103

G 103

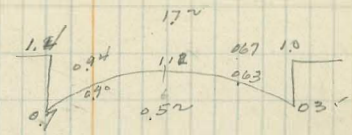
FIELD BOOK

385

103

MICROFILMED

APR 7 1965



.24
24

125) 3.00
250
500

96
48
.0576

102
24
408
204
.06
.6
.036

137
24
548
274
3288

32nd St Market to F

4-17-23 VE.

Sta.	W	Cb	1/4	℄	1/4	Cb	E
0+00							
N Market	81.25	81.00	80.75	81.00	80.75	81.00	81.25
+03	81.24	80.99	80.74	80.99	80.74	80.98	81.23
+30	81.51	80.90	80.64	80.88	80.61	80.85	81.10
+65	81.03	80.78	80.50	80.73	80.45	80.68	80.93
1+00	80.92	80.67	80.37	80.58	80.29	80.50	80.75
1+60	80.72	80.47	80.15	80.33	80.01	80.20	80.45
2+00	80.59	80.34	80.00	80.17	79.83	80.00	80.25
+23	80.51	80.26	79.91	80.07	79.72	79.88	80.13
+75	80.34	80.09	79.72	79.85	79.48	79.62	79.87
3+00							
S G St.	80.25	80.00	79.62	79.75	79.37	79.50	79.75
Cb	80.00	80.00	78.88	78.75	78.62	79.50	79.50
	79.00	79.00				78.50	78.50
1/4	79.75	79.75	79.62	79.50	79.37	79.25	79.25
℄	80.00	80.00	79.88	79.75	79.62	79.50	79.50
1/4	79.75	79.75	79.62	79.50	79.37	79.25	79.25
	79.00	79.00				78.50	78.50
Cb	80.00	80.00	78.88	78.75	78.62	79.50	79.50
0+00							
N G St.	80.25	80.00	79.62	79.75	79.37	79.50	79.75
+30	81.00	80.75	80.30	80.36	79.91	79.97	80.22
+80	82.25	82.00	81.44	81.38	80.81	80.75	81.00
1+10	83.00	82.75	82.12	81.98	81.35	81.22	81.47
+40	83.75	83.50	82.80	82.59	81.89	81.69	81.94
+60	84.25	84.00	83.25	83.00	82.25	82.00	82.25
2+00	86.54	86.29	85.54	85.29	84.54	84.29	84.54
+35	88.54	88.29	87.54	87.29	86.54	86.29	86.54
+70	90.54	90.29	89.54	89.29	88.54	88.29	88.54
+98	92.14	91.89	91.14	90.89	90.14	89.89	90.14
3+00							
S F St.	92.25	92.00	91.25	91.00	90.25	90.00	90.25

.00333 .00376 .00417 .00460 .00500 .02500 .02269 .02031 .01800 .01562 .05714 .05714

60 35 900 13' Mon 324 G

B.M. N.W. 324 J

2

	N.L Mark	50	100	160	200	250	300
W	87.65	87.65	87.65	87.65	87.65	87.65	90.34
	81.25	81.09	80.92	80.72	80.59	80.42	80.25
	6.40	6.56	6.73	6.93	7.06	7.23	10.09
	5.8	3.8	3.3	2.6	2.06	4.23	8.09
	+0.6	+2.8	+3.4	+4.3	+5.00	+3.00	+1.0
E	87.65	87.65	87.65	87.65	87.65	87.65	87.65
	81.25	81.00	80.75	80.45	80.25	80.00	79.75
	6.40	6.65	6.90	7.20	7.40	7.65	7.90
on ch. 96.67		4.65	3.9	4.7	7.8	8.8	9.1
		+2.0	+3.0	+2.5	-0.4	-1.2	-1.2
	0	+50	1+00	1+60	200		
W	90.34	90.34	90.34	90.34	90.34	94.85	94.85
	80.25	81.50	82.75	84.25	86.54	89.39	92.25
	10.09	8.84	7.59	6.09	3.80	5.46	2.60
	9.40	8.85	7.1	6.0	3.8	4.35	1.6
	+.7	00	+0.5	+0.1	00	+1.1	+1.0
E	90.34	90.34	90.34	90.34	90.34	90.34	94.85
	79.75	80.53	81.31	82.25	84.54	87.39	90.25
	10.59	9.81	9.03	8.09	5.80	2.95	4.60
	8.59	8.8	9.0	9.7	6.80	3.6	4.6
	+2.0	1.0	00	-1.6	-1.0	-0.6	0.0

82.26
4.25
86.51
5.53
80.98
6.67
87.65
7.74
79.91
10.43
90.34
1.29
89.05
5.80
94.85

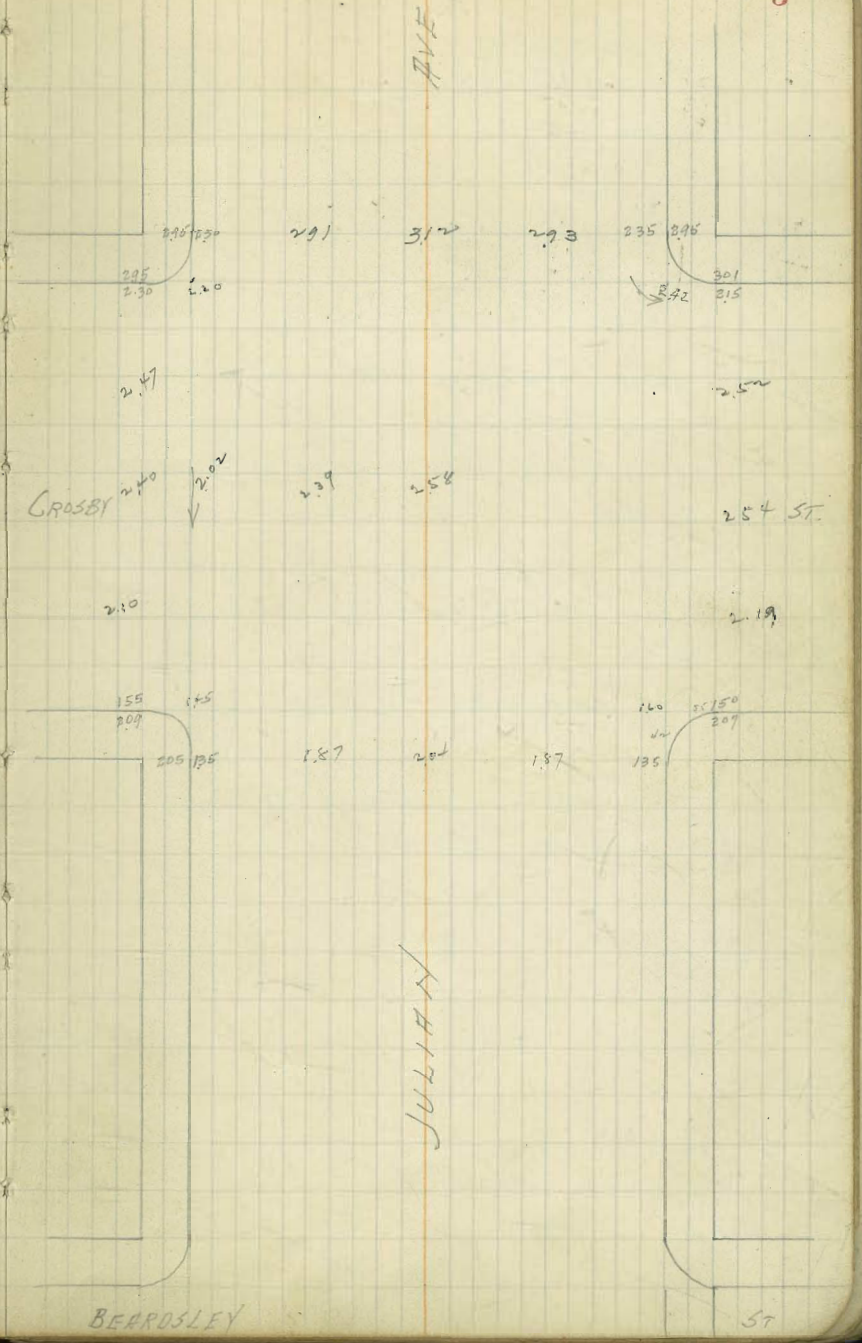
6° 5230 / 1099 / 6329 — 5291 / ~~6038~~ / 1038 — 312 / 1017 — 293 / 1036

135 / 5.19

4.72 / 1.82 / 6.54 — 1.45 / 5.09 — 2.02 / 4.52 — 2.39 / 4.15 — 2.58 / 3.96 — 2.20 / 4.34

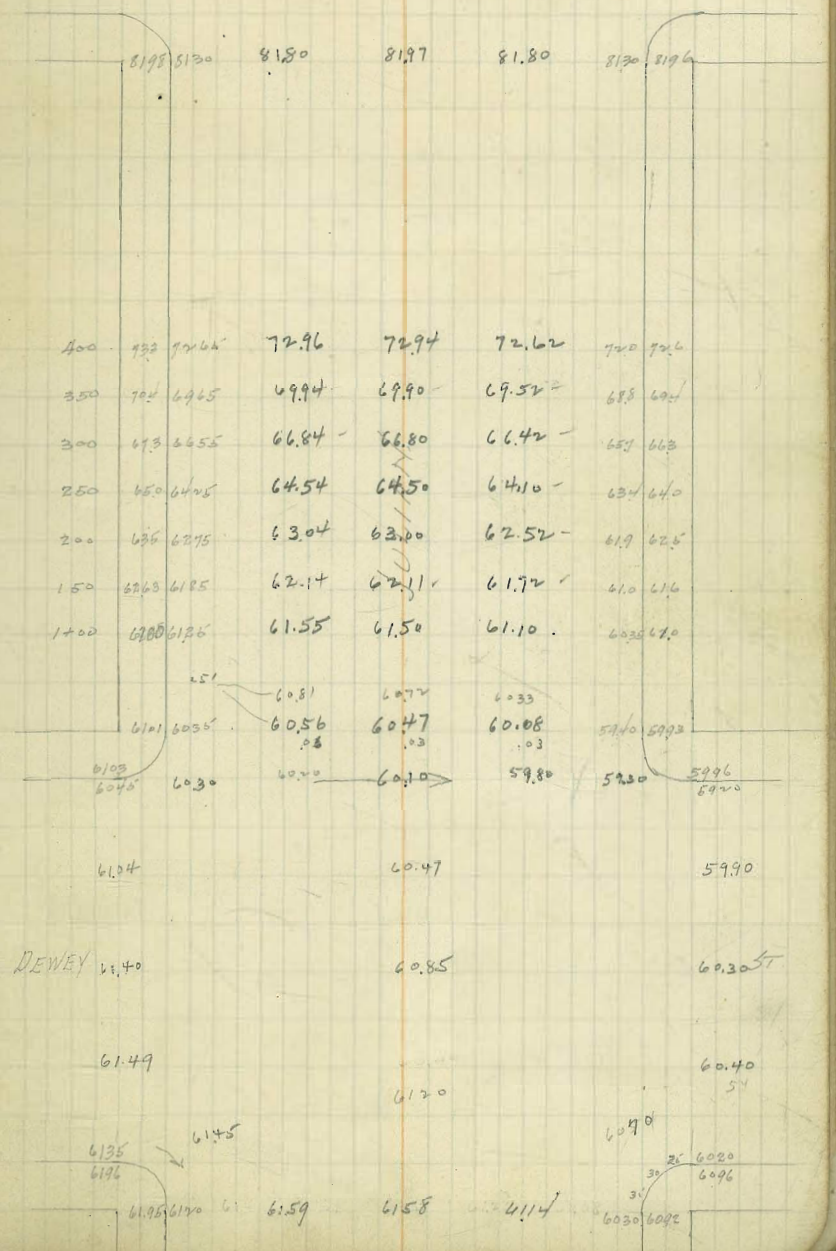
2.10 / 4.44 — 2.40 / 4.14 — 2.47 / 4.07

2.42 / 4.12 — 2.52 / 4.02 — 2.54 / 4.00 — 2.19 / 4.35 — 1.60 / 4.94



EVANS

81.30 / 1.37 / 82.67	81.80 / 0.87	81.97 / 0.70	72.96 / 1.60	72.94 / 1.62	72.62 / 1.94	72.0	
72.65 / 1.91 / 74.56	69.94 / 4.62	69.90 / 4.66	69.52 / 5.04	66.84 / 7.72	66.80 / 7.76	66.42 / 8.14	
12.04 / 62.52 / 2.97 / 65.49	64.54 / 10.04	64.50 / 10.06	64.10 / 10.46	63.04 / 11.52	63.0 / 11.56	62.52 / 12.04	
	62.14 / 3.35	62.11 / 3.38	61.72 / 3.77	61.55 / 3.94	61.50 / 3.99	61.10 / 4.39	
	60.81 / 4.68	60.72 / 4.77	60.33 / 5.16	60.50 / 4.99	60.44 / 5.05	60.05 / 5.44	
60.30 / 3.04 / 63.34	61.58 / 1.96						
61.20 / 4.62 / 65.82	61.45 / 4.37	61.49 / 4.33	61.40 / 4.42	61.04 / 4.78	60.30 / 5.52	60.10 / 5.72	59.80 / 6.02	59.30 / 6.52
	59.90 / .92	60.30 / .52	60.40 / .42	60.70 / .12	60.45 / 4.97	60.47 / 5.35	61.20 / 4.12



79.80 80.05 80.12 79.98 79.90 79.58
4.77 4.52 4.45 4.59 4.67 4.99

517

8059 437 8494

79.40 79.40 84.57
4.60
84.00

80.15 79.98 79.75 80.37 80.55 80.35
4.42 4.89 4.82 4.20 4.02 4.22

ect

79.20 79.75 79.94 79.78 79.36 80.10 79.95
5.27 4.82 4.63 4.79 5.21 4.47 4.62

79.60
4.97

8460 1992 .10

80.08 80.30 80.30 80.10 79.68
3.92 3.70 3.7 3.90 4.32

79.62 80.05 80.27
4.95 4.52 4.33

80.95

80.53 80.33

80.11 .03

79.71

80.51

80.08 80.30 80.30 80.10 80.00 79.68

79.90 .65 79.65 79.40

1.05 1.05 1.55 1.55 .65
.2 .6 .2 .6 .3
.210 .630 .310 .930 .390
.195
.340

80.30 .16 79.62 80.34
159.96
79.98

80.34

83.85

83.23 .17 83.27

82.61 82.69

83.01

83.01 82.58 82.96 83.10 83.00 82.66 82.98

.75
82.35

82.30 .63 82.40

.15 .75
.06 .35
.0300 .450
.225
1.700

1.45 1.45
.12 .6
.290 .870

82.30 4.51

83.00 3.81

80.40 80.28

8240 44 8661

82.58 82.96 83.10 82.66
4.22 3.85 3.71 4.15

8130 558 8688

80.28 lower .3

80.52 79.85 80.08 80.36 80.40 80.20 79.76 79.65 80.00

80.54 79.85 79.75 79.65 79.36 80.00 79.30

80.39 80.05 79.78

SAMPSON 80.55 80.24 79.94 ST

80.35 80.05 79.75

79.90 8057 79.80 79.85 79.62 79.30 79.25 79.42

80.51 79.90 80.08 80.30 80.30 80.10 79.68 79.40 80.00

80.34 lower .25

BP 8057

JULIAN

82.01 82.30 82.58 82.96 83.0 82.66 82.40 82.98

82.98 82.30 82.00 82.30 81.57

82.47 82.60 82.72 82.64 82.53

EVANS 82.4 82.04 82.40 82.53 82.57 82.51 82.50 ST

82.07 82.19 82.08

81.50 8280 81.40 82.07 81.68 81.40 82.90

81.98 81.50 81.80 81.97 81.80 81.30 81.76

81.52 lower .10

BP 8201

7301
5.12
78.13

5.29
72.84

72.45
5.02
77.47

N 73.27 / 4.20 73.44 / 4.03 73.31 / 4.16 72.85 / 4.62 5¼

S 72.70 / 4.77 72.82 / 4.65 73.0 / 4.47 72.85 / 4.62 55'

73.22 / 4.25 72.55 / 4.92 73.04 / 4.43 72.64 / 4.83

73.09 / 4.38 72.52 / 4.85 72.35 / 5.12 73.07 / 4.40 72.35 / 5.12

72.45
5.82
78.27 72.95 / 4.52 72.80 / 4.67 NC

73.02 / 5.25 73.29 / 4.98 73.34 / 4.93 73.15 / 5.12 72.74 / 5.53

73.45 / 72.55 / 146.00 / 73 73.34 / .17 / 73.17 72.55 73.17 / 72.55 / .62 73.05

79.85
4.60
84.45 80.08 / 4.37 80.36 / 4.09 80.40 / 4.05 80.20 / 4.25 79.76 / 4.69 S

80.40 / .28 / 80.12 80.29 80.12 / 79.60 / .52 80.05

79.60
80.29
159.89
79.94
.56

73.45 72.75 73.01 73.36 73.41 73.20 72.70 72.35 72.98

73.46 72.90 73.07 72.40 72.40 72.35

73.31 73.31 72.85

73.44 73.22 73.0

SICARD ST.

73.27 73.04 Lower .04 72.82

72.80 73.43 72.70 72.55 72.35 .45 72.30 73.04

73.53 72.80 73.02 73.29 73.34 73.15 72.74 72.45 72.96

L .34 73.45

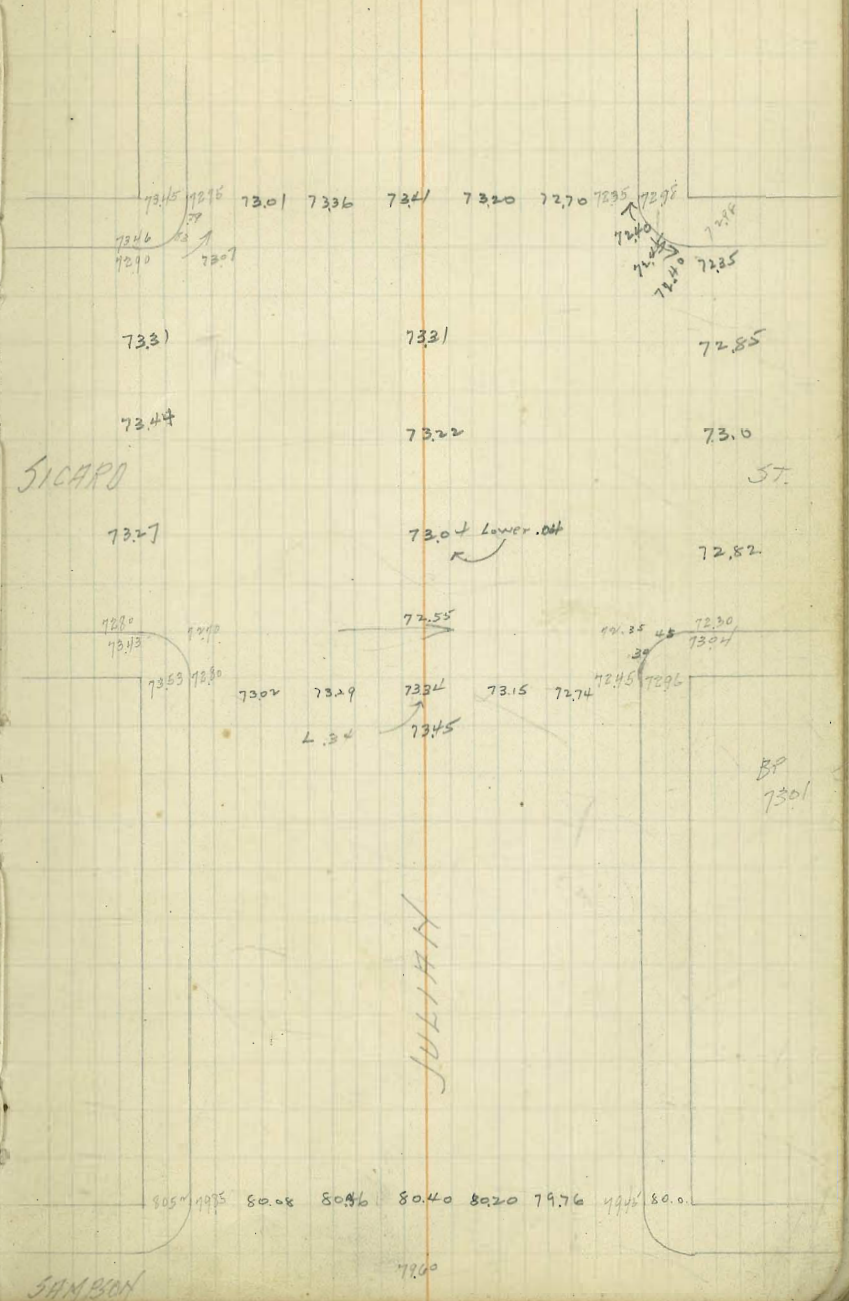
BP 7301

JULIAN

80.52 79.85 80.08 80.36 80.40 80.20 79.76 79.45 80.0

79.60

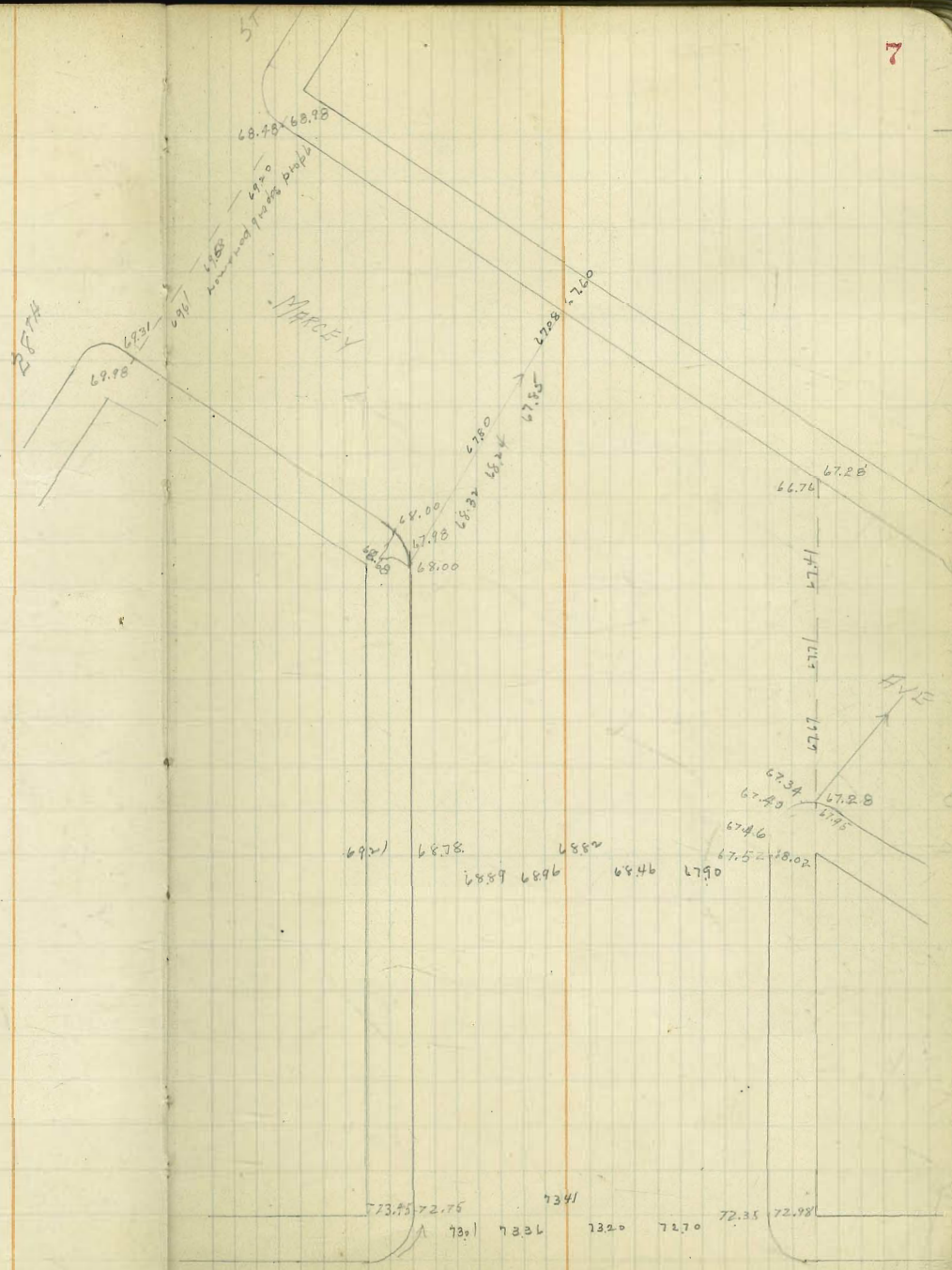
SAMPSON



B.M. Julian & Sicard →

73.01
2.32
75.33
7.80
67.53
4.95
72.48

69.31	68.48	66.76
3.17	4.00	5.72



Grades for Private Paving 2/5/25 mill
Alley Blk 245 Univ Hts

		W Line.	E. Line		
B.M.	5.97	292.94		286.97	N.W. Albert & Upas
T.P.	8.36	298.31	2.99	289.95 set BP	N.W. Herbert & Upas
			2.51	295.80 set BP	S.W. Park Blvd & Upas
00 = N. Line Upas	00	293.6	293.8	0.0	
50'N	+0.50	293.37	293.6	-.0.02	
T.P.	4.64	297.69	5.26	293.05	
100'N	00	293.15	293.4	+0.16	
200'N		292.7	293.0		

W	293.6 / 4.71	293.37 / 4.44 / 4.44 / +0.50	293.15 / 4.54 / 4.54 / 0.0
E	293.8 / 4.51	293.6 / 4.71 / 4.73 / -0.02	293.4 / 4.29 / 4.13 / +0.16

++ - Bancroft St Ash to Cedar

8/20/23
Miller
Shaw
Walb
Gainder

Mon S.E. Cedar
B.M. 433rd

00 = S. Line Cedar

239.5		234.65 E.	
239.8	20'	238.0	
239.4	"	238.3	
238.6	"	237.9	
237.2	20'	237.1	
235.2		235.7	
229.65	7' Excepted	233.7	10' Excepted
224.1		228.77	
218.55		223.85	
213.0		118.92	
		214.0	

15.09' Hub		47.91' Hub	
211.0		213.0	
207.75		209.75	
204.5		206.5	
201.25	10' Excepted	203.25	10' Excepted
198.0		200.0	
194.75		196.75	
191.5		193.5	
Hub		Hub	

234.65 BM. S.E. Cor Cedar + 33rd

5.98
240.63
T.P. 1.70
238.93
2.33
241.26
T.P. 12.70
228.56
0.46
229.02
12.83
216.19
0.61
216.80
12.72
204.08
− 0.03
204.05
8.27
195.78
7.88
203.66
10.83
192.83 BM
N.E. 33rd & Ash
= 192.85

W	241.26 239.5	239.8	on Cb 239.4	238.6	237.2	235.2
	1.76 1.55 +.21	1.46 1.49 −.03	1.86 1.88 −.02	2.66 2.71 −.05	4.06 3.91 +.15	6.06 5.62 +.44
E	241.26 238.25	238.55	238.15	237.35	235.95	233.95
	3.01 2.94 +.07	2.71 2.90 −.19	3.11 3.72 +.61	3.91 4.11 −.20	5.31 4.70 +.61	7.31 6.06 +1.25
W	241.26 229.65	229.02 224.35	118.80	113.25	216.8 211.25	
	11.61 10.42 +1.19	4.67 3.62 +1.05	10.22 9.52 +.70	15.77 13.95 +1.82	5.55 6.85 −1.30	
E	241.26 228.77	229.02 224.10	119.17	214.25	216.8 213.25	
	12.49 9.62 +2.87	4.92 1.51 +3.41	9.85 6.35 +3.30	14.77 11.05 +3.72	3.55 4.10 −.55	
W	216.8 208.0	204.75	204.05 201.5	198.25	195.0	191.75
	88 9.57 −.77	12.05 11.98 +.07	2.55 2.36 +.19	5.80 5.77 +.03	9.05 9.50 −.45	12.30 13.40 −1.10
E	216.8 210.0	206.75	204.05 203.5	200.25	197.0	193.75
	6.8 6.82 −.02	10.05 10.68 −.63	0.55 0.50 +.05	3.80 2.96 +.84	7.05 5.77 +1.28	10.30 8.27 +2.03

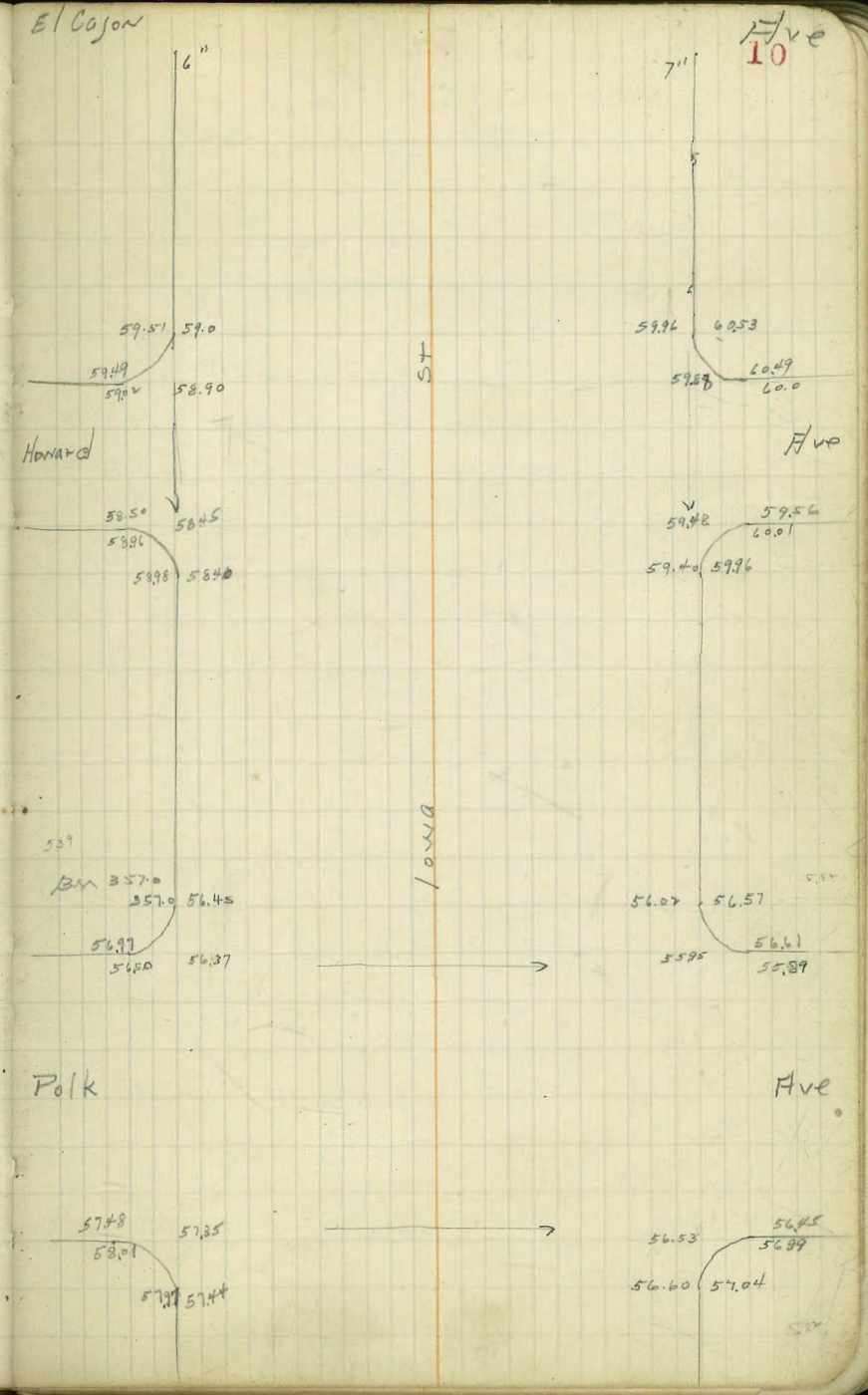
Iowa St Paving

Polk to El Cajon

Moore + Shaw 8/21/23

366.47 - SE Polk + Iowa S
1.95
366.42
11.42
357.0 N W Curb N L Polk
7.33
364.33

357.00
4.84
361.84



9/6/23 Gregory Moore Shaw

GRADES IN ALLEY
BLK 7 Nutts + 2 Brookes
3rd St + 4th St
Pennsylvania to Robn.

		W. Line	E. Line	
S.L. Rob'n.		286.17	286.75	
50	+1.0	285.84	286.16	+1.0
100	0.0	285.51	285.57	+1.0
150	+1.0	284.95	284.99	+1.0
200' S.	+1.0	284.40	284.40	+1.0
250	+1.0	284.20	284.20	+1.0
300	+1.0	284.0	284.0	+1.0
350	+1.0	283.80	283.80	+1.0
400' S	0.0	283.60	283.60	+0.0
	+1.0	283.39	283.44	+1.0
	+1.0	283.17	283.27	+1.0
	+1.0	282.96	283.10	+1.0
600' S = NL Pennsyl.		282.73	282.93	

4167
17

288.87 NW Robn + 4th
231
291.18
6.83

501 443
6.17 8675

607
8273

E 286.16 / 5.02 — 285.57 / 5.61 — 284.99 / 6.19 — 284.40 / 6.78

W 285.84 / 5.34 — 285.51 / 5.67 — 284.95 / 6.23 — 284.40 / 6.78

284.35
4.45
288.80
5.52

E 284.20 / 4.60 — 284.0 / 4.80 — 283.80 / 5.00 — 283.60 / 5.20 — 283.44 / 4.63

W 284.20 / 4.60 — 284.0 / 4.80 — 283.80 / 5.00 — 283.60 / 5.20 — 283.39 / 4.68

283.27 / 4.80 — 283.10 / 4.97

283.28
4.79
288.07

283.17 / 4.90 — 282.95 / 5.12

Grades in Wightman St
Bet. Arizona and Arnold

	N. Line	N Cb Line	S Cb Line	S. Line
E. Line Arizona	291.25	291.0	290.0	290.25
+50	292.42	292.17	291.17	291.42
1+00	293.60	293.35	292.35	292.60
1+50	294.77	294.52	293.52	293.77
2+00	295.95	295.70	294.70	294.95
2+50	297.12	296.87	295.87	296.12
2+76.5	297.75	297.5	296.5	296.75

This grade changed
see book 98-67

BM 289.8
10.28
300.08

N	292.42	293.60	294.77	295.95
	7.66	6.48	5.31	4.13
	7.3	4.9	3.3	2.8
	+0.4	+0.6	+2.0	+1.3
S	8.66	7.48	6.31	5.13
	7.9	5.7	4.2	2.6
	+0.8	+1.8	+2.1	+2.4
N	297.12	296.35		
	2.96	3.58		
	2.3	3.62		
	+0.7			
S	3.96			
	3.5			
	+0.5			

GRADES ON IMPERIAL AVE
from 32nd to 40th

← 8.5 →

	N.L	N.Cb.	S.Cb.	S.L. improv
360' E	~~38.80~~	39.84 ok. ~~38.55~~		
334' E		40.58		
314' E ✓ Teddy here		41.24		
294' E		42.09		
274' E		43.14		
254' E		44.38		
234' E		45.83		
214 E = P.V.C.		47.47	47.47	
~~200 E~~	+4.3 48.92	~~48.67~~	48.67	48.67 +11.9
182' E		50.24	50.24	
150' E	+2.8 53.25	53.00	53.00	53.00 +13.8
131.32 E = EC on S.			54.62	
100' E	+9.0 57.58	57.33	57.09 02	57.09 +13.8
50' E	+11.3 61.92	61.67	61.04	61.04 +13.0
EL 32nd on diagonal	+1.4 66.25	66.00	66.00	66.00 +4.1

62.72

67.03 NW 32nd

820 / 75.23

N. 6625 / 9.00 / 7.60 / +1.40 — 6192 / 133 / 20 / +11.3 — 5758 / 177 / 87 / +9.0 — 5325 / 93 / 65 / +2.8 — 4892 / 1363 / 930 / 4.3 — 4381 / 187 / 11 / +7.6 — 4119 / 21.4 / 6.1 / 14.9

S 6600 / 9.23 / 5.1 / 4.1 — 6104 / 14.2 / 12 / +13.0 — 5709 / 18.14 / 4.3 / 13.8 — 5300 / 22.2 / 8.4 / 13.8 — 4867 / 13.9 / 20 / 11.9 — 4356 / 6.1 / 3.6 / +2.5 — 4094 / 8.7 / 5.7 / +3.0

1295 / 62.28 / 0.27 / 62.55 / 1310 / 49.45 / 0.23 / 49.68

208 / 46.24 / 48.32 — 4209 / 6.22 — 4314 / 5.18 — 44.38 / 3.94 — 438 / 299 / 1.39

3880 / 109 / 77 / +3.2 — 40.88 / 7.93 / 48.81 — 45.83 / 2.99 — 4.38 / 45.03 / 3.78

S 3855 / 111 / 93 / +1.8

3.132 / 18.66 / 6.4

6703 / 69 / 67.72 / 12.45 / 55.27 / 1.0 / 55.37 / 12.72 / 42.65 / 0.71 / 43.36

6625 / 1.47 — 6192 / 5.80 — 5758 / 10.14 — 5325 / 14.47 — 4892 / 6.45 — 4545 / 9.92 — 4381 / 11.56

6104 / 6.68 — 5709 / 10.63 — 530 / 14.72 — 4867 / 19.05 — 4520 / 22.52

39.84 / 8.00 — 40.58 / 7.26 — 41.24 / 6.60 — 4209 / 5.75 — 4314 / 4.70 — 4438 / 3.46 — 4583 / 2.01

47.47 / .37 — 5300 / 7.47 — 54.62 / 5.85 — 5733 / 3.14 — 61.67 / 7.09 — 660 / 2.76

47.84 / 37 / 47.47 TP. / 13 / 60.47 / 59 / 59.88 TP. / 8.8 / 68.76

6703 / 1060 / 67.63 / 13.01 / 54.62 — 660 / 1.63 — 6167 / 5.96 — 5733 / 10.30

5913 / 8.50 — 963 — 1076 — 1179 — 5462 / 1302

5452 — 53 / 1.52 / -0.16 — 4867 / 5.85 — 5024 / 4.28 / -0.45 — 4747 / 7.05 / +0.10 — 4583 / 8.69 / -0.58 — 4438 / 10.14 / -0.92 — 4314 / 11.58 / -0.31

N.

5452 / 1283 / 41.69 / 2.95 / 44.64

4209 / 12.43 / N. -0.40 — 4209 / 2.55 / 90 / 1.65 / 2.55 — 4124 / 3.40 / 1.52 / 1.88 — 4058 / 4.06

6703 / 13 / 69.16 — 6703 / 307 / 70.10

		N.cb.	S. Line of Grading
WL 33rd.	+0.2	28.00	28.00 +0.2
50' W	-0.6	29.42 OK ~~29.46~~	~~29.46~~ +0.6
100 W	-1.0	30.83 OK ~~30.50~~	~~30.50~~ +0.3
150 W	+0.9	32.25 OK ~~31.78~~	~~31.78~~ +0.9
200 W	+0.2	33.66 OK ~~33.04~~	~~33.04~~ +0.7
250' W	-1.6	35.08 OK ~~34.30~~	~~34.30~~ +1.3
292.18 W	+1.5	36.27 OK ~~35.36~~	+1.6

These cut stakes are to top of curb, paving is below curb

1+86.15 = EC on improvement on S. Line +0.5

4+68.26 = EC S.cb -0.7 36.78 OK edge pavement

4+54.22 = EC N.cb 36.42 37.18

3+82.18 = PC on S.Cb -0.5 38.26 39.22

3+73.93 = PC on N.cb 38.45 39.44

248 spk in pole 28.88

27.6 5.30 32.9

29.90 4.18 1.5 60.2

N 29.66 1.296 36.42 0.69 37.31

38.25 11.4 11.9 -0.5

36.42 7.33 11.5 +1.5

35.36 14.3 13.0 +1.3

S 36.9 1.28 11.3 +1.5

35.36 2.0 0.4 1.6

34.3 3.0 1.3 1.3

33.0 4.3 3.1 +1.2

31.8 5.5 4.6 +0.9

30.5 6.8 5.9 +0.9

29.3 8.0 7.2 +0.8

28 9.3 8.0 +0.7

S 33.36 1.264 34.62 0.90 33.72

N 35.21 8.2 8.9 -0.7

34.56 8.6 9.1 -0.5

33.7 9.7 11.3 -1.6

32.4 11.0 11.2 -0.2

31.2 12.2 11.3 +0.9

29.9 13.7 12.7 +1.0

28.7 14.9 15.5 -0.6

27.4 16.2 16.0 +0.2

29.88 3.05 32.93

27.42 5.51

29.26 28.68 4.25

36.18

36.91 40.88 6.96 47.84 HI

2800 891 7.62 -0.69

50 760 2931 2.44 -0.11

6.34 3.057 3.08 -0.26

4.81 3.21 3.22 -0.15

2.50 3.56 3.33 3.26 -0.31

2.50 2.32 3.48 3.50 -0.20

0.50 3.641 -.37

9.25 -0.37

3.42 8.46

3.92 8.62

4464.48

3.44 5.20

5.65 -0.93

6.10 -0.93

6.55 +0.16

7.00 -0.68

3.76 7.40 -0.47

6.25 2.92 5.44 -0.71

5.92 -0.53

6.4 -0.56

7.66 6.89 -0.77

7.37 7.48 -0.90

3.78 7.86 7.45 -0.68

						S.L of Improve
E.L. 33rd		+0.1	27.00			27.0 +04
50' E		+0.3	26.73			26.73 +05
90' E		+0.1	26.52			26.52 +04
140' E	break	+0.3	26.25			26.25 +05
200' E		-1.0	26.26			26.26 -0.0
250' E		-2.8	27.41			27.41 -0.3
300' E		-3.3	28.05			27.94 -0.3
350			28.35			28.47 -0.4
400 on bridge			29.15 coming from 32nd St.	29.0		+0.49
450			28.25	28.25	27.96 28.15	-0.19
485.10 = PC on b.				27.75		

These cuts set in below top of curb

see page 34 for grades from here

37.31	28 / 10.30 / 9.31 / +04	26.73 / 10.6 / 10.10 / +05	26.65 / 10.8 / 10.40 / +04	26.21 / 7.1 / 10.30 / +0.8	27.11 / 10.2 / 10.30 / -0.1	27.8 / 9.6 / 10.00 / -0.5		
		28.5 / 8.8 / 9.80 / -1.0	29.2 / 8.1 / 8.70 / -0.6					
31.62 / 20.2 / 27.60	N. 26.4 / 5.2 / 5.1 / +0.1	26.10 / 5.5 / 5.2 / +0.3	25.9 / 5.7 / 5.5 / +0.2	25.6 / 6.0 / 5.7 / +0.3	26.3 / 5.3 / 6.3 / -1.0	26.9 / 4.7 / 7.5 / -2.8	27.5 / 4.1 / 7.4 / 3.3	28.1 / 3.5
31.90	26.42 / 5.48	26.15 / 5.75	25.94 / 5.96	25.67 / 6.23	26.26 / 5.64	26.83 / 5.07		
28.85								
27.25 / 8.06 / 36.91	8.35 / 27.56 / 28.68	9.52 / 27.39 / 27.51	10.10 / 26.81	10.73 / 26.18	11.26 / 25.65	11.04 / 25.87	10.80 / 26.11	10.47 / 26.24
	8.20 / 28.71	9.31 / 27.60	9.95 / 26.96	10.38 / 26.53	10.80 / 26.11	10.65 / 26.26	10.45 / 26.47	10.02 / 26.87
								10.50 / 26.41

.0145

8)1.25
.100
.3

.0106
.53

.260 / 2.7 / 2.60 / 1.00

		N		S	
W.L 37th	-0.15	98.8		98.8	-0.71
50' W	-0.05	98.62		98.62	-0.93
100' ✓	-0.16	98.43		98.43	-0.91
150' ✓	-0.37	98.25		98.25	-0.84
200' ✓	+0.11	98.06		98.06	-0.90
		97.87		97.87	
270° E.L. Southlook	+0.21	97.8		97.8	-0.39
W.L ✓	+0.82	97.3		97.3	+0.45
50' W	+1.42	96.92		96.92	+1.10
100' ✓	+1.63	96.55		96.55	+1.03
150' ✓	+1.41	96.17		96.17	+0.37
200' ✓	+0.34	95.8		95.8	-0.72
E.C. on N	+5.58	94.6	95.0	95.0	+0.06
" " S	+2.13	93.60	94.06	94.10	+0.94
#1	+1.72	92.66	93.15	93.34	+1.01
#6	+1.21	91.72	92.24	92.57	+1.19
#5	+0.76	90.77	91.34	91.80	+0.07
#4	+0.63	89.83	90.43	91.03	-0.48
#3	+0.44	88.98	89.58	90.06	+0.19
#2	-0.13	88.14	88.62	89.09	+1.55
#1	-0.05	87.29	87.71	88.12	+4.43
PC on S	-0.09	86.45	86.8	87.15	+4.92
PC on N	-0.06	85.24	85.44	85.64	+7.20
#2	-0.24	82.26	82.36	82.26	+5.73
#1	-0.65	79.27	79.27	79.12	+ ~~1.95~~ +1.50
EC on S	-0.85	76.30	76.2	76.05	+3.66

continued page 32

102.91
6.57
96.34 BM Mon S.E. 36" Imperial
1.44
97.78

96.34
2.31
98.65

102.91
5.08
97.83

3.76
.40
2.40
3.15
5.55

	102.91						
N	98.8	98.62	98.43	98.25	98.06	97.87	97.8
	4.11	4.29	4.48	4.66	4.85	5.04	5.11
	4.26	4.34	4.64	5.03	4.74		4.90
	-0.15	-0.05	-0.16	-0.37	+0.11		+0.21
S	4.11	4.29	4.48	4.66	4.85	5.04	5.11
	4.82	5.22	5.39	5.5	5.75		5.50
	-0.71	-0.93	-0.91	-0.84	-0.90		-0.39

	102.91			150W	98.65		
N	97.3	96.92	96.55	96.17	95.8	94.6	93.6
	5.61	5.99	6.36	6.74	2.85	3.18	4.10
	4.79	4.57	4.73	5.33	2.51		1.97
	+0.82	+1.42	+1.63	+1.41	+0.34	+5.58	+2.13
S	5.61	5.99	6.36	6.74		95.0	94.10
	5.16	4.89	5.33	6.37	1.88	2.78	3.68
	+0.45	+1.10	+1.03	+0.37	2.70	2.72	2.74
					-0.72	+0.06	+0.94

	97.78						97.78
N	92.66	91.72	90.77	89.83	88.98	88.14	87.29
	5.12	6.06	7.01	7.95	8.80	9.64	10.49
	3.40	4.85	6.25	7.32	8.36	9.77	10.54
	+1.72	+1.21	+0.76	+0.63	+0.44	-0.13	-0.05
S	93.34	92.57	91.8	91.03	90.06	89.09	88.12
	4.44	5.21	5.98	6.75	7.72	8.69	9.66
	3.43	4.02	5.91	7.23	7.53	7.14	5.23
	+1.01	+1.19	+0.07	-0.48	+0.19	+1.55	+4.43

	97.78	
N	86.45	85.24
	11.33	12.54
	11.42	12.60
	-0.09	-0.06
S	87.15	85.64
	10.63	12.14
	6.71	4.94
	+4.92	+7.20

55 ~ 24
1.35

96.34
0.42
96.79
1.97
8.82
.070
84.52

1	82.26	79.27	76.30
	2.26	5.25	8.22
	2.50	5.40	9.10
		-0.65	-0.88
3	82.26	79.12	76.05
	14.53	5.40	8.47
	3.80	3.90	6.47
	5.73	1.35	3.6

4 1388
97

4 1377

4 3.35
5.5

4 5.47
77

			3		
WL 39th	+1.66	117.6	117.6	+0.41
550	+3.17	116.4	116.4	+0.80
500	+3.16	115.2	115.2	+0.83
450	+2.74	114.0	114.0	+0.53
400 brk	+3.06	112.8	112.8	-0.66
350	+2.41	110.05	110.05	-0.47
300	+0.30	107.3	107.3	-0.72
250	-0.35	104.55	104.55	-0.96
200 brk	-0.16	101.8	101.8	-0.59
150	-0.62 / ~~-0.50~~	100.17 / ~~100.05~~	100.05	-0.15 / ~~-0.03~~
100	-0.91 / ~~-0.66~~	98.55 / ~~98.3~~	98.3	-0.37 / ~~-0.12~~
50	-0.17 / ~~+0.30~~	96.92 / ~~96.55~~	96.92 / ~~96.55~~	-0.45 / ~~-0.05~~
EL 38th	+0.38 / ~~+0.88~~	95.3 / ~~94.8~~	95.8 / ~~94.8~~	+0.06 / ~~+0.56~~
WL 38	+0.86 / ~~+2.36~~	95.3 / ~~93.8~~	95.3 / ~~93.8~~	+0.14 / ~~+1.64~~
550	+0.08 / ~~+1.45~~	95.59 / ~~94.22~~	95.59 / ~~94.22~~	+0.51 / ~~+1.88~~
500	+0.69 / ~~+1.94~~	95.88 / ~~94.63~~	95.88 / ~~94.63~~	+0.91 / ~~+2.16~~
450	+0.79 / ~~+1.42~~	96.18 / ~~95.05~~	96.18 / ~~95.05~~	+0.80 / ~~+1.73~~
400	+0.83 / ~~+1.53~~	96.47 / ~~95.46~~	96.47 / ~~95.46~~	+0.96 / ~~+1.96~~
350	+0.90 / ~~+1.58~~	96.76 / ~~95.88~~	96.76 / ~~95.88~~	+1.03 / ~~+1.41~~
300	+0.84 / ~~+1.57~~	97.05 / ~~96.30~~	97.05 / ~~96.30~~	+0.98 / ~~+1.57~~
250	+0.46 / ~~+0.84~~	97.34 / ~~96.77~~	97.34 / ~~96.77~~	+0.69 / ~~+1.31~~
200	+0.46 / ~~+0.96~~	97.63 / ~~97.13~~	97.63 / ~~97.13~~	-0.06 / ~~+0.44~~
150	+0.98 / ~~+1.25~~	97.92 / ~~97.55~~	97.92 / ~~97.55~~	-0.22 / ~~+0.15~~
100	+0.61 / ~~+0.96~~	98.21 / ~~97.96~~	98.21 / ~~97.96~~	-0.61 / ~~-0.36~~
50	+0.12 / ~~+0.26~~	98.51 / ~~98.38~~	98.51 / ~~98.38~~	-0.69 / ~~-0.56~~
EL 37th	-0.22	98.8	98.8	-0.66

98.58 / 2.21 — 110.69 — 4.62 / 1.62

98.4 / 93.8 / 5.0 — 7.72 / .56 / 7.16 — 5.50 / 4.86 — 8.14 / .56 / 7.58 / 6.58

9480 / 1038 / 9.38 / .56 — 9655 / 8.63

11069	S	98.80	100.05	101.8	104.55	107.3	110.05	112.8	114.0
073		18.39	10.64	3.87	6.14	3.39	6.64	9.89	7.86
11046		1251	1067	948	712	412	111	1027	786
1193		-0.12	-0.03	-0.53	-0.76	-0.73	-0.47	-0.65	+0.53
12239									
9858	N	9830	10005	1013	10455	1073	11005	1128	1140
660		688	513	338	063	1069	794	519	399
10518		754	560	344	078	1086	853	213	1.3
042		0.66	-0.50	0.16	0.36	-1.30	2.41	3.06	2.74
10476									
1323									
11799	S	1152	1164	1176					
166		719	599	479					
11633		686	519	488					
557		+0.83	+0.80	+0.41					
12190									
	N	1152	1164	1176					
		879	55	430					
		670	533	246					
		354	3.17	1.66					
		3.16							
		101.94							
9858	N	93.8	94.22	94.63	95.05	95.46	95.88	96.30	
336		8.14	7.72	7.31	6.89	6.48	6.06	5.64	
101.94		5.78	6.27	5.37	5.47	4.65	4.48	4.05	
3.80		+2.36	+1.45	+1.94	+1.42	+1.83	+1.58	+1.59	
98.14									
4.77									
102.91	S	8.14	7.72	7.31	6.89	6.48	6.06	5.64	
4.20		2.5	5.84	5.13	4.96	4.52	4.15	4.11	
98.71		+1.64	+1.88	+2.16	+1.93	+1.96	+1.91	+1.53	
	N	101.94							
		96.72	97.13	97.35	97.26	98.38	98.8		
		5.22	4.81	4.39	3.98	3.56	3.14		
		4.14	3.85	3.14	3.06	3.39	3.86		
		+1.08	+0.76	+1.25	+0.92	+0.26	-0.72		
	S	5.22	4.87	4.39	3.98	3.56	3.14		
		3.91	4.37	4.24	4.34	4.12	3.80		
		+1.31	+.44	+0.15	-0.36	-0.56	-0.66		

98.92 NB 37th SPK

95.5 / 62 / 94.88 — 95.19 / 42 / 95.17 — 95.88 / 42 / 46

96.15 / 442 / 1002 — 14 M. — 94.88 / 569 — 95.17 / 5.40 — 95.46 / 5.11

12) 3.5 / 29

12) 50 / 48 / 20 / 12 / 60

IMPERIAL AVE GRADES

		N. Edge paving	d paving	S Edge paving	
= E.C. on N.	+0.30	109.22			
#4 E.C. on S	+0.38	109.52		110.03	
#3	-0.23	109.82		110.60	11048
#2	-0.73	110.80		111.17	11093 11138
#1	-1.04	111.78		111.74	11183 11230
P.C. on S				112.30	-0.77
P.C. " N	-1.48	112.77			
+66.7	-1.28	113.99		113.99	-1.06
E.C. on S	-0.63	115.67		115.67	-1.04
E.C. on N	-0.04	116.40		116.40 (16.64)	
	+0.33	116.54		116.54	
	+0.68	116.68		116.68	
	+1.90	116.82		116.82	
226.29E = P.C. on N	+3.84	116.96		116.96	
196.41E = P.C. on S	+3.82	117.8		117.8 (117.38)	+0.97
147.6E	+3.51	119.17		119.17	+0.69
98.4'E	+3.0	120.55		120.55	+0.57
49.2'E	+1.84	121.92		121.92	-0.18
E.L. ADA ST	+0.78	123.3	123.5	123.3	+0.16
W.L. " "	+0.20	123.8		123.8	-0.60
#5	+1.60	122.8		122.8	0.0
#4	+2.0	121.8		121.8	+0.45
#3	+2.0	120.8		120.8	+0.51
#2	+2.00	119.8		119.8	+0.50
#1	+2.00	118.8		118.8	+0.59
E.L. 39th	+2.70	117.8		117.8	+0.70

(mills)

1083 / 109.22   1013 / 109.92

27

12239 / 121 / 121.18 / 650 / 12768 / 1027 / -7 / 11741 / 264 / 12005

S: 1178 / 459 / 379 / +0.70   1188 / 359 / 300 / +0.59   1198 / 259 / 209 / +0.5   1208 / 688 / 637 / +0.51   1218 / 588 / 543 / +0.45   1228 / 488 / 488 / 00   1238 / 388 / 448 / -0.60

N: 1178 / 459 / 189 / 270   1188 / 359 / 159 / +20   1198 / 259 / 259 / +2.00   1208 / 688 / 488 / 200   1218 / 588 / 388 / +200   1228 / 488 / 328 / 1.60   1238 / 388 / 368 / 0.2

S: 1233 / 438 / 422 / +0.16   12192 / 576 / 594 / 0.18   12055 / 713 / 656 / +0.57   11917 / 851 / 782 / +0.69   1178 / 988 / 891 / +0.97

N: 1233 / 438 / 360 / +0.78   12192 / 576 / 392 / +1.84   12055 / 713 / 413 / +3.0   11917 / 851 / 50 / 351   1178 / 988 / 606 / +3.82   11696 / 1072 / 688 / +3.84   11682 / 323 / 133 / +1.90   11668 / 337 / 269 / +0.68

S: 11567 / 438 / 542 / -1.04   11399 / 606 / 712 / -1.06   11230 / 7.75 / 852 / -0.77

N: 11654 / 351 / 318 / +0.33   11640 / 365 / 369 / -0.04   11567 / 438 / 501 / 0.63   11399 / 606 / 734 / -1.28   11277 / 728 / 876 / -1.48   11178 / 8.27 / 931 / -1.04   11080 / 925 / 998 / -0.73   10982 / 1023 / 1046

N: 10952 / 1053 / 1615 / +0.38   10922 / 1083 / 1053 / +0.30

110.03 / 1053 / 120.56   11060 / 996 / 1050 / -0.54   11117 / 939 / 990 / -0.51   11174 / 882 / 940 / -0.58   11230 / 826 / 802 / +0.24

11048 / 1008   11093 / 963 / 990 / 0.27   11138 / 918 / 940 / 0.22   11183 / 873

10952 / 11.04   10982 / 10.74   11080 / 976 / 1038 / -0.62   11178 / 878 / 915 / -0.37   11277 / 7.79 / 831 / -0.52

11399 / 657   11567 / 489 / 432 / 52 / 276   11640 / 416   11654 / 402 / 363 / 39   11668 / 388 / 27 / 89   11682 / 374 / 238 / 136 / 374   11696 / 360 / 90 / +2.70

1178 / 276 / 28 / 248

1604 / 452 / 423 / +0.29

12 / 76

360 / 279 / 0.81

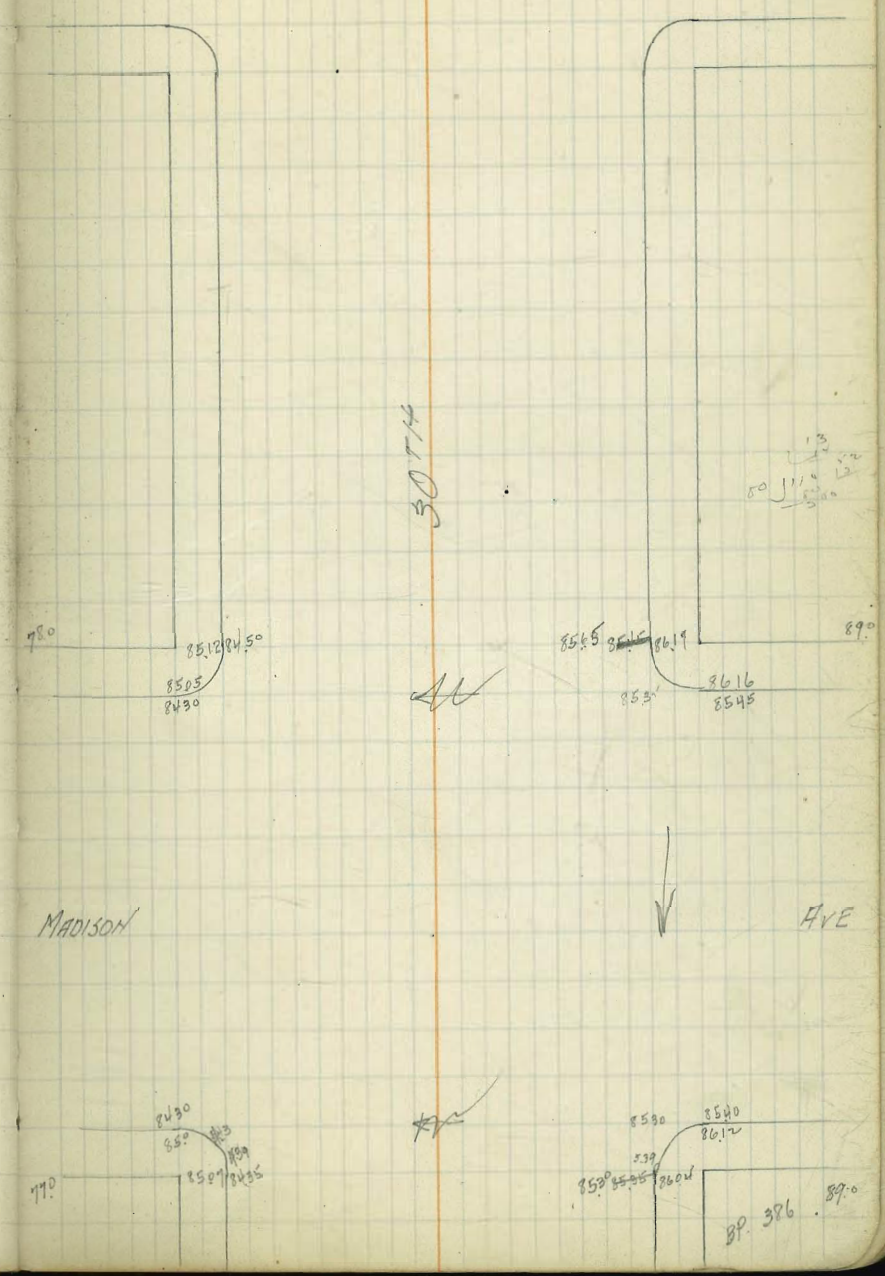
11738 / 318 / 247 / 071

9/21/23.

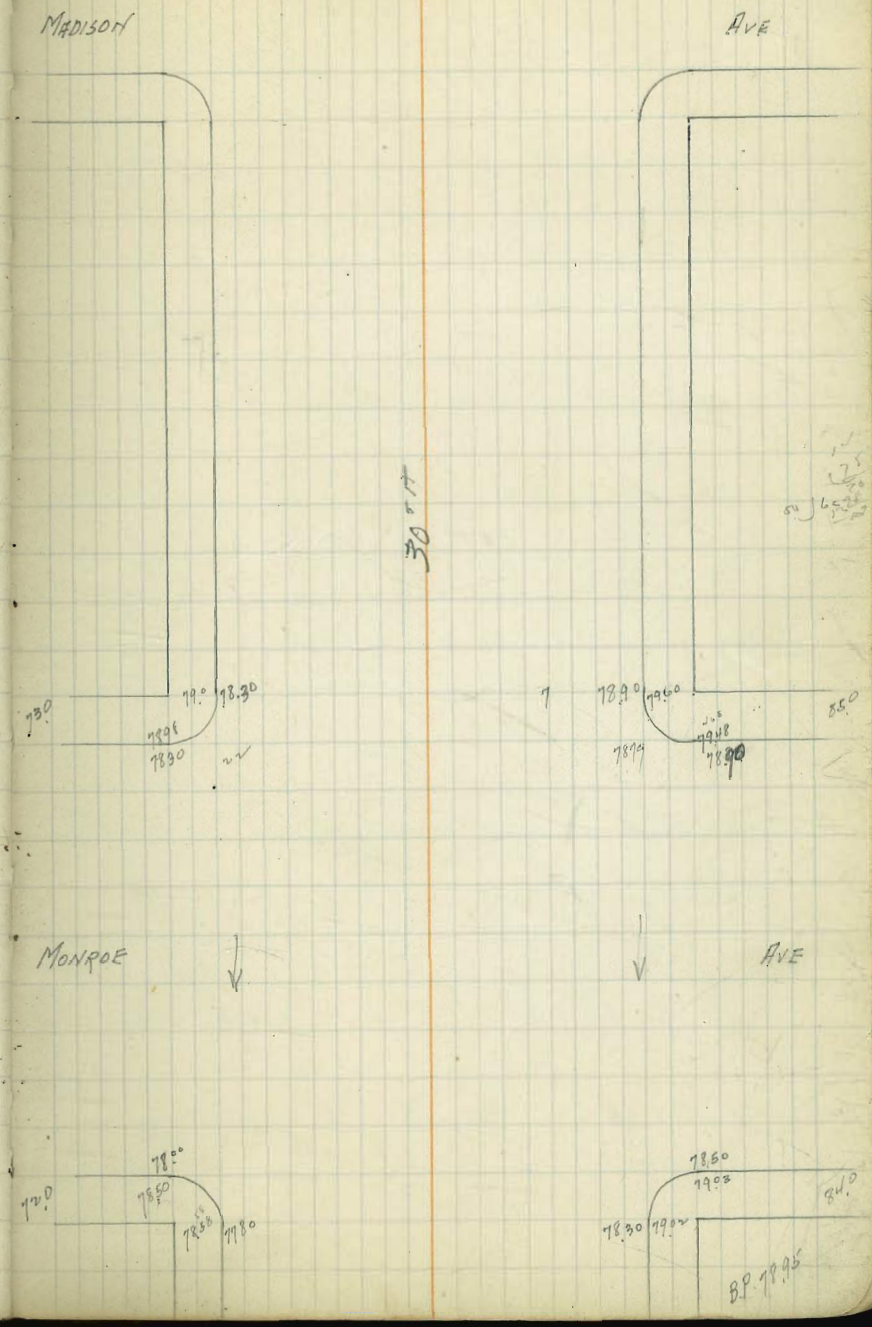
386.00

390.55

30TH St PAVING



78.95
5.21
84.16

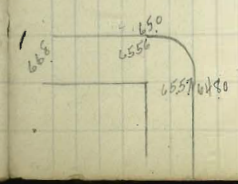


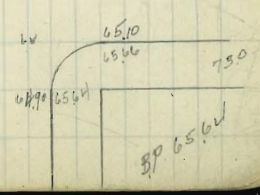
6564
4.71
7035

MONROE AVE

30TH

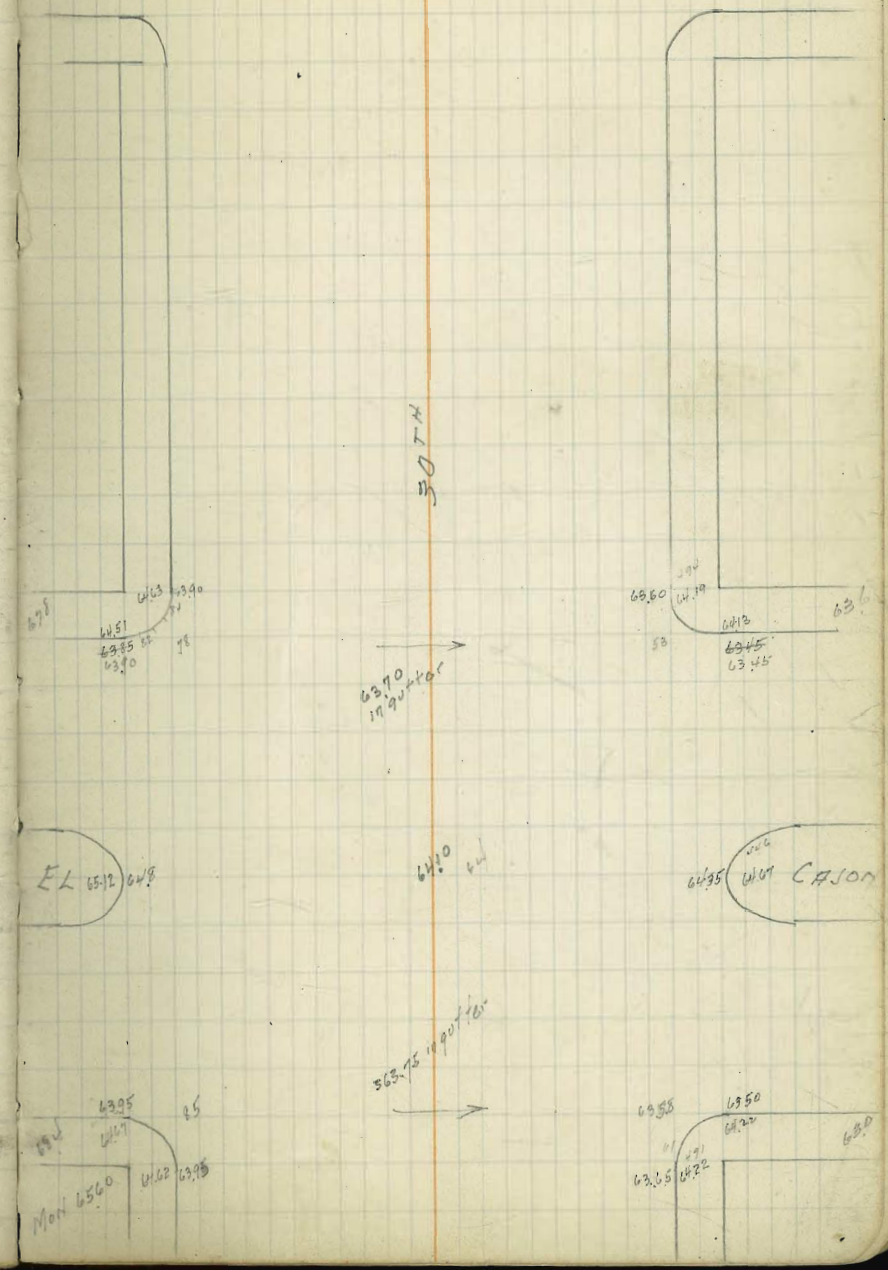
MEADE AVE



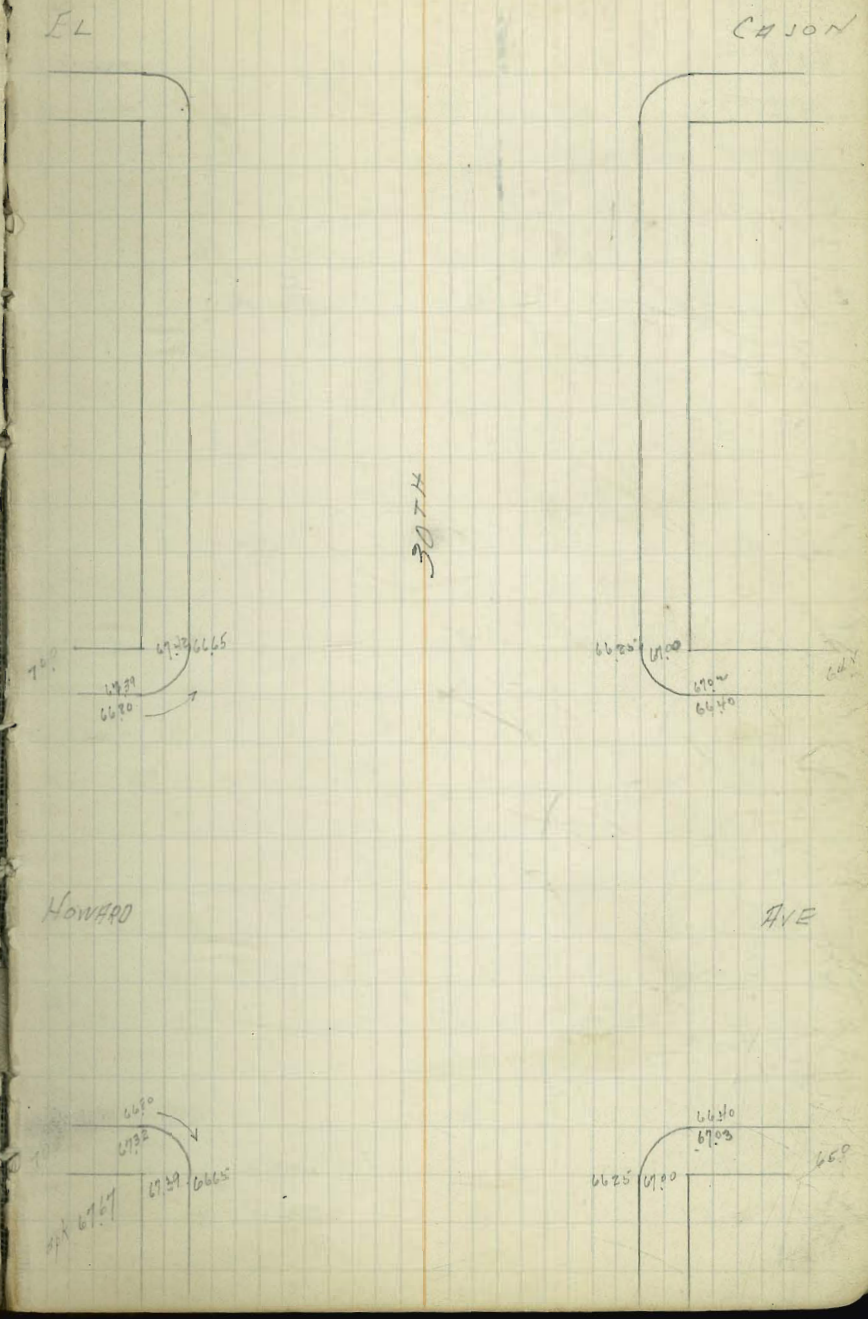


69.13

MEADE AVE



71.82

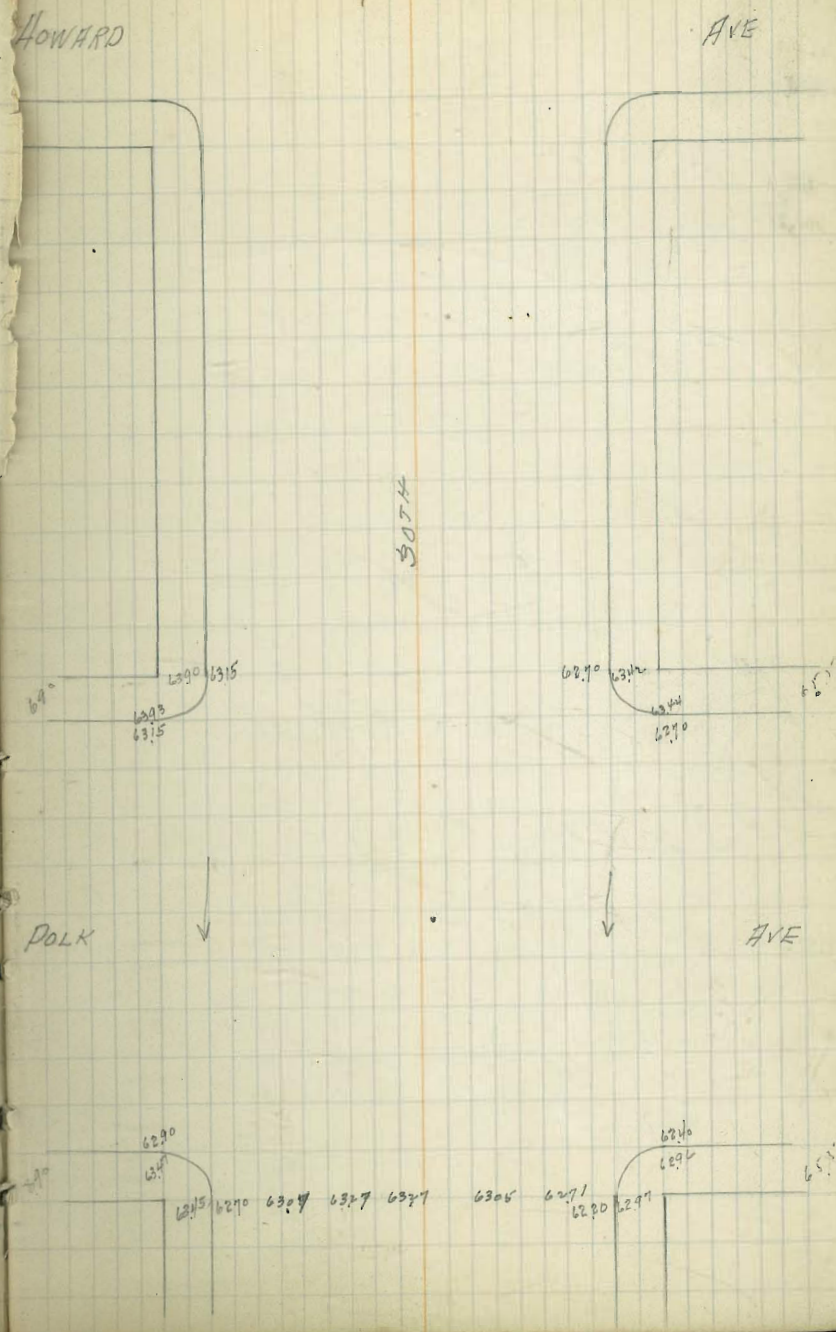


365.59 Top Hydrant

368.03

6270
3.95
6665

6220



361.03 SW 7 Tack

365.66

60.10
447
64.57

23.3 .9² = .81
16.30 .64² = .41
8.15 .32² = .10
60.86
60.75
16.3
8.15 60.44
60.10
59.90
59.70

355.01
527
360.28
61.52
61.30 61.30
60.95
60.80
60.25

60.25
643
66.68

361.83
636
365.39

65
74

69
20

POLK AVE

30th

61.52 60.80 61.11 61.27 61.27 61.05 60.73 60.85 60.95
62.5 63.0
60.80 60.90 60.16 60.35
60.88 60.38
60.94 60.40
LINCOLN 60.90 60.50 60.80 61.02 61.02 60.37 59.97 60.31 AVE
60.74 60.22
60.48 60.02

60.30 60.20 60.77 60.77 59.98 59.90
60.93 23.3 16.2 60.45
61.5 62.5
60.86 60.10 60.53 60.77 60.77 60.57 60.23 59.70 60.44
8.15 8.15
55.96

UNIV AVE

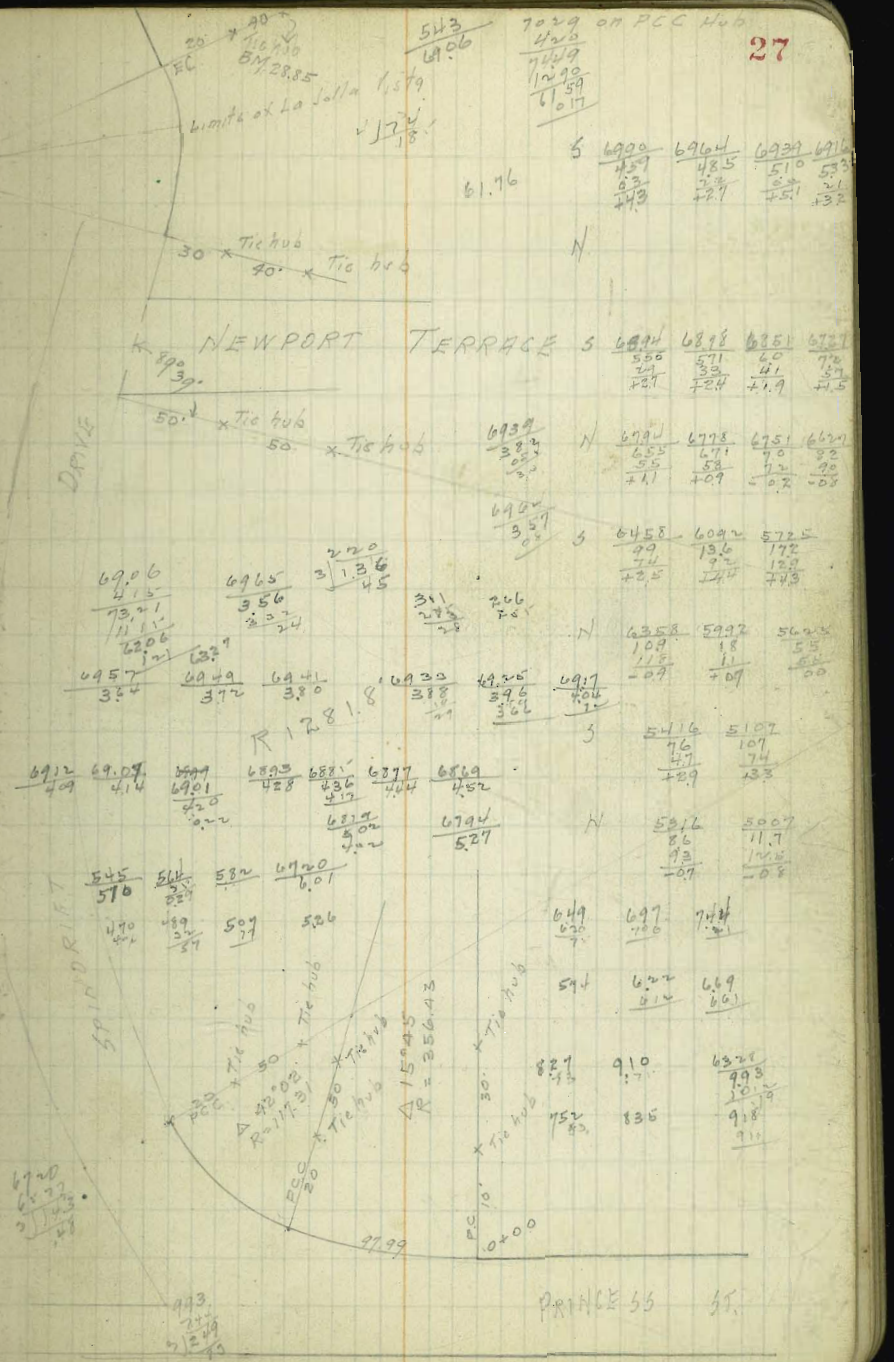
9/28/23

SPINDRIFT DRIVE

GRADES

	N.L.	N cb	S cb	S L
5+65	-.08 5007		50.82	51.07 +.33
5+15	+.07 53.16		53.91	54.16 +.20
4+65 break	.00 56.25	56.0	57.0	57.25 +.43
4+15	+.07 59.92		60.67	60.92 +.44
3+65 break	-.09 6358	63.98	6403 6433	6458 +.25
3+15 break	-.00 66.27	66.99	66.52 67.02	67.27 +.16
2+65 break	-.02 67.51	67.20	67.75 68.26	68.51 +.19
2+14.06	+.09 67.78		68.53	68.78 +.24
1+82.06 = PCC	+.11 67.24	63.27 HD	68.69	68.94 +.27
1+41.02 CC			68.91	69.16 +.25
0+97.99 = PCC			69.14	69.39 +.25
0+49 = CC			69.39	69.64 +.25
PC = 0+00			69.65	69.90 +.25

Distances are all on South side of Spindrift



		Nob			
284.81		5.5			
233.2		7.83			
181.6		10.17			
130 N		12.5			
86.67		16.74			
43.33		20.98			
EC.		25.22			
		26.61			
1+00.50	+07 2825	28.0	29.0	29.25	+7.0
			30.16		
			31.32		
			32.48		
+50	-06 3220		32.75	33.0	+7.0
			33.65 P.C.		
E.L. Newport Terrace	-20 3575	35.5	36.5	36.75	+1.1
7+80.56 = WL Newport Terrace	-06 3675	36.5	37.5	37.75	+04
7+47.78	-06 3878		39.53	39.78	+37
7+15	-08 40.80		41.55	41.80	+5.1
6+65	-09 43.89	43.64	44.64	44.89	+34
6+15	-08 46.98		47.73	47.98	+33

28.85 Nearest Pin EC. 188 530 35.31

97 84 181 5609 1120 3770 3.92

6176 1486 4690 1242 3628 030 3718 938 28.85

S	4798	4489	4180	3878	3775	3675	330	2925
	138	40	71	9.1	11.1	121	150	196
	106	86	90	54	107	110	89	126
	+33	+3.4	+5.1	-3.7	+04	+1.1	+7.0	+70
N	4695	4389	4080	3875	3675	3575	320	2825
	1.9	50	9.1	10.1	121	1.4	52	89
	24	59	89	107	127	34	59	87
	-0.5	-0.9	-0.8	-0.6	-06	-2.0	-0.6	+0.2

5780 1233 4547 017 4564 1302 3259 148 3407

S	4671	4568	4466	4364	4261	4159	4057	3954	3852	375
	1109	1212	99	200	303	405	507	610	712	814
	122		134	230	293	427	502	613	730	802
	-013		-036	-030	+10	-020	+05	-090	-018	+012
		4468								
	1209	96	198	300	403	545	607	710	812	914
	21	115	247	345	442	-067	640	731	812	814
	-12	-014	-047	-041	-039		-030	-021	-020	-058

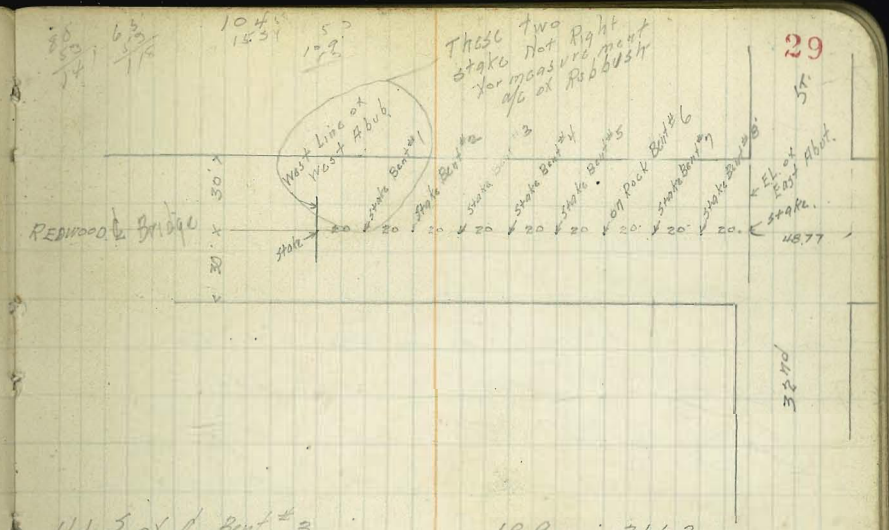
S	5593	5489	5387	5285	5182	5080	4978	4875	4773
	1.87	2.91	3.93	495	598	7.00	802	905	1007
	1.46	328	410	493	648	7.21	815	921	1007
		0.32	-017	-003	-030		-013		
		391	493	595	698	800	902	1001	1107
		380	528	678	772	848	978	1047	1144
		11	-035	-083	-074	048	-076	-042	-037

S	2990	3016	3132	3248	3365	365	
	507	3.91	275	1.59	1.99	9.14	761
	496	383	1.2			893	-051
	+0.11	+006	+023			4021	
						101	
	607	491	371	259	1.99	1201	
	563	492	373	243	120	995	
	+0.44		+0.2	+0.14	-006	+0.19	

28.85	2661	2522	2093	1674	1255	1017	783	51	
024	2.48	3.87	811	1235	4.27	6.60	8.94	1127	
29.09	226	347	814	1238	332	620	748	128	
1238	+0.22	-010	-003	-003	+075	+0.40	+1.46	-1.58	
1671									
606									
1677									

10/1/23 Gregory REDWOOD ST Bridge
W. of X 32nd.

	0.30	299.99			299.69
Top Stake E. Abut.			10.23	289.76	
4' W. of E.L. of E. Abut ground			11.8	288.2	
14' N. of ℄ on E.L. of E.			8.8	291.2	
4' W. of E.L. of E. Abut 9/16 14' N of ℄			10.0	90.0	
14' S. of ℄ on E.L. of E. Abut			12.4	287.6	
4' W. of E.L. of E. Abut + 14' S of ℄			14.0	286.0	
T.P.	1.06	288.68	12.37	287.62	
Top Stake Bent #8 ℄ of Bridge			6.18	282.50	
8.31 N of ℄ Bent #8			4.1	284.6	
8.7 S " " " #8			8.3	280.4	
9' N " " " #7			10.4	278.3	
T.P.	1.30	277.10	12.88	275.80	
Top Stake Bent #7			1.60	275.50	
10' S. of ℄ " #7			4.50	272.6	
11' " " " #6 Ground			10.4	266.7	
On Rock ℄ " #6			7.54	269.56	
10.2 N of " " #6 Ground			4.6	272.5	
11.4 " " " #5			12.6	264.5	
Top Stake " #5			13.15	263.95	Pier should be .95' higher
11.6 S of ℄ " #5			14.2	262.9	
11.7 " " " #4			16.2	260.9	
Top Stake " #4			15.96	261.34	
11.7 N of ℄ " #4			15.4	261.7	
11.1 " " " #3			10.6	266.5	
Top Stake " #3			10.47	266.63	

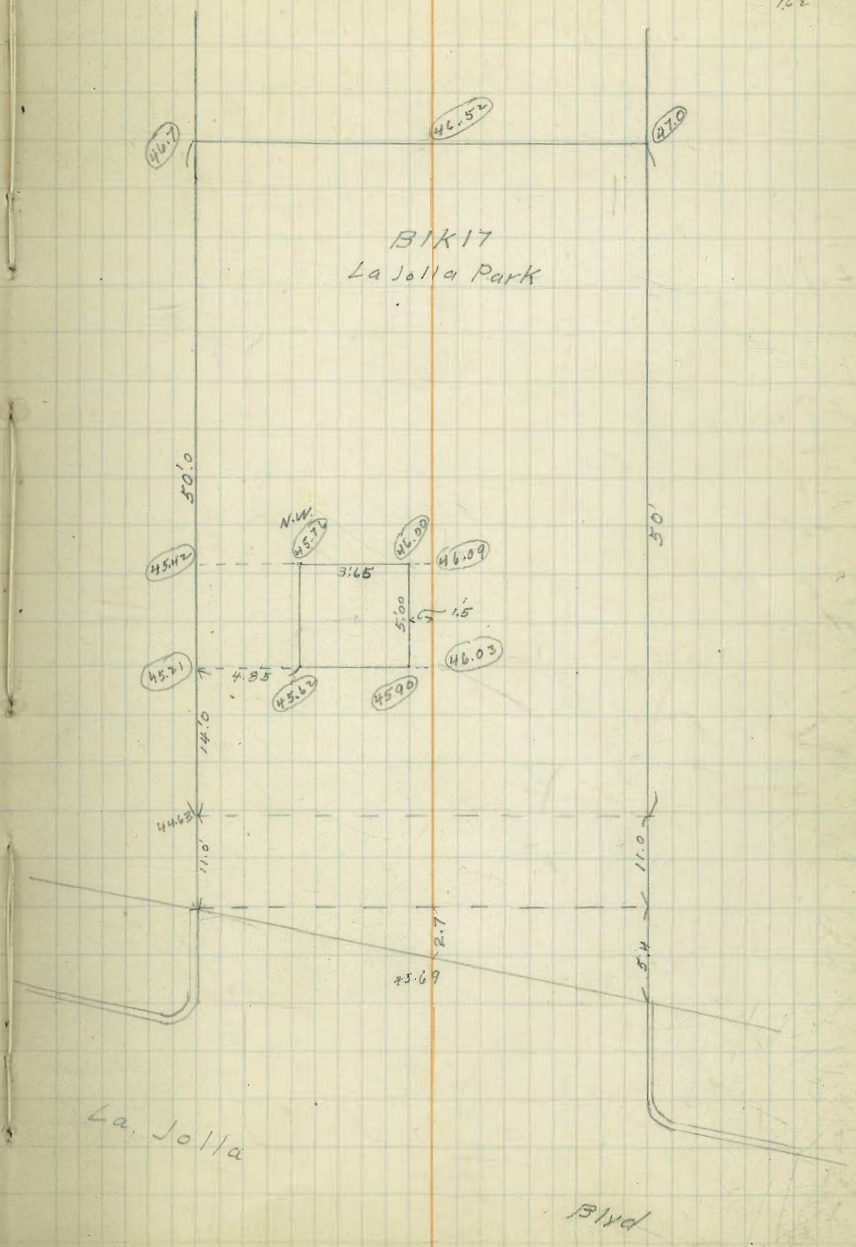


11.1 S of ℄ Bent #3			10.9	266.2
9.8 " " " #2			2.0	275.1
℄ Stake " #2			5.71	271.39
10 N of ℄ " #2			5.6	271.5
T.P.	17.31	288.70	0.71	276.39
8.5 N of ℄ Bent #1			10.8	277.9
Ground ℄ " #1			11.8	276.9
8.5 S of ℄ " #1			5.7	283.0
T.P.	10.19	298.68	0.21	288.49
14' N of ℄ and on W.L. of W. Abut			10.2	288.5
4' E of Last above			10.6	288.1
℄ of Bridge on W.L. of W. Abut			14.1	284.6
4' E of Last above			16.2	282.5
14' S of ℄ on W.L. of W. Abut			8.3	290.4
4' E of last above			8.7	290.0

1/13/25 Gregory. GRADES FOR GAS Co
in Alley Blk 17 La Jolla

B.M.	0.47	68.47		68.00	Prospect & La Jolla Blvd
T.P.	0.11	55.72	12.86	55.61	
E. Cb			7.80	47.92	
E. Gutter			8.54	47.18	
W. "			11.54	44.18	
W. curb			11.40	44.32	
℄ Alley			10.03	45.69	
T.P.	12.75	68.36	0.11	55.61	
T.P.			0.36	68.00	on B.M.

N.W.	N.E.	S.W.	S.E.
55.72	55.72	55.72	55.72
45.76	46.00	45.62	45.90
9.96	9.72	10.10	9.82
8.93	8.24	8.99	8.35
+1.03	+1.48	+1.11	+1.47



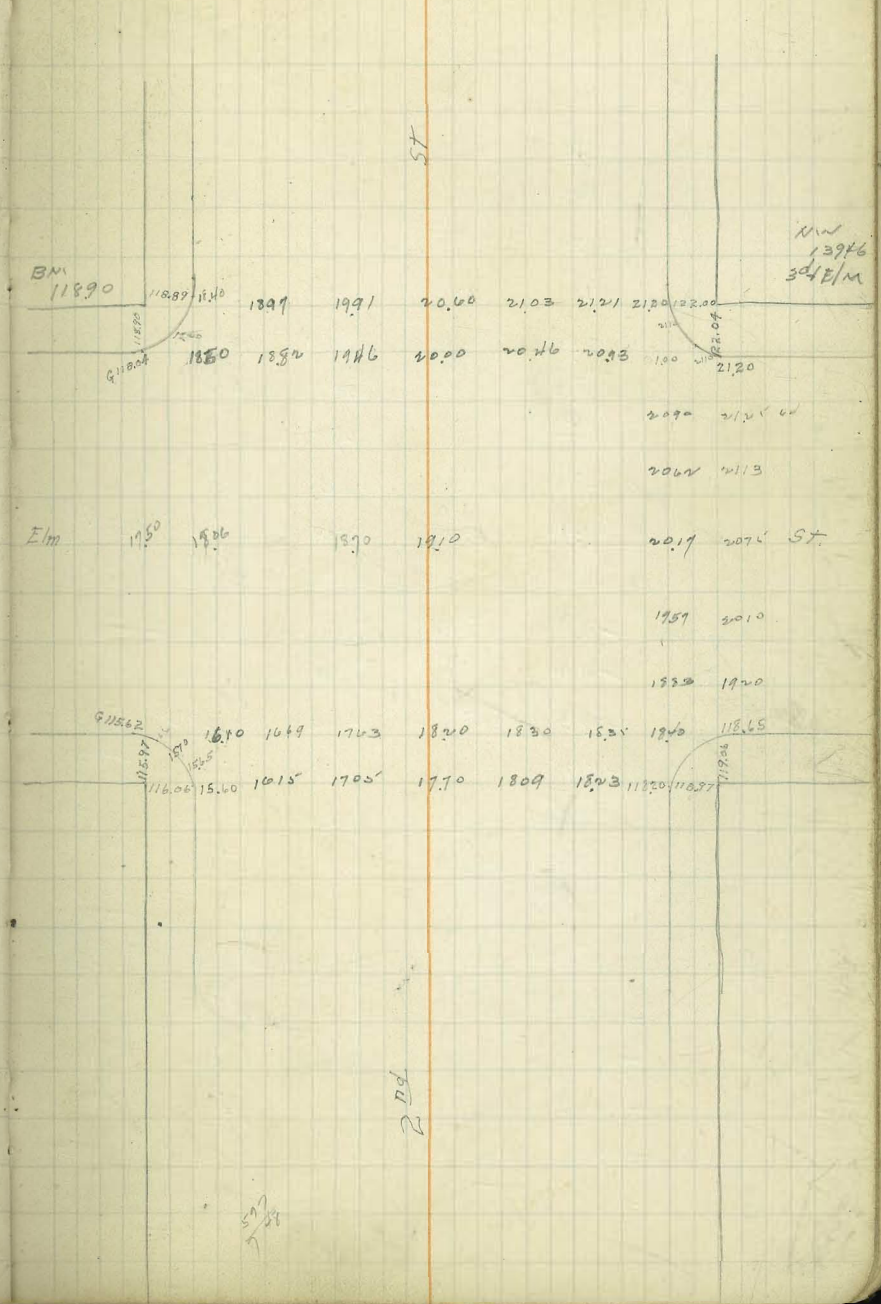
2nd St PAVING
at Elm St.

118.90
5.63
124.53
2.53 — 2.49 — G 6.49
122.00 — 122.04 — 118.04

5.47 — 5.56
119.06 — 118.97

8.52 — 8.56 — G 8.91
116.01 — 115.97 — 115.62

118.65
480
123.45



Imperial Ave Pave
Grade page 17

				N. Edge		S. Edge	
	EC on 5			76.30	76.2	76.05	
#1				75.30	75.00	74.70	+5.24
	EC on 4		-0.93	74.31	73.81	73.31	+5.11
#7			-1.02	73.39	72.79	72.19	+4.70
#6			-0.70	72.37	71.77	71.17	+5.32
#5		.6	-1.10	71.35	70.75	70.15	+17.17
#4		.6	-0.93	70.33	69.73	69.13	+18.06
#3		.6	-0.34	69.24	68.3	68.04	
			~~-0.47~~	~~69.31~~	68.64	68.11	+18.93
#2		.6	-0.34	68.16	67.5	66.96	
			~~-0.47~~	~~68.29~~	67.56	~~67.09~~	+18.28
#1		.6	-1.34	67.08	66.4	65.88	+4.10
			~~-1.53~~	~~67.27~~	66.48	~~66.07~~	+3.41
	PC on 4	.5	-1.96	65.90	65.1	64.90	-1.74
				~~66.15~~	65.40	~~65.15~~	~~-1.99~~
		.3	-2			63.93	-1.55
				~~64.92~~	64.23	~~64.32~~	~~-1.94~~
	PC on 5	.2	-4.98	63.16	62.7	62.91	-1.43
				~~63.70~~	63.06	~~63.15~~	~~-1.47~~
#3	4th entang			60.34	60.0	60.24	+5.04
			~~-5.12~~	~~60.90~~	60.34	~~60.80~~	~~+4.75~~
#2			-4.45	57.52	57.5	57.52	+6.09
				~~58.10~~	57.62	~~58.10~~	~~+5.51~~
#1		.1	-5.19	54.81	54.6	54.81	+7.22
				~~55.40~~	54.91	~~55.40~~	+6.63
	EC.	.15	-3.73	52.05	52.0	52.25	+6.27
			~~-4.33~~	~~52.65~~	52.20	~~52.85~~	~~+5.67~~
#7			-4.55	51.07	50.3	51.47	+5.33 ✓
		2	~~-5.15~~	~~51.68~~	51.27	2.08	~~+4.72~~
#6			-4.30	50.05	49.3	50.05	+3.19 ✓
		3	~~-4.90~~	~~50.67~~	50.35	1.27	~~+2.59~~
#5			-3.38	49.13	49.2	49.73	+4.16 ✓
		.3	~~-4.00~~	~~49.75~~	49.43	0.35	~~+3.51~~
#4				48.21	48.5	48.81	+4.38 ✓
		2	3.78	48.83	48.51	9.43	~~+3.46~~
#3		2	4.51	47.29	46.5	47.89	+4.09 ✓
				~~47.91~~	~~47.59~~	8.51	~~+3.47~~
#2				46.36	46.5	46.96	+5.46 ✓
		2	3.42	47.00	46.66	7.60	~~+4.82~~
#1				45.34	45.5	45.94	+5.71 ✓
		2	3.49	46.17	45.74	~~46.67~~	~~+4.81~~
7+82.70	P.C.		3.00	44.67	44.6	44.87	+5.22
				~~45.39~~	44.82	45.50	~~+4.59~~

84.52 TP		12.85							
5.30		71.67 TP							
89.82		50.05							
		45.45							
		4.27	6913	6811	6709				
			3.56	487	589				
				3.52	7.22				
				131	-1.53				
						925			
						846			
	N 74	7431	7339	7237	7135	7023	6931	6829	
		7021	11.13	12.15	1463	2.65	367	469	
		1094	1.21	1286 TP	-73	3.58	408	516	
		-0.73	-7.02	-0.70	-7.1	0.93	-0.41	-0.47	
7167	S	7470	7331	7219	7117	7015	6913	6811	6709
131		9.82	11.21	12.33	13.35	19.67	20.69	21.71	22.73
7298		4.58	6.1	7.63	7.52	8.60	2.63	2.78	4.46
42.26		5.24	+5.11	-4.70	5.82	17.17	18.06	18.93	1.528
6072									
140									
6232					6327				
1276	N	6727	6615		6370	6090	5810	5540	5265
49.56		5.71	6.83		1.38	1.22	+.22	6.93	293
016		7.24	11.04		4.84	7.10	9.25	12.70	140
49.72		-1.53	-5.21		-5.52	-5.68	-5.03	-5.78	-4.83
		6507	6511	6432	6345	6080	5810	5540	5284
	S	7.91	7.83	3.66	9.53	12.18	14.88	17.58	7.47
		9.82	9.82	10.60	11.50	7.70	9.37	10.95	330
		+4.91	-1.99	-1.94	1.97	+4.48	+5.51	16.63	+5.47
	N	51.68	50.67	49.75	48.83	47.91	47.00	46.17	45.30
		1.96	95	-.03					
		3.12	3.97	3.77					
		-5.16	4.92	-4.00					
	S	52.08	51.27	50.35	49.43	48.51	47.60	46.67	45.50
		10.24	11.05	11.97	12.89	13.81	14.72	15.65	16.82
		5.52	6.48	8.43	9.13	10.24	9.90	10.67	12.23
		+4.72	+2.57	+3.54	+3.76	+3.47	+4.82	+4.98	+4.59
7.83									
98									

		N Edge	℄	S. Edge	
		38.84	42.2	45.83	
# 3	-3.32	42.14	42.24	42.14	+3.69
		39.53	39.5	38.97	
# 2	0.0	39.56	39.66	39.66	-0.89
		36.61	37.18	36.80	
# 1	-0.27	36.88	37.08	37.28	-0.45
		33.99	34.5	34.44	
6+12.31 EC break	-0.91	34.30	34.5	34.70	-0.26
		32.89	33.4	33.40	
# 9	0.75	33.14	33.44	33.74	-0.34
		31.70	32.44	32.04	
# 8	-0.70	~~32.40~~	~~32.80~~	~~33.20~~	-1.16
		31.24	31.56	31.01	
# 7	-0.48	~~31.72~~	~~32.12~~	~~32.52~~	-1.51
		30.34	30.49	29.44	
# 6	-0.50	~~30.84~~	~~31.20~~	~~31.64~~	-2.20
		29.89	30.6	29.02	
# 5	00	~~29.90~~	~~30.3~~	30.70	-1.68
		29.74	29.63	29.30	
# 4	+0.06	~~29.66~~	~~30.00~~	30.48	-3.18
		29.67	29.23	28.84	
# 3	+0.27	~~29.40~~	~~29.80~~	30.20	-1.36
		29.14	28.6	26.64	
# 2	+0.23	~~29.41~~	~~28.91~~	29.71	-3.07
		28.81	28.9	26.69	
# 1 break	+0.33	28.48	28.78	29.08	-2.41
		28.69	28.7	26.24	
4+38.39 PC	+0.21	28.48	28.68	28.88	-2.64
		28.46	28.3	25.14	
Sta 4+00	+0.11	28.35	28.45	28.45	-3.31
		27.97	28.0	27.64	
3+50	+1.92	28.05	28.15	28.05	-0.41
		27.93	27.8	27.34	
3	+0.18	27.76	27.85	27.75	-0.41
		27.49	27.6	26.59	
2+50	+0.04	27.45	27.55	27.45	-0.86
		27.20	27.3	26.50	
2	-0.20	27.40	27.25	27.10	-0.60
	-0.16	27.19	27.1	26.56	
1+74.78 = EC. on 3		27.35	27.10	26.85	-0.29
2.19	23.97	27.19		26.45	
1+50.81 =	-0.07	27.26	26.96	26.66	-0.71
		27.10	26.1	26.34	
# 7	-0.10	27.20	26.85	26.50	-0.16
		26.94		26.29	
# 6	-0.90	27.14	26.74	26.34	-0.09
		26.19		26.20	
# 5	-0.80	27.07	26.62	26.17	-00
		26.14	26.1	26.08	
# 4	-0.83	27.00	26.50	26.00	+0.08
		26.16		26.10	
# 3	-1.02	27.17	26.72	26.27	-0.17

Sta 6+00 = 4

Sta 6+00 = 4

32.39	32.02	33.12	33.08	32.78	31.60	32.40	31.52	30.72
2.22	1.59	.99	1.53	2.33	3.11	2.21	3.09	3.89
34.61								
5.20								
29.41	29.78	30.58	30.36	29.50	29.28	30.08	29.10	28.80
2.20	4.83	4.03	4.25	5.05	5.33	4.53	5.01	5.81
31.61								
	28.36	28.96	28.76	28.36	28.23	28.33	27.93	27.63
	4.25	5.65	2.85	3.25	3.38	3.28	3.68	3.98
	27.33	27.28	26.93	26.73	27.23	27.14	26.54	26.38
	4.08	4.38	4.63	4.88	4.38	4.47	5.07	5.23
	27.08	27.02	26.22	26.34	26.05	26.95	26.58	
	4.53	4.59	5.39	5.27	5.56	4.66	4.73	
	25.88	26.15	27.05					
	5.73	5.46	4.56					

			N. Edge		S. Edge	
# 2	-1.54	4	25.81 / 27.35	26.95	26.31 / 26.55	-0.24
# 1	-2.20	35	25.33 / 27.53	27.18	26.81 / 26.83	00
PC on N	-1.88	30	25.83 / 27.71	27.0 / 27.41	26.96 / 27.11	-0.15
" " S	-1.10		26.90 / 28.00	27.75	27.16 / 27.50	-0.34

31.61

27.23 / 4.38	26.43 / 5.18	26.71 / 4.90	27.41 / 4.20	27.59 / 4.02	27.00 / 4.61	27.38 / 4.23

27.88 / 3.73

GRADES ON 38TH ST.

		W cb	E cb	
S.L. Imperial	9858 504 103.62	95.5	95.5	+0.22
34' S	8.12 7.56 +0.55	97.31	97.67	6.28 6.20 +0.08
68' S	6.31 6.31 +0.00	99.12	99.84	4.11 3.61 +0.50
88' S = N.L. Clinton	4.50 4.40 +0.10	100.2	100.86	3.09 2.91 +0.18
108' ✓	3.42 3.42 +0.36 -0.55		101.38	2.57 2.35 +0.22
128' ✓			101.39	2.74 2.56 -0.18
148' ✓ = S.L. Clinton	3.42 3.17 +0.25	100.2	101.16	2.79 2.67 +0.12
199.6 ✓	4.02 4.20 -0.18	99.6	100.58	3.37 3.07 +0.30
251.2 ✓ = N.L. Superior	4.62 -0.02	99.0	100.0	6.34 3.95 0.39
301.2 ✓ S.L.	4.52 4.63 -0.09	99.0	100.0	+0.02
351.6 S.	4.62 4.62 +0.16	98.0	99.0	5.10 4.95 -0.15
402' ✓ = N.L. Wabash	6.62 6.24 +0.46	97.0	98.0	5.95 5.33 +0.62
452' ✓ = S.L. ✓	6.66 6.37 +0.29	97.0	98.0	5.91 4.54 1.41
509.1 ✓	5.12 4.47 +0.67	98.5	99.5	4.45 4.08 +0.37
566.2 ✓ = N.L. Superior	3.62 3.26 +0.36	100.0	101.0	3.17 2.98 -0.19
616.2 ✓ = S.L. ✓	99.45	100.0 9981 ~~100.0~~ 98.93 97.80	101.0	
641.2				
678.7 ✓		94.52	95.58	
741.2 ✓		89.05	90.16	
791.2		84.63	85.82	
841.2		80.22	81.49	
891.2 S = N.L. Alley		75.81	old N.L. = 77.16	
898.7 ✓ = N.L. Franklin			76.5	
911.2 ✓ = S.L. Alley		75.54		
943.7 ✓ = S.L. Franklin		75.10 74.73	76.0 old S.L. Frank 75.65	
991.2		72.72	73.79	
1011.2		71.98	73.03	

9858 Top Ave SE 38th
904
107.62

1313 / 94.49 — 1147 / 96.15 — 1226 / 19.4 — 387 / 404

W	95.75 11.9 11.0 +0.9	97.56 10.1 9.5 +0.6	99.37 8.3 8.5 -0.2	100.45 7.2 7.9 -0.7	100.45 7.2 10.1 -2.9			99.85 7.8 13.3 -5.5
E	95.75 11.9 11.0 0.0	97.92 9.7 8.4 +1.3	100.09 7.5 5.6 +1.9	101.11 6.5 3.3 +3.2	101.63 6.0 2.4 +3.6	101.64 6.0 5.0 +1.0 mail	101.41 6.2 0.3 +5.9	100.83 6.8 2.1 +4.7
W	99.25 8.4 13.0 -4.6	99.25 4.4 11.4 -7.0	98.25 5.4 13.6 -8.2	97.25 6.4 11.9 -5.5	97.25 6.4 7.9 -1.5	98.75 4.9 3.1 +1.8	100.25 3.4 2.5 +0.9	100.25 3.4 5.1 -1.7
E	100.25 7.4 4.9 +2.5	100.25 7.4 8.3 -0.9	99.25 4.4 3.4 +1.0	98.25 5.4 1.2 +4.2	98.25 11.75 5.75 +6.00 mail	99.75 10.3 3.5 +6.8	101.25 8.8 2.3 +6.5	101.25 8.8 5.6 +3.2
W	94.77 8.9 8.5 +0.4	89.30 3.7 1.7 +2.0	84.88 8.1 5.4 +2.7	80.47 12.5 10.6 +1.9	76.06 4.00 5.4 -1.4		75.79 4.3 6.6 -2.3	74.98 5.1 10.3 -5.2
E	95.83 14.2 9.3 +4.9	90.41 2.6 0.3 +2.3	86.07 6.9 1.2 +5.7	81.74 11.3 6.0 +5.3	77.41 15.58 7.58 +8.00 mail	76.75		75.90 4.2 9.2 -5.0
W	72.97 7.1 13.6 -6.5	72.23 7.8 12.3 -4.5						
E	74.04 6.0 9.1 -3.1	73.28 6.8 7.4 -0.6						

8340 118 8474 8458 — 81 358 — 458

9945 284 324 -0.40 — 9981 248 293 — 100 229 243 -0.14

9261 116 9145 1084 10229

80.39 — 80.52 049 80.03 — SL Alley 7550 502 00 — 7607 4.45 -0.08 — 80.22 .30

W 8463 798 828 -0.30 — 8905 3.56 — 9452 777 804 -0.27 — 9780 449 468 -0.19 — 9893 336 368 -0.29

7303 7.49 7.54 -0.05 — 7379 673 673 0.0 — 76 452 -0.04 — 765 4.02

8003 1258 9261 — E — 8149 11.12 11.07 +0.05 — 8582 6.79 6.85 -0.06 — SL Alley 8816 4.45 4.15 +0.30 — 8817 3.94 4.12 -0.18 — NL Alley 9042 2.19 2.08 +0.11 — 9041 2.20 2.05 +0.15 — 9558 6.71 6.59 +0.12 — 101 1.29 -0.27

37

13/59 4

	W	E
10+31.2	71.58	72.61
10+51.2	71.51	72.53
10+71.2 ✓	71.78 ✓	72.79
(10+83.59 = NL Alley.)		73.16
10+91.2	72.40 ✓	73.39
(10+98.59 = SL Alley)		73.75
11+11.2	73.34 ✓	74.34
11+75.2	76.89 ✓	77.89
12+31.2 = NL Woodman	80.0	81.0

7689 / 3.63   7473 / 5.79   7272 / 7.80

W: 71.83 / 8.2 / 10.4 / -2.2   7176 / 8.3 / 9.3 / -1.0   7202 / 8.0 / 9.3 / -1.3   7265 / 7.4 / 11.1 / -3.7   7359 / 6.5 / 9.1 / -2.6   7714 / 2.9 / 4.2 / -1.3

8008 / 561 / 7447 / 8.06 / 8303 / 11.99 / 7104 / 0.29

E: 7286 / 7.2 / 3.1 / +4.1   7278 / 7.3 / 1.7 / +5.6   7304 / 7.0 / 1.7 / +5.3   7341 / 6.7 / 1.8 / +4.9   7364 / 6.4 / 5.4 / +1.0   7400 / 6.1 / 5.4 / +0.7   7459 / 5.5 / 6.7 / -1.2   7814 / 1.9 / 3.7 / -1.8

W: 8021 / 2.8 / 3.1 / -0.3

7133 / 1238 / 5895 / 3.80 / 6275

E: 8121 / 1.8 / 1.7 / +0.1

944 / 5331

8000 / 5.2 / 8052   7261 / 7.91 / 8.05 / -0.14   7253 / 7.99 / 7.60 / +0.39   7279 / 7.73 / 7.16 / +0.57   NL Alley 7307 / 7.45 / 7.16 / +0.29   7341 / 7.11 / 6.84 / +0.27   7400 / 6.52 / 6.23 / +0.29   7388 / 6.64 / 6.23 / +0.41   7434 / 6.18 / 5.71 / +0.47   7789 / 2.63 / 2.69 / -0.06   81

10/11/23

GRADES ON 37TH ST.

Return on Imperial 99.35

	W	E
S.L. Imperial 0	99.15	99.15
45.26 S	97.07	97.32
90.52 S = NL Clinton	95.0	95.5
S.L. Clinton	94.0	94.5
50.4 S	91.2	91.7
100.8	88.4	88.9
151.2	85.6	86.1
201.6	82.8	83.3
252 S = NL Wabash	80.0	80.5
S.L. Wabash	79.0	79.5
61.5 S	75.25	75.0
123 = NL Gilmore	71.5	70.5
S.L. Gilmore	70.5	69.5
60 S	66.19	65.19
120 S brk.	61.88	60.88
140	60.54 / 60.52	59.54
160	59.42 / ~~59.32~~	58.42
180	58.50 / ~~58.28~~	57.50
200	57.80 / ~~57.40~~	56.80
260 = NL Allen	56.0 / ~~55.0~~	55.0
280 = 3rd	55.4	55.0
310 OUT.	54.0	54.0
340	52.60	53.0
360	51.93	52.47
380	51.52	52.22
400	51.42	52.25

53.31 nail at Franklin

1st tie W at (Wabash) 82.42 Harding

W	51.77	52.85	55.65	56.25	58.05	59.67	62.13	66.44	70.75
	123	11.2	8.4	9.18	7.4	5.7	3.3	11.2	6.8
	136	11.2	6.8	9.18	5.6	5.2	3.5	9.8	5.8
	-1.3	0.0	+1.6	00 nail	+1.8	+0.5	-0.2	+1.4	1.0
E	52.47	53.25	55.25	56.25	57.05	58.67	61.13	65.44	69.75
	71.6	109	8.9	8.9	8.4	8.7	4.3	000	7.7
	147	131	7.2	7.2	7.4	8.5	4.9	0.3	9.5
	-2.6	-2.2	-0.1	7.1.7	+1.0	+0.2	-0.6	-0.3	-1.7
W	71.75	75.50	79.25	80.25	83.05	85.85	88.65	91.45	
	17.6	13.9	10.2	9.2	6.4	3.5	0.7	10.30	
	10.6	9.4	8.7	7.8	6.4	4.2	2.7	12.9	
	7.0	+4.5	+1.5	+1.4	00	-0.7	-2.0	-2.6	
E	70.75	75.25	79.75	80.75	82.55	86.35	89.15	91.95	
	68	23	9.8	8.7	5.8	3.2	12.6	9.8	
	6.1	3.3	9.8	4.8	3.6	0.2	9.6	8.2	
	+0.7	-1.0	+6.0	+3.9	+2.2	+3.0 nail	+3.0	+1.6	
W	94.25	95.25	97.25	99.25	0.86				
	7.5	6.5	4.5	2.5	99.02				
	9.5	5.1	2.4	1.5					
	-2.0	+1.4	+2.1	+1.0					
E	94.75	95.75	97.50	99.25					
	7.0	6.0	4.3	2.5					
	6.8	3.4	1.3	1.3					
	+0.2	+2.6	+3.0	+1.2					

W	99.15	97.07	95.0	94.00	91.20	88.40			
	.73	2.81	4.88	5.88	8.68	11.48	6.89	8.73	
	1.75	3.16	4.99	6.26	8.86	11.51	1.04	1.66	SL
	-0.52	-0.35	-0.11	-0.38	-1.30	-0.03	2.21	1.47	
							-0.06	+0.22	
E	0.73	97.32	95.50	94.50	91.20	88.90	86.04	88.20	NL
	1.15	2.56	4.38	5.38	8.18	10.98	8.10	.77	
	-0.42	2.64	4.03	5.71	8.39	10.76	.87	2.08	
		-0.28	-0.25	-0.33	-0.21	+0.22	.30	1.49	
							+0.57		

W	85.60	82.80	80.00	79.00		75.25	71.50	67.0	77.1
	3.37	6.17	8.97	9.97		.90	6.78	4.08	
	3.46	6.34	8.68	10.30		3.07	7.10	+0.12	
	-0.09	-.07	+0.29	-.33		-.17	-0.39		
E	86.10	83.30	80.50	8.47	79.50	947	75.00	70.50	69.50
	2.87	5.67	8.47	9.02	9.47	9.04	3.21	7.71	8.71
	2.85	5.97	0.0	-.55	9.54	+.43	3.16	6.33	9.37
	+0.02	-.30			-0.07		+0.05	+1.38	-0.66

W	70.50	7.71	56.18	57.80	61.88	60.54	59.42	58.50			
	7.71	7.98	8.53	6.93	2.85	4.19	5.31	6.23			
	8.28	-0.27	64.73	7.12	3.47	4.33	5.09	6.20			
	-0.57			-0.19	-0.07	-0.14	+0.22	+0.03			
			56.18								
			1.69								
			57.87								
E				52.40	51.93	51.52	51.42				
				5.37	5.84	6.25	6.35				
				5.03	5.42	5.30	5.30				
				-0.10	+0.25	+0.22	-0.05				
W	61.19	61.83	60.54	59.42	58.50	57.80	56	55.4	54.68	53.93	53.52	53.42
	3.48	9.70	2.08	3.20	6.14	5.83	2.03	2.83	5.69	6.90	6.71	6.42
	5.34	4.86	1.53	2.51	3.64	5.42	2.03	2.83	5.71	7.05	6.42	6.42
	010	-0.07	+0.55	+0.69	+0.06	+0.03	+0.1	-0.01	-0.11	+0.15	+0.31	+0.59
E	61.19	60.99	60.54	59.42	58.50	57.80	55.20	54.30	53.08	52.41	52.27	52.35
	6.48	7.49	3.08	3.20	5.14	5.82	3.02	3.43	5.93	5.76	6.01	5.82
	6.20	1.74	3.94	3.25	4.62	5.49			5.10	5.67	6.42	6.42
	-0.02	-1.86	+0.14	+0.45	+0.50	+0.33			+0.13	+0.09	-0.40	-0.07

Ecb

420		51.63		52.56	
440		52.16		53.14	
460		53.0		54.0	
506.7		55.33		56.33	
553.4		57.67		58.67	
600.0		60.00		61.0	

98.92
.331
102.23

W.L.	37th 99.30	372 / 98.51	334 / 98.89		
E.L.	99.35	99.05	98.96	99.0	
50	99.04	324 / 98.99	357 / 98.66	98.7	
100	98.72	341 / 98.82	381 / 98.42	98.4	
	98.41	363 / 98.80	412 / 98.11	98.1	
	98.10	369 / 98.56	447 / 97.76	97.8	
	97.78	381 / 98.42	473 / 97.50	97.5	12 | 36
	97.47	401 / 98.18	493 / 97.30	97.2	
	97.16	431 / 97.89	532 / 96.91	96.9	
	96.85	457 / 97.66	546 / 96.77	96.60	
	96.54	497 / 97.26	593 / 96.30	96.30	
	96.23	546 / 96.77	626 / 95.97	96.0	3 | 2
	95.91	618 / 96.05	658 / 95.65	95.70	12 | 37.5 / 36 / 15 / 12 / 30
	95.60	667 / 95.56	680 / 95.43	95.4	
			672 / 95.50		

IMPERIAL

5331 / 1058 / 63.9 — 63.42 / .070 / 64.12 — Top Hyd. 34 / 12.24 — 12.00 — 467 / 3 / 1401

W	51.88 / 122 / 141 / -1.9	53.25 / 10.9 / 11.9 / -1.0	55.58 / 8.5 / 9.0 / -0.5	57.92 / 6.2 / 9.6 / -3.4	60.25 / 3.87 / 4.4 / -0.5
E	52.81 / 11.3 / 10.1 / +1.2	54.25 / 9.9 / 0.7 / +9.2	56.58 / 7.5 / 2.2 / +5.3	58.92 / 5.2 / 5.6 / -0.4	61.25 / 2.9 / 3.0 / -0.1

5823 / 259 / 5564 / 665 / 62.32

W	51.63 / 660 / 593 / +0.67	52.16 / 607 / 542 / +0.65	53 / 523 / 476 / +0.47	55.33 / 290 / 259 / +0.31	57.67 / 465 / 453 / +0.12	60.00 / 2.32 / 2.54 / -0.22	60.00 / 2.32
E	52.56 / 567 / 574 / -0.07	53.14 / 509 / 534 / -0.25	54 / 423 / 450 / -0.27	56.33 / 190 / 232 / -0.42	58.67 / 365 / 360 / -0.04	61.00 / 132 / 159 / -0.27	

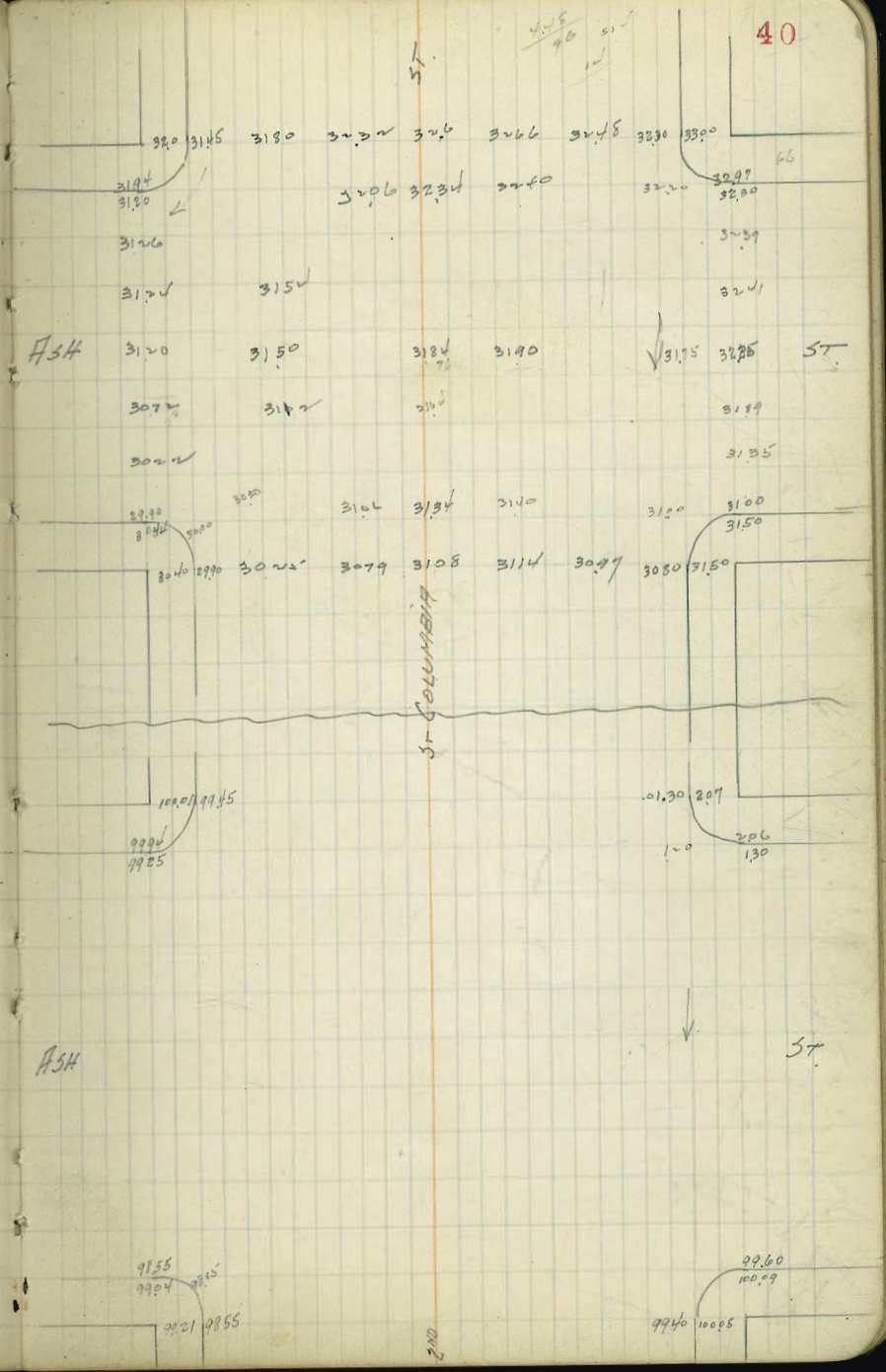
GRADES ON
GILMORE ST.

	N. Cb.	S. Cb
W.L. 37th	71.5	70.5
50' W	75.75	74.56
100' W = El. Olivewood Terrace	80.0	79.63

7703
647
83.50

N	76.0 7.50 .47 +2.8	80.25 +0.3	80.00 4.77 5.17 -0.40	75.75 9.02 8.58 +0.44
S	75.50 8.00 .76 +0.4	80.25 -0.6	79.63 5.14 5.34 -.20	74.56 10.21 9.51 +0.70

78.27
2.95
75.26
9.51
84.77



3044
7
3744

804
3848

3044
576
3620

9996 BM.NW
403
10399

GRADES ON ~~WABASH~~ ST
Harding

		N.L.	Lowered			S.L.	
W.L. 38th		97.25	96.95		96.95	97.25	
60'W	-4.3	90.77	90.50			90.75	-0.2
120'W	-2.3	84.29				84.25	+0.4
140'W	-	82.50				83.63 / 82.49	
160'W	-1.6	81.27				81.20	+1.0
180'W		80.54				80.38	
200'W	-2.0	80.32		79.13	79.50	80.04	
220'W		80.61		79.93	79.93	80.18	
240'W	-1.6	81.41				80.78	
275'W = El Milbrac		83.25				82.25	
W.L. Milbrac		84.25				83.25	
15'W		85.36				84.36	
35'W		86.66				85.66	
55'W		87.64				86.64	
75'W		88.29				87.29	
95'W		88.61				87.61	
115'W		88.59				87.59	
135'W		88.26				87.26	
155'W		87.58				86.58	
175'W		86.58				85.58	
225'W		83.66				82.66	
275'W		80.75				79.75	

W tie out 3' S. of S.h. = 82.81

N	97.25	90.77	84.29	82.50	81.27	80.54	80.32	80.61	81.41	83.25
		1.4	7.9	9.6	10.9		11.8		10.7	5.0
		.57	10.2		12.5		13.8		12.3	5.9
		-4.3	-2.3		-1.6		-2.0		-1.6	-0.9
S	97.25	90.75	84.25	82.49	81.20	80.38	80.04	80.18	80.78	82.25
		1.4	7.9	9.7	10.9		8.2		7.5	6.0
		1.6	7.5		9.4		10.4		7.1	
		-0.2	+0.4		+1.0		-2.2		+0.4	
					nail					

N	84.25	85.36	86.66	87.64	88.29	88.61	88.59	88.26	87.58	86.58
	4.0	3.9		5.0		4.1		4.4		6.1
	1.4	0.6		3.3		0.2		0.7		2.3
	+2.6	+2.3		+2.7		+3.9		+3.7		+3.8
S	83.25	84.36	85.66	86.64	87.29	87.61	87.59	87.26	86.58	85.58
		3.9		6.0		5.1		5.4		7.1
		2.8		5.4		4.3		5.2		8.2
		+1.1		+0.6		+0.8		+0.2		-1.1
N	86.66	80.75								
	9.03									
	7.03									
	+2.0									
	nail									
S	86.66	79.75								
	10.0									
	1.1									
	-1.0									

N	85.41	86.33	87.32			88.01		88.34	88.86	
	6.31	3.39	2.34			1.71		1.38	1.36	
	6.53	3.72	2.17			1.19		1.14	1.29	
	-0.22	+0.17	+0.22			+0.52		+0.24	+0.07	
					W.L. Miller		E.L. Miller			
S	84.41	85.33	86.33	86.56	3.06	87.14		87.34	87.86	
	7.31	4.39	3.39	3.16	2.81	2.58	2.32	2.38	2.36	
	7.39	4.28	3.02	2.50	2.55	2.30		2.10	1.79	
	-0.08	+0.11	+0.37	+0.66	+0.26	+0.28		+0.28	+0.57	

	88.04	87.39	86.41	85.11	84.0	83	81.16	80.36	80.07
	1.68	2.33	3.31	4.61	5.72		4.57	4.93	5.22
	1.75	2.48	3.61	4.49	5.44		4.29	5.04	5.22
	-0.07	-0.15	-0.30	+0.12	+0.28		-0.28	-0.11	-0.08

	87.04	86.39	85.41	84.11	83.0	82	80.53	79.93	79.79
	4.68	3.32	4.91	5.61	6.79	3.47	4.96	5.36	5.50
	4.55		4.52	5.93	6.44	3.44	4.54	5.13	5.32
	+0.13		-0.21	+0.28	+0.35	-0.15	-0.08	+0.23	+0.18

N	80.29	81.02		82.25		84.04	85.02	
	5.00	4.27		3.04		1.25	0.10	6.2
	4.96	4.17		3.11		1.45	0.05	
	+0.04	+0.10		-0.07		-0.20	+0.05	

			W.L. Miller			E.L. Miller			
S	80.13	80.85	81.72		83.37	83.35	84	84.50	87.0
	5.16	4.34	3.57	3.12	1.92	1.91	1.29	0.72	6.2
	4.96	4.36	3.37	3.32	1.79	1.83	1.17	0.76	
	+0.20	-0.02	+0.20	-0.20	+0.13	+0.08	+0.12	-0.03	

Grades on Franklin 39th to 40th

	scb	ncb
EL 39th	101.0	101.0
+40	103.0	103.0
+80 Vc.	105.0	105.0
1 —	105.93	105.93
+20	106.72	106.72
+40	107.37	107.37
+60	107.89	107.89
+80	108.26	108.26
2 — VC	108.50	108.50
+60	109.0	109.0
3 + 20 VC	109.50	109.50
+40	109.57	109.58
+60	109.46	109.47
+80	109.17	109.20
4 —	108.69	108.74
+20	107.93	108.11
+40 VC	107.19	107.30
5 —	104.39	104.60
+50	102.06	102.37
6 —	99.73	100.13
+47.8	97.50	98.0

BM 39th + Q Church step

101.43
1.70
113.13
−3.42

S: 101.25 / 11.88 / 12.05 / −.17 — 103.75 / 9.88 / 9.24 / +.64 Teddy — 105.25 / 7.88 / 0.0 — 106.97 / 6.16 / 6.95 / −.79 — 108.14 / 4.99 / 5.53 / −.52 — 108.75 / 4.38 / 4.46 / −.08

N: −.4 — 103.00 / 10.13 / 5.04 / +5.13 — 105.00 / 8.13 / 2.69 / +5.44 — 106.72 / 6.41 / 2.81 / 3.60 — 107.89 / 5.24 / 2.59 / +2.65 — 108.50 / 4.63 / 2.80 / 1.83

S: 109.25 / 3.88 / 0.0 — 109.75 / 3.38 / 1.28 / +2.0 — 109.71 / 1.48 / .19 / +1.29 — 108.94 / 2.15 / 1.01 / +1.14 — 107.44 / 3.75 / 2.30 / +1.45 — 104.64 / 6.55 / 5.12 / +1.43

N: 109.00 / 4.13 / 3.04 / +1.09 — 109.50 / 3.63 / 3.42 / +.21 — 109.47 / 1.72 / 2.05 / −.33 — 108.74 / 2.45 / 2.96 / −.51 — 107.30 / 3.89 / 4.33 / −.44 — 104.60 / 6.59 / 5.33 / +1.26

109.71
1.48
111.19
−12.56
98.63
0.76
99.39

S: 102.31 / 8.88 / 8.0 / +.88 — 99.98 / 11.21 / 0.0 Teddy — 97.75 / 13.44 / 14.06 / −.62 — 97.75 / 1.64 / 2.30 / −.74

N: 102.37 / 8.82 / 5.90 / +2.92 — 100.13 / 11.06 / 7.50 / +3.56 — 98.00 / 13.19 / 8.24 / +4.88 — 10.83 / 3 / 14.10

10.82
101.43
112.25
12.66
99.59
7.25
106.84

S: 101 / 11.25 / 11.15 / 10.72 / +.43 — 11.15 / +.1 — 103 / 9.25 / 3.90 / +.35 — 105.00 / 7.25 / 7.15 / +0.10 — 105.93 / 6.32 / 6.15 / +.17 — 106.72 / 5.53 / 5.29 / +0.24 — [illegible] — 107.89 / 4.36 / 4.06 / +.03 — 108.26 / 3.99 / 3.83 / +.16

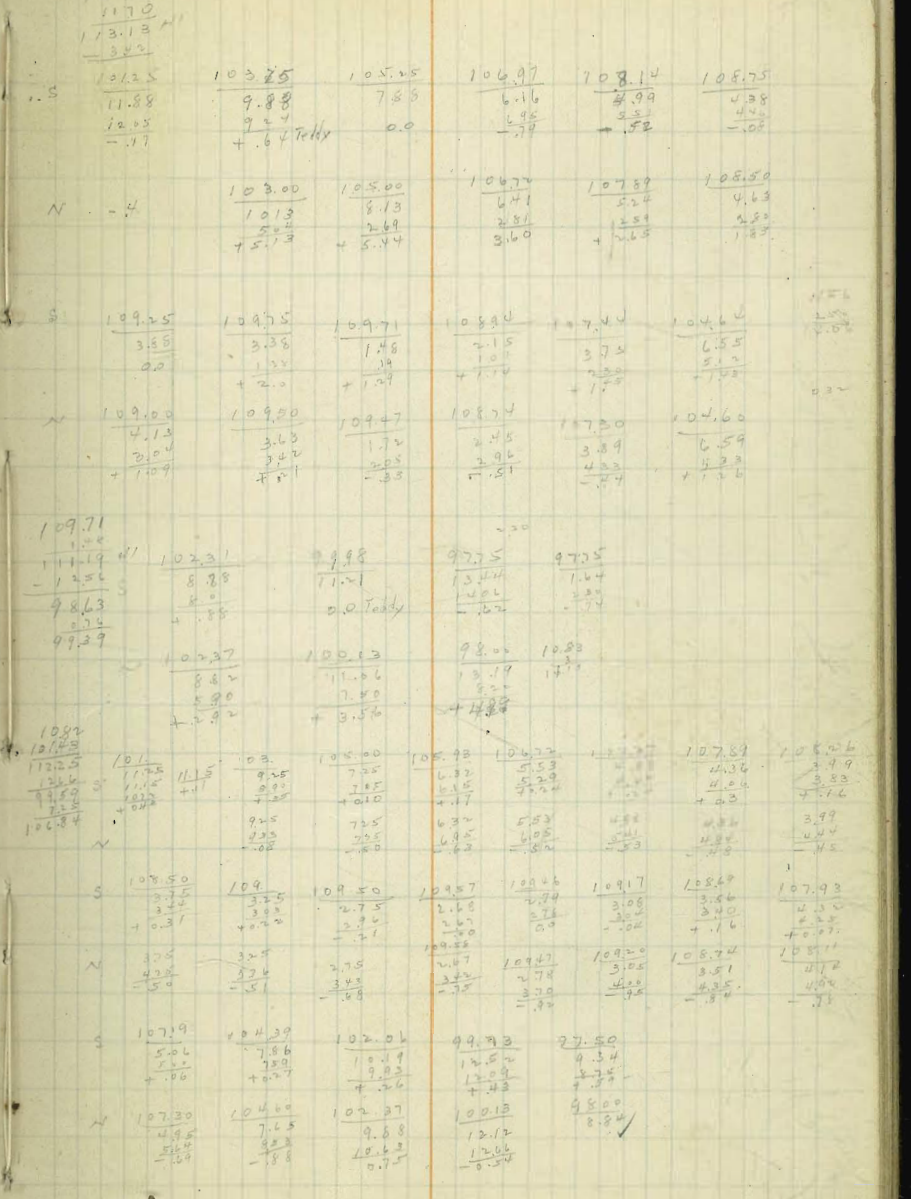
N: 9.25 / 4.33 / −.08 — 7.25 / 7.35 / −.50 — 6.32 / 6.95 / −.63 — 5.53 / 6.05 / −.52 — 4.88 / 5.41 / −.53 — 4.36 / 4.84 / −.48 — 3.99 / 4.44 / −.45

S: 108.50 / 3.75 / 3.44 / +0.31 — 109 / 3.25 / 3.03 / +0.22 — 109.50 / 2.75 / 2.96 / −.21 — 109.57 / 2.68 / 2.67 / −.00 — 109.46 / 2.79 / 2.78 / 0.0 — 109.17 / 3.08 / 3.04 / −.04 — 108.69 / 3.56 / 3.40 / +.16 — 107.93 / 4.32 / 4.25 / +0.07

N: 3.75 / 4.25 / −.50 — 3.25 / 3.76 / −.51 — 2.75 / 3.43 / −.68 — 109.58 / 2.67 / 3.42 / −.75 — 109.47 / 2.78 / 3.70 / −.92 — 109.20 / 3.05 / 4.00 / −.95 — 108.74 / 3.51 / 4.35 / −.84 — 108.11 / 4.12 / 4.92 / −.78

S: 107.19 / 5.06 / 5.60 / +.06 — 104.39 / 7.86 / 7.59 / +0.27 — 102.06 / 10.19 / 9.93 / +.26 — 99.73 / 12.52 / 12.09 / +.43 — 97.50 / 9.34 / 8.75 / +.59

N: 107.30 / 4.95 / 5.64 / −.69 — 104.60 / 7.65 / 8.53 / −.88 — 102.37 / 9.88 / 10.63 / 0.75 — 100.13 / 12.12 / 12.66 / −0.54 — 98.00 / 8.84



Grades on 40th Woolman North
OCEAN VIEW

		WCG		ECG	
SL Woolman		81.0		79.5	
NL ✓		82.0		80.5	
+40		82.62		81.57	
+80		83.33		82.63 ✓	
1 —		83.78		83.27	
+20	85.08 ~~84.86~~ 85.16	84.48		84.12	
+40		85.40		85.18	
+60	86.13	86.57		86.44 ✓	
+80		87.97		87.92	
2 —		89.62		89.60	
+20		91.50		91.50	
SL Franklin		97.50		97.50	
NL ✓	98.25				98.25
40'N	101.73				101.11
60'N	102.44 ✓				101.74
80'N	102.51				101.59
100'N	101.73				100.67
120'N	99.86				
140'N	98.43				97.25
151.7 N = SL Cuyamaca					96.60
160'N	97.46				
180'N	97.24				

99.39 / 13.07 / 86.32 / 0.59 / 86.91 — W: 97.75 / 1.64 / 2.4 / −0.8; 91.75 / 7.64 / 7.41 / +.23; 89.87 / 9.52 / 10.08 / −.56; 86.82 / .09 / 1.34 / −1.25; 84.73 / 2.18 / 3.37 / −1.19; 83.58 / 3.33 / 3.90 / −.57

E: 97.75 / 1.64 / .32 / +1.3; 91.75 / 7.64 / 6.22 / +1.42; 89.85 / 9.54 / 8.13 / +1.41; 86.69 / .22 / 1.48 / −1.26; 84.37 / 2.54 / 2.74 / −.20; 82.88 / 4.03 / 5.39 / −1.36; 82.63 / 80.5 / 2.13

W: 82.87 / 4.04 / 2.95 / +1.09; 82.25 / 4.66 / 1.20 / +3.46; 81.25 / 5.66 / 5.80 / −.14

E: 81.82 / 5.09 / 8.17 / −3.08; 80.75 / 6.16 / 9.30 / −3.14; 79.75 / 7.16 / 11.40 / −4.24

84.17 / 2.26 / 86.43; 85.19 / 1.24 / 2.98 / 1.74; 85.51 / 0.92 / 2.57 / 1.65; 83.48 / 81.48 / 4.95 / 4.41 / 5.4

101.06 / 8.50 / 109.56 — W: 97.24 / 1.23 / 1.23 / 0.0; ~~97.46~~ / ~~1.21~~; 98.43 / 11.1 / 7.0; 101.73 / 7.8 / 3.0 / +4.8; 102.5 / 7.0 / 2.8 / +4.2; 102.4 / 7.1 / 2.8 / +4.3; 101.7 / 7.7 / 3.6 / +4.2; 98.2 / 11.3 / 3.6 / +4.7

E: 96.60 / 13.60 / 10.8 / +2.2; 100.67 / 8.9 / 4.3 / +4.6; 101.5 / 8.0 / 4.0 / +4.0; 101.7 / 7.8 / 3.3 / +4.5; 101.11 / 8.4 / 3.8 / +4.6; 98.2 / 11.3 / 5.7 / +5.6

101.43 / 10.29 / 111.72 / 12.82 / 98.90 / 16.8 / 100.58 / 11.94 / 88.64 / 0.21 / 88.85; 98 / 2.58; 97.50 / 3.08; 91.50 / 9.08 / 8.29 / +0.79; 89.62 / 10.96 / 0.4 / +0.92; 87.97 / 12.61 / +0.67; 86.54 / 8.28 / 1.66 / +0.62; 84.48 / 4.37; 83.78 / 5.07; 83.33 / 5.52; 82.62 / 6.23

84.90; 84.91 / 2.16; 86.16 / 2.69; 85.98 / 2.1 / 86.13; 98.92 / 7.32 / 106.22; 101.48 / 4.74; 104.19 / 4.03 / 3.47 / −0.56; 102.26 / 3.96; 101.48 / 4.74 / 4.20 / +0.54; 99.61 / 6.61 / 5.97 / +0.64; 98.18 / 8.04 / 7.30 / +0.74; 97.21 / 9.01 / 8.06 / +0.95

96.99 / 9.23 / 8.25 / +0.98

0633	18) 144 108 60 W.L.	0633	486	3) 443 147	487	203.53 40.7
4431						
9643						
9687	8.73					
200' on W				20) 114 10.40	96.43	
201.98 on E = N.L. Cuyamaca	97.73					96.68
220' N	98.97		105.72	8.72	97.57	97.82
250	101.40		85	101.31 10.78	100.0	
280' N	0633 83 1899	103.83		112.09 10.66 101.43 4.17 105.60	102.44	102.69
300' N	5064 52539	10	105.03		103.76	
320'	44 .97	106.67			105.10	~~105.61~~
340' N	633 27 4431 1266 17		107.56		106.27	
360' N		108.77	108.52		107.49	107.74
380' N	9643 97 97.40		109.29			
400' N		110.12	109.87			109.12
420' N			110.28			
440' N		110.75	110.50			109.75
490.88 N		111.05				110.05
541.76' N		111.35			16.30	110.35
593.64' N		111.65				110.65
643.53 N		111.95	704			110.95
694.24 N on E						111.42
686.75 on W		112.47	6.52			
729.97 on W		113.00	5.99			
744.95 on E = 00		114.47		18.99		
50			509 14.26 4.73 -0.36			114.45
100		115.94	15.53 3.46 3.84 -0.38	1670 229 294 -0.66		115.60
146.5 on E						116.75
S.L. Imperial		~~117.40~~	16.70			
			15 1519			270 46 1620 1080 1242
12.75			15.45			

11583 6.12 109.71	999 109.80	969 6.46	741 5 1690 1280	379 115.91 116.50	616	
109.71	109.71 999 119.70 1132 108.38 735 115.73 1288 102.85 051 103.36 230 101.06	W	~~115.25~~ 4.45	~~114.42~~	~~113.58~~	~~112.75~~ ~~112.35~~ ~~111.95~~
		E	~~114.75~~ 4.95	~~113.85~~	~~112.86~~	~~111.88~~ ~~111.42~~ ~~110.95~~
		W	117.40 2.30 2.50 -0.20	116.05 3.6 3.6 -0.6	114.95 4.75 4.5 +0.3	113 67 61 +0.6
		E	116.75 2.95 4.30 -1.4	115.60 4.10 5.0 -0.9	114.45 53 6.6 -1.3	76 72 +0.4
		W	111.95 38 30 +0.80	111.65 4.08 3.08 +1.0 Teddy	111.35 44 41 +0.3	111.05 4.68 4.68 0.0 Teddy
		E	110.95 8.38 -2.6	110.65 51 6.1 -1.0	110.35 54 4.9 +0.5	110.05 57 6.4 -0.7
		W	103.83 + 5 1.5 -2.0	98.97 44 8.5 -4.1		
		E	102.69 131 129 +0.2	97.82 55 112 -5.7	96.68 67 118 -5.1	

11594 3.8 3.6 +2	114.47 52 45 +0.7					
117.40 2.30 2.50 -0.20	116.05 3.6 3.6 -0.6	114.95 4.75 4.5 +0.3	113 67 61 +0.6	112.47 723 643 +0.80		
116.75 2.95 4.30 -1.4	115.60 4.10 5.0 -0.9	114.45 53 6.6 -1.3	76 72 +0.4			
111.95 38 30 +0.80	111.65 4.08 3.08 +1.0 Teddy	111.35 44 41 +0.3	111.05 4.68 4.68 0.0 Teddy	110.75 4.98 3.98 +1.0 Teddy	110.12 561 361 +2.0	108.77 7.00 4.7 +2.3
110.95 8.38 -2.6	110.65 51 6.1 -1.0	110.35 54 4.9 +0.5	110.05 57 6.4 -0.7	109.75 6.0 4.6 +1.4	109.12 661 43 +2.3	107.74 8.0 4.2 +3.8
103.83 + 5 1.5 -2.0	98.97 44 8.5 -4.1					
102.69 131 129 +0.2	97.82 55 112 -5.7	96.68 67 118 -5.1				

111.10 3.70 .25 +0.45	111.40 3.40 +0.68	111.70 3.10 +0.50				
9748 8.74 7.49 +1.28	9872 7.50 6.74 +0.76	10115 5.07 4.63 +0.44	10358 2.64 22 +0.42	10503 9.77 33 +0.44	10642 8.38 22 +0.16	10756 7.24 6.99 +0.25
10852 6.28 .91 0.37	10929 5.51 .03 0.48	10987 4.93 4.33 +0.60	11028 4.52 .02 0.50	11050 4.30 +0.47	11080 4.00 +0.34	

GRADES ON WOOLMAN AVE
OCEAN VIEW

	NL.	SL.
W.L. 40th St	82.25	81.25
50' W	85.18	84.51
100' W	88.11	87.77
150' W	91.03	91.03

GRADES ON ADA AVE

SL Imperial on W	W cb	E cb.
0.0 - - E	124.0	123.5
62.5' S	121.5	120.75
125' S break	119.00	118.00
175' S	117.70	116.70
225' S	116.39	115.39
275' S	115.08	114.08
325' S	113.77	112.77
375' S	112.47	111.47
425' S	111.16	110.16
475' S	109.85	108.85
525' S	108.54	107.54
564.7' S	107.5	106.5

× Tichub 50 Tichub × 15'

W. prop Line × 23.3 ±

E prop Line ×

Spk 37th + Imperial

SE Top Hyd 38th

BP SE 39th

W	124.25	121.75	119.25	117.95	116.64	115.33
E	123.75	121.0	118.25	116.95	116.64	114.33
W	114.02	112.72	111.41	110.10	108.79	107.75
E	113.02	111.72	110.41	109.10	107.79	106.75

9269

9078
191

W	124	123.31	121.16	119	117.7	116.39	115.08
E		123.5	120.75	118	116.7	115.39	114.08
W	113.77	113	111.6	110.5	110.4	110	110
E		111.47	110.16	109.85	109.54	109.06	109.02

GRADES ON FRANKLIN AVE 38th to 39th

	N.L.	S.L.
W.L. 39th	100.75	100.75
50	97.67	97.57
100	94.59	94.38
150	91.51	91.20
200	88.43	88.01
260	84.74	84.18
280	83.59	82.99
300	82.60	81.96
320	81.75	81.08
340	81.06	80.38
360	80.51	79.84
380	80.13	79.47
435	79.28	78.65
490	78.44	77.86
545	77.59	77.05
600 = E.L. 38th	76.75	76.25

10143
464
10607
1253
9354
012
9366
1125
8111
337
8448

N	100.75	97.67 84 114 -3.0	94.59 115 137 -2.2	91.51 215 80 -5.9	88.43 523 99 -4.7	84.74 89 85 +0.4	83.59 101 82 +1.9	82.60 111 82 +2.9
S	100.75	97.57 85 11 +7.4	94.38 117 01 +11.6	91.20 149 125 +2.4	88.01 565 606 -0.4	84.18 94 56 +3.8	82.99 107 73 +3.4	81.96 117.70 73 +4.4
N	~~81.75~~ 119 77 +4.2	81.06 126 57 +6.9	80.51 400 1.7 +2.3	80.13 135 2.7 +5.8	79.28 5.2 4.7 +0.5	78.44 6.04 1.7 +4.3	77.59 69 02 +6.7	76.75
	81.08 34 7.4 -4.0	80.38 4.1 5.5 -1.4	79.84 4.6 10.6 -6.0	79.47 500 7.4 -2.4	78.65 5.8 9.6 -3.8	77.86 6.6 10.6 -4.0	77.05 7.4 11.6 -4.2	76.25 8.2 13.1 -4.9

10149
95
10244
052
.94

10143
95
10238
1241
8947
022
8969

curb stakes

N	100.5 188 207 -0.19	97.42 496 483 +0.13	94.34 804 749	91.26 1112 1096	88.18 151 140	84.49 520 470 +0.50	83.34 635 591 +0.44	82.35 734 691 +0.43	81.50 819 760 +0.59
S	100.5 188 188 -0.0	97.42 97.32 506 4.91 +0.15	94.34 94.13 825 7.83	91.26 90.94 1144 11.19	88.18 87.75 194 1.87	84.49 83.93 546 4.97 +0.23	83.34 ~~82.74~~ 695 603 +0.32	82.35 ~~81.71~~ ~~788~~ 699 +0.35	81.50 ~~80.83~~ ~~856~~ 784 +0.35
N	80.81 888 813 +0.75	80.26 943 855 +0.88	79.88 981 885 +0.96	79.03 1066 1050 +0.16	78.19 1150 1140 +0.10	77.34 1235 1127 +1.08	76.50 1319 1207 +1.12		
S	80.81 ~~80.13~~ 956 868 +0.20	80.26 ~~79.57~~ ~~1010~~ 912 +0.31	~~79.22~~	~~78.42~~	~~77.61~~	~~76.81~~	76.0 1369 1325 +0.44		
			79.88	78.91 1078 1100 -0.22	77.94 1175 1166 +0.09	76.97 1272 1234 +0.38			

12/12/23 Gregory GRADES IN ALLEY
BLOCK 2
Imperial Hghts

W.L. 39th St.		105.01		105.52
40' W.		108.49		108.69
50' W		109.16		109.36
60' W		109.51		109.71
70' W		109.54		109.74
80' W		109.25		109.45
110' W		107.90		108.10
140' W	10664 / 33 / 10632	106.55	10642 / 10632	106.75
160' W	105.96	105.86	73 / 105.63	106.06
180' W	108.0 / 33 / 70767 / 105.68	105.58	105.35	105.78
	105.6	105.50	105.27	105.70
220' W	105.53	105.43	105.20	105.63
260' W		105.29	105.06	105.49
280' W	105.01	104.91	104.70	105.11
300' W		103.89		104.09
320' W	1033	102.26		102.46
340' W		99.98		100.18
380' W		94.81		95.01
420' W		89.65		89.85
465' W		85.52		85.82
510' W		81.40		81.80
555' W		77.28		77.77
600' W = E.L. 38th		73.16		73.75

4)16.49 / 4.12

4)16.10 / 4.02

10143 / 1220 / 11363 / 875 / 10488 / 422 / 109.10

10910 / 1248 / 9662 / 039 / 9701 / 1294 / 8407 TP

8407 / 104 / 8511

N	105.01 / 8.62 / 7.90 / +0.72	10849 / 5.14 / 3.91 / 1.23	10916 / 4.47 / 3.46 / +1.00	10951 / 4.12 / 3.12 / +1.0	10954 / 4.09 / 3.09 / +1.0	10925 / 4.38 / 3.38 / +1.0	10790 / 5.73 / 5.50 / +0.23	10655 / 2.55 / 3.00 / -0.45
S	10552 / 8.11 / 3.73 / 4.38	10869 / 4.94 / 1.94 / +3.00	10936 / 4.27 / 1.77 / +2.50	10971 / 3.92 / 1.92 / +2.00	10974 / 3.89 / 1.89 / +2.00	10945 / 4.18 / 2.90 / +1.28	10810 / 5.53 / 2.53 / +3.00	10675 / 6.88 / 4.10 / 2.78
N	10586 / 3.24 / 5.05 / -1.81	10558 / 3.52 / 5.03 / -1.51	10543 / 3.67 / 4.20 / -0.53	10529 / 3.81 / 4.22 / -0.41	10491 / 4.19 / 4.19 / 0.0	10389 / 5.21 / 4.21 / +1.0	10226 / 6.84 / 5.84 / +1.0	
S	10606 / 7.57 / 4.14 / +3.43	10578 / 7.85 / 5.85 / +2.00	10563 / 3.47 / 1.47 / +2.00	10549 / 3.61 / 1.35 / +2.26	10511 / 3.99 / 1.99 / +2.0	10409 / 5.01 / 4.01 / +1.0	10246 / 6.64 / 5.14 / +1.50	
N	9998 / 9.12 / 8.12 / +1.0	9481 / 2.20 / 2.41 / -0.21	8965 / 7.36 / 7.47 / -0.11	8552 / 11.49 / 11.74 / -0.25	8140 / 3.71 / 2.71 / +1.0	7728 / 7.83 / 5.68 / +2.16	7316 / 11.95 / 6.66 / 5.29	
S	10018 / 8.92 / 8.28 / +0.64	9501 / 2.00 / 2.10 / -0.10	8985 / 7.16 / 7.45 / -0.29	8582 / 11.19 / 10.19 / +1.0	8180 / 3.31 / 2.31 / +1.00	7777 / 7.34 / 6.80 / +0.54	7375	

11110 / 72 / 11038

10632 / 4.06

10563 / 4.73

10535 / 5.03

10529 / 5.11

10520 / 5.18

10506 / 5.32

10/31/23

GRADES ON
OLIVETAS PL.
from S.L. Arenas to
NL Fern Glen

		W.L.				E.L.	
S.L. Arenas	-2.0	56.50	56.25		56.75	57.00	+1.1
50' S	-4.0	57.27	57.02			57.77	-1.4
100' S	-3.6	58.04				58.54	-0.6
150' S	+0.2	58.81				59.31	+2.0
200' S	+0.1	59.58				60.08	+1.2
250' S	+0.2	60.35				60.85	+1.2
300' S	+0.8	61.12				61.62	+2.3
339.5' S = NL Fern Glen	+0.9	61.75	61.5		62.0	62.25	+1.5

G

7186
112
7298
989
6309
467
67.76

92
50

W	56.50	57.27	58.04	58.81	59.58	60.35	61.12	61.75
	11.3	10.5	9.7	8.9	8.2	7.4	6.6	6.0
	13.3	14.5	13.3	8.7	8.1	7.2	5.8	5.1
	-2.0	-4.0	-3.6	+0.2	+0.1	+0.2	+0.8	+0.9
E	57.00	57.77	58.54	59.31	60.08	60.85	61.62	62.25
	10.8	10.0	9.2	8.4	7.6	6.9	6.1	5.5
	9.7	11.4	9.8	6.4	6.4	5.7	3.8	4.0
	+1.1	-1.4	-0.6	+2.0	+1.2	+1.2	+2.3	+1.5

10/31/23

GRADES ON ARENAS ST
from W.L. La Jolla Blvd to W.L. Monte Vista

		N.L.		S.L.	
W.L. La Jolla Blvd		67.95		67.90	
52.5 W	0.0	65.21		65.16	+0.30
105 ✓	-0.5	62.47		62.44	00
157.5 ✓	-0.30	59.74		59.72	+0.6
210 W of E.L. Olivetas		57.0		57.0	

Grades on Monte Vista
from Sea Lane to Fern Glen

	W.L.	E.L.
S.L. Sea Lane	50.25	50.75
50' S	50.04	50.61
100' S	49.83	50.47
150' S	49.62	50.33
200' S	49.41	50.19
250' S	49.20	50.06
300' S	48.99	49.91
359.3' S	48.74	49.75
383.75' S	48.65	
379.3' S		49.35
404.90' S	48.26	
419.65'		47.80
27' 432.4' S	46.75	
460' S	45.21	46.21

6776 | 10.87 / 56.89 | 6764 | 68.2 | 46.09.5 / 2.7 | 1.67 | 2.2 / 5.5 / 2.72 | 300 / 2 | 3123 / 83 | 4.6 / 76.2 / 383.7 | 46 / 100.7 / 359.3

N	6521	6247	5974								
	26	53	80								
	26	58	83								
		-0.5	-0.20								
S	6516	6244	5972								
	26	53	80								
	23	53	74								
	+03		+0.6								

2.75

5060	W	5025	5004	4988	4962	4941	4920	4910	4899	4865	
7.97		8.2	8.5	8.7	9.00	9.2	9.4	95	9.7		
58.57			9.8	9.4	9.7	9.2	10.0	47	33		
10.44			-1.3	-0.7	-0.7	-0.7	-0.6	-0.0	+6.		
48.13											
4.64											
52.77	E	5024 / 7.82	5061	5047	5033	5019	5005	5.0 / 8.6	4991	4988 / 4975	
			7.96	8.1	8.2	8.4	8.5	7.8	8.7		
			5.6	7.7	7.5	7.7	7.5	7.8	7.8		
			+0.4	+0.4	+0.7	+0.7	+1.0	+1.1	+0.9		

	W	4675	4525	4525	4567	4610	4658	4696
			7.5	7.5	7.1	6.8	6.2	5.8
			7.5	15.1	11.3	3.9	2.6	6.9
			-0.3	-7.6	-4.2	+0.3	+3.6	+1.1
	E	4780	4621	4625	4658	4692	4725	4758
		5.0	6.5	6.1	6.2	5.8	5.5	5.2
		4.1	6.1	12.5	4.3	5.8	6.5	2.3
		+0.9	+0.4	-6.0	+1.9	0.0	+5.0	+2.9

S.L.	W	4739 / 5.3 / 10.2 / -4.7	4775 / 5.0 / 4.3 / -0.3
	E	4792 / 4.8 / 1.4 / 5.4	4821 / 4.5 / 2.2 / +2.3

	W.L.	E.L.
S.L. Arenas	4525	4625
50	4567	4658
	4610	4692
	4653	4725
	4696	4758
	4739 / 36	4792
	4775	4825

11/3/23

GRADES ON HOITT ST to K.

SL. 1 ST	104.25			105.75
60' S	100.55			102.05
		99.50	101.0	
100' S	99.25	99.0	100.50	100.75
		99.20	100.70	
140' S	99.75	99.50	101.0	101.25
200' S	102.19			103.50
250	104.22			105.37
300'	106.25			107.25
380	105.25			106.75
430	100.96			101.68
480	96.68			97.22
520	93.85			93.75
580	90.25			90.19
630	87.75			87.28
680 - NLK.	85.25			84.75

7947 SE 29th & K. 12234 Mon

W	85.25	87.75	90.25	93.25	96.68	100.96	105.25
	7.00	450	20	109	7.5	3.2	10.7
	6.6	410	22	104	6.8	6.8	8.9
	+0.40	+0.40	-0.2	+0.5	+0.7	+2.4	+1.8
	84.25	87.22	90.19	93.75	97.22	101.68	106.25
	50	22	22	10.4	6.9	14.3	16.2
	42	23	23	88	38	50	14.4
	+08	-010	-010	+1.6	+3.1	+9.3	13.8
W	106.25	104.22	102.19	99.75	99.25	100.55	
	-1.00	1.1	3.1	55	6.0	91	
	13	8.7	11.7	15.1	12.5	13.9	
	-2.3	-7.6	-8.6	-9.6	-6.5	-4.8	
E	107.25	105.37	103.50	101.25	100.75	102.05	577
	15.2	17.1	21	8.4	89	76	
	35	9.7	34	9.2	11.6	18.3	
	+11.7	+7.4	+2.7	-0.8	-2.7	-5.7	
W	104	1003	9950	9920	995	101.96	
	4.86	8.56	936	9.66	936	692	
		+1.0	1050	+2.0	+2.5	+1.0	
E	1055	1018	101	1005	101	10326	
	336	7.06	786	836	786	561	
			+1.0	+1.0	+1.0		
W	103.97	101		105	10071	9643	9900
	4.89	2.86	336	386	815	1243	380
E	10512	107	936	106	101.43	9697	9350
	3.74	1.86		286	7.43	11.89	330
W	90	8750	850				
	689	930	1190				
E	8994	8699	8400				
	684	983	1290				

7.98
6.1
8.68

8.21

8.45
6.8
9.05

7.58
1.21

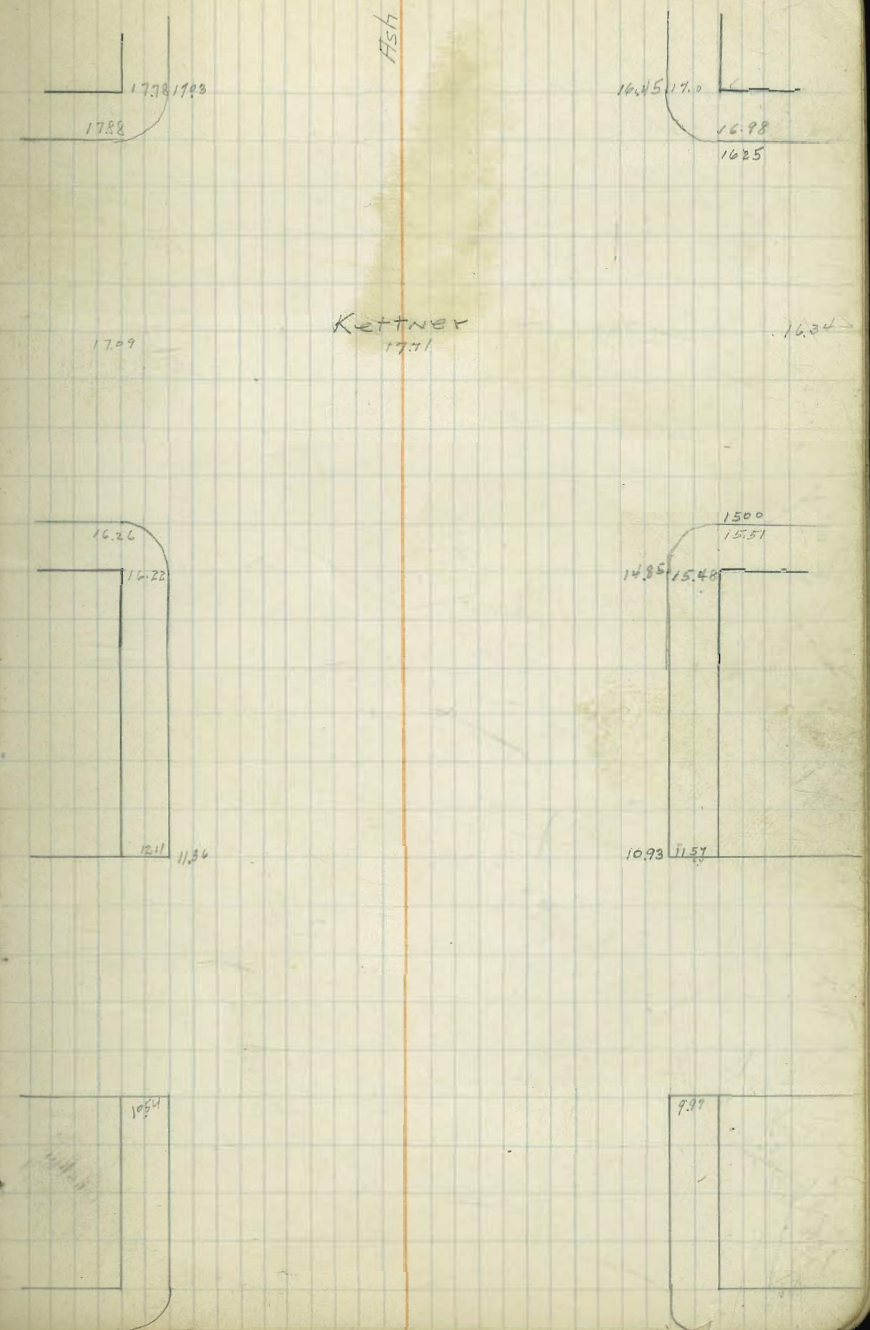
8.79

22.97 sw Ash + India
1.41
24.38
9.73
14.65
2.75
17.40

7.38	7.40	8.87	8.90	8.16	8.12	6.50	6.60
17.00	16.98	15.51	15.48	16.22	16.26	17.88	17.78

8.04	7.67	7.49	17.03	6.47	16.45	16.28	15.00
16.34	17.71	17.09	7.75	.75	7.93	5.13	9.38
				7.22			

5.83
1.57



3897
692
45.69

3840
494
433

ST.

4095 41.25
4180
4125 4110
4177
4140
COL 4100
4053
4011
3940
4000

4081 40.53 4098
4094
4030
4040
4036
4010 ST
3960
3886
3840
3843 3897
3996 3920 3988 3972 3956 3928 3835 3840 3896
49H 12 H
BEECH
1999

NE 1613 1540
1608
1540 1530

1500 1563
1490 1556
1480

SE

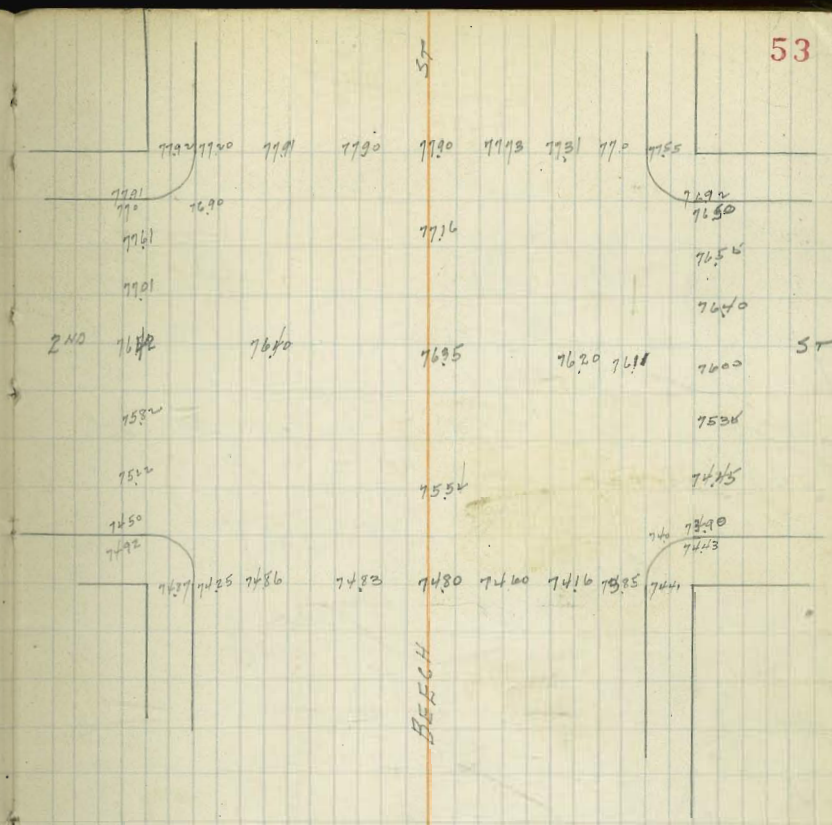
Kettner

1355
1407
NW 1408 1335

1310 1300
1356
1300 1359 SW

74.87 NW: 4 mg
6.50
81.37

74.87
5.24
80.14



GRADES IN ALLEY
BLOCK 1
Lynhurst
Thorn to Upas

		W		E	
S.L. Upas		326.24		32639	
40'S	+1.0	325.66		325.76	+1.0
80'S	+0.38	325.08		325.13	0.0
120'S	+1.0	324.50		324.50	+1.0
160	+1.0	324.09		324.09	+1.0
200	+1.0	323.68		323.69	+1.0
240	+1.0	323.26		323.26	+1.0
280	+1.0	322.85		322.85	+1.0
320	+1.0	322.44		322.44	+1.0
360	+1.0	322.02		322.02	+1.0
400	+1.0	321.60		321.60	+1.0
450	+1.0	321.23		321.23	+1.0
500	+1.0	320.87		320.87	+1.0
550		320.50		320.50	
600					

325.92
512
331.04
734
323.70
409
327.79

480
2624

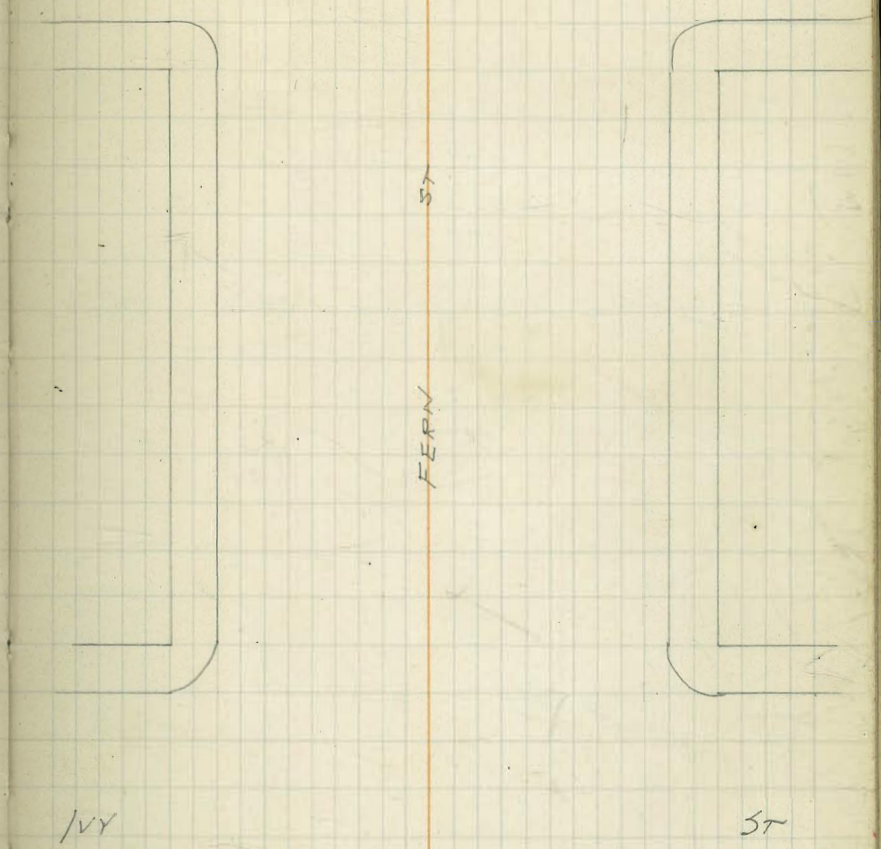
465
2639

W	32566 5.38 4.38 +1.0	32508 5.96 5.58 +0.38	32450 6.54 5.54 +1.0		32368 4.11 3.11 +1.0	32326 4.53
E	32576 5.28 4.28 +1.0	32513 5.91 5.87 00	32450 6.54 5.54 +1.0	32409 6.94 5.94 +1.00	32368 7.36 6.36 +1.0	32326 4.53 4.53 +1.0
W	32285 4.94 3.94 +1.0	32244 5.35 4.35 +1.0	32202 5.77 4.77 +1.0	321.60 6.19 5.19 +1.0	321.23 6.56 5.56 +1.0	320.87 6.92 5.92 +1.0
E	4.94 3.94 +1.0	5.35 4.35 +1.0	32202 5.77 4.77 +1.0	321.60 6.19 5.19 +1.0	321.23 6.56 5.56 +1.0	320.87 6.92 5.92 +1.0

320.50
7.29
6.29
+1.0

320.50
7.29
6.29
+1.0

	1.0 ✓	119.38		118.34	SE BP 39th + Imp.
WL 39th			1.38	118.0 ✓	
					118
					113
					10 ✓
200 W			6.13	113.25	95.5
TP	2.03	108.42	1.97	106.41	
400 W		6.24		102.16	
EL 38th	C 0.05		400 E	−0.23	
50 E	C 0.08		410	−0.31	
100	C 0.14		450	C 0.15	
150	C 0.03		500	C 0.53	
190	C 0.28		550	C 0.27	
200	C 0.30				
210	C 0.29				
250	−0.08				
300	+0.03				
350	+0.31				
390	−0.1 ✓				

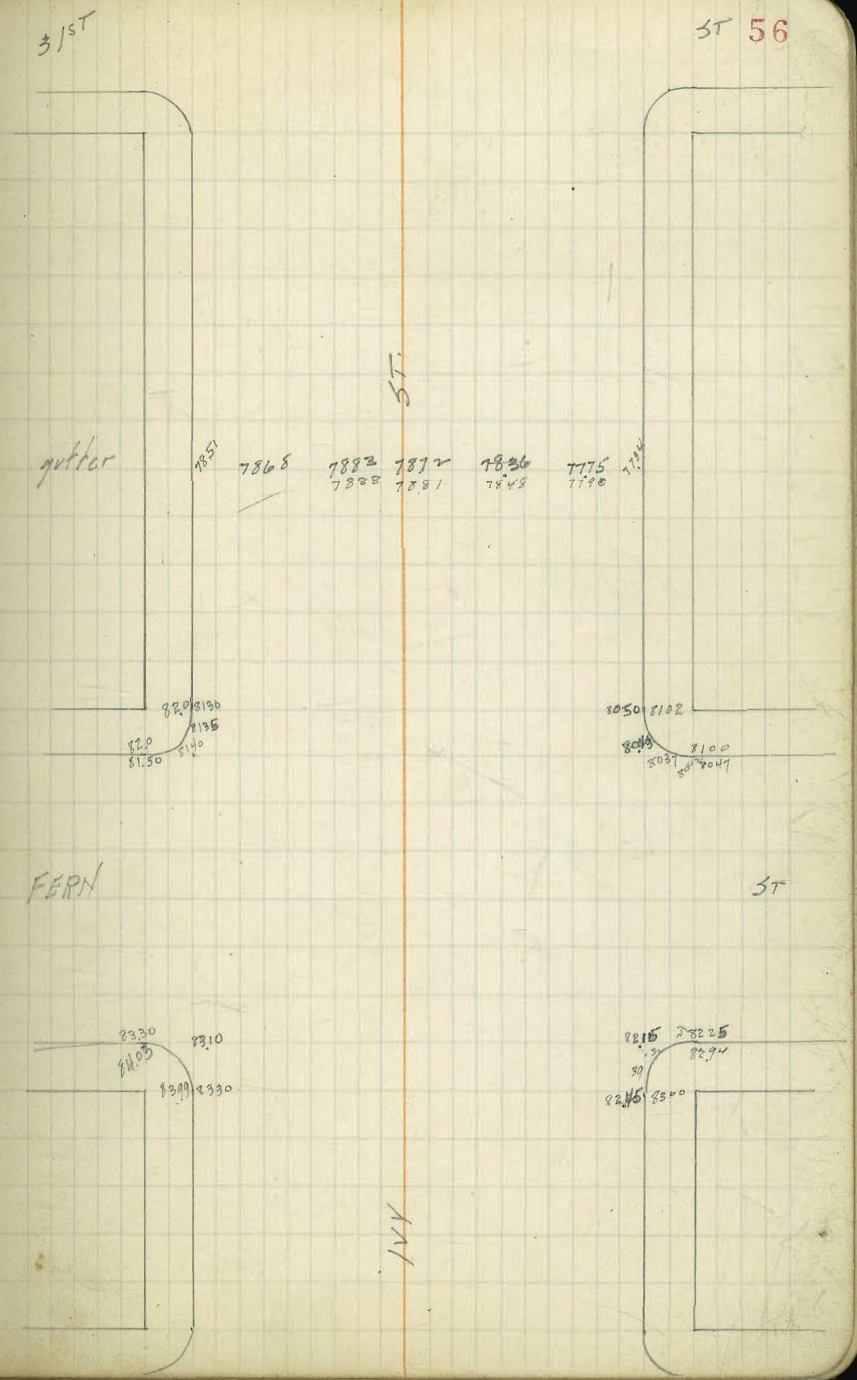


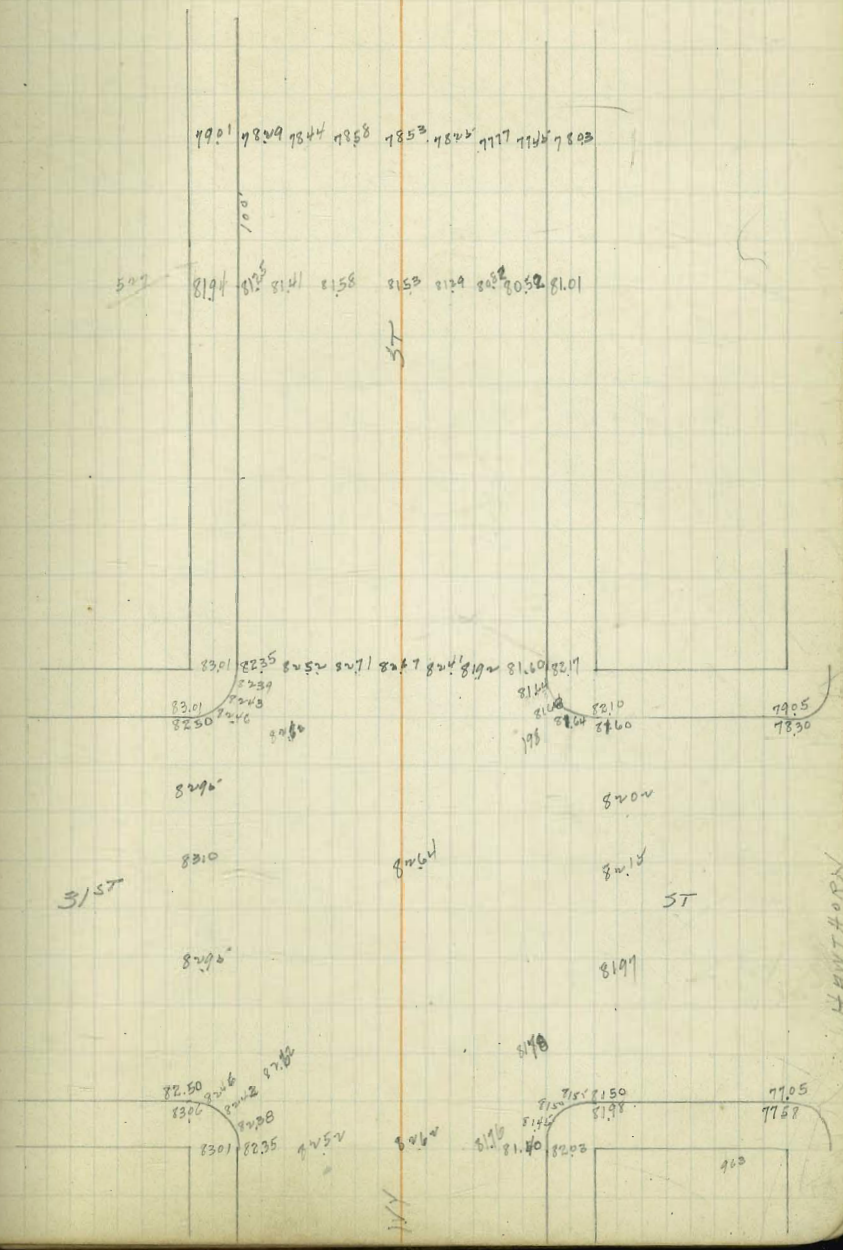
284.01
3.47
287.48

Grades on Imperial
39th to Ada St

	Grades raked	
WL Ada	-0.06	
50 W	-0.02	
100	+0.20	
+35.3 EL Alley	+0.50	alley Return +0.56
+56.3 WL "	+0.04	" " +0.33
+91.6	-0.09	
2+41.6	-0.15	
+91.6 EL 39th		

.05
43 | 2.15
2.15




79.01 78.29 78.44 78.58 78.53 78.25 77.77 77.45 78.03
100'
5ST
81.94 81.75 81.41 81.58 81.53 81.29 80.88 80.52 81.01
83.01 82.35 82.52 82.71 82.87 82.48 81.60 82.17
83.01 82.50
82.50 82.06
82.35
81.60 82.03
81.50 81.98
81.40
77.05 77.68
77.05 78.30
195
8210 8260
8310
8310
8200
8197
8197
3/5ST
5T
HAWTHORN

12/21/23 GRADES ON LAMONT ST

S. L. Grand		48.25		48.25
45' S		46.76		
90' S	break	45.28		45.28
135' S	break	44.20		44.20
180' S		43.39		
225' S		42.57		
NL Thomas 270' S		41.75		41.75
℄		41.25		
SL Thomas		40.75		40.75
45' S		40.58		40.58
90		40.42		40.42
135' S		40.25		40.25
180' S		40.08		40.08
225' S		39.92		39.92
NL Reed 270' S		39.80	Gutter.	39.60
℄		40.0		40.0
SL Reed		40.25		40.25
52.5' S				40.75
105' S	break	41.25		41.25
146.25				40.94
187.50				40.63
228.75				40.31
NL Oliver 270' S		40.00		40.00
℄				
SL Oliver		39.50		39.50

Changed to get Drainage across Oliver

5037
112
5149
1040
4109
385
4494

6/100
16

4/16.5
41.25

W	4825 / 324 / 272 / +0.52	4676 / 473 / 512 / -0.39	4528 / 621 / 641 / -0.20	4420 / 729 / 735 / -0.06	4339 / 810 / 775 / +0.35	4257 / 892 / 885 / +0.07	4175 / 974 / 885 / +0.89	
E	440 / 324 / -1.16	567 / 473 / -0.94	671 / 621 / -0.50	778 / 729 / -0.49	810 / 795 / +0.15	968 / 892 / -0.76	1040 / 974 / -0.66	
W	4125 / 369 / 304 / +0.65	4075 / 419 / 365 / +0.54	4058 / 436 / 424 / +0.12	4042 / 452 / 430 / +0.22	4025 / 469 / 452 / +0.17	4008 / 436 / 410 / +0.76	3992 / 502 / 425 / +0.77	3980 / 514 / 414 / +1.0
E	369 / 385 / -0.16	468 / 419 / -0.49	546 / 436 / -1.10	547 / 452 / -0.95	559 / 469 / -0.90	596 / 486 / -1.10	606 / 502 / -1.04	396 / 534 / 564 / -0.30
W	4000 / 494 / 410 / +0.84	4025 / 469 / 424 / +0.45	4075 / 419 / 409 / +0.10	4125 / 369 / 418 / -0.49	4094 / 400 / 448 / -0.48	4063 / 431 / 467 / -0.36	4031 / 463 / 463 / 0.0	4000 / 494 / 483 / +0.11	3975 / 519 / 504 / +0.15
E	494 / 482 / +0.12	469 / 469 / 00	485 / 419 / -0.66	414 / 369 / -0.45	477 / 400 / -0.77	486 / 431 / -0.55	513 / 463 / -0.50	508 / 494 / -0.14	519 / 506 / +0.13

50'S	3857		
100'S	3764		
150'S	3671		
NL Pacific 200'S	35.78		
250'S	34.85		34.85
d			
SL Pacific	33.65		33.65
45.57'S	32.37		
91.14'S	31.09		
136.71'S	29.81		
182.28'S	28.52		
227.85'S	27.24		
273.42'S	25.95		
318.98'S = PC.	24.67		24.67
#1	2446		
#2	2426		
#3 E.C.	24.06		24.06
PC.	23.74		23.74
#1	2353		
#2	2333		
#3 E.C.	23.13		23.13
44.21'S	22.41		
88.42	21.69		
132.63	2097		
NL Sunset 176.85'S	20.25		
d	2000		

2708

W	2467 2.41 2.33 +0.08	2446 2.62 2.52 0.10	2426 2.82 2.47 +0.31	2406 3.02 2.64 +0.38	2374 3.34 2.93 +0.41	2353 3.55 2.80 +0.75	2333 3.75 2.61 +1.14	2313 3.95 3.08 +0.87
E	2.41 2.37 +0.04	2.88 2.62 -0.26	3.48 2.82 -0.66	3.02 3.55 -0.53	3.34 3.14 +0.20	3.55 3.40 +0.15	3.75 3.55 +0.20	3.95 3.71 +0.24
W	2241 4.67 3.93 +0.74	2169 5.39 3.85 +1.54	2097 6.11 4.80 +1.31	2025 6.83 5.79 +1.04	2000 7.08 6.14 +0.94			
E	4.67 4.28 +0.39	5.39 4.99 +0.40	6.11 5.47 +0.64	6.83 5.93 +0.90	7.08 6.58 +0.50			
W	2595 1.13 1.40 -0.27	2724 9.38 10.15 -0.77	2852 8.10 8.80 -0.70	2981 6.81 7.33 -0.52	3109 5.53 5.86 -0.33	3237 4.25 4.74 -0.49	3365 2.97 3.63 -0.66	3485 1.77 2.00 0.23
E	2.58 1.13 -1.45	10.64 9.38 -1.26	9.45 8.10 -1.35	8.12 6.81 -1.31	6.95 5.53 -1.42	5.43 4.25 -1.18	4.15 2.97 -1.18	2.57 1.77 -0.80
W	3578 6.68 6.75 -0.12	3671 5.70 5.31 +0.39	3764 4.77 4.22 +0.55	3857 3.84 3.06 -0.78	3950 2.91 2.91 0.0			
E	6.75 6.63 -0.12	5.70 5.58 +0.12	4.77 4.47 +0.30	3.84 3.49 +0.35	3.17 2.91 -0.26			

114
25.94
10.68
36.62
2.00
34.62
7.79
42.41

St. Sunset	19.75		
50' S	19.87		
100' S	20.0		
150' S	20.12		
200' S	20.25		
250' S	20.37		
300' S	20.50		
350' S	20.62		
400' S	20.75		
450' S	20.87		
500' S	21.0		
550' S	21.12		
St. Roosevelt 600' S	21.25		
"	21.50		
St. Roosevelt	21.75		
44.66' S	20.60		
89.32	19.95		
133.98	19.30		
178.64	18.65		
223.30 = PC	18.00		18.00
#1	17.87		17.80
#2	17.74		17.60
#3	17.60	Gutter	17.40
#4	17.74		17.60
#5	17.87		17.80
#6 = EC	18.00		18.00

2669

W	1800	1787	1774	1760	1774	1787	1800
	869	882	895	909	895	882	869
	817	830	821	806	793	786	771
	+052	+052	+070	+1.05	+1.02	+096	+092
E	1800	1780	1760	1740	1760	1780	869
	869	889	909	929	909	889	793
	890	889	900	893	858	831	076
	-021	00		+036	+051	+054	

1876 1892
926 909
27.02 27.01

W	1865	1930		2060			
	836	772	614	642	577	531	449
	744	684	+093	571	520	+017	+128
	+092	+088		+071	+050		
E	1865	1930	1995	642	2125	2150	2125
	836	772	707	583	577	552	577
	767	691	643	559	557	516	465
	+069	+077	+064	+059	+020	+036	+109

27.02 W2

W	2117	2110	2087	2075	2062	2050	2037
	590	602	615	627	640	652	665
	543	477	433	475	506	610	450
	+147	+166	+193	+1.52	+1.34	+0.42	+0.15
E	590	424	2087	2075	640	652	665
	447	448	615	627	716	520	610
	+143	+150	463	430	+1.52	+1.11	+0.71
			+1.65	+1.97			

743
1.350
2.35
2.094
1.65
2.07

W	2075	2012	200	1987	1975
	677	696	708	721	733
	690	746	478	762	700
	-069	-050	-070	-041	+033
E	677	696	781	745	733
	743	746	708	741	708
	-056	-0.94	-073	-0.44	+025

501
267
27.08

	W	E
49.15 S	18.41	
98.30 = P.C.	18.82	
#1	18.97	
#2	19.13	
#3	19.28	
#4	19.44	
#5	19.59	
#6 E.C.	19.75	
47.05	20.00	
94.10	20.25	
141.15	20.38	
188.20	21.51	
235.25 S = P.C.	22.14	
△ 32°30' R=100 #1	22.33	
#2	22.52	
#3	22.71	
#4 E.C.	22.90	
43.83 S	23.27	
87.66	23.63	
131.49 = End	24.00	

20.08
6.61
26.69

W	24.00 2.69 2.05 +0.64	2363 306 271 +0.35	2327 342 350 -0.08	2290 379 388 -0.09	2280 389 363 +0.26 +0.35	2270 399 363 +0.36 +0.54	2260 409 [illegible] [illegible] 0.41
E	24.00 269 273 -0.04	306 298 +0.08	342 380 -0.38	379 445 -0.66	389 465 -0.76 0.67	399 483 -0.84 -0.66	409 484 -0.75 -0.48
W	2254 419 420 +0.36	2191 478 486 -0.08 +0.32	2133 536 566 -0.30 +0.15	2625 644 60	2005 669 628 +0.41	1975 694 690 +0.04	1959 710 717 -0.07
E	419 [illegible] -0.76 -0.40	478 592 -0.14 -0.74	534 600 -0.64 -0.19	644 655 -0.11	669 707 -0.38	694 730 -0.36	710 -0.10
W	1944 725 734 -0.09	1928 741 717 +0.24	1912 756 713 +0.46	1897 772 733 +0.39	1882 787 725 +0.62	1841 828 777 +0.51	
E	730 -0.05	744 741 -0.03	756 770 -0.14	772 775 -0.03	787 782 +0.05	828 837 -0.09	

Grades on 40th St
Woolman to Imperial

S.L. Imperial	-0.26	00	118.0	118.30	-0.41	+0.13
50' S. on E.				117.29	-0.33	
52.1 ✓ ✓ W	-0.03		117.16			
100 ✓ ✓ E				116.29	0.0	
104.2 ✓ ✓ W = Alley	+0.53	+0.30	116.32			
125.2 ✓ ✓ ✓ = ✓	+0.54	+0.11	115.98			
147.2 ✓ ✓ ✓	+0.12		115.62			
150 ✓ ✓ E				115.28	+0.16	
197.2 ✓ ✓ W	+0.24		114.81			
200 ✓ ✓ E				114.28	+0.32	
239 ✓ ✓ E = N.L. Horning				113.5	+0.16	
247.2 ✓ ✓ W = N.L. Superba	+0.26	+0.26	114.0			
S.L. Horning	+0.39			113.10	+0.51	
S.L. Superba		+0.27	113.75	113.[illegible]	+0.61	
53' S. on E				111.40 / 4.98	+0.51	
50 ✓ ✓ W	+0.30		112.01 / 4.37			
106 ✓ ✓ E				109.80 / 6.58	+0.48	
100 ✓ ✓ W	+0.32		110.26 / 6.12			
122 ✓ ✓ ✓ = Alley	+0.21	+0.34	109.49 / 6.89			
159 ✓ ✓ E			~~108.76~~	108.20 / 8.18	+0.12	
143 ✓ ✓ W = Alley	-0.04	+35	108.76 / 7.62			
165 ✓ ✓ W	+0.18		107.99 / 8.39			
212' ✓ ✓ E				106.60 / 9.78	+0.07	
215' ✓ ✓ W	+0.27		106.24 / 10.14			
265' ✓ = N.L. Superior	+0.11	+0.17	104.50 / 11.88	105.0 / 11.38	+0.24	

121.89
645
115.44
0.94
116.38

338
277
061

115.41 6.00 5.58
5.92

~~115.51~~ 5.92

115.41 10.41 8.81 7.21

10.91 9.17

St. Superior	+0.23	+0.10	104.0 / 5.20	104.5 / 4.70	+0.12
43.33 S on E				103.97 / 5.23	+0.13
50' " " W		+0.25	103.36 / 5.84		
91.67 " " E				103.37 / 5.83	+0.38
100 " " W		+0.37	102.73 / 6.47		
122 " " = Alley	+0.15	+0.26	102.44 / 6.76		
140 " " E				102.78 / 6.42	+0.32
148 " " W = Alley	+0.03	+0.32	102.11 / 7.09		
175 " " "		+0.24	101.77 / 7.43		
188.33 " " E				102.19 / 7.01	+0.12
225 " " W		+0.34	101.14 / 8.06		
236.67 " " E				101.59 / 7.61	+0.23
275 " " W = Franklin	-0.27	+0.04	100.5 / 8.70		
285 " " E = "				101.0 / 8.20	792 +0.30 / 781 +0.35

7.5 N. of true St. Franklin on W.

St. " " E	
50' " " W	
50' " " E	
100 " " W	
100 " " E	
179.5 " " E = alley	
137 " " W = "	
158 " " " = "	
187.5 " "	
237.5 " " "	
287.5 " " " = Woolman	

11638
1187
10451

101.31
789
10920
457
10463
1086
11549

12/31/23

GRADES ON HILLSIDE DRIVE

		WL	EL	
NL Torrey Paving				
NL Torrey Road	-9.6	93.25	93.75	-0.90
50' N	-3.3	89.75		~~+1.1~~ +1.6
100' N.	+0.80	86.25		~~+1.8~~
128.73 N.	+2.80	84.25	84.25	+2.6
166.83 N. on W	+1.00	83.75		
	-0.30	83.25		

98.74
1.234
86.40
.058
86.98
1.269
74.29
.141
75.70

Ret. @ Torrey: 96.64 / 2.10 / 1.98 / +0.12

WL Torrey: 93.0 / 5.74 / 5.68 / +0.06

89.50 / 9.24 / 8.95 / +0.29

86 / 12.74 / 12.34 / .04

84.50 / 2.98 / +0.41

84.14 / 2.84

83.50

83.36 / 3.62 / .29 / .33

83.18 / 3.80

83.0 / 3.98 / 3.85 / .13

83.64 / 3.34

68.08 / 7.62 / 7.34 / +0.28

69.0 / 6.70 / .31 / +0.39

69.66 / 6.04 / 5.71 / +0.33

70.32 / 5.38 / 5.15 / +0.23

70.98 / 4.72 / 4.55 / +0.17

71.64 / 4.06 / 3.76 / 0.30

72.32 / 3.38 / 3.10 / +0.28

98.64
1.09
99.73
12.70
87.03
4.17
91.20

94.25 / 5.48 / 6.34 / -0.86

89.79 / 9.94 / 7.90 / +2.04

85.33 / 14.40 / 11.35 / +3.05

91.20 / 82.75 / 8.45 / 8.84 / +3.61

8.45 / 8.27 / -0.18

8.25 / 8.7

83.25 / 7.85 / 6.45 / +1.50

83.75 / 7.45 / 4.15 / +3.30

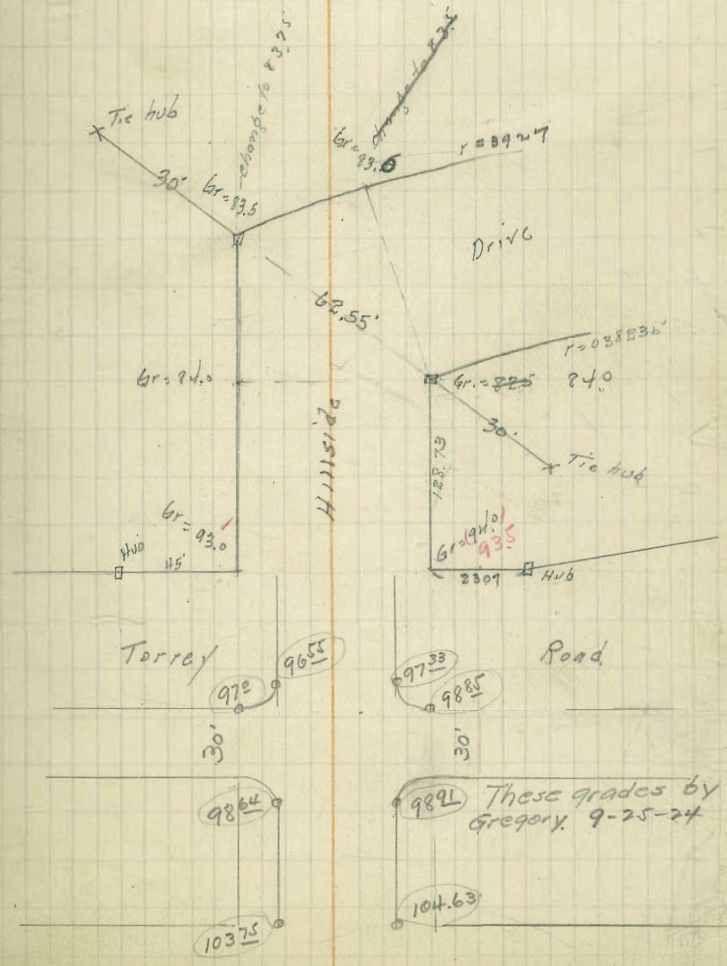
84.25 / 6.95 / 4.10 / +2.85

86.25 / 4.95 / 5.25 / -0.30

89.25 / 1.95 / 5.25 / 3.3

83.25 / 8.0

93.25 / 1.2 / 2.0



These grades by Gregory. 9-25-24

1/3/24

GRADES ON ELM ST.

	N.cb	
W.L. Bancroft	226.5	225.0
50' W	225.75	225.25
100' W	225.0	223.5
150' W	224.25	222.75
200' W = EL 32nd	223.5	222.0
W.L. 32nd	222.0	219.50 NW
53' W	221.6	219.20
106' W	221.2	218.90
159' W	220.8	218.60
212' W	220.4	218.3
265' W = EL Edgemont	220.	218.0
W.L. Edgemont	220.0	218.0
40' W	221.0	219.0
90' ✓	222.25	220.25
140' ✓	223.50	221.50
190' ✓	224.75	222.75
240' ✓ = EL 31st	226.0	224.0
W.L. 31st	227.0	225.0
62.25' W = E. Bridge		
EL. Grove	230.0	228.0
W.L. ✓ on N	233.0	
13.84 W = W.L. ✓ ✓ S	233.82	231.0
51.98 W ✓ ✓ ✓ ✓	236.87	234.25
103.96 ✓ ✓ ✓ ✓ ✓	239.91	237.50
155.94 ✓ ✓ ✓ ✓	242.95	240.75

~~268.06~~ 267.53
1301
276.96 254.52
263 45
279.59 254.97
1283 1279
266.76 24218
77 008
267.53 24226
1277
239.49
660
236.09
1238
22274 223.71
401 177
22675 225.48
032 274
22643 on
S.E. 31st

530
220.18 B.P. S.E. 32nd

238.14 BM nail in garage NW Grove.

N 224.25 225 225.75 226.5
11.84 1109 1034 9.59
26 176 21 2.99
+9.2 +9.3 +8.2 +6.60

S 222.75 223.5 224.25 225.0
2.73 2.0 1.84 11.09
4.73 3.3 1.274 11.39
-2.0 -1.3 -0.90 -0.30

N 221.60 221.2 220.8 220.4 220
3.88 43 4.7 635 675
3.88 7.2 0.6 645 505
0.0 -3.1 +4.1 +5.9 +1.7

CUT 4' on N/S State Cor.
Fill 0.10 ✓ S ✓ ✓

S 219.20 218.90 218.6 218.30 218
6.28 6.6 6.9 7.2 8.75
1268 128 77 8.3 945
-6.4 -62 -0.8 -1.1 -0.70

N 220.0 221
6.75 575
545 445
+1.3 +1.30

223.5 224.75
325 2.00
1375
-10.5

S 218.0 219 221.5 222.75 224
876 775 525 400 275
945 84 975 360 021
-0.70 -0.7 -4.5 +0.40 +2.50

248.73 N 234.05 233.91 236.87 233.82 233.0
58 8.8 11.9 149.1 1.573
558 30 31 1.99 126
00 +5.8 +8.8 +5.0 +3.1

S 237.50 234.25 231
11.2 145 1773
1125 99 978
-1.3 +4.6 +8.00

220.18
640
226.58
688
219.70
679
225.79

220.18
865
228.83

NW 6.58 218 8.58

	N cb	S cb
207.93' W. EL Fern	246.0	244.0
W.L. Fern	248.0	246.0
160' E.	253.04	251.40
140' E	254.48	252.93
120' E	255.43	253.91
100' E	256.34	255.09
80' E	256.90	255.55
60' E	257.42	256.05
40' E	257.44	256.32
20' E (OUT)		
E.L 30th	257.0	256.0

24698 BPNE Dale

10.54
257.52
0.63
256.89
.458
26147
1295
24852
021
248.73

61.7 | 5400
4936
464

61.2 | 5040
4596
1440

.087 <

410
278
27.5

617 | 5400
4936
4640
4519
3210

463
431

66

N	25744	25690	25543	25204		
	40	457	600	8.4		146
	1.3	12	1.5	2.6		248
	+2.7	+3.2	+4.5	+5.8		981
						51
S	25632	25555	25391	25140		
	51.5	592	7.6	10.1		
	39	292	38	46		
	+1.2	+3.00	+3.8	+5.5		

24698 N	257.44	25740	25690	5634	5543	5443	5304	5072	4941
1197	151	1.55	180	236	327	422	5.66	798	1209
25895	183	170	190	265	340	416	563	705	1013
303	-002	-015	-010	-029	-013	006	-003	00	+011
25592									
278									
258.70 S	25632	25605	5555	5509	5391	5293	5140	4892	4644
	263	290	315	361	479	577	730	978	1226
	281	323	329	417	492	615	412	958	1203
	-018	-013	014	-056	+013	-038	018	030	023

GRADES ON
31st ST

	W c/l	E c/l	
S.L. Grade on E	267.0	267.50	
" " " W	267.0	267.30	
50' on " " "	266.40	266.64	
100' S	265.80	265.98	
150' S	265.20	265.32	
200' "	264.60	264.66	
250' "	264.0	264.0	
300' "	263.0	262.5	
350' "	262.0	261.0	
410' "	259.0	258.0	
440' "	256.48	255.70	
490' "	250.60	250.18	
540' "	244.77	244.67	
590' "	238.84	239.16	+2.61
640' "	232.96	233.65	
690.68' = NL Elmon W	227.0		
709.36' " " " E		226.0	
S.L. Elmon W	225.0		
" " " E	223.06	224.0	
50' S " " "	217.89	218.67	
100' "	212.71	213.33	
150' "	207.54	208.00	
200' "	202.36	202.67	
250' "	197.18	197.33	−9.7
300' "	192.0	192.0	−11.9
320' "	190.07	190.12	−8.9

268.55
0.89
269.44

E 267.50 / 1.94 / 0.34 / +1.6 — 267.30 / 2.14 — 266.64 / 2.80 / 1.9 / +0.90 — 265.98 / 3.46 / 3.46 / 00 — 265.32 / 4.12 / 4.72 / −0.60 — 264.66 / 4.78 / 5.00 / −0.20 — 264.0 / 5.44 / 5.0 / +0.4

W 267 / 2.44 — 266.40 / 3.04 / 0.04 / +3.0 — 265.80 / 3.64 / 1.7 / +1.9 — 265.20 / 4.24 / 2.4 / +2.0 — 264.60 / 4.84 / 2.84 / +2.0 — 264.0 / 5.44 / 3.44 / +2.0

E 262.5 / 6.94 / 6.0 / +0.9 — 261 / 8.44 / 7.4 / +1.0 — 258.0 / 11.44 / 10.3 / +1.1 — 255.70 / 13.7 / 11.9 / +1.8 — 250.18 / 6.51 / 3.1 / +3.4 — 244.67 / 12.02 / 9.12 / +2.92 — +2.6

W 263 / 6.44 / 4.44 / +2.0 — 262 / 7.44 / 6.8 / +0.6 — 259.0 / 10.44 / 9.4 / +1.0 — 256.48 / 13.00 / 11.1 / +1.9 — 250.60 / 6.09 / 2.0 / +4.09 — 244.77 / 11.97 / 6.5 / +5.17 — 238.84 / 17.85 / 12.16 / +5.70

269.44 / 12.75 / 256.69 / 0.00 / 256.69 / 12.25 / 244.54

E 233.65 / 7.4 / 4.6 / +2.8 — 226.0 / 15.05 / 9.60 / +5.45 — 224.0

1182 / 235.73 — 3/76 / 382

24106 / 1271 / 22834 / 017 / 228.51 / 12.93 / 215.58 / 0.29 / 215.29 / 12.29 / 203.00

W 232.96 / 8.1 / 11 / +7.0 — 227.8 / 14.05 / +9.00 — 227 / 16.05 / 10.90 / +5.1

E 218.69 / 9.8 / 5.3 / +4.5 — 213.33 / 15.2 / 9.5 / +4.7 — 208.0 / 7.79 / 13 / +6.5 — 207.67 / 13.1 / 11.0 / +2.1 — 197.33 / 5.9 / 6.5 / −0.6 — 192 / 11.12

W 217.89 / 10.6 / 5.3 / +5.3 — 212.71 / 15.8 / 13.3 / +2.5 — 207.54 / 8.2 / 9.1 / −0.9 — 207.36 / 0.8 / 6.3 / −5.5 — 197 / 5.97 / 6.37 / −0.46

805 / 2305

5.0 x Elm.

2381 / 0.43 / 238.57 / 1.77 / 236.80 / 2.15 — W 227 / 11.57 / 11.54 / 0.0 — 225 / 7.95 / 7.84 / −0.11 — 217.89 / 1.59 / 1.88 / +0.28 — 217.71 / 2.53 / 2.32 / +0.21 — 207.54 / 7.70 / 7.46 / +0.24 — 207.36 / 1.88 / 1.74 / +0.14 — 197.18 / 5.45 / 5.37 / +0.08 — 192 / 10.63 / 10.57 / +0.06

E 227.5 / 1.65 / 1.54 / 0.11 — 227 / 1.77 / 1.77 / +0.0 — 225 / 3.95 / 4.04 / −0.09 — 217.89 / 9.28 / 8.63 / +0.65 — 217.33 / 1.91 / 1.47 / +0.47 — 207 / 7.16 / 7.08 / +0.08 — 207.67 / 1.25 / 1.29 / −0.02 — 197.33 / 5.30 / 5.35 / −0.05 — 192 / 10.63 / 10.81 / −0.18

N.O.X. Elm.

2152 / 2.74 / 202.50 / 0.13 / 202.63 / 1.54 / 199.09 / 3.79 / 195.38

W 199.09 / 1.56 / 1.27 / +0.29 — 232.96 / 2.75 / 3.28 / −0.47 — 232.8 / 8.95 / 9.17 / −0.22 — 224.72 / 3.07 / 2.86 / +0.22 — 220.60 / 9.84 / 10.16 / −0.32 — 256.48 / 3.96 / 4.30 / −0.34 — 259.0 / 1.44 / 1.75 / −0.31 — 262.0 / 6.80 / 7.26 / −0.45 — 263.0 / 5.80 / 5.89 / −0.09

2305 / 5.37 / 2304 / 0.14 / 2303.61 / 26030 / 23523 / 1.56 / 24779 / 0.08 / 24779 / 1.07 / 23712 — E 199.18 / 1.21 / 1.54 / −0.03 — 232.96 / 2.09 / 2.30 / −0.21 — 232.8 / 8.63 / 8.82 / −0.19 — 224.67 / 3.12 / 3.09 / +0.03 — 220.18 / 10.26 / 00 — 255.70 / 4.74 / 5.40 / −0.66 — 258.0 / 2.44 / 2.83 / −0.39 — 261.0 / 7.80 / 8.26 / −0.46 — 262.5 / 6.63 / 6.66 / −0.03

W 264.0 / 1.00 / 4.82 / +0.34 — 264.60 / 4.20 / 4.46 / −0.26 — 265.20 / 3.60 / 3.57 / +0.03 — 265.20 / 3.00 / 1.82 / +1.18 — 264.6 / 2.40 / 2.59 / −0.19 — 267.0 / 1.80 / 2.15 / −0.35

E 264.0 / 4.80 / −0.43 — 265.20 / 4.14 / 3.93 / +0.21 — 265.32 / 3.48 / 3.71 / −0.23 — 265.45 / 2.85 / 3.18 / −0.33 — 266.64 / 2.16 / 1.83 / +0.33 — 267.50 / 1.30 / 1.38 / −0.08

	W cb		E cb	
340' S	188.70		188.79	− 3.4
360' ✓	187.87		187.98	
380' ✓	187.58	− 0.2	187.70	−10.8
400' ✓	187.85		187.95	
420' ✓	188.66	C 3.4	188.73	−12.2
440' ✓	190.03		190.03	
460' ✓	191.94	C 12.22	191.87	− 8.1
510' ✓	196.95	C 10.0	196.89	−11.9
560' ✓	201.96	C 6.96	201.92	− 10.9
610' ✓	206.97	C 6.0	206.94	− 12.7
660' ✓	211.98	C 5.0	211.97	−11.8
690.3' ✓ = N.L. Cedar	216.0		215.0	

S.W. Grove & Cedar

225.47
.83
226.30
10.53
215.77
1.87
217.64
12.92
204.72
.04
204.76
12.74
192.02
−.02
192.00
−12.95 +0.32
179.05

18.73

225.47 E 215.0 211.97 206.94 201.92 196.89 191.87
1.89 5.03 10.06 2.71 7.74 12.76
227.36
11.77
215.59
1.41
217.00
12.86
204.15
0.48
204.63
12.99
191.64
.329
194.93
4.90

216 211.98 206.97 201.96 196.95 191.94
1.00 5.02 10.03 2.69 7.68 12.69

E 18873 18795 18770
6.20 1.98 7.23

W 19003 18866 18785 18758
4.90 6.27 3.75 7.08 7.35
3.50

W 216.0 211.98 200.97 201.96 196.95 191.94
1.64 5.66 10.67 15.68 20.69 12.82
0.66 4.67 8.72 10.69 9.60
+5.0 +6.0 +6.96 +10.0 +12.22

E 215.0 211.97 206.94 201.92 196.89 191.87
2.64 7.21 2.18 2.84 4.89 .13
4.6 10.50 13.7 7.0 8.2
−11.81 −12.68 −10.86 −11.89 −8.1

W 188.66 187.58 190.07 192.00 197.18
16.10 4.42 1.93 0.0 5.18
12.70 4.6 10.80 11.9 4.5
+3.4 −0.22 −8.87 −11.9 −9.7

192.0
0.00
−1.8

188.79
3.27
7.6
−3.41

Sidewalk Stakes

193.88 W 18870 187.87 18758 187.71
5.18 6.01 6.30 6.17
4.79 5.82 6.23 6.19
+0.39 +0.19 +0.07 −0.02

set 6' trunc

E 188.79 18798 18770 18782
5.09 5.90 6.18 6.06
5.22 6.21 6.37 6.27
−0.13 −0.31 −0.19 −0.21

1/11/24

Grades in Alley
BLK 7 Hillcrest

PL Wash.	288.20 (288.02 -?)	288.30
50' S	287.02	
100' S	287.82	
150' S	287.66	
200' S	287.49	
250' S	287.31	
300' S	287.13	
350' S	286.95	
400' S	286.78	
450' S	286.60	
500' S	286.42	
530' S	286.31	
560' S	286.20	286.30

284.52 NW 3rd & Vaiv.
6.62
291.16
4.02
287.14
5.66
287.20

W	286.31	286.42	286.60	286.78	286.95	287.13	287.31	287.49
	4.85	4.74	4.66	4.88	4.21	4.03	5.49	5.31
	4.98	5.09	3.56	3.38	3.21	4.11	5.62	5.40
	5.13	-0.35	+1.00	+1.0	+1.0	-0.08	-0.14	-0.10
E	286.41	4.96	4.72					
	4.76	4.64	4.46	4.48	4.11	3.93		5.21
	4.75	-0.32	-0.26	3.48	3.11	4.93		4.28
	00			+1.0	+1.0	+1.00		+1.0
W	287.66	287.84	287.02					
	5.14	4.96	4.78					
	4.14	3.96	3.78					
	+1.0	+1.0						
E	5.02	4.86	4.68					
	4.68	3.86	4.60					
	+0.36	+1.0	+0.08					

1/15/24

Grades in Alley
BLK 177
University Hghts

	W.L	E.L
S.L Polk	338.11	337.99
25' S	337.10	337.10
50' S	336.60	336.70
100' ✓	336.46	336.55
150' ✓	336.32	336.39
200' ✓	336.17	336.23
250' ✓	336.03	336.07
300' ✓	335.89	335.92
350' ✓	335.74	335.76
400' ✓	335.60	33560
450' ✓	335.40	335.34
500' ✓	33520	335.07
550' ✓	335.0	334.80
575' ✓	334.70	334.40
600' ✓ NL Lincoln	333.82	333.34

332.20 NE. Linc + Pk Blvd.
645
338.65
309
335.56
517
34073

34073
415
33658
471
34129

333.82
4.83
3.99
+0.84

W: 334.70 / 3.95 / 2.95 / +1.00 — 335 / 3.65 / 2.65 / +1.00 — 335.20 / 3.45 / 2.45 / +1.00 — 335.40 / 3.25 / 2.25 / +1.0 — 335.60 / 3.05 / 2.05 / +1.0 — 335.74 / 2.91 / 1.91 / +1.0 — 335.89 / 4.84 / 2.84 / 2.00

E: 334.40 / 4.25 / 3.25 / +1.00 — 334.80 / 3.85 / 2.85 / +1.00 — 335.07 / 3.58 / 2.58 / +1.00 — 335.34 / 3.31 / 2.31 / 1.0 — 335.60 / 3.05 / 2.05 / +1.0 — 335.76 / 2.89 / 1.89 / +1.0 — 335.92 / 4.81 / 3.81 / 1.0

W: 336.03 / 4.70 / 3.70 / +1.0 — 336.17 / 4.56 / 3.56 / +1.0 — 336.32 / 4.41 / 3.41 / +1.0 — 336.46 / 4.83 / 4.95 / -0.12 — 336.60 / 4.69 / 4.53 / +0.16 — 337.10 / 4.19 / 4.71 / -0.52

E: 336.07 / 4.66 / 4.71 / -0.05 — 336.23 / 4.50 / 3.50 / +1.0 — 336.39 / 4.34 / 3.34 / +1.0 — 336.55 / 4.74 / 3.74 / +1.0 — 336.70 / 4.59 / 3.59 / +1.0 — 337.10 / 4.19 / 2.19 / +2.0

Grades on Culvert between 28th & Langley
South of 1 St.

	1.05	103.72		102.67			
0+60				89.78	13.94	7.90	+6.04
+50				90.22	13.50	9.17	+4.33
1 —				90.66	13.06	10.00	+3.06
+27.03 PI				90.90	12.82	10.52	+2.30
+97.76				92.72	11.00	8.15	C 2.85
2 + 48.49 Ex. hipp				94.55	9.17		

IMPROVED TABLES

AND

INFORMATION

Table X.

MIDDLE ORDINATES OF RAILS

Length of Rail (feet)

C ° ′	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C °	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch
0–20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0–40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1–0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1–20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1–40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2–0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2–20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2–40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3–0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3–20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3–40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4–0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4–20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4–40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

Table XI.

SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

To find length of curve divide angle from P. C. to P. T. by central angle of chord, and multiply by length of chord.

Table XII.

INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

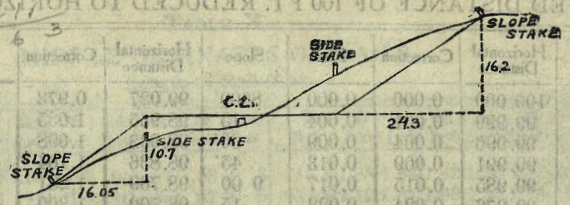
Slope	Horizontal Distance	Correction	Rise	Slope	Horizontal Distance	Correction	Rise
0°00′	100.000	0.000	0.000	8°00′	99.027	0.973	0.139
15′	99.999	0.001	0.004	15′	98.965	1.035	0.143
30′	99.996	0.004	0.009	30′	98.902	1.098	0.148
45′	99.991	0.009	0.013	45′	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

For each foot take one one-hundredth of each reading.

Table XIII.

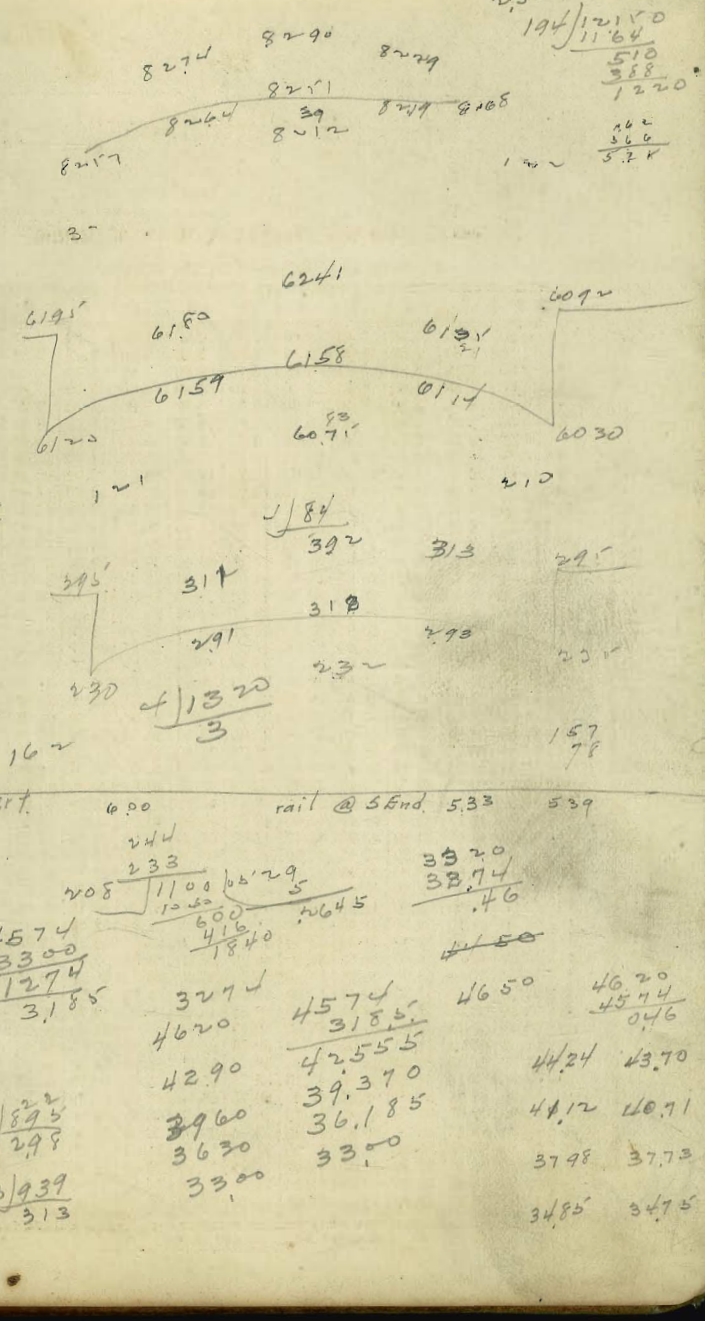
MINUTES IN DECIMALS OF A DEGREE.

0 30″	.00833	10′ 30″	.17500	20′ 30″	.34167	30′ 10″	.50833	40′ 30″	.67500	50′ 10″	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.