

1311

WALKER

LEAFLET BOOK

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112.

1311

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CITY OF SAN DIEGO,
CALIFORNIA

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X Sec. SanClemete from Voltaire to Yonge	4
" " Whittier " Wells to Catalina	13
" " Froude. " Voltaire to Green	23
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X Sec. 33-9. N of Juniper	45-74
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3/7/29 X sec. San Clemente
 London-Voltaire to N.L. Yonge.
 60'54" 10' ebs 40' Rdway.

From N.L.

N^o to West = L+ East = R+

4

B.M.	3.13	99.39	96.26
T.P.	0.26	86.80	12.85
T.P.	1.01	76.04	11.77
B.M. top FH SW Voltaire & SW Church		2.41	73.63
O-15	= North edge Pav on Voltaire		
w.L.		5.50	70.54
cb	76.04	5.38	70.66
1/4		5.34	70.70
±		5.20	70.84
1/4		5.08	70.96
cb		5.04	71.0
E.L.		4.90	71.14
O+00	= N.L. Voltaire		
E.L.	(76.0)	5.7	70.3
cb		5.5	70.5
1/4		5.8	70.2
±		6.0	70.0
1/4		5.7	70.3
cb		6.1	69.9
+2		6.7	69.3
+4		6.0	70.0
w.L.		5.0	71.0

G.M.J.
Plotted - 3-14-29

NE Voltaire
 & Villa Dr.

O+07	76.04
w.L.	4.4
+3	5.8
+6	6.0
+8	7.0
cb	6.7
+1	6.4
+7	5.9
1/4	6.0
+4	5.9
±	6.4
1/4	6.6
cb	6.2
E.L.	5.8
O+25	
E.L.	8.3
cb	8.2
1/4	8.0
±	8.0
+6	7.3
+8	7.6
1/4	6.8
+3	6.6
+6	7.0
cb	6.9
+3	7.0
+5	7.9

71.6
70.2
70.0
69.0
69.1
69.6
70.1
70.0
70.1
69.6
69.4
69.8
70.2
67.7
67.8
68.0
68.0
68.7
68.4
69.2
69.4
69.0
69.1
69.0
68.1

0+25		76.04	
w.L.		6.4	69.6
0+50			
w.L.		8.0	68.0
+4		10.1	65.9
+7		9.8	66.2
cb		9.8	66.2
+6		9.6	66.4
1/4		10.0	66.0
±		10.4	65.6
1/4		10.8	65.2
+7		11.9	64.1
cb		12.0	64.0
+5		12.0	64.0
E.L.		13.9	62.1
0+75			
E.L.		14.2	61.8
cb		14.1	61.9
1/4		13.4	62.6
±		12.6	63.4
1/4		11.8	64.2
cb		11.6	64.4
+6		11.4	64.6
+7		12.2	63.8
w.L.		10.0	66.0

0+92		76.04	
w.L.		11.1	64.9
+2		13.3	62.7
+3		12.9	63.1
cb		13.1	62.9
1/4		13.7	62.3
±		14.1	61.9
1/4		14.1	61.9
cb		14.3	61.7
E.L.		14.6	61.4
T.P.	0.42	63.42	13.04
63.00			
0+93			
E.L.		7.3	56.1
+1		6.0	57.4
cb		3.8	59.6
1/4		2.0	61.4
±		1.5	61.9
1/4		1.0	62.4
cb		0.3	63.1
+7		0.5	62.9
w.L.		+1.5	61.9

1+18 63.42

wL	1.6	61.8
+3	3.8	59.6
+4	3.3	60.1
cb	3.7	59.7
1/4	4.6	58.8
+5	4.6	58.8
±	5.4	58.0
+5	5.6	57.8
1/4	6.3	57.1
cb	8.0	55.4
EL	9.8	53.6
10E	10.2	53.2

1+37

10E	11.1	52.3
EL	10.6	52.8
cb	9.4	54.0
1/4	9.4	54.0
±	7.7	55.7
1/4	7.2	56.2
cb	6.3	57.1
wL	5.1	58.3

6

1+55 63.42

wL	8.0	55.4
cb	9.9	53.5
1/4	12.2	51.2
±	13.4	50.0
1/4	14.3	49.1
cb	15.9	47.5
EL	17.8	45.6
15E	18.3	45.1

1+67

20E	23.6	39.8
13E	22.3	41.1
EL	20.2	43.2
+5	19.0	44.4
cb	18.7	44.7
1/4	17.0	46.4
±	15.5	47.9
1/4	14.0	49.4
+3	13.0	50.4
+8	12.0	51.4
cb	12.4	51.0
+4	13.1	50.3
wL	12.2	51.2
5W	9.5	53.9

1+75	63.42		
wL	9.3	54.1	
cb	11.7	51.7	
+9	13.7	49.7	
1/4	16.0	47.4	
+2	16.0	47.4	
+3	14.1	49.3	
±	16.4	47.0	
1/4	18.0	45.4	
cb	18.2	45.2	
+3	18.6	44.8	
EL	21.0	42.4	
8E	22.0	41.4	
11E	23.5	39.9	
20E	24.6	38.8	
2+00 = S.L. Whittier.			
20E	23.8	39.6	
8E	20.0	43.4	
EL	18.7	44.7	
cb	16.8	46.6	
1/4	15.7	47.7	
+5	14.2	49.2	
±	13.4	50.0	
1/4	11.9	51.5	
cb	9.9	53.5	
wL	7.6	55.8	

63.42 7

Whittier 70' wide 18' cbs 34' Rdway

Seb Whittier.

wL	9.3	54.1	
cb	10.2	53.2	
1/4	11.4	52.0	
±	12.7	50.7	
1/4	14.0	49.4	
cb	16.0	47.4	
EL	19.3	44.1	
20E	24.4	39.0	
S 4 Whittier			
EL	19.6	43.8	
±	17.0	46.4	
cb	16.2	47.2	
1/4	14.2	49.2	
±	12.8	50.6	
1/4	12.3	51.1	
cb	11.6	51.8	
wL	10.5	52.9	
T.P.	0.44	51.90	11.96 51.46

Whittier 51.90
51.90

w.l.	1.0	50.9
cb	2.2	49.7
1/4	2.3	49.6
±	2.3	49.6
1/4	3.9	48.0
cb	5.8	46.1
EL	8.5	43.4

N 1/4 whittier

EL	9.2	42.7
cb	7.0	44.9
1/4	5.2	46.7
±	4.2	47.7
1/4	4.5	47.4
cb	4.2	47.7
w.l.	2.9	49.0

Neb whittier

w.l.	4.4	47.5
cb	5.7	46.2
1/4	6.3	45.6
±	6.6	45.3
1/4	7.3	44.6
cb	8.8	43.1
EL	10.8	41.1

N.L. whittier = 0+00
51.90

EL	15.4	36.5
cb	13.8	38.1
1/4	12.7	39.2
±	11.5	40.4
1/4	10.7	41.2
cb	9.3	42.6
w.l.	6.7	45.2

Hub N.W. whittier - San Clemente
BM

0+25	6.63	45.27
w.l.	9.9	42.0
cb	11.6	40.3

T.P.	0.84	40.05	12.69	39.21
1/4			2.3	37.8
±	40.1		5.3	34.8
1/4			7.4	32.7
cb			7.8	32.3
EL			8.1	32.0
20E.			8.8	31.3

0+50				
20E			9.3	30.8
EL			10.5	29.6
cb			10.5	29.6
1/4			10.5	29.6
±			10.0	30.1
1/4			8.5	31.6

0+50		40.05	
cb		6.1	34.0
w.L	(40.1)	4.3	35.8
0+75			
10W		9.3	30.8
w.L		10.8	29.3
cb		11.3	28.8
1/4		11.1	29.0
±		11.1	29.0
1/4		11.0	29.1
cb		10.3	29.8
EL		9.4	30.7
10E		8.1	32.0
1+00			
5E		4.5	35.6
EL		5.4	34.7
cb		7.2	32.9
1/4		9.7	30.4
±		11.1	29.0
1/4		11.4	28.7
cb		11.7	28.4
w.L		12.0	28.1
20W		12.3	27.8

1+25			
20W		12.3	27.8
w.L	(40.1)	11.9	28.2
cb		11.0	29.1
1/4		10.3	29.8
±		8.5	31.6
1/4		5.4	34.7
cb		3.6	36.5
EL		1.8	38.3
1+50			
EL		+1.4	41.5
cb		1.3	38.8
1/4		3.3	36.8
±		4.7	35.4
1/4		5.5	34.6
cb		7.0	33.1
w.L		9.0	31.1
20W		12.6	27.5
1+75			
20W	(40.1)	11.0	29.1
w.L		5.4	34.7
cb		2.6	37.5
1/4		1.5	38.6
±		0.7	39.4
1/4		+0.7	40.8
cb		+2.2	42.3

1+75

40.05

E.L.		+4.0	44.1
TP	4.82	44.83	0.04
2+00 = S.L. Xenophon			
EL	44.8	0.6	44.2
cb		1.5	43.3
1/4		2.1	42.7
1/2		2.1	42.7
3/4		2.5	42.3
cb		4.1	40.7
w.L.		6.1	38.7
20W		12.0	32.8

2+35 = 1/2 Xenophon

10W		4.7	40.1
5W		2.9	41.9
w.L.		2.2	42.6
cb		1.4	43.4
1/4		1.8	43.0
1/2		2.9	41.9
3/4		4.5	40.3
cb		5.6	39.2
E.L.		5.1	39.7
10E		4.8	40.0

4483

0+00 = 2+70 = N.L. Xenophon.

20E		10.4	34.4
E.L.	44.8	10.3	34.5
cb		10.1	34.7
1/4		7.7	37.1
1/2		5.7	39.1
3/4		4.3	40.5
+6		3.9	40.9
cb		5.9	38.9
w.L.		9.0	35.8
15W		12.1	31.7
0+25			
20W		19.1	25.7
w.L.		17.1	27.7
cb		16.3	28.5
1/4		15.6	29.2
1/2		15.1	29.7
3/4		14.6	30.2
cb		13.7	31.1
E.L.		12.9	31.9
20E		10.8	34.0

0+50	44.83		
15E	10.4	34.4	
EL	12.0	32.8	
cb	13.2	31.6	
1/4	14.5	30.3	
±	15.5	29.3	
±	16.5	28.3	
cb	17.3	27.5	
wL	18.3	26.5	
20W	20.0	24.8	

0+15			
20W	20.0	24.8	
wL	16.3	28.5	
cb	14.9	29.9	
1/4	13.6	31.2	
±	11.6	33.2	
1/4	9.2	35.6	
cb	7.8	37.0	
EL	6.7	38.1	
10E	6.6	38.2	

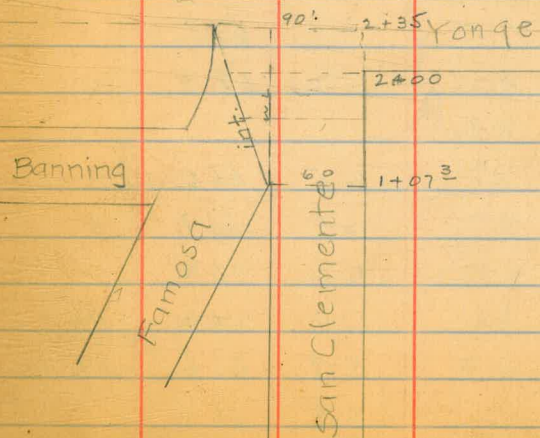
1+07 ³	44.83	EL	Famosa wL	San Clemente
10E	0.4	44.4		
EL	0.6	44.2		
cb	1.1	43.7		
1/4	2.4	42.4		
±	4.3	40.5		
1/4	6.9	37.9		
cb	9.2	35.6		
wL	11.2	33.6		
10W	13.3	31.5		

1+25				
AW int.	9.7	35.1		
wL	8.5	36.3		
cb	5.9	38.9		
1/4	3.3	41.5		
±	2.1	42.7		
1/4	0.6	44.2		
T.P.	3.79	48.33	0.29	44.54
cb			2.4	45.9
EL			1.5	46.8

1+50			
EL	2.1	46.2	
cb	2.9	45.4	
1/4	4.1	44.2	
±	4.5	43.8	
1/4	5.9	42.4	

1+50		48.33	
cb		8.3	40.0
w.L.		11.6	36.7
10w	int.	16.0	32.3
1+75			
16w	int.	23.0	25.3
6w		19.0	29.3
w.L.		17.2	31.1
cb		14.6	33.7
1/4		13.1	35.2
±		12.1	36.2
1/4		10.8	37.5
cb		8.8	39.5
E.L.		6.1	42.2
2+00 = S.L. Yonge			
E.L.		13.3	35.0
cb		15.4	32.9
1/4		17.6	30.7
±		18.4	29.9
1/4		20.5	27.8
cb		22.7	25.6
w.L.		24.5	23.8
22 ⁵ w	int.	27.0	21.3

2+35 = ± Yonge = NL Loma Alta.					
30w	int.	28.0	20.3		
15w		26.7	21.6		
w.L.		25.2	23.1		
cb		24.2	24.1		
1/4		23.0	25.3		
±		21.6	26.7		
1/4		19.8	28.5		
cb		18.4	29.9		
E.L.		17.4	30.9		
TP	12.91	60.67	0.57	47.76	
TP	12.91	73.14	0.44	60.23	
TP	12.93	85.94	0.03	73.11	
TP	11.80	97.51	0.23	85.71	
BM Begin		1.27	96.24	96.26	



X sec. Whittier St. from W.L. Wells to
 EL Catalina Blvd. 70' St 18' cbs 34' Rdway

Note South's Lt North = Rt.

3/8/29
 London's
 0.35 73.98 78.63
 9.17 72.52 10.63 63.35

+ob. Hyd. Sw.
 Kettner & S.C.

0+75 72.52

13

0+00 = W.L. Wells

SL 78.5 3.0 69.5
 cb 2.5 70.0
 1/4 2.3 70.2
 † 1.8 70.7
 1/4 1.8 70.7
 cb 1.4 71.1
 NL 1.1 71.4

NL 7.4 65.1
 cb 7.5 65.0
 1/4 7.6 64.9
 † 7.8 64.7
 1/4 7.7 64.8
 cb 7.7 64.8
 S.L. 7.6 64.9

1+00
 S.L. 8.3 64.2
 cb 8.5 64.0
 1/4 8.5 64.0
 † 8.7 63.8
 1/4 8.7 63.8
 cb 8.5 64.0
 NL 8.6 63.9

Plotted 3-14-29 G.M.I.

0+25

NL 3.2 69.3
 cb 4.0 68.5
 1/4 4.4 68.1
 † 4.5 68.0
 1/4 4.8 67.7
 cb 4.8 67.7
 S.L. 5.2 67.3

1+25
 NL 10.2 62.3
 cb 9.9 62.6
 1/4 9.5 63.0
 † 9.3 63.2
 1/4 9.1 63.4
 cb 8.7 63.8
 S.L. 8.6 63.9

0+50

S.L. 6.5 66.0
 cb 6.4 66.1
 1/4 6.2 66.3
 † 6.1 66.4
 1/4 5.9 66.6
 cb 5.9 66.6
 † 5.3 67.2
 NL 5.3 67.2

	1+50	72.52	
SL		8.9	63.6
cb		9.2	63.3
1/4		9.7	62.8
±		9.8	62.7
1/4		10.0	62.5
cb		10.3	62.2
NL		10.9	61.6

	1+75		
NL		10.8	61.7
cb		10.4	62.1
1/4		10.0	62.5
±		10.0	62.5
1/4		9.8	62.7
cb		9.7	62.8
SL		9.6	62.9

	2+00		
SL		9.8	62.7
cb		10.3	62.2
1/4		10.5	62.0
±		10.5	62.0
1/4		10.6	61.9
cb		10.7	61.8
NL		10.8	61.7

	2+25	72.52		
NL			12.2	60.3
cb			11.3	61.2
1/4			11.1	61.4
±			11.3	61.2
1/4			11.6	60.9
cb			11.1	61.4
SL			10.6	61.9
T.P.	0.18	59.70	13.00	59.52
	2+50			
SL		59.7	2.1	57.6
cb			1.7	58.0
1/4			1.9	57.8
±			1.6	58.1
1/4			1.2	58.5
cb			1.1	58.6
NL			1.1	58.6
	2+75			
10N			7.1	52.6
NL			8.2	51.5
cb			9.4	50.3
1/4			9.7	50.0
±			9.8	49.9
1/4			9.4	50.3
cb			9.3	50.4
SL			8.5	51.2
10S			8.9	49.8

	59.70		
T.P	0.12	46.84	12.98
3+00			46.72
15S		3.2	43.6
SL		3.2	43.6
+14		2.4	44.4
cb		2.7	44.1
1/4		3.5	43.3
±		3.5	43.3
1/4		3.5	43.3
cb		2.9	43.9
+5		3.1	43.7
N.L.		1.9	44.9
10N		0.8	46.0
15N		0.1	46.7
3+25			
15N		7.3	39.5
N.L.		8.8	38.0
+11		9.8	37.0
cb		9.4	37.4
+6		8.9	37.9
1/4		9.8	37.0
±		11.0	35.8
1/4		11.3	35.5
cb		11.0	35.8
SL		11.0	35.8
20S		11.5	35.3

3+50	46.84	
20S		10.8
SL		12.0
cb		13.1
1/4		13.1
±		13.4
1/4		13.8
cb		14.1
N.L.		14.3
10N		14.6
20N		13.7
3+75		
20N		15.0
N.L.		14.3
+10		14.2
cb		12.9
1/4		12.0
+4		11.2
±		10.8
1/4		10.3
cb		10.0
+13		9.6
SL		9.0
11S		8.5
20S		8.5
		36.0
		34.8
		33.7
		33.7
		33.4
		33.0
		32.7
		32.5
		32.2
		33.1
		31.8
		32.5
		32.6
		33.9
		34.8
		35.6
		36.0
		36.5
		36.8
		37.2
		37.8
		38.3
		38.3

46.84

4+00 = EL San Clemente

S.L.	2.4	44.4
cb	2.8	44.0
1/4	3.2	43.6
±	3.4	43.4
1/4	4.1	42.7
cb	5.6	41.2
+8	7.5	39.3
NL	10.3	36.5

Hub NW 3C. = Whittier

B.M. 12.61 57.89 1.56 45.28 45.27

0+00 = w.L. San Clemente

S.L.	57.9	2.0	55.9
+10		2.5	55.4
cb		3.3	54.6
1/4		4.8	53.1
±		6.9	51.0
1/4		8.8	49.1
cb		10.4	47.5
+12		11.6	46.3
NL		12.5	45.4

0+25

ISN	8.5	49.4
NL	7.8	50.1
cb	6.2	51.7
1/4	4.8	53.1
+4	3.4	54.5

0+25 57.89

±		2.8	55.1	
1/4		0.8	57.1	
T.P.	10.71	68.55	0.05	57.84
cb	1	10.0	58.6	
+6		68.6	9.1	59.5
S.L.		8.1	60.5	

0+50

S.L.		6.0	62.6
cb		6.4	62.2
1/4		6.8	61.8
±		7.6	61.0
1/4		8.0	60.6
cb		8.8	59.8
NL		11.3	57.3
5N		12.0	56.6

0+75

5N		8.2	60.4
NL		7.6	61.0
cb		6.4	62.2
1/4		6.0	62.6
±		5.7	62.9
1/4		5.4	63.2
cb		4.8	63.8
S.L.		4.0	64.6

	6855		
1+00			
S.L.		3.1	65.5
cb	(686)	3.9	64.7
1/4		4.3	64.8
±		4.6	64.0
1/4		5.2	63.4
cb		6.6	62.0
+3		6.7	61.9
N.L.		9.9	58.7
10N		12.5	56.1

1+25			
20N		19.8	48.8
N.L.		14.5	54.1
+8		11.9	56.7
cb		9.0	59.6
1/4		6.5	62.1
±		5.0	63.6
1/4		4.2	64.4
cb		3.6	65.0
S.L.		2.6	66.0

	6855		
1+50			
S.L.		3.0	65.6
cb	(686)	4.1	64.5
1/4		4.6	64.0
±		5.3	63.3
1/4		5.9	62.7
cb		7.9	60.7
N.L.		14.2	54.4
12N		17.9	50.7
20N		21.0	47.6

1+75			
20N		18.1	50.5
N.L.		12.3	56.3
+3		10.5	58.1
cb		6.9	61.7
1/4		5.7	62.9
±		4.7	63.9
1/4		3.9	64.7
cb		3.5	65.1
S.L.		3.1	65.5

1+94 = E.L. Famosa.

S.L.	68.6	4.2	64.4
+10		3.5	65.1
cb		4.0	64.6
1/4		4.3	64.3
±		4.7	63.9
1/4		5.6	63.0
cb		7.0	61.6
N.L.		12.2	56.4
20N		16.4	52.2
2+19			
20N		10.7	57.9
N.L.		8.7	59.9
cb		6.9	61.7
1/4		5.9	62.7
±		6.5	62.1
1/4		5.6	63.0
cb		6.1	62.5
S.L.		5.7	62.9
2+33 ³⁵ = ± Famosa			
S.L.		7.1	61.5
cb		7.9	60.7
1/4		7.8	60.8
±		7.8	60.8
1/4		7.7	60.9
cb		8.2	60.4
N.L.		8.9	59.7

2+72⁷⁰ = W.L. Famosa.

N.L.	(68.6)	10.2	58.4
cb		10.3	58.3
1/4		10.1	58.5
±		10.0	58.6
1/4		9.9	58.7
cb		9.3	59.3
S.L.		8.2	60.4
3+00			
S.L.		6.5	62.1
cb		8.9	59.7
1/4		9.4	59.2
±		10.0	58.6
1/4		10.3	58.3
cb		10.0	58.6
N.L.		10.3	58.3
3+25			
N.L.		9.7	58.9
±		10.3	58.3
cb		10.0	58.6
±		9.9	58.7
1/4		9.4	59.2
±		9.1	59.5
1/4		8.9	59.7
cb		7.0	61.0
±		6.5	62.1
S.L.		4.4	64.2

3+50

68.55

SL	(68.6)	2.2	66.4
eb		5.1	63.5
+4		5.5	63.1
1/4		6.8	61.8
±		7.9	60.7
1/4		8.6	60.0
eb		9.4	59.2
+10		9.3	59.3
NL		8.6	60.0

3+75

NL		7.1	61.5
+7		7.7	60.9
cb		7.2	61.4
1/4		6.8	61.8
±		6.0	62.6
1/4		4.9	63.7
eb		3.4	65.2
+12		0.9	67.7
SL		0.4	68.2

4+00

68.55

SL		1.5	67.1
eb		4.3	64.3
1/4		5.2	63.4
±		5.8	62.8
1/4		7.5	61.1
eb		8.0	60.6
NL		8.2	60.4

4+10

NL		9.2	59.4
+13		9.3	59.3
cb		9.1	59.5
1/4		7.8	60.8
±		6.5	62.1
1/4		5.9	62.7
eb		6.1	62.5
SL		4.8	63.8

4+25

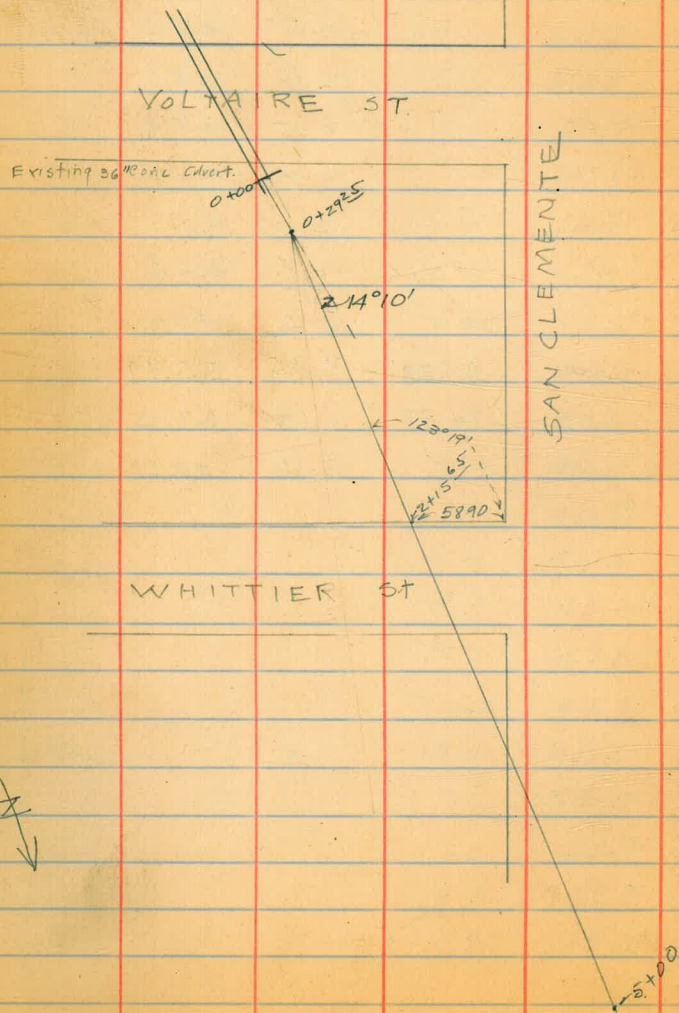
SL		6.0	62.6
+12		6.6	62.0
eb		7.6	61.0
1/4		9.0	59.6
±		9.7	58.9
1/4		10.7	57.9
cb		11.5	57.1
NL		10.7	57.9

19

		68.55		
TP	1.75	57.74	12.56	55.99
	4+50	68.6		
N.L.		(57.7)	4.9	52.8
+8			5.2	52.5
cb			6.8	50.9
1/4			7.0	50.7
±			7.1	50.6
1/4			7.0	50.7
cb			6.3	51.4
S.L.			5.2	52.5
10S			5.7	52.0
	4+60			
15S			8.4	49.3
3L			8.9	48.8
cb			9.3	48.4
1/4			9.5	48.2
±			9.9	47.8
1/4			10.0	47.7
cb			9.4	48.3
+8			7.7	50.0
N.L.			7.0	50.7
6N			5.9	51.8
10N			4.7	53.0

		57.74				
	4+96 ⁴⁰	=	EL. Catalina			
10N			10.1	47.6		
N.L.			11.7	46.0		
±			12.0	45.7		
cb			12.5	45.2		
1/4			12.6	45.1		
±			12.5	45.2		
1/4			12.2	45.5		
cb			12.0	45.7		
S.L.			11.1	46.8		
15S			10.6	47.1		
T.P.	12.39	68.38	1.75	55.99		
T.P.	7.52	74.77	1.13	67.25		
B.M.	Begin.		1.16	73.61	73.63	

3/9/29
London.

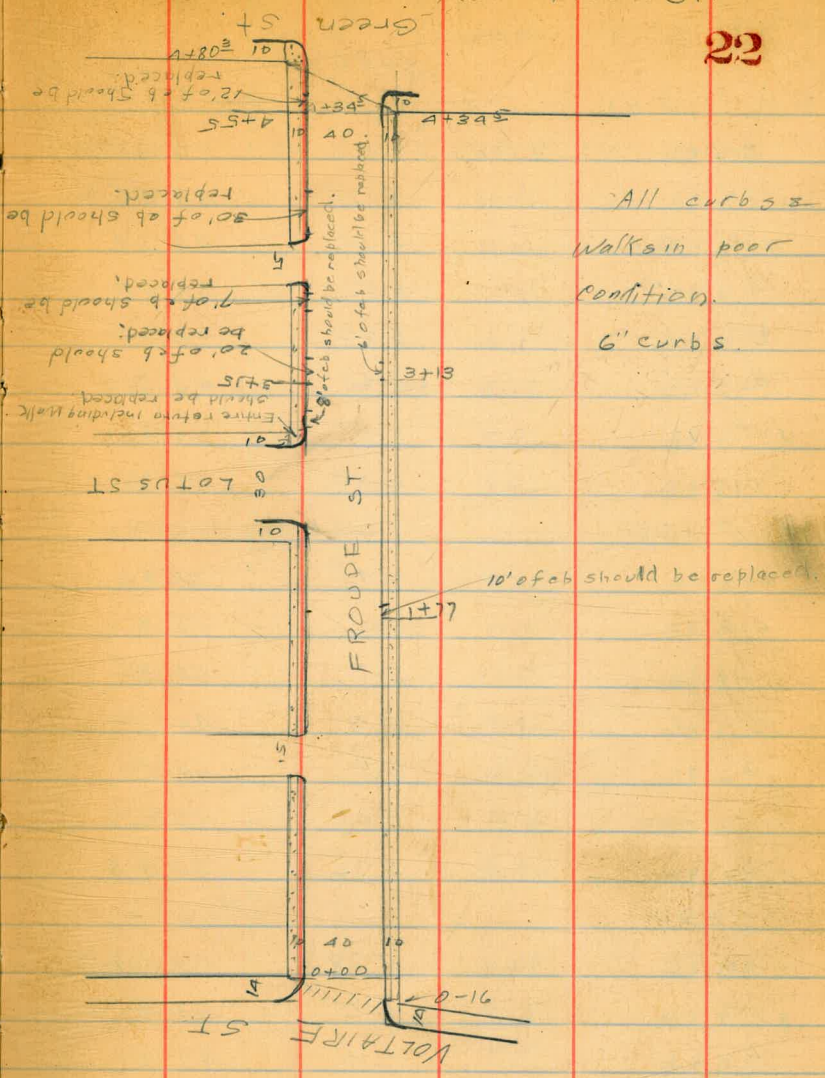


Profile for Drainage of Whittier & San Clemente

21

B.M	0.59	45.86	45.27
0+00	FL culvert	4.24	
+10		4.0	
+25	L	4.8	
+50		5.2	
+75		5.5	
1+00		7.7	
1+00	6'L channel	8.1	
+25		5.7	
+25	11'L channel	8.9	
+50		5.9	
+50	19'L channel	9.1	
+75		8.6	
+75	12'L channel	10.2	
2+00		10.9	
+25		11.6	
+50		12.3	
+50	9'R channel	12.3	
+64		12.7	
+64	15'R channel	12.8	
+75		11.9	
+75	19'R channel	13.1	
3+00		10.2	
+00	21'R channel	14.0	
T.P.	2.79	35.59	13.06 32.80

3+25		3.3
+25	23'R channel	5.1
+50		5.7
+50	18'R channel	6.1
+75		6.5
+75	8'R channel	6.6
4+00		6.6
+25		7.5
+25	7'L channel	7.6
+50		7.8
+50	9'L channel	7.9
+75		8.4
+75	11'L channel	8.3
5+00		8.8
+00	15'L channel	9.0



3/9/29
LondonX sec Froude St From N.L. Voltaire
to S.L. Green.

49.90

N.W. Froude
= Voltaire.

B.M 5.31

44.59

West = Lt. East = Rt.

49.90

23

seen N.L. Voltaire 0+00 on west = 0-16 on East

web		5.34	44.56
gut	par	5.84	44.06
'4	✓	5.44	44.16
±	✓	5.23	44.67
'4	✓	5.29	44.61
gut	✓	5.49	44.41
Ecb		4.80	45.10

0+00

Ecb		4.98	44.92
gut		5.5	44.4
'4		5.1	44.8
±		5.3	44.6
'4		5.4	44.5
gut	par	5.84	44.06
web		5.35	44.55

0+50

web		5.78	44.12
gut		6.5	43.4
'4		6.0	43.9
±		5.7	44.2
'4		5.8	44.1
gut		6.2	43.7
Ecb		5.44	44.46

1+00 = S.L. Alley

Ecb			5.78	44.12
gut			6.4	43.5
'4			6.2	43.7
±			6.2	43.7
'4			6.5	43.4
T.P.	9.06	47.77	6.19	43.71
gut			4.7	43.1
web			3.96	43.81

1+15 = N.L. Alley

web			4.20	43.57
gut			5.0	42.8
'4			4.5	43.3
±			4.2	43.6
'4			4.2	43.6
gut			4.4	43.4
Ecb			3.74	44.03

1+65

Ecb			3.89	43.88
gut			4.5	43.3
'4			4.5	43.3
±			4.6	43.2
'4			5.0	42.8
gut			5.5	42.3
web			4.64	43.13

47.77

2+15 = sk. Lotus

wcb	5.13	42.64
gut	5.9	41.9
'A	5.2	42.6
+7	4.8	43.0
±	4.7	43.1
'A	4.7	43.1
gut	4.8	43.0
Ecb	4.13	43.64

2+25 = seb Lotus

Ecb	4.24	43.53
gut	4.9	42.9
'A	4.8	43.0
±	4.8	43.0
'A	5.2	42.6
eb	5.8	42.0
+4	6.3	41.5
w.L. gut	6.1	41.7
w.L. top eb	5.15	42.62

47.77

24

2+40 = ± Lotus

w.L	5.6	42.2
eb	5.4	42.4
'A	5.2	42.6
+6	4.9	42.9
±	4.9	42.9
'A	4.9	42.9
gut	4.9	42.9
Ecb	4.43	43.34

2+5.5 = Neb Lotus

Ecb	4.54	43.23
gut	5.1	42.7
'A	5.0	42.8
±	5.0	42.8
+4	5.0	42.8
'A	5.4	42.4
eb	6.0	41.8
w.L. gut	6.4	41.4
w.L. top eb	5.55	42.22

2+65 = N.L. Lotus

wcb	5.64	42.13
gut	6.5	41.3
1/4	5.6	42.2
+6	5.3	42.5
±	5.2	42.6
1/4	5.2	42.6
gut	5.3	42.5
Ecb	4.65	43.12
3+15		
Ecb	5.22	42.55
gut	5.9	41.9
1/4	5.8	42.0
±	5.8	42.0
1/4	6.2	41.6
gut	7.0	40.8
wcb	6.12	41.65
3+65 = S.L. Alley.		
wL	6.4	41.4
wcb	6.49	41.28
gut	7.1	40.7
1/4	6.7	41.1
±	6.3	41.4
1/4	6.3	41.4
gut	6.5	41.3
Ecb	5.80	41.97

3+80 = N.L. Alley

Ecb	6.01	41.76
gut	6.6	41.2
1/4	6.5	41.3
±	6.5	41.3
+5	6.5	41.3
1/4	6.7	41.1
gut	7.0	40.8
wcb	6.69	41.08
wL	6.6	41.2
A+34 ^E = S.L. Green.		
wcb	7.13	40.64
gut	7.9	39.9
1/4	7.3	40.5
±	6.7	41.1
1/4	6.8	41.0
gut	7.0	40.8
Ecb	6.57	41.20
End Sec A+34 ^E on E. - A+80 ^E on W.		
EL+10 enddiag. topcb ref.	6.58	41.19
EL+10 gut	6.7	41.1
cb	6.7	41.1
1/4	6.8	41.0
±	7.4	40.4
1/4	7.8	40.0
gut	8.2	39.6
wcb	7.54	40.23

47.77

4+80³ = S.L. Green on West

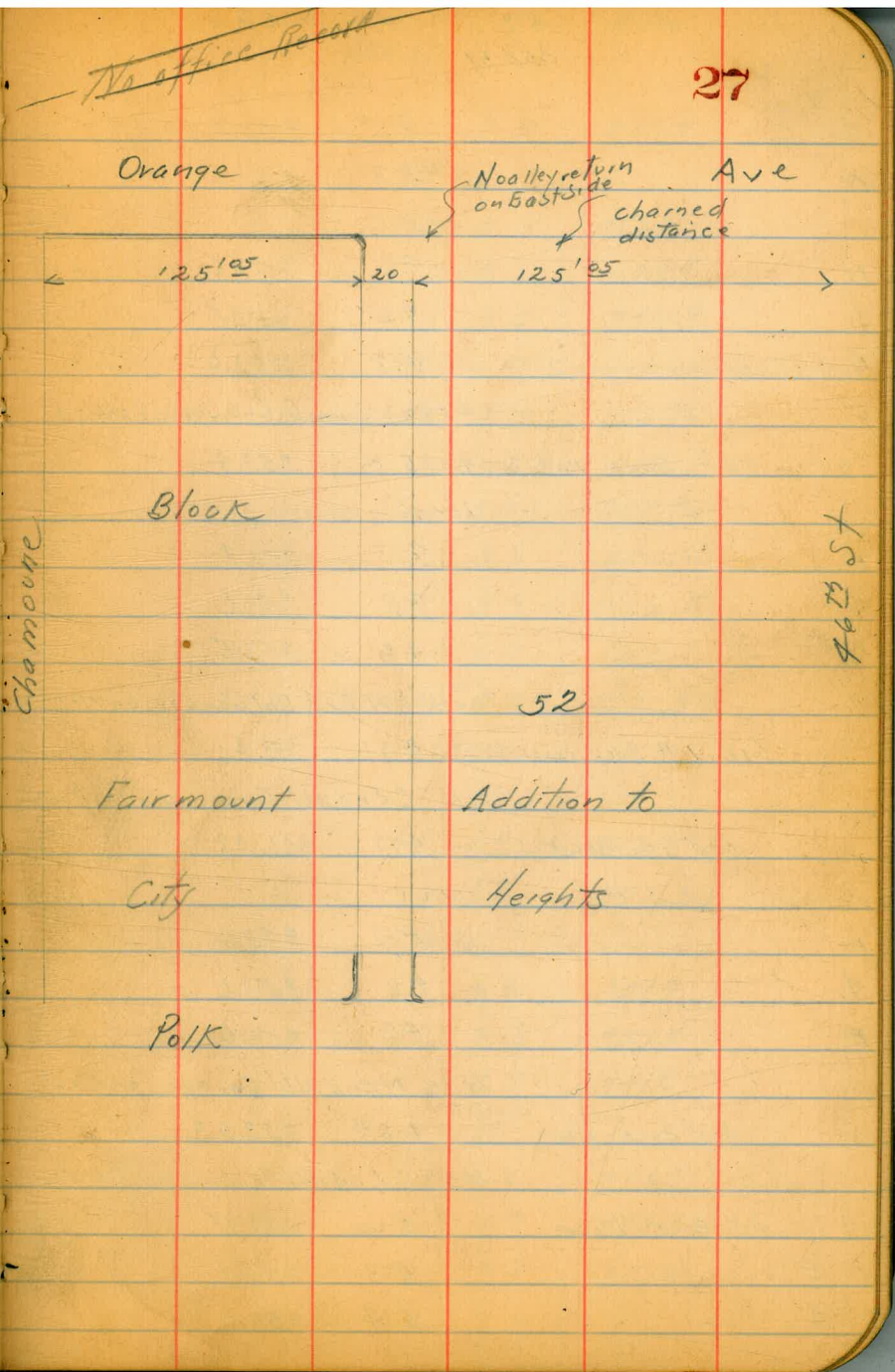
web		7.59	40 18
T.P. (634	5006	4.05	43.72
B.M. Beginning		5.47	44.59

Bill Bliss
 Joe Duermit
 J. Jacobszoon
 March 25-29

X Section Alley Block 52
 Fairmount Addition to City Heights
 Between Orange & Polk, Chamounie 46th

	+ H.I.	- Elev	NWBP Orange 196 th
BM	4.43	358.37	353.94
Sec. on Cb. line of Street			
W-35 Topcb		6.05	352.32
X		5.67	352.70
0+00 S. line of Orange			
E on Ground No curb in		4.9	353.5
T8		4.9	353.5
Q		5.2	353.2
C		5.3	353.1
W Topcb		5.97	352.90
0+06			
W		4.5	353.9
T8		4.5	353.9
Q		4.6	353.8
E		4.6	353.8
0+25			
E		4.5	353.9
Q		4.4	354.0
W		4.5	353.9
0+40			
W		4.4	354.0
Q		4.6	353.8
E		4.7	353.7
0+65			
E		4.7	353.7

Plotted 3-29-29 E.A.B.



42 - Elev
358.37

Φ	4.7	353.7	
N	4.8	353.6	
	0780		
N	4.8	353.6	
Φ	4.6	353.8	
E	4.8	353.6	
	0492 Single Garage on West		
2 ^o Back Dirt floor	5.0	353.4	
	1400		
E	4.7	353.7	
Φ	4.8	353.6	
N	4.9	353.5	
	1402 N. End Dbl Garage on West		
Lip. 1.4 Back concrete	4.91	353.46	
	1418 S. End dbl Garage on West		
Lip. 1.4 Back	4.99	353.38	
	1425		
N	5.0	353.4	
Φ	4.8	353.6	
E	4.8	353.6	
	1436 N. End dbl Garage on East		
3.5 Back floor	4.84	353.53	
	1453 S. End dbl Garage on East		
3.5 Back floor	5.00	353.37	
E	5.3	353.1	
Φ	5.4	353.0	

41 - Elev
358.37

28

	5.5	352.9	
	1475		
	5.5	352.9	
	5.5	352.9	
	5.5	352.9	
	1482 dbl Garage on East/NEAD		
	3.5 Back concrete floor	5.41	352.96
	2700 S. End dbl Garage on East		
	3.5 Back concrete floor	5.45	352.92
E	5.8	352.6	
Φ	5.9	352.5	
N	5.7	352.7	
TP	1.52	354.06	5.83 352.59
	2412		
	1.8	352.3	
	1.9	352.2	
	1.8	352.3	
	2435		
	2.2	351.9	
	2.6	351.5	
	2.5	351.6	
	2450		
	2.8	351.3	
	2.8	351.3	
	2.7	351.4	

	HZ	Elev
	359.06	
	475	
E	3.1	351.0
Φ	3.1	351.0
N	2.9	351.2
	3100	
N	3.5	350.6
Φ	3.6	350.5
E	3.3	350.8
	3106 Single Garage on East	
2 ^o Back dirt floor &	3.3	350.8
	3120 Single Garage on West	
on line dirt floor &	4.1	350.0
	3125	
E	3.8	350.3
Φ	4.1	350.0
N	4.1	350.0
	3150	
N	4.4	349.7
Φ	4.6	349.5
E	4.0	350.1
	3175	
E	4.4	349.7
Φ	4.9	349.2
N	5.1	349.0
	4100	
N	5.2	348.9
Φ	5.0	349.1

	HZ	Elev
	359.08	
	51	349.0
E	51	349.0
	4415 ⁵⁰ Mn Hole	
	on Rim	4.95 349.11
	4425 Pond	
E	50	349.1
Φ	5.4	348.7
N	5.6	348.5
	4450	
N	5.7	348.4
Φ	5.8	348.3
E	5.6	348.5
	4475	
E	5.7	348.4
Φ	6.0	348.1
N	6.2	347.9
+10	6.2	347.9
	5100 End Pond	
-5	5.9	348.2
N	5.9	348.2
Φ	5.6	348.5
E	5.6	348.5
	5109 Single Garage on East	
48 Back dirt floor &	5.4	348.7
	5118	
48 Back dirt floor &	5.4	348.7
	5118	
48 Back dirt floor &	5.4	348.7

	HI.	-	Elev
	359.06		
	5125		
E	5.5		348.6
☼	5.3		348.8
NE	5.2		348.9
N	5.9		348.2
	5150		
N	5.7		348.4
☼	5.4		348.7
E	5.3		348.8
	5175		
E	5.2		348.9
☼	5.1		349.0
N	5.0		349.1
	5176 ⁵⁰		N. Linc Polk
N. Topcb	5.27		348.79
G	5.52		348.54
☼	5.68		348.38
G	5.58		348.48
E. Topcb	5.21		348.85
ATP.	401 352.86	5.21	348.85
			This HI used in A Section Alley E of 96th See page 31
			Sec. Along Polk. St Gutter line
E. E-25		4.75	348.11
E. PC of Return		4.69	348.22
N. E. Topcb		4.05	348.81
☼		4.56	348.30
N. W. Topcb		4.02	348.84
G. PC Return		4.52	348.34

N+25

4.95

Bill Bliss
 Joe Duermit
 J. Jacobs 2009
 March 25 1929

X Section Alley Block 1. Chester
 Park Addition. Between Oranger & Polk
 46th & 14th Menlo

	t	HI	-	Elev
B.M.		352.86		

carried
 H2 through from X Section of Alley West of 46th See page 30

Section Cb & Gutter line of Polk

N-25 in Gutter		581		347.05
Gutter P.C. Alley Return		588		346.98
W Topcb at alley		515		347.71
2.14 Gutter		589		346.97
E Topcb at Alley		522		347.64
E in Gutter P.C. Return		593		346.93
E to 5 14 gutter		601		346.85

Plotted 3/28/29
 T.L.

of 100 N. line of Polk

E Topcb		514		347.72
G		538		347.48
2		556		347.30
G		531		347.55
N Topcb		508		347.78

of 102

N		46		348.3
t2		6.3		346.6
2		5.9		347.5
t4		4.6		348.3
E		3.3		349.6

of 103

E		2.8		350.1
t6 Top		4.0		348.9

	H.I.	Elev
	352.86	
+6 Bottom	5.0	347.9
Φ	5.2	347.7
+8	5.2	347.7
N	2.7	350.2
	0407	
N	2.3	350.6
+2	4.6	348.3
Φ	4.9	348.0
+2 Bottom	4.7	348.2
+2 Top	2.6	350.3
E	1.9	351.0
	0412	
E	1.8	351.1
+7	1.9	351.0
+8	3.6	349.3
Φ	4.0	348.9
+8	4.0	348.9
N	2.1	350.8
	0420	
N	1.9	351.0
+5	2.4	350.5
Φ	2.2	350.7
+3	1.7	351.2
E	1.2	351.3
	0435	
E	1.3	351.6

	H.I.	Elev
	352.86	
Φ	1.5	351.4
N	1.4	351.5
TP	6.9/ 358.90	137 351.49
	0441	Single Garage on East
on line dirt floor	Φ	6.3 352.1
	0450	
N	6.4	352.0
Φ	6.3	352.1
E	6.2	352.2
	0475	
E	5.9	352.5
Φ	5.8	352.6
N	5.4	353.0
	0483	Single Garage on West
5.6 Back Concrete floor	Φ	4.47 353.93
N	5.3	353.1
Φ	5.6	352.8
E	5.8	352.6
	0490	
E	5.5	353.9
+5	5.2	353.2
Φ	5.1	353.3
N	5.0	353.4
	1400	
N	4.6	353.8
Φ	4.9	353.5

	HZ	Elev
	358.90	
E	5.4	353.0
	1418 Single Garage on West	
	5.2 Back Concrete floor	3.93 354.41
	1420	
E	5.2	353.2
15	4.9	353.5
☺	4.7	353.7
N	4.2	354.2
	1429 S. End Single Garage on West	
	1.2 in alley	
	1434 Single Garage on West	
	1.2 in alley dirt floor	4.9 354.0
	1442 N. End Single Garage on West	
	1.2 in alley	
N	4.6	353.8
☺	4.9	353.5
E	4.9	353.5
	1460	
E	5.4	353.0
☺	5.5	352.9
N	5.0	353.9
	1480	
N	5.1	353.3
☺	5.6	352.8
E	5.9	352.5

	HZ	Elev
	358.90	
	1493 Single Garage on East	
	2.0 Back dirt floor	6.0 352.4
	2400	
E	6.1	352.3
☺	5.7	352.7
N	5.5	352.9
	2403 S. End dbl Garage on East	
	3.5 Back concrete floor	6.13 352.27
	2411 N. End dbl Garage on East	
	3.5 Back concrete floor	6.13 352.27
	2425	
	5.6	352.8
	6.0	352.4
	6.3	352.1
	2431 Single Garage on West	
	2.0 Back dirt floor	5.7 352.7
	2450	
	6.8	351.6
	6.1	352.3
	5.9	352.0
	2466	
	6.6	351.8
	6.98	351.2
	6.8	351.6
	7.0	351.4
	2480	
	7.2	351.2

H.I. - E/ey
358.90

φ 7.2 351.2
N 6.9 351.5

2+93 Single Garage on East

3.2 Back Concrete floor φ 7.88 350.52

3+00

N 7.5 350.9

φ 7.6 350.8

+4 7.6 350.8

E 8.1 350.3

3+21 Single Garage on West

0.8 Back dirt floor φ 7.5 350.9

3+22

E 8.4 349.8

φ 8.2 350.2

+7 8.0 350.4

+8 7.7 350.7

N 7.6 350.8

3+40

N 7.9 350.5

+4 8.2 350.2

φ 8.4 350.0

E 9.1 349.3

TP. 550 355.63 8.27 350.13

3+46 Single Garage on West

3.3 Back concrete floor φ 4.23 351.40

H.I. - E/ey
355.63

34

3+60
6.3 349.3

+4 5.6 350.0

φ 5.6 350.0

N 5.3 350.3

3+70 Single Garage on West

3.3 Back Concrete floor φ 4.59 351.04

3+75

N 5.2 350.4

+2 5.5 350.1

φ 5.5 350.1

E 5.9 349.7

4+00

E 6.0 349.6

φ 5.8 349.8

N 5.6 350.0

4+17 Single Garage on East

5.7 Back dirt floor φ 5.9 349.7

4+30

N 5.6 350.0

φ 5.9 349.7

E 5.9 349.7

4+40

E 5.8 349.8

φ 5.5 350.1

N 5.6 350.0

	HZ	Elev
	355.63	
	4+60	
W	5.5	350.1
W	5.4	350.2
E	5.7	349.9
	4+75	
E	5.8	349.8
W	5.2	350.4
W	5.3	350.3
	5+00 S. End of Garage on West	
	lip on line	
	5.10	350.53
W	5.3	350.3
W	5.2	350.4
E	5.2	350.4
	5+10	
E	5.2	350.4
+4	4.9	350.7
W	4.9	350.7
+5	5.1	350.5
W	5.0	350.6
	5+25 North End of Garage on	
	online lip	
	4.99	350.64
W	5.0	350.6
+5	4.7	350.9
W	4.7	350.9
E	4.8	350.8
	5+34 Single Garage on East	
	3.6 Back concrete floor	
	W 5.25	350.38

	HZ	Elev
	355.63	
	5+50	
E	5.2	350.4
W	4.5	351.1
	4.7	350.9
W	4.9	350.7
	5+77 S. line of Orange	
	3.85	351.78
E	4.4	351.2
W	4.4	351.2
	4.5	351.1
	4.96	351.17
	Sec on Cbr	Center line of Orange
	4.65	350.98
	5.4	350.2
	4.8	350.8
	4.7	350.9
	3.87	351.76
	T.P. 650	357.53
	4.60	351.03
	8.16	349.37
	3.57	353.96
		353.94
		0.02 error

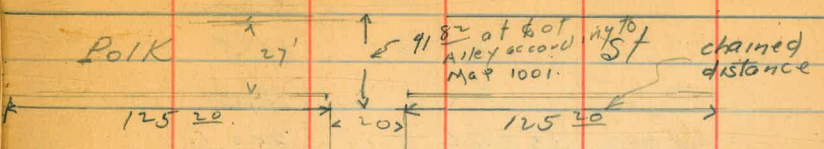
Notice Record of B.M.

B. Bliss
March 25 1919

X Section Alley Block 2 City Hts
Annex #1. Between 44th + Highland
University + Polk

No office Record of AM.

BM	3.22	361.71		358.49
T.P.	3.44	358.69	6.46	355.25



Second 6 Line of Polk

Part 19 E Line of B S Line Polk	5.39	353.30
N-25	5.12	353.57
N-25 Gutter	5.5	353.7
N Topob	5.14	353.55
Gutter p.c. Return	5.6	353.1
Φ	5.7	353.0
E 1/2 Gutter	5.7	353.0
E Topob	5.11	353.58
+25	5.18	353.51
Paving S Line Polk NW of Highland	5.85	352.84

Plotted
3/28/19

0+00 S Line of Polk

E	9.3	354.4
+3	9.6	354.1
+6	5.0	353.7
Φ	5.0	353.7
N	9.8	353.9
0+08		
N	5.1	353.6
Φ	5.3	353.4
+2	5.2	353.5
+3	4.8	353.9
E	4.6	354.1

Univ

Ave

	H.I.	-	Elev
	358.69		
	0+20		
E	4.9		353.8
Φ	5.0		353.7
W	5.3		353.4
T.P.	3.70	357.24	5.15 353.54
	0+31	Single Garage on West	
Ch 70 Back Faces North Parallel Alley	3.7		353.5
	0+40	Single Garage on East	
0.3 Back concrete floor Φ	3.68		353.56
	0+50	N. End 2 car Garage on East	
W	3.8		353.4
Φ	3.8		353.4
E	3.9		353.3
0.2 Back	3.89		353.35
	0+59	Single Garage on West	
5.5 Back dirt floor Φ	3.8		353.4
	0+62	Single Garage on West	
5.5 Back dirt floor Φ	3.7		353.5
	0+63	S. End 2 car Garage on East	
0.2 Back	3.89		353.35
	0+75		
E	3.7		353.5
Φ	3.9		353.3
W	4.2		353.0
	1+00		
W	4.2		353.0
Φ	4.2		353.0

	H.I.	-	Elev
	357.24		
	3.9		353.3
	1+18		
	4.3		352.9
	4.0		353.2
	4.5		352.7
	4.5		352.7
	4.3		352.9
	4.6		352.6
	1+22		
	3.9		353.3
	4.2		353.0
	4.5		352.7
	4.5		352.7
	3.9		353.3
	4.2		353.0
	1+32		
	4.0		353.2
	4.1		353.1
	4.7		352.5
	4.7		352.5
	4.4		352.8
	4.1		353.1
	4.2		353.0
	1+40		
	4.5		352.7
	4.6		352.6

H.I.
35724

Elev

H.I.
35724

Elev

38

4		4.6	352.6
E		4.2	353.0
	1444 Single Garage on East		
	0.6 in alley	3.9	353.3
	1450		
E		4.1	353.1
13		4.7	352.5
Φ		4.7	352.5
N		4.6	352.6
	1456 Single Garage on East		
	0.4 in alley ^{Dirt} floor	5.0	352.2
E		5.0	352.2
Φ		4.6	352.6
W		4.8	352.4
	1457 Single Garage on West		
	online concrete floor	4.60	352.64
	1475		
N		5.2	352.0
Φ		5.1	352.1
14		5.1	352.1
E		4.8	352.4
	2400		
E		5.1	352.1
Φ		5.2	352.0
14		5.2	352.0
W		5.4	351.8

N		5.7	351.5
Φ		5.2	352.0
	+7	5.0	352.2
	+8	5.5	351.7
	E	5.5	351.7
	2450		
	E	5.3	351.9
	13	5.6	351.6
	14	5.0	352.2
	Φ	5.1	352.1
	15	5.1	352.1
	17	5.7	351.5
	N	5.7	351.5
	2465		
	N	5.6	351.6
	13	5.8	351.4
	+4	5.4	351.8
	Φ	5.2	352.0
	15	5.2	352.0
	16	5.5	351.7
	E	5.3	351.9
	2484		
	E	5.4	351.8
	15	5.4	351.8
	Φ	5.3	351.9
	16	5.5	351.7

	H.I.	Elev
	357.24	
N	5.9	351.3
	3100	
N	6.0	351.2
+3	5.7	351.5
Φ	5.4	351.8
+5	5.4	351.8
E	5.8	351.4
	3110	
E	5.9	351.3
Φ	5.7	351.5
N	6.0	351.2
T.P.	5.96	357.73
	5.47	351.77
	3124	Single Garage on East
3 rd Back concrete floor	Φ 5.51	352.22
	3135	
N	5.7	352.0
+6	5.8	351.9
Φ	6.1	351.6
E	5.9	351.8
	3142	
E	5.6	352.1
Φ	5.9	351.8
+4	5.4	352.3
N	5.0	352.7
	3150	
N	5.1	352.6

	H.I.	Elev
	357.73	
		39
		5.2
		352.5
		5.5
		352.2
		5.5
		352.2
		3155
		Single Garage on West
	0.8 Back dirt floor	Φ 5.2
		352.5
		3159
		5.67
		352.06
		3175
		5.6
		352.1
		5.5
		352.2
		5.3
		352.4
		5.1
		352.6
		3178
		5.5
		352.2
		5.4
		352.3
		5.6
		352.1
		5.4
		352.3
		5.6
		352.1
		3186
		Single Garage on East
	9.3 Back concrete floor	Φ 5.41
		352.32
		3189
		5.6
		352.1
		5.4
		352.3
		5.6
		352.1
		4.6
		353.1
		5.3
		352.4
		5.3
		352.4

+ HI
35773

- Elev

3794

59 352.3

57 352.0

5.6 352.1

55 352.2

4100

54 352.3

5.6 352.1

58 351.9

4120

5.8 351.9

54 352.3

5.3 352.4

5.5 352.2

4135

5.3 352.4

5.5 352.2

5.4 352.3

5.8 351.9

4139

5.2 352.5

5.7 352.3

5.6 352.1

5.1 352.5

4142 Single

1^o back dirt floor 5.1 352.5+ HI
35773

- Elev

40

4155 Single Garage on West

on line dirt floor 5.1 352.6

4162

5.7 352.0

5.3 352.4

5.3 352.4

5.3 352.4

4175

4.8 352.9

4.9 352.8

5.1 352.6

4190

4.7 353.0

4.5 353.2

4.5 353.2

4.2 353.5

4.2 353.5

5100

3.7 354.0

4.1 353.6

4.4 353.3

5110

3.7 354.0

3.9 353.8

3.9 253.8

4.3 253.4

H.I.
357.73

Elev

E	45	253.2
	5+25	
E	44	253.3
+5	43	253.4
+8	42	253.5
+9	38	253.9
⊕	38	253.9
+5	37	254.0
W	39	253.8
	5+50	
W	3.9	253.8
+5	3.8	253.9
⊕	3.8	253.9
+5	3.8	253.9
E	3.5	254.2
	5+65	
E	3.1	254.6
+5	2.9	254.8
⊕	3.2	254.5
W	3.3	254.4
	5+80	
W	2.9	254.8
⊕	2.9	254.8
E	3.0	254.7
	5+95	
E	2.9	255.3

H.I.
357.73

Elev

41

+6	2.4	255.3
⊕	2.8	254.9
W	2.4	255.3
	5+98	N. line of Univ
W Topcb	2.31	255.92
G	2.74	254.99
⊕	2.96	254.77
G	2.78	254.95
E Topcb	2.64	255.09
	Sec in Gutter and Cb Line of Univ Ave	
E-25 Gutter	4.20	253.5
E-25 Topcb	3.40	254.33
E Line of Alley in Gutter	3.70	254.03
E on Topcb	2.99	254.74
⊕	3.51	254.22
W in Gutter	3.30	254.43
W on Topcb	2.54	255.19
+25 Gutter	3.06	254.67
+25 Topcb	2.37	254.36
T.P.	3.63	358.59
Set BM NW Highland & Univ. O.P.	6.41	352.18
T.P.	4.81	357.20
T.P.	4.72	358.31
BM NE TOP Hy Highland + Polk	2.62	355.69
T.P.	6.39	360.90
check out on starting BM NW Orange pp th	2.43	358.47
check BM NW Highland + Orange	2.80	358.79

No office Record of these B.M.s

354.76

5-15-29 X-section Alley Block 156 U.H.
 J.C. Bliss 20' Wide
 Between Illinois & 0410 - from Polk to
 Howard

B.M. S.E.B.P. Polk to Illinois		366.47
+ 5.62		
	H1372.09	
N.L. Polk = 0+00		
E-Top existing return	5.44	366.65
CB cut - Polk St. Paving	5.36	366.73
♀	5.5	366.6
+ 3 ♀ 3.5' x 3.5' Gas & Elec. M.H. on Rim	5.61	366.48
CB. Cut - Polk St. Paving	5.37	366.72
W-Top existing return	5.44	366.65
	0+25	
W	4.9	367.2
♀	4.7	367.4
E	4.8	367.3
	0+50	
E	4.6	367.5
♀	4.6	367.5
W	4.8	367.3
	0+58	
♀ 8' Garage 1' in Alley from W.L. - Dirt Floor	4.7	367.4
	0+75	
W	4.5	367.6
♀	4.4	367.7
E	4.4	367.7

Plotted Britain

	H1.372.09	
	0+78	
♀ 8' Garage 1' in Alley from W.L. - Concrete Floor	4.45	367.64
	1+00	
E	4.5	367.6
♀	4.2	367.9
W	4.4	367.7
	1+17	
♀ 8' Garage 2.5' Back W.L. - Concrete Floor	4.14	367.95
	1+25	
W	4.0	368.1
♀	4.1	368.0
E	4.6	367.5
	1+37	
♀ 16' Double Garage 5' Back E.L. - Dirt Floor	4.8	367.3
♀ 8' Garage at W.L. - Dirt Floor	4.1	368.0
	1+50	
N-♀ 8' Garage - Dirt Floor	4.3	367.8
♀	4.5	367.6
E	4.7	367.4
	1+75	
E	5.0	367.1
♀	4.9	367.2
W	4.6	367.5
	1+90	
♀ 8' Garage at W.L. - Concrete Floor	4.48	367.61

H.I. 37209

2400

W	4.6	367.5
Φ	4.8	367.3
E	5.1	367.0

2420

Φ 8' Garage at W.L. - Dirt Floor	4.8	367.3
----------------------------------	-----	-------

2425

E	5.1	367.0
Φ	5.1	367.0
N	5.0	367.1

2450

W	5.3	366.8
Φ	5.4	366.7
E	5.8	366.3

2475

E	5.9	366.2
Φ	5.7	366.4
W	5.6	366.5

3400

W	6.3	365.8
Φ	6.3	365.8
E	6.4	365.7
T.P	-5.85	366.24

+1.62

H.I. 367.86

3411

Φ 16' Double Garage 3' Back W.L. - Concrete	1.90	365.96
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Alley-Block 156 D.H.

H.I. 36786

43

3425

E	2.5	365.4
Φ	2.6	365.3
W	2.5	365.4

3450

W	3.1	364.8
Φ	3.4	364.5
E	3.8	364.1

3472

Φ 14' Concrete Platform 1' Back E.L.	4.27	363.59
--------------------------------------	------	--------

3475

E	4.1	363.8
Φ	4.1	363.8
W	3.8	364.1

4400

N	4.1	363.8
Φ -	4.7	363.2
E	4.7	363.2

4425

E	5.1	362.8
Φ	4.9	363.0
W	4.6	363.3

4450

W	4.8	363.1
Φ	5.5	362.4
E	5.7	362.2

Hl. 367.86

4462

♀ 8' Garage - 7' Back W.L. - Dirt Floor	3.8	364.1
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4473

♀ 8' Garage - 7' Back W.L. - Dirt + Floor	4.1	363.8
---	-----	-------

4475

E	5.8	362.1
---	-----	-------

♀	5.5	362.4
---	-----	-------

W	4.8	363.1
---	-----	-------

5400

W	5.5	362.4
---	-----	-------

♀	5.6	362.3
---	-----	-------

E	5.8	362.1
---	-----	-------

5425

E	6.1	361.8
---	-----	-------

♀	5.6	362.3
---	-----	-------

W	5.7	362.2
---	-----	-------

5450

W	5.8	362.1
---	-----	-------

♀	5.8	362.1
---	-----	-------

E	5.7	362.2
---	-----	-------

5475

E	5.6	362.3
---	-----	-------

♀	5.6	362.3
---	-----	-------

W	5.8	362.1
---	-----	-------

5485

♀ 8' Garage at W.L. - Dirt Floor	5.7	362.2
----------------------------------	-----	-------

Hl. 367.86

Block 156.0 H.

44

5493

♀ 8' Garage at W.L. - Dirt + Floor	5.6	362.3
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6+10 = S.L. Howard - Paved

W - Top existing return	4.47	363.39
-------------------------	------	--------

G	4.95	362.91
---	------	--------

♀	5.34	362.52
---	------	--------

G	5.26	362.60
---	------	--------

E - Top existing return	4.75	363.11
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S 5' Gutter Line Howard

E	5.38	362.48
---	------	--------

♀	5.32	362.54
---	------	--------

W	5.17	362.69
---	------	--------

B.M. S.E. B.P. - Ohio + Howard	-3.35	364.51
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Correct	364.47
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Error	0.04
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Bill Bliss
 Joe Duermitt
 J. Jacobsen
 May 31, 1949

X Section 33rd St from Juniper
 to Paving North of Kalmia

80 St
 20.5 ps
 10/95
 SW Top Well
 8P
 33rd Juniper

B.M.	0.93	279.05	278.12
			0100 N Line of 35th on Paving
W		2.8	276.2
+10		3.8	275.2
W Top cb		5.53	273.52
G		6.23	272.82
1/4		6.20	272.85
1/2		6.43	272.62
3/4		7.10	271.95
G		7.93	271.12
E Top cb		7.51	271.54
+10		8.2	270.8
E		9.0	270.0
+10		9.8	269.2
1/2		9.7	269.3
+10		8.9	270.1
		8.0	271.0
cb		7.3	271.7
1/4		6.7	272.3
1/2		6.0	273.0
3/4		5.7	273.3
cb		4.6	274.4
1/2		3.4	275.6
+10		3.0	276.0
W		2.4	276.6
W		2.1	276.9
+10		2.9	276.1
1/5		3.0	276.0
cb		3.8	275.2
1/4		5.0	274.0

Plotted 6-10-29 - GBH

H.I.
279.05

Elev

ϕ	5.5	273.5
1/4	6.4	272.6
cb	7.3	271.7
+10	7.8	271.2
E	8.9	270.1
+10	9.8	269.2
	0125	
-10	10.0	269.0
E	9.4	269.6
+10	8.5	270.5
cb	7.3	271.7
1/4	6.5	272.5
ϕ	6.1	272.9
1/4	5.1	273.9
cb	4.2	274.8
+8	3.3	275.7
KV	2.5	276.5
	0150	
W	2.7	276.3
cb	4.8	274.2
1/4	5.6	273.4
ϕ	6.2	272.8
1/4	7.2	271.8
cb	7.9	271.1
+10	8.9	270.1
E	9.6	269.4

H.I.
279.05

Elev

46

+10	10.1	268.9
T.P.	6.27	278.84
	6.48	272.57
	of 69 S. Side Auto Driveway	
	2.0 Back concrete	2.55 276.29 ✓
	of 69 N. Side Auto Driveway	
	2.0 Back concrete	2.45 276.39 ✓
	0180	
-10	9.8	269.0
E	9.3	269.5
+10	8.8	270.0
cb	7.9	270.9
1/4	7.1	271.7
ϕ	6.7	272.1
1/4	6.1	272.7
cb	5.6	273.2
+10	4.9	273.9
+13	3.6	275.2
W	3.1	275.7
	0183 S. End 2 Car Garage on East	
	10 Back floor concrete	9.77 269.07 ✓
	Driveway on line "	9.36 269.48 ✓
	" 10' in Street "	8.62 270.22 ✓
	0197 N. End 2 Car Garage on East	
	floor Garage 10' Back "	9.79 269.05 ✓
	Driveway on line "	9.94 269.40 ✓

Driveway	10' in street	8.69	270.15 /	N
		14.00		+5
N		3.3	275.5	cb
+10		9.6	274.2	1/4
cb		5.5	273.3	ϕ
1/4		6.2	272.6	1/4
ϕ		6.4	272.4	cb
1/4		7.0	271.8	+10
cb		7.8	271.0	E
+10		8.7	270.1	+10
E		9.6	269.2	
+10		10.9	267.9	-10
	142.5 Residence on East			E
	10' back floor	8.18	270.66 ✓	+10
	10' "	11.1	267.7	cb
E		10.1	268.7	1/4
+10		8.7	270.1	ϕ
cb		8.3	270.5	1/4
1/4		7.5	271.3	cb
ϕ		6.6	272.2	+10
1/4		6.1	272.7	+15
cb		5.4	273.4	N
+10		4.7	274.1	
+15		3.9	274.9	N
N		3.5	275.3	+10
				cb

14.50	274.2
9.6	273.5
5.3	272.4
6.4	271.9
6.9	271.6
7.2	270.7
8.1	269.5
9.3	268.3
10.5	267.4
11.9	266.3
12.5	
14.75	
14.9	263.9
12.7	266.1
11.9	267.4
10.6	268.2
9.3	269.5
8.2	270.6
7.4	271.4
6.8	272.0
6.3	272.5
5.6	273.2
4.9	273.9
2.00	
6.0	272.8
6.4	272.4
7.4	271.4

H.I.
278.84

Key

1/4	8.4	270.4
ϕ	9.6	269.2
1/4	10.5	268.3
cb	11.7	267.1
+10	13.1	265.7
E	14.7	264.1
+10	16.3	262.5
T.P.	0.77	271.46
	8.15	270.69

2+25

-20	12.9	258.6 ✓
-10	11.4	260.1
E	9.7	261.8 ✓
+10	7.6	263.9
cb	5.8	265.7
1/4	4.9	266.6
ϕ	3.9	267.6
1/4	2.6	268.9
cb	1.7	269.8
+10	1.1	270.4
W	0.3	271.2

2+46

W	2.9	268.6 ✓
+10	3.6	267.9
cb	4.5	267.0
1/4	4.9	266.6
ϕ	5.5	266.0

H.I.
271.46

Elex

48

1/4	7.1	264.4
cb	8.7	262.8
+10	10.2	261.3
E	11.4	260.1 ✓
+20	14.0	257.5

2+50

-20	14.1	257.4
E	12.0	259.5
+10	10.5	261.0
cb	9.2	262.3
1/4	7.5	264.0
ϕ	6.0	265.5
1/4	5.5	266.0
cb	5.5	266.0
+10	8.0	263.5
W	7.4	264.1

2+59

W	10.0	261.5
+10	13.1	258.4
+15	13.1	258.4
cb	12.5	259.0
1/4	10.5	261.0
ϕ	9.8	261.7
+5	9.3	262.2
1/4	9.2	262.3
cb	10.2	261.3

	H.I.	Elev
	271.46	
+10	11.7	259.8
E	12.6	258.9
+20	15.5	256.0
	216.5	
-20	16.5	255.0
E	13.9	257.5 ✓
+10	12.8	258.7
cb	11.7	259.8
1/4	11.5	260.0
E	12.4	259.1
1/4	13.0	258.5
cb	15.2	256.3
+5	15.7	255.8
+10	15.3	256.2
VX	12.7	258.8
	217.5	
W	8.3	263.2
+10	14.2	257.3
cb	16.7	254.8
1/4	18.0	253.5
Φ	17.4	254.0
1/4	15.1	256.4
cb	14.3	257.2
+10	15.0	256.5
E	15.4	256.1
+20	17.9	253.6

	H.I.	Elev
	271.46	49
	218.5	
-20	21.6	249.9
E	20.7	250.8
+10	20.9	250.6
cb	20.5	251.0
1/4	19.6	251.9
Φ	19.1	252.4 257.4
1/4	17.5	254.0
cb	15.1	256.4
+5	13.7	257.8
+10	12.4	259.1
VX	8.1	263.4
	219.1	
W	6.8	264.6
+10	8.6	262.9
cb	10.8	260.7
1/4	13.0	258.5
Φ	16.9	254.6
1/4	19.9	251.6
cb	21.1	250.4
+5	21.5	250.0
+10	23.2	248.3
E	23.5	248.0
+20	24.2	247.3
+30	25.7	245.8

H.Z. 271.46
Elev 9.5

3700 Line of Kalmia

-30	29.1	242.4
-20	27.8	243.7
-2	27.6	243.9
E	28.3	242.2 243.2
+10	27.9	243.6
+15	24.7	246.8
cb	21.3	250.2
+7	19.2	252.3
1/4	17.1	254.4
1/4	13.2	257.3 258.3
1/4	8.9	262.6
+7	6.2	265.3
cb	6.0	265.5
N	5.4	266.1

Set BM 933.0

6.94 270.72 > 68 263.78

N. Line Kalmia = 00

60' 51" 11' 00" 9.5/105

N	6.1	264.6
cb	6.6	264.1
1/4	6.5	264.2
1/4	6.6	264.1
+6	7.3	263.4
1/4	11.0	259.7
+6	16.1	254.6
cb	16.9	253.8
E	21.0	249.7

H.Z. 270.72
Elev 50

+10	23.8	246.9
+20	26.2	244.5
T.P.	6.17	263.78
	6.94	263.78
	0.03	
N	5.2	264.7
cb	5.8	264.1
1/4	5.9	264.0
1/4	5.9	264.0
+11	8.7	261.2
1/4	14.0	255.9
+4	15.2	254.7
cb	15.4	254.5
E	20.8	249.87 249.15
+10	24.8	245.1
+17	28.0	241.9
+20 Bottom	31.1	238.8
	0.10	
-20 Bottom	29.9	240.0
-15	27.9	242.0
-7	25.8	244.1
E	22.7	247.2
+6	19.3	250.6
cb	15.7	254.2
+5	13.9	256.0
1/4	13.7	256.2
+4	13.4	256.5

	H.I.	Elev
	26995	
±	11.1	258.8
1/4	8.1	261.8
+7	7.2	262.7
+8	5.5	264.4
cb	5.5	264.4
IV	5.2	264.7
	0+17	
XV	9.8	265.1
+5	5.4	264.5
cb	7.5	262.4
1/4	8.1	261.8
+6	10.9	259.0
±	10.9	259.0
+4	9.9	260.0
1/4	9.8	260.1
cb	14.8	255.1
+5	17.3	252.6
E	20.1	249.8 ✓
+10	25.7	244.2
+15 Bottom	28.9	241.0
+23	28.9	241.0
	0+23	
-10 Bottom	28.3	241.6
-7 Top Fill	26.8	243.1
E	22.4	247.5
±	15.8	254.1

	H.I.	Elev
	26995	
		51
1/4	9.7	260.2
+9	9.7	260.2
±	15.6	254.3
1/4	14.3	255.6
+4	10.7	259.2
+7	6.4	263.5
cb	5.2	264.7
IX	4.6	265.3
	0+26	
IV	4.8	265.1
cb	9.7	260.2
1/4	16.4	253.5
±	18.8	251.1
1/4	21.4	248.5
cb	23.2	246.7
E	25.1	244.8
+15	27.9	242.0
	0+33	
-13	25.3	244.6
-6	26.1	243.8
E	24.9	245.0
cb	23.2	246.7
1/4	20.7	249.2
+4	19.3	250.6
±	15.3	254.6
+6	13.6	256.3

H.I.
269.95

Elev

1/4	11.0	258.9
+5	10.4	259.5
cb	10.0	259.9
+6	10.3	259.6
+7	10.9	259.0
W	9.6	265.3
	0+37	
W	4.5	265.4
+3	9.9	260.0
+8	9.0	260.9
cb	7.9	262.0
+2	7.5	262.4
+4	5.3	264.6
1/4	4.8	265.1
+1	4.8	265.1
+5	9.0	260.9
Φ	12.2	257.7
+4	16.0	253.9
1/4	18.7	251.2
+7	21.7	248.2
cb	21.7	248.2
E	23.6	246.3
+12	23.0	246.9
20	21.3	248.6
	0+40	
-15	21.1	248.8

H.I.
269.95

Elev

52

-5	22.6	247.3
E	19.8	250.1
+5	19.3	250.6
cb	19.4	250.5
+6	19.4	250.5
+7	20.1	249.8
1/4	19.6	250.3
+4	17.1	252.8
Φ	14.2	255.7
+7	8.2	261.7
1/4	5.4	264.5
cb	4.9	265.0
+1	7.0	262.9
+5	9.1	260.8
+9	9.2	260.7
W	4.6	265.3
	0+47	
W	4.3	265.6
+3	4.6	265.3
+4	7.2	262.7
cb	7.7	262.7
+1	4.6	265.3
+7	4.2	265.7
1/4	6.2	263.7
Φ	11.7	258.2
+1	16.7	253.2

269.95

Elev

+3	19.3	255.6
+7	13.3	256.6
1/4	11.2	258.7
cb	12.7	257.2
+5	15.7	254.2
E	17.3	252.6
+10	16.2	253.7
	0+55	
-10	14.9	255.0
E	14.0	255.9
+5	14.1	255.8
cb	10.9	259.0
+4	8.5	261.4
1/4	7.7	262.2
+7	9.1	260.8
φ	12.2	257.7
+4	11.5	258.4
+6	9.2	260.7
1/4	7.9	262.0
+5	3.8	266.1
cb	3.6	266.3
+1	5.3	264.6
+5	6.9	263.0
+8	4.1	265.8
N	4.0	265.9
T.P.	8.77	272.55
	6.17	263.78

272.55

Elev

53

	0+60	
N	6.4	266.1
+2	6.5	266.0
+3	8.6	263.9
+6	8.9	263.6
+7	6.6	265.9
cb	6.2	266.3
+2	6.6	265.9
+6	8.6	263.9
1/4	9.0	263.5
+2	9.0	263.5
+5	11.9	260.6
φ	12.3	260.2
+3	12.3	260.2
+4	7.4	265.1
+8	7.2	265.3
1/4	10.0	262.5
+5	10.1	262.4
cb	12.4	260.1
+3	13.2	259.3
E	13.1	259.4
+20	13.3	259.2
	0+70	
-20	6.1	266.4
E	6.2	266.3
+1 5.5 dy. work	6.1	266.4

+
H.I
272.55

Elev

+ 6. Wedge mark	6.6	266.39
+ cb	6.4	266.41
G	6.6	265.9
+ 9	6.9	265.6
+ 10	6.3	266.2
⊕	7.2	265.1
+ 11	12.5	260.0
+ 14	12.5	260.0
+ 15	8.5	264.0
+ 18	6.4	266.1
+ 1/4	5.9	266.6
cb	5.6	266.9
+ 16	6.3	266.2
+ 17	7.9	264.6
+ 19	7.7	264.8
W	6.2	266.3
	0+85	
W	5.4	267.1
cb	5.7	266.8
+ 1/4	5.5	267.0
⊕	5.6	267.0
+ 1	8.5	264.0
+ 7	7.3	265.2
+ 1/4	5.8	266.7
G	5.9	266.6
E. Top cb	5.52	267.03

+
H.I
272.55

Elev

54

H10

E Top cb	4.93	268.12
G	5.0	267.5
+ 1/4	4.7	267.8
⊕	4.7	267.8
+ 1/4	4.2	268.3
cb	4.4	268.1
W	4.4	268.1
	1+20	
N	3.8	268.7
cb	3.9	268.6
+ 1/4	3.7	268.8
+ 4	4.0	268.5
⊕	3.8	268.7
+ 1/4	3.8	268.7
G	4.8	267.7
E Top cb	4.02	268.53
	1+35	
E Top cb	3.7	269.28
G	4.0	268.5
+ 1/4	3.2	269.3
⊕	2.9	269.6
+ 1/4	2.8	269.7
+ 15	3.1	269.4
cb	2.7	269.8
N	2.2	270.3

H.I.
272.55

Elev

1495

W	1.8	270.7
#9	2.1	270.4
#6	2.6	269.9
1/4	2.1	270.4
1/4	2.4	270.1
Φ	2.6	270.0
1/4	2.8	269.7
G	3.37	269.18
E Top Cb	2.77	269.78
E 1495 = 1450 ⁵⁰ W see sketch		
E Top Cb	2.77	269.78
G	3.37	269.18
1/4	2.62	269.93
Φ	2.17	270.38
1/4	2.06	270.49
G	2.23	270.32
X Top Cb	1.52	271.03
+5 E to drain dir	1.98	271.07
+10 W "	1.38	271.17
X	1.4	271.2
check out on T.P. 13' Hub Kalmia #33	8.77	263.78

Elev. of Water Main
33rd + Kalmia

55

End of Existing Cb. (see Pg. 54)		266.41
0+00 - N.L. Kalmia		
0+61 (End of Main)	-4.00	262.41

X Section Kalmia Street from the
E. Line of Bancroft to the West Line of Felton

+ HZ. - Elev

BM 6.17 303.79 297.62 SW 32nd Kalmia
171 295.86 ~~171~~ 294.15

Section A. See sketch

N.C6. 3.07 292.79

G 3.77 292.09

+10 3.68 292.18

+20 3.80 292.06

+30 4.03 291.83

+40 4.47 291.39

+6³ Gutter 4.75 291.11

S Tapcb 3.87 291.99

0100

-70 S. Line 3.4 292.4

-55 4.8 291.1

-40 4.3 291.6

-20 4.1 291.8

N 3.4 292.4

0115

N 4.9 291.0

+15 5.0 290.9

+25 5.8 290.1

+35 6.0 289.8

+50 5.8 290.1

+55 5.5 290.4

+65 5.5 290.4

PLOTTED
DUNCAN
JUNE 11, 1929

H.I.
295.86

Elev

H.I.
295.86

Elev
57

+70 Shire	9.9	291.0
	of 25	
-70 Shire	6.4	289.4
-65	7.0	288.9
-55	7.2	288.7
-40	6.9	289.0
-35	7.4	288.4
-25	7.2	288.7
-15	7.1	288.8
-5	6.9	289.0
N	5.9	290.0

of 40

N	8.1	287.8
+10	9.6	286.3
+15	10.9	285.0
+20	9.6	286.3
+25	9.6	286.3
+35	10.0	285.8
+45	9.9	286.0
+50	9.2	286.7
+60	9.5	286.4
+70 Shire	8.5	287.3

of 50

-70	10.2	285.6
-60	10.8	285.1
-45	11.4	284.5

-35
-30
-25
-15
-10
-8
-7
-5
-4
N

79.

N
+6
+9
+10
+11
+13
+20
+30
+40
+48
+50
+60
+70 Shire

0.60

289.26

12.20

283.66

11.7	284.1
11.6	284.3
11.1	284.8
11.5	284.4
10.5	285.4
10.4	285.5
12.4	283.5
12.4	283.5
10.7	285.2
10.2	285.6

of 75

2.4	281.9
2.9	281.4
4.4	279.9
4.4	279.9
2.9	281.4
2.9	281.4
3.0	281.3
3.5	280.8
3.9	280.9
3.9	280.4
3.3	281.0
2.5	281.8
2.3	282.0

	HI	Elev
	28426	
	1700	
-70 S Line	5.7	278.6
-60	5.6	278.7
-50	7.0	277.3
-48	7.2	277.1
-40	6.8	277.5
-30	6.5	277.8
-20	6.6	277.7
+19	8.1	276.2
+18	8.1	276.2
+15	6.8	277.5
+8	6.2	278.1
N	5.9	278.4
	1725	
N	9.7	274.6
+15	9.9	274.4
+17	10.6	273.7
+18	11.6	272.7
+19	11.6	272.7
+20	10.2	274.1
+30	10.1	274.2
+40	10.6	273.7
+45	10.6	273.7
+50	10.0	274.3
+55	10.1	274.2
+59	9.1	275.2
+70 S Line	8.8	275.5

	HI	Elev
	28426	58
	1450	
-70 S Line	11.8	272.5
-60	12.9	271.4
T.P.	0.87	271.88
-50	13.25	271.01
-50	1.1	270.8
-40	1.1	270.8
-35	0.7	271.2
-25	0.6	271.3
-21	0.9	271.0
-20	2.3	269.6
-15	0.7	271.2
N	0.3	271.6
	1775	
N	4.0	267.9
+6	3.6	268.3
+17	4.3	267.6
+19	5.1	266.8
+22	5.4	266.5
+24	4.3	267.6
+35	4.3	267.6
+45	4.5	267.4
+50	4.6	267.3
+55	5.3	266.6
+58	4.0	267.9
+70 S Line	3.5	268.4
	1788	
-70 S Line	5.9	266.5

	H/L 27188	Elev	
-57	5.5	266.4	-6
-55	6.1	265.8	-5
-48	6.1	265.8	-3
-45	5.7	266.2	N
-29	5.5	266.4	
-20	6.3	265.6	N
-15	6.3	265.6	+2
-13	5.4	266.5	+7
N	5.4	266.5	+10
	2+00 W line of 33 rd		+30
	6.7	265.2	+50
		<small>80 st. 20' cbs 10' 1/4 s</small>	
+10	6.8	265.1	+52
+15	7.2	264.7	+55
+18	6.5	265.4	+63
+25	6.3	265.6	+70 S line
+40	6.4	265.5	
+45	6.9	265.0	-70 S line
+54	6.8	265.1	-59
+55	6.0	265.9	-54
+70	5.9	266.0	-51
	W C 6		-49
-70	6.4	265.5	-47
-54	5.9	266.0	-40
-52	8.4	263.5	-15
-40	7.4	264.5	-14
-20	7.6	264.3	-7

	H/L 27188	Elev 59
	8.3	263.6
	9.4	262.5
	8.1	263.8
	7.6	264.3
	W 1/4	
	7.7	264.2
	10.5	261.4
	10.8	261.1
	8.0	263.9
	7.7	264.2
	8.1	263.8
	8.6	263.3
	6.8	265.1
	7.0	264.9
	9.5	262.4
	E	
	13.9	258.0
	8.3	263.6
	7.6	264.3
	10.1	261.8
	10.1	261.8
	8.9	263.0
	8.6	263.3
	8.5	263.4
	11.4	260.5
	11.3	260.6

	H.I. 271.88	Elev
-6	7.9	264.0
N	7.8	264.1
	W 6	
N	8.3	263.6
+14	9.1	262.8
+15	12.6	259.3
+20	12.6	259.3
+21	9.3	262.6
+35	9.0	262.9
+48	9.6	262.6
+49	12.4	259.5
+50	18.4	253.5
+52	9.0	262.9
+60	12.5	259.4
+70 S-Line	16.3	255.6
	E 1/4	
-70	18.1	253.8
-57	13.0	258.9
-55	19.3	252.6
-52	19.3	252.6
-51	11.9	260.0
-47	10.0	261.9
-35	9.3	262.6
-25	9.3	262.6
-23	13.1	258.8
-19	13.1	258.8

	H.I. 271.88	Elev
		60
-17	9.8	262.1
-14	9.5	262.4
N	12.5	259.5
	E 06	
N	18.4	253.5
+10	13.3	258.6
+15	13.4	258.5
+20	10.6	261.3
+24	14.3	257.6
+30	14.4	257.5
+32	9.9	262.0
+35	10.1	261.8
+45	10.0	261.9
+55	13.5	258.4
+60	16.2	255.7
+63	26.8	245.1
+65	20.2	251.7
+70 S-Line	22.6	249.3
	E 06 + 10	
-70	29.7	242.2
-67	26.8	245.1
-60	19.4	252.5
-45	14.1	257.8
-35	14.2	257.7
T.P.	0.35 260.07	12.16 259.72
-30	1.9	258.2

	H.I.		Elev
	260.07		
-28	3.9		256.2
-24	6.4		253.7
-20	4.7		255.4
-10	7.9		252.2
N	10.4		249.7
	Elev of 33 rd .		
N	13.6		246.5
+15	10.2		249.9
+20	10.0		250.1
+25	10.3		249.8
+27	7.3		252.8
+35	5.8		254.3
+45	6.1		254.0
+50	8.5		251.6
+55	11.1		249.0
+65	14.5		245.6
+70 Same	17.4		242.7
T.P.	1.00	249.26	11.81
			248.26
		0+10	
-70	9.0		240.3
-69	11.8		237.5
-67	11.0		238.3
-66	8.9		240.4
-60	6.0		243.3
-50	1.1		248.2
-40	0.0		249.3

	H.I.		Elev
	299.26		
-30	0.7		248.6
-29	3.6		245.7
-27	5.2		244.1
-25	5.2		244.1
-24	1.5		247.8
-16	2.4		246.9
-7	4.5		244.8
-3	5.4		243.9
N	7.1		242.2
+5	10.5		238.8
+15	9.1		240.2
+20	7.3		242.0
	0+15		
-20	6.8		242.5
-15	9.5		239.8
N	11.0		238.3
+2	8.3		241.0
+10	5.4		243.9
+20	4.9		244.4
+24	3.4		245.9
+25	6.4		242.9
+27	6.4		242.9
+30	2.5		246.8
+42	1.4		247.9
+50	3.1		246.2
+60	7.2		242.1

	H.I. 299.26	Elev		H.I. 249.26	Elev	
+65		10.3	239.0	+10	9.7	239.6
+66		13.0	236.3	+20	4.6	244.7
+68		13.1	236.2	0133		
+69		10.1	239.2	-20	3.3	246.0
+70.5 line		9.4	239.9	+10	8.1	241.2
		0127		N	10.2	239.1
-70.5 line		9.1	240.2	+4	11.4	237.9
-69		10.6	238.7	+6	13.8	235.5
-66		11.6	237.7	+24	14.2	235.1
-65		14.9	234.4	+25	10.9	238.9
-62		14.9	234.4	+35	8.7	240.6
-61		12.6	236.7	+45	9.3	240.0
-50		8.5	240.8	+55	12.4	236.9
-45		6.9	242.4	+60	13.8	235.5
-40		6.4	242.9	+61	16.2	233.1
-28		7.4	241.9	+63	16.2	233.1
-27		10.3	239.0	+65	12.5	236.8
-24		13.4	235.9	+70.5	8.7	240.6
-21		11.5	237.8		0150	
-20		8.9	240.4	-80	8.1	241.2
-15		11.0	238.3	-70.5	11.9	237.4
-14		12.3	237.0	-60	16.6	232.7
-13		11.2	238.1	-50	18.6	230.7
-8		12.1	237.2	-51	18.7	230.6
-7		13.7	235.6	-40	17.4	231.9
N		12.4	236.9	-23	15.9	233.4

	#2	Elev
	299.26	
-21	13.3	236.0
-8	6.4	242.9
N	6.1	243.2
+10	2.7	246.6
TP	12.01	257.60
	0+60	3.67
		245.59
-10	7.5	250.1
-2	10.8	246.8
N	11.6	246.0
+9	13.3	244.3
+15	13.1	244.5
+17	14.8	242.8
+29	19.6	238.0
+35	22.1	235.5
+40	24.8	232.8
+49	25.7	231.9
+53	27.1	230.5
+62	27.9	229.7
+64	25.0	232.6
+70.5 h20	22.9	235.2
+80	19.5	238.1
+20	18.1	239.5
	0+75	
-100	21.7	235.9
-85	23.8	233.8
-70.5	28.2	229.4

	#2	Elev
	257.60	
-69	29.3	228.3
-65	29.7	227.9
-69	28.4	229.2
-60	26.4	231.2
-50	21.1	236.5
-92	17.5	240.1
-30	12.2	245.4
-20	10.1	247.5
-10	7.1	250.5
N	9.1	253.5
+5	2.5	255.1
+10	0.0	257.6
TP	8.60	264.60
	0+85	1.60
		256.00
-10	9.0	260.6
N	7.6	257.0
+10	11.0	253.6
TP	1.60	257.60
+20	7.0	250.6
+30	10.0	247.6
+37	12.5	245.1
+41	14.5	243.1
+47	18.4	239.2
+60	23.2	234.4
+64	26.5	231.1
+67	27.7	229.9

	HI	-	Elv
	257.60		
+70 Sline		30.7	226.9
+75		29.8	227.8
+90		26.7	230.9
+100		25.6	232.0
		1400	
-110		33.2	224.4
-95		31.3	226.3
-87		31.1	226.5
-85		29.9	227.7
-80		26.5	231.1
-70 Sline		24.3	233.3
-60		20.8	236.8
-50		15.5	242.1
-41		12.0	245.6
-30		5.4	252.2
-26		4.9	252.7
-24		3.4	254.2
T.P.	11.34	267.84	1.10 256.50
-10		8.7	259.1
N		5.7	262.1
+10		9.2	263.6
T.P.	6.91	263.30 273.64	1.11 266.73
		1415	
N-10		7.3	266.3
N		8.7	264.9
+10		10.2	263.4

	HI	-	Elv
	273.64		64
+20		12.6	261.0
+30		16.0	257.6
+40		20.4	253.2
+50		24.7	248.9
+60		27.9	245.7
+65		31.4	242.2
+70 Sline		33.8	239.8
+90		38.0	235.6
+105		42.2	231.4
+125 Bottom		49.9	223.7
		1425	
-125 Bottom		50.6	223.0
-100		36.8	236.8
-70 Sline		27.8	245.8
-60		24.6	249.0
-50		20.8	252.8
-43		18.4	255.2
-40		16.2	257.4
-30		11.9	261.7
-20		10.1	263.5
N		7.3	266.3
+10		6.1	267.5
		1450	
-10		3.9	269.7
N		5.3	268.3
+10		6.7	266.9

	H.I.	Elev
	273.64	
+20	8.3	265.3
+30	9.5	264.1
+40	11.6	262.0
+50	13.6	260.0
+55	15.3	258.3
+60	17.1	256.5
+70 Skine	21.9	252.2
+100	31.9	242.2
+110	36.5	237.1
+20	40.5	233.1
-100	17.6	236.0
-110	37.6	240.8
	32.8	
-100	28.2	245.4
-82	24.0	249.6
-70 Skine	18.5	255.1
-65	16.4	257.2
60	15.0	258.6
-50	13.1	260.5
-40	11.1	262.5
-30	9.3	264.3
-20	7.8	265.8
-10	6.2	267.4
N	4.9	268.7
+10	3.5	270.1
	17.5	
-10	31	270.5
N	45	269.1

	H.I.	Elev
	273.64	
		31.2 16.9 65 4.3
+10	5.7	267.9
+20	7.1	266.5
+25	8.2	265.4
+30	9.0	264.6
+40	10.5	263.1
+50	12.2	261.4
+60	14.2	259.4
+70 Skine	16.9	256.7
+83	21.7	251.9
+95	25.5	248.1
+110	31.2	242.4
	2400	W line of 1st on
-100	21.6	252.0
-90	18.4	255.2
-70 Skine	14.9	258.7
-60	13.0	260.6
-50	10.9	262.7
-40	9.2	264.4
-30	8.1	265.5
-20	7.1	266.5
-10	5.7	267.9
N	4.4	269.2
+10	3.4	270.2
	9.83	263.81
		263.78
		0.03 error

check out
on 2M 13° pt Kalmia + 33rd.

X-Section Sicard Str. from S.L. Irwing to
40' between Curbs, 10' Quarters

N.L. Kearney

66

Sta	+	H.I.	-	Elev
B.M. B.P. N.W. Sicard & Irwing				77.56
	1.61	79.17		
0+00 S.L. Irwing - Paved				
W. Curb Top		2.71		76.46
✓ Bott.		3.39		75.78
W/q		3.04		76.13
☐		2.87		76.30
E/q		2.95		76.22
E. Curb Bott.		3.23		75.94
✓ Top		2.67		76.50
0+15				
E. Curb Top		2.96		76.21
✓ Bott.		4.00		75.17
E/q		3.5		75.7
☐		3.4		75.8
W/q		3.3		75.9
W. Curb Bott.		3.5		75.7
✓ Top		3.03		76.17
0+50				
W. Curb Top		3.26		75.91
✓ Bott.		3.6		75.6
W/q		3.6		75.6
☐		3.6		75.6
E/q		3.8		75.4
E. Curb Bott.		4.2		75.0

Plotted - 7-10-29 G.M. Jain.

Sta	+	H.I.	-	Elev
E. Curb Top		3.22		75.95
0+75				
E. Curb Top		3.45		75.72
✓ Bott.		4.5		74.7
E/q		4.0		75.2
☐		3.9		75.3
W/q		4.0		75.2
W. Curb Bott.		3.8		75.4
✓ Top		3.51		75.66
0+95 Curb out from there south on West only				
W. Curb Top		3.66		75.51
✓ Bott.		4.1		75.1
W/q		4.1		75.1
☐		4.1		75.1
E/q		4.2		75.0
E. Curb Top		3.73		75.44
✓ Bott.		4.6		74.6
1+12 Commencing of Curb on W.L.				
E. Curb Top		3.80		75.37
✓ Bott.		4.6		74.6
E/q		4.4		74.8
☐		4.3		74.9
W/q		4.2		75.0
W. Curb Bott.		4.4		74.8
✓ Top		3.83		75.34

Sta	+	H.I.	-	Elev
1+25				
W. Curb Top			3.92	75.25
✓ Bott.			4.5	74.7
W/4			4.3	74.9
⊕			4.4	74.8
E/4			4.6	74.6
E. Curb Bott.			4.7	74.5
✓ Top			3.93	75.24
1+40	N.L. Alley - Paved on West -			
E.L. Curb Top			3.94	75.23
✓ Bott.			4.6	74.6
E. Curb Top			4.14	75.03
✓ Bott.			5.0	74.2
E/4			4.6	74.6
⊕			4.4	74.8
W/4			4.4	74.8
W. Curb Bott.			4.6	74.6
✓ Top			4.15	75.02
W.L. Curb Top			3.93	75.24
✓ Bott.			4.15	75.02
1+50	⊕ Alley			
W.L. Top M.H.			4.54	74.63
W. Curb			4.8	74.4
W/4			4.4	74.8
⊕			4.3	74.9

67

Sta	+	H.I.	-	Elev.
E/4			4.6	74.6
E. Curb			5.1	74.1
E.L.			5.0	74.2
1+60	S.L. Alley			
E.L. Curb Top			4.08	75.09
✓ Bott.			4.8	74.4
E. Curb Top			4.33	74.84
✓ Bott.			5.3	73.9
E/4			4.7	74.5
⊕			4.5	74.7
W/4			4.5	74.7
W. Curb Top			4.32	74.85
✓ Bott.			4.90	74.21
W.L. Curb Top			4.11	75.06
✓ Bott.			4.30	74.87
1+75				
W. Curb Top			4.42	74.75
✓ Bott.			4.9	74.3
W/4			4.7	74.5
⊕			4.7	74.5
E/4			4.9	74.3
E. Curb Bott.			5.3	73.9
✓ Top			4.54	74.63

Sta	+	H.I.	-	Elev
2+00				
E. Curb Top			4.74	74.43
✓ Bolt			5.5	73.7
E 1/4			5.3	73.9
☉			5.0	74.2
W 1/4			5.1	74.1
W. Curb Bolt.			5.1	74.1
✓ Top			4.66	74.51

Sta	+	H.I.	-	Elev
2+11				
Curb out on West only				
W. Curb Top			4.77	74.40
✓ Bolt			5.1	74.1
W 1/4			5.2	74.0
☉			5.2	74.0
E 1/4			5.4	73.8
E Curb Top			4.84	74.33
✓ Bolt			5.5	73.7

Sta	+	H.I.	-	Elev
2+20				
Commencing of Curb on W.L.				
E. Curb Top			4.92	74.25
✓ Bolt			5.6	73.6
E 1/4			5.4	73.8
☉			5.2	74.0
W 1/4			5.3	73.9
W Curb Bolt.			5.3	73.9
✓ Top			4.87	74.30

Sta	+	H.I.	-	Elev.
2+50				
W. Curb Top			5.17	74.00
✓ Bolt			5.8	73.4
W 1/4			5.4	73.8
☉			5.4	73.8
E 1/4			5.5	73.7
E. Curb Bolt.			5.9	73.3
✓ Top			5.19	73.98

Sta	+	H.I.	-	Elev
2+75				
E. Curb Top			5.42	73.75
✓ Bolt			6.0	73.2
E 1/4			5.6	73.6
☉			5.5	73.7
W 1/4			5.5	73.7
W. Curb Bolt.			6.0	73.2
✓ Top			5.37	73.80

Sta	+	H.I.	-	Elev
3+00 ⁶⁶				
N.W. Julian - Paved -				
W. Curb Top			5.69	73.48
✓ Bolt			6.32	72.85
W 1/4			5.91	73.26
☉			5.63	73.54
E 1/4			5.75	73.42
E. Curb Bolt			6.15	73.02
✓ Top			5.66	73.51
T.P.			5.56	73.61

74.45

STA	+	H.I.	-	Elev.
	0.84	74.45 ✓		
0+00	S.L	Julian Str.		
E.L. Side Walk			1.15	73.30
✓ Ground		J	1.5	72.7
E. Curb Top		III	1.40	73.05
✓ Bott.			2.00	72.45
Ground			1.70	72.75
E/c			1.57	72.88
☼			1.44	73.01
W/c			1.64	72.81
W. Curb Bott.			2.11	72.34
Top			1.36	73.09
0+25				
W. Curb Top			1.91	72.54
✓ Bott.			2.4	72.0
W/c			2.4	72.0
☼			2.4	72.0
E/c			2.7	71.7
+ 7'			2.8	71.6
E. Curb			2.4	72.0
E.L.			1.8	72.6
0+50				
E.L.			2.4	72.0
E. Curb			3.0	71.4
+ 3'			3.5	70.9

No Side Walk on

69

STA	+	H.I.	-	Elev.
E/c			3.4	71.0
☼			3.1	71.3
W/c			3.0	71.4
W. Curb Bott.			3.1	71.3
✓ Top			2.38	72.07
0+75				
W. Curb Top			2.90	71.55
✓ Bott.			3.4	71.0
W/c			3.3	71.1
☼			3.6	70.8
E/c			3.8	70.6
+ 7'			4.2	70.2
E. Curb			3.7	70.7
+ 5'			3.1	71.3
E.L.			3.0	71.4
1+00				
E.L.			3.7	70.7
+ 5'			3.6	70.8
E. Curb			4.3	70.1
+ 3'			5.0	69.4
E/c			4.5	69.9
☼			4.0	70.4
W/c			3.8	70.6
W. Curb Bott.			4.0	70.4
✓ Top			3.35	71.10

Sta	+	H.L.	-	Elev.
1+29				
W. Curb Top			3.95	70.50
✓ Bott.			4.5	69.9
W/4			4.3	70.1
⊕			4.6	69.8
E/4			5.1	69.3
+7'			5.6	68.8
E. Curb			4.5	69.9
E.L.			4.5	69.9
1+40	N.L. Alley on West	only		
E.L.			4.8	69.6
+6'			4.8	69.6
E. Curb			5.3	69.1
+3'			5.9	68.5
E/4			5.4	69.0
⊕			4.8	69.6
W/4			4.5	69.9
W. Curb Bott.			4.8	69.6
✓ Top			4.13	70.32
W.L. Curb Bott.			4.0	70.4
✓ Top			3.99	70.46
1+50	⊕	Alley		
W.L.			4.4	70.0
W. Curb			5.0	69.4
W/4			4.7	69.7

Sta	+	H.L.	-	Elev.
⊕	Top	Manhole	4.83	69.62
E/4			5.6	68.8
+7'			6.0	68.4
E. Curb			5.1	69.3
E.L.			4.9	69.5
1+60	S.L.	Alley		
E.L.			5.2	69.2
E. Curb			5.5	68.9
+3'			6.3	68.1
E/4			5.8	68.6
⊕			5.2	69.2
W/4			4.9	69.5
W. Curb Bott.			5.2	69.2
✓ Top			4.63	69.82
W.L. ✓ Top			4.38	70.07
✓ Bott.			4.5	69.9
1+75				
W. Curb Top			4.89	69.56
✓ Bott.			5.5	68.9
W/4			5.3	69.1
⊕			5.6	68.8
E/4			6.2	68.2
+7'			6.5	67.9
E. Curb			5.9	68.5
E.L.			5.6	68.8

717

70

Sta	+ H.I.	-	Elev
2+13	Pavement in front of School		
E.L. Top		5.80	68.65
✓ Bott.		6.1	68.3
+7'		6.2	68.2
E. Curb		6.7	67.7
+3'		7.3	67.1
E/4		6.8	67.6
☐		6.3	68.1
W/4		6.1	68.3
W. Curb Bott.		6.4	68.0
✓ Top		5.65	68.80
2+37 ⁵⁵	End of Pavement in front of School		
W. Curb Top		6.11	68.39
✓ Bott.		6.9	67.5
W/4		6.6	67.8
☐		6.8	67.6
E/4		7.2	67.2
+7'		7.7	66.7
E. Curb		7.1	67.3
E.L. Bott.		6.5	67.9
✓ Top		6.28	68.17
2+75			
E.L.		7.1	67.3
+8'		7.4	67.0
E. Curb		7.7	66.7

Sta	+ H.I.	-	Elev
+3'		8.0	66.4
E/4		7.8	66.6
☐		7.4	67.0
W/4		7.3	67.1
W. Curb Bott.		7.5	66.9
✓ Top		6.91	67.5
3+00 ⁹⁹	N.W. Kearny - Pared -		
W. Curb Top		7.37	67.08
✓ Bott.		8.01	66.44
W/4		7.78	66.67
☐		7.75	66.70
E/4		7.98	66.47
E. Curb Bott.		8.42	66.03
✓ Top		7.83	66.62
E.L. Side Walk		7.85	66.60
T.P.		7.34	67.11
NW. B.P. Kearny & Sicard			67.11

11-7-29 Sewer levels along & J
 J.C. Bliss From M.H. #19 Marscene Park Sewers at
 Drebert 42nd & J to 43rd St - South 350' on
 Roney 43rd from & J

Flowline	M.H. #19	42nd & J	100.60	+75	5.5	125.7
	+19.34	T 119.94		5+00	4.6	126.6
0+00	M.H. #19 Ground at M.H.	12.9	107.0	+25	3.7	127.5
0+25		12.3	107.6	+50	3.7	127.5
+40		11.5	108.4	+75	2.9	128.3
+50		10.7	109.2	6+00	2.5	128.7
+75		9.9	110.0	+30	0.6	130.6
1+00		4.3	115.6	T.P.		
+25		0.8	119.1		0.50	130.65
T.P. #1		-0.11	119.83	+9.90	T 140.55	
	+11.32	T 131.15		6+50	9.9	130.7
1+40		9.9	121.3	+75	9.1	131.5
+50		9.8	121.4	7+00	8.8	131.8
+75		9.5	121.7	+25	8.7	131.9
2+00		9.6	121.6	7+50	8.4	132.2
+25		8.8	122.4	+25 - South on 43rd	7.7	132.9
+50		9.1	122.1	+50	6.9	133.7
+75		8.4	122.8	+75	6.3	134.3
3+00		7.5	123.7	1+00	5.8	134.8
+25		7.6	123.6	+25	5.5	135.1
+50		7.1	124.1	+50	5.3	135.3
+75		6.5	124.7	+75	5.5	135.1
4+00		6.1	125.1	2+00	5.9	134.7
+25		6.0	125.2	+25	6.4	134.2
+50		5.6	125.6	+50	7.0	133.6

T 140.55

2+75	7.6	133.0
3+00	8.4	132.2
+25	9.1	131.5
+50	10.0	130.6

Note - Curb & Walk are in on 43rd

T.P. 9.95 130.60

+0.68 T 131.28

Levels South along lot line 200' west of W.L. of
43rd. in Morscene Park Add.

± J = 0+00	4.3	127.0
+25	5.0	126.3
+50	4.0	127.3
+75	3.8	127.5
1+00	2.8	128.5
+25	2.0	129.3
+50	1.7	129.6
+75	2.2	129.1
2+00	2.5	128.8
+25	4.0	127.3
+50	3.8	127.5
+85	3.9	127.4

T.P.#1 - Page (73)
72 11.42 119.86
Correct 119.83

33rd St North of Kalmia
 Additional Sections
 East of E.L. of 33rd St.

6th side
 11' Cbr

2-14-30
 Dixon
 North
 Osborn
 74

BM	384	280.96		278.12	SHTop Hill Juniper + 33 rd
TP	1.05	269.32	12.69	268.27	
TP	0.38	256.91	12.79	256.53	
		8' N of H.L. Kalmia			
		33' E of E.L. 33 rd	19.8	237.1	✓
		45' E " " "	17.0		
		10' N of H.L. Kalmia			
		20' E of E.L. 33 rd	16.7	240.2	✓
		40' E " " "	14.3	242.6	✓
		17' N			
		35' E of E.L. 33 rd	12.6	244.3	✓
		23' N			
		35' E of E.L. 33 rd	10.6	246.3	✓
		26' N			
		35' E of E.L. 33 rd	9.5	247.4	
		33' N			
		36' E of E.L. 33 rd	8.4	248.5	✓
		37' N			
		30' E of E.L. 33 rd	6.9	250.0	✓
		40' N			
		30' E of E.L. 33 rd	5.8	251.1	✓
		47' N			
		30' E of E.L. 33 rd	2.1	254.3	✓
TP	12.33	268.53	0.71	256.20	

268.53

55' N of H.L. Kalmia
 20' E of
 70' N of H.L. Kalmia
 End of Curb on E
 12.0
 2.21 266.33

75

Bill Bliss
3/25/79

Bench Levels University Ave
Highland East

BM	3.45	355.63		352.18	NW B.P. Highland Univ
Set BM	6.74	356.29	6.08	349.55	NW B.P. 45 th Univ
I.P.	3.75	357.33	2.71	353.58	
Set BM	0.95	252.15	6.13	351.20	NW B.P. Univ of Cal
				351.23	
				0.03 error	
Set BM	3.62	246.65	9.12	243.03	NW B.P. Menlo Univ
check out on BM			5.18	291.47	NW B.P. 47 th Univ

100-60-4774

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

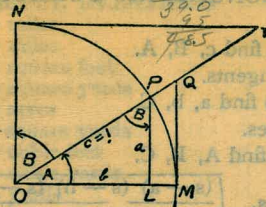


TABLE II

TRIGONOMETRIC FORMULAE

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \quad \cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \quad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Sines} \quad \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

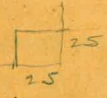
$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$$

11 95
20
22.5
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40.0
42.5
45.0
47.5
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240
 187.3
 377.3
 970
 192.7



120
 64
 1294
 640
 1932

ENGINEERING DEPARTMENT,
 SAN DIEGO,
 CITY OF CALIFORNIA.

44th NWBP 358.99

Chem. 351.20
 46th Orange NWBP 353.94
 Men/b " 349.33
 47th " 354.51

33rd Juniper N to Perry
 Kalmia 33rd East

77.56
 + 1.61
 79.17 ✓
 - 5.56
 73.61 ✓
 0.84
 74.45 ✓
 7.34
 67.11 ✓