Sewer Extension
— 9th Ward —
200

F.B. 200

200

Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

Minutes	Lks.	Minutes	Lks.	Minutes	Lks.
1	2 1/3	22	49	41	95 2/3
2	4 2/3	22	51 1/3	42	98
3	7	23	53 2/3	43	100 1/3
4	9 1/3	24	56	44	102 2/3
5	11 2/3	25	58 1/3	45	105
6	14	26	60 2/3	46	107 1/3
7	16 1/3	27	63	47	109 2/3
8	18 2/3	28	65 1/3	48	112
9	21	29	67 2/3	49	114 1/3
10	23 1/3	30	70	50	116 2/3
11	25 2/3	31	72 1/3	51	119
12	28	32	74 2/3	52	121 1/3
13	30 1/3	33	77	53	123 2/3
14	32 2/3	34	79 1/3	54	126
15	35	35	81 2/3	55	128 1/3
16	37 1/3	36	84	56	130 1/3
17	39 2/3	37	86 1/3	57	133
18	42	38	88 2/3	58	135 1/3
19	44 1/3	39	91	59	137 2/3
20	46 2/3	40	93 1/3	60	140

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TABLE FOR RUNNING ON SLOPES.

In the following table the first column shows the angle, the second the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle	Cor. in Links	Angle	Cor. in Links	Angle	Cor. in Links	Angle	Cor. in Links
o		o		o		o	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24	9.47	35	22.07

200

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line Y	2
" Q	3-7
" Z	8-9
line P.	20-24
" O	25-26
" A'	28
B'	40-42
C'	43
D'	44-45
	52
line E	73
" F.	75

1

Y - line

B.M.	7.75	49.25		41.50
0+00	N.H. 149			
+50			6.77	42.48
1			7.23	42.02
+50		5	6.25	43.00
2			5.02	44.23
+50			5.43	43.82
3			6.53	42.72
+30	N.H. 147			
+50			6.18	43.07
4			4.90	44.35
+50			4.63	44.62
5			2.73	46.52
+50			1.46	47.79
6			2.21	47.04
+05	F.T. 22		2.26	46.99

Alley

3/7/05 Milton — Newton 2

Alley bet Milton & Newton

34 6.0		
35.05	74	
35.79	6.5	43
35.94	7.1	30
36.38	7.9	7
36.83	7.0	
37.28	5.5	
37.72	5.4	
38.17	6.2	
38.61	6.0	
39.06	7.5	
39.51	8.3	
39.95	7.1	
40.40	7.0	

1

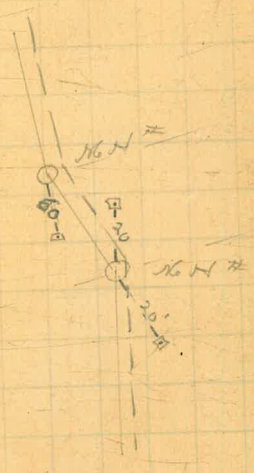
Q Line 3/27/05

BM6	2,71	46.41		43.70	
0+00	MH #149				
+50			5.98	40.43	
1		3	5.18	41.23	
+50			5.23	41.18	
2			5.18	41.23	
+50			6.13	40.28	
+56	MH #150		6.03	40.38	
3					
+41	MH #151		3.14	43.27	
+50			2.86	43.55	
4			2.24	44.17	
+50			2.18	44.23	
5			1.53	44.88	
+50	7.10	53.41	0.10	46.31	
6	MH152		6.56	46.85	
+41			6.31	47.10	
+50			5.90	47.51	
7			5.38	48.03	
+50			3.74	49.67	
8			3.58	49.83	
+50					

Alley
National – Grand

3

34.60	
34.87	56
35.15	61
35.42	58
35.69	56
35.97	43
36.00	44
36.41	
36.80	65
36.90	67
37.50	67
38.10	61
38.70	62
39.30	73
39.90	70
40.50	66
41.10	64
41.70	63
42.30	74
42.90	69



2

Q Line

3/24/05

		53.41			
9					
+41	NH 153		2.15	51.26	
+50					
			3.11	50.30	
10			3.26	50.15	
			4.92	48.49	
11	1.99	48.66	6.74	46.68	
			9.41	39.25	
12			8.53	40.13	
+50					
+705	NH 154		3.02	45.64	
13	12.17	59.59	1.24	47.42	
			9.01	50.58	
			5.84	53.75	
14					
			4.94	54.65	
			5.21	54.38	
15					
			4.79	54.80	
			3.44	56.15	
16	NH 155		4.44	55.15	
			5.84	53.75	
17					
B.M.	3.45	59.05	5.93	53.66	
+50				55.40	3/28/05
18			6.65	52.40	
			4.71	54.34	
			5.19	53.86	

0.539.0

Alley

National - Grand

4

43.50	78
44.00	
44.05	63
44.32	58
44.59	3.9
44.86	18
45.13	55.9
45.40	55.3
45.67	0.0
46.94	C.47
46.21	7.6
46.48	8.2
46.75	7.6
47.02	7.8
47.29	8.9
47.56	7.6
47.83	59
48.10	5.6
48.37	4.0
48.64	5.7
48.91	5.0

1

Q Line

3/28/05

		59.05			
19	NGH156.		7.95	51.10	
			13.40	45.65	
20			10.17	48.88	
			1.98	57.07	
21			1.11	57.94	
			2.45	56.60	
22			2.79	56.26	
			1.95	57.10	
+61°	NGH157				
23			1.40	57.65	
	5.73	64.08	0.70	58.35	
24			5.33	58.75	
			5.95	58.13	
25			5.90	58.18	
+90.5	NGH158		6.51	57.57	
26			6.33	57.75	
			5.76	58.82	
27			4.90	59.18	
			4.33	59.75	
28			3.42	60.66	

0.5995

Alley

National - Grand

3

49.18	1.9
49.95	f3.8
49.72	f0.9
49.98	c7.1
50.25	7.7
50.52	6.1
50.79	5.5
51.06	6.1
51.13	
51.33	6.3
51.60	6.8
51.87	6.9
52.14	6.0
52.41	5.8
52.68	4.9
52.95	4.8
53.22	5.6
53.49	5.7
53.76	6.0
54.03	6.6

Angle R. 0°10'

4.62
5.96
5.946

Q Line

		64.08			
			3.83	60.25	
29			4.27	59.81	
+20°	MH159				
			5.37	58.71	
30			5.67	58.41	
			5.81	58.27	
31			4.59	59.49	
			2.60	61.48	
32	5.24	68.16	1.16	62.92	0.539%
			5.10	63.06	
+60°	MH160				
33			5.29	62.87	
			6.08	62.08	
34			6.18	61.98	
			5.34	62.82	
35			5.02	63.14	
			4.72	63.44	
36	MH161		3.62	64.54	
			1.61	66.55	
37			0.16	68.00	3/30/05
BM6	6.94	73.24		66.30	
			4.95	68.29	
38			5.09	68.15	

Alley
National - Grand

54.30	60
54.57	53
54.84	39
55.11	33
55.37	29
55.64	39
55.91	56
56.18	68
56.45	66
56.72	62
56.99	51
57.26	47
57.53	53
57.80	54
58.07	54
58.34	62
58.61	80
58.88	91
59.15	92
59.42	87

340
60.68
60.68

68
4.84
72.84
6.56
66.28

68.29
59.15
10.14

68.15
59.42
8.73

1

Q Line

3/30/05

		73.24			
+30	Mk 162				
+50			5.15	68.09	0.35%
39			6.63	66.61	
			7.76	65.48	
40			8.19	65.05	
			9.27	63.97	
+60	Ft 30		9.50	63.74	

Trestle #1

4/3/05

BM	611	50.59		44.48
11+33	#1		8.63	41.96
11+61 33	#2		11.24	39.35
11+69 66	#3		11.90	38.69
11+88	#4		11.78	38.81
12+06 33	#5		9.24	41.35
12+34 66	#6.		6.73	43.86
12+50			4.93	45.66

Alley

National – Grand

59.69	8.4			
59.96	6.7			
60.22	53			
60.49	4.6			
60.75	3.2			
60.80	3.0			

6397 6548
6075 6022
322 526

6374 6503
6080 6449
294 54

6509
5469
840

6461
5994
665

Grade		Bent	length	
45.04	3.08	4.0	0.92	C
45.14	5.79	6	0.21	C
45.24	6.55	6	0.55	f.
45.34	6.53	6	0.53	f.
45.44	4.09	5	0.91	C
45.54	1.68	3	1.32	C
4567				

Z line

3/22/05

B.M.6	7.28	62.20		54.92	
0+00	NH 122				
+50			6.72	55.48	
1			5.13	57.07	
		5	4.57	57.63	
2			4.80	57.40	
			5.12	57.08	
3			5.10	57.10	
+35°	NH 123				
			4.55	57.65	
4	8.35	67.80	2.75	59.45	
			6.45	61.35	
5			6.39	61.41	
			5.71	62.09	
6			4.24	63.56	
			4.89	62.91	
+69	NH 124				
7			4.89	62.91	
			6.29	61.51	
8			7.45	60.35	
			6.70	61.10	

0.566 ft/ft

0.480 ft/ft

0.392 ft/ft

Alley
Logan – Milton

47 50	
47 93	7.6
48 37	8.7
48 80	8.8
49.23	8.2
49 67	7.4
50 10	7.0
50 40	
50 47	7.2
50 71	9.8
50 95	10.4
51.19	10.2
51 43	10.7
51 67	11.9
51 91	11.0
52 00	
52 12	10.8
52 32	9.2
52 51	7.8
52 71	8.A

Z Line

Alley

Logan – Milton

		67.80						
9			7.40	60.40		52	9.0	7.5
+50	MH 125		8.09	59.71		53	10	6.6
10			8.05	59.75	0.392 ft/ft	53	30	6.5
			10.51	57.29		53	49	3.8
11			11.92	55.88		53	69	2.2
			11.77	56.03		53	88	2.2
12			10.87	56.93		54	08	2.9
+29.5	F.T. 20		10.08	57.72	✓	54	20	3.5

— Go to P. 19 —
— for Next Line —

1 – Z line –

3/31/05

BM.	4.57	59.49		54.92	
0+50					
1			11.56	47.93	
			11.12	48.37	
2			10.69	48.80	
			10.26	49.23	
			9.82	49.67	
3			9.39	50.10	
+35	NH. 123		9.09	50.40	
+.50.			9.02	50.47	
4		(HI 63.03)	12.32	50.71	
			12.08	50.95	
5			11.84	51.19	
		(HI 64.16)	11.60	51.43	
6			12.49	51.67	
	12.66	64.67	12.25	51.91	
+69	NH 124		12.57	52.00	
7			12.45	52.12	
		(HI 62.48)	12.25	52.32	
8			9.97	52.51	
			9.77	52.71	
9			9.58	52.90	

25 / 19 / 16

62.09 + 2.07 = 64.16

54.18 + 11.94 = 66.12 − 4.03 = 62.09 − 1.94 = 63.03 HI

4/1/05

BM.	3.61	62.48		58.87
+50	NH. 125		9.38	53.10
10			9.18	53.30
			8.99	53.49
11			8.79	53.69
			8.60	53.88
12			8.40	54.08
+29.5	Ft 20		8.28	54.20

6303 − 3047 = 1256

6467 − 5310 = 11.47

Q. Line — (437)

4/10/05

BM	5.12	45.05		39.93	
0+00				34.60	
+50			10.18	34.87	
1			9.90	35.15	
			9.63	35.42	
2			9.36	35.69	
+50			9.08	35.97	
+56 3/5	MH 150		9.05	36.00	
3			8.64	36.41	
+41 3/5	11.80 MH 151	48.60	8.25	36.80	
+50			11.70	36.90	
4			11.10	37.50	
			10.50	38.10	
5			9.90	38.70	
			9.30	39.30	
6	11.26	51.65	8.70	39.90	
+50	MH 152		11.15	40.50	
7			10.55	41.10	
			9.95	41.70	
8	4/11/05		9.35	42.30	

44.59 + 7.26 = 51.85 HI

41.35 + 7.32 = 48.67 HI

5001 BM + 8.94 = 58.95 HI

(9+41 — 16+50)

4/10/05

51.65

+50			8.75	42.90
9			8.15	43.50
+41 MH 153	51.85		7.85	44.00
+58			7.76	44.09
10			7.53	44.32
	48.67		4.08	44.59
11			3.81	44.86
	— Trestle —			45.13
12				45.10
			3.00	45.67
+70 5/5 MH 154			2.89	45.78
	56.95		13.01	45.94
13			12.74	46.21
			12.47	46.48
14			12.20	46.75
			11.93	47.02
15			11.66	47.29
			11.39	47.56
16 MH 155			4.06	47.83
	51.89		3.79	48.10
17			3.52	48.37

Q Line —

4/8/05

		51.89			
18			3.25	48.64	✓
			2.98	48.91	✓
19	MH 156		2.71	49.18	✓
			2.44	49.45	✓
20		61.50	11.78	49.72	✓
			11.52	49.98	✓
21			11.25	50.25	✓
			10.98	50.52	✓
22			10.71	50.79	✓
		63.95 HI	10.44	51.06	✓
+61°	MH 157	<0°10' Rt	12.83	51.12	✓
23			12.62	51.33	✓
			12.35	51.60	✓
24			12.08	51.87	✓
			11.81	52.14	✓
25			11.54	52.41	✓
			11.27	52.68	✓
+90.5	MH 158		11.05	52.90	✓
26			11.00	52.95	✓
			10.73	53.22	✓
27			10.43	53.49	✓

0.539 %

4/7/05

4972
2.17
51.89

53.76
10.19
63.95 HI

5946 BM
204
61.50 HI
51.12
10.38

5189
50.25
1.64

+50			10.16	53.76	✓
28			9.89	54.03	✓
BM.	8.65	63.92		55.27	
			9.62	54.30	✓
29			9.35	54.57	✓
+20 MH 159			9.24	54.68	✓
		4998	9.08	54.84	✓
		12.69			
30		62.67	8.81	55.11	✓
		50.25	8.55	55.37	✓
		12.42			
31			8.28	55.64	✓
			8.01	55.91	
32			7.74	56.18	✓
+50			7.47	56.45	✓
+60 MH 160			7.42	56.50	✓
33			11.52	56.72	✓
BM.	9.93	68.24		58.31	
			11.25	56.99	✓
34			10.98	57.26	✓
			10.71	57.53	✓
35			10.44	57.80	✓
			10.17	58.07	✓
36 MH 161			9.90	58.34	✓
			9.63	58.61	✓

0.539 %

4/7/05

4/6/05

Q. line —

		70.65			
37			11.77	58.88	← 11
			11.50	59.15	←
38			11.23	59.92	← 4/8/05
+30	NGH162	68.30	8.72	59.58	←
			8.61	59.69	←
39			8.34	59.96	←
			8.08	60.22	←
40			7.81	60.49	← 4/6/03
			7.55	60.75	←
+60	Ft 30		7.50	60.80	←

58.81	58.61
11.89	12.04
70.20	70.65
3.58	59.53
66.62	11.07
1.05	
65.30	

Y Line 4/12/05

B.M.	5.85	47.35		41.50	
0+50			12.30	35.05	
1			11.86	35.49	
		5	11.41	35.94	
2			10.97	36.38	
			10.52	36.83	
3			10.07	37.28	0.0
+30	MH 174		9.80	37.55	0.27
			9.63	37.72	0.44
4			9.18	38.17	
			8.74	38.61	
5	12.03	51.09	8.29	39.06	
			11.58	39.51	4/13/05
6				39.95	
+05, FF. 22			11.09	40.00	

1

P Line

3/22/65

BM	8.04	62.96		54.92	
0+00	NH121				
			7.20	55.76	
1			6.57	56.39	
			6.00	56.96	
2			5.53	57.43	
			4.87	58.09	
3			5.36	57.60	
+25	NH 120				
			5.55	57.41	
4			5.18	57.78	
			5.72	57.24	
5			5.04	57.92	
			4.42	58.54	
6			3.42	59.54	
+29	NH 119				
	4.84	61.87	5.93	57.03	
7			6.03	55.84	
			7.10	54.77	
8			6.17	55.70	
			5.13	56.74	

0.43

Alley

Logan – National

20

47.00		
47.30	8.5	
47.39	8.8	
47.89	9.1	
48.19	9.3	
48.48	9.6	
48.78	8.8	
49.07	8.4	
49.37	8.4	
49.67	7.6	
49.95	8.0	
50.25	8.3	
50.54	9.0	
50.84	6.2	2.15
51.14	4.7	59.72 BM
51.43	3.4	
51.73	4.0	
52.02	4.7	

1 Pline 3/22/05

		61.87			
9			5.00	56.87	
+50			5.06	56.81	
+59.5	MH 118				
10			9.90	51.97	
			9.91	51.96	
11			6.41	55.46	
			4.20	57.67	
12			3.56	58.31	
	9.29	69.78	138	60.49	0.593 %
+89.5	MH 117				
13			8.80	60.98	
			7.77	62.01	
14			5.80	63.98	
			5.74	64.04	
15			4.85	64.93	
			6.75	63.03	
16			6.11	63.67	
+19.5	MH 116				
			5.06	64.72	
17			3.73	66.05	
			2.94	66.84	
18			3.18	66.60	

3.5 Alley

Logan - National

21

52.32	4.6
52.63	4.2
—	
52.93	f 1.0
53.23	f 1.3
53.52	c 2.0
53.82	c 3.9
54.11	c 4.2
54.41	c 6.1
—	
54.71	6.3
55.00	7.0
55.30	8.7
55.59	8.5
55.89	9.1
56.19	6.9
56.48	7.2
—	
56.78	8.0
57.07	9.0
57.37	9.5
57.67	8.9

16
12 + 89.5
3 105
60
2 505

60

7.44
62.36

6303
5619
6.54

6493
5589
904

P line 3/22/05

		69.78			
			5.65	64.13	
19			8.77	61.01	
+49	NH145				
+50			8.05	61.73	
20			6.02	63.76	
	6.38	72.14	4.02	65.76	3/24/05
21			5.91	66.23	
			5.84	66.30	
22			5.13	67.01	
+50			5.82	66.32	
+79	NH114				
23			7.53	64.61	
			7.42	64.72	
24			6.00	66.14	
			4.57	67.57	
25			4.67	67.47	
	5.64	72.98	4.80	67.34	
26			5.13	67.85	
+10	NH113				
+50			4.61	68.37	
27			4.50	68.48	

Alley

Logan – National

22

57.96	6.2
58.26	28
58.56	32
58.86	4.9
59.16	6.6
59.45	6.8
59.75	6.6
60.04	7.0
60.34	6.0
60.64	4.0
60.93	3.5
61.23	4.9
61.52	6.1
61.82	5.7
62.11	5.3
62.41	5.5
62.71	5.7
63.00	5.5

64.79
7.90
72.14

362
6936
69.36

Rhine 3/24/05

		72.98			
			5.68	67.30	
28			7.05	65.93	
			6.74	66.24	
29			5.65	67.33	
+30	NGH112	-	4.01	68.97	
30			2.80	70.18	
	9.99	81.85	0.62	72.36	
31			8.53	73.32	
			6.91	74.94	
32			4.68	77.17	
+30			4.58	77.27	
+90	NGH111				
33			4.83	77.02	
+30			4.66	77.18	
34			6.69	75.16	
			10.51	71.34	
+75	Ft 29		11.11	70.74	

Alley

Logan – National

23

6330	4.0
6360	2.3
6390	23
6421	31
6450	45
6493	52
6536	70
6578	76
6621	87
6664	10.6
6707	102
=	
6750	9.5
6792	9.2
6835	68
6878	26
6900	1.7

4.52
77.33
77.33

L P Line — 4/1/05

BM.	4.91	59.83		54.92	
0+50			12.53	47.30	↙
1			12.24	47.59	↙
	12.85	60.74	11.94	47.89	↙
2			12.55	48.19	↙
			12.26	48.48	↙
3			11.96	48.78	↙ 8/0
+25.5	61.74 / 49.93		11.81	48.93	↙ 3.
+50	11.79		11.67	49.07	↙
4			11.37	49.37	↙ 0.5
			11.07	49.67	↙
5			10.79	49.95	↙
	2.02	61.74	59.72 11.49	50.25	↙ 9/3/05
6	50.25 / 10.41 / 60.65	60.65	10.11	50.54	↙
+29.5			9.94	50.71	↙
+50			9.81	50.84	↙
7			10.60	51.14	↙
			10.31	51.43	↙
8			10.01	51.73	↙
	9.87	61.89	9.72	52.02	↙
9			9.57	52.32	↙

61.89

+50				9.26	52.63 ↙
+59.5	MH118			9.20	52.69 ↙
10				8.96	52.93 ↙
				8.66	53.23 ↙
11				8.37	53.52 ↙
				8.07	53.82 ↙
12				7.78	54.11 ↙
				7.48	54.41 ↙ 4/4/05
+89.5	12.99 MH117		67.63	7.25	54.64 ↙
13				12.92	54.71 ↙
				12.63	55.00 ↙
14				12.33	55.30 ↙
				12.04	55.59 ↙
15				11.74	55.89 ↙
				11.44	56.19 ↙
16				11.15	56.48 ↙
+19.5	MH116			11.03	56.60 ↙
+50				10.85	56.78 ↙
17				10.56	57.07 ↙
				10.26	57.37 ↙
18	12.73		70.40	9.96	57.67 ↙

Go to P. 32.

O Line

B.M.	7.35	76.29		68.94	
0+00	M&H 81				
+50			4.43	71.86	
1			5.23	71.06	
		3	4.65	71.64	
2			4.11	72.18	
			4.18	72.11	
3			4.84	71.45	
+15.5	M&H 80				
+50			5.19	71.10	
4			5.52	70.77	
			5.13	71.16	
5			5.16	71.13	
B.M.	3.915	75.515	4.69	71.60	
			4.92	70.60	
6			5.18	70.34	
+31	M&H 79				
+50			4.95	70.57	
7			5.32	70.20	
			5.00	70.52	
8			4.59	70.93	
			3.90	71.62	

Alley

3/11/65 Marcey - Logan

25

62.30	
62 51	9.4
62 71	8.3
62 92	8.7
63 12	9.1
63 33	8.8
63 54	7.9
63 74	7.4
63 95	6.8
64 15	7.0
64 36	6.8
64 57	6.0
64 77	5.6
64.98	5.6
65 18	5.0
65 39	5.1
65 60	5.3
65 80	5.8

O kline

		75.515			
9			5.12	70.40	
+50			5.20	70.32	
+61°	NGH 78				
10			5.10	70.42	
			3.92	71.60	
11					
BM.	6.645	78.86	4.21	71.31	
			3.30	72.215	
			6.95	71.91	
12			6.50	72.36	
+50					
+91°	NGH 77		5.42	73.44	
13			5.33	73.53	
			5.33	73.53	
14			5.03	73.83	
			4.86	74.00	
15			4.85	74.01	
			4.65	74.21	
+80.5	NGH 76				
1.6					
BM.			4.98	73.88	
			1.23	74.63	
			3.46	75.40	
17			2.39	76.47	
			2.83	76.03	

Ratio 0.712 0/0

Alley

3/11/05 Nearcey - Logan

66 01	44	
66 21	41	
66 42	40	
66 63	50	
66 83	45	3/13/05
67 04	49	
67 24	51	
67 45	60	
67 66	59	
67 86	57	
68 07	58	
68 27	57	
68 48	56	
68 69	55	
68 89	50	
69 10	63	
69 30	72	
69 51	65	

/ C O Line

		78.86			
18			3.97	74.89	
+50			5.80	73.06	
+70°	Ft 28		6.70	72.16	

3/13/05

Alley

Marcey - Logan

27.

69 72	5 2
69.92	3 1
70 00	2.2

1 A Line 3/21/05

Alley Kearney - Julian

B.M.		75.905			
0+00	MH 107				
+50			10.08	65.82	
1			9.54	66.36	
	5		8.68	67.22	
2			7.84	68.06	
+50			6.17	69.73	
+69	MH 105		6.23	69.67	
3			6.00	69.90	
			4.85	71.05	
4			3.88	72.02	
			3.23	72.67	
5			2.90	73.00	
			1.98	73.92	
6			1.79	74.11	
+145	MH 104		1.70	74.20	
+50			1.27	74.63	
7	7.735	82.51	1.13	74.475	
			6.14	76.37	
8			6.61	75.90	
			6.39	75.12	

R - 2.156 %

1.216 %

0.926

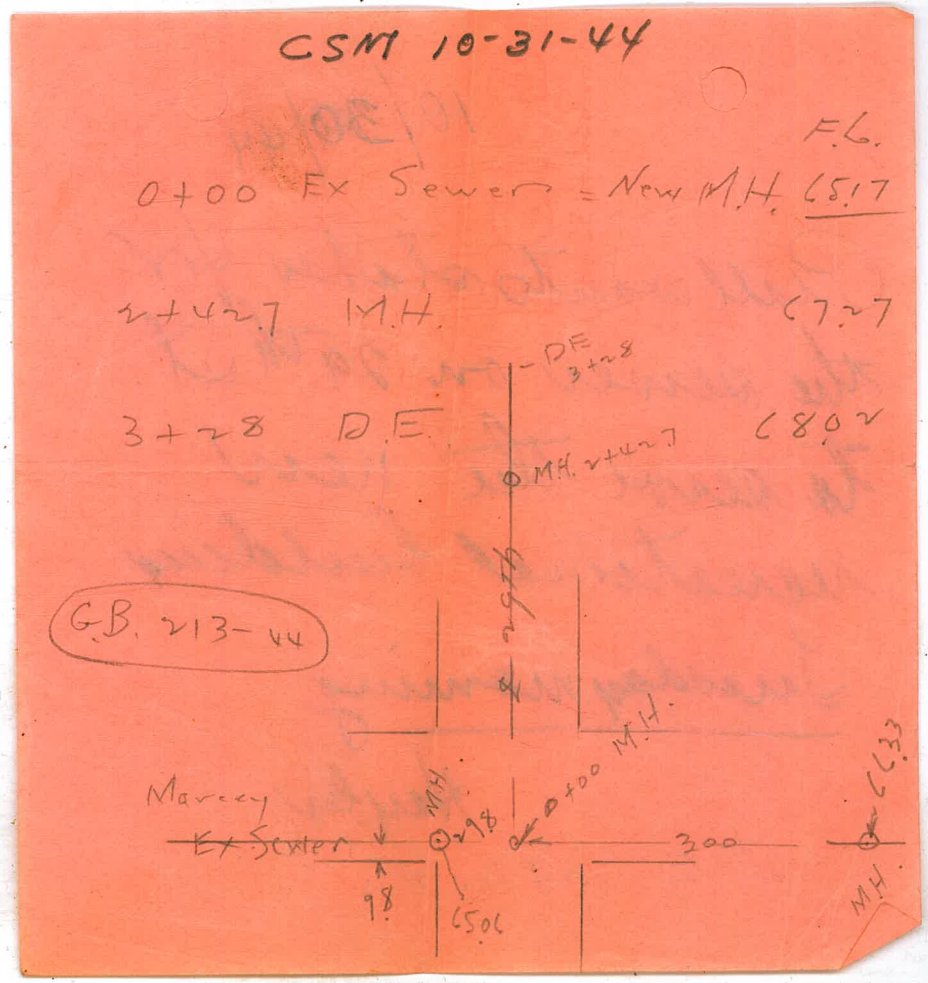
57 20	
58 28	6.6
59.36	7 0
60 43	6 8
61 51	6.6
62 59	7 2
63 00	6 7
63 38	6 5
63.99	7 1
64 59	7 4
65 20	7 5
65 81	7 2
66 42	7 5
67 03	7 1
67 20	7.0
67 53	7 1
67.99	6.5
68.46	7 9
68 92	7 0
69 38	5.8

11.20 Slab on line beyond MH. (107)

6470
6582
5828
6.54
66.36
5936
7.00
6722
6043
6.79
6806
6151
6.55
6973
6259
7.14
6967
63
6.47
6990
6338
6.52
7105
6399
7.06
7637
6846
7.91
7590
6892
6.98

7202
6459
7.43
7267
6520
7.97
73
6581
7.19
7392
6642
7.50
7411
6703
7.08
7420
6720
7
7463
6753
7.1
7447
6799
6.48
7512
6938
5.74

CSM 10-31-44


F.L.
0+00 Ex Sewer = New M.H. 65.17
2+42.7 M.H. 67.27
3+28 D.E. 68.02
D.E. 3+28
M.H. 2+42.7
G.B. 213-44
M.H.
Marcey
Ex Sewer
M.H.
2+98
0+00
300
67.33
98
65.01
M.H.

10/30/44

Prall wants stakes for the sewer on 29th St to serve the new recreational building Tuesday morning

Hayes

6' E offset

A Line 3/21/05

		82.51			
9			4.88	77.63	
+50			5.40	77.11	
+60	MGH 103		5.40	77.11	
B.M.		82.51	3.89	78.62	
10			5.41	77.10	
			6.36	76.15	
11			7.88	74.63	
			7.71	74.80	
12			5.68	76.83	
+40	MGH 102				
+50			4.04	78.47	
13	4.16	82.78	3.89	78.62	
			4.34	78.17	
14			5.03	77.48	
			5.56	76.95	
15			6.03	76.48	
+20	MH 18		5.85	76.66	
B.M.			3.27	79.51	79.50

Alley

Kearney - Julian

28

69.84	78	7763 / 6984 / 7.79	7480 / 7125 / 3.52
70.31	68	7711	7683
70.40	67	7031 / 680	7157 / 3.32
70.59	65	7711	7847
70.82	53	709 / 6.71	7175 / 6.72
71.05	36	7710	7817
71.28	35	7039 / 671 / 7615	7221 / 5.96
71.51	53	7082 / 6.33	7862
—		4463	7198 / 6.64
71.75	67	7105 / 3.58	7748
71.98	67	7695	7294 / 504
72.21	60	7267 / 4.28	7648
72.44	51		7791 / 3.57
72.67	43		
72.91	36		
73.60	37		

1 O Line 3/15/05

BM	6.13	75.07		68.94	
0+00			12.77	62.30	
			12.67	62.40	✓
			12.56	62.51	✓
		5	12.46	62.61	✓
1			12.36	62.71	✓
			12.26	62.81	✓
			12.15	62.92	✓
			12.05	63.02	✓
2			11.95	63.12	✓
			11.85	63.22	✓
			11.74	63.33	✓
			11.64	63.43	✓
3			11.53	63.54	✓
+15.5	MH 80 12.13	75.73	11.47	63.60	✓
			12.09	63.64	✓
			11.98	63.74	✓
			11.89	63.84	✓
4			11.78	63.95	✓
			11.68	64.05	✓
			11.58	64.15	✓
			11.48	64.25	✓

0.12%

3/15/05 1 20

75.73

5			11.37	64.36	✓
			11.27	64.46	✓
			11.16	64.57	✓
			11.06	64.67	✓
6			10.96	64.77	✓
BM +31	3.62 MH 79	75.22	10.32	71.60 64.90	✓ 3/18/05
			10.24	64.98	✓
			10.14	65.08	✓
7			10.04	65.18	✓
			9.94	65.28	✓
	4.62	76.22	10.83	71.60 65.39	✓ 3/20/05
			10.72	65.50	✓
8			10.62	65.60	✓
			10.52	65.70	✓
			10.42	65.80	
			10.32	65.90	✓
9			10.21	66.01	✓
			10.11	66.11	✓
			10.01	66.21	✓
+61	MH 78		9.96	66.26	✓
+75			9.91	66.31	✓
10			9.80	66.42	✓

1 O. Line

		76.22			
10+25			9.69	66.53	✓
+50			9.59	66.63	✓
+75			9.49	66.73	✓
11			9.39	66.83	✓
			9.29	66.93	✓
1"			9.18	67.04	
BM.	4.00	76.64		72.64	
			9.50	67.14	✓ 3/18/05
12			9.40	67.24	✓
+25			9.30	67.34	✓
+50			9.19	67.45	✓
+75			9.09	67.55	✓
+91	MH 77		9.02	67.62	✓
13			8.98	67.66	✓
			8.88	67.76	✓
			8.78	67.86	✓
			8.68	67.96	✓
14	10.67	78.74	8.57	68.07	✓
			8.47	68.17	✓
BM.	~~6.78~~	~~78.99~~		~~72.21~~	
			10.47	68.27	✓ 3/20/05
			10.37	68.37	✓
15			10.26	68.48	✓

		78.74			3/20/05
+25			10.16	68.58	✓
+50			10.05	68.69	✓
+80.5 MH 76			9.93	68.81	✓
16			9.85	68.89	✓
			9.74	69.00	✓
			9.64	69.10	✓
			9.54	69.20	✓
17	7.44	76.74	9.44	69.30	✓
			7.34	69.40	✓
			7.23	69.51	✓
			7.12	69.62	✓
18			7.02	69.72	✓
			6.92	69.82	✓
			6.82	69.92	✓
+70 Ft 28.			6.64	70.00	✓

A Line — 3/28/05

BM	4+11	93.05		68.94	
	7+41	70.10	5.56	67.79	
T.P.				57.20	
0+25			12.36	57.74	
0+50		0.52	11.82	58.28	
		69.58			
0+75			11.28	58.82	
1			10.74	59.36	
BM	2.98	72.56		69.58	
			12.66	59.90	
		72.56	12.13	60.43	
		59.34	11.59	60.97	
		13.22			
2			11.05	61.51	
			10.51	62.05	
+50			9.97	62.59	
+69	NGH 105		9.56	63.00	
+75			9.48	63.08	
3	10.85	74.23	9.18	63.38	
			10.55	63.68	
			10.24	63.99	
			9.94	64.29	
4			9.64	64.59	
	12.95	77.84	9.34	64.89	
			12.64	65.20	
			12.34	65.50	
5			12.03	65.81	

73.20 BM
79.50

3/29-05

77.84

				11.72	66.12
+50				11.42	66.42
				11.12	66.72
6				10.81	67.03
+14 S	NGH 104	1290	80.10	10.64	67.20
+50				12.57	67.53
+75				12.34	67.76
7				12.11	67.99
		8123		11.88	68.22
		7007		11.64	68.46
		1116		11.41	68.69
8				11.18	68.92
				10.95	69.15
				10.72	69.38
				10.49	69.61
9				10.26	69.84
				10.03	70.07
+50				9.79	70.31
+60	NGH 103	1273	81.23	10.83	70.40
+75					70.48
10				10.64	70.59

1 A' Line 3/29/05

		81.23			
			10.53	70.70	✓
+50			10.41	70.82	✓
			10.30	70.93	✓
11			10.18	71.05	✓
	71.39		10.07	71.16	✓
	8.61		9.95	71.28	✓
	80.00				
	71.51		9.84	71.39	✓
	8.49				
12			9.72	71.57	✓
+40	MH 102		9.53	71.70	✓
+50			9.48	71.75	✓
+75			9.37	71.86	
13			9.25	71.98	✓
			9.13	72.10	✓
			9.02	72.21	✓
			8.90	72.33	✓
14			8.79	72.44	✓
			8.68	72.55	✓
			8.56	72.67	✓
			8.44	72.79	✓
15			8.32	72.91	✓
+20	Ft 18		8.23	73.00	✓

0.464 %

1064 P. Line 1

32

from P. 24

70.40 4/4/05

18+50			12.44	57.96	✓
19			12.14	58.26	✓
+49 3	MH 115		11.84	58.56	✓
20			11.54	58.86	✓
			11.24	59.16	✓
21			10.95	59.45	✓
			10.65	59.75	✓
22			10.36	60.04	✓
			10.06	60.34	✓
+79 1	MH 114		9.88	60.52	✓
23			9.76	60.64	✓
			9.47	60.93	✓
24			9.17	61.23	✓
	10.15	71.67	8.88	61.52	✓
25			9.85	61.82	✓
			9.56	62.11	✓
26			9.26	62.41	✓
+10	10.11 MH 113	72.58	9.20	62.47	✓ 4/5/05
+50			9.87	62.71	✓
27			9.58	63.00	✓

0.393 %

P. Line 4/5/05

72,58

27+50			9.28	63.30	
28	73.10		8.98	63.60	
	4.21		8.68	63.90	
	8.89				
	3.20		8.37	64.21	
29					
+50	MH 112		8.08	64.50	
30			7.65	64.93	
	7.7.4	73.10	7.22	65.36	
31			7.32	65.78	
		77.90	11.69	66.21	
32			11.26	66.64	
+50			10.83	67.07	
+90	MH 111		10.49	67.41	4/7/05
33			10.40	67.50	
			9.98	67.92	
34	1.34	78.67	10.32	68.35	
+50			9.89	68.78	
+75	Ft 29		9.67	69.00	

73.89 BM
7.3
81.20
4.03
77.17
0.73
77.90 HI

67.07
12.58
79.65 HI
68.35
11.31
79.65
4.92
11.73

'B' Line

Alley Julian - Irving

BM6	8.13	77.07		68.94			
0+00	NGH 82					62 50	
			6.89	70.18		63 03	7.2
1		5	6.28	70.79		63 56	7.2
			6.10	70.97		64 09	6.9
2			5.49	71.58		64 62	7.0
			4.84	72.23		65.14	7.1
3			4.14	72.93		65 67	7.3
			4.05	73.02		66 20	6.8
+87.6	NGH 83		—			—	
4			5.53	71.54		66 73	4.8
			5.70	71.37		67 26	4.1
5			4.07	73.00		67 79	5.2
			3.20	73.87		68 32	5.6
6			3.61	73.46		68 85	4.6
			4.06	73.01		69 38	3.6
7			4.80	72.27		69.91	2.4
	10.39	83.23	4.23	72.84		70 44	2.4
+75.2	NGH 84		—				
8			8.22	75.01		70 96	4.1
			6.21	77.02		71 49	5.5

1.35 0/0

'B' Line 3/17/05

		83.23			
9			5.80	77.43	
			4.58	78.65	
10			4.73	78.50	
			3.94	79.29	
11			2.94	80.29	
	+05	M6H85	-		
			2.98	80.25	
12			2.15	81.08	
			1.59	81.64	
13			0.85	82.38	
	4.61	87.70	0.14	83.09	
			4.70	83.00	
14			-		
	+35	M6H86			
			4.44	83.26	
15			4.64	83.06	
			5.00	82.70	
16			5.50	82.20	
			5.31	82.39	
17			2.95	84.75	
	+15	M6H87	-		
			1.66	86.04	

Alley

Julian - Irving

72 02	5.4
72 55	6.1
73.08	5.4
73 61	5.7
74 15	6.2
74 20	
74.64	5.6
75 12	6.0
75 60	6.1
76.09	6.3
76 57	6.5
77 06	6.0
77.40	
77.49	5.8
77 81	5.3
78 13	4.6
78 45	3.8
78 77	3.6
79 10	5.7
-	
79 42	6.6

('B' Line 3/17/05

		87.70					
18			0.91	86.79		79.74	7.1
	4.78	92.06	0.42	87.28		80.06	7.2
19			4.48	87.58	0.648 %	80.38	7.2
+50			3.61	88.45		80.71	7.8
+95	Ft. 16		3.60	88.46	✓	81.00	7.5

Alley
Julian – Irving

42

C' Line 3/21/05

Alley
Irving - Harrison

B.M.	1.52	83.32		81.80		28th & Harrison —	
0+00	MH.73					71.20	
			5.18	78.14		71.72	6.4
1		b	4.80	78.52		72.25	6.3
			4.86	78.46		72.78	5.7
2			4.53	78.79		73.30	5.5
			3.25	80.07		73.82	6.3
3	8.82	90.36	1.78	81.54		74.35	7.2
			7.82	82.54		74.87	7.7
+98°	MH72						
4			7.45	82.91	1.050%	75.40	7.5
			6.91	83.45		75.92	7.5
5			6.50	83.86		76.45	7.4
			6.28	84.08		76.97	7.1
6			5.49	84.87		77.50	7.4
			4.95	85.41		78.02	7.4
7			4.09	86.27		78.55	7.7
			4.13	86.23		79.07	7.2
8			3.30	87.06		79.60	7.5
+08°	MH71					79.68	
			3.81	86.55		80.17	6.4

C" Line 3/21/05

		90.36			
9			3.26	87.10	
			2.80	87.56	
10	5.390	94.41	1.34	89.02	
Check BM.			3.450	90.96	90.945
			4.00	90.41	
11			4.25	90.16	
			2.93	91.48	
12			3.66	90.75	
+18	Ft 14		4.09	90.32	

Alley

Irving - Harrison

80.76	6.4
81.35	6.2
81.93	7.1
82.52	7.9
83.11	7.1
83.69	7.8
84.28	6.5
84.50	5.8

D' line 3/21/05

BM6	641	96.63		90.22	
0+00	N6H37				
			9.31	87.32	
1			9.18	87.45	
		5	8.61	88.02	
2			6.95	89.68	
			6.06	90.57	
3			4.89	91.74	
			4.50	92.13	
+92.5	N6H58		-		
4			5.29	91.34	
			5.86	90.77	
5			4.85	91.78	
			3.90	92.73	
6			3.74	92.89	
			3.93	92.70	
7			1.53	95.10	
+50	7795	104.325	0.10	96.53	
+84.9	N6H59				
8			6.35	97.97	
			5.26	99.07	

1.29

Alley Harrison - Grant

26th (Sampson) Ely Grant Ave.

80.00	
80.64	6.7
81.29	6.2
81.93	6.1
82.58	7.1
83.22	7.4
83.87	7.9
84.51	7.6
85.06	
85.16	6.2
85.80	5.0
86.45	5.3
87.09	5.6
87.74	5.2
88.38	4.3
89.03	6.1
89.67	6.9
90.32	7.7
90.96	8.1

9.93
6.70

85.16
.32
85.48

N'ly line Sampson.

D' Line 3/21/05

7+85
10+85
3

40

		104.325					
9			5.11	99.22	6/0	91.61	7.6
			5.56	98.77	7.9	92.25	6.5
10			4.09	100.24		92.96	7.4
			2.82	101.51		93.54	8.0
+85	Ft. 12-		2.70	101.63		94.00	7.6

B' Line.

3/23/05

BNC	5.08	74.02		68.94	
TP	3.905	67.60	10.325	63.695	
0+25			4.83	62.77	↙
0+50			4.57	63.03	↙
0+75			4.31	63.29	↙
BNC	6.69	75.63		68.94	
1			12.07	63.56	↙
			11.81	63.82	↙
			11.54	64.09	↙
			11.28	64.35	↙
2			11.01	64.62	↙
			10.75	64.88	↙
			10.49	65.14	↙
			10.23	65.40	↙
3	12.45	78.12	9.96	65.67	↙
			12.19	65.93	↙
+50			11.92	66.20	↙
+87.6	NH 83		11.52	66.60	↙
4			11.39	66.73	↙
			11.13	66.99	↙
+50			10.86	67.26	↙
			10.60	67.52	↙

3/23/05

78.12

5			10.33	67.79	↙
			10.07	68.05	↙
			9.80	68.32	↙
			9.54	68.58	↙
6			9.27	68.85	↙
			9.01	69.11	↙
			8.74	69.38	↙
			8.48	69.64	↙
7			8.21	69.91	↙
			7.95	70.17	↙
			7.68	70.44	↙
+75.2	NH 54		7.42	70.70	↙
8	12.88	83.84	7.16	70.96	↙ 3/24/05
			12.62	71.22	↙
			12.35	71.49	↙
			12.09	71.75	↙
9			11.82	72.02	
			11.56	72.28	↙
			11.29	72.55	↙
			11.03	72.81	↙
10			10.76	73.08	↙

B' Line

3/24/05

83.84

+25			10.50	73.34	✓
+50			10.23	73.61	✓
+75				73.88	
11				74.15	
+05	MH 85		9.64	74.20	✓
BNG	25-1	86.70	12.31	74.39	✓
			12.06	74.64	✓
			11.82	74.88	✓
			11.58	75.12	✓
12			11.34	75.36	✓
			11.10	75.60	✓
			10.86	75.84	✓
			10.61	76.09	✓
13			10.37	76.33	✓
			10.13	76.57	✓
			9.89	76.81	✓
				77.06	✓
14					
+35	MH 86		9.30	77.40	✓
			9.21	77.49	✓
			9.05	77.65	✓
			8.89	77.81	✓
15					

3/25/05

0.828

0.643

693 +C 643 = 9027 792 1106

73.34 + 10.465 + 643 = 83.805 16 = 3261 = 10.195

.5384 .80293 3.35 = 9407 29 = .00643 153 1929 3285 793 = .085379

48

3/25/05

86.70

+25			8.73	77.97	✓
+50			8.57	78.13	✓
+75			8.41	78.29	✓
16	10.64	89.09	8.25	78.45	✓
			10.48	78.61	✓
			10.32	78.77	✓
			10.16	78.93	✓
17			9.99	79.10	
+15	MH 87		9.88	79.21	✓
+50			9.67	79.42	✓
BNG +75	6.08	90.27	10.69	79.58	✓
18			10.53	79.74	✓
			10.37	79.90	✓
			10.21	80.06	✓
			10.05	80.22	✓
19			9.89	80.38	✓
			9.73	80.54	✓
			9.56	80.71	✓
+75			9.40	80.87	✓
+95	3.14	92.54	11.54	81.00	✓

9254 8087 = 1167

84.19 − 8946

3/27/05

3/28/05

+ C' line — 3/24/05

BM.	2.32	84.12		81.80	
0+25			12.66	71.46	
+50			12.40	71.72	
			12.14	71.98	
1			11.87	72.25	
			11.61	72.51	
			11.34	72.78	
			11.08	73.04	
			10.82	73.30	
2			10.56	73.56	
			10.30	73.82	
	12.88	86.96	10.09	74.08	3/25/05
			12.61	74.35	
3			12.35	74.61	
			12.09	74.87	
			11.83	75.13	
+98	NH 72		11.58	75.38	
4+25			11.30	75.66	
			11.04	75.92	
			10.78	76.18	
5			10.51	76.45	

		86.96			3/25/05
		1117 / 1091 / 26	10.25	76.71	
			9.99	76.97	
		87.93 / 86.33 / 1.70	9.73	77.23	
			9.46	77.50	
			9.20	77.76	
	9.91	87.93	8.94	78.02	
			9.65	78.28	
7	87.06 / .87		9.38	78.55	
	12.68	91.49	9.12	78.81	3/24
			12.42	79.07	
	12.08	91.41	12.16	79.33	
8			11.81	79.60	
+08	NH 71		11.73	79.68	
+25			11.53	79.88	
+30			11.24	80.17	
			10.95	80.46	
	2.53	93.47	12.71	80.76	3/25/05
9			12.42	81.05	
			12.12	81.35	
			11.83	81.64	
10			11.54	81.93	

C' Line —

		93.47			3/28/05
+25			11.25	82.22	✓
+50			10.95	82.52	✓
			10.66	82.81	✓
11			10.36	83.11	✓
			10.07	83.40	✓
			9.78	83.69	✓
			9.49	83.98	✓
12			9.19	84.28	✓
+18.5	Ft 14		8.97	84.50	✓

12 + 18.5

D' Line 3/30/05 50

.0129
4.5
645
516
.05805

5180
10.57
92.37

9236
8096
11.40
+129
11.07

BM	7.98	98.20		90.22	
	1.15	94.03	5.32	92.88	✓
0+25				80.32	
0+50				80.64	✓
0+75			13.07	80.96	✓
1	90.62		12.74	81.29	✓
	1.74				
	92.36		12.42	81.61	✓
	80.64				
	11.72	-+50	12.10	81.93	✓
			11.78	82.25	✓
	80.32				
2	12.04	-+25	11.45	82.58	
			11.13	82.90	
	80.06		10.81	83.22	
	12.30	-+45			
			10.49	83.54	
3	95.65		10.16	83.87	
	8580				
	9.85		9.84	84.19	
			9.52	84.51	
			9.20	84.83	
+92.5	M.H.58		8.97	85.06	✓
4+25			8.55	85.48	✓
			8.23	85.80	✓
			7.91	86.12	✓
				92.88	3/31/05
5	2.77	95.65	9.20	86.45	✓

1.29%

D'Line

3/31/65

		95.65			
			~~8.88~~	~~86.77~~	
+50			8.56	87.09	✓
				87.41	
6	102.83		7.91	87.74	✓
	89.35			88.06	
	13.48		7.27	88.38	✓
				88.70	
7			6.62	89.03	✓
+25			6.30	89.35	✓
B.Ma.	12.61	102.83		90.22	
+76			12.83	90.00	✓
+84.9	MH 59		12.71	90.12	✓
8			12.51	90.32	✓
				90.64	
			11.87	90.96	✓
				91.28	
9			11.22	91.61	✓
				91.93	
			10.58	92.25	✓
				92.58	
10			9.93	92.90	✓
				93.22	

1.29%

102.83

10+50			9.29	93.54	✓
+85° Ft 12			8.83	94.00	✓

129
35
645
387
.4515
8967
90.12

— L Line —

	5.83	80.01		74.18	
0+00	NH 27				
			7.0	73.01	
1		3	6.4	73.6	
			6.2	73.8	
2			7.0	73.0	
	5.85	78.71	6.85	73.16	
3			4.8	73.9	
+15 ?	NH 39		4.7	74.0	0.0
			4.4	74.3	0.3 A
4			4.7	74.0	0.3
			4.7	74.0	
5			4.9	73.8	
			4.76	74.0	
6			4.5	74.2	
+29.5	NH 40		4.9	73.8	
+50			5.0	73.7	
7			4.8	73.9	
			5.1	73.6	
8			4.7	74.0	
+50			5.0	73.7	

5/26/65 Alley

Clay - Webster

52

67.00	6.1
67.16	5.8
67.32	6.3
67.48	6.3
67.64	5.4
67.80	5.4
67.96	6.0
68.01	6.0
68.12	6.2
6828	5.7
68.44	5.6
68.60	5.2
6876	5.2
68.92	5.3
69.01	4.8
69.08	4.6
69.24	4.7
6940	4.2
6956	4.4
6972	4.0

— L Line —

		78.71			
9			4.7	74.0	
+ 40°	MH 41		4.2	74.5	0
+50	5.35	79.94	4.12	74.59	0.32
10			4.7	75.2	
			4.0	75.9	
11			4.7	75.2	
			4.9	75.0	
12			5.0	74.9	
+ 50	Ft. 6.		5.4	74.5	

31st + Webster S.E cor. hd RR spk
pole. 73.08

30th + Clay. S.W. cor. Hd RR spk. 74.81

B.M. 77.70
9.38
87.08 H.I.
7.35
79.73

Elev. M.H.
Bet Clay + Franklin
E of 29th St.

5/26/65 Alley

Clay — Webster

53

641
7353 check

69.88	4.1
70.01	4.5
70 04	4.6
70 20	5.0
70 36	5.5
70 52	4.7
70 68	4.3
70 84	4.1
71.00	3.5

— L Line —

6/12/05

	3.73	77.91		74.18	
0+00	MH 27		10.91	67.00	✓
			10.75	67.16	✓
1			10.59	67.32	✓
		5	10.43	67.48	✓
2			10.27	67.64	✓
			10.11	67.80	✓
3			9.95	67.96	✓
+15	10.87 MH 39	78.88	9.90	68.01	✓
			10.76	68.12	✓
4			10.60	68.28	✓
			10.44	68.44	✓
5			10.28	68.60	✓
			10.12	68.76	✓
6			9.96	68.92	✓
+29.5	BM. 5.21 MH 40	79.10	10.09	73.89 69.01	✓
			10.02	69.08	✓
7			9.86	69.24	✓
			9.70	69.40	✓
8			9.54	69.56	✓
			9.38	69.72	✓

0.32 %

Alley

Clay - Webster

54

10.20
6892
79.12

73.89
5.21
79.10

✓

6/13/05

- L Line -

6/13/05

		79.10			
9			9.22	69.88	✓
+40°	9.11 MN 41	79.12	9.09	70.01	✓
			9.08	70.04	✓
10			8.92	70.20	✓
			8.76	70.36	✓
11			8.60	70.52	✓
			8.44	70.68	✓
12			8.28	70.84	✓
+50	Ft 6		8.12	71.00	✓

0.32 %

Alley

Clay. - Webster.

560
310
250

Blk 78 Seaman and Choate Addition

Bk L & M 29-30

5/26/65 32-178-179-180-Ft

56

	508	78.61		73.53		
0+00	MH 32		5.75	72.86		
			6.8	71.8		
1			7.0	71.6		
			7.2	71.4		
2	846	79.98	7.09	72.89	0.21 %	
			8.0	72.0		
3			7.0	73.0		
			6.4	73.6		
+80.5	MH 178		6.2	73.8		
4			5.6	74.4		
			5.0	75.0		
5			4.8	75.2		
			4.7	75.3		
6			5.1	74.9	0.0 %	
			5.8	74.2	0.200	
7			6.3	73.7		
+50			7.1	72.9		
+61.5	475 MH 179	77.74	6.99	72.99		
8			4.9	72.8		
			5.3	72.4		

68.20	4.7	
68.31	3.5	
68.41	3.2	
68.52	2.9	
68.62	2.9	
68.73	3.3	
68.83	4.2	
88.94	4.7	
69.00	4.8	
69.64	5.4	
69.14	5.9	
69.25	5.9	
69.35	5.9	
69.45	5.4	
69.56	4.6	
69.66	4.0	
69.76	3.1	
69.78	3.2	
69.87	2.9	
69.97	2.4	

See Book 1942 - page 65 for Flow line of Sewer as constructed 9-25-45

Blk. 78 Seaman and Addition Choate 5/26/05

560
3
295 590
7415 7615
10,565 13,515

		77.74					
9			5.8	71.9		70.07	1.8
			6.0	71.7		70.18	1.5
10			6.3	71.4		70.28	1.1
+50			6.5	71.2		70.38	0.8
+56.5	MH 180		6.5	71.2	0.206 %	70.39	0.8
11			6.3	71.4		70.48	0.9
			6.6	71.7		70.59	1.1
12			6.0	71.7		70.69	1.0
			5.8	71.9		70.79	1.1
13			5.2	72.5		70.89	1.6
+51.5	Ft.		4.6	73.14		71.00	2.1

376
7398
73985

B/K. 78 Seaman and Choate Addition

B.M. 0+00	4.97	76.94		71.97	
			8.74	68.20	✓
			8.63	68.31	✓
1		↳	8.53	68.41	✓
			8.42	68.52	✓
2			8.32	68.62	✓
			8.21	68.73	✓
B.M. 3	4.93	76.90		71.97	
			8.07	68.83	✓
			7.96	68.94	✓
+80.5	8.76 MH 178	77.76	7.90	69.00	✓ ×
4			8.72	69.04	✓
			8.62	69.14	✓
5			8.51	69.25	✓
			8.41	69.35	✓
6			8.31	69.45	✓
			8.20	69.56	✓
7			8.10	69.66	✓
			8.00	69.76	✓
+61.5	MH 179		7.98	69.78	✓
8		77.00	7.13	69.87	✓
			7.03	69.97	✓

0.21 %

0.206 %

6/16/05

6/17/05

00.206
7
88.824

761.5
mt

800
+
40 400
384
560 1600

283

77.76
3.78
73.98
73.985 check

69.76
7.24
77.00

Go to P. 60.

Blk. 77 Seaman and Choate Addition 5/26/05 Bet M&N 29-30 178-177-Ft

59

		79.98					
0+00	MH 178		6.2	73.8		69.00	4.8
			5.0	75.0		69.17	5.8
1		h	5.7	74.3		69.34	5.0
			6.0	74.0		69.51	4.5
2			5.8	74.2		69.68	4.5
+50			6.3	73.7	0.340%	69.85	3.8
+95	MH 177		6.7	73.3		70.00	3.3
3			6.9	73.1		70.02	3.1
			7.5	72.5		70.19	2.3
4			7.7	72.3		70.36	1.9
			7.9	72.1		70.53	1.6
5			8.0	72.0		70.70	1.3
			7.9	72.1		70.87	1.2
+90	Ft		7.4	72.6		71.00	1.6

Blk. 78 Seaman 2nd Coats addt

6/17/65

		77.00		
9			6.93	70.07
			6.82	70.18
10			6.72	70.28
			6.62	70.38
+56.5	MH 180	76.79	6.40	70.39
11			6.31	70.48
			6.20	70.59
12			6.10	70.69
			6.00	70.79
13			5.90	70.89
+57.5	FH.		5.79	71.00

(13)

6976
703
76.79
709
672

From: P. 58.

Blk. 77 Seaman and Cloate Addn

0+00		78.70	69.00	
			9.53	69.17
			9.36	69.34
1		3	9.19	69.51
			9.02	69.68
2			7.62	69.85
		77.47	7.47	70.00
+95			7.45	70.02
3			7.28	70.19
			7.11	70.36
4			6.94	70.53
			6.77	70.70
5			6.60	70.87
+90	Ft.		6.47	71.00

8.70

6/19/05

71.97
6.26
78.17
4.72
73.45
3.72
77.47

6/17/05

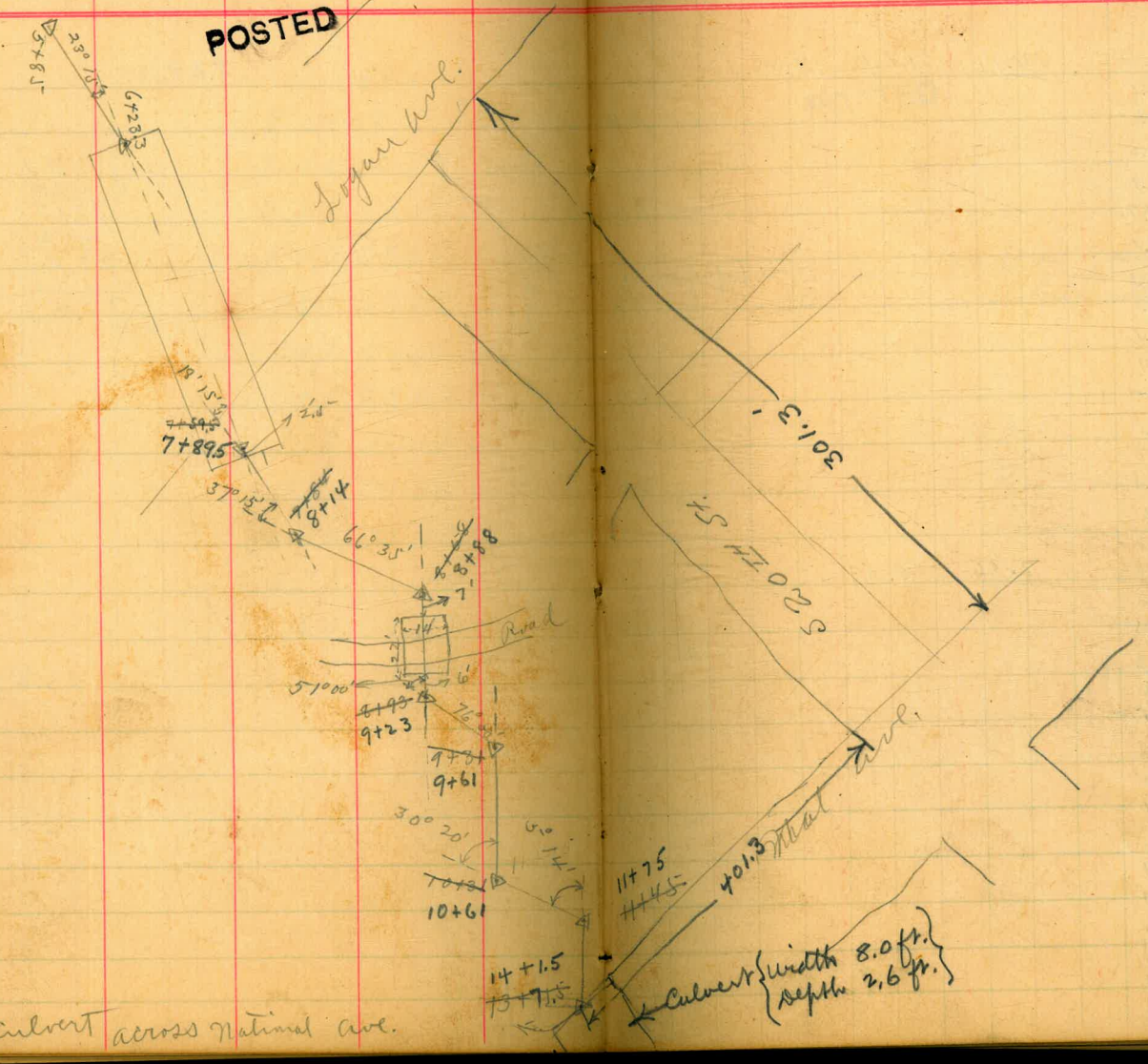
Traverse of creek from Logan ave. West.

Oct. 17 1907

Childs
Evans
Barber

62

POSTED



culvert across National Ave.

Levels on traverse line

Readings taken at right angles to bearing lines.

Sta.	Rod	H.I.	Elev.		Elev. Center	
	0.11	14.11	14.00	B.M.		
~~7+94~~ 8+14	N 5.7 C 8.6 S 11.2				5.5	7'
~~8+00~~ 8+30	N 6.7 C 8.9 S 6.4				5.2	7'
~~8+88~~ 8+88	N 6.3 C 9.1 S 8.4			→ top of bridge	5.0	7'
~~8+93~~ 9+23	N 7.7 C 10.1 S 9.1				4.0	9'
~~9+81~~ 9+61	N 10.0 C 10.5 S 8.0				3.6	9'
J.P.	8.60 2.35	7.86	5.51			
~~10+00~~ 10+30	N 3.6 C 4.5 S 3.3				3.4	6'
~~10+31~~ 10+61	N 3.8 C 4.5 S 4.6				3.4	5'
~~11+00~~ 11+30	N 4.6 C 4.7 S 4.6				3.2	5'
~~11+45~~ 11+75	N 4.7 C 4.7 S 4.7				3.2	7'
~~12+00~~ 12+30	N 5.6 C 5.7 S 5.7				2.2	10'

POSTED

4.0 Elev. of bed of creek at east end of bridge.

Levels cont

Sta	Rod	H.I.	Elev.		Elev Center	
	N 5.9					
~~12+50~~	C 6.0	7.86			1.9	TOT
12+80	S 6.1					
	N 6.2					
~~13+00~~	C 6.2				1.7	TOT
13+30	S 6.4					
	N 7.0					
~~13+75~~	C 7.6			center culvert at mouth	0.3	TOT
14+1.5	S 4.3					

on sidewalk

POSTED

Elev. bottom of culvert −1.0

Line E'

3/30/05

	3.05	25.33		22.28			
	7.19	25.18	7.34	17.99			
0=M.H 219					13 00		
	+50		9.87	15.31	13.19	2.1	
1			10.10	15.08	13.39	1.7	
	+50		10.34	14.84	13.58	1.3	
2			10.57	14.61	13.78	0.8	
	+50 M.H 218		10.67	15.11	13 97	1.2	
3			11.41	13.77	14 16	f 0.4	
	+50		11.55	13.63	14.36	f 0.8	
4			10.95	14.23	14 55	f 0.3	
	+50		10.44	14.74	14.75	0.0	
5			8.70	16.48	14.94	1.6	
	+15 M.H 217		9.05	16.13	15 00	1.1	
	+50		7.79	17.39	15 20	2.2	
6			6.70	18.48	15 49	3.0	
	+50		6.25	18.93	15 79	3.2	
	+86.35 M.H 206		5.95	19.23	16 00	3.2	
7			6.12	19.06	16 11	3.0	
	+50		5.61	19.57	16 48	3.1	

0.388 %

0.583 %

0.734 %

3/30/05

25.18

8			4.29	20.89		16.85	4.1
+50			3.89	21.29		17.23	4.1
9			2.44	22.74		17.58	5.2
+50	908	32.98	1.28	23.90		17.95	6.0
+75.5 MH 205			8.60	24.38			
10			8.37	24.61		18.32	6.3
+50			6.93	26.05		18.68	7.4
11			6.36	26.62		19.05	7.6
+50			5.27	27.71		19.41	8.3
+62.79 MH 204			5.41	27.57		19.30	8.1

0.734 ft/s

1 Line F' 3/30/05

2220
1930
270 | 138
276 | 2
1956
978

		32.98					
0=M.H. 204			5.41	27.57		19.50	8.1
+50			3.83	29.15	1.956%	20.48	8.7
1			4.47	28.51		21.46	7.1
+37.95=M.H 173			5.56	27.42		22.20	5.2
+50			5.48	27.50		22.41	5.1
2			4.54	28.44		23.29	5.2
+50			3.54	29.44	1.753%	24.16	5.3
3			1.70	31.28		25.04	6.3
+50	8.29	40.47	0.80	32.18		25.91	6.3
4			7.12	33.35		26.79	6.6
+11.8 M.H 172			6.80	33.67		27.00	6.7
B.M.	26th & Grand		-0.53	39.94	39.93		

E Line 9/12/05

	3.23	21.22		17.99	
0 +50			8.03	13.19	✓
1			7.82	13.39	✓
			7.64	13.58	✓
2			7.44	13.78	✓
+50	NK 217		7.25	13.97	✓
3			7.06	14.16	✓
			6.86	14.36	✓
4			6.67	14.55	✓
			6.47	14.75	✓
5			6.28	14.94	✓
+15	NK 217		6.22	15.00	✓
+50			6.02	15.20	✓
6			5.73	15.49	✓
+50			5.43	15.79	✓
+86	NK 206	25.96	5.22	16.00	✓
7			9.85	16.11	✓
			9.48	16.48	✓
8			9.11	16.85	✓
	10.23	27.45	8.74	17.22	✓
9			9.87	17.58	✓

17.84
6.38

76

E and F Lines

4/13/05

		27.45			
+50			9.50	17.95	
+75.5 MH 205			9.31	18.14	
10			9.13	18.32	
			8.77	18.68	
11			8.40	19.05	
+50	12.74	32.15	8.04	19.41	
+62.5 MH 204			12.65	19.50	
"F" Line					
0+50		32.77	12.29	20.48	
1			11.31	21.46	
+38 MH 173			10.57	22.20	
+50			10.36	22.41	
2			9.48	23.29	
			8.61	24.16	
3			7.73	25.04	
		38.37	6.86	25.91	
4			11.58	26.79	
+11.8 MH 172			11.37	27.00	

0.734 %

1.956 %

1.753

65 (S)
130 Yo
260

3993
045
40.38
543
34.95 Bm

12.68
36
13.04

19.41
1299
3240
.493
27.47

3240
4
2840

34.95
097
35.92
752
2840
437
32.77 HI
2220
10.57

1950
1327

2146
11.31

2048
12.29

33+73.8
60
34+34
36 30
2 24

Bm = 34.95
342
38.37 HI
2591
12.46

(S)
36 50
2.60
33.90 ft Pipe

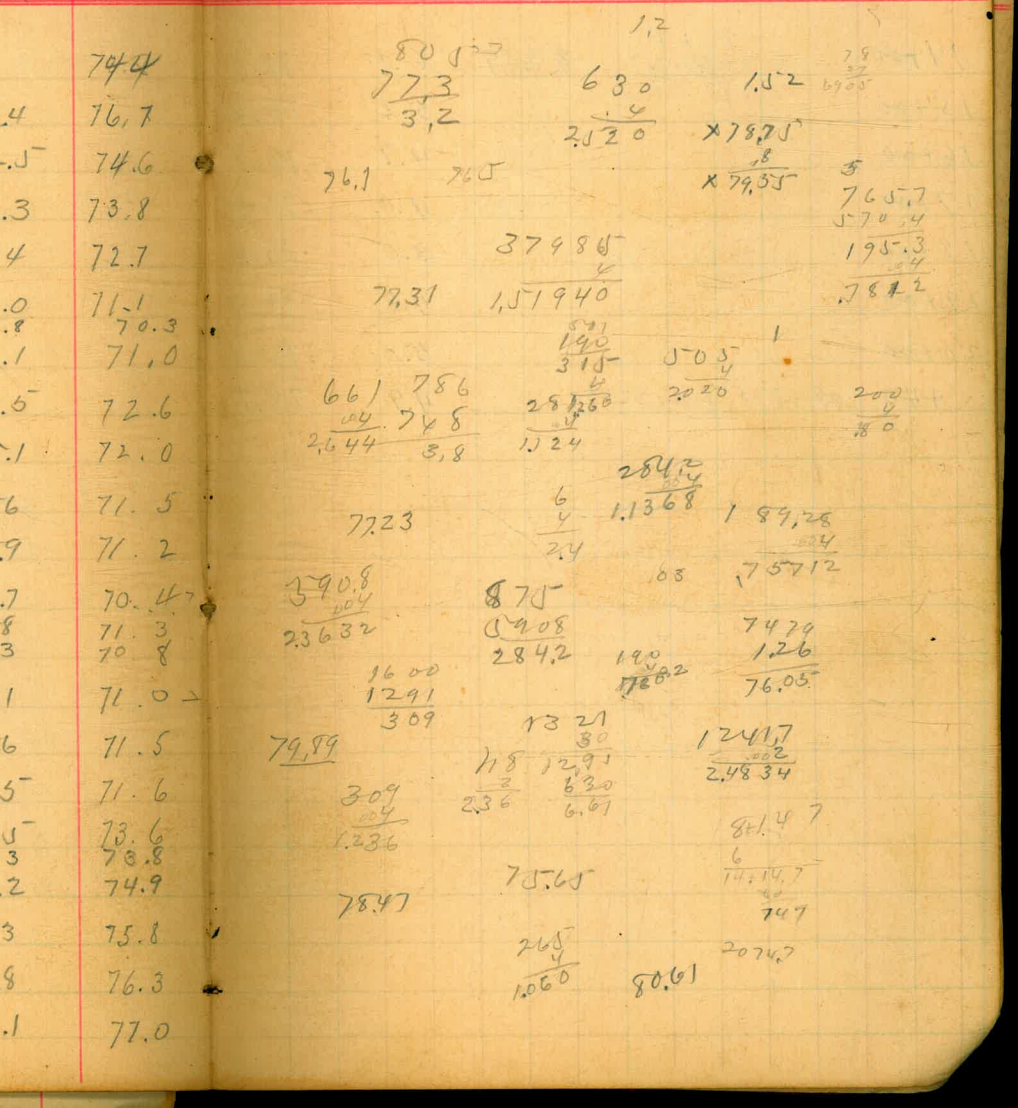
2048
1940
107 | 63
63 | 1.7
440
441

01.7
13
51
17
.221
9
13

June 12/09 { Childs, Barber, Taylor

Levels on alley bet. L & K from center 29th to 32nd

Sta.		H.I.	Rod	Elev
0+00	MH. center 29th St.	77.07		74.4
1+00		77.07	0.4	76.7
2+00			2.5	74.6
3+00			3.3	73.8
4+00			4.4	72.7
5+00			6.0	71.1
+25			6.8	70.3
6+00			6.1	71.0
7+00			4.5	72.6
+54			5.1	72.0
+54.7	W property 30th		5.6	71.5
+64.7	curb		5.9	71.2
+65.7	gutter		6.7	70.4
+84.7	center 30th		5.8	71.3
8+00			6.3	70.8
+03.7	gutter		6.1	71.0
+04.7	curb		5.6	71.5
+14.7	E property 30th		5.5	71.6
9+00			3.5	73.6
+12.7	= 0+00 on line going south		3.3	73.8
10+00	See diagram		2.2	74.9
11+00			1.3	75.8
12+00			0.8	76.3
13+00			0.1	77.0



0.07
77.00 JP.
6.59
83.59

805
77.3
3.2

1.2

630
.4
2.520

1.52
78
37
6905

×78.75
.8
×79.55

76.1 765

765.7
570.4
195.3
.04
.7812

37985
4
1.51940

77.31

501
190
315
4
281.260
.04
1.124

505
4
2.020

661 786
.04 748
2.644 3.8

200
4
.80

284.2
.04
1.1368

6
4
2.4

77.23

189.28
.04
.75712

.03

590.8
.04
2.3632

875
5908
284.2

7479
1.26
76.05

190
4
760.2

1600
1291
309

1321
30
1291
630
6.61

1241.7
.002
2.4834

79.89

118
2
2.36

309
.004
1.236

81.47
6
14.14.7
.60
747

75.65

78.47

265
4
1.060

80.61

2074.7

June 12/09 { Childs, Barber, Taylor

79

Sta			H.I.	Rod	Elev.
14+00		73.65 3.42 77.07	83.59	6.1	77.5
15+00				5.2	78.4
16+00				4.9	78.7
17+00				4.0	79.6
18+00				3.0	80.6
19+00				4.8	78.8
20+00				5.0	78.6
+40	about 35' from 32nd			4.9	78.7

570.43
50
520
.004
2,80

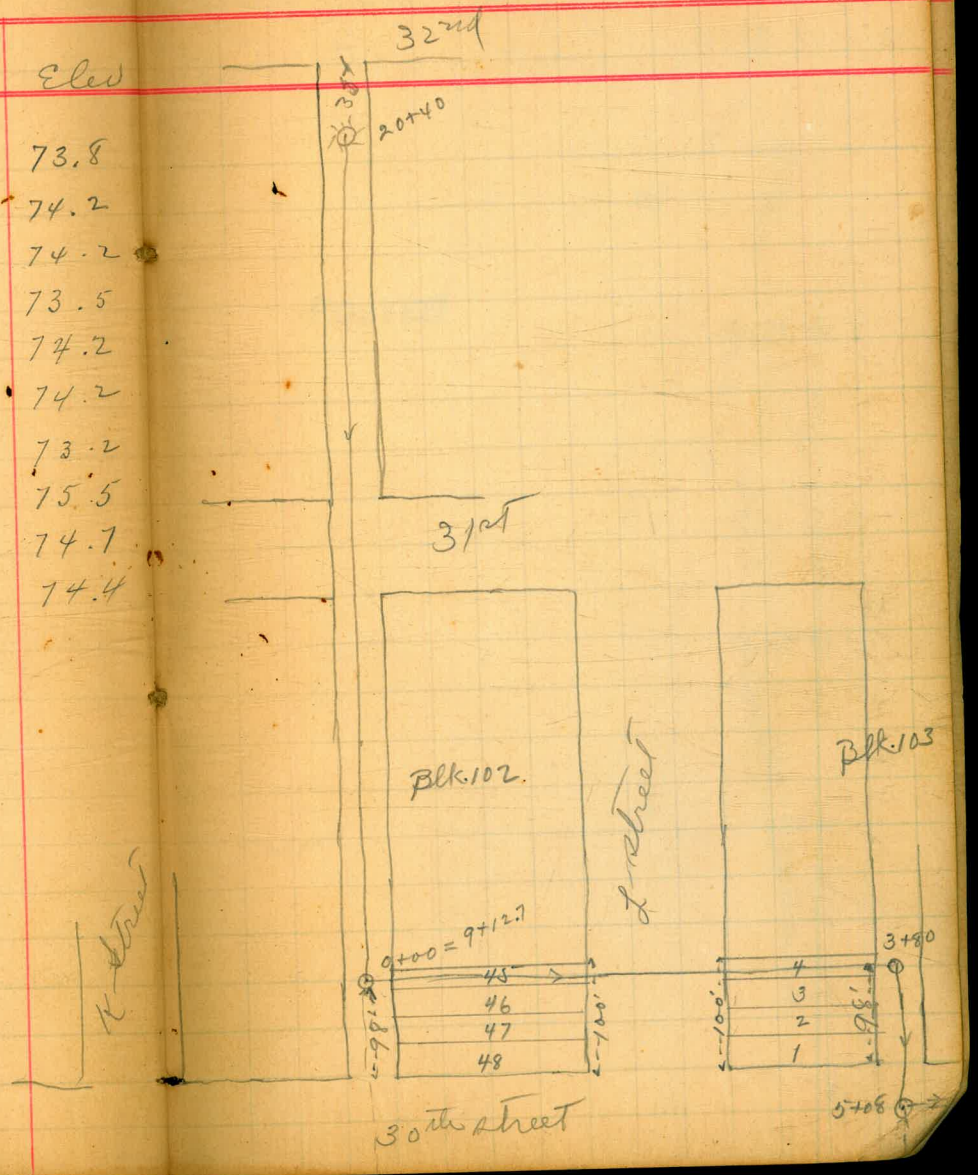
70.35

20.40
2,90
23.30
570.43
1759.57
.004
7.03828
68.27
75.31

1255
380
16.35

June 12/09 { Shields Barber Taylor

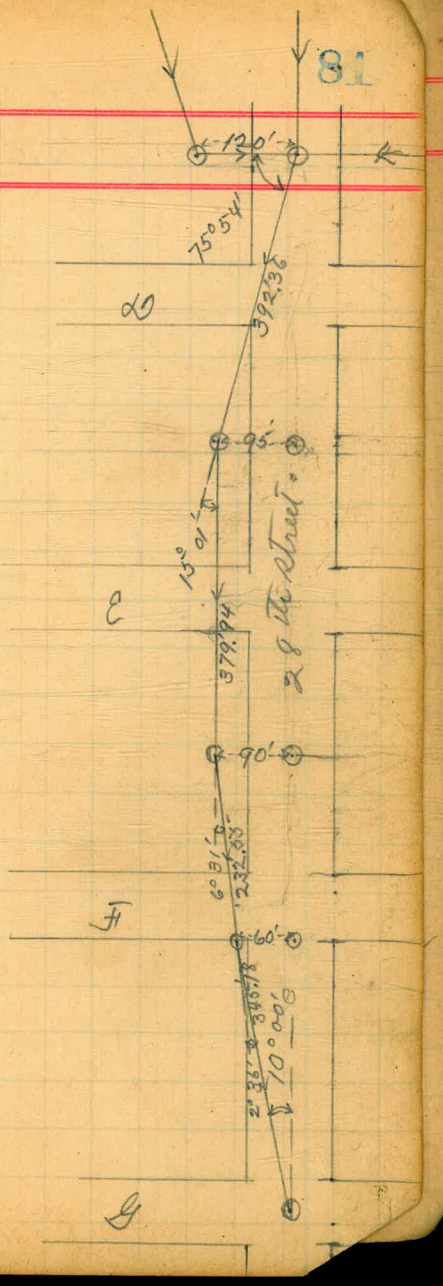
Sta		H.I.	Rod	Elev
0+00	~~Center~~ alley bet.	79.88	6.1	73.8
1+00	L+K 98' East of East line of 30th		5.7	74.2
2+00	6.23 73.65 79.88		5.7	74.2
3+00			6.4	73.5
+80	center alley bet. M+L;		5.7	74.2
4+00			5.7	74.2
~~+70~~			6.7	73.2
+78	East line 30th		4.4	75.5
5+00			5.2	74.7
+08	center 30th M.H. bet M+L,		5.5	74.4



Survey for Sewer up
Canyon west of 28th Street

July 23/04 Childs
Barber
Tayer

POSTED



69.2
65.52
3.68

73.6 J
2.6 J
76.20 ✓
69.30

73.6 J
2.58
76.23 ✓

69.78
6.45

74.18
1.13
75.31
2.63
Top Fence Post 72.68 — mka

Return to City Engineers Office
City Hall, San Diego, Cal

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

...p.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
		Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
		100.00	0.44	100.00	0.87	99.99	1.31	89
	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
98.16	19.08	98.08	19 51	97.99	19.94	97.90	20.36	78
97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
97.44	22.50	97.34	22.92	97.24	23 34	97.13	23.77	76
97.03	24.19	96.92	24 62	96.81	25 04	96.70	25.46	75
96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
96.13	27.56	96.00	27.98	95.88	28 40	95.76	28.82	73
		95.50	29.65	95.37	30.07	95.24	30.49	72
		94.97	31.32	94.83	31.73	94.69	32.14	71
		94.41	32.97	94.26	33.38	94.12	33.79	70
		93.82	34.61	93.67	35.02	93.51	35.43	69
		93.20	36.24	93.04	36.65	92.88	37.06	68
		92.55	37.86	92.39	38.27	92.22	38 67	67
		91.88	39 47	91.71	39.87	91.53	40.27	66
		91.18	41.07	91.00	41.47	90.81	41.87	65
90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
89.88	43.84	89 69	44.23	89.49	44.62	89.30	45 01	63
89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
84.80	52 99	84.57	53.36	84.34	53.73	84.10	54 10	57
83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
79.86	60.18	79.60	60 53	79.34	60.88	79.07	61 22	52
78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
	.20	72.84	68.52	72.54	68.84	72.24	69.15	46
	.47	71.63	69.78	71.33	70.09	71.02	70.40	45
	.71							
Dep.	at.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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