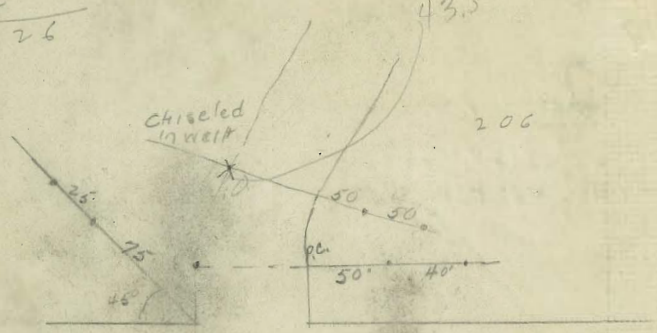
PASSES

LEVEL BOOK

No. 3301



95A

Our Leather Bound Engineers Note Books are carried in the following rulings:

No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.

No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.

No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.

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THE FREDERICK POST CO.

ENGINEERING and DRAFTING SUPPLIES

IRVING PARK STATION

CHICAGO, ILL.

53.90

$2R = \frac{C}{5\frac{1}{2}}$

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                 191.06
.2821 ) 53.9000.
        2821
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        25690
        25389
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          3010
          2821
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          1890
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      95.53
2 ) 191.06
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      95.53
        2
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    191.06
    10713
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     5318
    19106
   133742
  13.622578
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Location + Grade of Water Main at Intersection of Marineview + 40th St

B.M. Division + 40 — 46.81 + 3.22 = 50.03

0+00 = N.L. Division	42.0	
0+60	41.18	
1+00	40.36	
1+50	39.54	
2+00 = 6"x6"x4" C.I. Tee	38.72	
L.E. 2+00 = 0.00		
0+44 West	39.08	
0+88 "	39.44	
1+32 "	39.80	
1+76 "	40.16	
2+20 "	40.52	
0+07' East = 22½° E.L.	38.72	
22½° E.L. + 38' East	41.50	

42.0 + 4.75 + 3.28 = 39.47
41.18 + 8.85 + 5.71 + 3.14 = 39.80
40.36 + 9.67 + 6.60 + 3.07 = 40.16
39.54 + 10.49 + 7.34 + 3.15 = 40.52
38.72 + 11.31 + 7.83 + 3.48 = 41.50
39.08 + 10.95 + 7.58 + 3.07 = 41.50

39.47 + 10.59 + 6.53 + 4.06 = 38.72
39.80 + 10.23 + 6.32 + 3.91 = 38.72
40.16 + 9.87 + 5.90 + 3.97 = 38.72
40.52 + 9.51 + 5.79 + 3.72 = 38.72
41.50 + 8.53 + 5.08 + 3.65 = 38.72

38.72 + 11.31 + 7.60 + 3.71 = 39.08

#4 W 13.70 + 10.4 + 3.30 + 4.30 = 31.70 E 13.70 + 4.40 + 3.30 + 5.50 = 26.90
-4.00 Top cb — -2.20 Top cb

#7 W 13.70 + 10.4 + 3.30 + 6.66 = 34.06 E 13.4 + 8.30 + 4.7 = 26.40
-3.36 Top cb — -1.43

1

Grades on Culvert No. 6

B.M. = Stub 50' E. EL Birch on North
17.65 + 0.59 = 18.24

N End pipe	4.80	
Center Stake	5.80	
S end Pipe	6.80	

4.80 + 13.44 + 11.77 = +1.67
5.80 + 12.44 + 9.37 = +3.07
6.80 + 11.44 + 9.55 = +1.89

Culvert #2

N cb Top	50.44	
E cb Top	50.44	
S cb Top	49.91	
E cb Top	49.91	
N End pipe	43.8	
Center	42.6	
S End pipe	41.4	

50.44 + 4.69 + 11.32 − 6.63 = 43.82
50.44 + 4.69 + 10.96 − 6.27 = 43.82
49.91 + 5.22 + 13.41 − 8.19 = 40.35
49.91 + 5.22 + 14.09 − 8.87 = 40.35
43.8 + 11.33 + 11.98 − .65 = 40.46
42.6 + 12.53 + 11.89 + .64 = 40.46
41.4 + 13.73 + 13.99 − .26 = 40.46

Culvert #3

N End Pipe	39.5
C pipe	39.0
S End pipe	38.5

39.5 — 39.0 — 38.5

	NL	SL
① 44.85		
EL Woden	33.5	32.5
+ 44.85 E	33.3	32.32
+ 89.70	331	32.12
+ 134.55	32.9	31.84
+ 179.40	32.7	31.61
+ 224.29 = WL 39 TK	32.5	31.40
+ 60 = EL 39 TK	32.2	31.2
EL 39 TK + 44.81 on North	31.8	
+ 89.76 = Δ	31.4	
EL 39 TK + 44.81 on South	31.2	31.12
+ 73.54 = NL Alley on South		31.0
NL Alley + 25.16 = EL Alley = Δ		30.8
EL Alley + 36.9 = Opposite Δ on N.		30.56
② 3.44 + 80.9		30.28
+ 125.1 = WL OSborn	31.0	30.0
+ 60 = EL OSborn	31.0	30.0
EL OSborn = ③ 46.5		
1	32.75	31.75
2	34.50	33.50
3	36.25	35.25
PVC	38.0	37.0

NW 39 on 34 TK: 32.8 − 5.19 = 4.3 + 0.99

EL 39 = 39: 32.5 − 6.09 = 5.2 + 0.79

B.S.: Birch x Woden Nail in post

34.90 + 3.29 = 38.19 − 5.57 = 32.62 − 5.91 = 38.59 − 9.14 = 29.45 − 6.64 = 36.09 − 0.60 = 35.49 − 9.23 = 44.72 − 3.50 = 41.22 − 4.93 = 46.15 − 12.15 = 34.00 − 2.86 = 36.86 − 0.81 = 36.05 − 9.90 = 45.95 − 3.64 = 42.31 add E 39 = 42.28

B.M.

3.25 3.14 3.24 3.14 .8

NL E 31.0

on Cb. EL Woden

38.5	33.8	33.1	32.9	32.7	32.5	32.2	31.50	31.40	31.00
4.69	4.39	5.09	5.29	5.89	6.09	6.39	4.29	4.69	4.89
4.44	3.4	4.2	4.2	4.40	4.80	5.2	1.9	2.60	3.50
vs off 4.69	+.89	+.89	+.89	+1.49	+1.29	+1.19	2.89	+2.09	+1.39

31.00	31.00	32.75	34.50	36.25	38.0	
5.09	5.09	11.97	10.22	8.47	6.72	
.39	.08	.69	.31	4.60	.20	
+1.69	4.29	+5.07	+5.12	+3.87	+2.72	= PVC

SL

WL EL

32.5	32.32	32.12	31.81	31.61	31.40	31.2	31.17	
	5.87	6.07	6.38	6.58	6.79	7.39	7.49	
	4.6	6.3	7.20	6.7	6.1	5.8	7.3	
	+1.27	+.23	−.82	−.12	+.69	+1.59	+.17	
NL Alley	EL Alley							
31.0	30.8	30.56	30.28	30.00	30.00	31.75		
7.59	5.29	5.34	5.81	6.09	6.09	4.34		
9.10	10.70	10.50	9.00	5.90	3.7	3.9		
+.51	−5.81	−4.96	−3.19	+.19	+2.39	+.44		

33.50	35.25	37.00	
11.22	9.47	7.72	
11.80	9.3	5.2	= PVC
−.58	+.17	+2.50	

BM cut 3/4" sq NE Birch + Osborn

3265 + 699 = 39.64 − 3.44 = 36.20 + .71 = 36.91

36.93 + 4.99 = 31.94 + 4.02 = 35.96 + 1.31 = 32.65

BM 34.90 + 2.03 = 36.93

Tack in Ennis

NW 39+ Birch 32.50 + 4.43 = 36.93

E 39+ Birch 32.20 + 4.73

SE 39+ Birch 31.20 + 5.73

NL Alley 31.0 + 5.93

EL Alley 30.80 + 6.13

E WL OSborn 30.00 + 5.96

SE OSborn 30.00 + 5.96

NW OSborn 31.0 + 3.64

NE OSborn 31.0 + 8.64

Δ NL 31.4 + 4.56

62.03 < 121.20 13' Mon 13' Mon 60' 120'

NL PVC	38.0	38.6	39.0	39.1	39.0	38.7	38.1	37.3	EVC 36.2		24.0
		1.64	1.14	0.64	25	0.64	0.94	1.54	2.34	3.14		2.91
SL PVC	37.0	37.6	38.0	38.1	38.0	36.3	35.2		20.8
	2.64	2.24	1.84	1.64	1.64	3.34	4.44		19.11
				1.14	1.94				
				+.40	+.70				

	N		S
PVC	38.0		37.0
+20	38.6		37.6
+40 = WL	39.0		38.0
+60	39.1		38.1
+80 = WL EAVL	39.0		38.0
+20 = EVC	38.7	+60	36.3
40	38.1	+20	35.2
60 = EL EAVL	37.3		32.1
+20 = EVC	36.2		29.0
	33.15		25.9
2	30.10	WL 40 on 7th Birch	22.8
3	27.05	WL 40 on 40th	19.0
WL 40 on Birch	24.0		
WL 40 on 40th	25.0		

28.56
.016
28.72

25.0
8.24
33.24

N L

								EVC
38.0	38.6	39.0	39.1	39.0	38.7	38.1	37.3	36.2
6.72	6.12	5.72	5.62	5.72	6.02	8.05	8.85	9.95
3.4	3.4	2.7	2.4	1.9	2.3	3.70	4.6	5.2
+2.62	+2.72	+2.02	+3.22	+2.82	+3.72	+4.35	+4.85	4.75
	2.2	2.3	2.9	3.3	91 on 40th			

33.15	30.10	27.05	24.0	25.0
13.00	16.05	19.10	12.86	
6.9	8.9	12	8.3	
+6.10	+7.15	+6.90	+4.56	

S L

						EVC	
37.0	37.6	38.0	38.1	38.0	36.3	35.2	32.1
7.72	7.12	6.72	6.62	6.72	9.85	10.95	14.05
3.8	3.8	2.9	3.0	3.6	8.70	10.1	13.0
3.72	3.32	3.82	+3.62 on 40th	+3.12	1.15	+.85	+1.05

29.0	25.9	22.8	19.0
7.86	10.96	14.06	
5.7	8.8	12.3	
+2.16	+2.16	+1.76	

40 + Birch NW Ret	PC 29.0 9.24	23.5 9.74	23.3 9.94	23.95 9.79

23.80	24.4	25.0
9.44	8.84	3.72

SW Ret	PC 22.8	20	E.C. 19.15	18.4

N.E. 40 + Nautica	17.5	17.0
	11.22	11.72
N Alley RC	2872	
	2512	
	3.60	

Storm Drain on Birch

0+00 Flowline at Headwall	3.45	BM	50.39
			462
0+21.57 = ℄	3.40		55.01
			7.20
0+71.57	3.34		47.81
			2.75
1+21.57	3.28		50.56
			329
1+71.57	3.22		42.27
			195
2+21.57	3.16		44.22
			932
2+71.57	3.10		34.90
			123
3+21.57	3.04		36.13
			1242
3+53.57 = End of Pipe	3.00		23.71
			1.15
			24.86
			784
			17.02
			439
			21.41

SE Wadell & Birch Nail in Post

3.45	3.40	3.34	3.28	3.22
6.66	6.71	6.77	6.83	6.89
5.34	5.24	4.91	4.46	5.51
+1.32	+1.47	+1.86	+2.37	+1.38

3.16	3.10	3.04	3.00
6.95	7.01	5.07	7.11
5.87	6.35	5.21	4.87
+1.08	+.66	+1.86	+2.24

21.41			
3.76			
17.65	= 50' Stub Birch & Una		
103			
18.68			
12.27			
6.41			
370			
10.11			

T

EEN 8.0 Top at Headwall

2.11

5.49

- 3.38

W End

3.0	
2.11	
5.56	
= 3.45	

Birch St. WL Woden EL Vesta

	NL	SL
WL Woden	32.50	31.5
+50	31.70	30.70
1+00	30.90	29.90
1+50	30.11	29.11
2+00	29.32	28.32
2+50	28.53	27.53
3+00	27.74	26.74
3+50	26.95	2595
4+00	26.16	2516
4+50	25.37	24.37
5+00	24.58	23.58
5+50	23.79	2279
EL Vesta	23.00	22.0

19.75
9.66
29.41
2.08
27.33
823
3556
083
34.73
34.90
.17

NL

32.50 | 31.70 | 30.90 | 30.11 | 29.32 | 28.53
3.06 | 3.86 | 4.66 | 5.45 | 6.24 | 7.03
3.00 | .80 | 2.80 | 3.10 | 3.80 | 4.50
on cb .06 | 3.06 | +1.86 | +2.35 | +2.44 | +2.53

27.74 | 26.95 | 26.16 | 25.37 | 24.58 | 23.79
7.82 | 8.61 | 9.40 | 4.04 | 4.83 | 5.62
43 | 4.7 | 5.40 | 13 | 2.70 | 4.9
3.01 | 3.91 | +4.00 | +2.74 | 2.13 | +3.32

23.00
6.41
579
+.62 on cb

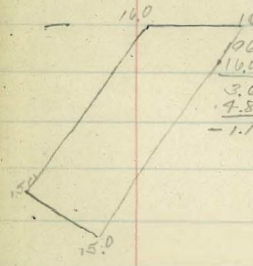
SL

31.5 | 30.70 | 29.90 | 29.11 | 28.32 | 27.53
4.04 | 4.86 | 5.66 | 6.45 | 7.24 | 8.03
3.96 | 43 | 5.40 | 5.70 | 6.8 | 8.00
on cb 0 | +.56 | +.26 | +.75 | +.44 | .03

26.74 | 25.95 | 25.16 | 24.37 | 23.58 | 22.79
8.82 | 9.61 | 10.40 | 5.04 | 5.83 | 6.62
8.60 | 8.9 | 9.90 | 3.8 | 4.90 | 5.6
+.22 | +.71 | +.50 | +1.24 | +.93 | +1.02

22.0
7.41
6.72
+.69 o cb

Elevations at 4 corners of Bridge + Headwall



19.65 | 19.65 | 19.65 | 19.65 | 19.65
16.0 | 16.0 | 16.29 | 15.0 | 15.0
3.65 | 047 | 3.36 | 4.65 | 4.65
4.82 | | 5.03 | 4.35 | 5.03
-1.17 | | -1.67 | -.20 | -.38

Box Division x40
Nail in pole

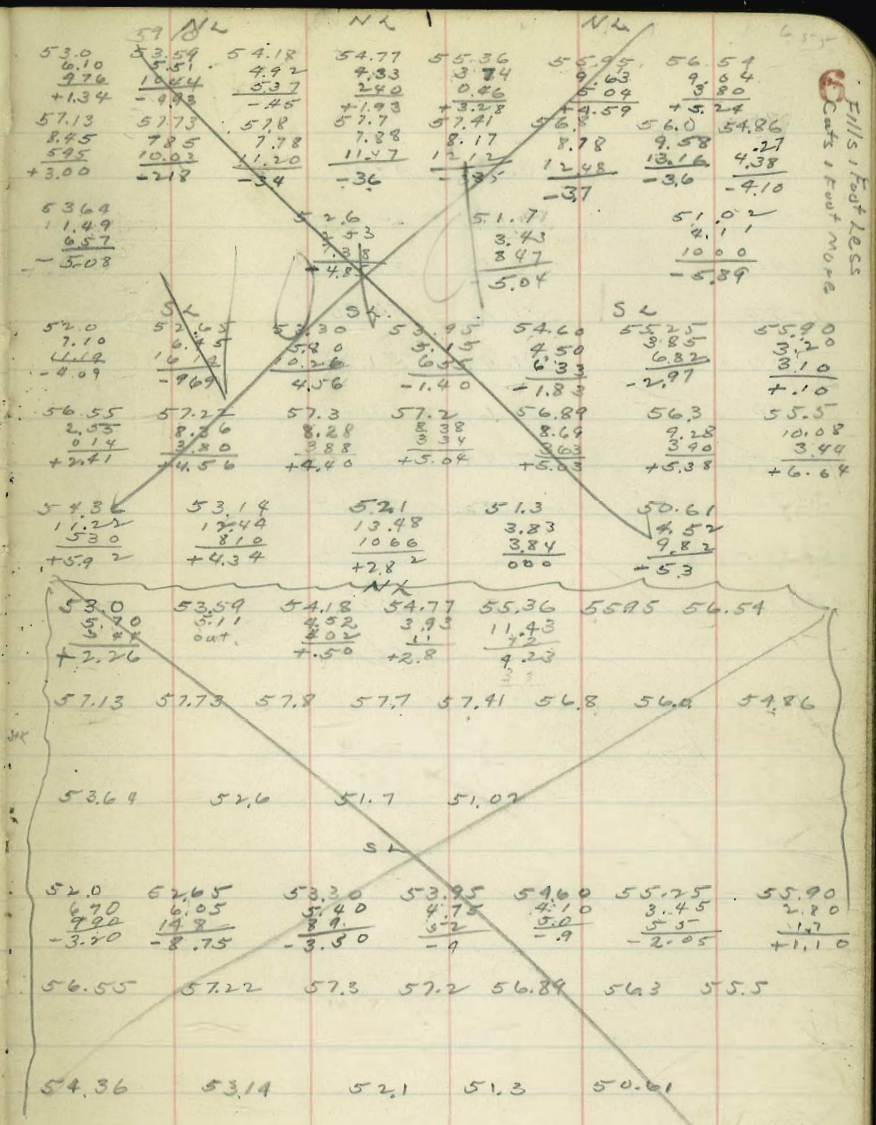
46.81
3.01
49.82
1.98
36.84
0.63
37.47
12.66
24.81
049
55.30
1018
16.12 Headwall NW
4.53
19.65
0.06
19.59
12.53
32.12
-0.36
31.76
1.269
44.45
178
42.67
697
19.64
279
46.85
91
04

Post cottonwood x40

EPSILON 41st to 42nd

	NL	SL	
EL 41	53.0	52.0	BM by School House
+50	53.59	52.65	
1+00	54.18	53.30	
1+50	54.77	53.95	
2+00	55.36	54.60	
2+50	55.95	55.25	
3+00	56.54	55.90	
3+50	57.13	56.55	
4+00 = P.V.C.	57.73	57.22	
4+20	57.8	57.3	
+40	57.7	57.2	
+60	57.41	56.89	
+80	56.8	56.3	
5+00	56.0	55.5	
+20	54.86	54.36	
+40	53.64	53.14	
+60	52.6	52.1	
+80	51.7	51.3	
6+00 EVC	51.07	50.61	

50.39 / 473 / 55.12 / 042 / 54.70 / 748 / 62.18 / 448 / 57.70 / 1.40 / ℄ 59.10 / 10.64 / 58.46 / 7.12 / ℄ 65.58 / 12.32 / 53.26 / 1.87 / ℄ 55.13 / 12.75 / 42.38 / 5.62 / 48.00 / 5.62 / ℄ 23.87 TP cut JK / 9.48 / ℄ 51.86 / 7.95 / 43.91 / 11.55 / 55.46 / 3.95 / 52.01 / 11.90 / 63.91 / 6.30 / 57.61 / 3.95 / 61.06 / 1.50 / 59.56 / 1.69 / 59.25 / 4.97 / 44.28 1 off



	Epislon 42 To			
	NL	Highland SL		BM. 50.39
				4.97
EL 42	50.44	49.91		55.36
				0.12
+50	50.69	50.24		55.24
				6.25
1+00	50.94	50.57		61.49
				2.89
1+50	51.19	50.90		58.60
				0.10
2+00	51.44	51.24		55.70
				0.68
2+50	51.69	51.57		58.02
				8.77
3+00	51.94	51.90		66.79
3+50 = NL Highland on N. 52.2		52.24	To pavement 46.5	
3+88.73 = " " " South		52.50	To " 15.5	

Restaking for Curb Returns 42 x Epislon

BM 50.39

	N side			S side		
	S stake	Middle	N stake	S stake	Middle	N stake
5.21						
55.60	50.47	50.44	50.44	49.91	49.91	49.91
0.78	4.41	4.41	4.41	4.94	4.94	4.94
54.82	4.98	4.19	4.15	6.37	6.33	5.45
4.25	-.57	+.22	+.26	-1.43	-.39	-.51
59.07						
6.97						
52.10						
2.75						
T 54.85						

Fills 1' Less Cuts 1' More

7

NL.

50.44	50.69	50.94	51.19	51.44
4.69	4.44	4.19	3.94	3.69
10.79	5.89	4.82	3.28	7.43
-6.10	-1.45	+2.37	+1.12	-3.74
51.69	51.94	52.27		
3.44	out	51.86		
12.76		.38		
-9.32		12.02		
		-12.38		

SL

49.91	50.24	50.57	50.90	51.24
5.22	4.89	4.56	4.23	3.89
13.73	5.65	1.90	2.44	4.31
-8.51	-.76	+2.66	+1.79	-.92
51.86	51.90	52.24	52.96	
51.57	51.86	51.86	52.50	
.29	.04	.38	.46	
12.06	13.95	7.95	2.32	
-11.77	-13.99	-8.33	+.64	

Fills 1' Less Cuts 1' More

3.50
5.25
56.00
5.38
2.20
< N

Highland paved
52.30
15.5'
52.5

51.5 H
52.2

3.39 4.09

Epislon

50.44

49.91

5.09
3.69
57.40
36.00
3.50
52.54
52.5
3.50
56.00
53.5
2.50

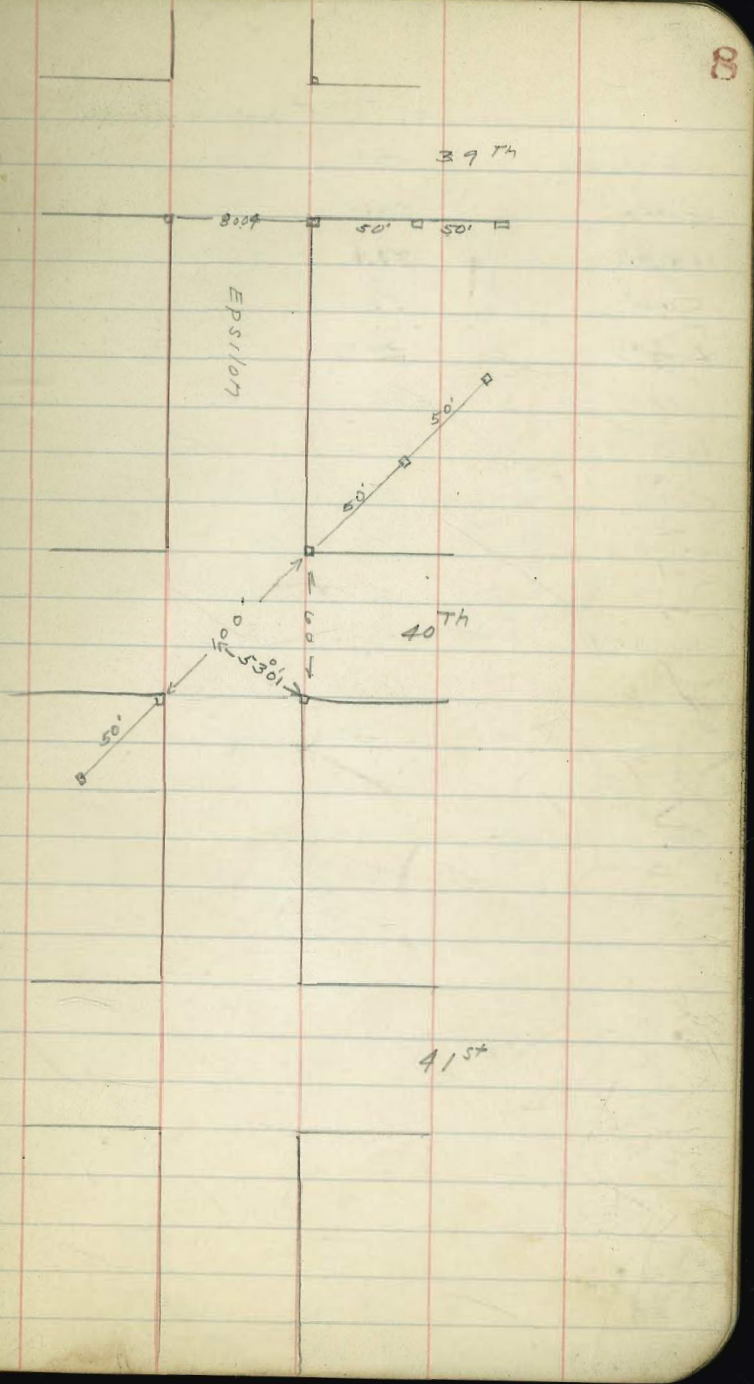
Culvert # 1

N End of Pipe	49.5
Middle	46.6
S End pipe	438

4.95	4.66	4.38
9.60	12.50	15.30
10.35	10.75	15.80
-.72	+1.75	-.50

Culvert No 7.

338.3
335.5
2.8
93



Epislon 41 TO 40TH

Grade raised 0.1 at Epsilon

	SL	N	
0+00 WL 41	52.0	53.0	
+53.33	52.5	53.5	
1+06.66	58.0	54.0	
1+59.99	53.5	54.5	
2+13.32	54.0	550	
2+66.65	54.5	55.5	
3+20 BK	55.0	56.0	BK
3+60	5458	5558	
4+00	5415	55.15	
4+40	53.72	54.72	
4+80	53.29	54.29	
5+20	52.86	53.86	
5+60	52.43	53.43	
6+00.3	52.0	53.0	

BM N W 41 x Epislon 58.60

3.58
62.18
7.30
54.88
.054
55.42

SL

BK

52.0 | 52.5 | 53.0 | 53.5 | 54.0 | 54.5 | 55.0
10.18 | 9.68 | 9.18 | 8.68 | 8.18 | 7.68 | 7.18
89 | 50 | 83 | 93 | 110 | 67 | 51
+1.29 | +1.68 | +1.88 | +.102 | -2.82 | +.98 | +2.08

54.85 | 54.15 | 53.72 | 53.29 | 52.86 | 52.43
7.38 | 8.03 | 8.46 | 8.89 | 9.32 | 9.75
70 | 51 | 77 | 78 | 79 | 80
+2.3 | +2.93 | +.76 | +1.09 | +1.42 | +1.75

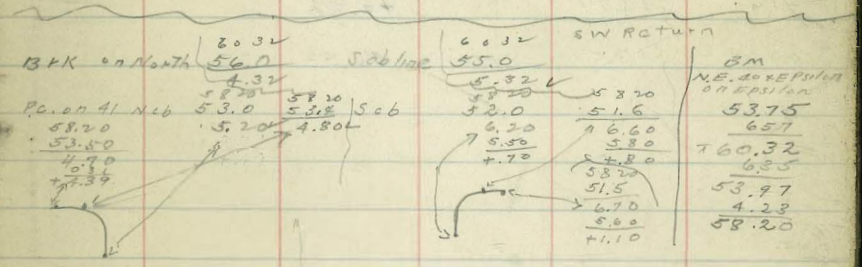
52.0
10.18
85
+1.68

NL

BK

53.0 | 53.5 | 54.0 | 54.5 | 55.0 | 55.5 | 56.0 | 5558
9.18 | 8.68 | 8.18 | 7.68 | 7.18 | 6.68 | 6.18 | 6.60
3.59 | 44 | 82 | 57 | 50 | 39 | 35 | 30
+5.59 | +4.28 | +2.78 | +1.88 | +2.18 | +3.28 | +2.68 | +3.60

55.15 | 54.72 | 54.29 | 53.86 | 53.43 | 53.0
7.63 | 7.46 | 7.89 | 8.32 | 8.75 | 9.18
37 | 88 | 42 | 42 | 51 | 51
+3.38 | +3.66 | +3.69 | +4.12 | +3.65 | +4.08



Epsilon 40 To 39th

	NL		SL
0+00 = WL 40th	52.0		51.0
0+50	51.29		50.32
1+00	50.58		49.66
+50	49.87		48.99
2+00	49.16		48.33
+50	48.46		47.66
3+00	47.75		46.99
+50	47.04		46.33
4+00	46.33		45.66
+50	45.62		45.00
5+00	44.92		44.33
+50	44.21		43.66
5+99.02	43.5	5+99.17	43.0

Raised 4 at 40+ Epsilon

School
BM 50.39
4.85
55.24
5.21
49.97
2.75
52.72
10.49
42.23
BM on cb 42.27
84+ Ep. .04

50.39
4.83
55.32

NL

52.0 / 3.24 / 0.3 / +2.99

51.3 / 3.94 / 6.3 / +2.64

50.58 / 4.66 / 2.6 / +2.16

49.87 / 5.37 / .90 / +1.37

49.16 / 6.08 / 57 / +.98

48.46 / 6.78 / 56 / +1.18

47.75 / 4.97 / 30 / 1.97

47.04 / 5.68 / 2.9 / 2.78

46.33 / 6.39 / 56 / +.79

45.62 / 7.10 / 5.80 / +1.30

44.92 / 7.80 / 06 / +6.36

44.21 / 8.51 / 73 / +1.21

43.5 / 9.22 / 76 / +1.62

SL

55.24 / 51.0 / 50.14

55.24 / 50.32 / 4.92 / 4.90 / .00

52.72 / 49.66 / 3.06 / 3.2 / -.14

48.99 / 3.73 / 4.1 / -.37

48.33 / 4.39 / 48 / -.41

47.66 / 5.06 / 55 / -.34

46.99 / 5.73 / 56 / +.13

46.33 / 6.39 / 56 / +.79

45.66 / 7.06 / 6.3 / +.76

45.00 / 7.72 / 64 / +1.02

44.33 / 8.39 / 72 / +1.19

43.66 / 9.06 / 77 / +1.26

43.0 / 9.72 / 8.6 / +1.12

NW 40+Epsilon 52.75 / 2.57 V

SW 40+Epsilon 51.75 / 3.57 V

NE 40+Ep. 53.75 / 1.57 V

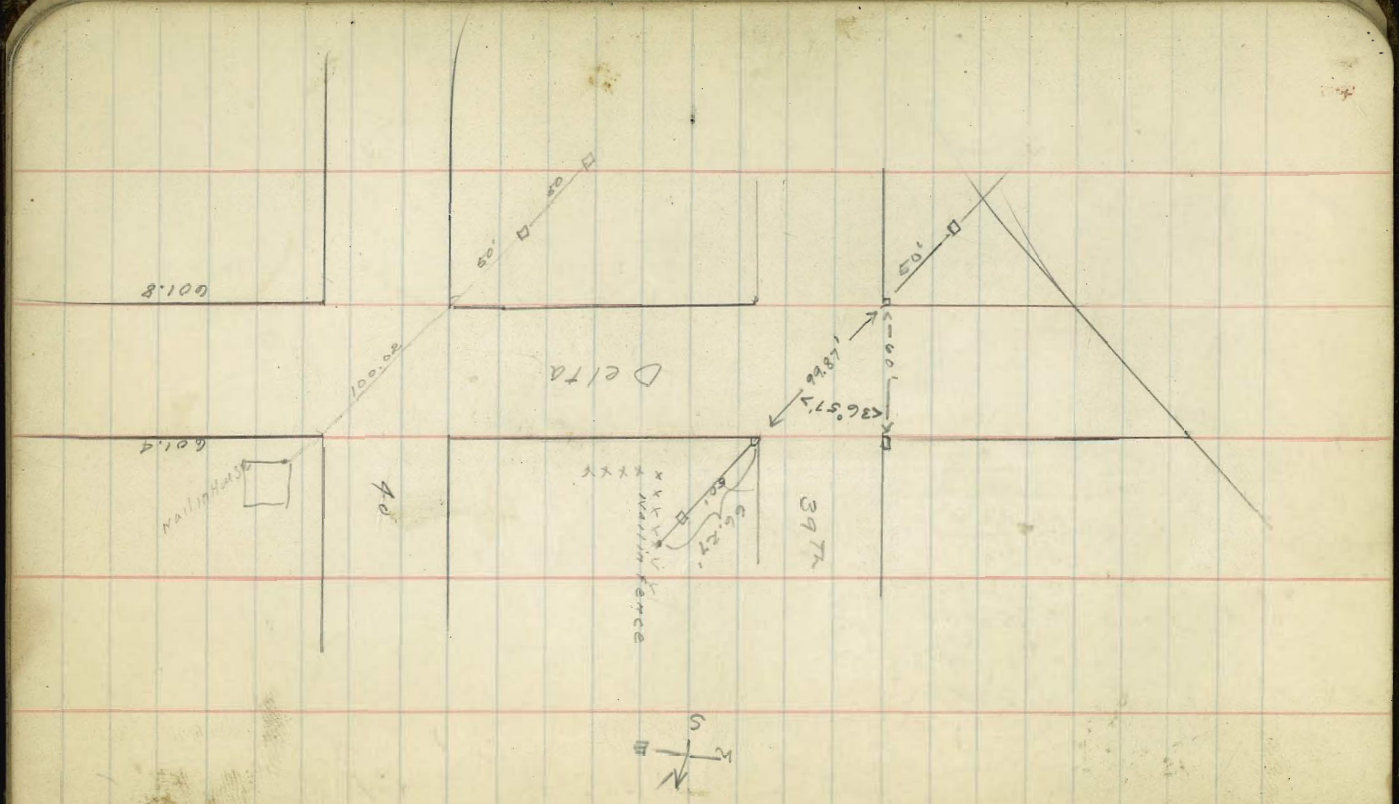
SE 40+Epsilon 52.75 / 2.57 V

NW 40+Ep on 40th 53.85 / 2.07 V

SW 40+Ep on 40th 51.25 / 4.07 -

NE 40+Ep. on 40th 54.85 / 1.07 V

SE 40+Ep. on 42nd 52.25 / 3.07 -


8.100
60'
60'
50'
Delta
100.00'
99.87'
<36°57'
50'
Nail in Head
40
Wire fence
S 56.27° E
39.7
N
S

Delta,

39TH to 40TH

	NL		SL	
0+00 = W/L 40TH	63.5		62.5	
+50	62.07		61.07	BM. 39 & CL
1+00	60.70		59.70	South cb
+50	59.33		58.33	42.23
2+00	57.96		56.96	50.41
+50	56.59		55.59	44.50
3+00	55.22		54.22	56.74
+50	53.85		52.85	56.51
4+00	52.48		51.48	X 68.83
+50	51.11		50.11	56.17
5+00	49.74		48.74	X 61.96
+50	48.37		47.37	49.77
6+01.4 North	47.0	6+01 E	46.0	52.32
				48.99 BM
				52.37
				45.63
				49.08
NE cor 40TH & Delta	64.5			38.77
SE cor 40TH & Delta	63.5			39.53
				33.92
				43.46
				42.20
			BM	42.23
				.03

BM School 50.39 + 4.87 = 55.26 + 0.31 = 54.95 + 11.43 = 66.38

63.5 / 62.5 / 8.88 / 3.72 / +.66

NL

63.5	62.07	60.70	59.33	57.96	56.59	55.22
5.33	6.76	8.13	9.50	4.00	5.37	6.74
.38	.54	.63	.71	1.1	2.5	.44
+1.53	+1.36	+1.83	+2.4	+2.9	+2.87	+2.34
53.85	52.48	51.11	49.74	48.37	47.00	
8.11	9.48	10.85	12.22	3.95	5.32	
7.0	8.8	10.8	11.6	24	48	
+1.11	+.68	+.05	+.62	+1.05	.62	

SL

62.5	61.07	59.70	58.33	56.96	55.59	54.22
6.33	7.76	9.13	10.50	11.87	13.24	7.74
.63	.67	.79	10.3	11.0	12.0	7.6
+.03	+1.06	+1.23	+.20	+.87	1.24	+.14
52.85	51.48	50.11	48.74	47.37	46.0	
9.11	10.48	11.85	13.22	4.95	6.32	
9.40	11.50	12.20	13.0	4.4	5.2	
-.29	+1.02	-.35	+.22	+.55	+1.1	

NE cor 64.5 / 4.33 / .13 / +3.0

SE cor 63.5 / 5.33 / 6.1 / -.77

50' Tie Hub NE 39 & Delta

BM. 50' Tie Hub 39 & Delta 48.49 + .066 = 49.15

Next Page

SW 40 & Delta 63.5 / 3.88 L — 62.5 / 3.88 L

NW 40 & Delta 63.5 / 2.88 L — 63.5 / 2.88 L — 63.5 / 2.88 L

SE 40 & Delta 63.5 / 2.88 L — 63.5 / 2.88 L

NE 40 & Delta 64.5 / 1.88 L — 64.5 / 1.88 L — 64.5 / 1.88 L

Delta

		NL	SL
39TH To Acacia			
0+00 = NL 39TH		46.0	45.0
0+50		45.5	44.75
1+00 BK		45.0	44.5
1+50		44.25	43.75
2+00 BK		43.50	43.0
+50		42.0	41.5
3+00 BK		40.5	40.0
N +46.43	S +45.33	38.68	37.82
+92.86	+90.66	36.86	35.66
4+39.29	4+36	35.04	33.5
4+85.22		33.22	
5+32.15		31.4	

NL

BK		BK		BK		BK
46.0	45.5	45.0	44.25	43.5	42.0	40.5
6.32	6.82	7.32	4.83	5.58	7.08	8.58
52	54	58	35	41	56	64
+1.12	+1.42	+1.52	+1.33	+1.48	+1.48	2.18

38.68	36.86	35.04	33.22	31.4
10.40	12.22	14.04	15.86	8.13
72	81	92	118	785
+3.20	4.12	+4.84	+4.06	0.28 ~ curb

SL

BK		BK		BK		BK
45.0	44.75	44.5	43.75	43.0	41.5	40.0
7.32	7.57	7.82	8.57	9.32	10.82	12.32
7.8	7.3	73	81	85	94	11.6
-.48	+.27	+.52	+.47	+.82	+1.42	+.62

37.82	35.66	33.5	
11.26	13.42	6.03	
101	118	584	
+1.16	+1.62	.19 ~ curb	

NW Delta +39 46.0 3.15

SW Delta +39 45.0 4.15

1+00 NL 45.0 4.15 ✓ SL 44.5 4.65 ✓

2+00 NL 42.5 6.65 ✓ SL 43.0 6.15 ✓

3+00 NL 40.5 8.65 ✓ SL 40.0 9.15 ✓

curb at Acacia NL 31.4 SL 33.50 15.65

Cottonwood

EL. Earl to EL Wooden

	NL	SL	SL
N.E. Earl & Cottonwood	12.5		12.5
N.W. Earl & Cottonwood	12.0		12.0
⑤ 53.20			
+53.20	11.64		11.64
+106.40	11.28		11.28
+159.60	10.92		10.92
+212.80	10.56		10.56
+266 = NE. Osborn + Cottonwood	10.2		10.2
+60 = N.W. Osborn = Cottonwood	9.8		9.8
④ 42.19		② 61.5	
+48.19	9.7	+61.5	9.65
+96.39 = △	9.6	△ +123 = EL Alley	9.5
△ + 34.28 = EL Alley	9.5	+30.08 = △ = WL Alley	9.3
EL + 5.5 = WL Alley	10.0	+6.08 = EL. Yama	9.5
③ 52.22			
52.22	11.5	+60 = WL Yama	9.0
		⑤ 52.0	
1	13.0	52.0	10.4
2	14.5	2	11.8
3	16.0	3	13.2
4	17.5	4	14.6
+261.12 = BK			
⑥ 56.67			
+56.67	18.17	+260 = BK	16.0
		⑥ 56.67	
2	18.84	+56.67	16.67
3	19.51	2	17.34
4	20.18	3	18.01
5	20.85	4	18.68
+340 = EL Wooden	21.5	5	19.35
		+340 = EL	20.0

BM Cottonwood + Wooden Hyd.

22.32
3.20
25.52
12.76
12.76
2.59
15.35
6.60
8.75
5.91
14.66
3.49
11.17
6.94
17.11
4.45
12.66
6.85
1931
4.18
15.13

1512 = BM Cottonwood + Wooden N.W. Pole

BM Hyd Cottonwood + Wooden

22.32
0.27
22.59
9.62
12.97
1.86
14.83

BM Cb STK N Cb Sm Alley N
1.20
4.86
14.86

BM Cb STK SW Return Osborn
1.020
582
16.02

North

NE	N.W					NE. Osborn	N.W.		△
12.5	12.0	11.64	11.28	10.92	10.56	10.02	9.80	9.70	9.60
2.61	5.11	5.47	3.38	3.74	4.10	4.64	4.86	4.96	5.75
4.90	5.00	5.30	3.50	4.00	4.20	4.80	4.80	4.30	5.40
+.21	+.11	+.17	-.12	-.26	-.30	-.16	+.06	+.66	+.35
EL Alley	WL Alley						BK		
9.50	10.0	11.5	13.0	14.50	16.0	17.5	18.17	18.84	19.51
6.85	5.35	3.85	2.35	11.02	9.52	8.02	7.35	6.68	6.01
4.60	6.10	5.80	4.00	10.50	5.00	2.60	4.50	4.60	5.00
+1.25	-.75	-1.95	-1.65	+.52	+3.92	+5.42	+2.85	+2.08	+1.01

20.18	20.85	21.5
5.34	4.67	
4.50	4.60	
+.84	+.07	

South

SE	SW					SE Osborn		
12.5	12.0	11.64	11.28	10.92	10.56	10.2	9.80	9.65
4.61	5.11	5.47	3.38	3.74	4.10	4.46	5.55	5.70
4.90	4.80	5.30	3.50	4.00	4.20	4.60	5.60	6.00
+.21	+.31	+.17	-.12	-.26	-.10	-.14	-.05	-.60
EL Alley	WL Alley	EL Yama	WL Yama				BK	
9.6	9.3	9.3	9.0	10.4	11.8	13.2	14.60	16.0	16.67
5.85	6.05	6.05	6.35	4.95	3.55	2.15	1.92	9.52	8.85
6.50	7.60	6.80	6.70	6.20	3.90	4.20	12.00	8.80	8.50
-.65	-1.55	-.75	-.35	-1.25	-.35	-2.05	-1.08	+.72	+.35

17.34	18.01	18.68	19.35	20.0	
8.18	7.51	6.84	6.17	5.52	
9.60	9.80	6.90	6.20	5.30	
-1.42	-2.29	-.06	.03	+.22	end

BK N Cb 17.50 / 5.09 ✓ — BK S Cb. 16.0 / 6.59 ✓

N Cb WL Alley 10.00 / 4.83 ✓ — WL Yama on S Cb 9.00 / 5.83 — 9.00 / 5.83

EL Alley NL 9.50 / 5.36 ✓ — △ 9.60 / 5.26 ✓ — NW Osborn + Cottonwood 9.80 / 5.06 ✓ — NE Osborn + Cottonwood 10.20 / 4.96 ✓

EL Yama on South 9.30 / 5.36 ✓ — WL Alley 9.30 / 5.56 ✓ — EL Alley 9.50 / 5.36 ✓ — NL Osborn 9.8 / 5.06 ✓ — EL 10.20 / 4.66 ✓

NE Cottonwood 12.50 / 3.52 ✓ — SE 12.50 / 3.52 ✓

NW " 12.0 / 4.02 ✓ — SW 12.0 / 4.02

Cottonwood
WL Woden to EL Vesta

	NL	SL
WL Woden	22.0	20.5
1	21.80	20.37
2	21.60	20.25
3	21.39	20.12
4	21.18	20.0
5	20.97	19.87
6	20.76	19.75
7	20.55	19.62
8	20.34	19.50
9	20.13	19.37
10	19.92	19.25
11	19.71	19.12
EL Vesta	19.5	19.0

BM. Vesta
+ Birch N.E. Return

23.71
198
25.69
521
20.48
516
25.64
432
21.32
675
28.07
157
26.50
994
36.44
153
52.91
34.90 = BM Woden + Birch Nail in Fence S.E.

28.07
5.75
22.32 = Top Hyd
Woden to Cottonwood

North

WL Woden						
22.0	21.80	21.60	21.39	21.18	20.97	20.76
6.07	6.27	6.47	4.25	4.46	4.67	4.88
5.37	5.20	5.80	3.60	4.50	4.20	4.20
+.20	+1.07	+.67	+.65	.04	+.47	+.68
						EL Vesta
20.55	20.34	20.13	19.92	19.71		19.5
4.09	5.35	5.56	5.77	5.98		6.19
3.70	4.40	4.40	4.60	5.30		5.50
+.39	+.95	+1.16	+1.17	+.68		+.69

South

20.5	20.37	20.25	20.12	20.0	19.87	19.75
5.14	5.27	5.39	5.52	5.64	5.77	5.89
	4.20	4.90	5.50	5.80	5.80	5.70
	+1.07	+.49	.02	-.16	.03	+.19
19.62	19.50	19.37	19.25	19.12	19.0	
6.07	6.19	6.32	6.44	6.57		
5.90	6.00	5.30	4.80	5.60		
+.17	+.19	+1.02	+1.64	+.97		

Cottonwood
Vesta to Uma

	N	S	
N.L. Vesta			BM = Birch in Uma NE 50' out Stub
⑧ 55.0	19.0	18.5	17.65 / 0.99 / 18.14 / 3.91 / 15.23 / 6.81 / 22.04
55	17.96	17.52	
2	16.93	16.55	
3	15.90	15.57	
4	14.87	14.60	
5	13.84	13.62	
6	12.81	12.65	
7	11.78	11.67	BM 17.65 / 1.19 / 18.84
4+40 = P.I.C.	10.75	10.7	
⑤ 40			
+40	10.4	10.51	
+80 = E.V.C.	10.83	11.34	
⑥ 40			
+40	11.66	12.67	
+80	12.5	14.0	

12.5 ✓
12.28

N.L.

								BK	BK
19.0	17.96	16.93	15.90	14.87	13.84	12.81	11.78	10.75	10.4
3.04	4.08	5.11	6.14	3.27	4.30	6.33	6.36	7.39	7.74
2.54	3.0	3.40	4.00	2.30	2.10	2.80	5.70	8.90	11.00
on cb +.70	1.08	+1.79	+2.18	+.97	+2.20	+2.53	+.66	-1.51	-3.26

BK BK BK

10.83	11.66	12.5
7.31	6.48	5.64
11.50	11.70	9.52
-4.19	-5.22	+.12 on cb S.L.

									BK
18.5	17.52	16.55	15.57	14.60	13.62	12.65	11.67	10.7	
3.54	4.52	5.49	6.47	7.24	4.52	5.49	6.47	7.44	
2.85	4.20	5.30	6.30	7.1	9.40	9.00	8.00	9.40	
on cb +.69	+.32	+.19	+.17	+.14	-.38	+.49	-1.53	-1.96	

BK BK

10.51	11.34	12.67	14.00
7.63	6.80	5.67	
9.60	9.40	9.30	
-1.97	-2.60	+.17	

BM
Birch Uma
12.62
2.96
15.58

BK 160' East EL Uma N cb 1558 / 10.93 / 4.83 — S cb 1558 / 10.70 / 4.88 ✓

N.L.

		BK	BK	BK
12.5	11.66	10.83	10.40	10.75
6.34	7.18	8.01 ✓	8.47 ✓	8.09 ✓
6.28				
+.06				

S.L.

		BK.	BK	BK
14.0	12.67	11.34	10.51	10.70 ✓
6.84	6.17 ✓	7.50 ✓	8.35 ✓	8.14 ✓
475				
+.09				

Birch Thor to Una

	N	S
0+00 = El Thor	7.0	7.0
⑧50		
1	7.25	7.19
2	7.50	7.38
3	7.75	7.57
4	8.0	7.77
5	8.25	7.96
6	8.50	8.15
7	8.75	8.35
8	9.0	8.54
0+40		
1 = BK	9.2	8.70
①60	10.25	9.56
②50		
1	11.12	10.27
V = WL Una	12.0	11.0

NE
BM
Una + Birch

17.65
0.83
18.48
10.22
7.96
4.21
12.17
0.82
11.35
7.11
18.46
0.80
17.66

BM 17.65
-.01

17.65
2.57
20.22
11.52
8.70
3.85
12.55

NL

7.0	7.25	7.50	7.75	8.0	8.25	8.50	8.75	9.0
5.17	4.92	4.67	4.42	4.17	3.92	3.67	9.43	9.18
6.80	7.00	7.20	6.80	7.20	7.60	7.80	12.30	10.30
+1.63	-2.08	-2.53	-2.38	-3.03	-3.68	-4.13	-2.87	-1.12

BK

9.2	10.25	11.12	12.0
8.98	7.93	7.06	
9.20	5.20	3.20	
-.22	+2.73	+3.86	

SL

7.0	7.19	7.38	7.57	7.77	7.96	8.15	8.35	8.54
5.17	4.98	4.79	4.60	4.40	4.21	4.02	3.82	3.63
6.80	8.70	7.80	6.10	1.70	+0.10	7.20	7.00	7.90
-1.63	+3.72	-3.01	-1.50	+2.70	+4.31	-3.18	-3.18	-4.27

BK

8.70	9.56	10.27	11.0
9.48	8.62	7.91	
11.80	9.60	7.50	
-2.32	-.98	+.41	

N cb BK 9.20
11.02+

S cb 8.70
11.52

N cb Thor 7.00
5.55

S cb Thor 7.00
5.55

40TH Delta to Epsilon

Grade raised 9" at Epsilon

	NL		EL	BM School
0+00 = SL Delta 6+50	62.5		63.0	50.39
				4.94
				55.33
1	60.85		61.40	0.23
				58.10
2	59.18		59.82	1 0.34
				T. 68.44
3	57.51		58.24	12.94
				55.50
4	55.84		56.66	1.22
				53.72
5	54.17		55.08	12.77
				40.95
				0.69
				41.64
NL Epsilon	52.5		53.5	5.24 Pipe
				X 38.40 to NLETTA
				2.24
				41.64
SL Epsilon 6+50	50.5	EL 6.50	51.5	
1	48.0	1	48.65	
2	45.5	2	45.82	BM 40 NLETTA
3	43.0	3	42.99	38.40
4	40.5	4	40.16	1.99
				40.39
5	38.0	5	37.33	
6	35.5	NLETTA	34.5	
+18.6 = NLETTA	36.0	around	35.0	
		Return		

NL

							NL Epsilon
62.5	60.85	59.18	57.5	55.84	54.17	52.5	
2.94	4.99	6.26	7.94	9.60	10.27		
2.9	2	62	83	8.6	8.8		
	+.19	+1.04	-.54	71.00	+1.47		

EL

63.0	61.40	59.82	58.24	56.66	55.08	53.5	
2.44	4.09	5.62	7.20	8.78	10.36		
2.6	3.3	4.8	6.0	7.0	7.4		
-.16	+.52	+1.82	+1.2	+1.78	+3.26		

NL

							NL NLETTA
50.5	48.0	45.5	43.0	40.5	38.0	35.5	36.0
3.22	5.72	8.22	10.72	1.14	3.64	6.14	5.64
1.9	4 4	5.0	9 5	2.50	4.80	6.6	6.6
+1.32	1.32	+2.62	+1.22	-1.36	-1.16	-.46	-.96

EL

							NL NLETTA
51.5	48.65	45.82	42.99	40.16	37.33	34.5	35.0
2.22	5.07	7.90	10.73	12.56	4.31	7.14	6.64
0.00	24	3 4 0	9.6	1.9	37	6.6	6.6
+2.22	+2.67	4.50	1.13	+.66	+.61	+.54	.00

40 NLETTA NW Ret. (18.6 Blk) = 40.39 / 35.50 / 4.89 ✓

cb pc. 40.39 / 36.00 / 4.39 ✓

NE Ret 40.39 / 34.50 / 5.89 around set 40.39 / 35.00 / 5.39

Woden, SW Main to 160.55 S of SL Filbert

0+00 =	St. Main	10.0		9.5	
cb P.C. NW	Woden	7.75	cb P.C. NE Woden	7.54	
cb P.C. SW Elbert+Woden		7.56	cb P.C. SE	7.56	
+ 14		8.4		8.4	
+ 40		9.5		9.5	
+ 60		10.4		10.4	
+ 80		11.0		11.0	
+ 100		11.2		11.2	
+ 140.55 = NL Alley		11.47		11.47	
		Filbert N L	S	S L	
E L Woden + 200		6.7		5.7	
cb P.C. NE	Filbert	7.41	cb P.C. SE Filb.	6.41	
cb P.C. NW	Filbert	7.74	SW	6.74	
cb P.C. SE restart on Filbert	Filbert	9.96	N.E	8.96	
cb P.C. SW		10.24	N.W	9.24	

Woden

Alley Return 767 057 +.80

W 10.0 2.56

E 12.78 9.5 3.28

7.5 1.21

7.54 4.42

WL { 7.56 8.4 9.5 10.4 11.0 11.2 11.47 / 11.71 10.87 9.77 8.87 8.27 8.07 7.80

EL { 7.56 8.4 9.5 10.4 11.0 11.2 11.47 / 11.71 10.87 9.77 8.87 8.27 8.07 7.80

Filbert

SW Filbert+Woden

NL 14.38

6.7 6.86 7.41 9.55 7.74 4.22 9.96 4.42

SL 14.98

5.7 6.86 6.41 5.56 6.74 5.22 8.96 5.42 9.24

Cb. stks.

40TH Division North

	EL	WL	BM 46.81
0+00 = N.L. DIVISION ③ 50.17	46.2	45.4	3.10
			49.91
	45.2	44.76	6.71
			43.20
			0.27
	44.2	44.13	43.46
			1.85
			31.61
+150.5 = P.C. on East	43.2	43.5	19.60
			12.01
			12.06
Return tan. from Radius def 12°38'28" on west		Curb R 6.33	18.95
def 30°00' Curb R. 30.'			30.1
			T 21.99
			8.02
			13.97
East EL curve grades	P.C. 43.2		
# 1	43.56		
# 2	43.92		
3	44.28		
4	44.64		
E C	45.00		

Walking Curve

P.C.	43.16	43.5
# 1		43.01
		42.85
E C		42.7

31.61
1.00
π 32.41
12.56
20.05
3.09
23.14
8.03
15.11

E

40TH	49.91	49.91		49.91
	46.2	43.2	43.5	43.5
	3.89	6.71		6.41
	3.82	6.86 = .03 below walk		6.75 .34 below walk
	#7			
		Curve on first station		
P.C. =	43.16	43.17	43.19 (42.7)	43.20 = .01 below walk
		6.74	6.72	

40TH Mariemeview To Cotten

NW Return on Mariemeview	42.0		EL
NW Ret on 40TH	385		
NE Ret on Mariemeview			43.5
NE Ret on 40TH			41.0
② 42.58		② 37.29	
1	32.75	1	33.65
2 = PKC.	27.0	V = PKC	26.3
⑥ 20		⑥ 20	
1	24.8	1	23.9
2	22.5	2	21.8
3	20.5	3	20.0
4	19.0	4	18.7
5	17.2	5	17.7
EVC sw. ret.	17.1	EVC	17.0
60 = Cottonwood	15.0	60 = SE cottonwood	15.5

BM 4060
65.7
47.17

BM
40 x Cottonwood
15.12
10.85
25.97
1.11
24.86
12.77
37.63
1.18
36.45
5.92
42.37
1.77
40.60 = Cot
15.12
11.77
26.89
4.36
22.53
6.95
29.48
1.29
28.19
11.96
40.15
2.69
37.46
7.66
45.12
4.55
40.57 on BM

WL

PVC							
42.0	38.5	32.75	27.0	24.8	22.5	20.5	19.0
1.26	4.96	10.71	5.61	7.81	10.11	2.67	9.14
1.2	5.8	8.7	7.2	9.6	11.7	3.4	7.40
+.16	2.96	+2.01	−1.59	−1.8	−1.6	−.96	

17.9 / 5.64 / 4.5 / +.74

17.1 / 6.04 / 9.80 / −1.36

15.0 / 8.14 / 8.7 / −.56

40x cottonwood on Cotten wood
15.0
4.79
9.31
.98

EL

PVC							
42.5	41.0	33.65	26.3	23.9	21.8	20.0	18.7
.04	2.46	9.71	6.31	+.76	2.34	3.14	4.94
	2.10	11.8	12.0	4.8	6.1	6.70	7.1
	7.36	−2.00	−5.69	+5.56	−3.76	−3.56	−2.06

17.7 / 6.44 / 7.1 / −1.06

17.0 / 6.14 / 8.2 / −2.06

15.5 / 7.64 / 7.8 / −.16

15.5 / 4.29 / 4.30 / −.01

WL

	EVC					out
SW 40 x Cottonwood	15.0	17.0	17.8	19.0	20.5	22.5
	10.87	8.87	8.07	6.97	5.47	3.47
(out) PKC	37.40					25.77
21.8 / 1.17	27.0 / 10.63	32.75 / 4.88	38.5 / 3.87			22.04 / 3.93
25.97 / 25.08 / .89						

EL

	EVC		out			PVC			45.12
	17.0	17.7	18.7	20.0	21.8	23.9	26.30	33.65	41.00
15.5 / 11.39 / 10.33 / +.54	9.89	9.19	8.19	9.48	7.68	5.58	3.18		4.12
			Alley 18.61 / 8.28		19.62 / 7.27	19.85 / 7.63			
N.E new P.C. on 40TH	42.22 / 4.95					BACK ON SHA			
center slk	42.69 / 5.48				EC 43.17 / 4.00				
End of 60	43.5 / 3.07								

NW PC on 40 = 38.50 / 8.01 — 39.67 / 6.84 — 40.84 / 5.67 — 42.0 / 4.51

ETTA St 39 to 40

	N. L		S L
0+00 = N.E. corner of Etta St 39	38.5	0+00 = SE	~~37.5~~
		+55.86	37.5
+37.5	39.25	+37.5	38.25
+75 = BK ⑥ 50:00	40.0	+37.5 BK ⑥ 50:00	39.0
1	40.53	1	39.65
2	41.06	2	40.30
3	41.60	3	40.95
4	42.13	4	41.60
5	42.66	5	42.25
P.V.C ⑤ 2.0	43.2	P.V.C ⑧ 2.0	42.9
1	43.3	1	43.1
2	43.3	2	43.1
3	43.1	3	42.9
4	42.7	4	42.5
5	42.1	5	41.9
6	41.4	6	41.1
7	40.5	7	40.2
E V C	39.5	E V C	39.0
+40 BK	37.3	+40	37.0
+22 73 = N.E. corner of Etta BK	36.0	+32 31 BK	34.5

BM = 34.61
74
× 46.85
3.01
43.84
6.45
50.29
4.40
46.09
0.03
46.12
5.65
* 40.47

BM. at N.E. Etta P.V.C.
38.40
6.13
44.530
1.625
42.905
.823
46.135
5.70
40.435

NL

		BK						
38.50	39.25	40.0	40.53	41.06	41.60	42.13	42.66	
7.62	6.87	4.12	5.59	5.06	4.52	8.14	7.63	
5.8	5.0	5.2	5.7	3.78	3.78	7.4	7.0	
+1.82	+4.47	+9.92	+1.19	1.36	+.82	+.76	+.63	
PVC								
43.22	43.20	43.30	43.10	42.7	42.10	41.40	40.50	39.50	37.30	360
3.65	3.55	3.55	3.75	4.15	4.75	5.45	6.35	7.35	9.35	10.85
3.2	3.2	2.80	2.7	3.2	3.2	3.2	4.0	5.3	9.4	11.8
+.45	+.35	+.25	+1.05	.95	1.35	+2.25	+2.35	+2.05	+.10	.93

SL

		BK				
37.50	37.50	38.25	39.0	39.65	40.30	40.95	41.60
8.62	8.62	7.87	7.12	6.47	5.82	5.17	8.69
9.10	9.00	7.3	6.6	5.9	5.2	5.30	8.1
-.48	-.38	+.57	+.52	+.57	+.62	-.13	+.69
PVC							
42.25	42.90	43.10	43.10	42.90	42.50	41.90	41.10	40.2
8.04	7.39	7.19	7.19	7.39	7.79	8.39	9.19	9.65
5.0	5.0	4.90	5.0	5.6	5.9	6.1	6.6	3.5
+2.64	+2.89	+2.29	+2.19	+1.79	+1.29	+2.29	+2.59	+3.15
EVC			BK					
39.0	37.0	34.5						
7.55	9.85	12.35						
5.4	7.2	11.6						
+2.45	+2.65	+.75						

NL

			BK	PVC					
38.50				43.2	43.3	43.10	42.70	42.10	41.40
7.63				1.33	1.23	1.43	1.83	2.43	3.13
N.E. Etta +39	39.25	40.00	43.30						
	7.62	6.13	1.23						

EVC BK NW 40 x Etta

40.50	39.50	37.30	36.00	36.0	37.5
4.03	5.03	7.23	8.53	8.53	3.98

SL

		BK	PVC						EVC
37.5	39.00	42.90	43.10	43.10	42.9	42.5	41.9	41.1	40.2	39.0
8.63	7.13	1.83	1.43	1.43	1.63	2.03	2.63	3.43	4.23	5.53
BK	PC									
37.0	34.5									
7.63	10.03									

40.47
.101
41.48

Ec	PC			
36.5	36.65	37.25	36.65	36.5
9.63	9.98	7.88	4.83	4.98
7.83	8.68			
+.30	+.70			

40th Etta to Birch

WL

SW PC on Etta
4 Parts 16° 51' 30"
#1 33.75
#2 33.0
#3 32.25

SW EC. 40th
(2) 53.9
1 31.5

PC
2 = NW 40 x Birch
4 Parts
#1 25.0
#2 24.75
#3 24.50

EC NW 40 x Birch 24.25
+80 24.0

PC SW 40 x Birch
4 Parts 22.8
#1 21.85
#2 20.90
#3 19.95

EC SW 40 x Birch 19.0
+73.8 = opposite SL Nottica 17.0
(3) 53.28
1 16.0
2 15.67
3 15.33
4 = P.C. 40 x Cottonwood 15.0

E.C. 40 x Cottonwood on Cottonwood

EL

BM 40 x Etta
Pipe
38.40
0.39
38.79
13.13
25.66
0.37
26.03
10.50
15.53
4.26
19.79
4.68
15.11

40 x Cottonwood to Birch 15.2

P.C. Etta x 40 30.5
(2) 52.28
1 27.65

2 = P.C.
(2) 27.39 chds
Part 1 24.8
23.34

EC
(2) 40.43
1 21.86
19.68

2 = NE 40 x Nottica 17.5
SE 40 x Nottica (3) 60 16.3 ← 16.3
16.16
15.83

3 = P.C. 15.5

BM.
38.40
0.51
37.91
10.35
28.56

BM
15.12
-5.26
20.38

WL

PC on Etta	#1	#2	3	EC on 40		PC on 40
34.5	33.75	33.0	32.25	31.5	28.26	25.0
4.29	5.04	5.79	6.54	7.29	10.54	13.79
38	46	52	57	63	75	12.0
+7.69	+5.54	+4.79	+4.04	+3.79	+2.04	+1.79

3 EC on Birch

24.75	24.50	24.25	24.0	22.8	21.85	20.90	19.95
4.04	14.29	14.54	14.79	3.23	4.18	5.13	6.08
12.1	11.9	11.6	10.9	13	2.00	300	450
+1.94	+2.39	+2.94	+3.89	+1.93	+2.18	+2.13	+1.58

EC SW 40

						P.C.	
19.0	18.0	17.0	16.0	15.67	15.33	15.0	15.0
7.03	8.03	9.03	10.03	10.36	10.70	11.03	11.03
5.6	8.80	10.70	10.90	10.90	11.60	11.40	11.50
+1.43	-.77	-1.67	-.87	-.54	-.90	-.37	-.47

31.39
7.80
23.59
-.41

EL

PC on Etta	EC on 40	P.C.	1	E.C.		NE Nottica 4
31.5	30.5	27.65	24.8	23.34	21.86	19.68	17.5
7.29	8.29	11.14	13.99	2.69	4.17	6.35	8.53
4.70	8.30	10.6	10.4	9.2	4.32	8.60	8.70
-.41	-.51	+.54	+3.59	+.79	-.73	-2.25	-.17

SL

				P.C. on 40	E.C.
16.5	16.16	15.83	15.5	15.5	
9.53	9.87	10.20	4.29	4.29	
10.20	10.60	11.00	4.70	4.70	
-.67	-.73	-.80	-.41	-.41	

P.C.

40 x Etta, SW Pct	34.5	33.75	33.00	32.25	31.50
	4.41	5.16	5.91	6.66	7.41
	4.38				
	+.03				

BK
30.0
8.91

SE 33.50 — 30.0 8.41

NW Cottonwood 15.0 +40 — 5.38

NE Cottonwood 40 15.5 — 4.88

SW 40 x Birch
+73' 17.00
3.38

19.0
1.38

Lowered .2
SE 40 x Nottica 16.3 — 4.08 — 15.8 — 4.58

39 Tk Delta

	NL	South EL	
0+00 = SL Delta	45.0		46.0
ⓒ 50		ⓒ 50	
1	44.50	1	45.58
2	44.18	2	45.17
3	43.76	3	44.75
4	43.34	4	44.33
5	42.92	5	43.92
NW Epsilon	42.5	NL ER	43.5
SL "	42.0	SL ER	43.9
ⓒ 50.98		ⓑ 50.74	
1	41.25	1	42.25
2	40.50	2	41.5
3	39.75	3	40.75
4	39.0	4	40.00
5	38.25	5	39.25
6	37.5		
6 = Δ opposite NL Etta ⓐ 43.96		6 = NL Etta	38.5
1	35.94	SL Etta	37.5
2	34.37	+54.79 = Δ	36.5
3 = NL Birch	32.8	+ 45.34 = NL Birch	32.5

B.M. 39 Epsilon
42.27
.748
41.522
43.27
.370
43.892
37.56
5.16
42.72

B.M. 42.47
.01
41.48

B.M. 50' Hubne 39+Delta
48.49
1.04
49.53

42.27
.529
41.741

B.M. 40.47
.057
41.04

WL

SL Delta							NL ER	SL
45.0	44.5	44.18	43.76	43.34	42.92	42.5	42.0	
4.75	5.25	5.57	5.99	6.41	6.83	7.25	3.97	
5.1	6.00	6.10	6.70	6.0	6.40	6.80	3.7	
-.35	-.75	-.53	-.71	+.41	+.43	+.45	+.27	

Δ

							NL Birch
41.25	40.50	39.75	39.0	38.25	37.5	35.94	34.37	32.8
4.72	5.47	6.22	6.97	7.72	5.22	6.78	8.35	9.92
3.20	4.5	5.5	6.5	7.80	5.30	6.0	7.3	8.3
+1.52	+.97	+.72	+.47	-.08	-.08	+.78	+1.05	1.12

Birch
EL 39+00
42.72
32.8
10.52
9.6
+1.6

EL

SL Delta						NL ER	SL	
46.0	45.58	45.17	44.75	44.33	43.92	43.5	43.0	42.25
	4.17	4.58	5.00	5.42	5.83	6.25	2.97	3.72
	4.10	3.80	5.00	4.2	4.50	4.60	1.8	1.50
	+1.07	+1.28	.00	+1.22	+1.33	+1.65	+1.17	2.22

Δ

NL Etta						SL
41.5	40.75	40.0	39.25	38.5	37.5	34.1	32.5	36.5
4.47	5.22	5.97	6.72	7.47	5.22	6.38	10.22	3.98
2.50	3.70	4.80	5.5	1.46	5.80	6.70	9.0	3.50
+1.97	+1.52	+1.17	+1.22	+.97	-.38	-.32	+1.22	+.48

NE Return 39+Delta	47.0	47.0	47.0
	2.53	2.53	2.53
NW Return 39+Delta	46.0	46.0	46.0
	3.53	3.53	3.53
SE Return 39+Delta	46.0	46.0	
	3.53	3.53	
SW Return 39+Delta	45.0	45.0	
	4.53	4.53	
NE Return 39+Epsilon	43.5	43.5	
	4.06	4.06	
NW Ret 39+Epsilon	42.5	42.5	
	5.06		
SE Ret 39+Epsilon	43.0	43.0	
SW Ret 39+Epsilon	42.0	42.0	
	5.54		

BM 39+Epsilon to Switch

41.04	41.04	41.04	41.04	
33.28	32.08	32.75	32.5	
7.76	7.96	8.29	8.54	

Birch Una to Vesta

	N	S
El Una ② 48.88	13.0	12.0
1	13.55	12.55
2	14.11	13.11
3	14.66	13.66
4	15.22	14.22
5	15.77	14.77
6	16.33	15.33
7	16.88	15.88
8	17.44	16.44
444 = BK ② 40	18.0	17.0
1	19.0	18.0
2	20.0	19.0
3	21.0	20.0
6400 = WL vesta	22.0	21.0

BM
17.65
3.01
20.66
.91
19.75
9.68
29.43
9.68
19.75
.84
20.59
2.98
17.61
17.65 = BM
.04

vesta Birch
BM
NE chart
2371
369
27.40

XL

13.0 13.55 14.11 14.66 15.22 15.77 16.33 16.88 17.44
7.11 6.55 6.00 5.44 4.89 4.33 3.78 3.22
301 160 270 280 300 250 170 220
+4.16 +3.95 +3.30 +2.64 +1.89 +1.83 2.08 +1.02

BK.
18.0 19.0 20.0 21.0 22.0
2.66 10.43 9.43 8.43
1.19 9.8 9.60 6.7
+1.46 +1.10 +1.83 1.73

SL

12.0 12.55 13.11 13.66 14.22 14.77 15.33
8.11 7.55 7.00 6.44 5.89 5.33
5.40 6.40 6.2 5.60 5.10 3.10
+2.71 +1.15 +.80 +.84 +.79 +2.23

15.88 16.44 17.0 18.0 19.0 20.0 21.0
4.78 4.22 3.66 11.43 10.43 9.43
4.5 2.80 03 9.1 8.8 8.2
+.28 +1.42 +3.36 +2.33 +1.63 1.23

NcbBK. 27.40 / 18.00 / 9.40

Scb BK 27.40 / 17.00 / 10.40

1327
1134
193
186
.07

Cottonwood Una to Thor

	N	S
0 to 00 = NL UNA	13.5	15.0
@ 60		
1	17.12	18.25
2	20.75	21.50
3 = PVC	24.38	24.75
@ 30		
1	25.72	25.72
2	26.14	26.23
3	25.61	25.54
4 = EVC	24.17	24.17
@ 50		
1	20.95	20.95
2	17.76	17.76
3	14.57	14.57
4	11.38	11.38
5	8.19	8.19
6 = EL Thor	5.0	5.0

BM
Birch Una
NE Sec 4 T 5 S

17.65
8.28
25.93
0.67
25.26
8.16
33.82
12.54
21.28
2.75
24.03
13.10
10.93
1.21
12.14
8.18
3.96
5.88
9.84

BM

17.65
10.90
28.55
12.45
16.10
0.24
16.34

NL

	PVC					EVC
13.5	17.12	20.75	24.38	25.72	26.14	25.61	24.17
12.83	9.21	5.58	9.44	8.10	7.68	8.21	9.65
12.99	10.00	6.00	6.90	5.00	4.70	5.00	7.00
+.34	-.79	-.42	+2.54	+3.10	+2.98	+3.21	+2.65
20.95	17.76	14.57	11.38	8.19	5.0		
12.87	6.27	9.46	12.65	3.95	7.14		
10.40	3.30	5.90	10.30	6.10	8.20		
+2.47	+2.97	+3.56	+2.35	-2.15	-1.06		

SL

	PVC					EVC
15.0	18.25	21.50	24.75	25.72	26.23	25.54	24.17
8.08	4.83	9.07	8.10	7.59	8.28	9.65
5.30	3.10	7.10	5.40	4.90	5.20	5.90
+2.88	+1.73	+1.97	+2.70	+2.69	+3.08	+3.75
20.95	17.76	14.57	11.38	8.19	5.0		
12.87	6.27	9.46	.76	3.95	7.14		
11.40	6.00	11.80	3.80	8.20	9.00		
+1.47	-.33	-2.34	-3.04	-4.25	-1.86		

NL

PVC				EVC	Thor
24.38	25.72	26.14	25.61	24.17	5.00
4.17 ✓	2.83 ✓	2.41 ✓	2.94 ✓	4.38 ✓	11.34 ✓

SL

PVC				EVC	Thor
24.75	25.72	26.23	25.54	24.17	5.00
3.80	2.83 ✓	2.32 ✓	3.01 ✓	4.38 ✓	11.34 ✓

Mattugh

20' wide

Alley Grade Blk 476

between Goldfinch & Eagle, Bush & Sutter

	S.L.	N.L.
0+00	258.05	258.2
0+40 BK	259.2	258.7
0+60 BK	259.3	258.8
0+80 BK	259.2	258.7
1+20	258.54	258.06
1+60	257.87	257.43
2+00 BK	257.2	256.8
2+50	256.85	256.6
3+00 BK	256.5	256.4
3+45	256.72	256.61
3+90	256.95	256.82
4+35	257.17	257.03
4+80	257.4	257.25

BM Goldfinch & Bush NE B.P.

260.00
391
π 2638 1
605
257.86
607
π 2639 3
7.00
256.93
5.24
262.17

El Goldfinch +30 = ℄ catch basin

Pipe at box 254.0

Box + 10' North = End of pipe 253.6

N.L.

258.2

BK 258.7 — 5.21, 3.95, +1.26

BK 258.8 — 5.11, 4.32, +.79

BK 258.7 — 5.21, 5.05, +.16

258.06 — 5.85, 5.43, +.42

257.43 — 6.48, 3.76, +2.72

BK 256.8 — 7.11, 6.62, +.49

BK 256.6 — 7.33, 4.40, +2.93

BK 256.40 — 7.53, 7.04, +.49

256.61 — 5.56, 5.85, −.29

256.82 — 5.35, 5.57, −.22

257.03 — 5.04, 4.31, +.73

257.25

S.L.

258.05 — 5.86

BK 259.0 — 4.91, 3.78, +1.13

BK 259.3 — 4.63, 3.68, +.95

BK 259.2 — 4.73, 2.44, +2.29

258.54 — 5.39, 5.06, +.33

257.87 — 6.06, 6.12, −.06

BK 257.2 — 6.73, 6.54, +.19

256.85 — 7.08, 6.45, +.63

BK 256.5 — 7.43, 7.23, +.20

256.72 — 7.21, 7.00, +.21

256.95 — 5.22, 5.37, −.15

257.17 — 5.00, 4.46, +.54

257.4 — 4.77, 4.75, .02 check on ℄

culvert

254.0 = FL. Pipe at box

253.6 = FL. at End Pipe — 3.57 Pipe in, 3.49, .08 check within .08 on Pipe

cut stakes

Sheridan St.

0+00 = intersection of cb & P.C. of W.L. Alameda (South)

1+88 ± = cb P.C. 61.75 = cb radius (Curve run in from Radius)

231.95

Part 1	24°15'	230.94
" 2	48°30'	229.95
" 3	72°45'	228.96
E.C. = ④	97°0'	227.97

Loma pass

0+00 = PT on East	259.81
0+60 = BK	251.3
0+72.5	250.33
1+29.75	243.35
1+86.90 = curb	236.36
vertical curve on South	
1+88 ± P.C. on Sheridan	231.95
	230.65
	229.57
	228.75
	228.18
	227.88
P.C. on Loma pass	227.8

B.M. Alameda & Sheridan S.E. B.P. 259.09

259.04
0.75
259.79
12.84
246.95
0.51
247.46
12.64
234.82
0.40
235.22
0.77
234.45
12.64
247.09
0.3
247.06
7.94
255.00
7.94
247.06
5.10
252.16

B.M. on E. end cb 1+86.90 236.36

P.C.

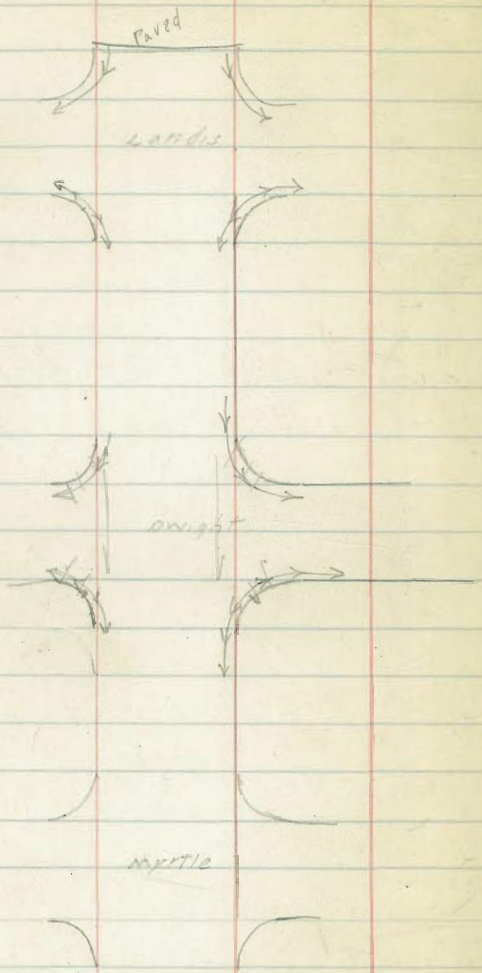
231.95	230.65	229.57	228.75	228.18	227.88	227.8
4.97	6.27	7.35	out	8.74	9.04	9.12
	1.32	1.65		8.03	8.08	7.28
	-1.05	-.30		+.71	+.96	+1.84

culvert

223.24	227.28	BK 221.8		225.22
11.98	12.94	13.42		216.0
7.81	6.11	12.37		9.22
+3.17	+6.83	+1.05		8.3
				+.92

PC	BK	New curb from here on	235.216	
259.71	250.54	249.15	242.75	236.36
			9.41	Fit this
			9.05	
			+.36	

Curb Marks Cherokee
Landus to Myrtle



Sewer Grade from MH. East of Center

+317.4 East to DE.

Man Hole
BM 140.0
1540
155.40
1.43
153.87
7.01
160.88

0+00 Flow line M.H.		140	
6 52.9			
1		142.16	
2	52.9 / 317.4	144.32	
3		146.49	
4		148.66	
5		150.83	
D Cap End		153.0	

	155 40	155 40	155 40
140.	142.16	144.32	146.49
	13.24	11.08	8.91
	9.97	6.36	4.10
	+3.27	+4.72	+4.81
155 40	160 88		160 88
148.66	150.83		153.0
6.74	10.05		7.88
153	446		223
+5.21	+5.99		+5.60

	142.16	144.32	146.49	148.66
	13.11	10.95	8.78	6.61
	880	581	354	097
BM East Center	+4.71	+5.14	+5.24	+5.64

148.14	150.83	153.0	
713	10.86	08.49	
155.27	483	2.45	
097	+5.83	+6.04	
15430			
719			
161.49		154.47	
719	on paving	141.11	
154.30		13.36	
017		9.04	
154.47		4.32	
634			
148.13			

Paving Grade — Alley Blk 12 City H.

	Paving Grade M Y + 10	W L	E L	
Dead 0+00 = 2				
0+00	337.4		336.9	BM. N.W. BP Myrtle & Chem one
0+20	337.8		337.5	
+40	337.8		337.6	335.89
(Dead 48)				1.34
1	337.36		337.2	T 343.23
				611
				337.12
2	336.92		336.8	4.28
				341.40
3	336.48		336.9	6.85
				334.55
				3.33
4	336.04		336.0	337.88
				4.93
5	335.60		335.6	332.95
				.03 Diff of
6	335.16		335.2	BM. N.W. BP Thorn & Chem 332.98
7	334.72		334.8	
8	334.28		334.4	
9	333.84		334.0	
10	333.4		333.6	
Dead 20				
1	333.0		333.3	
2				
3	332.3		332.7	
4	331.2		331.7	
	329.6		330.3	

BK	BK			W Line					
337.8	337.8	337.36	336.48	336.48	336.04	335.60	335.16	334.72	334.28
5.43	543	5.87	6.31	6.75	5.36	5.80	6.24	6.68	7.12
460	465	515	605	682	473	565	595	630	680
+.83	+.78	+.72	+.26	+.33	+.63	+1.15	+.29	+.98	+.32

BK	BK	BK	BK	BK	BK	
333.84	333.41	333.51	332.91	331.2	329.6	
4.09	4.48	4.88	5.38	6.68	8.28	
4.00	752	423	467	517	794	
+.84	-.04	+.64	+.91	+1.51	+.33	

BK	BK	BK	BK	BK	BK	BK	BK	BK	
336.9	337.5	337.36	337.2	336.8	336.4	336.0	335.6	335.2	334.8
6.33	5.73	5.63	6.03	4.60	5.00	5.40	5.80	6.20	6.60
417	537	2.40	245	408	494	302	530	591	925
+1.16	+.36	+3.23	+3.58	-.48	+.06	+3.31	+.50	+.47	+3.35

BK	BK	BK	BK	BK	BK	BK	
334.4	334.0	333.6	333.3	332.7	331.7	330.3	
7.00	7.40	4.28	4.58	5.18	6.18	7.58	
6.79	7.80	4.00	472	464	481	732	
+.21	+.09	+.28	+.46	+.54	+1.97	+.24	

Alley 1285 ± N of Vermont Ave

Paving Alley Block 226 C.I.T.

		S L		N L	BM SW with Vermont
0+00 = EL Vermont		S L		N L	BM SW with Vermont
0+00		289.5		289.5	289.70
④ 50					5.72
1		289.82			± 294.85
2		290.15			4.59
					290.26
3		290.47			6.22
					296.48
2+00 = BK		290.8		290.8	2.95
⑧ ⑤					293.53
1		291.47			6.86
					300.39
2		292.15			- 398
					296.41
3		292.82			6.41
					302.82
4		293.5			5.70
					297.12
5		294.17			
6		294.85			
7		295.52			
6+00		296.2		296.2	

SW Richmond 297.15

31

S L

				BK				
289.5	289.82	290.15	290.47	290.8	291.47	292.15	292.82	293.5
5.35	5.03	4.70	4.38	5.68	5.01	4.33	3.66	6.89
5.12	4.15	4.00	3.72	3.68	4.85	4.17	3.67	6.76
+.23	+.98	+.70	+.66	+2.00	+.16	+.16	-.01	+.13

294.17	294.85	295.52	296.2
6.22	5.54	4.87	Paving
5.25	3.68	+.07	
+.97	+1.86	+.20	

N L

				BK				
289.5	289.82	290.15	290.47	290.8	291.47	292.15	292.82	293.5
5.35	5.03	6.33	6.91	5.68	5.01	4.33	3.66	2.98
5.09	3.50	5.67	5.44	5.18	4.82	4.05	3.67	1.95
+.26	+1.53	+.66	+.07	+.50	+.19	+.28	-.01	-1.03

294.17	294.85	295.52	296.2
2.31	5.34	4.87	Paving
1.26	3.04	2.92	
+1.05	+.50	+1.95	

Sidewalk Stakes

Vesta to Una

NL

SL

BM. Vesta
x Main

15.96
5.04
19.00
6.98
12.02
4.00
16.02

0+00 = NL Vesta	10.2	9.2
6+00 = EL Una	12.5	11.5

Una x Filbert NE
12.46 ✓ 12.5 ✓
8.56 ✓ 3.48 ✓

Vesta x Filbert NW
10.24 ✓ 10.24
8.76 ✓

Una x Filbert SE
11.46 ✓ 11.5 ✓
4.56 ✓ 4.52 ✓

Vesta x Filbert SW
9.24 ✓ 9.24
9.76 ✓ 9.76
36 ¢
+2.12

Una to Thor

0+00 = NL Una	12.0	11.0
3+00 = BK	10.5	9.5
6+02 = NL Thor	6.0	6.0

Una x Filbert NW
11.95 ✓ 12.0 ✓
4.07 ✓ 4.02 ✓

BK NL 10.5 BK SL 9.5

Thor x Filbert NE
6.0 6.0

Una x Filbert SW
10.95 ✓ 11.0 ✓
5.07 ✓ 5.02 ✓

Thor x Filbert SE
6.5 6.0

Thor to Sive

0+00 = NL Thor	5.5	5.5
6+00 = EL Sive	2.0	2.0

Thor x Filbert NW
5.5 5.5

Sive x Filbert NE
2.0 2.0

Thor x Filbert SW
5.5 5.5

Sive x Filbert SE
2.0 2.0

Alley Block 1 St Louis Hgts

Upas to Thorn Granada to 28th

	WL	EL	BM = Granada & Thorn NE
0+00 = SL Upas	329.4	329.47	323.49
@ 50			3.06
1	328.7	328.70	326.55
			2.89
2	328.0	327.92	323.66
			5.31
3	327.3	327.14	328.97 +
			3.84
4	326.6	326.36	325.04
			4.90
			329.94 V
5	325.9	325.58	2.85
			327.09
			6.85
6 = B + K	325.2	324.8	333.44
@ 55			3.58
1	324.97	324.6	329.86
			5.32
2	324.75	324.4	335.18
			5.60
			329.58
3	324.52	324.2	329.50 =
			+.08
4 = P.V.C.	324.3	324.0	
@ 20			
1	324.0	323.7	
2	323.4	323.3	
3	322.6	322.5	
4 = NL Thorn	321.49	321.61	

WL

Paving

							BK	
329.40	328.70	328.00	327.30	326.60	325.90	325.20		324.97
4.04	4.74	5.44	6.14	3.37	4.04	3.73		3.96
3.84	3.76	4.17	4.93	2.86	2.82	1.66		4.14
+.20	+.98	+1.27	+1.21	+.98	+1.22	+2.07		-.18

PVC

							on Paving
324.75	324.52	324.30	324.0	323.4	322.60	321.49	
4.18	4.41	2.25	2.55	3.15	3.95	5.06	
2.73	2.48	1.82	1.90	2.85	3.13	4.95	
+1.45	+1.93	+.43	+.65	+.30	+.82	+.11	

EL

						BK	
324.47	328.70	327.92	327.14	326.36	325.58	324.80	
3.97	4.74	5.53	6.30	3.58	4.36	5.14	
3.78	3.57	3.85	3.87	3.21	3.43	4.95	
+.19	+1.17	+1.67	+4.3	+.37	+.93	+.19	

PVC

							EVC on Paving
324.60	324.40	324.20	324.0	323.70	323.30	322.50	321.61
4.33	4.53	4.73	2.55	2.85	3.25	4.05	4.99
4.69	4.10	5.01	1.77	1.34	3.15	2.32	4.90
-.36	+.43	-.28	+.78	+1.51	+.10	+1.73	+.09

BM NW Granada & Upas

Gb stks Vista Main to Filbert

SW Main × Vista 15.0 / 2.34 ✓

NE Vista × Filbert 10.0 / 7.34

SE Main × Vista 15.50 / 1.84 ✓

NW Vista × Filbert 10.2 / 7.14

SW Alley Rct 12.38 / 4.96 ✓

NW Alley Rct 12.71 / 4.63 ✓

Cb. ~~Grt~~ stks Filbert Una to Thor

SW Una 11.0 set

NW Una 12.0 set

Brk North 14.51 / 10.50 / 4.01

South 14.51 / 9.50 / 5.01

N.E. Thor 6.15 / 8.07 ; 6.0 / 8.22

SE Thor 6.11 / 8.11 ✓ ; 4.0 / 8.22 / 6.32 / +1.90

cb stks Thor to Sive

SW Thor × Filbert 5.44 / 4.50 ✓ ; 5.50 / 4.14 / 3.84 / +1.60

NE Filbert × Sive 2.00 / 7.94

NW Thor × Filbert 5.44 / 4.50 ✓ ; 5.50 / 4.44 ✓

SE Filbert × Sive 2.00 / 7.94

SW Main × Thor 7.0 / 4.44 ✓

SE Main × Thor 7.5 / 3.94 ✓

Bm 5.50 = NW Filbert × Thor Cb Elev
5.94
11.44

BM
12.33
2.18
14.51

BM 15.96
.87
19.33
7.0
123.3
1.89
14.22
7.44
6.78

BM
6.78
5.16
9.94

Water Stakes Everts 28th to Evans

Evans

Fl. Elev EL 63.5

Fl. Elev W. 28th 68.5

63.5	63.94	64.38	64.82	65.26	65.70	
11.09	10.65	10.21	9.77	9.33	8.89	
8.38	6.58	5.13	5.21	5.05	4.99	
+8.71	+4.07	+4.48	+4.56	+4.28	+3.90	
66.14	66.58	67.02	67.46	67.90	68.34	68.50
8.45	8.01	7.57	7.13	6.69	6.25	6.09
4.70	4.05	3.44	2.84	2.50	2.50	2.40
+3.75	+3.96	+4.13	+4.29	+4.19	+3.75	+2.19

Pole #3675

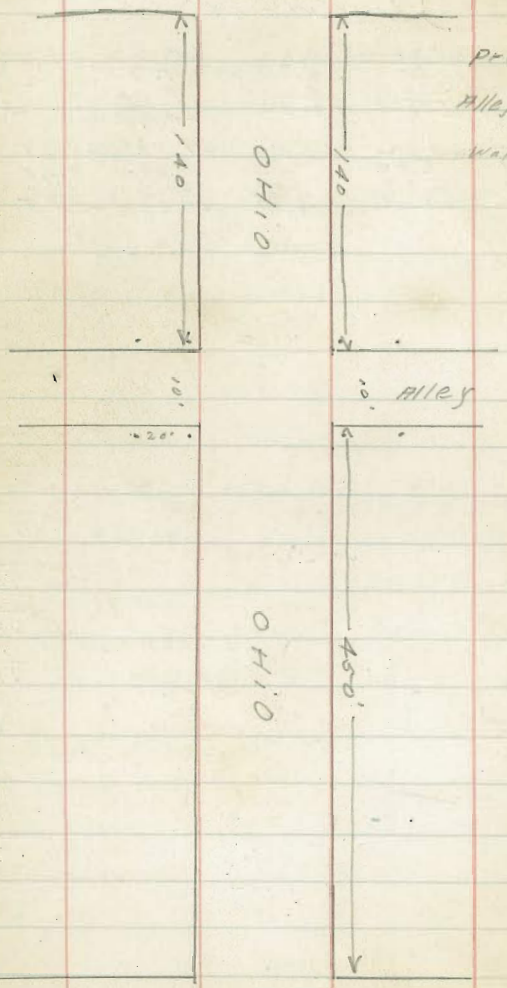
NW SW Thor × Filbert

BM 26 × 1 in Post NW B.P.
63.92
.515
69.07
3.84
65.23
6.92
72.15
4.20
67.95
2.47
70.42
1.56
68.86
5.73
74.59
2.68
71.91

28 × Everts Cb Elev 72.00
.09

Alley on Ohio 140' North of El Cajon

El Cajon



Prop stakes on Alley Returns. To Fit walk rate of grade

Grade Stakes Alley Dwight To Landis

between Van Dyke & 43rd

	W L	E L	B.M. N.W.S.P. Van Dyke and Landis
0+00 = St Landis	346.0	346.3	
⑦ 50			
1	345.45	345.75	344.98
			.53
2	344.90	345.20	× 350.51
			7.15
3	344.36	344.66	343.36
			3.71
4	343.82	344.12	347.27
			6.05
5	343.28	343.58	341.22
			4.93
6	342.74	343.04	346.15
			3.31
7 = Break	342.2	342.5	342.84
④ 50			8.09
1	341.70	342.0	350.93
			.598
2	341.20	341.5	344.95
			.03 Error
3	340.70	341.0	
4 = Brk.	340.20	340.5	
① 50		338.68	
= NL Dwight	338.31 ③	338.81	

N L

								Brk
346.0	345.45	344.90	344.36	343.82	343.28	342.74	342.20	
4.51	5.06	5.61	6.15	6.69	7.23	4.53	5.07	
4.31	5.04	5.84	6.71	6.54	3.57	4.75	5.55	
+.20	+.02	−.27	−.56	+.15	+.42	−.22	−.48	

Brk ?

341.20	341.20	340.70	340.20	338.31	
4.45	4.95	5.45	5.95	7.84	
4.31	5.19	4.39	4.98	6.42	
−.32	−.24	+1.06	EL +.97	+.92	

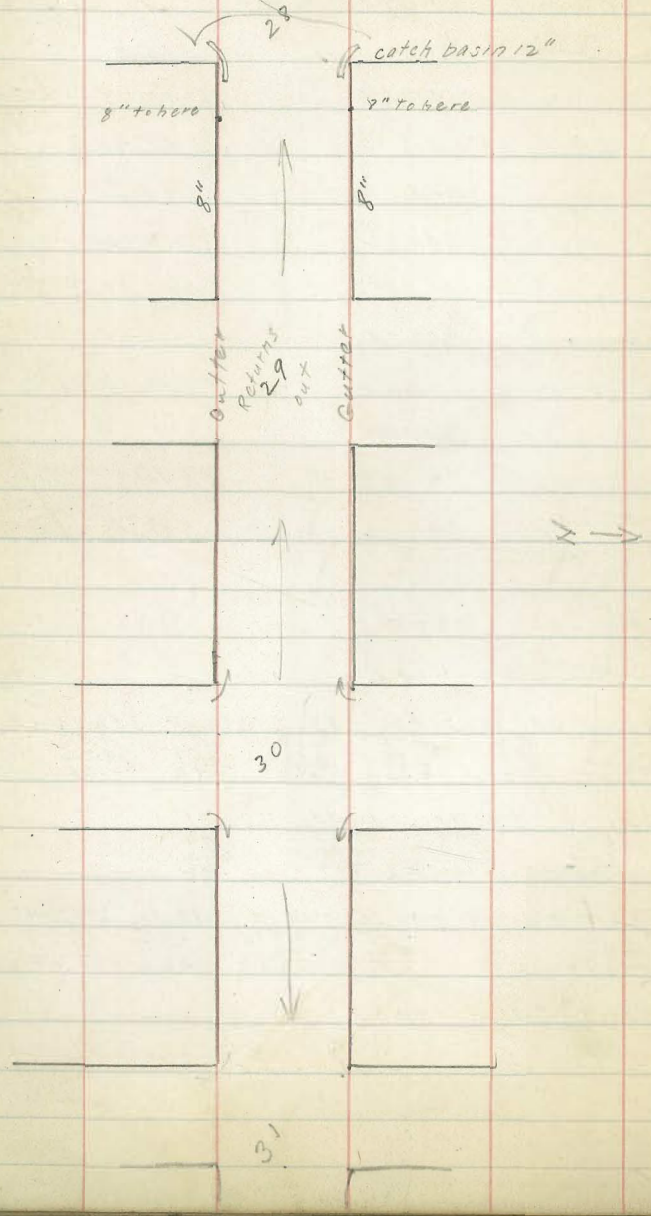
								Brk
346.30	345.75	345.20	344.66	344.12	343.58	343.04	342.50	
4.21	4.76	5.31	5.85	6.39	6.93	4.23	4.77	
4.01	4.32	4.52	5.91	6.63	7.15	3.74	4.80	
+.20	+.44	+.79	−.06	−.24	−.22	+.49	−.03	

Brk

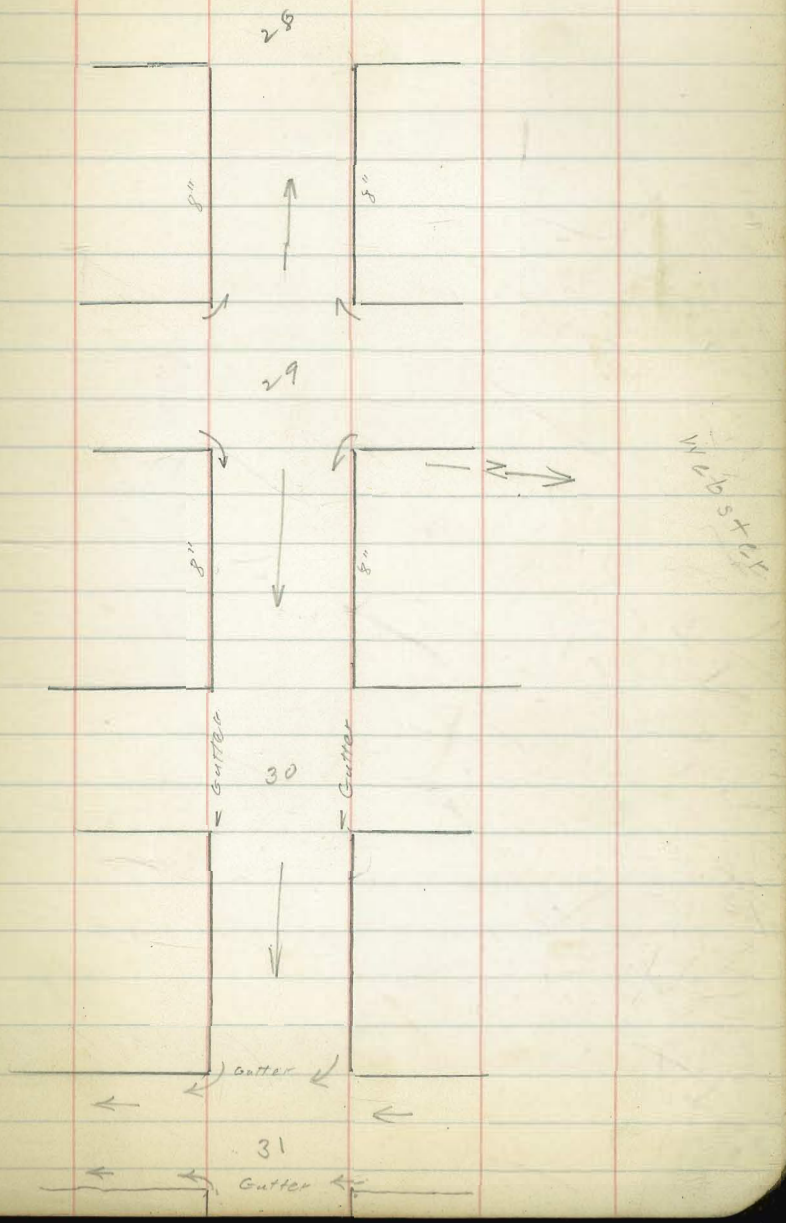
342.0	341.5	341.0	340.5	338.81	
5.27	5.77	5.15	5.65	7.34	
5.13	5.30	5.12	5.36	6.78	
+.14	+.47	+.03	+.29	+.56	

724
710
.14

Webster St Paving



Clay St



Alley Block 224

Evans to Sampson Between Julian & Irving

		NL	SL	
0+00 =	WL Sampson	83.4	83.00	BM Irving & Sampson N. in B.P. 87.54
@ 60				0.97
1		83.70	83.30	88.51
				5.15
2		84.00	83.60	83.36
				4.91
3		84.30	83.90	88.27
				358
BK 4		84.60	84.20	84.69
				7.40
				92.09
@ 45				4.24
1		85.28	84.96	87.85
				550
2		85.96	85.72	93.35
				11.62
				81.73
3		86.64	86.48	6.83
				88.56
4		87.32	87.24	000
				856
				655
				87.01
5 = Break		88.00	88.00	BM Julian + Evans = 82.01
@ 40				
1		88.40	88.40	
2 = BK		88.80	88.80	
+20 = BK		88.29	88.29	
+20 = BK		86.39	86.36	
+20 = EL Evans		83.78	83.72	

NL

					BK	
83.40	83.70	84.00	84.30		84.60	85.28
5.11	4.57	4.27	3.97		3.67	6.81
452	4.71	571	4.71		2.96	596
+.59	-.14	-.84	-.74		+.91	+.85
			BK		BK	BK
85.96	86.64	87.32	88.0	88.40	88.86	88.29
6.13	5.45	4.77	5.35	495	4.55	5.06
455	417	414	504	401	441	4.68
+1.58	+1.28	+.63	+.31	+.94	+.14	+.38
BK	BK					
86.39	83.78					
6.96	9.57					
487	9.74					
+1.09	-.17					

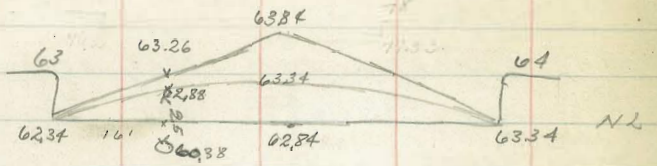
SL

					BK	
83.00	83.30	83.60	83.90		84.20	84.96
5.51	5.21	4.67	4.37		4.07	7.13
490	4.95	523	5.99		3.38	7.03
+.61	+.26	-.56	+1.62		+.69	+.10
			BK		BK	BK
85.72	86.48	87.24	88.00	88.40	88.80	88.29
6.37	5.61	4.85	4.09	3.69	4.55	5.06
6.14	5.40	4.40	3.53	2.98	3.80	3.84
+.23	+.21	+.45	+.56	+.71	+.75	+1.22
BK	BK					
86.36	83.72					
6.99	9.63					
468	9.55					
+2.31	+.08					

Culvert NL 82.70
5.57
550
+.07

SL 82.10
6.17
5.52
+.65

Water Stakes intersection on 31 x Clay



$\left(\frac{16}{26}\right)^2 \times 1.0 = .38$

Toff NW c6 68.40

68.40	68.40
60.38	60.38
8.02	8.02
4.71	4.12
+3.31	+3.90

P. Pe Elev approximately 60.9 or .5 high

Alley Grade
Wilshire Place

0+00 = SL Monrae

	W	E
0+00	368.72	368.59
0+40 BrK ④ 52.5	369.2	369.2
1	368.72	368.75
2	368.25	368.30
3	367.77	367.85
4 = Break ⑥ 53.82	367.3	367.4
1	367.17	367.25
2	367.05	367.11
3	366.92	366.97
4	366.80	366.83
5	366.67	366.69
6 = NL Meade	366.55	366.55

BM = Marborough & Meade NW

366.07
7.20
373.27
6.07
367.20
4.70
371.90
4.33
367.57
7.29
374.86
7.29
367.57
5.81
373.38
5.38
367.80
367.757 BM
.043

Meade 41.
N.W. BP

= Elev by Yager

NL

	BK				
368.72	369.20	368.72	368.25	367.77	367.50
6.14	5.66	6.14	6.61	7.09	4.60
5.80	4.86	5.15	5.90	7.76	3.79
Paving = +.34	+1.60	+.99	+.71	-.67	+.81

367.17	367.05	366.92	366.80	366.67	366.55
4.73	4.85	6.35	6.47	6.60	6.72
4.42	4.14	4.32	5.27	4.99	5.10
+.31	+.71	+2.03	+1.20	+1.61	+1.62

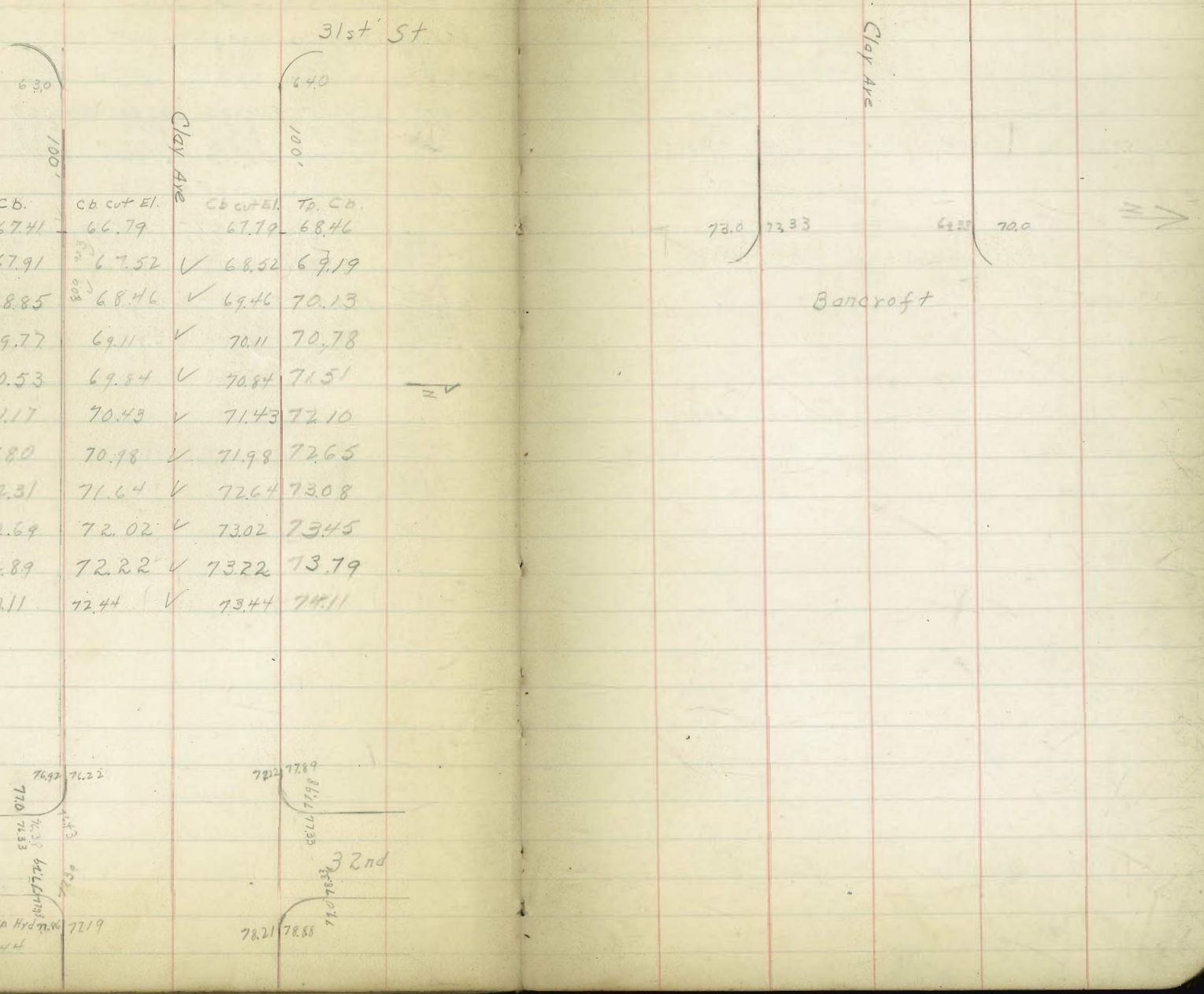
EL

	BK				BK
368.59	369.20	368.75	368.30	367.85	367.40
6.37	5.66	6.11	6.56	4.05	4.50
5.93	4.86	4.90	5.41	4.16	3.27
Paving = +.32	+1.44	+1.21	+.65	-.11	-.77

367.25	367.11	366.97	366.83	366.69	366.55
4.65	6.16	6.30	6.44	6.58	6.72
4.87	6.67	5.57	5.73	4.78	5.14
-.22	-.51	+.73	+.71	+1.80	+1.58

6-30-28
J.C. Bliss
Flood
Rouncy

Curb marks - Clay Ave
31st St to Bancroft



7-2-28.
J. C. Bliss
Flood
Rauner

Curb Marks Webster Ave
31st to Bancroft

B.M. 80.44
- 9.59
H.I. 90.03
4.80 P.S

	Tb.cb	Cb.ct.	cb.ct.	Tp.cb	P.T.
SW. spike 852 370	69.85	69.25	69.75	70.42	70.5
32nd + Webster					

31st

Webster

768	76.72	76.05	76.05	76.67	76.8
786	78.49	77.94	77.94	78.61	78.8
80.15	80.05	79.47	79.57	80.19	80.35
81.5	81.40	80.76 (3.14 2.87 3.04)	80.96	81.63	81.7
82.6	82.46	81.86 (2.04 1.87 1.94)	82.06	82.72	82.8
83.3	83.23	82.56 (1.24 0.97 0.94)	83.16	83.70	83.8
84.0	83.9	83.24 (0.51 1.19 0.11)	84.04	84.71	84.8
84.5	84.22	83.55 (5.12 4.72 4.57)	84.26	85.29	85.4

32nd

85.0		84.28	85.12	85.72	86.06 86.15	87.0
83.4	83.36	82.69	83.57	84.19	84.57	84.66	85.26	85.4
82.7	82.12	81.45	82.33	82.95	83.33	83.45	84.12	
80.6	80.50	79.83	80.71	81.33	81.71	81.83	82.51	
60.0		59.38	60.21	60.83	61.21	61.33		

Finish Grade Stakes
Webster Ave 31st to Bancroft
Five Rows

42

31st St

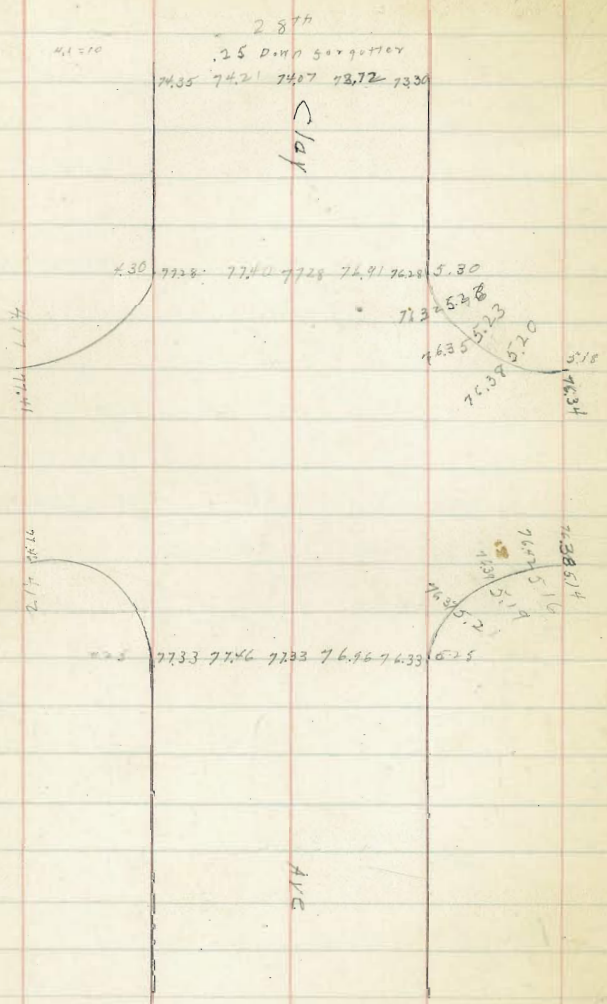
69.48	69.82	70.0	70.02	69.88

	76.55
	78.44
	79.97
	81.36
	82.46
	83.36
	84.14

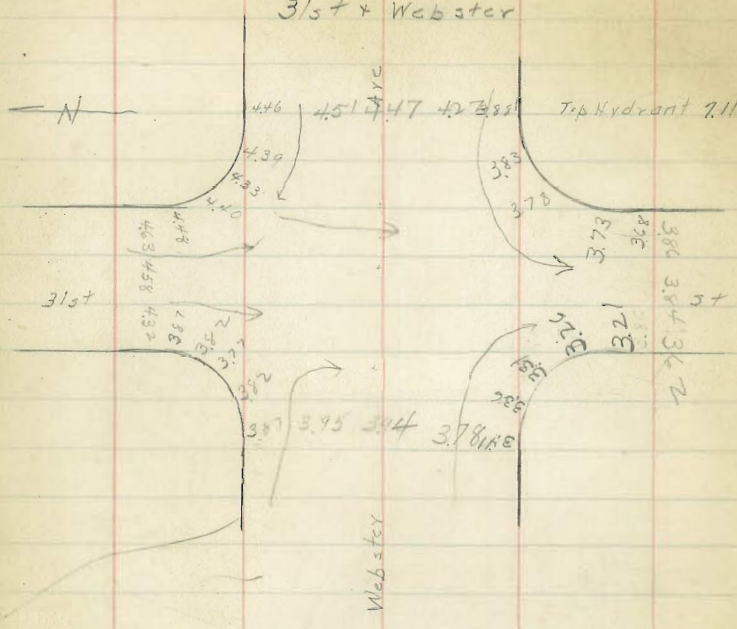
83.84	84.30	84.60	84.84	84.72

32nd

Intersection 29th x Clay

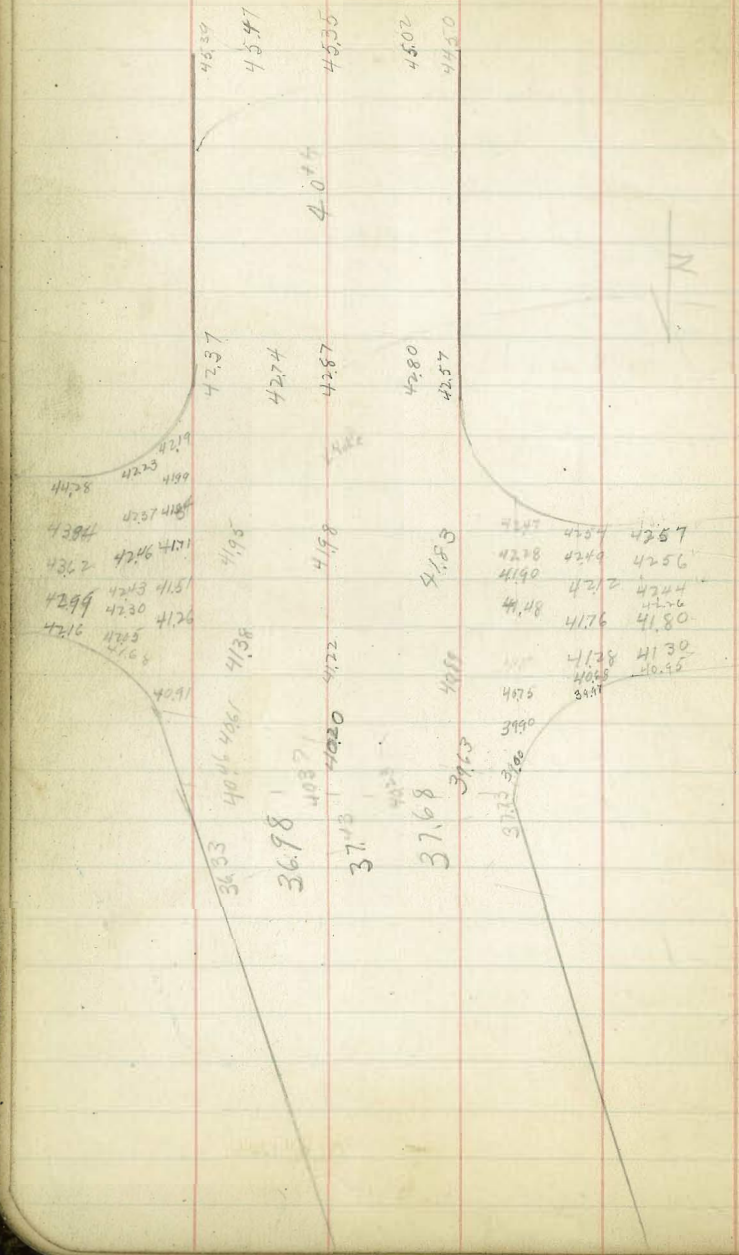


H.I. 81.58 - B.M. N. Ecb Clay & 29th


31st & Webster
N
446
439
433
440
Trp Hydrant 7.11
383
378
373
368
380
31st
357
377
382
387
395
394
378
Webster

7-6-28
J.C. Bliss
Flood
Kautter

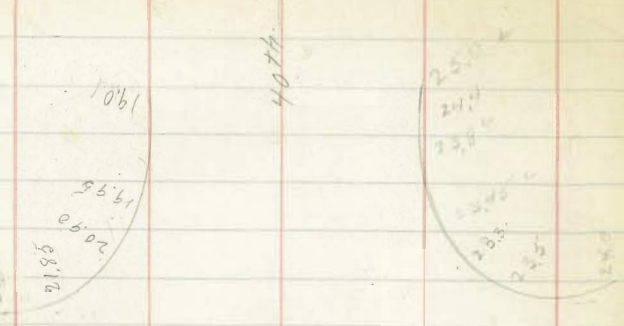
Finish Grades Intersection
40th + Marine View



Sta	+	H.I	−	El
				46.81
B.M. Division + 40th				
400		50.81		
B.M. Spike in pole 40th + Marine View				
			6.97	43.8±
	2.26	46.10		
B.M.				43.8±
	2.59	46.43		
T.P.			-13.04	33.39
	0.38	33.77		
R.V.C.			-6.72	27.05
T.P.			-13.15	20.62
	+2.54	23.16		

4-7-28
Flood Rainer

Returns Birch v 40th



Birch

1-13-78
J.C. Bliss
3.1m Flood
Check" Rayner

Southlook Sewer Stakes - Grades

36th St - S. st - Olivewood Terrace - Jewel Drive T. st.

Flowline existing M.H. 36th + S sts 33.72

Sta	Fl. Grade	Cut
0+00 Existing M.H. 36th T	33.72	4.33
0+77	33.89	8.77
0+98	34.08	11.72
1+08.3 ℄ M.H. #1	34.24	13.27
1+38.96	34.48	12.10
0+77.92	34.75	12.90
1+16.88	35.02	14.22
1+55.84	35.30	13.58
1+94.80	35.57	9.22
2+33.76	35.84	4.69
2+74 ℄ #2 - 0+00	36.11	2.14
0+35.35 South	36.39	1.48
0+70.7 D.E. - South	40.26	2.78
0+00 ℄ M.H. #2	44.13	5.86
0+50	36.39	
1+00	38.89	5.01
1+50	41.39	5.57
2+00 ℄ M.H. #3 - 0+00	43.89	6.81
0+38.33 South	46.40	8.44
0+76.66 South	46.78	8.63
1+15 DE South	47.16	11.57
	47.55	10.44

Flow Line Existing M.H. 33.72 + 12.18 = 45.90 − 0.69 = TP 45.21 + 6.46 = 51.67

47

33.72	45.90	45.90	51.67	51.67	51.67
12.18	33.89	34.08	34.27	34.48	34.75
7.85	12.01	11.82	17.40	17.19	16.92
+4.33	3.24	0.10	4.13	5.09	4.02
	+8.77	+11.72	+13.27	+12.10	12.90

51.67	51.67	51.67	51.67
35.07	35.30	35.57	35.84
16.67	16.37	16.10	15.83
2.45	2.79	6.88	11.14
+14.22	+13.58	+9.22	+4.69

T.P. 51.67	49.55	49.55	49.55	49.99
+1.14	36.11	36.89	40.26	44.13
40.53	13.44	13.76	9.29	+5.86
9.02	11.30	11.68	6.51	
11.1 49.55	+2.14	+1.48	+2.78	

49.55	49.55	49.55	60.01	60.01
38.89	41.39	2.59	43.89	46.40
10.66	8.16	T.P. 46.96	16.12	13.61
5.65	2.59	13.05	9.31	5.17
5.01	5.57	60.01	6.81	8.44

D.E.	Rods for D.E 2nd	1st
60.01	60.01	60.00
2.02	1.28	4.60
57.99	58.73	55.41

Southlook sewer ctd

Sta	F.L. Grade	Cut
0+00 ℄ MH #3	46.40	
0+41.25	48.48	10.23
0+82.50	50.57	11.62
1+23.75	52.65	11.16
1+65	54.74	9.73
2+06.25	56.82	8.82
2+47.5 ℄ MH #4 = 0+00	58.90	8.38
0+42.25	60.42	7.37
0+84.50	61.94	8.35
1+26.75	63.46	9.60
1+69	64.98	8.85
2+11.25	66.50	7.32
2+53.5 ℄ MH #5 = 0+00	68.03	6.09
0+42.5	68.88	5.40
0+85	69.73	5.45
1+27.5	70.58	5.70
1+70	71.43	6.13
2+12.5	72.28	5.96
2+5 Dead end	73.13	

H.I. 60.01

60.01 — 48.48 — 11.53 — 1.30 — 10.23

60.01 — 1.30 — T.P. 58.71 — 13.28 — 71.99

71.99 — 50.57 — 21.42 — 9.80 — 11.62

71.99 — 52.65 — 19.34 — 8.18 — 11.16

71.99 — 54.74 — 17.25 — 7.52 — 9.73

71.99 — 56.82 — 15.17 — 6.35 — 8.82

71.99 — 58.90 — 13.09 — 4.71 — 8.38

71.99 — 60.42 — 11.57 — 4.20 — 7.37

71.99 — 61.94 — 10.05 — 1.70 — 8.35

71.99 — 1.70 — T.P. 70.29 — 8.87 — H.I. 79.16

79.16 — 63.46 — 15.70 — 6.10 — 9.60

79.16 — 64.98 — 14.18 — 5.33 — 8.85

79.16 — 66.50 — 12.66 — 5.34 — 7.32

79.16 — 68.03 — 11.13 — 5.04 — 6.09

H.I. 79.16

3.01

T.P. 76.15

2.37

H.I. 78.52

7.34

71.18 ← Check on N.W. B.P. 37th & T of Elev → 71.15

H.I. 84.18 from # 5 M.H. Stub

84.18 — 68.88 — 15.30 — 9.90 — 5.40

84.18 — 69.73 — 14.45 — 9.05 — 5.45

84.18 — 70.58 — 13.60 — 7.90 — 5.70

84.18 — 71.43 — 12.75 — 6.62 — 6.13

84.18 — 72.28 — 11.90 — 5.74 — 5.96

84.18 — 73.13 — 11.05 — 4.16 — 6.89

11-18-28
J.C. Bliss, Flood, Rauner

Grades on Brant - Douglas to University - University, Brant to 200' west

Sta.		Grade	Cut or Fill
0+00 - South Line Brant	E	267.0	
	W	267.0	
0+43.36	E	266.78	C 1.2
	W	266.68	C 1.4
0+86.72	E	266.56	C 2.1
	W	266.36	C 1.1
1+30.08	E	266.34	C 0.6
	W	266.04	C 1.0
1+73.44	E	266.12	C 1.1
	W	265.72	C 0.9
2+16.80 No. Line Univ.	E	265.9	F 0.7
	W	265.4	0.7
0+00. W Line Brant	N	265.4	C 0.7
	S.	265.0	F 1.8
0+43.1	N	264.95	C 1.3
	S.	264.3	C 0.6
0+84.2	N	264.5	C 1.0
	S	263.6	C 1.0
1+04.2	N	264.1	C 1.0
	S	263.2	C 0.6
1+24.2	N	263.7	C 1.0
	S	262.7	C 0.4

B.M. 268.98 N.W. Br. Douglas & Brant.

268.98 + 6.12 = B.M. 262.86 50' Tie North of West End University

1+44.2	N	263.1	C 1.0	
	S	262.0	C 1.3	
1+64.2	N	262.4	C 1.2	
	S	261.1	C 0.1	
2+00	N.	261.0	C 0.8	
	S	259.5	F 2.5	

W 272.11 + 5.03 = 267.08

C 272.11 + 5.03 = 267.08

272.11 − 266.78 = 5.33 + 4.17 = +1.2

272.11 − 266.68 = 5.43 − 3.98 = 1.45

E 272.11 − 266.36 = 5.55 − 3.42 = 2.13

W 272.11 − 266.36 = 5.75 − 4.61 = 1.14

E 272.11 − 266.34 = 5.77 − 5.18 = .59

W 272.11 − 266.04 = 6.07 − 5.11 = .96

E 272.11 − 266.12 = 6.00 − 4.90 = 1.10

W 272.11 − 265.72 = 6.39 − 5.49 = .90

E from 265.9 to 262.2 = 3.7 + 1.6 = F 9.1

W 272.11 − 260.4 = 6.7 − 6.06 = 0.7

269.0 − 265 = 4.0 − 5.76 = −1.8

269.00 − 264.3 = 4.7 − 4.1 = 0.6

268.98 − 264.95 = 4.03 − 2.74 = 1.3

N 269.0 − 264.5 = 4.5 − 3.5 = 1.0

269.0 − 263.6 = 5.4 − 4.4 = C 1.0

269.0 − 264.1 = 4.9 − 3.9 = C 1.0

269.0 − 263.2 = 5.8 − 5.2 = C 0.6

269.0 − 263.7 = 5.3 − 4.3 = C 1.0

269.0 − 262.7 = 6.3 − 5.9 = C 0.4

26129
.65
260.74

25

269.0	269.0	269.0	269.0
262.0	263.1	262.4	261.1
7.0	5.9	6.6	7.9
5.7	4.9	5.4	7.8
C1.3	C1.0	C1.2	C0.1

269.0	269.0
261.0	259.5
8.0	9.5
7.2	12.0
C0.8	F2.5

T.P. 268.98
8.31
260.67
4.54
262.21
0.59
261.62
10.73
272.35
4.37
267.98 Check back to B.M Douglas + Brant
267.00

26134

26134

20638
.65
26971

Grades for Culvert #1 University

200' West of Brant

Sta	Grade	C or F
0+00 - Catch Basin	258.0	
0+35	249.5	C10.25
0+60	243.5	C12.73
0+85	237.4	C 8.79
1+10	231.3	C4.21
1+35 End of Culvert	225.2	F 1.22

B.M. 267.86	252.22	240.74	231.00
2.04	0.44	0.85	0.50
264.90	252.66	241.59	231.50
12.68	11.92	0.59	
T.P. 252.22	T.P. 240.74	T.P. 231.00	

264.90	264.90	252.66	266.74
249.50	243.50	237.4	255.36
15.40	21.40	15.26	10.58
5.15	8.67	6.47	5.54
710.25	12.73	C 8.79	5.04

241.59	231.50
231.3	225.2
10.29	6.3
6.08	7.52
4.21	1.22

8-9-28.
J.C. Bliss
Flood
Rauner
Clavert

B.M. 2625C
4.70
269.56

Curb Grades University & Brant

North side

Sta	H.I.	Grade	Red
E.C.	269.56	265.29	2.27
P.V.C.		264.5	3.06
+20		264.1 L	3.46
+40		263.7 L	3.86
+60		263.1 L	4.46
E.V.C.		262.4 L	5.16
E.C. of South Return		261.78 L	5.78
BC		260.78	6.78

South side

E.C.		264.8	2.76
P.V.C.		263.6	3.96
+20		263.2	4.36
+40		262.7	4.86
+60		262.0	5.56
E.V.C.		261.1	6.46
E.C. of South Return		260.38	7.18
B.C.			7.18

N Allen Front Cut 0.74 Westside
Back " 0.88

52

S Allen Eastside Back - C 0.50

10' West of West Line of Brant

84.2 " " " " "

13.3' West of West Line Brant

W.

S 0.60

N 0.79

cb stakes East curve Univ. Branch

B.M. / 26800

	+414	272.14	Grade	Rod	
B.C.			265.9	6.24	✓
			265.63	6.51	✓
			265.35	6.79	
			265.08	7.06	✓
E.C.			264.8	7.34	✓

8-29-28.

J. C. Bliss

Drebert
Paumer

T 97.14

Curb Grades - T St. - 38th to 39th

	N	Rod	S	Rod
E Line 38th	93.0		92.0	
1+00	94.0	3.14	93.1	4.04 ✓
+20	94.3	2.84 ✓	93.3	3.84 ✓
+40	94.3	2.84 ✓	93.3	3.84 ✓
+60	94.2	2.94 ✓	93.2	3.94 ✓
+80	94.0	3.14 ✓	93.0	4.14 ✓
2+00	93.6	3.54 ✓	92.7	4.44 ✓
+20	93.0	4.14 ✓	92.2	4.94 ✓
+40	92.3	4.84 ✓	91.6	5.54 ✓
+60	91.5	5.64 ✓	90.9	6.24 ✓
+80	90.5	6.64 ✓	90.0	7.14 ✓
3+00	89.5	7.64 ✓	89.0	8.14 ✓
+20	88.3	8.84 ✓	87.8	9.34 ✓
+40	87.0	10.14 ✓	86.6	10.54 ✓
W. Line 39th	68.5	T 94.34	69.5	4.84

B. M. 38 inch T S.E B.P.

91.89
5.25
T 97.14

54

9-17-28 Grade stakes for Allers Block 2 S. Gurwell Hts.

J.C. Bliss
Drebert
Rauner

N & S Alley

Sta	East Line Grade	C-F.	West Line Grade	C-F.
SLine Palm-0+00	306.1		306.1	
0+20	306.3	C0.20	306.3	C0.45
0+40	306.2	C0.38	306.2	C0.25
0+60	305.8	C0.35	305.8	C0.14
0+93.5	304.65	C0.50	304.75	C0.40
1+27=N.Line-E-W Alley	303.5	C0.66	303.7	C0.20
1+43=SLine-E-W-A.	303.3	F0.16	303.5	C0.28
1+81.5	301.65	Grade	301.85	C0.44
2+20	300.0	C0.24	300.2	C0.13
2+40	2983	C0.24	298.5	C0.59
2+60	295.0	C2.03	295.2	C1.75
2+70 N Line Olive	293.1	V	293.25	V

B.M. S.W. B.P. Palm + 30+4 → 301.00 + 10.17 = 311.17

E	W	W	E
311.17	4.87	311.17	4.97
306.3	4.42	306.2	4.59
4.87	0.45	4.97	0.38
4.67		4.72	
0.20		0.25	

55

T.P. -5.03 306.14

+ 2.64 = 308.78

W	E	W		W	
308.78	2.98	308.78	308.78	308.78	308.78
305.8	26.3	304.75	304.65	303.7	303.5
2.98	C0.35	4.03	4.13	5.08	5.28
2.84		3.63	3.63	4.88	4.62
0.14		0.40	0.50	0.20	C0.66

W	E	W	W
308.78	308.78	308.78	308.78
303.5	303.3	301.85	300.2
5.28	5.48	6.93	8.58
5.00	5.64	6.49	8.45
C0.28	F0.16	C0.44	C0.13

T.P. -7.39 301.39

+ 2.94 = 304.33

E	E	E	E	E
304.33	304.33	304.33	304.33	304.33
301.65	300.00	298.3	295.0	298.1
2.68	4.33	6.03	9.33	11.23
	4.09	5.79	7.30	
	C0.24	C0.24	2.03	

W	W	
304.33	304.33	304.33
298.5	295.2	293.25
5.83	9.13	11.08
5.24	7.38	
C0.59	F1.75	

T.P.

East & West Alley

Sta	North Line		South Line	
0+00 = E Line N+S Alley	303.5	C0.66	303.3	F0.16
0+33.33	303.26	C0.79	303.06	C0.18
0+66.67	303.03	C0.56	302.83	C0.16
1+00	302.8	C1.40	302.6	Grade
1+40	301.95	C0.40	301.70	F0.18
1+80	301.14	C0.68	300.84	F0.40
2+20	298.45	F0.13	298.30	F0.07
2+60	295.8	F0.10	295.8	F0.57
2+92.5	297.0	C0.25	291.9	Grade
3+25	288.2	F0.12	288.0	F0.80
3+52.5	283.7	C1.62	283.5	F0.49
3+80	279.2	C3.03	279.0	F4.00

Alley Pt. 266.06 S from East Line N+S Alley

56

308.78

N	S	N	S	N	S
308.78	308.78	308.78	308.78	308.78	308.78
303.26	303.06	303.03	302.83	302.8	302.6
5.52	5.72	5.75	5.95	5.98	6.18
4.73	5.54	5.19	5.79	4.58	6.17
C0.79	C0.18	C0.56	C0.16	C1.40	0.0

308.78	308.78	N	S	N	S
301.95	301.70	308.78	308.78	308.78	308.78
6.83	7.08	301.1	300.8	298.45	298.30
6.42	7.26	7.68	7.98	10.33	10.48
C0.41	F0.18	7.00	8.38	10.20	10.55
		C0.68	F0.40	C0.13	F0.07

N
308.78
295.8
12.98
13.07

T.P. -13.07 295.69

+0.38 296.07

S			S	S
296.07	296.07	296.07	296.07	296.07
295.8	297.6	289.26	291.9	288.0
0.27	8.31	15.81	4.17	8.07
0.84	3.77	11.82	4.16	8.87
F0.57	4.54	4.00	C0	F0.80

S	N	N	N
296.07	296.07	296.07	296.07
283.5	297.0	288.2	283.7
12.57	4.07	7.87	12.37
13.06	3.82	7.99	10.75
0.49	C0.75	F0.12	C1.62

T.P. +0.77 286.09 -10.75 285.32

279.2	286.09	11.08
6.89	279.0	7.09
3.86	7.09	F4.00
C3.03		

9-22-28 Cut stakes for culvert #1 Alley
J.C. Bliss, Drebert + Rooner Block 2. S-Gurwell Hts.

			T 286.09	
		-0.97	285.12	
13.21	298.33			
		-1.78	296.55	
+12.04	308.59			
		-2.33	306.26	
+3.96	310.22			
B.M. SWBP. Palm +30ft		-9.28	300.94	
			301.00	

B.M. N Cut stake at Sta 3+52.5 - E+W Alley 285.32

+0.17

T 285 +9

B.M. Top post 6' Inside North Line Sta 3+75 -0.50 284.99

Sta	Grade	G. Rod	Rod	Cut
0+00	278.62	6.87	3.61	3.26
0+275	265.31	20.18 T 272.65	13.00	7.18
0+55 - Brk.	252.0	22.65 T 259.94	12.93	9.72
0+85	247.0	12.94	8.21	4.73
1+15	242.0	251.79 9.79	8.49	1.30

T.P.		-12.89	272.60
+0.05	272.65		
T.P.		-12.93	259.72
+0.22	259.94		
T.P.		-9.88	250.06
+1.73	251.79		

9-25-28
J.C. Bliss
Drabert
Routine

Cut stakes - Fern Glen - Draper
East to Alley

B.M. S.W. Top Hydrant Fern Glen & Draper 107.27
+12.35 114.62

Sta	N	Cut	S	Cut
0+00-El. Draper	101.0	L	101.0	L
0+45	104.5	C1.9	104.42	C4.0
0+90	108.	C1.0	107.83	C3.6
1+35	111.5	C0.3	111.25	C3.1
1+80	115.0	C0.1	114.66	C2.5
2+25	118.5	F0.2	118.07	F1.4
W.L. Alley	122.0	F0.5	121.5	F4.9

Alley - St. Fern Glen to Rushville

	E		W	
S.L. Fern Glen	121.3	F2.2	121.0	F4.4
N.L. Fern Glen	121.79	C1.8	121.5	Grade
+42.30	122.09	C0.7	121.87	F0.9
+84.60	122.39	C0.7	122.25	F0.8
+126.90	122.69	C1.5	122.62	F0.6
+169.2	123.0	C1.7	123.00	F0.4

4)42.3
10.6

5 — 114.62 — 101 — 13.62

2 — 114.62 — 104.42 — 10.20 — 6.2 — 4.0

5 — 114.62 — 107.83 — 6.79 — 3.2 — 3.6

5 — 114.62 — 111.25 — 3.31 — 0.3 — 3.1

N — 114.62 — 104.5 — 10.10 — 8.2 — 1.9

N — 114.62 — 108 — 6.6 — 5.6 — 1.0

N — 114.62 — 111.5 — 3.1 — 2.8 — C0.3

126.32 — 122.69 — 3.63 — 2.1 — 1.5

126.32 — 122.39 — 3.93 — 3.2 — 0.7

126.32 — 122.1 — 4.2 — 3.8 — C0.7

126.32 — 121.85 — 4.5 — 2.7 — 1.8

126.32 — 121.3 — 5.0 — 7.2 — 2.2

126.32 — 121.5 — 4.8 — 9.7 — 4.9

126.32 — 118.07 — 8.25 — 9.6 — F1.4

126.32 — 114.66 — 11.66 — 9.2 — C2.5

126.02 — 121.0 — 5.8 — 9.4

128.28 — 122.02 — 5.66 — 6.3 — F0.6

128.28 — 122.25 — 6.03 — 7.2 — F1.2

128.28 — 121.87 — 6.41 — 7.3 — F0.9

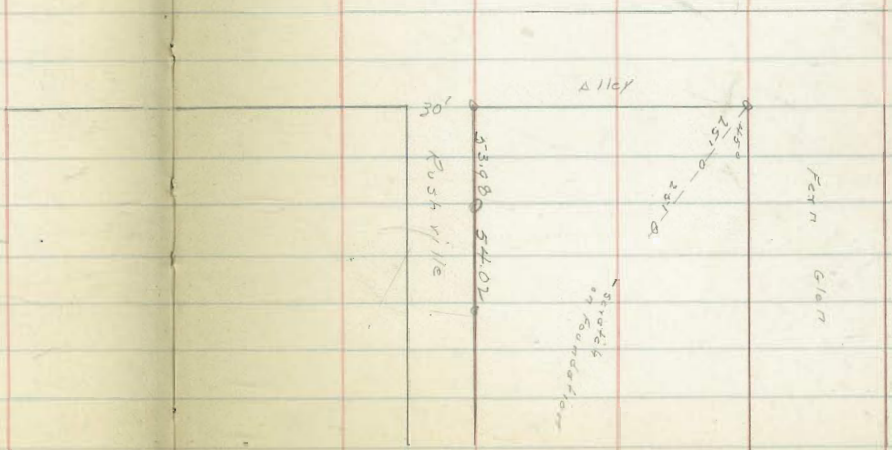
128.28 — 121.5 — 6.78

128.28 — 122.00 — 6.28 — C8

128.28 — 118.5 — 9.8 — 10.0

128.28 — 115.0 — 13.3 — 13.2

Ties on Areas - Fern Glen Alley & Rushville



Cut stakes on Rushville Draper E to Alley

π 114.62

Sta	N	Cut	S	Cut	
El. Draper	106.33	↓	105.8	↓	
0+30	106.8	C 0.6	106.5	0.1	
0+70	108.0	C 0.1	108.0	F 0.3	
1+10	110.6	F 0.1	110.5	C 0.4	
1+50	113.75	C 0.2	113.62	Grade	
1+90	116.90	C 0.4	116.75	Grade	
2+30	120.05	C 1.0	119.88	C 0.1	
2+70	123.2	C 0.3	123.0	F 0.4	
T.R				-0.30	114.32
+	112.00	126.32			
B.M. SW Iron Pipe Rushville Valley				-3.08	123.24
	+5.04	128.28			

S

114.62
105.8
8.82
80
C 0.1

S

114.62
106.5
8.12
80
C 0.1

S

114.62
108.0
6.62
6.9
F 0.3

114.62
110.5
4.12
3.7
C 0.4

114.62
113.62
1.0

114.62
106.33
8.29

114.62
106.8
7.8
7.2
C 0.6

114.62
108.0
6.62
6.5
C 0.1

114.62
110.6
4.0
4.1

114.62
113.75
1.87
80
C 0.2

S

126.32
116.75
9.57
9.60
00

S

126.32
119.88
6.44
6.3
C 0.1

S

126.32
123.0
3.32
3.7

N

126.32
116.90
9.42
9.0
00.4

N

126.32
120.05
6.27
5.3
C 1.0

126.32
123.2
3.12
2.8
C 0.3

Rushville Alley to Fay

Sta	N	Cut	S	Cut
E.L. Alley	124.5	C 2.1	12.35	C1.2
0+36.25	125.87	C.2.3	124.87	C1.8
0+72.50	127.25	C 2.7	126.25	C1.6
1+08.75	128.62	C2.4	12.762	C1.4
1+45=W.L Eads	130.0	C.1.6 C1.6	129.0	C.2.5 C2.5 Eads C.2.6
E.L Eads	131.5	C4.0	130.7	C1.9
+35	132.92	C4.8	132.3	C2.4
+7.0	134.35	C4.3	133.9	C0.7
1+05	135.77	C 1.3	135.5	F1.4
1+40	137.2	F0.1	137.1	F3.1
1+60	138.2	F1.8	138.2	F3.5
1+80	139.4	C1.8	139.6	F1.6
2+20	142.26	C1.5	142.73	F1.3
2+60	145.13	C1.0	145.87	C2.0
3+00=W.L. Fay	148.0	✓	149.0	✓

BM - 123.24 - S.W Tp Iron Pipe Alley & Rushville
1.31.9
136.43
10.86
-126.07 = B.M.

S 136.43 − 123.5 = 12.93 − 11.7 = C1.2

Alley 136.43 − 123.0 = 13.4 + 1.7 = 1.7

S 136.43 − 124.87 = 11.56 − 9.8 = C1.8

S 136.43 − 126.25 = 10.18 − 8.6 = C 1.6

S 136.43 − 127.62 = 8.81 − 7.4 = C1.4

S 136.43 − 129.0 = 7.43 − 4.9 = C 2.5

N 136.43 − 124.5 = 11.93 − 9.8 = 2.1

N 10.56 − 8.0 = C2.3

N 9.18 − 6.5 = 2.7

N 7.81 − 5.4 = C2.4

N 6.43 − 4.8 = 1.6

N 136.43 − 131.5 = 4.9 − 0.9 = 4.0

S 136.43 − 130.7 = 5.7 − 3.8 = C1.9

S 136.43 − 132.3 = 4.1 − 1.7 = C2.4

S 136.43 − 133.9 = 2.5 − 1.8 = C0.7

S 136.43 − 135.5 = 0.9 − 2.3 − 0.9 = F 1.4

137.1 − 136.43 = 0.7 − 2.4 = F3.1

138.2 − 136.43 = 1.8 − 1.7 = F2.5

Tp. 136.43 − 0.68 = 135.75 + 12.96 = 148.71

N 148.71 − 132.92 = 15.79 − 11.0 = 4.8

N 148.71 − 134.35 = 14.36 − 1.01 = 4.3

N 148.71 − 135.77 = 12.94 − 11.6 = 1.3

N 148.71 − 137.2 = 11.51 − 11.6 = F0.1

N 148.71 − 138.2 = 10.5 − 12.3 = F 1.8

N 148.71 − 139.4 = 9.3 − 7.5 = 1.8

N 148.71 − 142.26 = 6.45 − 4.9 = C1.5

N 148.71 − 145.13 = 3.58 − 2.6 = 1.0

N 148.71 − 148.0 = 0.71

S 148.71 − 145.87 = 2.84 − 0.8 = 2.0

S 148.71 − 142.73 = 6.0 − 7.3 = 1.3

S 148.71 − 139.6 = 9.1 − 10.6 = F 1.5

Alley Rushville to Arenas

	E	Cut	W	Cut
N.L. Rush	124.0	C 2.6	123.3	C 0.2
0+45	124.42	C 2.2	124.1	C 1.0
0+90	125.2	C 1.7	124.9	C 0.3
1+10	125.3	C 1.6	125.0	Grade
1+30	125.0	C 1.4	124.7	Grade
1+60 S.L. Arenas	124.3	C 1.7	124.0	C 0.2
N.L. Arenas	123.8	C 1.6	123.5	F 0.2

Arenas - Draper to Alley

	N	Cut	S.	Cut
E.L. Draper	110.5		110.5	✓
0+45	112.67		112.75	C 0.1
0+90	114.84	C 0.7	115.00	C 0.2
1+35	117.01	C 1.0	117.25	Grade
1+80	119.18	C 0.2	119.50	C 0.6
2+25	121.35	C 0.3	121.75	C 0.6
2+70	123.5	F 0.2	124.0	C 0.2

B.M. Alley & Rushville 123.24

4.42

127.66

4.01

128.65 ✓ S.W. 25 Tic Arenas & Alley

N	W	W	W	W
127.66	127.66	127.66	127.66	127.66
124.1	124.9	125.0	124.7	124.0
3.56	2.76	2.66	2.96	3.66
2.6	2.5	2.7	2.9	3.5
1.0	0.3			C 0.2

E	E	E	E	E
127.66	127.66	127.66	127.66	127.66
124.42	125.2	125.3	125.0	124.3
3.24	2.46	2.36	2.7	3.36
1.0	0.8	0.8	1.3	1.7
C 2.2	1.7	1.6	1.4	1.7

E
127.66
123.8
3.86
2.3
1.6

N	N	N	N	N
127.66	127.66	127.66	127.66	127.66
123.5	121.35	119.18	117.01	114.84
4.16	6.30	8.48	10.65	12.82
4.3	6.0	8.3	9.6	12.1
F 0.2	0.3	0.2	1.0	0.7

127.66	127.66	127.66	127.66	127.66
112.67	110.5	121.15	119.50	117.25
13.0	17.16	5.91	8.16	10.41
14.1		5.3	7.6	10.4
C 0.9		C 0.6	C 0.6	0.0

127.66	T.P.		127.41	115.25
115.0				
12.66	+2.82	118.07		
12.41				
C 0.2				

B.M. S.E. B.P. Arenas & Draper - 7.77 110.30

118.07
115.75
5.32
5.2
C 0.1

9-28-28 Cut stakes College Street
J.C. Bliss Prospect Place to 350 East
Drebert
Rauner

B.M. N.E.B.P. Prospect & College 187.88

Sta	N	Cut	S	Cut
E.L. Prospect	188.0	F1.0	191.0	
0+40	185.80	F1.0	186.80	C5.3
0+90	183.05	F0.5	184.05	C6.3
1+40	180.30	C0.6	181.30	C5.7
1+80	177.20	C0.9	178.20	C7.4
2+20	173.00	F0.3	174.0	C9.0
2+33.3	167.5	F2.4	168.5	C7.8
3+06.66	162.0	F1.9	163.0	C4.2
3+50	156.5	F1.5	157.50	E1.0

182.5
181.09
182.

187.88
3.67
191.55
182.51
9.04

Fire Hydrant 5' E & E.L. Prospect

B.M. N.E.B.P. Prospect & College 187.88
+7.15 195.03
Cb. Grade opposite fire hydrant 190.48 C.30
188.73 C.30
Grade 00

187.88
4.30
192.38

167.76
2.59
165.17

B.M. - 165.17
Hub South
side near
sta 3406

83

	N			
	192.38	192.38	192.38	192.38
	188.0	185.80	183.05	180.30
	4.38	6.58	9.33	12.08
	5.4	7.6	9.8	11.5
	F1.0	F1.0	F0.5	C0.6

	S				
	192.38	192.38	192.38	192.38	192.38
	191.0	186.80	184.05	181.3	178.2
	1.38	5.58	8.33	11.08	14.18
		0.8	2.0	5.4	6.8
		5.3	6.3	5.7	7.4

	S			N	N
	192.38	192.38	179.44	179.44	179.44
	174.0	T.P. 13.15	16.85	177.20	173.00
	18.38	179.23	10.94	2.24	6.44
	9.4	+ 0.21	3.1	1.3	6.7
	9.0	179.44	C7.8	C0.9	F0.3

	S		S	N	N
	179.44	179.44	167.76	167.76	167.76
	163.0	-12.23	157.50	167.5	162.0
	16.44	167.21	10.26	0.26	5.8 .77
	1.72	+ .55	9.2	.5	7.7 3.9
	C4.2	167.76	C1.0	2.7	1.9
				2.4	

167.76
156.5
11.26
12.7
F1.5

165.76
156.5
182.26

B.M. 165.17
+ 13.05
H.I. 178.22
- 0.91
T.P. 177.31
+ 11.87
H.I. 189.18
- 1.91
T.P. 187.27
+ 5.98
H.I. 193.25
5.38
B.M. 187.87 = N.E.B.P. Prospect & College
187.88

190
186.8
4 | 2.2
0.55

195.0
186.8
8.2
2.9
5.3

189.0
.55
188.45

Grades for Inlet #1 + Culvert #1
350' N of Prospect

Sta	Grade Cut	165.17
West end Inlet	158.5	F 0.32
East " "	158.5	F 0.98
0+00 Flow Line Inlet	151.6	C 5.92
0+29	149.15	C 5.12
0+58	147.1	C 2.93

165.17
0.23
165.40

165.40
158.5
6.9
7.22
F 0.32

165.40
147.1
18.30
5.37
2.93

18.18
2.19
15.37

7.88
6.9
0.98

165.40
151.6
13.80
7.88
5.92

165.40
149.15
16.25
11.13
5.12

10-2-28
J. C. Bliss

Grades - College Ave - Exchange to Ave Ivanhoe

Sta	N	Cut	S	Cut
W. L. Exch.	183.0		185.0	
0+52	182.0		183.7	
1+04	181.0		182.4	
1+56	180.0		181.10	
2+08	179.0		179.80	
2+60	178.0	F1.7	178.50	
3+00	175.5	F1.5	176.25	C1.9
3+40	173.0	F0.2	174.0	C1.8
3+80	170.5	0.0	171.75	C3.1
4+20	168.0	C0.5	169.50	C1.8
4+60	165.5	C0.3	167.25	C3.4
5+00 = E.L. Ivanhoe	163.0	C1.7	163.3	5.8

Ivanhoe - College to Terrace

	E	Cut	W	Cut
S.L. College	163.8	C.5.3		
N.L. College	162.0	C.2.2	161.0	F1.4
0+35	160.87	C.2.9	159.62	F1.4
0+70	159.75	C.2.8	158.25	F2.3
1+05	158.67	C.1.4	156.87	F1.5
1+40 S.L. Bluebird	157.5		155.5	F0.5
1+60 N.L. "	157.0		155.1	F0.2
1+95	156.25	C0.8	154.32	F0.3
2+30	155.50	C.0.8	153.55	F0.2
2+65	154.75	C0.9	152.77	F0.2
3+00 = S.L. Terrace	154.0		152.0	

B.M. 185.01 + 0.14 = 185.15 - S.W. cor. College & Ave.

35

T 185.15

N	N	N	S	S
185.15	185.15	185.15	185.15	185.15
178.0	175.5	178.0	178.5	176.75
7.15	9.65	12.15	6.65	8.90
8.9	11.4	12.3		7.0
F1.75	F1.5	F0.2		C1.9

S	S	S
185.15	185.15	185.15
174.0	171.75	169.50
11.15	13.40	15.65
9.4	10.1	13.9
C1.8	2.1	1.8

T.P. -12.37 172.78

+0.13

T 172.91

N	N	N	N	S	S
172.91	172.91	172.91	172.91	172.91	172.91
170.5	168.0	165.5	163.0	167.26	163
2.41	4.9	7.4	9.9	5.66	9.6
2.4	4.4	7.1	8.7	7.3	38
0.0	C0.5	C0.3	1.2	C3.4	5.8

Ivanhoe

E	E	
172.91	172.91	172.9
162.0	160.87	163.8
10.91	12.0	9.1
8.7	9.1	3.8
C2.2	C2.9	5.3

T.P. -12.39 160.52

+0.97 T 161.49

B.M. N.W. 100' Tie College & Ivanhoe -.763 153.86

W	W	W	W	W	W	W
161.5	161.5	161.5	161.5	161.5	161.5	161.5
159.6	158.2	156.9	153.5	153.1	154.3	153.5
1.9	3.3	4.6	6.0	6.4	7.2	8.0
3.3	5.6	6.7	6.5	6.6	7.5	8.2
F1.4	F2.3	F1.5	F0.5	F0.2	F0.3	F0.2

W	W	W	E	E		
161.5	161.5	161.49	161.5	161.5	161.5	161.5	161.0
152.3	152.0	154.0	154.7	155.5	156.3	158.6	159.8
8.7	9.49	7.79	6.8	6.0	5.2	2.9	1.2
8.9	Return 9.57	7.55	5.9	5.2	4.4	1.5	4.4
F0.2			C0.9	C0.8	C0.8	C1.4	C2.8

Grades - College - Ivanhoe to High

Sta	N.	Cut	S	Cut Ivanhoe 2.6 College 3.1
			163.74	
W. L. Ivanhoe	160.50	F 0.9	162.0	C 2.7
0+50	157.80	0.0	159.10	C 0.5
1+00	154.70	C 0.4	156.20	C 2.6
1+50	151.80	C 0.3	153.30	C 2.1
2+00	148.90	C 1.3	150.40	C 2.2
2+50	146.0	C 1.1	147.50	C 1.9
3+00	143.10	C 1.1	144.60	C 4.2
3+50	140.20	C 0.3	141.70	C 4.9
4+00	137.30	C 0.2	138.80	C 4.3
4+50	134.40	C 0.1	135.90	C 2.0
5+00 E. High	131.50 on 4.94	C 0.6 C 0.1	133.0	C 0.6

Fire Hydrant Ivanhoe & College

B. M. N.W. 100' Tie Ivanhoe & College 153.86

+12.58 166.44

Cb Grade opposite Hydrant 163.58 Rod 2.86

B. M. - S.W. S.P. College & Exchange 185.01

+ 0.01 185.02

Grade 240' East of Ivanhoe and Side 178.0

Rod 7.02

B.M. 153.86 - N.W. 100 Tie College & Ivanhoe
12.90
166.76

06

N	N	N	N	S
166.76	166.76	166.8	166.8	166.8
160.50	161.0	157.8	154.7	163.7
6.26	5.76	9.0	12.1	3.1
7.2	7.2	9.0	11.7	0.0
F 0.9	F 1.4	0 0	0.4	C 3.1

S	S	S	S
166.8	166.8	166.8	166.8
162.0	159.1	156.2	153.3
4.8	7.7	10.6	13.5
2.1	7.2	8.0	11.4
C 2.7	C 0.5	C 2.6	C 2.1

T.P. - 12.37 154.39

+0.00 T 154.39

S	S	S	S	S	N
154.4	154.4	154.4	154.4	154.4	154.4
150.4	147.5	144.6	141.7	138.8	151.8
4.0	6.9	9.8	12.7	15.6	2.6
1.8	5.0	5.6	7.8	11.3	2.3
C 2.2	C 1.9	C 4.2	C 4.9	4.3	C 0.3

N	N	N
154.4	154.4	154.4
148.9	146.0	143.1
5.5	8.4	11.3
4.2	C.7	10.2
C 1.3	1.7	C 1.1

T.P. - 13.12 141.27

+1.09 142.36

N	N	N	N	S	
142.4	142.4	142.4	142.4	142.4	142.4
140.2	137.3	134.4	131.5	135.9	133.0
2.2	5.1	8.0	10.9	6.5	9.4
1.9	4.9	7.9	10.3	4.5	8.8
C 0.3	C 0.2	C 0.1	C 0.6	C 2.0	C 0.6

B.M. - 4.35 138.01

College Ave - High - North to
High South

			South Line	
W. Std	N	Cut	S	Cut
℄ High			131.5	C 0.1
W. L. High			130.0	F1.1
1			127.75	F1.1
2			125.50	F0.7
3			123.25	C.0.2
4 Angle Pt			121.0	F2.1
E. L. High			119.0	F1.0

			North	
W. L. High.	128.50	F0.4	on High	Cut 0.1
1	126.0	F0.3		
2	123.5	F0.5		
3 Angle Point	121.0	C0.1		
E. L. High				

Fire Hydrant - High & College. S.E. - 5" E of E. L. High

B. M. S.W. 50' Tie High & College 115.73

+3.87 119.60

Cb Grade opposite Hydrant 119.33 0.27-Rd

T. P. -11.60 108.00

+1.99 109.99

8m 138.01
0.50
138.51

T 138.51

S	S	S	N	N
138.51	138.5	138.5	138.5	138.5
131.5	130.0	127.8	128.5	126.0
7.0	8.5	10.7	10.0	12.5
6.9	9.6	11.8	10.4	12.8
C0.1	F1.1	F1.1	F0.4	F0.3

T.P. -1.18 125.33

+0.30

T 125.63

N	N	S			
125.6	125.6	125.6	125.6	125.6	125.6
123.5	121.0	125.5	123.2	121.0	119.0
2.1	4.6	0.1	2.4	4.6	6.6
2.6	4.5	0.8	2.2	6.7	7.6
F0.5	C0.1		C0.2	F2.1	F1.0

High St- College to Pearl

	E	C	W	Cut
S.L. College	118.0	0.0	117.0	F0.6
+40	116.69	F1.1	115.69	F0.2
+80	115.89	F1.1	114.89	F1.1
+120	115.63	F1.3	114.63	F4.2
+160	115.80	C0.5	114.80	F2.1
+200	116.51	C1.5	115.51	F1.0
+240	117.74	C2.1	116.74	C0.5
+290	119.59	C2.9	118.59	C0.2
+340	121.44	C2.4	120.44	F1.1
+390	123.29	C3.3	122.29	F1.0
+440	125.14	C3.0	124.14	F0.2
+490=N.Pearl	127.0	✓	126.0	✓

W Inlet Torch 114.67

E " " " 115.67

T 125.63

E			E Inlet	
125.63	125.6	125.6	125.63	13.26
118.0	116.7	115.9	113.67	9.96
7.63	8.9	9.7	9.96	F 3.30 S.End
	10.0	11.4	13.10	
	F1.1	F1.7	F3.14 N.End	

E	E			
1256	1256	125.6	125.6	125.6
115.8	116.5	117.7	119.6	121.4
9.8	9.1	7.9	6.0	4.2
11.4	9.4	7.7	5.8	3.1
F1.6	F2.3	C0.2	C0.2	C1.1

B.M. S.W. 50' Tie College + High −9.90 115.73

+6.93

122.66

			Inlet N.E.	11.70
122.7	122.7	122.7	122.66	7.99
117.0	115.1	114.9	114.67	
5.7	7.0	7.8	7.99	F 3.71 - S. End
6.3	7.7	8.9	10.44	
F0.6	F0.7	F1.1	F 2.45 - N. End	

122.7	122.7	122.7	122.7	122.7	122.7
114.6	114.8	115.5	116.7	118.6	120.4
8.1	7.9	7.2	6.0	4.1	2.3
17.3	10.0	8.7	5.5	3.9	3.4
4.2	2.1	F1.0	C0.5	C0.2	F1.1

122.7	129.5	129.5	129.47
122.3	123.3	125.1	127.0
0.4	6.2	4.4	2.47
1.4	2.9	1.4	
F1.0	C3.3	3.0	

T.P. −0.09 122.57

+6.90 129.47

129.5
124.1
5.4
5.6

B.M. S.W. Be P. Pearl & High −2.28 127.19

127.18

Ivanhoe East S.E.B.P 1152.03

69

129.5	129.5	129.5	129.5
121.4	119.6	117.7	116.3
8.1	9.9	11.8	13.0
5.7	7.0	9.7	11.5
C2.4	C2.9	C2.1	C1.5

129.5	129.5	129.5
115.8	115.6	115.9
13.7	13.9	13.6
13.2	15.2	15.2
C0.5	F1.3	F1.6

High to 400' south of Pearl

Sta	E	C	W	C
S.L. Pearl	128.0		127.0	
0+30	130.40	C.3.7	129.40	C0.4
0+70	133.0	C2.8	132.0	F0.2
1+10	134.80	C.2.2	133.80	F0.2
	136.42	C3.0	135.42	F0.4
	138.03	C3.3	137.03	C0.3
	139.65	C3.0	138.65	F0.7
	141.27	C.2.5	140.27	F0.6
	142.88	C3.1	141.88	F1.2
	144.50	C3.0	143.50	F1.9

Fire Hydrant - S.E. Pearl & High

Cb Grade - 5' S of S.L. Pearl on East side 128.40

4' Back stake set.

B.M. 127.18 - S.W.B.P. Pearl & High

5.52

132.70

128.40

4.30

3.75

C 0.55

B.M. 127.18 - S.W.B.P. Pearl & High

1.80

139.98

W	W	W	W	W	W
139.98	140.00	140.00	140.00	140.00	140.00
127.0	129.40	132.0	133.8	135.4	137.0
12.98	10.60	8.00	6.2	4.6	3.0
	10.2	8.2	6.4	5.0	2.7
	C0.4	F0.2	F0.2	F0.4	C0.3

W	W	E	E	E
140.00	140.00			
138.6	140.3	139.98	140.00	7.0
1.4	+0.3	128.0	130.4	42
21	+0.3	11.98	9.6	C2.8
F0.7	F0.6		5.9	
			C3.7	

E 5.2
3.0
C 2.2

E 3.6
0.6
3.0

T.R. -0.59 139.39

11.78

150.67

E	E	E	E	E	E
150.70	150.7	150.7	150.7	150.7	150.7
138.0	139.6	141.3	142.9	144.5	143.5
12.7	11.1	8.4	7.8	6.2	7.2
9.4	8.1	5.9	4.7	C3.0	9.1
C3.3	C3.0	C2.5	C3.1		F1.9

150.7
141.9
8.8
10.0
F1.2

B.M. Keeled Rock East side 0.79 149.88

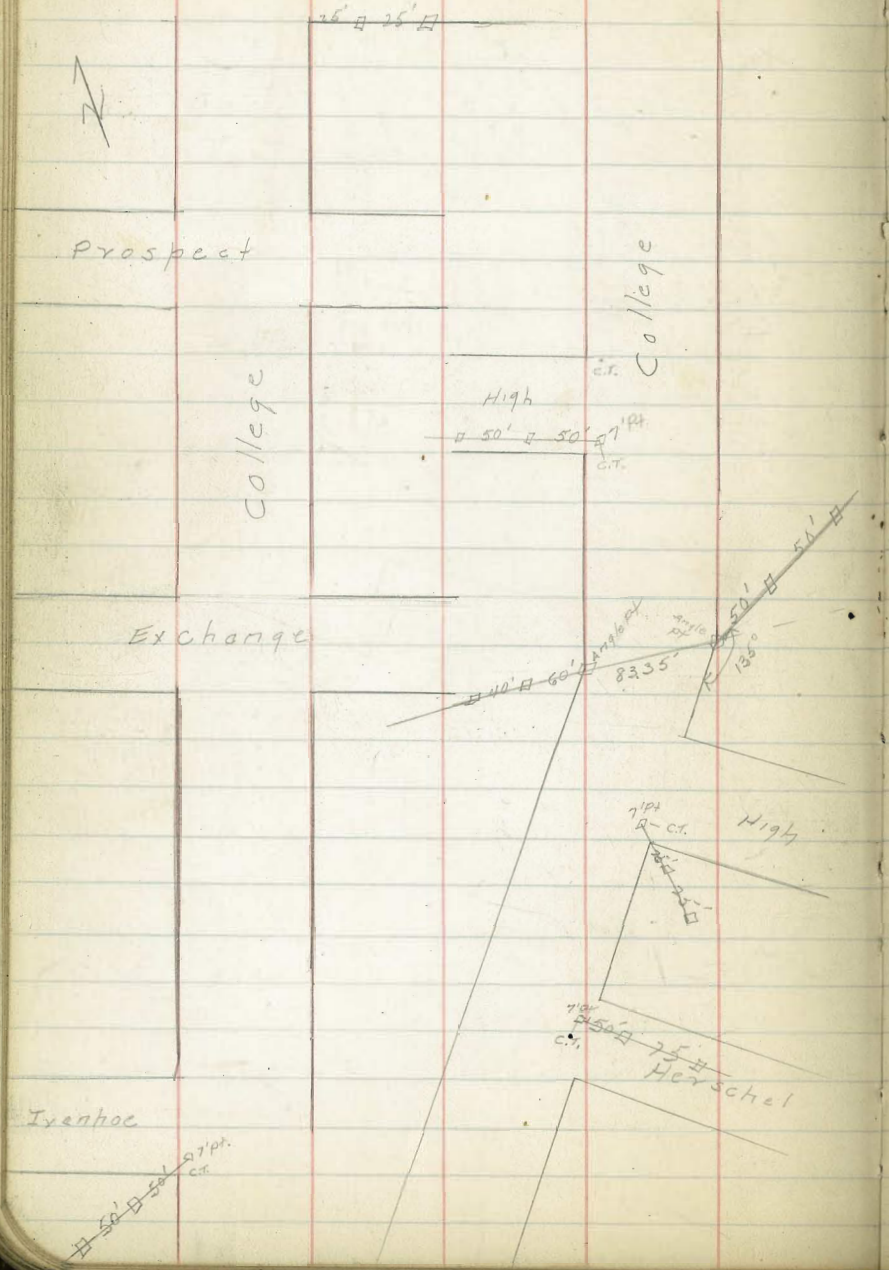
T.P. -13.17 137.50

10.38 137.88

B.M. S.W.B.P. Pearl & High -10.68 127.20

127.18

Ties for High - College etc.



West Peak of Roof on Frame Duplex

Grades Culvert #2

	Grade	Cut
EL. High	111.5	C 1.43
& "	110.75	C 2.40
W. L. High	110.0	C 2.49

B.M. 115.13 - S.W. 60' Tie High H. College
3.50
119.23

72

119.23 − 110.0 = 9.23
9.23 − 2.49 = 6.74

119.23 − 110.75 = 8.48
8.48 − 2.40 = 6.08

119.23 − 111.5 = 7.73
7.73 − 6.30 = 1.43

College – High to Terrey Road

N.L.

Sta	G	Cut			
Sta	G	Cut	119.50	119.50	
L Point opp	121.0		118.5	116.0	
			1.0	3.5	
1	118.47	C0.5	0.5	3.1	
			C0.5	C0.4	
2	115.95	C0.4	119.50	119.50	119.50
			113.4	110.9	108.4
3	113.47	C0.6	6.1	8.6	11.1
			5.5	8.3	11.5
4	110.90	C0.3	C0.6	C0.3	F0.4
5	108.37	F0.4	106.9	106.9	106.9
			105.9	107.9	100.0
6 2+77.13	105.85	C0.6	1.0	4.0	6.9
			0.4	3.8	6.2
1	102.92	C0.2	C0.6	C0.2	C0.7
2+87+13	100.0	C0.7	106.9	106.9	106.9
W.L. Herschel	99.21	C1.3	99.2	98.4	97.6
			7.7	8.5	9.3
1	98.41	C3.7	6.4	4.8	7.9
			1.3	3.7	C1.4
2	97.61	C1.4	106.9	106.92	
			96.8	96.0	
3	96.80	C1.4	10.1	10.92	10.84
nf Terrey	96.00	↓	8.7		
			C1.4		

Fire Hydrant S.E. Herschel & College

T 110.00

Cb Grade opposite Hydrant 102.77 Rod 7.23

B.M. 115.43 = S.W. 50' T.C. High & College

377
119.50

106.38
0.54
106.92

T.P. 13.12
106.38 S.L.

11.5

Sta	G	Cut				
Sta	G	Cut	119.50	119.50	119.50	
N.L. High	117.0	F0.6	117.6	114.6	112.2	
			2.50	4.9	7.3	
1	114.57	C0.5	3.1	4.4	6.7	
			F0.6	C0.5	C0.6	
2	112.16	C0.6	119.5	119.5	106.9	
			109.7	107.3	104.9	
3	109.74	C0.4	9.8	12.2	2.0	
			9.4	11.5	2.1	
4	107.33	C0.7	C0.4	C0.7		
5	104.91	F0.1				
6 E.L. Hers.	102.50	C0.4		106.9		
				107.5	106.9	
W.L. Herschel	100.50	F0.4		4.4	100.5	
				4.0	6.4	
1	99.66	C0.1		C0.4	2.8	F0.4
					106.9	
2	98.82	C0.6		106.9	98.8	
				99.7	8.1	
3	97.97	C0.2		7.2	7.6	
				7.1	C0.5	
4 Terrey	97.13	↓		C0.1		
			106.9	106.92		
			98.0	97.13		
			8.9	9.79		
			8.7			
			C0.2			

B.M. 284.99

0.81 285.30

Catch basin -6.18

279.12

N 279.2 C3.03 283.20 C1.61

S 279.0

T 285.30

285.30 279.20 6.10 3.03 C 3.07

285.30 288.70 1.60 4.01 C 1.61

T.P. -1.22 284.08

+12.33 T 296.41

307.03 303.26 3.77 3.06 C 0.71

307.03 303.3 3.73 3.94 F 0.20

307.03 3.80 T.P 303.13 2.73 305.86

T 305.86

305.86 295.2 10.66 9.06 1.60

305.86 295.2 10.66 8.98 1.68

305.86 295.0 10.86 8.98 1.88

305.86 298.5 7.36 6.90 C 0.46

305.86 298.3 7.56 7.47 C 0.10

305.86 300.00 5.86 5.76 C 0.10

305.86

296.41 288.2 8.21 8.33 F 0.12

296.41 288.0 8.41

296.41 292.0 4.41 4.18 C 0.23

296.41 291.9 4.51 4.52

296.41 295.8 .61

T.P. -0.51 295.90

+11.13 307.03

307.03 298.45 8.58 8.70 F 0.12

307.03 298.30 8.73 8.80

307.03 300.8 6.23 6.48 F 0.40

307.03 301.1 5.93 5.30 C 0.63

307.03 301.45 5.08 4.69 F 0.39

307.03 301.70 5.33

307.03 301.70 5.33 5.53 F 1.20

307.03 302.6 4.43

307.03 302.8 4.23 2.85 1.38

307.03 303.03 4.00 3.49 C 0.51

307.03 302.83 4.20 4.08 C 0.13

307.03 303.06 3.97 3.84 C 1.14

10-11-28
J.C. Bliss
Drebert
Routier

Grades Alley Block 2
Washington Hts.

Sta	E	G	W	G
S.L. Montecito	270.6		270.65	
+33.33	270.9	C0.21	271.0	C0.50
+66.67	271.2	F0.21	271.35	C1.30
1+00	271.5	F0.37	271.7	C0.20
1+20	271.6	F0.43	271.8	C0.22
1+40	271.4	F0.13	271.7	C0.42
1+80	270.89	F0.23	271.21	C0.41
2+20	270.38	F0.56	270.72	F0.04
2+60	269.86	C1.0	270.23	C0.50
3+00=N.L. Lewis	269.35	✓	269.75	✓

B.M. 275.49 − 2.83 = 272.66 − 7.77 = T. 270.55

S.W.B.P. Jackson + Montecito
270.55 + 5.87 = 276.42

75

T 276.42

E	E	E	E	E
276.42	276.42	276.42	276.42	276.42
270.9	271.2	271.5	271.6	271.4
5.52	5.22	4.92	4.82	5.02
5.31	5.43	5.29	5.25	5.15
C0.21	F0.21	F0.37	F0.43	F0.13

W	W	W	W	W
276.42	276.42	276.42	276.42	276.42
271.0	271.35	271.7	271.8	271.7
5.42	5.07	4.72	4.62	4.72
4.92	3.77	4.52	4.40	4.30
C0.50	C1.30	C0.20	C0.22	C0.42

T.P. −5.02 = 271.40

+369

T 275.09

E	E	E	E
275.09	275.09	275.09	275.09
270.89	270.38	269.86	269.35
4.20	4.71	5.23	5.74
4.43	5.27	4.23	5.73
F0.23	F0.56	C1.0	

529

275.09	275.09	275.09	275.09
269.75	270.23	270.72	271.21
5.34	4.86	4.37	3.88
	4.36	4.41	3.47
	C0.50	F0.04	C0.41

T.P. −5.44 = 269.65

+351 273.16

B.M. N.W.B.P. Lewis + Ibis −7.10 = 266.06

266.01

10-17-28 Alley Block 460
J.C. Bliss Winders Sub
Drebert
Mattoon

Sta	N	G	S	G
Pueblo Line	270.3	C1.98	270.0	C0.56
1	272.05	C1.45	271.75	F0.24
2	273.80	C1.15	273.50	F0.10
3	275.55	C0.58	275.25	C0.57
4	277.30	C0.07	277.0	C0.82
+30	278.1	C0.26	277.8	C0.53
+60	278.5	C0.03	278.2	C0.17
+90	278.4	C0.13	278.1	C0.14
1+20	278.0	C0.23	277.7	C0.48
1+60	277.3	C0.15	277.0	F0.09
1	276.03	C0.60	275.73	F0.13
2	274.76	F0.20	274.46	F0.15
3	273.5	Grade	273.2	F0.76
+30	272.15	F00.4	271.9	F0.05
+60	270.8	C0.74	270.6	C1.49
W.L. Rite	267.9		267.7	

π 281.30

N 281.30 / 274.76 / 6.54 / 6.74 / F0.20

N 281.30 / 278.5 / 7.80 / 279.00

S 281.30 / 273.7 / 8.10 / 8.36 / F0.26

S 281.30 / 271.9 / 9.40 / 9.45 / F0.05

N 281.30 / 272.15 / 9.15 / 9.19 / F00.4

281.30 / 270.8 / 10.50 / 9.76 / C0.74

S 281.30 / 270.6 / 10.70 / 9.21 / C1.49

N 281.30 / 267.9 / 13.40

B.M. N.S.P. Middletown Add & Sutter
269.38
6.17
275.55

76

N 275.55 / 270.3 / 5.25 / 3.27 / C1.98

S 275.55 / 270.0 / 5.55 / 4.99 / C0.56

S 275.55 / 271.75 / 3.80 / 4.04 / F0.24

N 275.55 / 272.05 / 3.50 / 2.05 / 1.45

S 275.55 / 273.50 / 2.05 / 2.15 / F0.10

T.P. +7.16 -0.41 275.14

π 282.30

N 282.30 / 273.80 / 8.50 / 7.35 / C1.15

N 282.30 / 275.55 / 6.75 / 6.17 / C0.58

S 282.30 / 275.25 / 7.05 / 6.48 / C0.57

S 282.30 / 277.0 / 5.30 / 4.48 / C0.82

S 282.30 / 277.8 / 4.50 / 3.97 / C0.53

N 282.30 / 277.30 / 3.00 / 4.93 / C0.07

N 282.30 / 278.1 / 4.20 / 3.94 / C0.26

S 282.30 / 278.2 / 4.10 / 3.93 / C0.17

T.P. -3.75 278.55

+4.94 283.49

N 283.49 / 278.5 / 4.99 / 4.96 / C0.03 or 6.

N 283.49 / 278.4 / 5.09 / 4.96 / C0.13

S 283.49 / 278.1 / 5.39 / 5.25 / C0.14

S 283.49 / 277.7 / 5.79 / 5.31 / C0.48

N 283.49 / 278.0 / 5.49 / 5.26 / C0.23

T.P. -6.23 277.26

4.04 π 281.30

N 281.30 / 277.3 / 4.00 / 3.85 / C0.15

S 281.30 / 277.0 / 4.30 / 4.39 / F0.09

S 281.30 / 275.73 / 5.57 / 5.70 / F0.13

N 281.30 / 276.03 / 5.27 / 4.67 / C0.60

S 281.30 / 274.46 / 6.84 / 6.99 / F0.15

T 281.30

T.P.		−2.93	278.37
	+3.86	282.23	
B.M. N.B.R. Middletown Add. at Sutter		−12.82	269.41
			269.38

10-17-28
J.C. Bliss
Drebert
Mathoon

Alley Block 32. University Heights

Sta	E	G	W	G
St. Van Buren	340.80	✓	340.4	✓
+10	341.0	C 0.47	340.6	C 0.90
+30	341.1	C 0.83	340.8	C 0.64
+50	340.9	C 0.36	340.6	C 0.22
+85	340.25	C 0.61	339.95	C 0.33
1+20	339.60	C 0.40	339.30	C 0.36
1+55	338.95	C 0.42 ✓	338.65	C 1.32 ✓
1+90	338.3	C 0.29 ✓	338.0	C 0.28 ✓
2+20	337.36	C 0.52 ✓	337.0	C 0.29 ✓
2+50	336.43	C 0.30 ✓	336.0	C 0.24 ✓
2+80	335.5	F 0.03 ✓	335.0	F 0.03 ✓
3+15	333.5	F 0.31 ✓	333.0	C 0.31 ✓
3+50	331.5	F 2.63 ✓	331.0	C 0.38 ✓
1	330.47	F 0.81 ✓	329.97	C 0.30
2	329.44	F 0.10 ✓	328.94	Grade
3	328.40	C 1.09 ✓	327.90	C 1.0 ✓
4	327.37	C 2.71	326.87	F 3.54

Sta	E	G	W	G
5	326.33	C 4.30 ✓	325.83	F 1.04 ✓
6	325.3	C 1.59 ✓	324.8	F 0.67 ✓
+40	324.7	C 3.61 ✓	324.2	F 0.30 ✓
+20	323.7	C 2.63 ✓	323.1	C 2.67 ✓
+80	322.4	C 4.18 ✓ C 2.38 Top of 305 Alley	321.6	C 1.37
N.L. Tyler	321.0		319.4	C 1.74

B.M. SE. B.R. Van Buren & Cleveland 336.95

+9.63 T 346.58

E	W	E	W	W	E
346.58	346.58	346.58	346.58	346.58	346.58
340.80	340.4	341.0	340.6	340.8	340.25
5.78 ✓	6.18	5.58	5.98	5.78	6.33
		5.11	5.08	5.14	5.72
		C0.47		C0.64	C0.61

E	E	W	W C0.90	E
346.58	346.58	346.58	346.58	346.58
341.1	340.9	340.6	339.95	340.25
5.48	5.68	5.98	6.63	6.33
4.65	5.32	5.76	6.30	5.72
C0.83	C0.36	C0.22	C0.33	C0.61

E	W	W	E	E
346.58	346.58	346.58	346.58	346.58
339.60	339.30	338.65	338.95	338.3
6.98	7.28	7.93	7.63	8.28
6.58	6.92	6.61	7.21	7.79
C0.40	C0.36	1.32	C0.42	C0.29

W	W	W		
346.58	346.58	346.58	T.P −9.92	336.66
338.0	337.0	337.36	+4.76	341.42
8.58	9.58	9.22		
8.30	9.29	8.90		
C0.28	C0.29	C0.32		

T 341.42

W	E	E	W
341.42	341.42	341.42	341.42
336.0	336.43	335.5	335.0
5.42	4.99	5.92	6.42
5.18	4.69	5.95	6.45
C0.24	C0.30	F0.03	F0.03

T 341.42

W
341.42 T.P. -7.74 333.68
333.0
8.42
8.11
C0.31 +0.31 333.99

T 333.99

333.99	333.99	333.99	333.99	333.99
333.5	331.5	331.0	329.97	330.47
0.49	2.49	2.99	4.02	3.52
0.80	5.12	2.61	3.72	4.33
F0.31	F2.63	C0.38	C0.30	3.52
				F0.81

333.99	333.99	333.99	333.99
329.44	328.94	327.90	328.40
4.55	5.05	6.09	5.59
4.65		5.09	4.50
F0.10		C1.0	1.09

T.P. -6.29 327.70

+3.85 331.55

331.55	331.55	331.55	331.55	331.55
327.37	326.87	325.83	326.33	325.3
4.18	4.68	5.72	5.22	6.25
1.47	8.27	6.76	0.92	4.66
C2.71	4.68	F1.04	C4.30	C1.59
	F3.59			

331.55	331.55	331.55	331.55
324.8	324.2	323.1	324.7
6.75	7.35	8.45	6.85
7.47	7.65	5.78	3.24
C0.72	F0.30	C2.67	C3.61
F0.67			

331.55	T.P.	-6.38	325.17
323.7	+1.46	326.63	
7.85	1.12		
3.29			
C2.63			

S.E.B.P Cleveland & Tyler 312.02

11.17
4.13
7.85

326.63

326.63	321.67	326.63	326.63
322.4	4.96	319.4	321.6
4.23	2.58	7.23	5.03
0.105	C2.38	5.49	3.66
C4.18	67	1.74	1.37
	3.05		

T.P. -11.75 314.88

+4.57 319.45

B.M.S.E.B.P. Tyler & Cleveland -7.33 312.12

312.02

Lot #1	335.9	C5.39
Lot #2	335.4	C4.30
Lot #3	327.0	C2.43

339.30

S.E.B.P Van Buren & Cleveland 336.95

+6.57 343.52

343.52	343.52	T.P.	-3.82	339.70
335.9	335.4	342.28		+2.58
7.62	8.12	339.30		341.28
2.23	3.82	2.98		-7.21
5.39	4.30	2.44		335.07
342.28	342.26	C0.54		0.20
336.43	336.0	342.28		335.27
5.85	6.28	335.9		
	6.04	7.28		
335.27		335.27	335.27	
328.14	5.83	326.87	327.0	
7.33	5.93	8.40	8.27	
6.09		7.85	5.84	
C0.24		C0.55	C2.43	

Sewer Laterals on Rushville

58' East of Draper

166' " " "

220' " " "

IMPROVED TABLES
AND
INFORMATION

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ 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.

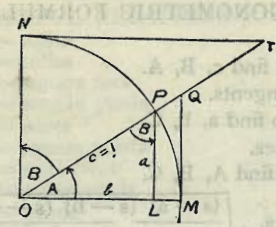


TABLE II

TRIGONOMETRIC FORMULÆ.

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

$R = OB = c = 1$

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

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

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

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

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

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

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

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

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

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

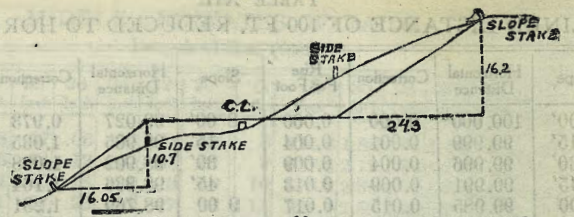
$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \text{Cos } A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \text{Cos } A}{2}}$

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

Law of Sines $\frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$

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

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

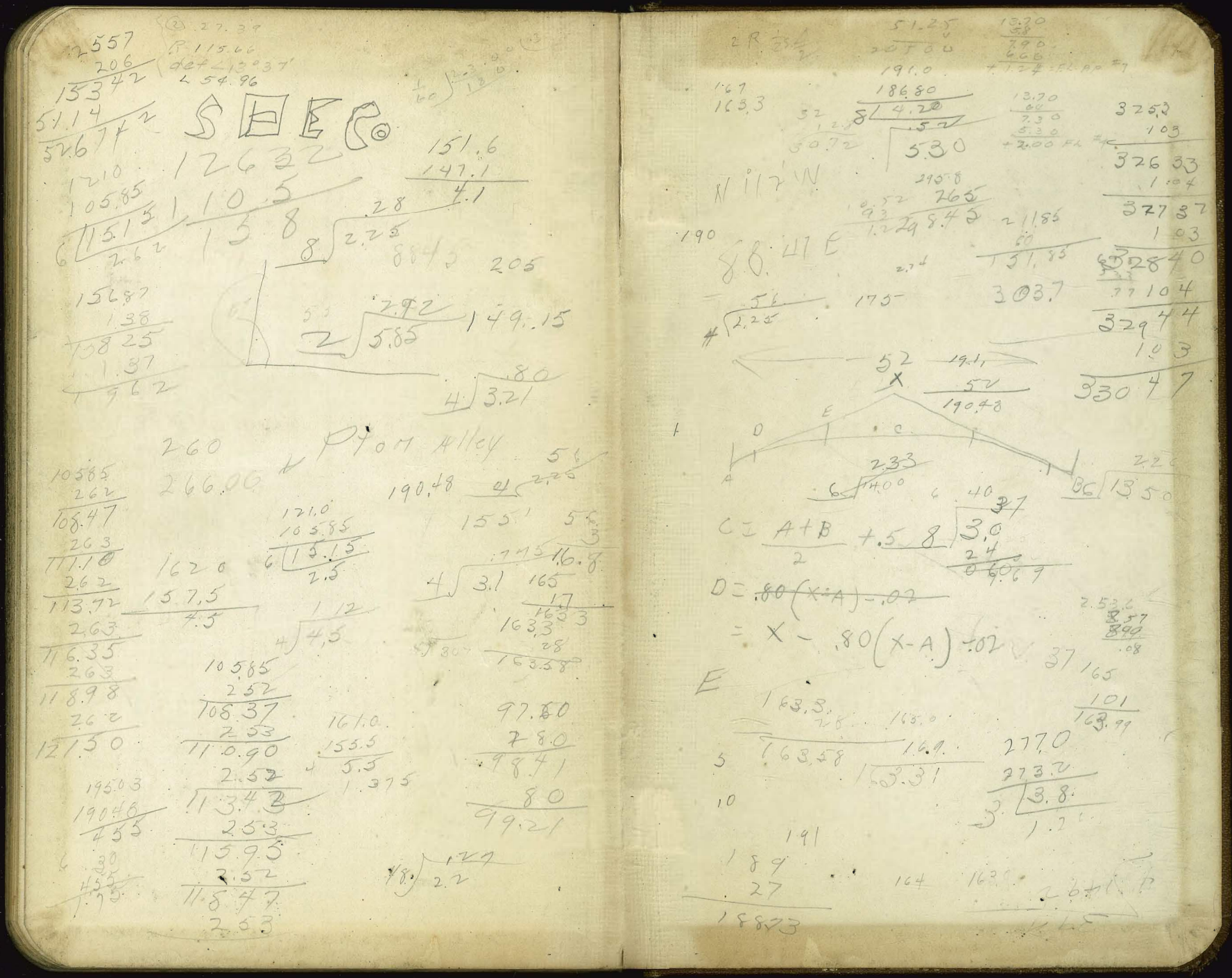


DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1¼ 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.


SEEC
Plum Alley
N 11° W
S 6° E
C = A+B / 2
D = .80(X-A) - .02
= X - .80(X-A) - .02
E