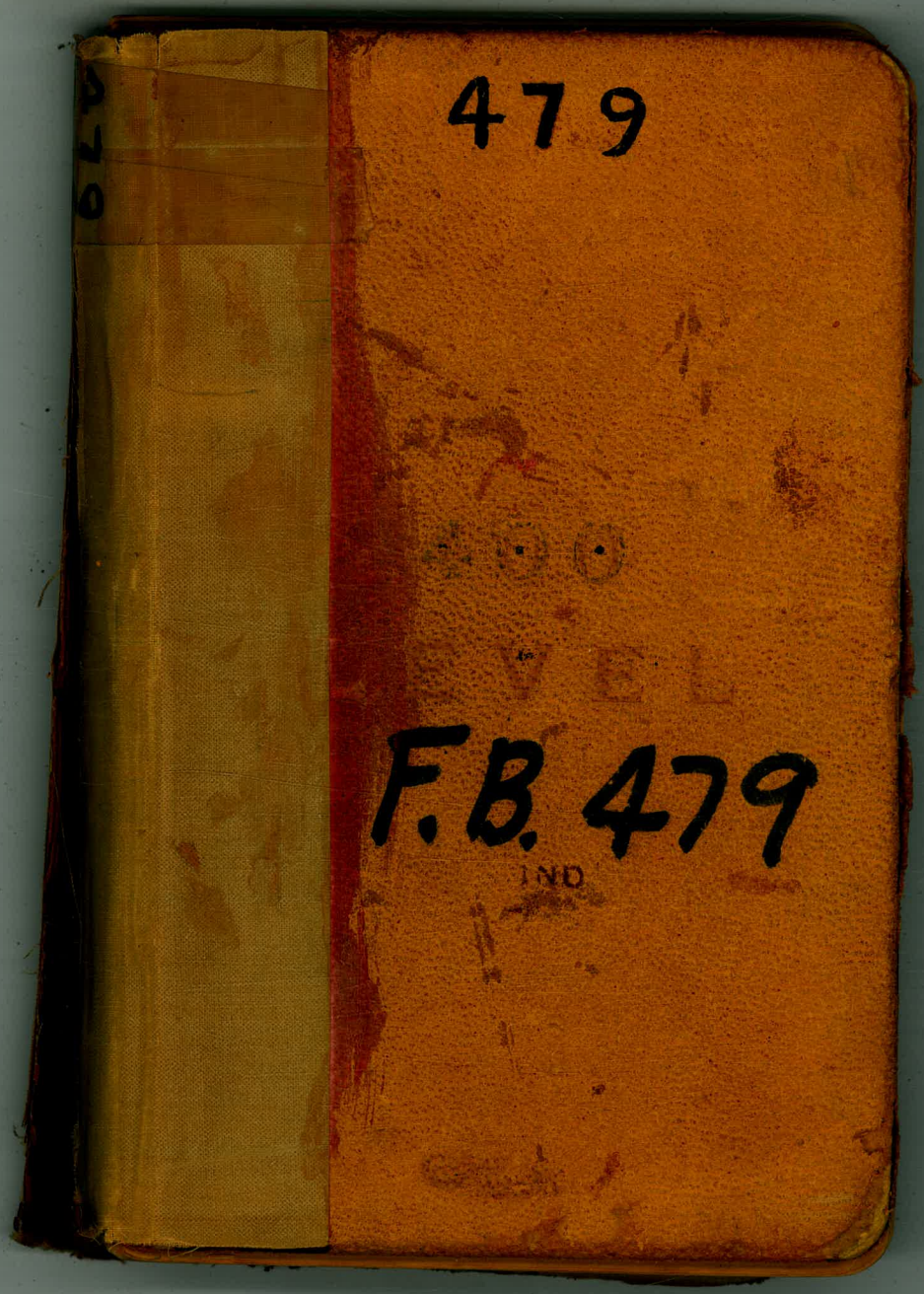
479
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Published by H. S. CROCKER COMPANY, Stationers, Drawing Materials, and Mathematical Instruments, San Francisco.

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	2⅓	21	49	41	95⅔
2	4⅔	22	51⅓	42	98
3	7	23	53⅔	43	100⅓
4	9⅓	24	56	44	102⅔
5	11⅔	25	58⅓	45	105
6	14	26	60⅔	46	107⅓
7	16⅓	27	63	47	109⅔
8	18⅔	28	65⅓	48	112
9	21	29	67⅔	49	114⅓
10	23⅓	30	70	50	116⅔
11	25⅔	31	72⅓	51	119
12	28	32	74⅔	52	121⅓
13	30⅓	33	77	53	123⅔
14	32⅔	34	79⅓	54	126
15	35	35	81⅔	55	128⅓
16	37⅓	36	84	56	130⅓
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

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
°		°		°		°	
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

4 79
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MINUTES.

1.....
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TA

In the follow
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chain

ANGLE	L
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8	
9	
10	

30th & Ash N.W. Cor. 226.77
S.W. Cor. 30th & "B" 217.89
Sta 44+50 = 170.72

Olive + India SE BP 100.96

1st + Brooker NW BP 952.90

M.H. Olive = 46.10

M.H. Palm = 52.45

63.05 – 29th + 21

64.00 –

69.20 –

72.50 – alley bet L + K

sewer = 48.05

+ 30. 48.48 13.87 3' cut

+ .40 = corhouse 49.05 9.79 3' cut.

Sewer lines East of 30th
& West of Cholla Valley

alley line bet. I & H from
X to Cholla Valley. B

Sta.		H.I.	Rod	Elev.
0+00	40' East of 31st	92.44	4.5	87.9
+50			4.2	88.2
1+00	82.76 B.M.		4.8	87.6
+50	9.68 92.44 7.04 85.40 T.P.		4.7	87.7
2+00	3.67 89.07		5.1	87.3
+50			5.9	86.5
3+00			6.6	85.8
+50			7.7	84.7
4+00		89.07	5.1	84.0
+50			5.6	83.5
5+00			6.3	82.8
+50			6.6	82.5
+81			6.8	82.3
+82			7.7	81.4
+90.8	Center 32nd St.		7.3	81.8
6+00			7.7	81.4

40' East 31st

July 16/09 { Childs, Barber, Eckenrode } 1

Sta	H.I.	Rod	Elev.
6+12	89.07	7.8	81.3
+15		6.8	82.3
+50		7.0	82.1
7+00		6.8	82.3
+50		6.8	82.3
8+00		6.9	82.2
+50		7.5	81.6
+75		9.4	79.7

D H. street line from 200' west of center 32nd & Rhoda Valley. A

Sta.		H.I.	Rod	Elev.
0+00	200' west of 32nd	89.07	2.6	86.5
+50			4.0	85.1
1+00			5.0	84.1
+50			5.5	83.6
2+00	Center 32nd		6.1	83.0
+50			6.6	82.5
+76			6.3	82.8
+82			7.9	81.2
3+00			7.6	81.5
+02			7.5	81.6
+05			6.5	82.6
+50			6.2	82.9
4+00			6.4	82.7
+50			6.9	82.2
+65			7.7	81.4

32nd Street line from center H. to center alley bet. H & I. July 16/09 C

{ Childs Bird & Eckenrode

Sta		H.I.	Rod	Elev.
0+00	Center H. street	89.07	6.1	83.0
+50			6.5	82.6
1+00			6.5	82.6
+50			6.8	82.8
+99.8	Center alley bet. I & H.		7.3	81.8

83.18
-1.89

I alley line bet. I & J. from to Cholla Valley D

July 16/09 { Childs Barber Eckenrode 3

Sta.		H.I.	Rod	Elev.
0+00	600' west of west line of 31st	83.30	2.8	80.5
+50			4.9	78.4
1+00			5.9	77.4
+50			6.1	77.2
2+00			6.5	76.8
+50	82.76 0.54 83.30 ✓		6.3	77.0
3+00			6.3	77.0
+50			5.7	77.6
4+00			5.3	78.0
+50			5.4	77.9
5+00			5.0	78.3
+50			5.1	78.2
6+00	West line of 31st		4.8	78.5
+50			4.2	79.1
7+00			4.4	78.9
+50			4.2	79.1

Bogie Slated

Sta.		H.I.	Rod	Elev.
8+00		83.30	4.1	79.2
+50			3.7	79.6
9+00			3.0	80.3
+50			2.6	80.7
10+00			3.0	80.3
+50			3.1	80.2
11+00	3.23 80.07 T.P. 4.95 85.02 ✓	85.02	4.8	80.2
+50			4.9	80.1
12+00			4.5	80.5
+50			4.0	81.0
+79			3.4	81.6
+80			4.2	80.8
13+00			4.0	81.0
+03			3.2	81.8
+21	East line of 32nd		2.7	82.3
+50			2.2	82.8

Cont from page 3

Sta:	H.I.	Rod	Elev.
14+00	85.02	1.3	83.7
+50		0.9	84.1
15+00		1.1	83.9
+50		0.6	84.4
16+00		1.4	83.6

Alley line bet. J + K from 600' to Cholla Valley.

F

Sta		H.I.	Rod	Elev
0+00	600' west of 31st	80.08	6.9	73.2
+50	76.30 B.M.		6.7	73.4
1+00	3.78 / 80.08		6.3	73.8
+50			6.2	73.9
2+00			6.1	74.0
+50			6.0	74.1
3+00			6.4	73.7
+50			5.9	74.2
4+00			5.9	74.2
+50			5.7	74.4
5+00			5.3	74.8
+50			4.8	75.3
6+00	West line 31st		4.7	75.4
+50			4.4	75.7
7+00			4.0	76.1
+50			3.4	76.7

Profile Started

west of 31st

July 17/09 { Childs, Barber, Taylor

Sta.		H.I.	Rod	Elev.
8+00		80.08	2.8	77.3
8+50			1.9	78.2
9+00			1.4	78.7
+50	0.84 / 79.24 TP	87.07	6.7	80.4
10+00	7.83 / 87.07		6.4	80.7
+50			6.2	80.9
11+00			5.8	81.3
+50			5.3	81.8
12+00			3.9	83.2
+50			4.2	83.9
+80			3.4	83.7
+83			5.8	81.3
13+00			5.4	81.7
+03			4.3	82.8
+21.22	East line 32nd		4.1	83.0
+50			4.3	82.8

Cont. — from page 5

sta.		H.I.	Rod	Elev.
14+00		87.07	5.3	81.8
+50			6.1	81.0
15+00			6.0	81.1
+50			5.7	81.4
16+00			5.7	81.4

July 17/09 {Childs, Barber, Taylor} 6

G

Valley bet. K & L. 34.7 west 32nd to Cholla Valley.

sta.		H.I.	Rod	Elev.
0+00	34.7 west 32nd = 20+40 Book 200 Page 79	85.22	6.3	78.9
+34.7	West line 32nd		5.9	79.3
+50			5.7	79.5
+55	84.24 BM. 0.98 85.22		6.1	79.1
+75			6.1	79.1
+79			5.0	80.2
1+00			4.8	80.4
+50			3.4	81.8
2+00			3.3	81.9
+50			4.0	81.2
+90			6.0	79.2

8 Alleyline bet L & M from center 30th to cholla valley.

July 19/09 {Childs, Barber, Taylor}

7

Sta		H.I.	Rod	Elev.
0+00	old Man Hole grade 70.0 center 30th	81.99	7.6	74.4
+19	76.54 B.M. 5.45 81.99		7.7	74.3
+20			6.9	75.1
+30			6.7	75.3
+36			8.8	73.2
+50			8.6	73.4
1+00			7.8	74.2
+50			7.6	74.4
2+00			8.0	74.0
+50			7.7	74.3
3+00			7.0	75.0
+50			6.6	75.4
4+00			6.3	75.7
+50			5.8	76.2
5+00			5.1	76.9
+50			5.0	77.0

sta.		H.I.	Rod	Elev.
6+00		81.99	4.6	77.4
+30.3	West line 31st		4.4	77.6
+50			4.6	77.4
7+00			4.1	77.9
+50			4.4	77.6
8+00			4.8	77.2
+50			5.7	76.3
9+00			5.9	76.1
+50			6.1	75.9
10+00			6.1	75.9
+50			5.8	76.2
11+00			5.3	76.7
+50	5.74 76.25 J.P. 5.18 81.43	81.43	4.7	76.7
12+00			4.2	77.2
+41.7	grade 72.48		5.5	75.9
+50			5.4	76.0
+68			6.6	74.8

July 19 1909 Childs Barber Taylor

Cont. from page 7

Sta.		H.I.	Rod	Elev.
12+91.7	West line 32nd	81.43	6.7	74.7
13+00			6.9	74.5
+12			6.6	74.8
+17			5.2	76.2
+35			6.4	75.0
+50			6.9	74.5
14+00			6.4	75.0
+50			4.1	77.3
15+00			3.7	77.7
+50			3.62	77.81

alley line bet. M & N from center
to 488.5 East 31st

K

sta.		H.I.	Rod	Elev.
0+00	grade -69.2 Center 30th	78.59	4.6	74.0
+50	76.54 2.05 78.59		5.0	73.6
1+00			4.9	73.7
+50			5.3	73.3
2+00			4.9	73.7
+50			4.8	73.8
3+00			5.6	73.0
+50			5.1	73.5
4+00			4.9	73.7
+50			5.7	72.9
5+00			5.2	73.4
+50			5.0	73.6
6+00			4.9	73.7
+50			4.9	73.7
+90.5	East line 31st		4.8	73.8
7+00			4.6	74.0

30th street

July 19/09 Childs Barber Taylor

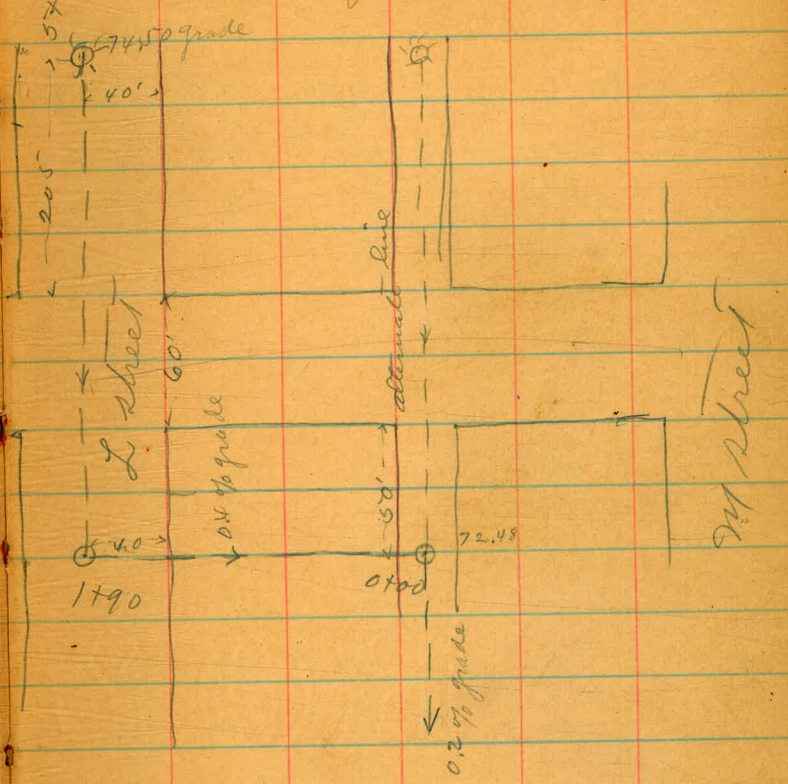
9

sta		H.I.	Rod	Elev.
7+50		78.59	4.7	73.9
8+00			3.8	74.8
+50			3.2	75.4
9+00			2.5	76.1
+50			2.1	76.5
10+00			2.4	76.2
+50			3.8	74.8
11+00			4.5	74.1
+50			4.4	74.2
+80	grade 71.56		3.7	74.9
				3.34

line on L + across to alley bet
L ~~M~~ M.

Sta.		H.I.	Rod	Elev.
0+00	center alley bet. M + L. 50' west 32nd (grade 72.48)	81.93	6.0	75.9
+50			6.0	75.9
1+00	78.00 B.M.		3.6	78.3
+18	3.93		5.2	76.7
+50	81.93		4.6	77.3
+64			4.7	77.2
+65			5.8	76.1
+90	center L street	0.4 % grade	4.5	77.4
2+00			4.6	77.3
+50			4.5	77.4
3+00	East line 32nd		3.6	78.3
+50			2.4	79.5
4+00			3.5	78.4
+50			3.4	78.5
5+00			2.5	79.4
+05	205' East of 32nd (Grade 74.50)		2.1	79.8

July 19/09 { Childs, Barber, Taylor



℄ Sewer line in alley bet. G & F from 435' East of Center 29th to Center 29th To

July 21/09 { Childs, Barber, Taylor

Sta.		H.I.	Rod	Elev.	Grade	Cut
0+00	Center 29th Rt.	133.46	0.6	132.9	120.15	12.8
		124.52				
+35	131.95 T.P. Sta 16+00 main line		4.2	120.3	120.29	0.0
	1.51					
+50	133.46		5.4	119.1		
	12.99					
+65	120.57 T.P.		6.6	117.9		
	3.95					
	124.52	0.4 % grade				
+69	6.27		8.4	116.1		
	138.22					
+73	0.13		6.4	118.1		
	138.09 T.P.					
	11.98					
1+00	150.07	133.46	11.6	121.9	120.55	1.3
	0.44					
	149.63 T.P.					
+35	12.80	138.22	11.3	126.9	120.69	6.2
	162.43					
	8.33					
+50	168.37		7.9	130.3		
2+00		150.07	9.1	141.0		
+30			0.7	149.4		
+50		162.43	10.2	152.2		
3+00	M.H.		2.39	160.04		
+50		168.37	5.7	162.7		
4+00			4.6	163.8		
+35	F.S.		5.77	162.60		

Starting from a point 570.43 East of the M.H. at center 29th on center alley. July 21/09 (Childs Barber Taylor) 12

X bet. L + K going north across private property and up center of 30th to J st.

I

Sta		H.I.	Rod	Elev.	
0+00	center alley bet. L + K. 570.43 East center 29th	78.68	7.78	70.90	68.92
+50			8.6	70.1	
1+00	75.09 B.M. 3.59 78.68		6.9	71.8	
+50			6.9	71.8	
+63			7.1	71.6	
+65			7.9	70.8	
+89.28	center K. street + 30th.		6.81	71.87	69.68
2+00			6.8	71.9	
+50			5.7	73.0	
3+00			5.3	73.4	
+50			4.8	73.9	
+79.05	center alley bet. J + K (produced)		4.6	74.1	
4+00			4.2	74.5	
+50			3.6	75.1	
5+00			3.1	75.6	
+05	F.T. about 25' from J street		3.1	75.6	

D ~~alley~~ Center alley line bet. K & J produced to center 30th
from 600' west of (29th) 31st

July 21/09 { Childs, Barber, Taylor

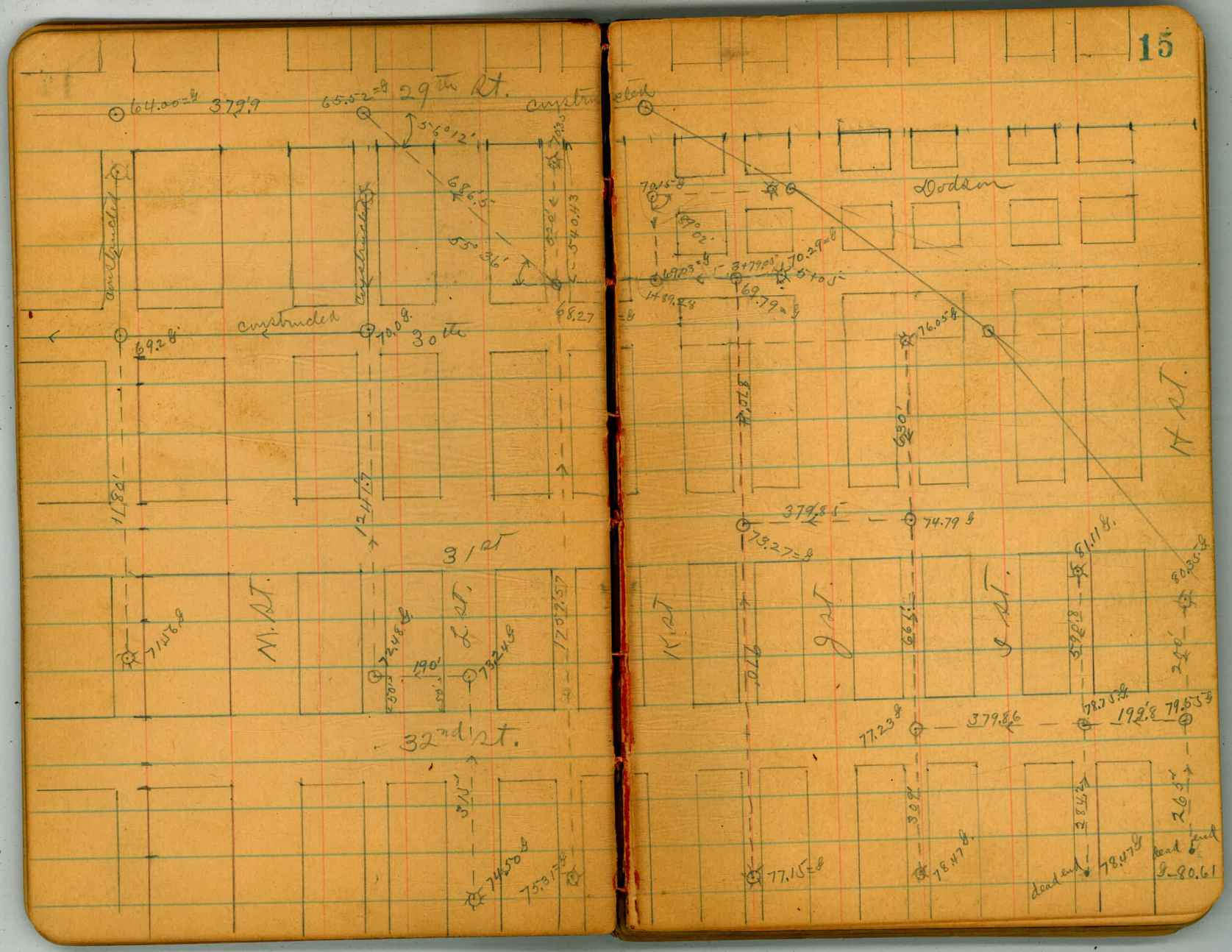
13

Sta.	~~600'~~	H.I.	Rod	Elev.
0+00	= 600' west 29th on center alley line	78.68	5.5	73.2
+50	bet. K & J.		5.8	72.9
1+00			5.8	72.9
+50	75.09 BM. J & 30th 3.59 78.68 ✓		6.1	72.6
+99			5.8	72.9
2+01			5.1	73.6
+40.4 = 3+79.05	center 30th street		4.6	74.1

℄ Severline & K & Dodson from H to ℄ & Dodson.

Sta.	o	H.I.	Rod	Elev.
0+00	center K+30th	79.93	8.06	71.87
+50			7.7	72.2
1+00			7.2	72.7
+50			7.9	72.0
2+00			7.2	72.7
+50			6.9	73.0
+81	center K+Dodson		6.7	73.2
3+00			6.3	73.6
+20	1.65 78.28 JP.		5.7	74.2
+23	6.43 8471 ✓		6.4	73.5
+50			6.4	73.5
4+00			6.1	73.8
+50			5.6	74.3
5+00			3.9	76.0
+50			1.1	78.8
6+00	F.S. abut 21.7 from ℄.	84.71 89°02'	2.9	81.8

center K+30th July 21/09 { Childs Barber Taylor


29th St.
30th
31st
32nd St.
M. St.
L. St.
K. St.
J. St.
I. St.
H. St.
Dodson
constructed
dead end
dead end

Sewer line starting at a point on center B and up center B to alley

Sta		H.I.	Rod	Elev.
0+00	60' so. center B + 32nd or center 32nd	191.14	9.8	181.3
+17			9.3	181.8
+19			10.9	180.2
+50			10.8	180.3
0+60	Center 32nd + B.		10.49	~~186.2~~ 180.6
1+00			9.7	181.4
+05			9.3	181.8
+50		203.15	10.8	192.4
2+00		215.63	11.7	203.9
+25	M.H.		8.19	207.44
+50	12.89 / 202.74 J.P. / .41 / 203.15		6.1	209.5
3+00	12.97 / 190.18 J.P. / 0.96 / 191.14		4.0	211.6
+50			3.1	212.5
4+00			3.0	212.6
+50			3.8	211.8
5+00			4.7	210.9
+50			5.6	210.0

center 32nd 60' so. of July 22/09 (Childs Barber Taylor) 16
bet. 31st + Ida + up alley Blk 1 Gross add.

Sta		H.I.	Rod	Elev.
5+82.90	M.H center alley bet. Ida + 31st	215.63	6.3	209.3
6+00			6.3	209.3
+09			6.3	209.3
+10			5.7	209.9
+23	210.43 J.P. / 5.20 / 215.63		4.9	210.7
+24			0.7	214.9
+50	13.03 / 223.46	223.46	7.4	216.1
7+00			5.2	218.3
+50	0.51 / 222.95 J.P. / 4.03 / 226.98		3.4	220.1
8+00			1.4	222.1
+50		226.98	2.6	224.4
9+00	F.T. about 23' from A Street		0.92	226.06
	9.4 / 11.8			

Beginning at a point in center alley bet. of 29th running in a straight line to the K & L and 570.43 East of the center

Childs
Barber
Taylor.

Sta.		H.I.	I Rod	Elev.
0+00	center alley bet. L & K & 570.43 East of M.H. center 29th	79.99	9.09	70.90
+50	grade 68.27		9.6	70.4
1+00			8.5	71.5
+37			8.2	71.8
+45			6.8	73.2
+50			6.9	73.1
2+00			6.2	73.8
+50			5.2	74.8
+56			5.1	74.9
+63			6.7	73.3
+71			4.9	75.1
+94			4.9	75.1
3+00			5.8	74.2
+50			4.7	75.3
+87			5.0	75.0
+90			4.3	75.7

M.H. Center alley bet. L & M. & center 29th & south to M.H. bet. M & N.

July 22/09

Sta		H.I.	Rod	Elev.
4+00		79.99	4.0	76.0
+14			3.8	76.2
+21			6.2	73.8
+33			5.7	74.3
+42			4.1	75.9
+50			4.1	75.9
5+00			4.2	75.8
+14			4.4	75.6
+20	6.30 / 73.69 J.P.		5.3	74.7
+50	2.38 / 76.07		5.0	75.0
6+00			5.0	75.0
+50			4.4	75.6
+86.5	grade 65.52 center 29th & alley bet. L & M.		4.7	75.3
7+00			5.3	74.7
+50			6.0	74.0
8+00			6.4	73.6

July 22/09 { Childs Barber Taylor

Cont. from Page 17

Sta		H.I.	Rod	Elev.	Grade
8+50		76.07	3.8	72.3	
9+00			4.5	71.6	
+14			4.0	72.1	
+22			3.1	73.0	
+50			2.9	73.2	
10+00			5.4	70.7	
+50			6.3	69.8	
+66.4	M.H. Center 29th & alley bet. M+N.		6.0	70.1	64.00

Line on 31st street from center alley bet. bet. J & K

E

Sta.		H.I.	Rod	Elev.
0+00	center alley bet. J & J.	81.60	3.0	78.6
+50			3.3	78.3
1+00			3.6	78.0
+50	76.30 5.30 81.60		5.1	76.5
2+00			5.2	76.4
+50			5.8	75.8
3+00			5.9	75.7
+50			6.0	75.6
+79.85	center alley bet. J & K.		6.1	75.5

J & J to center alley

July 22/09 { Childs, Barber, Taylor

D. Line at 32nd from center alley bet. I & J. C

July 22/09 Shields Barber Taylor

Sta.		H.I.	Rod	Elev.
0+00	Center alley bet. I & J	87.67	6.2	81.5
+50			6.1	81.6
1+00			5.9	81.8
+50	83.18 B.M.		6.0	81.7
	4.49			
2+00	87.67		5.9	81.8
+50			6.1	81.6
3+00			5.9	81.8
+50			5.7	82.0
+79.86	Center alley bet. I & H.		5.9	81.8

Not in

1st to Center

Preliminary Sewer Levels in alley Bet. H. & E. St. Starting at M. St. on 29th St. Sewer Line 30th St.

	H. I	Rod.	Elev.
0+00 (M. St. on 29th St. Line)	143.72	2.5	141.2
+34		6.4	137.3
+37		8.7	135.0
0+40		6.8	136.9
+50		5.6	138.1
1+00	153.41	3.2	150.2
1+50	177.07	12.0	165.1
2+00	189.46	9.7	179.7
2+50	197.54	8.0	189.5
3+00		4.9	192.6
+50		4.2	193.3
4+00		4.0	193.5
+50		4.6	192.9
5+00		4.3	193.2
+50		4.0	193.5
6+00		3.1	194.4

alley Bet. H. & E. St. Starting at East to 3+25 East of East Line of Baisden Taylor Shaw.

Grade aug 28/09

Flat ELB

Preliminary Inner Levels

1975

Sta 6+50	2.5	195.0
7+00	2.3	195.2
+50	2.6	194.9
7+80	3.0	194.5

Cont'd from Last Page, 21

X Preliminary sewer on Fern
89 + 92 + west to Present F.T.

Sta.		H.I.	Rod	Elev.
0+00	F.T. no. line Ash + center Fern	237.73	3.9	233.8
+50			4.0	233.7
1+00	5		4.7	233.0
+50			5.7	232.0
2+00			6.1	231.6
+50			7.0	230.7
3+00			7.9	229.8
+50			8.6	229.1
+80.3	M.H. center Fern + on pueblo line	229.38	0.46	228.92
4+00			0.5	228.9
+50			1.4	228.0
5+00			2.4	227.0
+50			2.8	226.6
6+00			3.6	225.8
+50			5.5	223.9
6+94.1	M.H. center 30th + alley in blk. 89+92		6.7	222.7

see Page 25

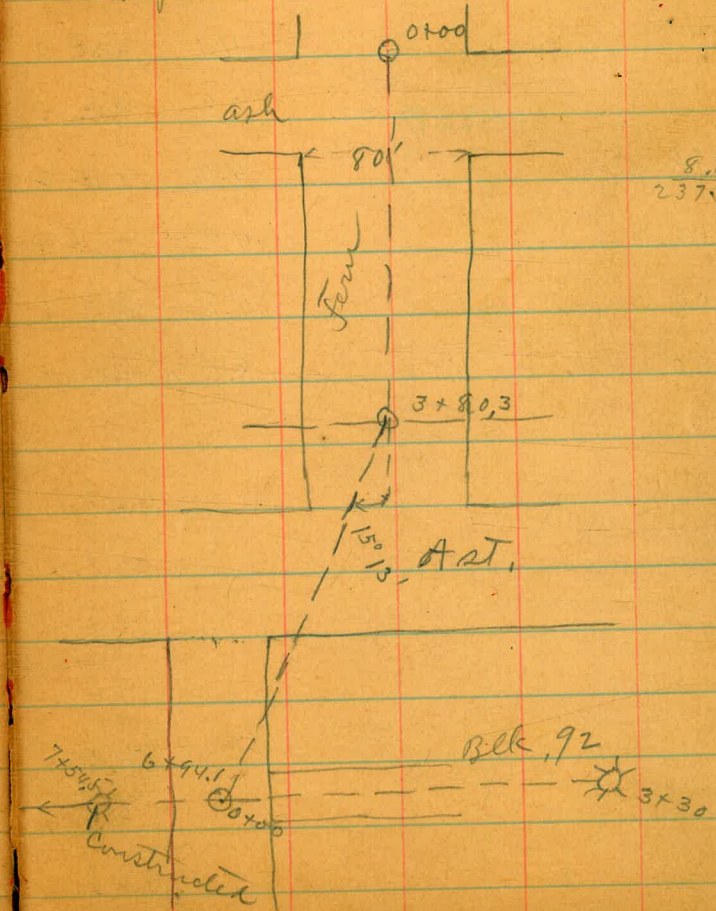
see page 25

+30th to alley in Blk. Childs Bach Taylor 23

Aug. 30/09

POSTED

Sta	H.I.	Rod	Elev.
7+00	229.38	7.0	
+24		7.0	
+25		5.5	
+54.5 present F.T.		5.6	



8.81
237.73

Sewer line Blk. 92

Aug/30/09 { Childs, Barker, Taylor

Sta.		H.I.	Rod	Elev		
0+00	N.H. Cut. 30th & alley bet. 89+92	229.38	6.7	222.7	218	217.89 11.49 229.38 ✓
+50			4.7	224.7		
1+00			4.1	225.3		
+50	POSTED		3.8	225.6		
2+00			4.0	225.4	219.0	6.4
+50			4.4	225.0		
3+00			5.8	223.6		
+30	F.J.		8.0	221.4		

From page 23

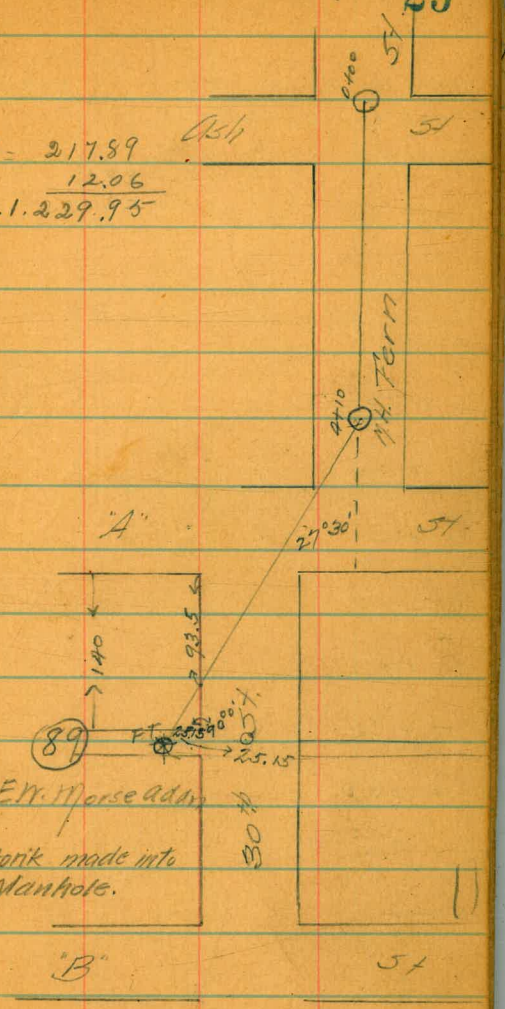
H.I.

3+80.3 = E. Ferm St & Pueblo Line.

3+80.3	229.95	1.0	228.95
4+00		0.9	229.0
4+10 M.H. ΔR. 27°30'		1.05	228.9
4+50		2.0	227.9
5+00		2.6	227.3
5+50		3.6	226.3
6+00		4.7	225.2
6+50		6.2	223.7
7+00		5.9	224.0
7+18.8 F.T. Top cover E. end Blk 89 E.W. Morse		6.2	223.7

9-8-09

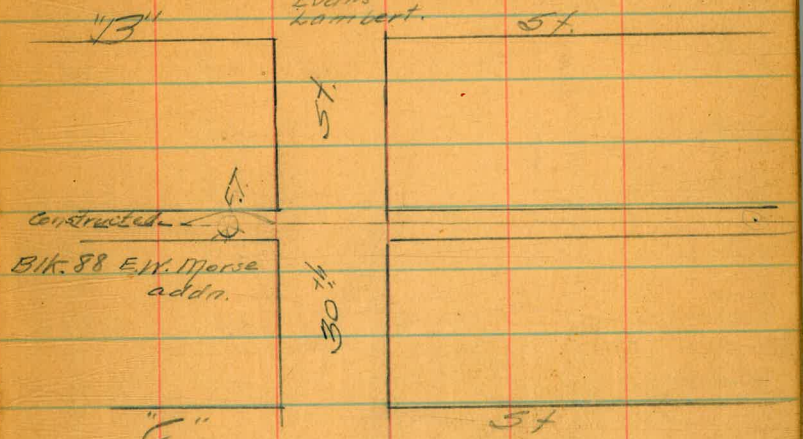
{ Lockwood.
{ Trans.
{ Lambert.



Commence at F.T. east end Blk. 88 E.H. Morse addn. thence E. & alley to sta. in Blk

0+00 = Centre F.T.	219.43	13.4	206.0
0+25		7.0	212.4
0+30		12.3	207.1
0+50		12.7	206.7
1+00		10.2	209.2
1+50		10.1	209.3
2+00		10.1	209.3
2+50		6.3	213.1
3+00		3.8	215.6
3+50		4.6	214.8
4+00		5.3	214.1
4+50		10.3	209.1

9-8-09
Lechtreed
Evans
Lambert.



B.M. 217.89
1.54
219.43

Preliminary Sewer Line 6th Fern St from N Line Ash St. North

Fern St.

N. Line Ash St	H.I. 27.44		
0+00		3.6	273.8
0+50		2.8	274.6
1+00		3.6	273.8
1+50		3.5	273.9
2+00		3.9	273.5
2+50		5.0	272.4
3+00 S. Li Beach		5.4	272.0
+50		5.2	272.2
4+00		4.5	272.9
+50		4.6	272.8
5+00		5.2	272.2
+50		6.6	270.8

30th Ash NW Cor
B.M. 266.77
10.67
H.I. 277.44

alley Blk, 1 Gross add. A street.

Sta.		H.I.	Rod	Elev.
0+00	= Sta 9+00 Page 16 of alley line in BLK 1.	229.24	3.17	226.0
+35			3.0	226.2
+38			3.8	225.4
+50			3.3	225.9
+62.9	M.H. Center A Street		2.62	226.6
1+00			3.3	225.9
+50	11.35 / 217.89 / 229.24		4.2	225.0
2+00			5.1	224.1
+14.95	M.H. center A St. 43rd going north		6.02	223.2
+50			5.6	223.6
3+00			4.0	225.2
+50			2.6	226.6
4+00	0.05 / 229.19 J.P.O		0.0	229.2
+50	10.76 / 239.95	239.95	8.5	231.5
5+00	0.86 / 239.09 J.P.O		7.8	232.2
+50			6.5	233.5

+3 Rt

Sta.		H.I.	Rod	Elev.
6+00				
+16.18	20 link ash.			
+50				
7+00				
+50				
8+00				
+50				
9+00				
+50				
+70	F.S. Near Beech			

Oct 5/09 Schields Barber Taylor

H.I.	Rod	Elev.
239.95	4.6	235.4
	4.5	235.5
	3.5	236.5
	3.0	237.0
	3.0	237.0
	2.9	237.1
	2.8	237.2
	4.2	235.8
	5.0	235.0
	5.53	234.5

Line on A street & Ida

Sta.		H.I.	Rod	Elev
0+00	M.H. center A = Sta. 0+62.9 on Page 28	229.24	2.62	226.6
+50			1.7	227.5
1+00			1.3	227.9
+28	M.H. center A St. + Ida going north		1.15	228.1
+50			1.5	227.7
+68	239.09 T.P. ②		0.2	229.
+70	3.29 242.38 ✓	242.38	12.4	230.0
2+00			11.6	230.8
+50			10.5	231.9
3+00.			9.4	233.0
+50			8.2	234.2
4+00			7.3	235.1
+50			6.1	236.3
5+00			5.1	237.3
+23.35	So. line ash		4.5	237.9
+50			4.3	238.1

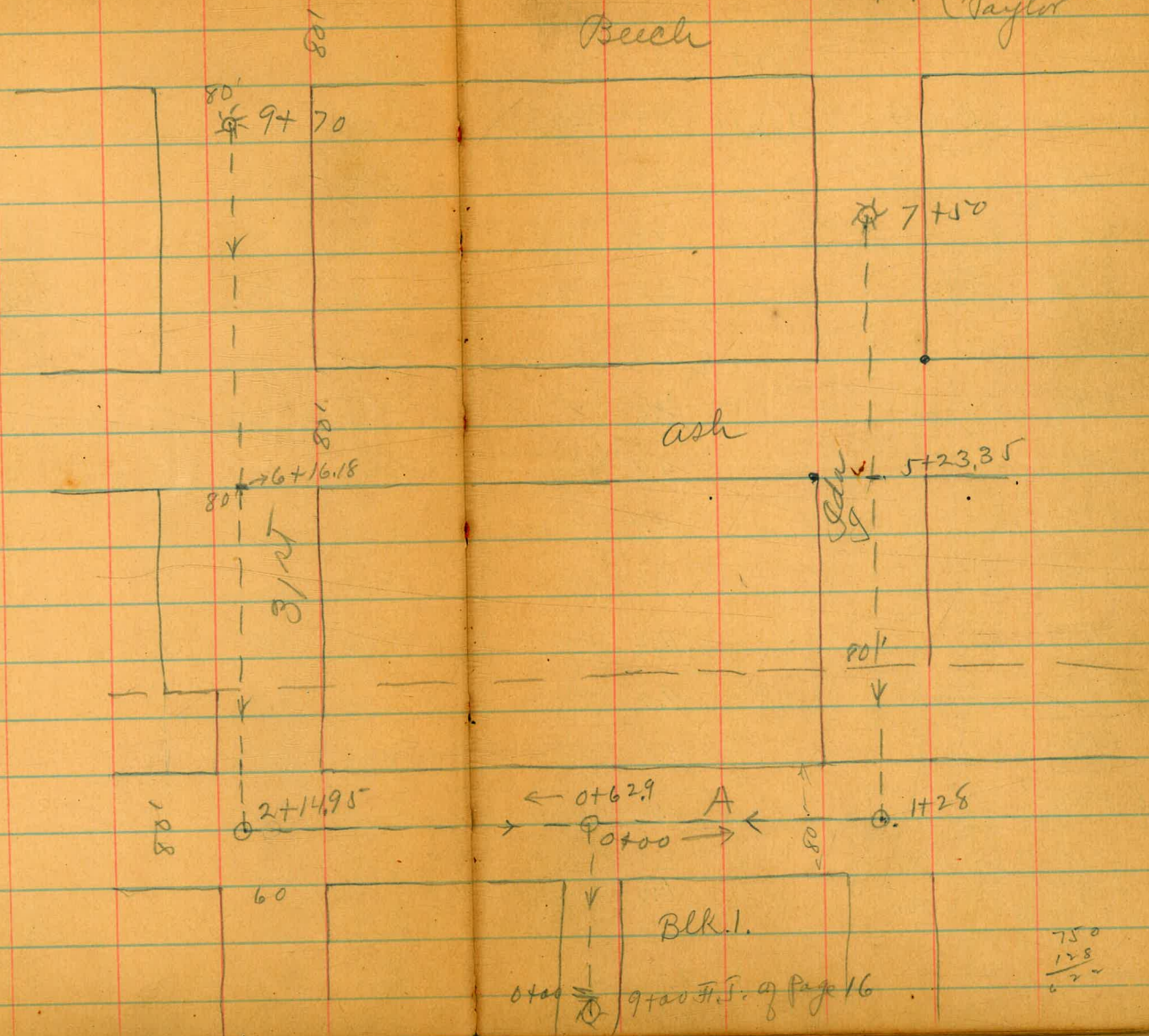
street

Oct. 5/09 Childs Barber Taylor

Sta		H.I.	Rod	Elev.
6+00		242.38	4.0	238.4
+50			4.0	238.4
7+00			4.4	238.0
+50	F.T.		7.53	234.9

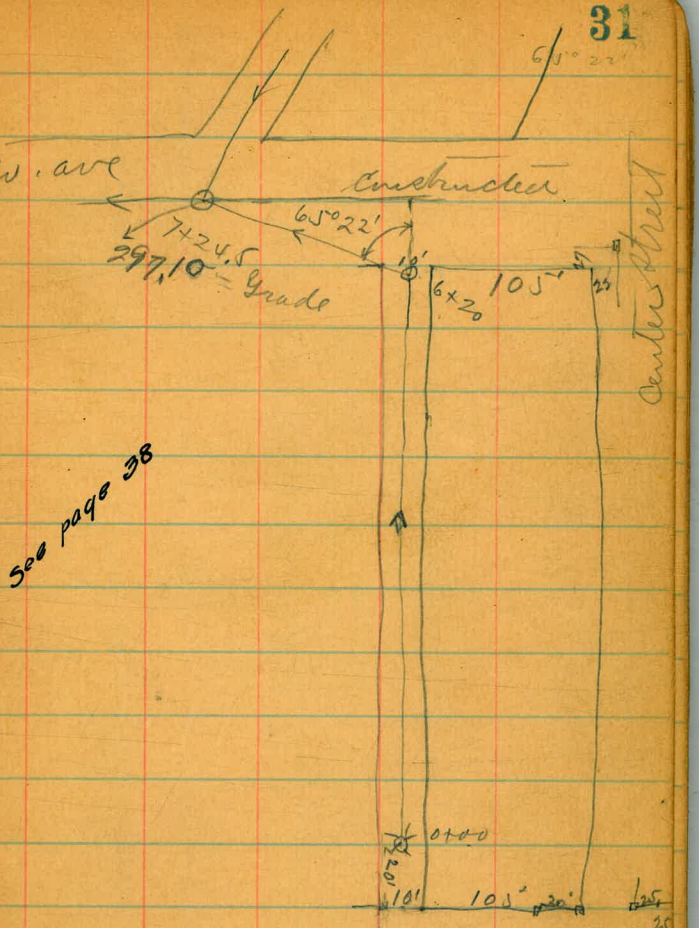
see diagram next page

Oct. 5/09 { Childs, Barber, Taylor



Sewer in alley west of Center 20. of Univ. ave.

Sta.		H.I.	Rod	Elev.
0+00	F.S. 20' from Robinson	309.01	8.3	300.7
+50			7.8	301.2
1+00	301.73 BM.		7.2	301.8
+50	7.28 / 309.01 H		6.2	302.8
2+00			6.6	302.4
+50			5.6	303.4
3+00			4.4	304.6
+50			4.4	304.6
4+00			4.0	305.0
+50			4.2	304.8
5+00			4.0	305.0
+50			3.1	305.9
6+00			1.9	307.1
~~+20~~ +25	MH. 4' so. of		2.1	306.9
~~+28~~ +28	Univ. ave.		~~5.3~~ 5.6	306.4
+50			5.6	303.4
7+00			6.2	302.8
+24.5			6.0	303.0



See page 38

297.10 = Grade

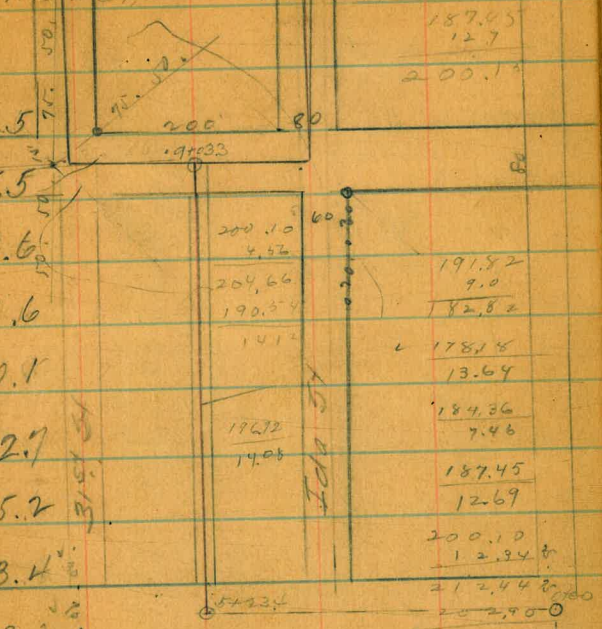
Ash 30th NW Cor B Bldg 226.77
A & 30 NW " Hasph pole 228.29

Sta 44+50 = T.P. 179.97
" 40+25 = 170.93
0+00 Int. B & 32nd

0+00	M.H.	193.04	12.5	180.5
0+25			12.4	180.6
0+50			10.2	182.8
0+75			4.1	188.9
1+00		204.87	10.4	194.5
1+25			4.8	200.1
1+50		215.37	9.7	205.7
2+00			5.3	210.1
+50	M.H.		3.3	212.1
3+00			2.7	212.7
4+50			2.6	212.8
4+00			3.6	211.8
+50			4.5	210.9
5+00			5.5	209.9
+234	M.H. T.P.		6.06	209.31

inter B & alley W of Ida

Sewer commencing at 32nd & B
West to alley bet Ida & 31st St thence N.
a St thence W. to ℄ 31, thence N. to F.T.



172.00	8.5
175.09	5.5
178.18	4.6
181.27	7.6
184.36	10.1
187.45	12.7
190.54	15.2
196.72	13.4
202.90	9.2
203.36	9.3
203.83	9.0
204.29	7.5
204.76	6.1
205.22	4.7
205.55	3.7

187.45
12.7
200.15

191.82
9.0
182.82

178.18
13.64

184.36
7.46

187.45
12.69

200.10
12.34
212.44
202.90
9.54

B.M. Hub

180.17
12.87
193.04
0.44
192.60
12.27
204.87
0.40
204.47
10.90
215.37
6.06
209.31
12.72
222.03

203.36
13.06
203.83
12.59
204.29
12.13
204.76
11.66
205.22
11.20
205.55
10.87

180.17
11.65
191.82
0.75 T.P.
191.07
9.07
200.14 H.I.
0.04
200.10 = T.P.
10.70
210.80
212.44 H.I.
2.29
210.15
6.27
216.42

Completed

9+03.3

5+50	B.M.	222.03	12.20	209.83
6+00			5.6	216.4
+50			3.3	218.7
7+00	T.P.		1.4.6	220.57
+25	Vertical Curve			
+50		229.13	6.5	222.6
8+00			4.8	224.8
+50			2.9	226.2
9+00	Not in			
9+03.3	M.H. ℄ A St. and alley n/ of 1st St.		2.5	226.6
+50			3.3	225.8
10+00			4.3	224.8
+50			5.4	223.7
+55.5	M.H. ℄ 3rd St North		5.9	223.2
11+00			5.3	223.8
11+50			3.6	225.5
11+56.2	Pueblo Line			
12+00	B.M. T.P.		2.05	227.08

207.19	2.6	207.19 / 9.23		222.03 / 1.46	220.57 / 8.56	221.83 / 1.46 / 220.37 / 8.56
210.28	6.1	210.28 / 12.07		220.57 / 8.56		228.93 / 2.05
213.36	5.3	213.36 / 8.99		229.18 / 2.05		226.88
216.45	4.1	216.45 / 5.90		227.08		
218.00		218.00 / 4.85				216.42 / 6.60 / 209.82
218.14	4.5					209.88 / 12.52 / 222.35
218.42	6.4	218.14 / 4.21				
218.70	7.5	218.42 / 3.93				220.57 / 10.42 / 230.99
218.98		218.70 / 8.65		218.42 / 12.57		
219.00	7.6	219.00 / 3.35		218.70 / 12.29		
219.31	6.5			219.00 / 11.99		227.45
219.64	5.2					
219.96	3.7	219.81 / 8.14		221.09 / 6.36		
220.00	3.2	219.64 / 7.81		222.33 / 5.12		
221.095	2.7	219.96 / 7.49		223.56 / 3.89		
222.33	3.2	220.00 / 7.45				
223.56	3.5					

12+50	238.42	8.7	229.7
13+00		7.0	231.4
+40 V. Curve.			
+50		6.3	232.1
14+00		4.8	233.6
+50		2.6	235.8
+56.9 = 5 side ash St.		3.1	235.3
15+00		1.9	236.5
+50		1.4	237.0
16+00		1.5	236.9
+50		1.4	237.0
17+00		1.5	236.9
14 57			
243			

224.78	4.9	224.78 / 11.74
226.02	5.4	226.02 / 10.50
227.00		
227.06	5.0	227.06 / 9.46
227.33	6.3	227.33 / 9.19
227.61	8.2	227.61 / 8.91
227.65	7.6	
227.89	8.6	227.89 / 12.94
228.16	8.8	228.16 / 12.67
228.44	8.5	228.44 / 12.39
228.72	8.3	228.72 / 12.11
229.0	7.9	229.00 / 11.83

227.08 / 11.34 / 238.42 / 3.20 / 235.22 / 1.02 / 236.24 / 9.46 / 226.78 = wheelers BM

226.88 / 11.34 / 238.22 / 3.20 / 235.02 T.P. / 1.02 / 236.04 / 7.46 / 226.58

240.83

227.08 = BM / 0.37 / 227.45 / 1.9 / 227.08 / 9.44 / 236.52 / 0.70 / (Sta 14+50) 235.82 T.P. / 5.01 / 240.83 / 226.77 / 3.80 / 237.03

17+00 / 14+57 / 243

Line from M.H. inter. "A" St and alley bet. Ida & 31st St thence ~~E~~ to Ida
thence N. to ash. H.1.

0+00 = M.H. ℄ "A" St & alley N. of Ida 6.6

0+00		233.13	6.6	226.5	219.0	7.5			
0+50			5.7	227.4	220.95	6.4	220.95 / 10.04		
1+00			5.1	228.0	222.90	5.1	222.90 / 8.09		
1+28 M.H. ℄ "A" & Ida St.			5.1	228.0	224.00	4.0	224.00 / 6.99		
1+50			5.3	227.8	224.38	3.4	224.38 / 6.61		
2+00			2.6	230.5	225.24	5.3	225.24 / 12.68		
2+50	T.P.		1.33	231.80	226.11	5.7	226.11 / 11.81		
3+00		238.51	5.6	232.9	226.97	5.9	226.97 / 10.95	226.97 / 10.98	
3+50			4.4	234.1	227.84	6.3	227.84 / 10.08		
4+00			3.5	235.0	228.70	6.3	228.70 / 9.24		
4+50			2.2	236.3	229.57	6.7	229.57 / 8.37		
4+75			1.8	236.7	230.0	6.7	230.00 / 7.94		

1 28
3 47

232.93
.20
233.13

220.57
12.56
233.13
1.33
T.P. 231.80
6.71
238.51
230.99 H.1

231.80
6.12
237.92

231.80
6.14
237.94

Fern St. Line Sewer

	H.I.	Rod	Elev	Grade			
0+00 = F.T. in alley bet "A" & "B" near 30th							
0+00	230.79	7.0	223.8	218.00	5.8		
0+50		6.1	224.7	218.82	5.9	218.82 / 11.76	
1+00		6.9	223.9	219.64	4.3	219.64 / 10.94	
+50		4.8	226.0	220.46	5.5	220.46 / 10.12	218.00 / 12.58
2+00		3.9	226.9	221.28	5.6	221.28 / 9.30	
+50		2.7	228.1	222.10	6.0	222.10 / 8.48	
3+00 = T.P.		2.08	228.71	222.92	5.8	222.92 / 7.66	
+9.25 M.H. 30.3' S. of Pueblo Line		1.9	228.9	223.07	5.8	223.07 / 7.51	
+50	235.91	6.9	229.0	223.74	5.3	223.74 / 10.89	
4+00		6.4	229.5	224.56	4.9	224.56 / 10.07	
+50		5.4	230.5	225.38	5.1	225.38 / 9.25	
5+00		4.7	231.2	226.20	5.0	226.20 / 8.43	
+50		4.0	231.9	227.02	4.9	227.02 / 7.61	
6+00		3.1	232.8	227.84	5.0	227.84 / 6.79	
6+10 F.T.		2.9	233.0	228.0	5.0		

3.09
301

SW Cor 30th & "B"

BM 217.89
12.90
H.I. 230.79
2.08
228.71
7.20
235.91

228.71
1.87
230.58

228.71
5.92
234.63

228.00
6.63

Sewer on "C" St. from M.H. at 32nd and "C" west to W Line Ida

				Ground	grade			
0+00 = M.H. 32nd & "C"		H.1 183.88	10.2	173.7	167.0	6.7	BM. Sta 40+25 = 32nd St Line	170.93 / 12.95 / 183.88 / 1.78 / 182.10 / 11.89 / 193.99
~~0+75~~								
0+50			6.5	177.4	173.94	3.5	173.94 / 11.22	1.14 / 192.85
0+75	T.P.		1.78	182.10	177.41	4.7	180.88 / 4.28	10.34 / 203.19
1+00		193.99	7.6	186.4	180.88	5.5	200.88 / 3.87 / 196.51	182.10 / 3.06 / 185.16
1+25			4.1	189.9	184.35	5.5		
1+50	T.P.		1.14	192.8	187.82	5.0	187.82 / 12.56	192.85 / 7.53 / 200.38
1+80 = V. Curve					192.00			
2+00		203.19	6.7	196.5	192.08	4.4	192.00 / 8.38	
+50			5.0	198.2	192.29	5.9	192.08 / 8.30	
3+00			4.2	199.0	192.50	6.5	192.29 / 8.09	
+50			4.5	198.7	192.70	6.0	192.50 / 7.88	
4+00			5.3	197.9	192.91	5.0	192.70 / 7.68	
+20 Deadend			5.8	197.4	193.00	4.4	192.91 / 7.47	
Back Broderick's House			5.5	197.7			193.00 / 7.38	

Sewer on alley W. of Center

.0+00 = MH. in Univ. and alley W of Center. Ver

0+00	308.90	6.0	302.9
0+50		6.6	302.3
1+00		2.1	306.8
1+04.3 MH. E alley 4'S of S. line Univ Ave.		2.0	306.9
1+50		2.8	306.1
2+00		3.6	305.3
2+50		4.1	304.8
3+00		3.8	305.1
3+50		4.1	304.8
4+00		4.7	304.2
4+50		5.1	303.8
5+00		4.8	304.1
5+50		6.4	302.5
6+00		6.9	302.0

See page 31

105.71
4.81
.90

5T and 5 of Univ. Ave

297.10	5.8	
297.30	5.0	297.30 / 12.66
297.50	9.3	
297.52	9.4	297.52 / 12.44
297.70	8.4	297.70 / 11.65
297.90	7.4	297.90 / 11.45
298.10	6.7	298.10 / 11.25
298.30	6.8	298.30 / 11.05
298.50	6.3	298.50 / 10.85
298.70	5.5	298.70 / 10.65
298.90	4.9	298.90 / 10.45
299.10	5.0	299.10 / 10.25
299.30	3.2	299.30 / 10.05
299.50	2.5	299.50 / 9.85

481

NW. Cor Univ Blvd. 301.73
Brass pig ground

B.M. N.W. Cor. Center + Univ Ave.
Hd. RR spk near grd. 305.62
bot MH 1170 301.73
7.17
308.90
297.70

301.78
7.62
H.I. 309.35

297.90
12.76
H 309.96

Bottom Stakes

12-7-09

Lockwood
Evans
Lambert

Preliminary line on 3rd St from Spruce to Redwood

0+00 ℄ 3rd & Spruce	277.9	1.4	276.5
0+50		2.1	275.8
1+00		2.9	275.0
+50		3.7	274.2
2+00		4.4	273.5
+50		5.3	272.6
3+00		6.1	271.8
+50 = 10' S. N line Redwood.		7.8	270.1
4+00 = W. Line 3rd & Redwood.		6.6	271.3
+50		7.6	270.3
5+00		9.1	268.8
+50		10.3	267.6
6+00.		11.7	266.2
+52 M.H. on S. side Redwood at 2nd St.			

270.0

N.W. Cor. 3rd & Spruce
B.M. 277.00
0.90
H.I. 277.90

260.20

Sewer line from F.T. bet. 3rd & 4th H. near Lewis. N. on 3rd

40

0+00 = opposite F.T. in F.T. bet. 3rd & 4th near Lewis St.

0+00	295.53	4.0	291.5
0+50		4.3	291.2
1+00		5.1	290.4
+50		6.2	289.3
2+00		7.3	288.2
2+25 D.End.		7.8	287.7

N.E. Cor. Lewis & 3rd R.R. spk. in pole.
S.W. " " " 4th B.P. return. -290.77
283.14
12.89
H.T. 295.53

283.80	7.7	283.80 / 11.90	✓
284.00	7.2	284.00 / 11.70	
284.20	6.2	284.20 / 11.50	✓
284.40	4.9	284.40 / 11.30	✓
284.60	3.6	284.60 / 11.10	✓
284.70	3.0	284.70 / 11.00	✓

B.M. 283.14
12.56
H.T. 295.70

Bottom slates
12-14-09
Lockwood
Evans

Change of Maryland St Sewer

9.32

Elev. M4 33.35

Elev. Sewer Proptline 312.83

BM. S.W. cor. Cleveland & Meade

R-R-spk in pole

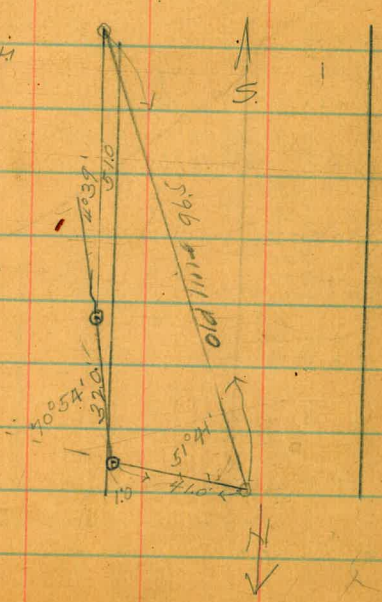
0+00 bott pipe at change	322.85	9.91	312.94	312.94
0+25				312.91
0+41		7.9	314.9	312.90
0+73				
0+98		5.3	317.5	312.86
1+24				312.83
		5.8	317.0	312.80

312.91		312.91
9.79		9.79
312.90	2.0	312.90
9.80		9.80
312.86	4.6	312.86
9.84		9.84
312.83	4.2	312.83
9.87		9.87

312.94
25
312.69
10.16

344.86
1.45
346.31
12.93
333.38
0.14
333.52
11.68
321.84
1.01
322.85

321.84
0.86
322.70 H.I.
9.97
312.73



1+24 = inter old sewer.

0+73 Pt. on property 3.0' E. of prop. line

0+41 Pt. 1' from prop. line

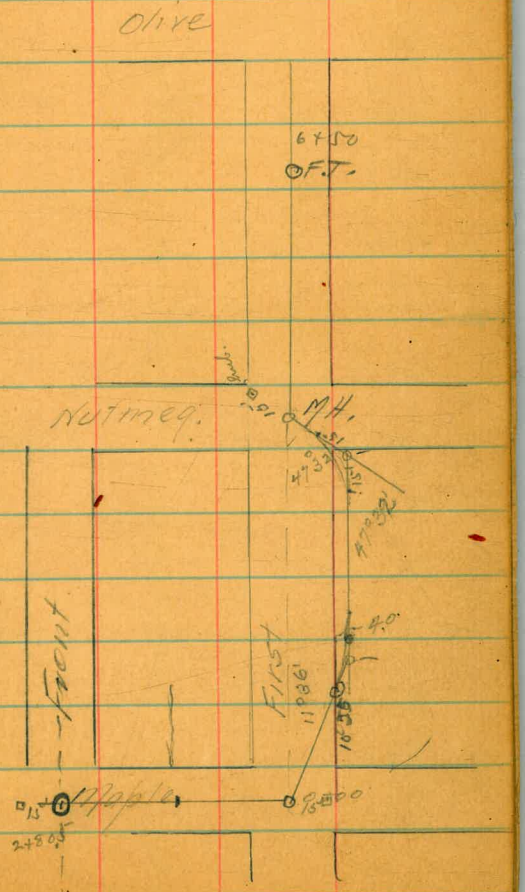
0+00 = Pt. on Kalamein pipe 271.5 S of s line Mead

Sewer on First St. from Maple to Nutmeg.

			229.07
6+50			
		245.1	
4+04.9	47°32' R		
	℄ Nutmeg & 1st St.	59.7	
3+75.2	47°32' L.		
+34			
3+00		126.4	
+50			
+18.8	10°55' 11°36' L.		
2			
+50		218.0	
1			
+50			
0+00	11°36' R.		

B.M. N.W. Cor. 1st & Maple B Pla.

223.99
5.08
229.07



Levels on Sewer on First from Maple to Nutmeg.

0+00	229.07	3.8	225.3
+50		4.7	224.9
1+00		4.7	224.4
+50		4.9	224.2
2+00		4.3	224.8
+18.8		6.3	222.8
+50		7.8	221.3
3+00		6.0	223.1
+34		4.3	224.8
+45.2	237.60	7.1	230.5
4+04.9		8.5	229.1
+50		7.1	230.5
5+00		5.6	232.0
+50		4.7	232.9
6+00		4.7	232.9
+50		7.5	230.1

H.I. 229.07
0.30
228.77
8.83
237.60

Cut stakes for sewer on first see page 42 + 43

Sta.			H.I.	Rod	Ground	Grade	cut	
		4.98	228.97 / 229.00		223.99			
0+00	M.H. center maple + first			3.7	225.3	218.00	7.3	
+50				4.1	224.9	218.25	6.6	
1+00				4.6	224.4	218.50	5.9	
+50				5.2	223.8	218.75	5.0	
2+00				4.7	224.3	219.00	5.3	
+15	P.C.			8.8	220.2	219.07	1.1	
+28.6	Center			9.0	220.0	219.14	0.8	
+42.2	P.T.			9.2	219.8	219.21	0.6	
+50				9.0	220.0	219.25	0.7	
3+00				7.2	221.8	219.50	2.3	
+30	P.C.			5.2	223.8	219.65	4.2	
+45	Center			0.26	228.71	219.73	9.0	
J.P.		7.25	235.96 / 236.0					
+60	P.T.			5.2	230.8	219.80	11.0	
4+00				7.0	229.0	220.00	9.0	
+04.9	M.H. Center nutmeg + first			6.9	229.1	220.02 / 223.0	9.1	Drop M.H.
+50				5.5	230.5	223.55	7.0	

see over

223.99
5.48
229.47 H.I.
218.25
11.22
218.50
10.97
218.75
10.72
219.00
10.47
219.07
10.40
219.14
10.33
219.21
10.26
219.50
9.97
219.65
9.82

223.99
9.22
233.21 H.I.
219.80
13.41
220.02
13.19
223.09
10.12
219.92
13.29
4.23
228.98 J.P.
3.23
232.21 H.I.
223.55
8.66

Feb 4/10 grades. { Childs, Barber, Taylor

Cuts stakes on 121 & on Ø maple.

Sta.		H.I.	Rod	Grade	Grade	cut
		235.96				
5+00		236.0	4.0	232.0	224.16	7.8
+50			3.1	232.9	224.77	8.1
6+00			3.1	232.9	225.38	7.5
+50	F.S.		5.9	230.1	226.0	4.1
J.S.		2.98	226.97	213.99		
0+00	M.H. center 121 & maple		227.0	225.3	218.0	9.3
+50			3.5	223.5	215.5	8.0
1+00			7.2	219.8	213.0	6.8
1+40					211.0	
+50			10.87	216.10		
J.S.		1.18	217.28			
2+00			5.0			
+50			8.5			
+80.5	M.H. center Front & maple.		9.5			

213.99		
2.83		
226.32	213.0	
10.22	9.98	
216.10 J.S.		
6.88	215.5	
222.98	7.48	
11.98		
211.0	218.0	
	4.98	
232.21 N.S.		1,22
224.16		10732
8.05		
224.77		
7.44		
225.93		
6.28		
225.38		
6.83		

Albatross street sewer from Center Walnut

205' so. about north line Npas.

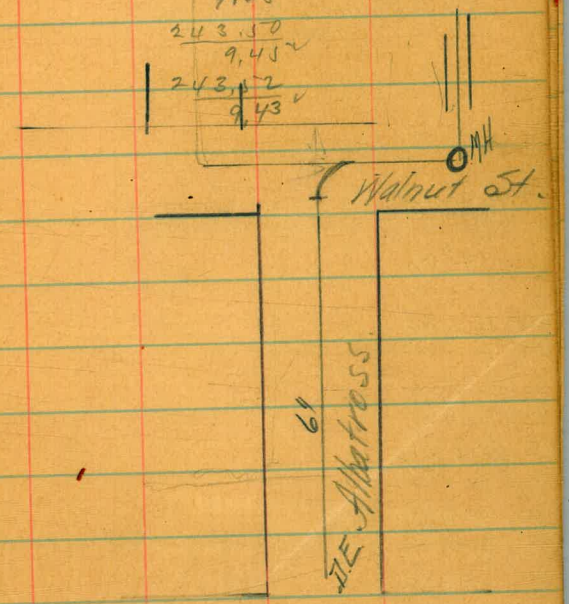
Feb 4/10 Childs Barber Taylor

Sta.		H.I.	Rod	Ground	Grade	Cut.
		253.53				
0+00	M.H. center of		5.9	247.6	242.70	4.9
+15	Albatross &				242.76	
+50	Walnut.		5.8	247.7	242.90	4.8
1+00			5.6	247.9	243.10	4.8
+50	% 0.40 Grade.		5.6	247.9	243.30	4.6
2+00			5.6	247.9	243.50	4.4
+05	F.S. 40.9 No. of Center of Npas		5.7	247.8	243.52	4.3

250.90
2.05
252.95 H.I.
242.76
10.19
242.90
10.05
243.10
9.85
243.30
9.65
243.50
9.45
243.52
9.43

Childs Barber Taylor

Feb 9/10



Walnut street & alley bet. 1st & from center of Front to center Brooks

Sta.			H.I.	Rod	Ground
J.P.		2.63	253.53		250.90
0+00	M.H. Center Front & Walnut.			2.9	
+50				3.1	
1+00				3.6	
+50				4.3	
+80.3	M.H. Center alley & Walnut			5.2	
2+00				5.0	
+50				3.6	
3+00				3.3	
+50				3.3	
4+00				3.3	
+50				3.9	
5+00				4.1	
+45	M.H.			3.9	
+50				3.9	
6+00				3.5	

albatross

Feb 4/10 { Childs, Barber, Taylor

47

Grade	Cut
240.00	
242.0	

248.3
242
6.3

Cont. from page 47

Sta.	H.I.	Rod	Ground
	253.53		
6+50		2.2	
7+00		3.2	
+50		4.1	
8+00		4.0	
+50.6	M.H. center of Brookes street	3.4	

East.

Feb. 4/10

{Childs
Barber
Tuyler

48

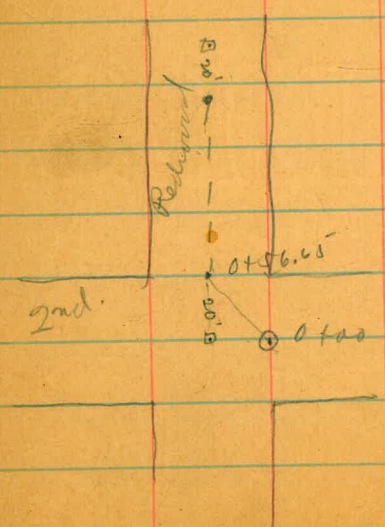
Grade cut

245.0

I Sewer on Redwood from 2nd

Sta.		H.I.	Rod	Ground
J.P.	1.64	274.65		BM. 273.01 -
0+00	M.H. So. line Redwood		9.9	264.7
+56.65	bend east line of 2nd.		8.5	266.1
1+00	2.32%		7.22	267.43
+50			6.0	268.6
+72	dead end		5.3	269.3

265.53 BM. N.W. 2d and Redwood plgrt.



East.

Feb. 17/10 { Childs Barber Taylor

Grade	Cut	265.53 / 5.16 / 270.69 H	261.32 / 9.37	262.32 / 8.37	263.39 / 7.30
Spruce			2 / 23 / 10 { Davis Williams Chatterton		
260.00	4.7				
261.32	4.8				
262.32	5.1				
263.39 / 263.48	5.1				
264.00	5.3				

Sewer at 29th & A to relieve Septic tank

Feb 24/10 { Childs, Barber, Taylor

50

Sta.		H.I.	Rod	Ground	Grade	Cut
0+00	M.H. Sta. 37+90 on alley bet. A & B.	181.06	7.4	173.7	169.00	4.7
+25			7.2	173.9	169.25	4.7
+50			6.7	174.4	169.50	4.9
+75			8.9	172.2	169.75	2.5
1+00			10.2	170.9	170.00	0.9
+25			10.2	170.9	170.25	0.7
+50			7.6	173.5	170.50	3.0
+75			4.3	176.8	170.75	6.0
+90.4	M.H. center A.		2.3	178.8	170.90	7.9
T.P.	11.85	192.83	0.08	180.98	174.0	
2+00			10.4	182.4	175.04	7.4
+25			8.3	184.5		
+50			6.7	186.1	180.24	5.9
+75			4.7	188.1		
3+00			2.9	189.9	185.44	4.5
+25			1.8	191.0	188.04	
+50			0.64	192.19	190.64	1.6
+75	5.80	197.99	2.1	195.9		
+92	Joins to pipe north of Septic Tank		2.48	195.51	195.00	0.5

// Sec 872-34 //

0.52
180.98
181.50 H.I.
169.50 4.74
12.00
170.00
11.50
170.25
11.25
170.75 5.20
10.75 2.60
170.90
10.60
175.04 392
6.46 190.4
201.6
174.0
7.50

Feb. 26/10 { Childs, Barber, Taylor

Grades.

180.98
10.22
191.20 H.I. 1.04
180.24
10.96 1.040
185.44
5.76
188.04
3.16
202) 24.10 (11.93
202
390
202 1.396
202) 210 (1.396
202
800
606
1940
1818
1220

10.4
42
208
416
8368
2.90
195

Childs, Taylor, Lockwood

Mar. 1/10 Grades.

202) 24.10 (11.93
202
390
5.96
2.98
1880
1818
620

A Street from center 29th West.

Feb 24/10 { Schilds, Barber, Taylor

Sta.		H.I.	Rod	Ground	Grade	Cut
0+00	M.H. center A + 29th	181.06	2.3	178.8	170.9	7.9 ✓
+25			7.9	173.2	171.15	2.0 ✓
+50			6.3	174.8	171.40	3.4 ✓
+60			2.5	178.6	175.52	3.1
+75		193.84	7.7	186.1	181.70	4.4
1+00		206.92	10.3	196.6	192.00	4.6
+20			7.6	199.3	193.10	6.2
+50		209.75	6.78	202.97	194.74	8.23
2+00			3.66	206.09	197.49	8.60
+32	End old pipe				199.25	

205.50
1.42
206.92 H.I.
13.05
193.87 T.P.
-0.03
8.38
.82
9.20
197.7

193.84 H.I.
12.85
180.99 T.P.
0.07
181.06 H.I.

181.50 H.I.
171.15
10.35
171.40
10.10
7.22
180.98
188.20
181.70
6.50
180.98
4.25
10.47 185.23
10.47
205.50
4.25
209.75 H.I.
10.00
199.25
11.01
198.74 T.P.
2.39
201.13 H.I.
7.25
193.88
192.00
1.88

26.30 37.57
18.78
9.39

Alley line bet. G & H from center 24th st. to 25th street

Mar 21/10

Childs
Lockwood
Taylor

Sta.			H.I.	Rod	Ground	Grade	Cut.
0+00	M.H. center of 24th street		144.71	8.1	136.6	129.5	7.1
+50				5.1	139.6	132.08	7.5
1+00				2.1	142.6	134.66	7.9
+50			157.18	12.67	144.51	137.25	7.3
+80				11.7	145.5		
2+00				10.5	146.7	139.83	6.9
+50				7.6	149.6	142.42	7.2
3+00	M.H.			6.0	151.2	145.0	6.2
+50				4.3	152.9	147.18	5.7
4+00				2.5	154.7	149.36	5.3
+50		+	169.03	12.21	156.82	151.54	5.3
5+00				9.8	159.2	153.72	5.5
+50				7.2	161.8	155.90	5.9
+75	F.J.			6.2	162.8	157.0	5.8

156.95
12.08
169.03

156.82
0.36
157.18

0.20
144.51
144.71

Sewer bet. B + C 30th + 31st

Mar 3/10 { Childs, Barber, Taylor

Sta.		H.I.	Rod	Ground	Grade	Cut
0+00	old F.S.	219.18	13.2	206.0	201.00	5.0
+30.77	West line 30th.					
+50			12.8	206.4	202.05	4.4
1+00			9.84	209.34	203.10	6.2
+50			9.7	209.5	204.15	5.3
2+00	2.105 % grade		9.6	209.6	205.21	4.4
+50			5.90	213.28	206.26	7.0
3+00			3.5	215.7	207.31	8.4
+50			4.3	214.9	208.37	6.5
+80	F.S.		4.7	214.5	209.0	5.5

15'

This is continuation of line 495-11

209.34
6.54
215.88
203.10
12.78
204.15
11.73

197.78
12.52
210.30 H.I.
0.06
210.24 J.P.
8.94
219.18 H.I.

205.21
10.67
206.26
9.62
207.31
8.57

213.28
6.44
219.72
208.37
11.35
209.0
10.72

Childs
Barber
Taylor
Mar 8/10
grades.

380) 800 (2.105
760
400
380
2000
1900
2105
30
63150

F Street from center Balic 160' west.

Sta.		H.I.	Rod	Ground
		152.96		
0+00	M.H. Constructed Center Balic Balch & F.		5.4	147.6
+50			3.1	149.9
1+00		164.80	9.38	155.42
+50			8.05	161.75
+60			1.8	163.0

Balic now Glendale Ave.

(Const'd 1910)

Grade	Cut
141.40	6.2
146.90	3.0
152.40	3.0
157.90	3.9
159.0	4.0

156.95
12.38
169.33 ✓

11.29
158.04 F.S.
6.76
164.80 H.I.
12.29
152.51 F.S.
0.45
152.96
1.52
141.40

158.0
160 | 17.6 (1.00
160
160

Lewis and 2nd street from Lewis to Stockton

Mar. 11/10 — Childs, Barber, Taylor

Sta.		H.I.	Rod	Ground	Grade	Cut
T.P.	5.82	293.79		287.97		
0+00	old T.J. in alley bet. 1st & 2nd		6.3	287.5	280.45	7.0
+47.2	M.H. center Lewis		6.1	287.7	280.64	7.1
1+00			6.1	287.7	280.85	6.9
1+50			5.7	288.1	281.05	7.1
+65.65	M.H. center 2nd & Lewis		5.7	288.1	281.11	7.0
2+00			5.6	288.2	281.25	7.0
+50			5.1	288.7	281.45	7.3
3+00			4.7	289.1	281.65	7.5
+50			4.0	289.8	281.85	8.0
4+00			3.7	290.1	282.05	8.1
+50			3.10	290.69	282.25	8.5
5+00			2.8	291.0	282.45	8.6
5 + 18.15 ℄ Broadway					282.52	
+50			2.8	291.0	282.65	8.4
6+00			3.3	290.5	282.85	7.7
+50			3.8	290.0	283.05	7.0
7+00			4.4	289.4	283.25	6.2

287.97 / 5.54 / 293.57 H.I. / 280.64 / 12.87 — 280.85 / 12.66 — 281.05 / 12.46 — 281.11 / 12.40 — 281.25 / 12.26

281.45 / 12.06 — 281.65 / 11.86 — 281.85 / 11.66 — 282.05 / 11.46

282.25 / 11.26 — 282.45 / 11.06 — 282.65 / 10.86

290.69 / 3.14 / 293.83 H.I. / 11.18 / 282.65 — 282.85 / 10.98 — 283.05 / 10.78 — 283.25 / 10.58

Mar 31/10 grades. — Childs, Barber, Taylor

287.97 S.W. Lewis & 2nd

Cont. from page 55

Sta	H.I. 293.79	Rod	Grade	Grade cut
7+18		5.0	288.8	283.45 5.4
8+00	F.S. about 38' from Stockton	5.5	288.3	283.65 4.7

See 806-40

293.83 H.I.
283.45
10.38

283.65
10.18

Sewer line on Lewis from Center 3rd + up 2nd to Broadway
Bachman

Sta.		H.I. 296.71	Rod	Ground 287.97
	J.S.	8.74		
0+00	M.H. Center of 2nd + Lewis		8.6	288.1
+50			8.0	288.7
1+00			7.2	289.5
+50			6.0	290.7
2+00			5.1	291.6
+50			4.7	292.0
+79.9	M.H. center Bachman & Lewis.		4.7	292.0
3+00			4.6	292.1
+50			4.8	291.9
4+00			5.48	291.23
+50			6.0	290.7
5+00	~~Did not log all of this~~		6.4	290.3
+50			7.0	289.7
+70	dead end. about 37.5 from Broadway		7.3	289.4
Aug 30th 1915 6+0	extended 116' N of Bachman			
+50				
+78	28' N of Bradway			

2nd to center of Bachman aft. 1/10 {Childs Barber Taylor

Grade	Cut	
281.11	7.0	287.97 6.26 294.23 HI 281.31 12.92 — 281.57 12.72
281.31	7.4	281.71 12.52 — 281.91 12.32 — 282.11 12.12
281.51	8.0	282.23 12.00 — 282.31 11.92 — 292.50 3.02 295.52 HI — 282.51 13.01
281.71	9.0	282.71 12.81 — 282.91 12.61
281.91	9.7	283.11 12.41 — 283.31 12.21 — 283.39 12.13
282.11	9.9	grade stakes aft. 1/8/10 {Childs Barber Taylor
282.23	9.8	
282.31	9.8	291.99 3.45 (+283.99 @ 3+52 Lewis)
282.51	9.4	295.44 6.94 — 293.29 9.75 — 293.29 9.50 — 293.29 8.24
282.71	8.5	288.50 4.79 — 283.54 — 283.79 — 285.04 283.79
282.91	7.8	293.29 HI. 1.25
283.11	7.2	293.29 — 93.29 — 93.29
283.31	6.4	83.62 9.67 — 83.83 9.46 — 83.97 9.32
283.39	6.0	8/30/15 Bottom STK Dumpee Stake Bachman
283.54 clear		
283.62		
283.23		
283.97		

E. 1st Street sewer from 5' west of center from no. line.

Sta.		H.I.	Rod	Ground
T.P.		11.77		212.71
0+00	old F.S. P.O. 0		13.6	199.1
+25	Juniper. center			
+50	of 1st		12.1	200.6
1+02.5	no. line juniper 5' west of center of 1st		10.7	202.0
+50			9.3	203.4
2+00			8.0	204.7
+50			6.7	206.0
3+00			5.4	207.3
+50			4.0	208.7
4+00			2.5	210.2
+42.5	M.H. & Kalmia St.			
+50			1.08	211.63
		11.20		222.83
5+00			9.9	212.9
+50			8.3	214.5
6+00			6.7	216.1
+50			5.3	217.5
7+00			3.6	219.2
+40	F.S. about 4 2½ 20, of Laurel.		2.3	220.6

Juniper to Laurel apr. 8/10 — Chields Barber Taylor

Juniper North

Grade	Cut
194.25	
~~193.24~~ 194.36	5.9
194.48	6.1
195.73	6.3
196.98	6.4
198.22	6.5
199.46	6.5
200.71	6.6
201.96	6.7
203.20	7.0
204.26	
204.50	7.1
206.14	6.7
207.77	6.7
209.41	6.7
211.05	6.5
212.69	6.5
214.0	6.5

200.94 / 3.33 / 204.27 H.I.

194.25 / 10.1 / 194.36 / 9.91 — 194.48 / 9.79 — 28 / 80 / 2.36

195.73 / 8.54 — 196.98 / 7.29

198.22 / 6.05 — 199.46 / 4.81 — 200.94 / 1.80 / 213.74 H.I.

200.71 / 3.56 — 201.96 / 2.31 — 200.71 / 13.03

201.96 / 11.78 — 203.20 / 10.54 — 204.26 / 9.48

204.50 / 9.24 — 206.14 / 7.60 — 207.77 / 5.97

0.79 / 212.95 S.P. / 7.75 / 220.70 H.I. / 207.77 / 12.93 — 209.41 / 11.29 — 211.05 / 09.65

212.69 / 8.01 — 2140 / 6.70

grade Tales — Chields Barber Taylor

apr. 28/10

B.M. N.W. Cor. 5th + A 67.82

4-14-1910

0.95	68.77		67.82
2.50	60.09	11.18	57.59
		4.05	56.04 = Elev.

Sewer at 4th + A 54.

Harper
Lockwood

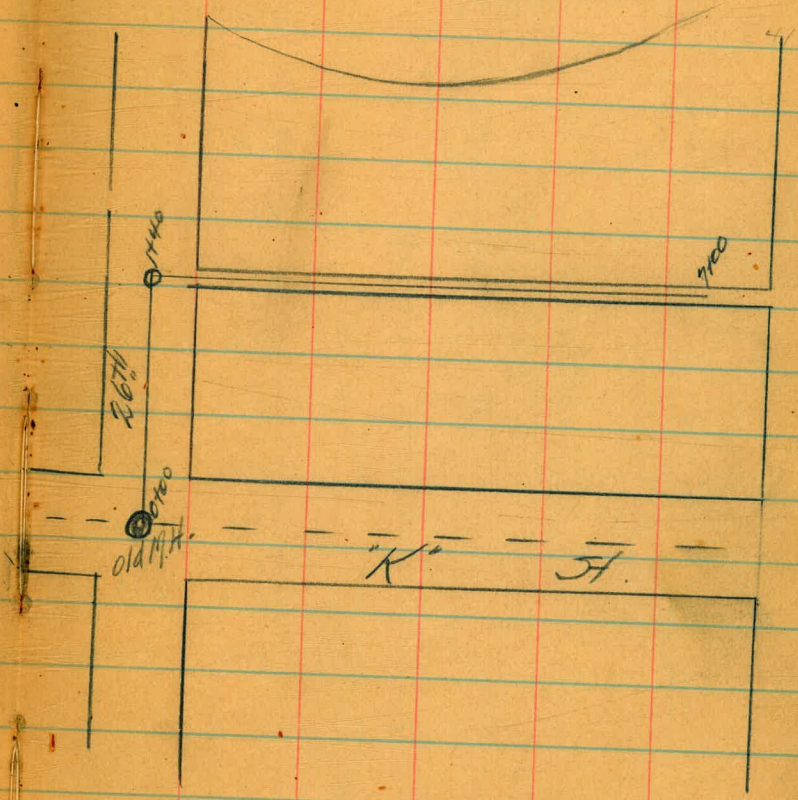
bottom Excavation

Preliminary Sewer Lat J
7 K Sts - 26th - 27th Sts.

				B.M.
	12.30	99.18		86.88
0+00 = M.H. & K + 26th			10.4	88.8
0+50			8.4	90.8
1+00			0.5	98.7
T.P.	12.74	111.55	0.37	98.81
1+40 = M.H. & alley & 26th			6.5	105.0
1+50			6.0	105.5
2+00			1.6	109.9
T.P.	12.47	123.84	0.18	111.37
+50			9.9	113.9
3+00			6.7	117.1
+50			4.5	119.3
4+00			3.7	120.1
+50			3.1	120.7
5+00			3.5	120.3
+50			3.3	120.5
6+00			4.3	119.5

B.M. 26th T.L. S.W. Cor. 86.88

+50		123.84	6.5	117.3
			7.2	116.6



Sewer on 3rd from west line to north line of Maple.

3rd & Laurel

May 2/10 { Childs, Booker, Taylor

Sta.		H.I.	Rod	Ground	Grade	Cut
0+00	M.H. center Laurel west line 3rd.	240.70	3.6	237.1	229.80	7.3
+25			3.6	237.1	230.75	6.4
+50			3.2	237.5	231.70	5.8
+60	No. line Laurel,		2.7	238.0	232.08	5.9
1+00 J.P.		12.95 252.39	1.26	239.44	233.60	5.8
+50			11.1	241.3	235.50	5.8
2+00	3.8% grades		9.2	243.2	237.40	5.8
+50			7.6	244.8	239.30	5.5
3+00			5.6	246.8	241.20	5.6
+50			3.8	248.6	243.10	5.5
4+00.45	M.H.		3.0	249.4	245.0	4.4
+40.45	No. line Maple.		2.49	249.90	245.60	4.3

251.5 cent. nut.

257.0 " Olive

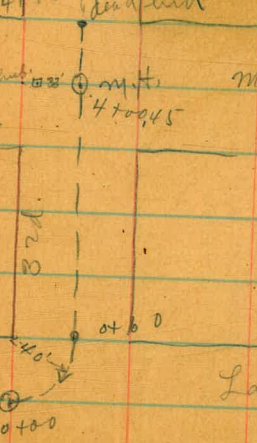
256.04 N.W.

239.44 / 2.41 / 241.85 H.I. / 230.75 / 11.10

229.94 B.M. 2nd & Laur. / 10.76 / 240.70 H.I. / 11.46 / 229.24

231.70 / 10.15 / 232.08 / 9.77 / 233.60 / 8.25 / 235.50 / 6.35 / 237.40 / 4.45 / 239.30 / 2.55 / 241.20 / 0.65

2.45 / 0.92 / 0.42 / 0.58 / 241.27 J.P. / 11.50 / 252.77 H.I. / 241.20 / 11.57 / 243.10 / 9.67 / 245.0 / 7.77 / 245.60 / 7.17



Maple

May 10/10 grades.

Childs, Gregory, Taylor

Laurel

Quince Street from east line 5th 110' East.

May 14/10 { Childs, Barber, Taylor

62

Sta.		H.I.	Rod	Ground	Grade	Cut			
							278.00		4.60
							5.56		279.0
0+00	East line 5th						283.56	H.I.	3.70
	0.5 north of center				276.17		7.38		4.13
+50	of Quince						276.17		3.90
					276.37		276.37		279.66
1+10	0.4 % grade						7.19		57
					276.61		276.61		
							6.95		
									276.8
								278.0	

26th St. & alley bet. K &

Sta.			H.I.	Rod	Ground
J.P.		6.83	93.71		86.88
0+00	M.H. center 26th & K.			4.9	88.8
+50				3.12	90.59
J.P.		11.98	105.67	0.02	93.69
1+00				7.00	98.67
+40	M.H. center alley bet K & J. on East of 26th			0.60	105.07
J.P.		11.41	116.48		
+50				10.7	105.8
2+00				6.32	110.16
+50				2.2	114.3
+70				0.8	115.7
+80				0.37	116.11
J.P.		6.98	123.09		
+90				6.2	116.9
3+00				5.5	117.6
+50				3.35	119.74
4+00	M.H.			3.1	120.0
+50				0.9	122.2
+60				2.08	121.06
5+00		2.17	123.23	2.6	120.6
+50				2.25	120.98
6+00				3.3	119.9
+50				5.56	117.67
7+00	dead end			6.4	116.8

Jc Streets

June 11/10 { Childs Barber Taylor

68

Grade	Cut				
		98.67			
		7.19			
82.5	6.3	105.86 H.I.	100.00		
		94.22	5.86		
		11.64	110.16		
87.00	3.6		3.33		
			113.49 H.I.		
94.22	4.5	104.90	100.82		
		8.59	12.67		
100.00	5.1	108.97	110.60		
		4.52	2.89		
100.82	5.0	111.10	111.50	111.54	
		2.39	1.99	1.95	
104.90	5.3	111.74	116.11		
		1.75	7.76		
			123.87 H.I.	111.94	
108.97	5.3	120.98	111.74	11.93	
		0.40	12.13		
		121.38 H.I.		112.14	
110.60	5.1	112.34	112.18	11.73	
		9.04	11.69		
111.10	5.0	112.54	June 18/10		Childs Barber Taylor
		8.84			
111.50	5.4	112.74	Grades.		
		8.64			
111.54	6.1	112.94	Mar. 9/12		Childs Taylor Barber
		8.44			
		8.36			
111.74	8.0				
111.94	8.1	Prel. Page 60			
112.14	10.1				
112.18	8.8				
112.34	8.3				
112.54	8.5				
112.74	7.2				
112.94	4.8				
113.14	3.7				

BM. 6th & Penna. St. N.W. Cor. 286.86

10.22
7.50
2.72

Grove St. M.H. 220.00 = 31 "A"

	+	-	4.1	220.00
	9.21		229.21	
Grove & A		4.19		225.02
Prop line		9.09		220.1
Prop line		8.16		221.0
" "		4.8		224.4
+50		3.7		225.5
1+0		2.8		226.4
+50		2.1		227.1
2+00		1.5		227.7
+50		0.8		228.4
		-0.2		229.4

Sewer in Cleveland Ave from
West on Tyler to inter. of alley. Le
Grade of sewer in alley bet Maryland

Sta.		0.83	337.78 H.I.	Rod	336.95 Grade
0+00	dead end 100'		337.78	6.13	331.65
+50	Rd. of VanBuren cutting Cleveland			8.0	329.8
1+00				9.8	328.0
+50				11.82	325.96
J.P.		1.23	327.19		
2+00				3.3	323.9
+50				5.1	322.1
3+00				7.5	319.7
+50				9.8	317.4
4+00				11.88	315.31
J.P.		1.73	317.04		
+50				4.2	312.8
5+00				6.6	310.4
		0.38	310.03		309.65
+17	M.H. in Tyler.			-0.2	310.2
+50				4.53	305.50
J.P.					
5+82.8				6.36	303.67
Total	499.8				

4% grade

100' S. of VanBuren to Tyler, thence
E. Cleveland & Maryland Aves.
E. Cleveland at N. line Tyler = 301.00 } Schultz Barber Tayler
Sept. 13/10

B.M. Grade	Cut
326.50	5.1
324.50	5.3
322.50	5.5
320.50	5.5
318.50	5.4
316.50	5.6
314.50	5.2
312.50	4.9
310.50	4.8
308.50	4.3
306.50	3.9
305.82	4.4
304.81	0.7
303.80	-0.13
303.27	Stake 4" below grade

315.81 − 9.78 = 306.03 H.I.
325.09 − 12.59 = 312.50
316.50 − 8.59 = 307.91
318.50 − 6.59 = 311.91
305.50 − 9.61 = 295.89
315.11 H.I.
305.82 − 9.29 = 305.82
307.91 − 10.30 = 297.61
306.50 − 8.61 = 297.89
303.80 − 11.31 = 292.49

Schultz Barber Tayler
Grades 1688

305.82
300.63
5.190
5064
126
1181
7841

3.074
17
21518
3074
52288

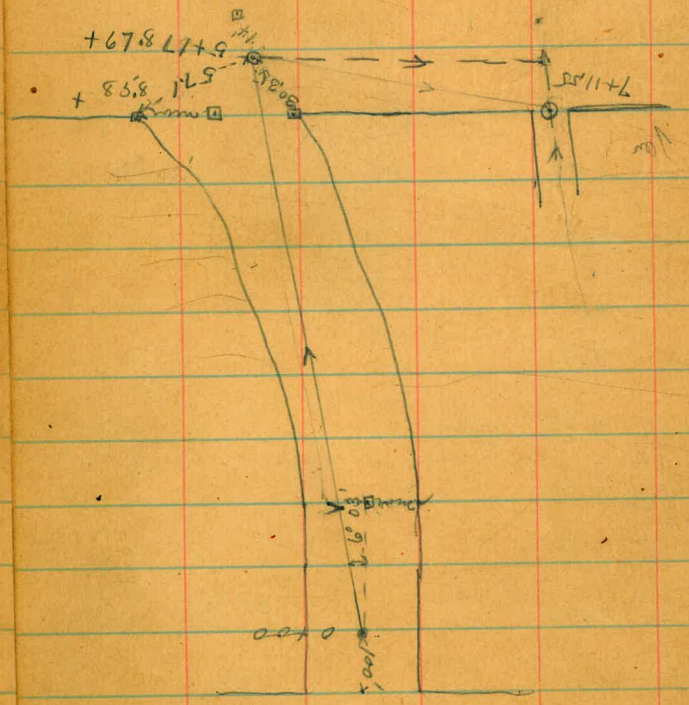
310.09
295.27
11.70
3.12

29827
0.48
298.70

65.8
103
1688
4820
2263
14440
3376
10640
10128
5120
2263
3074
33
9222
9222
1442

Cont. from page 65

Sta	H.I.	Rod	Ground
6 +16.8			
+33.8			
+50.8			
+67.8			
+85.8			



Sept. 13/10 { Childs, Barber, Taylor

Grade	Cut			
302.75	1.3	Stake 11 below grade		
302.23	2.1	14.7	length of pier	287.53 G. pier
301.71		16.4	" "	285.31 G. pier
301.19		12.95	length of pier	288.24 G. pier
300.63	0.0	old trestle		14.7
				16.4
				12.95

302.75
298.75 H.I.
11.22
287.53
7.34
294.87 H.I.

302.23
298.75
3.48
11.22
14.68

7.34

301.71
6.84

301.71
298.75
2.96

16.4
2.96
13.44

16.4
6.84
9.56
285.31

301.19
6.32

12.95
6.32
6.63
288.24

Sept. 20/10 Stakes for Trestle, { Childs, Barber, Taylor

Sewerline on 3rd St. S. of Spruce.

B.M. N.W. Cor. 4th & Spruce. 272.88

B.M.	7.91	280.79		272.88						
0+00 = M.H. 3rd & Spruce.					Grade.	Cut				
0+00			4.4	276.4	270.0	6.4			272.88	
+50			5.0	275.8	270.2	5.6			5.25	
1+00		5	5.9	274.9	270.4	4.5			278.13 H.I.	270.2
+50			6.7	274.1	270.6	3.5			270.6	7.93
									7.53	270.4
										7.73

Copied by Lockwood

Sept 14/10 { Childs Barber Taylor

67

Sept. 20/10 grades. { Childs ~~Barber~~ Taylor

X Sewer line on center 10th & Hendricks from alley bet. Hendricks 260.57
& Cleveland to Sta. 4+60 center Hendricks

Sept. 29/10 Child Barber Taylor

T.P. 7.20 289.29
B.M. S.W. Cor. 10th & University 282.09 Grade 278.6

Sta.		H.I. 289.29 Rod	Elev.	Grade.	
~~T.P.~~					
0+00	M.H. Constructed center alley bet. Hendricks & Cleveland & 10th St.	5.9	283.4	278.6	4.8
+50		5.7	283.6	278.8	
1+00		5.8	283.5	279.0	
+50		6.1	283.2	279.2	
2+00		6.5	282.8	279.4	
+019	M.H. center @ 10th & Hendricks.	6.47	282.82	279.41	
T.P. +50	287.50 4.68	4.9	282.6	279.6	
3+00	ground at House 1' lower	5.0	282.5	279.8	2.7
+50		4.8	282.7	280.0	
4+00		4.3	283.2	280.2	
+50		3.1	284.4	280.4	
+60	ground at House 1.5 lower. F.S. center Hendricks	2.95	284.55	280.44	4.1

Dec 1/09

Sewer at 5th & Olive

Sept. 29/10 { Childs, Barber, Taylor

1037
3.83
14.20

B.M. N.W. cor nutmeg & 5th 264.95

273.83

Sta.		H.I.	Rod	Ground	Grade	Cut
J.P.	9.77	274.72		264.95 B.M.		
0+00	MH constructed so line Olive center of 5th		3.8	270.9	260.60	10.3
+58	center Olive		3.2	271.5	260.83	10.7
1+00	42' east center of 5th		3.81	270.91	261.00	9.9
+50			5.2	269.5	261.20	8.3
+60			5.3	269.4	261.24	8.2

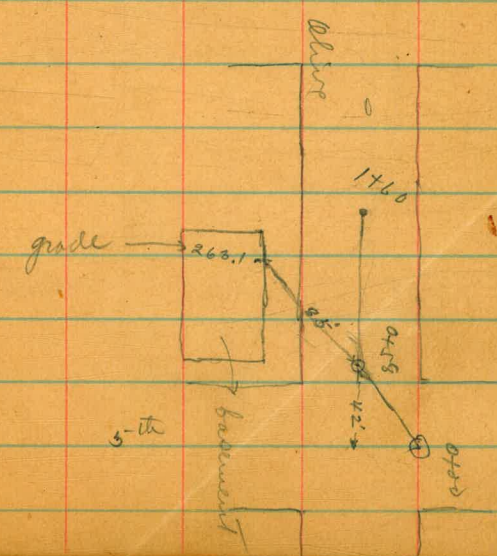
E ↕ W

264.95
8.79
273.74 H.I.
260.83
12.91

261.00
12.74

261.24
12.50

Grades Oct. 15/10 { Childs, Barber, Taylor



Lincoln & Vermont SW. Cor. Hd Spk
Pole at ground.
292.06

M.H. on Vermont bet. Pascoe & Lincoln 288.60

5.86		105.86	100.00	1
	2.94		102.92	

Nov 15th 1910
Mr. Jones, Rod
Tockwood Level

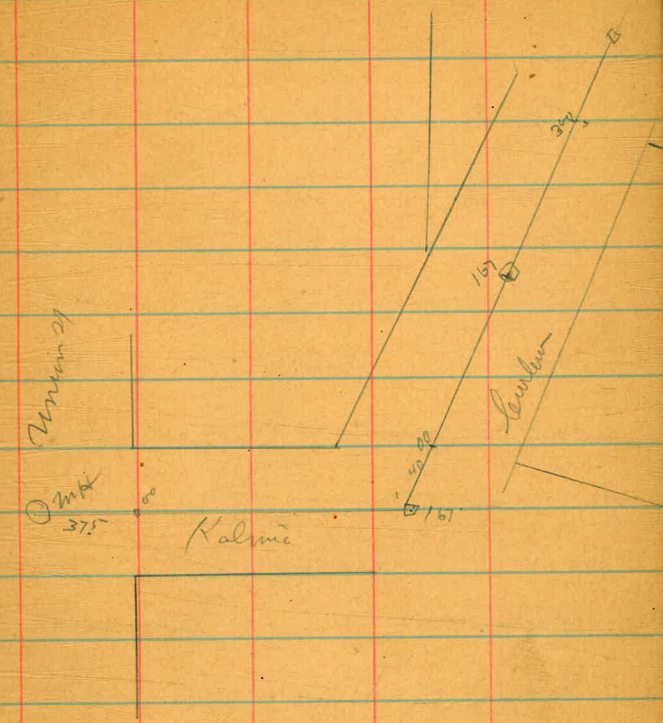
12/31/10 Clough Forman Fitz Patrick

Levels for Sewer on Center Line of Kalmia St M H on Union to Cent Curlew

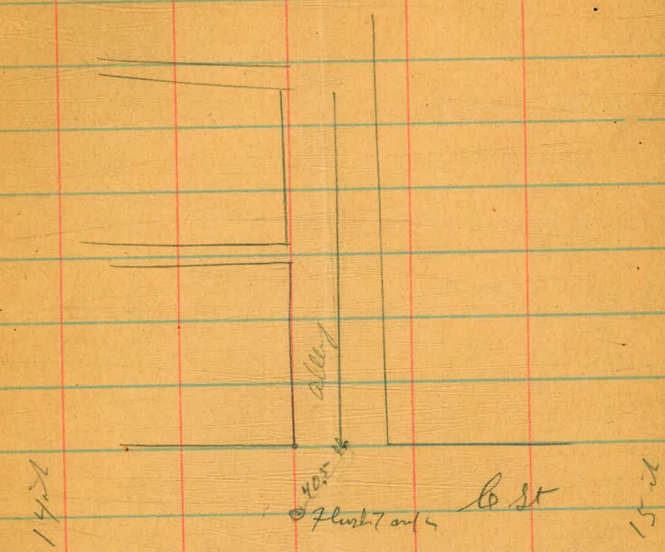
℄	7.44	121.44		114.00	NE Grade Stake Union & Kalmia
M H Cent Union			9.1	112.3	
(37.5) E Line of Union St			8.1	113.3	
50' E			5.4	116.0	
100' E			3.0	118.4	
125 E = W L Curlew			1.7	119.7	
167 E = Cent Curlew			0.9	120.5	
TP	12.95	133.24	1.15	120.29	

Levels for Sewer on Curlew from Center of Kalmia to Laurel

Cent Kalmia		133.24	12.7	120.5
(40') N Line Kalmia			12.0	121.2
50' N			8.2	125.0
100' N			3.4	129.8
150' N			0.2	133.0
	12.90	145.99	0.15	133.09
167 N = Cent Horton St			11.5	134.5
200' N			9.2	136.8
250' N			5.5	140.5
300' N = S L Laurel			0.8	145.2



12	12	Clough	Levels for Sewer in alley			Prem
31	31	Dimmer	Bt 14 + 15 st	C + B		
10	10	Tity				
						Sw 15
∅	∅		11.35	88.33		76.98	C+
M	Flush Tank				2.9	85.4
(37.5)	bent O st					
E	(40.5) N Sin C st				1.8	86.5
50	TP		12.75	101.07	0.01	88.32
100	25' n				9.9	91.2
125	50' n				6.0	95.1
167	75' n				3.0	98.1
	100' n = N S alley				0.2	100.9
	TP		12.52	113.40	0.19	100.88
Ca	125' n				9.6	103.8
(40')						
N	150' n				7.0	106.4
50'	175' n				4.2	109.2
100'	200' n = S S alley				1.4	112.0
150						
167						
200						
25						
300						



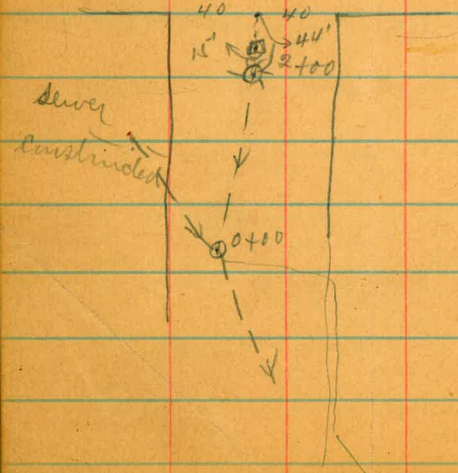
63

Maryland St. S of Meade.

200.2 Feb. 4/11 { Childs, Taylor, Bunker

73

Sta.		H.I.	Rod	Ground	Grade	Cut.
0+00	Old m.H.	323.65	7.05	316.6	313.35	3.25
+50		332.42	12.78	319.64	316.10	3.5
1+00			9.8	322.6	318.85	3.8
+50			6.97	325.45	321.60	3.8
2+00	F.S. 44' from So. line meade.		3.5	328.9	324.35	4.6



4.01
323.65

Sewer alley bet. E & F west of 30th.

Feb. 14/11 — Childs, Taylor, Bunker

Sta.		H.I.	Rod	Ground	Grade	Cut
0+00	M.H. bottom of Canyon bet.	141.19	12.2	129.0	124.70	4.3
+50	E & F Center alley		11.53	129.66	124.90	4.8
+70	M.H.		10.2	131.0	124.92	6.1
+75			9.1	132.1	126.06	6.0
1+00			3.2	138.0	131.77	6.2
+25		152.63	8.23	144.40	137.49	6.9
+50			1.1	151.5	143.20	8.3
+75		165.27	8.1	157.2	148.92	8.3
2+00			4.8	160.5	154.63	5.9
+25		177.05	12.22	164.83	160.35	4.5
+50	P.C.		6.6	170.4	166.06	4.3
+75	E.C.		3.1	174.0	169.06	4.9
3+00		187.58	12.11	175.47	169.36	6.1
+25			10.9	176.7	169.66	7.0
+50			10.3	177.3	169.96	7.3
+75			10.1	177.5	170.26	7.2

380.27

1700
16555
6445

12.20
4.27
16.47
124.72

20
4
.080

E. S.W. 185.42
F. S.W. 167.32
D N W 192.40
C S E 195.30
G W 157.61 Childs, Taylor, Bunker Feb 18/11

129.66
7.38
137.04 H.I.
124.92
12.12

144.40
1.02
145.42 H.I.
131.77
13.65

144.40
0.38
144.78
131.77
13.01

144.40
8.95
153.35 H.I.
143.20
10.15

1.77
151.58 T.P.
7.88
159.46 H.I.
148.92
10.54

154.63
4.83

164.83
11.78
176.61 H.I.
166.06
10.55

129.66
3.47
133.13 H.I.
8.35
124.78
.25
.03

125.02
8.11

169.06
7.55

125.12
124.78
.34

175.47
5.46 H.I.
180.93
169.36
11.57

169.96
10.97

170.26
10.67

Cont. from page 74

Sta.	H.I.	Rod	Ground	Grade cut
	187.58			
4+00		9.0	178.6	170.56 8.0
+15 Deadend		8.83	178.75	170.75 8.0

Feb. 21/11 | Childs, Taylor, Blunden

180.93 H.I.
170.56
10.37

170.71
10.18

Sewer in alley bet. A & B east of 30th street — Feb. 18/11 — Childs, Taylor, Bunker

Sta.	T.P. 9.01 226.90 H.I.	Rod	Ground 217.89	Grade	Cut.
0+00	M.H. about 60' west center of 30th.	3.2	223.7	217.7	6.0
+25		3.0	223.9	217.8	6.1
+50		4.8	222.1	217.9	4.2
+75		4.1	222.8	218.0	4.8
1+00		2.5	224.4	218.1	6.3
+25		1.9	225.0	218.2	6.8
+50		1.6	225.3	218.3	7.0
+75		1.7	225.2	218.4	6.8
2+00		1.3	225.6	218.5	7.1
+25		1.4	225.5	218.6	6.9
+50		1.4	225.5	218.7	6.8
+75		1.5	225.4	218.8	6.6
3+00		1.7	225.2	218.9	6.3
+25		2.1	224.8	219.0	5.8
+50		2.8	224.1	219.1	5.0
+75		4.1	222.8	219.2	3.6
+90	dead end	5.7	221.2	219.26	1.9

218.2

217.89 + 9.34 = 227.23 H.I. − 8.58 = 218.65 − .7 = 217.95 — 4.95

217.89 + 9.07 = 226.96 H.I.

217.8 (9.16) — 217.71 (9.25) — 218.0 (8.96)

218.1 (8.86) — 218.3 (8.66) — 218.5 (8.46) — 218.7 (8.26)

218.9 (8.06) — 219.1 (7.86) — 219.26 (7.70)

8.86 − .60 = 8.26 − 9.50 = 217.46

Mar. 3/11 — Childs, Taylor, Bunker

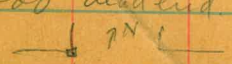
I. Sewer on 29th from center of Beech

600' north.

Childs
Taylor
Bunker

Mar. 1/11

Sta.			H.I.	Rod	Ground	Grade	Cut.		R.L. spt.
J.P.		3.78	210.99		207.21 BM			214.68	B.M. N.E. cor cedar + 29th
0+00	M.H. center of Beech.			5.6	205.4	201.1	4.3	210.87 / 0.95 / 211.82 H.I.	
+50				4.5	206.5	202.01	4.5	202.01 / 9.81	202.92 / 8.90 — 203.83 / 7.99
1+00				3.5	207.5	202.92	4.6	204.73 / 7.09	214.68 / 2.73 / 217.41 H.I.
+50				2.4	208.6	203.83	4.8		
2+00				1.3	209.7	204.73	5.0		
+50				0.12	210.87	205.64	5.2	205.64 / 11.77	
J.P.		7.78	218.65						
3+00				6.8	211.8	206.55	5.2	206.55 / 10.86	
+50				5.6	213.0	207.45	5.6	207.45 / 9.96	
+80.78	M.H. center of Cedar.			4.7	213.9	208.00	5.9	208.00 / 9.41	
4				5.4	213.2	208.36	4.8	208.36 / 9.05	
50				4.2	214.4	209.28	5.1	209.28 / 8.13	
5+00				3.2	215.4	210.20	5.2	210.20 / 7.21	
+50				2.4	216.2	211.12	5.1	211.12 / 6.29	
6+00	dead end			1.25	217.40	212.04	5.4	212.04 / 5.37	



Cedar, ⊙15'⊡

Sewer line on Fern from 29' so. of ash to about 49' so. Beech

Mar. 7/11 { Childs, Taylor, Bunker

78

Sta.			H.I.	Rod	Ground	Grade	cut
T.P.		10.12	236.89		226.77		
0+00	old F.S.			4.0	232.9	228.0	4.9
+25				3.7	233.2	228.1	5.1
+50				3.1	233.8	228.2	5.6
+75				3.0	233.9	228.3	5.6
1+00				3.3	233.6	228.4	5.2
+25				2.9	234.0	228.5	5.5
+50				2.86	234.03	228.6	5.4
+75				2.9	234.0	228.7	5.3
2+00				2.8	234.1	228.8	5.3
+25				3.2	233.7	228.9	4.8
+50				3.00	233.89	229.0	4.9
+75				3.0	233.9	229.1	4.8
3+00				3.5	233.4	229.2	4.2
+25				3.9	233.0	229.3	3.7
+50				4.5	232.4	229.4	3.0
+60	dead end			4.8	232.1	229.44	2.7

234.03
4.32
238.35 H.I.
10.60
227.75

228.0 / 10.35

228.1 / 10.25 228.2 / 10.15

228.4 / 9.95

228.6 / 9.75 228.8 / 9.55 229.0 / 9.35

229.2 / 9.15 229.4 / 8.95 229.44 / 8.91

Mar. 15/11 { Childs, Taylor, Bunker

Sta Rod 4.20 Elev G29 G

57.56 84

250.90
1.46
252.36
9.06
243.30 top of pipe

9.07

245.9
69.9

132 | 725 | 5.49
660
650 2.74
528
1220
1188
320

5.49

300.
290
280
570

J. M. J. Eshleman

75' S. of Ivy Lane 8.6
Inter. " " 75th 7.3

179.97
13.02
192.99
0.20
192.79
12.86
205.65
0.42
205.23
10.40
215.63
9.58
206.05
6.11
212.16
0.20
211.96
10.34
222.30
4.48
217.82

170.72
13.02
183.74 = H.I.
0.20
183.54 = T.P.
12.86
196.40 = H.I.
0.42
195.98 = T.P.
10.40
206.38 = H.I.
9.58
196.80 = T.P.
6.11
202.91 = H.I.
0.20
202.71 = T.P.
10.34
213.05 = H.I.
4.48
208.57

283.54
.50
284.04

9.69
123 | 500 | 40
492
800

217.89

45
50
95

45
40
37
112

43
40
1720

9.32

113

570
123
693

38
40
45
123

570
30
600

217.89 S.W. cor. 30th & B.
2.13
220.02
9.59
210.43 T.P.

M.H. Rod. 6.24

47.2
118.45
165.65

B.M. 185.42
12.12
197.54
9.20
188.34
1.12
189.46
12.62
176.84
23
177.07
12.41
164.66
20
164.86
2.07
152.79
0.62
153.41
10.96
142.45
1.27
143.72

179.97
12.70
192.67
0.28 = T.P.
192.39
12.15
204.54 = H.I.
0.47
204.07 T.P.
10.90
214.97
5.85
209.12
7.67
216.79
0.63
216.16
6.21
222.37
4.69
217.68

3.8 1.9
60
2.880

B.M. 30 & D. 192.40
B.M. 30 & E. 185.42

73.5 grade
72.6 grade
0.9

143.72
6.24
137.48 1.0

68.2
2,800
2600
2000
1300
7000
6500
5000

69.70 grade
68.87 "

68.9
2.36
71.26

217.89
217.68
21

1180
2
2360

69.2
2.36
71.56

379.05
4
1.5 1620

970
4
3.880
73.27
77.15

143.72
6.24
137.48

1.5
340
7000
525
5.9500

1.5
40
.600

.215
610
2150
1290
131150

143.72
2.15
141.22

.215
380
17200
645
81700

71
1.31
69.69
82
68.87

1.75
340
7000
525
5.9500

3.1416
680
2512280
61
3.8
400
15.200

80

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TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.8[illegible]	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees
	DEGREES		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		