

UNIVERSITY OF MICHIGAN

435

400
LEVEL

F.B. 435

Published by H. S. CROCKER COMPANY, Stationers, Draw-
Materials, and Mathematical Instruments, San Francisco

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

MINUTES.	LKS.	MINUTES.	LKS.	MINUTES.	LKS.
1	2 1/2	21	49	41	81 1/2
2	4 1/2	22	51 1/2	42	83 1/2
3	7	23	53 1/2	43	85 1/2
4	9 1/2	24	56	44	87 1/2
5	11 1/2	25	58 1/2	45	89 1/2
6	14	26	60 1/2	46	91 1/2
7	16 1/2	27	63	47	93 1/2
8	18 1/2	28	65 1/2	48	95 1/2
9	21	29	67 1/2	49	97 1/2
10	23 1/2	30	70	50	99 1/2
11	25 1/2	31	72 1/2	51	101 1/2
12	28	32	74 1/2	52	103 1/2
13	30 1/2	33	77	53	105 1/2
14	32 1/2	34	79 1/2	54	107 1/2
15	35	35	81 1/2	55	109 1/2
16	37 1/2	36	84	56	111 1/2
17	39 1/2	37	86 1/2	57	113 1/2
18	42	38	88 1/2	58	115 1/2
19	44 1/2	39	91	59	117 1/2
20	46 1/2	40	93 1/2	60	119 1/2

MICROFILMED

DEC. 14 1964

TABLE FOR RUNNING ON SLOPES

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

ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS
0		0		0		0	
4	0.24	11	1.88	18	5.14	25	10
5	0.38	12	2.24	19	5.76	26	11
6	0.55	13	2.63	20	6.42	27	12
7	0.76	14	3.06	21	7.11	28	13
8	0.98	15	3.53	22	7.85	29	14
9	1.24	16	4.02	23	8.64	30	15
10	1.55	17	4.56	24	9.47	35	22



LEVEL BOOK

No. 400

435



FROM
Loring's Book-Store

MANUFACTURED BY

H. S. Crocker & Co.

SAN FRANCISCO
and
SACRAMENTO

67.06
pole
2.06
pole
40
pole
14

8765 ✓
7705 ✓
10445 ✓
18785 ✓
17785 ✓

S.S. 289,492 ✓
 .10 ✓
 589.59 ✓
 7.82 ✓
 281.77 ✓
 7.29 ✓
 289.06 ✓

67.06
uni pole
2.06
pole
to
pole
14

Albatross & Robinson N.E. Cor. 267.06

Lincoln & Vermont S. W. Cor. Hd. respk in pole
292.06

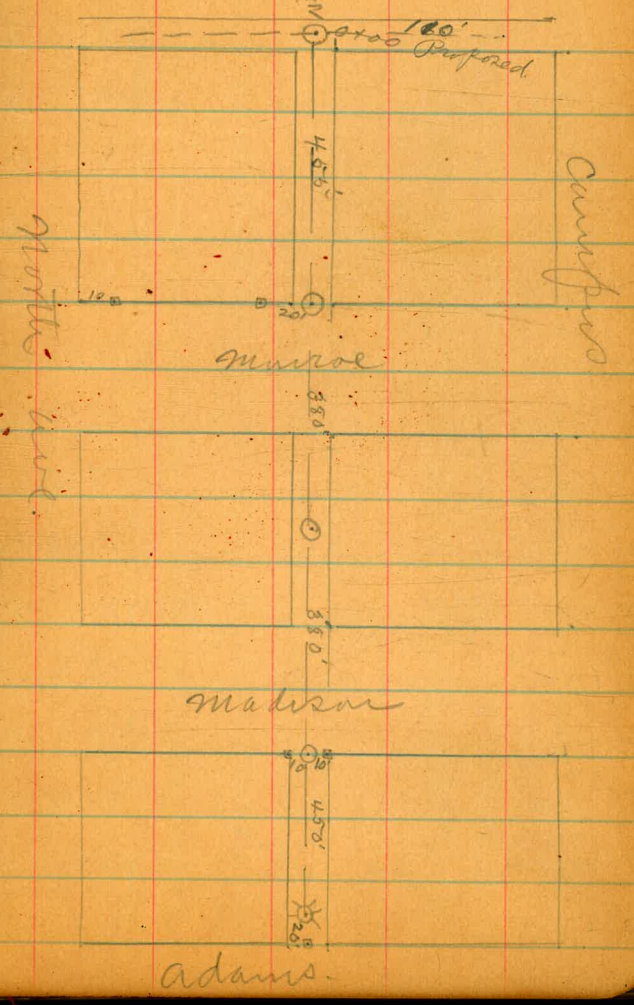
Cleveland & Lincoln S. E. Cor. Hd. & R. spk. pole
305.40

Cleveland & Richmond N. W. Cor. Hd. spk. pole g.
297.14

342.26
 340.44
 390 407 805
 1.820 1.920 1.520
 34378 26
 380 / 1.520 1.520

Dec. 14/08
 Blklds
 Barber
 Rogers

University Hts. Server



Campfire

I

alley bet. north
& Campbell

Sta.		H.I	Rod	Ground
0+00	N.H. Center alley	354.41	6.2	348.2
+50			7.2	347.2
1+00			7.8	346.6
+50			8.0	346.4
2+00			7.8	346.6
+50			7.0	347.4
3+00			7.7	346.7
+50			6.9	347.5
4+00			7.2	347.2
+50			7.07	347.34
+50	N.H. So. line	357.31	10.0	347.3
+90 &	manhole		9.7	347.6
5+00			9.8	347.5
+50			10.0	347.3
6+00			10.3	347.0
+50			9.3	348.0
7+00				

we
ave.

Dec. 14/08
Childs
Barber
Rogers 2

Grade	cut			
✓ 340.44	7.8	347.24 43.6 351.70 342.26 9.44	307.22 9.87 357.79	347.34 5.65 4.74
✓ 340.64	6.6	342.24 9.46 342.04		345.59 6.32 351.91
✓ 340.84	5.8	342.04 9.66 341.50 9.86		345.59 373 349.32 5
✓ 341.04	5.4	341.50 9.86 341.04 10.06		344.24 347.34 5.65
✓ 341.24	5.4	341.04 10.06 341.44 10.26 341.24 10.46		344.24 347.34 5.65 352.99
✓ 341.44	6.0	341.24 10.46 341.04 10.66		342.84 10.55
✓ 341.64	5.1	341.04 10.66 340.84 10.86		342.64 10.35
✓ 341.84	5.7	340.84 10.86 340.64 11.06		342.64 10.15
✓ 342.04	5.2	340.64 11.06		343.04 9.95
✓ 342.24	5.1			343.24 9.75
✓ 342.26	5.0			
✓ 342.44	5.2			
✓ 342.64	4.9			
✓ 342.84	4.5			
✓ 343.04	4.0			
✓ 343.24	4.8			

J.P.

cont. from Page 2

Dec. 14/08

Lehilds
Barber
Rogers

3

Sta.	H.T.	Rod	Ground	Grade	cut		
7+50	357.31	9.0	348.3	✓ 343.44	4.9	352.99 ✓ 343.44 9.55 343.64	344.64 8.35 ✓ 344.84 8.75 ✓
8+00		7.1	350.2	✓ 343.64	6.6	9.35 ✓ 343.78	344.84 8.75 ✓ 345.04 7.95 ✓
+85	NH center blk. 44	6.8	350.5	✓ 343.78	6.7	9.21 ✓ 343.84	347.31 ✓ 345.24
+50		6.8	350.5	✓ 343.84	6.7	9.15 ✓ 344.04	12.07 ✓ 345.54
9+00		6.1	357.7	✓ 344.04	7.2	8.95 ✓ 344.24	11.76 ✓ 345.90
+50		6.1	357.2	✓ 344.24	7.0	8.75 ✓ 344.44	11.41 ✓ 346.25
10+00		5.9	357.4	✓ 344.44	7.0	8.55 ✓ 345.30	11.06 ✓ 346.60
+50	04	5.30	352.01	✓ 344.64	7.4	12.01 ✓ 345.30	10.71 ✓
11+00		4.9	352.4	✓ 344.84	7.6		
+50		4.9	352.4	✓ 345.04	7.4		
+75	Madison			345.14			
12+00		5.0	352.3	✓ 345.24	7.1		
+15	NH. no. line Madison	4.6	352.7	✓ 345.30	7.4		
+50		3.7	353.6	✓ 345.55	8.0		
13+00		5.0	352.3	✓ 345.90	6.4		
+50		5.0	352.3	✓ 346.25	6.0		
14+00		4.6	352.7	✓ 346.60	6.1		

8th Street

J.P.

X 0.74

X

Cut - from page 3

Dec. 14/08

Childs
Barber 4
Rogers

Sta.	N.I.	Red	Ground	Grade	cut
14+50	357.31	5.0	352.3	✓ 346.95	5.4
15+00		4.76	352.55	✓ 347.30	5.3
+50		3.8	353.5	✓ 347.65	5.9
16+00		3.7	353.6	✓ 348.00	5.6
+50		3.8	353.5	✓ 348.35	5.2
+65 F.I.		3.7	353.6	✓ 348.45	5.1

352.55

4.76

357.31

346.95

10.36

347.30

10.01

347.65

9.66

348.00

9.31

348.35

8.96

348.45

8.86

J.P.

354.2

348.5

9

16.65
12.15
4.50

2nd Street

X

X

§

Alley bet. Meade
Jacks & Monroe.

Dec. 16/08

Childs
Barber
Angers

5

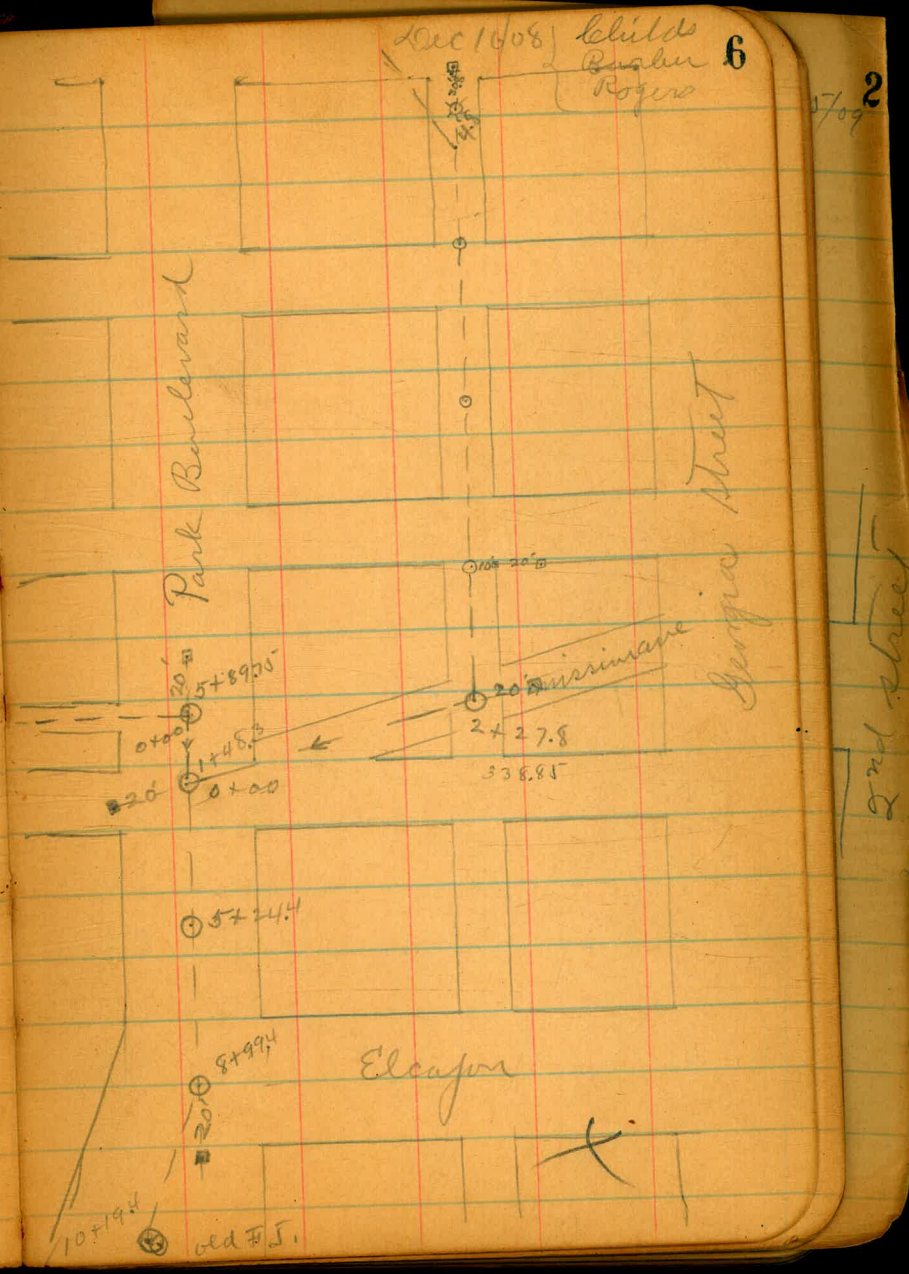
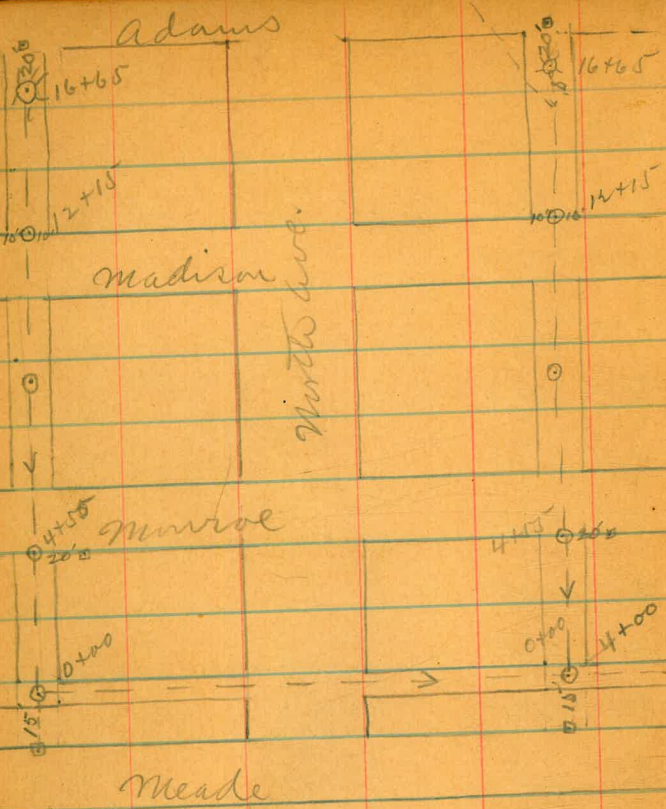
Sta.	H.I.	Rod	Grade	Grade
0+00	M.H. center alley	3.07.53	3.3	348.2
+50			5.2	346.3
1+00			4.5	347.0
+50		347.65	2.06	345.59
2+00	North Ave		2.8	345.9
+50			3.1	344.6
3+00			3.1	344.6
+50			3.7	344.0
4+00.1	M.H. center alley bet. North Ave & Park.		2.3	345.4
+50			4.0	343.7
5+00			4.4	343.3
+50			4.6	343.1
+89.75	M.H. center Park Boulevard		4.7	343.0
0+00	same as 0+00 above M.H.	353.43	5.2	348.2
+50	proposed line		5.0	348.4
1+00			5.0	348.4

340.44	7.8	5.94	345.59
340.24	6.1	59	351.65
340.04	7.0	53	358.70
339.84	5.7	2.96	355.74
339.64	5.3	345.59	353.43
339.44	5.2	3.28	345.71
339.24	5.4	348.87	J.P.
339.04	5.0	338.24	
338.84	6.6	10.63	
338.64	5.1	339.44	
338.44	4.9	10.43	
338.24	4.9	338.64	
338.08	4.9	10.23	
340.44	7.8	338.84	
342.72	5.7	10.03	
345.0	3.4	339.04	
		9.83	
		341.19	
		7.36	
		352.93	
		342.72	
		10.23	
		345.0	
		7.95	

2nd street

4.56
3.20

X



I

Park Boulevard
from alley bet ~~just~~ ^{made}

Sta.	H.T.	Rod	Ground
0+00	347.65	4.7	343.0
+50		4.9	342.8
1+00		5.2	342.5
+183	M.H. center	5.4	342.3
	2nd mark.		
2+00		6.7	341.0
+50		6.8	340.9
3+00		5.9	341.8
+50		5.9	341.8
4+00	5	346.31	4.7 341.6
+50			4.8 341.5
5+00	1		5.0 341.3
+24.4	M.H.		5.0 341.3
750			5.0 341.3
6+00			5.0 341.3
+50			4.7 341.6
7+00	X		4.3 342.0

manrol to Elcapn

Grade	cut
343.01	
5.39	
337.62	5.0
337.58	
9.52	
337.88	4.9
9.32	
337.68	4.8
9.72	
337.48	4.8
9.92	
337.28	3.7
10.72	
337.08	3.8
10.52	
336.88	4.9
10.52	
336.68	5.1
10.72	
336.48	5.1
9.27	
336.28	5.2
9.47	
336.08	5.2
9.67	
335.98	5.3
4.30	
347.17	5.4
335.88	5.4
335.68	5.6
335.48	6.1
335.28	6.7

Dec. 16/08
Lehilds Barber
32 Rogers

4.83
347.77
2.62
345.15
341.33
3.82
342.01 B.M.
R.R. 8 E. cor.
made
6.17
348.18
3.29
345.29
342.01
9.74
345.74 - H.T.
338.08
7.67
337.88
8.7
336.88
8.97
336.68
9.07
335.88
9.88
342.01 B.M.
3.87
345.88
335.68
10.20
335.48
10.40

X

Dehilds
Barber
Rogers 8

Dec. 18/08

2

Sta.	H.I.	Rod	Ground
7+50	346.31	4.1	342.2
8+00		5.1	341.2
+50		5.8	340.5
+99.4	M.H. center Elcajua ave.	5.4	340.9
9+50		3.0	343.3
10+00		2.4	343.9
+19.4	M.H. - old F.S.	2.3	344.0

Grade	cut
335.08	7.1
334.88	6.3
334.68	5.8
334.48	6.4
334.28	9.0
334.08	9.8
334.00	10.0

342.87	
3.44	
346.31	
342.87	B.M. Elcajua
4.34	
347.21	
335.28	
11.93	
335.08	
12.13	
334.88	
12.33	
334.68	
12.53	
334.48	
12.73	
342.87	B.M.
4.30	
347.17	
334.08	
13.09	
334.28	
12.89	

street

I alley bet Cleveland &

Sta.	H.I.	Rod	Ground	Grade	cut
0+00 old F.I.	337.61	11.7	339.9	333.00	6.9
+50		13.3	338.3	333.52	4.8
+65 & Mead.		11.8	339.8	333.68	5.8
1+00		6.6	345.0	334.05	10.4
+50		6.6	345.0	334.57	9.9
2+00		6.4	345.2	335.10	9.6
+50		5.2	346.4	335.62	10.3
3+00		6.6	345.8	336.15	8.3
+50		6.4	345.8	336.67	18.4
+65 MIN		6.4	345.2	6.83	18.4
4+00		6.4	345.2	337.00	18.2
+50		5.7	345.9	337.25	8.7
5+00		7.0	344.6	337.50	7.1
+50		5.2	346.4	337.75	18.7
6+00		5.4	346.2	338.00	8.2
+50		5.1	346.5	338.25	8.3
7+00		5.0	346.6	338.50	80.1

Maryland

Dec. 18/10
Hoblands 9
Barber
Rogers

349.03			
3.58			
347.61			
348.00	333.52		
347.70	10.70		
10.55	334.05		
10.17			
338.15			
6.07			
344.22	H.I.	334.57	335.10
		13.78	18.24
338.15		935.62	
10.20		12.73	
348.34	H.I.	336.11	
		12.20	
336.67	336.93	337.00	
11.68	11.52	11.35	337.25
			11.10
337.50	337.75	338.00	
10.85	10.60	10.35	
346.48			
4.53			
357.01	H.I.	338.10	
338.25		12.51	
12.76			
		4.12	
		338.15	
		342.27	
		38.3.24	
		9.33	

Jan 7/09 ✓

69 2

at street

Dec. 18/08
 Hobilds
 Barber
 Rogers

2

Sta.	H.I.	Rod	Ground	Grade	cut		
7+05	M.H. So. line 35161	4.9	346.7	338.52	18.2	351.01	7.39
7+45	Munroe & Monroe	5.1	346.5	338.75	7.8	338.52	346.58
+50		5.7	345.9	339.00	6.9	12.49	353.87
8+00		6.0	345.6	339.25	6.4	338.75	352.54
+50		3.9	347.7	339.50	18.2	12.26	1.33
9+00		4.6	347.0	339.75	7.3	339.00	1.13
+50		5.6	346.0	340.00	6.0	12.01	343.67
10+00	M.H.	5.1	346.5	340.22	6.3	339.25	346.48
10+45		5.13	346.48	340.25	6.2	11.76	545
11+00	353.87	7.0	346.9	340.50	6.4	339.50	351.93
+50		6.7	347.2	340.75	6.5	11.51	340.22
12+00		5.9	348.0	341.00	7.0	339.75	11.71
+50		5.7	348.2	341.25	7.0	11.26	340.25
13+00		5.8	348.1	341.50	6.6	340.00	11.68
+45	Munroe	4.6	349.3	341.75	7.6	11.01	340.50
+50		4.6	349.3	341.75	7.6	341.25	11.43
13+85	M.H. So. line Madison	5.7	348.2	341.92	6.3	341.50	340.75
						10.68	11.18
						341.50	11.18
						10.43	341.00
						341.75	10.93
						10.18	
						341.92	
						10.01	

Jan 7/09

J.P.

rd street

Sta	H.L.	Rod	Ground	Grade	cut
14+00	353.97	5.6	348.3	√342.00	6.3
14+50		5.1	348.8	√342.25	6.6
15+00		3.5	350.4	√342.50	7.9
+50		4.7	349.2	√342.75	6.5
16+00		4.1	349.8	√343.00	6.8
+50	F.J.?	4.4	349.5	√343.25	6.3
17+00		6.1	347.8	√343.50	4.3
+50		5.7	348.2	√343.75	4.5
+85		6.6	347.3	√343.92	3.4

direct center

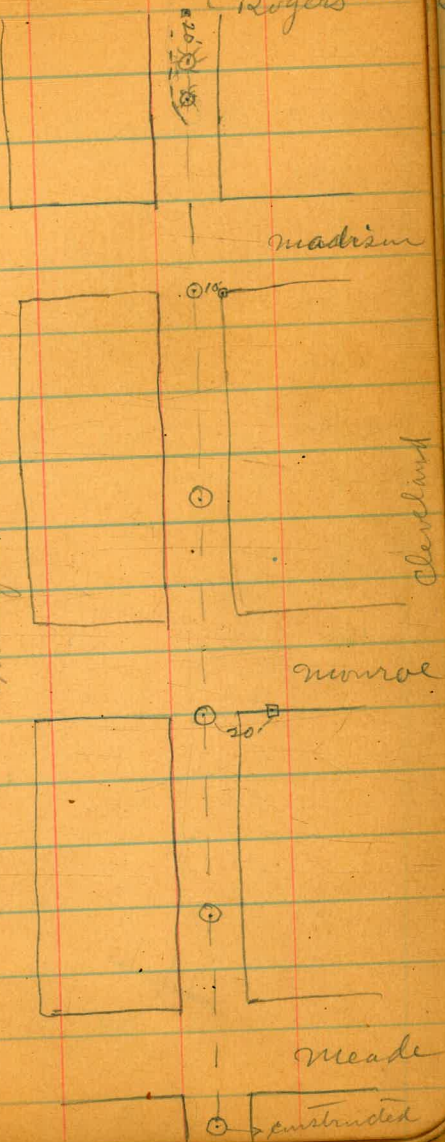
X

Grade	cut
√342.00	6.3
√342.25	6.6
√342.50	7.9
√342.75	6.5
√343.00	6.8
√343.25	6.3
√343.50	4.3
√343.75	4.5
√343.92	3.4

346.48
 351.93 7.33
 342.00 353.81
 7.93 343.25
 11.56
 343.25 342.50
 10.56 11.31
 342.75 11.06
 343.00 10.81

X

Dec. 19/08
 Lehigh
 Barber
 Rogers 10
 5709 2



Maryland

~~Missinave & alley bet. Park~~

5/09 2

Sta.		H.T.	Rod	Ground
0+00	M.H. center Park & Missinave.	346.78	4.5	342.3
+50			4.3	342.5
1+00			3.3	343.5
+50			2.2	344.6
2+00			1.6	345.2
+27.8	M.H. center alley & Missinave.		1.5	345.3

2nd street

X

X

Alley bet. Park Boulevard

Sta.	H.I.	Red	Ground
0+00	M.H. center alley	350.17	4.8 345.4
+50			5.9 344.3
1+00			5.5 344.7
+50			5.8 344.4
2+00			6.2 344.0
+50			6.1 344.1
3+00			6.2 344.0
+50			6.3 343.9
4+00			6.1 344.1
+50			6.3 343.9
+55	M.H. No line		6.3 343.9
+95	Monte		
5+00			5.1 345.1
+50			4.8 345.4
6+00			4.4 345.8
+50			4.1 346.1
7+00			3.6 346.6

& North ave.

Grade	cut		
342.01			
6.10	✓	34492 B.M.	
348.11		5.25	
339.14		350.17	
8.97		344.92	
339.44		5.40	
8.67		350.32	
339.74		339.74	
8.37		10.58	
34492 B.M.		339.44	
5.06		10.88	
349.98		339.14	
340.04		11.18	
9.94		8.74	
340.34		341.24	
9.64		8.74	
340.64		341.54	
9.34		8.41	
340.94		341.87	
9.04		8.11	
		342.14	
		7.84	
		342.44	
		7.54	
341.54			
341.57			
341.81			
341.84			
342.14			
342.44			
342.74			
343.04			

Dec. 22/08
 Childs
 Barber
 Rogers 14

709 2

2nd Street

curr/05 Childs 15
 Barber
 Rogers

709 2

Sta.	H.I.	rod	Ground	Grade	cut
7+50	350.17	3.0	347.2	√343.34	3.9
8+00		2.4	347.8	√343.64	4.2
+35 N.H.		2.4	347.8	√343.85	4.0
+50		2.0	348.2	√343.94	4.3
9+00		1.4	348.8	√344.24	4.6
+50		0.8	349.4	√344.54	4.9
10+00		0.11	350.06	√344.84	5.3
+50	357.13	6.6	350.5	√345.14	5.4
11+00		6.5	350.6	√345.44	5.2
+50		6.1	351.0	√345.74	5.3
+75 ♀ Madison		6.3	350.8	√346.04	4.8
12+00		6.4	350.7	√346.13	4.6
+15 N.H. no line Madison		5.9	351.2	√346.34	4.9
+50		4.6	352.5	√346.64	5.9
13+00		3.7	353.4	√346.94	6.5
+50		4.7	352.4	√347.24	5.2
14+00					

350.06
 707
 357.13

349.95
 343.34 357.13
 6.64 351.795 B.M.
 343.64 372.5
 6.34 345.52
 343.85 344.24 344.84
 6.13 17.28 10.68
 343.94 344.54 345.14
 6.04 10.98 10.38
 345.74 346.34 345.44
 9.78 9.18 10.08
 346.04 346.64
 9.48 8.88 J.P.
 346.13 346.94
 9.39 8.68
 347.24
 8.28

8 1/2 sheet

X

X

Dec. 22/08 Helvids
Barber 16
Rogers

305/09 2

Sta.	H.L.	Rod	Ground	Grade	cut
14+50	357.13	5.0	352.1	347.54	4.6
15+00		4.3	352.8	347.84	5.0
+50		4.3	352.8	348.14	4.7
16+00		3.7	353.4	348.44	5.0
+50		2.8	354.3	348.74	5.6
+65	H.J. near Adams.	2.7	354.4	348.83	5.6

5.13
 355.19 ✓ 347.84
 360.32 12.48 ✓
 347.24 ✓ 348.14
 13.08 ✓ 12.18 ✓
 347.54 ✓ 348.44
 12.78 ✓ 11.88 ✓
 348.74
 115.8 ✓
 349.83
 11.49

2nd sheet

X

X

2

Mission ave. to Alley line

Sta	H.I.	Red	Ground
0+00	M.H. ^{center Park Boulevard} 346.78	4.5	342.3
+50	^{mission ave.}	4.3	342.5
1+00		3.3	343.5
+50		2.2	344.6
2+00		1.6	345.2
+37.8	M.H. ^{center alley} _{mission ave.}	1.5	345.3
+50	352.62	7.2	345.4
3+00		7.0	345.6
+50		6.7	345.9
4+00		7.0	345.6
+50		6.8	345.9
5+00		7.1	345.5
+50		7.1	345.5
6+00		6.1	346.5
+50		5.7	346.9
7+00		6.8	345.8

X

Dec. 19/08 ^{Billie} 17
Rogers 5709 2

bet. Park Boulevard & Georgia

Grade	cut		
342.01		342.01	BM.
6.50		477	
348.51	4.8	346.78	
237.75		344.92	BM.
10.73	4.7	7.70	
338.05		352.62	
10.43	5.4	5.39	338.08
338.38		342.01	9.32
15.13	6.2	347.40	338.38
338.69		337.78	9.02
9.83	6.5	9.62	338.68
338.85		14.3	8.72
9.66	6.5	7.5	
338.98		6.8342	8.01
9.53	6.4	352.02	
339.28		339.58	
9.23	6.3	10.44	
344.92		339.88	
6.09	6.3	10.14	5.75
351.01		340.88	345.56
340.18	6.3	10.53	5.41
10.83	5.7	340.78	345.84
5.7	5.7	10.23	4.5
5.0	5.6	341.08	345.81
6.39	5.0	9.93	5.31
340.18		341.28	346.96
340.48	5.0	9.63	5.20
340.78	4.7		346.1
341.08	5.4		
341.38	5.5		
341.68	4.1		

X

2nd sheet

Jan. 8/09 { Childs Barber Rogers 18

2

Sta.		H.I.	Red	Ground	Grade	cut		
7+05.6	M.H. Soline mural	352.62	6.9	345.7	✓ 341.71	4.0	344.92	148
+50			6.4	346.2	✓ 341.98	4.2	6.03 ✓ 350.95 ✓	155
8+00			6.4	346.2	✓ 342.28	3.9	341.71 9.24	341.98 8.97 ✓
+50			5.9	346.7	✓ 342.58	4.1	341.65 9.27	342.28 8.67 ✓
9+00			5.6	347.0	✓ 342.88	4.1	351.79 ✓ B.M.	342.58 8.37 ✓
+50			4.9	347.7	✓ 343.18	4.5	344.69 ✓	342.88 8.07 ✓
10+00			4.3	348.3	✓ 343.48	4.8	343.75 11.21	343.99 10.70
+50			3.8	348.8	✓ 343.78	5.0	344.08 10.61	343.99 10.70 351.80 6.76
10+85.6	M.H. center Blk bet minor mod.		3.2	349.4	✓ 343.99	5.4	344.08 10.61	344.38 10.31
11+00			3.2	349.4	✓ 344.08	5.3	344.98 9.71	344.68 10.01 ✓
+50			2.61	350.01	✓ 344.38	5.6	345.28 9.41 ✓	352.01 7.1
12+00		357.42	6.9	350.5	✓ 344.68	5.8	345.58 9.11	357.42 ✓
+50			6.4	351.0	✓ 344.98	6.0	345.89 8.81 ✓	
13+00			6.1	351.3	✓ 345.28	6.0		
+50			5.8	351.6	✓ 345.58	6.0		
14+00			5.4	352.0	✓ 345.88	6.1		

X

X

street

Sta.	H.T.	Rod	Ground	Grade	cut
14+50	357.42	5.1	352.3	√346.18	6.1
14+65.6		4.8	352.6	√346.27 346.97	6.3
15+00		4.6	352.8	√347.18	6.3
+50		3.7	353.7	√347.48	6.9
16+00		4.3	353.1	√347.78	6.0
+50		3.2	354.2	√348.08	6.8
17+00		3.1	354.3	√348.38	6.6
+50		2.9	354.5	√348.68	6.5
18+00		2.9	354.5	√348.98	6.2
+50		2.8	354.6	√349.28	6.0
19+00		2.8	354.6	√349.58	5.7
19+05.6	F.T.	2.8	354.6	√349.61	5.7

358.56 ✓
 346.18
 12.38 ✓

346.77

11.59 ✓

347.19

11.38 ✓

347.48

11.08 ✓

348.08

10.48 ✓

347.78

348.38

10.78 ✓

348.98

348.68

9.68 ✓

349.58

349.28

9.28 ✓

8.98

349.61

8.94

→ drop M.H. 0.7 foot.

street

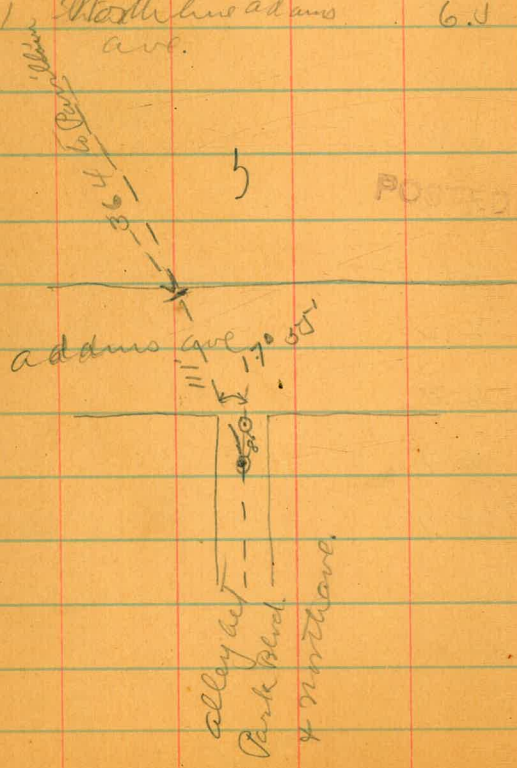
X Extension of line bet. North
to Pavilline Grounds

ave. & Park Boulevard
Jan. 19/09
blinds
Rogers 20
Illinois 2

Sta	H.T.	Rod	Ground	Grade	cut	
0+00	8' 20.0 F.T.	361.46	7.1	354.4	348.78	5.6
+50			6.8	354.7	350.05	4.7
+100			6.8	354.7	357.33	3.4
+111	North Adams ave.	6.5	355.0	351.64	3.4	

355.19 B.M.
6.27
361.46

364
126 (3.8)
122 (2.8)
116 (2.0)



17' 55" 357.0 4.9
357.4 356.56
353.18 356.16
3.6-cut
352.57
7.17
111) 2.83 (2.55) 1.25 356.16
222 7.50 4.57
610 25.00 3.60 357.6
55 1.25
550 1.5750 5.00
2805 17.5
415.00 0.06
364.32 ✓
350.05
10.27
351.61
8.71
122
1.25
610
204
1.0250
354.71
2.8-cut

1 Sewer extension at end
bet. Park Boulevard & Georgia

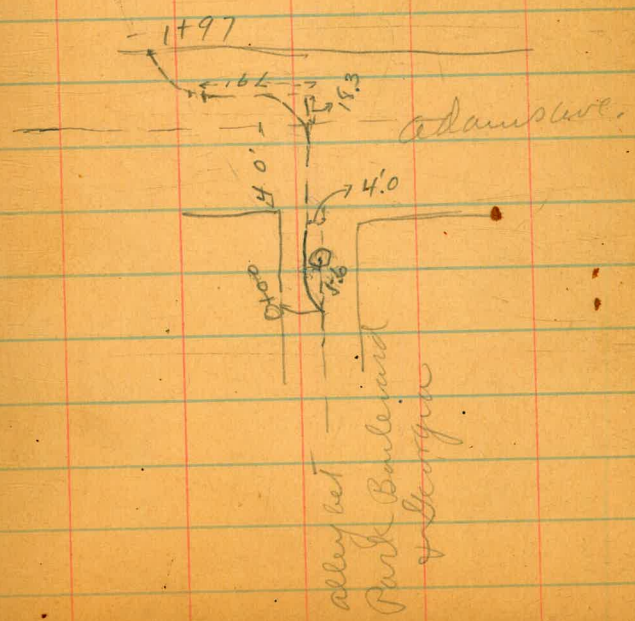
of alley Jan 20/09 Shields
Barber
Rogers

21 2

Sta.	H.I.	Rod	Ground		
0+00	360.13	5.5	354.6	√349.58	5.0
+24	359.89			√349.82	
0+74				√350.32	
1+02		6.0	353.9	√350.60	3.3
1+60		5.9	354.0	√351.18	2.8
+97	360.13	5.1	355.0	√357.58	3.5

340.58
4.94
355.19
360.13
4.70
357.49
349.82
10.07
350.82
9.57
350.60
9.29
356.18
8.71

POSTER



Florence Hts.

Alley bet 1st & 2nd from

Sta.		H.I.	Roof	Ground
0 + 00	M.H. 150' so.	289.06	8.8	280.3
+ 50	washington		8.0	281.1
1 + 00			7.1	282.0
+ 50	M.H. Center		7.3	281.8
2 + 00	washington		6.3	282.8
+ 50			6.4	282.7
3 + 00			6.0	283.1
+ 50			5.4	283.7
4 + 00			5.0	284.1
+ 50			4.5	284.6
+ 60	M.H. bet. Wash.		4.4	284.7
5 + 00	+ Lewis		3.8	285.3
+ 50			3.8	285.3
6 + 00			3.2	285.9
+ 50			2.9	286.2
7 + 00			2.7	286.4

150' so Wash ave. to 20' so Lewis. 22

Grade	cut		
278.95	3.4	278.95 B.M. 1st & Wash.	
276.95	4.7	7.09	278.95 mans p 9
275.95	6.1	286.07	7.47
275.45	6.4	276.95	286.45
273.95	7.9	9.12	275.95
274.45	8.4	276.45	10.50
274.95	7.8	9.62	274.45
275.45	7.7		12.00
275.95	7.8		274.95
276.45	7.7		11.50
277.05	7.7		275.45
277.45	7.9		11.00
277.95	7.4		275.95
278.45	7.4		10.50
278.95	7.0		276.45
279.45	7.0		10.00
			276.95
			9.50
			277.05
			9.40
			284.3
			280.2
			284.7
			278.3
			12.53
			175
			286.91
			7.19
			284.27
			5.30
			279.72
			4.55
			284.27
			7.2
			279.1

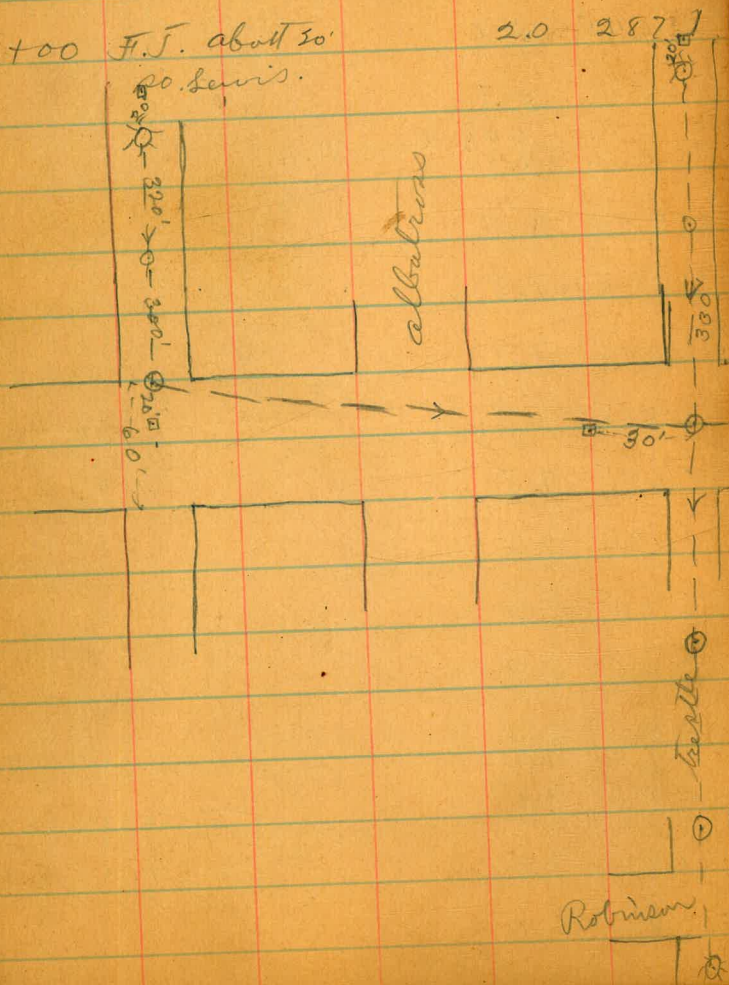
Chillicothe Barber River 22 2

Sheet

Cut from 22

Sta.	H.I.	Rod	Ground
7+50	289.06	2.1	287.0
8+00		2.0	287.1

F.S. about 30'
so. Lewis.



286.45 ✓
279.95 minus 709
6.50 ✓
280.45 ✓
6.00 ✓

23

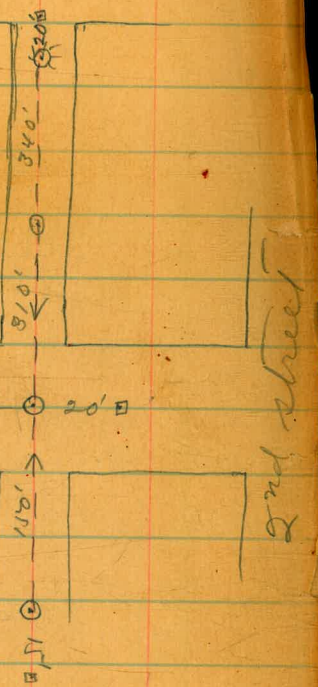
Grade cut.

279.95	7.1
280.45	6.7

1st street

Washington

POSTED



Alley line bet. 1st & albatross
from Robinson to Lewis

Sta.	H.I.	Rod	Ground	and
4+00	old F.S. at Robinson	273.03	5.4	267.6
4+50			5.2	267.8
5+00			3.4	269.6
5+50			3.0	270.0
6+00			3.3	269.76
6+50	POSTED		4.5	268.5
7+00			5.4	267.6
7+50			7.2	265.8
8+00			7.7	265.3
8+55	M.H.		11.0	262.00
8+16				
8+86				
8+93				
8+00		279.54	12.5	267.0
8+25	M.H.	286.00	12.7	273.3

Trestle removed June 1918
See 887-73

Dr. 288-5

24

Grade	Cut	277.50 BNI	albatross	BM
260.00	7.6	286.00V	283.843	0.10
260.25	7.6	277.30V	284.24V	12.72
260.50	9.1	264.12	271.82	1.71
260.75	9.3	264.00	273.03	
261.00	8.7	278.50 BM	264.56	262.00
261.25	7.3	279.77V	262.00	april 1/09
261.50	6.1	284.21	261.78	J.P.
261.75	4.0	269.76	261.50	273.14
261.78	3.5	274.20	261.25	261.00
262.00	0.0	264.78	261.25	12.14
262.08		262.62	260.75	12.39
263.93		262.62	260.02	260.50
263.96		262.62	260.02	260.50
264.00	3.0	262.62	260.02	260.50
264.12	9.2	262.62	260.02	260.50

Cont. - from page

24

25

Sta.	H.I.	Rod	Invert
8+50	286.00	11.78	274.22
9+00		10.9	275.1
+50		9.6	276.4
10+00		8.4	277.6
+50		7.3	278.7
11+00		6.3	279.7
+50		8.0	278.0
+55	M.H. center Washington	8.1	277.9
12+00		5.1	280.9
+50		5.2	280.8
13+00		4.3	281.7
+50		3.7	282.3
14+00		3.0	283.0
+50		2.3	283.72
+85	M.H.	2.1	283.9
15+00		1.9	284.1

POSTED

Grade	cut
√264.25	10.0
√264.50	10.6
√264.75	11.7
√265.00	12.6
√265.25	13.5
√265.50	14.2
√265.75	12.3
√265.77	12.1
273.00	4.9
√273.45	7.5
√273.95	6.9
√274.45	7.3
√274.95	7.4
√275.45	7.6
√275.95	7.8
√276.30	7.6
√276.45	7.7

277.80	B.M.	
5.65		
283.45		
273.45		J.P.
9.70		
274.22		
5.32		
279.54		
274.45		
8.70		
277.50		
7.46		
284.96		
273.95		
11.01		
12.4		
283.72		
5.90		
289.62		
276.80		
13.82		
276.45		
13.77		
274.22		
3.08		
277.80		
264.50		
12.80		
264.25		
13.05		
274.45		
8.70		
274.95		
8.20		
273.45		
7.70		
275.95		
7.20		
283.35		
265.01		
18.34		
5.69		
12.65		
14.41		
264.75		
18.60		
6.86		
11.74		
13.51		
261.09		

J.P.

cont. - from page

Sta.	H.I.	Rod	Ground	Grade	cut
15+50	286.00	1.4	284.6	✓ 276.95	7.7
16+00		1.3	284.7	✓ 277.45	7.3
+50		0.7	285.3	✓ 277.95	7.4
17+00		0.50	285.50	✓ 278.45	7.0
+50	287.37	1.4	286.0	✓ 278.95	7.1
18+00		1.2	286.2	✓ 279.45	6.8
+05	F.I. about 20' Rd, Lewis	1.0	286.4	✓ 279.50	6.9

25

26

285.48	289.62 ✓
1.84	276.95 ✓
287.37	12.67
278.95	277.45 ✓
10.67 ✓	12.17 ✓
	277.95
	11.67 ✓
285.50	278.45 ✓
5.88	11.17 ✓
291.38 ✓	J.P.
279.50	
11.88 ✓	

Sewer in Washington from
bet. albatross & Brant.

Sta.					
0+00	M.H. cent. alley bet. 1st + 2nd.	281.71	-0.1	281.8	√273.95 7.9
+50			0.7	281.0	√273.59 7.4
1+00			1.5	280.2	√273.24 7.0
+50			2.2	279.5	√272.88 6.6
2+00			2.6	279.1	√272.53 6.6
+50	POSTED		3.0	278.7	√272.17 6.5
3+00			3.2	278.5	√271.82 6.7
+449	M.H. cent. alley bet. 1st + albatross		3.8	277.9	√271.50 6.4 265.77 12.1 drop M.H.
+50					√265.79
4+00			3.8	277.9	√265.99 11.9
+50			4.4	277.3	√266.19 11.1
5+00			5.2	276.5	√266.39 10.1
+50			5.8	275.9	√266.59 9.3
6+00			7.8	273.9	√266.79 7.1
+50			11.1	270.6	√266.99 3.6
+91	M.H. cent. alley bet. albatross + Brant on Property		13.2	268.5	√267.15 1.4

alley bet. 1st + 2nd to alley

9 Mar. 1/09

Childs 27
Barber
Rogers

Mar. 24/09 278.98
437

283.35 ✓ 272.53
273.59 ✓ 10.82
9.76 ✓ 272.17
273.24 ✓ 11.18
10.11 ✓ 271.82
272.88 ✓ 11.53
10.47 ✓

POSTED

503
271.50 278.2
14.85 265.77
273.00 12.58
10.35

Apr. 2/09

277.50

169

265.99 279.19 ✓

13.20 266.19

266.39 13.00 ✓

12.80 266.99

266.59 12.20 ✓

12.60 267.15

266.79 12.04 ✓

12.40

Trustee alley bet. 1st &

at university ave. albatross

Mar. 1/09 } Childs
Barb 28
Rogers

Mar 5/09

55416

204.69	26375
267.25	9.06
8.56	9.90
7.44	19.00
16.00	263.54
	9.75
	2.85
	12.00

RP
 C.P. 7+86 3' 263.73 G
 → 260.73 stake
 9' R.P.
 7+68 C.P. 12' 263.84 G
 → 251.84 stake
 RP.
 7+50 C.P. 19' 263.75 G
 → 244.75 stake

279.98 BN
264.56

0.66	262.26
279.66	4.55
12.63	262.26
267.03	2.90
12.12	262.17
267.15	2.39
2.43	262.08
4.00	2.78

262.95	254.17
4.17	04.17
262.88	254.61
4.26	04.26

262.77	262.34
4.36	7.65
262.17	262.35
4.98	7.74
	8.26
	12.00

262.13	262.44
7.92	7.83
12.08	10.17
20.00	19.00

262.62	262.71
8.01	8.70
10.99	8.92
18.00	12.00

262.89	262.80
8.23	6.19
1.72	4.12
16.00	15.00

458.07	
6.40	
264.56	

100' POSTED
 6+50 C.P. 16' 263.25 G
 → 247.25 stake
 R.P.
 9' C.P. 263.16 G
 → 254.16 stake
 05 low C.P. 5' 263.07 G
 → 258.07 stake
 R.P.
 06 low C.P. 5' 262.98 G
 → 257.98 stake
 5778 C.P. 10' 262.89 G
 → 252.89 stake

Mar 5/09

POSTED

242.53
7.17
249.70
248.62
6.08

57606 C.P. 18' 262.80 G
 → 249.80 stake
 C.P. 17' 262.71 G
 → 245.71 stake
 C.P. 19' 262.62 G
 → 243.62 stake
 R.P.
 5706 C.P. 20' 262.53 G
 → 242.53 stake
 C.P. 18' 262.44 G
 → 244.44 stake
 C.P. 16' 262.35 G
 → 246.35 stake
 05 low C.P. 12' 262.26 G
 → 250.26 stake
 04 low C.P. 8' 262.17 G
 → 254.17 stake
 R.P.
 02 low C.P. 3' 262.08 G
 → 259.08 stake
 R.P.

L. Alley line bet. albatross & from Washington to 20' 40' Lairs

Stair	M.H.	H.L.	Rod	Ground	Grade	cut
0+00	Machine Washington	280.62	12.1	268.5	267.15	1.4
+50			4.8	275.8	268.40	7.4
1+00			4.1	276.5	269.65	6.9
+50	2 1/2 %		3.0	277.6	270.90	6.7
2+00			1.9	278.7	272.15	6.6
+50		287.98	7.5	280.48	273.40	7.1
3+00	M.H.		6.5	281.5	274.65	6.9
+50			6.0	282.0	275.27	6.7
4+00			5.2	282.8	275.90	6.9
+50	1 1/4 %		4.5	283.5	276.52	7.0
5+00			5.1	282.9	277.15	5.8
+50			4.5	283.5	277.77	5.7
6+00			4.2	283.8	278.40	5.4
+20	J.I. about 20' 40' Lairs		3.6	284.4	278.65	5.8

Brant

Mar. 9. 109

to hills
Barber 29
Rogers

Grade	cut	277.50	277.50
		2.97	3.12
280.47	✓	280.47	280.62
268.40		12.07	0.88
269.65		10.82	279.74
270.90		9.57	5.24
272.15		8.32	287.98
273.40		9.79	277.00
274.65		9.56	10.37
275.27		8.54	287.87
275.90		7.91	273.40
276.52		7.66	239
277.15			280.48
277.77			5.93
278.40			286.31
278.65			273.40
			12.91

J.P.

1 Vermont Street line
Cleveland to alley north of

Sta.	H.T.	Rod	Ground
0+00	294.95	5.9	289.1
+50		6.0	289.0
1+00		5.6	289.4
+50		5.4	289.6
2+00		5.6	289.4
+50	POSTED	5.6	289.4
3+00		5.3	289.7
+50		5.1	289.9
4+00		5.1	289.9
+03.32	M.H. center Hendricks	5.1	289.9
+50		5.2	289.8
5+00		6.1	288.9
+50		7.82	287.13
+75.32	End of trestle	Pier A	
+93.3		Pier B	
6+93.3	large	" C	

mar. 20/09 Childs Barber 31

Grade cut			
288.11	6.84	294.95	apr. 22/09
284.60	4.5	288.11	6.14
284.80	4.2	285.0	294.25
285.00	4.4	285.20	284.80
285.20	4.4	285.40	285.60
285.40	4.0	285.80	286.00
285.60	3.8	286.00	286.39
285.80	3.9	286.20	286.60
286.00	3.9	286.40	286.80
286.19	3.7	286.60	286.90
286.20	3.7	286.80	286.97
286.39	3.4	287.13	286.97
286.60	2.3	287.13	286.97
286.80	+0.3	287.13	286.97
286.90		287.13	286.97
286.97		287.13	286.97
287.37		287.13	286.97

POSTED

apr. 28/09

T.P.

Cut: from page 31

Sta.	H.T.	Rod	Ground	Grade	cut
7+93.3	large pier	20		287.78	
8+933	"	E		288.19	
9+11.3	No. end of trestle	F		288.26	
+15			297.16	10.7	288.5
+20				6.0	291.2
+50				5.1	292.1
+92.15	M.H. central alley bet. Paerco & Lincoln			5.0	292.2
10+00				4.6	292.6
+50				4.6	292.6
11+00				5.2	292.0
+50				5.7	291.5
12+00				5.8	291.4
+50				5.3	291.9
13+00				4.2	293.0
+50				4.0	293.2
+72.15	M.H. central alley bet Lincoln & Hays			3.39	293.77
14+00					

Mar. 23/09 Shields
Baker 32
Rogers

292.06	B.M. Lincoln		
5.10			
297.16			
18M. - 292.06			
4.87			
296.93			
289.27	289.68	292.73	
7.46	7.25		
289.89	290.10	290.20	
POSTED	6.83	6.73	
290.34			
6.59			
272.06	288.26	288.19	
371	7.51	7.58	
295.77H1			
292.06 B.M.			
303			
295.09H1			
289.26	289.05	287.37	287.78
5.83	6.04	7.72	7.31
297.10H1			
288.84	288.31	288.26	
8.26	8.79	8.84	
292.06 B.M.	288.60	288.53	
385	7.34	7.51	
295.94H1			
289.89	288.31		
	7.63		
290.10			
2.9			
290.20			
3.0			
290.34			
3.5			

J.P.

Cont. from page 32

Mar 24/09 Childs
Barber
Rogers 33

Sta.	H.I.	Red	Ground	Grade	cut
14+50	300.29	6.1	294.2	√290.59	3.6
15+00		5.2	295.1	√290.84	4.3
+50		3.5	296.8	√291.09	5.7
16+00		3.9	296.4	√291.34	5.1
+50		3.4	296.9	√291.59	5.3
17+00		2.8	297.5	√291.54	5.7
+50		2.9	297.4	292.09	5.3
+90. Flush Tank				292.29	
18+00		3.6	296.7	292.34	4.4
+12.15 F.I. near Johnston		3.8	296.5	292.40	4.1

POSTED $\frac{0.50}{10}$

293.77			
6.52			
300.29	H.I.	296.98	
		296.98	
		1.80	
290.59	290.84		
6.34	6.09	295.07	
		6.31	
		H.I. 301.38	
√291.09	√291.34		
10.29	10.04		
POSTED	291.59	√291.84	295.09
	9.79	9.54	291.40
			6.00
		301.30	
		3.59	
292.09		292.79	
9.58		7.18	
292.49 T.P.		H.I. 301.67	
4.15		5.75	
201.64 H.I.		296.49	
		1.00	
	291.84	298.29	
	7.80	6.24	
292.09	292.29	292.00	
9.55	9.35		

287.13 12/4, 75 1396
 0.17
 287.30 ✓

286.90
 0.40

286.97
 0.33

289.26
 0.96

287.19
 .89

12.95

274.35 J.R.
 0.24

274.59 ✓
 12.76

261.83 J.R.
 0.00

261.83 ✓
 15.03

248.80 J.R.
 0.45

249.25 ✓
 12.34

236.87
 1.00

237.90
 203.25
 4.65

232.11
 5.00

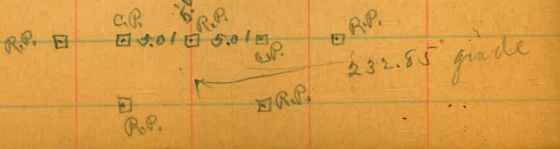
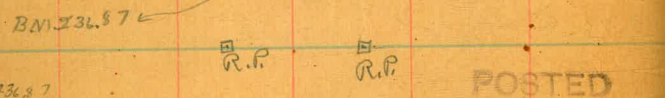
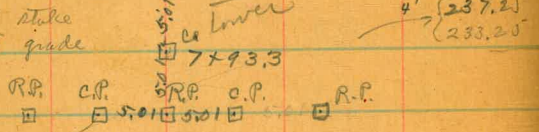
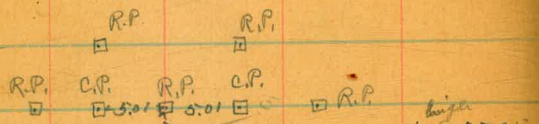
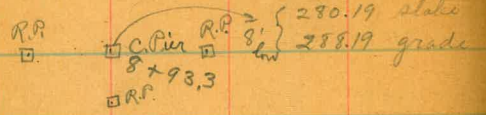
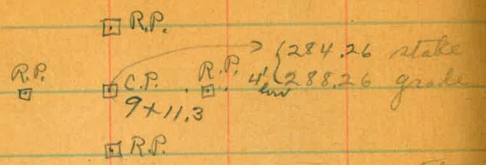
236.87
 4.19

232.11
 5.00

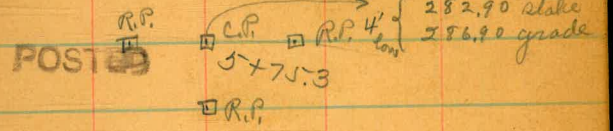
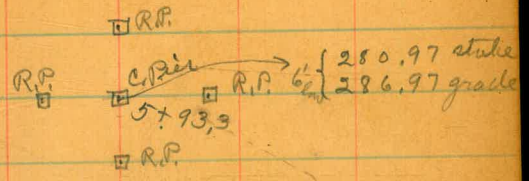
239.25
 4.505

243.755 ✓
 238.25
 10.505
 39
 10.14

N
 VS
 Vermont



St. Lawrence bridge apr. 2/09
 Childs Barber 34.
 Taylor



stake
 grade

POSTED

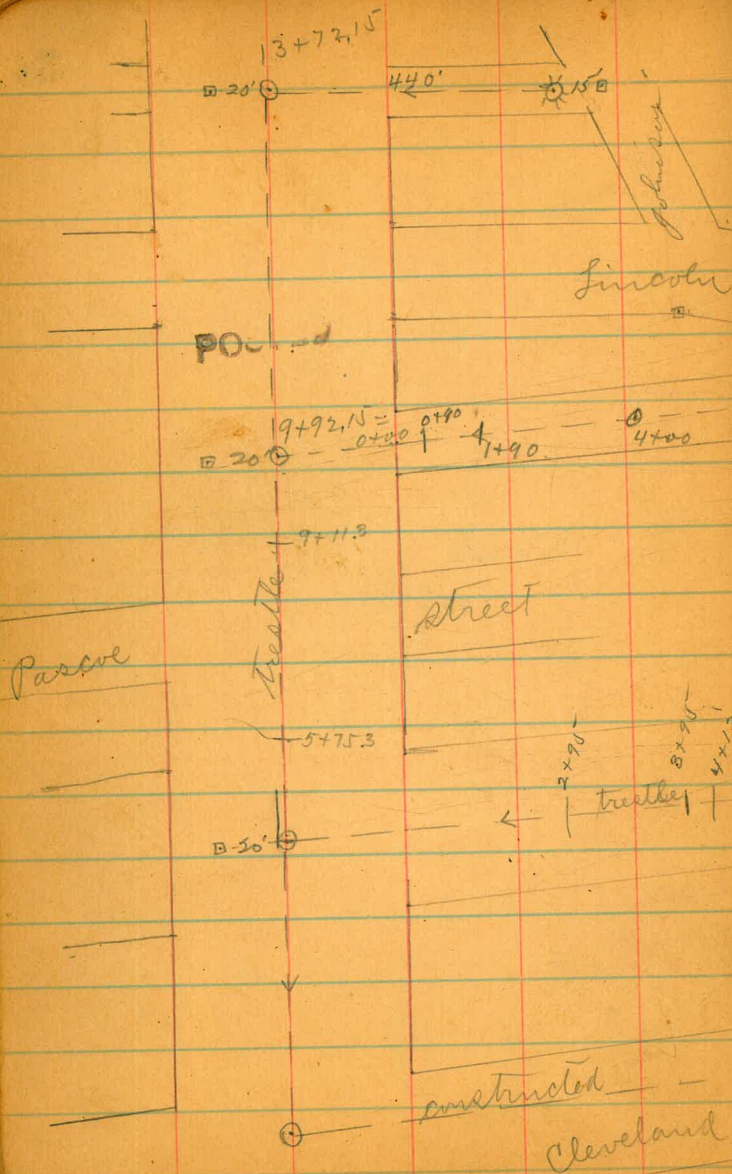
POSTED

stake
 grade

232.85 stake
 grade

Mar. 22/09
Childs
Barber
Rogers

35

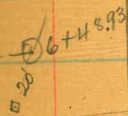


Maryland

ave.



POSTED



J. Hendricks St. line from
to Lincoln

Vermont

mar. 22/09

Childs
Barber 36
Rogers

Sta.	H.I.	Rod	Ground	Grade	cut
0+00	294.95	5.1	289.9	286.20	3.7
+50		3.9	291.1	286.40	4.7
1+00		3.3	291.7	286.60	5.1
+50		2.3	292.7	286.80	5.9
2+00		1.5	293.5	287.00	6.5
+50		0.5	294.5	287.20	7.3
7 75		3.5	291.5	287.30	4.2
+95	west end of trestle			287.38	
3+95	end of 100' span			287.78	
4+13	East end of trestle			287.85	
+25	301.76	10.91	290.85	287.90	3.0
+50		7.8	294.0	288.00	6.0
+75		5.1	296.7	288.20	8.5
5+00		4.0	297.8	288.40	9.4

0.4% grade

297.135 B.M. Cleveland
4.62
301.76 ✓ + Richmond
291.5
10.8

apr. 28/09

294.29 ✓ 286.60
286.40 7.69 ✓
7.89 ✓

POSTED

286.80
7.49 ✓

287.00 287.20 287.30
7.29 7.09 6.99 ✓

290.85 T.P.

8.41
299.26 H.I.

288.10 288.20 288.30 288.40
7.16 7.06 7.96 7.86

300.85 H.I.

287.78
13.07

287.85
13.00

287.90 288.00
12.95 12.85

J.P.

Cont. from page 36

Mar. 31/09

Builds
Barber
Rogers 37

Sta.	H.I.	Rod	Ground	Grade	cut	
6+00	301.76	3.0	298.8	288.60	10.2	299.26 H.I. 288.60 10.66
6+25		2.7	299.1	288.70	10.3	290.85 B.M. 10.00
+48.93 M.H. angle of				288.80		302.85
6+75 Hendricks		3.1	298.7	289.00	9.7	289.25 = B.M. 288.60 288.60 12.05 11.95 12.15
7+00		5.8	296.0	289.20	6.8	288.80 288.90 289.00 12.05 11.95 11.85
+45		7.9	293.9	289.40	4.5	289.10 289.20 11.75 11.65
+50		11.1	290.7	289.60	1.1	299.25 1.38 300.63
8+00	0.4 % Grade	13.6	288.2	289.80	-1.6	289.80 2900 10.83 10.63 F.O. F.O.
750		13.1	288.7	290.00	-1.3	290.20 290.40 10.43 10.33 2.5 4.40 5.83
9+00		9.1	292.7	290.20	2.5	B.M. 299.25 0.48
+50	F.T.	5.3	296.5	290.40	6.1	H.I. 299.68 289.20 10.48 10.48
10+00		2.4	299.4	290.60	8.8	289.40 289.60 10.28 10.08
11+00	F.F.			290.85 T.P. 11.34 302.19 H.I. 3.40 298.79 .139 300.18 H.I.		299.25 B.M. 290.20 9.48
				289.80	10.38	289.60 290.00 10.58 10.18
				290.20	9.98	290.40 9.78

30'
95'
145'
270'
3 ties.
120'

sewer trestle on Hendricks

R.P. \square \square R.P. \square
 C.P. \square $2+95$ \square R.P. \square $5'$ $\left\{ \begin{array}{l} 282.38 \text{ stake} \\ 287.38 \text{ grade} \end{array} \right.$

R.P. \square \square R.P. \square $3+95$ \square C.P. \square \square R.P. \square $4'$ $\left\{ \begin{array}{l} 283.78 \text{ stake} \\ 287.78 \text{ grade} \end{array} \right.$

R.P. \square \square R.P. \square $4+13$ \square C.P. \square \square R.P. \square 287.85 grade
 \square R.P. \square

mar 31/09

{ Childs
 Barber
 Rogers
 298.85
 1.17
 292.02 ✓
 287.85
 4.17
 287.78
 4.24

I Alley line bet. ~~Stinson~~ & from Vermont

Passover to Hendricks

Mar 30/09

Labitt
Barber
Rogers 39

Sta.	H.I.	Rod	Ground	Grade	cut	
0 + 00	298.12	6.0	292.1	288.60	3.5	292.06 BM. 6.06 298.12
+ 50		7.4	290.7	288.80	1.9	292.06 BM. 6.63 298.69 HI.
+ 60				288.84		5.07 293.62 BM nail fence
+ 75		10.8	287.3	288.90	-1.6	4.98 298.40 HI
+ 90		west end trestle		288.96		
1 + 90		east " trestle		289.36		289.40 POSTED
2 + 00		10.6	287.5	289.40	-1.9	289.60 289.10 290.00 290.20 8.80 7.60 8.20 8.20
2 + 10				289.44		
+ 50		4.9	293.2	289.60	3.6	290.40 290.60 290.80 291.00 1.00 7.80 7.60 7.40
3 + 00		4.0	294.1	289.80	4.3	291.20 289.60 290.90 7.20 6.13
+ 50		4.4	293.7	290.00	3.7	289.36 5.73
4 + 00	M.H.	4.8	293.3	290.20	3.1	290.60 BM. 3.46 297.10 HI. 289.40 289.40 7.78 7.68
+ 50		4.3	293.8	290.40	3.4	288.80 8.38
5 + 00		4.4	293.7	290.60	3.1	TP 291.20 290.40 HI. 8.07 288.80 299.27 HI. 7.10
+ 50		6.5	291.6	290.80	0.8	291.40 7.87
6 + 00		4.3	293.8	291.00	2.8	
+ 50		2.9	295.2	291.20	4.0	
7 + 00		1.6	296.5	291.40	5.1	

0.4%

cont. from Page 39

Mar. 30/09
 Childs Barber Rogers 40

Sta.	H.T.	Rod	Ground	Grade	cut
7+50	298.12	0.7	297.4	291.60	5.8
7+79 F.T.				291.71	
8+00 H.F.		0.1	298.0	291.80	6.2

292.06
 1.64
 293.70 ✓
 288.96
 4.74
 289.36
 4.34

0.4
 0+00 M.H.

RP.

Rewer trestle in
 alley bet. Lincoln
 + Pascoe

76' { 292.96 stake
 288.96-8
 0+90
 C.P. RP.

S ← → N

POSTED

299.27 H.

291.60
 7.67
 291.71
 7.56
 291.60

trestle

1+90
 RP. C.P. RP. { 289.36 stake
 289.36 grade
 10'
 RP.

Survey on Vermont and alley bet. Hayes & Johnson Sts.

I:

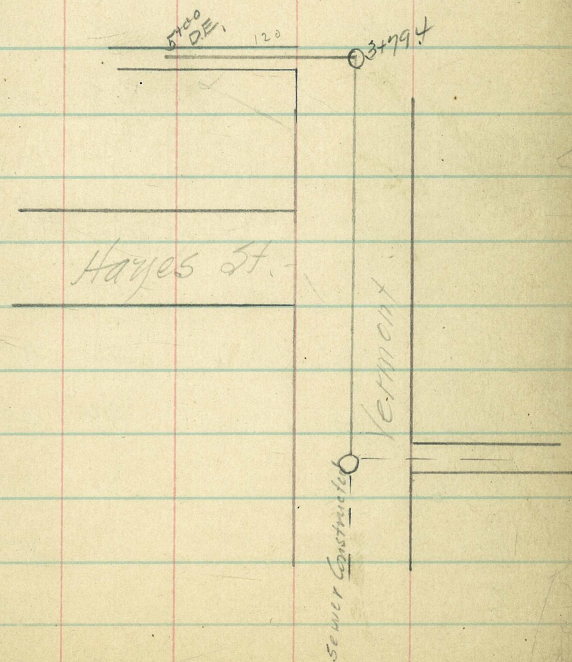
H. I. Red Ground. Grade

514

0+00 M.H.	292.25		√290.2						292.06 B.M. 5.69 297.75 2.65 295.10 5.02 300.12
0+25		4.4	293.3	√290.3	C3.0				
0+50		4.75	293.0	√290.4	C2.6				B.M. 292.06 4.99
0+75		4.8	293.0	√290.5	C2.5				H.I. 297.05 6.73 290.32
1+00		4.8	293.0	√290.6	C2.4	290.20	290.30	290.40	290.50
1+25	5	4.4	293.3	√290.7	C2.6	6.85	6.75	6.65	6.55
1+50		3.5	294.2	√290.8	C3.4	290.60	290.70	290.80	290.90
1+75		3.6	294.1	√290.9	C3.2	6.45	6.35	6.25	6.15
2+00	T.P	2.65	295.10	√291.0	C4.1	291.00	291.10	291.20	291.30
2+25		300.12	4.0	296.1	√291.1	6.05	5.95	5.85	5.75
2+50		4.3	295.8	√291.2	C4.6	291.10	291.20	291.30	291.40
2+75		4.0	296.1	√291.3	C4.8	8.49	8.39	8.29	8.19
3+00		3.8	296.3	√291.4	C4.9	291.30	291.40	291.50	291.60
3+25		3.7	296.4	√291.5	C4.9	8.29	8.19	8.09	7.99
3+50		3.8	296.3	√291.6	C4.7				
3+75		4.7	295.4	√291.7	C3.7				
3+79.4 M.H. Evt. & alley bet Hayes & Johnson.		4.7	295.4	√291.78	C3.7				M.H. tiecut 25' East - on alley line

	Hi.	Rad.	Ground		
4400	30012	4.4	295.7	291.8	C 3.9
4425		4.6	295.5	291.9	C 3.6
4450		4.8	295.3	292.0	C 3.3
4475		4.9	295.2	292.1	C 3.1
5400 D.E.		5.5	294.6	292.2	C 2.4
		7.4	292.7		

299.59 HJ
~~296.64~~
~~293.71~~
~~291.80~~ 291.90 ✓ 2920
 7.79 7.69 7.59
 29210 29220 ✓
 7.49 7.39



Clough
 Donna
 Rodgers
 4-21-10

Cross-section of Utah St (80)

2 mi of University to 22 of Park

581 356.14 350.33

Br. Wash
 University

2 mi of University on

WL		60	350.1
H		62	349.9
Y		64	349.7
L		56	350.5
Y		58	350.3
H		58	350.3
EL		57	351.0
	50		2 mi University on
EL		48	351.3
H		46	351.5
Y		48	351.3
L		46	351.5
Y		48	351.3
H		47	351.4
WL		53	350.8

356.14

Utah St

43

100

2 mi

University on

WL		41	352.0
H		42	351.9
Y		38	352.3
L		38	352.3
Y		38	352.3
H		41	352.0
EL		37	352.4

150

2 mi

University on

EL		30	353.1
H		33	352.8
Y		30	353.1
L		30	353.1
Y		37	352.4
H		38	352.3
WL		35	352.6

35614

200 n of University av

WR	29	353.2
bb	25	353.6
γ	27	353.4
b	23	353.8
γ	27	353.4
bb	27	353.2
EL	24	353.7

250 n of University av

EL	17	354.4
bb	22	353.9
γ	20	354.1
b	18	354.3
γ	24	353.7
bb	18	354.3
WR	24	353.7

TP 841 36289 166 354.49

36289

Watch 21

44

300 n of University av

WR	81	354.8
bb	85	354.4
γ	85	354.4
b	81	354.8
γ	84	354.5
bb	85	354.4
EL	80	354.9

350 n of University av

EL	71	355.8
bb	77	355.2
γ	77	353.2
b	72	355.7
γ	78	355.1
EL	70	355.9
WR	75	355.4

36289

	400	n f	Univ	av
W2			7.1	353.9
Hh			7.0	355.9
Y			7.1	355.8
L			6.4	356.5
Y			6.4	357.5
Hh			6.8	356.1
EL			6.0	356.9

450 n f Univ av

EL			5.3	357.6
Hh			5.6	357.7
Y			5.2	357.7
L			5.3	357.6
Y			6.0	356.9
Hh			5.4	357.5
W2			5.7	357.2

36289

Date n

45

	500	n f	Univ	av
W2			4.3	358.6
Hh			4.7	358.2
Y			4.7	358.2
L			2.8	359.1
Y			4.1	358.8
Hh			4.2	358.7
EL			3.9	359.0

550 n f Univ av

EL			2.4	360.5
Hh			2.8	360.1
Y			2.5	360.4
L			2.6	360.3
Y			3.0	359.9
Hh			2.8	360.1
W2			3.6	359.3

36289

600 n = S side of Lincoln st (80')

WL		14	361.5	
lt		07	362.2	
γ		08	362.1	
h		09	362.0	
γ		08	362.1	
lt		08	362.1	
EL		03	362.6	
TP	711	369.52	044	362.45
EL				
				S side of Lincoln st
EL		6.5	363.1	
lt		6.7	362.9	
γ		6.9	362.7	
h		7.0	362.6	
γ		7.2	362.4	
lt		6.3	363.3	
WL		7.2	362.4	

36952

Wah 46

S 1/4 of Lincoln st

WL		5.7	363.9
lt		5.8	363.8
γ		7.2	362.4
h		6.7	362.9
γ		6.8	362.8
lt		6.1	363.5
EL		5.7	363.9

center of Lincoln

EL		7.6	362.0
lt		6.8	362.8
γ		6.8	362.8
h		6.7	362.9
γ		7.3	362.3
lt		7.9	361.7
WL		8.6	361.0

36956

2 1/4 of Lincoln st

W2	55	3641
H	59	3637
Y	65	3631
L	65	3631
Y	60	3636
H	64	3632
EL	59	3637

2 1/2 of Lincoln st

EL	50	3646
H	59	3637
Y	56	3640
L	60	3636
Y	62	3634
H	58	3638
W2	53	3643

36957

2 1/2 of Lincoln st

W2	55	3641
H	58	3638
Y	57	3639
L	58	3638
Y	55	3641
H	59	3637
EL	50	3646

30' of Lincoln

EL	49	3647
H	54	3642
Y	48	3648
L	50	3646
Y	50	3646
H	50	3646
W2	48	3648

Wahet
47

36956

100 n of Lincoln st

WA	44	3652
ll	44	3652
γ	46	3650
b	41	3655
γ	43	3653
ll	53	3643
EL	46	3650

150 n of Lincoln st

EL	39	3657
ll	43	3653
γ	40	3656
b	38	3658
γ	39	3657
ll	41	3655
WA	41	3655

36956

Petah st

48

200 n of Lincoln st

WA	35	3661
ll	35	3661
γ	34	3662
b	32	3664
γ	35	3661
ll	40	3656
EL	34	3662

250 n of Lincoln st

EL	27	3669
ll	35	3661
γ	28	3668
b	25	3671
γ	30	3666
ll	30	3666
WA	28	3668

TP	680	373.23	303	36653
----	-----	--------	-----	-------

37333

300

n of Lincoln

W2	6.1	367.2
bb	6.2	367.1
4	6.3	367.0
b	6.0	367.3
4	6.2	367.1
bb	7.0	366.3
E2	6.4	366.9

350

n of Lincoln

E2	5.6	367.7
bb	6.5	366.8
4	5.8	367.5
b	5.6	367.7
4	5.9	367.4
bb	5.6	367.7
W2	5.8	367.5

37333

400

n of Lincoln st

49

W2	5.1	368.2
bb	5.1	368.2
4	5.5	367.8
b	5.2	368.1
4	5.4	367.9
bb	6.0	367.3
E2	5.2	368.1

450

n of Lincoln st

E2	5.0	368.3
bb	5.7	367.6
4	5.0	368.3
b	4.9	368.4
4	5.2	368.1
bb	4.9	368.4
W2	5.6	367.7

37333

500 n of Lincoln

W2	47	368.6
bb	54	367.9
y	50	368.3
b	48	368.5
y	47	368.6
hh	45	368.8
EL	47	368.6

550 n of Lincoln st

EL	47	368.6
bb	51	368.2
y	46	368.7
b	44	368.9
y	47	368.6
hh	53	368.0
W2	47	368.6

37333

600 n = S of Park st (80) 50

W2	52	368.1
bb	52	368.1
y	46	368.7
b	48	368.5
y	50	368.3
hh	54	367.9
EL	47	368.6

S of Park st

EL	47	368.6
bb	49	368.4
y	51	368.2
b	48	368.4
y	47	368.6
hh	49	368.4
W2	49	368.4

37333

S/4 of Pack #

W2	47	368.6
H	46	368.7
Y	46	368.7
b	45	368.8
Y	48	368.5
H	46	368.7
E2	47	368.6

center of Pack #

E2	46	368.7
H	49	368.4
Y	52	368.1
b	46	368.7
Y	50	368.3
H	46	368.7
W2	44	368.9

37333

N/4 of Pack #

W2	45	368.8
H	45	368.8
Y	49	368.4
b	46	368.7
Y	49	368.4
H	48	368.5
E2	48	368.5

N/4 of Pack #

E2	50	368.3
H	50	368.3
Y	49	368.4
b	45	368.8
Y	50	368.3
H	48	368.5
W2	47	368.6

Pack #

51

37333

N side of Park st

WR	52	368.1
bb	50	368.3
4	52	368.1
b	47	368.6
4	48	368.5
bb	47	368.6
EL	48	368.5
TP	444	37289
	388	36945

 through
 corner
 begins
 4.21.10

Cross-section of Kansas st (80)

N side of Park to N 2^d University av

52

37289

N side of Park st (80)

WR	42	369.6
bb	51	368.8
4	47	369.2
b	43	369.6
4	52	368.7
bb	54	368.5
EL	51	368.8

N side of Park st

EL	55	368.8
bb	56	368.3
4	55	368.4
b	57	368.8
4	47	369.2
bb	50	368.9
WR	46	369.3

 Parallel
 continue

37389

N/4 of Polk

WL	38	370.1
St	48	369.1
7	40	369.9
6	40	369.9
7	55	368.4
W	55	368.4
EL	57	368.2

Center of Polk

EL	50	368.9
St	45	369.4
7	34	368.5
6	44	369.5
7	45	369.4
St	47	369.2
WL	43	369.6

37389

S/4 of Polk

WL	46	369.3
St	48	369.1
7	52	368.7
6	51	368.8
7	49	369.0
St	51	368.8
EL	47	369.2

SSt of Polk

EL	52	368.7
St	57	368.2
7	54	368.5
6	53	368.6
7	49	369.0
St	49	369.0
WL	49	369.0

Kansas
53

37389

Sims of Polk st

WR	53	368.6
bb	52	368.3
4	52	368.7
b	41	369.8
4	50	368.9
ll	58	368.1
EL	57	368.2

50 Sq Polk st

EL	47	369.2
bb	58	368.1
4	48	369.1
b	39	370.0
4	54	368.5
ll	60	367.9
WR	52	368.7

37389

Kansas 54

100 Sq Polk st

WR	59	368.0
bb	59	368.0
4	51	368.8
b	54	368.5
4	47	369.2
ll	50	368.9
EL	63	367.6

150 Sq Polk st

EL	66	367.3
bb	67	367.2
4	50	368.9
b	49	369.0
4	59	368.0
ll	59	368.0
WR	55	368.4

57389

200 Sep Palk st

W2	60	367.9
bb	69	367.0
4	66	367.3
b	64	367.5
4	67	367.2
bb	70	366.9
EL	69	367.0

250 Sep Palk st

EL	67	367.2
bb	63	367.6
4	71	366.8
b	70	366.9
4	67	367.2
bb	72	366.9
W2	68	367.1

TP	457	371.75	671	367.18
----	-----	--------	-----	--------

37175

300 Sep Palk st

W2	52	366.6
bb	51	366.7
4	45	367.2
b	48	267.0
4	53	366.3
bb	53	366.5
EL	49	366.9

350 Sep Palk st

EL	56	366.2
bb	53	366.3
4	52	366.2
b	46	367.2
4	50	366.8
bb	61	365.7
W2	53	366.3

Kansas

55

371.75

400 Sep Polk st

WR	60	365.8
bb	56	366.2
y	58	366.0
b	59	365.9
y	64	365.4
bb	59	365.9
EL	59	365.9

450 Sep Polk st

EL	58	366.0
bb	52	366.2
y	66	365.2
b	60	365.8
y	60	365.8
bb	63	365.5
WR	60	365.8

371.75

500 Sep Polk st

Kansas
56

WR	63	365.8
bb	49	364.9
y	69	364.9
b	66	365.2
y	73	364.5
bb	73	364.5
EL	59	365.9

550 Sep Polk st

EL	78	364.0
bb	64	365.2
y	75	364.3
b	70	364.8
y	72	364.6
bb	80	363.8
WR	71	364.7

37175

600 S E 1/4 of Lincoln (80)

WL	80	363.8
bt	85	363.3
Y	75	364.3
b	68	365.0
Y	87	363.1
ll	90	362.8
EL	89	362.9
TP	435	367.25
	885	362.90

N 1/4 of Lincoln st

EL	38	363.4
ll	41	363.1
Y	42	363.0
b	31	364.1
Y	35	363.7
ll	37	363.5
WL	37	363.5

36725

Kansas

57

N 1/4 of Lincoln st

WL	38	363.4
bt	40	363.2
Y	36	363.6
b	37	363.5
Y	42	363.0
ll	37	363.5
EL	37	363.5

Center of Lincoln st

EL	44	362.8
ll	42	363.0
Y	42	363.0
b	42	363.0
Y	44	362.8
ll	42	363.0
WL	42	362.9

36725

S 1/4 of Lincoln

W2	33	363.9
bb	39	363.3
γ	50	362.2
b	45	362.7
γ	38	363.4
H	47	362.5
Ed	47	362.5

S bb of Lincoln st

Ed	49	362.3
bb	50	362.2
γ	54	361.8
b	51	362.1
γ	54	361.8
H	46	362.6
W2	41	363.1

36725

Kansas

58

Sene of Lincoln st

W2	45	362.7
bb	47	362.5
γ	49	362.3
b	42	363.0
γ	46	362.6
H	50	362.2
Ed	49	362.3

50' S of Lincoln st

Ed	44	362.8
bb	56	361.6
γ	57	361.5
b	57	361.5
γ	47	362.5
H	50	362.2
W2	59	361.3

36725

100 Sep Lincoln St

WA	63	360.9
hh	65	360.7
y	66	360.6
b	64	360.8
y	58	361.4
hh	64	360.8
EL	65	360.7

150 Sep Lincoln St

EL	72	360.0
hh	72	360.0
y	72	360.0
b	70	360.2
y	75	359.7
hh	71	360.1
WA	70	360.2

36725

Kansas

59

200 Sep Lincoln St

WA	83	359.0
hh	82	359.1
y	76	359.7
b	77	359.6
y	76	359.7
hh	82	359.1
EL	84	358.9

250 Sep Lincoln St

EL	82	359.1
hh	89	358.4
y	92	358.1
b	95	357.8
y	96	357.7
hh	86	358.7
WA	95	357.8

367.25

300 S of Lincoln st

W	9.9	357.4
bb	10.2	357.1
7	9.7	357.6
b	9.7	357.6
7	9.2	358.1
bb	9.4	357.9
EL	9.8	357.5
TP	290	^{360.49} <u>360.59</u> 966 357.59
	350	S of Lincoln
EL	31	357.4
bb	3.6	356.9
7	3.1	357.4
b	4.1	356.4
7	4.5	356.0
bb	3.7	356.8
W	3.6	356.9

360.49

400 S of Lincoln st

Kansas
60

W	4.7	355.8
bb	4.4	356.1
7	4.6	355.9
b	4.5	356.0
7	4.0	356.5
bb	4.5	356.0
EL	4.1	356.4
	450	S of Lincoln st
EL	4.5	356.0
bb	5.2	355.3
7	5.1	355.4
b	5.1	355.4
7	4.9	355.6
bb	5.4	355.1
W	5.2	355.2

36059

500 S of Lincoln st

WL	6.2	354.3
bb	6.1	354.4
7	6.4	354.1
b	6.1	354.4
7	6.0	354.5
bb	5.2	355.3
EL	4.2	356.3

550 S of Lincoln st

EL	5.7	354.8
bb	6.6	353.9
7	6.5	354.0
b	6.3	354.2
7	6.1	354.4
bb	6.5	354.0
WL	7.2	353.2

36059

36049

Kansas

61

600 S = N of University ave

WL	7.3	353.2
bb	7.8	352.7
7	7.5	353.0
b	7.2	353.2
7	7.1	353.4
bb	6.6	353.9
EL	6.4	354.1
7	6.0	354.5

on 13th st
Kansas

326
128

			bot. Pipe
0+00	7.60	107.60	100.00
0+50		4.2	103.4
1+00		3.9	103.7
1+32		3.8	103.8

B.M. SW cor. Lincoln & Vermont.
R.E. spl. in pole.

292.06 62

Grade	
100.00	bottom pipe = 100.00 on Vermont St.
100.2	3.2
100.4	3.3
100.53	3.3

~~288.60~~ = B.M. bottom of H. Vermont + alley bet Lincoln + Hayes
 290.20
 + H.I.
 6.91 297.11 290.20 M.H.

{ Lili's
 Taylor
 Blumber
 Aug 3/11
 292.06 AM.

63

6.65 290.46 Elev back of house.

Dist 243 ft. from M.H. to house.

$$\begin{array}{r} 170 \\ .680 \\ \hline 51 \end{array}$$

$$\begin{array}{r} 76 \\ 34 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 26 \\ 51 \\ \hline 75 \end{array}$$

6.38
 5.33
 290.32
 292.06
 5.30
 297.36 H.I.
 290.34
 7.02
 290.25
 7.11
 290.43
 6.93
 290.52
 6.84
 290.58
 6.81

Sta.		H.I.	Road	Ground	Grade cut
r.p.	4.64	296.70		292.06	
0+00	M.H. center Vermont		3.3	293.14	290.25 3.2
+50	+ alley bet Lincoln + Hayes		4.2	292.5	290.34 2.2
1+00			4.4	292.3	290.43 1.9
+50			4.55	292.15	290.52 1.7
+65			4.7	292.00	290.55 1.5

sewer at Johnson Ave and
alley bet Lincoln & Hayes

640

4.11
12640 100.00

House Lincoln Johnson bet

103.36

3.04

8/11/00 Gregg Sewer in Alley bet. Pascoe
Miller & Lincoln West of Vermont
Shaw

	4.02	296.08	292.00	3rd St Lincoln
0400 = M.H. of Vermont - Alley see page 32.	4.25	291.73		
0434	5.5	290.6		
0445	5.5	290.6		
1400	6.0	290.1		
1450	6.6	289.5		
2400	7.8	288.3		
T.P.	5.51	293.03	8.56	287.52

Floor of House 1.05 291.98

Top of C.I. pipe S. Side House 4.25 288.78

House is 82.0 ft. of 2+06

26
102

LINCOLN

65

N.
↑

2400 Hob.

10° 07' →
0400
M.H.

3-3-39
Miller
Walker
B. Wood

Levels Alley BIK-180 Univ Hts.
For Replacement of Sewer Trestle

B.M.	2.19	300.67		298.48	S.W. Hendrix + Richmond
T.P.	1.16	299.19	2.64	298.03	
4+00 E.					
M.H. & Alley			E. of Vermont. Rim.	5.30	293.9
" " " "			" " " FL	8.28	290.81
2+02		W. End Payment.	8.32	290.87	
1+70		ground Filled	8.3	290.9	
1+53.5		FL R. Blaine Pipe	12.90	286.29	0.70. outside. Drain
1+57.5		ground Filled	15.2	284.0	
T.P.	0.52	287.66	12.05	287.14	
1+26		Wash { To slope to E. Nat. ground	21.5	266.2	
1+14		Flow Line	+ 0.8	288.5	
1+14		ground	15.5	272.2	
1+03 E.		"	12.6	275.1	
0+90 E.		" base of Pier	4.6	283.1	
0+90		F.L. Pipe Top	+1.31	288.97	
0+84. E		ground	1.6	286.1	
T.P.	8.88	295.33	1.21	286.45	

Indexed

295.33

C.S.K.					
0+73 E		ground	8.2	287.1	
0+71		"	7.2	288.1	
0+63		"	5.8	289.5	
0+63		F.L. Pipe	6.42	288.91	
0+28		E. End. paymt.	4.58	290.75	
0+15.2		E. side. paymt	4.80	290.53	
0+00 = Exc. MM					
Vermont St. & Alley		Top	4.38	290.95	
		below	5.74		
" " "		F.L.	10.12	285.21	
Old B.M. gone					
New B.M. BP		S. end. Return	2.45	292.88	S.E. Lincoln Vermont
T.P.	7.22	300.10	2.45	292.89	
T.P.	5.56	302.97	2.69	297.41	N.W. Lincoln
Old B.M. Prop. Cor. C.T.			5.40	297.57	Johns. Ave.
				297.57	

Sewer Prelim. to serve
Pepper Plant on Calhoun &
Taylor

SE 1/4 Cor.
Curb

B.M. 89 4.31 8.93

Taylor
H.P. San Diego

Ex. M.H. 9 Calhoun + 25' Nly Taylor

R.M.T. 5.36 3.57

F.L. 8.09 0.84

50' Nly of NE Cor. of Calhoun

ground 4.7 4.2 at Pump

T.P. 9.98 18.05 0.86 8.07
Wallace
EXISTING Sewer

0+00 10.7 7.9

0+50 9.6 8.5

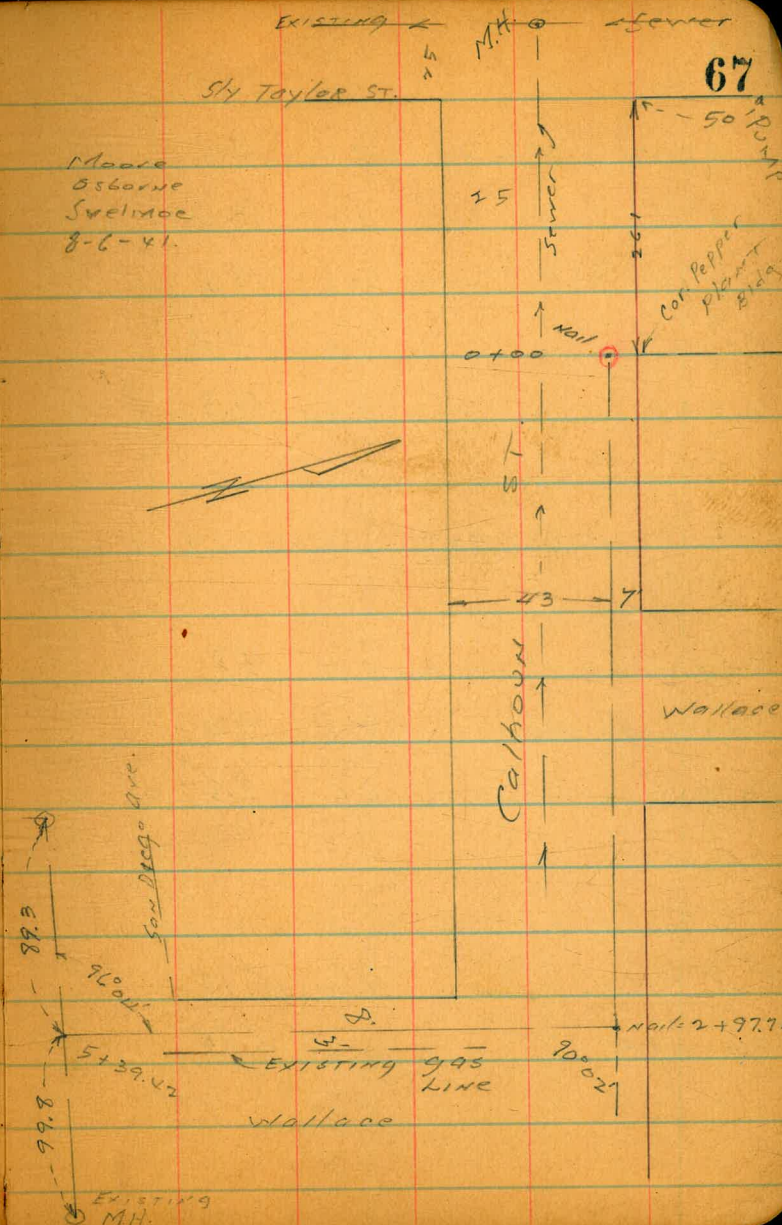
1+00 8.7 9.4

1+50 7.9 10.2

2+00 6.5 11.6

Moore
Osborne
Swelmore
8-6-41.

EXISTING ← Sewer
M.H. 67
54 Taylor St.



1805

2 + 50		5.4	12.7
2 + 97.71	A 90° 02' RT.	4.3	13.8
3 + 31		5.1	13.0
3 + 50		4.6	13.5
4 + 00		3.8	14.3
4 + 50		3.8	14.3
T.P.	478 <u>1927</u>	3.56	14.45
4 + 83.3	beg 6" H.C. Pav.	5.5	13.8
5 + 00	on Pav.	5.3	14.0
5 + 39.42	Int. of ^{Sewer on} S.D. Ave	6.1	13.2 on 6" Pav.
Ex. M.H.	99.8 S. of inter section		
Rim M.H.		4.10	15.17
F.W. M.H.		10.43	8.84

19.27

68

of
 Ex. M.H. 89.3 N/4 of inter section Sewer

Rim M.H.	7.43	11.84
F.W. "	15.04	4.23
T.P.	1.92	12.67
	8.52	10.75
check to orig. B.M.	8.02	4.63
		<u>4.62</u>
		0.01

Notes Red. (L) 2/6/41

Bliss
S. J. Meyer
8/7/41

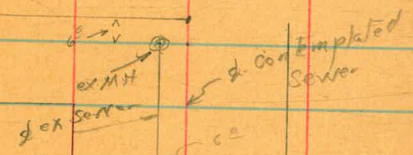
Preliminary Sewer to Serve Pepper Plant

Colborn & Taylor

6728.59 L.A. 89° 12' 00" V

Wallace

st.



5733³⁹ L.A. 89° 18' 40"

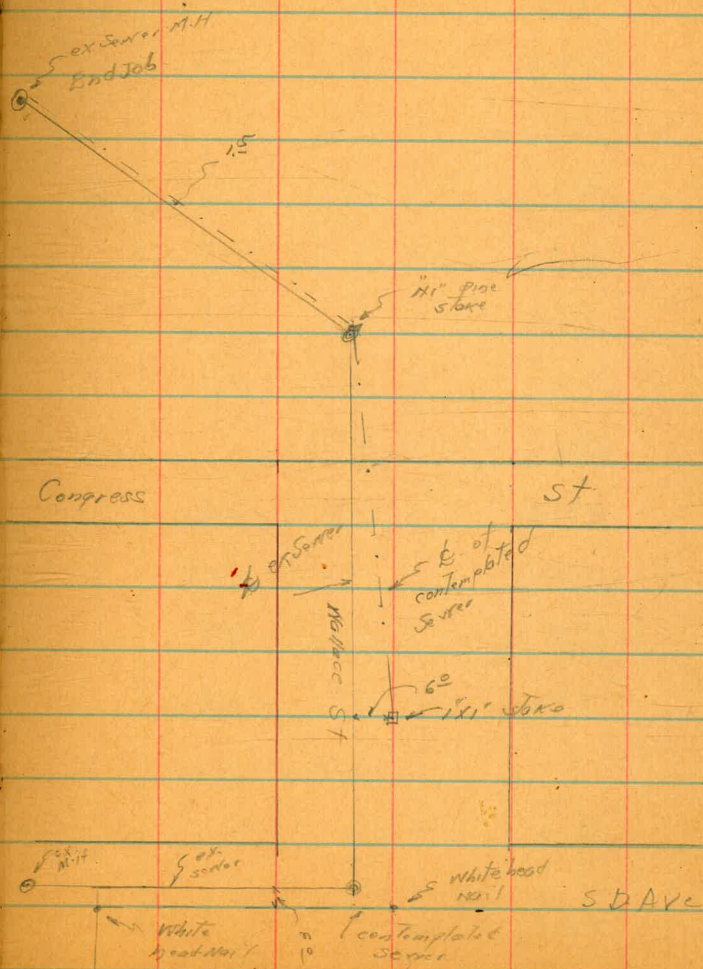
Wallace St



13711^B ERM.H
+ End of Job

10747st L.L. 52° 20' 30"

8459 L.L. 1° 32' 30"



BM	627	18.11	11.84	Rim ex MIT Water + S.D. Ave
5+33 ³⁹			4.75	13.36
6+00			5.65	12.46
6+28 ⁵⁹ L			6.14	11.97
6+41 ³ Edge of lot paving	Slime S.D. Ave		6.56	11.55
+50			6.9	11.2
7+00			10.3	7.8
+50			13.2	4.9
T.P.	2.80	8.16	12.75	5.36
8+00			9.6	3.6
+54 L on slab			5.46	2.70
9+00			5.4	2.8
+50			5.6	2.6
10+00			5.6	2.6
+20			5.9	2.9
+25			6.6	1.6
+40			6.1	2.1

70

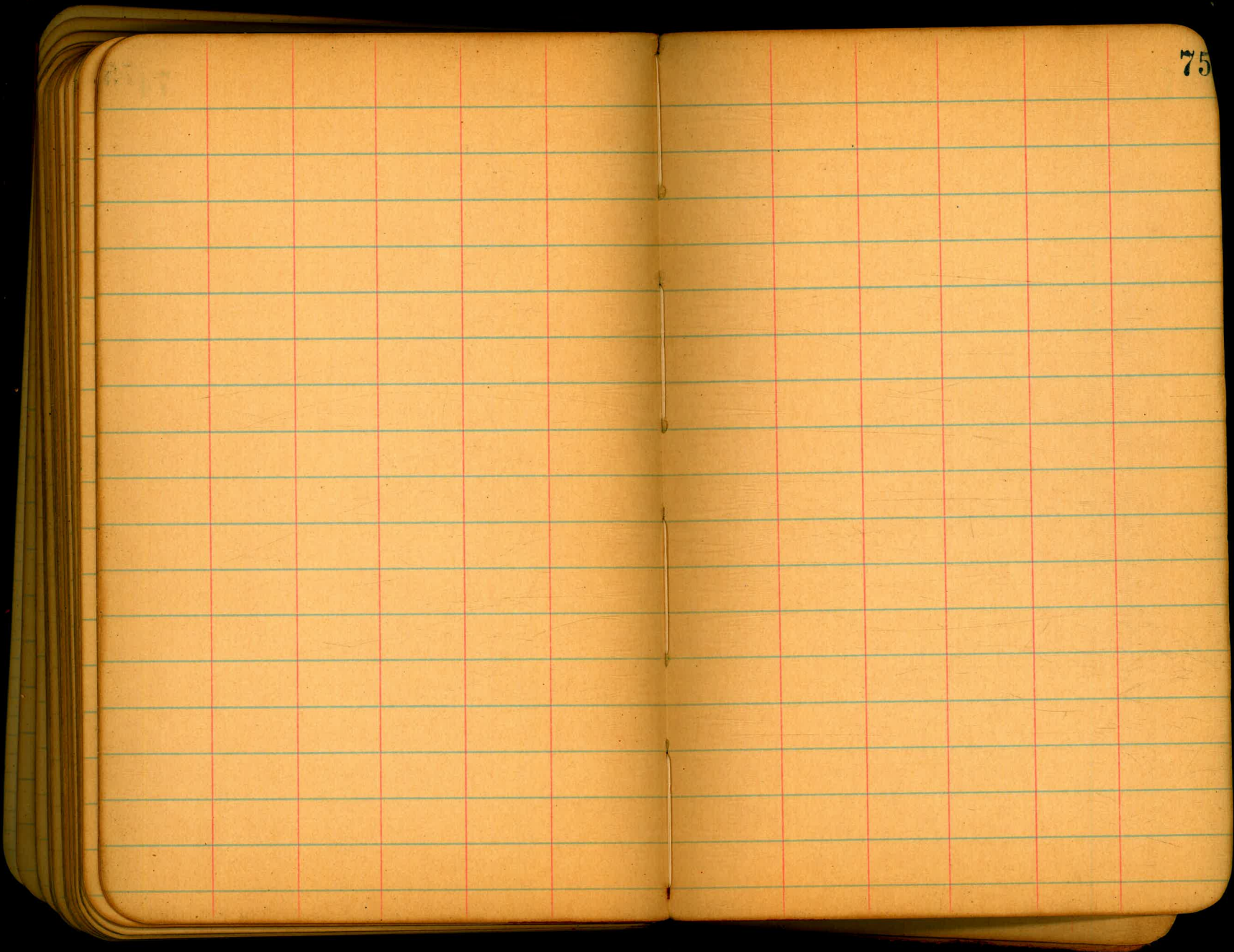
T
816

10+47 ³¹ L.H. on H.H. slab	6.31	1.85
11+00	7.8	0.4
11.15 L.H. on pipe Top	7.21	0.95
+16	7.1	1.1
+20		
+25.5 Telephone pole 08 H.H.	7.2	1.0
+50	8.8	-0.6
+50 Top ex pipe	7.28	0.88
+85	8.2	0.0
12+00	7.1	1.1
" " Top ex pipe	7.30	0.86
+50	5.9	2.3
+60	6.2	2.0
" " Top pipe	7.38	0.78
12+88 Telephone pole 11 H.H. slab		
13+00	8.2	0.0
+11.8 ex M.I.L. on Ground	8.0	0.2
Top	5.52	2.64
Flow from NE	8.45	-0.29
Flow Line Main Pipe	8.61	-0.45

			7 816				
B.M.	T.P.	1069	1375 ✓	510	306		✓
5+33 ³	check starting B.M.			190	1185 ✓		
6700					1184		
					0.01		
6728 ³							
6741 ³							
750							
7100							
75							
T.P.							
8700							
754							
9700							
750							
10700							
720							
725							
740							

72

74



76

6.65
626

6.65
55

77

B.M. 5.72 272.78

267.06

12.42	260.36	
12.35	260.43	262.57
12.43	260.51	260.43
	<u>28</u>	2.15
		<u>.2</u>
		1.6

B.M. 5.80 272.46 10.35 262.51

1.6

267.78

(21.4

260.43	
260.11	
<u>25</u>	
260.43	
260.11	
<u>25</u>	
260.43	
260.11	
<u>25</u>	
260.43	
260.11	
<u>25</u>	

Z 127.00 L. 58

78

262.57

6

261.9

ELL M.H. Sta 3+55

-004225

260.4

M.H. Robinson

.422500

1.5

355

1.5-000

4225

1420

800

710

900

710

1900

1775

125

B.M. 5.72

B.M. 5.80

278
90.6
1668

4
20
0

B.M. 5.

17469

54800

30.8 172.48 2.6
72.2 27.57

B.M. 5.

110
3705

593.3
372
97
275.1
137.59
380
28199.59

63.7
48.93
440
127.00
2640

18 24 41.0
68 74
96 102
3.15

75.4 160 450 3.30
197 31.50
1.50 6

77
2425

by H. S. CROCKER COMPANY, Stationers, Drawing
Mathematical Instruments, etc., San Francisco.

TABLE FOR TRANSIT BOOK.
from 1° to 90° for a distance of 100.

DEG.	1/2 DEGREE.		1/2 DEGREE.		1/2 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	
3.49	99.92	3.93	99.91	4.36	99.88	4.80	
5.23	99.84	5.67	99.81	6.10	99.79	6.54	
6.98	99.73	7.41	99.69	7.85	99.66	8.28	
8.72	99.58	9.15	99.54	9.58	99.50	10.02	
10.45	99.41	10.89	99.36	11.32	99.31	11.75	
12.19	99.20	12.62	99.14	13.05	99.09	13.49	
13.92	98.97	14.35	98.90	14.78	98.84	15.21	
15.64	98.70	16.07	98.63	16.50	98.56	16.93	
17.36	98.40	17.79	98.33	18.22	98.25	18.65	
19.08	98.08	19.51	97.99	19.94	97.90	20.36	
20.79	97.72	21.22	97.63	21.64	97.53	22.07	
22.50	97.34	22.92	97.24	23.34	97.13	23.77	
24.19	96.92	24.62	96.81	25.04	96.70	25.46	
25.88	96.48	26.30	96.36	26.72	96.25	27.14	
27.56	96.00	27.98	95.88	28.40	95.76	28.82	
29.24	95.50	29.65	95.37	30.07	95.24	30.49	
30.90	94.97	31.32	94.83	31.73	94.69	32.14	
32.56	94.41	32.97	94.26	33.38	94.12	33.79	
34.20	93.82	34.61	93.67	35.02	93.51	35.43	
35.84	93.20	36.24	93.04	36.65	92.88	37.06	
37.46	92.55	37.86	92.39	38.27	92.22	38.67	
39.07	91.88	39.47	91.71	39.87	91.53	40.27	
40.67	91.18	41.07	91.00	41.47	90.81	41.87	
42.26	90.45	42.66	90.26	43.05	90.07	43.44	
43.84	89.69	44.23	89.49	44.62	89.30	45.01	
45.40	88.90	45.79	88.70	46.17	88.50	46.56	
46.95	88.09	47.33	87.88	47.72	87.67	48.10	
48.48	87.25	48.86	87.04	49.24	86.82	49.62	
50.00	86.38	50.38	86.16	50.75	85.94	51.13	
51.50	85.49	51.88	85.26	52.25	85.04	52.62	
52.99	84.57	53.36	84.34	53.73	84.10	54.10	
54.46	83.63	54.83	83.39	55.19	83.15	55.56	
55.92	82.66	56.28	82.41	56.64	82.16	57.00	
57.36	81.66	57.71	81.41	58.07	81.16	58.42	
58.78	80.64	59.13	80.39	59.48	80.13	59.83	
60.18	79.60	60.53	79.34	60.88	79.07	61.22	
61.57	78.53	61.91	78.26	62.25	77.99	62.59	
62.93	77.44	63.27	77.16	63.61	76.88	63.94	
64.28	76.32	64.61	76.04	64.94	75.76	65.28	
65.61	75.18	65.93	74.90	66.26	74.61	66.59	
66.91	74.02	67.24	73.73	67.56	73.43	67.88	
68.20	72.84	68.52	72.54	68.84	72.24	69.15	
69.47	71.63	69.78	71.33	70.09	71.02	70.40	
70.71							
at.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees
1/2	1/2 DEGREE.		1/2 DEGREE.		1/2 DEGREE.		