1054

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

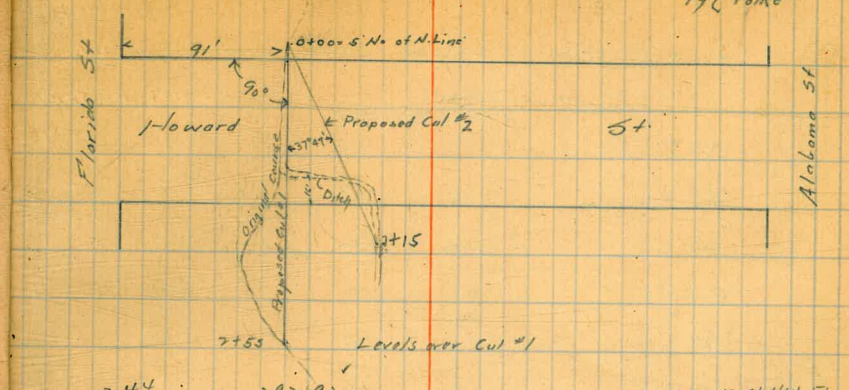
1054

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

Locations of Proposed Culvert on Howard St 4/17/19 Doris Moore Parke



2+44 297.93

290.49 CH NW Flo

0+00	6.8	286.1
+27	6.4	86.5
+37	7.4	85.5
+62	7.0	85.9
+78	5.2	87.7
+85	6.0	86.9
	7.2	85.7
1+00	7.3	85.6
+50	8.9	84.0
2+00	10.1	82.8
+50	11.4	81.5
+55	13.0	79.9

Levels over Cul #2

0	6.8	86.1
+35	6.5	86.4
+55	4.2	88.7
+70	4.8	88.1
+80	6.0	86.9
+86	7.7	85.2
+92	5.7	87.2
1+00	5.9	87.0
+07	6.3	86.6
+15	8.0	84.9

Quantities in Book #8

21 Davis
20 Roche
19 Sherwin

Cross-Section of Howard St-Park Blvd to Boundary

	1.07	340.95 E.L. Park Blvd		339.88	CL S.E.P. Blvd
So			1.3	339.7	
cl			1.7	39.3	
½			1.2	39.8	
c			1.0	40.0	
½			1.2	39.8	
cl			1.6	39.4	
+2			1.1	39.9	
No			08	40.2	
		+25			
No			2.2	38.8	
cl			2.7	38.3	
½			2.6	38.4	
C			2.8	38.2	
½			2.7	38.3	
cl			3.4	37.6	
So			3.4	37.6	
		+50			
So			6.1	34.9	
+8			4.6	36.4	
cl			4.6	36.4	
+8			3.8	37.2	
½			4.9	36.1	
C			5.1	35.9	
½			4.5	36.5	
cl			3.8	37.2	
No			4.0	337.0	

	0+75		
No		5.9	335.1
cl		6.0	335.0
½		6.1	34.9
c		6.6	34.4
½		6.7	34.3
+7 cl		5.9	35.1
		6.7	34.3
So		7.0	34.0
	1+00		
So		6.7	34.3
cl		7.3	33.7
+8		7.5	33.5
½		8.3	32.7
c		8.2	32.8
½		8.6	32.4
cl		7.0	34.0
No		7.1	33.9
	1+25		
No		8.7	32.3
cl		8.8	32.2
½		9.8	31.2
C		9.4	31.6
½		9.6	31.4
+7		8.0	33.0
cl		7.8	33.2
So		8.0	333.0

		340.95		
		1+50		
S.			7.9	333.1
Cl.			8.7	32.3
+7			8.7	32.3
¼			10.7	30.3
C			10.8	30.2
¼			11.3	29.7
Cl.			10.8	30.2
No			10.9	30.1
		1+75		
No			12.7	28.3
Cl.			13.3	27.7
¼			12.6	28.4
C			12.3	28.7
¼			12.4	28.6
+6			9.5	31.5
Cl.			9.5	31.5
So			8.7	32.3
		2+00		
So			9.2	31.8
+3			10.6	30.4
Cl.			11.0	30.0
+8			11.6	29.4
T.P.	0.73	328.70	12.98	327.97
¼			1.8	26.9
C			1.6	27.1
¼			1.9	26.8
+5			2.0	26.7
Cl			2.9	25.8
No			2.0	326.7

Howard St

328.70

2+25

No	5.4	323.3
Cl.	4.8	23.9
¼	3.4	25.3
C	3.5	25.2
¼	4.0	24.7
+7	0.6	28.1
Cl.	1.0	27.7
+11	0.0	28.7
So	+1.1	29.8
	2+50	
So	0.5	28.2
+2	2.5	26.2
Cl.	3.0	25.7
+6	3.0	25.7
+10	5.1	23.6
¼	5.1	23.6
C	5.3	23.4
¼	5.1	23.6
+5	5.8	22.9
Cl.	6.9	21.8
No	6.9	321.8

328.70

	2+75		
No		7.7	321.0
Ch		8.8	19.9
+6		8.7	20.0
+9		7.3	21.4
¼		7.1	21.6
C		7.5	21.2
¼		7.6	21.1
+2		7.6	21.1
+7		5.1	23.6
Ch.		5.1	23.6
+8		5.0	23.7
So		1.8	26.9
	2+97		
So		4.5	24.2
+6		6.7	22.0
Ch		7.2	21.5
+6		7.1	21.6
+10		8.4	20.3
¼		8.4	20.3
C		8.5	320.2

Howard St.

3+00 = W.L. Georgia

So			7.4	321.3
Ch			7.7	21.0
¼			8.5	20.2
C			8.5	20.2
¼			8.9	19.8
Ch			9.1	19.6
No			8.4	20.3
T.P	0.64	320.53	8.81	319.89 B.M. N.W.Cor. Pl.gate.

E. Line Georgia

No	2.6	17.9
Ch	2.7	17.8
¼	2.8	17.7
C	3.0	17.5
¼	2.3	18.2
+5	2.3	18.2
+7	2.8	17.7
+11	3.0	17.5
Ch	2.2	18.3
+6	1.5	19.0
So	1.1	319.4

320.53

+11

So	1.4	319.1
+5	2.1	18.1
Ch.	5.4	15.1
+9	5.7	14.8
¼	4.3	16.2
C	4.7	16.3
¼	4.6	15.9
+8	3.0	17.5
Ch.	4.6	15.9
+8	7.6	12.9
No	8.1	12.4
+10	7.1	13.1

+25

+10	9.3	11.2
No	9.4	11.1
+9	9.1	11.1
Ch.	6.4	14.1
¼	4.9	15.6
¼	5.6	14.9
+2	6.1	14.1
C	6.6	13.9
+10	6.3	14.2
¼	7.1	13.4
Ch.	6.8	13.7
So = Wall	Co	314.5

Howard St. 4

320.53

+50

So	8.2	312.3
Ch.	8.9	11.6
¼	9.2	11.3
+6	8.6	11.9
C	9.0	11.5
+10	9.0	11.5
¼	9.9	10.6
Ch.	10.2	10.3
No	10.7	9.8
+10	10.8	9.7

+75

+10	12.3	8.2
No	12.2	8.3
Ch.	12.2	8.3
+8	11.0	9.5
¼	11.6	8.9
C	11.4	9.1
¼	11.8	8.7
+4	11.0	9.0
Ch.	11.2	9.3
So	10.3	10.2
T.P. 0.87	308.30 ✓	13.10 307.43 ✓

308.30

1+00

So		0.3	308.0
Cr		0.8	7.6
H		1.7	1 6.6
C		1.3	7.0
H		1.2	7.1
Cr		18	6.5
No		1.0	7.3

1+25

No		3.8	4.5
Cr		3.7	4.6
H		3.6	4.7
C		3.5	4.8
H		3.6	4.7
Cr		3.2	5.1
So		3.1	5.2

1+50

So		5.0	3.3
Cr		5.1	3.2
H		5.0	3.3
C		5.0	3.3
H		5.6	2.7
Cr		5.8	2.5
No		5.1	303.2

Howard St.

308.30

1+75

No		6.2	302.1
Cr		6.8	1.5
H		7.3	1.0
C		6.9	1.4
H		6.8	1.5
Cr		6.2	2.1
So		6.5	301.8

2+00

So		8.1	300.2
Cr		8.1	300.2
H		8.5	299.8
C		8.7	299.6
H		8.7	299.6
Cr		7.8	300.5
No		7.1	301.2

2+25

No		7.7	300.6
Cr		8.6	299.7
+8		9.3	299.0
H		10.3	98.0
C		10.4	97.9
H		9.8	98.5
Cr		9.6	98.8
So		9.4	298.9

		308.30		
		2+50		
So			11.0	297.3
Cl.			11.3	97.0
H			11.8	96.5
C			12.1	96.2
H			12.0	96.3
Cl.			10.6	97.7
No			9.2	99.1
		2+95		
No			11.6	96.7
Cl			13.0	95.3
T.P	1.07	296.5 ✓	12.85	295.45 ✓
H			1.8	94.7
C			2.1	94.4
H			1.5	95.0
Cl			1.2	95.3
So			0.7	95.8
		3+07		
So			2.2	94.3
Cl.			2.9	93.6
H			3.9	92.6
+7			3.8	92.7
+9			5.7	90.8
C			6.0	90.5
+9			5.3	91.2
+10			4.1	92.4
H			3.9	92.6
Cl.			3.9	92.6
No			3.0	93.5

Howard St. 6

296.5 ✓

3+10 = W.L. Florida

No	5.7	297.1
Cl - on Sch.	6.03	290.49
H	4.0	90.5
C	6.5	90.0
H	6.7	89.8
Cl	5.6	90.9
So	5.4	91.1
E.L. Florida		
So	7.7	88.8
Cl.	7.9	88.6
H	7.1	89.1
C	6.7	89.8
H	6.4	90.1
Cl.	6.6	89.9
No	6.9	89.6
+25		
No	7.3	89.2
Cl.	7.2	89.3
H	7.4	89.1
C	7.8	88.7
H	8.0	88.5
Cl -	8.1	88.4
So	8.5	288.0 ✓

296.52

	+50		
So		8.4	288.1
Ch		88	877
4		85	880
C		84	881
4		78	887
Ch		81	884
No		77	888
	0+75		
No		90	875
Ch		87	878
4		87	878
C		90	875
4		86	879
Ch		89	876
So		94	871
	0+82		
So		96	869
Ch		90	875
4		96	869
C		90	875
4		89	876
Ch		94	871
No		96	2869

Howard St. 7

296.5N

	+90		
No		101	2864
Ch		99	866
4		100	865
C		108	857
4		106	859
Ch		96	869
So		95	870
	+93		
No		103	862
Ch		104	861
	1+00		
So		95	870
Ch		92	873
4		106	859
+8		106	859
4		99	866
+11		95	870
C		86	879
+5		96	869
4		103	862
Ch		104	861
No		102	2863

296.52

1+25

No	10.0	286.5
Ch.	9.9	86.6
4	9.5	87.0
C	7.9	88.6
4	9.4	87.1
+10	10.4	86.1
+12	10.5	86.0
Ch.	9.5	87.0
So	10.2	86.3

1+50

So	9.8	86.7
+12	9.3	87.2
Ch.	10.3	86.2
+12	11.4	85.1
+4	11.2	85.3
+8	9.1	87.4
1/4	8.8	87.7
C	7.8	88.7
4	9.4	87.1
Ch.	9.6	86.9
No	9.5	287.0

Howard St.

296.5

1+56

So	9.9	286.6
+7	9.6	286.9
Ch.	11.0	85.5
+4	11.4	85.1
+9	9.0	87.5
4	8.7	87.8
C	8.1	88.4

1+64

So	11.7	84.8
Ch	11.3	85.2
+2	9.3	87.2
4	8.4	88.1
C	8.1	88.4

1+65

So	10.1	86.4
Ch.	9.3	87.2

1+75

So	10.5	86.0
Ch	9.1	87.4
1/4	8.3	88.2
C	8.3	88.2
4	9.1	87.4
Ch	9.1	87.4
No	8.6	287.9

		296.52		
		2+00		
No			8.2	288.3
ch.			8.2	88.3
¼			8.4	88.1
C			8.6	87.9
¼			8.1	88.4
ch.			7.8	88.7
So.			9.5	87.0
		2+25		
So			7.9	88.6
+1			7.3	89.2
ch.			7.8	88.7
¼			7.9	88.6
C			8.1	88.4
¼			8.1	88.4
ch.			7.8	88.7
No			7.6	88.9
T.P	12.20	300.97	7.75	288.77
		2+50		
No			10.5	90.5
+10			10.4	90.6
Ch.			10.8	90.2
+8			11.3	89.7
¼			12.1	88.9
C			12.2	88.8
+10			10.6	90.4
¼			10.8	90.2
ch			11.0	90.0
So			11.5	289.5

Howard St.

300.97		
2+75		
So	11.0	290.0
Ch.	10.8	90.2
+9	10.5	90.5
¼	11.4	89.6
C	11.4	89.6
¼	11.1	89.9
Ch.	10.3	90.7
No	9.8	91.2
3+00		
No	8.1	92.9
Ch.	8.9	92.1
¼	9.7	91.3
C	10.2	90.8
¼	10.6	90.4
Ch	10.6	90.4
So	10.7	90.3
3+10: W.L. Alo.		
So	10.9	90.1
Ch.	10.9	90.1
¼	10.3	90.7
C	9.4	91.6
¼	8.6	92.4
Ch	8.9	92.1
No	8.6	292.4

300.97

E L. Alabama

No		6.6	294.4
Ch.		7.8	93.2
H		8.1	92.9
C		7.8	93.2
H		8.4	92.6
Ch.		8.4	92.6
So		8.3	92.7
	1+25		
So		6.1	94.9
Ch.		7.2	93.8
H		7.1	93.9
C		6.5	94.5
H		6.3	94.7
Ch.		6.1	94.9
No.		5.8	95.2
	1+50		
No		3.7	97.3
Ch		4.0	97.0
H		4.3	96.7
C		4.5	96.5
H		4.8	96.2
H		5.2	95.8
Ch.		5.5	95.5
So		4.1	96.9

Howard St. 10

300.97

	0+75		
So		2.5	298.5
Ch.		3.8	97.2
H		3.2	97.8
C		2.8	98.2
H		2.4	98.6
Ch.		2.1	98.9
No		2.2	298.8
T. P.	12.62	313.19 ✓	0.40	300.57 ✓
	1+00		
No		11.9	301.3
Ch.		12.4	300.8
H		12.9	300.3
C		13.0	300.2
H		13.4	299.8
Ch.		13.4	299.8
So		12.2	301.0
	1+25		
So		10.7	302.5
Ch.		11.4	01.8
H		11.1	2.1
C		10.6	2.6
H		10.9	3.2
Ch.		9.7	3.5
No		9.3	303.9

313.19

1+50

No		70	306.2
Ch.		7.1	6.1
H		7.6	5.6
C		8.1	5.1
H		9.1	4.1
Ch.		8.9	4.3
So		8.4	4.8

1+75

So		6.1	6.8
Ch.		6.1	6.8
H		6.2	7.0
C		6.1	7.1
H		5.9	7.3
Ch.		5.2	8.0
No		3.9	9.3

2+00

No		2.1	11.1
Ch.		3.0	10.2
H		3.3	9.9
C		3.7	9.5
H		4.3	8.9
Ch.		4.2	9.0
So		4.1	309.1

Howard St. 7/9

313.19

2+25

So		2.2	311.0
Ch.		1.9	11.3
H		1.5	11.7
C		1.4	11.8
H		0.9	12.3
Ch.		1.2	12.0
No		0.5	12.7
TP 12.77	325.55	0.44	312.78

2+50

No		11.5	14.0
Ch.		12.0	13.5
H		12.2	13.3
C		12.1	13.4
H		12.5	13.0
Ch.		12.6	13.0
So		12.8	12.8

2+75

So		11.8	13.8
Ch.		11.7	13.9
H		11.3	14.3
C		11.0	14.6
H		11.6	14.0
Ch.		11.5	14.1
H		11.0	14.6
No		10.6	315.0

325.55

3+00 = W.L. Mississippi

No		9.7	315.9
Ch.		10.8	14.8
¼		10.6	15.0
+6		10.2	15.4
C		9.9	15.7
¼		10.0	15.6
Ch		10.3	15.3
So		10.3	15.3

E.L. Mississippi

So		7.5	18.1
Ch.		7.7	17.9
¼		7.0	18.2
C		7.2	18.4
¼		7.0	18.6
+10		7.3	18.3
Ch.		6.8	18.8
+3		6.4	19.2
No.		6.3	19.3
No	0+25	5.7	19.9
+9		5.6	20.0
Ch.		6.5	19.1
¼		6.8	18.8
C		6.7	18.9
¼		6.6	19.0
Ch.		7.2	18.4
So		7.8	317.8

Howard St.

325.55

0+50

So		7.2	318.4
Ch		6.8	18.8
¼		6.2	19.4
C		6.1	19.5
¼		6.0	19.6
Ch		5.5	20.1
+5		4.7	20.9
No		4.6	21.0

0+75

No		3.8	21.8
+9		3.9	21.7
Ch.		4.7	20.9
¼		5.2	20.4
C		5.6	20.0
¼		5.8	19.8
Ch		6.0	19.6
So		5.9	19.7

1+00

So		3.8	21.8
Ch.		3.5	22.1
¼		4.0	21.6
C		3.4	22.2
¼		2.6	23.0
Ch.		3.2	22.4
No		2.6	323.0

		325.55		
		1+25		
N.			1.8	323.8
Ch.			2.3	23.3
¼			3.1	22.5
C			3.4	22.2
¼			3.3	22.3
Ch.			3.9	21.7
So.			4.1	21.5
		1+50		
So.			3.2	22.4
Ch.			2.3	23.3
¼			1.5	24.1
C			0.9	24.7
¼			0.8	24.8
Ch.			0.9	24.7
No.			0.4	25.2
T.P.	10.44	334.93 ✓	1.06	324.49 ✓
		1+75		
No			8.3	26.6
Ch.			8.4	26.5
¼			8.6	26.3
C			9.1	25.8
¼			9.5	25.4
Ch.			9.0	25.9
So			9.5	25.4

Howard 57. 13

334.93

	2+00		
So		7.7	327.2
Ch.		7.6	27.3
¼		7.8	27.1
C		7.7	27.2
¼		7.2	27.7
Ch.		6.6	28.3
N.		6.6	28.3
	2+25		
No		4.9	30.0
Ch.		5.2	29.7
+6		4.8	30.1
¼		5.0	29.9
C		5.5	29.4
¼		5.7	29.2
Ch.		6.4	28.5
So		6.6	28.3
	2+50		
So		8.3	29.6
Ch.		8.4	29.5
¼		8.1	29.8
C		7.6	30.3
¼		7.4	30.5
Ch.		7.1	30.8
No		3.4	331.5

		334.93		
		2+75		
No.			2.2	332.5
Cr.			2.8	32.1
¼			3.3	31.6
C			3.6	31.3
¼			3.6	31.3
Cr.			3.4	31.5
So.			3.8	31.1
		3+00 : W.L. La.		
So			3.7	31.2
Cr.			3.6	31.3
¼			3.5	31.4
C			3.2	31.7
¼			2.9	32.0
Cr			2.6	32.3
No.			2.1	32.8
T.P.	1.84	332.78	3.99	330.94
		EL. La.		
No			1.5	31.3
Cr			1.9	30.9
Gutr			2.6	30.2
¼			2.8	30.3
C			2.4	30.4
¼			0.9	31.9
¼			0.6	32.2
Cr.			0.5	32.3
So.			0.9	331.9

Note- Old Cr. in on No side of St. from EL La to 127'E. not good for line or grade.

Howard St

332.78

		2+25	
So	2.7		330.1
Cr	2.4		30.4
¼	2.5		30.3
+10	2.6		30.2
C	4.3		28.5
¼	4.0		28.8
Cr.	4.0		28.8
No	3.3		29.5
	2+50		
No	6.3		26.5
Cr.	6.6		26.2
Gutr.	6.9		25.9
¼	6.8		26.0
C	6.8		26.0
¼	5.9		26.9
¼	5.9		26.9
Cr.	5.8		27.0
So	5.9		26.9
	2+75		
So	10.0		22.8
Cr.	10.3		22.5
¼	9.4		23.4
C	9.3		23.5
¼	9.4		23.4
Gutr	9.4		23.4
Cr	9.0		23.8
No	8.9		323.9

	332.78			
	1+00			
No		11.1	21.7	
Cl.		11.4	21.4	
Gutr		11.9	20.9	
4		11.7	21.1	
C		11.5	21.3	
1		14.2	20.6	
Cl.		13.1	19.7	
So		13.8	19.0	
+10		13.8	19.0	
T.P. 6.49	326.19	13.08	319.70	
	1+25			
+10		10.4	15.8	
So		10.5	15.7	
Cl.		10.5	15.7	
+10		10.4	15.8	
1		9.9	16.3	
17		6.7	19.5	
C		6.7	19.5	
1		7.1	19.1	
Gutr.		7.0	19.2	
Cl.		6.6	19.6	
No		6.3	3199	

Howard St. 15

326.19

1+44

No	7.6	318.6
Cl.	7.7	18.5
4	8.1	18.1
C	7.8	18.4
14	8.3	17.9
4	10.3	15.9
15	12.1	14.1
Cl.	12.4	13.8
So	12.9	13.3
+10	13.0	13.2
1+50		
+10	13.3	12.9
So	13.2	13.0
Cl.	12.6	13.6
16	12.2	14.0
4	10.3	15.9
15	8.9	17.3
C	7.9	18.3
2	8.4	17.8
Cl.	8.8	17.4
13	10.0	16.2
No	9.1	317.1

326.19

1+65

No	12.4	313.8
Cr	12.1	14.1
1/4	11.8	14.4
1/4	10.2	16.0
C	10.1	16.1
1/8	10.4	15.8
1/4	11.3	14.9
1/4	12.4	13.8
Cr	12.6	13.6
So	13.0	13.2
1/10	13.2	13.0

1+75

1/10	13.0	13.2
So	13.0	13.2
Cr	12.7	13.5
1/4	12.5	13.7
C	12.1	14.1
1/4	12.1	14.1
Cr	12.5	13.7
No	12.4	313.8

Howard St

16

326.19

2+00

No	12.4	313.8
Cr	12.5	13.7
1/4	12.6	13.6
C	12.1	14.1
1/4	12.2	14.0
Cr	12.2	14.0
So	12.3	13.9
1/10	12.8	13.4

2+25 ✓

1/10	12.4	13.8
So	12.4	13.8
Cr	12.1	14.1
1/4	12.1	14.1
C	12.0	14.2
1/4	12.1	14.1
Cr	11.7	14.5
No	11.9	14.3

2+50

No	11.3	14.9
Cr	11.4	14.8
1/4	11.5	14.7
C	11.8	14.4
1/4	12.0	14.2
Cr	11.8	14.4
So	11.7	14.5
1/10	9.7	316.5

3-26-19

I-75

+10		10.2	316.0
So		11.1	15.1
Ch		11.4	14.8
⅓		11.5	14.7
C		11.8	14.4
+8		11.8	14.4
⅔		11.2	15.0
Ch		10.8	15.4
No		11.0	15.2

2+95. Culvert outlets

No		10.0	16.2
Ch		11.0	15.2
gutr. botm cul. outlet		11.57	314.62
+2	" "	11.57	314.62
+2		11.0	15.2
⅔		11.2	14.8
C		11.0	15.2
⅓		11.1	15.1
gutr. botm cul. outlet.		11.50	314.69
Ch		10.8	15.4
+2		9.6	16.6
So		9.4	316.8

Howard St. 17

3-26-19

3+00 - W.L. Texas

So		9.9	316.3
Ch		10.2	16.0
⅔		10.5	15.7
C		10.6	15.6
⅔		11.0	15.2
Ch		10.2	16.0
No		9.9	16.3
T.P. 1x89	330.93	8.15	318.04 ✓ 13 M. Digo S. E Tex.

E.L. Texas

So		12.6	18.3
Ch		12.9	18.0
⅔		12.9	18.0
C		12.7	18.2
⅔		12.8	18.1
Ch		12.9	18.0
No		12.3	18.6

+6

No		11.3	19.6
Ch.		11.6	19.3
⅔		12.2	18.7
C		11.7	19.2
⅔		12.1	18.8
Ch		11.3	19.6
So		11.4	319.5

330.93

+25

So		10.6	320.3
Ch		10.7	20.2
¼		10.7	20.2
C		10.6	20.3
¼		11.0	19.9
Ch		10.7	20.2
No		10.7	20.7

0+50

No		8.8	22.1
Ch		9.5	21.4
¼		9.7	21.2
C		9.4	21.5
¼		9.5	21.4
Ch		9.6	21.3
So		9.4	21.5

0+75

So		8.2	22.7
Ch		8.4	22.5
¼		8.6	22.3
C		8.4	22.5
¼		8.6	22.3
Ch		9.0	21.9
No		8.1	322.8

Howard St

330.93

1+00

No		7.3	323.6
¼		8.3	22.6
Ch		8.3	22.6
¼		8.0	22.9
C		7.6	23.3
¼		7.6	23.3
Ch		7.4	23.5
So		6.9	24.0

1+25

So		6.5	24.4
Ch		6.4	24.5
¼		7.1	23.8
C		7.2	23.7
¼		7.5	23.4
Ch		7.6	23.3
+10		7.1	23.8
No		6.3	24.6

1+50

No		6.0	24.9
Ch		6.2	24.7
¼		6.5	24.4
C		6.3	24.6
¼		6.1	24.8
Ch		5.8	25.1
So		5.6	325.3

330.93

1+95

So	52	325.7
Ch.	55	25.4
H	58	25.1
C	59	25.0
H	60	24.9
Ch.	56	25.3
No	55	25.4

2+00

No	60	25.9
Ch	60	25.9
H	53	25.6
C	60	25.9
H	61	25.8
Ch	63	25.6
So.	64	26.5

2+25

So	41	26.8
H	60	25.9
Ch	49	26.0
H	47	26.2
C	43	26.6
H	48	26.1
Ch.	45	26.4
No	44	26.5

Howard St.

330.93

18

2+50

No	36	327.3
Ch	37	27.2
H	43	26.6
C	40	26.9
H	40	26.9
Ch	40	26.9
So	37	27.2

2+75

So	33	27.6
Ch	33	27.6
H	35	27.4
C	30	27.9
H	34	27.5
Ch	31	27.8
No.	29	28.0

2+93

No	20	28.9
Ch.	24	28.5
H	29	28.0
C	29	28.0
H	28	28.1
Ch.	29	28.0
So	28	328.1

380.93

3 to 00 = W. h. Arizona.

So		1.5	329.4
+12		1.7	292
Cl		2.2	28.7
4		2.0	289
C		2.1	288
4		1.7	292
+10		2.7	282
Cl		1.5	29.4
No		0.8	30.1
Tip 12-81	343.20	0.54	330.39
	Cor N.T. 343.25	11.74	331.46

13M. 5 E 331.51 Ariz

EL. Ariz

No	10.7	32.5
+12	11.2	32.0
Cl	11.7	31.5
4	11.7	31.5
C	11.8	31.4
4	11.8	31.8
Cl	12.0	31.2
So	11.5	331.7

Howard St.

343.25

20

+25

So	10.5	332.8
Cl	9.2	34.1
4	9.4	33.9
C	9.9	33.4
4	9.9	33.4
Cl	8.9	34.4
No	8.8	34.5

+50

No	7.0	36.3
Cl	7.7	35.6
4	8.4	34.9
C	8.1	35.2
4	8.6	34.7
Cl	8.5	34.8
So	8.6	34.7

+75

So	6.3	37.0
Cl	6.1	37.2
4	6.0	37.3
C	6.1	37.2
4	5.8	37.5
Cl	5.0	38.3
No	4.5	338.8

		343.25		
		1+00		
N			3.0	340.3
Co.			2.4	40.9
H			2.4	40.9
C			2.8	40.5
H			3.0	40.3
Cl			3.7	39.6
So			3.7	39.6
T.P.	12.62	355.03 ✓	0.85	342.40 ✓
		1+25		
No			11.4	43.6
Cl			12.4	42.6
H			12.4	42.6
C			12.7	42.3
H			13.1	41.9
Cl			12.9	42.1
So			13.3	41.7
		1+50		
So			9.9	45.1
Cl			9.7	45.3
H			9.6	45.4
C			8.7	46.3
H			8.9	46.1
Cl			8.8	46.2
No			8.1	346.9

Howard St.

355.03

		1+75		
No			4.6	350.4
Cl			5.2	349.8
H			5.5	349.5
C			6.0	349.0
H			6.7	348.3
Cl			6.9	348.1
So			6.9	348.1
		2+00		
So			4.9	350.1
Cl			4.2	350.8
H			4.2	350.8
C			3.9	351.1
H			3.0	352.0
Cl			2.1	352.9
No			2.4	352.6
T.P.	13.10	367.61 ✓	0.52	354.51 ✓
		2+25		
No			12.1	355.5
Cl			12.7	354.9
Co			12.9	354.7
H			13.9	353.7
C			13.7	353.9
H			13.7	353.9
Cl			14.5	353.1
So			15.1	352.5

	367.61 / 2+50		
So		13.0	3546
Cl.		12.8	548
¼		11.5	561
C		10.5	571
¼		10.0	576
Cl.		10.2	574
No		9.6	580
	2+75		
No		7.2	604
Cl.		8.0	596
¼		8.8	588
C		8.9	587
¼		9.4	582
Cl.		9.4	582
So		10.1	575
	3+00 W.L. Hamilton		
So		8.4	592
Cl.		7.6	600
¼		6.8	608
C		6.3	613
¼		5.8	618
Cl.		5.5	621
No		4.1	3629

Howard St.

367.61

W. Cl.

No	3.7	3639
Cl.	4.3	633
¼	4.5	631
C	4.7	629
¼	5.1	625
Cl.	5.8	618
So	6.3	613
W ¼		
So	5.1	625
Cl.	5.2	624
¼	4.3	633
C	4.0	636
¼	3.6	640
Cl.	3.3	643
No	3.2	644
℄		
No	2.2	654
Cl.	2.8	648
¼	2.7	649
C	3.5	641
¼	3.7	639
Cl.	4.3	633
So	4.7	3634

		367.61 E ¼		
So			3.8	363.8
Ch.			3.2	64.4
¼			3.0	64.6
C			1.8	65.8
¼			1.7	65.9
Ch.			2.0	65.6
No			2.1	65.5
TIP	10.92	376.60	1.93	365.68
		E. Ch.		
No			10.3	66.3
Ch			10.4	66.2
¼			10.4	66.2
C			10.5	66.1
¼			11.3	65.3
Ch.			11.9	64.7
So			12.0	64.6
		EL. Hamilton		
So			11.0	65.6
Ch.			11.1	65.5
¼			11.1	65.5
C			10.6	66.0
¼			10.1	66.5
Ch.			9.6	67.0
No			8.7	67.9

Howard St

376.60

	+25	
No	9.0	367.6
Ch	9.3	67.3
¼	9.4	67.2
C	9.5	67.1
¼	9.9	66.7
Ch.	10.0	66.6
So	10.1	66.5
	+50	
So	9.4	67.2
Ch	9.1	67.5
¼	8.8	67.8
C	8.6	68.0
¼	8.2	68.4
Ch.	8.2	68.4
No	8.1	68.5
	+75	
No	6.7	69.9
Ch.	6.9	69.7
¼	7.6	69.0
C	8.3	68.3
¼	8.2	68.4
Ch.	8.4	68.2
So	8.2	368.4

376.60

1+00

So	7.9	368.7
Cr.	7.6	69.0
¼	6.4	70.2
C	6.8	69.8
¼	7.2	69.4
Cr.	7.1	69.5
No	6.9	69.7

1+25

No	5.3	71.3
Cr	6.2	70.4
¼	6.8	69.8
C	6.9	69.7.
¼	7.0	69.6
Cr.	7.2	69.4
So	7.6	69.0

1+50

So	6.3	70.3
Cr	5.8	70.8
¼	5.8	70.8
C	6.2	70.4
¼	6.2	70.4
Cr.	6.2	70.4
No	6.0	370.6

Howard St

24

376.60

1+75

No	4.5	372.1
Cr.	5.1	71.5
¼	5.4	71.2
C	5.9	70.7
¼	5.9	70.7
Cr.	5.9	70.7
So	6.4	70.2

1+90

No	5.3	71.3
Cr.	5.2	71.4

2+00

So	5.8	70.8
Cr.	5.9	70.7
¼	5.0	71.6
C	5.0	71.6
¼	5.3	71.3
Cr.	5.3	71.3
No	4.3	72.3

2+12

No	3.2	73.4
Cr.	4.5	372.1

376.60

2+25

No		3.8	372.8
Cr.		4.6	72.0
¼		3.9	72.7
C		3.9	72.7
¼		3.8	72.8
Cr		3.7	72.9
So		4.9	71.7

2+35

So		3.3	73.3
Cr.		3.7	73.4

2+50

So		3.2	73.4
Cr.		2.9	73.7
¼		3.0	73.6
C		2.9	73.7
¼		3.4	73.2
Cr		3.6	73.0
No		3.1	73.5

2+75

No		2.9	73.7
Cr.		3.0	73.6
¼		3.3	73.3
C		2.9	73.7
¼		2.8	73.8
Cr		2.3	74.3
So		2.7	373.9

Howard St.

376.60

3+00 - Rt. Oregon

Note - Street closed between Oregon & Idaho 25

So		2.5	374.1
Cr.		2.7	73.9
¼		2.9	73.7
C		2.9	73.7
¼		3.0	73.6
Cr - on curb.		2.54	374.06
No		2.4	74.2

BM. Pkg nail SE 37301 - Idaho

6.26 379.27

E.L. Idaho

So		6.3	73.0
Cr.		6.4	72.9
¼		6.5	72.8
C		6.2	73.1
¼		6.1	73.2
Cr.		6.0	73.3
No		5.7	73.6

+25

No		5.0	74.3
Cr.		5.1	74.2
¼		5.5	73.8
C.		5.8	74.0
¼		5.0	74.3
Cr		5.2	74.1
So		5.2	374.1

	379.27		
	+50		
So		5.1	374.2
Ch.		4.8	74.5
H		4.7	74.6
C		5.1	74.2
H		5.2	74.1
Ch.		4.9	74.4
No		4.4	74.9
	+65		
No		4.5	74.8
Ch.		4.8	74.5
	+75		
No		5.2	73.9
Ch		5.0	74.3
H		5.3	74.0
C		4.6	74.7
H		5.1	74.2
Ch.		5.0	74.3
So		4.9	374.4

Howard St 286

379.27

	1+00		
So		4.8	374.5
Ch.		5.2	74.1
H		5.2	74.1
C		4.8	74.5
H		5.3	74.0
Ch.		5.9	73.4
No		5.6	73.7
	1+25		
No		5.2	73.9
H		5.8	73.5
Ch		6.0	73.3
H		6.1	73.2
C		5.5	73.8
H		5.7	73.6
Ch.		5.5	73.8
So		5.3	74.0
	1+50		
So		6.0	73.3
Ch		5.9	73.4
H		5.7	73.6
C		5.2	73.9
H		5.8	73.5
Ch.		5.5	73.8
N.		5.1	374.2

379.27

	1+65	
No	4.0	375.3
Ch	4.9	374.4
	1+75	
No	5.0	374.3
Ch	5.5	373.8
H	5.8	373.5
C	5.6	373.7
H	5.8	373.5
Ch	6.2	373.1
So	6.2	373.1
	2+00	
So	6.3	373.0
Ch	6.2	373.1
H	6.0	373.3
C	5.5	373.8
H	4.0	375.3
Ch	4.1	375.2
No	5.8	373.5
	2+25	
No	6.0	373.3
Ch	5.9	373.4
H	5.8	373.5
C	6.1	373.2
H	5.8	373.5
Ch	6.2	373.1
So	6.1	373.2

379.27

	2+50	
So	6.2	373.1
Ch	6.4	72.9
H	5.9	73.4
C	5.6	73.7
H	5.1	74.2
C	5.9	73.4
No	6.0	73.3
	2+75	
No	5.5	73.8
Ch	6.2	73.1
H	6.3	73.0
C	6.2	73.1
H	5.7	73.6
Ch	5.7	73.6
So	5.9	73.4
	2+90	
So	6.4	72.9
Ch	6.3	73.0
H	6.4	72.9
C	6.4	72.9
H	6.4	72.9
Ch	6.2	73.1
+3	4.9	74.4
No	3.9	375.4

379.27

3+00 = W.L. Utah

No.			44	374.9
Ch.			50	74.3
+25			58	73.5
H			60	73.3
C			58	73.5
H			63	73.0
Ch.			62	73.1
So			54	73.9
T.P	2.82	375.86	6.43	373.04

E.L. Utah

So			38	72.1
Ch.			36	72.3
H			35	72.4
C			36	72.3
H			34	72.5
Ch.			35	72.4
+5			27	73.2
No.			28	373.1

Howard 57

375.86

+25

No.	38		372.1
Ch.	43		71.6
H	41		71.8
C	35		72.4
H	38		72.1
Ch.	40		71.9
So	27		73.2

+20

No.	24		73.5
Ch.	33		72.6

+50

So	37		72.2
Ch.	26		73.3
H	38		72.1
C	41		71.2
H	48		71.1
Ch.	39		72.0
No.	34		372.5

375.86

+59

No	3.9	372.0
Cr.	4.5	71.4
H	5.0	70.9
C	5.0	70.9
H	4.3	71.6
Cr.	2.9	73.0
So.	3.0	72.9

+75

So	4.0	71.9
Cr.	4.0	71.9
H	5.0	70.9
C	4.8	71.1
H	4.8	71.1
Cr.	3.7	72.7
No.	4.1	71.8

+88

No.	5.0	70.9
Cr.	4.8	71.1
H	5.0	70.9
C	4.8	71.1
H	4.9	71.0
Cr.	4.6	71.3
So.	4.9	71.0

Howard St.

375.86

29

1+00

So.	4.8	371.1
Cr.	3.7	72.2
H	4.7	71.2
C	4.9	71.0
H	4.6	71.3
H	4.0	71.9
Cr.	4.2	71.7
No.	4.7	71.2

1+25

No	4.0	71.9
Cr.	4.7	71.2
H	5.0	70.9
C	4.7	71.2
H	4.8	71.1
Cr	5.1	70.8
So.	5.1	70.8

1+50

So.	5.0	70.9
Cr.	5.2	70.7
H	4.9	71.0
C	3.9	72.0
H	4.5	71.4
Cr.	4.9	71.0
No	4.9	371.0

375.86

	1+50		
No		49	371.0
Ch		48	71.1
¼		5.1	70.8
C		49	71.0
¼		49	71.0
Ch		50	709
So		50	709
	1+60		
So		5.1	70.8
Ch		4.1	71.1
	1+75		
So		29	72.0
Ch		29	73.0
¼		4.0	71.9
C		50	709
¼		4.6	71.3
Ch		4.5	71.4
No		50	709
No	2+00	4.5	71.4
Ch		5.3	70.6
¼		5.3	70.6
C		50	709
¼		46	71.3
Ch		52	70.7
So		52	370.7

Howard St. 30

37.586

	2+10		
So		50	370.9
Ch		49	71.0
¼		36	72.3
¼		36	72.3
C		46	71.3
¼		5.5	70.4
Ch		5.3	70.6
No		41	71.8
	2+25		
No		57	708
Ch		56	70.3
¼		56	70.3
C		57	70.2
¼		47	71.2
¼		45	71.4
Ch		51	708
So		56	70.3
	2+50		
So		59	70.0
Ch		56	70.3
¼		50	709
C		49	71.0
¼		49	71.0
Ch		46	71.3
No		61	369.8

375.86

2+75

No		4.8	371.1
Cl.		5.2	70.7
1/4		4.9	71.0
C		5.8	70.1
1/4		5.6	70.3
Cl.		6.0	69.9
So		6.1	69.8

2+94

So		6.2	69.7
Cl.		6.2	69.7
1/4		6.0	69.9
C		4.9	71.0
1/4		5.0	70.9
Cl.		5.3	70.6
No		5.5	70.4

3+00 W.L. Kansas

No		5.2	70.7
1/2		5.4	70.5
Cl.		6.0	69.9
1/4		5.7	70.2
C		5.5	70.4
1/4		5.8	70.1
Cl.		6.0	69.9
1/2		5.4	70.5
So		5.2	370.7

Howard St

T.P.	2.59	372.58	5.87	369.99

E.L. Kansas.

So		3.6	369.0
Cl.		3.6	69.0
1/4		3.3	69.3
C		3.1	69.5
1/4		3.0	69.6
Cl.		2.7	69.9
+10		2.6	70.0
No		3.8	68.8

+25

No		4.3	68.3
Cl.		4.3	68.3
1/4		4.3	68.3
C		4.2	68.4
1/4		3.4	69.2
Cl.		3.5	69.1
So		3.2	69.4

+58

So		4.2	68.4
Cl.		4.0	68.2
1/4		4.6	68.0
C		3.9	68.7
1/4		2.1	70.5
+8		2.4	70.2
Cl		3.4	69.2
No		4.4	368.2

		372.58		
		0+75		
No			4.6	368.0
Cr			5.0	67.6
H			4.9	67.7
C			4.8	67.8
H			4.2	68.4
Cr.			4.3	68.3
So			4.3	68.3
		0+91	✓	
So			4.2	68.4
+10			4.2	68.4
Cr.			3.0	69.6
+9			3.0	69.6
H			3.8	68.8
C			5.0	67.6
H			5.0	67.6
Cr			4.9	67.7
No			4.6	68.0
		1+00		
No			4.4	68.2
Cr			3.6	69.0
H.			5.0	67.6
C			5.2	67.4
H			4.4	68.2
+7			3.7	68.9
Cr			4.2	68.4
So			4.4	368.2

372.58

	1+12		
So		4.4	368.2
Cr.		4.8	367.8
	1+25		
So		4.4	68.2
Cr		3.4	69.2
H		5.1	67.5
C		5.1	67.5
H		4.1	68.5
Cr		4.4	68.2
No		4.7	67.9
	1+50		
No		5.1	67.5
Cr		5.2	67.4
H		5.1	67.5
C		5.3	67.3
H		5.4	67.2
Cr		5.1	67.5
So		5.0	67.6
	1+75		
So		5.0	67.6
Cr		5.5	67.1
H		5.5	67.1
C		5.5	67.1
H		5.3	67.3
Cr		4.7	67.9
No		4.7	367.9

372.58

	2+00		
No		5.0	367.6
Ch		5.5	67.1
¼		5.5	67.1
C		5.6	67.0
¼		5.4	67.2
Ch		5.7	66.9
+3		5.4	67.2
So		5.1	67.5
	2+25		
So		5.1	67.5
Ch		5.7	66.9
¼		5.6	67.0
C		5.6	67.0
¼		5.6	67.0
Ch		5.5	67.1
No		5.3	67.3
	2+50		
No		5.1	67.5
a		4.9	67.7
+4		4.3	68.3
¼		4.3	68.3
C		5.1	67.5
¼		5.6	67.0
Ch		5.8	66.8
+5		5.4	67.2
So		5.1	67.5

Howard St

372.58

		2+75		
So		5.0	367.6	
Ch		5.4	67.2	
¼		5.7	66.9	
C		5.7	66.9	
¼		5.3	67.3	
+9		5.6	67.0	
Ch		5.2	67.4	
+5		4.5	68.1	
No		5.4	67.2	
	3+00 = W.L. 30th			
No		5.2	67.4	
Ch		5.2	67.4	
¼		5.0	67.6	
C		5.3	67.3	
¼		5.7	66.9	
Ch		5.8	66.8	
+2		5.3	67.3	
So		5.0	67.6	
T.P. 6.77	372.85	5.50		367.08 SE Cor. 30th
	E.L. 30th			
So		6.1	67.8	
Ch		7.0	66.9	
¼		7.1	66.8	
C		6.7	67.2	
¼		6.7	67.2	
Ch		6.8	67.1	
No		6.3	367.6	

	373.85		
	0+25		
No		4.1	369.8
+9		5.5	68.4
Ch.		5.7	68.2
↓		6.2	67.7
C		5.9	68.0
↓		5.8	68.1
Ch		5.7	68.2
So		5.7	68.2
	0+50		
So		4.5	69.4
Ch.		6.4	67.5
+9		5.3	68.6
↓		5.6	68.3
C		6.0	68.9
↓		6.2	67.7
Ch.		6.2	67.7
No		5.8	68.1
	0+75		
No		6.4	67.5
Ch		6.7	67.2
↓		6.0	67.9
+8		5.2	68.7
C		5.3	68.6
↓		6.1	67.8
Ch.		6.7	67.2
So		6.6	367.3

Howard St.

	373.85		
	1+00		
So		4.9	369.0
+7		5.6	68.3
Ch.		5.7	68.2
↓		4.3	69.6
+5		4.2	69.7
C		5.0	68.9
↓		6.5	67.4
Ch.		6.6	67.3
No		6.8	67.1
	1+12		
No		6.2	67.5
Ch.		6.7	67.2
↓		6.6	67.3
C		6.6	67.3
↓		6.3	67.6
Ch		6.1	67.8
So		5.9	68.0
	1+25		
So		5.2	68.7
+9		4.9	69.0
Ch.		5.4	68.5
↓		6.4	67.5
C		6.8	67.1
↓		5.9	68.0
+4		5.4	68.5
Ch		5.9	68.0
No		6.4	367.5

373.85

1+40

No	6.6	367.3
Cl	5.5	68.4
+9	4.2	69.7
4	4.3	69.6
C	5.9	68.0
+7	6.8	67.1
4	6.7	67.2
ch	6.2	67.7
So	5.7	68.2

1+60

So	6.3	67.6
ch	6.6	67.3
4	6.5	67.4
+4	6.5	67.4
C	5.7	68.2
4	4.6	69.3
+4	4.7	69.2
Ch	6.0	67.9
No	6.5	367.4

Foward 57

37385

1+75

No	6.5	367.4
Ch	6.6	67.3
4	6.8	67.9
C	5.5	68.4
4	6.5	67.4
Ch	6.3	67.6
So	4.8	69.1

2+00

So	5.7	68.2
Ch	5.4	68.5
+10	4.9	69.0
4	5.1	68.8
C	6.6	67.3
+9	7.3	66.6
4	7.0	66.9
Ch	6.8	67.1
No	7.3	66.6

2+25

No	7.9	66.0
ch	7.7	66.2
4	7.6	66.3
C	6.8	67.1
4	6.8	67.1
ch	6.7	67.2
So	7.1	366.8

373.85

2+50

S.	6.7	367.2	
Cl.	7.5	66.4	
4	7.8	66.1	
C	7.6	66.3	
4	8.2	65.7	
+7	7.8	66.1	
Cl.	8.6	65.3	
No.	8.4	65.5	

2+75

No.	9.8	64.1	
Cl.	9.6	64.3	
4	9.2	64.7	
C	9.0	64.9	
4	7.5	66.4	
Cl.	7.2	66.7	
So.	7.4	66.5	

3+00 - W.L Ohio

So.	8.4	65.5	
Cl.	8.7	65.2	
4	9.2	64.7	
C	9.6	64.3	
4	9.9	64.0	
+11	10.0	63.9	
Cl.	9.5	64.4	
+4	9.1	64.8	
No.	9.2	364.7	
T.P. +64	367.11	9.36	364.49 364.49 S.E Ohio

367.11 Howard St.

E.L. Ohio

No.	2.9	364.2
Cl.	3.4	63.7
+3	3.8	63.3
4	3.8	63.3
C	3.5	63.6
4	3.2	63.9
Cl.	2.7	64.4
So.	2.5	64.6

+25

So.	3.5	63.6
Cl.	3.2	63.9
+7	3.9	63.2
4	3.3	63.8
C	3.0	64.1
4	3.6	63.5
+11	4.0	63.1
Cl.	3.5	63.6
No.	3.5	63.6

+50

No.	4.0	63.1
+3	3.3	63.8
+11	3.5	63.6
Cl.	4.0	63.1
4	4.1	63.0
+5	3.3	63.8
C	3.0	64.1
4	3.6	63.5
Cl.	3.4	63.7
So.	4.4	362.7

367.11

0+75

So		4.8	362.3
Cl.		49	62.2
H		48	62.3
C		42	62.9
+9		46	62.5
H		50	62.1
Cl.		52	61.9
No		46	62.5
	1+00		
No		45	62.6
Cl.		51	62.0
H		52	61.9
C		49	62.2
H		53	61.8
Cl		50	62.1
So		48	62.3
	1+25		
So		4.8	62.3
Cl.		53	61.8
H		54	61.7
C		51	62.0
H		53	61.8
Cl.		53	61.8
No		46	362.5

Howard St.

367.11

1+50

No		50	362.1
Cl		53	61.8
H		55	61.6
C		51	62.0
H		53	61.8
Cl.		54	61.7
So		53	61.8
	1+75		
So		53	61.8
+10		53	61.8
Cl.		59	61.2
H		56	61.5
C		52	61.9
H		55	61.6
+11		6.0	61.1
Cl.		51	62.0
No		44	62.7
	2+00		
No		52	61.9
Cl.		57	61.4
+3		63	60.8
H		59	61.2
C		55	61.6
H		57	61.4
Cl.		59	61.2
+5		53	61.8
So		53	361.8

367.11

2+25

So	55	361.6
Ch	58	61.8
½	60	61.1
C	54	61.7
½	58	61.3
Ch	59	61.2
+2	49	62.2
No	49	62.2

2+50

No	51	62.0
+12	51	62.0
Ch	58	61.3
½	57	61.4
+7	51	62.0
C	56	61.5
½	59	61.2
Ch	59	61.2
+4	52	61.9
So	56	361.5

Forward St.

367.11

2+75

So	58	361.3
Ch	54	61.7
+2	61	61.0
½	58	61.3
C	57	61.4
½	63	60.8
Ch	60	61.1
+3	53	61.8
No	56	61.5

3+00 - W.L. II

No	58	61.3
+4	60	61.1
Ch	64	60.7
½	61	61.0
C	60	61.1
½	62	60.9
+10	66	60.5
Ch	58	61.3
So	54	361.7

T.P. 4.69 365.70 60.9 361.021 361.01 BM SE III

365.70

E.L. III

So		4.5	361.2
el.		48	60.9
+2		5.4	60.3
¼		52	60.5
C		5.1	60.6
¼		52	60.5
+9		6.0	59.7
Cr.		52	60.5
No		4.8	60.9
	+5		
So		36	62.1
+6		33	62.4
Cr.		49	60.8
	+25		
So		4.7	61.0
+10		47	61.0
Cr.		53	60.4
¼		55	60.2
C		57	60.5
¼		6.0	60.7
+5		52	60.5
+6		61	59.6
+10		5.9	59.8
+11		51	60.6
Cr.		4.9	60.8
No		4.5	361.2

Howard St.

365.70

	+50		
No		46	361.1
Cr.		4.5	61.2
+5		51	60.6
+7		63	59.4
+9		62	59.5
+10		55	60.2
¼		59	60.8
C		56	60.1
¼		58	59.9
Cr.		52	60.5
+7		60	59.7
+10		50	60.7
So		58	59.9
	+75		
So		59	59.8
+7		49	60.8
+9		55	60.2
Cr.		54	60.3
+3		59	59.8
24		57	60.0
C		52	60.1
¼		54	60.3
Cr.		52	60.5
No		46	361.1

3657.0

1+00

No	49	360.8
Cr.	51	60.6
4	53	60.4
C	55	60.2
4	58	59.9
+8	60	59.7
+10	60	59.3
Cr	55	60.2
+5	49	60.8
So	59	59.8

1+25

So	57	60.0
+11	51	60.6
Cr	58	60.2
+6	67	59.0
+9	60	59.7
4	58	59.9
C	54	60.3
4	52	60.5
Cr.	50	60.7
No	50	360.7

No

3657.7 Howard St

1+50

No	43	361.4
Cr.	45	61.2
4	45	61.2
C	52	60.5
4	59	59.8
+4	61	59.6
+7	69	58.8
Cr	56	60.1
+2	52	60.5
So	54	60.3

1+75

So	55	60.2
Cr	56	60.1
+3	67	59.0
+11	69	58.8
4	59	59.8
C	54	60.3
2	50	60.7
Cr.	46	61.1
No	42	361.5

365.70

2+00

No.	41	361.6
Ch	45	61.2
4	49	60.8
C	50	60.7
+4	52	60.5
4	69	58.8
+10	72	58.5
Ch.	57	60.0
So	52	60.5

2+25

So	51	60.6
Ch.	55	60.2
3	61	59.6
+5	70	58.7
+10	73	58.4
4	70	58.7
+11	49	60.8
C	51	60.6
4	46	61.1
Ch	44	61.3
No	42	361.5

Howard St. 41

365.70

2+50

No	37	362.0
Ch.	39	61.8
4	42	61.5
C	44	61.3
4	64	59.3
+4	64	59.3
+9	77	58.0
Ch	73	58.4
+2	45	60.9
+10	41	61.6
So	40	61.7

2+75

So	43	61.4
+9	42	61.5
Ch.	41	60.9
+3	54	60.3
+4	73	58.4
4	71	58.6
+10	46	61.1
C	46	61.1
8	38	61.9
4	37	62.0
Ch	36	62.1
No	32	362.5

365.70

3+00 = W. L. Iowa

No		33	362.4
Cl		39	61.8
H		38	61.9
+6		39	61.8
C		52	60.5
+6		58	59.9
H		76	58.1
+5		76	58.1
+7		65	59.2
Cl		43	61.4
So		42	61.5

≡ L. Iowa.

So		40	61.7
Cl		40	61.7
H		40	61.7
C		40	61.7
H		38	61.9
Cl		34	62.3
No		32	362.5

Howard St.

42

365.7 +25

No	19	363.8
Cl	21	63.6
H	26	63.1
C	24	63.3
H	29	62.8
Cl	30	62.7
So	32	62.5

+50

So	29	62.8
Cl	30	62.7
H	26	63.1
C	23	63.4
H	22	63.5
Cl	16	64.1
No	13	64.4

0+75

No	09	64.8
Cl	14	643
H	18	63.9
C	19	638
H	26	63.1
Cl	29	62.8
So	29	3628

T.P. 9.26 372.12 28.4 342.86

372.12

1400

S.		8.9	363.2
Cl.		9.3	62.8
¼		8.7	63.1
C		7.8	64.3
¼		7.9	64.2
Cl.		7.4	64.7
No		7.2	64.9

1425

No		7.3	64.8
Cl.		7.2	64.9
¼		7.7	64.4
C		8.4	63.7
¼		8.7	63.4
Cl.		9.2	62.9
So		9.8	62.3

1450

So		8.6	63.5
Cl.		8.5	63.6
¼		8.2	63.9
C		7.1	65.0
¼		6.7	65.4
Cl.		6.7	65.4
No		6.1	366.0

Howard St

43

372.12

1475

No		5.2	366.9
Cl.		5.9	66.2
¼		6.3	65.8
C		6.9	65.2
¼		7.5	64.6
Cl.		7.9	64.2
So		7.8	64.3

2400

So		6.9	65.2
Cl		7.2	64.9
¼		6.6	65.5
C		5.9	66.2
¼		5.4	66.7
Cl		5.0	67.1
No		4.2	67.9

2425

No		3.6	68.5
Cl		4.3	67.8
¼		4.9	67.2
C		5.3	66.8
¼		6.0	66.1
Cl		6.5	65.6
So		6.1	366.0

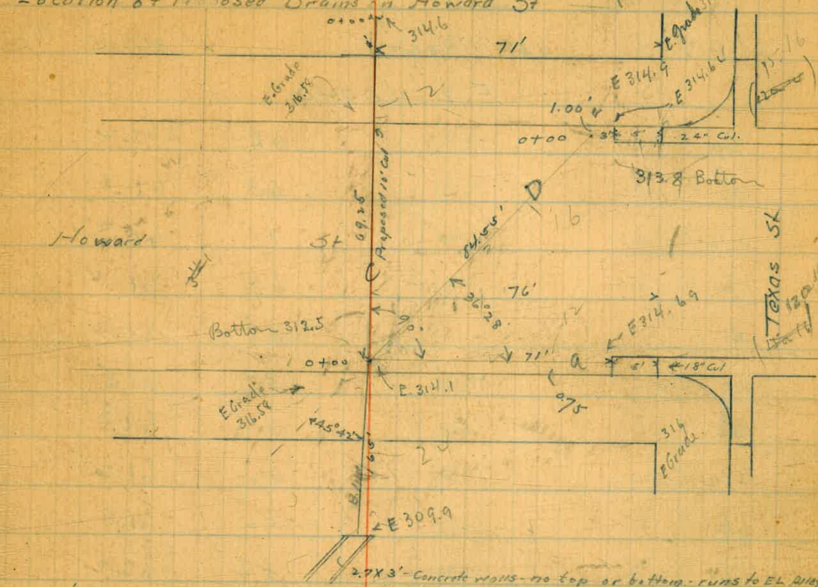
	372.12	
2+50		
So	5.4	366.7
cL	5.9	66.2
¼	5.3	66.8
C	5.1	67.0
¼	4.0	68.1
cL	3.4	68.7
No	3.1	69.0
2+75		
No	2.7	69.4
cL	3.3	68.8
¼	3.7	68.4
C	4.2	67.9
¼	4.7	67.4
cL	5.3	66.8
+12	5.1	67.0
S.	4.6	67.5

2+96 : W.L. Boundary on No: 3+00 W.L. 32' on So

So	4.6	67.5
cL	4.6	67.5
¼	4.2	67.9
C	3.9	68.2
¼	3.8	68.3
cL	3.4	68.7
No	2.2	369.9

4/17/19 Davis, Moore, Folke

Location of Proposed Drains on Howard St



Levels over ℄ Proposed Culverts

1.26	319.30	318.04 P/g SE Tex
Outlet 18" Cul. = 0+00	4.61	314.69
+06	3.9	15.4
+25	4.6	14.7
+50	4.9	14.4
+71	5.2	14.1
Outlet 24" Cul	4.66	14.64
0+00 3' W 24" Cul outlet	4.4	14.9
+25	4.3	15.0
+38	4.2	15.1
+50	4.8	14.5
+84.55	5.2	14.1
0+00 on 10" Cul	4.7	14.6
+50	5.1	14.2
+69.25 = 0+00 B' Line	5.2	14.1
+50	6.1	13.2
+40	7.5	11.8
	8.1	11.2
+65: End 2.7x3 open cut.	9.4	309.9

16.5
7.3
23.8

2/28/19 Gregory. CROSS SECTION OF LINCOLN AVE from E.L. Idaho to City Boundary 80' wide 14' outs

for Sections west of Idaho see Book 1055

on B.M.	656	367.41	360.85	BP SE Idaho
		E.L. Idaho		
30.			6.2	361.2
cb			6.3	61.1
+2			7.1	60.3
1/4			6.3	61.1
C			6.2	61.2
+8			5.9	61.5
1/4			6.1	61.3
+12			6.2	61.2
cb			5.6	61.9
No.			5.2	62.2
		25' E		
No.			5.2	62.2
+13			5.1	62.3
cb			6.0	61.4
1/4			5.8	61.6
C.			6.0	61.4
1/4			6.2	61.2
cb			6.9	60.5
+1			6.3	61.1
30.			6.4	61.0
		50' E		
30.			6.4	61.0
+13			6.0	361.4

Quantities in Grade Book. #8

	367.41		
cb		6.7	360.7
1/4		6.1	61.3
C		5.7	61.7
1/4		5.9	61.5
cb		5.9	61.5
+1		5.1	62.3
No		5.1	62.3
	75' E		
No		5.2	62.2
+12		4.5	62.9
cb		5.6	61.8
1/4		5.5	61.9
C		5.6	61.8
1/4		5.9	61.5
cb		6.6	60.8
+1		5.8	61.6
30.		6.5	61.9
	100' E		
30.		6.4	61.0
+13		5.7	61.7
cb		6.4	61.0
1/4		5.8	61.6
C		5.4	62.0
1/4		5.5	61.9
cb		5.6	61.8
+1		4.7	362.7

	367.41		
+8		4.4	363.0
No.		4.8	62.6
	140' E		
No.		4.6	62.8
+13		4.3	63.1
cb		5.2	62.2
≀			
So. cb.		5.7	61.7
+1		5.0	62.4
+8		6.0	61.4
So.		6.2	61.2
	150' E		
So.		6.1	61.3
+12		5.1	62.3
cb		5.8	61.6
1/4		5.4	62.0
C		5.0	62.4
1/4		4.9	62.5
cb		5.0	62.4
+7		4.4	63.0
No.		4.3	63.1
	160' E		
No.		3.9	63.5
+13		4.0	63.4
cb.		4.8	362.6

	367.41		
	200' E		
No.		4.0	363.4
+7		3.7	63.7
+13		4.3	63.1
cb		4.9	62.5
1/4		4.6	62.8
C		4.8	62.6
1/4		5.0	62.4
cb		5.7	61.7
+1		4.8	62.6
So.		5.7	61.7
	225' E		
So.		5.2	62.2
+13		5.1	62.3
cb		5.6	61.9
1/4		4.8	62.6
C		4.2	63.2
1/4		4.3	63.1
cb		4.4	63.0
+1		3.3	64.1
+8		2.7	64.7
No.		2.8	64.6
	275' E		
No.		3.2	64.2
+8		2.9	64.5
cb		3.3	64.1

	367.41		
+1		4.1	363.3
1/4		4.1	63.3
c		4.0	63.4
1/4		4.5	62.9
cb		5.4	62.0
+1		4.7	62.7
So.		4.7	62.7
	300' E = W.L. UTAH (Graded)		
So		4.3	63.1
1/2		4.4	63.0
cb		5.2	62.2
1/4		4.7	62.7
c		4.3	63.1
1/4		4.3	63.1
+1		4.3	63.1
cb		3.6	63.8
No.		3.1	64.3
	E.L. UTAH		
No.		3.1	64.3
cb		3.4	64.0
+1		4.3	63.1
1/2		4.3	63.1
c		4.3	63.1
1/4		4.6	62.8
+1/2		5.3	62.1
cb		4.5	362.9

So.		1.3	363.1
	6.75 367.52	4.64	362.77 = 4d 3E Utah
	25' E		
So.		6.5	63.0
cb		6.5	63.0
+1		7.1	62.4
1/4		6.5	63.0
c		5.9	63.6
1/4		6.0	63.5
+1/2		6.0	63.5
cb		5.3	64.2
No.		5.1	64.4
	75' E		
No.		5.1	64.4
cb		5.1	64.4
+1		5.9	63.6
1/4		5.5	64.0
c		5.5	64.0
1/4		6.1	63.4
cb		6.8	62.7
+1		6.3	63.2
So.		6.6	62.9
	112' E		
So.		6.0	63.5
+1.3		5.5	64.0
cb		6.3	363.2

369.5'N

125' E

So.	6.3	363.2
+13	6.0	63.5
ob	6.4	63.1
1/4	5.8	63.7
C	5.5	64.0
1/4	5.6	63.9
ob	5.8	63.7
+1	5.2	64.3
No.	4.9	64.6

150' E

No	4.8	64.7
ob	5.3	64.2
1/4	5.6	63.9
C	5.6	63.9
1/4	5.9	63.6
ob	6.3	63.2
So.	6.3	63.2

175' E

So	6.9	62.6
ob	6.5	63.0
1/4	5.5	64.0
+5	6.0	63.5
C	5.8	63.7
1/4	5.5	64.0
ob	4.7	364.8

369.5'N

No	4.7	364.8

200' E

No.	4.7	64.8
ob	5.2	64.3
1/4	5.9	63.6
C	5.9	63.6
1/4	5.5	64.0
+4	5.1	64.4
ob	6.4	63.3
So	6.8	62.7

225' E

So.	7.0	62.5
ob	6.1	63.4
1/4	5.1	64.4
+10	6.3	63.2
C	6.1	63.4
1/4	5.9	63.6
ob	5.4	64.1
No.	4.8	64.7

250' E

No.	4.7	64.8
ob	5.6	63.9
1/4	6.2	63.3
C	6.5	63.0
+7	6.8	62.7
1/4	5.8	363.7

		369.5✓		
cb			6.3	363.2
So.			7.0	62.5
		275' E		
So.			6.9	62.6
cb			6.7	62.8
1/4			6.9	62.6
C			6.6	62.9
1/4			6.8	63.2
cb			6.1	63.1
No.			5.4	64.1
		296' E		
No.			5.8	63.7
cb			5.9	63.6
+5			6.9	62.6
1/4			7.2	62.2
C			7.3	62.2
1/4			7.5	62.0
cb			6.9	62.6
So.			7.2	62.3
		300' E = W.L. KANSAS (Graded)		
So.			7.4	62.1
cb			7.9	61.6
1/4			7.8	61.7
C			7.5	62.0
1/4			7.5	62.0
cb			7.2	362.3

		369.5✓		
+2			6.5	363.0
No.			6.3	63.2
		E.L. KANSAS		
No.			6.1	63.4
+12			6.4	63.1
cb			7.8	61.7
1/4			7.9	61.6
C			7.7	61.8
1/4			8.3	61.2
cb			8.8	60.7
+1			7.8	61.7
So.			7.5	62.0
T.P.	5.99	367.48	8.03	361.49✓
		18' E		
So.			5.2	62.3
cb			5.2	62.3
1/4			5.2	62.3
C			4.6	62.9
1/4			4.3	63.2
cb			3.7	63.8
No.			3.6	63.9
		35' E		
No.			3.2	64.3
+7			3.5	64.0
+10			4.6	62.9
cb			4.6	362.9

367.48

1/4	4.7	362.8
c	4.6	62.9
1/4	5.2	62.3
+6	5.0	62.5
cb	5.4	62.1
+10	5.2	62.3
50.	4.2	63.3

50' E

50	4.1	63.4
+5	4.5	63.0
cb	4.1	63.4
1/4	4.8	62.7
+6	5.1	62.4
c	4.9	62.6
1/4	4.4	63.1
cb	4.7	62.8
+10	3.3	64.2
No.	3.3	64.2

75' E

No.	2.6	64.9
+6	3.9	63.6
cb	4.2	63.3
1/4	4.6	62.9
c	4.7	62.8
1/4	4.7	62.8
cb	5.2	62.3
50.	4.6	362.9

367.48

100' E

50	4.2	363.3
cb	5.0	62.5
1/4	4.1	63.4
c	4.9	62.6
1/4	4.7	62.8
+3	5.2	62.3
cb	4.6	62.9
+11	4.5	63.0
No	3.5	64.0

125' E

No.	4.4	63.1
+7	4.0	63.5
cb	4.4	63.1
1/4	5.3	62.2
+5	4.7	62.8
c	5.1	62.4
+4	5.1	62.1
+7	4.7	62.8
1/4	4.6	62.9
+6	4.6	62.9
cb	5.2	62.3
50.	4.9	62.6

150' E

50.	5.1	62.4
cb	5.0	362.5

	367.48	
1/s	5.3	362.2
c	4.8	62.7
+12	4.6	62.9
1/4	5.6	61.9
+3	5.9	61.6
+4	5.0	62.5
cb	4.7	62.8
No.	4.8	62.7
	162' E	
No.	4.6	62.9
+4	5.0	62.5
cb	4.9	62.6
+9	5.2	62.3
+11	6.0	61.5
1/4	5.7	61.8
+3	5.0	62.5
c	5.2	62.3
1/4	5.6	61.9
cb	6.0	61.5
So	5.9	61.6
	175' E	
So.	6.2	61.3
cb	5.1	62.4
+4	4.6	62.9
+8	5.1	62.4
1/4	5.1	362.4

	367.48	
+6	5.5	362.0
c	5.1	62.4
+11	4.9	62.6
1/4	5.7	61.8
+3	5.1	62.4
cb	5.0	62.5
No.	4.9	62.6
	183' E	
No.	5.1	62.4
cb	4.8	62.7
+8	4.8	62.7
1/s	5.8	61.7
+2	5.0	62.5
c	5.1	62.4
1/4 +9	5.6	61.9
1/4	5.3	62.2
cb	4.8	62.7
+8	5.9	61.6
So.	6.0	61.5
	200' E	
So	6.1	61.4
cb	6.2	61.3
1/4	5.9	61.6
c	5.3	62.2
+8	5.1	62.4
1/4	5.9	361.6

+5	5.5	362.0
cl-	5.3	622
+10	5.2	623
No.	4.8	627
225' E		
No.	4.5	630
cl-	5.0	625
+10	5.5	620
1/4	6.2	613
+1	5.4	621
+5	5.1	624
C	5.3	622
1/4	6.2	613
cl-	6.2	613
So.	6.4	611
245' E		
So.	6.6	609
cl-	6.4	611
1/4	5.8	617
C	5.2	623
1/4	5.3	622
+2	6.1	614
+8	5.0	625
cl-	4.8	627
No.	4.7	628

253' E

No.	4.7	362.8
cl-	4.5	630
+5	4.6	629
1/4	5.6	619
+2	5.0	625
C	5.2	623
+5	5.3	622
1/4	4.3	632
+6	4.3	632
cl-	5.8	617
So.	6.5	610
265'		
So.	6.4	611
cl-	5.8	617
1/4	5.3	622
C	5.5	620
+11	5.1	624
1/4	6.3	612
+2	6.3	612
+3	5.1	624
cl-	4.2	633
+6	4.8	627
No	4.3	363.2

367.48

268' E

No.	44	363.1
cb	5.2	62.3
+10	5.1	62.4
1/4	6.4	61.1
+2	5.3	62.2
C	5.5	62.0
1/4	5.4	62.1
cb	5.8	61.7
+10	5.9	61.6
So.	5.7	61.8

280' E

So	5.7	61.8
cb	5.2	62.3
1/4	5.1	62.4
+3	5.1	62.4
+9	6.0	61.5
C	5.7	61.8
+11	5.6	61.7
1/4	6.7	60.8
+2	6.6	60.9
+5	5.2	62.3
cb	5.1	62.4
No	46	362.9

367.48

300' E = W.L. 30th St (Graded.)

No.	5.4	362.1
cb	6.0	61.5
+4	6.7	60.8
1/4	6.9	60.6
C	6.4	61.1
1/4	6.9	60.6
+11	7.3	60.2
cb	6.5	61.0
So.	6.4	61.1
T.P. 6.35	5.95	361.53 ✓ N.W. curb

367.88

E.L. 30th St.

So.	7.3	60.6
cb	7.6	60.3
+2	8.0	59.9
1/4	7.7	60.2
C	7.2	60.7
1/4	7.6	60.3
cb	7.4	60.5
+3	6.8	61.1
No.	6.6	61.3

4' E

No.	5.8	62.1
cb	5.5	62.4
+6	7.1	60.8
1/4	7.2	60.7
C	6.3'	361.4

		367.88		
1/4			7.4	360.5
+7			7.7	60.2
ob			7.1	60.8
So.			6.7	61.2
		20' E		
So.			6.7	61.2
ob			6.3	61.6
1/4			5.8	62.1
C			6.3	61.6
1/4			6.6	61.3
ob			5.6	62.3
No.			5.6	62.3
		50' E		
No.			5.5	62.4
ob			5.7	62.2
1/4			6.7	61.2
+1			6.3	61.6
C			6.2	61.7
1/4			6.3	61.6
ob			6.6	61.3
So.			7.0	60.9
		75' E		
So.			6.3	61.6
+7			6.3	61.6
ob			4.9	61.0
1/4			6.6	361.3

		367.88		
C			6.8	361.1
+11			6.5	61.4
1/4			7.4	60.5
+5			6.1	61.8
ob			5.5	62.4
No.			5.5	62.4
		85' E		
No.			5.1	62.8
ob			5.7	62.1
+6			5.6	62.3
1/4			6.8	61.1
+2			6.3	61.6
C			6.2	61.7
1/4			6.9	61.0
ob			7.1	60.8
So.			7.1	60.8
		100' E		
So			6.7	61.2
+5			6.1	61.8
ob			5.9	62.0
1/4			6.7	61.2
C			6.3	61.6
1/4			6.2	61.7
+2			6.6	61.3
ob			5.5	62.4
+7			5.2	362.7

	367.88	
No.	5.2	362.7
	125' E	
No.	5.3	362.6
ob	5.3	62.6
+9	5.6	62.3
1/4	6.1	61.8
C	5.3	62.6
1/4	6.6	61.3
+9	5.6	62.3
ob	5.8	62.1
+8	6.8	61.1
So.	7.0	60.9
	137' E	
So.	5.7	62.2
+6	6.4	61.5
ob	6.5	61.4
1/4	6.5	61.4
C	5.2	62.7
+7	5.4	62.5
1/4	6.1	61.8
ob	4.6	63.3
No.	5.1	62.8
	150' E	
No.	4.7	63.2
ob	5.2	62.7
1/4	6.2	361.7

	367.88	
+8	5.2	362.7
C	5.4	62.5
1/4	6.3	61.6
ob	6.0	61.9
So	5.3	62.6
	161' E	
So	6.4	61.5
ob	6.4	61.5
1/4	6.3	61.6
C	5.3	62.6
1/4	5.7	62.2
+6	5.7	62.2
ob	5.5	62.4
+10	5.2	62.7
No.	5.7	62.2
	175' E	
No.	5.8	62.1
ob	5.2	62.7
1/4	5.8	62.1
C	5.2	62.7
+8	6.3	61.6
1/4	6.3	61.6
ob	6.4	61.5
So.	6.3	61.6

367.88

193' E

So.	6.5	361.4
+4	6.3	61.6
+11	5.2	62.7
cl	5.1	62.8
+7	5.7	62.2
1/4	5.6	62.3
C	4.9	63.0
1/4	5.2	62.7
+8	4.6	63.5
cl	4.1	63.8
No.	4.8	63.1

210' E

No.	5.4	62.5
cl	5.0	62.9
1/4	5.1	62.8
+7	4.9	63.0
C	5.5	62.4
1/4	6.0	61.9
cl	6.1	61.8
So.	6.2	61.7

242' E

So.	5.9	62.0
cl	6.0	61.9
1/4	6.0	61.9
C	5.6	62.3
1/4	5.5	362.4

367.88

+2	5.9	362.0
cl	5.3	62.6
No.	5.4	62.5

250' E

No.	3.9	64.0
cl	5.4	62.5
1/4	5.8	62.1
C	5.5	62.4
+6	5.8	62.1
1/4	6.0	61.9
cl	5.9	62.0
So	5.8	62.1

262' E

So.	5.4	62.5
cl	5.5	62.4
1/4	5.6	62.3
C	5.4	62.5
1/4	5.9	62.0
cl	5.2	62.7
No.	3.7	64.2

270' E

No.	4.6	63.3
cl	5.1	62.8
1/4	5.8	62.1
C	5.3	62.6
1/4	5.5	362.4

		367.88		
db			5.4	362.5
So.			5.6	62.3
		285' E		
So			5.4	62.5
db			5.2	62.7
1/4			5.2	62.7
C			5.2	62.5
+10			5.7	62.2
1/4			5.3	62.6
db			5.2	62.7
No.			5.1	62.8
		298.5' E = W.L. OHIO ST (Graded)		
No.			4.5	63.1
+14			5.1	62.8
db			5.5	62.4
+3			6.0	61.9
1/4			5.6	62.3
C			5.5	62.4
1/4			5.8	62.1
+11			6.1	61.8
db			5.6	62.3
So.			5.3	62.6
chk	5.49	367.78 ✓	5.59	362.39 ✓
		E.L. OHIO		
So.			5.1	62.7
db			5.5	62.3

	367.78		
+4		6.1	361.7
1/4		5.8	62.0
C		5.4	62.4
1/4		5.2	62.6
db		4.9	62.9
No.		4.6	63.2
	6' E		
1/10		4.1	63.7
+8		3.1	64.7
db		4.1	63.7
1/4		5.2	62.6
+14		5.3	62.5
C		5.3	62.5
1/4		5.9	61.9
+10		5.7	62.1
db		3.5	64.3
+5		1.9	65.9
So		2.1	65.7
	12' E		
So.		3.0	64.8
+9		3.2	64.6
db		4.0	63.8
+5		5.5	62.3
1/4		5.6	62.2
C		5.2	62.6
1/4		4.8	363.0

	367.78	
+3	4.3	363.5
cl-	4.0	63.8
No.	4.2	63.6
	27'E	
No	3.8	64.0
cl-	4.4	63.4
1/4	4.9	62.9
c	5.1	62.7
1/4	5.4	62.4
cl-	5.4	62.4
So	5.1	62.7
	43'E	
So.	4.8	63.0
cl-	5.2	62.6
1/4	5.4	62.4
+9	5.3	62.5
c	4.4	63.4
1/4	4.5	63.5
cl-	4.6	63.2
No.	4.0	63.8
	58'E	
No.	3.9	63.9
cl-	3.5	64.3
1/4	4.6	63.2
c	5.2	62.6
1/4	5.5	362.3

	367.78	
+10	5.1	362.7
cl-	4.5	63.3
+7	3.7	64.1
So.	3.6	64.2
	67'E	
So	4.1	63.7
cl-	5.3	62.5
1/4	5.3	62.5
c	5.2	62.6
1/4	4.8	63.0
cl-	4.2	63.6
No.	4.2	63.6
	76'E	
No	4.3	63.5
cl-	4.5	63.3
1/4	5.0	62.8
c	5.3	62.5
1/4	5.5	62.3
cl-	5.5	62.3
So.	5.5	62.3
	90'E	
So	5.5	62.3
cl-	5.4	62.4
1/4	5.4	62.4
c	5.7	62.6
1/4	4.7	363.1

	367.78		
db		4.7	363.1
+7		5.1	627
No.		4.7	631
	105' E		
No.		4.7	631
db		5.0	628
1/4		5.0	628
c		5.2	626
1/4		5.6	622
+9		5.3	625
db		4.7	631
+4		4.2	636
So		4.4	634
	120' E		
So.		5.7	621
db		5.6	622
1/4		5.4	624
c		5.3	625
1/4		4.9	629
+6		4.3	635
db		4.7	631
+7		5.2	626
No.		4.9	629
	154' E		
No.		4.1	637
db		5.1	627

	367.78		
1/4		5.0	628
c		4.9	629
1/4		5.2	626
db		5.5	623
So		5.6	622
	164' E		
So		5.1	627
db		5.5	623
1/4		5.1	627
c		5.1	627
1/4		5.2	626
db		5.3	625
No.		5.1	627
	181' E		
No.		3.8	640
db		4.6	632
1/4		5.3	625
c		5.4	624
1/4		5.2	626
+8		4.8	630
db		5.4	624
So		5.4	624
	191' E		
So.		5.6	622
db		5.4	624
1/4		5.3	625

C	5.2	3626
1/4	5.2	626
cb	4.7	631
+4	3.7	641
No.	4.3	635
202' E		
No.	5.3	625
cb	5.0	628
1/4	5.2	626
C	5.2	626
1/4	5.4	624
cb	4.8	630
So.	5.4	624
225' E		
So	5.4	624
cb	5.6	623
1/4	5.1	627
C	5.1	627
1/4	5.3	625
cb	5.0	628
No.	5.1	627
239' E		
No.	5.0	628
cb	4.9	629
1/4	5.2	626
C	5.1	3627

+5	5.0	3628
+8	4.4	634
1/4	4.8	630
+8	4.4	634
cb	5.2	626
So.	5.5	623
253' E		
So	3.6	642
cb	5.3	625
1/4	5.3	625
C	5.2	626
1/4	5.3	625
cb	4.9	629
No.	4.8	630
265' E		
No.	4.7	631
cb	4.6	632
1/4	5.2	626
C	5.3	625
1/4	5.6	622
cb	5.4	624
So.	5.0	628
280 E		
So.	5.6	622
cb	4.8	630
+5	4.4	3634

		367.78		
1/4			5.2	362.6
C			5.2	626
1/4			5.4	624
cb			5.0	628
No.			5.1	627
		292' E		
No.			5.1	627
cb			4.9	629
1/4			5.2	626
C			5.2	626
1/4			5.2	626
+9			5.1	627
cb			4.6	632
+6			4.1	637
So.			5.0	628
		299' E		
So.			4.1	637
+10			3.6	642
cb			4.6	632
+3			5.1	627
1/4			5.2	626
C			5.1	627
1/4			5.2	626
cb			5.2	626
+5			4.1	637
No.			4.4	363.4

LINCOLN 61

367.78

300' E = W.L. Illinois (Graded)

No.			4.1	363.7
+10			4.6	632
cb			5.3	625
1/4			5.2	626
C			4.9	629
1/4			5.2	626
+8			5.6	623
cb			4.9	629
So			4.7	631
T.P.	503	367.86	4.95	362.83 BP SE Ill.
		E.L. Illinois		
So.			4.8	631
+10			5.1	628
cb			5.6	623
+3			6.0	619
1/4			5.3	626
C			4.9	630
1/4			5.3	626
cb			5.1	628
+2			4.6	633
No.			4.7	632
		25' E		
No.			5.0	629
cb			5.1	628
1/4			5.3	626

	367.86		
c		5.1	362.8
1/4		5.2	627
ob		5.6	623
So.		5.5	624
	33' E		
So		5.9	620
ob		5.8	621
1/4		5.4	625
c		5.1	628
1/4		5.4	625
+7		5.2	627
ob		4.5	634
No.		5.1	628
	50' E		
No.		5.4	625
ob		5.6	624
1/4		5.5	624
+2		5.8	621
c		5.2	627
+6		5.0	629
1/4		5.5	624
ob		5.7	622
+7		5.1	628
So		5.4	625
	75' E		
So.		5.5	362.4

	367.86		
ob		5.3	362.6
+7		5.7	622
1/4		5.4	625
+8		5.1	628
c		5.4	625
1/4		5.9	620
+3		5.6	623
ob		5.5	624
No.		5.2	627
	100' E		
No.		5.0	629
ob		5.3	626
1/4		5.6	623
+3		5.9	620
c		5.0	629
+6		4.8	631
1/4		5.4	625
+6		5.9	620
ob		5.8	621
So.		5.5	624
	110' E		
So.		5.9	620
ob		5.8	621
1/4		5.2	627
+6		4.8	631
c		5.1	362.8

	367.86		
1/4		5.7	362.2
cb		5.2	627
No.		4.7	632
	125 E		
No.		5.1	628
cb		5.2	627
1/4		5.5	624
c		5.1	628
~~1/4~~ +7		4.9	630
1/4		5.2	627
cb		5.8	621
So.		5.2	627
	140 E		
So.		5.5	624
cb		5.5	624
1/4		5.1	628
c		5.0	629
1/4		5.8	621
cb		5.3	626
No.		5.0	629
	150 E		
No		4.8	631
cb		5.0	629
1/4		5.5	624
c		5.1	628
1/4		4.7	363.2

	367.86		
cb		5.0	3629
So.		5.3	626
	175 E		
So		5.6	623
cb		5.7	622
1/4		5.4	625
c		5.2	627
1/4		5.6	623
cb		5.3	626
No.		5.3	626
	200 E		
No.		5.1	628
cb		5.3	626
1/4		5.6	623
c		5.3	626
1/4		5.2	627
cb		5.4	625
So.		5.7	622
	220 E		
So.		5.8	621
cb		6.1	618
1/4		5.2	627
+2		4.9	630
c		5.0	629
1/4		5.4	625
cb		5.0	3629

	36786		
No.		5.0	362.9
	230' E		
No.		5.0	62.9
db		4.9	630
1/4		5.3	626
C		5.2	627
1/4		5.4	625
db		5.7	622
So.		5.1	628
	250' E		
So		5.3	626
db		5.7	622
+6		5.2	627
1/4		5.5	624
C		5.4	625
1/4		5.4	625
db		5.2	627
No		5.1	628
	275' E		
No		5.3	626
db		5.4	625
1/4		5.8	621
C		5.3	626
+10		5.7	622
1/4		5.6	624
+8		5.2	627
db		5.7	362.2

367.86

So		5.6	362.3
	300' E = W.L. IOWA		
So		5.6	628
db		6.3	616
1/4		6.3	616
C		6.1	618
1/4		6.3	616
db		6.2	617
+3		5.6	623
No		5.3	626
	E.L. IOWA		
No.		6.6	613
db		7.1	608
1/4		7.2	607
C		7.3	606
1/4		7.3	606
db		7.3	606
+7		6.3	613
So		6.5	614
T.P.	256 363 1/5'	6.97	360.89' SE Iowa
	H'E		
So		1.6	619
+5		0.5	630
+11		0.9	626
db		2.1	614
+3		2.8	360.7

		363.45		
1/4			2.6	360.9
C			2.9	60.6
1/4			2.6	60.9
ob			1.9	61.6
+9			1.6	61.9
No.			1.8	61.7
		12' E		
No.			1.9	61.6
ob			1.7	61.8
1/4			2.3	61.2
C			2.7	60.8
1/4			2.5	61.0
+10			2.5	61.0
ob			1.8	61.7
So.			2.2	61.3
		25' E		
So.			2.2	61.3
ob			2.1	61.4
1/4			2.3	61.1
C			2.1	61.1
1/4			2.3	61.2
ob			2.0	61.5
No.			2.2	61.3
		50' E		
No.			2.5	61.0
ob			2.6	360.9

		363.45		
1/4			2.6	360.9
C			2.1	61.1
1/4			2.7	60.8
ob			2.9	60.6
So			3.1	60.4
		75' E		
So.			3.0	60.5
ob			3.1	60.1
1/4			2.8	60.7
+7			3.3	60.2
C			2.9	60.6
1/4			2.8	60.7
ob			3.1	60.4
No.			3.0	60.5
		100 E		
No.			3.7	59.8
ob			3.8	59.7
1/4			3.7	59.8
+8			3.6	60.0
C			3.9	59.6
1/4			3.3	60.2
ob			3.6	59.9
So.			3.7	59.8
		125' E		
So			4.2	59.3
+7			4.7	358.8

cb	363.45	4.2	359.3	
1/4		4.3	59.2	
+6		6.0	57.5	
C		5.1	58.4	
1/4		4.9	58.6	
cb		4.6	58.9	
No		4.7	58.8	
	155'E			
No.		6.8	56.7	
cb		6.6	56.9	
1/4		7.0	56.5	
C		6.7	56.8	
1/4		6.1	57.4	
cb		5.8	57.7	
So.		5.3	58.2	
	175'E			
So.		7.1	56.4	
cb		7.2	56.3	
1/4		7.3	56.2	
+10		8.2	55.3	
C		7.9	55.6	
1/4		8.1	55.4	
cb		8.4	55.1	
No.		8.8	54.7	
	200'E			
No.		10.5	353.0	

cb	363.45	10.2	353.3	
1/4		9.9	53.6	
C		8.8	54.7	
1/4		9.3	54.2	
cb		9.2	54.3	
So.		8.4	55.1	
	225'E			
So.		10.4	53.1	
cb		11.1	52.4	
1/4		11.1	52.4	
C		9.6	53.9	
+5		9.8	53.7	
1/4		11.5	52.0	
cb		12.0	51.5	
No		12.3	51.2	
TP	3.00 353.46	12.99	350.46	
	240'E			
No		3.3	50.2	
cb		3.2	50.3	
1/4		3.3	50.2	
+10		1.2	52.3	
C		1.1	52.4	
+4		1.2	52.3	
1/4 +9		2.5	51.0	
1/4		2.1	51.4	
cb		1.9	351.6	

So.	35346	1.6	351.9	
	250' E			
So.		2.4	51.1	
cb		2.4	51.1	
+11		2.9	50.6	
1/4		3.6	49.9	
+3		3.6	49.9	
+10		1.4	52.1	
c		1.4	52.1	
+4		1.4	52.1	
+10		2.3	49.2	
1/4		4.4	49.1	
cb		4.2	49.3	
No.		4.5	49.0	
	275' E			
No		6.4	47.1	
+6		6.7	46.8	
+10		8.7	44.8	
cb		8.6	44.9	
1/4		7.9	45.6	
+5		7.6	45.9	
+9		2.9	50.6	
c		3.1	50.4	
+4		3.6	49.9	
1/4		6.6	46.9	
+8		6.7	346.8	

cb	353.46	6.8	347.5
+7		5.0	48.5
So.		5.2	48.3
	290' E		
So.		7.2	46.3
cb		8.0	45.5
1/4		9.1	44.4
+8		5.4	48.1
c		7.9	45.6
1/4		8.4	45.1
+5		10.0	43.5
cb		10.2	43.3
+4		9.6	43.9
+9		7.7	45.8
No.		7.4	46.1
	294' E		
No.		7.5	46.0
+6		7.9	45.6
H		10.1	43.4
1/4		9.6	43.9
+3		8.5	45.0
c		8.6	44.9
+8		8.5	45.0
1/4		9.6	43.9
cb		8.2	45.3
So.		7.4	346.1

353.46

300' E = W.L. 32nd St (GRADED)

So	8.2	345.3
ob	8.8	44.7
1/4	9.0	44.5
C	9.0	44.5
1/4	9.0	44.5
+10	8.9	44.6
ob	8.5	45.0
No.	8.3	45.2

E.L. 32nd St.

No.	9.5	44.0
ob	9.5	44.0
1/4	9.6	43.9
C	9.3	44.2
1/4	9.6	43.9
ob	9.9	43.6
So.	9.6	43.9

25' E

So.	10.5	430
ob	9.6	43.9
1/4	9.7	43.8
C	9.7	43.8
1/4	9.3	44.2
ob	9.3	44.2
No.	8.8	344.7

353.46 40' E

No.	8.9	344.6
ob	9.1	44.4
1/4	9.3	44.2
C	9.6	43.9
+4	10.1	43.4
1/4	9.8	43.7
ob	10.1	43.4
So.	10.0	43.5

60' E

So.	10.7	42.8
ob	10.6	42.9
1/4	10.3	43.2
C	9.5	44.0
1/4	9.1	44.4
ob	8.8	44.7
No.	8.5	45.0

75' E

No.	8.1	45.4
ob	8.2	45.1
1/4	8.6	44.9
+5	9.3	44.2
C	9.1	44.4
1/4	10.0	43.5
ob	10.2	43.3
So	10.5	343.0

		353.46		
		125' E		
So.			9.5	344.0
ob			9.3	44.2
1/4			8.9	44.6
C			8.2	45.3
+5			8.5	45.0
1/4			8.1	45.4
ob			8.0	45.5
No			7.3	46.2
		150' E		
No			7.1	46.4
ob			7.5	46.0
1/4			7.2	46.3
C			7.1	46.4
1/4			8.3	45.2
ob			8.6	44.9
So			9.2	44.3
T.P.	5.42	350.11	8.77	344.69
		175' E		
So			5.5	44.6
ob			5.1	45.0
1/4			4.7	45.4
+5			4.8	45.3
C			4.0	46.1
+10			3.6	46.5
1/4			4.2	345.9

	350.11		
ob		3.8	3463
No.		3.8	463
	300' E		
No		3.9	462
ob		3.7	464
1/4		4.1	457
+5		3.9	462
C		4.0	461
+7		4.5	456
1/4		4.1	457
ob		4.9	452
So		5.0	451
	225' E		
So		4.8	453
ob		4.7	454
1/4		4.5	456
C		4.5	456
1/4		4.2	459
ob		4.1	460
No		4.0	461
	250' E		
No		4.3	458
ob		4.3	458
1/4		4.5	456
C		4.7	454
1/4		4.4	3457

		350.11		
ob			4.7	345.4
So.			4.8	45.3
		275' E		
So.			5.0	45.1
ob			4.8	45.3
1/5			4.8	45.3
+8			5.3	44.8
C			5.1	45.0
1/4			5.0	45.1
ob			4.9	45.2
No			5.0	45.1
		301.5 E of No. / 311.5 E of So. } = W.L. WASHINGTON?		
No.			6.3	43.8
ob			5.9	44.2
1/4			6.1	44.0
+5			6.4	43.7
C			6.1	44.0
1/5			6.0	44.1
ob			5.8	44.3
So.			5.8	44.3 ✓
chk			7.25	342.86 ob SW. Wash

2/4/19 Gregory

CROSS SECTION OF
31st ST 60' wide 10' obs + 1/4's
Xroad SL. Elm St to
N.L ox So. Park Addn

SL. Elm St = SECT. A

on B.M.	1.86	231.02		229.16 Nail SM Elm
W			0.4	230.6
cb			0.8	30.2
1/4			1.5	29.5
C			1.9	29.1
1/4			2.4	28.6
cb			3.0	28.0
E			4.0	27.0

18.68' So on W
00 - E SECT B = 00

E			4.0	27.0
cb			3.4	27.6
1/4			2.7	28.3
C			2.3	28.7
1/4			2.0	29.0
cb			1.8	29.2
W			1.9	29.1
		25' So.		
W			4.2	26.8
cb			3.9	27.1
1/4			4.2	26.8
C			4.2	26.8
1/4			4.5	26.5
cb			5.1	25.9
E			5.7	225.3

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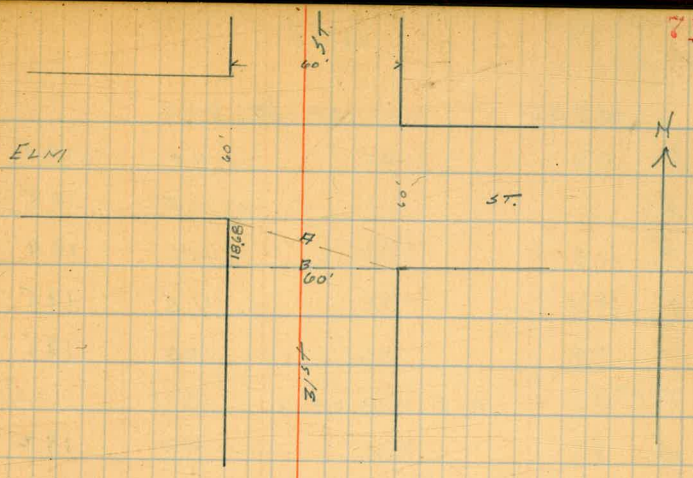

231.0 W 50' So

E	7.4		223.6
cb	7.1		23.9
1/4	6.6		24.5
C	6.2		24.8
1/4	6.3		24.7
cb	6.5		24.5
W	7.1		23.9
	75' So		
-10	12.6		18.4
W	11.1		19.9
cb	10.0		21.0
1/4	9.1		21.9
C	8.5		22.5
1/4	8.6		22.4
cb	9.0		22.0
E	9.5		221.5

		231.02		
		100' So.		
E			11.9	219.1
dr			11.5	19.5
1/4			11.1	19.9
C			11.5	19.5
1/4			12.5	18.5
T.P.	0.18	218.12	13.08	217.94
dr			0.9	17.2
W.			2.4	15.7
+10			4.2	13.9
		125' So.		
-15			8.6	9.5
W			7.2	10.9
dr			5.8	12.3
1/4			4.0	14.1
C			2.3	15.8
1/4			1.6	16.5
dr			1.5	16.6
E			1.7.	16.4
		150' So.		
E			4.1	14.0
dr			4.6	13.5
1/4			6.2	11.9
C			7.1	11.0
1/4			8.6	9.5
dr			9.8	208.3

W		218.12	10.9	207.2
+15			12.4	5.7
		168' So.		
-15			14.7	3.4
W			13.2	4.9
dr			12.1	6.0
1/4			11.4	6.7
C			10.3	7.8
1/4			9.4	8.7
dr			8.0	10.1
E			7.1	11.0
		185' So.		
E			10.6	7.5
dr			10.9	7.2
1/4			11.9	6.2
C			12.2	5.9
1/4			13.2	4.9
T.P.	0.07	205.15	13.04	205.08
dr			0.7	4.5
W.			2.1	3.1
+15			4.4	200.8
+20			6.7	198.5
		195' So.		
-20			9.6	195.6
W			4.5	200.7
dr			2.9	202.3

205.15

1/4		1.4	203.8	
C		0.2	5.0	
1/4		0.2	4.8	
cb		+0.4	5.6	
E		+0.6	5.8	
	203 50.			
E		0.9	4.3	
cb		0.8	4.2	
1/4		1.5	3.7	
C		1.5	3.7	
1/4		2.2	202.8	
cb		4.7	200.5	
W		8.2	197.0	
+20		11.3	193.9	
+25		14.9	190.3	
	225 50.			
-23		16.2	189.0	
W		13.6	191.6	
cb		11.0	194.1	
1/4		7.6	197.6	
+5		6.5	198.7	
C		6.0	199.2	
1/4		5.4	199.8	
cb		4.8	200.4	
+8		4.9	200.3	
E		4.3	200.9	on/away

31st

250 So.

E		8.6	196.5	
+2		9.0	196.1	
cb		9.0	196.1	
1/4		9.5	195.6	
C		9.8	195.3	
1/4		11.0	194.1	
T.P.	1.36	193.70	12.81	192.34
cb			2.7	191.0
W			5.6	188.1
+15			8.4	185.3
+wv			11.2	182.5 wash
+30			10.4	183.3
	275 So.			
-30			10.9	182.8
-20			11.9	181.8 wash
W			9.1	184.6
cb			5.4	188.3
1/4			1.9	191.8
C			1.3	192.4
1/4			1.1	192.6
cb			0.4	193.3
E			0.3	193.4
+10			0.3	193.4
	290 So.			
-10			1.8	191.9

		199.70					31st St		
E			2.0	191.7		E	+1	189.6	
cb			2.2	191.3		cb	4.9	189.0	
½			3.2	190.5		½	6.1	187.6	
+5			3.8	189.9		C	7.6	186.1	
C			3.7	190.0		¼	9.7	184.0	
¼			3.6	190.1		cb	11.7	182.0	
cb			8.0	185.7		W	13.8	179.9	bottom wash
+5			10.0	183.7		+5	12.2	181.3	
W			11.2	182.5		+2.5	12.1	181.6	
+17			12.0	181.7	wash	+3.5	11.1	182.6	
+30			11.6	182.2					
		303' So.				315' So.			
-30			11.8	181.9		-35	10.7	183.0	
W			12.2	181.3		-20	12.6	181.1	
cb			11.8	181.9		-2	12.6	181.1	
+6			10.6	183.1		W	13.9	179.8	wash bottom
½			8.7	185.0		+5	13.8	179.9	
+3			7.2	186.5		+7	12.5	181.2	
C			6.2	187.5		cb	12.0	181.7	
+2			6.4	187.3		½	10.5	183.2	
½			5.1	188.6		C	8.6	185.1	
cb			4.0	189.7		¼	6.8	186.9	
E			3.7	190.0		cb	5.3	188.4	
+10			3.5	190.2		E	4.8	188.9	
		308' So.				+10	4.4	189.3	
-10			3.6	190.1		322' So.			
						-10	5.2	188.5	

	193.70		
E		5.7	188.0
cl-		6.7	187.0
1/4		10.2	183.5
C		12.6	181.1
1/4		13.1	180.6
+6		13.1	180.6
cl-		14.5	179.2
+4		14.6	179.1
+6		13.3	180.4
W		13.0	180.7
+25		12.5	181.2
+35		10.6	183.1
	331' So.		
-35		11.6	182.1
-25		11.8	181.9
-20		13.0	880.7
W		13.6	180.1
cl-		14.2	179.5
+5		14.8	178.9
1/4		14.5	179.2
C		14.7	179.0
1/4		14.2	179.5
cl-		10.0	183.7
+5		7.7	186.0
E		7.1	186.6
+15		5.8	187.9

	339' So.		
-20		7.1	186.6 ✓
-9		7.7	186.0 ✓
E		12.3	181.4 ✓
cl-		15.0	178.7 ✓
1/4		16.1	177.6 ✓
C		15.7	178.0 ✓
1/4		15.2	178.5 ✓
cl-		14.5	179.2 ✓
W		14.0	179.7 ✓
+15		13.4	180.3 ✓
+25		10.5	183.2 ✓
	344' So.		
-25		9.9	183.8 ✓
W		14.6	179.1 ✓
cl-		14.6	179.1 ✓
1/4		14.7	179.0 ✓
C		14.8	178.9 ✓
1/4		15.6	178.1 ✓
cl-		16.4	177.3 ✓
E		16.0	177.7 ✓
+11		8.2	185.5 ✓
+20		7.9	185.8 ✓
	348' So.		
-20		9.0	184.7 ✓
-10		10.6	183.1 ✓

193.70

-4	15.9	177.8	bottom mast
E	16.8	176.9	
ob	16.0	177.7	
1/4	15.2	178.5	
C	14.7	179.0	
1/4	14.3	179.4	
ob	14.2	179.5	
W	14.0	179.7	
+8	11.8	181.9	
+20	10.0	183.7	
	353' So.		
-20	9.3	184.4	
W	12.0	181.7	
ob	13.6	180.1	
1/4	14.1	179.6	
C	14.7	179.0	
1/4	15.1	178.6	
ob	15.8	177.9	
E	16.3	177.4	
+5	17.1	176.6	
+15	11.4	182.3	
+25	10.2	183.5	
	363' So.		
-35	13.8	179.9	
-13	16.1	177.6	
-8	17.4	176.3	bottom mast

31st

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E	16.3	177.4	
ob	15.8	177.9	
1/4	15.3	178.4	
C	14.6	179.1	
1/4	13.9	179.8	
ob	13.1	180.6	
W	11.2	182.5	
+15	8.2	185.5	
	375' So.		
-15	4.9	188.8	
W	8.8	184.9	
ob	11.4	182.3	
1/4	13.5	180.2	
C	14.3	179.4	
1/4	15.2	178.5	
ob	15.8	177.9	
E	16.4	177.3	
+12	18.5	175.2	bottom
+22	16.8	176.9	
+40	16.4	177.5	
	400' So.		
-40	17.5	176.2	
-30	17.5	176.2	
-20	19.9	173.8	
-18	18.3	175.4	
E	16.1	177.6	

		193.70			
ob			15.8	177.9 ✓	
1/4			15.0	178.7 ✓	
C			13.8	179.9 ✓	
1/4			12.5	181.2 ✓	
ob			10.1	183.6 ✓	
W			6.8	186.9 ✓	
+10			2.7	191.0 ✓	
		425' So.			
-10			+1.2	194.9 ✓	
W			3.3	190.4 ✓	
ob			6.6	187.1 ✓	
1/4			10.2	183.5 ✓	
C			11.9	181.8 ✓	
1/4			13.9	179.8 ✓	
ob			15.0	178.7 ✓	
E			16.2	177.5 ✓	
+21			18.4	175.3 ✓	
+26			20.8	177.9 ✓	bottom
+32			18.6	175.1 ✓	
+46			18.7	175.1 ✓	
TP	4.06	197.33 ✓	0.43	193.27	
		431' So.			
-40			22.5	174.8 ✓	
-34			22.6	174.7 ✓	
-29			24.8	172.5 ✓	bottom
-24			21.9	175.4 ✓	
E			19.2	178.1 ✓	

ob	18.0	179.3 ✓	
1/4	16.2	181.1 ✓	
C	14.4	182.9 ✓	
1/4	12.3	185.0 ✓	
ob	8.8	188.5 ✓	
W	5.0	192.3 ✓	
+10	0.3	197.0 ✓	
440' So.			
-5	0.0	197.3 ✓	
W	1.7	195.6 ✓	
ob	5.3	192.0 ✓	
1/4	8.6	188.7 ✓	
C	12.1	185.2 ✓	
1/4	13.4	183.9 ✓	
ob	15.6	181.7 ✓	
E	17.7	179.6 ✓	
+28	22.2	175.1 ✓	
+34	24.9	172.4 ✓	bottom
+40	22.5	174.8 ✓	
455 So.			
-40	24.0	173.3 ✓	
-30	21.1	176.2 ✓	
E	17.9	184.4 ✓	
ob	10.3	187.0 ✓	
1/4	7.8	189.5 ✓	
C	6.2	191.1 ✓	

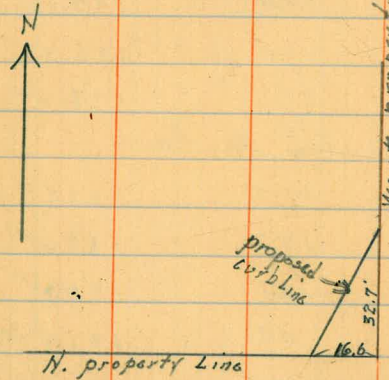
1/4			3.0	194.3 ✓
T.P.	11.98	205.25 ✓	4.06	193.27
cb			6.8	198.5 ✓
W			3.9	201.4 ✓
		465' So.		
W			2.5	202.8 ✓
cb			5.1	200.2 ✓
1/4			7.5	197.8 ✓
c			10.4	194.9 ✓
1/4			13.0	192.3 ✓
+3			13.0	192.3 ✓
cb			14.7	190.6 ✓
E			18.3	187.0 ✓
+25			26.5	178.8 ✓
		477' So.		
−30			27.6	177.7 ✓
E			16.1	189.2 ✓
cb			13.3	192.0 ✓
1/4			11.1	194.2 ✓
c			8.9	196.4 ✓
1/4			6.4	198.9 ✓
cb			3.9	201.4 ✓
W			1.7	203.6 ✓

31st ST 30+77 / 6.75 / 309.52 / 261.49

		490' So		
W			0.6	204.7 ✓
cb			3.7	201.6 ✓
1/4			5.5	199.8 ✓
c			8.3	197.0 ✓
1/4			10.4	194.9 ✓
cb			13.3	192.0 ✓
E			17.0	188.3 ✓
+25			27.1	178.2 ✓
		498.9 = N.L. So Park		
−25			27.4	177.9 ✓
E			17.7	187.6 ✓
cb			13.1	192.2 ✓
1/4			9.8	195.5 ✓
c			7.5	197.8 ✓
1/4			5.5	199.8 ✓
cb			3.1	202.2 ✓
W			0.3	205.0 ✓
T.P.	12.04	216.54 ✓	0.75	204.50 ✓
	12.47	226.52 ✓	2.49	214.05 ✓
			1.08	225.44 ✓

B.P. SW Grave a Cedar

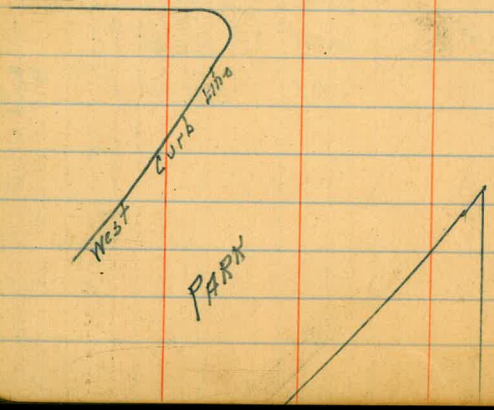
5/13/12 Gregory. proposed Curb Line
PARK BLVD
+ Robin



BLVD.

Robin

AVE



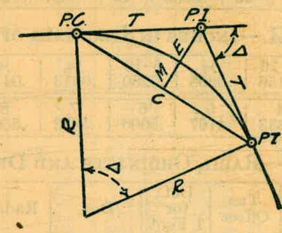
1.08	226.55		225.47	SW Grove & Cedar
0.59	214.67	12.47	214.08	
2.85	204.52	13.00	201.67	
		(11.22)	193.30	T.P.
12.42	216.34	0.60	203.92	
12.98	229.01	0.31	216.03	
1.12	229.94	0.19	228.82	
		0.78	229.16	Mon
31.04		27.35		
27.35				
3.69				
229.16				

186
18
07
136
347

1308
1364
1081
0.43
39.36
3.47
35.89

22916
3589
19327

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius $= R = \frac{50}{\sin. D/2}$ (1) Degree of Curve $= D$ and $\sin. \frac{D}{2} = \frac{50}{R}$ (2)

Tangent $= T = R\tan\frac{\Delta}{2}$ (3) Length of Curve $= L = 100\frac{\Delta}{D}$ (4)

Middle ordinate $= M = R(1 - \cos. \frac{\Delta}{2})$ (5) $= R\text{vers}\,\frac{\Delta}{2}$ (6)

External $= E = T\tan\frac{\Delta}{4}$ (7) $= R \div \cos\frac{\Delta}{2} - R$ (8) $= R\text{exsec}\frac{\Delta}{2}$ (9)

Long Chord $= C = 2\,R \sin.\frac{\Delta}{2}$ (10) Δ = Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and ÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157+45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 $(54.50 \div 100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 688.26)$=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′ ÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 115.37 For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=115.27 and from Table V correction=.10 or E=115.37 Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.

Howard

Go N.W. Spk 319.92

A/q 20' N. of NE Spk 294.65

Miss NE " 320.015

Lg SW Spk fence 330.97

Tex SE plgt 318.04

Arizona SE plg 321.51

Idaho " " 373.01

Neb. SW. Spk pole 367.70

Ohio SE plgt. 364.47

Ill. SE 361.01

Ind. SE Spk 290.27

199

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	25.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59 6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20—16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.