.2 & 6.15 & 6.62 & 5.5 & 6.17 & 4.97 \end{array}$$
$$\begin{array}{cccc} 525 & 550 & 590 & 653 & 699 & 680 & 582 \\ \hline 2.1 & 7.14 & 7.4 & 6.09 & 6.8 & 5.82 & \end{array}$$
277  
8646382  
8568

57

BP26  
9592

7943  
560  
8503

6289  
562  
6851

7943  
4.01  
834.4

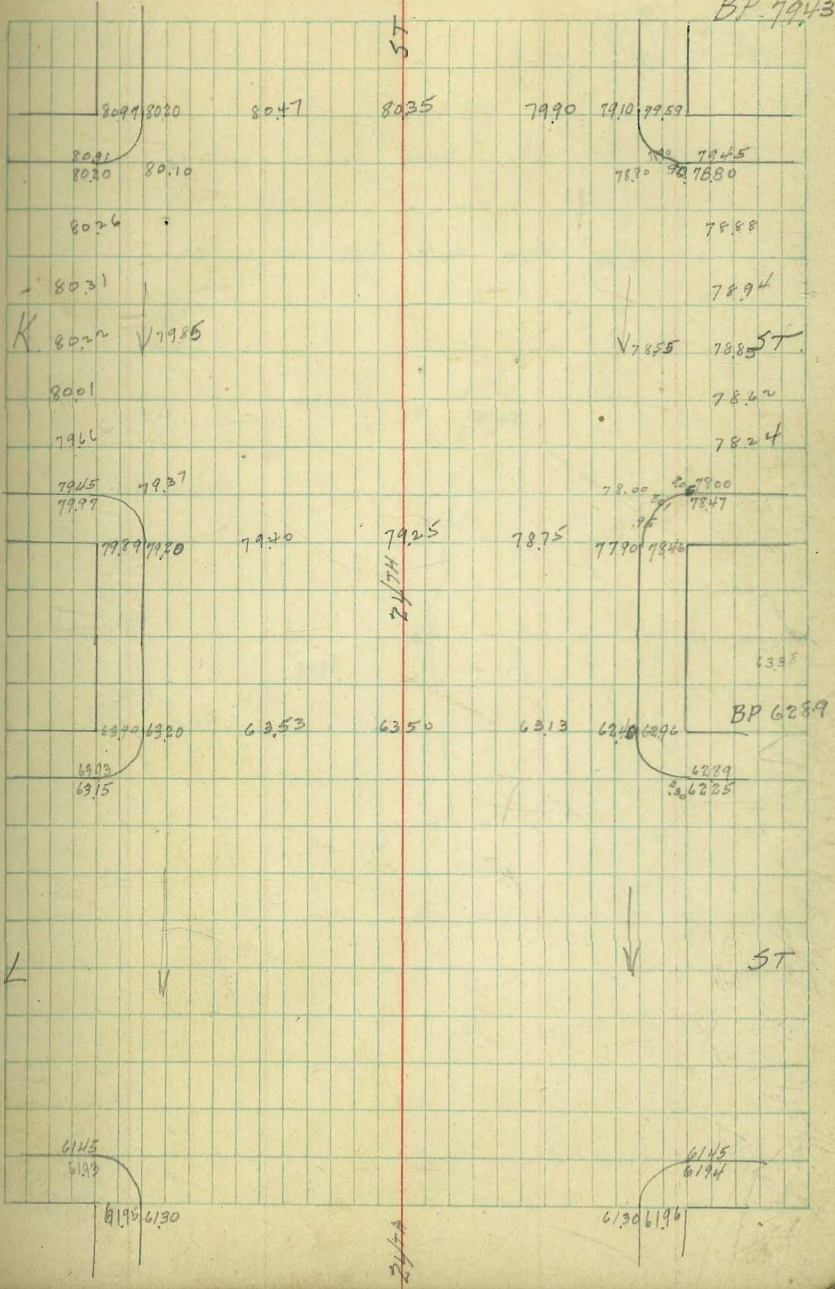
6289  
679  
69.68

$\frac{82}{66}$	$\frac{92}{54}$	$\frac{98}{56}$	$\frac{94}{50}$	$\frac{85}{45}$	$\frac{62}{82}$	$\frac{24}{22}$	$\frac{20}{19}$	$\frac{40}{37}$
$\frac{85}{45}$	$\frac{62}{82}$	$\frac{24}{22}$	$\frac{20}{19}$	$\frac{40}{37}$	$\frac{25}{19}$	$\frac{40}{37}$	$\frac{27}{107}$	
$\frac{46}{78}$	$\frac{0}{63}$	$\frac{22}{22}$	$\frac{31}{13}$	$\frac{26}{18}$	$\frac{27}{24}$	$\frac{10}{34}$	$\frac{47}{97}$	$\frac{25}{109}$
$\frac{90}{54}$	$\frac{155}{489}$	$\frac{985}{359}$						
$\frac{40}{23}$	$\frac{13}{55}$	$\frac{59}{18}$	$\frac{53}{15}$	$\frac{320}{648}$				

627  
846

523  
61  
568

BP. 7943



FIR 5+ GRADES

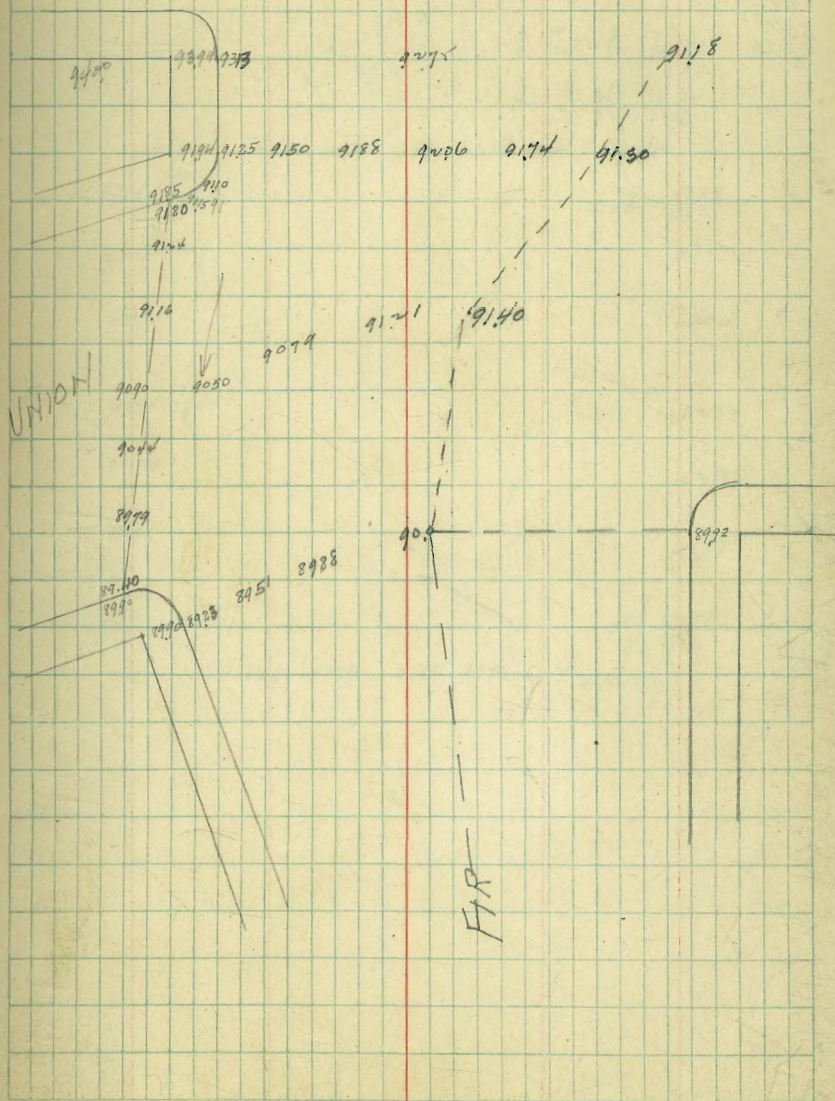
$$\begin{array}{r} 94.00 \\ 20.00 \\ \hline 96.02 \end{array}$$

$$\begin{array}{r} 94.00 \\ 11.8 \\ \hline 95.8 \end{array}$$

$$\begin{array}{r} 105 \\ 117 \\ \hline 112 \end{array}$$

$$\begin{array}{r} 61 \\ 11 \\ \hline 50 \end{array}$$

ALBATROSS

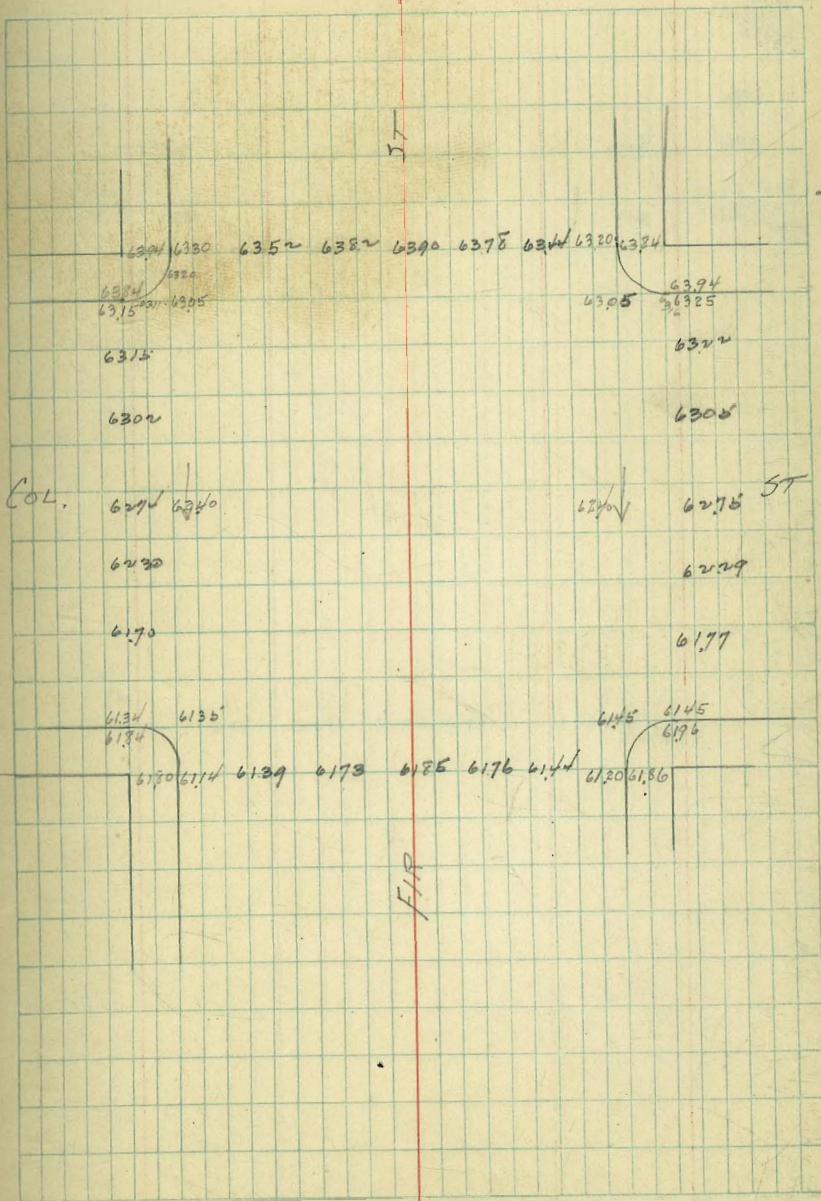


FIR 5<sup>th</sup> GRADES

6199  
601  
6800

66  
6330  
6784

14	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
20	26	31	36	41	46	51	56	61	66	71	76	81	86	91	96
16	21	26	31	36	41	46	51	56	61	66	71	76	81	86	91



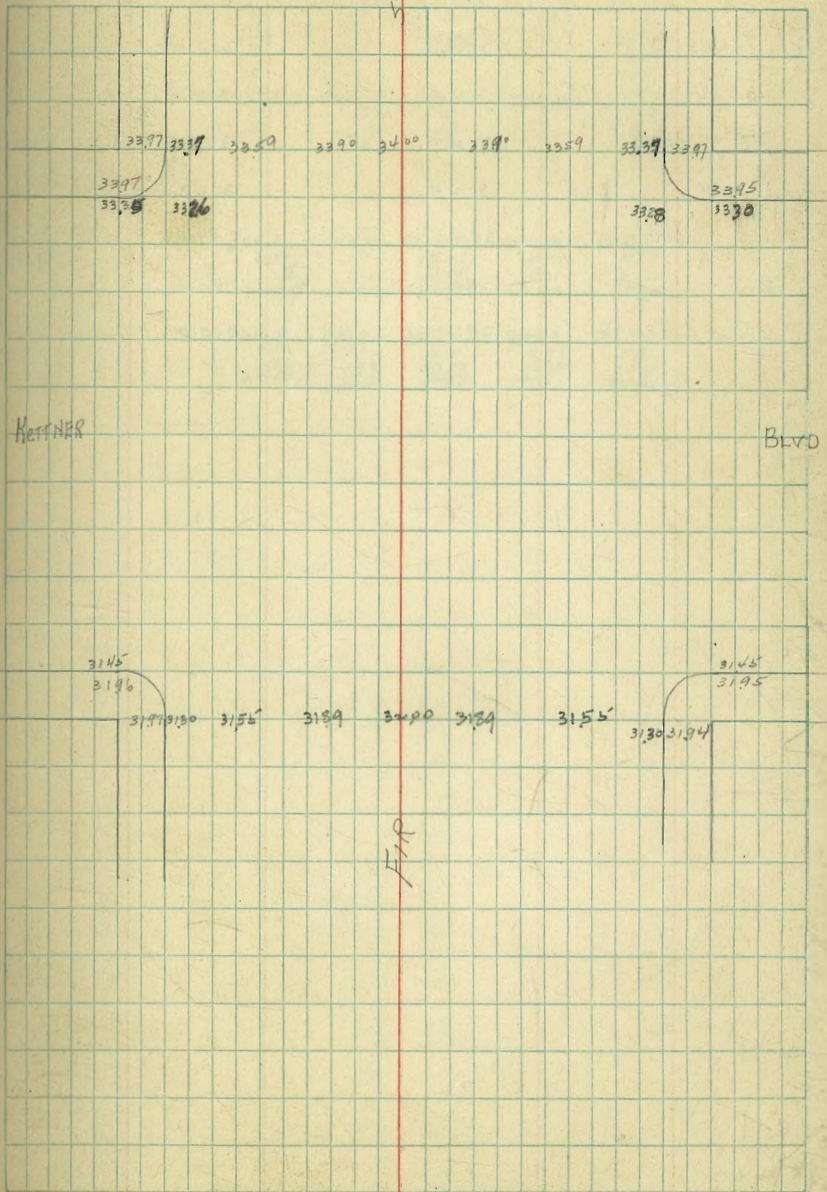


$$\begin{array}{r} 3017 \\ 718 \\ \hline 3735 \end{array}$$

3570

3555

$$\begin{array}{r} 3337 \\ 632 \\ \hline 3969 \end{array}$$

$$\begin{array}{r} 3307 \\ 330 \\ \hline 3637 \end{array}$$


5/26/24. Gregory.

GRADES ON  
WIGHTMAN ST  
Texas to Louisiana

	H.C.B.	S.C.B.
W.L. Texas	305.0	304.0
45° W	304.5	303.5
90° W break	304.0	303.0
125° W	302.0	301.0
160° break	300.0	299.0
215°	295.5	294.5
270° E. Louisiana	291.0	290.0

30476-3.E. Texas  
320  
3096

	N	304.75	304.25	302.25	300.25	298.75
		321 12 +1.8	37 35 +0.2	571 54 +0.3	771 71 +0.6	1221 108 +1.6
	S	303.75 421 30 +1.2	303.25 471 52 -0.4	301.25 671 68 -0.1	299.25 871 87 +0	296.75 1321 130 +0.2
		30476 025 30801				
	N	304.5 051 17 +0.24	304.0 101 116 -0.15	302.0 201 269 +0.32	300.0 301 301 +0	295.5 451 516 +0.25
		308.5 151 96 +0.55	308.0 201 198 +0.08	301.5 401 344 +0.54	299.0 601 572 +0.31	294.5 1051 1000 +0.51

7TH ST GRADES

14791  
646  
15537  
791  
14746  
440  
15186

14891  
731  
15626

16188  
310  
16498

60.25  
360  
63.85

20.90  
17.5  
38.40

36.16  
210  
31.44

58.40  
1.40  
59.80

52.40  
610  
58.50

51.10  
48.50  
1.74  
50.44

48.50  
672  
55.22

37.0  
342  
40.42

13747  
277  
14024

37.85  
37.15  
36.75  
36.81  
36.75  
36.80  
36.05  
35.40

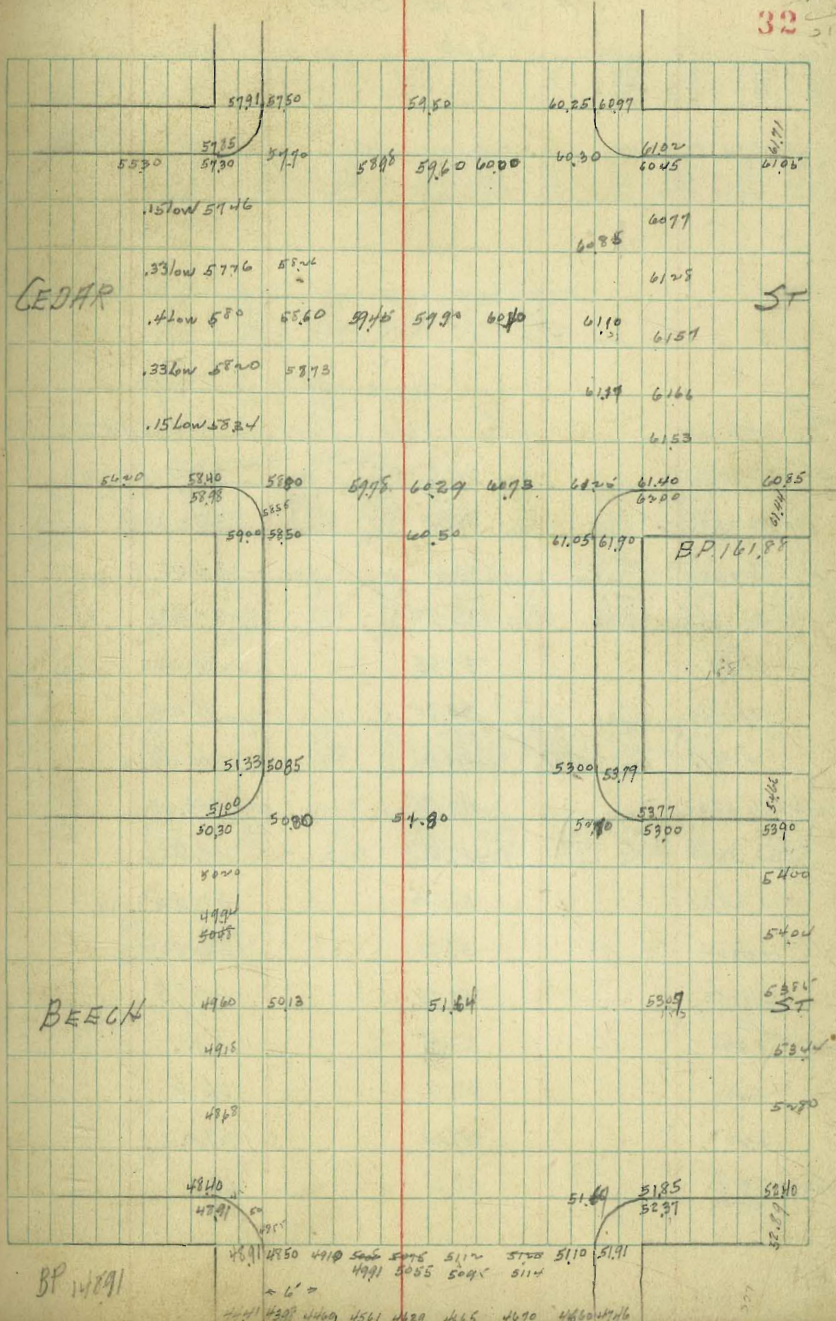
37.85  
2.57

38.48 39.11  
37.76  
37.10 37.70  
37.05 37.74  
37.95 37.90 38.33

H ST

35.2  
35.44  
35.26  
35.12

36.68 37.23



6/2/24

GRADES ON LA JOLLA BLVD.

Sub

N cb.

= Coaston N. 3+38.76

= Coaston 3+17.24

2+96.72

2+75.20

2+53.68

2+32.16

2+10.64

1+39.13

break 1+67.60

1+46.08

1+24.56

1+03.04

+81.52

6 measurements +60

+40

+20

W.L. Prospect on 0+60

29.6

31.61

33.61

35.62

37.63

39.64

41.64

43.55

47.6

51.65

55.70

59.75

63.8

65.7

67.0

68.0

29.0 raise when cut

31.0

33.01

35.01

37.02

39.03

41.04

43.04

45.05

49.0

52.95

56.90

60.85

64.8

66.4

67.4

68.0

6500 B.P. La Jolla & Prospect

4129  
397 33

5581	N	6765	6645	6505	6170	5715	5220	4926	4530	4329	4129
5615		1.27	2.21	3.8	6.77	11.7	29	47	1185	271	2.7
1826		1.3	2.1	3.2	5.27	10.4	28	42	1185	33	3.2
2329		-0.1	4.1	4.13	7.09	12.5	11.1	30	105	2.4	2.0
273											
4401											
4501	S	6725	6591	6415	6017	5619	5225	4825	4425	4227	4027
3101		1.6	2.9	4.7	8.0	12.9	29	47	1185	1.8	3.8
274		1.5	2.4	3.6	6.1	10.4	28	42	1185	3.0	5.4
3785		1.03	4.4	4.01	7.7	12.3	11.0	24	10.9	-7.2	-1.6

N	3208	3227	3226	3226	3225	3225
	6.7	8.7	10.7	12.7	14.7	16.7
	2.0	2.1	2.2	2.3	2.4	2.5
	2.7	2.8	2.9	3.0	3.1	3.2

S	3827	3626	3426	3225	3025
	5.8	7.6	9.6	11.7	13.7
	3.2	3.4	3.6	3.8	4.0
	-1.4	-1.4	-1.6	-1.8	-2.3

6800	N	6096	6645	6415	6085	5600	5225	4825	4425	4227	4027
191		2.51	3.51	5.11	7.06	10.01	14.93	20.85	26.77	32.69	38.61
6991		2.03	3.45	5.09	7.02	10.00	14.93	20.85	26.77	32.69	38.61
4283		-0.12	4.06	5.18	7.02	10.00	14.93	20.85	26.77	32.69	38.61
5758											
6781		2.91	4.21	5.91	8.06	10.91	14.93	20.85	26.77	32.69	38.61
4935		2.91	4.21	5.91	8.06	10.91	14.93	20.85	26.77	32.69	38.61
226		2.03	3.45	5.09	7.02	10.00	14.93	20.85	26.77	32.69	38.61
203		2.03	3.45	5.09	7.02	10.00	14.93	20.85	26.77	32.69	38.61

5468	N	4116	4427	4326	4104	3902	3702	3501	3301	31
1030		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
5788		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
1242		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
4543		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
8502		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
4595		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
1166		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
3433		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
277		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95
3532		1.79	1.48	2.91	4.91	6.92	8.93	10.94	12.94	14.95

4845	4850
6.37	6.82
5.6	6.39
2.77	2.09

6050  
5000  
3000

310

Distances are on West line of Coast Blvd.

6/2/44

GRADES ON  
COAST BLVD. SOUTH.  
WOB E.C.B.

7+44.94 EC		34.5	
6+34.86		34.22	
6+44.79 PC		33.95	
6+18.56		33.72	2.168 2.50
5+80.33 break	37.0	33.5	
5+33.66	31.39	32.94	
4+86.99	30.77	32.38	7.168
4+40.3 PC	30.15	31.82	1
4+02.84	29.65	31.37	4.5
3+65.36 EC	29.15	30.91	
3+21.15	28.56	30.39	4.18 2.9
2+76.44 PC	27.97	29.84	
2+35.33 EC	27.42	29.35	
1+87.86	26.79		
1+65.86 do stake.	26.50	28.50	
1+40.37 PCC	25.63	27.52	
0+89.03	23.89	25.50	
0+37.70 PC	22.14	23.49	
EC. on S and B/K 34 = 0+00	20.85	22.0	
		21.35	

34

31.75 31.75 31.75 31.75 31.75	W	27.39	27.14	25.88	27.04	27.67	28.22	28.71	29.40	29.00	30.60
31.75 31.75 31.75 31.75 31.75	E	27.39	27.14	25.88	27.04	27.67	28.22	28.71	29.40	29.00	30.60
31.75 31.75 31.75 31.75 31.75	W	31.02	31.64	32.28							
31.75 31.75 31.75 31.75 31.75	E	32.63	33.19	33.75	33.27	34.20	34.48	34.75			
31.75 31.75 31.75 31.75 31.75	W	26.50	26.06	25.63	24.94	24.24	23.54	22.84	22.14	20.85	
31.75 31.75 31.75 31.75 31.75	E	28.50	28.01	27.52	26.71	25.91	25.10	24.29	23.49	22	21.35
31.75 31.75 31.75 31.75 31.75	W	26.81	27.12	27.43	27.07	26.87	26.56	26.24	25.95	24.65	30.15
31.75 31.75 31.75 31.75 31.75	E	28.55	28.24	27.93	27.55	27.17	26.80	26.42	26.04	25.66	25.28
31.75 31.75 31.75 31.75 31.75	W	30.41	30.68	30.94	31.21	31.47	31.73	32.0			
31.75 31.75 31.75 31.75 31.75	E	32.24	32.30	32.54	32.78	33.02	33.26	33.5	33.65	33.70	33.85
31.75 31.75 31.75 31.75 31.75	E	34.13	34.31	34.50	34.68						

6/4/22

GRADES ON A ST  
22nd to 23rd

23rd + B

16487  
13516622  
15015378  
118  
1539015820  
80  
1206  
-11.615795  
88  
78  
+0.415997  
625  
555  
201715632  
99  
56  
+4.315268  
1354  
75  
76.014904  
1718  
1148  
+57014540  
85  
35  
+5.015538  
108  
110  
-0.415172  
22  
74  
-0.714804  
584  
624  
-0.614465  
925  
925  
0.014300  
1065  
1045  
+0.716487  
135  
16670  
1229  
16441  
130#1  
9' 1/2" End of Ch  
164  
270  
322  
-0.52#2  
16303  
367  
407  
-0.40#3  
16206  
464  
493  
-2.87#4  
16109  
561  
631  
-0.74PC  
043  
1601292' Wet  
PC.  
15915755  
758  
-1.00755  
764  
-1.0915820  
80  
1206  
-11.6#1  
4' Wet  
155  
118  
+0.45#2  
15300  
121  
1170  
+0.51#3  
14673  
848  
858  
-0.10#4  
15047  
474  
476  
-0.0215421  
1249  
1249  
+0.2015795  
875  
901  
-0.26

5

14540  
981  
1072  
-0.9114904  
617  
734  
-1.1715268  
853  
852  
-0.9915632  
1038  
1165  
-1.271038  
1022  
-1.131182  
1069  
-1.13

183.88'E = PC. on 5cb	159.04	159.97
170.80'E = End of Ch on N.	157.95	
141.66'E	155.38	156.32
100.04'E	151.72	152.68
58.42'E	148.06	149.04
16'E = EL. of Ch on S	144.40	145.40
EL 22nd	143.0	

6/10/4 Gregory.

GRADES  
BLK 2 IN ALLEY  
FLORENCE HGHTS

640 N - 5th Lewis	286.75	286.75
600	286.52	286.55
560	286.30	286.35
520	286.07	286.15
480 N	285.85	285.95
430	285.38	285.47
380	284.92	284.98
330	284.46	284.49
280 N	284.0	284.0
240	283.5	283.5
200 N	283.0	283.0
160	282.5	282.5
120 N	282.0	282.0
80 N	281.3	281.3
40 N	280.6	280.6
20 N	279.8	279.9

N/L Washington

6/15/26 272.4 740 J.M.K. 28-

36

279.8	280.6	281.3	282.0	282.5	283.0	283.5	284.0
529	529	459	481	551	501	451	401
24.6	47.0	38.9	30.1	45.1	42.1	35.1	30.1
+1.63	4.19	+1.0	+1.0	+1.0	+1.0	+1.0	+1.0
279.9	280.6	281.3	282.0	282.5	283.0	283.5	284.0
529	529	459	481	551	501	451	401
24.6	47.0	38.9	30.1	45.1	42.1	35.1	30.1
+1.50	+0.50	+1.0	+1.0	+1.0	+1.0	+1.0	+1.0
284.6	284.9	285.38	285.85	286.07	286.30	286.52	
554	557	541	494	472	419	481	
433	487	441	394	472	349	381	
603	+1.0	+1.0	+1.0	50	+1.0	+1.0	
+0.30							
284.9	284.95	285.47	285.95	286.15	286.35	286.55	
352	581	532	484	464	498	472	
22.20	481	432	384	364	398	372	
+0.62	+1.0	+1.0	+1.0	+1.0	+1.0	+1.0	
286.75							
458							
528							
-0.70							
286.75							
458							
558							
+1.1-							
736							
83.77							





22nd St Paving

12838  
347  
13185

12838  
245  
13083  
466  
13549

14542  
466  
15008

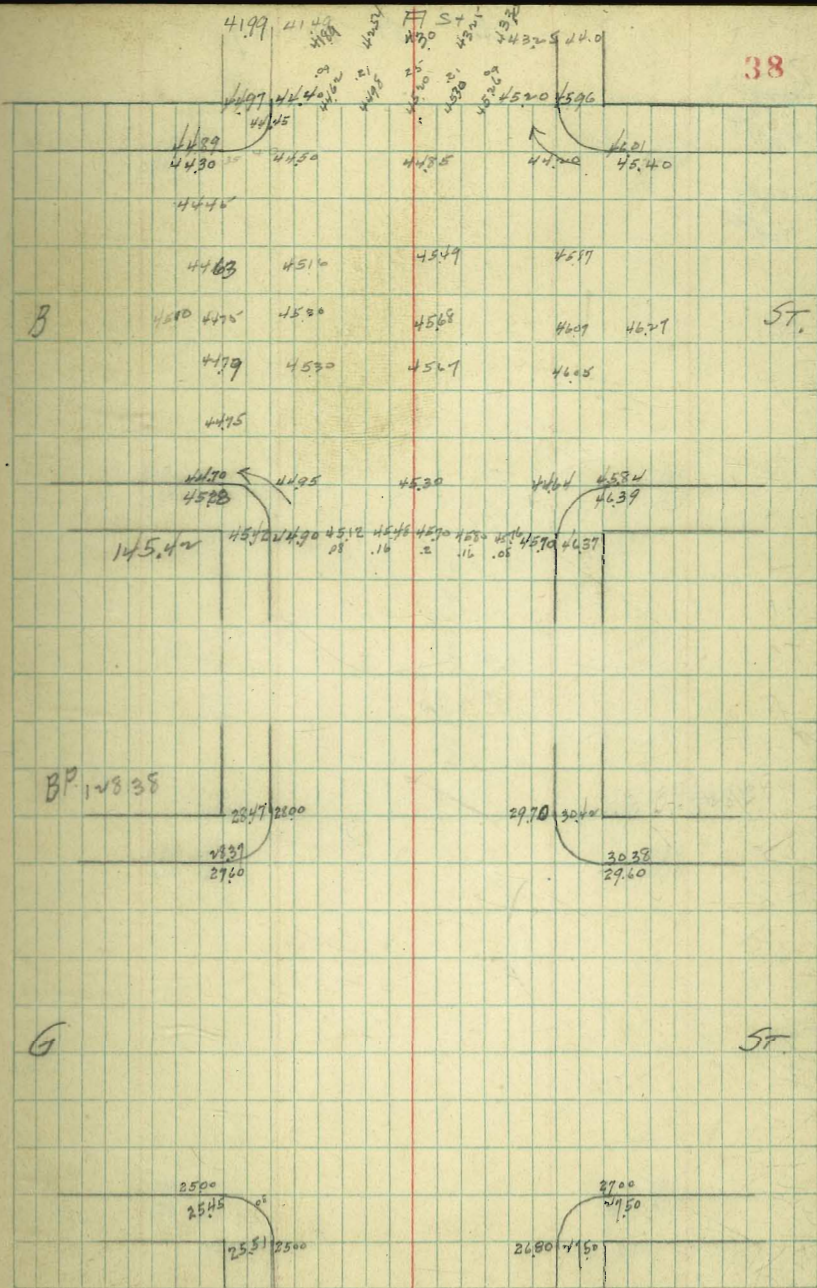
84 70 48 30 20 80  
24 38 40 79 68

14642  
247  
14789

4570 432 4570  
5002 220

4144  
519  
14908

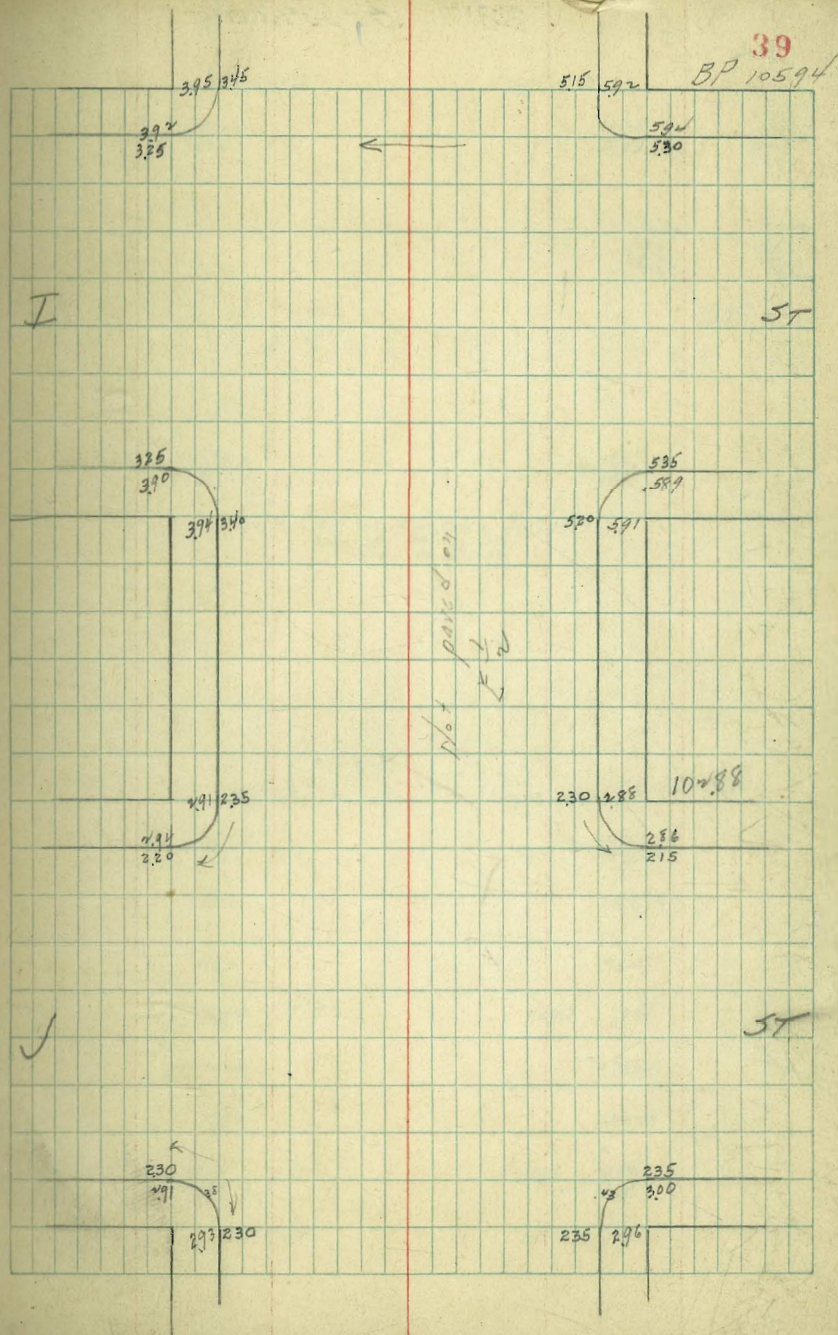
38



22nd St Paving

10288  
497  
10785

10594  
378  
10972



6/12/24

22nd St Parking

10.12  
21.15

75.95  
32.25  
78.20

99.22  
43.30  
102.5

98.16  
42.30  
102.38

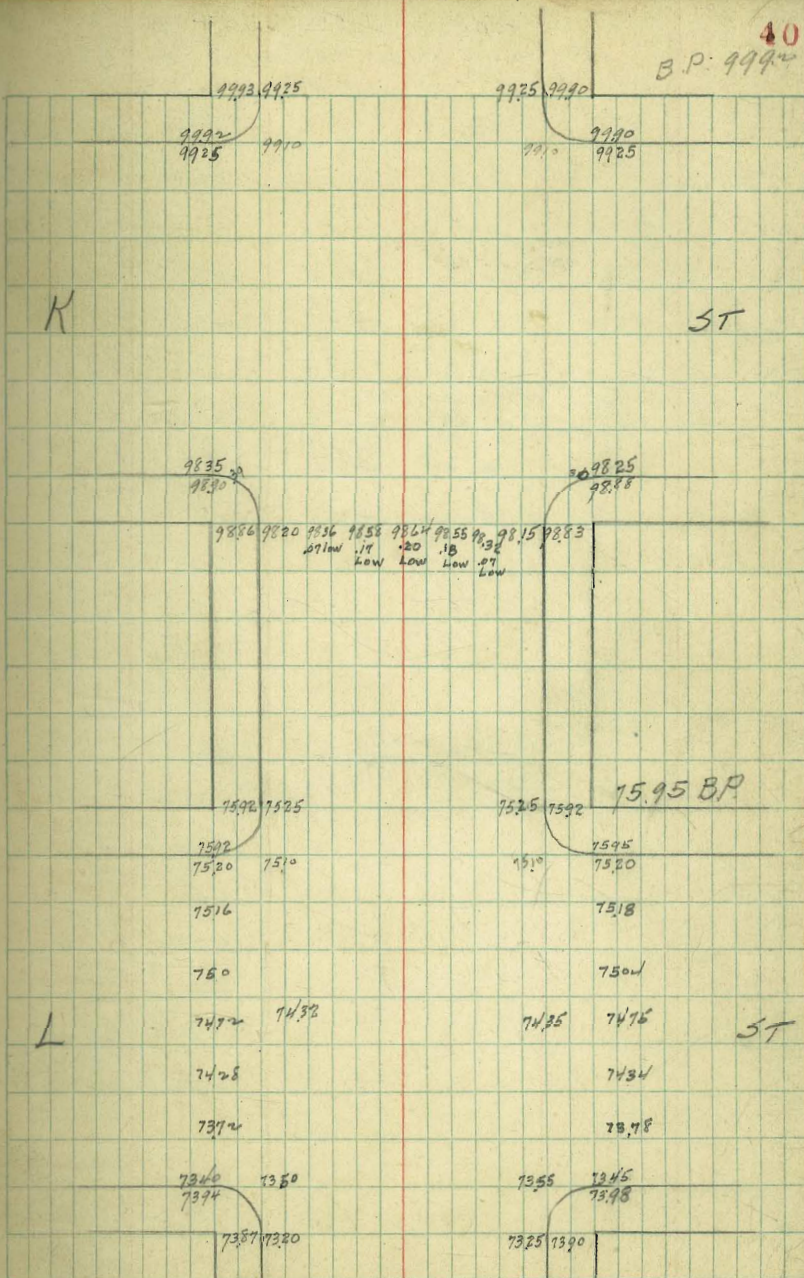
75.25  
28.5  
78.10

10	8	0.1	7.5	34	78	55	35	50	20	28	32	25.0	16
0.	7	0.6	3.5	76	32	53	75	60	38	51	29	10	9.5

75

40

B.P. 9994



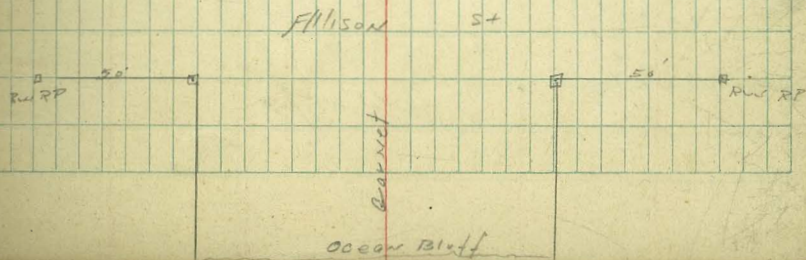
Grades on Garnet St 80' wide  
 Allison West to Ocean (385')

	S.L.		N.L.	
W Allison = 0000	14.25	-0.6	15.25	-0.2
+50	14.37	-0.3	15.37	-0.1
1-	14.50	-0.2	15.50	+0.1
+50	14.63	+0.1	15.63	+0.6
2-	14.76	+0.6	15.76	+0.9
+50	14.89	+0.8	15.89	+0.8
3-	15.02	+0.4	16.02	+0.6
+50	15.15	-0.3	16.15	+0.7
+85	15.28	+0.1	16.28	+0.6

N.L. Garnet from Allison E. to S/W

	N.L.	
0+00 = EL Allison	15.25	-1.0
+52.5	15.50	-2.3
1+05	15.75	-2.5
1+57.5	16.0	-0.7
2+10 = Brook	16.25	-0.3

16.25	16.0	15.75	15.50	15.25				
3.14	3.39	3.64	3.89	4.14				
3.48	4.09	4.77	5.40	6.04				
-0.30	-0.70	-1.27	-1.91	-2.54				
15.75	15.27	15.80	15.63	15.76	15.89	16.02	16.15	16.28
2.10	4.02	3.89	3.76	3.43	3.50	3.37	3.24	3.14
4.30	4.1	3.79	3.18	2.73	2.7	2.8	2.9	2.6
0.30	-2.1	+0.1	+0.61	+0.90	+0.80	+0.57	+0.76	+0.54
5.14	5.02	4.89	4.76	4.63	4.50	4.37	4.24	4.14
3.14	3.39	3.64	3.89	4.14	4.37	4.60	4.83	5.06
-0.60	-0.30	-0.20	+0.01	+0.60	+0.80	+0.97	-0.28	+0.70



KALMIA PL  
GRADES

1907

42

286.08  
2.21  
288.32  
2.63  
285.69  
2.24  
288.66  
12.05  
276.61  
276.16

277  
589

271  
108

273  
110

547  
320

551  
272

395  
271

3260

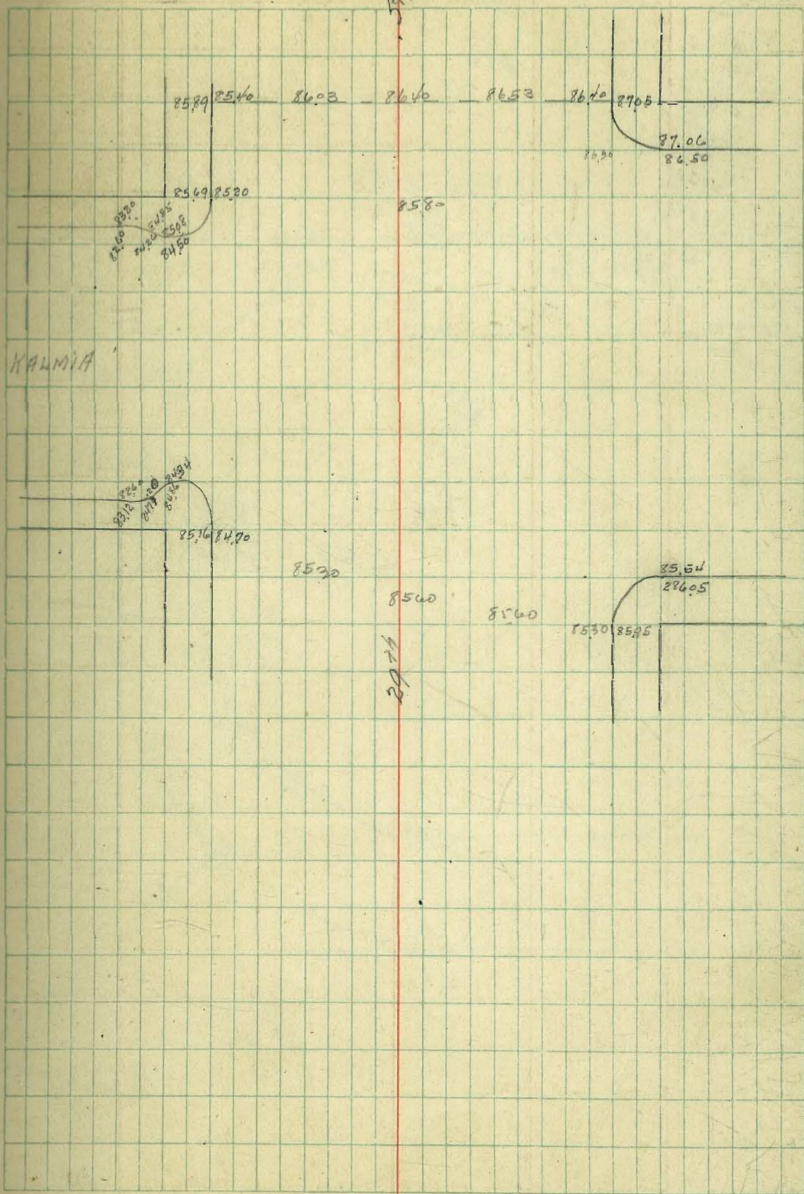
606  
442  
1048  
R. N. D.

26

57100  
14  
4110

8640  
442  
9082

100  
600  
1000



27626  
 1120  
 26492  
 350  
 26842  
 374  
 26468  
 899  
 27367  
 630  
 27337  
 1137  
 28474  
 51  
 28423  
 639  
 81062

1133  
 7483  
 848  
 994

1124  
 7490  
 845  
 5997

946  
 996

274  
 7093  
 4693  
 123

051  
 23

8842  
 912

417  
 520

643

786

909

6081

6202

6327

5810

582

5857

5822

1088

867

1275

1207

17554

72

04

243

122

24

84  
 985  
 1807  
 715

6) 1048  
 174

7080

5976

1065

176

337

513

689

866

1041

1217

1393

322

446

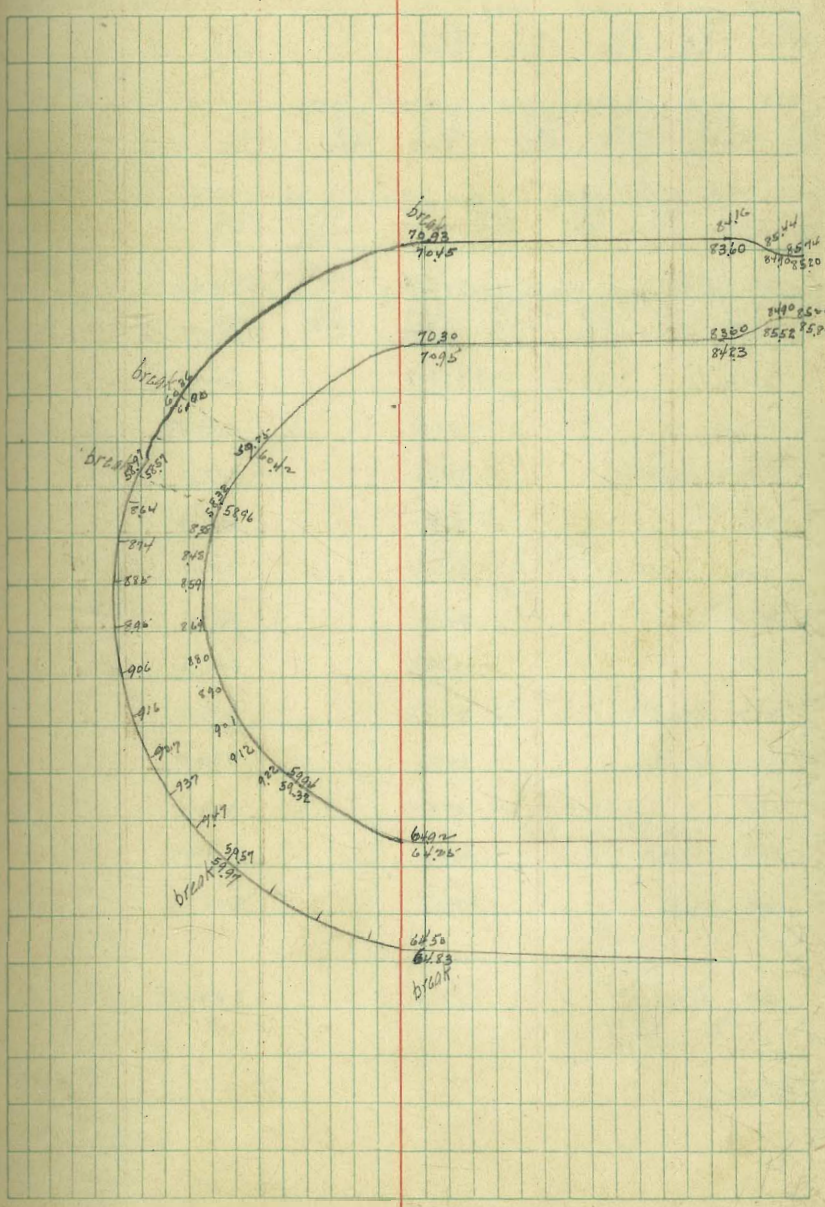
670

844

1018

1192

1366



GRADES ON  
BLK 179 UNIV. HGHTS

W.L.

600 (1/2) Blk	342.76	342.56
557.5	342.97	342.77
515.0	343.18	342.98
472.5	43.29	343.19
430 break	343.6	343.4
395	343.0	342.9
360 break	342.4	342.4
320 break	341.0	341.0
280	339.3	339.3
240 break	337.6	337.6
220 break	336.0	336.0
185	334.0	332.1
150 break	328.0	328.2
100 break	324.8	325.0
50 break	322.6	322.8

R.L. Lincoln

14

312.96	W	322.6	322.8	328	327	326.0	327.6	332.3
584		694	434	1226	826	426	266	788
5185		570	334	1184	826	370	166	648
1224		484	+1.0	47.0	71.0	40.56	41.0	71.4
57488								
1456		322.8	325	328.25	327.1	336.0	327.6	332.7
32714		634	414	1206	816	426	266	788
0.55		534	404	1298	788	226	0.66	648
338.59		+1.0	70.80	+1.08	26.8	72.0	+2.00	+7.4
1160								
34026								
1.12								
33707	W	341.0	342.4	343.0	343.6	433.9	431.8	429.7
211		618	478	418	368	537	500	581
34718		518	378	318	258	437	300	480
337		+1.0	+1.0	+1.0	2.0	71.0	72.0	71.00
4581								
427	E	341.0	342.4	342.9	343.4	343.19	342.98	342.77
4878		618	478	428	378	557	570	621
		577	478	328	278	357	225	401
		+0.21	0.0	+1.0	+1.0	+2.0	+0.62	+2.0
								+0.07

413 526  
42.65 292

GRADES ON ALLEY  
BLK 13 MISSION HILLS 6/18/20

	N.L.	S.L.
W.L. Stephens	75.10	75.20
50' W	774.89	774.46
100' ✓	774.64	774.71
150' ✓	774.40	774.47
200' ✓	774.17	774.22
250' ✓	773.93	773.98
300' ✓	773.70	773.73
350' ✓	773.47	773.49
400' ✓	773.23	773.24
450' ✓ break	273.0	273.0
475' ✓ break	772.4	772.4
500' ✓ e. Bl. Harmsen		

7304 @ 56.5  
7322 @ 52.5  
7286 @ 44.5

7/20/20 75.10 7339

	N	S	N	S
275.78	75.10	74.87	74.64	74.40
373	4.51	4.74	4.97	5.21
279.61	4.51	4.16	4.82	6.16
274.2		+2.58	+2.17	-0.95
271.99				-1.74
671				-2.53
278.70				00
	75.20	74.96	74.71	74.47
	4.71	4.65	4.90	5.14
		3.25	3.44	4.80
		+1.40	+1.46	1.03
				00
				00
	73.23	73.0	72.74	72.49
	5.47	5.70	6.5	6.3
	4.47	2.90	2.5	1.97
	+1.0	+3.0	+4.10	00
				00
	73.24		72.4	
	5.46		6.30	
	3.46		4.17	
	+2.0		+2.13	
7286	7304	7304		
584	568	566		
425	400	406		
412.5	418	416		
		61.60		

45



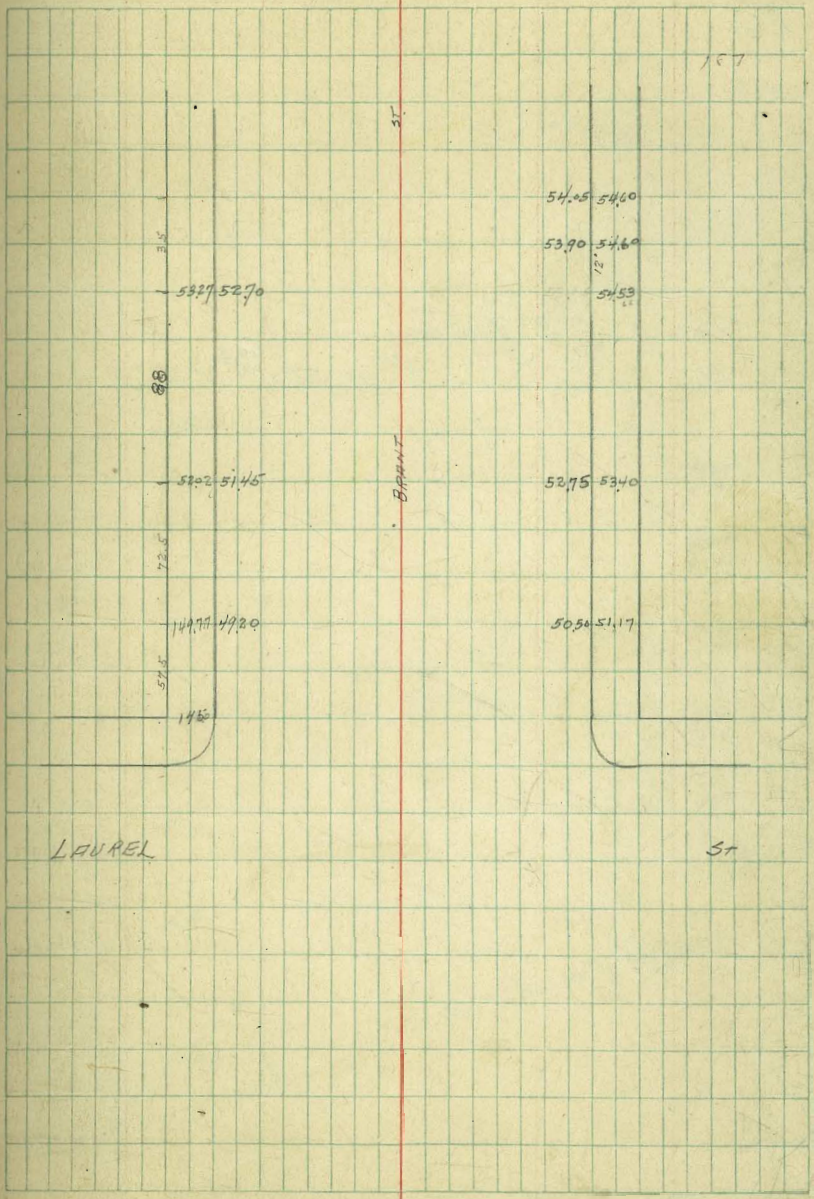
BRANT ST  
GRADES

1550  
1147  
403  
15647  
6

32 f. 15

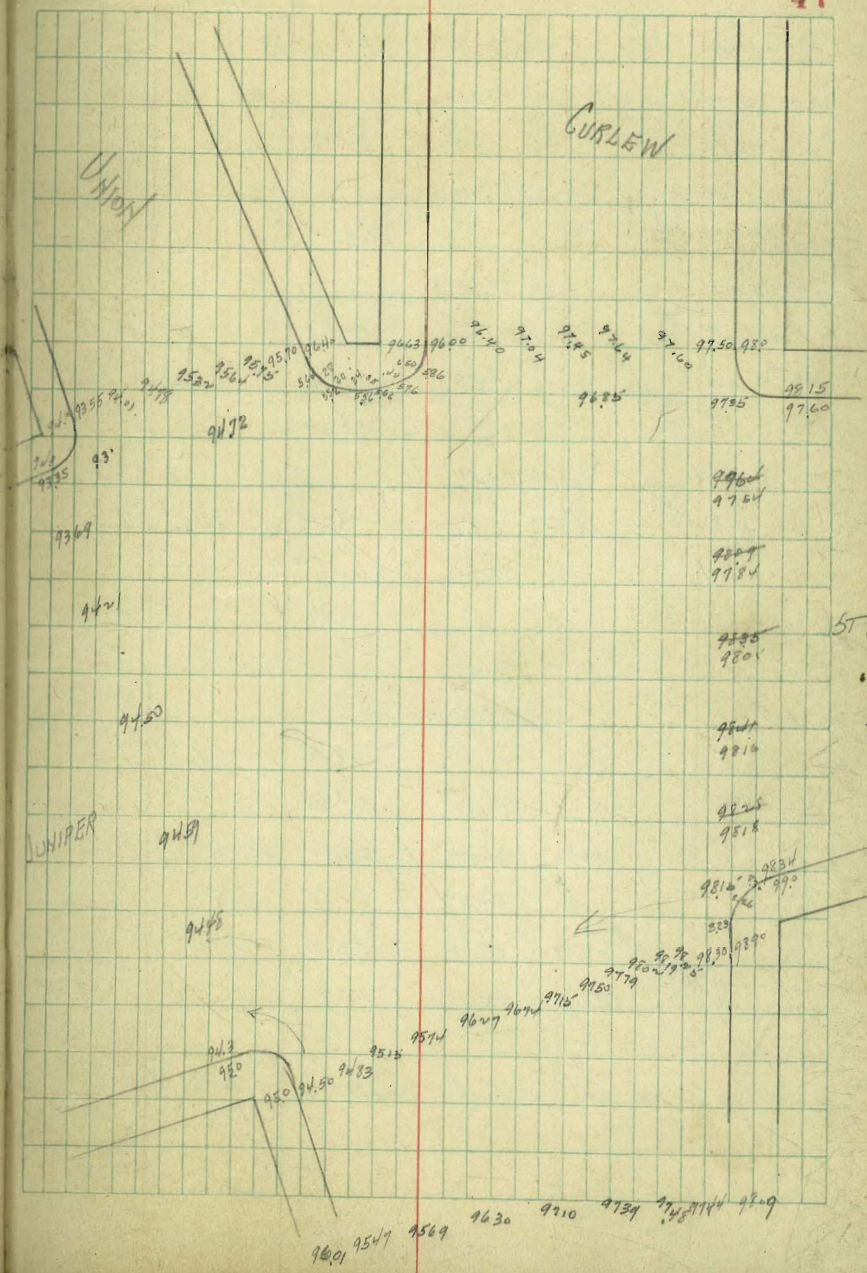
44  
202

670  
377



7/23  
344  
101.27

10081



6/26/24

GRADES ON  
HILLSIDE DRIVE (Viking Way)

	W.L.		E.L.
Sec. Cont. Prob. 1/10 0+00	83.50	84.00	
0+11.45 on W.	83.05		
0+48.72 v E		81.91	
0+55.45 on W	81.86		
0+77.92 on E		79.82	
1+05.45 on W	79.83		
1+46.92 on E		77.93	
1+70.52 on W	76.58		
1+95.92 on E		75.64	
2+20.52 on W	74.54		
2+40.92 on E		73.72	
2+70.52 on W	72.50		
2+85.92 on E		71.80	
3+20.52 on W	70.46		
3+56.48 on W	69.0		
3+40. on E		69.50	
3+82.09 on W		67.51	68.06
3+05. v E	67.51		
4+08.9 on W	66.65	65.20	65.88 65.90
3+90 v E			
4+35.11 on W	64.37	62.07	62.96 61.93
4+15 v E			
4+61.32 on W	58.09	58.13	59.46 58.53
4+40 v E			
4+86.12 on W	55.0	54.0	55.0
4+66.21 v E			

see next page for Grades on Newport

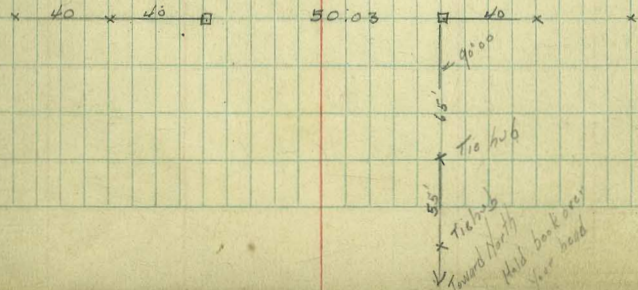
9764 curb SE Torrey

48

	W	83.30	81.52	79.48	76.83	74.79	72.75	70.71
		3.60	5.38	7.4	10.1	12.1	1.3	8.4
		4.2	6.2	8.2	11.0	12.6	2.4	8.4
		-0.6	-0.8	-0.8	-0.9	-0.5	-1.1	-0.5
	E	81.91	80.07	77.98	75.89	73.95	72.05	
		5.0	6.8	8.9	11.0	12.0	1.8	
		1.4	3.4	5.9	7.8	8.8	1.1	
		+3.6	+3.4	+3.9	+3.8	3.8	3.4	
	W	69.25	67.76	65.66	62.32	58.38	54.25	
		4.8	6.3	8.6	11.7	13.1	7.3	
		4.8	5.8	8.5	11.5	12.4	5.7	
		0.0	+0.5	+2.1	+1.9	-2.5	-1.5	
	E	69.75	68.31	66.13	63.20	59.51	55.25	
		4.3	5.7	7.9	10.9	14.5	6.3	
		4.3	4.4	7.0	10.2	12.9	5.1	
		+2.6	+4.4	+6.0	+7.7	+5.6	+3.2	
64.35	67.51	65.20	64.65	61.87	58.09	55.0		
5.88	2.72	5.03	5.58	8.86	12.14	10.58		
70.83	70.47		5.44	8.33	12.24	10.58		
12.24	+0.05		+0.09	+0.53	-0.10	-0.05		
57.97								
7.54								
2.553								
	68.06	65.88	64.65	61.83	58.53	55.0		
	2.17	4.35	7.9	8.30	11.70	10.43		
	3.00	6.20	10.8	7.7	11.37	7.9		
	-0.83	+0.82	+0.83	+0.83	+0.83	+0.63		
		-0.27						

West ←

→ East



Distances are on 6.

GRADES ON NEWPORT TERRACE (Jason)

	W. L.	E. L.
0+00 = Spindrift	37.5	36.5
	41.85	41.09
1+14.58 on 6 = RC.	46.20 48.16 50.10 52.05	45.08 47.63 49.58 51.54
2+03.12 = N. Hillside	54.0	53.5
		5/0
2+58.07 = S. Hillside	55.0	54.5
	56.69	54.8
	58.39	54.8
# 1	60.08	54.86
	61.77	59.51
	63.47	61.23
# 2	65.27	61.52
	67.07	62.72 = WL New St.
# 3	69.12	66.50 = EL New St.
	71.17	65.51 = EL L. 21
	73.22	70.20
# 4 = EC. = 00	75.25	72.65
	44.34	74.69
75.28		74.69
0+31.4 = N.L. Terrace	47.5	47.0
	48.0	77.5

radius on E. side  
 of 3 to 5 ft  
 = 54.99  
 1/2 = 27.5

N. of 69.5 SW stake at break marked C 025  
 32.7 - 0.83  
 27.87 67.12 H.S.

6972	F	45.68	53.5	54.5	59.51	64.52	69.53	74.55	77.0
1080		13.7	6.1	5.1	12.7	7.6	2.6	5.9	3.4
5887		12.7	6.8	3.7	11.0	2.1	2.2	5.9	3.8
584		+1.0	-0.7	-1.4	+1.9	+1.5	+0.4	0.0	+0.1
5937				55.0	59.96	64.92	69.88	74.84	77.5
1870				7.6	12.2	7.2	2.3	5.6	3.9
72.17				75.6	7.2	8.0	1.2	3.4	1.8
70.17					+5.0	+2.2	+0.6	+2.2	+1.1
21.4									
50.48									

These hubs OK.

6553	S	54	55	56.69	58.99	60.88	61.77	63.47	65.27
015		11.53	12.53	8.84	7.14	5.44	3.74	2.04	0.24
6643		11.36	12.36	8.59	6.89	5.19	3.49	1.79	0.10
1253		+0.17	+0.08	+0.26	+0.52	+0.42	+0.16	+0.41	+0.16
7826									
	H	53.5	56.5	56.18	58.86	59.54	61.23	62.92	
		12.23	11.53	11.03	9.33	7.67	5.99	4.30	2.61
		-2.30	-1.18	-1.18	-2.51	-1.64	-0.85	-0.36	
			-0.19	-0.19	-0.02	+0.14	+0.44		
6707		69.12	71.17	73.22	75.25	77			
11.10		7.14	7.09	5.04	2.98	0.96			
11.16		4.22	7.01	2.26	3.3	1.91			
+0.04		+0.12	+0.08	0.0	-0.22	-0.65			
6650		65.51	70.00	74.61	74.69	77.5			
11.76		7.71	7.66	5.61	3.57	0.96			
11.23		7.31	7.26	5.40	3.29	1.24			
+0.33		+0.32	+0.40	+0.21	+0.08	+0.27			
53.2		57.05	50.10	48.15	46.20	44.25			
0.79		2.44	4.09	6.04	7.99	12.34			
54.19		1.30	3.41	5.45	7.47	11.97			
		+0.75	+0.68		+0.82	+0.37			
5154		49.58	47.63	45.68	43.73	41.09			
26.2		4.61	6.56	8.51	10.46	13.10			
12.45		4.34	6.26	8.01	9.77	12.27			
+0.20		+0.27	0.0	-0.18	+0.13	+0.13			

7/10/24

GRADES IN ALLEY  
BLOCK 13 LINCOLN PARK.

N. 25 <sup>th</sup> 600 E	62.17	62.0
550 E	61.93	61.7
500 E	61.68	61.50
450 E	61.44	61.2
break 400 E	61.22	61.0
350 E	60.80	60.6
300 E	60.40	60.20
break 250 E	60.0	59.8
200 E	59.68	59.50
150 E	59.37	59.19
100 E	59.06	58.88
50 E	58.75	58.57
EL. 24 <sup>th</sup> St	58.44	58.26

5498 1224<sup>th</sup> / Imperial

363	N	5875	5926	5937	5968	600	606	6080	612
5984		472	460	410	478	546	506	464	426
510		272	241	220	478	446	406	364	326
6347		72.0	72.0	72.0	71.0	71.0	71.0	71.0	71.0
	S	5857	5888	5917	5950	598	6000	6060	610
		490	459	428	496	506	526	484	446
		290	351	328	426	466	501	384	346
		72.0	71.08	71.0	71.0	71.0	70.85	71.0	71.0
	N	6144	6168	6193					
		402	278	353					
		302	278	153					
		71.0	71.0	72.0					
	S	6125	6150	6175					
		421	396	371					
		321	296	171					
		71.0	71.0	72.0					

7/11/24

GRADES IN ALLEY  
BLK 7 BREED + CHASE

S.L. N.L.

172.18

945

171.63

1226

169.37

189

17046

1956

16071

188

16279

	1762	1750	1733	1716	1704	1692	1680
H	175	643	838	1003	1123	1243	246
	358	463	741	803	923	1043	82
	+198	+2.0	+92	+2.0	+2.0	+2.0	1163
S	1762	1750	1733	1716	1704	1692	1680
	543	643	838	1003	1123	1243	246
	358	463	741	803	923	1043	82
	+284	+1.0	+1.0	+2.0	+1.0	+1.0	7086
H	1665	165	1631	1612	1584	15589	
	396	546	736	159	439	690	
	296	430	636	676	339	490	
	+1.0	+1.16	+1.0	+0.88	+1.0	+2.0	
				3742 1' out			
S	1665	165	1630	1610	1582	15563	
	396	546	746	946	459	716	
	296	500	546	646	359	616	
	+1.0	+046	+2.0	+1.0	+1.0	+1.0	

467

696

51

513  
252

EL 24 <sup>th</sup>		
600	153.07	153.38
560	155.63	155.89
break 520	158.2	158.4
break 470	161.0	161.2
435	163.0	163.1
break 400	165.0	165.0
350	166.5	166.5
break 300	168.0	168.0
250	169.2	169.2
200	170.4	170.4
break 150 W	171.6	171.6
115 W	173.3	173.3
break 80 W	175.0	175.0
break 40 W	176.2	176.2
WL 25 <sup>th</sup>	176.63	176.96
S.L.		N.L.

7/11/24

GRADES IN ALLEY  
BLK 8 BREED + CHASE

N.L.      S.L.

WL 25<sup>th</sup>  
600  
break 560  
517.5  
475.0  
432.5  
break 390  
343.33  
296.67  
break 250  
break 200  
170  
break 140  
90  
break 40  
EL 24<sup>th</sup>

6512      6425  
1640      1637  
161.87      161.57  
15975      15946  
15762      15732  
1555      1552  
154.1      153.8  
152.7      152.6  
151.3      151.0  
1490      1487  
147.2      146.9  
1452      145.1  
14335      14305  
141.3      141.0

N.L.      S.L.

146.41

260

149.03

12.21

136.82

120.7

148.89

0.42

148.47

86

157.08

143

155.65

11.22

1687

N

1524

438

412

+0.26

1541

2.98

0.78

+2.0

1555

11.37

10.67

+0.70

15762

926

825

+1.0

15875

712

512

+2.0

16157

500

400

+1.0

1640

287

212

+0.77

N

1418

709

472

+2.87

14335

554

254

+3.0

1454

349

157

+1.92

1472

169

+1.81

1490

808

608

+2.0

1513

578

378

+2.0

S

1410

789

439

+3.50

14305

584

484

+1.0

1451

379

279

+1.0

1469

199

399

+1.0

1487

838

638

+2.0

1510

688

588

+1.0

S

1524

468

368

+1.0

1538

338

238

+1.0

1552

188

88

+1.0

15732

955

1000

-0.46

15845

742

642

+1.0

16157

530

430

+1.0

1637

317

217

+2.0

52

7/15/47

29th ST GRADES

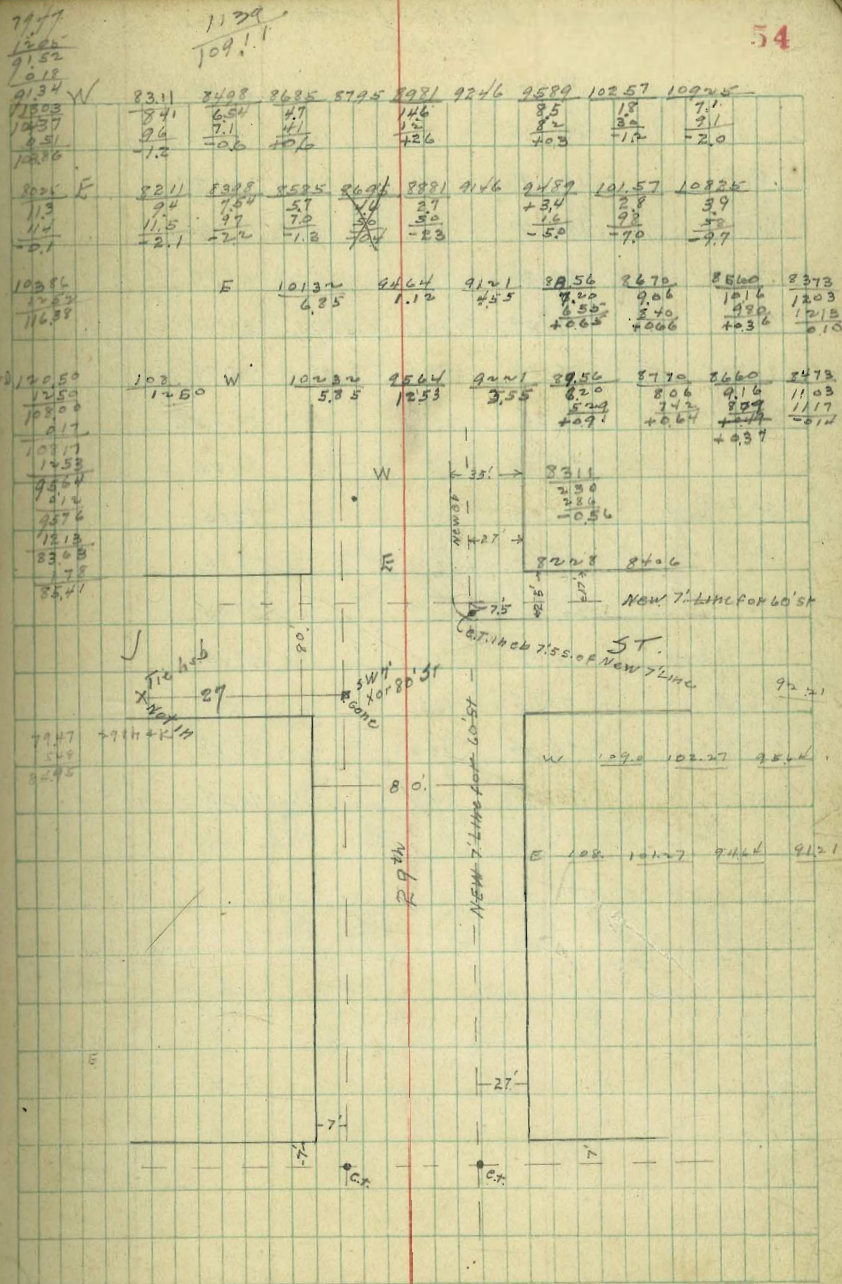
	M Prop.		E prop.
5.6 Market	124.25		123.25
50' S	119.25		118.31
75	114.25		114.50
100' S break	114.25		114.50
120' S	112.54		113.01
140' S	111.39		112.06
160' S	110.82		111.64
180' S	110.82		111.74
200' S	111.39		112.35
220' S	112.54		113.54
240' S	115.39		116.39
300' S / N.I.S.	118.25		119.25
31.5 ST.	117.25	117	118.0
60' S	124.19	121.63	122.29
120' S break	131.13	126.26	126.74
		130.88	131.12
140' S	132.73		132.85
160' S	132.89		132.89
180' S	131.63		131.51
200' S	128.96		128.68
255' S	119.60		118.96
310' N.H.L.	110.25		109.25

	116.35	122.39	140.32	143.25	150.23	170.04 T.P.	111.82	117.04
	140.7	128.75	139.34	131.32	130.13	7.43	1.02	119.0
	123.0	121.7	141.1	130.3	130.3	12.65	12.65	
	123.39	140.32	143.46	143.54	130.3	111.82		
	124.25	118.25	112.45	112.39	110.82	112.64	115.39	118.25
	9.2	5.2	9.7	2.5	2.1	0.4	2.5	
	0.2	5.4	11.5	7.9	16.4	13.9	2.5	
	-0.2	-0.2	-1.8	-0.4	-8.8	-11.5	11.6	
							-14.1	
E	123.25	118.29	114.50	118.06	111.74	113.54	116.39	119.25
	1.2	5.6	10.0	0.8	1.2	0.6	3.5	11.8
	1.7	8.4	7.4	7.3	6.9	3.8	1.8	11.8
	-0.2	+3.2	+2.6	-6.6	-5.7	-4.4	-5.1	-0.7
W	117.25	121.10	121.13	132.73	132.89	131.63	132.85	110.25
	13.0	6.2	9.2	7.6	7.4	8.7	11.4	18.1
	13.4	7.8	10.0	8.2	7.5	7.3	20.7	18.1
	-0.4	-1.3	-0.8	-0.6	-0.1	+1.5	+1.8	+8.6
E	118.25	124.31	131.37	132.85	132.89	131.5	128.65	118.96
	12.1	13.6	12.1	10.6	10.6	8.7	11.7	3.4
	10.0	11.3	11.6	10.2	11.7	3.6	7.9	14.7
	+2.1	+7.3	+10.5	+10.4	+8.8	+6.2	+4.7	+4.7
								109.17
	10.8	10.4	10.8	10.8	10.8	10.8	10.8	10.8
W	117.0	121.23	121.25	130.85	132.85	132.64	131.32	128.70
E	118.0	122.37	126.73	131.12	132.50	132.64	132.6	128.83
								127.1
								109.0
W	117.0	121.03	126.26	130.88	132.48	132.64	132.64	
	8.67	9.16	40.4	2.26	6.6	0.50	0.50	
	9.16	8.11	34.8	2.26	1.7	0.29	0.64	
	-0.49	-0.95	+0.86	10.82	5.4	+0.41	+0.41	
E	122.39	126.74	131.12	132.80	132.80	132.64	132.64	
	7.93	3.56	20.2	0.54	0.50	0.50	0.50	
	8.11	3.02	11.5	0.20	1.20	0.64	0.74	
	-0.18	+0.54	+0.87	10.22	10.22	0.14	0.14	
W	131.33	128.70	119.35	110	110	10.50	10.50	
	1.74	1.44	1.14	1.14	1.14	1.14	1.14	
	1.74	1.44	1.14	1.14	1.14	1.14	1.14	
	-0.04	-0.64	+0.84	+0.84	+0.84	+0.84	+0.84	
E	131.26	128.43	118.71	109	109	11.50	11.50	
	1.78	4.71	1.78	1.78	1.78	1.78	1.78	
	1.78	4.71	1.78	1.78	1.78	1.78	1.78	
	+0.10	+0.51	+0.86	+1.80	+1.80	+1.80	+1.80	



29<sup>th</sup> ST GRADES

	N. Prop	E. Prop	E. Cb
SLJ	109.25	108.25	
35'S	102.57	101.57	
70'S break	95.89	94.89	
90'S	92.46	91.46	
110'S	89.81	88.81	
130'S	87.95	86.95	
160'S	86.85	85.85	
203.33'	84.98	84.06 83.98	
256.67'	83.11	82.05 82.11	
310'S - N.L.K.	81.46	80.50 80.25 = 80.55 80.65	



7/16/24

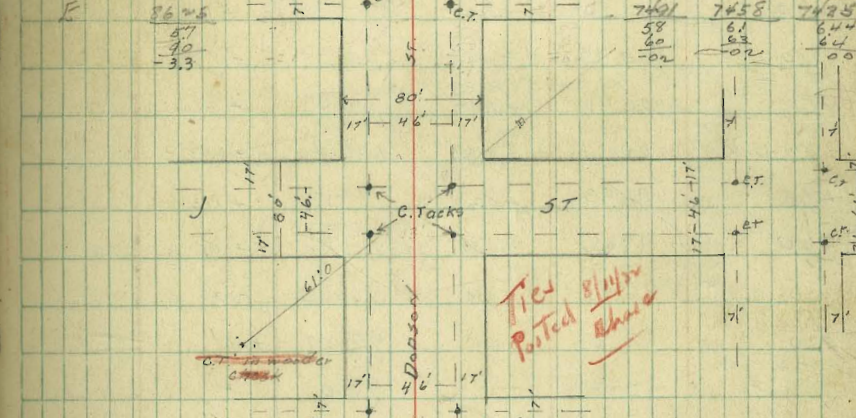
DOOSON ST GRADES

	W prop.		E. prop.	
S.L I ST	128.25	128.0	128.0	128.25
.50 S	121.96	121.71	121.54	121.79
100 ✓	115.67	115.42	115.09	115.34
150 ✓	109.28	109.13	108.64	108.89
200 ✓	103.09	102.84	102.19	102.44
250 ✓	96.80	96.55	95.74	95.99
N.L. 310 ✓	89.25	89.0	88.0	88.25
S.L.	87.75	87.0	86.0	86.75
30 S break	84.05	83.8	82.8	83.05
60 90 ✓ ✓	79.85	79.60	78.6	78.85
40 130 ✓	78.05	77.80	76.9	77.05
40 170 ✓ break	76.75	76.0	75.0	75.75
46.67 216.67	75.75	75.5	74.66	74.91
46.67 263.33	75.75	75.0	74.33	74.58
46.67 N.L. 310 P	74.75	74.5	74.00	74.75

903 1264  
10296  
11688  
11378  
10908  
1850

128.00 127.25 125.50 124.00 122.00 117.00	128.25	121.79	115.34	108.89	102.44	95.99	88.25
--	--------	--------	--------	--------	--------	-------	-------

W	87.05	84.05	79.25	78.05	76.25	75.75	75.25	74.75
E	86.25	-	80.8	78.7	-	74.01	74.58	74.25



123.5 3 87.8	W	87.0	83.8	79.00	78	75	74.5	74.5	72.68	72.71	72.8
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9032 B.M. 1298 10330 H.S.	W	96.85	102.81	109.13	115.42	121.71	128.0	34.8
---------------------------------	---	-------	--------	--------	--------	--------	-------	------

101.53 101.35 101.88 101.31 101.57 101.45 102.00 101.79 101.33 101.45 101.65	E	95.74	102.19	108.64	115.09	121.54	128.0	34.8
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Grades in Alley (Drury Lane) 1/2 1/2  
 BIK 38 La Jolla Park

SL

NL

WL Silverado - 0100	102.85	r	103.15	✓
50 W	102.50	+1.0	102.78	+1.0
100	102.15	+1.0 <sup>2W</sup>	102.42	+1.0
150	101.80	+1.0	102.06	+0.10
200	101.45	+1.0	101.70	0.0
250	101.10	+1.0	101.34	+1.0
300	100.75	+0.71	100.98	+0.86
350	100.41	+0.54	100.61	+2.0
380 Brk	100.20	+0.07	100.40	+0.92
420	99.93	+0.20	99.13	+1.13
460	97.66	+0.55	97.86	+1.09
500 Brk	96.40	+0.08	96.60	+0.36
520	95.60	+0.11	95.80	+2.61
500.74 Meas. El. Prospect	92.84	✓	93.0	✓

BASE 500  
 FAV Prospect

92.02								
99.98								
98.21	SL	7.14	4.38	3.58	2.32	6.45	5.18	4.97
77.7			4.27	3.50	1.77	6.25	5.11	4.43
105.38			7.011	+0.88	+0.55	+0.20	+0.07	+0.54
355								
101.53								
564								
107.49	NL	93.0	95.80	96.60	97.86	99.13	100.40	100.41
		6.98	4.18	3.38	7.52	6.25	4.98	4.77
		1.57	3.02	4.83	5.12	4.26	2.72	
		+2.61	+0.36	+1.09	+1.13	+0.92	+2.0	
	SL	100.75	101.10	101.45	101.80	102.15	102.50	102.85
		4.63	4.28	6.04	5.69	5.34	4.99	4.64
		3.92	3.28	5.04	4.69	4.34	3.99	
		+0.71	+1.0	+1.0	+1.0	+1.0	+1.0	
	NL	100.98	101.34	101.70	102.06	102.42	102.78	103.15
		4.40	4.04	5.79	5.43	5.07	4.71	4.34
		3.50	3.00	4.79	5.33	4.02	3.71	
		+0.86	+1.0	0.0	+0.10	+1.0	+1.00	

1/24/44  
Moore

J St Grades  
29th to 30th

	S. Ch	S. Prop.	N. Prop.	N. Ch
EL 29th	108.0	108.25	109.25	109.0
57.5 E	102.75	103.0	104.25	104.0
115 E	97.50	97.75	99.25	99.0
172.5 E	92.25	92.50	94.25	94.0
w 2 Dodson 230	87.0	87.25	89.25	89.0
51 Dodson	86.0	86.25	88.25	88.0
52.5 E	83.32 83.75	84.0	86.0	85.15
105 E	81.43 81.5	81.75	83.75	83.5
157.5 E	79.44 79.25	79.50	81.50	81.25
w 1 30th 210 E	77.25 77.00	77.25	79.25	79.00

483.21  
219

50th + J

9032  
79

77.01  
12.65  
87.65

	S	77.25	79.50	81.75	84.0	86.25	87.25	92.50
		12.40	10.15	7.40	5.65	3.40	2.40	7.97
		12.50	11.00	9.10	5.15	4.70	4.50	13.70
		-0.1	-0.85	-1.70	-3.00	-3.70	-1.10	-5.73

	N	79.25	81.50	83.75	86.0	88.25	89.25	94.25
		104.0	8.15	5.90	3.65	1.40	1.11	6.12
		99	1.0	5.0	1.69	2.0	7.10	3.0
		+0.5	+1.15	+0.9	+2.07	+1.4	+4.0	+4.20

	S	97.75	103.0	108.25
		2.75	2.53	7.78
		7.3	4.1	1.4
		-4.08	-6.63	-9.61

	N	99.25	104.25	109.25
		13.63	8.63	3.63
		9.4	4.4	1.4
		+4.23	+7.23	+3.21

77.01 30th + J

	S	77.85	79.44	81.63	83.22	86.00	86.00	87
		9.96	7.77	5.58	3.39	1.21	1.21	11.26
		3.15	2.24	1.66	1.17	0.56	1.13	14.23
		+0.81	+0.61	+0.52	+0.22	+0.35	+0.08	+1.06

1191  
1193.6  
0.0  
981.6  
110.5  
101.21

	N	87.00	81.25	83.5	85.75	88.00	89
		8.21	5.96	3.71	1.46	10.26	9.26
		4.0	5.82	3.2	0.0	10.78	9.77
		-0.21	+0.27	-0.11	0.0	-0.52	+0.49
							+0.34
							+0.66

9032  
854  
9886  
0.24  
98.60

	N	94	99	104	109.0
		4.26	10.29	8.44	0.44
		4.22	10.89	5.88	0.18
		+0.03	-0.60	-0.39	+0.31



PROPOSED CHANGE  
6<sup>th</sup> & Upas

1.04 266.05 265.04

Edge Sidewalk

S.L. 4.43 261.65

N.L. 3.80 62.28

13' E on S.L.

S.L. 3.6 62.5

5' H 3.5 62.6

7' ✓ 4.0 62.1

45' ✓ 3.6 62.5

N.L. 3.9 62.2

25' E.

H.L. 4.7 61.4

46' N of S.L. 4.2 61.9

25' ✓ ✓ ✓ ✓ 4.1 62.0

7' ✓ ✓ ✓ 4.3 61.8

4' ✓ ✓ ✓ ✓ 3.6 62.5

S.L. 3.9 62.2

60' E

S.L. 6.2 59.9

45' H 6.1 60.0

48' ✓ 6.3 59.8

50' ✓ 7.3 58.8

70' E

45' N ✓ 7.8 58.8

20' ✓ 7.0 59.1

S.L. 7.4 58.7

75' E

59

S.L. 8.0 58.1

4' H 7.1 59.0

7' ✓ 7.6 58.5

Grades on Ufas St  
from Pershing Drive W 140'  
40' wide

	1.00	329.80	328.80	SE 2876 40 feet
		±	N.L.	
W L P Drive	-0.5	323.50	324.25	
40' W	+0.5	320.35	321.10	+0.9
90' W	+1.0	316.43	317.18	+1.6
140' W	+0.5	312.50	313.25	+1.3

323.50	320.35	316.43	312.50
6.30	9.45	13.37	11.01
6.80	9.01	12.40	10.5
-0.50	+0.50	+1.0	+0.5

329.80	321.10	317.18	313.25
1.240	8.9	12.62	10.7
317.40	7.8	11.0	8.9
317.67	+0.9	+1.6	+1.3
323.47			

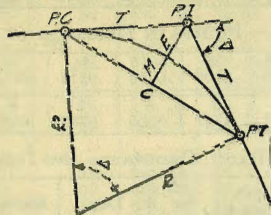
Webber

99.99  
267  
97.32  
97.22

229  
97.70  
97.00

# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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## CURVE FORMULAS

Radius= $R = \frac{56}{\sin D/2}$  (1) Degree of Curve= $D$  and  $\sin \frac{D}{2} = \frac{D}{R}$  (2)

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

Middle ordinate= $M = R(1 - \cos \frac{\Delta}{2})$  (5)  $= R \text{vers} \frac{\Delta}{2}$  (6)

External= $E = T \tan \frac{\Delta}{4} - (7) = R \div \cos \frac{\Delta}{4} - R(8) = R \text{exsec} \frac{\Delta}{4} (9)$

Long Chord= $C = 2 R \sin \frac{\Delta}{2}$  (10)  $\Delta =$  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  $1^\circ$  curve  $T = 3454.1$  and  $\div 8\frac{1}{3} = 414.49$  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 =  $158 - \text{Sta. P. C.} = 54.50$ , 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)  $.3 \times C \times D^\circ$  or = defl. for 1 ft. from Table III  $\times C$ . For Sta. 158 of above curve =  $.3 \times 54.5 \times 8\frac{1}{3} = 136.2'$  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  $1^\circ$  curve  $E = 960.6$  for  $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 91.27$  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  $D = 5^\circ 30'$ .

### DIAGRAM FOR OBTAINING HORIZONTAL AND VERTICAL DISTANCES FROM STADIA READINGS

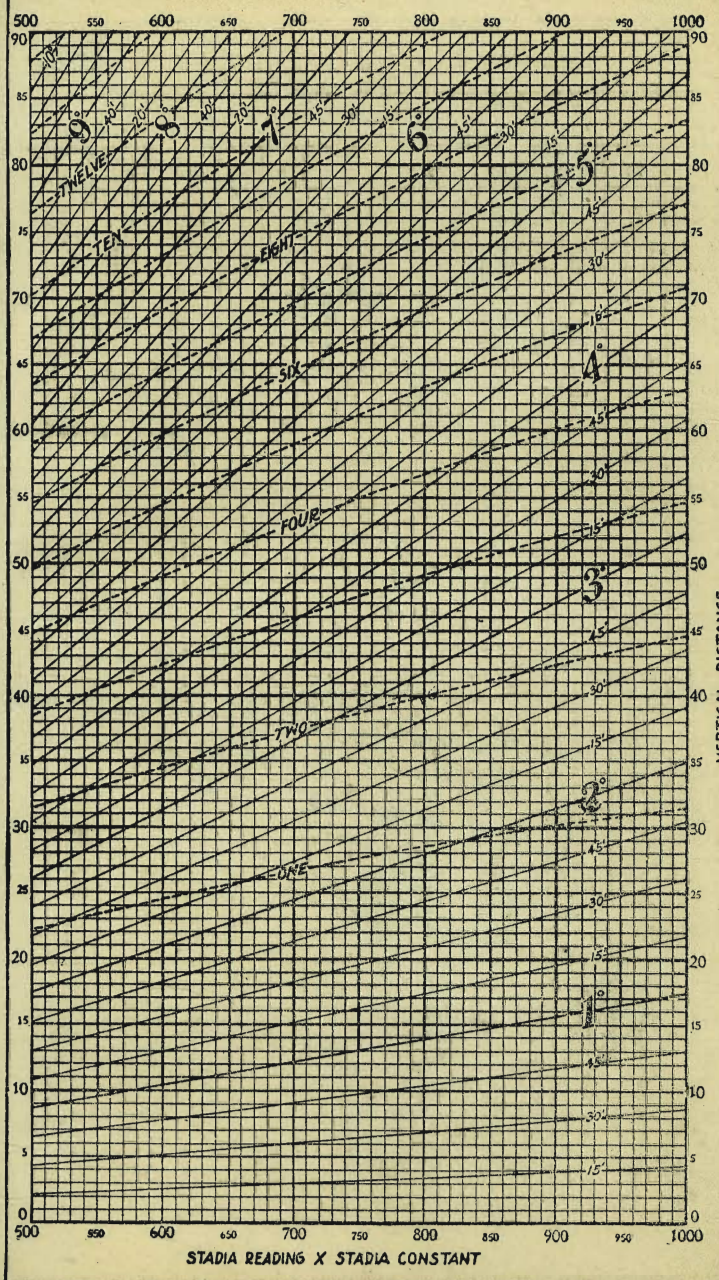
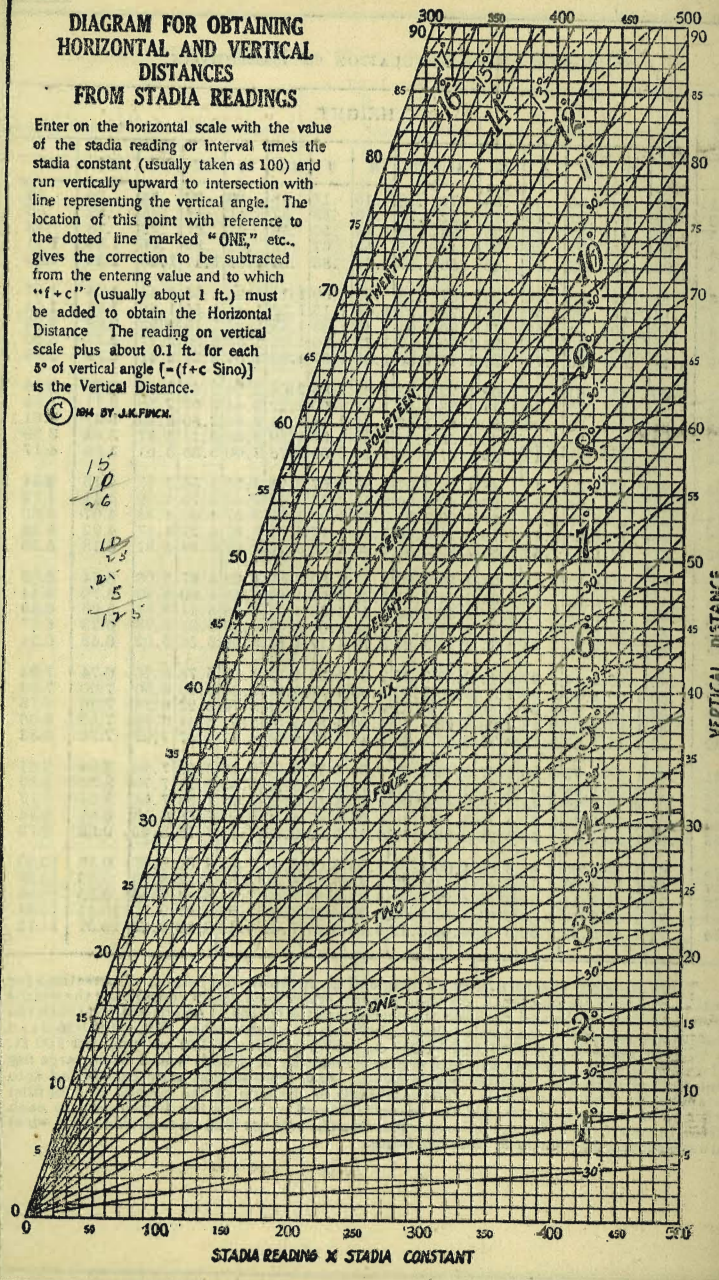
Enter on the horizontal scale with the value of the stadia reading or interval times the stadia constant (usually taken as 100) and run vertically upward to intersection with line representing the vertical angle. The location of this point with reference to the dotted line marked "ONE," etc., gives the correction to be subtracted from the entering value and to which " $f+c$ " (usually about 1 ft.) must be added to obtain the Horizontal Distance. The reading on vertical scale plus about 0.1 ft. for each  $8^\circ$  of vertical angle [ $-(f+c \text{ Sino})$ ] is the Vertical Distance.

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15  
10  
26

---

LD  
23  
25  
5  
125





9999

943  
42  
95SEWER  
Cedar + g<sup>th</sup>

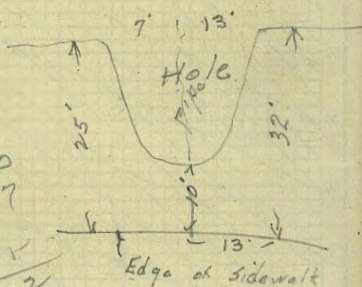
09	90.14
138 9643	89.47
	+6.96
1 + 00 9464	88.41
	+6.13
1 + 01.5 9274	87.34
	5.40
199.0	1270
	86.69

0.174  
 1985 32/50  
 1785  
 14650  
 13845  
 7550

0174  
 375  
 570  
 1218  
 522  
 61250

35  
 1572  
 122  
 66  
 62

615  
 870  
 174  
 1044  
 107010



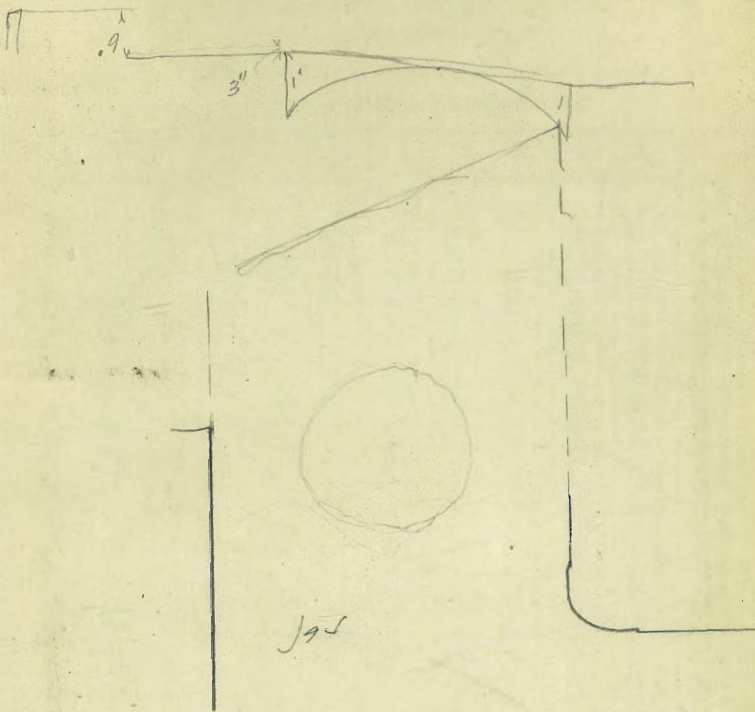
36560  
 1507  
 94  
 1144  
 48612

Hole 20' wide

15' H. of Big Pipe  
 88' - - - - -  
 88' - - - - -

Toe of slope 32' out from edge of walk  
 Shoulders 7' from ab  
 Toe of slope 19' ✓ ✓

12 256  
 1313



9.5

16  
 9  
 154

10065  
 153 | 1000  
 918  
 820

1980  
 17820  
 143  
 192 | 1200  
 960  
 402

10652  
 52  
 28  
 1040

0052  
 14  
 208  
 7

0065  
 9  
 585

Handwritten calculations and diagrams on the left page, including a diagram of a road cross-section at the top. The calculations are arranged in columns and rows, showing various arithmetic operations and measurements. Some numbers include decimals like .17, .19, .81, and .247. There are also some numbers in parentheses like (174), (312), (27.5), and (174). The calculations appear to be related to the surveying or engineering context of the adjacent page.

40.5 DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.  
Roadway 16 feet wide. Side Slopes 1 on 1 1/2.  
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.