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878
F.B.

FIELD BOOK

1

KEUFFEL & ESSER CO.

DRAWING MATERIALS
AND
SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. SAN FRANCISCO. ST. LOUIS.

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

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

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MICROFILMED
1964

For Keith's Railroad Curve Tabels see end of book.

69.16 = 1.204120
109.250 = 2.176091
1.028029

.12278
150
61390
12278
18.41700

.028152
150
80
230

1.204120
2.561728
2.843897
06983
230
209790
13986
160839

4.00244
230
3007320
200488
239.561

4/12/13
Gregory
Schoemaker
Shaw

CROSS-SECTION OF WIGHTMAN ST. FROM E.L. ALABAMA ST TO W.L. IDAHO ST

60' WIDE
10' WALKS
10' QUARTERS.

B.M.	1.43	284.58		283.15	N.E. MISS. UNIV
T.P.	0.06	273.10	11.54	273.04	
		E. L. ALABAMA			
N			11.4	261.7	
cb			12.0		
1/4			12.6		
c			14.8	258.3	
+5			16.4		
1/4			15.4		
cb			13.0		
S			12.2	260.9	
		25' EAST			
S			9.3	263.8	
cb			9.8		
1/4			10.3		
c			11.7	261.4	
1/4			10.6		
cb			9.8		
N			9.3	263.8	

273.10

Wightman

2

		75' EAST		
N			5.4	267.7
cb			5.5	
1/4			5.2	
c			5.1	268.0
1/4			5.0	
cb			4.7	
S			4.4	268.7
		125' EAST		
S			0.4	272.7
cb			0.7	
1/4			0.7	
c			0.6	272.5
1/4			0.8	
cb			0.7	
N			0.6	272.5
T.P.	12.09	285.13	0.06	273.04
		175' EAST		
N			7.8	277.3
cb			7.8	
1/4			8.0	
c			8.1	277.0
1/4			8.3	
cb			8.4	
S			8.4	276.7

1

	285.13	
	225' EAST	
S	5.5	279.6
ct	5.3	
1/4	5.2	
C	4.9	280.2
1/4	4.8	
ct	5.0	
N	5.1	280.0
	255' EAST	
N	3.2	281.9
ct	3.3	
1/4	3.6	
C	3.6	281.5
1/4	3.5	
ct	4.0	
S	4.3	280.8
	267.5 ON NO. } = W.L. MISSISSIPPI ST (GRADED)	
	267.6 - SO. }	
S	6.9	278.2
ct	7.1	
1/4	6.8	
C	6.5	278.3
1/4	6.7	
ct	6.6	
N	6.3	278.8

Weightman

EAST LINE MISSISSIPPI ST

N	5.3	279.8
ct	5.6	
1/4	5.8	
C	6.0	279.1
1/4	6.1	
ct	6.1	
S	5.9	279.2
	10' EAST	
S	1.6	283.5
+2	2.5	
ct	3.4	
1/4	3.0	282.1
C	2.4	281.8
1/4	2.7	
ct	2.4	
N	1.4	283.7
	60' EAST	
N	0.0	285.1
+2	1.6	
ct	1.4	
1/4	1.4	283.7
C	1.5	283.6
1/4	2.1	
ct	2.3	
+8	2.4	
S	06	284.5

285.13

T.P.	10.13	294.86	0.40	284.73
		110' EAST		
S			9.9	285.0
+2			11.1	
cb			10.7	
1/4 S			10.5	
C			10.3	284.6
1/4			10.0	
cb			10.2	
+8			10.2	
N			8.3	286.6
		160' EAST		
N			6.8	288.1
+2			8.4	
cb			8.2	
1/4			8.5	
C			8.6	286.3
1/4			9.1	
cb			9.5	
+8			9.3	
S			8.1	286.8

Wightman

294.86

	210' EAST	
S	7.3	287.6
+2	8.6	
cb	7.3	
1/4	6.6	
C	6.8	288.1
1/4	7.2	287.7
cb	7.1	
+8	7.3	
N	5.7	289.2
	260' EAST	
N	4.5	290.4
cb	4.9	
1/4	5.7	
C	5.5	289.4
1/4	5.9	
cb	6.2	
S	7.0	287.9
	370' EAST = W.L. LOUISIANA ST 60' (GRADED)	
S	5.5	289.4
cb	5.8	
1/4	5.7	
C	5.4	289.5
1/4	5.3	
cb	4.9	
N	4.6	290.3

		394.86	2948	
	EAST LINE		LOUISIANA	
N			3.5	291.4
cb			3.8	291.0
1/4			4.4	290.4
c			4.1	290.8
1/4			4.4	290.4
cb			4.9	289.9
S			4.6	290.3
	2' EAST			
S			4.0	290.9
cb			3.1	291.7
1/4			3.4	291.4
c			2.6	292.3
1/4			2.0	292.8
cb			1.7	293.1
N			1.5	293.4
	50' EAST			
T.P.	12.77	307.19	0.44	294.42
N			10.7	296.5
cb			11.2	295.9
1/4			11.7	295.5
c			12.1	295.1
1/4			12.4	294.7
cb			12.3	294.8
S			12.5	294.7

		307.19	Wightman
	100' EAST	307.1	
S		8.7	298.5
cb		8.3	298.8
1/4		8.4	298.7
c		8.3	298.9
1/4		8.0	299.1
cb		7.7	299.4
N		7.2	300.0
	150' EAST		
N		4.6	302.6
cb		5.0	302.1
1/4		5.2	301.9
c		5.1	302.1
1/4		5.4	301.7
cb		5.5	301.6
S		5.6	301.6
	200' EAST		
S		3.2	304.0
cb		3.3	303.8
1/4		3.2	304.0
c		3.0	304.2
1/4		2.9	304.3
cb		2.4	304.7
N		2.0	305.2

		307.19		
	950' EAST	307.1		
N			0.0	307.2
cl			0.4	306.7
1/4			0.9	306.2
C			1.1	306.1
1/4			1.3	305.8
cl			1.1	306.0
S			1.2	306.0
	968' EAST			
S			1.1	306.1
cl			1.1	306.0
1/4			1.4	305.7
C			1.6	305.6
1/4			1.2	305.9
cl			+0.2	307.4
N			+0.4	307.6
	970' EAST = W.L. TEXAS ST (GRADED) 60'			
N			1.8	305.4
cl			2.0	305.1
1/4			3.0	304.1
C			3.0	304.2
1/4			3.3	303.8
cl			3.2	303.9
S			3.0	304.2
	BEING GRADED BET TEXAS + ARIZONA			
T.P.	1.75	300.15	8.79	298.40

		300.15		Wightman
	E.L. ARIZONA ST			60'
S			10.0	290.2
cl			10.2	90.0
1/4			10.5	89.7
C			10.1	290.1
1/4			9.9	90.3
cl			9.1	91.1
N			8.9	291.3
	50' EAST			
N			7.3	292.9
cl			7.6	92.6
1/4			7.7	925
C			8.0	292.2
1/4			8.3	91.9
cl			7.6	92.6
S			7.9	292.3
	100' EAST			
S			5.7	294.5
cl			5.4	94.8
1/4			6.1	94.1
C			5.6	294.6
1/4			5.0	95.2
cl			4.8	95.4
N			4.9	295.3

		300.15		
		150' EAST		
N			3.5	296.7
cb			3.7	96.5
1/4			3.5	96.7
C			3.9	296.3
1/4			4.5	95.7
cb			4.1	96.1
S			4.3	295.9
		300' EAST		
S			4.1	296.1
cb			3.8	96.4
1/4			3.9	96.3
C			3.3	296.9
1/4			3.1	97.1
cb			3.1	97.1
N			3.1	297.1
TP.	12.88	310.51	2.52	297.63
		350' EAST		
N			13.3	297.2
cb			13.6	96.9
1/4			13.7	96.8
C			13.9	296.6
1/4			14.0	96.5
cb			14.2	96.3
S			14.0	296.5

310.51

376.5' EAST = W.L. ARNOLD ST (65' WIDE) 101 avenue

S	14.0	296.5
cb	13.7	96.8
1/4	13.3	97.2
C	13.3	297.2
1/4	13.2	97.3
cb	13.0	97.5
N	12.8	297.7
WEST CORB		
N	12.4	298.1
cb	12.6	
1/4	13.0	
C	13.0	297.5
1/4	13.4	
cb	13.4	
S	13.8	296.8
W. 1/4		
S	13.0	297.5
cb	12.8	
1/4	12.8	
C	12.4	298.1
1/4	12.8	
cb	12.3	
N	12.0	298.5

310.51

CENTER

N	11.8	298.7
cb	12.1	
1/4	12.0	
c	12.1	298.4
1/4	12.2	
cb	12.3	
S	12.5	298.0

EAST 1/4

S	12.2	298.3
cb	12.0	
1/4	11.6	
c	11.6	298.9
1/4	11.3	
cb	11.5	
N	11.5	299.0

EAST CORB

N	10.5	300.0
cb	10.7	
1/4	10.8	
c	10.9	299.6
1/4	10.8	
cb	10.9	
S	11.2	299.3

Wightman

EAST LINE ARNOLD

S	10.8	299.7
cb	10.6	
1/4	10.4	
c	10.3	300.2
1/4	10.1	
cb	10.1	
N	10.2	300.3

50' EAST

N	8.6	301.9
cb	8.7	
1/4	8.5	
c	8.9	301.6
1/4	8.8	
cb	8.8	
S	8.9	301.6

100' EAST

S	6.7	303.8
cb	6.9	
1/4	6.8	
c	6.7	303.8
1/4	6.7	
cb	6.7	
N	7.0	303.5

		310.51		
		150' EAST		
N			3.9	306.6
cb			3.9	
1/4			3.7	
C			3.8	306.7
1/4			3.5	
cb			3.6	
S			3.7	306.8
		300' EAST		
S			0.0	310.5
cb			0.1	
1/4			+0.3	310.8
C			+0.1	310.6
1/4			0.2	
cb			0.6	
N			0.5	310.0
T.P.	12.67	322.46	0.72	309.79
		250' EAST		
N			9.5	313.0
cb			9.1	
1/4			8.9	
C			8.8	313.7
1/4			8.5	
cb			8.2	
S			8.0	314.5

322.46 Wightman

65'

265' EAST = W.L. VILLA TERRACE (Being Graded)

S			6.3	316.2
cb			5.9	
1/4			6.3	
C			6.3	316.2
1/4			6.2	
cb			6.0	
N			5.7	316.8
		E. L. VILLA TERRACE		
N			4.5	318.0
cb			4.2	
1/4			3.7	
C			2.8	319.7
1/4			1.8	
cb			0.8	
T.P.	12.85	334.29	1.02	321.44
S			11.2	323.1
		50' EAST		
S			6.2	328.1
cb			7.2	
1/4			8.3	
C			9.5	324.8
1/4			10.1	
cb			11.0	
N			12.0	322.3

		334.29		
		100' EAST		
N			6.3	328.0
ct			5.4	
1/4			4.5	
C			4.0	330.3
1/4			3.4	
ct			3.0	
S			2.5	331.8
T.P.	12.63	346.55	0.37	333.92
		150' EAST		
S			11.6	335.0
ct			12.1	
1/4			12.6	
C			13.1	333.5
1/4			13.5	
ct			14.2	
N.			14.7	331.9
		200' EAST		
N			11.7	334.9
ct			10.9	
1/4			9.9	
C			9.9	336.7
1/4			9.8	
ct			9.6	
S			9.4	337.2

346.55

	250' EAST		
S		7.5	339.1
ct		7.7	
1/4		8.1	
C		8.5	338.1
1/4		8.5	
ct		9.2	
N		9.4	337.2
	265' EAST = W. L. OREGON ST. (GRADED)		80
N		9.1	337.5
ct		9.0	
1/4		8.8	
C		8.1	338.5
1/4		7.7	
ct		7.5	
S		7.1	339.5
	E.L. OREGON ST		
S		4.9	341.7
ct		5.2	
1/4		5.4	
C		5.6	341.0
1/4		5.5	
ct		5.6	
N		5.7	340.9

346.55

50' EAST

N	4.3	342.3
ct	4.5	
1/4	4.3	
C	4.1	342.5
1/4	3.8	
ct	3.8	
S	3.6	342.0

100' EAST

S	2.8	343.8
ct	3.0	
1/4	3.1	
C	3.3	343.3
1/4	3.1	
ct	3.2	
N	3.2	343.4

150' EAST

N	2.1	344.5
ct	2.5	
1/4	2.2	
C	2.3	344.3
1/4	2.4	
ct	2.2	
S	2.3	344.3

Wightman

300' EAST

S	1.5	345.1
ct	2.0	
1/4	1.8	
C	1.7	344.9
1/4	1.8	
ct	1.8	
N	1.6	345.0

355' EAST = W.L. IDAHO ST.

N	1.7	344.9
ct	1.5	
1/4	1.8	
C	1.8	344.8
1/4	1.7	
ct	1.6	
S	1.7	344.9

T.P.	4.39	349.34 ✓	1.60	344.95 ✓
B.M.			2.01	347.33

N.E. Idaho & Amer.

Grades Wightman - W/L Oregon to Ft V. Terrace

BM 338.01
1.73
339.74
12.59
327.15
SL

SW Oregon & Wightman
327.15
.30
327.45

W L Oregon +50.

339.74

					prop. grade	
SL			1.3	338.4	334.29	C 4.1
NL			4.2	335.5	333.48	C 2.0
		1+00				
NL			7.0	332.7	329.71	C 3.0
SL			3.6	336.1	330.33	C 5.8
		1+50				
SL			6.4	333.3	326.37	C 6.9
NL			10.8	328.9	325.94	C 3.0
TP	0.30	327.45	12.59	327.15		
		2+00				
NL			3.9	323.5	322.17	C 1.3
SL			5.0+		322.41	
		2+65				

LEVELS FOR REGRADING
HAWTHORN ST. (80' WIDE)
FROM E.L. FERN TO W.L. 31st

BM.	3.51	283.61		280.10	Spk S.E. Hawthorne & 31st
		E.L. FERN ST			
So.			9.4	274.2	
No. L			8.4	275.2	
T.P.	3.33	274.73	12.21	271.40	
		50' EAST			
-2			0.1	274.6	
No. L			1.3	273.4	
+2			1.8	272.9	
So. L			2.7	272.0	
+1			1.5	273.2	
		80' EAST			
-10			2.4	272.3	
-2			2.5	272.2	
So. L			4.5	270.2	
No. L			3.5	271.2	
+1			2.4	272.3	
+10			2.4	272.3	
		130' EAST			
-10			10.5	264.2	
No. L			10.6	264.1	
So. L -3			11.9	262.8	
So. L			10.7	264.0	
+2			6.9	267.8	
T.P.	5.47	267.23	12.77	261.96	

267.93

		150' EAST	
-10		1.2	266.7
-3		2.3	265.6
So. L		5.2	262.7
+2		6.1	261.8
No. L		5.6	262.3
+10		4.5	263.4
		190' EAST	
-10		4.7	263.2
-1		5.6	262.3
No. L		6.5	261.4
So. L		7.8	260.1
+8		8.3	259.6
+20		5.4	262.5
		225' EAST = WEST END OF WALL	
			251.3
-20		16.6	USE THIS READING ONLY ON BACK SECTION
-5.8 = WALL BOTTOM.		16.0	251.9
So. L		9.7	258.2
+3		8.1	259.8
No. L		6.4 / 5.1	261.5 / 262.8
+10		4.6	263.3
		240' EAST	
-10		4.4	263.5
No. L		4.8 / 6.4	263.1 / 261.5
+17		8.6	259.3
So. L		10.6	257.3

267.93

+5.8 = WALL BOTTOM			15.1	252.8
+5.8 = " TOP			5.9	262.0
		290' EAST		
-5.8 WALL TOP			5.9	262.0
-5.8 " BOTTOM			13.9	254.0
So.L			6.9	261.0
No.L			5.7	262.2
+4			2.6	265.3
+10			2.4	265.5
		330' EAST		
-10			+0.1	268.0
-5			0.5	267.4
No.L			2.9	265.0
+2			3.8	264.1
+77			4.9	263.0
So.L.			3.7	264.2
+5.8 = WALL TOP.			2.2	265.7
		350' EAST		
-5.8 WALL TOP			0.2	267.7
So.L			1.7	266.2
+2			2.7	265.2
No.L			1.5	266.4
T.P.	11.12	278.32	0.73	267.20
+5			9.6	268.7
+10			9.0	269.3

278.32

	390' EAST		
-10		5.6	272.7
No.L		6.1	272.2
So.L		7.0	271.3
	450' EAST		
-10		4.4	273.9
So.L		4.4	273.9
No.L		3.0	275.3
	500' EAST		
No.L		2.1	276.2
So.L.		3.2	275.1
	550' EAST		
So.L		2.2	276.1
No.L		1.4	276.9
	597.5' EAST = WL 31st		
No.L		0.4	277.9
So.L.		1.7	276.6

Yardage figured July 9-1913 SWG

6/3/13
Gigo & shoemaker shaw

CROSS-SECTION OF NEALE ST IN MIDDLETOWN ADD.

50' WIDE
10' WALKS
7.5' QUARTERS

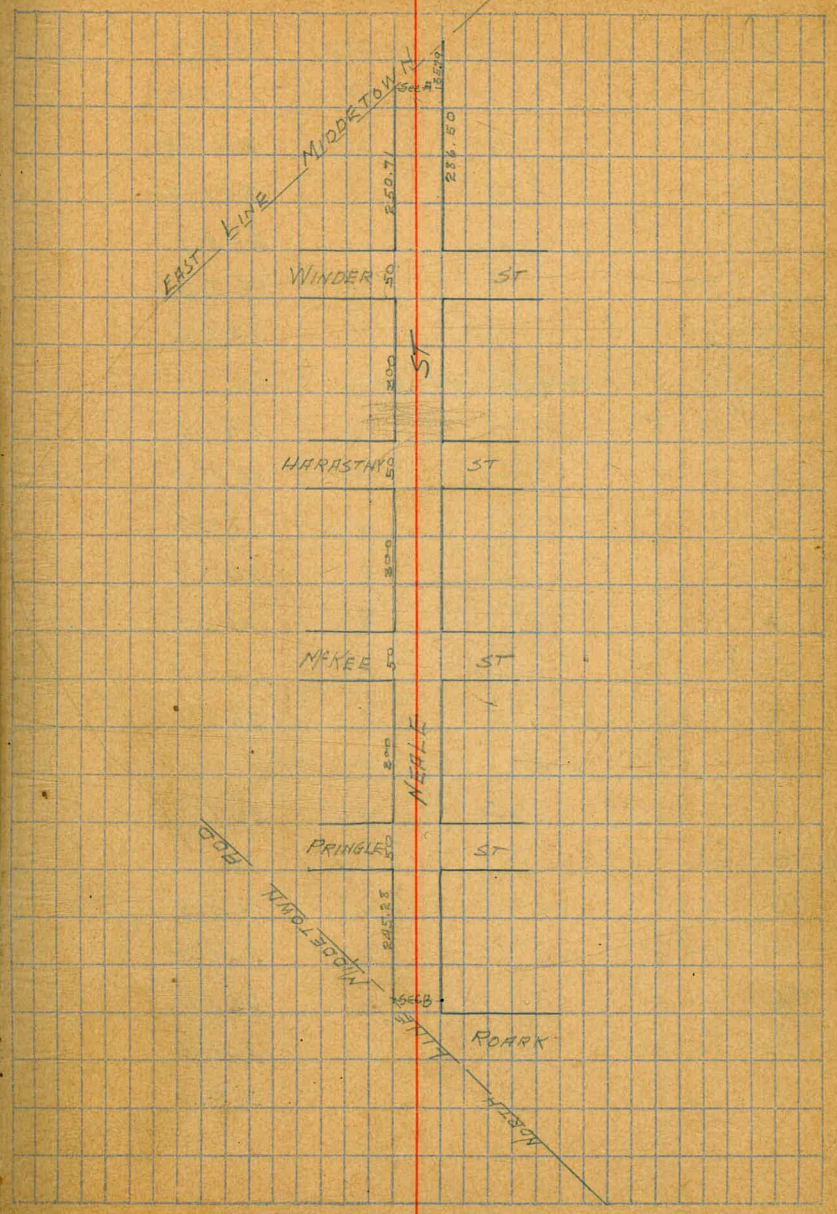
B.M.	2.08	271.91		269.83	13' HUB NEALE & WINDER
	EAST LINE MIDDLETOWN ADD				
S			1.0	270.9	✓
cb			1.2	270.7	
1/4			1.4	270.5	
C			1.6	270.3	✓
1/4			1.9	270.0	
cb			2.2	269.7	
N			2.4	269.5	✓
	SEC. A				
N			2.4	269.5	✓
cb			2.8	269.1	
1/4			3.4	268.5	
C			3.9	268.0	✓
1/4			4.0	267.9	
cb			4.4	267.5	
S			5.0	266.9	
	50.71' WEST OF SEC A				
S			10.0	261.9	✓
cb			9.0	262.9	
1/4			8.6	263.3	
C			7.9	264.0	✓
1/4			7.5	264.4	
cb			7.0	264.9	
N			6.6	265.3	✓

N. 6
SF = 43' wide

PLOTTED C.A.L 6/13/13

N ½

16



PLOTTED

1

271.91

100.71' WEST

N	9.6	262.3	✓
cb	10.0	261.9	
1/4	10.4	261.5	
C	10.2	261.7	✓
1/4	10.8	261.1	
cb	11.1	260.8	
S	12.3	259.6	✓

150.71' WEST

S	10.3	261.6	✓
cb	9.6	262.3	
1/4	9.3	262.6	
C	9.1	262.8	✓
1/4	9.4	262.5	
cb	8.6	263.3	
N	8.3	263.6	✓

200.71' WEST

N	4.4	267.5	✓
cb	4.9	267.0	
1/4	6.1	265.8	
C	5.3	266.6	✓
1/4	5.7	266.2	
cb	6.3	265.6	
S	6.6	265.3	✓

PLOTTED

250.71' WEST = E.L. WINDER ST.

S	271.91	3.1	268.8 ✓
cb		2.7	269.2
1/4		2.3	269.6
C		2.5	269.4 ✓
1/4		2.2	269.7
cb		1.9	270.0
N		2.0	269.9 ✓

WEST LINE WINDER ST

N		0.8	271.1 ✓
cb		0.5	271.4
1/4		1.2	270.7
C		1.3	270.6 ✓
1/4		1.5	270.4
cb		1.6	270.3
S		1.5	270.4 ✓

50' WEST

S		2.4	269.5 ✓
cb		3.4	268.5
1/4		3.5	268.4
C		3.3	268.6 ✓
1/4		3.7	268.2
cb		3.5	268.4
N		4.0	267.9 ✓

CHECKED

		271.91			
		100' WEST			
N			9.2	262.7	✓
cb			8.5	263.4	
1/4			8.2	263.7	
C			7.7	264.2	✓
1/4			8.1	263.8	
cb			8.0	263.9	
S			6.8	265.1	✓
T.P.	0.15	259.62	12.44	259.47	
		150' WEST			
S			0.6	259.0	✓
cb			1.2	258.4	
1/4			1.3	258.3	
C			1.4	258.2	✓
1/4			1.8	257.8	
cb			2.4	257.2	
N			3.2	256.4	✓
		200' WEST			
N			9.8	249.8	✓
cb			9.3	250.3	
1/4			8.8	250.8	
C			8.3	251.3	✓
1/4			7.8	251.8	
cb			7.9	251.7	
S			7.2	252.4	✓
T.P.	0.14	248.00	11.76	247.86	

PLOTTED

		285' WEST			
S		248.00	8.4	239.6	✓
cb			8.3	239.7	
1/4			7.0	241.0	
C			8.1	239.9	✓
1/4			8.4	239.6	
cb			8.9	239.1	
N			6.6	241.4	✓
T.P.	0.94	236.03	12.91	235.09	
		250' WEST			
N			8.7	227.3	✓
cb			10.9	225.1	
1/4			12.3	223.7	
C			12.5	223.5	✓
1/4			11.8	224.2	
cb			13.1	222.9	
S			14.5	221.5	✓
T.P.	0.37	233.71	12.69	233.34	
		275' W			
S			15.7	208.0	✓
cb			14.2	209.5	
1/4			14.5	209.2	
C			13.3	210.4	✓
1/4			11.6	212.1	
cb			9.4	214.3	
N			6.6	217.1	✓

PLOTTED

		223.71			
T.P.	-0.01	211.44	12.26	211.45	
	300' WEST = E.L. HARASTHY ST (50' WIDE)				
N			5.0	206.4	✓
cb			6.9	204.5	
1/4			9.0	202.4	
C			11.4	200.0	✓
1/4			14.2	197.2	
cb			16.1	195.3	
S			16.0	195.4	✓
	EAST CURB				
S			19.9	191.5	✓
cb			20.0	191.4	
1/4			17.5	193.9	
C			14.7	196.7	✓
1/4			12.4	199.0	
cb			10.7	200.7	
N			10.9	200.5	✓
I.P.	0.03	199.19	12.28	199.16	
	EAST 1/4				
N			2.2	197.0	✓
cb			2.4	196.8	
1/4			3.5	195.7	
C			5.3	193.9	✓
1/4			8.0	191.2	
cb			10.0	189.2	
S			10.2	189.0	✓

PLOTTED

	CENTER			
S	199.19	13.2	186.0	✓
cb		12.5	186.7	
1/4		10.2	189.0	
C		8.0	191.2	✓
1/4		7.0	192.2	
cb		5.9	193.3	
N		4.7	194.5	✓
	WEST 1/4			
N		6.6	192.6	✓
cb		8.3	190.9	
1/4		9.7	189.5	
C		10.4	188.8	✓
1/4		12.4	186.8	
cb		14.5	184.7	
S		15.7	183.5	✓
	WEST CURB			
S		18.1	181.1	✓
cb		16.7	182.5	
1/4		15.0	184.2	
C		12.8	186.4	✓
1/4		12.0	187.2	
cb		10.3	188.9	
N		8.2	191.0	✓

PLOTTED

		199.19			
	WEST LINE HARASTHY				
N			10.1	189.1	✓
cb			12.3	186.9	
T.P.	0.19	186.45	12.93	186.26	
1/4			0.9	185.6	
C			2.5	184.0	✓
1/4			4.7	181.8	
cb			6.4	180.1	
S			8.6	177.9	✓
		25' WEST			
S			14.8	171.6	✓
cb			10.8	175.7	
1/4			9.4	177.1	
C			8.0	178.5	✓
1/4			5.9	180.6	
cb			4.6	181.9	
N			3.5	183.0	✓
T.P.	0.46	174.20	12.71	173.74	
		50' WEST			
N			2.6	171.6	✓
cb			3.3	170.9	
1/4			4.0	170.2	
C			5.0	169.2	✓
1/4			6.3	167.9	
cb			7.6	166.6	
S			10.0	164.2	✓

PLOTTED

T.P.	0.16	161.59		12.77	161.43
			75' WEST		
S				9.3	152.3 ✓
cb				7.2	154.4
1/4				6.2	155.4
C				5.1	156.5 ✓
1/4				4.2	157.4
cb				3.3	158.3
N				2.7	158.9 ✓
T.P.	0.36	149.31		12.64	148.95
			100' WEST		
N				3.0	146.3 ✓
cb				3.9	145.4
1/4				4.5	144.8
C				4.8	144.5 ✓
1/4				5.9	143.4
cb				7.0	142.3
S				7.8	141.5 ✓
T.P.	1.86	138.25		12.92	136.39

PLOTTED

		138.25			
		195' WEST			
S			4.8	133.5	✓
cb			5.6	132.7	
1/4			5.0	133.3	
C			3.5	134.5	✓
1/4			3.5	134.8	
cb			2.9	135.4	
N			1.3	137.0	✓
		150' WEST			
N			8.2	130.1	✓
cb			10.8	127.5	
1/4			10.7	127.6	
C			10.3	128.0	✓
1/4			10.6	127.7	
cb			11.5	126.8	
S			12.4	125.9	✓
		175' WEST			
S			3.5	134.8	✓
cb			3.4	134.9	
1/4			3.5	134.8	
C			3.9	134.4	✓
1/4			4.0	134.3	
cb			3.6	134.7	
N			2.9	135.4	✓
T.P.	12.35	149.62	0.98	137.27	

PLOTTED

		200' WEST			
N		149.62	5.5	144.1	✓
cb			5.3	144.3	
1/4			4.2	145.4	
C			3.8	145.8	✓
1/4			3.7	145.9	
cb			4.5	145.1	
S			5.0	144.6	✓
T.P.	12.71	161.61	0.72	148.90	
		225' WEST			
S			5.4	156.2	✓
cb			4.2	157.4	
1/4			3.6	158.0	
C			3.2	158.4	✓
1/4			3.6	158.0	
cb			4.0	157.6	
N			5.1	156.5	✓
T.P.	12.48	173.83	0.26	161.35	
		250' WEST			
N			4.7	169.1	✓
cb			5.0	168.8	
1/4			4.4	169.4	
C			3.9	169.9	✓
1/4			3.9	169.9	
cb			5.4	168.4	
S			6.8	167.0	✓

PLOTTED

		173.83			
T.P.	12.01	185.81	0.03	173.80	
		375' WEST			
S			9.1	176.7	✓
ch			7.9	177.9	
1/4			6.4	179.4	
C			5.6	180.2	✓
1/4			5.3	180.5	
ch			6.3	179.5	
N			8.2	177.6	✓
T.P.	13.04	197.84	1.01	184.80	
		300' WEST = E.L. McKEEST			50' WIDE
N			9.5	188.3	✓
ch			10.2	187.6	
1/4			10.7	187.1	
C			11.2	186.6	✓
1/4			11.4	186.4	
ch			11.5	186.3	
S			12.4	185.4	✓
		EAST CURB			
S			9.2	188.6	✓
ch			8.9	188.9	
1/4			9.0	188.8	
C			8.6	189.2	✓
1/4			7.9	189.9	
ch			7.4	190.4	
N			6.8	191.0	✓

PLOTTED

		EAST QUARTER		
N	197.84	5.0	192.8	✓
ch		5.8	192.0	
1/4		6.1	191.7	
C		6.7	191.1	✓
1/4		6.9	190.9	
ch		7.0	190.8	
S		7.3	190.5	✓
		CENTER		
S		6.0	191.8	✓
ch		5.2	192.6	
1/4		5.0	192.8	
C		4.6	193.2	✓
1/4		3.9	193.9	
ch		3.3	194.5	
N		2.2	195.6	✓
		WEST QUARTER		
N		2.2	195.6	✓
ch		2.9	194.9	
1/4		3.5	194.3	
C		4.0	193.8	✓
1/4		4.5	193.3	
ch		5.1	192.7	
S		5.9	191.9	✓

PLOTTED

197.84

WEST CURB

S			5.9	191.9	✓
cb			5.2	192.6	
1/4			4.6	193.2	
C			3.8	194.0	✓
1/4			3.2	194.6	
cb			2.9	194.9	
N			2.1	195.7	✓
WEST LINE McKEE ST					
N			+2.3	200.1	✓
cb			+1.7	199.5	
1/4			+0.8	198.6	
C			+0.2	198.0	✓
1/4			0.5	197.6	
cb			0.6	197.2	
S			1.3	196.5	✓
T.P.	12.81	209.95	0.70	197.14	
50' W.					
S			2.6	207.4	✓
cb			1.4	208.6	
T.P.	12.22	221.70	0.47	209.48	
1/4			12.0	209.7	
C			11.2	210.5	✓
1/4			10.4	211.3	
cb			9.3	212.4	
N			8.1	213.6	✓
T.P.	12.28	333.96	0.02	321.68	

PLOTTED

333.96

100' W.

N			5.8	228.2	✓
cb			7.2	226.8	
1/4			8.3	225.7	
C			9.4	224.6	✓
1/4			10.6	223.4	
cb			11.7	222.3	
S			13.7	220.3	✓
T.P.	13.03	246.95	0.06	233.90	
150' W.			✓		
S			12.3	234.7	✓
cb			10.5	236.5	
1/4			9.0	238.0	
C			7.8	239.2	✓
1/4			6.9	240.1	
cb			5.7	241.3	
N			4.2	242.8	✓
175' W.					
N			+0.4	247.3	✓
cb			0.9	246.1	
1/4			1.9	245.1	
C			2.6	244.4	✓
1/4			3.2	243.8	
cb			5.0	242.0	
S			5.6	241.4	

PLOTTED

		246.95			
		300' N			
S			3.9	243.1	✓
cb			3.3	246.7	
1/4			1.1	245.9	
T.P.	9.75	256.48	0.22	246.73	
C			9.8	246.5	✓
1/4			9.1	247.3	
cb			8.3	248.2	
N			7.3	249.2	✓
		250' N			
N			4.5	252.0	✓
cb			5.2	251.3	
1/4			5.9	250.6	
C			6.5	250.0	✓
1/4			7.2	249.3	
cb			7.9	248.6	
S			8.6	247.9	✓
	300' N = EL. PRINGLE ST 50' WIDE				
S			4.7	251.8	✓
cb			4.1	252.4	
1/4			3.6	252.9	
C			3.1	253.4	✓
1/4			2.4	254.1	
cb			1.8	254.7	
N			1.0	255.5	✓

PLOTTED

		EAST CURB		
N	256.48	0.7	255.8	✓
cb		1.5	255.0	
1/4		2.0	254.5	
C		2.6	253.9	✓
1/4		3.1	253.4	
cb		3.4	253.1	
S		4.1	252.4	✓
		EAST QUARTER		
S		3.9	252.6	✓
cb		3.2	253.3	
1/4		2.8	253.7	
C		2.4	254.1	✓
1/4		1.9	254.6	
cb		1.4	255.1	
N		0.7	255.8	✓
		CENTER		
N		0.8	255.7	✓
cb		1.5	255.0	
1/4		1.9	254.6	
C		2.3	254.2	✓
1/4		2.7	253.8	
cb		3.1	253.4	
S		3.7	252.8	✓

PLOTTED

356.48

WEST QUARTER

S	3.5	253.6	✓
cl	3.0	253.5	
1/4	2.5	254.0	
C	2.1	254.4	✓
1/4	1.8	254.7	
cl	1.6	254.9	
N	1.0	255.5	✓

WEST CURB

N	0.8	255.7	✓
cl	1.4	255.1	
1/4	1.7	254.8	
C	2.2	254.3	✓
1/4	2.6	253.9	
cl	3.0	253.5	
S	3.4	253.1	✓

WEST LINE PRINGLE ST

S	2.9	253.6	✓
cl	2.6	253.9	
1/4	2.2	254.3	
C	1.8	254.7	✓
1/4	1.3	255.2	
cl	0.9	255.6	
N	0.4	256.1	✓

PLOTTED

50' WEST

N	256.48	1.1	255.4 ✓ ADD 3 CU YDS C/C DITCH
cl		1.9	254.6
1/4		2.3	254.2
C		2.6	253.9 ✓
1/4		2.9	253.6
cl		3.3	253.2
S		3.7	252.8 ✓

100' WEST

S		7.8	248.5 ✓
cl		7.1	249.4
1/4		6.6	249.9
C		6.3	250.2 ✓
1/4		6.0	250.5
cl		5.7	250.8
N		5.2	251.3 ✓

150' W

N		9.7	246.8 ✓
cl		10.1	246.4
1/4		10.5	246.0
C		11.2	245.3 ✓
1/4		11.8	244.7
cl		12.1	244.4
S		12.6	243.9 ✓
T.P.	0.64 244.01	13.1	243.37

PLOTTED

		244.01			
		300' W			
S			7.9	236.1	✓
cb			7.5	236.5	
1/4			7.4	236.6	
C			6.6	237.4	✓
1/4			5.9	238.1	
cb			4.7	239.3	
N			3.0	241.0	✓
		225' W			
N			9.5	234.5	✓
cb			11.5	232.5	
1/4			12.6	231.4	✓
C			12.6	231.4	✓
T.P.	0.54	332.24	12.31	231.70	
1/4			1.7	230.5	
cb			2.6	229.6	
S			4.6	227.6	✓
		245.28' W = SEC B.			
S			13.3	218.9	
cb			11.5	220.7	
1/4			10.0	222.2	
C			8.9	223.3	
1/4			7.7	224.5	
cb			6.7	225.5	
N			5.9	226.3	
T.P.	12.31	244.01	0.54	231.70	

PLOTTED

C.A.L
6/13/13

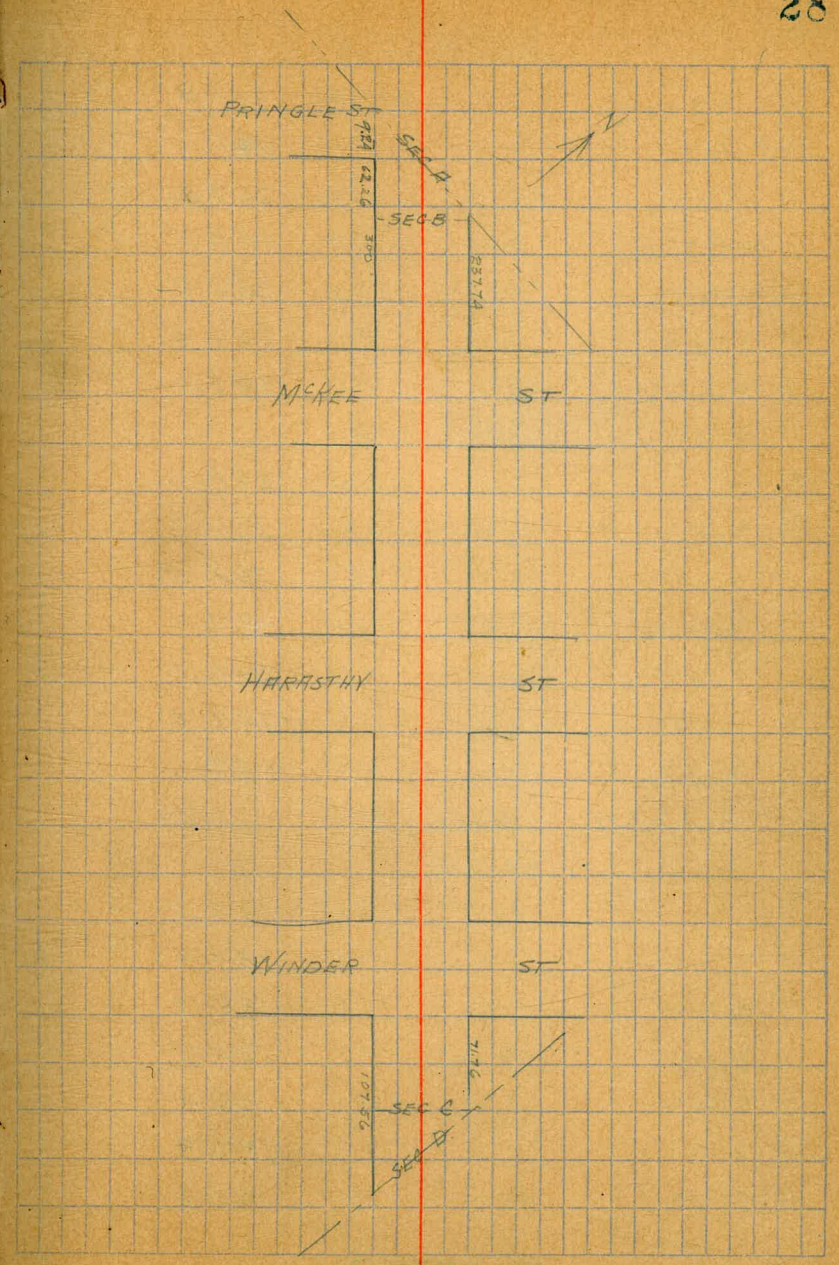
T.P.	11.72	255.09	0.64	243.37	
T.P.	11.73	366.04	0.88	254.21	
			1.53	264.51	

BUTTER.

CROSS SECTION OF BOONE ST 50' WIDE IN MIDDLETOWN ADD

OFF T.P.	2.78	267.29		264.51	see page 26
		SEC. A			
S			2.0	265.3	
ch			1.9	265.4	
1/4			3.0	264.3	
C			3.9	263.4	
1/4			4.4	262.9	
ch			5.6	261.7	
N			9.2	258.1	
		SEC B			
N			9.2	258.1	
ch			8.4	258.9	
1/4			8.3	259.0	
C			7.9	259.4	
1/4			7.6	259.7	
ch			6.9	260.4	
S			5.9	261.4	
	37.74' E of B				
S			11.4	255.9	
ch			12.2	255.1	
1/4			12.8	254.5	
T.P.	0.16	254.43	13.0R	254.27	
C			0.5	253.9	
1/4			0.8	253.6	
ch			1.5	252.9	
N			2.6	251.8	

PLOTTED



PLOTTED

		254.43		
		62.74' E. of B		
N			7.0	247.4
cl			5.4	249.0
1/4			4.2	250.2
C			3.9	250.5
1/4			3.5	250.9
cl			3.0	251.4
S			2.4	252.0
		87.74' E. of B		
S.			6.0	248.4
cl			7.7	246.7
1/4			8.9	245.5
C			10.1	244.3
1/4			11.2	243.2
cl			12.2	242.2
N			15.4	239.0
T.P.	0.19	141.84	12.78	141.65
		112.74' E		
N			13.0	128.8
cl			10.2	131.6
1/4			8.6	133.2
C			7.1	134.7
1/4			5.7	136.1
cl			3.9	137.9
S			1.2	140.6

PLOTTED

		137.74' E		
S		141.84	10.8	131.0
cl			13.1	128.7
T.P.	0.16	139.14	12.86	128.98
1/4			1.6	127.5
C			3.2	125.9
1/4			4.8	124.3
cl			6.2	122.9
N			9.4	118.7
		162.74' E		
N			20.0	109.1
cl			18.0	111.1
1/4			13.6	115.5
C			11.0	118.1
1/4			9.6	132.2
cl			8.5	133.3
S			6.9	122.2
T.P.	0.03	116.58	12.59	116.55
		187.74' E		
S			7.5	109.1
cl			9.1	107.5
1/4			11.9	104.7
C			12.3	104.3
1/4			12.0	104.6
cl			15.4	101.2
N			21.3	94.3

		116.58		
T.P.	-0.01	105.50	11.07	105.51
212.74' EAST				
N			22.2	83.3
cb			19.4	86.1
1/4			17.0	88.5
C			16.0	89.5
1/4			13.6	91.9
cb			10.2	95.3
S			5.6	99.9
T.P.	0.14	93.12	12.52	92.98
237.74' EAST = W.L. McKEE ST 50' WIDE				
S			4.1	89.0
cb			6.1	87.0
1/4			8.4	84.7
C			13.2	79.9
1/4			16.1	77.0
cb			20.1	73.0
N			21.0	72.1
275			10.0	83.1
WEST CORB				
N			18.9	74.2
cb			24.4	68.7
1/4			20.6	72.5
C			15.8	77.3
1/4			12.0	81.1
cb			11.1	82.0
S			13	83.8

PLOTTED

T.P.	0.58	80.85	12.85	80.27
WEST QUARTER				
S			0.0	80.9
cb			2.5	78.4
1/4			3.5	77.4
C			6.0	74.9
1/4			10.6	70.3
cb			11.6	69.3
N			6.2	74.7
CENTER McKEE				
N			7.3	73.6
cb			12.5	68.4
1/4			13.4	67.5
C			9.3	71.6
1/4			8.3	72.6
cb			6.5	74.4
S			2.5	78.4
EAST QUARTER				
S			5.1	75.6
cb			9.5	71.4
1/4			11.9	69.0
C			13.5	67.4
1/4			16.0	64.9
cb			11.9	69.0
N			7.6	73.3

		80.85		
		EAST CURB		
N			4.1	76.8
cb			10.7	70.2
1/4			13.6	67.3
C			17.6	63.3
1/4			16.0	64.9
cb			12.6	68.3
S			9.2	71.7
		EAST LINE McKEE ST		
S			14.0	66.9
cb			17.4	63.5
1/4			18.0	62.9
C			14.0	66.9
1/4			10.7	70.2
cb			6.0	74.9
N			0.2	80.7
T.P.	11.55	191.36	1.04	179.81 ✓
		25' EAST		
N			7.7	83.7
cb			12.4	79.0
1/4			16.2	75.2
C			20.2	71.2
1/4			23.4	68.0
cb			26.5	64.9
S			30.0	61.4

PLOTTED

	50' E		
S	91.36	26.8	64.6
cb		21.3	70.1
1/4		17.0	74.4
C		12.8	78.6
1/4		9.8	81.6
cb		4.4	87.0
N		0.3	91.1
	75' E		
N		0.2	91.6
cb		3.5	88.9
1/4		5.4	86.0
C		8.6	82.8
1/4		12.4	79.0
cb		15.5	75.9
S		21.7	69.7
	100' E		
S		18.4	73.0
cb		12.7	78.7
1/4		10.6	80.8
C		7.8	83.6
1/4		5.0	86.4
cb		3.1	88.3
N		1.1	90.3

PLOTTED

		91.36		
		195' E		
N			4.3	87.1
cl			7.4	84.0
1/4			10.0	81.4
C			12.1	79.3
T.P.	0.18	78.72	12.82	78.54
1/4			0.9	
cl			2.8	75.9
S			5.8	72.9
		150' E.		
S			15.5	63.2
cl			12.3	66.4
1/4			9.2	69.5
C			6.7	72.0
1/4			5.4	73.3
cl			3.1	75.6
N			1.0	77.7
T.P.	0.70	66.36	13.06	65.66
		175' E		
N			2.8	63.6
cl			6.4	60.0
1/4			8.1	58.3
C			10.1	56.3
1/4			11.3	55.1
cl			13.4	53.0
S			15.5	50.9

PLOTTED

T.P.	0.78	54.45	12.69	53.67
		200' E		
S		54.45	11.5	43.0
cl			9.3	45.2
1/4			7.9	46.6
C			6.1	48.4
1/4			4.6	49.9
cl			2.5	52.0
N			0.5	54.0
		225' E		
N			7.7	46.8
cl			10.0	44.5
1/4			11.6	42.9
T.P.	3.81	46.04	12.22	42.23
C			4.9	41.1
1/4			6.7	39.3
cl			7.9	38.1
S			11.0	35.0
420			11.4	34.6
		250' E		
S			2.1	43.9
cl			4.0	42.0
1/4			4.9	41.1
C			6.3	39.7
1/4			7.4	38.6
cl			9.1	36.9

		146.04		
N			5.0	41.0
	275' E			
N			6.2	139.8
cb			3.6	42.4
1/4			0.8	45.2
T.P.	11.94	156.85	1.13	44.91
C			10.2	46.7
1/4			7.5	49.4
cb			5.8	51.1
S			5.2	51.7
	300' E = W.L. HARASTHY			
S			+ 3.6	60.5
cb			+ 0.3	57.2
1/4			2.2	54.7
C			4.7	52.2
1/4			6.5	50.4
cb			12.4	44.5
N			18.4	38.5
T.P.	11.76	167.97	0.64	156.21
T.P.	12.87	180.35	0.49	167.48

SEE BOOK 891 FOR INTERSECTION

PLOTTED

180.35 — 190.4 — 0.64

E.L. HARASTHY

S			3.6	176.8
cb			6.3	74.1
1/4			8.0	72.4
C			9.5	70.9
1/4			10.4	70.0
cb			12.3	68.1
N			17.0	63.4
	25' EAST			
N			6.8	73.6
cb			2.7	77.7
1/4			0.6	79.8
T.P.	12.39	192.49	0.25	180.10
C			10.3	82.2
1/4			8.7	83.8
cb			7.5	85.0
S			5.2	87.3
	50' E			
S			+ 3.0	195.5
cb			0.0	92.5
1/4			1.3	91.2
C			2.6	89.9
1/4			3.6	88.9
cb			5.7	86.8
N			9.1	83.4
+20			8.1	84.4

PLOTTED

		192.49		
T.P.	12.45	204.34	0.60	191.89
		75' E		
N			11.1	193.1
cb			9.6	94.7
1/4			8.3	96.0
c			5.6	98.7
1/4			3.4	200.9
cb			2.5	201.8
S			0.7	203.6
T.P.	13.15	217.45	0.04	204.30
		100' E		
S			5.5	212.0
cb			7.4	10.1
1/4			9.9	7.6
c			12.4	5.1
1/4			13.6	3.9
cb			16.4	1.1
N			14.3	3.2
+ 20			13.0	4.5
		195' E		
N			3.6	13.9
cb			2.4	15.1
1/4			2.1	15.4
c			2.3	15.2
1/4			2.7	14.8
cb			0.6	16.9

PLOTTED

T.P.	12.96	230.37	0.04	217.41
S.			11.4	19.0
		150' E		
S			9.5	27.9
cb			2.9	27.5
1/4			3.3	27.1
c			3.5	26.9
1/4			4.1	26.3
cb			5.0	25.4
N			5.5	24.9
T.P.	12.63 ROCK 190' E on HL	241.36	0.64	229.73
		175' E		
N			9.5	31.9
cb			6.7	34.7
1/4			4.9	36.5
C			3.3	38.1
T.P.	12.98	254.49	0.85	241.51
1/4			13.2	41.3
cb			12.2	42.3
S			12.3	42.2

		25449		
	200 E			
S			5.0	249.5
cb			6.6	47.9
1/4			7.7	46.8
C			9.2	45.3
1/4			10.5	44.0
cb			11.9	42.6
N			14.0	40.5
	225 E			
N			7.0	47.5
cb			5.8	48.7
1/4			3.8	50.7
C			2.7	51.8
1/4			2.2	52.3
cb			2.2	52.3
S			0.4	54.1
TP.	12.73	26713	0.09	254.40
	250' E			
S			10.6	56.5
cb			11.5	55.6
1/4			11.3	55.8
C			11.7	55.4
1/4			12.5	54.6
cb			13.0	54.1
N			13.4	53.7

PLOTTED

26713

300' E = W. L. WINDER

N	7.1	60.0
cb	6.7	60.4
1/4	7.0	60.1
C	6.6	60.5
1/4	6.4	60.7
cb	6.6	60.5
S	6.3	60.8
BM.	2.97	264.16 Hub NE Winder Boone

PLOTTED

1/4/21 Gregory Miller Shaw

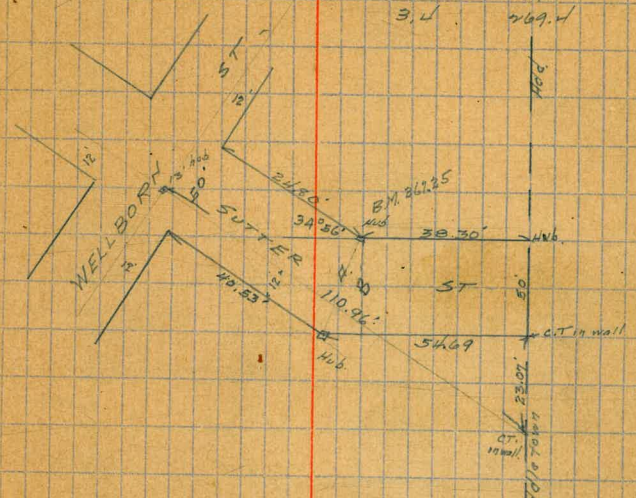
CROSS SECTION OF SUTTER ST from E.L. Wellborn St to E.L. Middletown Add

50' wide
10' cbs

	5.59	268.81		263.22	BPSE Lark + Bush
	5.50	272.75	1.56	267.25	
		E.L. Wellborn			
N			8.7	264.1	
cb			8.5	264.3	
1/4			8.7	264.1	
c			8.6	264.2	
1/4			8.0	264.8	
cb			8.4	264.4	
S			8.6	264.2	
		10' E			
S			7.1	265.7	
+3			7.8	265.0	
cb			7.6	265.2	
1/4			7.4	265.4	
c			7.7	265.1	
1/4			7.7	265.1	
cb			7.6	265.2	
N			6.7	266.1	
		20' E			
N			5.4	267.4	
cb			6.6	266.2	
1/4			7.2	265.6	
c			6.9	265.9	
1/4			6.7	266.1	

38.3 E. x B = E.L. Middle Town Add

S	2.1	270.7
+9	2.5	270.3
cb	3.4	269.4
1/4	3.1	269.7
c	3.0	269.8
1/4	3.6	269.2
cb	4.3	268.5
+1	3.5	269.3
N	3.4	269.4



cb	6.7	266.1
+7	6.9	265.9
S	6.4	266.4
24.80' E on N 40.53 E - S		
S	4.8	268.0
cb	5.6	267.2
+2	6.0	266.8
1/4	5.7	267.1
c	5.6	267.2
1/4	6.0	266.8
cb	6.5	266.3
+1	5.6	267.2
N	5.5	267.3
15.73' E. x A on S 00 E - - - N		
N	5.5	267.3
+9	5.4	267.4
cb	6.2	266.6
1/4	5.6	267.2
c	5.3	267.5
1/4	5.2	267.6
+6.5	5.4	267.4
cb	4.2	268.6
S	3.9	268.9

see above for Middletown Add Line
(Boob Trick!)

Cross-Section of G St 60' wide 10' walks
From the East Line of 27th St
To " West " " 28th "

B.M.	8.07	177.05		168.98	N.W. 27th & F Mon.
T.P.	0.42	177.13	0.34	176.71	
	East Line		27th St		
N			14.7	162.4	
cl			15.0	62.1	
1/4			15.1	62.0	
C			15.6	61.5	
1/4			16.5	60.6	
cl			17.4	59.7	
S			19.5	57.6	
	50' East				
S			14.1	63.0	
cl			12.9	64.2	
1/4			11.6	65.5	
C			10.7	66.4	
1/4			9.5	67.6	
cl			8.6	68.5	
N			7.7	69.4	
	100' East				
N			1.7	75.4	
cl			2.2	74.9	
1/4			2.6	74.5	
C			3.9	73.2	
1/4			5.6	71.5	
cl			9.3	69.8	
S			1.8	68.3	

T.P. 374	180.42		0.42	176.71
	150' East			
S			6.2	174.3
cl			5.6	74.8
1/4			5.0	75.4
C			4.3	76.1
1/4			3.7	76.7
cl			3.3	77.1
N			2.5	77.9
	200' East			
N			1.6	78.8
cl			1.8	78.6
1/4			2.2	78.2
C			2.6	77.8
1/4			2.8	77.6
cl			3.3	77.1
S			3.8	76.6
	250' East			
S			4.3	76.1
cl			4.0	76.4
1/4			4.2	76.2
C			4.2	76.2
1/4			3.8	76.6
cl			3.4	77.0
N			3.1	77.3

		180.42		
		300' EAST		
N			10.1	170.3
cb			10.2	70.2
1/4			10.3	70.1
C			10.9	69.5
1/4			10.7	69.7
cb			10.4	70.0
S			9.8	70.6
T.P	0.01	167.61	12.82	167.60
		350' EAST		
S			4.7	62.9
cb			4.5	63.1
1/4			4.2	63.4
C			4.6	63.0
1/4			4.2	63.4
cb			4.7	62.9
N			4.7	62.9
		400' EAST		
N			10.1	57.5
cb			10.3	57.3
1/4			10.1	57.5
C			10.5	57.1
1/4			11.0	56.6
cb			11.3	56.3
S			11.5	56.1
T.P.	0.02	154.77	12.86	154.75

		167.61	154.77	
		425' EAST		
S			5.2	49.6
cb			3.0	51.8
1/4			1.3	53.5
C			1.0	53.8
1/4			0.5	54.3
cb			0.2	54.6
N			0.0	54.8
		450' EAST		
N			4.9	49.9
cb			5.4	49.4
1/4			5.4	49.4
C			7.1	47.7
1/4			7.8	47.0
cb			9.9	44.9
S			12.5	42.3
		475' EAST		
S			18.3	36.5
cb			14.7	40.1
1/4			11.9	42.9
C			10.0	44.8
1/4			9.4	45.4
cb			9.3	45.5
N			9.5	45.3
T.P.	0.09	142.40	12.46	142.31

		142.40		
		500' EAST		
N			5.1	137.3
cb			4.9	37.5
1/4			5.2	37.2
c			5.5	36.9
1/4			6.9	35.5
cb			8.8	33.6
S			10.8	31.6
T.P.	0.65	130.78	12.27	130.13
		525' EAST		
S			3.7	27.1
cb			2.2	28.6
1/4			0.6	30.2
c			0.1	30.7
1/4			0.1	30.7
cb			0.4	30.4
N			0.5	30.3
		535' EAST		
N			2.0	28.8
cb			1.7	29.1
1/4			2.4	28.4
c			3.3	27.5
1/4			3.5	27.3
cb			4.3	26.5
S			5.9	24.9
T.P.	0.53	119.39	11.92	118.86

		142.40		
		575' EAST		
S			4.4	115.0
cb			4.4	115.0
1/4			4.2	15.2
c			4.3	15.1
1/4			3.7	15.7
cb			3.4	16.0
N			3.4	10.0
		600' EAST = W.L. 38TH ST		
N			6.4	13.0
cb			6.4	13.0
1/4			6.5	12.9
c			6.9	12.5
1/4			7.2	12.2
cb			7.2	12.2
S			7.8	11.6
T.P.	11.60	130.16	0.83	118.56
T.P.	12.98	143.09	0.05	130.11
T.P.	12.78	154.18	1.69	141.40
T.P.	12.41	166.58	0.01	154.17
T.P.	12.32	178.81	0.09	166.49
T.P.	9.59	177.28	11.12	167.69
ON BM			8.35	168.93 NW 37th + F MON.

7/2/13
Gregory
Steinmetz
Shaw

CROSS-SECTION OF WITHERBY ST. IN MIDDLETOWN RDO

50' WIDE
10' WALKS

N.E. Ingleside & Sunset Blvd

BM	2.05	284.95		287.90	
T.P.	0.06	272.38	12.63	272.32	

SECTION A (see sketch)

E			5.8	244.4	
ch			5.9	44.5	
1/4			6.5	45.9	
C			6.4	44.0	
1/4			6.1	44.3	
ch			6.3	44.1	
W			6.6	45.8	
		25' So.			
W			6.6	45.8	
ch			6.9		
1/4			7.1		
C			7.0	45.4	
1/4			6.4		
ch			6.1		
E			6.2	44.2	
		75' So			
E			7.6	44.8	
ch			7.7		
1/4			8.1		
C			8.4	44.0	
1/4			8.3		
ch			8.0		
W			8.1	44.3	

PLOTTED

272.38

Witherby

41

			12.5' So.		
W				10.4	262.0
ch				10.1	
1/4				9.9	
C				9.8	262.6
1/4				9.8	
ch				9.7	
E				9.8	263.6
			175' So.		
E				11.6	260.8
ch				12.1	
1/4				12.4	
C				13.1	259.3
1/4				13.4	
ch				13.6	
W				13.8	258.6
T.P.	0.73	260.38		12.73	259.65
			225' So		
W				6.4	254.0
ch				5.5	
1/4				4.8	
C				4.4	256.0
1/4				4.0	
ch				3.8	
E				3.8	256.6

260.38

50' WIDE:

249.87' So = N.L. JUAN ST ON WEST

E	5.5	254.9
cl	5.7	
1/4	6.4	
C	6.8	53.4
1/4	7.3	
cl	7.7	
W	8.4	52.0
No. CURB.		
W	9.4	51.0
cl	8.7	
1/4	8.2	
C	7.8	52.4
1/4	7.3	53.1
cl	6.8	
E	6.2	54.2
No. QUARTER		
E	6.8	53.4
cl	7.3	
1/4	7.9	
C	8.5	51.9
1/4	8.9	
cl	9.4	
W	10.2	50.2

PLOTTED

260.38

CENTER		
W	11.1	249.3
cl	10.1	
1/4	9.5	
C	9.0	51.4
1/4	8.4	
cl	8.2	
E	7.5	52.9
So. QUARTER		
E	8.3	52.1
cl	8.9	
1/4	9.3	
C	9.8	50.6
1/4	10.4	
cl	10.9	
W	11.9	48.5
So. CURB		
W	12.2	48.2
cl	11.4	
1/4	10.9	
C	10.6	49.8
1/4	9.9	
cl	9.6	
E	9.8	51.6

260.38

260.38
5.97
251.45 BM

SO. LINE JUAN ST (50' WIDE)

E			9.9	250.5
cb			10.5	
1/4			11.3	
C			11.9	48.5
1/4			12.5	
cb			12.9	
W			13.4	47.0
T.P.	1.34	248.87	12.85	247.53
	50' SO			
W			6.2	42.7
cb			5.2	
1/4			4.8	
C			4.0	44.9
1/4			3.3	
cb			2.8	
E			1.6	47.3
	100' SO.			
E			3.9	45.0
cb			5.5	
1/4			5.7	
C			7.0	41.9
1/4			7.9	
cb			8.7	
W			9.6	39.3

PLOTTED

248.9

with cb

134.8' SO. = NL. HORTON AVE 50' WIDE

W	11.8	237.1
cb	10.0	
1/4	8.9	
C	7.8	41.1
1/4	6.3	
cb	5.9	
E	4.7	44.2
	NO. CURB	
E	5.2	43.7
cb	6.4	
1/4	6.7	
C	8.2	40.7
1/4	9.1	
cb	10.9	
W	12.7	36.2
	NO. QUARTER	
W	14.0	44.9
cb	11.9	
1/4	10.4	
C	8.8	40.1
1/4	7.5	
cb	7.0	
E	5.9	43.0

248.87

CENTER

E	7.0	241.9
cl	7.8	
1/4	8.1	
C	9.5	39.4
1/4	10.8	
cl	12.1	
W	14.5	34.4

So. QUARTER

W	15.0	33.9
cl	12.4	
1/4	10.7	
C	9.7	39.2
1/4	8.9	
cl	8.7	
E	7.5	41.1

So. CURB

E	8.0	40.9
cl	8.8	
1/4	9.2	
C	10.6	38.9
1/4	11.3	
cl	13.1	
W	15.9	33.0

PLOTTED

248.87

wetherby

So. LINE HORTON AVE

W	17.3	231.6
cl	14.4	
1/4	12.3	
C	10.5	38.1
1/4	9.5	
cl	9.3	
E	8.6	40.3
T.P. 260 239.70	11.77	237.10

12.6' So. = N.L. MAIN ST (50' WIDE)

E	0.2	39.5
cl	0.9	
1/4	2.0	
C	3.3	34.4
1/4	4.9	
cl	6.6	
W	9.5	30.2

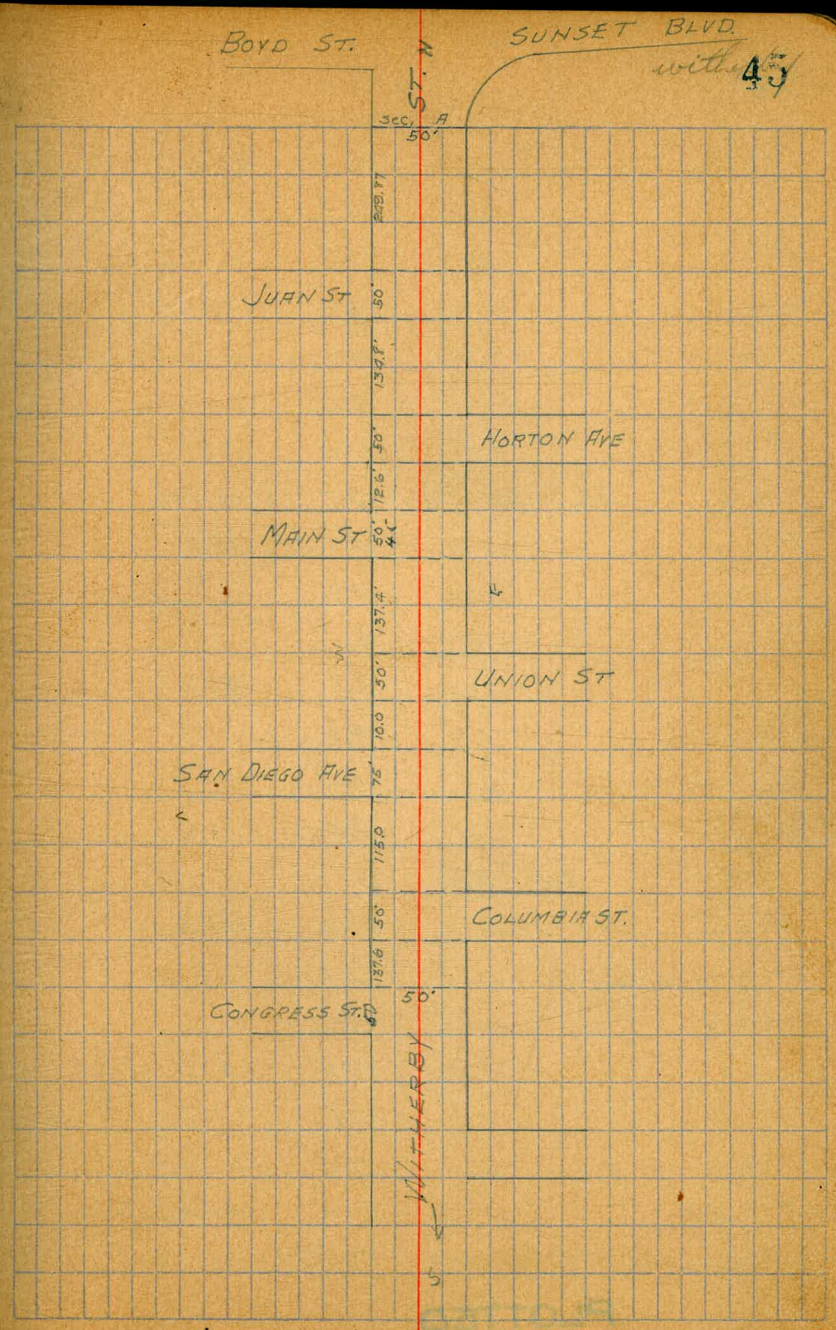
No. CURB

W	11.0	28.7
cl	7.7	
1/4	6.0	
C	4.5	35.2
1/4	3.1	
cl	1.8	
E	0.7	39.0

23970

	No. QUARTER.	
E	1.2	238.5'
ch	2.6	
1/4	4.0	
C	5.5	34.7
1/4	7.4	
ch	9.2	
W	12.6	37.1
	CENTER.	
W	13.6	24.1
ch	10.3	
1/4	8.3	
C	6.2	33.5'
1/4	4.6	
ch	3.1	
E	1.6	38.1
	SO. QUARTER	
E	2.1	37.4
ch	3.5	
1/4	5.5	
C	7.4	32.3
1/4	9.4	
ch	11.5	
W	15.2	24.5'

PLOTTED



		239.70		
		So. CURB		
W			16.2	223.5
cb			13.2	
1/4			10.8	
C			8.3	31.4
1/4			6.1	
cb			4.2	
E			2.6	37.1
		So. LINE MAIN ST (50' WIDE)		
E			4.0	35.7
cb			5.9	
1/4			8.1	
C			10.1	29.6
1/4			12.8	
cb			15.5	
W			18.2	21.5
		25' So.		
W			24.0	15.7
cb			21.0	
1/4			18.6	
C			15.8	23.9
1/4			13.8	
cb			12.2	
E			10.3	29.4
T.P.	0.35	227.42	12.63	227.07

PLOTTED

		227.42		
		50' So.		
E			7.8	219.6
cb			8.7	
1/4			9.5	
C			10.9	16.5
T.P.	0.24	214.60	13.06	214.36
1/4			0.8	
cb			2.8	
W			5.7	8.9
		87.4' So.		
W			15.0	99.6
cb			14.1	
1/4			13.6	
C			11.9	2.7
1/4			11.3	
cb			10.4	
E			11.1	3.5
T.P.	0.81	202.99	12.42	202.18
		137.4' So = N.L. UNION ST (50' WIDE)		
E			11.7	91.3
cb			11.6	
1/4			12.1	
C			12.5	90.5
1/4			13.1	
T.P.	0.28	190.63	12.64	190.35
cb			1.4	
W			2.4	188.2

190.63

	No. Curb		
W		5.0	185.6
cb		4.0	
1/4		3.0	
C		2.6	88.0
1/4		2.3	
cb		2.0	
E		2.0	88.6
	No. Quarter		
E		4.1	86.5
cb		4.1	
1/4		4.1	
C		4.8	85.8
1/4		5.3	
cb		6.0	
W		6.7	83.9
	Center		
W		8.5	82.1
cb		7.9	
1/4		7.5	
C		6.9	83.7
1/4		6.0	
cb		6.0	
E		5.9	84.7

PLOTTED

190.63 Witherby 47

	So. Quarter		
E		7.6	183.0
cb		7.6	
1/4		8.0	
C		8.9	81.7
1/4		9.4	
cb		9.9	
W		10.6	80.0
	So. Curb		
W		12.3	78.3
cb		12.2	
1/4		11.7	
C		11.4	79.2
1/4		10.7	
cb		10.2	
E		10.1	80.5
	So. Line Union St.		
E		12.5	78.1
cb		13.1	
1/4		13.4	
C		13.9	76.7
1/4		14.3	
cb		14.6	
W		14.7	75.9
T.P.	0.06 177.63	13.06	177.57

1

177.63

10' So. = N.L. SAN DIEGO AVE (75' WIDE) (12' WALKS)

W			4.2	173.4
cb			3.7	
1/4			3.5	
C			3.1	74.5
1/4			3.0	
cb			2.5	
E			2.1	75.5
	No. CURB			
E			5.3	72.3
cb			5.7	
1/4			5.8	
C			6.0	71.6
1/4			6.3	
cb			6.7	
W			6.9	70.7
	No. QUARTER.			
W			10.4	67.2
cb			9.8	
1/4			9.4	
C			9.3	68.3
1/4			9.3	
cb			9.4	
E			9.4	68.2

PLOTTED

177.63

witherby

48

CENTER

E			13.1	164.5
cb			13.1	
1/4			13.0	
C			13.3	64.3
1/4			13.5	
cb			13.4	
W			14.2	63.4
TP.	0.27	164.94	12.96	164.67
	So. QUARTER			
W			5.3	59.6
cb			5.3	
1/4			5.0	
C			5.0	59.9
1/4			5.4	
cb			4.9	
E			4.8	60.1
	So. CURB.			
E			9.0	55.9
cb			9.3	
1/4			8.9	
C			9.0	55.9
1/4			9.0	
cb			9.4	
W			9.1	55.8

1

		164.94		
	So. LINE SAN DIEGO AVE			
W			11.8	153.1
cb			12.3	
1/4			12.3	
C			12.3	52.6
1/4			12.2	
cb			12.2	
E			12.0	52.9
T.P.	0.45	152.79	12.60	152.34
	50' So.			
E			10.8	42.0
cb			10.7	
1/4			10.6	
C			10.4	42.4
1/4			10.3	
cb			10.1	
W			9.6	43.4
T.P.	0.46	140.20	13.05	139.74
	100' So			
W			6.4	33.8
cb			7.2	
1/4			7.8	
C			7.9	32.3
1/4			8.2	
cb			8.1	
E			7.8	32.4

PLOTTED

140.20 northerly

115' So. = N.L. COLUMBIA ST. (50' WIDE) (10' WALKS)

E			10.5	129.7
cb			10.2	
1/4			10.2	
C			10.3	29.9
1/4			9.9	
cb			9.8	
W			9.8	30.4
	No. CURB			
W			12.4	27.8
cb			12.2	
1/4			12.0	
C			12.0	28.7
1/4			12.1	
cb			12.1	
E			13.0	27.7
T.P.	0.03	127.27	12.96	127.24
	No. QUARTER			
E			3.6	23.7
cb			1.9	
1/4			1.1	
C			1.1	24.2
1/4			1.3	
cb			1.6	
W			1.9	25.4

CENTER

W	5.0	122.3
cb	4.2	
1/4	3.9	
C	3.6	23.7
1/4	3.9	
cb	5.0	
E	7.0	20.3

SO. QUARTER

E	9.8	17.5
cb	7.5	
1/4	6.3	
C	5.4	21.9
1/4	6.0	
cb	6.8	
W	7.8	19.5

SO. CURB

W	10.8	16.5
cb	9.8	
1/4	8.9	
C	8.4	18.9
1/4	8.6	
cb	10.1	
E	11.8	15.5

PLOTTED

SO. LINE COLUMBIA ST

E			15.1	112.7
cb			13.0	
1/4			11.4	
C			11.3	16.0
1/4			11.8	
cb			13.3	
W			16.4	10.9
TP.	1.27	115.63	12.91	114.36
		20' SO.		
W.			12.4	103.2
cb			9.3	
1/4			7.7	
C			6.7	8.9
1/4			6.9	
cb			7.3	
E			24	13.7
420			1.2	
		30' SO.		
E			9.4	6.2
cb			9.8	
1/4			9.8	
C			10.3	5.3
1/4			10.8	
cb			11.6	
W			12.2	3.4

		115.63		
		50' So.		
W			2.7	112.9
cb			2.8	
1/4			3.1	
c			3.4	12.2
1/4			3.2	
cb			3.0	
E			2.7	12.9
T.P.	11.98	127.46	0.15	115.48
T.P.	12.93	140.26	0.13	127.33
		100' So		
E			12.4	27.9
cb			12.6	
1/4			11.9	
c			11.9	28.4
1/4			11.6	
cb			11.3	
W			11.4	28.9
		137.6' So. = N.L. CONGRESS ST.		
W			0.5	39.8
cb			0.4	
1/4			0.5	
c			0.6	39.7
1/4			0.4	
cb			0.5	
E			0.1	40.2

PLOTTED

N.W. 11.05 9.04 WITHERBY

T.P.	0.48	134.74	6.00	134.26
T.P.	0.30	122.60	12.44	122.30
T.P.	0.32	109.81	13.11	109.49
T.P.	1.14	97.85	13.10	96.71
T.P.	0.10	85.06	12.89	84.96
T.P.	1.89	74.66	12.29	72.77
T.P. chk			11.05	63.61

FINISH St N.W. Old Town Rd & Cornelia

see Grade Book 39. Page 51

Elev should be 63.4

PLOTTED

7/7/13 Gregory Shoemaker Shaw

CROSS-SECTION OF ARISTA ST (50' WIDE 10' WALKS)
FROM THE N. LINE OF CHERRY ST
TO THE S " OF CHESNUT ST

B.M.	0.98	268.05		267.07	NE MADRONA AND TRIAS
T.P.	1.41	267.90	1.56	266.49	
T.P.	7.10	262.60	12.40	255.50	
		No. LINE CHERRY ST (50' WIDE 10' WALKS)			
E			9.6	253.0	
cb			12.0	50.6	
1/4			13.4	49.2	
C			15.4	47.2	
1/4			17.2	45.4	
cb			19.5	43.1	
W			23.0	39.6	
+15			29.6	33.0	
		No. CURB			
-15			27.3	35.3	
W			20.8	41.8	
cb			17.5	45.1	
1/4			15.2	47.4	
C			12.6	50.0	
1/4			10.6	52.0	
cb			8.5	54.1	
E			7.5	55.1	

PLOTTED

262.60

	No. QUARTER	
E	5.6	257.0
cb	7.3	55.3
1/4	8.1	54.5
C	10.2	52.4
1/4	12.4	50.2
cb	14.9	47.7
W	19.0	43.6
+15	25.0	37.6
	CENTER	
W	17.5	45.1
cb	13.4	49.2
1/4	9.8	52.8
C	7.7	54.9
1/4	6.6	56.0
cb	5.4	57.2
E	4.1	58.5
	SO. QUARTER	
E	2.9	59.7
cb	4.0	58.6
1/4	5.4	57.3
C	6.6	56.0
1/4	8.3	54.3
cb	11.2	51.4
W	15.2	47.4

		362.60		
		So. Curb		
W			14.1	248.5
cb			10.5	52.1
1/4			7.3	55.3
C			5.7	56.9
1/4			4.1	58.5
cb			3.0	59.6
E			2.2	60.4
	So. Line Cherry St			
E			1.4	61.2
cb			2.1	60.5
1/4			3.2	59.4
C			5.0	57.6
1/4			6.7	55.9
cb			8.1	54.5
W			12.5	50.1
T.P.	8.23	263.73	7.10	255.50
	50' So.			
W			11.7	52.0
cb			8.7	55.0
1/4			6.1	57.6
C			4.5	59.2
1/4			3.0	60.7
cb			1.9	61.8
E			1.2	62.5

PLOTTED

263.73

		100' So.		
E			1.1	262.6
cb			2.1	61.6
1/4			3.5	60.2
C			5.1	58.6
1/4			6.8	56.9
cb			9.3	54.4
W			11.8	51.9
		150' So.		
W			13.3	50.4
cb			11.6	52.1
1/4			9.3	54.4
C			7.5	56.2
1/4			5.1	58.6
cb			3.5	60.2
E			2.3	61.4
		200' So.		
E			9.1	54.6
cb			10.4	53.3
1/4			11.6	52.1
C			13.1	50.6
T.P.	0.96	252.69	12.0	251.7
1/4			3.1	49.6
cb			3.4	49.3
W			4.4	48.3

352.69

350' 50

W		6.3	246.4
cb		5.3	47.4
1/4		4.8	47.9
C		4.4	48.3
1/4		3.9	48.8
cb		3.0	49.7
E		1.4	51.3

300' 50 = N.L. PINE ST. (50' WIDE)

E		4.9	47.8
cb		5.9	46.8
1/4		6.5	46.2
C		7.6	45.1
1/4		8.5	44.2
cb		9.2	43.5
W		9.7	43.0

NO. CURB

W		9.5	43.2
cb		9.1	43.6
1/4		8.7	44.0
C		8.0	44.7
1/4		7.3	45.4
cb		6.5	46.2
E		5.6	47.1

PLOTTED

352.67

NO. QUARTER

E	5.4	347.3
cb	6.4	46.3
1/4	7.1	45.6
C	7.7	45.0
1/4	8.3	44.4
cb	8.9	43.8
W	9.4	43.3

CENTER

W	9.3	43.4
cb	8.8	43.9
1/4	8.3	44.4
C	7.8	44.9
1/4	7.1	45.6
cb	6.4	46.3
E	5.6	47.1

SO. QUARTER

E	6.0	46.7
cb	7.0	45.7
1/4	7.7	45.0
C	8.4	44.3
1/4	8.9	43.8
cb	9.4	43.3
W	10.2	42.5

		352.69		
	So. CURB			
W			10.6	242.1
cb			9.8	42.9
1/4			9.1	43.6
C			8.7	44.0
1/4			7.8	44.9
cb			7.2	45.5
E			6.6	46.1
	So. LINE PINE ST			
E			7.1	45.6
cb			8.2	44.5
1/4			8.5	44.2
C			9.5	43.2
1/4			10.1	42.6
cb			10.7	42.0
W			11.2	41.5
T.P.	1.72	347.35	7.06	345.63
	50' So			
W			3.7	43.7
cb			4.9	42.5
1/4			5.4	42.0
C			6.2	41.2
1/4			7.0	40.4
cb			7.7	39.7
E			8.4	39.0

PLOTTED

		247.35		
	100' So.			
W			11.4	236.0
cb			9.7	37.7
1/4			8.5	38.9
C			7.6	39.8
1/4			6.5	40.9
cb			6.0	41.4
E			4.3	43.1
	150' So			
E			4.3	43.1
cb			6.2	41.2
1/4			7.7	39.7
C			9.2	38.2
1/4			10.4	37.0
cb			12.0	35.4
W			14.1	33.3
	200' So.			
W			13.0	34.4
cb			10.1	37.3
1/4			8.2	39.2
C			7.0	40.4
1/4			5.9	41.5
cb			4.4	43.0
E			3.0	44.4

		347.35			
	350' So.				
E			4.1	343.3	
cb			4.6	42.8	
1/4			5.3	42.1	
C			5.9	41.5	
1/4			7.0	40.4	
cb			8.1	39.3	
W			10.8	36.6	
	300' So = N.L. MADRONA / see Book				Page
W			10.4	37.0	
cb			8.1	39.3	
1/4			6.8	40.6	
C			6.2	41.2	
1/4			5.3	42.1	
cb			4.8	42.6	
E			4.4	43.0	
T.P.	3.26	344.23	6.38	340.97	Mon Ctr ARISTA + MAD
	S.L. MADRONA ST				
E			0.4	43.8	
cb			1.1	43.1	
1/4			1.6	42.6	
C			3.4	41.8	
1/4			3.1	41.1	
cb			4.0	40.2	
W			5.3	38.9	

PLOTTED

	344.23		
	50' So.		
W		7.4	236.8
cb		6.4	37.8
1/4		5.3	38.9
C		4.7	39.5
1/4		3.8	40.4
cb		2.8	41.4
E		2.0	42.2
	100' So.		
E		1.9	42.3
cb		3.0	41.2
1/4		4.4	39.8
C		5.5	38.7
1/4		6.6	37.6
cb		7.8	36.4
W		9.4	34.8
	150' So.		
W		11.8	32.4
cb		10.8	33.4
1/4		9.6	34.6
C		7.8	36.4
1/4		6.3	37.9
cb		5.2	39.0
E		4.9	39.3

		344.23			
		175' So.			
E			8.3	235.9	
cb			9.8	34.4	
1/4			11.0	33.2	
C			12.4	31.8	
1/4			13.3	30.9	
T.P.	0.20	231.60	12.83	231.40	
cb			3.5	28.1	
W			6.0	25.6	
		905' So.			
-30			21.9	209.7	
W			19.9	11.7	✓
cb			15.8	15.8	
1/4			13.6	18.0	
C			10.7	30.9	
1/4			7.3	24.3	
cb			3.6	28.0	
E			1.1	30.5	
		930' So.			
E			11.0	20.6	
cb			15.0	16.6	
1/4			19.0	12.6	
C			22.6	9.0	
1/4			26.1	5.5	
cb			28.0	203.6	
W			34.6	197.0	✓
+65			52.0	199.6	

PLOTTED

		231.60			
-50			40.5	191.1	
-35		955' So.	46.5	185.1	
-15			32.5	199.1	
W			26.2	205.4	✓
cb			21.6	10.0	
1/4			17.0	14.6	
C			13.9	17.7	
1/4			10.3	21.3	
cb			8.1	23.5	
E			5.3	26.3	
		300' So. = N.L. HICKORY (50' WIDE)			
E			9.1	22.5	
T.P.	0.50	219.55	12.55	219.05	
cb			2.1	17.5	
1/4			5.9	13.7	
C			11.7	7.9	
1/4			15.3	204.3	
cb			20.5	199.1	
W			22.4	97.2	
+10			30.5	99.1	
		NO. CURB			
W			17.1	202.5	
cb			21.2	198.4	
1/4			20.4	99.2	
C			15.7	203.9	
1/4			8.5	11.1	
cb			4.8	14.8	
E			0.1	19.5	

219.55

	No. QUARTER		
E		9.3	217.3
cb		6.4	13.7
1/4		13.6	06.0
C		16.8	202.8
1/4		19.0	200.6
cb		17.8	201.8
W		12.2	207.4
	CENTER		
W		8.0	11.6
cb		11.5	8.1
1/4		17.1	202.5
C		18.0	201.6
1/4		16.1	203.5
cb		12.4	207.2
E		4.8	14.8
	SO. QUARTER		
E		7.7	11.9
cb		15.0	204.6
1/4		13.7	205.9
C		13.1	206.5
1/4		10.2	209.4
cb		6.2	13.4
W		1.9	17.7

PLOTTED

219.55

	SO. CURB		
W		12.4	222.0
cb		0.5	19.1
1/4		2.6	17.0
C		4.2	15.4
1/4		7.5	12.1
cb		9.8	9.8
E		13.1	206.5
+20		12.0	207.6
	SO. LINE HICKORY ST		
E		3.5	16.1
cb		1.6	18.0
T.P.	10.48 230.00	0.03	219.52
1/4		10.0	220.0
C		8.7	21.3
1/4		7.7	22.3
cb		5.7	24.3
W		2.1	27.9
T.P.	8.54 238.37	0.17	229.83
	90' SO.		
W		5.8	37.6
cb		6.9	31.5
1/4		7.4	31.0
C		7.8	30.6
1/4		8.1	30.3
cb		8.8	29.6
E		10.4	28.0

W		238.37		
	50' So.			
E			5.2	233.7
cl			5.3	33.1
1/4			4.8	33.6
C			4.7	33.7
1/4			4.6	33.8
cl			4.2	34.2
W			3.6	34.8
T.P.	10.11	245.19	3.29	235.08
	100' So.			
W			6.8	38.4
cl			6.9	38.3
1/4			7.1	38.1
C			7.1	38.1
1/4			7.0	38.2
cl			7.2	38.0
E			7.0	38.2
	150' So			
E			4.4	40.8
cl			4.8	40.4
1/4			5.1	40.1
C			5.4	39.8
1/4			5.5	39.7
cl			5.7	39.5
W			5.7	39.5

PLOTTED

		245.19	
	200' So		
W		6.7	238.5
cl		6.0	39.2
1/4		5.8	39.4
C		5.5	39.7
1/4		4.8	40.4
cl		4.4	40.8
E		3.9	41.3
	250' So		
E		3.0	42.2
cl		4.1	41.1
1/4		4.9	40.3
C		5.8	39.4
1/4		6.3	38.9
cl		6.9	38.3
W		7.3	37.9
	300' So. = N.L. CHESNUT ST (50' WIDE)		
W		9.9	35.3
cl		8.8	36.4
1/4		8.2	37.0
C		7.8	37.4
1/4		6.9	38.3
cl		5.8	39.4
E		4.7	40.5

245.19

No. Curb

E	5.2	240.0
cb	6.3	38.9
1/4	7.2	38.0
C	8.2	37.0
1/4	9.0	36.2
cb	9.5	35.7
W	10.6	34.6

No. Quarter

W	11.4	33.8
cb	10.3	34.9
1/4	9.3	35.9
C	8.6	36.6
1/4	8.0	37.2
cb	7.1	38.1
E	6.1	39.1

Center

E	6.8	38.4
cb	7.7	37.5
1/4	8.4	36.8
C	9.1	36.1
1/4	9.7	35.5
cb	10.4	34.8
W	12.4	32.8

PLOTTED

245.19

61

So. Quarter

W	12.8	232.4
cb	11.4	33.8
1/4	10.3	34.9
C	9.5	35.7
1/4	8.6	36.6
cb	8.0	37.2
E	7.6	37.6

So. Curb

E	7.7	37.5
cb	8.3	36.9
1/4	9.0	36.2
C	9.9	35.3
1/4	11.1	34.1
cb	12.1	33.1
W	13.3	31.9

So. Line Chesnut

W	14.1	31.1
cb	12.8	32.4
1/4	11.6	33.6
C	10.5	34.7
1/4	9.3	35.9
cb	8.9	36.3
E	8.5	36.7

PLOTTED

TP	12.70	257.57	0.32	244.87
TP	12.23	269.64	0.16	257.41
BM			2.55	267.09

NE Trias + Mrd

10/4/21

Levels on Dirt Curb
Witherby St
from Hickory to Sunset.

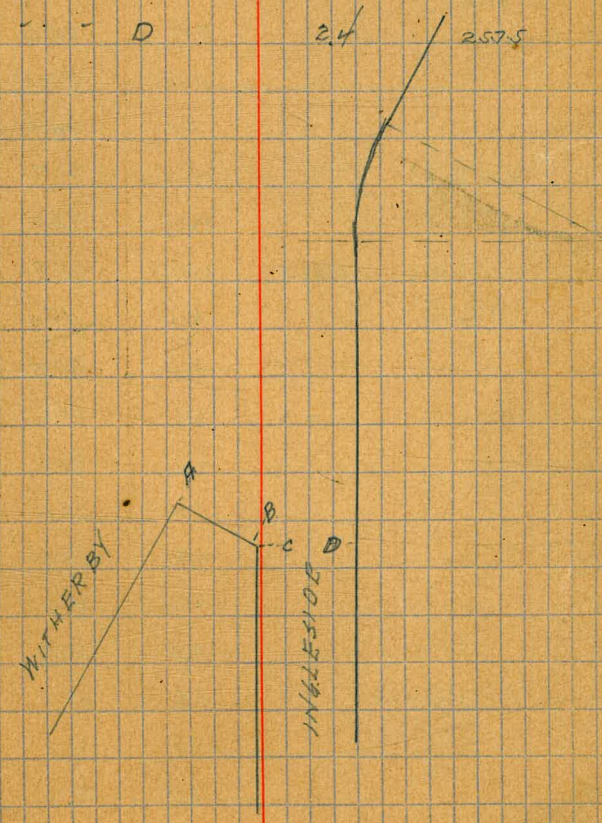
	8.03	259.09		251.06
		S.L. Hickory on E		
Wcb			7.30	251.79
Ecb			5.80	253.29
		50' S		
Ecb			5.60	253.49
Wcb			6.50	252.59
		100' S		
Wcb			5.80	253.29
Ecb			4.40	254.69
		125' S		
Ecb			4.00	255.09
W			5.30	253.79
		150' S		
Wcb			5.30	253.79
Ecb			4.40	254.69
		196' S = P.C.		
Ecb			4.70	254.39
Wcb			5.70	253.39
		250' S		
Wcb			6.20	252.89
		300' S = N.L. Chestnut on E.		
Wcb			6.00	253.09

Measurements all taken on E. side

	351.8' S = S.L. Chestnut on E		
Wcb (cement) S.L. chesnut		6.07	253.02
Ecb		5.30	253.79
		5.02	W54.07 on spk SE
	400' S		
Ecb		4.7	254.4
cement cb on W.			
	450' S		
Ecb		4.3	254.8
cement cb on W.			
	500' S		
Ecb		4.0	255.1
cement cb on W			
	550' S		
Ecb		3.6	255.5
cement cb on W			
	600' S		
Ecb		3.1	256.0
cement cb on W			
	650' S		
Ecb.		2.6	256.5
Wcb. cement N.L. Whitman		3.00	256.09
T.P. 7.47 W63.85		W71	W56.38
	700' S		
Ecb		6.9	257.0
St not graded on W			

	263.85		
	750' S		
Ecb		6.30	257.55 ✓
	800' S		
Ecb		5.8	258.1 ✓
	850' S		
Ecb		5.2	258.7 ✓
	900' S		
Ecb		4.9	259.0 ✓
	950' S		
Ecb		4.4	259.5 ✓
	977.44' S = N.L. Sunset Blvd (at L's to NE cor)		
Ecb		4.1	259.8 ✓

5.86	259.93 ✓	254.07
Dirt ob at Pt A	5.80	254.13 ✓
✓ ✓ ✓ ✓ B	4.00	255.93 ✓
✓ ✓ ✓ ✓ C	3.80	256.13 ✓
✓ ✓ ✓ ✓ D	2.4	257.5



10/13/21 Gregory Moore Miller Shaw

Levels on ℄ of 30th St. Woolman to Greeley Showing Grade of Present Road.

	0.70	88.73		88.03	BP NW 30th + Woolman
SL Woolman = 0+00			2.4	86.3	
+50			2.2	86.5	
1			2.4	86.3	
+50			3.7	85.0	
2			6.2	82.5	
+50			9.0	79.7	
3	= NL Valle		11.0	77.7	
+50			12.8	75.9	
T.P.	1.69	77.65	12.77	75.96	
+80	= SL Valle		3.2	74.5	
4			4.0	73.7	
+50			5.1	72.6	
5			6.8	70.9	
+50			8.2	69.5	
6			9.8	67.9	
+25			10.1	67.6	
+50			9.7	68.0	
+80	N.L. Martin		8.6	69.1	
7			7.8	69.9	
+30			6.4	71.3	
+60	= SL. Martin		5.4	72.3	
8			4.7	73.0	
+50			4.1	73.6	
9			3.4	74.3	
+50			3.0	74.7	
10			3.1	74.6	
+60 = N.L. Greeley			2.9	74.8	
chk			4.02	73.63 = 73.66	sp/SW. Martin

10/3/24 Gregory CROSS SECTION OF WIGHTMAN AVE 60' wide 10' cbs

on BM	1259	309.98		297.39	SE Wightman + Arnold
		E. L. Arnold.			
S on inside corner walk			12.30	297.68	on cement
cb			12.50	297.48	✓ ✓
gutter			13.10	296.88	on paving
1/4			12.47	297.51	✓ ✓
c			12.17	297.81	✓ ✓
1/4			12.07	297.91	✓ ✓
gutter			12.27	297.71	✓ ✓
cb			11.52	298.46	on cement
N on inside corner walk			11.29	298.69	
		4' E			
N			9.6	300.4	
+7			9.6	300.4	
+8			10.8	299.2	
cb			10.8	299.2	
+3			11.0	299.0	
+4			11.5	298.5	
+9			11.7	298.3	
1/4			9.5	300.5	
+5			9.0	301.0	
+7			11.4	298.6	
c			11.4	298.6	
+7			11.4	298.6	
1/4			9.7	300.3	

cb		9.6	300.4
S		10.2	299.8
	20' E		
S		9.3	300.7
cb		9.2	300.8
1/4		9.0	301.0
c		9.0	301.0
1/4		8.5	301.5
+1		11.2	298.8
+7		11.1	298.9
+8		8.8	301.2
cb		8.8	301.2
N		8.7	301.3
	35' E		
N		8.4	301.6
cb		8.5	301.5
+6		8.4	301.6
+7		11.0	299.0
1/4		11.2	298.8
+2		10.7	299.3
+5		8.4	301.6
c		8.4	301.6
1/4		8.4	301.6
cb		8.5	301.5
S		8.7	301.3

30998

	53' E	
S	8.3	301.7
cb	8.2	301.8
1/4	8.2	301.8
C	8.0	302.0
+5	7.8	302.2
+6	10.2	299.8
1/4	10.8	299.2
+7	10.5	299.5
+5	8.0	302.0
cb	8.0	302.0
N	7.9	302.1
	65' E	
N	7.7	302.3
cb	7.6	302.4
+8	7.4	302.6
1/4	10.2	299.8
+3	10.0	300.0
+8 +7	9.2	300.8
+8	7.4	302.6
C	7.6	302.4
1/4	7.8	302.2
cb	7.7	302.3
S	7.7	302.3
	75' E	
S	7.3	302.7

WIGHTMAN

cb	7.3	302.7
1/4	7.4	302.6
C	7.3	302.7
+1	7.3	302.7
+3	9.6	300.4
+6	10.1	299.9
+9	9.9	300.1
1/4	7.4	302.6
cb	7.4	302.6
N	7.3	302.7
	92' E	
N	7.0	303.0
cb	6.4	303.6
1/4	6.3	303.7
+2	7.2	302.8
+3	9.2	300.8
C	8.2	301.8
+1	6.2	303.8
1/4	6.7	303.3
cb.	6.6	303.4
S	6.6	303.4
	102' E	
S	6.0	304.0
cb	6.0	304.0
1/4	6.2	303.8
+5	6.1	303.9

309.98

+7	7.8	302.2
C	8.2	301.2
+5	8.3	301.7
+6	6.0	304.0
1/4	5.8	304.2
cb	5.8	304.2
N	6.1	303.9

120' E

N	5.3	304.7
cb	4.7	305.3
1/4	5.1	304.9
+4	5.2	304.8
+5	8.3	301.7
C	8.0	302.0
+3	7.0	303.0
+5	4.9	305.1
1/4	5.0	304.0
cb	5.4	304.6
S = front of garage	4.8	305.2

128' E

S	4.6	305.4
cb	4.9	305.1
1/4	4.8	305.2
C	5.0	305.0
1/4	4.4	305.6
cb	4.3	305.7
N	4.7	305.3

134' E

N	3.7	306.3
cb	3.6	306.4
1/4	3.7	306.3
+4	4.0	306.0
+6	7.3	302.7
C	7.3	302.7
+6	7.5	302.5
+8	4.1	305.9
1/4	4.1	305.9
cb	4.0	306.0
S	4.0	306.0

155' E

S	2.8	207.2
cb	2.5	307.5
+2	4.4	305.6
+7	7.0	303.0
1/4	7.0	303.0
+6	7.1	302.9
+7	2.5	307.5
C.	2.6	307.4
1/4	1.8	308.2
cb	1.8	308.2
N	2.2	307.8

		30998		
		165' E		
N			1.1	308.9
cb			0.9	309.1
1/4			1.0	309.0
C			1.0	309.0
+2			2.1	308.1
+5			1.7	308.3
+6			4.7	305.3
1/4			5.3	304.7
+8			5.2	304.8
cb			1.4	308.6
S			1.9	308.1
		171' E		
S			1.7	308.3
+2			2.0	308.0
+3			1.3	308.7
cb			0.7	309.3
~~+8~~ +2			4.3	305.7
1/4			4.8	305.2
+4			0.5	309.5
+7			1.4	308.6
C			0.5	309.5
1/4			0.2	309.8
cb			0.0	310.0
N			0.0	310.0
T.P.	873	31858	0.13	30985

	182' E	
N	7.5	311.1
cb	7.2	311.4
1/4	7.9	310.7
C	8.2	310.4
+8	8.4	310.2
1/4	9.6	309.0
+5	13.2	305.4
+7	13.2	305.4
+8	11.5	307.1
+9	8.6	310.0
cb	8.6	310.0
~~S~~ +7	9.5	309.1
S	9.5	309.1
	196' E	
S	8.4	310.2
cb	7.5	311.1
+3	9.8	308.8
+7	10.3	308.3
+8	12.2	306.4
1/4	12.2	306.4
+5	10.6	308.0
+6	7.0	311.6
C	6.4	312.2
1/4	6.3	312.3
cb	6.1	312.5
N	6.1	312.5

31858

213' E

N	5.0	313.6
cb	4.5	314.1
1/4	4.4	314.2
+5	4.0	314.6
c	4.5	314.1
+4	5.2	313.4
+8	5.9	312.7
1/4	7.4	311.2
+3	10.3	308.3
cb	10.0	308.6
+2	6.0	312.6
+7	6.8	311.8
S	6.7	311.9

228' E

S	6.0	312.6
+4	5.5	313.1
+5	4.8	313.8
+9	4.5	314.1
cb	7.1	310.5
+1	7.5	310.1
+6	7.7	310.9
1/4	5.6	313.0
c	3.2	315.4
1/4	3.6	315.0
cb	3.9	314.7
N	4.0	314.6

237' E

N	3.8	314.8
cb	3.5	315.1
1/4	3.8	314.8
+7	3.3	315.3
c	2.3	316.3
+6	2.5	316.1
1/4	4.5	314.1
+4	6.4	312.2
+8	6.4	312.2
+9	3.9	314.7
cb	3.9	314.7
S	5.4	313.2

244' E

S	4.5	314.1
cb	3.5	315.1
+1	4.7	313.9
+7	4.0	314.6
1/4	2.5	316.1
c	2.0	316.6
+3	3.0	315.6
1/4	3.4	315.2
cb	3.2	315.4
N	3.3	315.3

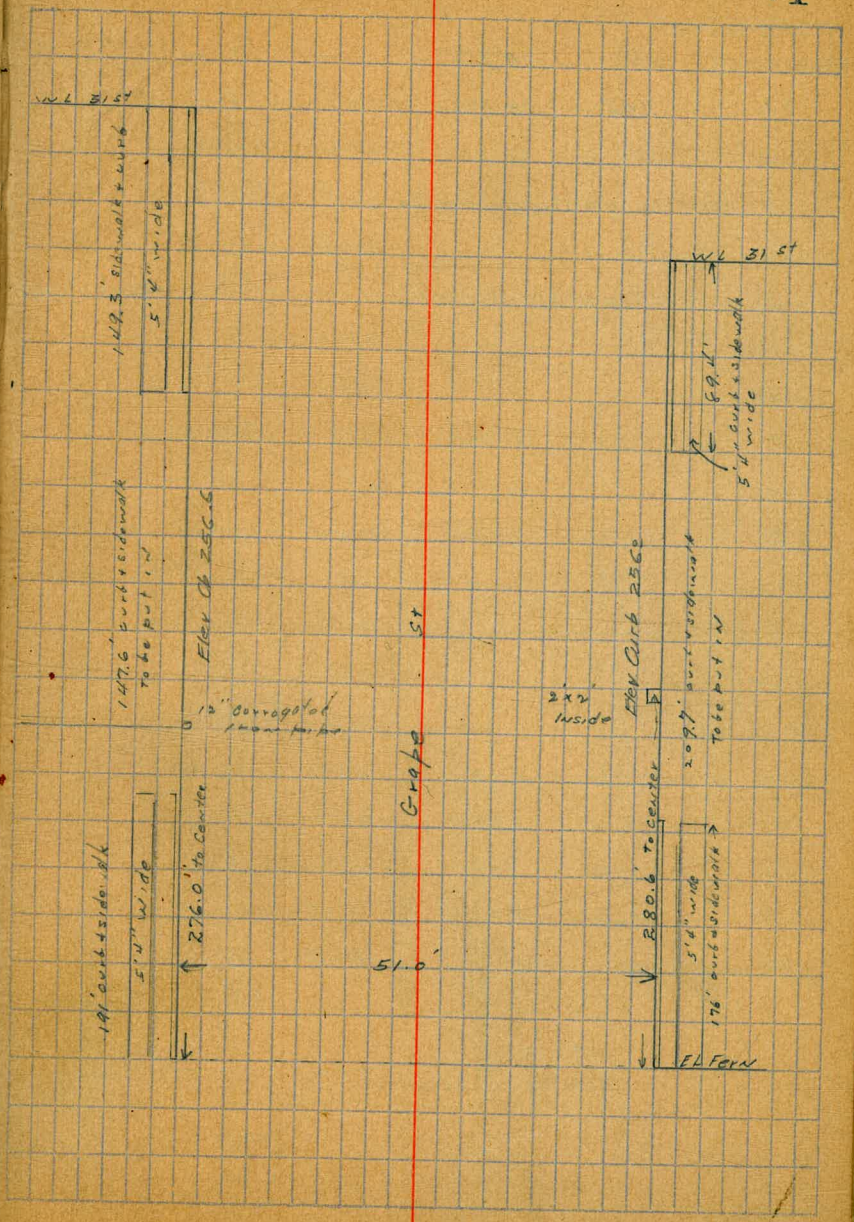
	318.58			
	252'E			
N		2.9	315.7	
cb		2.7	315.9	
1/4		3.2	315.4	
c		3.0	315.6	
1/4		2.5	316.1	
cb		3.0	315.6	
+3		3.0	315.6	
S		3.5	315.1	
	265'E	= W.L. VILLA TERRACE		
S = inside edge of walk		2.34	316.24	on cement
cb		2.49	316.09	" "
gutter		3.1	315.5	
1/4		2.7	315.9	
c		2.8	315.8	
1/4		2.9	315.7	
cb		2.60	315.98	on cement
N = inside corner of walk		2.32	316.26	" "

11/6/2 J

Location of Catch Basins on Grape Between Fern & 31 St

Moore
Earle
Kelley

	0.50	269.97		269.47	SE Grap + Fern
TP	3.36	262.23	11.10	258.87	
on top Concrete wall on S side			8.7	253.49	South side
flowline 12" Corrugated iron pipe			9.30	252.93	North

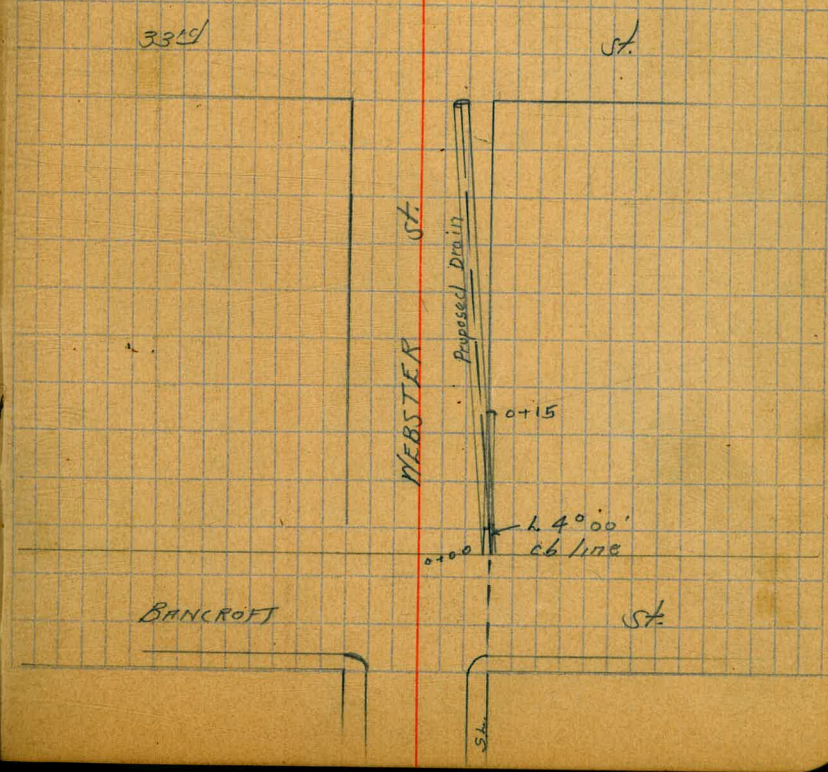


Walker
5-14-27

LEVELS FOR DRAIN
Webster + Bancroft St.

S.N. B.M. 3' tie out tack

Webster + 32.72	0.51	85.63		85.12	
T.P.	0.45	73.50	12.58	73.05	
T.P.	3.07	63.61	12.96	60.54	
0+00 = Flow line of 8" Corrugated Iron Pipe			6.68	57.93	
0+00 on top of cb.			5.65	57.96	
0+15 on Flow line at End of Exist. culvert			R= 7.89	55.92	Approx. 1' south of line
0+50			9.2	54.4	
1+00			12.9	50.7	
T.P.	0.50	51.32	12.79	50.82	
1+31			2.5	48.8	
T.P.	0.44	38.74	13.02	38.30	
1+64			1.8	36.9	
1+96			14.6	24.1	
2+01			17.5	21.2	
2+30 = End			20.3	18.4	
T.P.	12.78	51.00	0.52	38.22	
T.P.	13.11	63.84	0.27	50.73	
T.P.	13.06	76.71	0.19	63.65	
T.P.	12.63	89.24	0.10	76.61	
chk. on. B.M. Webster + 32.72			4.12	85.12	
				85.12 / 0.00 =	Accident



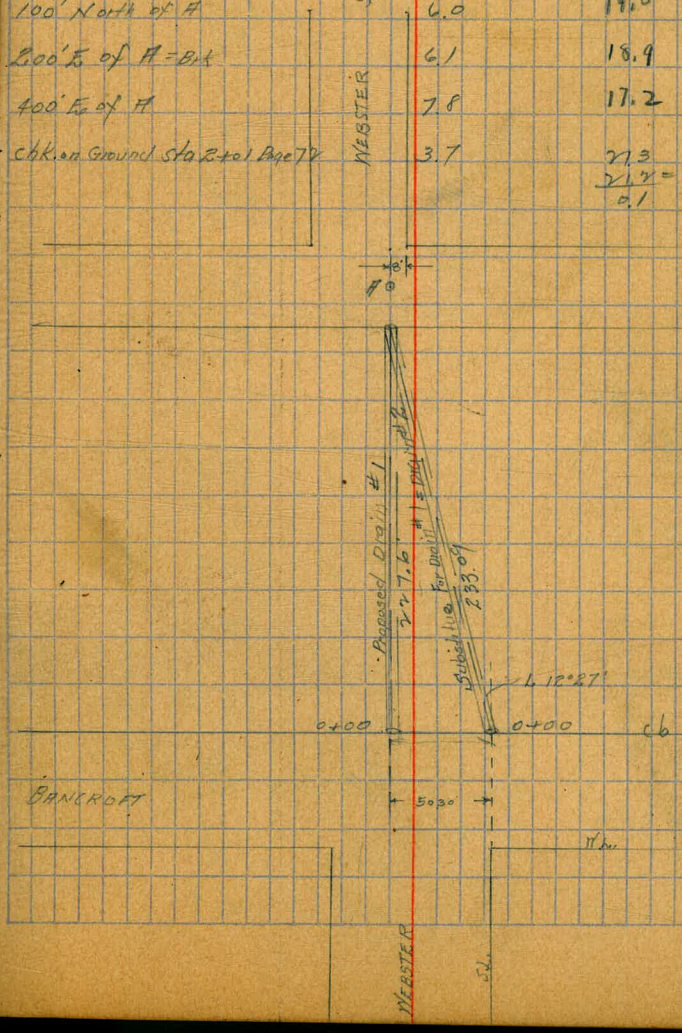
Walker 5-27-27

LEVELS FOR DRAIN ON WEBSTER St. EAST of BANCROFT

N.W. 3 tie at hot Webster + Bancroft	0.38	62.85		62.47
0+00 #2 on top cb			4.89	57.96
+00 on Flow line			5.92	57.93
0+18 #2			5.2	57.7
+25 #2			6.8	56.1
+50 #2			8.3	54.6
1+00 #2			11.5	51.4
+36 #2			12.4	50.5
0+00 #1 on top cb			3.78	59.1
+13 #1			4.2	58.7
+17 #1			5.8	57.1
+50 #1			7.8	55.1
1+00 #1			11.0	51.9
T.P.	0.49	50.25	13.09	49.76
1+30 #1			1.1	49.2
+47 #1			4.2	46.1
+75 #1			14.6	35.7
1+47 #2			4.8	45.5
1+59 #2			7.9	42.4
T.P.	0.40	37.77	12.88	37.37
1+89 #2			7.7	30.1
2+13 #2			16.8	21.0
1+92 #1			9.5	28.3
T.P.	0.36	25.01	13.12	24.65
2+19 #1			5.3	19.7
2+23 #1			7.0	18.0

25.01

2+27.6 #1	6.5	18.5
2+24 #2	5.2	19.8
2+25 #2	7.0	18.0
2+33.09 #2	6.5	18.5
A	6.5	18.5
200' South of A	8.0	17.0
100' North of A	6.0	19.0
200' E. of A = Bk	6.1	18.9
400' E. of A	7.8	17.2
cbk. on Ground Sta 2+01 Page 72	3.7	21.3 2.2 = Ground 0.1



8/29/27 Moore

Curb Levels on Cape May Ave

Abbott to Ocean

80' wide
20' curbs

NWBP	2.32	11.21		8.89	Cape May Abbott
	WL Abbott = 00				
N cb			2.26	8.95	
S cb			2.50	8.71	
	0+50				
S cb			3.02	8.19	
N cb			2.80	8.41	
	1+00				
N cb			3.25	7.96	
S cb			3.53	7.68	
	1+50				
S cb			3.98	7.23	
N cb			3.75	7.46	
	2+00				
N cb			4.20	7.01	
S cb			4.38	6.83	
	2+50				
S cb			4.94	6.27	
N cb			4.79	6.42	
	3+00				
N cb			5.26	5.95	
S cb			5.41	5.80	
	3+50				
S cb			5.85	5.36	
N cb			5.76	5.45	

11.21

4+00		
N cb	6.21	5.00
S cb	6.38	4.83
4+50		
SL	5.1	6.11
cb Top cement	6.83	4.38
cb	5.9	5.3
1/4	6.6	4.6
c	6.6	4.6
1/4	6.9	4.3
cb Top cement	6.77	4.44 also ground
NL	4.9	6.3
4+78 = end of curb on South		
NL	5.2	6.0
cb ground	5.2	6.0
cb top cement	6.98	4.23
1/4	4.6	6.6
c	5.0	5.6
1/4	5.4	5.8
cb ground	5.5	5.7
cb end top cement	7.16	4.05
SL	5.9	5.3
4+99 end of curb on NL		
SL	6.5	4.7
cb	5.5	5.7
1/4	6.0	5.2

1

	1/21		
C		5.6	5.6
1/4		6.N	5.0
cb	ground	6.6	4.6
cb	top cement	8.15	~~3.0~~
NL		5.5	5.7
	Levels for culvert	North curb	
	at west end = 0 0		
end curb on North = 0+00		8.15	3.0
0+07		6.6	4.6
0+38		7.8	3.4
0+40		11.7	-0.5
0+50 approx. present M.H. Tide		12.5	-1.7
1		14.3	-3.1

Natural Tangents

DEG.	0′	10′	20′	30′	40′	50′	DEG.	DEG.	0′	10′	20′	30′	40′	50′	DEG.
0	0000	0029	0058	0087	0116	0145	89	40	8391	8441	8491	8541	8591	8642	49
1	0175	0204	0233	0262	0291	0320	88	41	8693	8744	8796	8847	8899	8952	48
2	0349	0378	0407	0437	0466	0495	87	42	9004	9057	9110	9163	9217	9271	47
3	0524	0553	0582	0612	0641	0670	86	43	9325	9380	9435	9490	9545	9601	46
4	0699	0729	0758	0787	0816	0846	85	44	9657	9713	9770	9827	9884	9942	45
5	0875	0904	0934	0963	0992	1022	84	45	1.0000	1.0058	1.0117	1.0176	1.0235	1.0295	44
6	1051	1080	1110	1139	1169	1198	83	46	1.0355	1.0416	1.0477	1.0533	1.0599	1.0661	43
7	1228	1257	1287	1317	1346	1376	82	47	1.0724	1.0786	1.0850	1.0913	1.0977	1.1041	42
8	1405	1435	1465	1495	1524	1554	81	48	1.1106	1.1171	1.1237	1.1303	1.1369	1.1436	41
9	1584	1614	1644	1673	1703	1733	80	49	1.1504	1.1571	1.1640	1.1708	1.1778	1.1847	40
10	1763	1793	1823	1853	1883	1914	79	50	1.1918	1.1988	1.2059	1.2131	1.2203	1.2276	39
11	1944	1974	2004	2035	2065	2095	78	51	1.2349	1.2423	1.2497	1.2572	1.2647	1.2723	38
12	2126	2156	2186	2217	2247	2278	77	52	1.2799	1.2876	1.2954	1.3032	1.3111	1.3190	37
13	2309	2339	2370	2401	2432	2462	76	53	1.3270	1.3351	1.3452	1.3514	1.3597	1.3680	36
14	2493	2524	2555	2586	2617	2648	75	54	1.3764	1.3848	1.3934	1.4019	1.4106	1.4193	35
15	2679	2711	2742	2773	2805	2836	74	55	1.4281	1.4370	1.4460	1.4550	1.4641	1.4733	34
16	2867	2899	2931	2962	2994	3026	73	56	1.4826	1.4919	1.5013	1.5108	1.5204	1.5301	33
17	3057	3089	3121	3153	3185	3217	72	57	1.5399	1.5497	1.5597	1.5697	1.5798	1.5900	32
18	3249	3281	3314	3346	3378	3411	71	58	1.6003	1.6107	1.6212	1.6319	1.6426	1.6534	31
19	3443	3476	3508	3541	3574	3607	70	59	1.6643	1.6753	1.6864	1.6977	1.7090	1.7205	30
20	3640	3673	3706	3739	3772	3805	69	60	1.7321	1.7437	1.7556	1.7675	1.7797	1.7917	29
21	3839	3872	3906	3939	3973	4006	68	61	1.8040	1.8165	1.8291	1.8418	1.8546	1.8676	28
22	4040	4074	4108	4142	4176	4210	67	62	1.8807	1.8940	1.9074	1.9210	1.9347	1.9486	27
23	4245	4279	4314	4348	4383	4417	66	63	1.9626	1.9768	1.9912	2.0057	2.0204	2.0353	26
24	4452	4487	4522	4557	4592	4628	65	64	2.0503	2.0655	2.0809	2.0965	2.1123	2.1283	25
25	4663	4699	4734	4770	4806	4841	64	65	2.1445	2.1609	2.1775	2.1943	2.2113	2.2286	24
26	4877	4913	4950	4986	5022	5059	63	66	2.2460	2.2637	2.2817	2.2998	2.3183	2.3369	23
27	5095	5132	5169	5206	5243	5280	62	67	2.3559	2.3750	2.3945	2.4142	2.4342	2.4545	22
28	5317	5354	5392	5430	5467	5505	61	68	2.4751	2.4960	2.5172	2.5386	2.5605	2.5826	21
29	5543	5581	5619	5658	5696	5735	60	69	2.6051	2.6279	2.6511	2.6746	2.6985	2.7228	20
30	5774	5812	5851	5890	5930	5969	59	70	2.7475	2.7725	2.7980	2.8239	2.8502	2.8770	19
31	6009	6048	6088	6128	6168	6208	58	71	2.9042	2.9319	2.9600	2.9887	3.0178	3.0475	18
32	6249	6289	6330	6371	6412	6453	57	72	3.0777	3.1084	3.1397	3.1716	3.2041	3.2371	17
33	6494	6536	6577	6619	6661	6703	56	73	3.2709	3.3052	3.3402	3.3759	3.4124	3.4495	16
34	6745	6787	6830	6873	6916	6959	55	74	3.4874	3.5261	3.5656	3.6059	3.6470	3.6891	15
35	7002	7046	7089	7133	7177	7221	54	75	3.7321	3.7760	3.8208	3.8657	3.9136	3.9617	14
36	7265	7310	7355	7400	7445	7490	53	76	4.0108	4.0611	4.1126	4.1653	4.2193	4.2747	13
37	7536	7581	7627	7673	7720	7766	52	77	4.3315	4.3897	4.4494	4.5107	4.5736	4.6382	12
38	7813	7860	7907	7954	8002	8050	51	78	4.7046	4.7729	4.8430	4.9152	4.9894	5.0658	11
39	8098	8146	8195	8243	8292	8342	50	79	5.1446	5.2257	5.3093	5.3955	5.4845	5.5764	10
DEG.	60′	50′	40′	30	20′	10′	DEG.	DEG.	60′	50′	40′	30′	20′	10′	DEG.

DEG.	0′	10′	20′	30′	40′	50′	DEG.
80	5.6713	5.7694	5.8708	5.9758	6.0844	6.1970	9
81	6.3138	6.4348	6.5606	6.6912	6.8269	6.9682	8
82	7.1154	7.2687	7.4287	7.5958	7.7704	7.9530	7
83	8.1443	8.3450	8.5555	8.7769	9.0098	9.2553	6
84	9.5144	9.7882	10.078	10.385	10.711	11.059	5
85	11.430	11.826	12.250	12.706	13.197	13.727	4
86	14.300	14.924	15.605	16.350	17.169	18.075	3
87	19.081	20.206	21.470	22.903	24.542	26.432	2
88	28.636	31.242	34.368	38.189	42.964	49.104	1
89	57.290	68.750	85.940	114.588	171.885	343.77	0
DEG.	60′	50′	40′	30′	20′	10′	DEG.

Natural Cotangents

360
113 49
10 2 11
5735 64
351.5
9 3 7 44
9 50

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.