

1252

BACK

LEVEL 1001

No. 300F

38^B + Logon N E Mon 94.32
39^B 13' Mon 90.93
38^B + National SEBP 76.58
39^B 0'' SW'' 83.05

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Dwight & 70th
36 EP 227.53
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CALIFORNIA.

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No. 380 to 385 7/9/64 H.H.

Dec 21

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X sec. Orange Ave 39 th to Euclid	1 to 38
X Sec Alley Blk 406 Helpingstone	39
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curb levels 40 th Dwight to N. end	68
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U.H. 50076 7106 UH

Bliss
Duesmit
Hoback
5/15/88
DM N.V. 8 P.
2011139

X Section Orange Ave from
The E Line of 34th to W line of Euclid

	5.32	379.79	374.97
	0+00 = E Line of 34 th ^{52.51} _{13.14's}		
N Topcb	5.18	374.61	
Gutter	5.08	374.71	373.6
1/4	5.33	374.46	
1/4	5.57	374.22	
1/4	5.79	374.00	
Gutter	6.51	373.28	
S Topcb	6.02	373.8	
	05' E		
S Top	6.00	373.8	
Gutter	6.4	373.4	
1/4	5.7	374.1	
1/4	5.4	374.4	
1/4	5.3	374.5	
+10	5.3	374.5	
Gutter	5.9	373.9	
N Topcb	5.13	374.7	
	27' E W line Alley on S		
Topcb	5.00	374.8	
Gutter	5.6	374.2	
+3	5.4	374.4	
1/4	5.2	374.6	
1/4	5.1	374.7	
1/4	5.5	374.3	
+9	6.0	373.8	

X
379.79

Gutter	6.2	373.6
S Top	5.91	373.9
	47' East E Line Alley on S	
S Topcb	5.70	374.1
Gutter	6.0	373.8
1/4	5.4	374.4
+5	5.1	374.7
1/4	5.1	374.7
1/4	5.2	374.6
Gutter	5.6	374.2
N Topcb	4.87	374.9
	100' E	
Topcb	4.59	375.2
Gutter	5.3	374.5
1/4	5.1	374.7
1/4	5.0	374.8
1/4	5.5	374.3
Gutter	6.0	373.8
S Topcb	5.36	374.4
	125' E W line of Alley on N	
S Topcb	5.17	374.6
Gutter	5.9	373.9
1/4	5.4	374.4
1/4	5.0	374.8
1/4	5.1	374.7
Gutter	5.0	374.8

	π		
	379.79		
Topcb	4.43	375.4	530
	140' E Eline Alley on N		
Topcb	4.46	375.3	
Gutter	5.0	374.8	
1/4	5.0	374.8	
℄	4.9	374.9	
1/4	5.3	374.5	
Gutter	5.8	374.0	
Topcb	5.14	374.7	
	183' E		
S Topcb	4.87	374.9	
Gutter	5.3	374.5	
1/4	4.7	375.1	
℄	4.4	375.4	
1/4	4.6	375.2	
Gutter	4.9	374.9	
N Topcb	4.30	375.5	32' Roadway
	187' E W line of Swift		
N Topcb	4.29	375.5	on paving
Gutter	4.94	374.9	
1/4	4.47	375.3	
℄	4.50	375.3	
1/4	4.80	375.1	
Gutter	5.26	374.5	
S Topcb	4.79	375.0	

	π		Elev
	379.79		52' Roadway
			2
			E line of Swift = 00
			"on Paving"
S Topcb	4.08	375.7	
Gutter	4.63	375.2	
1/4	4.12	375.7	
℄	3.80	376.0	
1/4	3.89	376.0	
Gutter	4.14	375.7	
N Topcb	3.61	376.2	
	07' E		
Topcb	3.53	376.3	
Gutter	4.0	375.8	
1/4	3.6	376.2	
℄	3.7	376.1	
1/4	4.0	375.8	
Gutter	4.5	375.3	
Topcb	4.06	375.7	
	50' East		
S Topcb	3.73	376.1	
Gutter	4.6	375.2	
1/4	3.8	376.0	
℄	3.4	376.4	
1/4	3.6	376.2	
Gutter	3.6	376.2	
N Topcb	3.29	376.6	
	100'		
N Topcb	2.80	377.0	

379.79

Gutter 3.3 376.5
 1/4 3.1 376.7
 1/4 3.0 376.8
 1/4 3.4 376.4
 Gutter 4.0 375.8
 S Topcb 3.35 376.4

105' E. W. line of Alley on S

S Topcb 3.27 376.52
 T.P. 5.58 38210 3.27 376.52

125' E. E. line of S Alley W. line of Alley

S Topcb 5.96 376.6
 Gutter 6.1 376.0
 1/4 5.6 376.5
 1/4 5.2 376.9
 1/4 5.4 376.7
 Gutter 5.3 376.8
 Topcb 4.93 377.2

140' E. E. line N. Alley

N Topcb at Alley 4.87 377.2

150' E

N Topcb 4.71 377.4
 Gutter 5.4 376.7
 1/4 5.4 376.7
 1/4 5.1 377.0
 1/4 5.7 376.4
 Gutter 6.1 376.0

38210

3

S Topcb 5.3.9 376.9
 200' E
 S Topcb 5.07 377.0
 Gutter 5.8 376.3
 1/4 5.3 376.8
 1/4 4.8 377.3
 1/4 5.0 377.1

Gutter 5.2 376.9
 N Topcb 4.38 377.7

230' E

N Topcb 4.26 377.8
 Gutter 5.1 377.6
 1/4 4.7 377.4
 1/4 4.6 377.5
 1/4 5.1 377.0
 Gutter 5.6 376.5
 S Topcb 4.89 377.2

295' E

S Topcb 4.82 377.3
 Gutter 5.2 376.9
 1/4 4.6 377.5
 1/4 4.1 378.0
 1/4 4.4 377.7
 Gutter 5.0 377.1
 N Topcb 4.16 377.9

π
38210

52' Roadway

250' E W Line of 35th

N Top cb	4.12	378.0
Gutter	4.82	377.3
1/4	4.38	377.7
1/4	4.36	377.7
1/4	4.70	377.4
Gutter	5.27	376.8
S Top cb	4.77	377.3
E Line 35 th = 00		
S Top cb	4.89	377.2
Gutter	5.39	376.7
1/4	4.80	377.3
1/4	4.49	377.6
1/4	4.50	377.6
Gutter	4.96	377.1
N Top cb	4.33	377.8
05' E		
N Top cb	4.36	377.7
Gutter	4.9	377.2
1/4	4.5	377.6
1/4	4.4	377.7
1/4	4.7	377.4
Gutter	5.2	376.9
S Top cb	4.88	377.2
50' E		
S Top cb	5.13	377.0

π
38210

4

Gutter	5.5	376.6
1/4	5.2	376.9
1/4	4.6	377.5
1/4	4.8	377.3
Gutter	5.2	376.9
N Top cb	4.50	377.6
100' E		
N Top cb	4.63	377.5
Gutter	5.3	376.8
1/4	4.8	377.3
1/4	4.7	377.4
1/4	5.3	376.8
Gutter	5.6	376.5
S Top cb	5.22	376.9
110' E W Line S Alley		
Top cb	5.39	376.7
125' E W Line N Alley		
S Gutter	5.5	376.6
1/4	5.3	376.8
1/4	4.7	377.4
1/4	4.8	377.3
Gutter	5.1	377.0
N Top cb	4.78	377.3
130' E E Line S Alley		
Top cb	5.30	376.8

38210

139' E E Line N Alley

N Topcb	4.77	377.3
Gutter	5.4	376.7
1/4	4.9	377.2
1/4	4.9	377.2
1/4	5.5	376.6
Gutter	5.9	376.2
S Topcb	5.39	376.7

200' E

S Topcb	5.63	376.5
Gutter	6.2	375.9
1/4	5.6	376.5
1/4	5.2	376.9
1/4	5.2	376.9
Gutter	5.7	376.4
N Topcb	5.13	377.0

T.P 4.08 380 43 5.75 376.35

250' E

N Topcb	3.44	377.0
Gutter	4.2	376.2
1/4	3.8	376.6
1/4	3.6	376.8
1/4	3.9	376.5
Gutter	4.7	375.7
S Topcb	4.09	376.3

380.93

261' E

S Topcb	4.14	376.3
Gutter	4.7	375.7
1/4	4.0	376.4
1/4	3.7	376.7
1/4	3.8	376.6
Gutter	4.2	376.2
N Topcb	3.42	377.0

265' East from 52' 1/2 S 1/2

N Topcb	3.95	377.0
Gutter	4.15	376.3
1/4	3.88	376.5
1/4	3.93	376.5
1/4	4.23	376.2
Gutter	4.75	375.9
S Topcb	4.13	376.3

check on NW Wilson + Orange

512 Roadway 376.98

E Line of Wilson = 00 5120 Roadway

S Topcb	4.68	375.7
Gutter	5.20	375.2
1/4	4.71	375.7
1/4	4.42	376.0
1/4	4.34	376.1
Gutter	4.67	375.7
N Topcb	4.03	376.4

380.93

	05'E	
N TopCb	4.07	376.4
Gutter	4.8	375.6
1/4	4.3	376.1
1/4	4.3	376.1
1/4	4.7	375.7
Gutter	5.3	375.1
S TopCb	4.73	375.7
	50' East	
S TopCb	4.86	375.5
Gutter	5.3	375.1
1/4	4.9	375.5
1/4	4.4	376.0
1/4	4.7	375.7
Gutter	4.9	375.5
N TopCb	4.19	376.2
	93' E W Line North Alley	
TopCb	4.38	376.1
	100'E	
Gutter	4.9	376.0
1/8	4.9	375.5
1/4	4.8	375.6
1/4	4.5	375.9
1/4	5.1	375.3
Gutter	5.5	374.9
S TopCb	5.02	375.4

380.93

6

TopCb	108'E E Line N. Alley	4.39	376.0
	139' E W Line S Alley		
S TopCb		5.11	375.3
Gutter		5.4	375.0
1/4		4.9	375.5
1/4		4.6	375.8
1/4		4.8	375.6
Gutter		5.1	375.3
N TopCb		4.55	375.9
	159' E E Line S Alley		
N TopCb		4.60	375.8
Gutter		5.2	375.2
1/4		4.9	375.5
1/4		4.7	375.7
1/4		5.1	375.3
Gutter		5.6	374.8
S TopCb		5.15	375.3
TP	2.81	378.43	4.81
			375.62
	200'E		
S TopCb		3.26	375.2
Gutter		3.9	374.5
1/4		3.9	375.0
1/4		2.9	375.5
1/4		3.2	375.2
Gutter		3.4	375.0
N TopCb		2.74	375.7

378 93

2 27' E

N Top cb	2.83	375.6
Gutter	3.5	374.9
1/4	3.2	375.2
1/2	3.1	375.3
3/4	3.6	374.8
Gutter	3.9	374.5
S Top cb	3.42	375.0
232' E W Line of 367' Side Roadway		
S Top cb	3.93	375.0
Gutter	3.88	374.5
1/4	3.63	374.8
1/2	3.36	375.07
3/4	3.37	375.0
Gutter	3.41	375.0
N Top cb	2.83	375.6
E Line 367' = 00 Side Roadway		
N Top cb	4.19	374.2
Gutter	4.85	373.6
1/4	4.37	374.0
1/2	4.10	374.3
3/4	4.27	374.1
Gutter	4.74	373.7
S Top cb	4.27	374.2
05' E		
S Top cb	4.29	374.1
Gutter	4.8	373.6

378 93

1/4	4.4	374.0
1/2	4.2	374.2
3/4	4.4	374.0
Gutter	5.0	373.4
N Top cb	9.24	374.2
20' E		
N Top cb	9.58	373.9
Gutter	5.2	373.2
1/4	4.7	373.7
1/2	4.4	374.0
3/4	4.9	373.5
Gutter	5.2	373.2
S Top cb	4.41	374.0
37 1/2' E W Line N Alley		
Top cb	4.67	373.8
53' E Line N Alley		
S Top cb	4.76	373.7
Gutter	5.3	373.1
1/4	5.0	373.4
1/2	4.6	373.8
3/4	4.8	373.6
+ 9	5.1	373.3
Gutter	5.2	373.2
Top cb	4.97	373.5
80' E		
N Top cb	5.25	373.2

Note from 8760 to
1750 ± cb is out for
line & grade on North
should be replaced

π
378 43

Gutter	5.8	372.6
+10	5.8	372.6
1/4	5.5	372.9
ϕ	5.1	373.3
1/4	5.6	372.8
Gutter	5.9	372.5
S Topcb	5.12	373.3
	100' E	
S Topcb	5.42	373.0
Gutter	6.0	372.4
1/4	5.7	372.7
ϕ	5.3	373.1
1/4	5.8	372.6
+5	6.0	372.4
Gutter	6.1	372.3
N Topcb	5.94	373.0
	140' E W Line S Alley	
N Topcb	6.10	372.3
Gutter	6.4	372.6
1/4	6.3	372.1
ϕ	5.8	372.6
1/4	6.1	372.3
Gutter	6.3	372.1
S Topcb	5.76	372.7
	160' E E Line S Alley	
S Topcb	6.09	372.3

π
378 43

53
32
165

7

Gutter	6.5	371.9	1250' S 66' gutter	
1/4	6.2	372.2	1120' S 24' X	
ϕ	6.1	372.3		
1/4	6.5	371.9		
+3	6.7	371.7		
Gutter	6.6	371.8		
N Topcb	6.25	372.2		
	173' S			
N Topcb	6.34	372.1		
Gutter	6.9	371.5		
+9	6.8	371.6		
1/4	6.6	371.8		
ϕ	6.3	372.1		
1/4	6.5	371.9		
Gutter	6.2	372.2		
S Topcb	6.27	372.2		
	178' E W Line of Cherokee		527' Roadway	
S Topcb	6.34	372.1		
Gutter	6.87	371.5		
1/4	6.57	371.8		
ϕ	6.45	372.0		
1/4	6.63	371.8		
Gutter	7.10	371.3		
N Topcb	6.93	372.0		
T.P.	4.01	374.77	7.67	370.76

374.77

E Line of Cherokee 518 Roadway

N Top cb	4.02	370.7
Gutter	4.79	370.0
1/4	4.29	370.5
⊕	4.12	370.6
1/4	4.43	370.3
Gutter	4.55	369.9
S Top cb	4.30	370.5
05'		
S Top cb	4.33	370.4
Gutter	5.0	369.8
1/4	4.6	370.2
⊕	4.2	370.6
1/4	4.4	370.4
+5	4.6	370.2
Gutter	4.6	370.2
N Top cb	4.09	370.7
30' East		
N Top cb	4.16	370.6
Gutter	4.9	369.9
+9	4.9	369.9
1/4	4.7	370.1
⊕	4.7	370.1
1/4	5.0	369.8
Gutter	5.4	369.4
S Top cb	4.61	370.2

374.77

50' East

8

S Top cb	4.78	370.0
Gutter	5.5	369.3
1/4	5.1	369.7
⊕	4.7	370.1
1/4	4.8	370.0
Gutter	5.1	369.7
N Top cb	4.47	370.3
100' E		
N Top cb	4.80	370.0
Gutter	5.6	369.2
+6	5.1	369.7
1/4	5.2	369.6
⊕	5.0	369.8
1/4	5.4	369.4
Gutter	5.8	369.0
S Top cb	5.13	369.6
119' East		
S Top cb	5.23	369.5
Gutter	5.6	369.2
1/4	5.3	369.5
⊕	5.0	369.8
1/4	5.1	369.7
Gutter	5.4	369.4
N Top cb	4.91	369.9
518' S of N Line 377		
N Top cb	4.93	369.9

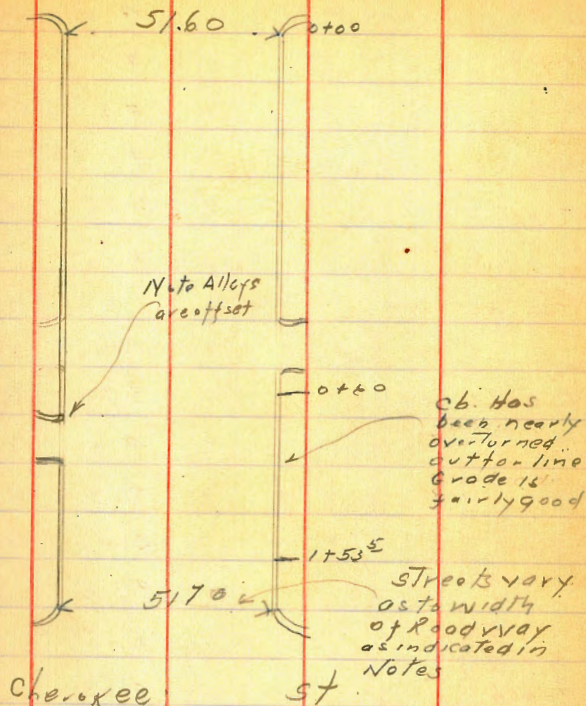
124 on S = 122.5 on N = N Line 377

374.77

Gutter		5.53	369.2
1/4		5.12	369.7
1/2		5.04	369.7
1/4		5.22	369.6
Gutter		5.73	369.0
S Topcb		5.24	369.5
TP	4.08	372.03	6.82
			367.95
		E line of 37 th = 00 51.8	
S Topcb		4.13	367.9
Gutter		4.61	367.4
1/4		3.98	368.0
1/2		3.51	368.5
1/4		3.47	368.5
Gutter		3.76	368.2
N Topcb		3.28	368.7
		05' East	
N Top cb		3.26	368.8
Gutter		3.8	368.2
1/4		3.5	368.5
1/2		3.5	368.5
1/4		4.0	368.0
Gutter		4.6	367.4
S Topcb		4.16	367.9
		25' East	
S Topcb		4.25	367.8
Gutter		4.9	367.1

36th Street

9



37203

1/4	4.3	367.7
1/2	3.7	368.3
1/4	3.8	368.2
Gutter	4.1	367.9
N Topcb	3.35	368.7
50' East		
N Topcb	3.38	368.7
Gutter	4.2	367.8
1/4	3.7	368.3
1/2	4.0	368.0
1/4	4.3	367.7
Gutter	4.9	367.1
S Topcb	4.38	367.7
100' East		
S Topcb	4.58	367.4
Gutter	5.1	366.9
1/4	4.3	367.7
1/2	3.9	368.1
1/4	3.7	368.3
Gutter	4.3	367.7
N Topcb	3.49	368.5
140' N Line S Alley		
N Topcb	3.58	368.4
Gutter	4.5	367.5
1/4	3.8	368.2
1/2	3.9	368.1

37203

10

1/4	4.4	367.6
Gutter	5.1	366.9
S Topcb	4.68	367.3
160' East 4' Line S Alley		
Topcb	4.65	367.4
200' East		
S Topcb	4.71	367.3
Gutter	5.3	366.7
1/4	4.7	367.3
1/2	4.3	367.7
1/4	4.2	367.8
Gutter	4.5	367.5
N Topcb	3.89	368.1
232' E		
N Topcb	3.89	368.1
Gutter	4.7	367.3
1/4	4.3	367.7
1/2	4.3	367.7
1/4	4.9	367.1
Gutter	5.2	366.8
S Topcb	4.79	367.2
259' E		
S Topcb	4.79	367.2
Gutter	5.2	366.8
1/4	4.7	367.3
1/2	4.3	367.7

π
372.03

1/4	9.2	367.8
Gutter	9.6	367.4
N Top cb	4.00	368.0
	265' East	51.8 N line of 58 th
N Top cb	9.10	367.9
Gutter	9.63	367.4
1/4	9.27	367.7
⊕	4.30	367.7
1/4	4.71	367.3
Gutter	5.37	366.6
S Top cb	4.81	367.2
	E line 38 th	51.3
S Top cb	5.30	366.7
Gutter	5.68	366.3
1/4	5.07	366.9
⊕	4.71	367.3
1/4	4.69	367.3
Gutter	5.08	366.9
N Top cb	4.47	367.6
	05 E	
N Top cb	4.98	367.5
Gutter	5.1	366.9
1/4	4.7	367.3
⊕	4.7	367.3
1/4	5.1	366.9
Gutter	5.2	366.4

π
372.03

11

S Top cb	5.29	366.7
	25' East	
S Top cb	5.92	366.6
Gutter	6.0	366.0
1/4	5.3	366.7
⊕	5.1	366.9
1/4	5.1	366.9
Gutter	5.2	366.8
N Top cb	4.58	367.5
	50' East	
N Top cb	4.76	367.3
Gutter	5.5	366.5
1/4	5.1	366.9
⊕	5.1	366.9
1/4	5.5	366.5
Gutter	6.0	366.0
S Top cb	5.50	366.5
	100' East	
S Top cb	5.67	366.4
Gutter	6.2	365.8
1/4	5.7	366.3
⊕	5.2	366.8
1/4	5.3	366.8
Gutter	5.8	366.2
N Top cb	5.06	367.0

372.03
140' East
cb from 1+25.10
1+50 on N should
be replaced

369.89

N. Top cb		5.26	366.8
Gutter		5.9	366.1
1/4		5.5	366.5
£		5.4	366.6
1/4		5.9	366.1
Gutter		6.4	365.6
S. Top cb		5.72	366.3
T.P	3.61 369.89	5.75	366.28
		160' E. E line Alley	
S. Top cb		3.70	366.2
Gutter		4.3	365.6
1/4		3.8	366.1
£		3.4	366.5
1/4		3.5	366.4
Gutter		4.0	365.9
N. Top cb		3.35	366.5
		200' E	
N. Top cb		3.52	366.4
Gutter		4.1	365.8
1/4		3.8	366.1
£		3.7	366.2
1/4		4.1	365.8
Gutter		4.7	365.2
S. Top cb		3.97	365.9
		250' E	
S. Top cb		4.07	365.8

Gutter		4.9	365.0
1/4		4.3	365.6
£		3.9	366.0
1/4		4.1	365.8
Gutter		4.2	365.7
N. Top cb		3.77	366.1
	2.96	5	51.2 at Right Angles
N. Top cb		4.02	365.9
Gutter on Paving		4.41	365.5
1/4		4.0	365.9
£		3.8	366.1
1/4		4.2	365.7
Gutter		4.8	365.1
S. Top cb		4.18	365.7
		2196.2	on N = 3700.04 S. W. line 39'
S. Top cb	on 10/11/19	4.14	365.8
Gutter		4.80	365.1
1/4		4.29	365.6
£		3.89	366.0
1/4		3.97	365.9
Gutter		4.42	365.5
N. Top cb		4.02	365.9
T.P	368 369.47	4.10	365.79
		E. line of 39' x 00	52°
N. Top cb		4.01	365.5
Gutter		4.72	364.8

369.97

1/4	4.26	365.3
Φ	4.13	365.4
1/4	4.29	365.2
Gutter	4.92	364.6
S Topcb	4.31	365.2
05' East		
S Topcb	4.35	365.1
Gutter	4.8	364.7
1/4	4.4	365.1
Φ	4.1	365.4
1/4	4.3	365.2
Gutter	4.7	364.8
N TopCb	4.01	365.5
25' E		
N Topcb	4.11	365.4
Gutter	4.7	364.8
1/4	4.4	365.1
Φ	4.2	365.3
1/4	4.7	364.8
Gutter	5.0	364.5
S Topcb	4.45	365.0
50' East		
S Topcb	4.56	364.9
Gutter	5.0	364.5
1/4	4.8	364.7
Φ	4.4	365.1

369.47

13

1/4	4.5	365.0
Gutter	4.7	364.8
N TopCb	4.15	365.3
84' East WY Line Alley on S		
Topcb	4.32	365.2
Gutter	4.8	364.7
1/4	4.5	365.0
Φ	4.4	365.1
1/4	4.7	364.8
Gutter	5.0	364.5
Topcb	4.63	364.9
104' E. E Line of Alley on S		
Topcb	4.87	364.6
Gutter	5.5	364.0
1/4	4.8	364.7
Φ	4.6	364.9
1/4	4.6	364.9
Gutter	5.0	364.0
N TopCb	4.43	365.0
150' East		
N Topcb	4.62	364.9
Gutter	4.9	364.6
1/4	5.0	364.5
Φ	4.8	364.7
1/4	5.1	364.4
Gutter	5.8	363.7

369.97

S Topcb	5.12	364.4
	200' E	
S Topcb	5.31	364.2
Gutter	6.1	363.4
1/4	5.2	364.2
1/4	4.9	364.6
1/4	5.0	364.5
Gutter	5.3	364.2
N Topcb	4.75	364.7
	2743' E	51.8
N Topcb	4.98	364.5
Gutter	5.5	
1/4	5.3	
1/4	5.3	
1/4	5.5	
Gutter	6.05	
S Topcb	5.51	364.0
	W.L. 40th - 2743' on S = 2972' on N	52'
S Topcb	5.51	364.0
Gutter	6.05	363.4
1/4	5.50	
1/4	5.33	364.14
1/4	5.36	
Gutter	5.51	364.0
N Topcb	4.97	364.5
check on BM NY 40th Orange	4.94	364.53 (69)

369.97

Sec 4 E Line of 40th Orange 14

N Topcb	5.26	364.2
Gutter	5.69	363.83
1/4	5.51	
1/4	5.51	363.96
1/4	5.75	
Gutter	6.17	363.3
S Topcb	5.76	363.7
	0+0	
S Topcb	5.80	363.7
Gutter	6.2	
1/4	5.7	
1/4	5.5	
1/4	5.5	
Gutter	5.64	
Topcb	5.26	364.2
	25' East	
N Topcb	5.31	364.2
Gutter	5.9	363.6
1/4	5.7	363.8
1/4	5.7	363.8
1/4	5.9	363.8
Gutter	6.2	363.3
S Topcb	5.83	363.7
	50' East	
S Topcb	5.82	363.7
Gutter	6.1	363.4

369.97

1/4		6.0	363.5	
1/4		5.7	363.8	
1/4		5.7	363.8	
Gutter		5.8	363.7	
N. Top cb		5.38	364.1	
G.T.P	4.34	368.09	5.77	363.70
		100' East		
N. Top cb		4.00	364.0	
Gutter		4.3	363.7	
1/4		4.4	363.6	
1/4		4.3	363.7	
1/4		4.6	363.4	
Gutter		4.8	363.2	
S. Top cb		4.38	363.7	
		125' East	W. Line N. Alley	
S. Top cb		4.39	363.7	
Gutter		4.7	363.3	
1/4		4.5	363.5	
1/4		4.4	363.6	
1/4		4.3	363.7	
Gutter		4.2	363.8	
N. Top cb		3.95	364.1	
		135' EW Line S. Alley		
		4.43	363.6	
		140' E Line N. Alley		
Top cb		3.93	364.1	

368.09

155' East E. Line of S. Alley 15

S. Top cb		4.45	363.6
Gutter		4.7	363.3
1/4		4.9	363.6
1/4		4.2	363.8
1/4		4.3	363.7
Gutter		4.8	363.2
N. Top cb		4.05	364.0
		200' E	
N. Top cb		4.08	363.9
Gutter		4.7	363.3
1/4		4.2	363.8
1/4		4.1	363.9
1/4		4.4	363.6
Gutter		5.2	362.8
S. Top cb		4.52	363.5
		250' East	
S. Top cb		4.55	363.5
Gutter		5.1	362.9
1/4		4.2	363.8
1/4		3.9	364.1
1/4		4.2	363.8
Gutter		4.7	363.3
N. Top cb		4.10	363.9
		260' E	
N. Top cb		4.13	363.9
Gutter		4.6	363.4

π
368.09

1/4	4.2	363.8
⊕	4.1	363.9
1/4	4.3	363.7
Gutter	5.2	362.8
S Topcb	4.51	363.5
265' E. W. line of Central on paving		
S Topcb	4.51	363.5
Gutter	5.20	362.8
1/4	4.52	
⊕	4.31	363.73
1/4	4.28	
Gutter	4.75	363.3
N Topcb	4.13	363.9
E. line of Central = 00		
N Topcb	4.47	363.6
Gutter	5.16	362.9
1/4	4.70	
⊕	4.56	363.48
1/4	4.75	
Gutter	5.25	362.8
S Topcb	4.84	363.2
05' E		
T. p. c b	4.88	363.2
Gutter	5.3	
1/4	4.8	
⊕	4.5	

51.75 Roadway

52.0

π
368.04

16

1/4	4.7	
Gutter	5.2	
N Topcb	4.51	363.5
50' E		
Topcb	4.73	363.3
Gutter	5.5	
+6	5.4	
1/4	4.9	
⊕	4.7	
1/4	5.1	
Gutter	5.7	
S Topcb	5.05	363.0
75' E. W. Line of N. Alley		
Topcb	4.88	363.2
90' E. E. Line N. Alley		
Topcb	5.01	363.0
100' E		
S Topcb	5.26	362.8
Gutter	5.9	
1/4	5.4	
⊕	5.1	
1/4	5.4	
Gutter	5.5	
N Topcb	4.96	363.1
140' E. W. Line S. Alley		
N Topcb	5.15	362.9

7
368.04

Gutter	5.7	
+5	5.7	
1/4	5.2	
⊕	5.2	
1/4	5.9	
Gutter	5.3	
S Topcb	5.38	362.7
160' East E Line of S. A 1/2		
S Topcb	5.51	362.5
Gutter	5.6	
1/4	5.5	
⊕	5.2	
1/4	5.2	
+6	5.8	
Gutter	5.7	
N Topcb	5.13	362.9
200' East		
N Topcb	5.32	362.7
Gutter	6.0	
1/4	5.7	
⊕	5.4	
1/4	5.8	
Gutter	6.2	
S Topcb	5.65	362.4
215' E. W Line 71st + 52nd		
S Topcb	5.69	362.4

7
368.04

17

Gutter	6.25	361.8
1/4	5.68	
⊕	5.45	362.59
1/4	5.60	
Gutter	6.01	362.0
N Topcb	5.28	362.8
T.P	4.23	366.99
		5.28
		362.76
		51.7
E Line of 41st = 00		
N Topcb	4.55	362.4
Gutter	5.17	361.8
1/4	4.72	
⊕	4.69	362.3
1/4	5.08	
Gutter	5.68	361.3
S Topcb	5.17	361.8
20' E. W Line N. A 1/2		
S Topcb	5.04	361.9
Gutter	5.6	
1/4	5.2	
⊕	4.7	
1/4	4.6	
Gutter	4.8	
Topcb	4.99	362.5
35' E. E Line N. A 1/2		
Topcb	4.94	362.6

366 99

50' E

Topcb	4.93	362.6
Gutter	5.0	
1/4	4.8	
1/4	4.6	
1/4	5.0	
Gutter	5.6	
Topcb	4.95	362.0
	100' East	
S Topcb	4.77	362.2
G	5.3	
1/4	4.9	
1/4	4.6	
1/4	4.8	
Gutter	4.9	
N Topcb	4.38	362.6
	125' E	
N Topcb	4.41	362.6
G	4.9	
1/4	4.7	
1/4	4.4	
1/4	4.8	
G	5.2	
S Topcb	4.74	362.3
	140' E W. Line of S Alley	
S Topcb	4.71	362.3
G	5.0	

366 99

18

1/4	4.5	
1/4	4.3	
1/4	4.6	
Gutter	5.0	
N Topcb	4.35	362.6
	160' E W. Line of	52.0 Roadway
		Stockton
N Topcb	4.40	362.6
G	4.81	362.1
1/4	4.30	
1/4	4.31	362.68
Gutter	4.99	362.0
S Topcb	4.54	362.5
T.P.	3.95	367.35
		3.59
		363.40
		52.0
		E line of Stockton
S Topcb	4.60	362.8
G	5.06	362.3
1/4	4.35	
1/4	4.07	363.28
1/4	4.16	
G	4.66	362.7
N Topcb	4.06	363.3
	15' East	
N Topcb	4.14	363.2
G	4.6	
1/4	4.4	

Marlborough Ave

36735

ϕ	4.3	
1/4	4.6	
G	5.1	
Topcb	4.56	3628
	50' E	
S Topcb	4.63	3627
G	5.0	
1/4	4.7	
ϕ	4.5	
1/4	4.6	
G	4.7	
N Topcb	4.24	3631
	105 3 E W line	80' st 10' 1/4, 20' ch 42 2d
N Topcb	4.35	3630
G	4.7	
1/4	4.6	
ϕ	4.6	
1/4	4.8	
G	4.9	
S Topcb	4.76	3626
	W cb.	
S Topcb	4.77	3626
G	5.2	
1/4	4.9	
ϕ	4.6	
1/4	4.7	

36735

19

cb.	4.7	
N on Paving	4.73	3626
	X 1/4	
N on Paving	4.54	3628
cb	4.8	
1/4	4.7	
ϕ	4.5	
1/4	4.8	
G	5.1	
S Topcb	4.81	3625
	N 1/4 to 5 W Line A/lex on S	
Topcb	4.80	3626
	ϕ	
S	5.0	
cb	4.8	
1/4	4.7	
ϕ	4.6	
1/4	4.6	
cb	4.8	
N on Paving	4.52	
	E 1/4	
N	4.64	
cb	4.8	
1/4	4.7	
ϕ	4.6	
1/4	4.8	

36735

cb	48	
S. 1/4 Aly	49	
E 1/4 + 05 E line S Aly		
Topcb	5.02	362.3
E cb		
S Topcb	5.08	362.3
G	5.2	
1/4	4.9	
1/4	4.5	
1/4	4.8	
cb	5.0	
N on Paving	4.94	362.1
E line 42nd - 00 52'		
N Topcb	4.57	362.8
G	5.0	
1/4	4.9	
1/4	4.6	
1/4	5.0	
G	5.5	
S Topcb	4.98	362.4
25' E		
S Topcb	5.10	362.3
G	5.5	
1/4	5.2	
1/4	4.8	
1/4	5.0	

36735

20

G	5.2	
N Topcb	4.76	362.6
50' E		
N Topcb	4.83	362.5
G	5.3	
1/4	5.0	
1/4	4.9	
1/4	5.1	
G	5.5	
S Topcb	5.16	362.2
100' E		
S Topcb	5.29	362.1
G	5.6	
1/4	5.1	
1/4	4.9	
1/4	5.1	
G	5.5	
N Topcb	5.05	362.3
110' E W Line 42nd 52'		
N Topcb	5.09	362.2
G	5.42	361.9
1/4	5.06	
1/4	5.02	362.33
1/4	5.35	
G	5.91	361.4
S Topcb	5.31	362.0

B.M. NW B.P.
Copeland, Orange

905 365.89 551 361.84

on paving 0+00 = E Line of Copeland

S Topcb	4.27	361.6
G	4.70	361.2
1/4	4.20	
1/4	4.08	361.81
1/4	4.27	
G	4.77	361.1
N Topcb	4.34	361.6
25' E. W. Line Alley		
N Topcb	4.46	361.4
G	5.0	
1/4	4.6	
1/4	4.2	
1/4	4.4	
G	4.6	
S Topcb	4.31	361.6
45' E. E. Line Alley		
S Topcb	4.32	361.6
G	4.8	
1/4	4.5	
1/4	4.2	
1/4	4.6	
G	5.0	
N Topcb	4.48	361.4

100' E

N Topcb	4.62	361.3
G	5.3	
1/4	4.8	
1/4	4.4	
1/4	4.6	
G	5.0	
S Topcb	4.62	361.3
125' E. W. Line of North Alley		
S Topcb	4.62	361.3
G	5.2	
1/4	4.7	
1/4	4.6	
1/4	4.8	
G	4.6	
N Topcb	4.59	361.3
140' E. E. Line N Alley		
Topcb	4.74	361.2
185' E. W. Line Van Dyke		
N Topcb	4.84	361.05
G	5.17	360.72
1/4	4.60	
1/4	4.95	361.44
1/4	4.66	
G	5.15	360.74
S Topcb	4.83	361.06

365.89

E.L. Van DYKE

S Top cb	5.11	360.8 ₅₂
G	5.71	360.2
1/4	5.00	
ϕ	4.67	361.22
1/4	4.69	
G	4.98	360.91
N Top cb	4.59	361.95
	50' E	
N Top cb	4.56	361.3
G	4.8	
1/4	4.7	
ϕ	4.6	
1/4	5.0	
G	5.7	
S Top cb	5.16	360.7
	81' E W line S Alley	
S Top cb	5.19	360.7
G	5.5	
1/4	4.9	
ϕ	4.6	
1/4	4.7	
G	5.2	
N Top cb	4.62	361.3
	101' E E line S Alley	
Top cb	5.19	360.7

365.89

123⁵ E W line N Alley

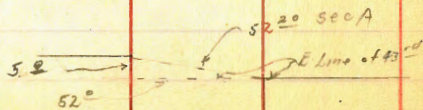
22

N Top cb	4.66	361.3
G	5.0	
1/4	4.9	
ϕ	4.8	
1/4	5.1	
+6	5.6	
G	5.9	
S Top cb	5.34	360.6
	138 ⁵ E E line N Alley	
N Top Cb	4.89	361.0
	150' E	
S Top cb	5.95	360.4
G	6.1	
+5	5.9	
1/4	5.3	
ϕ	4.9	
1/4	4.9	
G	5.3	
N Top cb	4.85	361.0
TP	3.73	364.77
	200' E	
N Top cb	3.89	360.9
G	4.3	
1/4	3.8	
ϕ	3.7	
1/4	4.3	

364.77

+ 5	4.7	
G	5.1	
S Topcb	4.48	360.3
	2 40 ²⁰ E N Line at 93 ⁵⁰ on S	
S Topcb	4.97	360.3
G	5.1	
1/4	4.5	
1/4	4.1	
1/4	4.2	
G	4.5	
N Topcb	3.92	360.8
	Sec A 2140 ²⁰ = 2165' on N	57 ²⁰
N Topcb	3.86	360.9
G	4.41	360.4
1/4	4.16	
1/4	4.15	360.62
1/4	4.49	
Gutter	5.10	359.67
S Topcb	4.47	360.30
	3.89	361.01
		360.88
		0.13
		361.01

check on BM
 NW 1/4 of 193³
 B.M. 389 364.90



364.90

361.06
360.99
23

Sec A. E Line	9.62	360.3
Gutter	5.38	359.5
1/4	4.68	
1/4	4.33	360.57
1/4	4.33	
G	4.76	360.14
N Topcb	3.95	360.90
	0+00 E Line 43 ⁵⁰	50' Width of Footing
N Topcb	3.95	361.0
G	4.76	
1/4	4.2	
1/4	4.2	
G	5.3	
S Topcb	4.67	360.2
	15' E	
S Topcb	4.77	360.1
G	5.7	
1/4	4.9	
1/4	3.9	
1/4	3.9	
G	4.7	
N Topcb	4.15	360.7
	50' E	
N Topcb	4.46	360.9
G	5.3	

36490

1/4	4.5	
1/2	4.9	
1/4	4.8	
+7	5.6	
G	5.6	
S Topcb	4.97	359.9
	100' E	
S Topcb	5.31	359.6
E	5.8	
+9	5.9	
1/4	5.9	
1/2	5.1	
1/4	5.3	
G	5.6	
N Topcb	4.98	359.9
	118' E W. Line S. Alley	
N Topcb	5.13	359.8
C	6.0	
1/4	5.5	
1/2	5.2	
1/4	5.6	
+5	6.1	
G	5.9	
cb	5.39	359.6
S on Ground	4.9	

36490

1295. W. Line N Alley

Topcb
N on Ground

5.19 359.7

138' E. E. Line S. Alley + N Alley

S

5.1

Topcb

5.98 359.4

G

6.0

+8

6.2

1/4

5.7

1/2

5.3

1/4

5.7

G

6.1

Topcb

5.28 359.6

N on Ground

5.2

150' E

N Topcb

5.50 359.4

E

6.1

1/4

5.7

1/2

5.5

1/4

5.8

+6

6.3

G

6.3

S Topcb

5.64 359.3

200' E

S Topcb

5.97 358.9

E

6.5

1/4

5.8

1/2

5.7



369.90

25

1/4	6.0	
G	6.7	
N Topcb	5.92	359.0
	269' East	52' Roadway W. Line Fair Mount
N Topcb	6.92	358.5
G	6.58	358.3
1/4	6.44	
ϕ	6.21	358.69
1/4	6.23	
G	6.47	358.4
S Topcb	6.27	358.6
	* Note 51' Roadway Fair Mount 76.44 ¹³ E Line Fair Mount on paying Grid same elev	
S Topcb	6.29	358.7
G	6.41	358.5
1/4	6.41	
ϕ	6.31	358.59
1/4	6.45	
G	6.80	358.1
N Topcb	6.56	358.3
	25' E	
N Topcb	6.62	358.3
Cutter	7.3	
1/4	6.6	
ϕ	6.4	
1/4	6.5	
G	7.0	

S Topcb		6.40	358.5
T.P.	4.97	362.97	6.90
		56' E	
S Topcb		4.41	358.6
G		5.2	
1/4		4.6	
ϕ		4.5	
1/4		4.7	
G		5.3	
N Topcb		4.75	358.2
		100' E	
N Topcb		4.67	358.3
G		5.1	
1/4		4.8	
ϕ		4.9	
1/4		4.7	
G		5.1	
S Topcb		4.60	358.4
		123' E W Line Alley	
S Topcb		4.74	358.2
G		5.2	
1/4		4.7	
ϕ		4.4	
1/4		4.7	
G		5.2	
N Topcb		4.57	358.4

362.97

14 3' E. E Line Alley

N Topcb 4.53 358.4

G 5.2

1/4 4.7

E 4.5

1/4 4.8

G 5.1

S Topcb 4.69 358.3

200' E

S Topcb 4.72 358.3

G 5.3

1/4 4.8

E 4.6

1/4 4.7

G 5.0

N Topcb 4.58 358.4

2 48' E

N Topcb 4.53 358.4

G 5.0

1/4 4.8

E 4.6

1/4 4.9

G 5.2

S Topcb 4.81 358.2

2 67.7 W Line of 49th

S Topcb 4.85 358.12

G 5.32 357.85

362.97

26

1/4 4.79

E 4.44 358.53

1/4 4.58

G 5.07 357.9

N Topcb 4.50 358.5

E Line 4.4th 49' Eo Width of Roadway + Prop

N Topcb 4.57 358.4

G 5.25 357.7

1/4 4.98

E 4.45 358.52

1/4 4.80

Gutter 5.46 357.5

S Topcb 4.94 358.0

20 East

S Topcb 5.24 357.7

G 6.0

1/4 5.2

E 4.9

1/4 5.1

G 5.7

N Topcb 4.97 358.0

50 East

N Topcb 5.98 357.5

Gutter 6.3

1/4 5.7

E 5.3

362.97

1/4	5.7	
Gutter	6.4	
S. Topcb	5.67	357.3
	100' E	
S. Topcb	6.22	306.8
G	7.0	
1/4	6.3	
E	6.0	
1/4	6.5	
G	6.9	
N. Top cb	6.19	356.8
	125' E W. Line of Alley	
N. Topcb	6.53	356.7
C	6.8	
1/4	6.7	
E	6.5	
1/4	6.6	
G	7.1	
S. Topcb	6.49	356.5
	145' E Line of Alley	
S. Top	6.88	356.1
G	7.3	
1/4	7.0	
E	6.6	
1/4	7.1	
E	7.2	

362.97

27

N. Topcb	6.69	356.3
	200' East	
N. Topcb	7.57	355.4
G	8.4	
1/4	7.7	
E	7.5	
1/4	7.6	
E	8.4	
S. Topcb	7.63	355.3
	290' E	
S. Topcb	8.16	354.8
G	8.8	
1/4	8.3	
E	8.0	
1/4	8.4	
G	9.0	
N. Topcb	8.26	354.7
	270 ⁵⁰ W Line Highland Ave	
N. Topcb	8.74	354.2
G	9.37	353.5
1/4	8.82	
E	8.50	354.47
1/4	8.60	
Gutter	9.02	353.95
S. Topcb	8.95	354.52
T.P.	3.89	359.22
	7.64	355.33

359.17

check of
811 N W 3P 3.00

357.17	505	359.17
E. line of Highland Ave - 00		
stopcb	2.98	354.2
G	3.58	353.6
1/4	3.30	
E	3.27	353.90
1/4	3.58	
G	4.16	353.0
N Topcb	3.35	353.8
10' East of the E line of Highland		
N Topcb	3.36	353.8
G	4.0	
1/4	3.5	
E	3.1	
1/4	3.2	
G	3.8	
stopcb	3.09	354.1
50' E		
stopcb	3.32	353.9
G	4.1	
1/4	3.6	
E	3.3	
1/4	3.7	
7/8	4.0	
G	4.3	
N Topcb	3.55	353.6

49 to
width of factory

357.17

100' East

28

N Topcb	3.93	353.2
G	4.5	
1/4	4.0	
E	3.8	
1/4	4.0	
G	4.4	
stopcb	3.69	353.5
125' E W. line of Alley		
stopcb	3.94	353.2
G	4.4	
1/4	4.2	
E	3.9	
1/4	4.2	
7/8	4.4	
G	4.6	
N Topcb	3.99	353.2
145' E. E. Line of Alley		
N Topcb	4.08	353.1
G	4.6	
1/4	4.3	
E	4.0	
1/4	4.3	
G	4.7	
stopcb	3.91	353.3
200' E		
stopcb	4.37	352.8

π
357.17

G	5.1	
1/4	4.6	
1/4	4.3	
1/4	4.5	
+7	4.8	
G	5.1	
N.Topcb	4.29	352.9
	269' E	
	4.48	352.7
G	5.3	
+5	5.0	
1/4	4.8	
1/4	4.6	
1/4	4.9	
G	5.3	
S.Topcb	4.75	352.4
	269' E-W. Line of 45 ¹³	
S.Topcb	4.76	352.41
G	5.38	351.99
1/4	4.88	
1/4	4.65	352.5.2
1/4	4.79	
G	5.09	352.08
N Topcb	4.55	352.62
Chocula BM		
N.W. 43 74 7		
42 74 7		
42 74 7		

49.6 Roadway

350.61
351.56
(05)

π
357.17

49.6 Roadway 29
00 AIE Prop

E line of 45 ¹³ =	4.77	352.9
	5.35	351.8
	5.06	
	4.93	352.24
	5.15	
	5.83	351.3
	5.17	352.0
	50' East	
	5.33	351.8
	6.0	
	5.3	
	5.0	
	5.3	
	5.8	
	4.97	352.2
	100' E	
	5.21	352.0
	5.9	
	5.4	
	5.1	
	5.6	
	5.9	
	6.1	
	5.46	351.7
	4.97	356.70
	5.44	351.73

356.70

125' East W. line of Alley.

S. Topcb	5.02	351.7
G	5.6	
1/4	5.1	
ϕ	4.6	
1/4	5.0	
+6	5.3	
G	5.5	
N. Topcb	4.87	351.8
	145' E	
N. Topcb	4.93	351.8
G	5.5	
+7	5.5	
1/4	5.2	
ϕ	4.8	
1/4	5.1	
G	5.6	
S. Topcb	5.20	351.5
	200' East.	
S. Topcb	5.43	351.3
G	5.9	
1/4	5.5	
ϕ	5.3	
1/4	5.5	
G	5.9	
N. Topcb	5.24	351.5

356.70

263' East

30

N. Topcb			5.51	357.2
G			6.0	
1/4			5.7	
ϕ			5.5	
1/4			5.7	
G			6.0	
S. Topcb			5.62	351.1
				49.10
			269' E	W. line of Chamoune
S. Topcb			5.61	351.09
G			6.14	350.56
1/4			5.82	
ϕ			5.72	350.98
1/4			5.81	
G			6.12	350.6
N. Topcb			5.53	351.2
T.P.	7.08	358.31	5.47	351.23
				49.50 12.5/100
			E. line of Chamoune = 00	Width of Rammed
N. Topcb			6.52	351.8
G			7.04	351.3
1/4			6.72	
ϕ			6.76	351.55
1/4			6.83	
G			7.05	351.3
S. Topcb			6.55	351.8
			10' East	
S. Topcb			6.51	351.6

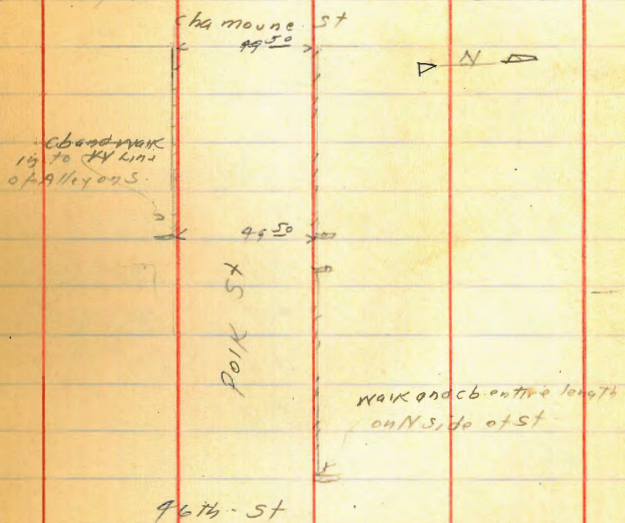
358 31

G	7.1	351.2
1/4	6.8	351.5
1/4	6.9	351.9
1/4	6.5	351.8
G	7.1	351.2
N Top cb	6.48	351.8
	50' E	
N Top cb	6.23	352.1
G	6.9	351.4
1/4	6.9	351.9
1/4	6.1	352.2
1/4	6.4	351.9
G	6.9	351.4
S Top cb	6.20	352.1
	100' E.	
S Top cb	5.81	352.5
G	6.4	351.9
1/4	6.0	352.3
S 1/4	5.8	352.5
G 1/4	6.1	352.2
1/4	6.5	352.8
N Top cb	5.76	352.5
	125' E N line of Alley	
N Top cb	5.49	352.8
G	6.3	352.0
1/4	5.6	352.7

358 31

31

1/4	5.5	352.8
1/4	5.7	352.6
G	5.9	352.4
S Top cb	5.55	352.7
S on ground	5.3	353.0
S on Top cb Alley return	5.38	352.9
	chamoune st	
	145' E	
	145' East E line of Alley	
	96th St	
	145' East E line of Alley	
S	4.8	353.5
1/4	5.2	353.1
cb	5.3	353.0
1/4	4.8	353.5
1/4	4.7	353.6
1/4	5.2	353.1
G	6.0	352.3
N Top cb	5.29	353.0



35831

155'E

N Top cb	5.31	353.0
G	5.9	352.4
1/4	5.1	353.2
¢	4.6	353.7
+6	4.4	353.9
1/4	4.7	353.6
cb	5.1	353.2
+11	4.9	353.4
S	4.6	353.7

175'E

S	4.1	354.2
cb	4.7	353.6
1/4	4.7	353.6
¢	4.8	353.5
1/4	5.3	353.0
G	5.8	352.5
N Top cb	5.17	353.1

200'E

N Top cb	5.01	353.3
G	5.6	352.7
1/4	5.2	353.1
+4	5.0	353.3
¢	4.9	353.4
1/4	4.5	353.8
cb	4.5	353.8
S	4.2	354.1

35831

235'E

S	3.9	354.4
cb	4.3	354.0
1/4	4.3	354.0
¢	4.4	353.9
1/4	4.8	353.5
G	5.3	353.0
N Top cb	4.66	353.6

267'E

N Top cb	4.35	354.0
G	5.0	353.0
+5	4.6	353.7
1/4	4.6	353.7
¢	4.4	353.9
1/4	4.5	353.8
+10	4.1	354.2
cb	3.6	354.7
S	3.6	354.7

270 E W line of 46th 49th Roadway

S	4.2	
S Top cb	4.63	353.7
G	5.29	353.0
1/4	4.75	
¢	4.62	353.69
1/4	4.69	
G	4.99	353.3
N Top cb	4.33	354.0

32

35831

check on BM
11/11/26 0.0.0.0.0.0

		4.35	353.96	1/4
		E Line of 46 th = 00 48 ⁹⁰ W of R		+6
N Top cb		4.35	354.0	G
C		5.04	353.3	S Top cb
1/4		4.66		
⊕		4.48	353.83	S Top cb
1/4		4.60		G
G		4.83	353.5	+9
S Top cb		4.20	354.1	1/4
T.P.	3.42	357.38	4.35	353.96
		7' East		⊕
S Top cb		3.41	354.0	1/4
G		4.1		+5
+5		3.7		G
1/4		3.5		N Top cb
⊕		3.3		
1/4		3.5		N Top cb
+7		3.8		G
G		4.1		1/4
N Top cb		3.58	353.9	1/4
		50' E		+6
N Top cb		4.42	353.0	G
G		5.1		S Top cb
+6		4.5		
1/4		4.2		S Top cb
⊕		3.9		G

35738

33

		4.1		
		4.5		
		4.7		
		4.27	353.1	
		77 ⁵⁰ E Line on North		98 ⁹⁰ Roadway
		4.82	352.6	
		5.9		
		4.6		
		4.6		
		4.5		
		4.7		
		4.9		
		5.6		
		4.89	352.5	
		94 ⁵⁰ Δ on N South		50' Roadway side has NA
		5.22	352.2	
		5.9		
		5.0		
		4.7		
		5.0		
		5.1		
		5.8		
		5.16	352.2	
		125' E W Line of Alley on South		No Alley on North
		5.60	351.8	
		6.3		

357.38

1/4	5.7	
⊘	5.4	
1/4	5.6	
G	6.4	
N Top cb	5.78	351.6
145' E. E. line of Alley		
N Top cb	6.17	351.2
G	6.7	
+5	6.4	
1/4	6.1	
⊘	5.9	
1/4	6.4	
G	7.0	
S Top cb	6.39	351.0
175' E		
S Top cb	6.90	350.5
G	7.7	
+5	7.4	
1/4	6.9	
+5	6.6	
⊘	6.7	
1/4	6.9	
+9	7.4	
G	7.4	
N Top cb	6.69	350.7

357.38

34

		200' E	
N Top cb		7.03	350.9
G		7.8	
+2		7.9	
+5		7.4	
1/4		7.2	
⊘		7.1	
+10		7.1	
1/4		7.3	
+8		7.9	
G		7.9	
S Top cb		7.21	350.2
		294' E	
S Top cb		7.90	349.5
G		8.7	
1/4		7.9	
+5		7.6	
⊘		7.6	
1/4		7.7	
+8		8.0	
G		8.4	
N Top cb		7.66	349.8
		264' E	
N Top cb		7.91	349.5
G		8.5	
+8		8.5	
1/4		8.2	

357.38

£	8.1	
1/4	8.5	
G	88	
S. Top cb	823	349.2
on paving	269	²⁰ E. W. line of Menlo
S. Top cb	898	348.4
G	892	348.5
1/4	861	
£	899	348.89
1/4	850	
G	864	348.7
N. Top cb	797	349.4
check on BM 14 14 14 14 14 14	736	356.73
on paving	E line of Menlo	349.37
N. Top cb	739	349.3
G	802	348.7
1/4	780	
£	771	349.02
1/4	785	
G	821	348.52
S. Top cb	769	349.04
	20' East	
S. Top cb	731	349.4
G	79	
+4	75	
1/4	72	

356.73

35

£	7.0	
1/4	7.0	
+7	7.2	
G	7.7	
N. Top cb	7.09	349.7
	50' East	
N. Top cb	6.43	350.3
G	7.1	
+5	6.8	
1/4	6.9	
£	6.6	
1/4	6.7	
+4	6.9	
G	7.3	
S. Top cb	6.79	349.9
	100' East	
S. Top cb	5.81	350.9
G	6.4	
1/4	6.0	
£	5.9	
1/4	5.9	
+5	6.3	
G	6.3	
N. Top cb	5.60	351.1
	125' E	
N on Ground	9.9	

356.73

N Top Alley Return	4.79	351.9
N Topcb	5.10	351.6
G	5.9	
1/4	5.5	
⊕	5.3	
1/4	5.4	
G	6.0	
S Topcb	5.31	351.4
S on Ground	5.7	
S Top Alley Return	5.21	
135' E ⊕ Alley		
S	5.2	
+12	5.3	
cb	5.8	350.9
1/4	5.2	
⊕	5.1	
1/4	5.3	
cb	5.6	351.1
+5	5.0	
N	4.6	
145' E E Line of Alley		
N on Ground	4.3	
N on Top Alley Return	4.19	
N Topcb	4.49	352.2
G	5.2	
+7	5.3	

356.73

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1/4	4.9	
⊕	4.9	
1/4	5.1	
G	5.5	
S Topcb	4.86	351.9
S on Grd.	5.0	
S on Top Alley Return	4.69	352.0
200' E		
S Topcb	3.92	352.8
G	4.6	
1/4	4.1	
⊕	3.9	
1/4	3.8	
G	4.3	
N Topcb	3.54	353.2
235' E		
N Topcb	2.93	353.8
G	3.7	
1/4	3.3	
⊕	3.3	
+8	3.3	
1/4	3.5	
G	3.8	
S Topcb	3.39	353.3
267' Eo W. Line 47' 1/2 50' Roadway		
S Topcb	2.67	354.06

356.73

G		3.29	353.44
1/4		2.83	
1/4		2.67	354.06
1/4		2.67	
G		2.80	354.07
N Top cb		2.28	354.5
	E Line of 47 ^B 50' Roadway		
			1/4
N Top cb		1.68	355.0
G		2.35	354.4
1/4		2.00	
1/4		1.93	354.80
1/4		2.00	
G		2.39	354.3
S Top cb		1.77	355.0
T.P	3.87	358.83	1.77
			359.96
		07' East	
S Top cb		3.91	354.9
G		4.5	354.3
+4		4.3	354.5
1/4		4.1	354.7
1/4		3.8	355.0
1/4		4.0	354.8
G		4.3	354.5
N Top cb		3.78	355.0
		50' East	
N Top cb		3.89	354.9

358.83

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G		4.9	354.4
+7		3.8	355.0
1/4		4.0	354.8
1/4		4.0	354.8
1/4		4.0	354.8
G		4.4	354.4
S Top cb		3.85	355.0
	100' E		
S Top cb		3.94	354.9
G		4.6	354.2
1/4		4.1	354.7
1/4		4.0	354.8
+10		4.0	354.8
1/4		4.2	354.6
G		4.6	354.2
N Top cb		4.05	354.8
	125' E. W. Line		
N Top cb		4.15	354.7
G		4.8	354.0
1/4		4.5	354.3
1/4		4.3	354.5
1/4		4.4	354.4
G		4.7	354.1
S Top cb		3.86	355.0
	145' E		
S Top cb		4.35	354.5

35883

G	51	353.7
1/4	49	353.9
1/4	4.8	354.0
+10	48	354.0
1/4	5.0	353.8
G	5.9	353.4
N.Topcb	9.63	354.2
	200' East	
N.Topcb	6.30	352.5
G	6.5	352.3
+5	6.7	352.1
1/4	6.9	352.4
+7	6.1	352.7
1/4	6.2	352.6
1/4	6.9	352.4
G	6.6	352.2
S.Topcb	6.02	352.8
	235' East	
S.Topcb	7.15	351.7
G	7.9	350.9
1/4	7.4	351.4
1/4	7.2	351.6
1/4	7.4	351.4
G	8.1	350.7
N.Topcb	7.21	351.6

35883

38

N.Topcb	258' E	7.84	357.0
G		8.1	356.7
1/4		8.4	354.4
1/4		8.1	350.7
1/4		7.9	350.9
1/4		8.2	350.6
G		8.4	350.4
S.Topcb		7.91	350.9
	270° E W Line of E. did		
S.Topcb		8.23	350.6
G		8.67	350.2
1/4		8.28	
1/4		8.14	350.69
1/4		8.23	
G		8.52	350.3
N.Topcb		8.12	350.7
		9.20	354.63
		BM	354.51

N.Topcb
check on BM
NW 8P 47th
Orange

Bliss
Duermit
Halbeck
5/19/88 P.P.
on 5th National
38th

X Sections
Helpingstone
Florence & Logan
11.80 88.38

Alley Block 406
Between 37th + 38th

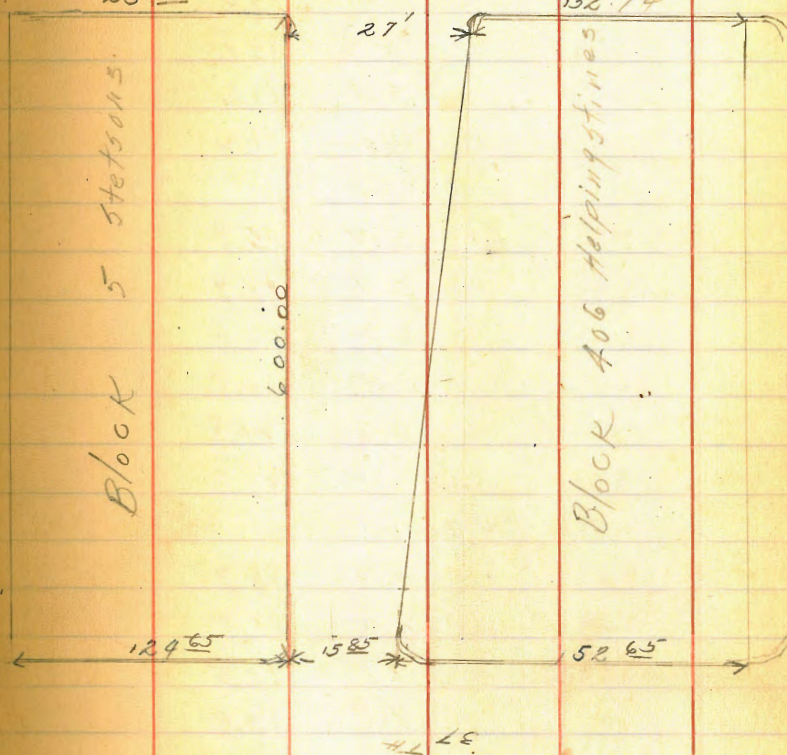
109.65

152.91

TP	3.87	91.56	0.69	87.69
N Topcb.	on st 4 th		2.28	89.28
N Topcb	of Prop		2.12	89.44
G			2.22	89.4
+ 9			2.4	89.2
±			2.2	89.4
+ 4			2.4	89.2
G			2.3	89.3
S Topcb on Prop			2.17	89.39
S Topcb of st 1 st			2.44	89.16
		10' West		
S			2.9	88.7
+ 6			2.8	88.8
±			2.3	89.3
+ 2			2.1	89.5
+ 8			2.5	89.1
+ 9			2.1	89.5
N			2.0	89.6
		25' West		
N			2.9	88.7
+ 7			3.4	88.2
±			3.1	88.5
+ 8			3.3	89.3
S			3.7	87.9

Plotted. T.W.

Sketch of Alley 406 Helpingstone.
Alley Returns are in on both ends of block.
Distances are as they were chained on ground.
All sections have been taken proportionally.



91.56

75' West

S	4.6	87.0
+7	5.2	86.4
⊕	4.9	86.7
+5	4.6	87.0
+8	4.9	86.7
+10	4.4	87.2
N	4.4	87.2

60' W

N	5.7	85.9
+2	5.7	85.9
+5	6.8	84.8
⊕	6.8	84.8
+6	6.8	84.8
S	6.3	85.3

70' W

S	7.3	84.3
⊕	7.9	83.7
+4	8.1	83.5
+9	7.7	83.9
N	7.1	84.5

100' W

N	9.9	81.7
+5	10.0	81.6
+8	9.6	82.0
⊕	9.6	82.0
S	10.0	81.6

91.56

125' West

S	10.8	80.8
+7	10.9	80.7
⊕	10.6	81.0
+5	10.4	81.2
N	10.9	80.7

1433 DWelling on South.
Back Rod on floor 1032

81.24

150' West

N	10.6	81.0
+4	10.6	81.0
+7	10.2	81.4
⊕	10.8	80.8
+6	11.4	81.2
S	11.6	80.0

165' West

S	11.7	79.9
+8	11.5	80.1
⊕	10.8	80.8
+5	10.6	81.0
N	10.6	81.0

180' W

	11.1	80.5
+7	11.2	80.4
⊕	11.7	79.9
+5	12.0	79.6
S	11.7	79.9

194' West Single Garage on South

0.6 BACK Rod on etc 12.1 79.5

40

91.56

S		12.1	79.5
+8		12.1	79.5
⊕		11.8	79.8
+5		11.6	80.0
N		12.1	79.5
	225 West		
N		13.1	78.5
+8		12.3	79.3
⊕		12.3	79.3
+2		12.4	79.2
S		12.4	79.2
	295 West		
S		12.8	78.8
+7		13.0	78.6
T.P.	0.31	78.68	13.19
⊕		0.3	78.4
+3		0.2	78.5
+4		0.4	78.3
N		0.5	78.2
N+10		1.0	77.7
	255 West		
N-10		2.4	76.3
N		1.4	77.3
+7		1.1	77.6
⊕		1.0	77.7
+4		1.0	77.7

78.37

7868

41

+5		0.4	78.3
	275 West		
S		1.1	77.6
+4		1.5	77.2
+8		3.6	75.1
⊕		4.0	74.7
+7		4.4	74.3
N		4.9	73.8
+10		6.2	72.5
	287 West		
N-10		7.7	71.0
N-4		7.1	71.6
N		6.8	71.9
⊕		5.9	72.8
+3		5.4	73.3
+7		3.1	75.6
S		1.9	76.8
	294 West		
S		3.6	75.1
+4		4.3	74.4
+4.5		5.9	72.8
+8		7.1	71.6
⊕		6.4	71.8
N		7.8	70.9
N+10		8.2	70.5

7
78.68

300' West

N-10	8.9	69.8
N	8.6	70.1
+6	8.3	70.4
⊘	7.7	71.0
E. Rim of Service Mt. Hole	7.46	71.22
+6	7.8	70.9
S	6.7	70.0

310' West

S-10	6.1	72.6
S	9.0	69.7
⊘	9.4	69.3
+9	9.0	69.7
N	8.9	69.8
N+10	7.9	70.8

325' West

N-10	6.3	72.4
N-2	6.8	71.9
N	7.4	71.3
⊘	8.7	70.0
+4	9.1	69.6
S	11.5	67.2
S+5	10.3	68.4
S+10	9.5	69.2

350' West

S-10	11.8	66.9
S	8.8	69.9

7
78.68

42

+5	7.2	71.5
⊘	7.0	71.7
+2	6.5	72.2
+5	6.6	72.1
N	5.5	73.2
N+10	4.5	74.2

355' West

N	3.8	74.9
+5	6.3	72.4
⊘	6.9	71.8
+9	7.6	71.1
S	8.1	70.6
S+10	10.3	68.4

385' West

S-10	7.8	70.9
S	5.9	72.8
⊘	5.0	73.7
+7	4.2	74.5
N	3.0	75.7

400' West

N	3.1	75.6
⊘	3.7	75.0
S	4.1	74.6
S+10	5.9	72.8

425' West

S	3.7	75.0
---	-----	------

72.47
596 West

S		81	64.4
+3		7.7	64.8
⊕		7.5	65.0
+5		7.3	65.2
N		6.6	65.9
N Top cb		8.03	64.44
E		7.6	64.9
⊕		8.0	64.5
E		8.9	64.1
S Top cb		8.57	63.90
S Top cb on st line		8.82	63.65
N Top cb in " "		8.23	64.24
T.P.	10.20	81.55	1.1 ~ 71.35
T.P.	4.98	85.20	1.33 80.22
Check on starting BM 3 E BP 35 th National		8.63	76.57

Levels for Drain Alley Block 406
Helping stno

44

BM Top Mn Hole 3+00	3.39	79.61	71.2 ~
0+00 = 3+17			3.9
0+18			5.0
0+90 ⊕ Alley = 3+17			5.0
0+96			5.0
0+53			7.7
0+60			8.5
0+70			8.7

⊕ Alley
3+17
← →
93-0000

0+34

w.l.	5.0
+2	5.4
+5	5.3
+9	5.6
⊕	5.5
+5	5.4
+6	5.4
+9	4.4
E.L.	4.3

0+50

E.L.	4.2
+1	4.3
+4	5.4
+5	5.4
⊕	5.4
+5	5.3
+8	5.5
w.l.	5.5

approach on alley
 { 0+60 = 6' x 6.3' w conc floor

approach on w.
 { 0+79 = 5' x 6.4' w
 5.56

0+75

w.l.	5.5
+6	5.6
⊕	5.6
+4	5.6
+6	5.8
+8	4.9
E.L.	4.7

0+84 & single garage 2' E. conc floor

1+00 4.90

E.L.	5.3
+3	5.7
+4	5.8
⊕	5.7
+3	5.8
+6	5.7
w.l.	5.8

1+25

w.l.	6.1
+4	6.0
+8	6.1
⊕	6.0
+3	6.1
+7	6.1
+8	5.7
E.L.	5.7

297.82
1+40 d Single garage 14' E earth floor

6.2
1+50 = NL E-W Alley
E.L. 6.2
+5 6.3
+7 6.1
± 6.1
+3 6.2
W.L. 6.1

1+75

W.L. 6.6
+2 6.3
+7 6.4
± 6.3
+7 6.0
+9 5.7
E.L. 5.7

T.R. No 3.61E 296.16 5.27 292.55

1+70 = S.L. E-W Alley

E.L. 4.1
+5 4.5
± 4.6
+4 4.7
W.L. 4.7

1+82 d 2 car garage 29.5' w. earth floor
5.2

1+82

W.L. 4.9
+3 4.6
+6 4.7
± 4.7
+5 4.6
E.L. 3.8

1+86

E.L. 4.3
+4 4.4
+7 4.7
± 4.8
+6 4.6
+8 4.7
W.L. 4.9

(1+86 conc. approach extends from garage to N end 2 car garage 13' E) in alley

N end approach 4.24

2+02 S end approach 0.7' in 4.30

(2+06 conc. approach extends 0.6' in alley N end 3 car garage 34' E

2+31 approach 0.4' in alley. send same garage 3.6' E

5.00

Nail Pole.

2+25

E.L.	5.1
+4	5.3
+5	5.4
⊕	5.4
+3	5.6
+5	5.5
W.L.	5.4

2+37

W.L.	5.7
+1	5.5
+4	5.7
⊕	5.9
+5	5.6
+8	5.6
E.L.	5.4

2+43 ⊕ Single garage 3.5'E. Conc. floor

5.33

2+50

E.L.	5.5
+8	5.8
⊕	6.1
+8	5.7
W.L.	5.8

2+75

W.L.	6.1
+6	6.1
⊕	6.4
E.L.	5.7
3+00	
E.L.	5.9
+5	6.1
⊕	6.5
+3	6.4
+6	6.5
W.L.	6.3

3+13

W.L.	6.6
+4	6.7
+6	6.6
+9	6.6
⊕	6.7
+✓	6.5

E.L.

6.1

3+19~~2~~ = N.L. Myrt 10

top Ecb 5.87

E.L. Pav. 6.26

⊕ Pav. 6.95

W.L. Pav 6.95

top web 6.66

Ncb line Myrtle.

top w corok	7.49
gut at w.L.	7.56
gut at d	7.17
gut at E.L.	6.67
top E. cb ret.	6.09

E-W Alley

JUN 4-28

T.P.	3.88	29 643	292.55
0+00 =	W.L.	of N-5	Alley
S.L.		5.0	
¢		5.0	
+5		4.9	
N.L.		4.7	
0+25			
N.L.		5.3	
+5		5.5	
¢		5.4	
+8		5.3	
S.L.		5.3	
0+45			
S.L.		5.5	
+8		5.7	
¢		5.8	
+5		5.6	
N.L.		5.4	

0+57 =	¢	Single garage	6.6' N	Conc. floor.
				5.42
0+59 =	d	Single garage	4.0' S	Conc floor
				4.86
0+68 =	¢	Single garage	6.5' N.	Conc. floor
				5.47

0+52

N.L.	5.6
+1	5.5
+5	5.8
¢	5.9
S.L.	5.3
0+75	
S.L.	5.8
+6	6.1
¢	6.3
+2	6.3
+5	6.1
N.L.	6.0

0+85

N.L.	7.1
+2	6.7
+5	6.7
¢	6.7
+3	6.8
S.L.	6.5

0+98

S.L.	7.1
+1	7.2
+2	8.8
±	8.1
+2	8.1
+5	8.2
+8	8.3
N.L.	9.2
2' N	9.8
5'	13.3
8' N	13.5

0+98 = wend house floor level 8' N.

13.40

0+98 ^{house} window sill 10.02

1+05

15' N	14.3
11' N	14.0
N.L.	9.8
+1	9.2
+5	9.2
+9	9.0
±	9.1
+3	9.2
+8	9.7
S.L.	9.5

1+10

296.43

S.L.	12.6
+3	12.4
+7	10.2
±	10.0
+5	10.0
N.L.	10.3
6' N	13.8
10' N	14.1
1+2	
10' N	14.3
7' N	14.2
2' N	12.1
N.L.	11.7
+2	12.0
+5	12.5
±	12.6
+6	12.9
S.L.	13.6
T.P.	236 285.77 13.02 28341
1+35	
S.L.	4.7
+6	3.9
±	3.2
+5	2.1
+6	2.2

1+35	
N.L.	4.0
2'N	4.4
9'N	4.7
1+43	
9'N	5.1
N.L.	5.5
+4	4.6
+5	4.5
♀	4.8
+7	5.7
S.L.	5.5
10'S	6.4
1+50	
10'S	8.9
S.L.	8.7
+5	8.7
♀	8.0
+8	7.9
N.L.	6.4
10'N	6.0

1+52	
10'N	7.8
N.L.	8.5
+2	8.6
+5	9.2
+7	8.7
♀	8.6
+3	8.7
+6	9.2
S.L.	9.1
10'S	9.5
1+58	
10'S	11.5
5'S	11.1
S.L.	10.5
+6	10.3
+8	9.5
+9	9.8
♀	9.9
+9	8.5
N.L.	8.4
8'N	8.1
10'N	7.3

Note: Line of Raspberry vines From 1+60 to 1+90
8' North of Alley.

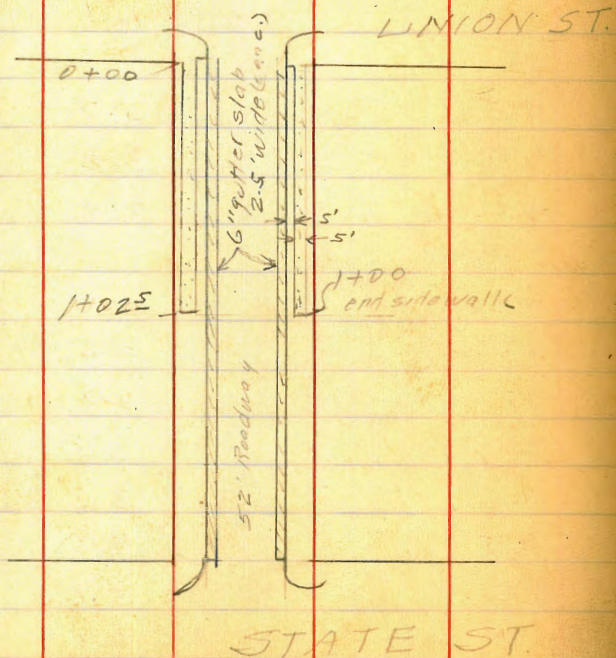
1+65
 10' N 6.5
 N.L. 8.0
 +1 8.5
 +5 9.1
 ♀ 9.7
 +4 9.7
 S.L. 10.6
 10'S 11.8
 1+75
 10'S 11.4
 S.L. 9.9
 +4 9.3
 ♀ 8.8
 +3 8.4
 +5 8.0
 +9 7.3
 N.L. 6.8
 4' N 6.5
 1+86
 4' N 4.2
 N.L. 4.8
 +1 5.0
 ♀ 6.8
 +1 7.5
 +6 8.5

Old chicken coop in Alley at 1+86

1+86
 +13 9.1
 S.L. 9.9
 3'S 10.6
 10'S 11.1
 1+95
 10'S 9.9
 9'S 9.3
 S.L. 7.8
 +7 6.7
 +8 6.1
 ♀ 4.9
 +5 3.7
 +9 3.2
 N.L. 2.6
 2+00
 N.L. 2.0
 +1 2.5
 +5 2.7
 +8 3.0
 ♀ 3.3
 +5 4.8
 S.L. 5.6
 2'S 6.1
 10'S 7.7

2 + 07 = end 285.77

10'S			6.1	
S.L.			3.6	
±			2.7	
+8			1.4	
N.L.			0.5	
T.P.	12.81	296.21	2.37	283.40
T.P.	6.30	302.48	0.03	296.18
B.M.	Beginning		6.67	295.81



Section Laurel Union to State 53
(See sketch to left.)

Note: edge means edge of gutter slab
B.P. SE
Kalamazoo State
B.M. = 87.92
m.m. 8.
Notes
reduced
from assumed
Elev. of 100.00

B.M.	12.29	112.29		120
	12.96	125.15	0.10	112.19
	12.97	136.55	1.57	123.58
	0.54	132.59	4.50	132.05

0 + 00 = int. Union

Scb		0.56	132.03
gut		1.32	
1/4		1.05	
±		0.93	
1/4		1.09	
gut		1.37	
Ncb		0.63	131.96
0 + 25			
Ncb		6.28	126.31
gut		7.10	
edge		7.00	
edge		6.68	
gut		6.82	
Scb		5.96	126.63
0 + 50			
Scb		11.35	121.24
gut		12.16	
edge s		12.03	
edge n		12.63	
gut		12.68	
Ncb		11.85	120.74

Laurel St

	132.59		
T.P. 0.08	119.73	12.94	119.65
0+75			
Ncb		4.74	114.99
gut		5.62	
edge N		5.56	
edge S		4.53	
gut		4.68	
Scb		3.86	118.87
1+00			
Scb		9.22	110.51
gut		10.04	
edge S		9.90	
edge N		11.01	
gut		11.09	
Ncb		10.23	109.50
T.P. 0.12	107.09	12.70	106.97
1+75			
Ncb		3.21	103.86
gut		4.05	
edge N		3.97	
edge S		2.63	
gut		2.81	
Scb		1.98	105.11

Laurel St

54

	1+50	207.09	
Scb		7.37	199.72
gut		8.21	
edge S		8.02	
edge N		9.57	
gut		9.67	
Ncb		9.86	198.23
T.P. 1.30	195.41	13.04	194.05
1+75			
Ncb		2.78	192.63
gut		3.57	
edge N		3.49	
edge S		1.74	
gut		1.84	
Scb		1.04	194.87
2+00 = EL State			
Scb		6.39	189.02
gut		7.18	
1/4		6.83	
1/4		7.04	
1/4		7.78	
gut		9.09	
Ncb		8.40	187.01
T.P. 7.94	201.94	1.41	194.00
B.M Beginning		1.97	192.97

Profile of ϕ of Warrington

BM	10.32	96.05	85.68
0+00 = N.W.L Tennyson	10.6	85.4	
0+30	10.8	85.2	
0+40	11.4	84.6	
0+90	11.8	84.2	
1+00	12.0	84.0	
1+45	12.2	83.8	
1+60	12.2	83.8	
2+00	11.7	84.3	
2+12	11.5	84.5	
2+26	10.8	85.2	
2+35	10.6	85.4	
2+50	10.6	85.4	
2+70	9.7	86.3	
3+00	9.1	86.9	
3+05	8.5	87.5	
3+15	8.2	87.8	
3+20	8.4	87.6	
3+33	8.1	87.9	
3+40 = S.W.L. Vidal	7.3	88.7	
3+75 = ϕ Vidal	5.4	90.6	
4+00	5.2	92.8	
4+10 = N.W.L Vidal	3.0	93.0	
4+20	2.5	93.5	
4+70	0.3	95.7	

B.P.N.E.
Warrington
= Tennyson.

From N.W.L of Tennyson to ϕ Voltaire

96.00

T.P.	6.32	101.22	1.10	94.90
5+00			5.3	95.9
5+20			5.4	95.8
5+33			5.8	95.4
5+37			6.3	94.9
5+48			6.4	94.8
5+52			6.0	95.2
5+70			6.1	95.1
6+00			6.2	95.0
6+10 = S.W.L Voltaire			5.7	95.5
6+19			6.3	94.9
6+23			11.5	89.7
6+30			17.6	83.6
6+35			17.7	83.5
6+45 = ϕ Voltaire			17.7	83.5

Jun 6-29
London.

55

Profile of $\frac{1}{4}$ of Udal From $\frac{1}{4}$
of Warrington to 285' N.W.

101.24

0+00	= $\frac{1}{4}$ Warrington	10.7	90.5
0+25	= N.W. Warrington	11.3	89.9
0+50		12.3	88.9
1+00		14.3	86.9
T.P.	5.73 95.55	11.40	89.82
1+50		11.2	84.4
2+00		12.9	82.7
2+45		14.3	81.3
2+85		15.4	80.2

Profile of $\frac{1}{4}$ of Udal From $\frac{1}{4}$ of
Warrington to 505' S.E.

95.55

0+00	= $\frac{1}{4}$ Warrington	5.0	90.6
0+25	= S.E. Warrington	4.9	90.7
0+50		4.8	90.8
0+85		3.8	91.8
1+00		2.6	93.0
1+10		1.6	94.0
1+50		1.9	93.7
1+75		2.1	93.5
2+00		3.5	92.1
2+10		3.6	92.0
2+50		5.1	90.5
2+80		5.1	90.5
3+00		5.3	90.3

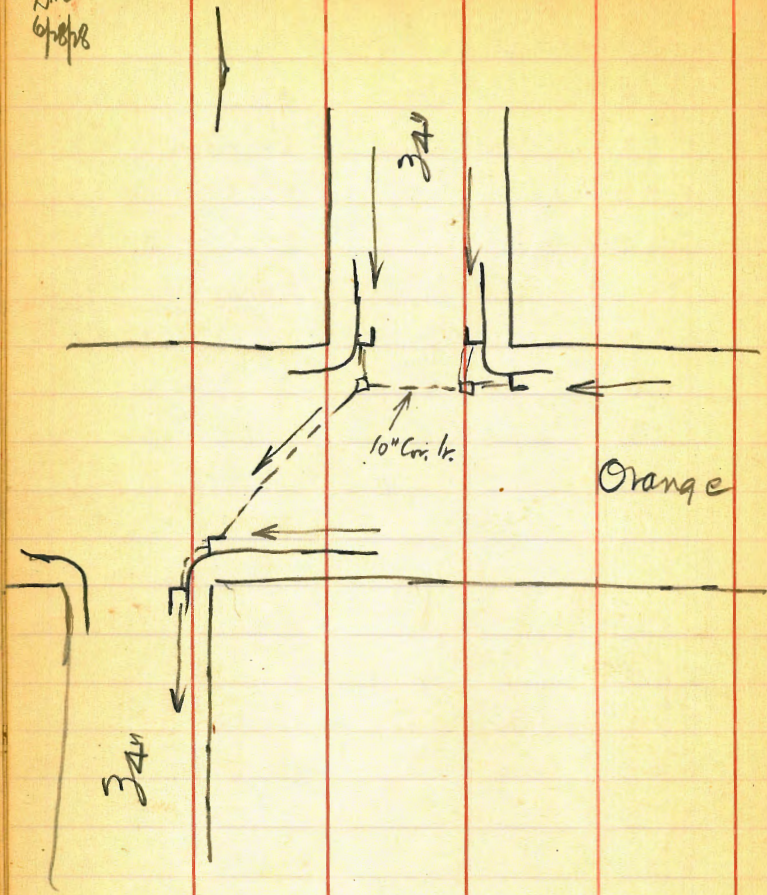
56

95.55

3+50		5.7	89.9
T.P.	7.52 99.42	3.65	91.90
4+00		10.1	89.3
4+50		9.9	89.5
5+05		9.2	90.2
B.M.		3.16	96.26

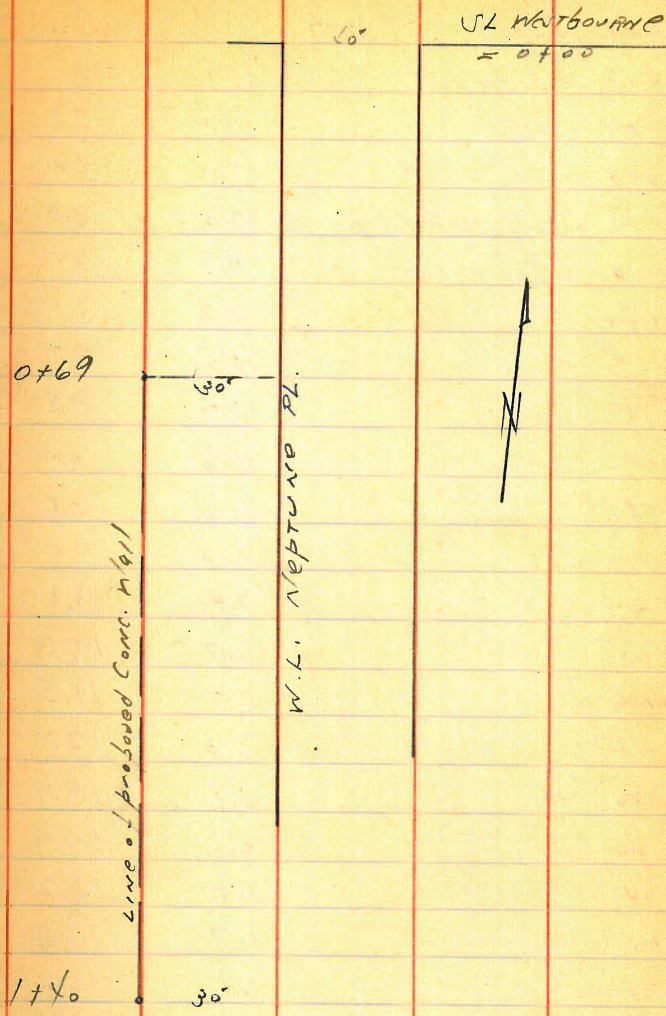
B.P. NEVILL
& SONS
(96.26)

JWS
6/27/78



7/3/48 Levels for wall on Neptune Pl.
10000 S of W

West on ground	5.00	29.00	24.00 = 0+74
0+69 and 30' west		3.3	25.7
0+71		4.0	25.0
0+73		5.7	23.3
0+75		5.6	23.4
0+76		5.6	23.4
0+78		7.6	21.4
0+80		9.2	19.8
0+81		9.7	19.3
0+83		10.8	18.2
T.P.	0.12	16.97	17.15
0+85		1.6	15.4
0+87		3.2	13.8
0+89		4.2	12.8
0+91		5.7	11.3
0+93		7.0	10.0
0+95		7.8	9.2
0+96		8.3	8.7
0+98		9.1	7.9
1+00		10.1	6.9
+02		11.4	5.6
1+03 = Beach sand		13.2	3.2
1+03 = Bed Rock		18.6	-1.6
1+05 = Sand		15.8	3.2
1+05 = Bed rock		18.9	-1.9



1+07 = sand	π 1697	14.0	3.0	
1+07 = Bed rock		19.1	-2.1	
1+09 = sand		14.4	2.8	
1+09 = Bed rock		17.4	-0.4	
1+10 = Sledge sand beginning		14.3	2.3	of slope
1+10 = Bed rock		14.7	2.7	
1+12		13.3	3.7	
1+14		13.3	3.7	
1+15		13.2	3.8	
1+16		11.6	5.4	
1+18		11.0	6.0	
1+20		8.0	9.0	
1+22		7.9	9.1	
1+24		6.7	10.3	
1+26		5.5	11.5	
1+28		4.3	12.7	
1+30		3.1	13.9	
1+32		2.1	14.9	
1+34		1.8	15.2	
1+36		1.7	15.3	
1+38		1.8	15.2	
1+40		1.4	15.6	

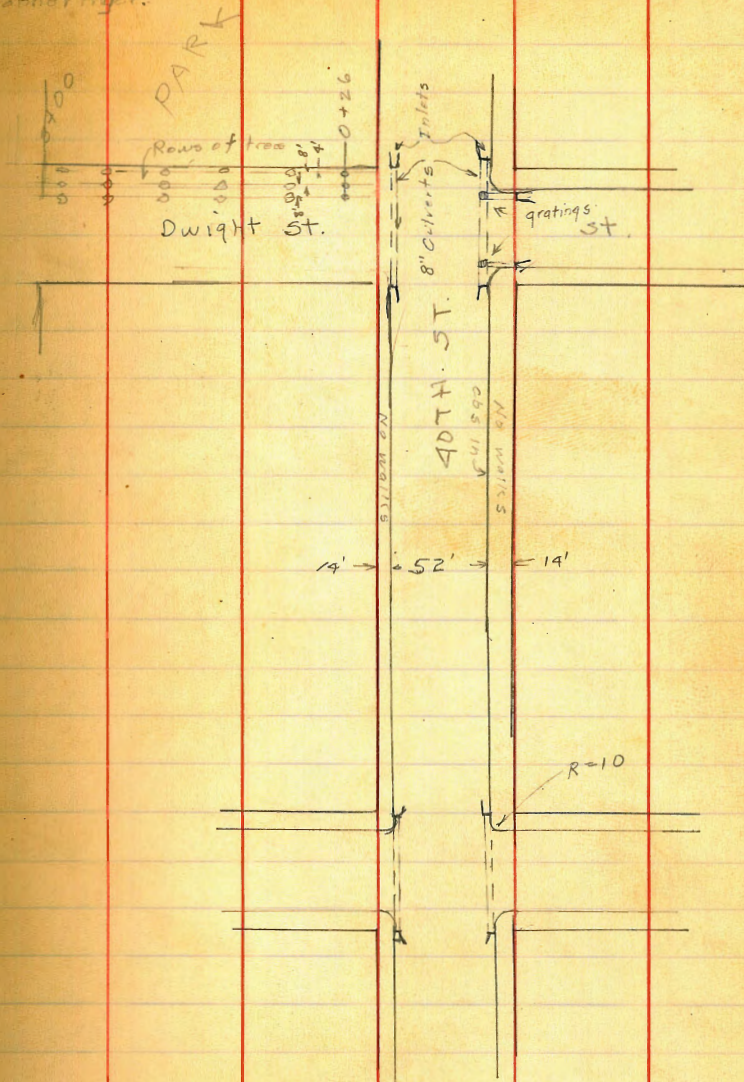
Dwight
at 40th
SW.B.P.
B.M.

Cb Levels on 40th Myrtle to Dwight
Sept - 4 - 28

Loudon
Isbell
Alorton
Sannermyer.

60

0+00 = S.L. Dwight	0.79	328.27	327.53
Ecb		0.75	
FL Culvert		1.82	
web		0.70	
FL Culvert		1.85	
0+25			
web		1.23	
Ecb		1.14	
0+50			
Ecb		1.51	
web		1.59	
0+75			
web		1.98	
Ecb		1.90	
1+00			
Ecb		2.28	
web		2.37	
1+25			
web		2.78	
Ecb		2.70	
1+50			
Ecb		3.06	
web		3.09	
1+75			
web		3.54	
Ecb		3.46	



2+00

Ecb 3.75

Wcb 3.88

2+25

Wcb 4.34

Ecb 4.17

2+50

Ecb 4.56

Wcb 4.73

2+75

Wcb 5.10

Ecb 4.94

3+00

Ecb 5.28

Wcb 5.43

3+25

Wcb 5.92

Ecb 5.70

3+50

Ecb 6.08

Wcb 6.25

3+75

Wcb 6.66

Ecb 6.44

4+00

Ecb 6.78

Wcb 7.04

4+25

Wcb 7.46

Ecb 7.16

4+50

Ecb 7.56

Wcb 7.76

4+75

Wcb 8.14

Ecb 7.94

5+00

Ecb 8.30

Wcb 8.55

5+25

Wcb 8.95

Ecb 8.67

5+50

Ecb 9.07

Wcb 9.37

5+75

Wcb 9.74

Ecb 9.46

5+98⁶ = N.L. Myrtle

Ecb 9.77

FL Culvert on E 10.76

Wcb 10.08

FL Culvert on W 11.01

X Sec Dwight St. 40th to W.L. 29th

80' St. 52 Roadway 14' cbs

BM. 5.19 332.72 327.53

Top Inlet NW Int. 4.95

FL. 5.86

0+00 = W.L. 40th

N.L. 3.9

cb 4.4

+6 4.3

1/4 4.5

+6 4.5

1/4 4.7

1/4 4.6

+5 4.8

cb 4.5

S.L. 4.8

0+10

S.L. 3.7

+8 3.8

+10 3.4

+13 3.4

cb 3.6

+8 4.1

1/4 4.0

+7 4.0

1/4 4.2

+7 3.9

1/4 3.8

+4 3.7

0+10

Ncb 3.9

+9 3.6

N.L. 3.1

0+25

N.L. 3.4

+5 3.5

cb 4.0

1/4 4.1

+11 4.1

1/4 4.0

+4 3.9

1/4 4.1

cb 3.8

+5 4.0

S.L. 3.7

0+80

S.L. 4.2

cb 4.2

+4 4.4

+10 4.3

1/4 4.3

+4 4.5

1/4 4.3

+10 4.3

1/4 4.4

cb 4.2

0+80

N.L. 3.6

1+00

N.L. 4.4

+9 4.3

cb 4.4

1/4 4.7

+3 4.6

+8 4.9

1/4 4.6

1/4 4.6

+8 4.7

cb 4.6

S.L. 4.2

1+20⁵ = E. Edge Drive on South (+ double garage)

S.L. (conc.) 4.18

+5 (conc.) 4.30

+7⁵ N end Drive 4.51

cb 4.6

+3 4.6

+6 4.7

+9 4.6

1/4 4.7

+4 4.9

+9 4.6

1/4 4.5

+3 4.8

1+20⁵

Nc 6 5.0

+8 4.9

+9 4.8

N.L. 4.8

1+40 = E.L. Alley

N.L. 5.2

+6 5.1

cb 5.2

+3 5.2

+8 5.4

1/4 5.3

+10 5.2

1/4 5.1

+3 5.1

+8 5.2

1/4 5.0

cb 4.8

+7 4.8

+10 4.4

S.L. 4.7

1/4 garage 6' south at ¹⁺³⁰ 4.12

5' in st 4.33

1+60 = W.L. Alley

S.L. 5.0

cb 5.1

+5 5.5

1+60	
cb +9	5.3
1/4	5.4
+5	5.6
¢	5.3
1/4	5.5
+6	5.6
+10	5.4
cb	5.4
+9	5.5
N.L.	5.5
1+90	
N.L.	6.0
cb	5.9
+3	5.9
+7	6.1
+11	5.9
1/4	6.0
¢	5.8
+3	5.8
+6	6.0
1/4	5.9
+3	5.7
+8	6.0
cb	5.7
S.L. on Driveway	5.46
Walk 1+78 on S.L.	5.26

2+00	
S.L.	6.2
+5	6.0
cb	6.1
+6	6.2
+11	5.9
1/4	6.1
¢	5.9
+5	6.1
1/4	6.2
+9	6.2
+5	6.5
+7	6.2
cb	6.3
N.L.	6.6
2+15	
N.L.	7.0
+5	7.0
cb	6.8
+11	6.7
1/4	6.6
+1	6.7
+5	6.5
¢	6.3
+5	6.4
1/4	6.0
+7	6.5

2+15	
cb	6.3
S.L.	6.2
2+35	
S.L.	7.0
+5	6.8
cb	7.0
+5	7.1
+9	6.8
1/4	6.7
+9	7.2
±	7.2
+2	7.4
+10	7.6
1/4	7.5
+3	7.7
+5	8.0
+7	7.8
cb	7.9
N.L.	8.4

2+65	
N.L.	11.2
cb	10.3
+9	10.3
+10	9.9
1/4	9.8
+5	9.5
+11	9.5
±	9.2
1/4	8.9
+5	8.8
cb	8.7
+4	8.4
+9	8.2
S.L.	8.3
2+90	
S.L.	10.4
+5	10.4
cb	10.8
+7	11.7
1/4	11.7
+3	11.7
±	12.3
1/4	12.9
+2	13.1
+4	13.4
cb	14.3

2+90	332.72		
T.P. 224	322.19	12.77	319.95
N.L.		5.4	
3+00 = E.L.	39 th	.	
N.L.		7.7	
cb		6.4	
+7		6.0	
1/4		5.1	
E		3.6	
+5		3.1	
+10		2.0	
1/4		2.6	
+9		3.2	
cb		1.9	
S.L.		1.0	
3+09			
S.L.		2.8	
+7		4.2	
cb		4.1	
+3		4.2	
+9		3.1	
1/4		4.7	
E		6.3	
1/4		7.4	
cb		8.2	
N.L.		9.5	

3+14	322.19		
N.L.			10.9
cb			9.3
1/4			8.4
E			7.5
1/4			6.1
+7			5.4
cb			3.7
+4			4.4
S.L.			4.5
3+21			
S.L.			4.6
cb			7.2
1/4			8.7
E			9.9
1/4			10.3
cb			11.3
N.L.			12.8
3+27			
N.L.			14.5
cb			13.1
1/4			12.3
E			12.1
1/4			11.1
cb			9.0
S.L.			7.3

3+40		322.19		
S.L.			11.8	
T.P.	0.10	309.32	12.97	309.22
cb			1.8	
1/4			3.6	
♀			5.2	
+3			7.2	
+6			5.8	
1/4			5.9	
cb			5.9	
N.L.			7.9	
20'N			10.4	
3+53				
20'N			19.0	
N.L.			12.6	
cb			12.6	
1/4			13.3	
♀			13.0	
1/4			11.1	
cb			8.0	
S.L.			5.5	
3+66				
S.L.			13.1	
T.P.	1.98	298.27	13.03	296.29
cb			4.0	
1/4			6.7	

3+66		298.27		
♀			9.4	
1/4			9.7	
cb			10.8	
N.L.			12.5	
20'N			15.3	
3+80				
20'N			23.6	
N.L.			20.4	
cb			19.4	
1/4			18.2	
♀			17.4	
1/4			15.0	
cb			12.2	
S.L.			11.3	
T.P.	12.24	310.31	0.20	298.07
	12.44	322.70	0.05	310.26
	10.97	332.33	1.34	321.36
B.M. Beginning			4.92	327.41

12.2

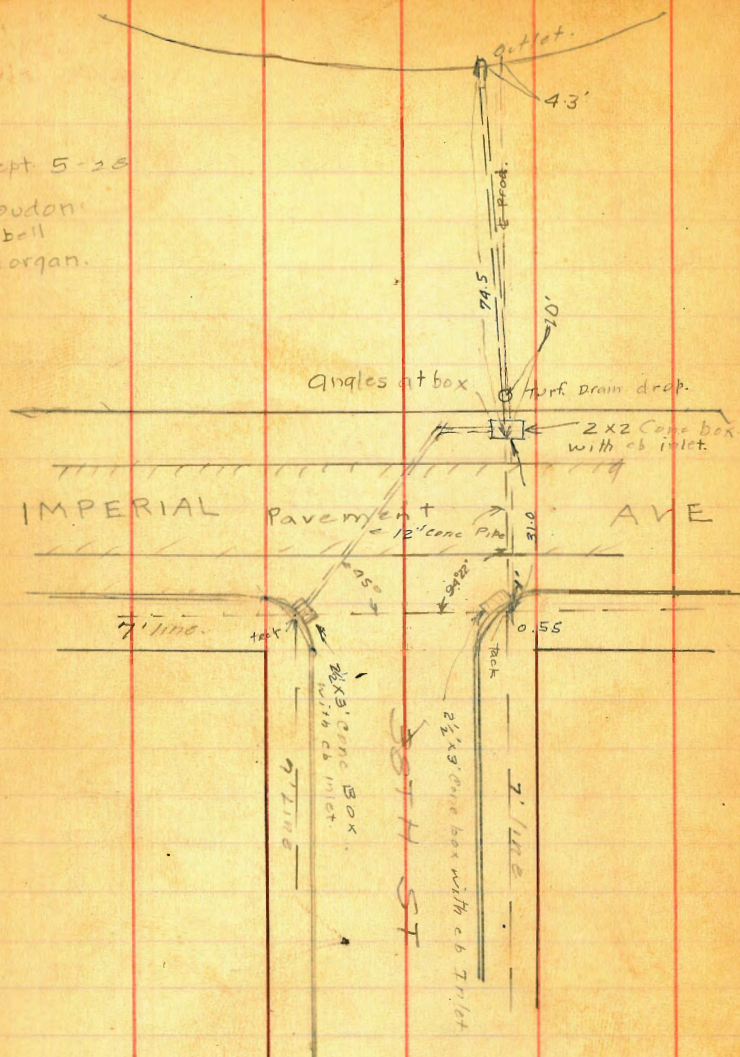
67

40th St cb levels from Dwight
to end curb North.
Curb in on East No improvements on West
Street graded.

B.M.	513	332.66	327.53
0+00 = N.L. Dwight			
Ecb		4.63	
FL. Culvert		5.54	
0+25		4.63	
Ecb		4.63	
wcb1 ground		4.7	
0+50			
wcb1		4.6	
Ecb		4.51	
0+75			
Ecb		4.42	
wcb1		4.5	
1+00			
wcb1		4.3	
Ecb		4.38	
1+25			
Ecb		4.25	
wcb1		4.3	
1+50			
wcb1		4.0	
Ecb		4.17	
1+75			
Ecb		4.14	
wcb1		4.1	

2+00	332.66
wcb1	4.0
Ecb	4.03
2+25	
Ecb	3.94
wcb1	4.0
2+50	
wcb1	4.0
Ecb	3.82
2+60 ^S - end	
Ecb	3.77
wcb1	4.1

Sept 5-28
Loudon
Isbell
Morgan.



Location of conduits 58th & Imperial.

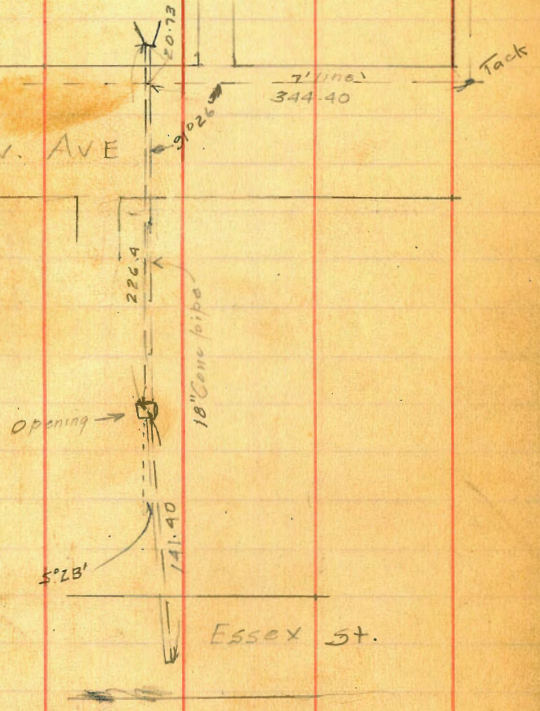
Top FH			
SE Imperial			
58th			
BM.	2.94	101.52 ✓	98.58 ✓
top cb			
S.W. Inlet		5.30	96.22
gutter "		6.13	95.29
FL pipe "		8.35	
SE Inlet			
top cb		5.27	96.25
gutter		6.10	95.27
FL pipe		8.33	93.19
Inlet on N. cb line.			
top		5.40	
bottom slot		6.17	
bottom box		9.80	91.77
FL. at turf drain drop		10.56	90.96
Outlet at Circle Dr.		15.32	86.20

→

CENTER ST.

PARK BLVD.

UNIV. AVE



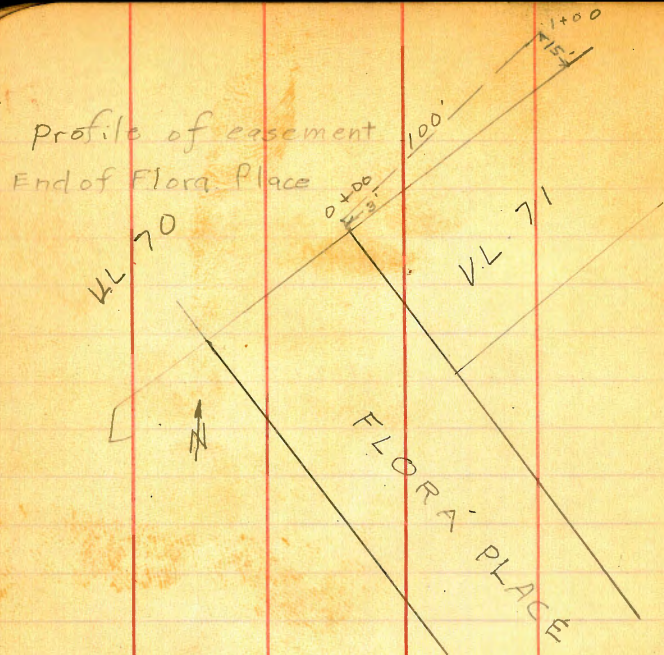
Univ. &
Center
NW B.P.

Elev's storm drain
UNIV AVE.

70

B.M.	8.82	312.70	303.88.
FL. N end.		17.40	293.30
T.P.	0.21	300.35	12.56
T.P.	5.65	294.53	11.49
FL. at opening	226.45.	7.81	286.74
FL. South end in Essex st.	11.21		283.32

Location of Storm Drain
on Univ. between Center &
Park Blvd



Mt View
& Hawley
BP SW

Sept 5-28

London
Isbell
Morgan

71

B.M.	5.83	399.84 ✓	394.01	
T.P.	1.32	391.01 ✓	389.69 ✓	
0-12		1.9	389.1	0+10
0-5		1.7	389.3	0+07
0+00		3.9	389.1	0+12
0+04		5.8	385.2	0+16
0+10		8.9	384.1	0+22
0+17		12.1	378.9	0+29
T.P.	0.00	378.05 ✓	378.05 ✓	
0+30		1.6	376.4	0+42
0+45		5.8	372.2	0+59
0+55		9.9	368.1	0+67
0+65		13.4	364.6	0+77
T.P.	0.09	365.59 ✓	365.50 ✓	
0+80		6.2	359.4	0+92
0+90		11.4	354.2	1+02
1+00		15.9	349.7 ✓	1+12 ✓

Walker
Ramp
Rocky
Shore
10-13-28

Cross Section Alley Blk. 71 E and W
Ocean Beach
Bet. Narragansett + Niagara St.

24.20

72

0+91 = 1/2 Garage on Sth 10' Back. Con. Floor

Station	17.18	11.05	17.98	Notes	24.20	18.2
TP	8.17	11.05	17.98	NE B.P. Newport + Bacon	N	6.0
				NW B.P. Niagara + Bacon	S	5.8
					S	5.0
				+10 = Garage Floor		4.76
N top ch	4.48	16.67				19.44
" Gut on Paving	4.65	16.50		+30 = ELY end house on N 19' Back		18.6
" "	4.90	16.25		+50 = WLY " " " 19' Back.		18.6
S Gut "	4.45	16.70		N-19' = house		5.6
" top ch.	4.16	16.99		N		5.6
				S		5.4
						4.9
				+53.5 = ELY end house on N 19' Back. Wood Foundation.		18.6
				+70.5 = 1/2 Con. Step on N 5' wide on Line		17.29
				+73.5 = WLY end 8' house		5.4
				+82 = BAY " Garage on N Con Floor 3.8' Back.		5.08
				2+00 = WLY " " " " 3.8' Back.		5.12
				- 3.8' = Garage Floor		5.1
				N		4.8
				S		4.7
				+185 = ELY end Garage on S. ELY entrance WLY edge on Line		4.7
				2+20 = 1/2 Garage on South 3.9' Back. dirt Floor.		5.0
				- 3.9 on Garage Floor		5.1
				S		5.5
				S		5.5

WLY LINE BACON = 0+00

0-1.5'

0+07

0+37

Plotted 10-19-1928 CBH

2420

+5		5.3	18.9
N		5.5	18.7
	2+41		
N		5.3	18.9
+5		5.0	18.2
2		5.2	19.0
S		5.1	19.1
	2+60		
S		5.3	18.9
2		5.9	18.3
+5		5.3	18.9
N		5.3	18.9
	2+82 = 1/2 House on N 0.6' Back. Wood Foundation. 10' wide		
-0.6		5.2	19.0
N		5.2	19.0
2		5.1	19.1
S		5.1	19.1
	2+97 = ELY end Triple Garage on N Con. Floor 6' Back.		
T.P.	5.85	25.53	4.52
S		6.5	19.0
+3		6.4	19.1
+7		6.9	18.6
2		6.4	19.1
+8		6.2	19.3
N		6.1	19.4
+6 on Con Floor.		5.75	19.78 ✓

2553

73

	3+24 = ELY end Triple Garage on North		
-6 on Garage Floor		5.68	19.85 ✓
N		5.8	19.7
+2		5.9	19.6
+3		6.4	19.1
2		6.5	19.0
+3		6.8	18.7
+7		6.4	19.1
S		6.3	19.2
	R = 5.9		19.6 ✓
	3+69 = 1/2 Room to house on S on line 8.5' wide Wooden Foundation		
	3+76 = ELY end 4 Garages on N 3.25' Back dirt Floors		
S		5.7	19.8
2		6.0	19.5
+7		5.7	19.8
N		5.2	20.3
	+3.25 = dirt Floor	4.2	21.3 ✓
	3+96 = 1/2 4 Garages on N	3.9	21.6 ✓
	4+15 = N end 4 Garages on N dirt Floors 3.25' Back		
	-3.25 on dirt Floor	3.6	21.9 ✓
N		4.4	21.1
+4		4.9	20.6
2		5.1	20.4
S		5.2	20.3
	on South T.P. nail in Pile 6.49 28.55 3.47 22.06		
	4+25 = ELY line of N and South Alley		
N		7.6	21.0

28.55

L	7.9	20.7	
S	7.9	20.7	
4+45 = W/LY line of Hand S Alley			
S	7.5	21.1	
L	7.4	21.2	
N	7.5	21.1	
4+56 = E/WY edge dble. Garage on S dirt Floors 3.2' Back ↓			
4+75 = W/LY " " " " 6.7 21.9 3.2' Back ↓			
4+79 = E/WY edge 5 Garages on S. Con. Floors. With Con. Apron			
-3Y in Con Floor	5.80	22.75	
-0.3 " toe of Apron	6.41	22.14	
S	6.7	21.9	
L	6.7	21.9	
+6	7.0	21.6	
N	6.5	22.1	
5+01.5 = S Above 5 Garages 6.03 22.5 ² on toe of Apron ↓			
5+05 = E/WY edge 4 Garages on N 3' Back dirt Floors 8 = 6.7 22.4 ↓			
5+24 = W/LY edge 5 Garages on South 3.2' Back ↓			
-3' = Garage dirt Floor on N	5.8	22.8	↓
N	5.9	22.7	
L	6.0	22.6	
S	5.5	23.1	
+0.3 on toe Con. Apron	5.54	23.01	
+3.2 " Con. Floor Garage	5.21	23.34	↓
5+41 = W/LY edge 4 Garages on N 5.3 23.3 3' Back ↓			
+45 = E/WY " 4 " on N dirt Floors 3' Back ↓			

28.55

-3' on dirt Floor	5.2	23.4	✓
N	5.3	23.3	
L	5.5	23.1	
S	4.8	23.8	
5+82 = W/LY edge 4 Garages on N 3' Back ✓			
S	3.6	25.0	
+2	4.6	24.0	
L	5.0	23.6	
N	4.6	24.0	
+3 on dirt Floor	4.5	24.1	↓
6+00			
N	4.0	24.6	
L	4.7	23.9	
+6	4.5	24.1	
S	3.8	24.8	
6+02 = L Con Walk on South 6+02 = E/WY edge Cottage on N 0.2 Back. Cottage on Small Con Pillars/			
-4.8 on Con Walk	2.89	25.66	4' side
S	4.1	24.5	
+3	5.0	23.6	
L	5.2	23.4	
+6	4.2	24.4	
N	4.0	24.6	
+0.2 at Cottage on Ground	4.0	24.6	
6+08 = E/WY edge Silver Spray Plunge and Hotsel also E/WY edge 3'x3' Gas. Box. Wooden			
N	3.8	24.8	
+4 on N edge Box.	3.89	24.66	

14

2855

+7 on Sedge Box	4.00	24.6
+7 of Bottom " on Ground	5.1	23.5
2	5.8	22.8
+8	5.7	22.9
S	5.2	23.4
+1' at Bld. on Ground	4.9	23.7
6+21 = 2' Con. Steps in Alley		
S - 1' at Bld. on Con. Step	7.73	20.82
S	7.73	20.82
+7 - end of steps	7.70	20.85
2	7.3	21.3
+5	3.4	25.2
+8	1.7	26.9
N	1.6	27.0
+1.2' at Cottage on N	2.1	26.5
6+27 = Bottom ^{Con.} Step		
N	1.8	26.8
+8	6.6	22.0
2	8.7	19.9
+3 on Con. step	9.63	18.92
S " " "	9.60	18.95
6+36 = top Board steps in Alley		
S on step	10.16	18.39
+7	10.44	18.11
2	10.7	17.9
+5	4.7	23.9

5' 1/2' Spring Bld.

7' 2" (1+2)
6+2)

6+08

28.55

75

N	11	27.5
6+40		
N	1.2	27.4
2	12.6	16.0
+3 on Board steps	13.09	15.46
S " " "	12.77	15.79
6+47 = top ^{Board} Steps		
S	13.1	15.5
+7 = end steps	12.0	15.6
+7 on Ground	15.4	13.2
2	15.8	12.8
+5	11.0	17.6
+8	17.2	11.4
N	16.8	11.8
+3	15.1	13.5
+10	16.0	12.6
6+58 = top steps		
-13	24.3	4.3
-5	22.1	6.5
N	21.5	7.1
2	20.4	8.2
+3 on Ground	20.1	8.5
+3 " top Board step	16.5	12.1
S " " " "	16.5	12.1
6+66 = Bottom of steps		
S on Con Walk	22.4	6.2

28.55

+B on end can walk	22.5	6.1
L	22.5	6.1
+5	22.7	5.9
N	25.0	3.6

Walker
Rupinger
Shaw
Looney
10-15-28

Cross Section N+S Alley Bld 71 20' wide
5.15 27.21 2206 Nail in Pole
Pg 23

5.15 NIAGARA ST = 0+00

N top cb.	3.08	24.13
" Gut. on Paving	3.38	23.83
" " "	3.78	23.43
E Gut " "	3.61	23.61
E top cb.	3.44	23.77

0+05 North edge Hotel Bld. on E

-27 on Walk at Bld.	3.25	23.96
E " "	3.22	23.99
E " Ground	3.6	23.6
L	4.0	23.2
+5	3.6	23.6
N	2.7	24.5

0+60 = South edge Hotel

N	3.6	23.6
L	4.5	22.7
E	4.3	22.9
E on top Walk	3.94	23.27

27.21

+27 on Walk at Bld	3.93	23.28
0+63 = End Walk	3.97	23.24

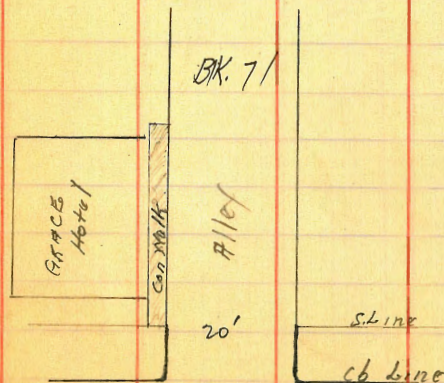
1+00

-1.6 at Fence	4.4	22.8
E S	4.8	22.4
L	5.0	22.2
W N	4.7	22.5

1+40 = NBY Line E+W Alley

J N	6.1	21.1
L	6.1	21.1
E S	6.2	21.0
T.P.	8.74	18.47

on Post 111
Ally. See
Book 1249-74
For cbk.



NIAGARA

St.

76

78

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body

of table in same row and column gives distance from side stake to slope stake. If ground is not nearly level, the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and had distance in table. Set up rod at this point and line of sight should cut target.
necessarily.

IMPROVED TABLES AND INFORMATION

TABLE No. 2.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections. Degree of curve with a given L may be found by dividing tangent (or external), opposite L by given tangent (or external).
The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

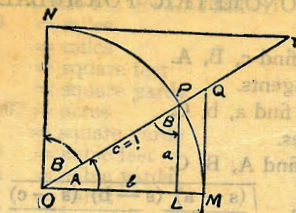


TABLE II
TRIGONOMETRIC FORMULÆ.

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \quad \cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \quad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Sines} \quad \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \frac{1}{2} (A+B)}{\tan \frac{1}{2} (A-B)}$$

TABLE II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.

Use Law of Tangents.

Given A, B, c; to find a, b, C.

Use Law of Sines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)(s-b)(s-c)}{s}} = r$$

$$\cos \frac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \frac{1}{2} A = \frac{r}{s-a}$$

$$\tan \frac{1}{2} B = \frac{r}{s-b}$$

$$\tan \frac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6} (B + b + 4M)$$

h = altitude; b, B = bases; M = midsection

TABLE III
INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11	
$\frac{1}{16}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219	$\frac{1}{16}$
$\frac{1}{8}$	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271	$\frac{1}{8}$
$\frac{3}{16}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323	$\frac{3}{16}$
$\frac{1}{4}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375	$\frac{1}{4}$
$\frac{5}{16}$	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427	$\frac{5}{16}$
$\frac{3}{8}$	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479	$\frac{3}{8}$
$\frac{7}{16}$	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531	$\frac{7}{16}$
$\frac{1}{2}$	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583	$\frac{1}{2}$
$\frac{9}{16}$	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635	$\frac{9}{16}$
$\frac{5}{8}$	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688	$\frac{5}{8}$
$\frac{11}{16}$	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	$\frac{11}{16}$
$\frac{3}{4}$	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	$\frac{3}{4}$
$\frac{13}{16}$	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	$\frac{13}{16}$
$\frac{7}{8}$	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896	$\frac{7}{8}$
$\frac{15}{16}$	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948	$\frac{15}{16}$
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000	1
	0	1	2	3	4	5	6	7	8	9	10	11	

TABLE IV
USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links
360°	= 21600"	= 1296000"
Radius	= arc of 57.2957790°	
Arc of 1° (radius = 1)	= .017453292	
Arc of 1' (radius = 1)	= .000290888	
Arc of 1" (radius = 1)	= .000004848	

445
231
676

$$\pi = 3.141592654 \quad \sqrt{\frac{1}{4}} = 0.564190$$

$$\frac{\pi}{4} = 0.785398163 \quad \sqrt{\frac{6}{\pi}} = 1.240700982$$

$$\frac{\pi}{6} = 0.523598776 \quad \pi^2 = 9.869604401$$

$$\sqrt{\frac{4}{\pi}} = 1.123379167 \quad \frac{1}{\pi^2} = 0.101321184$$

$$\frac{\pi}{6} = 0.523598776 \quad \sqrt{\pi} = 1.772453851$$

$$\frac{4\pi}{3} = 4.188790205 \quad \frac{1}{\pi} = 0.3183099$$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)²

Difference between arc and chord length, 0.05 feet in 11½ miles

$$\text{Probable error of a single observation} = 0.6754 \sqrt{\frac{\sum v^2}{n-1}}$$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULAE.

Horizontal Distance = R — R sin² a + C cos a

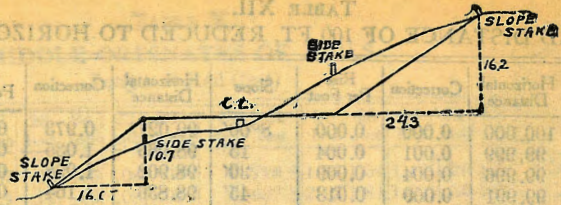
Vertical Distance = R ½ sin 2 a + C sin a

R = Reading × $\frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

445
231
676



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

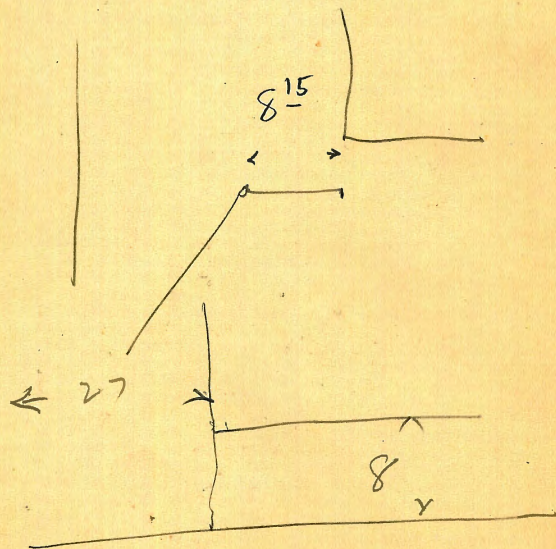
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ENGINEERING DEPARTMENT,
CITY OF SAN DIEGO,
CALIFORNIA.

89.95



34th Group N.V. 374.47
Wilson 377.05
385 368.11
90 364.62
92 363.00
93 361.01
95 352.56
Mon/lo 349.33
Eyed 330.69
43

597 1713
577 25
477 1705

358.83
8.07
350.76
200.00
53
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on Logan N. To Pueblo
From a 13' < 185.74 > 27.99
< 129.43 > 27.99

659.99
37th on L. 200.00 to Pueblo 14.52
13' on Logan 200.00
10' 191.50

406
185.74 to Pueblo 27.99
129.43 on Logan
185.74
53.00
132.74

200.00
53
147.20
7