90

KLINE ST	DRAPER TO IVANHOE	2
IVANHOE		6
SILVERADO	DRAPER TO IVANHOE	9
[illegible]LBORN		13
[illegible]AVINA		15

FIELD BOOK

388

RUSHVILLE ST.	13
COAST BOULEVARD	15
IBIS STREET	49
BIOLOGICAL GRADE	50

F.B. 90

KEUFFEL & ESSER CO.

DRAWING MATERIALS
AND
SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

"Copyright, 1895, by Keuffel & Esser Co."

MICROFILMED DEC 7 1984

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

Calculated by Julien A. Hall, M. Am. Soc. C. E.

RETURN TO CITY ENGINEER'S OFFICE
CITY HALL, SAN DIEGO, CAL.

129.0 31.3 80.5 − 1/2

200 − 15
300 − 27
400 − 29
5 − 17 about 4'
6 − 16
7 − 73
8 − 72
29.45

11.8 31.3 80.5

117.8 − 1/4
64.0 − 1/2
7.0

155 − 11
255 − 22.4
355 − 14.5 − 57
455 − 18.0

1240
32.25

340.8

29.4
68.75 − 1/2
98 − 1/4
50.6 − 1/2

94.55
3.5
98.0

1.04

6.2
67.0
42.4
109.4 − 1/4
27.35

115.6
68.8
29.4
98
50.6
36.23

64.40
12.41
51.99

55.43
1.074
44.69

54.02
2.04
51.98

91 5.450 6.98 55.43 1.495

505.1 BM · SE. cor. curb + bent Blvd.

4.29
54.80
49.75
5.05 −0.4
4.875 −.40
6.05 −0.6
10.05
44.75
old curb wall

5.00 3.80 +0.25
5.26 2.53 −0.25

5.67 2.13 −0.1
5.85 1.90 +0.1
5.85 2.40 +0.15
5.72 2.08 +0.1
5.85 3.75 0.0
5.12 2.68 +0.2

2.96
51.85 −.88
12.48
64.33 HI

49.25
15.08
8.88
+6.2

5.48 12.48 5.08 +7.4
5.83 11.50 3.3 +8.2
5.52 10.81 2.71 +8.6
5.95 10.38 0.28 40.1
5.40 10.28 2.48 +7.8
5.38 10.45 3.75 +6.7

5.42 10.91 5.31 +5.6
5.08 12.25 8.05 +4.2

	505.1 E		W	
1	4.96 50.47	(50.50)	4.14 49.29	(49.0)
2	8.05 56.25	(51.88)	4.72 50.71	50.38
3	5.54 58.86	(53.25)	8.42 52.01	(51.75)
4	2.95 61.45	(53.85)	2.84 52.59	(52.35)
5	2.14 62.26	(54.20)	2.47 52.96	(52.70)
6	1.84 62.56	(54.10)	2.57 52.86	(52.60)
7	2.99 61.41	(53.75)	2.92 52.51	(52.25)
8	4.83 59.57	(53.15)	3.51 51.92	(51.65)
9	7.18 57.27	(52.05)	4.62 50.81	(50.53)
10	9.09 55.31	(50.40)	6.28 49.15	(48.90)
11	12.41 51.99	48.18	8.46 46.97	46.88
12	5.08 48.94	(45.95)	1.074 44.69	(44.45) = BM
13	1.6 46.8	44.45		
14	2.7 45.7	42.95 61		
15	2.5 45.9	40.5		

44.69
3.67
48.36 HI

10.74
44.69
9.93
54.62

1.16
45.85 HI
37.50
8.35
10.85
+2.5
38.5

7.35
7.15
+0.2

8.37 3.73
53.06 HI 7.2
49.46 3.6
3.40 41.1

4.75
8.85
-4.1

4.97

4.96

Bike cut

96
38.7
38.5

1.31
35.2
37.5

46.44
92.2

71.6

KLINE ST.

	S	Curb	¼	℄	¼	Curb	N
EL. DRAPER	90.25	86.00	85.97	86.75	86.90	87.50	87.75
50' E.	86.92	86.67	86.64	87.42	87.57	88.17	88.42
100'	87.58	87.33	87.30	88.08	88.23	88.83	89.08
150'	88.25	88.00	87.98	88.75	88.90	89.50	89.75
200'	88.92	88.67	88.64	89.42	89.57	90.17	90.42
250'	89.58	89.33	89.30	90.08	90.23	90.83	91.08
of EADS 300' E. = W.L.	90.25	90.00	89.97	90.75	90.90	91.50	91.75
W.L. EADS	90.25	90.00	89.97	90.75	90.90	91.50	91.75
Curb							
¼							
℄							
¼							
Curb							
EL. EADS	90.25	90.00	89.97	90.75	90.90	91.50	91.75
EL of EADS	90.25	90.00	89.97	90.75	90.90	91.50	91.75
50' E.	91.08	90.83	90.78	91.54	91.65	92.25	92.50
100'	91.92	91.67	91.60	92.33	92.40	93.00	93.25
150'	92.75	92.50	92.41	93.12	93.15	93.75	94.00
200'	93.58	93.33	93.22	93.92	93.90	94.50	94.75
250'	94.42	94.17	94.04	94.71	94.65	95.25	95.50
of FAY 300' E = W.L.	95.25	95.00	94.85	95.50	95.40	96.00	96.25

Apk pole N.E. Draper 87.69

B.M. S.E. cor. Fay + Kline pkng. 95.99

95.99 / 1.79 / 97.78 HI.

95.25 / 2.53

93.33 / 4.45

93.75 / 4.03

91.67 / 6.11

92.25 / 5.53

93.00 / 2.78 / 95.78 / 10.78

90.00 / 7.78

90.83 / 6.95

90.17 / 7.61

89.50 / 8.28

88.83 / 8.95

88.17 / 9.61

KLINE ST.

	S Curb	¼	℄	¼	Curb ⊓	
W.L. FAY	95.25	95.00	94.85	95.50	95.40	96.00	96.25
Curb 14'	95.00	95.00	95.03	95.68	95.58	96.00	96.00
	94.00	94.00				95.00	95.00
¼ 13'	94.85	94.75	95.19	95.84	95.74	95.75	95.85
℄ 13'	95.50	94.50	95.35	96.00	95.90	95.50	96.50
¼ 13'	95.40	94.75	95.51	96.16	96.06	96.75	96.40
	95.00	95.00				96.00	96.00
Curb 14'	96.00	96.00	95.67	96.32	96.22	97.00	97.00
E.L. FAY	96.25	96.00	95.85	96.50	96.40	97.00	97.25
E.L. FAY	96.25	96.00	95.85	96.50	96.40	97.00	97.25
50' E.	97.58	97.33	97.18	97.83	97.73	98.33	98.58
100'	98.92	98.67	98.52	99.17	99.07	99.67	99.92
150'	100.25	100.00	99.85	100.50	100.40	101.00	101.25
200'	101.58	101.33	101.18	101.83	101.93	102.33	102.58
250'	102.92	102.67	102.52	103.17	103.27	103.67	103.92
of GIRARD 300' E. = W.L.	104.25	104.00	103.85	104.50	104.40	105.00	105.25
W.L. GIRARD	104.25	104.00	103.85	104.50	104.40	105.00	105.25
Curb	104.00	104.00				105.00	105.00
	103.00	103.00				104.00	104.00
¼	104.10	103.50				104.50	105.10
℄	105.00	104.00		105.50		105.00	106.00
¼	105.40	104.50				105.50	106.40
	105.00	105.00				106.00	106.00
Curb	106.00	106.00				107.00	107.00
E.L. GIRARD	106.25	106.00	105.85	106.50	106.40	107.00	107.25

10397 B.M. S.W. Cor. Girard & Kline

5.44
109.41 H.I. 101.33 8.08 | 100.32 9.09 | 100.0 9.41 | 98.67 10.74 | 97.33 12.08

102.67 6.74 | 98.33 11.08 | 99.67 9.74 | 101.00 8.41

97.78 H.I. 11.73
+3.97
95.99
107.72 H.I.
97.00
10.72

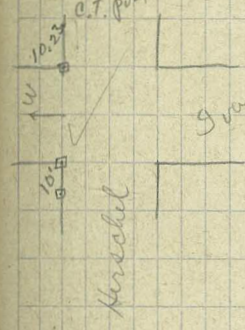
99.67 8.05 | 100.0 7.72 | 102.33 5.39 | 103.67 5.05

105.00 2.72 | 106.0 1.72

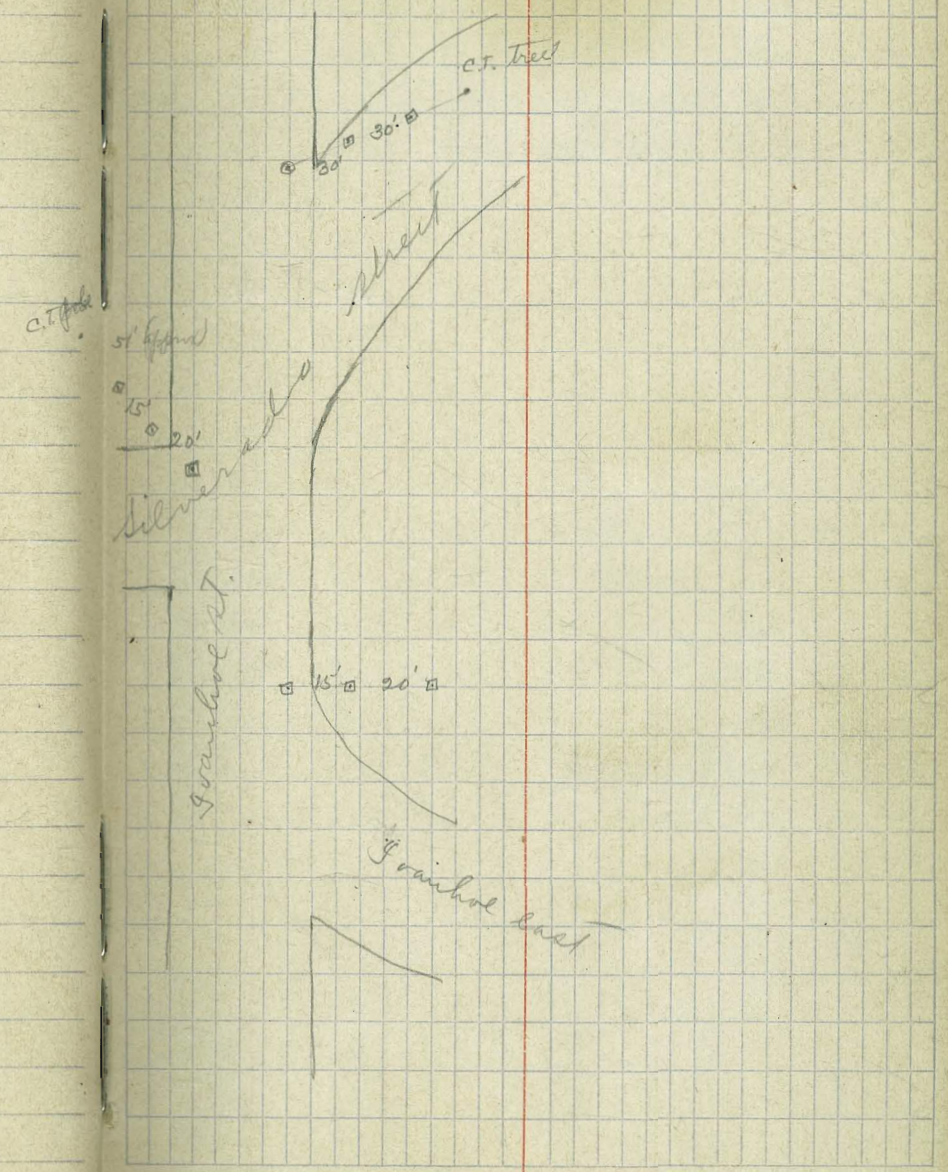
0.78 B.P.
106.94
12.18
119.12 H.I.

KLINE ST.

	S	Curb	¼	℄	¼	Curb	□
EL. GIRARD	106.25	106.00	105.85	106.50	106.40	107.00	107.25
50' E.	107.58	107.33	107.16	107.79	107.65	108.25	108.50
100'	108.92	108.67	108.47	109.08	108.90	109.50	109.75
150'	110.25	110.00	109.78	110.37	110.15	110.75	111.00
200'	111.58	111.33	111.10	111.67	111.40	112.00	112.25
250'	112.92	112.67	112.42	112.96	112.65	113.25	113.50
HERSCHEL 300 E = W.L.	114.25	114.00	113.72	114.25	113.90	114.50	114.75
W.L. HERSCHEL	114.25	114.00	113.72	114.25	113.90	114.50	114.75
Curb	114.00	114.00				114.50	114.50
	113.00	113.00				113.50	113.50
¼	113.97	113.97				113.87	114.47
℄	114.75	113.75				114.25	115.25
¼	114.90	114.12				114.62	115.40
	114.50	114.50				115.00	115.00
Curb	115.50	115.50				116.00	116.00
EL. HERSCHEL	115.75	115.50	115.22	115.75	115.40	116.00	116.25
EL. HERSCHEL	115.75	115.50	115.22	115.75	115.40	116.00	116.25
50' E.	117.67	117.42	117.16	117.71	117.40	118.00	118.25
100'	119.58	119.33	119.10	119.66	119.40	120.00	120.25
150'	121.50	121.25	121.03	121.62	121.40	122.00	122.25
200'	123.41	123.16	122.97	123.58	123.40	124.00	124.25
250'	125.33	125.08	124.91	125.54	125.40	126.00	126.25
W.L. IVANHO 300 E =	127.25	127.00	126.85	127.50	127.40	128.00	128.25



4


C.T. Tree
30'
30'
C.T. Post
St. Helena
15'
20'
Silverado
Albert
Granite St.
15'
20'
Granite East

80' street
20' walks

IVANHOE STREET

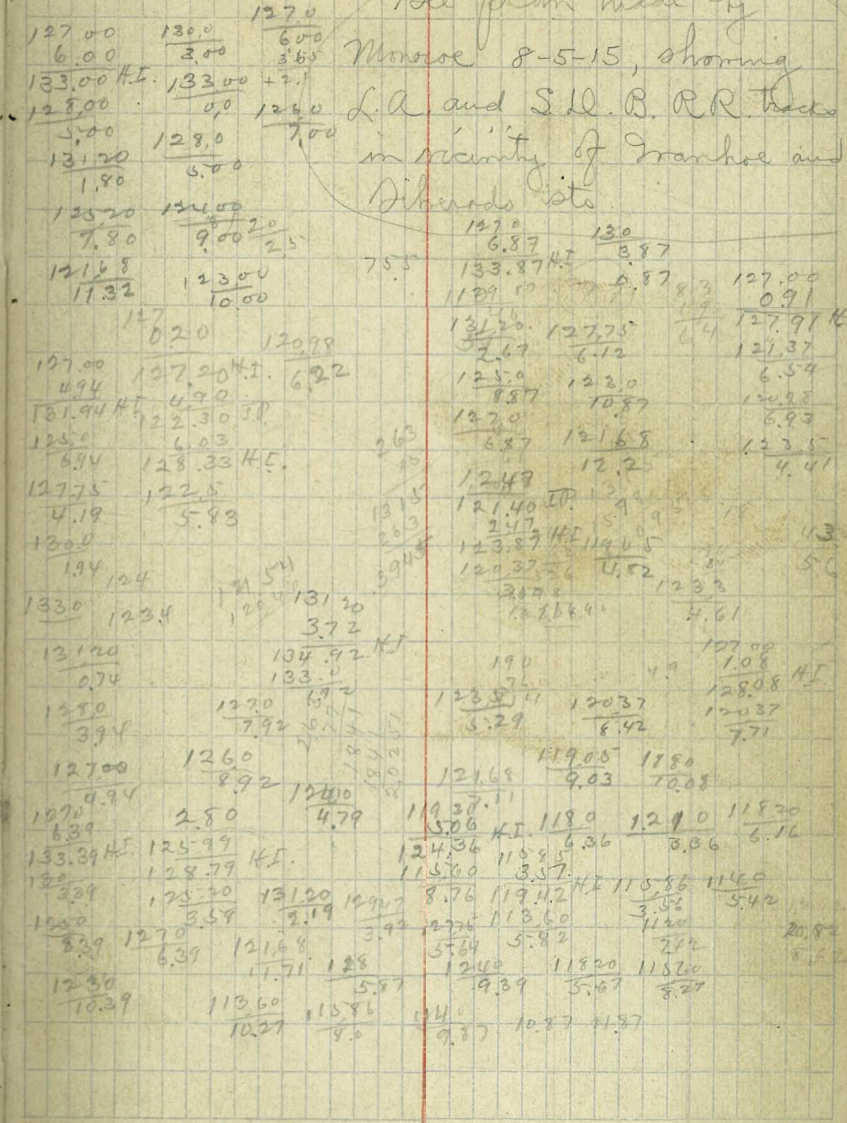
	E	Curb	¼	E	¼	Curb	W
Lado, or West 90' S. of Silver both sides	133.25	133.00	132.40	131.50	130.35	130.00	130.25
783' So. on	133.25	133.00	132.40	131.18	129.87	129.36	129.61
50' So.	131.45	131.20	130.60	129.47	128.21	127.75	128.00
S.L. SILVERADO	128.25	128.00	127.40	126.50	125.35	125.00	125.25
S Curb 14'					125.00	125.00 / 124.00	125.00 / 124.00
S ¼ 18'					124.67	123.50	124.40
Center 18'	127.25	127.00	126.40	125.50	125.00	124.50	124.00
N ¼ 13'					124.03	122.50	123.10
N Curb 13' 14'					123.70	122.00 / 123.00	122.00 / 123.00
N.L. SILVERADO	126.25	126.00	125.40	124.50	123.35	123.00	123.25
50' N. 50'	125.20		124.08	123.18	122.03	121.68	121.93
107' - 100'	123.85	123.37	122.77	121.87	120.72	120.37	120.62
150'		122.05	121.45	120.55	119.40	119.05	119.30
190'	121.25	121.00	120.40	119.50	118.35	118.00	118.25
350'	120.78	120.53	119.93	119.06	117.93	117.60	117.85
450'	118.45	118.20	117.60	116.90	115.85	115.60	115.85
300'	116.11	115.86	115.26	114.73	113.76	113.60	113.85
340'	114.25	114.00	113.40	113.00	112.10	112.00	112.25

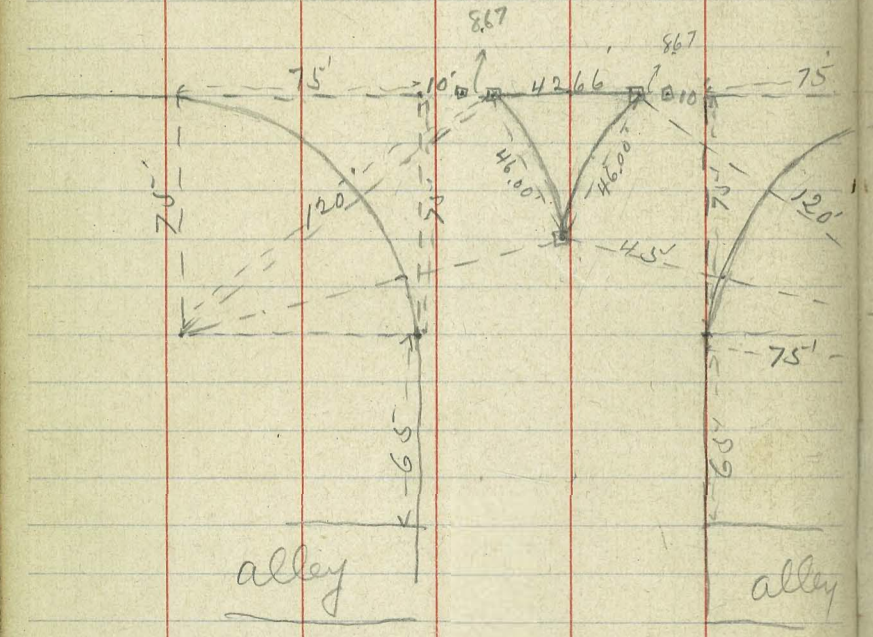
Where changes in grade made, mky 9/18/15

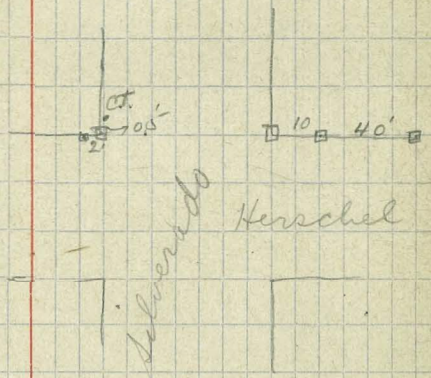
6

78.3' So. on East

The plan made by Monroe 8-5-15, showing L.A. and S.L.R.R. tracks in vicinity of Ivanhoe and Silverado sts.




8.67
8.67
75'
10'
42.66'
10'
75'
46.00'
46.00'
75'
120'
120'
45'
75'
65'
65'
alley
alley


ct.
10.5'
10
40'
Silverado
Herschel

SILVERADO ST.

	S Curb	¼	℄	¼	Curb	℄
EL. DRAPER	85.75	85.50	84.90	84.95	84.27	84.40	84.65
50' E.	87.00	86.75	86.15	86.20	85.53	85.66	85.91
100' "	88.25	88.00	87.40	87.46	86.79	86.93	87.18
150'	89.50	89.25	88.65	88.72	88.05	88.19	88.44
200'	90.75	90.50	89.90	89.98	89.32	89.46	89.71
250'	92.00	91.75	91.15	91.24	90.58	90.73	90.98
EADS 300'E = W.L.	93.25	93.00	92.40	92.50	91.85	92.00	92.25
W.L. EADS	93.25	93.00	92.40	92.50	91.85	92.00	92.25
Curb							
¼							
℄							
¼							
Curb							
EL. EADS	94.25	94.00	93.40	93.50	92.85	93.00	93.25
EL. EADS	94.25	94.00	93.40	93.50	92.85	93.00	93.25
50' E	95.25	95.00	94.40	94.54	93.91	94.08	94.33
100' "	96.25	96.00	95.40	95.58	94.98	95.17	95.42
150'	97.25	97.00	96.40	96.62	96.04	96.25	96.50
200'	98.25	98.00	97.40	97.67	97.10	97.34	97.59
250'	99.25	99.00	98.40	98.71	98.16	98.42	98.67
FAY 300'E = W.L.	100.25	100.00	99.40	99.75	99.20	99.50	99.75

9952 BM. N.W. cor. Fay + Silverado

9

4.34
103.86 H.I.

9842 — 5.44
9734 — 6.52
9647 — 7.39

84.26
12.75
97.01 H.I.

8440 — 12.61
8675 — 10.26
8693 — 10.08

8920 — 7.76
8946 — 7.55
9175 — 5.24

9402
3.40
9950
7.92

9454 — 2.47
9558 — 1.43
9662 — 0.39
9952 — 7.90
107.42 H.I.

9628 — 11.17
9734 — 10.08
9842 — 9.00

127.91
118.60
9.31

9.75
118.16 SP.
8.71
123.87 H.I.
118.60
5.27

41
49

39
64

SILVERADO CT.

	S Curb	¼	℄	¼	Curb ⊓	
W.L. FAY	100.25	100.00	99.40	99.75	99.22	99.50	99.75
Curb							
¼							
Center							
¼							
Curb							
EL. FAY	101.25	101.00	100.40	100.75	100.22	100.50	100.75
EL. FAY	101.25	101.00	100.40	100.75	100.22	100.50	100.75
50' E	102.00	101.75	101.15	101.50	100.97	101.25	101.50
100'	102.75	102.50	101.90	102.25	101.72	102.00	102.25
150'	103.50	103.25	102.65	103.00	102.48	102.75	103.00
200'	104.25	104.00	103.40	103.75	103.22	103.50	103.75
250'	105.00	104.75	104.15	104.50	103.98	104.25	104.50
(of GIRARD 300' E. = W.L.	105.75	105.50	104.90	105.25	104.72	105.00	105.25
W.L. GIRARD	105.75	105.50	104.90	105.25	104.72	105.00	105.25
Curb							
¼							
Center							
¼							
Curb							
EL. GIRARD	107.25	107.00	106.40	106.75	106.22	106.50	106.75

H.73 995.2 B.M.

8.31
107.83 H.I.
101.75
6.08

107.42 H.I.
101.00
6.42
101.75
5.67
104.00
3.42

102.50
4.92
103.25
4.17
105.37
1.92

101.25
6.58
104.75
2.67
107.0
0.42

0.10
107.32 S.P.
8.73
116.05 H.I.

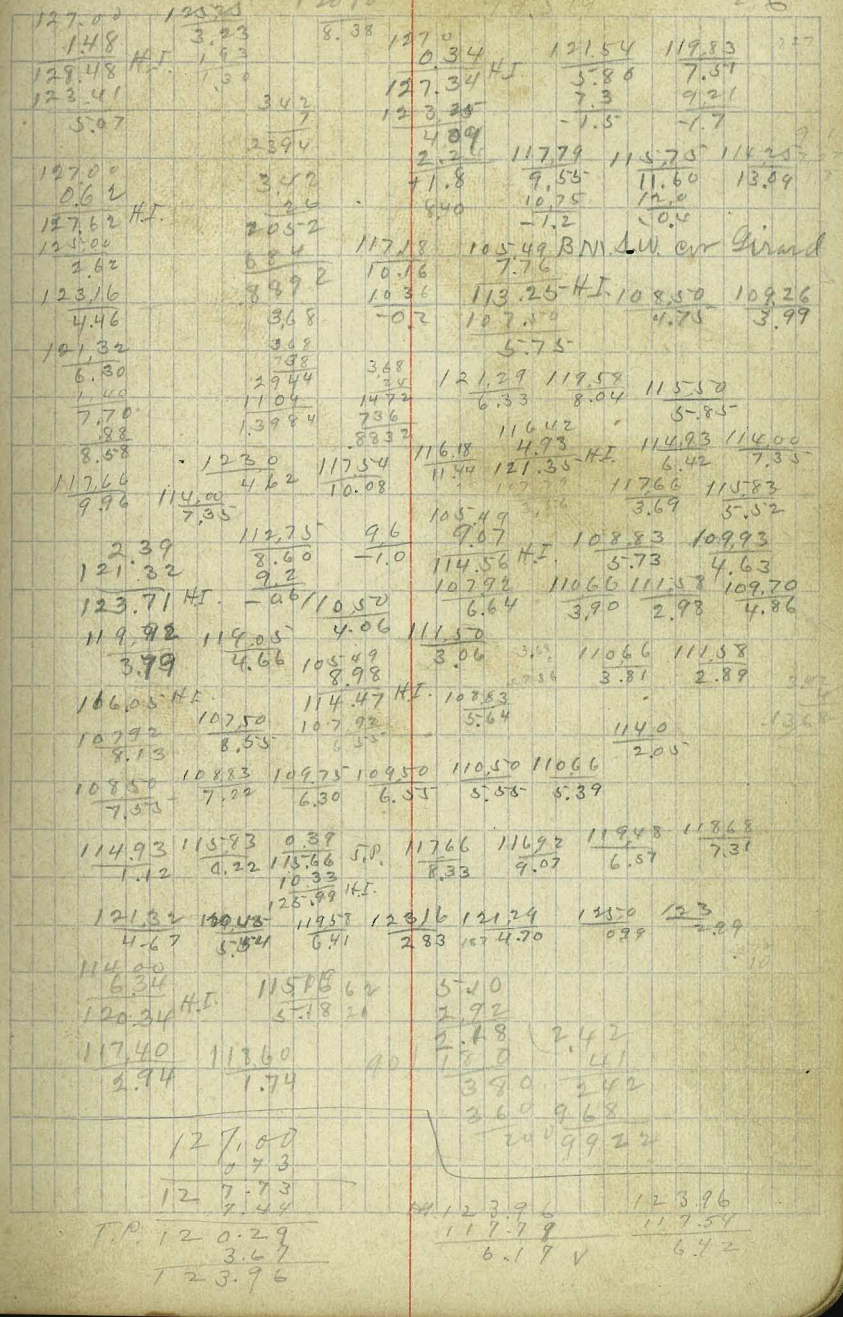
102.50
5.33
103.07
4.76
103.43
4.40
102.00
5.83

15-0
38
120
45
5.70
104.0
3.83
104.75
3.98
102.57
5.26

150
24
60
30
104.25
3.58
103.50
4.33
102.93
4.90

SILVERADO STREET

	S curb	¼	E	¼	curb	N
EL GIRARD	107.25	107.00	106.40	106.75	106.22	106.50	106.75
50' E.	108.17	107.92	107.35	107.71	107.20	107.50	107.75
100'	109.08	108.83	108.30	108.66	108.18	108.50	108.75
150'	110.00	109.75	109.25	109.62	109.16	109.50	109.75
200'	110.91	110.66	110.20	110.58	110.14	110.50	110.75
250'	111.83	111.58	111.15	111.54	111.12	111.50	111.75
HERSCHEL 300' E. = WL	112.75	112.50	112.10	112.50	112.10	112.50	112.75
WL HERSCHEL	112.75	112.50	112.10	112.50	112.10	112.50	112.75
Curb	112.50	112.50	112.36	112.76	112.36	112.50	112.50
	111.50	111.50				111.50	111.50
¼	112.47	111.87	112.61	113.01	112.61	111.87	112.47
Center	113.25	112.25	112.85	113.25	112.85	112.25	113.25
¼	113.40	112.62	113.09	113.49	113.09	112.62	113.40
	113.00	113.00				113.00	113.00
Curb	114.00	114.00	113.34	113.74	113.34	114.00	114.00
EL HERSCHEL	114.25	114.00	113.60	114.00	113.60	114.00	114.25
EL HERSCHEL	114.25	114.00	113.60	114.00	113.60	114.00	114.25
50' E	116.09	115.83	115.31	115.38	114.76	114.93	115.18
80'	117.18	116.93	116.33	116.22	115.46	115.50	115.75
100'	117.91	117.66	117.06	116.92	116.15	116.18	116.43
120'	118.64	118.39	117.79	117.62	116.84	116.86	117.11
140'	119.37	119.12	118.52	118.33	117.53	117.54	117.79
150'	119.73	119.48	118.88	118.68	117.88	117.88	118.13
160'	120.10	119.85	119.25	119.03	118.23	118.22	118.47
180'	120.83	120.58	119.98	119.74	118.97	118.90	119.15
200'	121.57	121.32	120.72	120.45	119.62	119.58	119.83
250'	123.41	123.16	122.56	122.22	121.36	121.29	121.54
300' E = WL of IVANHOE	125.25	125.00	124.40	124.00	123.10	123.00	123.25



WELLBORN ST.

	E Curb	¼	℄	¼	Curb W
℄ L SUTTER	263.25	263.00	262.40	262.50	261.85	262.00	262.25
25' ℄	262.44	262.19	261.59	261.93	261.40	261.67	261.92
50' "	261.63	261.38	260.98	261.36	260.94	261.34	261.59
75' "	260.82	260.57	260.17	260.79	260.61	261.01	261.26
100.78' ℄ = Sec. A	260.00	259.75	259.58	260.22	260.08	260.68	260.93
Sec. B	—	260.00	259.72	260.25	259.97	260.49	260.74
Sec. C			259.60	259.86	259.70	260.35	260.60
Sec. D				259.75	259.58	260.21	260.46
Sec. E					259.65	260.07	260.32
Sec. F					259.75 (ev)	260.08	260.28
X						260.00	

Sutter Street Intersection 50' ℄

S L SUTTER	264.25	264.00	263.40	263.50	262.85	263.00	263.25
Curb 10'	264.00	264.00	263.20	263.30	262.65	263.00	263.00
½ 7½'	263.00	263.00				262.00	262.00
½	263.40	263.15	263.05	263.15	262.50	261.75	262.40
Center 7½'	263.50	263.50	262.90	263.00	262.35	261.50	262.50
½ 7½'	262.85	262.25	262.75	262.85	262.20	261.25	261.85
Curb 7½'	262.00	262.00				261.00	261.00
	263.00	263.00	262.60	262.70	262.05	262.00	262.00
N L SUTTER 10'	263.25	263.00	262.40	262.50	261.85	262.00	262.25

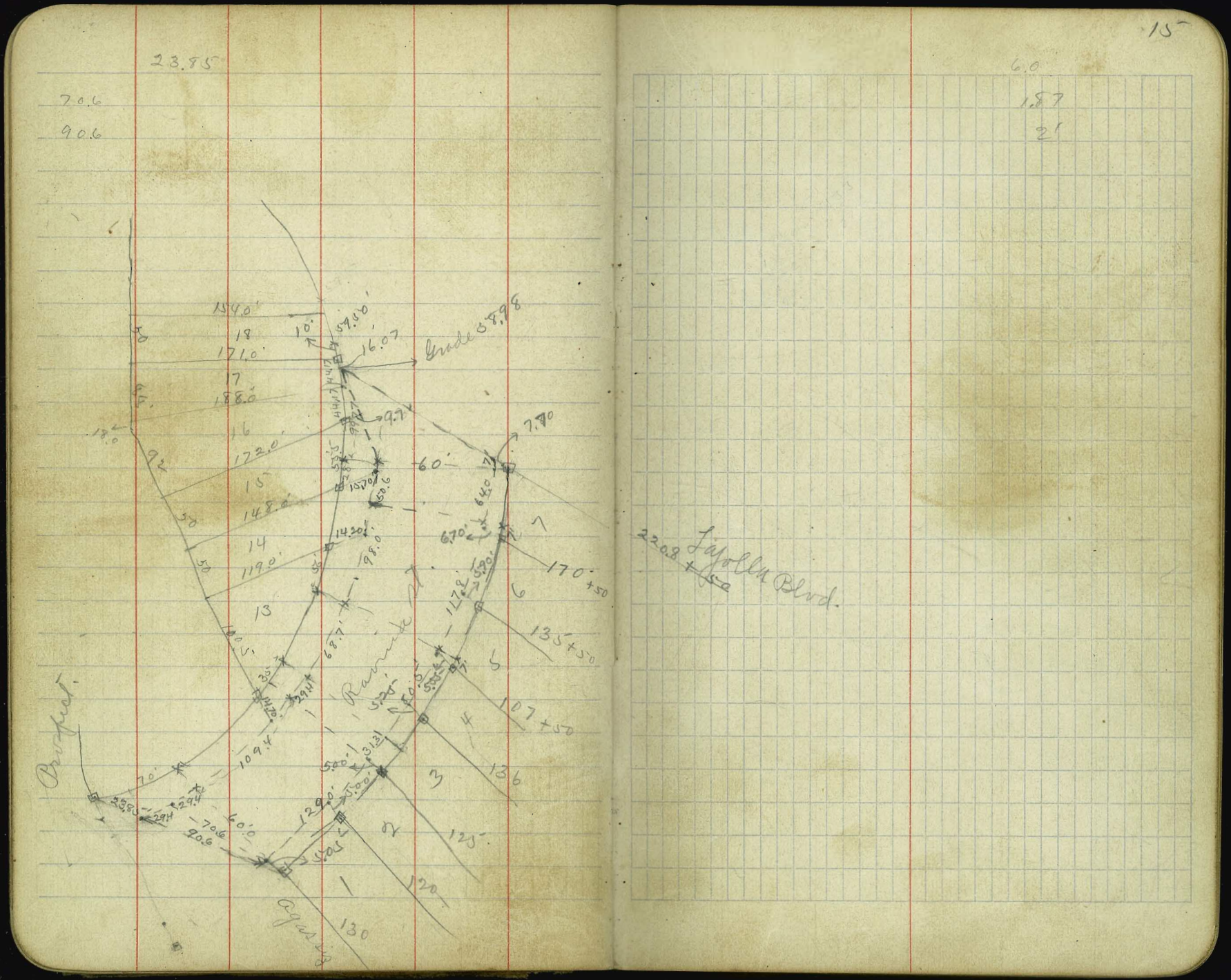
Transferred to Book 88

Note - Wellborn St. connects with Bush St. and elevations are figured accordingly.

WELLBORN ST.

	E. curb	¼	℄	¼	curb W		
	Neale St Intersection				43' Street		
SL. NEALE	268.25	268.00	267.60	268.00	267.60	268.00	268.25
S. curb	268.00	268.00	267.69	268.09	267.69	268.00	268.00
	267.00	267.00				267.00	267.00
¼	267.72	267.12	267.77	268.17	267.77	267.12	267.72
Center	268.25	267.25	267.85	268.25	267.85	267.25	268.25
¼	267.90	267.37	267.93	268.33	267.93	267.37	267.90
	267.50	267.50				267.50	267.50
N. curb	268.50	268.50	268.01	268.41	268.01	268.50	268.50
NL. NEALE	268.75	268.50	268.10	268.50	268.10	268.50	268.75

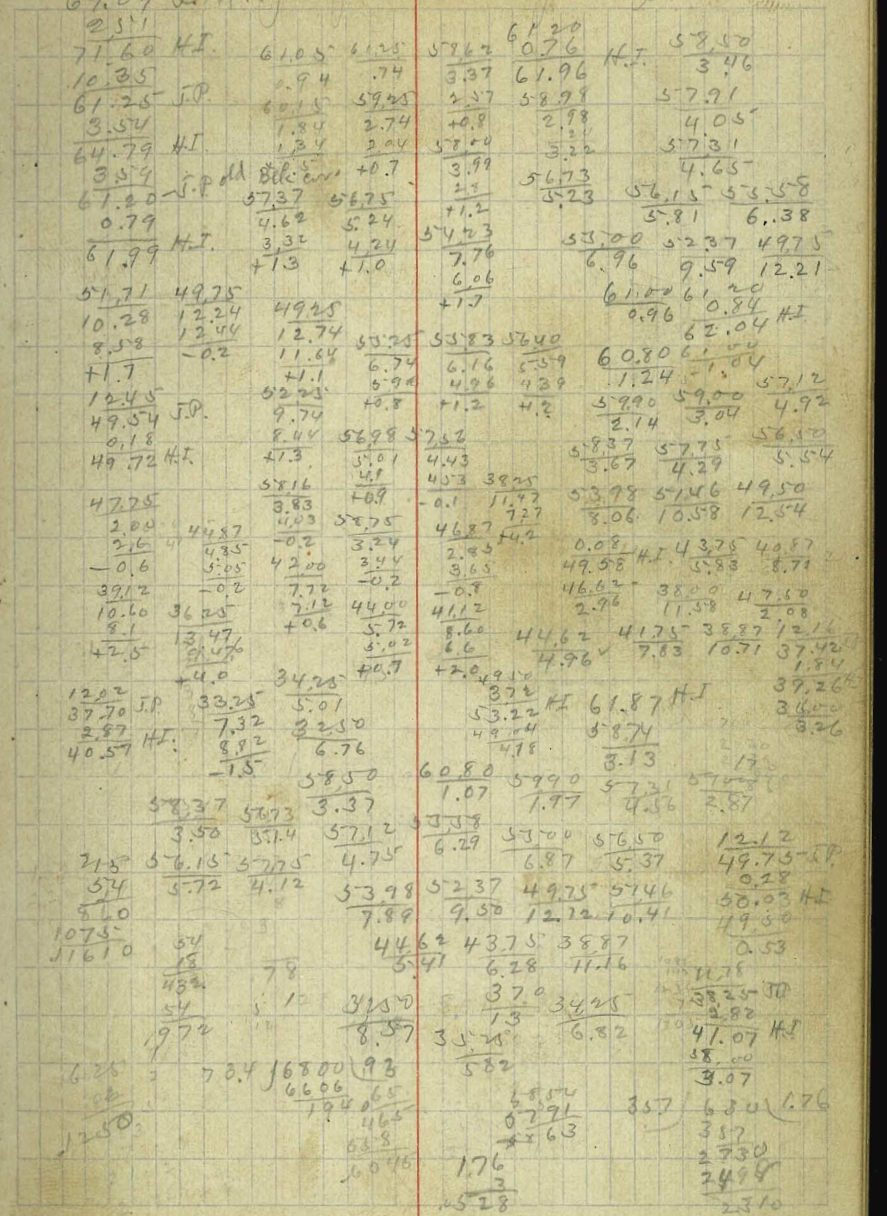
Transferred to H.K.S.

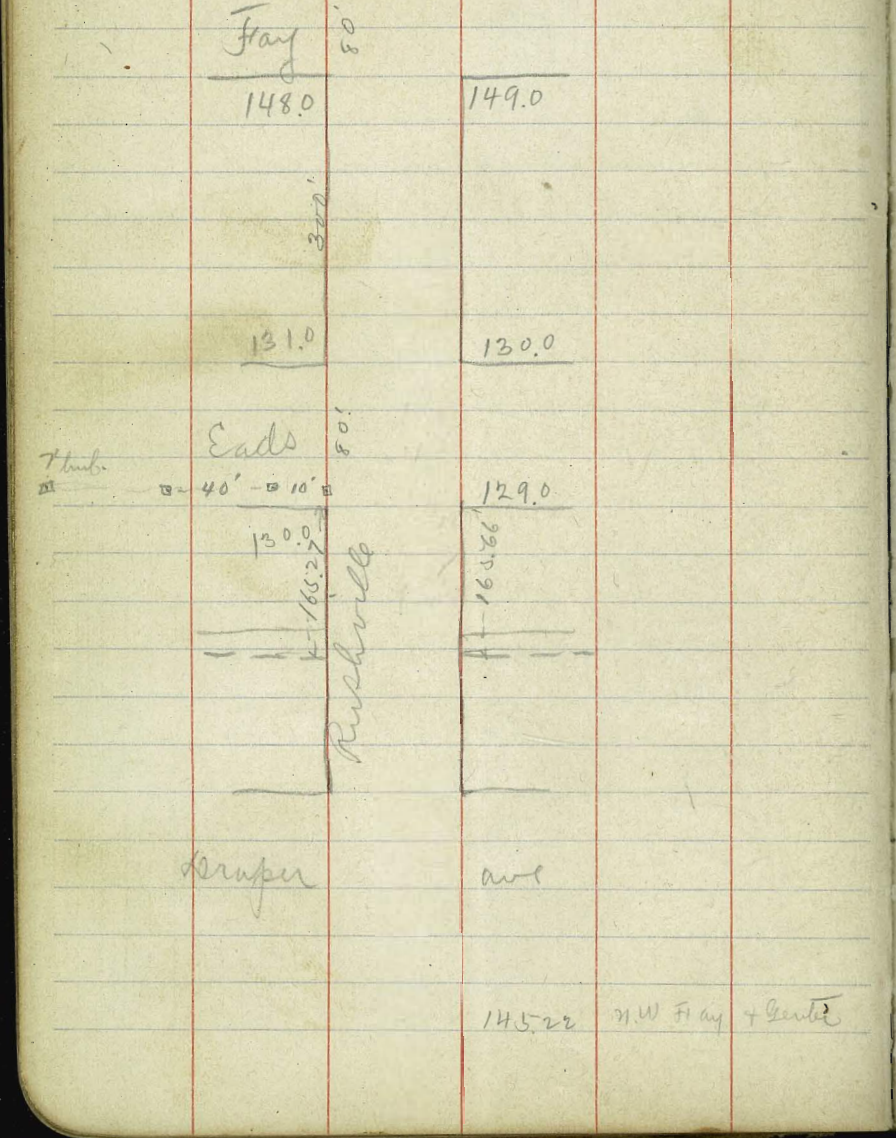

23.85
70.6
90.6
154.0'
18
171.0'
17
188.0'
16
172.0'
15
148.0'
14
119.0'
13
109.4'
Bristol
Grade 8.9%
16.07
9.7
7.90
60'
Ravinia Dr.
Lajolla Blvd.
170'+50
135'+50
107'+50
136
125'
120
130
Grade

Ravina Fruit

	N. curb ½	Center ½	S. curb ½		
W. L Lafolla Blvd.			61.00	61.25	
no pipe 6' W 7' W	So. line 58.75	58.50 (57.20)	58.68	59.65	60.20
31.3' " 39' "	58.16	57.91	58.00	58.90	59.30
56.6' " 71' "	57.56	57.31	57.33	58.15	58.40
81.1' " 100.5' "	56.98	56.73	56.74	57.55	57.77
105.6' " 129.9' "	56.40	56.15	56.15	56.95	57.15
130.1' " 159.4' "	55.83	55.58	55.57	56.35	56.52
154.6' " 188.8' "	55.25	55.00 (54.80)	54.97	55.75	53.90
189.0' " 229.0' "	52.62	52.37	52.38	53.17	53.38
223.3' " 269.3' "	50.00	49.75 (48.00)	49.81	50.60	50.86
252.7' " 300.6' "	47.75	47.50	47.60	48.50	48.90
280.0' " 332.9' "	44.87	44.62	44.72	45.62	46.02
307.4' " 365.1' "	42.00	41.75	41.85	42.75	43.15
334.7' " 397.4' "	39.12	38.87	38.97	39.87	40.27
362.1' " 429.6' "	36.25	36.00 (35.00)	36.10	37.00	37.40
391.5' "	34.50	34.25		35.25	
420.9' "	32.75	32.50 (32.00)			

69.09 R.M. Sprout + Lafolla Blvd.




Fray
148.0
80'
300'
131.0
149.0
130.0
Eads
80'
7 tumb.
40' - 10'
130.0
165.27
129.0
165.66
Rivehville
Draper
and
145.22
N.W Fray + Gentz

Rushville Street

	N	curb	¼	Center	¼	curb	S.
						East line Hay	
W. line Hay	148	25	148	00		149 00	149.25
50 west	145	42	145	17		145 84	146.09
150	142	59	142	34		142 67	142.92
100	139	75	139	50		139 50	139.75
200	136	92	136	67		136 33	136.58
250	134	08	133	83		133 17	133.42
East line Ends 300	131	25	131	00		130 00	130.25
E. line Ends	131	25	131	00		130 00	130.25
curb							
¼							
Center							
¼							
curb							
W line Ends	130	25	130	00		129 00	129.25
50 W	128	44	128	19		127 19	127.44
100 W	126	63	126	38		125 38	125.63
165.27 N 165.66 S			124	00		123 00	123.25

145.72 BM
724
152.46 H.I.
148.25
4.21

146.09
6.37
4.67
+1.7
136.92
3.17
4.07
-0.9
134.08
6.01
2.11
+3.9
140.68
6.85
4.71
+2.1

145.42
7.04
6.94
+0.1
139.75
0.34
5.24
-4.9

142.59
9.87
10.07
-0.2
139.75
0.34
5.24
-4.9
9.79
130.30 TP.
3.18
133.48 H.I.
135.63
7.85
5.95
+1.9
3.78
130.308P
4.22
134.52 H.I.
13.84
120.68 S.P.
1.88
118.80 H.I.
12.79
110.67 S.P.
3.87
114.48 H.I.
2.84
111.64 TP BM Hay & Pearl

142.92
9.54
13.12
139.34 S.P.
0.75
140.09 H.I.
142.92
2.83
4.06
-6.9

165.4 / 6 av 3.6
120.44
6.04
5.94
4.84
+1.2

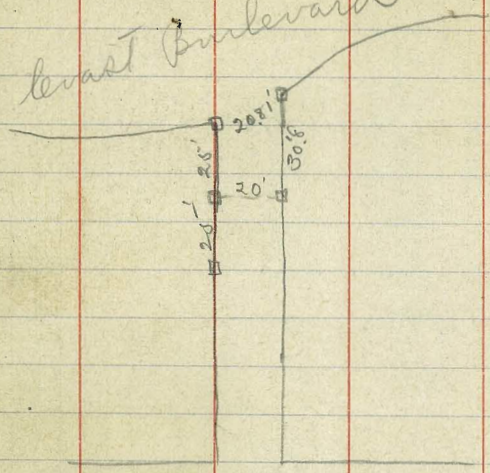
128.46 4962
5.94 10380
2.84 9924
+3.5 45.60

103.54

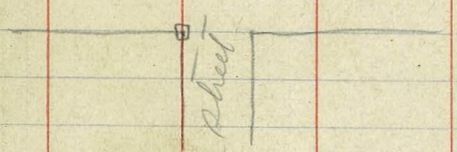
136.58
3.51
5.71
-2.2
133.42
6.67
4.87
+1.8

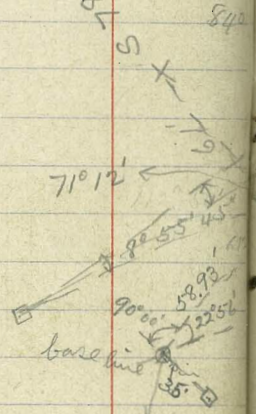
Tie out points for

Levant Boulevard.

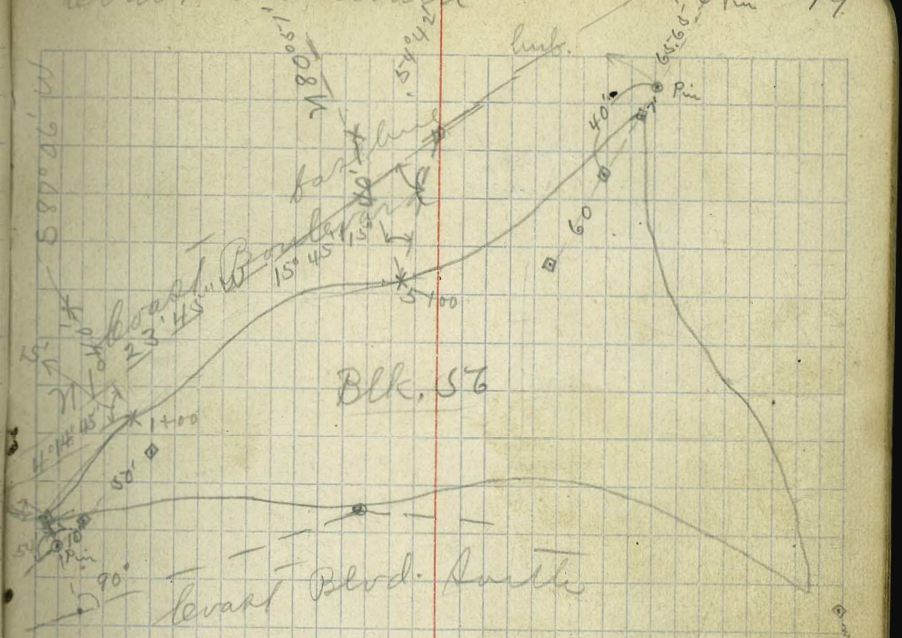


Levant Blvd. South

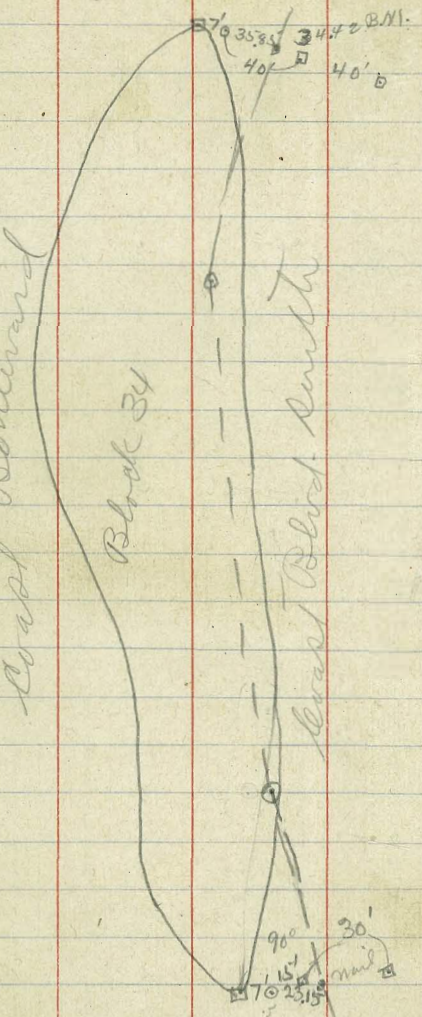


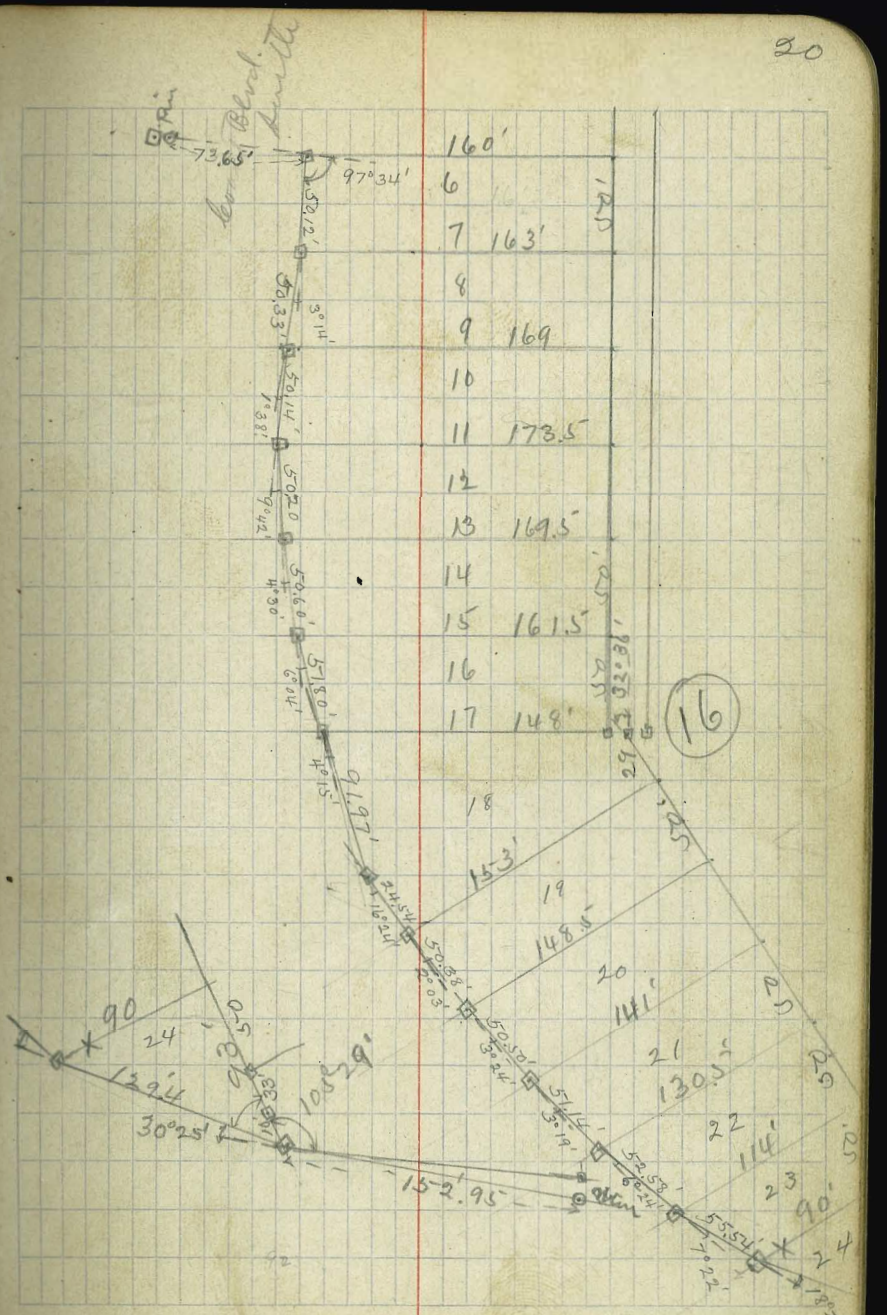


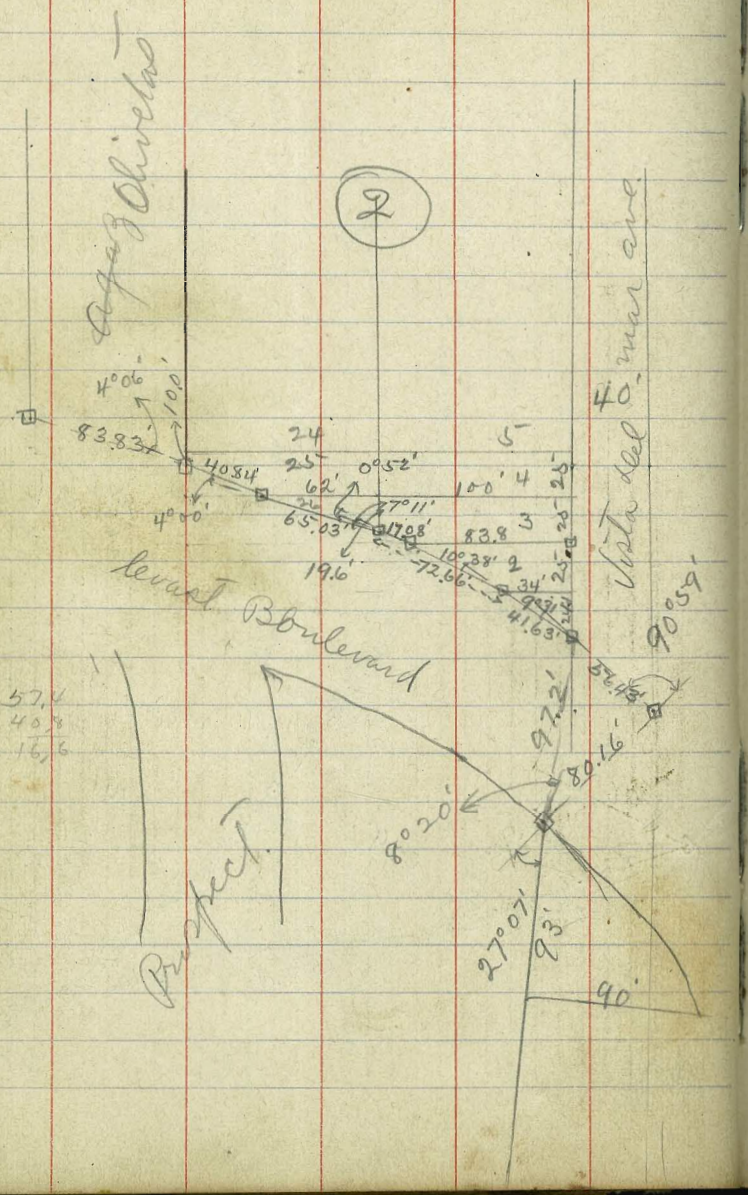
Levant Boulevard

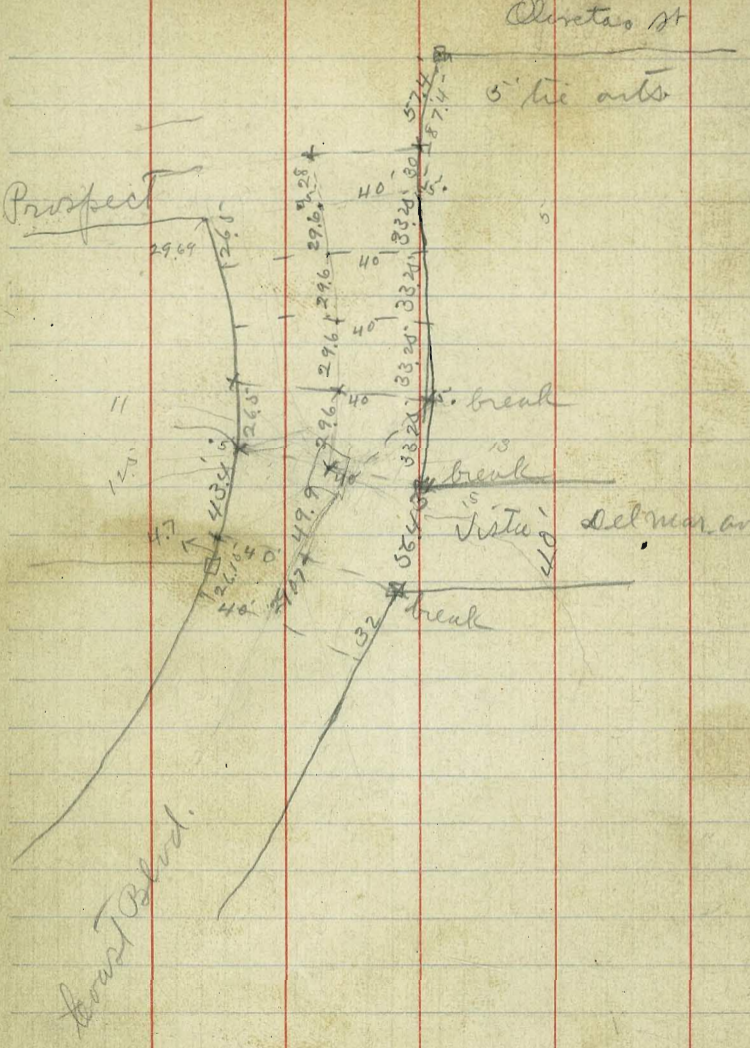


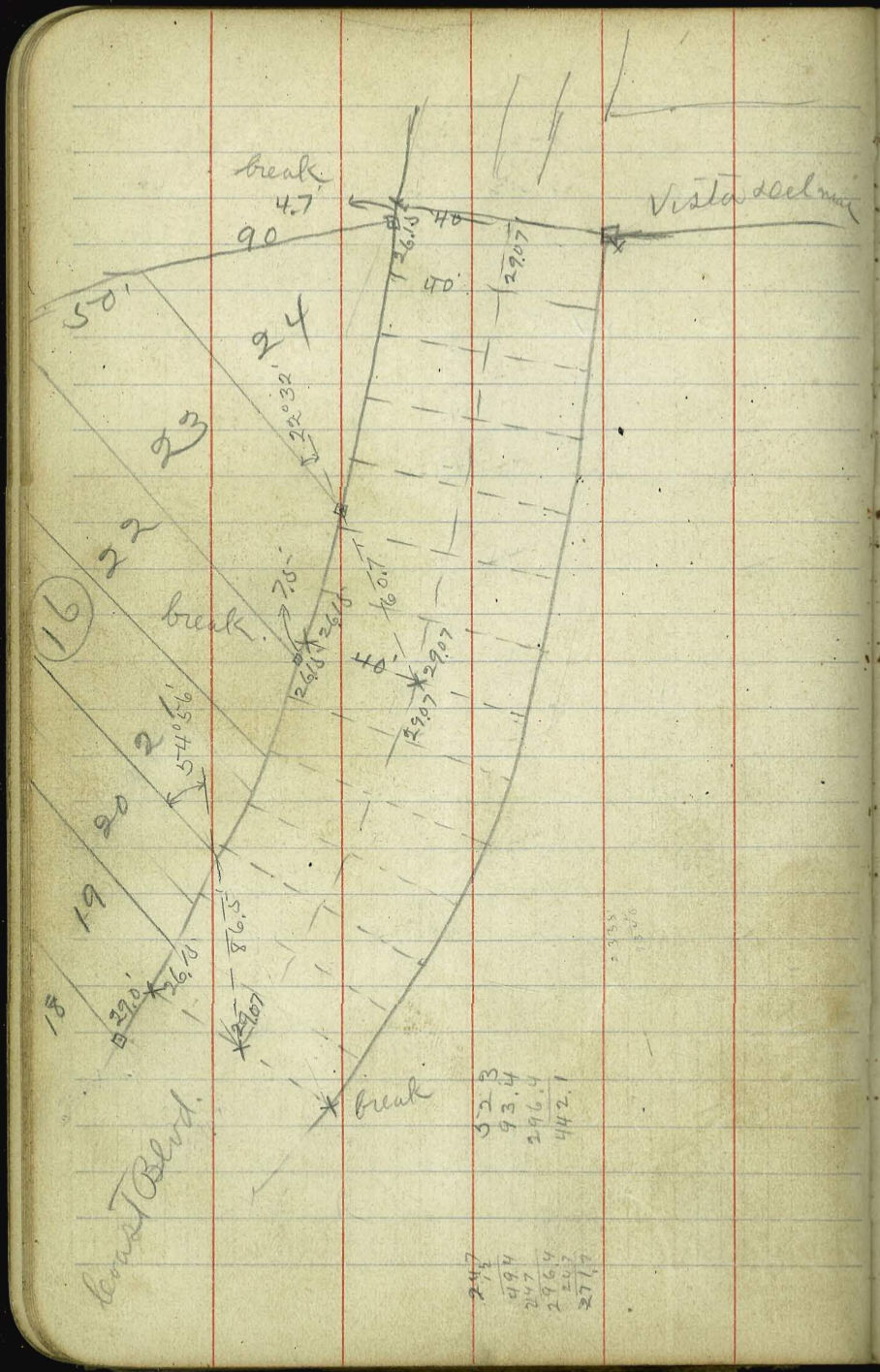
Levant Blvd. South

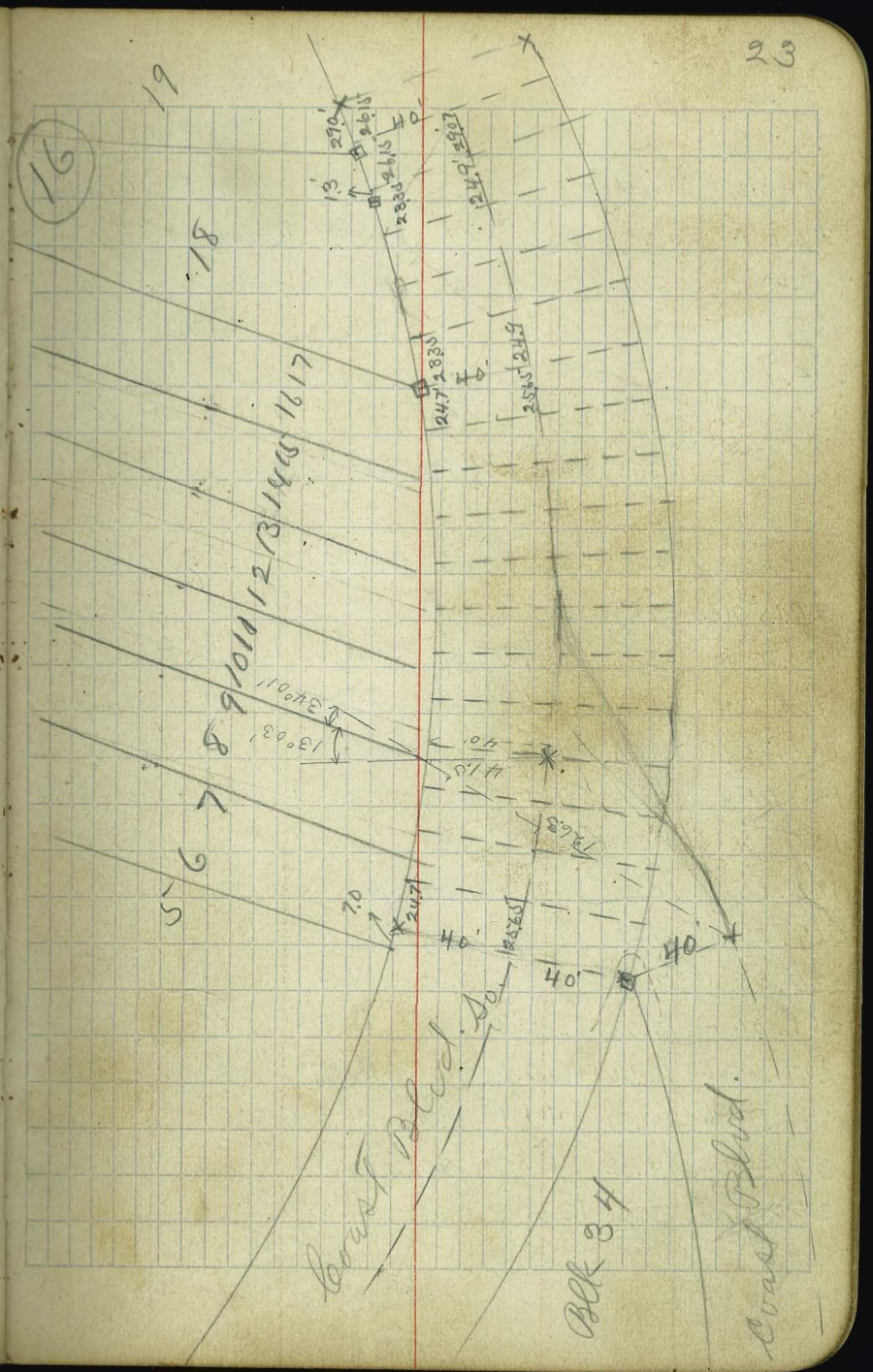

Broad Boulevard
Block 34
Broad Blvd. Annex
40'
40'
90°
30'
15'
mail


Broad Blvd. Annex
73.65'
97° 34'
160'
163'
169
173.5'
169.5'
161.5'
148'
16
15-3'
148.5'
141'
130.5'
114'
90'
90
24
13.14'
30°25'
10.29'
15-2.95'
182.5'


Agua Obispo
Vista del mar ave.
40'
Bouleard
Project
7
4°06'
100'
83.83'
24'
25'
0°52'
62'
40.81'
4°00'
65.03'
7°11'
17.08'
83.8
10°38'
19.6'
72.6'
41.63'
90.59'
97.2'
80.16'
8°20'
27°07'
93'
90°
57.4
40.8
16.6


Olivetas st
5' tie ants
Prospect
break
break
Vista Del Mar ave.
Laurel Blvd.


break
4.7
90
S.D.
Vista Boulevard
40'
26.15
29.07
24
23
22
21
20
19
18
16
29°32'
75.
54°54'
87.15
break
break
Grant Blvd.
2.47
93.4
296.4
44.2.1


19
18
16
17
8
9
10
11
12
13
14
15
16
17
S.D.
Grant Blvd.
Blk 34
Grant Blvd.
40'
7.0
24.7
28.35
24.9
29.07
26.15
13°03'
34°01'

Coast Boulevard.

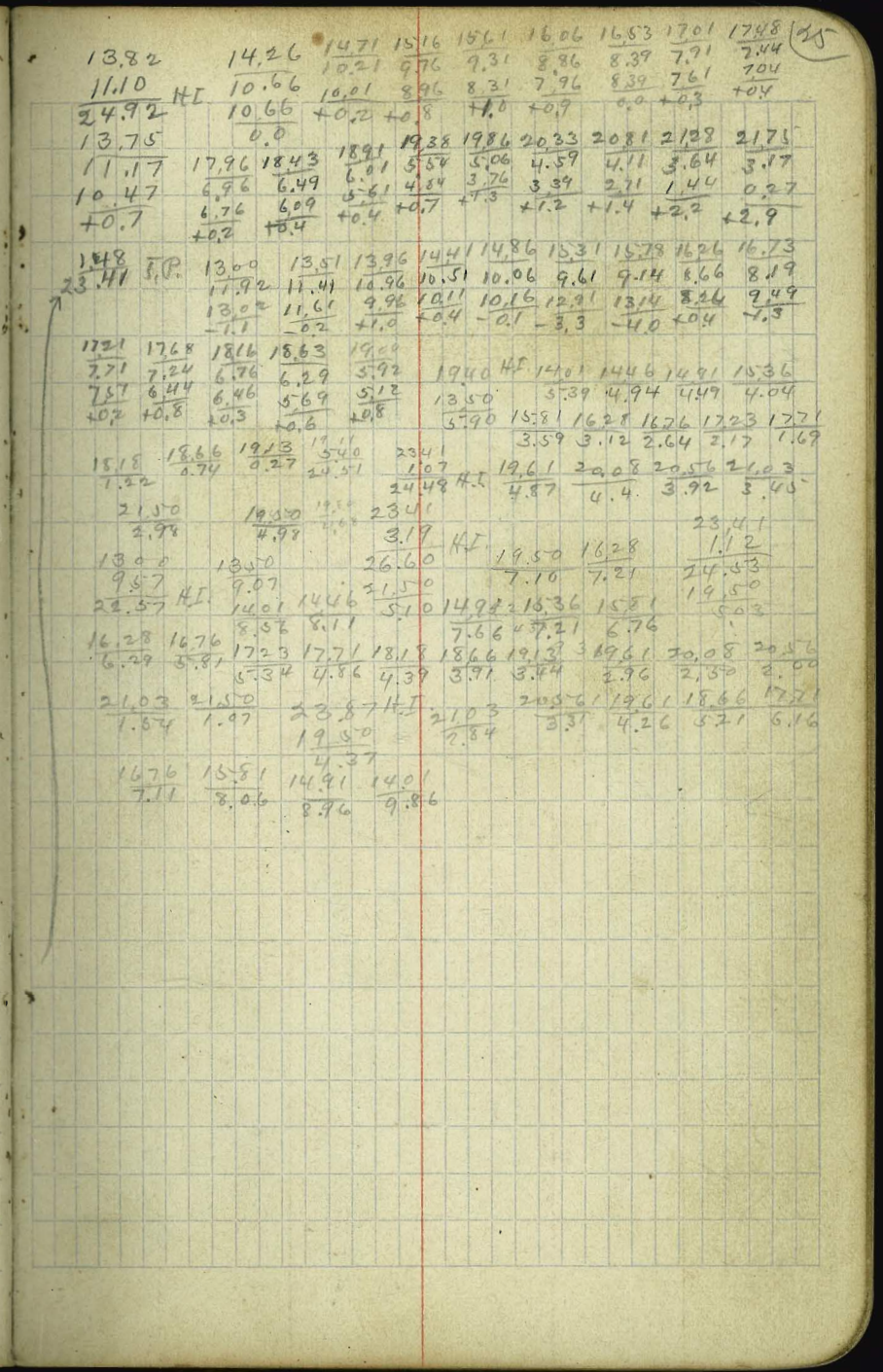
	E curb	1/4	Center	1/4	curb	W.
57.4' No. of Olivelas			32.20	32.10	32.70	32.95
87.4' " " "	29.69		30.19	30.09	30.69	30.94
120.65' " " "	27.46		27.96	27.86	28.46	28.71
153.90 " " "	25.23		25.73	25.63	26.23	26.48
187.15 " " " = 33.25 So. of Vista Del Mar Ave.			23.50	23.40	24.00	24.25
So. line Vista Del Mar Ave.	23.25	23.00	22.60	23.00	22.60	23.00 23.25
No. line Vista Del Mar Ave.	22.75	22.50	21.90	22.00		21.50
26.15 No.	22.46	22.21	21.61	21.71		
52.30 "	22.18	21.93	21.33	21.43		
78.45 "	21.89	21.64	21.04	21.14		
104.60 "	21.61	21.36	20.76	20.86		
130.75 "	21.32	21.07	20.47	20.57		
156.90 "	21.04	20.79	20.19	20.29		
183.05 "	20.75	20.50	19.90	20.00		
209.20 "	19.67	19.42	18.82	18.92		
235.35 "	18.60	18.35	17.75	17.85		
261.50 "	17.53	17.28	16.68	16.78		
287.65 "	16.46	16.21	15.61	15.71		
313.80 "	15.39	15.14	14.54	14.64		
339.95 "	14.32	14.07	13.47	13.57		
366.10 "	13.25	13.00	12.40	12.50		

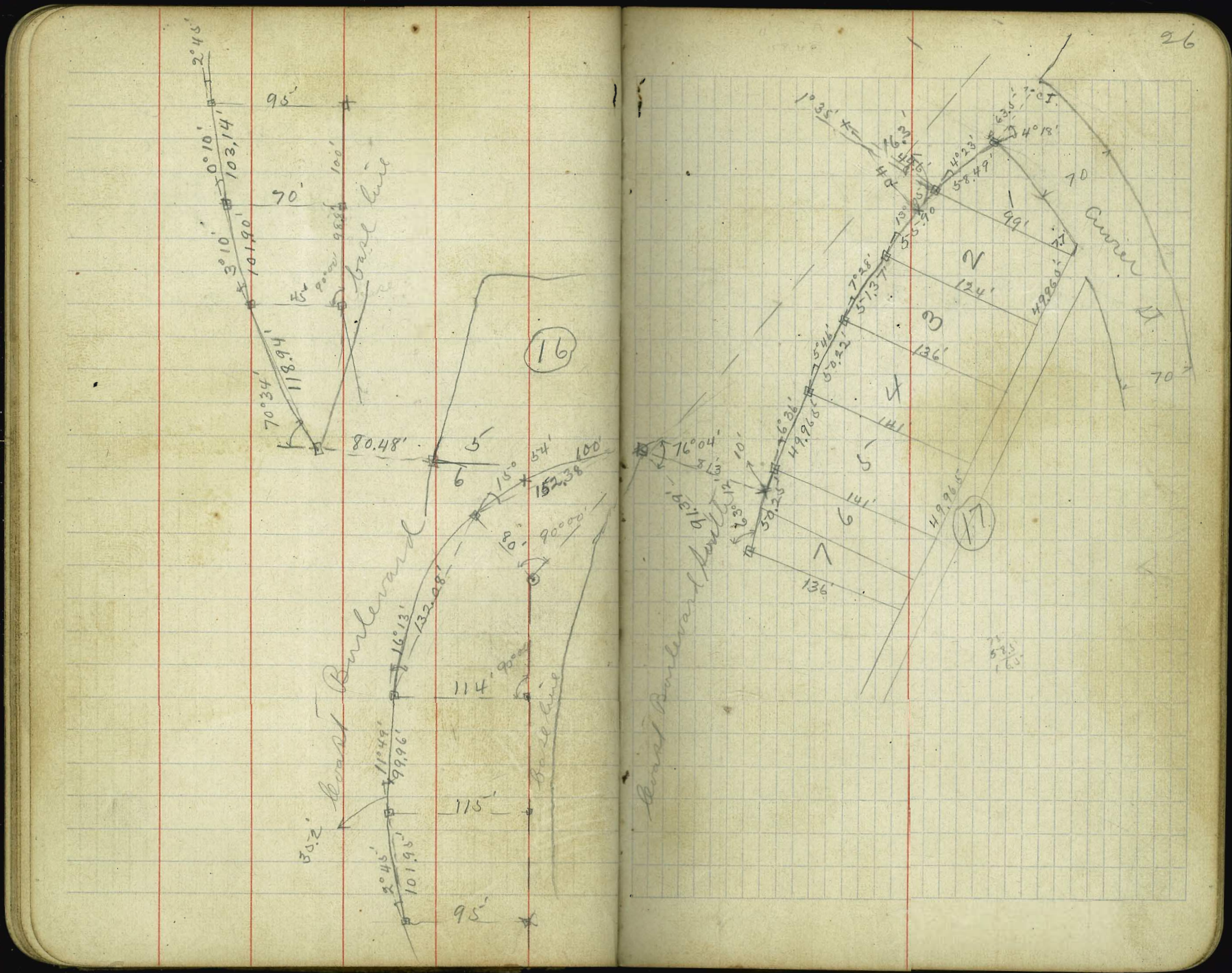
5' line

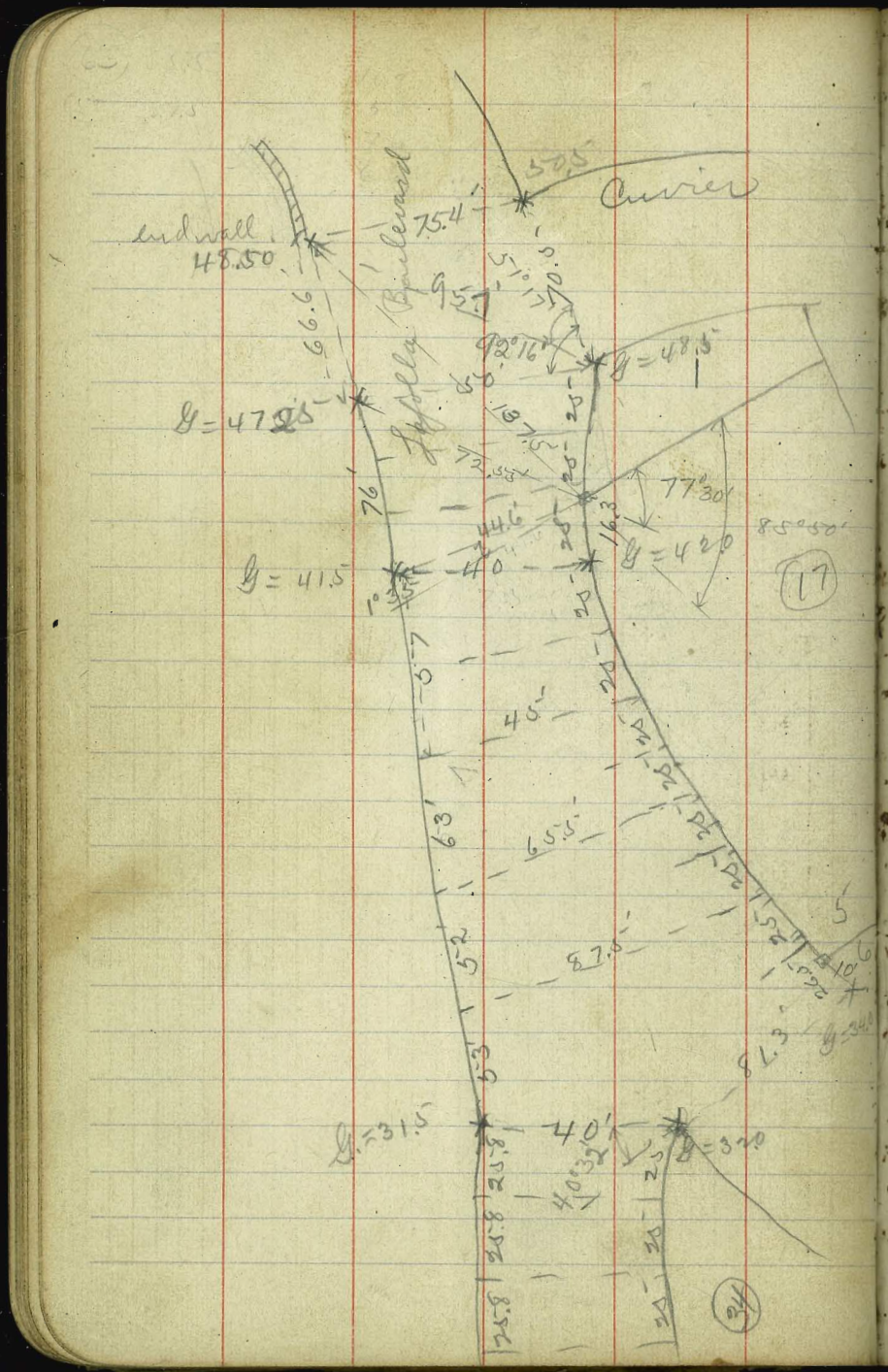
5' line

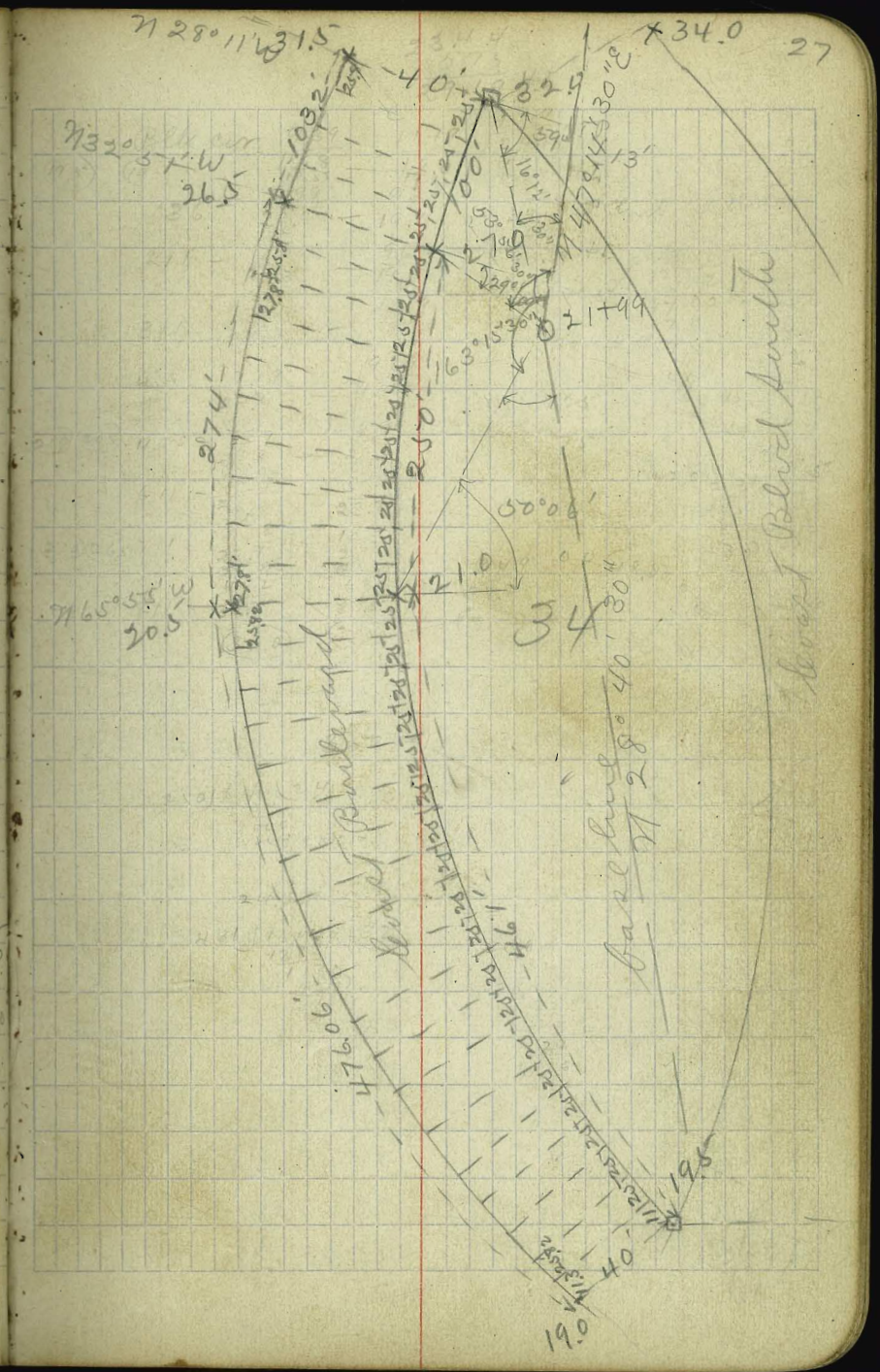
(24)

	E	crib	1/4	Center	1/4	crib	W
392.25 NO.	13.75	13.50	12.90	13.00			
418.40 "	14.26	14.01	13.41	13.51			
441.75 "	14.71	14.46	13.86	13.96			
465.10 "	15.16	14.91	14.31	14.41			
488.45 "	15.61	15.36	14.76	14.86			
511.80 "	16.06	15.81	15.21	15.31			
536.5 "	16.53	16.28	15.68	15.78			
561.2 "	17.01	16.76	16.16	16.26			
585.9 "	17.48	17.23	16.63	16.73			
610.6 "	17.96	17.71	17.11	17.21			
635.3 "	18.43	18.18	17.58	17.68			
660.0 "	18.91	18.66	18.06	18.16			
684.7 "	19.38	19.13	18.53	18.63			
709.4 "	19.86	19.61	19.01	19.11			
734.1 "	20.33	20.08	19.48				
758.8 "	20.81	20.56	19.96				
783.5 "	21.28	21.03	20.43				
808.2 "	21.75	21.50	20.90	20.50		19.50	19.75




Grand Boulevard
Base Line
Curve
16
17
95'
70'
100'
90°00'
118.94'
70°34'
80.48'
152.38'
15°
54'
18'
132.28'
16°13'
114'
90°00'
99.96'
11°49'
115'
101.95'
2°45'
103.14'
0°10'
101.90'
3°10'
95'
1°35'
4°18'
58.49'
40°23'
99'
124'
49.96'
7°28'
5°13'
136'
5°46'
6°36'
141'
76°04'
38.23'
73°
10'
136'
7°
6
5
4
3
2
1


Curve
Hyperion Boulevard
endwall
48.50
75.4
570.5
95.7
92°16'
y = 47.5
y = 41.5
y = 48.5
y = 42.0
77°30'
85°50'
44.6
16.3
76
63
65.5
87.5
81.3
40'
40°32'
y = 31.5
y = 34.0
17
34


N 28° 11' 31.5"
+34.0
N 32° 8' W
26.5
103.2
40'
N 47° 49' 30" E
21+49
63° 15' 30"
274'
250'
58° 0'
21.0
S 65° 55' W
20.5
Hyperion Boulevard
Glendale Blvd
N 28° 40' 30" W
476.06
19.5
19.0
34

Levant Boulevard & Levant

W	E	W ank	So. Line Curve	Center	ank	E
00	00		47.50 47.25		48.50	48.75
	25				46.34	46.59
	50				44.17	44.42
76'	75			41.50	41.40 42.00	42.25
	100				40.41 41.01	41.26
133'	125		38.96		39.42 40.02	40.27
	150				38.42 39.02	39.27
196'	175	36.16			37.43 38.03	38.28
	200				36.43 37.03	37.28
248	225	33.85			35.44 36.04	36.29
	250	31.50			34.45 35.05	35.30
301	276.5	32.25	32.00 32.10	33.00	33.40 34.00	34.25

Levant Blvd. See diagram

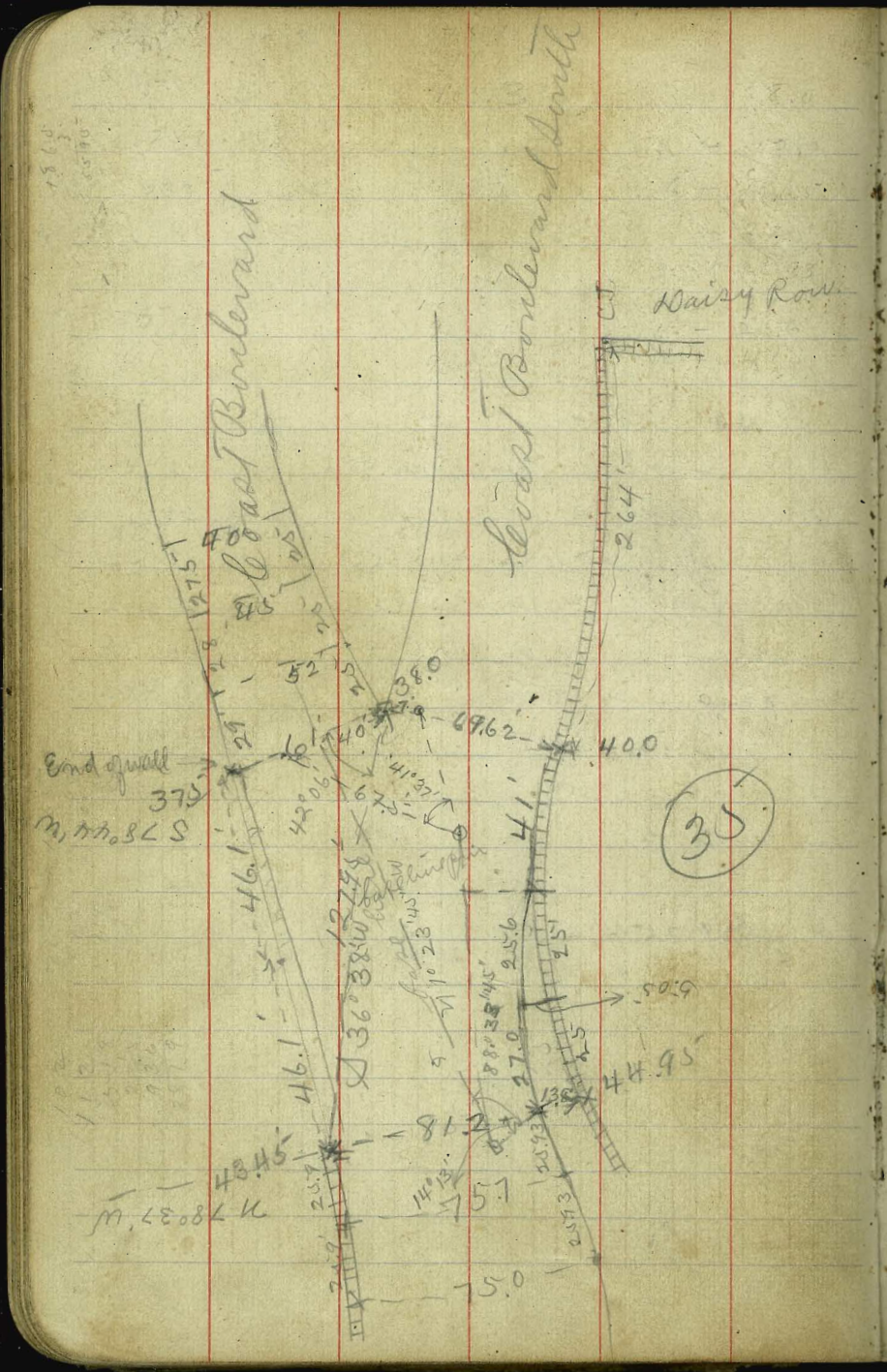
W	E					
00.00	00.00			31.50	31.40 32.00	32.25
25.3	25			30.25	30.15 30.75	31.00
51.6	50			29.00	28.90 29.50	29.75
77.4	75			27.75	27.65 28.25	28.50
103.2	100			26.50	26.40 27.00	27.25
129.0	125			25.90	25.80 26.40	26.65
154.8	150			25.30	25.20 25.80	26.05
182.6	175			24.70	24.60 25.20	25.45
210.4	200			24.10	24.00 24.60	24.85
238.2	225			23.50	23.40 24.00	24.25
266.0	250			22.90	22.80 23.40	23.65

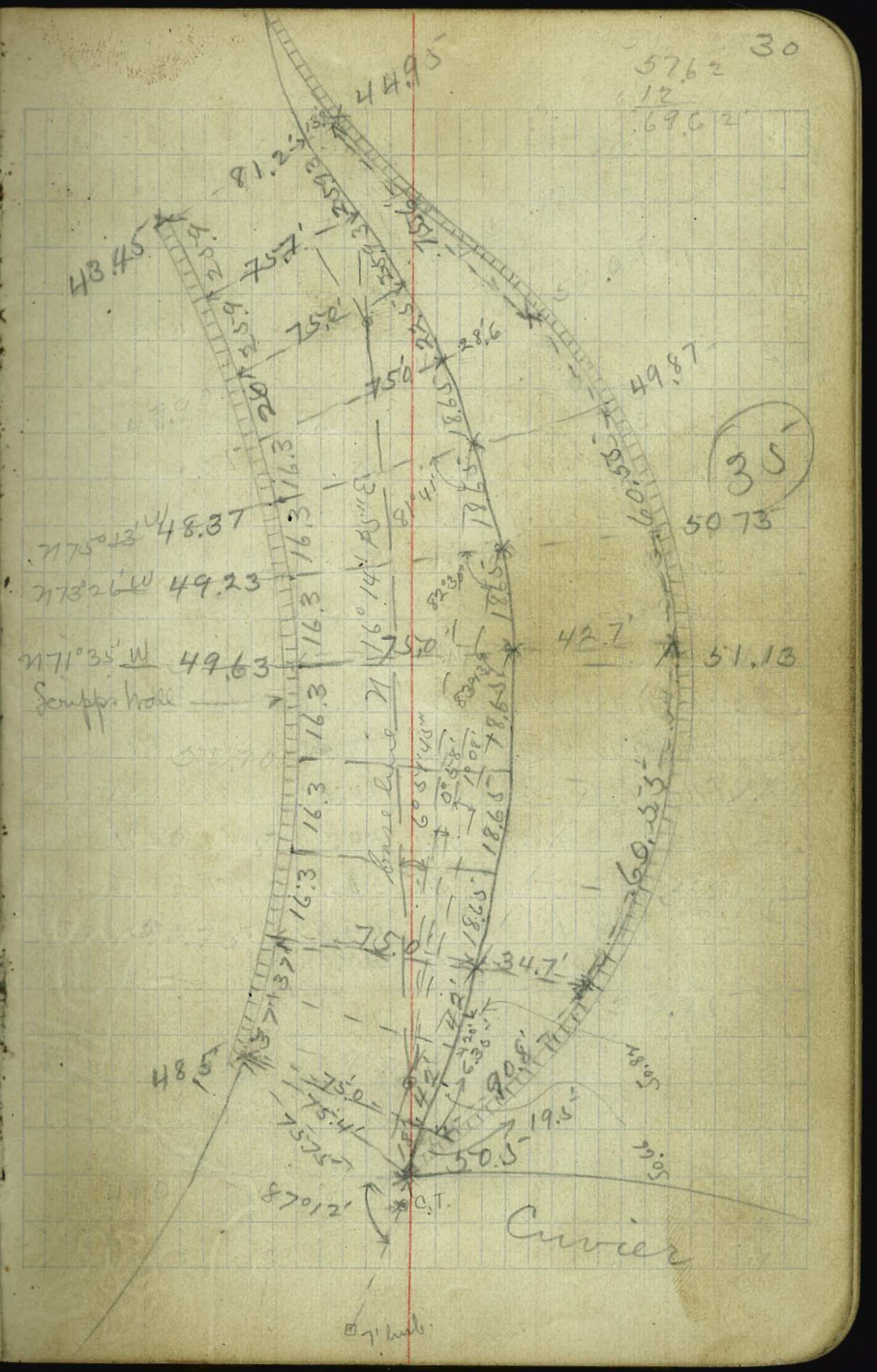
Levant Blvd. South

50 S. of B.M. Curve 4

in preceding page.

W	E	W curb	center		curb	E
293.80	275 Do.		22.30	22.20	22 80	23.05
321.6	300 "		21.70	21.60	22 20	22.45
349.4	325 "		21.10	21.00	21 60	21.85
377.2	350 "		20.50	20.40	21 00	21.25
403.02	375 "		20.41	20.31	20 91	21.16
428.84	400 "		20.32	20.22	20 82	21.07
454.66	425 "		20.24	20.14	20 74	20.99
480.48	450 "		20.16	20.06	20 66	20.91
506.30	475 "		20.08	19.98	20 58	20.83
532.12	500 "		20.00	19.90	20 50	20.75
557.94	525 "		19.92	19.82	20 42	20.67
583.76	550 "		19.84	19.74	20 34	20.59
609.58	575 "		19.76	19.66	20 26	20.51
635.40	600 "		19.68	19.58	20 18	20.43
661.22	625 "		19.60	19.50	20 10	20.35
687.04	650 "		19.52	19.42	20 02	20.27
712.86	675 "		19.44	19.34	19 94	20.19
738.68	700 "		19.36	19.26	19 86	20.11
764.50	725 "		19.28	19.18	19 78	20.03
790.32	750 "		19.20	19.10	19 70	19.95
816.14	775 "		19.12	19.02	19 62	19.87
841.96	800 "		19.04	18.94	19 54	19.79
853.26	811 "		19.00	18.90	19 50	19.75


Broadway Boulevard
Broadway Boulevard South
Daisy Row
End of wall
N, 37° 38' W
N, 37° 38' W
N, 78° 37' W
S 78° W
35


N 75° 13' W 48.37
N 73° 26' W 49.23
N 71° 35' W 49.63
Sculpt. Hall
35
50 73
Circle
S 70° 12'

Level T Bird Curve & Level Bmk. Route

	W curb			Center			E curb	
	38.25	38.00	38.10	39.00	39.40	40.0	40.25	
40.72	40.47		5.29%			42.17	42.42	
						43.52	43.77	
North End accumwall	43.70	43.45	43.47	44.20	44.35	44.95	45.20	

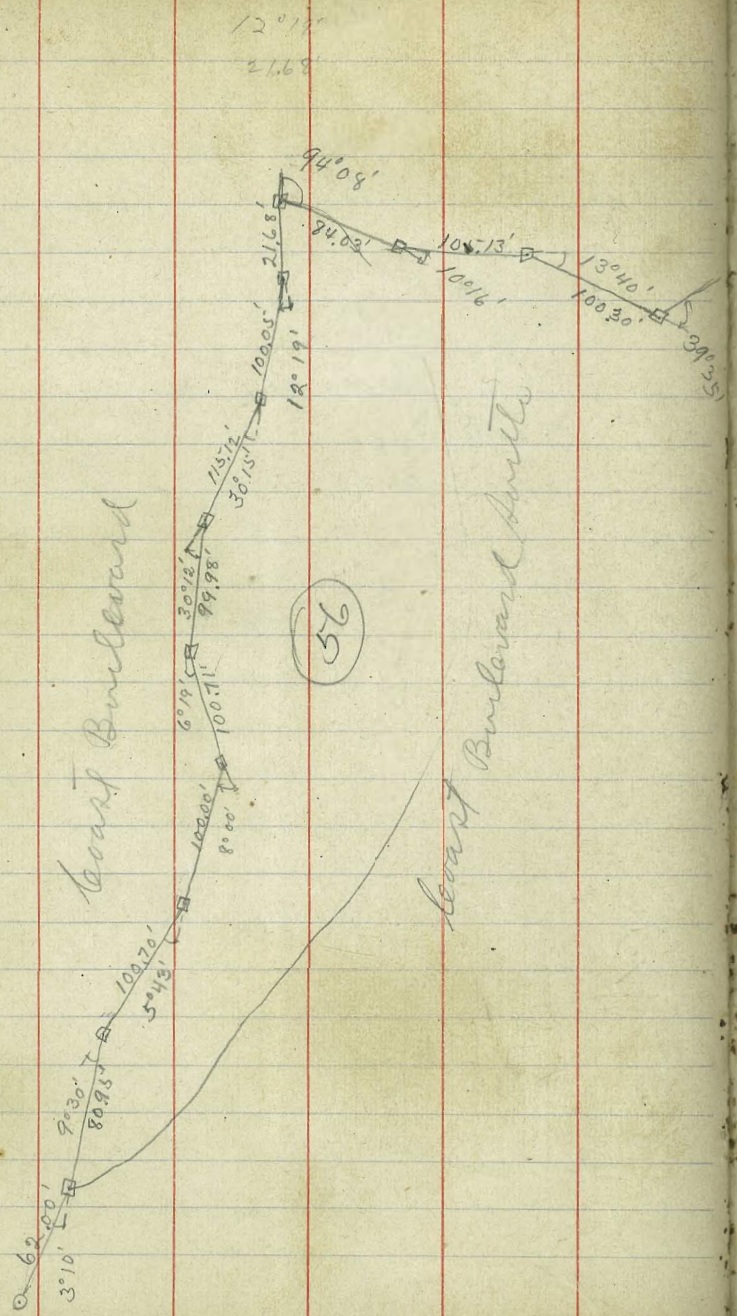
W	E							
25.9 Lo	25.93	45.07	44.82	44.80	45.57	45.72	46.32	46.57
51.8 "	51.86	46.44	46.19	46.17	46.94	47.09	47.69	47.94
71.8 "	74.36	47.63	47.38	47.36	48.13	48.28	48.88	49.13
88.1 "	93.00	48.62	48.37	48.35	49.12	49.27	49.87	50.12
104.4 "	111.65	49.48	49.23	49.21	49.98	50.13	50.73	50.98
120.7 "	130.30	49.88	49.63	49.61	50.38	50.53	51.13	51.38
137.0 "	148.95	49.73	49.48	49.48	50.27	50.46	51.06	51.31
153.3 "	167.60	49.58	49.33	49.34	50.15	50.38	50.98	51.23
169.6 "	186.25	49.43	49.18	49.21	50.04	50.31	50.91	51.16
206.6 "	228.25	49.09	48.84	48.91	49.79	50.14	50.74	50.99
243.6 "	270.25	48.75	48.50	48.62	49.53	49.97	50.57	50.82
	288.08	No. line curve		48.60	49.50	49.90	50.50	50.75

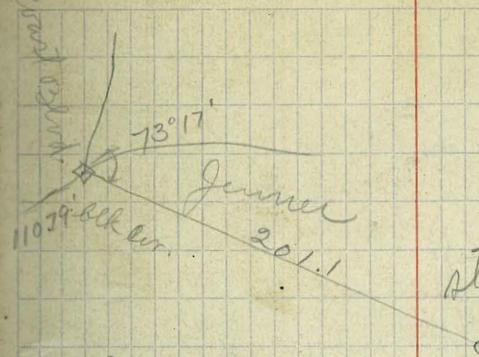
Note 10' walk on west
14' walk on East

50.51 B.M. curve S.E. cor.

T.B. north end y ocean wall 44.69

41.19

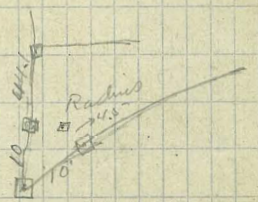


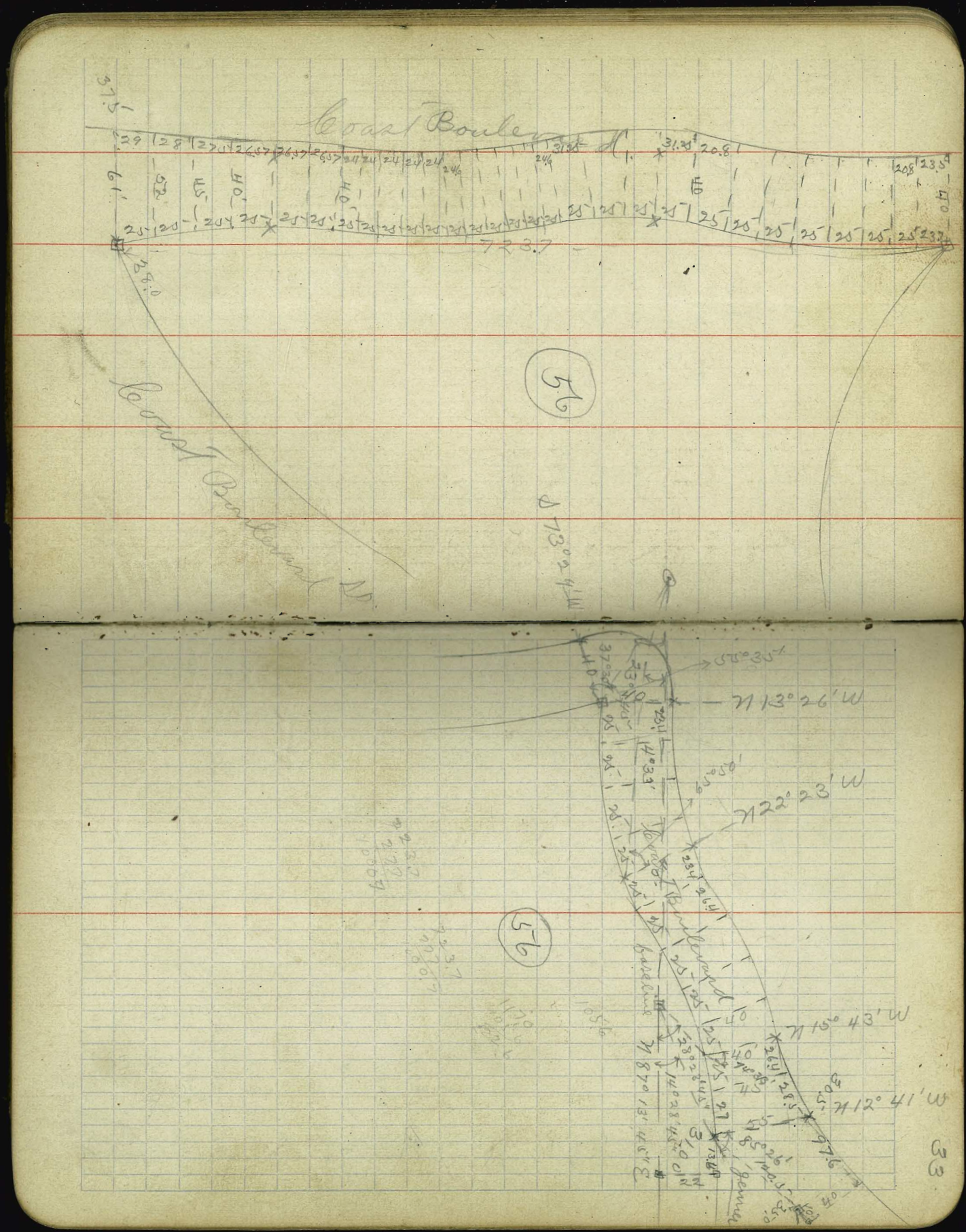


Sta 3+39.5 C

Baseline for rest of traverse line to Coast Boulevard Limits see Book 918 page 4

5 - 23.4
5 - 26.4
1 - 28.5




Coast Boulevard
Coast Boulevard
S 73° 24' W
N 13° 26' W
N 22° 23' W
N 15° 43' W
N 12° 41' W
56
56
63

Coast Boulevard

at Coast Boulevard South

E	Center	E	Curb		Center	
0+00	00	38.25	38.00	37.40	61'	37.50
25	26.57	37.00	36.75	36.15	5-2	36.25
50	53.14	35.75	35.50	34.90	45	35.00
75	79.71	34.50	34.25	33.65	40	33.75
100	106.28	33.25	33.00	32.40		32.50
125	132.85	32.71	32.46	31.86		31.96
150	159.42	32.18	31.93	31.33		31.43
175	183.42	31.65	31.40	30.80		30.90
200	207.42	31.12	30.87	30.27		30.37
225	231.42	30.59	30.34	29.74		29.84
250	255.42	30.06	29.81	29.21		29.31
275	279.42	29.53	29.28	28.68		28.78
300	304.02	29.00	28.75	28.15		28.25
325	328.62	28.46	28.21	27.61		27.71
350	353.22	27.93	27.68	27.08		27.18
375	377.82	27.40	27.15	26.55		26.65
400	402.42	26.87	26.62	26.02		26.12
425	427.02	26.34	26.09	25.49		25.59
450	458.27	25.81	25.56	24.96		25.06
475	489.52	25.28	25.03	24.43		24.53
500	520.77	24.75	24.50	23.90		24.00
525	552.02	24.58	24.33	23.73		23.83
550	572.82	24.41	24.16	23.56		23.66
575	593.62	24.25	24.00	23.40		23.50
600	614.42	24.08	23.83	23.23		23.33

See page 40

44.69 B.M. on wall

0.37

45.06

37.50

7.56

10.06

- 2.50

32.56

1.79

34.09 HI

3375 3737 3600 3462 3325

6.31 7.69 9.06 10.44 11.81 32.71

6.34 8.09 9.46 9.84 10.41 12.35

+0.40 -0.4 -0.1 +0.6 +0.4 +0.95

47.4 +1.4

3006 2953 2900 2846 2793 2740 2687

4.03 4.56 5.09 5.63 6.16 6.69 7.22

3.33 4.06 4.79 5.53 6.26 6.99 7.72

+0.7 +0.5 +0.3 +0.3 +0.4 +0.3 +0.4

3230 3187 3143

2458 2441 2425 2408 3250 3196 3143

9.57 9.68 9.84 10.01 1.57 2.13 2.66

8.57 8.08 8.24 8.41 1.69 2.83 2.46

+1.0 +1.6 +1.6 +1.6 -0.1 -0.2 +0.2

3090 3037 2984 2931 2878 2826 2771 2718 2665 2612 2559 2506 2453

3.19 3.72 4.25 4.78 5.31 5.84 6.38 6.91 7.44 7.97 8.50 9.03 9.56

2.78 3.12 4.25 4.78 5.37 5.84 6.48 6.61 7.52 7.87 8.70 9.53 9.56

+0.4 +0.6 0.0 0.0 -0.2 0.0 -0.1 +0.3 -0.1 +0.1 -0.2 -0.3 0.0

2400 2383 2366 2350 2333 3330

10.09 10.26 10.43 10.59 10.76 8.31

9.69 9.86 10.03 10.19 10.06 40.61 HI

+0.4 +0.4 +0.1 +0.4 +0.7

32.30

3246 3193 3140 3087 9.57

8.16 8.68 9.21 9.74 32.81 HI

2878 2821 2768 2715 2662 2609 2556 2503 2450 2383

4.06 4.40 5.13 5.66 6.19 6.72 7.25 7.78 8.31 8.48

2416 2400 2383

8.65 8.81 8.98

33.90 HI 23.33 10.07 9.90 9.74 9.57 9.40 8.87 8.34 7.81 7.28

2715 2768 2821 2875 2928 2981 3034 3087

6.75 6.22 5.69 5.15 4.62 4.09 3.56 3.03

1060

3239

4290

3087 3140 3193 3246 3300 3353 3406 3459

HI 12.03 11.50 10.97 10.44 9.90 8.66 7.40 6.15

3840

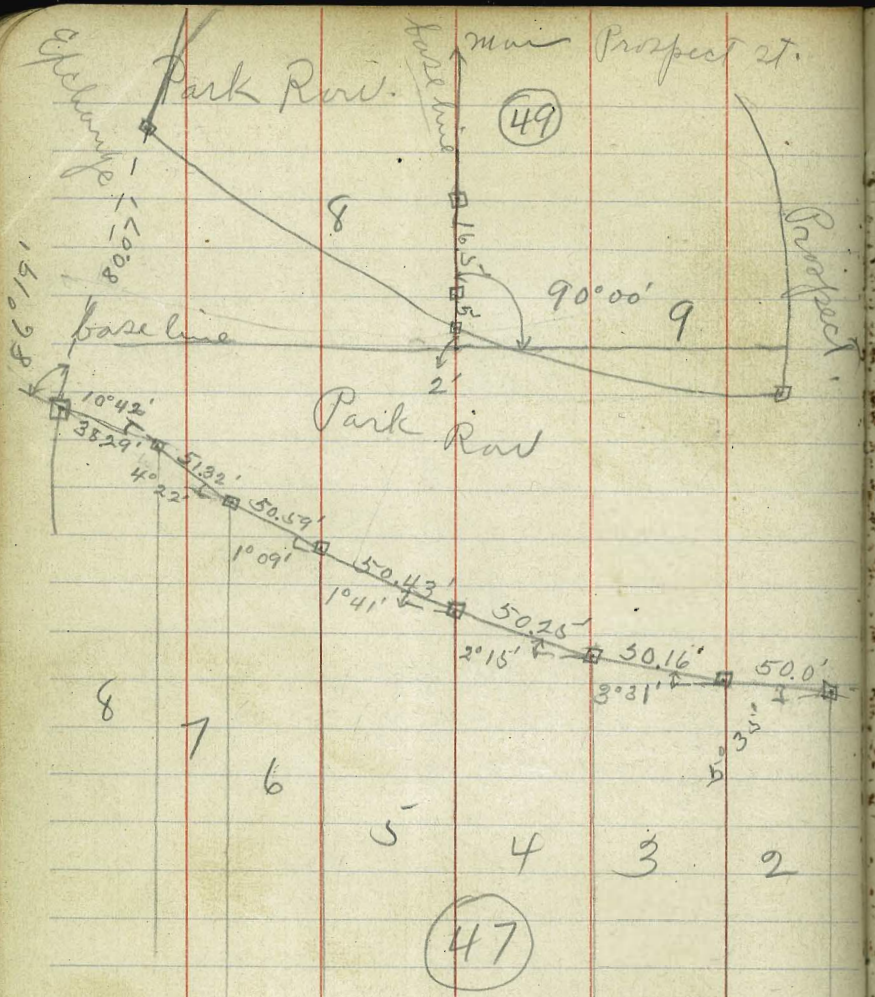
4.90

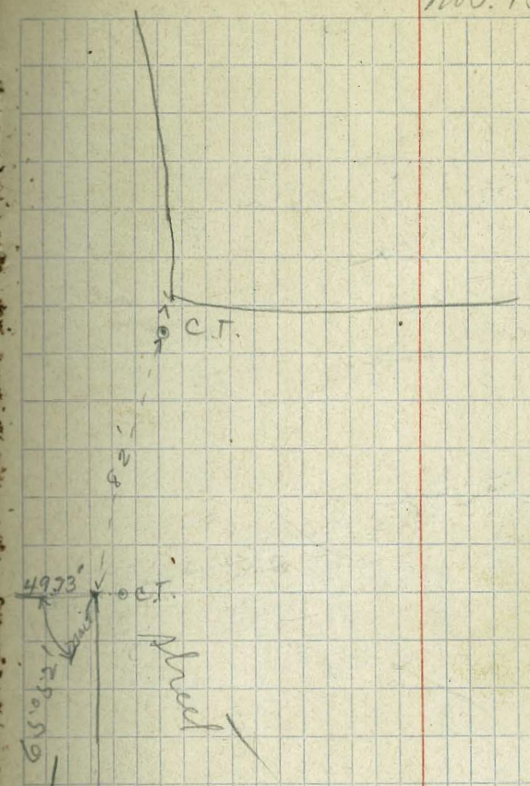
30.34

2981 2828

3.00 3.53

32.81 HI 2.47

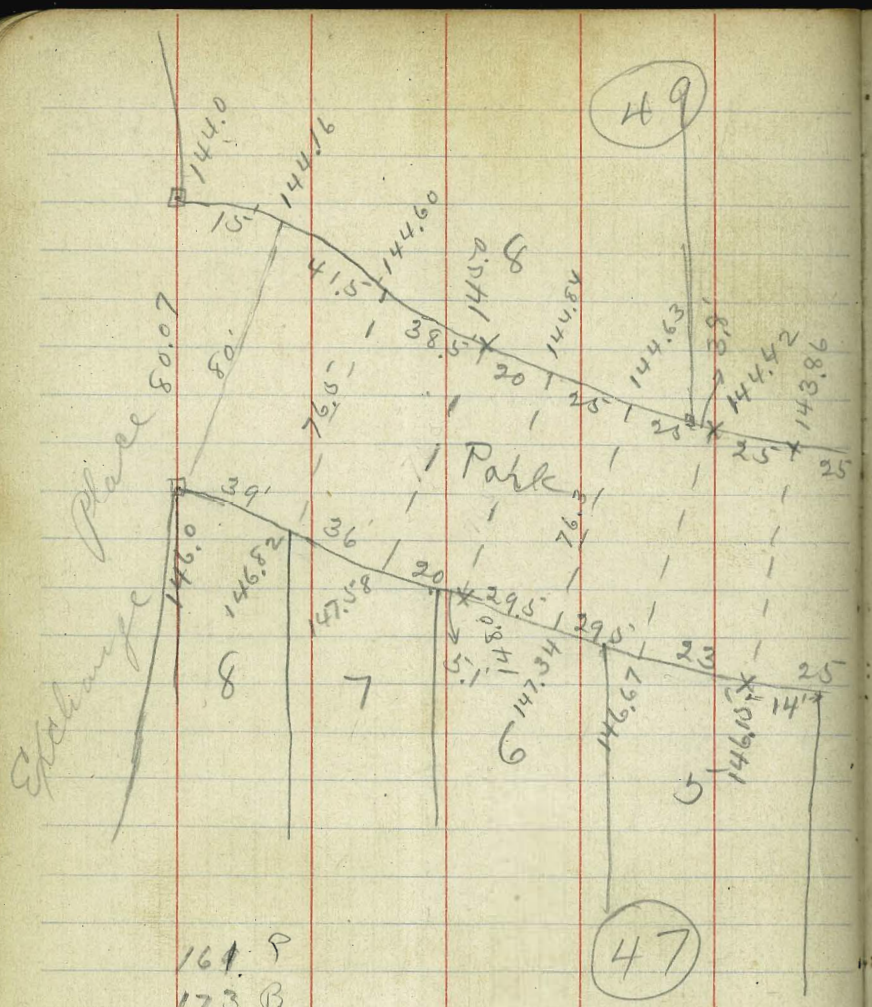


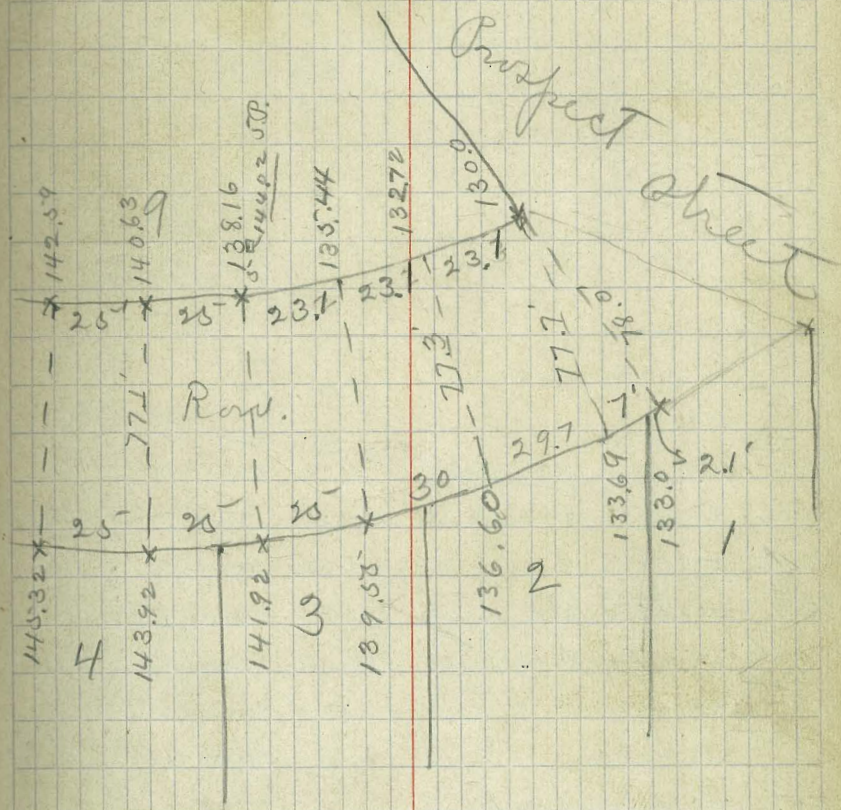


Nov. 15/15 { Childs, Evans, Herrick

35

149.975 BM Jerry Road + prospect





Park Row.

N curb ¼ curb ¼ curb S

	343.7E							
W line Proj.					131.50	132.4	133.00	133.25
334.3E	336.2E	130.25	130.00	130.35	131.84	133.09	133.69	133.94
				130.52				
311.2E	307E	132.97	132.72	133.29	134.66	136.00	136.60	136.85
288.1E	277E	135.69	135.44	136.07	137.50	138.95	139.55	139.80
265E	252E	138.41	138.16	138.70	140.04	141.32	141.92	142.17
240E	227E	140.88	140.63	141.05	142.27	143.32	143.92	144.17
215E	202E	142.84	142.59	142.87	143.95	144.72	145.32	145.57
190E	177E	144.11	143.86	144.03	145.00	145.55	146.15	146.40
165E	154E	144.67	144.42	144.59	145.55	146.07	146.67	146.92
140E	124.5E	144.88	144.63	144.90	145.98	146.74	147.34	147.59
115E	95E	145.09	144.84	145.23	146.42	147.40	148.00	148.25
95E	75E	145.25	145.00	145.24	146.29	146.98	147.58	147.83
56.5E	39E	144.85	144.60	144.75	145.71	146.22	146.82	147.07
15E (East line Exch)		144.41	144.16	144.22	145.08	145.40	146.00	146.25
East line Exch		144.25	144.00	144.10	145.00			

149.97S BM
6.73S
156.71 HI.
146.25
10.46
10.06
+0.4

147.07 | 14783 8.88 5.88 +3.0 | 148.25 8.46 8.36 +3.1 | 147.59 9.12 5.52 +3.6 | 146.92 9.79 6.39 +3.4 | 146.40 10.31 7.31 +3.0

145.57 11.14 8.74 +2.4 | 144.17 12.54 10.64 +1.9 | 143.67 14.54 | 144.25 12.46 12.06 −0.5 | 144.41 12.30 13.0 −0.7 | 144.85 11.86 13.96 −1.2 | 145.25 11.46 11.76 +0.3

145.09 11.62 10.42 +1.2 | 144.88 11.83 9.43 +2.4 | 144.67 12.04 8.54 +3.5 | 144.11 12.60 9.0 +3.6 | 142.84 13.87 10.17 +3.7 | 140.88 15.83 11.83 +4.5 | 138.41 18.30 12.64 +5.6 | 126.7 144.02 1.71 145.73 H.I. | SP.

135.69 10.04 3.84 +6.2 | 132.97 12.76 6.66 +6.1 | 142.17 3.56 3.06 +4.5 | 139.80 5.93 6.43 −0.5 | 136.84 8.88 8.08 +0.8 | 133.44 11.79 12.39 −0.6 | 133.28 12.48 11.78 +0.7 | 131.91

149.97 7.77 157.74 H.I. | 146.0 6.56 | 146.82 5.74 | 147.58 4.98 | 148.00 4.56 | 147.30 5.22 | 146.67 5.89

11.77 145.97 6.59 152.56 H.I. | U.P. AE 7' Inst. Exchange | 144.84 7.72 | 145.58 7.36 | 144.66 7.76 | 146.15 6.41 | 145.32 7.24 | 143.92 8.64 | 144.42 8.14

144.16 | 144.0 | 140.63 11.93 | 142.59 9.77 | 143.86 8.70 | 144.63 7.93

0.23 144.17 144.40 H.I. 12.58 131.82 return 4.25 | 141.92 2.48 | 139.53 4.85 | 136.60 7.80 | 8.40 8.56 138.69 10.71 | 133.0 11.40

150.22 H.I. | 132.72 11.68 | 135.44 8.96 | 138.16 6.24 | 145.0 5.22 | 147.58 2.64 | 148.0 2.22 | 144.84 5.38

144.63 5.59 | 147.34 2.88 | 146.67 3.55 | 144.42 5.80 | 143.86 6.36 | 146.15 4.07 | 145.32 4.90 | 142.58 7.63

140.63 9.59 | 143.92 6.30 | 141.92 8.30 | 138.16 12.06 | 2.70 140.86 H.I. | 135.44 5.42 | 139.58 1.31

136.60 4.26 | 132.72 8.14 | 130.0 10.86 | 133.0 7.86

Marine ave.

86.63 Elev.

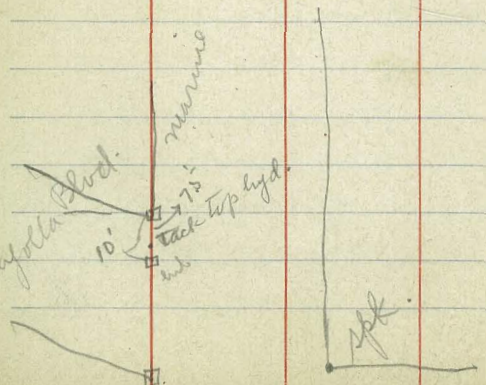
5' Tenant

Railroad Rights of way

		N. curb	center	curb	S
379.7	E	84 25	84 00		
376.2	E	84 12	83 87	84 50	84.75
350	"	83 26	83 01	83 64	83.89
300	"	81 62	81 37	82 00	82.25
250	"	79 97	79 72	80 35	80.60
200	"	78 33	78 08	78 71	78.96
150	"	76 68	76 43	77 06	77.31
100	"	75 04	74 79	75 42	75.67
50	"	73 39	73 14	73 77	74.02
00		71 75	71 50	72 13	72.38
				69 50	69.75

80'

La Jolla Boulevard.



71.845' B.M. 164 / 86.63

11.715
83.356 H.I.
0.000
83.356 T.P.
4.717 HI
88.273

84.25'	84.75	83.89			
4.02	3.52	4.38			
1.62	1.02	1.48			
+2.4	+2.5	+2.9			
75.67	74.02	73.39			
12.60	14.25	14.88			
10.70	12.55	12.68			
+1.9	+1.7	+2.2			
71.75'	72.38	69.75			
5.65'	5.02	7.65			
4.45	3.92	7.57			
+1.2	+1.1	+0.1			

379.7 / 12,500 / 3.29 / 82.25

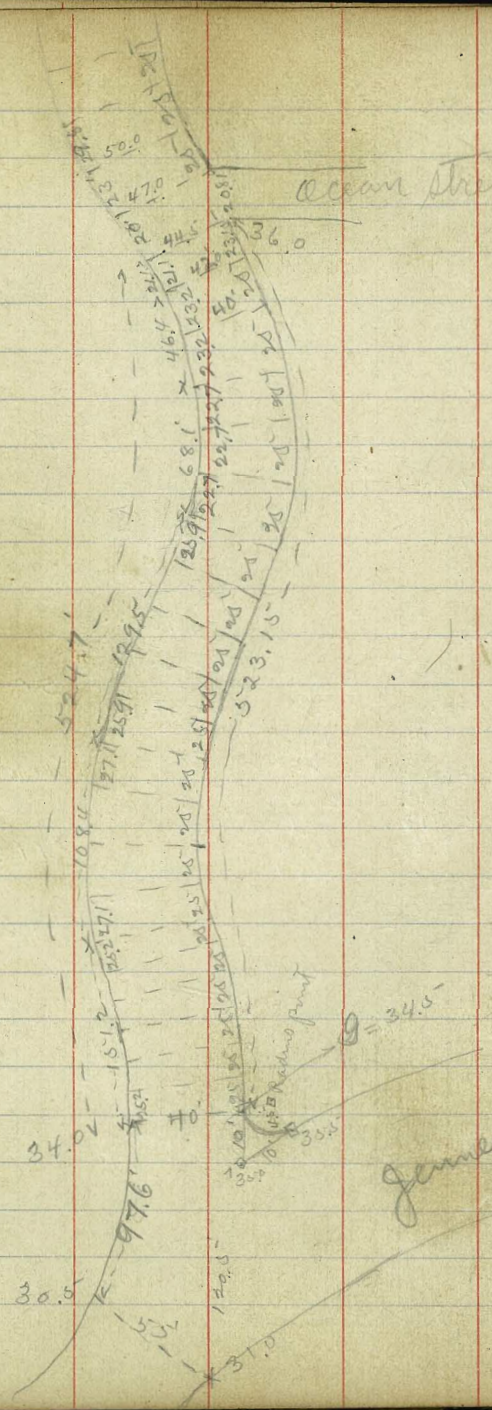
11,391 / 6.02 / 78.33

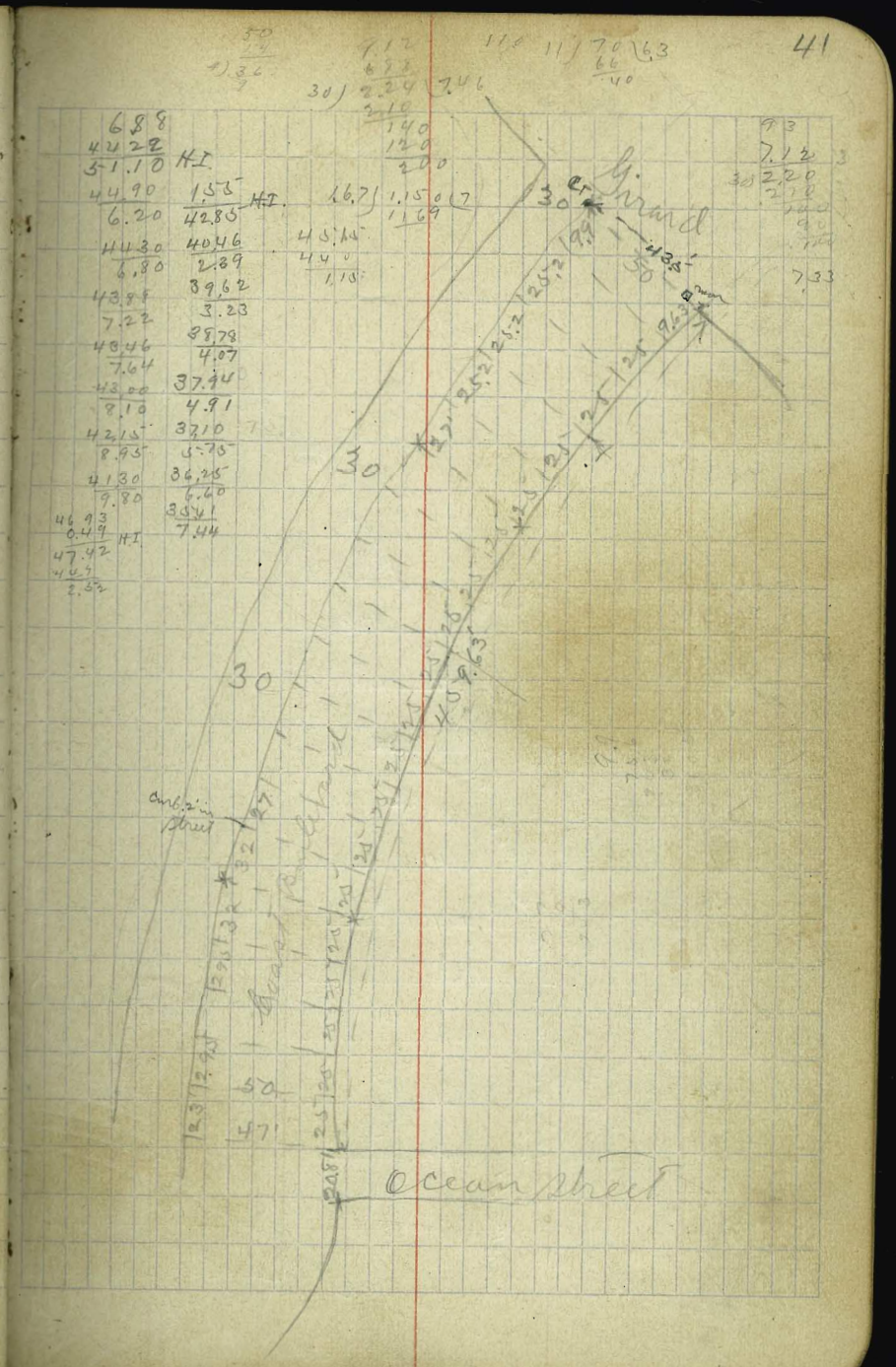
1090	80.60	3.82	9.94	
759.4	7.67	+2.2	7.74	
3496	5.42	7.97		
3417.3	+2.2	8.30	+2.2	
	8.162	6.2	78.96	
83.26		+2.1	9.31	
5.01	6.65	7731	7.21	
2.61	4.35	10.96	+2.1	
+2.4	+2.3	9.06		
		+1.9		

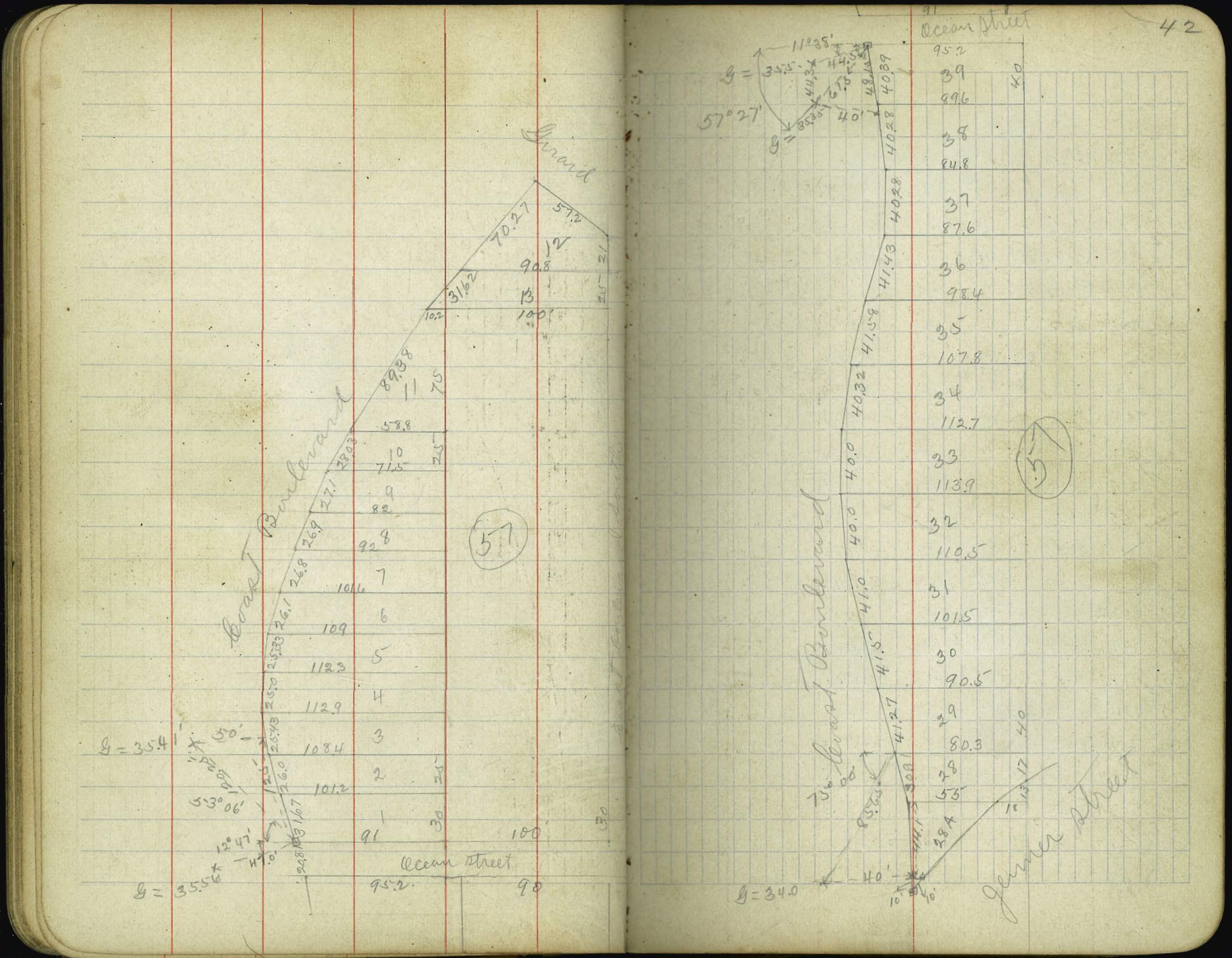
All page 34

		E	Curb		C	
625	635.22	23.91	23	66	23.06	23.16
650	656.02	23.75	23	50	22.90	23.00
675	676.32	23.58	23	33	22.73	22.83
700	697.62	23.41	23	16	22.56	22.66
723.7	721.12	23.25	23	00	22.40	22.50
25	23.4	23.97	23	72	23.12	23.22
50	46.8	24.70	24	45	23.85	23.95
75	70.2	25.42	25	17	24.57	24.67
100	93.6	26.14	25	89	25.29	25.39
125	117.0	26.86	26	61	26.01	26.11
150	143.4	27.59	27	34	26.74	26.84
175	169.8	28.31	28	06	27.46	27.56
200	196.2	29.03	28	78	28.18	28.28
222.6	222.6	29.75	29	50	28.90	29.00
250	249.0	30.48	30	23	29.63	29.73
277	277.5	31.25	31	00	30.40	30.50

print Jackson block


Ocean Street
Jenner
Ocean Street


Grand
Grand Avenue
Ocean Street


Grand
Board Boulevard
Ocean Street
Jersey Street
57
57
91
95.2
100
90
30
50
40
25
70.27
57.2
90.8
31.62
89.38
58.8
71.5
82
92.8
101.6
109
112.3
112.9
108.4
101.2
91
95.2
y = 35.4
y = 35.5
y = 34.0
57° 27'
53° 06'
120° 47'
11° 38'
35.5
44.3
40'
4039
4028
4028
41.43
41.58
4032
40.0
40.0
41.0
41.5
41.27
39
89.6
38
84.8
37
87.6
36
98.4
35
107.8
34
112.7
33
113.9
32
110.5
31
101.5
30
90.5
29
80.3
28
55
28A

East line Ocean St. (end curve)

		So. curb			Center	curb no.
0000	0.00	34.75	34	5	33.90	34.00
25	25.2	34.82	34	57	33.97	34.07
50	50.4	34.89	34	64	34.04	34.14
75	75.6	34.96	34	71	34.11	34.21
100	100.8	35.03	34	78	34.18	34.28
125	126.0	35.10	34	85	34.25	34.35
150	151.2	35.17	34	92	34.32	34.42
175	178.3	35.25	35	00	34.40	34.50
200	205.4	35.32	35	07	34.47	34.57
225	232.5	35.39	35	14	34.54	34.64
250	259.6	35.46	35	21	34.61	34.71
275	285.5	35.53	35	28	34.68	34.78
300	311.4	35.60	35	35	34.75	34.85
325	337.3	35.67	35	42	34.82	34.92
350	363.2	35.75	35	50	34.90	35.00
375	389.1	35.82	35	57	34.97	35.07
400	411.8	35.89	35	64	35.04	35.14
425	434.5	35.96	35	71	35.11	35.21
450	457.2	36.03	35	78	35.18	35.28
475	480.4	36.10	35	85	35.25	35.35
500	503.6	36.18	35	93	35.33	35.43
west line Ocean Street						
	523.15 524.7	36.25	36	00	35.40	35.50

n.p. n.p.

32.27
7.69 34.75 34.0 34.07 34.82 5.76 34.89
39.96 H.I. 5.21 5.96 5.89 5.14 34.20 H.I. 4.26
0.07 5.01 7.46 7.19 5.14 4.96 2.56
39.89 +0.2 -1.5 -1.3 00 39.15 H.I. +1.7

3503 3510 3517 3525 3532 3539 3546 3553
3496 4.12 4.05 3.98 3.90 3.83 3.76 3.69 3.62
4.19 2.42 2.65 2.68 2.87 2.43 2.46 2.69 2.42
2.89 +1.7 +1.40 4.3 +1.0 +1.4 +1.1 1.0 +1.2
+1.6

3560 3567 3414 3421 3428 3435 3442 3450 3457 3464
3.60 5.07 4.94 4.87 4.80 4.73 4.66 4.58 4.51
3.35 3.48 5.41 5.34 5.07 5.30 5.43 5.45 4.89 5.21
7.15 1.78 -0.3 -0.4 -0.2 -0.5 -0.7 -0.8 -0.3 -0.7
+1.7 +1.7

3471 3478 3485 3492 3500 3507 3514 3521 3528
3528 1.P. 4.44 4.37 4.30 4.23 4.15 4.08 4.01 3.94 3.87
4.74 4.57 4.50 4.33 3.43 3.31 3.01 3.04 2.87
-0.9 -0.2 -0.2 -0.1 +0.7 +1.7 +1.0 +0.9 +1.3

3535 3543 3550 198 3575 3582 3589 3596 3603 3610
3.80 5.72 3.63 37.17 S.P. 7.02 6.95 6.88 6.81 6.74 6.67
2.0 2.82 2.85 5.69 H.I. 4.72 4.65 3.89 3.31 2.74 2.77
1.8 +0.8 +2.77 +2.3 +3.9 +3.8 +4.5 +4.6 +3.9
+0.9 +0.8

3618 3625 2.78 38.99 I.P. 3227
6.49 6.52 2.92 5.13 3528 3457
1.49 3.6 37.40 H.I. 193 H.I. 2.64
+4.1 37.21 3464 3477
34.75 34.5 2.50
2.65 2.71
34.78 3485 3492 3500 3507 3514
2.43 2.56 2.14
3521 3528 3535 3542 3549 38.99 2.29 2.21
7.00 1.93 1.86 1.79 1.71 2.20 41.18 H.I. 3557 3564 3571
3579 3585 3593 3600 3.18 5.62 5.55 3.48
5.41 5.34 5.26 5.19 3.29 38.00
4.09 H.I. 3593 3588 3579 3570 38.87 H.I. 39.57 3048 74
3600 4.98 5.06 5.13 3.45 4107 76
4.31 5.27 5.34 5.41 5.48 5.56 5.63 5.70 5.77 5.84 32.99

4.20 3500 4.61 4.68 4.75 4.82 4.89 4.96 5.03
3529 4.53
39.63

4.52 3507 3.50 4.88 4.95 5.02 5.09 5.16 5.23
3529 4.73 480
39.80 H.I.

		East line	Ground					
0.00	0.00	36.31	36	26	35.46	35.56		
25	23	36.38	36	13	35.53	35.53		
50	525	36.45	36	20	35.60	3550		
75	82.0	36.52	36	27	35.67	3547		
100	111.5	36.59	36	34	35.74	3544		
125	143.5	36.66	36	41	35.81	35.91	35.26	35.41
150	175.5	37.50	37	25	36.65	36.75	36.10	36 25
175	202.5	38.35	38	10	37.50	37.60	36.95	37 10
200	227.5	39.19	38	94	38.34	38.44	37.79	37 94
225	256.5	40.03	39	78	39.18	39.28	38.63	38 78
250	283.5	40.87	40	62	40.02	40.12	39.47	39 62
275	310.5	41.71	41	46	40.86	40.96	40.31	40 46
300	337.5	42.55	42	30	41.70	41.80	41.15	41 30
325	364.5	43.40	43	15	42.55	42.65	42.00	42 15
350	391.5	44.25	44	00	43.40	43.50	42.85	43 00
375	418.5	44.91	44	66	44.06	44.06	43.36	43 46
400	443.7	45.57	45	32	44.72	44.60	43.84	43 88
425	468.9	46.23	45	98	45.38	45.14	4432	4430
450	494.1	46.90	46	65	46.05	45.69	4481	4473
459.63	504.0	47.15	46	90	46.30	45.90	45.00	4490

west line Gerard

3899 TP

2.68

41.67 HI.

36.31

5.36

3.16

+2.2

3839 3645 3652 3659 3666 3750 3885

5.29 5.22 5.15 5.08 5.01 4.17 3.32

3.69 3.82 3.55 3.78 1.0 0.37 2.02

+1.6 +1.4 +1.6 +1.3 +4.0 +3.8 +1.3

3919 4003

2.48 1.64

1.08 0.34

+1.4 +1.3

3556 3503 3580 3547 3544 3541

6.11 6.14 6.17 6.20 6.23 6.26

6.81 7.24 8.07 8.0 8.03 6.96

-0.7 -1.1 -1.9 -1.8 -1.8 -0.7

3425 3710 3794 3878 3962 4046 4130

5.42 11.57 3.73 2.89 2.05 1.21 0.37

6.02 5.07 4.23 3.29 2.35 1.71 0.47

-0.6 +0.5 -0.5 -0.4 -0.3 -0.5 -0.1

0.51

41.16 TP.

8.79

49.95 HI.

4215 4300 4346 4388 4430 4473 4490

7.80 6.95 6.49 6.07 5.65 5.22 5.05

7.60 7.95 5.99 5.67 5.35 5.02 5.65

+0.2 -1.0 +0.5 +0.4 +0.3 +0.2 -0.6

4690 4623 4557 4491 4425 4340 4255 4171

3.05 3.72 4.38 5.04 5.70 6.55 7.40 8.24

0.65 0.82 1.38 1.54 4.1 5.15 6.0 7.04

+2.4 +2.9 +3.0 +2.2 +1.6 +1.4 +1.4 +1.2

4087

9.08

7.68

+1.4

4119 HI.

3606

6.14

3899 BM.

2.21 HI.

4120

4.46

6.96

4.63

4.96

3553

5.66

4230 4315 4400 4466 4532 4598

6.12 5.27 4.42 3.76 3.10 2.44

4388 4330 4473 4490

4.54 4.12 3.69 3.52

3513 3620 3727 3834 3941

5.07 5.00 4.93 4.86 4.79

3723 3810 3894 3979 4067

3.95 3.10 2.26 1.42 0.58

4699 ck

1.42

4141

2.58

4130 4590 4500 4490

2.28 2.68 3.58 3.68

4690 4665 4605 4569 4481 4473

1.49 1.93 2.53 2.89 3.77 3.85

4623 4594 4535 4574 4432 4430

2.05 2.40 3.20 3.14 4.26 4.28

4557 4532 4472 4460 4384 4388

3.01 3.26 3.86 3.98 4.74 4.70

4491 4446 4406 4406 4336 4346

3.47 3.92 4.52 4.52 5.22 5.12

4425 4400 4340 4350 4285 4300

4.03 4.58 5.18 5.08 5.73 5.58

4340 4315 4255 4265 4200 4215

5.18 5.43 6.03 5.93 6.58 6.43

320

87.91 BM SE. Ends

86.05 Grp grade

5945 / 41.0 / 6285

46.15

43.50

85.8

1297 / 76.31 SR / 0.21 / 76.52 HI

12.14 / 64.38 HI / 0.48 / 64.86 HI / 44 / 66.15

60.5 − 3.0 = 57.5 − 1.00 + 0.75 / 10.8 / 54.7 − 2.50 + 1.2 / 11.84 / 53.02 SR / 0.11 / 53.13 HI / 4.9

48.2 − 3.00 + 2.0 / 73 / 45.8 − 3.20 + 2.3

137 / 87.91 / 89.28 HI / 9.3 / 80.0 − 3.0 = 40.6 / 79.4 / 40.6

7.5 − 1.00 + 0.75 / 6.25 / 6.20

46.93 BM Culvert & Curb 4th

13.30 ft grade

13.2

48.58 / 9.99 / TP 38.69

38.69 / 3.12 / 41.81 = HI

42.55	42.30	41.70	41.80	41.15	41.30
6.03	6.28	6.88	6.78	7.43	7.28
41.71	41.46	40.86	40.96	40.31	40.46
6.87	7.12	7.72	7.62	8.27	8.12
40.87	40.62	40.02	40.12	39.47	39.62
7.91	7.96	8.56	8.46	9.11	8.96
40.03	39.78	39.18	39.28	38.63	38.78
1.78	2.03	2.63	2.53	3.18	3.03
39.19	38.94	38.34	38.44	37.79	37.94
2.62	2.87	3.47	3.37	4.02	3.87
38.35	38.10	37.50	37.60	36.95	37.10
3.46	3.71	4.31	4.21	4.82	4.71
37.50	37.25	36.65	36.75	36.10	36.25
4.31	4.56	5.14	5.06	5.71	5.56
36.66	36.41	35.81	35.91	35.26	35.41
5.15	5.40	6.00	5.90	6.55	6.40

38.99 / 1.92 / 40.91 / 35.41 / 5.50

37.35 / 3.64 / 36.34 / 4.57 / 36.47 / 4.69 / 35.47 / 5.44 / 36.20 / 4.71 / 36.13 / 4.78 / 36.06 / 4.85 / 36.55

86.05 / 43.75

6.65 / 79.40 / 72.75 / 2.6 / 59.45

43.8 / 43.75

13.2 / 33.20 / 26.40 / 2.76 / 42.24

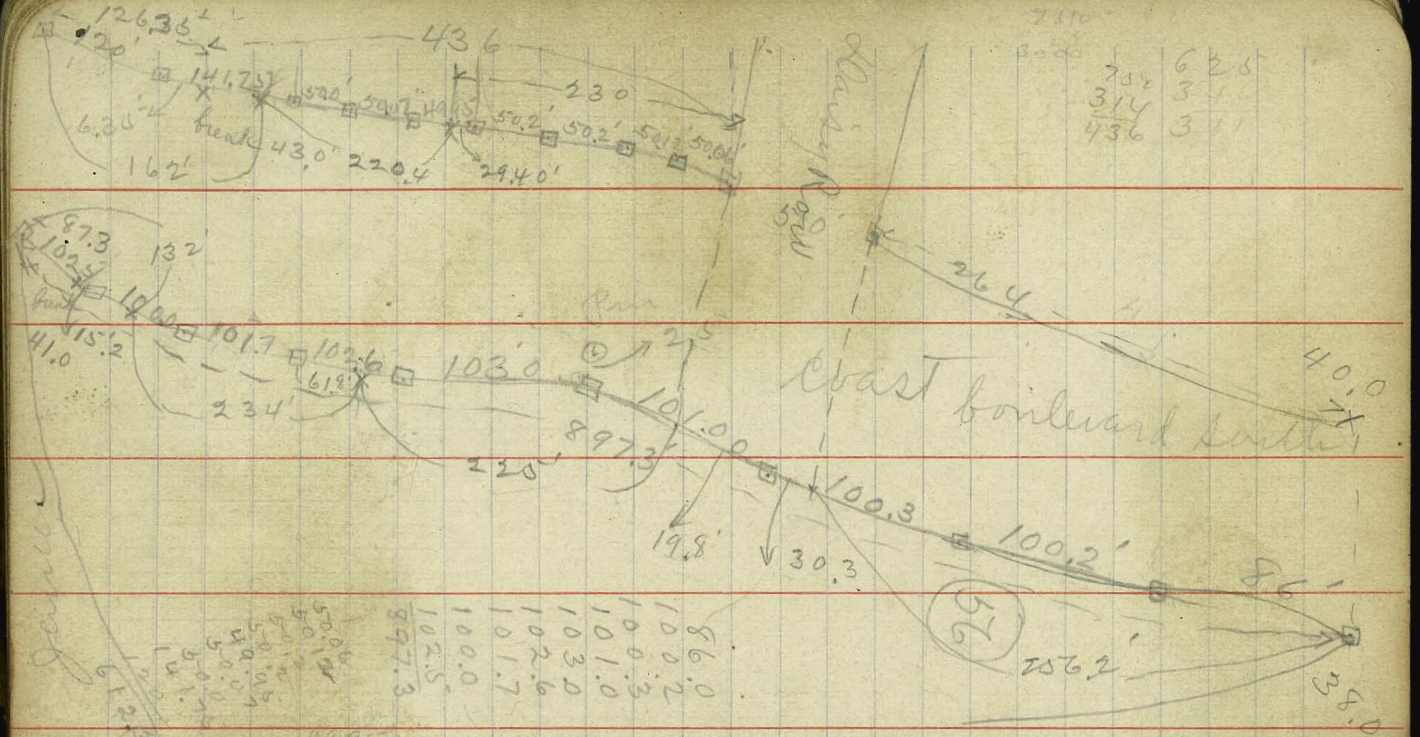
320 / 42.80 / 32 / 1080 / 96.0 / 1176.0

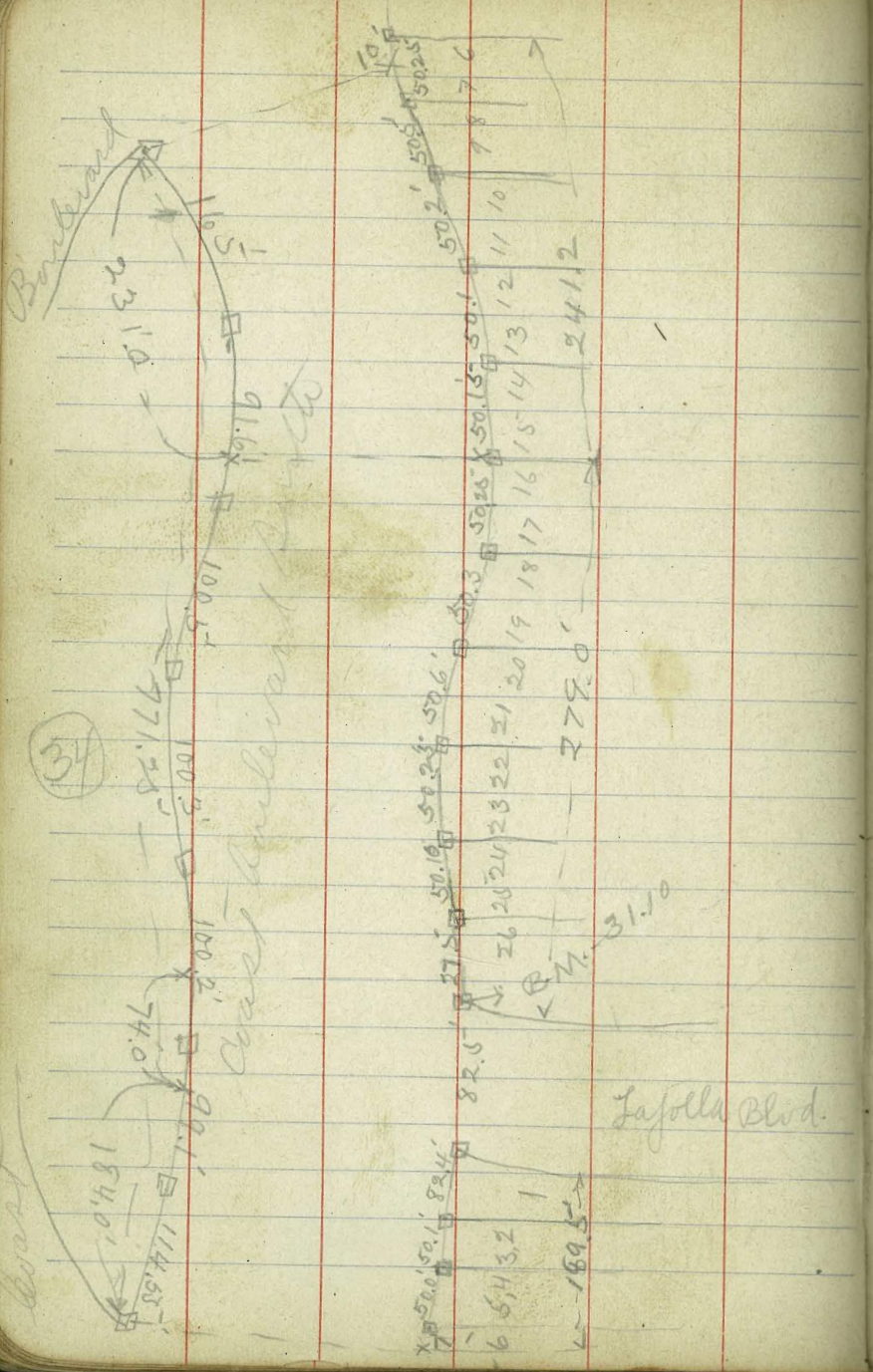
86.05 / 42.75 / 43.30

13.3 / 43.75 / 26.60 / 38.95 / 42.55 / 60

43.25 at Culvert

7.6


436
230
220
162'
43.0'
220.4
29.40'
50.2'
50.2'
50.0'
50.0'
50.2'
50.2'
50.0'
50.0'
50.0


Boulevard
La Jolla Blvd.
Ave.
Cass
Girard
Prospect
Pl.
Cave
Fay
Ave.
Fay
Ave.
Cave
Girard
Ave.
Prospect
Pl.
Cass
Ave.
Girard

80' Street
14' Walks

IBIS STREET

	W	curb	¼	℄	¼	curb	E
S.L. HUNTER	270.25	270.00	269.60	270.25	270.10	270.50	270.75
25' So.	270.00	269.75	269.35	269.87	269.60	270.00	270.25
50' "	269.75	269.50	269.10	269.50	269.10	269.50	269.75
88'	268.61	268.36	267.96	268.36	267.96	268.36	268.61
100'	268.25	268.00	267.60	268.00	267.60	268.00	268.25
125	267.25	267.00	266.60	266.87	266.35	266.75	267.00
140	266.65	266.40	266.00	266.20	265.60	266.00	266.25
150	266.25	266.00	265.60	265.75	265.10	265.50	265.75
154	266.00	265.75	265.35	265.50	264.85	265.25	265.50
175	264.69	264.44	264.04	264.19	263.54	263.94	264.19
200		263.5					
300		252.0					

SMZ
11/11/16

Book 989

49

270.60 +4.40 = 275.00

269.75 +5.25 +3. = 277.5

265.25 +4.75 +8.7 = 278.0

266.75 +8.75 = 275.5

BIOLOGICAL GRADE

	Left	Center	Right
78			
+43.59	46.70	46.20	45.70
+75	47.4✓	46.9✓	46.4✓
79	47.98	47.48	46.98
+25	48.54	48.04	47.54
+50	49.10	48.60	48.10
+75	49.66	49.16	48.66
80	50.2✓	49.7✓	49.2✓
+13.15 B.C.	50.50	50.00	49.50
+50	51.40	50.90	50.89
+63.15	51.7✓	51.55	51.38
81	52.87	52.70	52.53
+50	5517	54.90	54.73

224%
139

BIOLOGICAL GRADE

	Left	Center	Right
82	57.46	57.75	58.04
+21.68 PC	58.50	59.00	59.50
+50	60.40	60.90	61.40
+75	62.10	62.60	63.10
83 +00	63.80	64.30	64.80
+25	65.50	66.00	66.50
+50	66.87	67.37	67.87
+75	68.24	68.74	69.24
84 +00	69.61	70.11	70.61
84 +08.72 ℄	70.10	70.60	71.10
+50	71.10	71.60	72.10
+78.93	71.80	72.30	72.80
85 +00	72.52	73.02	73.52
+25	73.38	73.88	74.38
+50	74.24	74.74	75.24
+75	75.10	75.60	76.10
86 +00	75.95	76.45	76.95
+44.85	77.50	78.00	78.50
+50	77.75	78.18	78.62
+94.85	80.01	79.84	79.67
87 +00	80.19	80.04	79.89
+50	81.87	81.87	81.87

6.8%
5.48%
2.43%
3.43%

BIOLOGICAL GRADE

	Left	Center	Right
88			
+33.97	84.96	84.96	84.96
+50			
+83.97	86.97	86.80	86.63
89	88.17	88.00	87.83
+25			
+50	91.95	91.78	91.61
+75			
90	95.73	95.56	95.39
+03.28	95.97	95.80	95.63
+50			
91	102.65	102.48	102.31
+50	106.11	105.94	105.77
+68.68	107.41	107.24	107.07
92			
+18.68 P.C.	111.20	111.03	110.20
+50			
+75			
+84.13	115.75	115.15	114.25
93	116.81	116.12	115.43
+25			
+49.58 E.C.	120.10	119.60	119.10

2.96%
6.99%
7.56%
6.91
7.49%

BIOLOGICAL GRADE

	Left	Center	Right
94			
+22.67 P.C.	125.67	125.50	125.33
+50			
+75	129.17		128.83
95	130.62	130.45	130.28
+32.04 E.C.	132.47	132.30	132.13
+50	132.96	133.06	133.16
+76.82 P.C.	133.70	134.20	134.70
96	134.67	135.20	135.81
+25	135.14	135.70	136.43
+50			
+63.34	135.35	136.10	136.85
+75			
97	135.62	136.26	136.91
+25			
+49.87 E.C.	136.00	136.50	137.00
+75			
98			
+06.50 P.C.	139.30	138.80	138.30
+25			
+50			
+75			
99	144.95	144.42	143.48
+06.61	145.35	144.60	143.85
+50			
+75			

BIOLOGICAL GRADE

These grade point elevations taken from Book 943

Book 943 and 968 and 94

	Left	Center	Right
100			
+06.72	150.60	150.10	149.60
+50			
+56.72	153.34	153.17	153.00
101	156.00	155.83	155.66
+50			
	6.15%		6.15%
102	162.15	161.98	161.81
+50			
+99.95	168.30	168.13	167.96
103			
+49.95	171.70	171.20	170.70
+75			
	7.47%		6.92%
104	175.43	174.11	174.11
+25 +27.18	177.45	176.70	175.95
+50			
+75			
105			
EC. +04.91	182.70	182.20	181.70
+50			
+54.91	185.87	185.70	185.53
106	189.07	188.90	188.73
+34.85	190.81	190.64	190.47

BIOLOGICAL GRADE

These grade Point elevations taken from yellow sheets

	Left	Center	Right
106+50	191.36	191.90	191.44
+84.85	192.16	192.66	193.16
107	192.69	193.21	193.84
+25	193.43	194.11	194.96
+29.33	193.56	194.26	195.16
+50	194.40	195.00	195.7
EC +73.81	195.36	195.86	196.36
108	196.78	196.81	196.8
PC +27.98	198.30	197.80	197.30
+50	199.83	199.20	198.67
+75	200.54	200.76	200.19
C +95.55	202.95	202.05	201.45
109	203.20	202.33	201.73
+25	204.61	203.89	203.33
+50	206.02	205.45	204.93
EC +63.62	206.80	206.30	205.80
110	209.03	208.77	208.51
+13.62	209.87	209.70	209.53
+50	211.35	211.18	211.01
111	215.16	215.69	215.4
+05.32	216.12	215.95	215.78
+50	219.45	218.99	218.5
PC +55.32	219.85	219.35	218.85
+75	221.29	220.69	220.17
112	223.12	222.39	221.84
+25	224.95	224.09	223.51
C +33.55	225.58	224.68	224.08
+50	226.62	225.80	225.22
+75	228.19	227.50	226.95
113	229.76	229.20	228.68
EC +11.78	230.50	230.00	229.50

BIOLOGICAL GRADE

	Left	Center	Right
EC. 113+11.28	230.50	230.00	229.50
+50	232.61	232.61	232.61
PC. +88.48	234.73	235.23	235.73
114	235.48	236.01	236.63
+25	237.11	237.71	238.58
+27.94	237.31	237.91	238.81
+50	238.87	239.41	240.09
EC. +67.40	240.10	240.60	241.10
115	243.21	243.25	243.30
PC. +15.21	244.66	244.49	244.32
+25	245.46	245.29	245.12
+50	247.50	247.33	247.16
+75	249.54	249.37	249.20
116	251.57	251.40	251.23
+25	253.15	252.98	252.81
PCC +40.87	254.15	253.98	253.81
+50	254.73	254.56	254.39
+75	256.30	256.13	255.96
117	257.87	257.70	257.53
+25	259.20	259.03	258.86
PCC +50.66	260.58	260.41	260.24
+75	261.75	261.39	261.03
PCC. +92.55	262.60	262.10	261.60
118	262.84	262.32	261.74
+25	263.64	263.05	262.22
C +31.73	263.85	263.25	~~262.35~~ to 262.90

Change these notes?

BIOLOGICAL GRADE

	Left	Center	Right	
118+31.73	263.85	263.25	262.35	
118+50	264.34	263.79	263.07	
PCC +70.92	264.90	264.40	263.90	264.54
119	264.95	264.92	264.90	
EC. +12.81	264.97	265.15	265.34	
PC. +31.93	265.00	265.50	266.00	
+50	265.67	266.17	266.67	
+75	266.60	267.10	267.60	
120	268.25	268.75	269.25	
+25	269.90	270.40	270.90	
+50	271.55	272.05	272.55	
+75	273.20	273.70	274.20	
121	274.85	275.35	275.85	Sta. 121 changed to
+05.69	275.21	275.71	276.21	
+25	276.67	276.98	277.29	
+55.69	279.00	279.00	279.00	
+75	280.42	280.73	280.04	
122	282.27	281.83	281.38	
+05.69	282.69	282.19	281.69	
+25	283.92	283.42	282.92	
+50	285.52	285.02	284.52	
+75	287.12	286.62	286.12	
EC. +86.59	287.86	287.36	286.86	
123	288.39	288.22	288.04	
PC. +27.89	289.50	290.00	290.50	
+50	290.75	291.25	291.75	
+75	292.16	292.66	293.16	
124	293.57	294.07	294.57	
+25	294.98	295.48	295.98	

BIOLOGICAL GRADE

	Left	Center	Right
124 + 25	294.98	295.48	295.98
	1.41	1.41	1.41
+50	296.39	296.89	297.39
+75	297.80	298.30	298.80
EC. +87 48	298.50	299.00	299.50
	1.09	0.95	0.82
125	299.59	299.95	300.32
	4.36	3.80	3.28
+50	303.95	303.75	303.60
	1.48		
PC. +77 95	306.40	305.90	305.40
	1.43	1.43	1.43
126	307.83	307.33	306.83
	1.62	1.62	1.62
+25	309.45	308.95	308.45
+50	311.07	310.57	310.07
	1.63	1.63	1.63
+75	312.70	312.20	311.70
127	314.33	313.83	313.33
	1.57	1.57	1.57
EC. +24 12	315.90	315.40	314.90
	1.41	1.41	1.41
PC. +51 48	317.31	316.81	316.31
	1.21	1.21	1.21
+75	318.52	318.02	317.52
	1.28	1.28	1.28
128	319.80	319.30	318.80
+25	321.08	320.58	320.08
			1.28
+50	322.36	321.86	321.36
	1.28	1.28	
+75	323.64	323.14	322.64
	1.28	1.28	1.28
+80	323.90	323.40	322.90
	0.26	0.26	0.26
129	325.66	325.16	324.66
EC. +20 34	327.42	326.92	326.42
PC. +53 30	329.30	329.80	330.30
	1.25	1.25	1.25
+78	330.55	331.05	331.55
	1.45		
130	332.00	332.50	333.00
	0.56	0.56	0.56
+25	332.56	333.06	333.56
+50	333.12	333.62	334.12

12/13/16 SWG.

BIOLOGICAL GRADE

	Left	Center	Right
130+50	333.12 (.05 / 56)	333.62 (56)	334.12 (56)
+75	333.68	334.18	334.68
131	334.24 (56)	334.74 (56)	335.24 (56)
+25	334.80 (50)	335.30	335.80
PCC +47 03	335.30	335.80	336.30

BIOLOGICAL GRADE CUT-OFF

	Left	℄	Right
13+47.635 → 0+0.0			
1+02.83	41.80		43.30
2+05.65 E.C.	48.50		49.50
3			
4			
5			
+50	61.67		61.33
6			
7			
+41.16	65.71		65.37
+91.16 P.C.	67.10		66.10
8			
+50			

BIOLOGICAL GRADE CUT-OFF

	Left	C	Right
9			
10			
11			
12			
13			
+03.61	75.30		74.30
+53.61	75.60		75.60
14+03.61	75.00		76.00
15			
16			
17			
+41.60	74.30	74.80	75.30

80 ft. street — 33RD STREET

	W	Curb	¼	℄	¼	Curb	E
SL NUTMEG	299.25	299.00	298.60	299.00	298.60	299.00	299.25
			1.18		1.23		
25' S.	298.08	297.83	297.42	297.79	297.37	297.75	298.00
50' "	296.91	296.66	296.24	296.58	296.14	296.50	296.75
75'	295.75	295.50	295.06	295.37	294.91	295.25	295.50
100	294.58	294.33	293.87	294.16	293.68	294.00	294.25
			1.18		1.23		
125	293.41	293.16	292.69	292.95	292.45	292.75	293.00
150	292.25	292.00	291.51	291.75	291.22	291.50	291.75
175	291.08	290.83	290.33	290.54	289.99	290.25	290.50
200	289.91	289.66	289.14	289.33	288.76	289.00	289.25
			1.18		1.23		
225	288.75	288.50	287.96	288.12	287.53	287.75	288.00
250	287.58	287.33	286.78	286.92	286.30	286.50	286.75
275	286.42	286.17	285.60	285.71	285.07	285.25	285.50
300' S. = MAPLE ℄ L.	285.25	285.00	284.40	284.50	283.85	284.00	284.25
℄ L MAPLE	285.25	285.00	284.40	284.50	283.85	284.00	284.25
Curb	285.00	285.00	284.40	284.50	283.85	284.00	284.00
	284.00	284.00				283.00	283.00
¼	284.60	284.00	284.40	284.50	283.85	283.00	283.60
Center	285.00	284.00	284.40	284.50	283.85	283.00	284.00
¼	284.60	284.00	284.40	284.50	283.85	283.00	283.60
	284.00	284.00					
Curb	285.00	285.00	284.40	284.50	283.85	283.00	284.00
						284.00	
SL. MAPLE	285.25	285.00	284.40	284.50	283.85	284.00	284.25

See page 67 for Nutmeg St. Intersection

Catch basins?

33RD STREET

	W	Cb	¼	℄	¼	Cb	E
S.L. Maple	285.25	285.00	284.90	284.50	283.85	284.00	284.25
25' So.	285.50	285.25	284.65	284.75	284.10	284.25	284.50
50' "	285.75	285.50	284.90	285.00	284.35	284.50	284.75
75'	286.00	285.75	285.15	285.25	284.60	284.75	285.00
100'	286.25	286.00	285.40	285.50	284.85	285.00	285.25
125'	286.34	286.09	285.49	285.59	284.94	285.09	285.34
150'	286.12	285.87	285.27	285.37	284.72	284.87	285.12
175'	285.59	285.34	284.74	284.84	284.19	284.34	284.59
200'	284.75	284.50	283.90	284.00	283.35	283.50	283.75
225'	283.75	283.50	282.90	283.00	282.35	282.50	282.75
250'	282.75	282.50	281.90	282.00	281.35	281.50	281.75
275'	281.75	281.50	280.90	281.00	280.35	280.50	280.75
300' S. = M.L. Laurel	280.75	280.50	279.90	280.00	279.35	279.50	279.75
M.L. Laurel	280.75	280.50	279.90	280.00	279.35	279.50	279.75
M. Curb (14')	280.50	280.50	279.55	279.65	279.00	279.50	279.50
(13')	279.50	279.50				278.50	278.50
¼ (13')	279.90	279.00	279.23	279.33	278.68	278.00	278.90
℄ (13')	279.50	278.50	278.90	279.00	278.35	277.50	278.50
¼ (13')	278.60	278.00	278.57	278.67	278.02	277.00	277.60
(13')	277.50	277.50				276.50	276.50
S. Curb (14')	278.50	278.50	278.25	278.35	277.70	277.50	277.50
S.L. Laurel	278.75	278.50	277.90	278.00	277.35	277.50	277.75

80' St. 14' Walks

33RD STREET

	W	cb.	¼	℄	¼	cb	E
SL. Laurel	278.75	278.50	277.90	278.00	277.35	277.50	277.75
25' 30.	277.63	277.38	276.78	276.83	276.16	276.29	276.54
50' "	276.50	276.25	275.65	275.66	274.97	275.08	275.33
75'	275.38	275.13	274.53	274.50	273.78	273.87	274.12
100'	274.25	274.00	273.40	273.33	272.60	272.67	272.92
125	273.13	272.88	272.28	272.17	271.42	271.46	271.71
150	272.00	271.75	271.15	271.00	270.23	270.25	270.50
175	270.87	270.62	270.02	269.83	269.04	269.04	269.33
200	269.75	269.50	268.90	268.67	267.86	267.84	268.09
225	268.63	268.38	267.78	267.50	266.66	266.63	266.88
250	267.50	267.25	266.65	266.33	265.48	265.42	265.67
275	266.38	266.13	265.53	265.17	264.29	264.21	264.46
295	265.48	265.23	264.63	264.23	263.33	263.24	263.49
300'S. = ML Kalmia	265.25	265.00	264.40	264.00	263.10	263.00	263.25

80 ft. street

ML Kalmia		265.25	265.00	264.40	264.00	263.10	263.00	263.25
M. Cb.	14	265.00	265.00	264.40	264.00	263.10	263.00	263.00
		264.00	264.00				262.00	263.00
¼	13	264.60	264.00	264.40	264.00	263.10	262.00	262.60
℄	13	265.00	264.00	264.40	264.00	263.10	262.00	263.00
¼	13	264.60	264.00	264.40	264.00	263.10	262.00	262.60
		264.00	264.00				262.00	262.00
S. Cb.	13	265.00	265.00	264.40	264.00	263.10	263.00	263.00
SL. Kalmia	14	265.25	265.00	264.40	264.00	263.10	263.00	263.25

Books 909 and 980

33RD STREET

	W	cb.	¼	℄	¼	cb	E
SL Kalmia	265.25	265.00	264.40	264.00	263.10	263.00	263.25
25' So.	265.92	265.67	265.07	264.67	263.77	263.67	263.92
40' "	266.32	266.07	265.47	265.07	264.17	264.07	264.32
50'	266.58	266.33	265.93	265.33	264.43	264.33	264.58
60'	266.85	266.60	266.00	265.60	264.70	264.60	264.85
75'	267.25	267.00	266.40	266.00	265.10	265.00	265.25
100'	267.92	267.67	267.07	266.67	265.77	265.67	265.92
125'	268.58	268.33	267.73	267.33	266.43	266.33	266.58
150'	269.25	269.00	268.40	268.00	267.10	267.00	267.25
175'	269.92	269.67	269.07	268.67	267.77	267.67	267.92
200'	270.58	270.33	269.73	269.33	268.43	268.33	268.58
225'	271.25	271.00	270.40	270.00	269.10	269.00	269.25
250'	271.92	271.67	271.07	270.67	269.77	269.67	269.92
275'	272.58	272.33	271.73	271.33	270.43	270.33	270.58
300' S. = NL Juniper	273.25	273.00	272.40	272.00	271.10	271.00	271.25
NL Juniper	273.25	273.00	272.40	272.00	271.10	271.00	271.25
Curb	273.00	273.00	272.40	272.00	271.10	271.00	271.00
	272.00	272.00				270.00	270.00
¼	272.60	272.00	272.40	272.00	271.10	270.00	270.60
℄	273.00	272.00	272.40	272.00	271.10	270.00	271.00
¼	272.60	272.00	272.40	272.00	271.10	270.00	270.60
	272.00	272.00				270.00	270.00
Curb	273.00	273.00	272.40	272.00	271.10	271.00	271.00
SL Juniper	273.25	273.00	272.40	272.00	271.10	271.00	271.25

80' STREET

3/1/17

33RD STREET

	W	Cb.	¼	℄	¼	Cb.	E
M.L Nutmeg	299.25	299.00	298.60	299.00	298.60	299.00	299.25
Curb	299.00	299.00	298.60	299.00	298.60	299.00	299.00
	298.00	298.00				298.00	298.00
¼	298.60	298.00	298.60	299.00	298.60	298.00	298.60
℄	299.00	298.00	298.60	299.00	298.60	298.00	299.00
¼	298.60	298.00	298.60	299.00	298.60	298.00	298.60
	298.00	298.00				298.00	298.00
Curb	299.00	299.00	298.60	299.00	298.60	299.00	299.00
S.L Nutmeg	299.25	299.00	298.60	299.00	298.60	299.00	299.25

18.08

← Tentative grade at M. Line of Nutmeg

ELM STREET

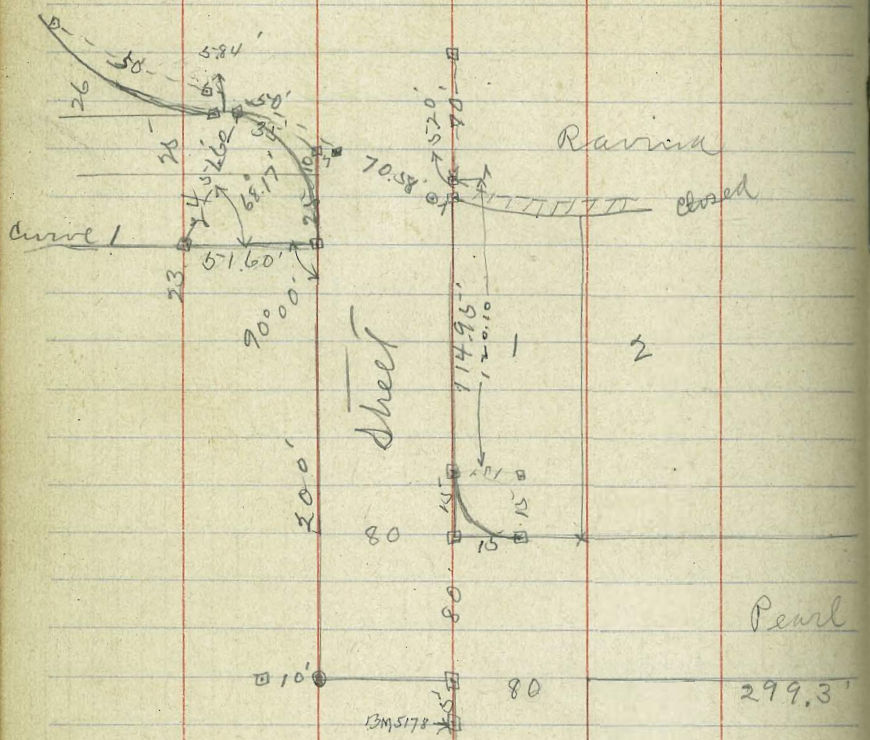
	S	Cb.	¼	℄	¼	Cb.	N
EL. 30TH ST.	256.25	256.00	255.85	256.50	256.40	257.00	257.25
3' E.		256.02		256.52		257.03	
20' "		256.16		256.69		257.22	
40'		256.32		256.88		257.44	
60'		256.05		256.73		257.42	
80		255.55		256.22		256.90	
100		255.09		255.72		256.34	
120		253.91		254.67		255.43	
140		252.93		253.70		254.48	
160		251.40		252.22		253.04	
180		249.78		250.65		251.52	
200		248.16		249.08		250.00	
224		246.22		247.20		248.18	
226.8 (S) 226.3 (N) W.L. Fern	246.25	246.00	246.10	247.00	247.40	248.00	248.25
EL. Fern St.	246.25	246.00	246.10	247.00	247.40	248.00	248.25

8.08%

7.60%

June 17/18 {Child's 69 & Evans more

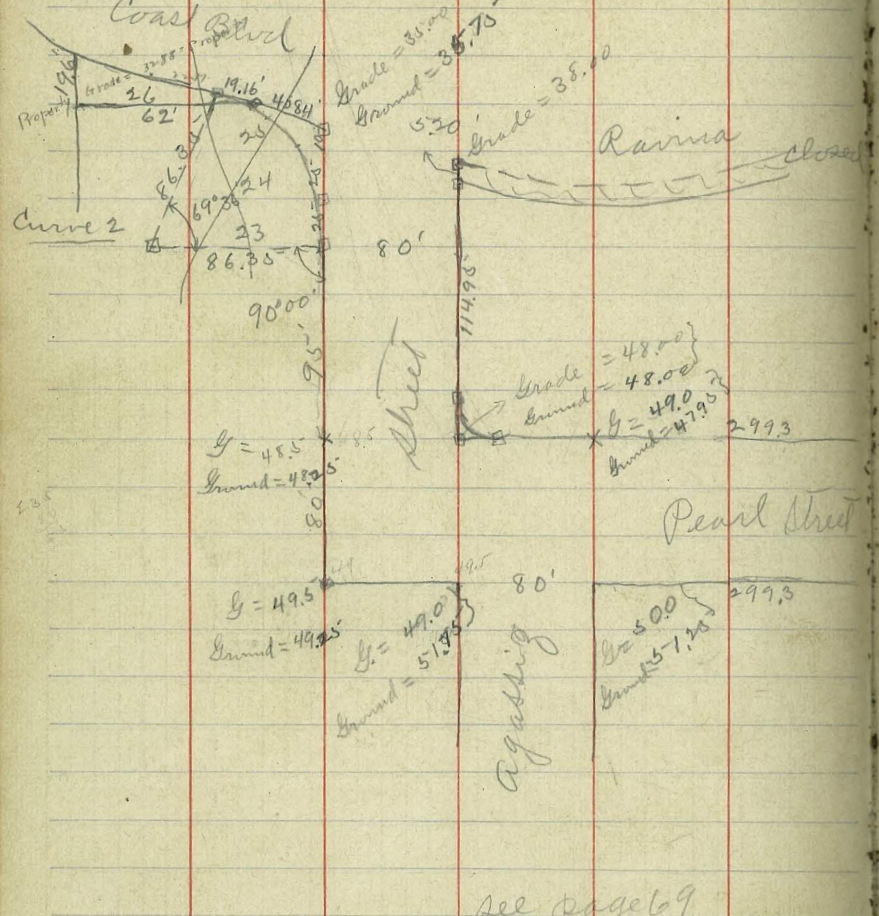
Survey of Pearl & Agassiz for grading



see Page 70

Upper Boulevard

Street



8.71 / 135.0 / 124.0 / 11.00 / 10.85 / 15.0

135 / 10.00 / 7.407 / 9.45 / 5.50 / 5.40

35.00 / 36.74 / 39.79 / 44.14 / 48.50

7.41 / 35 / 3705 / 2223 / 2.5935

38.00 / 40.59 / 44.30 / 46.89 P.C. / 48.00 — 15' 48.37

299.3 / 135.00 / 4.51 / 119.72 / 15.280 / 14.960 / 315.0

299.3 / 18.000 / 4.343 / 11.772 / 10.280 / 8.979 / 13.010 / 11.772 / 10.380

θ = 63.5

θ = 64

Loyola Boulevard

38.00 / 7.38 / 45.38 H.I. / 32.95 / 12.43 / 40.04 / 5.34 / 5.84 / −0.5 / 44.39 / 9.89 / 7.19 / +2.7 / 48.78 × / 5.53 / 5.53 / −0.6 / 49.75 × / 4.53 / 4.03 / −0.5 / 49.28 × / 5.03 / 2.53 / +2.5 / 54.73 / 10.80 / 9.0 / +1.2 / 56.98 / 7.73 / 6.86 / +1.1

35.20 × / 10.13 / 9.63 / +0.5 / 0.60 / 44.78 H.I. / 9.50 / 54.28 H.I. / 5.025 × / 4.03 / 3.03 / +1.0 / 52.48 / 1.80 / 3.30 / −1.5 / 53.40 / 0.88 / 3.58 / −2.7 / 1.82 / 52.46 0.8 / 12.47 / 64.93 H.I. / 55.37 / 9.36 / 10.46 / −1.1 / 57.74 / 7.19 / 6.89 / +1.1

40.84 / 4.54 / 3.64 / +0.9 / 47.14 / 7.14 / 7.44 / −0.3

44.53 / 0.83 / 2.03 / −1.2 / 48.62 / 5.66 / 6.26 / −0.60

48.25 × / −0.3 / 48.25 × / 5.03 / 6.33 / −1.3

63.50

64.00

49.00

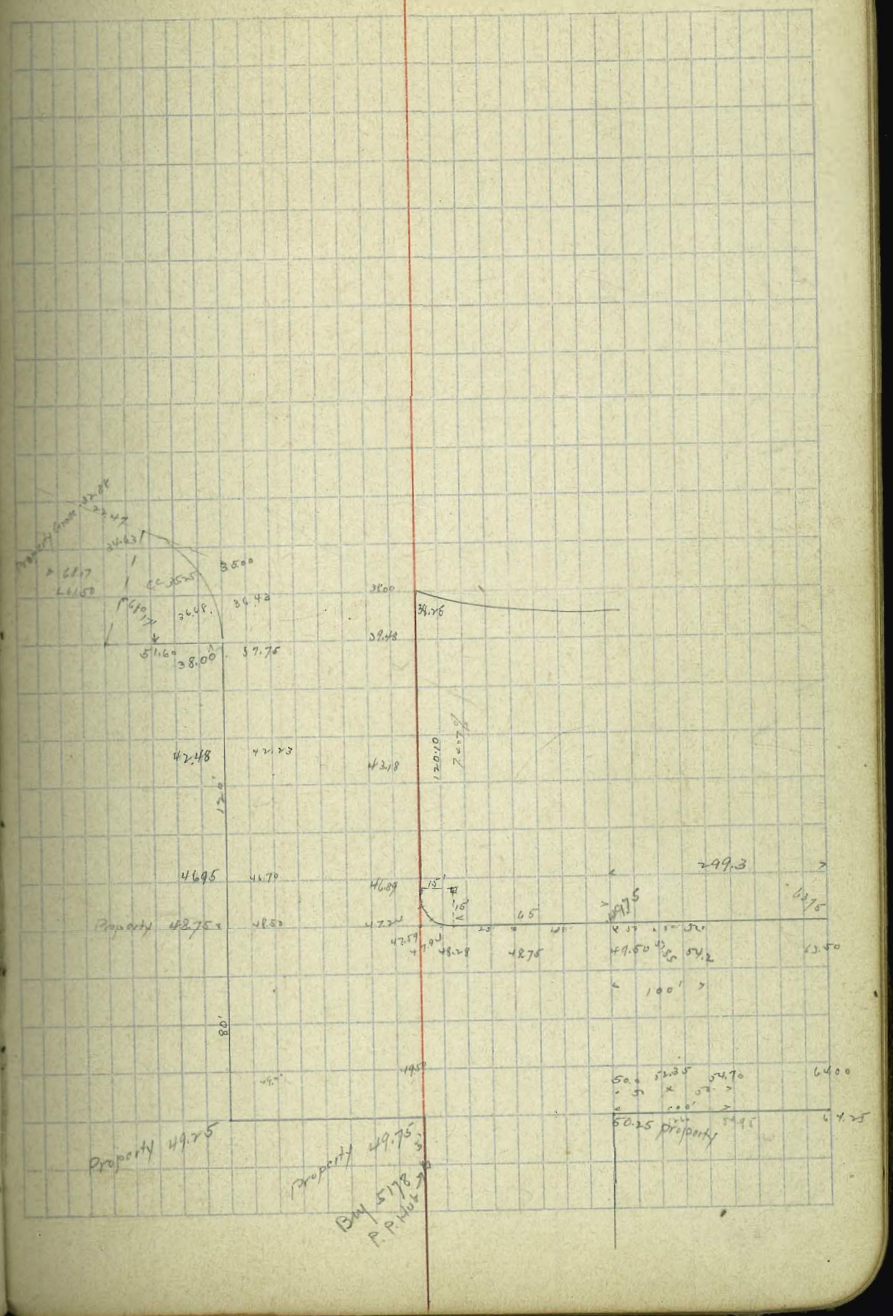
50.00

59.24 / 5.69 / 5.19 / +0.5 / 61.50 / 3.43 / 4.03 / 0.6

59.91 / 5.02 / 4.62 / +0.4

62.08 / 2.85 / 2.55 / +0.3

47.92 MH.	760	35+5	3500	3643	3669	3800	3775	4727
093	35.32	1.67	792	6.49	6.24	492	5.47	0.69
4199 TP	4248	3948	4318	4689	4670	4695	4875	
102W	0.44	2.44	9.05	5.24	6.53	528	3.48	
52.23 MH.	4950	4935	4900	4911	4905	5077		
	3.73	2.98	3.23	2.73	2.45	5.18	1.98	
51.78 BM	4689	4759	4794	4879	4875	4917	5185	
297	8.86	8.51	8.16	7.81	7.47	7.00	6.27	39°
55.75 FF	5420	5417	5495	5326	5381	5300	5047	
	1.55	1.05	0.60	3.15	3.40	5.75	5.50	



117.8

2356
1440
916
2630

EADS AVENUE

	N.	Curb	¼	℄	¼	Curb	S
W.L. Prospect St.	86.15	85.90	85.50	85.95	85.40	85.80	86.05
25' W.	82.80	82.55	82.13	82.42	81.94	82.30	82.55
50' "	79.45	79.20	78.76	79.00	78.48	78.80	79.05
75'	76.10	75.85	75.39	75.58	75.02	75.30	75.55
83 E	74.96	74.71	74.25	74.41	73.84	74.11	74.36
100	72.75	72.50	72.03	72.15	71.56	71.80	72.05
125	69.40	69.15	68.66	68.72	68.10	68.30	68.55
150	66.05	65.80	65.29	65.30	64.64	64.80	65.05
169	63.50	63.25	62.73	62.70	62.01	62.14	62.39
175	62.70	62.45	61.92	61.88	61.18	61.30	61.55
200	59.35	59.10	58.56	58.95	57.72	57.80	58.05
225	56.00	55.75	55.19	55.02	54.26	54.30	54.55
250	52.65	52.40	51.82	51.60	50.80	50.80	51.05
275	49.30	49.05	48.45	48.18	47.34	47.30	47.55
280	48.63	48.38	47.78	47.49	46.64	46.60	46.85
300	45.95	45.70	45.10	45.00	44.25	44.30	44.55
305	45.28	45.03	44.43	44.52	43.86	44.00	44.25
318	43.53	43.28	42.88	43.25	42.82	43.22	43.47
320	43.25	43.00	42.60	43.05	42.70	43.10	43.35
Sec. AB = {320' on N. / 324' " S	43.25	43.00	42.60	43.00	42.60	43.00	43.25

= Coast Blvd. So.

Sheet 11/12/17

Book 1001

W. Prospect & Eads

87.91 B.M.
0.48
88.39 H.I.
8.59
87.91
0.24
88.15

78.80
9.59

US 75 B.M. Top wall c.T. Eads ave. & Coast Blvd.

1.00
53.80 H.I.
52.40
3.40

43.60
12.80
12.53
68.35 H.I.
6.58
2.58

45.70
10.10
59.10
9.70
0.26
68.09
12.31
80.40

71.80
4.20
6.50
11.20
78.80
9.30
0.55
76.00 H.I.
8.50
2.35

1.32
53.80
53.12
46.60
5.52
6.36
5.76

44.30
11.50
7.82
4.30
9.42
4.60
9.20

75.23
0.07
75.30 H.I.
13.05
62.25
0.98
63.23 H.I.

79.20
1.23
10.69
89.89 H.I.
8.50
3.99

7.50
7.93

4.93

7.80
3.50

6.80
10.50
6.30
14.00

6.30 5.080
1.93 12.43

5.750
5.43
4.30
9.12

4.06

4.17
37
39.19
20.85
33.69

18' Roadway
No walks

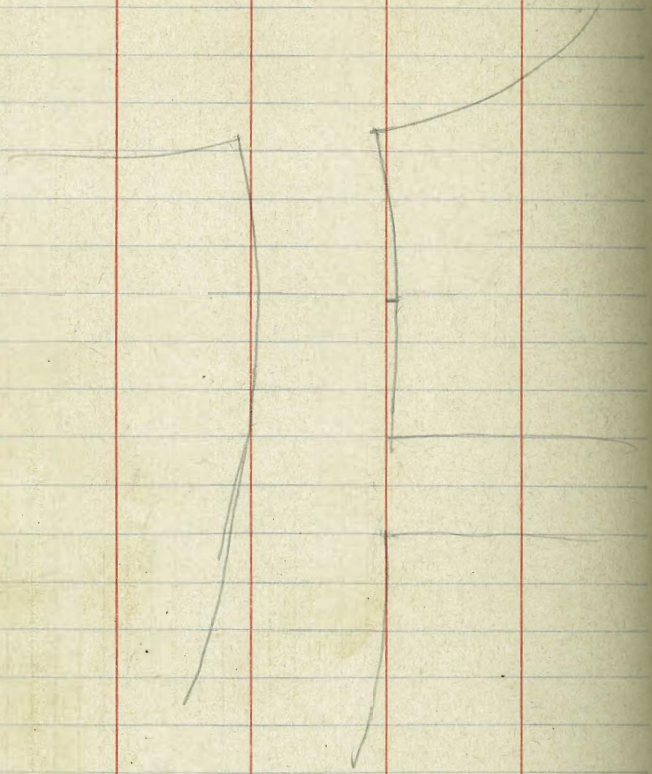
ALBATROSS ST.

	W	℄	℄	℄	E
S.L. Robinson		266.00	266.50	267.00	
50' So.		264.04	264.54	265.04	
100' "		262.07	262.57	263.07	
140'		260.50	261.00	261.50	
160		259.71	260.21	260.71	
180		258.92	259.42	259.92	
200		258.14	258.64	259.14	
220		257.35	257.85	258.35	
240		256.56	257.06	257.56	
260		255.77	256.27	256.77	
280		255.00	255.50	256.00	
300' So.		254.20	254.65	255.10	

3.93%

3.93%

Book 980



N.W. Cor. Fay 140
N.W. " Girard 140
S.E. " " 140
N.W. " Hershel 140
N.E. " " 140
S.W. " " 140
N.W. " Granite 140

74
48.9
122.9

4495
137
× 46.32
137
× 47.69
119
48.88
.99
49.87

4495
492
49.87

23337
5786
1296 5
1.371 697

1865
4
7460

1229 1.13 00 92
11061
2390

37
92
74
333
3404

1865
529
16785
3730
9325
9865585

163
92
326
1467
14996

68
25.6
93.6 | 4.795 152.9
468
270
187
8.280

5.29
.41
529
2116
2.1689

256
3174
2648
1058
1.354 24

27
3703
1058
1.428 3

5.29
2.25
2645
1058
1.190 25

18
4
72

42
4
168

405
1175
1580

25.2 – 6
27.1 – 4
25.9 – 5
22.7 – 3
23.2 – 2
21.1 – 1

32 27
6.41
38.68 HI

Jimmie

	Lo	C		
0+00 –	3.71 / 35.00	6.72 / 33.00	34.5	34.0
100 –	3.38 / 35.43	5.45 / 33.23	34.78	34.28
200 –	3.80 / 34.88	6.30 / 33.38	35.07	34.57
300 –	2.95 / 35.73	4.65 / 34.03	35.35	34.85
400 –	0.6 / 38.08	3.6 / 35.08	35.64	35.14
523.15	0.2 / 38.48	3.1 / 35.58	36.0	35.5
	1.3 / 37.38	4.5 / 34.18	36.21	

523.15) 15000 (28
10463
4537.00
4188.20

385 375

44.66 HI.
10.46
34.2 — 32.50
12.46
32.20
13.66
31.00
13.80
31.66 S.P.
1.20 HI
33.36
4.16
29.2 — 28.80
6.26
27.10 — 24.30
7.86
25.50 — 24.30
7.86
25.50 — 24.30
9.86
23.50 — 10.86 / 22.50 / 10.86 / 22.80

330 325 — 100
30.87½ 30.37½
28.75 28.25 — 300
26.62½ 26.12½ — 400
24.5 24.0 — 500
23.83 23.33 — 600
23.0 22.50 — 728.7
25.89 25.39 — Cut 100
28.05 27.55 — 175
31.0 30.5 — 277

Hoo 8.50 2.125
800
340
1440

277) 2237 (8.07
2216
21

277) 8000 (28.9
554
2460
2216
244

15840 (6.70
13422
15780
15659
1210

7.66
25.70
5.56
27.80
7.96
31.40

Xsect. Lafolla Blvd. East.
See Book 266 page 79.
H.S.
74.23

315' so. Marine ave (no. line Sea Level)

E line	2.4	71.8
	2.7	71.5
+5'	2.6	71.6
	4.0	70.2
C	3.7	70.5
	4.3	69.9
	4.8	69.4
W line	4.7	69.5
Mar. B.M. N.E. Cor. Sea Level	71.845	

So line Sea Level (30' wide)

W line	4.7	69.5
	4.8	69.4
	4.3	69.9
C	3.9	70.3
	4.0	70.2
+5'	2.9	71.3
	3.0	71.2
E line	2.5	71.7

315 | 10 9 45 5-50 | 31

50' South

E line	2.8	71.4
	3.1	71.1
+7'	3.5	70.7
	4.2	70.0
C	4.0	70.2
	4.4	69.8
	5.0	69.2
W line	4.9	69.3

100' So.

W line	5.1	69.1
	5.0	69.2
	4.7	69.5
C	4.2	70.0
	4.3	69.9
+3'	4.1	70.1
	3.0	71.2
E line	2.8	71.4

~~11~~ 140' so (no line Center)

E line	2.9	71.3
	3.4	70.8
+5'	3.4	70.8
	4.3	69.9
C	4.3	69.9
	4.8	69.4
	5.1	69.1
W line	5.3	68.9
South line Center		
W line	5.5	68.7
	5.4	68.8
	5.0	69.2
C	4.6	69.6
	4.6	69.6
	3.6	70.6
+5'	2.7	71.5
E line	3.1	71.1

KEITH'S RAILROAD CURVE TABLES.

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HOW TO USE KEITH'S TABLES.

EXAMPLE.

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P.=23° 20′ to the R. at Station 542+72.

Ext. in Tab. IV opposite 23° 20′=120.87
120.87÷12=10.07. Say a 10° Curve.

Tan. in Tab. IV opp. 23° 20′=1183.1
1183.1÷10=118.31.

Tab. V. correction for A. 23° 20′ for a 10° Cur.=0.16
118.31+0.16=118.47=corrected Tangent.

(If corrected Ext. is required find in same way)
Ang. 23° 20′=23.33°÷10=2.3333=L. C.

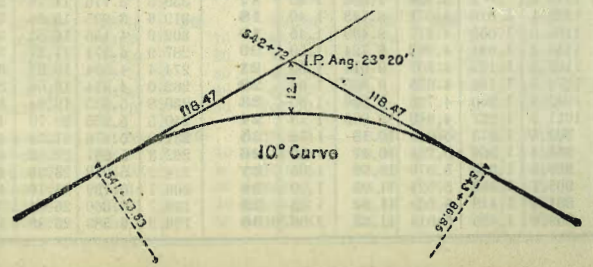
2° 19½′=def. for sta.	542	I. P.=sta.	542+72
4° 49½′= " " "	+50	Tan.=	1.18.47
7° 19½′= " " "	543	B. C.=sta.	541+53.53
9° 49½′= " " "	+50	L. C.=	2.33.33
11° 40′= " " "	543+	E. C.=sta.	543+86.86
	86.86		

100—53.53=46.47×3′(def. for 1 ft. of 10° Cur.)=139.41′=
2° 19½″=def. for sta. 542.

Def. for 50 ft.=2° 30′ for a 10° Curve.

Def. for 36.86 ft.=1° 50½′ for a 10° Curve

(These tables are published in Field Books of KEUFFEL & ESSER Co., New York, N. Y.)



Natural Tangents

deg.	0′	10′	20′	30′	40′	50′	deg.	deg.	0′	10′	20′	30′	40′	50′	deg.
0	0000	0029	0058	0087	0116	0145	89	40	8391	8441	8491	8541	8591	8642	49
1	0175	0204	0233	0262	0291	0320	88	41	8693	8744	8796	8847	8899	8952	48
2	0349	0378	0407	0437	0466	0495	87	42	9004	9057	9110	9163	9217	9271	47
3	0524	0553	0582	0612	0641	0670	86	43	9325	9380	9435	9490	9545	9601	46
4	0699	0729	0758	0787	0816	0846	85	44	9657	9713	9770	9827	9884	9942	45
5	0875	0904	0934	0963	0992	1022	84	45	1.0000	1.0058	1.0117	1.0176	1.0235	1.0295	44
6	1051	1080	1110	1139	1169	1198	83	46	1.0355	1.0416	1.0477	1.0533	1.0599	1.0661	43
7	1228	1257	1287	1317	1346	1376	82	47	1.0724	1.0786	1.0850	1 0913	1.0977	1.1041	42
8	1405	1435	1465	1495	1524	1554	81	48	1.1106	1.1171	1.1237	1.1303	1 1369	1.1436	41
9	1584	1614	1644	1673	1703	1733	80	49	1.1504	1.1571	1.1640	1.1708	1.1778	1.1847	40
10	1763	1793	1823	1853	1883	1914	79	50	1.1918	1 1988	1.2059	1.2131	1.2203	1.2276	39
11	1944	1974	2004	2035	2065	2095	78	51	1.2349	1.2423	1.2497	1.2572	1.2647	1.2723	38
12	2126	2156	2186	2217	2247	2278	77	52	1.2799	1.2876	1.2954	1.3032	1.3111	1.3190	37
13	2309	2339	2370	2401	2432	2462	76	53	1.3270	1.3351	1.3452	1.3514	1.3597	1.3680	36
14	2493	2524	2555	2586	2617	2648	75	54	1.3764	1.3848	1.3934	1.4019	1.4106	1.4193	35
15	2679	2711	2742	2773	2805	2836	74	55	1.4281	1.4370	1.4460	1.4550	1.4641	1.4735	34
16	2867	2899	2931	2962	2994	3026	73	56	1.4826	1.4919	1.5013	1.5108	1.5204	1.5301	33
17	3057	3089	3121	3153	3185	3217	72	57	1.5399	1.5497	1.5597	1.5697	1.5798	1.5900	32
18	3249	3281	3314	3346	3378	3411	71	58	1.6003	1.6107	1.6212	1.6319	1.6426	1.6534	31
19	3443	3476	3508	3541	3574	3607	70	59	1.6643	1 6753	1.6864	1.6977	1.7090	1.7205	30
20	3640	3673	3706	3739	3772	3805	69	60	1.7321	1.7437	1.7556	1.7675	1.7797	1.7917	29
21	3839	3872	3906	3939	3973	4006	68	61	1.8040	1.8165	1.8291	1.8418	1.8546	1.8676	28
22	4040	4074	4108	4142	4176	4210	67	62	1.8807	1.8940	1.9074	1.9210	1.9347	1.9486	27
23	4245	4279	4314	4348	4383	4417	66	63	1.9626	1.9768	1.9912	2.0057	2.0204	2.0353	26
24	4452	4487	4522	4557	4592	4628	65	64	2.0503	2.0655	2.0809	2.0965	2.1123	2.1283	25
25	4663	4699	4734	4770	4806	4841	64	65	2.1445	2.1609	2.1775	2.1943	2.2113	2.2286	24
26	4877	4913	4950	4986	5022	5059	63	66	2.2460	2.2637	2.2817	2.2998	2.3183	2.3369	23
27	5095	5132	5169	5206	5243	5280	62	67	2.3559	2.3750	2.3945	2.4142	2.4342	2.4545	22
28	5317	5354	5392	5430	5467	5505	61	68	2.4751	2.4960	2.5172	2.5386	2.5605	2.5826	21
29	5543	5581	5619	5658	5696	5735	60	69	2.6051	2.6279	2.6511	2.6746	2.6985	2.7228	20
30	5774	5812	5851	5890	5930	5969	59	70	2.7475	2.7725	2.7980	2.8239	2.8502	2.8770	19
31	6009	6048	6088	6128	6168	6208	58	71	2.9042	2.9319	2.9600	2.9887	3.0178	3.0475	18
32	6249	6289	6330	6371	6412	6453	57	72	3.0777	3 1084	3.1397	3.1716	3.2041	3.2371	17
33	6494	6536	6577	6619	6661	6703	56	73	3.2709	3.3052	3.3402	3.3759	3.4124	3.4495	16
34	6745	6787	6830	6873	6916	6959	55	74	3.4874	3.5261	3.5656	3.6059	3.6470	3.6891	15
35	7002	7046	7089	7133	7177	7221	54	75	3.7321	3.7760	3.8208	3.8657	3.9136	3.9617	14
36	7265	7310	7355	7400	7445	7490	53	76	4.0108	4.0611	4.1126	4 1653	4.2193	4.2747	13
37	7536	7581	7627	7673	7720	7766	52	77	4.3315	4.3897	4.4494	4.5107	4.5736	4.6382	12
38	7813	7860	7907	7954	8002	8050	51	78	4.7046	4.7729	4.8430	4.9152	4.9894	5.0658	11
39	8098	8146	8195	8243	8292	8342	50	79	5.1446	5.2257	5,3093	5.3955	5.4845	5.5764	10
deg.	60′	50′	40′	30	20′	10′	deg.	deg.	60′	50′	40′	30′	20′	10′	deg.

deg.	0′	10′	20′	30′	40′	50′	deg.
80	5.6713	5.7694	5.8708	5.9758	6.0844	6.1970	9
81	6.3138	6.4348	6.5606	6.6912	6.8269	6.9682	8
82	7.1154	7.2687	7.4287	7.5958	7.7704	7.9530	7
83	8.1443	8.3450	8.5555	8.7769	9.0098	9.2553	6
84	9.5144	9.7882	10.078	10.385	10.711	11.059	5
85	11.430	11.826	12.250	12.706	13.197	13.727	4
86	14.300	14.924	15.605	16.350	17.169	18.075	3
87	19.081	20.206	21.470	22.903	24.542	26.432	2
88	28.636	31.242	34.368	38.189	42.964	49.104	1
89	57.290	68.750	85.940	114.588	171.885	343.77	0
deg.	60′	50′	40′	30′	20′	10′	deg.

Natural Cotangents

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MADE IN GERMANY.