

1014

LEAF BOOK

1014

KEUFFEL & ESSER CO.

DRAWING MATERIALS

AND

SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

Tables for Excavations and Embankments.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 28 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

Copyright, 1895, by Keuffel & Esser Co.

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

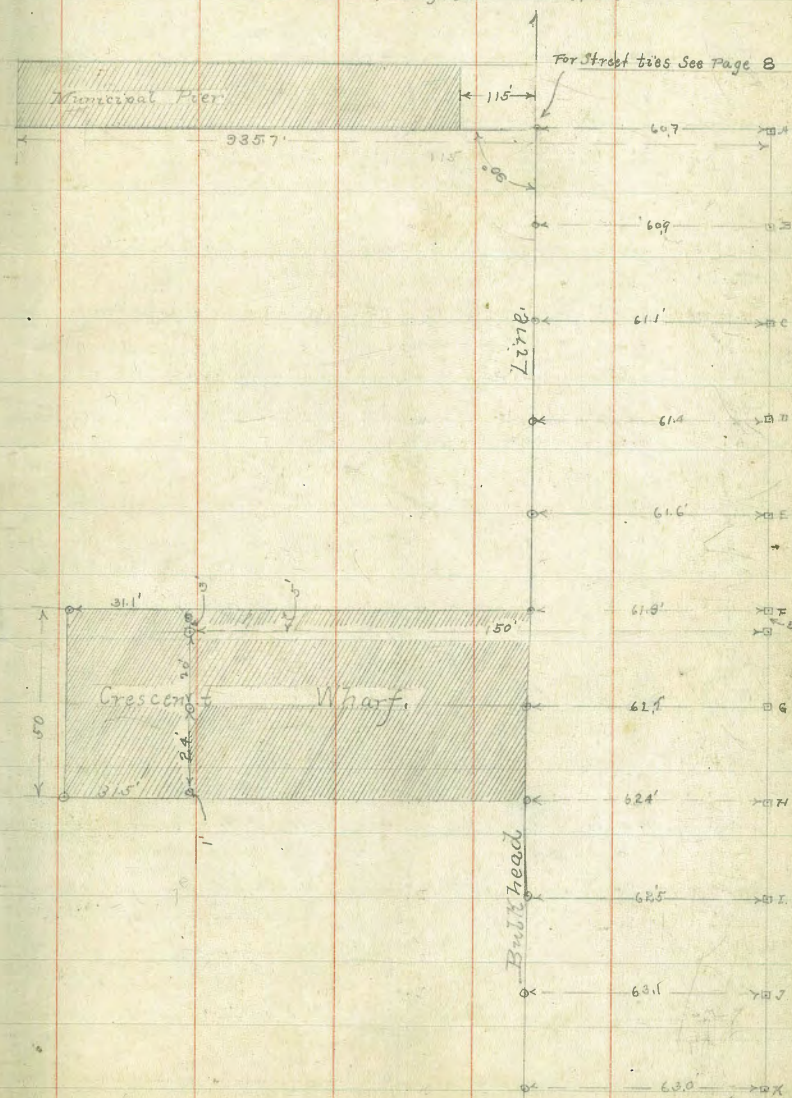
Calculated by Julien A. Hall, M. Am. Soc. C. E.

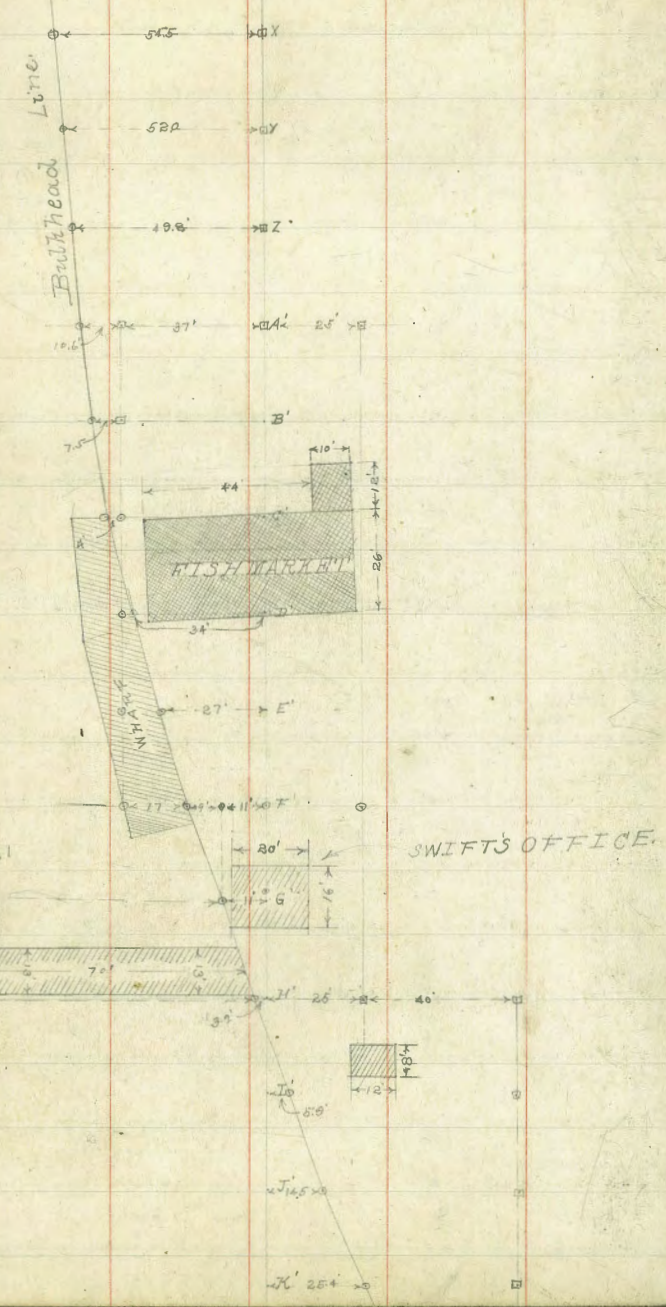
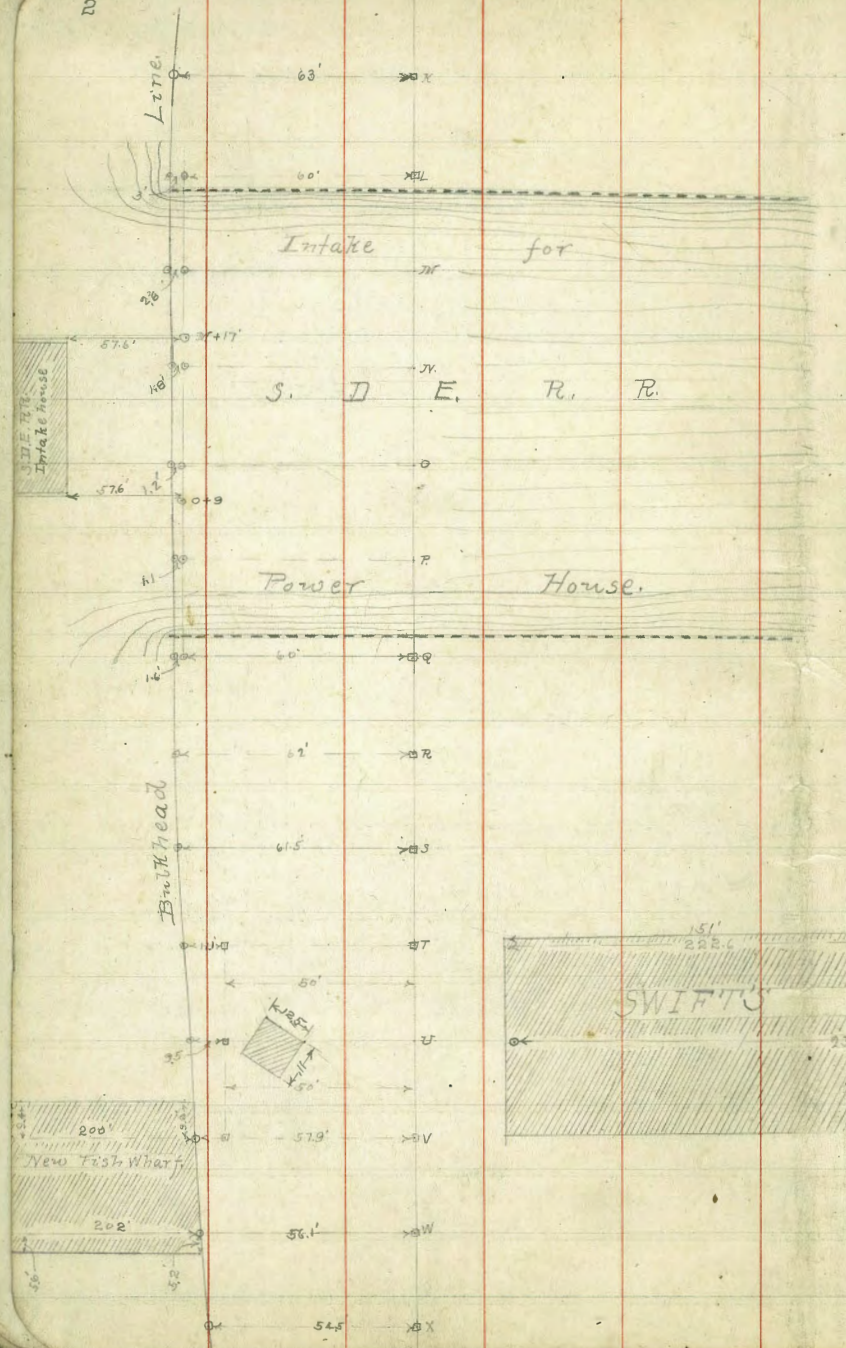
Base Line for Section of San Diego Bay from the
Municipal Pier South to Bunkers Wharf & from
Bulkhead West to 35' of Water.

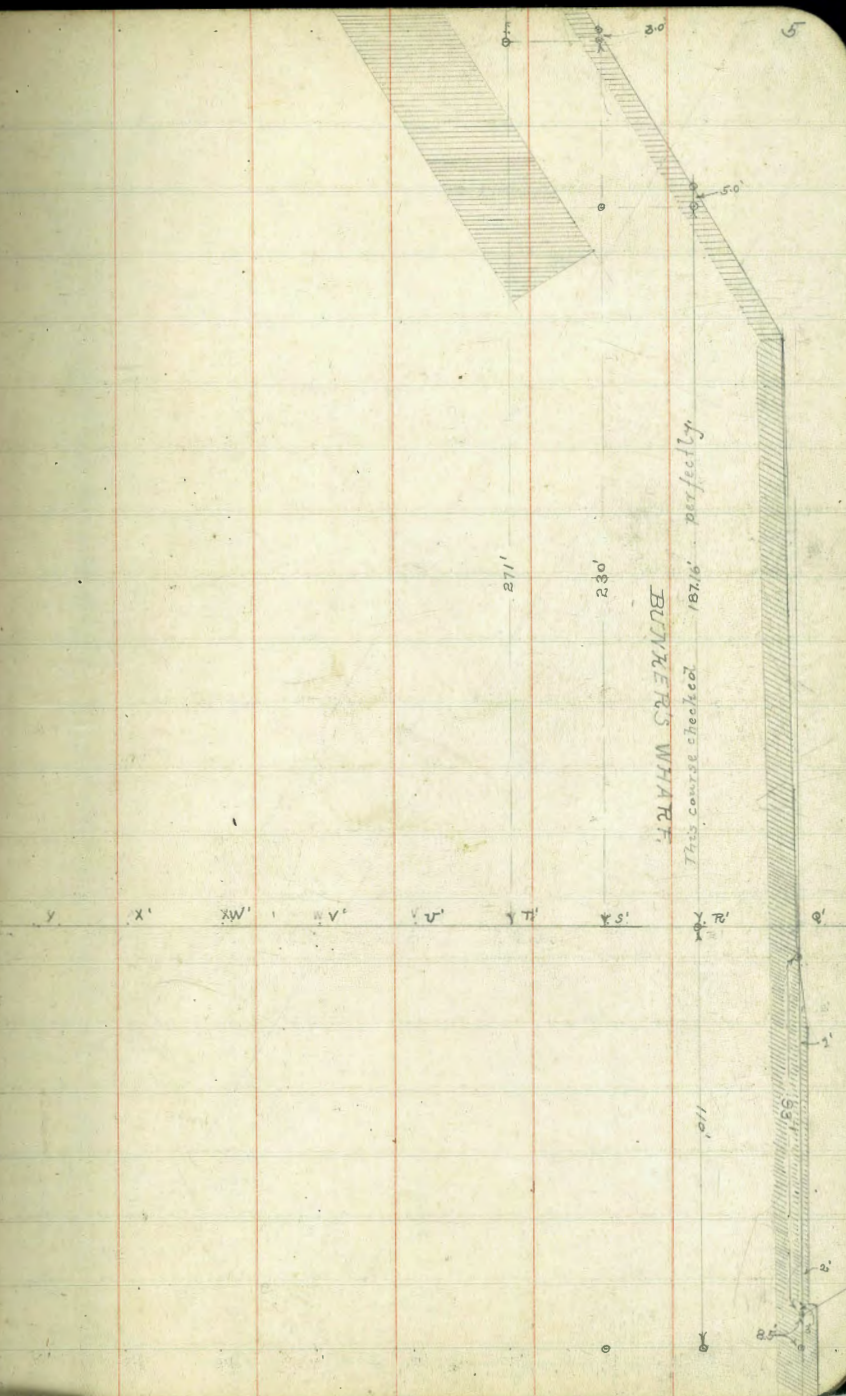
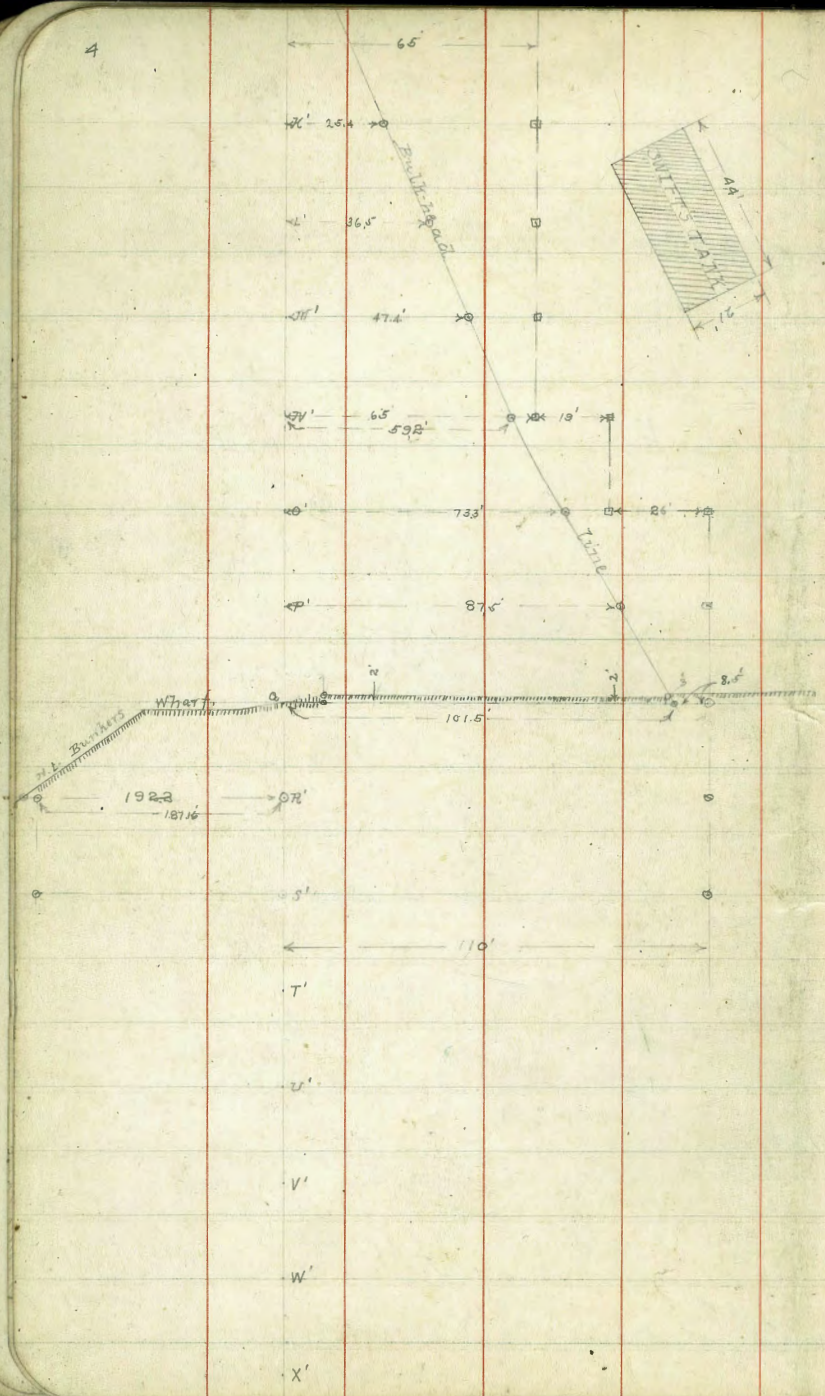
May 1917

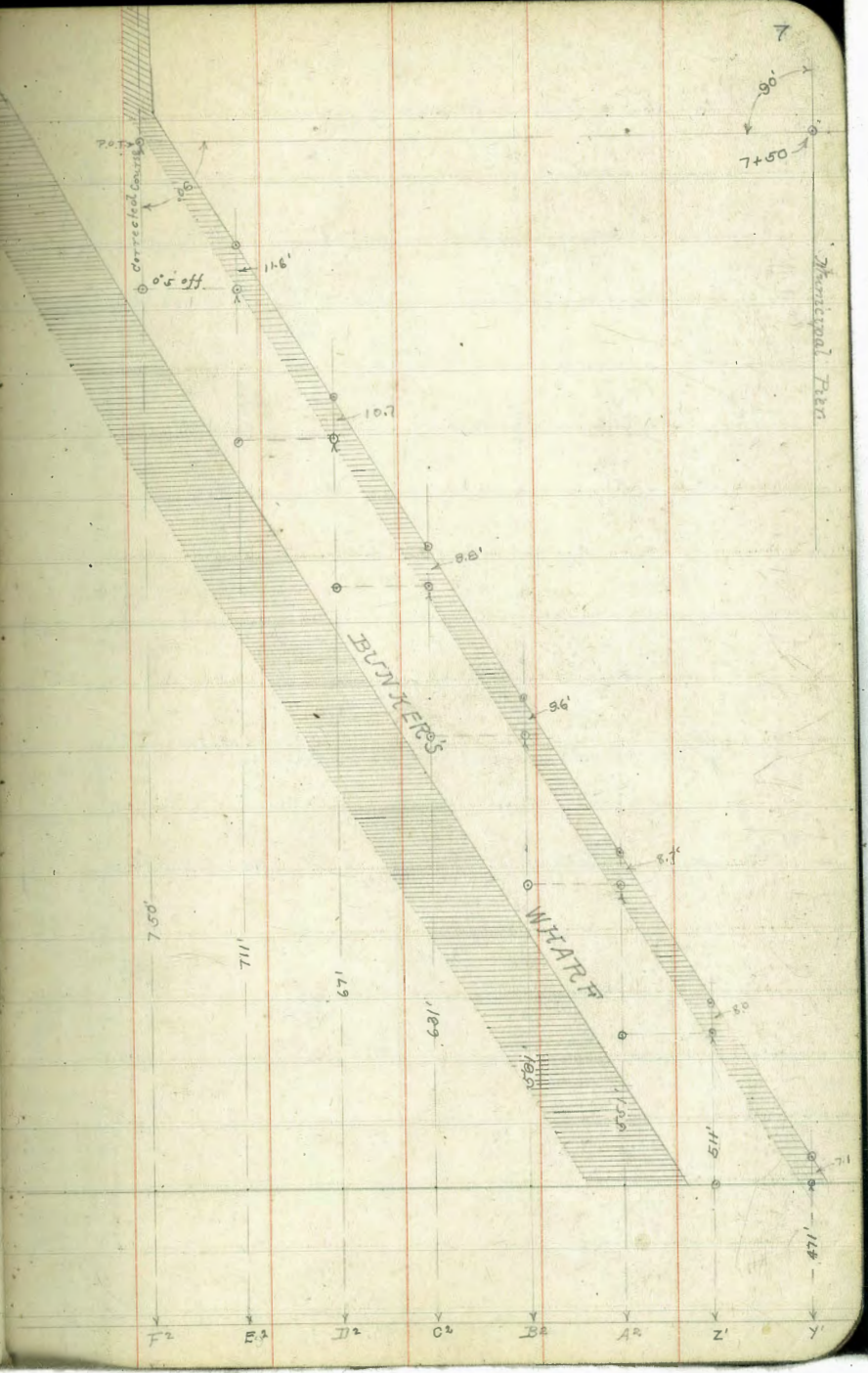
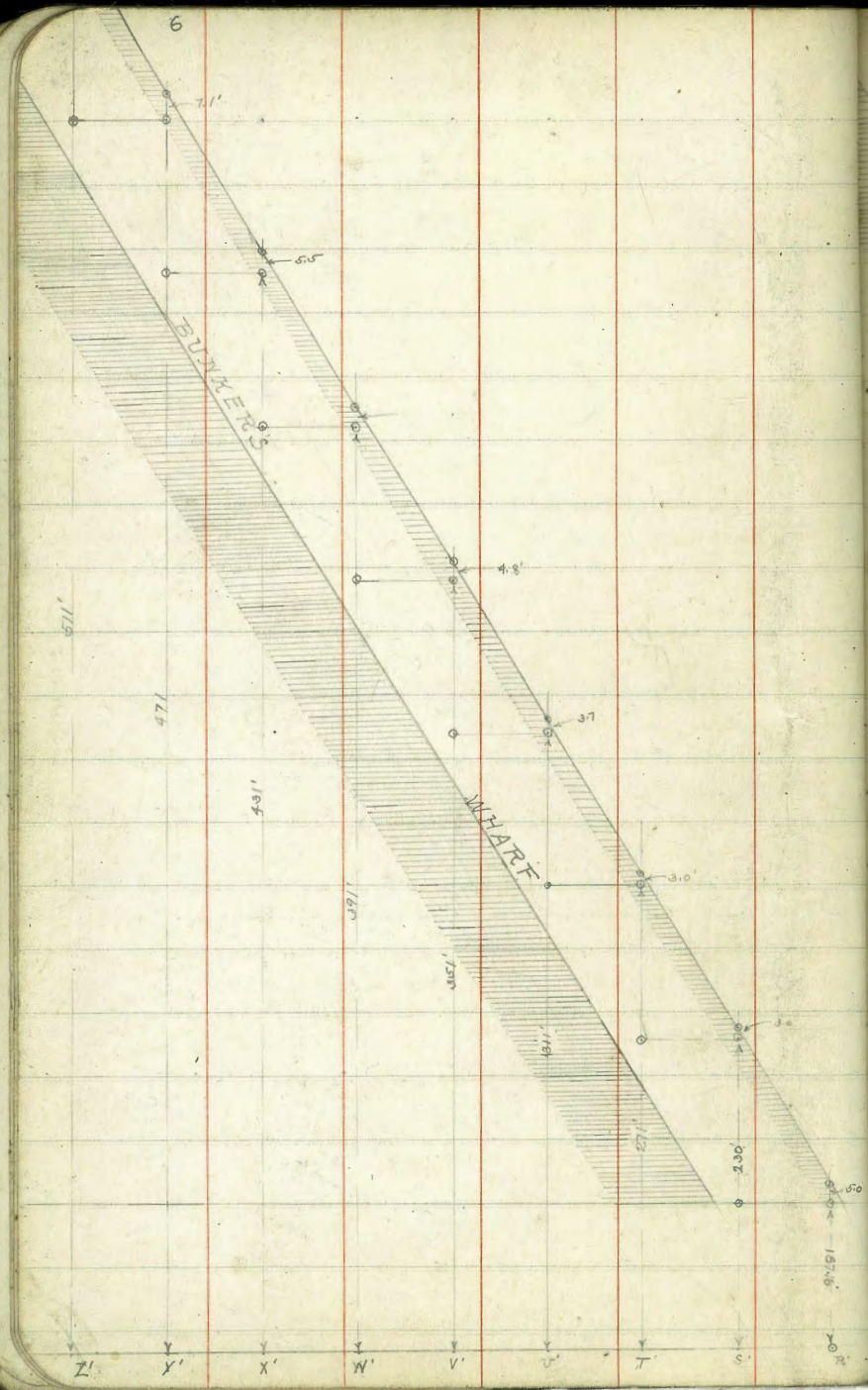
Norman
Otten
Shaw

Note: ○ Shows rail.
□ " " " " " " Sidewalk stake.



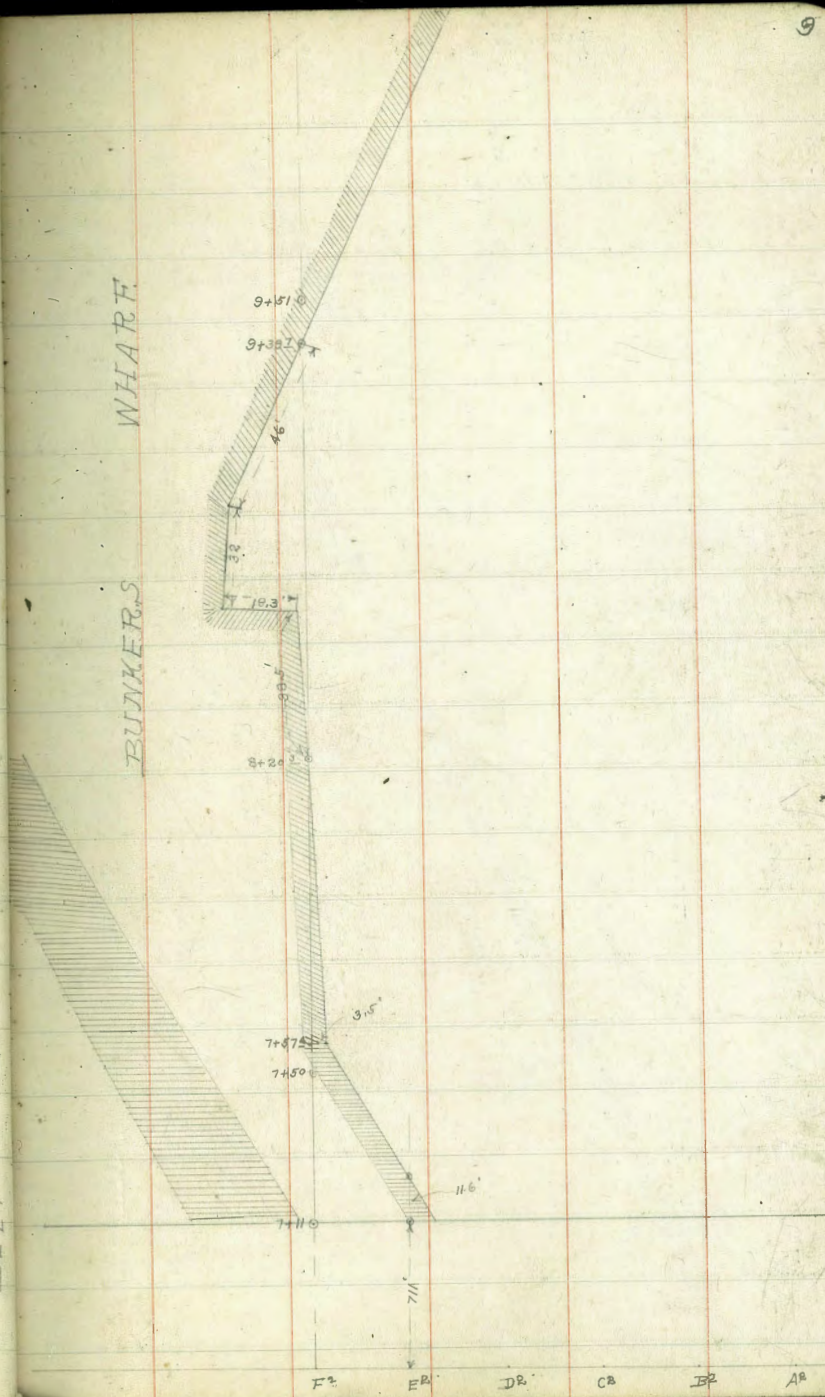
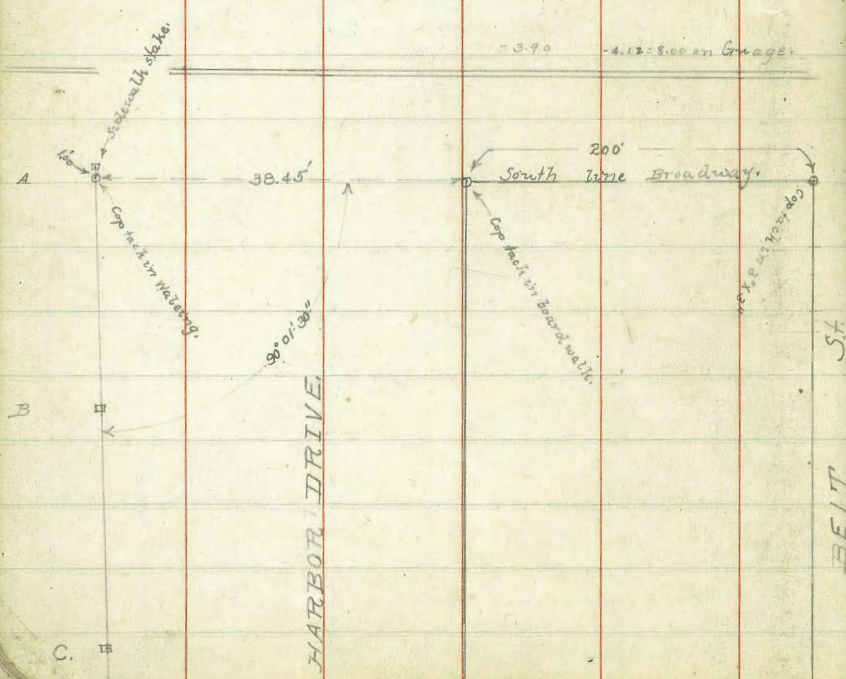


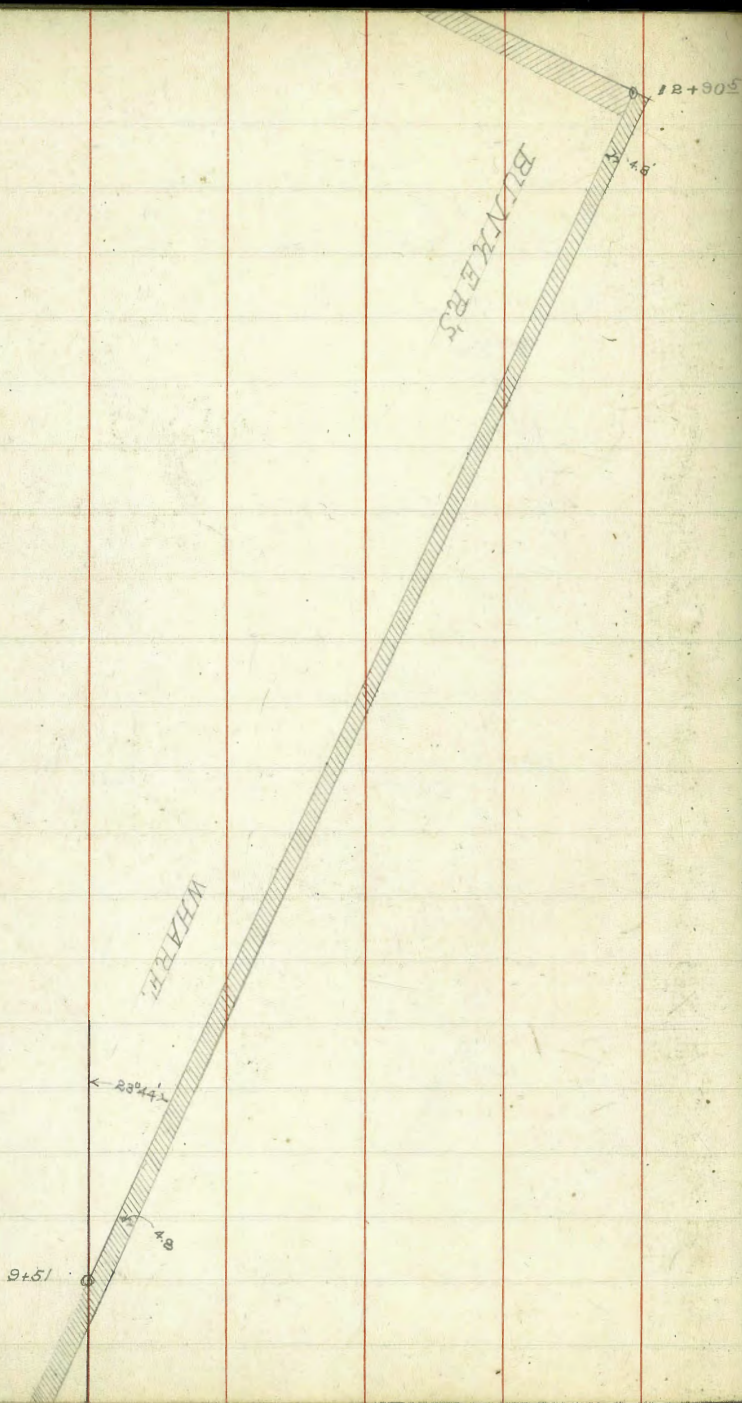




E. W. B.P. SE. Cor Arctic & Broadway n. 100

1.00	11.50	11.50	10.50
6.03	10.45	7.08	4.42
		10.79	- 0.33
10.79	10.45		- 0.33
7.96	12.06	6.25	4.20
		1.56	10.50 = 10.50
9.17	10.22		- 0.33
		- 3.90	- 4.12 = 8.00 on Gauge.





Sec A: $G = 7.1 - 3.14 = 3.86$

Station	Sounding	Tide Gauge	Correct Sound
1+25	4.5	3.86	0.6
1+50	5.0		1.2
1+75	6.0	3.8	2.2
2+00	18.5		19.7
+25	32.0	3.7	18.3
+50	34.5		30.8
+75	35.0	3.6	31.4
3	36.0		31.4
+25	35.0	3.5	31.5
+50	35.0		31.5
+75	35.0	3.4	31.6
4+00	34.5		31.1
+25	33.0	3.3	29.7
+50	33.0		29.7
+75	34.0	3.2	30.8
5+00	35.0		31.8
+25	35.5	3.1	32.4

5+50	34.5	3.1	31.4
+75	31.0	3.0	28.0
6+00	33.0		30.0
+25	33.0	2.9	30.1
+50	31.5		27.6
+75	30.0	2.8	27.2
7+00	31.5		28.7
+25	29.0	2.7	26.3
+50	31.0		28.3
+75	31.5	2.6	28.9
8+00	32.0		29.4
+25	33.0	2.5	30.5
+50	31.5		29.0
+75	33.0	2.4	30.6
9+00	32.5		30.1
+25	30.5	2.3	28.2
	G=54-3.14=2.26		
91.50	30.5	2.3	33.2
9+75	37.0	2.3	34.7

Sta	Sound	Gauge	Cor. Sound
10+00	36.5	2.2	34.3
+25	36.0	2.2	33.8
+50	36.0	2.1	33.9
+75	36.0	2.1	33.9
11+00	36.5	2.1	34.4
+25	37.0	2.0	35.0
+50	37.0	2.0	35.0
+75	35.0	2.0	33.0
12+00	34.0	1.9	32.1
+25	34.0	1.9	32.1
+50	33.5	1.9	31.6
+75	33.0	1.8	31.2
13+00	33.5	1.8	31.7
+25	34.0	1.8	32.2
+50	34.0	1.8	32.2
+75	34.0	1.7	32.3
14+00	34.5	1.7	32.8
+25	34.5	1.66	32.8

Sec. B. G-48-3.14=1.66

1+00	1.0	1.7	+ 07
+25	3.0	1.7	1.3
+50	4.0	1.7	2.3
+75	8.0	1.7	6.3
2+00	30.0	1.8	28.2
+25	35.5	1.8	33.7
+50	35.5	1.8	33.7
+75	36.0	1.8	34.2
3+00	36.5	1.8	34.7
+25	37.0	1.8	35.2
+50	37.5	1.9	35.6
+75	37.0	1.9	35.1
4+00	35.0	1.9	33.1
+25	34.0	1.9	32.1
+50	34.0	1.9	32.1
+75	35.0	1.9	33.1
5+00	36.5	1.9	34.6
+25	36.5	1.9	34.6
+50	35.5	2.0	33.5

5+75	35.0	2.0	33.0
6+00	34.5	2.0	32.5
+25	34.5	2.0	32.5
+50	34.5		32.5
+75	34.5		32.5
7+00	35.5	2.0	33.5
+25	35.5	2.1	33.4
+50	35.5		33.4
+75	35.0		32.9
8+00	35.0	2.1	32.9
+25	35.5		33.4
+50	36.0		33.9
+75	36.5	2.1	34.4
9+00	38.0	2.2	35.8
+25	38.0		35.8
+50	38.5		36.3
+75	36.0	2.2	33.8
10+00	36.0		33.8
+25	36.0		33.8

10+50	36.0	2.2	33 8
+75	36.0	2.3	33 7
11+00	36.0		33 7
+25	36.5		33 2
+50	37.0	2.3	34 7
+75	35.5		32 2
1.2+00	35.0		32 7
+25	35.0	2.3	32 7
+50	34.0	2.4	31 6
+75	34.0		31 6
1.3+00	33.0		30 6
+25	34.0		31 6
+50	34.0	2.4	31 6

✓

370.0 $G=5.5-3.14=2.36$

12+50	34.0	2.4	31 6
+25	34.0		31 6
12	34.5		32 1
+75	34.5	2.4	32 1
+50	35.5	2.5	33 0
+25	36.5		34 0
11	37.5		35 0
+75	36.5		34 0
+50	36.0	2.5	33 5
+25	36.0		33 5
10	36.0		33 5
+75	36.0		33 5
+50	37.5	2.5	35 0
+25	37.5	2.6	35 9
9	38.5		35 9
+75	38.0		35 4
+50	37.0	2.6	34 4

+25	36.5	2.6	33 9
8	37.0		34 4
+75	36.5		33 9
+50	37.0	2.6	34 4
+25	37.0	2.7	34 3
7	37.0		34 3
+75	36.5		33 8
+50	36.5	2.7	33 8
+25	36.5		33 8
6	37.0		34 3
+75	36.5		33 8
+50	37.0	2.7	34 3
+25	37.0	2.8	34 2
5	37.0		34 2
+75	36.5		33 7
+50	35.5	2.8	32 7
+25	35.5		32 7
4	36.8		33 2
+75	37.0		34 2
+50	38.0	2.8	35 7

+25	38.0	2.9	35 1
3	37.5		34 6
+75	37.5		34 6
+50	37.5	2.9	34 6
+25	37.0		34 1
2	30.0		27 1
+75	9.0	2.9	6 1
+50	5.5	3.0	2 5
+25	4.0		1 0
1	3.0	3.0	0 0
+75	1.0	$G=6.1-3.14=2.96$	2 0
Sec II $G=6.6-3.14=3.46$			
+75	1.0	3.5	1 2 5
+50	4.0		0 5
+25	6.0		2 5
+50	7.5		4 0
+75	10.5		7 0
+50	34.0		30 5
+25	37.5		35 0
+50	38.0		34 5

2775	38.5	3.5	35.0
3700	38.0		34.5
+25	39.0		35.5
+50	39.8		35.5
+75	39.0		35.5
4700	39.0		35.5
+25	38.0		34.5
+50	37.0		33.5
+75	37.0		33.5
5700	36.6		33.0
+25	38.0		34.5
+50	38.0		34.5
+75	38.0		34.5
6700	37.5	↑ 3.5	34.0
+25	36.6	3.4	33.1
+50	36.5	↓	33.1
+75	37.5		34.1
7700	37.5		34.1
+25	37.5		34.1
+50	38.0		34.6

7775	38.0	3.4	34.6
8700	38.0		34.6
+25	38.0		34.6
+50	38.0		34.6
+75	38.0		34.6
9700	39.0		35.6
+25	40.0		36.6
+50	40.0		36.6
+75	38.0		34.6
10700	38.0		34.6
+25	37.0		33.6
+50	37.0		33.6
+75	37.0		33.6
11700	37.0		33.6
+25	38.0		34.6
+50	38.0		34.6
+75	37.0		33.6
12700	36.0		32.6
+25	35.5		32.1
+50	35.0		31.6

12+25	36.0	↑ 3.4	32.6
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SEC. E $G = 6.5$ - 3.14 = 3.36

12+75	35.0	3.4	31.6
+50	35.0		31.6
+25	34.0		32.6
12+00	34.0		32.6
+75	34.0		32.6
+50	37.5		34.1
+25	37.0		33.6
11+00	36.5		33.1
+75	36.5		33.1
+50	34.5		33.1
+25	37.0		33.6
10+00	37.0		33.6
+75	39.0		35.6
+50	40.0		36.6
+25	39.5	3.4	36.1
9+00	39.0	3.3	35.7

8+75	38.0	3.3	34.7
+50	38.0		34.7
+25	38.0		34.7
8+00	37.5		33.2
+75	38.0		34.7
+50	38.0		34.7
+25	38.0		34.7
7+00	38.0		34.7
+75	37.5		34.2
+50	37.0		33.7
+25	37.5		34.2
6+00	37.5	3.3	34.2
+75	37.5		34.2
+50	38.0		34.7
+25	37.5		34.2
5+00	37.0		33.7
+75	37.0		33.7
+50	37.0		33.7
+25	37.0		33.7
4+00	38.5		35.2

3+75	38.5	3.3	35 2
+50	38.0		34 7
+25	38.0		34 7
3+00	37.0	3.3	33 7
+75	38.5	3.2	35 3
+50	38.5		35 3
+25	38.5		35 3
2+00	34.0		30 8
+75	8.0		4 8
+50	7.0		4 3
+25	6.0		2 8
1+00	4.5		1 3
+80	1.5	$6.3 - 3.14 = 3.16$	3.16

SEC. F. G = 6.3 - 3.14 = 3.16

0+75	1.0	3.2	+ 2 2
1+00	4.5		1 3
+75	6.0		2 8
+50	7.5		4 3
+75	10.0		6 8
2+00	32.5	3.2	29 3
+25	39.0	3.1	35 9
+50	38.5		35 4
+75	39.0		35 9
3+00	38.0		34 9
+25	38.5	3.1	35 4
+50	37.5		34 4
+75	38.5		35 4
4+00	38.5		35 4
+25	37.0		33 9
+50	36.5	3.1	33 4
+75	36.5	3.0	33 5
5+00	37.0		34 0
+25	37.0		34 0

5+50	37.0		34 0
+75	37.5	3.0	34 5
6+00	37.0		34 0
+25	37.0		34 0
+50	37.0		34 0
+75	36.5	3.0	33 5
7+00	37.0	2.9	34 1
+25	37.0		34 1
+50	37.0		34 1
+75	37.0		34 1
8+00	36.5		33 6
+25	37.0	2.9	34 1
+50	37.5		34 6
+75	38.0		35 1
9+00	38.0		35 1
+25	38.5		35 6
+50	39.0	2.9	36 1
+75	39.0	2.8	36 2
10+00	36.0		33 2
+25	36.0		33 2

10+50	36.0		33 2
+75	36.0	2.8	33 2
11+00	36.5		33 7
+25	37.5		34 7
+50	37.0	2.8	34 2
+75	35.5	2.7	32 8
12+00	35.0		32 3
+25	35.0		32 3
+50	35.0		32 3
+75	34.0	2.7 35.8	31 3

Sect 6.

4 5.8 - 3.14 = 2.66

12+75	34.0	2.7	31 3
+50	35.0		32 3
+25	35.0		32 3
12+00	34.5	2.7	31 8
+75	36.5	2.6	33 9
+50	37.0		34 4
+25	36.5		33 9
11+00	36.0		33 4
+75	36.0	2.6	33 4
+50	36.0		33 4
+25	36.0		33 4
10+00	36.0		33 4
+75	38.5		35 9
+50	38.5	2.6	35 9
+25	38.5	2.5	35 0
9+00	38.0		35 5
+75	37.0		34 5
+50	37.0		34 5
+25	36.0	2.5	34 0

8+00	36.0	2.5	33 5
+75	37.0		34 5
+50	36.0		33 5
+25	36.0		33 5
7+00	36.0	2.5	33 5
+75	36.0	2.4	33 6
+50	36.5		34 1
+25	37.0		34 6
6+00	38.5		36 1
+75	38.5	2.4	36 1
+50	38.0		35 6
+25	35.5		33 1
5+00	34.0		33 6
+75	36.5		34 1
+50	37.5	2.4	35 1
+25	38.0	2.3	35 7
4+00	38.0		35 7
+75	37.5		35 2
+50	38.5		36 2
+25	38.0	2.3	35 7

3+00	38.5	2.3	36 2
+75	38.5		36 2
+50	38.0		35 7
+25	37.0	2.3	34 7
2+00	29.0	2.2	26 8
+75	7.0		4 8
+50	6.0		3 8
+25	5.5		3 3
1+00	4.0		1 2
0+75	1.0	2.2 $4.53 - 3.14 = +$	1 1

SEC. H. G 43 - 3.14 = 1.16

12+75	33.0	1.2	31 8
+50	33.0		31 8
+25	33.0		31 8
12+00	34.0		32 8
+75	35.0	1	33 8
+50	35.5	1.2	34 3
+25	35.5	1.3	34 2
11+00	34.5		33 2
+75	34.5		33 2
+50	34.5		33 2
+25	34.5	1.3	33 2
10+00	34.5		33 2
+75	36.5		35 2
+50	36.5		35 2
+25	36.5		35 2
9+00	36.5	1.3	35 2
+75	36.0	1.4	34 6

8450	35.0	1.4	33 6
+25	35.5		34 1
8400	35.0		33 6
+75	35.0	1.4	33 6
+50	34.5		33 1
+25	35.5		34 1
7400	37.0		35 6
+75	36.5		35 1
+50	37.0	1.4	35 6
+25	37.5	1.5	36 0
6400	37.5		36 0
+75	37.5		36 0
+50	37.0		35 5
+25	36.0	1.5	34 5
5400	36.5		35 0
+75	36.5		35 0
+50	36.5		35 0
+25	36.5		35 0
4400	36.5	1.5	35 0
+75	37.0	1.6	35 4

3450	37.5	1.6	35 9
+25	37.5		35 9
3400	37.5		35 9
+75	37.5	1.6	35 9
+50	38.0		36 4
+25	36.0		34 4
2400	8.5	1.6	6 9
+75	6.0	1.7	4 3
+50	5.5		3 8
+25	5.0		3 3
1400	3.5		1 8
0475	1.5	1.7 4.8-	7 0 2

See I G 4.8 - 3.14 = 1.66

0 + 80	2.0	1.7	0 3
1 + 00	4.0		2 3
+ 25	7.0		5 3
+ 50	7.0		5 3
+ 75	7.0		5 3
2 + 00	7.0	1.7	5 3
+ 25	32.0	1.8	30 2
+ 50	37.0		35 2
+ 75	38.0		36 2
3 + 00	37.0	1.8	35 2
+ 25	37.0		35 2
+ 50	38.5		36 7
+ 75	37.0		35 2
4 + 00	37.0		35 2
+ 25	37.0	1.8	35 2
+ 50	37.5	1.9	35 6
+ 75	37.5		35 6
5 + 00	37.5		35 6
+ 25	37.0		35 1

5 + 50	38.0	1.9	36 1
+ 75	38.5		36 6
6 + 00	38.0		36 1
+ 25	38.0		36 1
+ 50	37.5		35 6
+ 75	38.0	1.9	36 1
7 + 00	38.0	2.0	36 0
+ 25	38.0		36 0
+ 50	37.5		35 5
+ 75	38.0		36 0
8 + 00	38.0	2.0	36 0
+ 25	39.0		37 0
+ 50	38.5		36 5
+ 75	38.5		36 5
9 + 00	38.5		36 5
+ 25	38.5	2.0	36 5
+ 50	38.5	2.1	36 4
+ 75	37.0		34 9
10 + 00	34.5		32 4
+ 25	35.5		33 4

10+50	36.5	2.1	33 4
+75	35.5		33 4
11+00	35.5		33 4
+25	35.5		33 4
+50	37.0	2.1	34 9
+75	37.0	2.2	34 8
12+00	37.0		34 8
+25	37.0		31 8
+50	37.0		31 8
+75	37.0		31 8
13+00	33.5		31 3
+25	33.5	2.2	31 3

Sect J.

G 5.3-3.14 = 2.16

13+25	34.0	2.2	31 8
13+00	34.0		31 8
+75	34.0		31 8
+50	34.0		31 8
+25	34.0	2.2	31 8
12+00	35.0	2.3	32 7
+75	36.0		33 7
+50	36.0	2.3	33 7
+25	36.0		33 7
11+00	35.5		33 2
+75	35.5	2.3	33 2
+50	35.0	2.4	32 6
+25	35.0		32 6
10+00	36.0		33 6
+25	37.5	2.4	35 1
+50	38.0		35 6
+25	39.0		36 6
9+00	39.5	2.4	37 1
+75	38.5	2.5	36 0

8+50	38.5	2.5	36.0
+25	38.0		35.5
8+00	38.0	2.5	35.5
+75	38.0	$\frac{5}{2.5} \cdot 6 - 3.14 =$	35.5
+50	38.0	↓	35.5
+25	38.0		35.5
7+00	38.0		35.5
+75	38.0		35.5
+50	38.0		35.5
+25	38.0		35.5
6+00	38.0		35.5
+75	38.0		35.5
+50	38.0		35.5
+25	38.0		35.5
5+00	37.0		34.5
+75	38.0		35.5
+50	38.0		35.5
+25	38.0		35.5
4+00	38.0		35.5
+75	38.0		35.5

3+50	38.0		35.5
+25	37.0		34.5
3+00	38.0		35.5
+75	38.0		35.5
+50	37.0		34.5
+25	26.5		24.0
2+00	7.5		5.0
+75	8.0		5.5
+50	7.0		4.5
+25	7.0		4.5
1+00	5.0		2.5
0+50	2.0	$\frac{2.5}{5.0} \cdot 6 =$	$+0.5$

SEC. K, G 5, 9-314- 2.76

0 + 80	3.0	2.8	0 2
1 + 0.0	5.5		2 7
+ 25-	6.5		3 7
+ 50	7.0		4 2
+ 75	7.0		4 2
2 + 00	8.0		5 2
+ 25	20.0		17 2
+ 50	33.0	2.8	30 2
+ 75	37.5	2.9	34 6
3 + 00	37.5		34 6
+ 25	38.0		35 1
+ 50	38.0		35 1
+ 75	37.0		34 1
4 + 00	38.0		35 1
+ 25	37.5		34 6
+ 50	37.5		34 6
+ 75	37.5	2.9	34 6
5 + 00	37.0		34 1
+ 25	38.0		35 1

5 + 50	38.0		35 1
+ 75-	38.0		35 1
6 + 00	38.0		35 1
+ 25	38.5		35 6
+ 50	38.5	2.9	35 6
+ 75	38.5	3.0	35 5
7 + 00	38.0		35 0
+ 25	38.0		35 0
+ 50	37.5		34 5
+ 75	38.5		35 5
8 + 00	38.5		35 5
+ 25	38.5		35 5
+ 50	39.0		36 0
+ 75	39.0	3.0	36 0
9 + 00	40.0		37 0
+ 25	40.0		37 0
+ 50	40.0		37 0
+ 75	39.5		36 5
10 + 00	39.0		36 0
+ 25	39.0		34 0

10+50	37.0	3.0	340
+75	36.5	3.1	334
11+00	36.0		329
+25	37.0		339
+50	38.0		349
+75	37.5		344
12+00	32.0		339
+25	36.0		329
+50	35.0		319
+75	36.0	^{3.1} 62-314=3.06	319

S.F.C.L. 462-3.14=3.06

12+75	35.0	3.1	319
+50	35.5		324
+25	36.0	3.1	329
12+00	36.0	3.2	328
+75	37.5		343
+50	38.0	3.2	348
+25	37.5		343
11+00	38.0	3.2	348
+75	37.5	3.3	342
+50	38.0		347
+25	38.0	3.3	347
10+00	39.0	3.3	357
+75	40.0	3.3	367
+50	40.0	3.4	366
+25	40.0		366
9+00	40.0	3.4	366
+75	39.0		356
+50	39.0	3.4	356
+25	39.0	3.5	355

8+00	39.0		345
+75	38.0	3.5	345
+50	37.5		340
+25	38.0	3.5	345
7+00	38.0	3.6	344
+75	38.0		344
+50	39.0	3.6	354
+25	38.5		350
6+00	39.0	3.6	354
+75	38.5	3.7	348
+50	38.5		348
+25	38.5		348
5+00	37.5	3.7	338
+75	37.5		338
+50	38.0	3.7	343
+25	38.0	3.8	342
4+00	38.0	3.7	342
+75	38.0	3.8	342
+50	39.0		312
+25	39.0	3.8	312

3+00	35.0	3.9	311
+75	38.0		341
+50	24.0	3.9	201
+25	8.0	3.9	41
2+00	8.0		41
+75	8.0	3.9	41
+50	7.0	4.0	30
+25	7.0		30
1+00	6.5		25
0+50	4.0	4.0 ^v 7.1-3.14	00

SEC. M. G 7.3-3.14 = 4.16

0 + 80	2.0	4.2	+ 2 2
1 + 00	7.0		2 8
+ 25	7.0		2 8
+ 50	7.0		2 8
+ 75	8.0		3 8
2 + 00	8.0		3 8
+ 25	8.0		3 8
+ 50	8.0		3 8
+ 75	9.0		4 8
3 + 00	8.5		4 3
+ 25	13.0		8 8
+ 50	11.0		6 8
+ 75	28.0		23 8
4 + 00	33.0		28 8
+ 25	37.0		32 8
+ 50	37.5		33 3
+ 75	37.5	4.2	33 3
5 + 00	38.0	G 7.3 = 4.16	33 8
+ 25	38.5	G 7.0 = 3.86 3.9	34 6

5 + 50	38.5	3.9	34 6
+ 75	38.5	3.8	34 7
6 + 00	38.5		34 7
+ 25	38.5	3.8	34 7
+ 50	38.5		34 7
+ 75	38.0	3.8	34 2
7 + 00	38.0	3.7	34 3
+ 25	38.0	3.7	34 3
+ 50	38.0		34 3
+ 75	38.0	3.7	34 3
8 + 00	39.0	3.6	35 4
+ 25	39.0		35 4
+ 50	39.0	3.6	35 4
+ 75	39.0		35 4
9 + 00	39.5	3.6	35 9
+ 25	40.0	3.5	36 5
+ 50	40.5	3.5	37 0
+ 75	40.5		37 0
10 + 00	39.5	3.5	36 0
+ 25	39.0	3.4	35 6

10+50	38.0	3.4	346
+75	38.0		346
11+00	38.0	3.4	346
+25	38.5	3.3	352
+50	38.0	3.3	347
+75	38.0		347
12+00	37.0	3.3	337
+25	36.0	3.2	328
+50	37.0		338
+75	36.0	3.16	328

SEC M+17 C₁ 6.3 = 3.16

12+75	36.0	3.2	328
+50	34.0		328
+25	36.5		333
12+00	34.0		328
+75	37.0	3.2	338
+50	38.0	3.1	349
+25	38.5		354
11+00	37.5		344
+75	37.0	3.1	339
+50	37.0		339
+25	38.5		354
10+00	39.0		359
+75	39.5	3.1	364
+50	40.0	3.0	370
+25	40.0		370
9+00	39.0		360
+75	38.0	3.0	350
+50	38.0		350
+25	38.0		350

8+00	38.0		35 0
+75	39.0	3.0	35 0
+50	37.5	2.9	34 6
+25	37.0		34 6
7+00	37.5		34 6
+75	37.5	2.9	34 6
+50	38.0		35 1
+25	37.5		34 6
6+00	37.5		34 6
+75	37.0	2.9	34 6
+50	38.0	2.8	35 2
+25	37.0		34 2
5+00	37.5		34 7
+75	37.0	2.8	34 2
+50	34.0		31 2
+25	31.0		28 2
4+00	10.0		7 2
+75	8.0	2.8	5 2
+50	7.0	2.7	4 3
+25	8.0		5 3

3+00	7.0		4 3
+75	7.0	2.7	4 3
+50	7.0		4 3
+25	7.0		4 3
2+00	7.0	2.7	4 3
+75	8.0	2.6	5 4
+50	9.0		6 4
+25	9.0		6 4
1+00	8.0	2.6	5 4
0+85	4.0	4.5.7- 2.6	1 4

sec. 0. + 9 G 4.5 = 1.36

0 + 80	6.0	1.4	4 6
1 + 00	6.0		4 6
+ 25	7.0		5 6
+ 30	8.0		6 6
+ 75	7.5		6.1
2 + 00	6.0		4 6
+ 25	6.0		4 6
+ 30	6.5		5 1
+ 75	6.5		5 1
3 + 00	6.0		4 6
+ 25	6.0		4 6
+ 30	6.0		4 6
+ 75	6.0	1A	4 6
4 + 00	6.0	1.5	4 5
+ 25	6.0		4 5
+ 30	6.5		5 0
+ 75	10.0		8 5
5 + 00	15.0		13 5
+ 25	16.5		15 0

5 + 50	19.5	1.5	18 0
+ 75	27.0		25 5
6 + 00	37 0		35 5
+ 25	36.0		34 5
+ 30	36.0		34 5
+ 75	36.0		34 5
7 + 00	36.5		35 0
+ 25	36.0		34 5
+ 30	37.0	1.5	35 5
+ 75	37.0	1.6	35 4
8 + 00	38.0		36 4
+ 25	37.0		35 4
+ 30	37.0		35 4
+ 75	37.0		35 4
9 + 00	38.0		36 4
+ 25	38.0		36 4
+ 30	39.0		37 4
+ 75	39.0		37 4
10 + 00	39.0	1.6	37 4
+ 25	39.0	4.7 = 1.56	37 4

10+50	38.0	1.8	36 2
+75	38.0	2.0	36 0
11+00	38.0	2.2	35 8
+25	38.5	2.4	36 1
+50	39.0	2.7	36 3
+75	39.0	2.9	36 1
12+00	39.0	3.1	32 9
+25	39.0	3.3	32 7
+50	39.0	3.5	32 5
+75	36.0	3.66	32 3

JFC PQ 6.8 = 3.66

12+75	39.0	3.7	33 3
+50	37.0		33 3
+25	37.0		33 3
12+00	38.0		34 3
+75	39.0		35 3
+50	39.0		35 3
+25	39.0		35 3
11+60	39.0		35 3
+75	38.0		34 3
+50	37.0		33 3
+25	39.5		35 3
10+00	40.0		36 3
+75	40.0		36 3
+50	40.0		36 3
+25	40.0		36 3
9+00	40.0	3.7	36 3
+75	40.0	3.8	36 2
+50	39.0		35 2
+25	39.0		35 2

8+00	39.0	3.8	35 2
+75	39.0		35 2
+50	38.5		34 7
+25	36.0		32 2
7+00	35.0		31 2
+75	35.0	3.8	31 2
+50	28.0		24 2
+25	18.0		14 2
6+00	35.0		31 2
+75	33.0		29 2
+50	26.0		32 2
5+25	24.0		20 2
+100	11.0		7 2
+75	9.0		5 2
+50	8.0		4 2
+25	8.0		4 2
4+00	8.0	3.8	4 2
+75	8.5	3.9	4 6
+50	7.5		4 6

+25	8.5	3.9	4 6
3+00	9.5		5 6
+75	9.5		5 6
+50	9.0		5 1
+25	8.0		4 1
2+00	8.0		4 1
+75	8.5		4 6
+50	9.0		5 1
+25	9.0		5 1
1+00	7.0		3 1
0+80	5.0	3.7.0 = 3.86	1 1

Q	G=70=	3.86	
+80	5.0	3.9	11
1	6.5		26
1+20	7.5		36
1+50	8.0		41
1+75	8.0		41
2	8.0		41
+25	8.0		41
+50	8.0		41
+75	8.0		41
3	8.0		41
+25	8.0		41
+50	8.0		41
+75	8.0		41
4	8.0		41
+25	8.0		41
+50	8.0		41
+75	11.5		76
5	11.5		76
+25	12.0		86

+50	12.5	3.9	86
+75	13.0		111
6	10.0		61
+25	8.0		46
+50	9.0		51
+75	12.0		81
7	16.0	$\frac{3.9}{4.0}$	121
+25	17.0		130
+50	31.0		270
+75	26.0		320
8	36.5		325
+25	36.0		325
+50	38.0		345
+75	39.0		350
9	39.0		350
+25	39.0		350
+50	39.0		350
+75	39.5		355
10	39.0		350
+25	36.5		325

+30	36.5	4.0	32.5
+75	37.0		33.0
11	38.0		34.0
+20	39.0		35.0
+50	39.0		35.0
+75	39.0		35.0
12	36.5		32.5
+25	36.0		32.5
+50	37.0		33.0
+75	37.0		33.0
13	37.0		33.0

$C_i = 7.1 = 3.96$

72		$C_i = 3.2 = 0.06$	
10	33	0.1	32.9
+75	33		32.9
+50	33		32.9
+25	33		32.9
12	33		32.9
+75	33.5		33.4
+50	35		34.9
+25	35.5		35.4
11	35		34.9
+75	34		33.9
+50	34		33.9
+25	34		33.9
10	34		33.9
+75	35.5		35.4
+50	35.5		35.4
+25	35.5	0.1	34.9
9	34.5	0.0	34.5
+75	27		27.0
+50	16		16.0

+25	15		150
8	15.5		155
+75	13.5		135
+50	9.5		95
+25	4.0		40
7	3.5		35
+75	5.0		50
+50	5.0		50
+25	3.5		35
6	2.0	10.0	40
+75	8.0		80
+50	8.0		80
+25	8.0		80
4	9.0		90
+75	7.5		75
+50	5.5		55
+25	4.0		40
4	4.0		40
+75	4.0		40
+50	4.5	0.0	45

+25	4.0	-0.1	41
3	4.0		41
+75	4.5		46
+50	4.5		46
+25	4.5		46
2	4.5		46
+75	4.5		46
+50	4.0		41
+25	4.0		41
1	4.0		41
+80	1.0	-0.14 Q = 3.2 =	11

5	0 = 3.0	-0.14	
+80	1.0		11
1	3.0		36
+25	4.0		41
+50	4.0		46
+75	5.0		51
2	2.5		46
+25	2.5		45
+50	4.0		46
+75	4.0	-0.1	41
3	4.0	0.0	40
+25	4.0		40
+50	4.0		40
+75	5.0		50
4	4.0		40
+25	4.0		45
+50	6.5		65
+75	7.5		75
5	8.0	0.0	80
+25	8.0		80

+50	8.0	0.0	80
+75	4.0		40
6	3.5		35
+25	3.5		35
+50	4.0	0.0	40
+75	4.0	0.1	39
7	3.5		34
+25	3.5		34
+50	4.0		39
+75	3.5		34
8	4.0		39
+25	4.0		39
+50	4.0		39
+75	2.0		39
9	13.0		129
+25	15.0	0.1	149
+50	29.0		289
+75	32.0	0.2	319
10	23.0		229
+25	13.0	0.1	129

+50	16.0		15 9
+75	17.0	0.1	16 9
11	25.5	0.2	25 3
+25	31.0		30 8
+50	31.5		31 3
+75	32.0		31 8
12	33.0		32 8
+25	33.5		33 3
+50	33		32 8
+75	33	0.2	32 8
13	33	0.16	32 8

T	G = 3.3	0.16	
10	33	0.2	32 8
+75	33.5		33 3
+50	33.5		33 3
+25	33.5		33 3
12	33		32 8
+75	32		31 8
+50	32		31 8
+25	27		26 8
11	11	0.2	10 8
+75	7.0	0.3	6 7
+50	5.0		4 7
+25	5.0		4 7
10	5.0		4 7
+75	5.0		4 7
+50	4.5		4 2
+25	4.5		4 2
9	4.0	0.30	3 7
+75	4.5		4 2
+50	4.5		4 2

+25	4.0		37
8	4.5		42
+75	4.0		37
+50	4.0		37
+25	4.0	0.3	37
7	4.5	0.4	41
+75	4.0		36
+50	4.0		36
+25	4.0		36
6	4.0		36
+75	5.0		46
+50	5.0		46
+25	8.5		81
5	8.5	0.40	81
+75	10.0		96
+50	7.0		66
+25	5.0		46
4	5.0		46
+75	4.5		41
+50	4.0		41

+25	4.0	0.4	46
3	5.0	0.5	45
+75	5.5		50
+50	5.0		45
+25	5.0		45
2	5.0		45
+75	5.0		45
+50	5.0		45
+25	5.0		45
1	4.0		35
+80	1.0	$=0.46$ $G=3.6$	05

U	C ₁ = 3.6	0.46	
+80	1.0	0.5	0 5
1	2.0		3 5
+25	5.0	0.5	4 5
+50	5.0	0.6	4 4
+75	5.0		4 4
2	5.0	0.6	4 4
+25	5.0		4 4
+50	5.0		4 4
+75	5.0	0.6	4 4
3	5.0	0.7	4 3
+25	5.0		4 3
+50	5.0	0.7	4 3
+75	5.0		4 3
4	5.0		4 3
+25	9.5	0.7	8 8
+50	9.5	0.8	8 7
+75	9.0		8 2
5	8.5	0.8	7 7
+25	9.5		8 7

+50	7.0		6 2
+75	4.0	0.8	3 2
6	4.5	0.9	3 6
+75	4.5		3 6
+50	4.5	0.9	3 6
+25	4.5		3 6
7	5.0		4 1
+25	4.5	0.9	3 6
+50	4.5	1.0	3 5
+75	5.0		4 0
8	5.0	1.0	4 0
+25	5.0		4 0
+50	5.0		4 0
+75	5.0	1.0	4 0
9	5.0	1.1	3 9
+25	5.0		3 9
+50	5.0	1.1	3 9
+75	5.0		3 9
10	6.0		4 9
+25	5.5	1.1	4 4

+50	6.0	1.2	4.8
+75	6.5		5.3
11	6.5		5.3
+25	10.0	1.2	8.8
+50	17.0		17.8
+75	34.0		32.8
12	34.0	1.2	33.8
+25	34.0	1.3	33.7
+50	34.0		33.7
+75	34.0		33.7
13	34.0	1.26 G=4.4	33.7

V			
13	33.0	1.26 G=4.4	31.7
+75	31.0	1.3	29.7
+50	25.0		23.7
+25	28.0		26.7
12	23.0		21.7
+75	14.0		12.7
+50	9.0		7.7
+25	8.0		6.7
11	7.5	1.3	6.2
+75	7.5	1.4	6.1
+50	6.5		5.1
+25	6.0		4.6
10	6.0		4.6
+75	5.5		4.1
+50	5.5		4.1
+25	5.5		4.1
9	5.0	1.4	3.6
+75	5.0		3.6
+50	5.0		3.6
+25	5.0		3.6

8	4.5		36
+7.5	5.0		36
+5.0	5.0		36
+2.5	5.0		36
7	5.0	1.4	36
+7.5	5.0	1.5	35
+5.0	5.0		35
+2.5	5.0		35
6	5.0		35
+7.5	5.0		35
+5.0	5.0		35
+2.5	9.0		75
5	9.5	1.5	80
+7.5	10.0		85
+5.0	9.5		80
+2.5	7.0		55
4	5.5		40
+7.5	5.5		40
+5.0	5.5		40
+2.5	5.5	1.5	40

3	6.0	1.6	44
+7.5	6.0		44
+5.0	6.5		49
+2.5	6.0		44
2	6.0		44
+7.5	6.0		44
+5.0	6.0		44
+2.5	6.0		44
1	4.0		24
+8.0	2.0	1.56 C=47	04

W		3.96	
13	21.5 ⁻	G=7.1	17 5
+7.5 ⁻	16	4.0	12 0
+5.0 ⁻	12.5 ⁻		9 5
2.5 ⁻	12.5 ⁻		8 5
12	12.5 ⁻		8 5
+7.5 ⁻	12.0		8 0
+5.0 ⁻	11.5 ⁻		7 5
+2.5 ⁻	11.0		7 0
11	10.5		6 5
+7.5 ⁻	10.0		6 0
+5.0 ⁻	9.0		5 0
+2.5 ⁻	9.0		5 0
10.	8.0		4 0
+7.5 ⁻	8.0		4 0
+5.0 ⁻	8.0		4 0
+2.5 ⁻	8.0		4 0
9	7.5		3 5
+7.5 ⁻	7.5 ⁻		3 5
+5.0 ⁻	7.5 ⁻		3 5
+2.5 ⁻	7.5 ⁻		3 5

8	7.5 ⁻		3 5
+7.5 ⁻	7.5 ⁻		3 5
+5.0 ⁻	7.0 ⁻		3 5
+2.5 ⁻	7.5 ⁻		3 5
7	7.5 ⁻		3 5
+7.5 ⁻	7.0		3 0
+5.0 ⁻	7.0		3 0
+2.5 ⁻	7.0		3 0
6	7.0		3 0
+7.5 ⁻	8.0		4 0
+5.0 ⁻	8.0		4 0
+2.5 ⁻	8.0		5 0
5 ⁻	11.5		7 5
+7.5 ⁻	11.5 ⁻		7 5
+5.0 ⁻	12.0		8 0
+2.5 ⁻	12.5 ⁻		8 5
4	8.0		4 0
+7.5 ⁻	8.5 ⁻		4 5
+5.0 ⁻	8.0		4 0
+2.5 ⁻	8.0		4 0

3	8.0		40
+75	8.0		40
+50	8.0		40
+25	8.0		40
2	9.0		50
+75	8.0		40
+50	8.0		40
+25	8.0		40
1	7.0	4.0	30
+75	4.0	$C=7.1$ 3.96	00

1	$C=7.1$	3.96	
+75	3.0	4.0	+10
1	6.0		20
+25	7.5		35
+50	9.0		40
+75	8.5	4.0	45
2	8.0	4.1	44
+25	8.5		44
+50	8.5		44
+75	8.0		39
3	8.0	4.1	39
+25	8.5		44
+50	9.0		49
+75	8.5		44
4	12.0		79
+25	12.5	4.1	84
+50	12.5	4.2	83
+75	12.0		78
5	12.0		78
+25	10.0		58

+50	8.0	4.2	38
+75	8.0		38
6	7.0		28
+25	7.0		28
+50	7.5		33
+75	8.0	4.2	38
7	7.0	4.3	27
+25	8.0		37
+50	8.0		37
+75	8.0		37
8	8.0	4.3	37
+25	8.0		37
+50	8.0		37
+75	8.0		37
9	8.0		37
+25	8.0	4.3	37
+50	7.5	4.4	31
+75	8.0		46
10	9.0		46
+25	10.0		56

+50	10.5	4.4	61
+75	11.0		66
11	11.5		71
+25	12.0		76
+50	13.0	4.4	86
+75	13.0	4.5	85
12	13.5		90
+25	13.5		90
+50	14.0		95
+75	13.5		90
13	16.0	G=7.6 4.46	115

X	$\bar{U} = 5.5$	2.36	
13	11.0	2.4	86
+75	+1.0		86
+50	11.0	2.4	86
+25	11.0	2.3	87
12	10.5	2.3	82
+75	10.0		77
+50	10.0	2.3	77
+25	9.5	2.2	73
11	9.0	2.2	68
+75	8.5		63
+50	7.5	2.2	53
+25	7.0	2.1	49
10	6.5		44
+75	6.0	2.1	39
+50	5.5	2.0	35
+25	5.0	2.0	35
9	5.5	2.0	35
+75	5.0	1.9	31
+50	4.5	1.9	36

+25	5.0	1.9	31
8	5.0	1.8	32
+75	5.0	1.8	32
+50	5.0	1.8	32
+25	5.0	1.7	33
7	5.0	1.7	33
+75	4.5	1.7	28
+50	4.0	1.6	29
+25	4.0	1.6	29
6	4.0	1.6	29
+75	4.0	1.5	30
+50	4.0	1.5	30
+25	3.0	1.5	35
5	3.0	1.4	76
+75	10.0	1.4	86
+50	9.0	1.4	76
+25	10.0	1.3	87
4	8.5	1.3	72
+75	6.5	1.3	52
+50	5.0	1.2	38

+25	5.0	1.2	38
13	5.0	1.2	38
+75	5.0	1.2	38
+50	5.0	1.1	39
+25	5.5	1.1	44
2	5.0	1.1	39
+75	5.0	1.0	40
+50	4.5	1.0	45
+25	4.0	0.9	31
1	2.0	0.9	21
+80	1.0	0.9	01
		G=4.0	0.86

2	G=4.0	0.86	
+85	1.0		01
1	2.0		11
+25	3.0		21
+50	4.5		36
+75	5.0		41
2	5.0		41
+25	5.0	0.9	41
+50	5.0	0.8	42
+75	5.0		42
3	4.5		37
+25	5.0		42
+50	5.0		42
+75	8.0	0.8	72
4	8.5		77
+25	8.5		77
+50	9.0		82
+75	8.0		72
5	8.0		72
+25	4.5	0.8	37

+50	4.15	0.7	38
+75	4.5		38
6	4.5		38
+25	4.0		33
+50	4.5		38
+75	4.5	0.7	38
7	4.5		38
+25	4.5		38
+50	4.5		38
+75	4.5		38
8	4.5		38
+25	4.5	0.7	38
+50	4.5	0.6	39
+75	5.0		44
9	5.0		44
+25	5.0		44
+50	5.5		49
+75	5.5	0.6	49
10	6.5		59
+25	7.5		69

+50	7.5	0.6	69
+75	8.0		74
11	8.5	0.6	79
+25	9.5	0.5	90
+50	9.5		90
+75	10.0		95
12	10.0		95
+25	10.5		100
+50	10.5		100
+75	10.5		100
13	10.5	0.5	100

41	G=3.6		
13	10.5	0.46	10 0
+75	10.5		10 0
+50	10.5		10 0
+25	10.5		10 0
12	10.0		9 5
+75	10.0		9 5
+50	10.0		9 5
+25	9.5		9 0
11	9.5	0.5	9 0
+75	8.5	0.4	8 1
+50	8.0		7 6
+25	7.5		7 1
10	7.0		6 6
+75	6.5		6 1
+50	5.5		5 1
+25	5.0		4 6
9	4.5	0.4	4 1
+75	5.0		4 6
+50	4.5		4 1
+25	4.0		3 6

8	4.5		4 1
+75	4.5		4 1
+50	4.0	0.4	3 6
+25	4.0	0.3	3 7
7	4.0		3 7
+75	4.0		3 7
+50	4.0		3 7
+25	4.0		3 7
6	4.0		3 7
+75	4.0		3 7
+50	4.0		3 7
+25	4.0		3 7
5	8.0	0.3	7 7
+75	8.0		7 7
+50	8.5		8 2
+25	9.0		8 7
4	8.0		7 7
+75	8.0		7 7
+50	7.5		7 2
+25	5.5	0.3	5 2

13	4.0 ⁻	0.2	43
+75 ⁻	4.0 ⁻		43
+50	4.0 ⁻		43
+25 ⁻	4.0 ⁻		43
2	4.0 ⁻		43
+75 ⁻	4.0		38
+50	3.0 ⁻		33
+25 ⁻	2.0		18
1	1.0	0.2	08
+80	0.0	$G = \frac{0.16}{3.3}$	+ 2

B' G = 3.2			
13	10.0	0.06	9.9
+75 ⁻	10.0	0.1	9.9
+50	10.5	0.2	10.3
+25 ⁻	10.5	0.2	10.3
12	10.0	0.2	9.8
+75 ⁻	10.0	0.2	9.8
+50	10.0	0.3	9.7
+25 ⁻	9.5 ⁻	0.3	9.2
11	9.5 ⁻	0.3	9.2
+75 ⁻	9.0	0.4	8.6
+50	8.5 ⁻	0.4	8.1
+25 ⁻	8.0	0.4	7.6
10	7.5 ⁻	0.5	7.1
+75 ⁻	7.0	0.5	6.5
+50	6.5 ⁻	0.5	6.0
+25 ⁻	6.0 ⁻	0.5	5.0
9	5.0	0.6	4.6
+75 ⁻	4.5 ⁻	0.6	3.9
+50	4.0	0.6	3.4
+25 ⁻	4.0	0.7	3.3

8	4.0	0.7	33
+75	4.0	0.7	33
+50	4.0	0.8	32
+25	4.0	0.8	32
7	4.0	0.8	32
+75	4.0	0.9	31
+50	4.0	0.9	31
+25	4.0	0.9	31
6	4.0	1.0	30
+75	4.0	1.0	30
+50	4.0	1.0	30
+25	4.0	1.1	29
5	4.0	1.1	29
+75	7.0	1.1	59
+50	8.0	1.2	68
+25	8.0	1.2	68
4	8.0	1.2	68
+75	8.0	1.3	67
+50	7.5	1.3	62
+25	9.0	1.3	77

3	5.0	1.4	36
+75	4.5	1.4	31
+50	4.5	1.4	31
+25	4.5	1.5	30
2	4.5	1.5	30
+75	4.5	1.5	30
+50	5.0	1.5	35
+25	3.0	1.6	34
1	2.0	1.6	04
+75	0.0	1.6	+16

C' G = 47

113	11.5	1.6 1.56	99
+75	11.5		99
+50	11.5		99
+25	12.0		104
12	12.0		104
+75	12.0		104
+50	11.5		99
+25	11.5		99
11	11.5		99
+75	11.0		94
+50	10.5		89
+25	10.5		89
10	10.0		84
+75	9.0		74
+50	8.5		69
+25	8.0		69
9	7.5		59
+75	6.5		49
+50	6.0		44
+25	6.0		39

8	5.0		34
+75	5.5		39
+50	5.5		39
+25	5.0		39
7	5.0		39
+75	5.5	1.6	39
+50	5.0	1.7	33
+25	5.0		33
6	5.0		33
+75	5.0		33
+50	5.5		38
+25	5.5		38
5	5.0		33
+75	5.5		38
+50	5.5		38
+25	8.0		63
4	10.0		83
+75	10.0		83
+50	9.5		79
+25	9.0		73

3	10.0	8 3
+75	6.5	4 8
+50	6.0	4 8
+25	6.0	4 3
2	6.0	4 3
+75	6.0	4 3
+50	6.0	4 3
+25	5.5	3 8
1	4.5	2 8
+75	3.0	1 3
+60	2.0	0 3

1.66
G = 4.8

$\Pi' G = 4.8$

+50	2.0	1.66	0 3
+75	5.5	1.7	3 8
1	10.0	1.8	8 2
+25	11.0	1.8	9 7
+50	12.5	1.9	10 6
+75	13.0	1.9	11 1
2	12.0	2.0	10 0
+75	12.0	2.0	10 5
+50	10.0	2.1	7 9
+75	10.0	2.1	7 9
3	10.0	2.2	7 8
+25	10.0	2.2	7 8
+50	10.0	2.3	7 7
+75	10.5	2.3	8 2
4	10.0	2.4	7 6
+25	6.0	2.4	3 6
+50	6.0	2.5	3 5
+75	6.0	2.5	3 5
5	6.0	2.6	3 4
+25	6.0	2.6	3 4

+50	6.0	2.7	33
+75	6.0	2.7	33
6	6.0	2.8	32
+25	6.0	2.8	32
+50	6.0	2.9	31
+75	6.0	2.9	31
7	6.0	3.0	30
+25	6.5	3.1	34
+50	6.5	3.1	34
+75	6.5	3.2	33
8	6.5	3.2	33
+25	6.5	3.3	32
+50	7.0	3.3	37
+75	8.0	3.4	46
9	8.0	3.4	46
+25	9.0	3.5	55
+50	10.0	3.5	65
+75	10.5	3.6	69
10	11.0	3.6	74
+25	11.5	3.7	78

+50	12.0	3.8	82
+75	12.5	3.8	87
11	12.5	3.9	86
+25	13.0	3.9	91
+50	14.0	4.0	100
+75	13.0	4.0	90
12	13.0	4.1	89
+25	13.0	4.1	89
+50	13.0	4.2	88
+75	13.0	4.2	88
13	13.0	4.3 C = 7.4	87

$E' C = 5.8$

13	13.5	2.66	10 8
+75	13.5		10 8
+50	13.5		10 8
+25	13.0		10 3
12	13.5	2.7	10 8
+75	13.5	2.8	10 7
+50	13.0		10 2
+25	13.0		10 2
11	13.0	2.8	10 2
+75	13.0		10 2
+50	12.5		9 7
+25	12.0		9 2
10	12.0	2.8	9 2
+75	12.0	2.9	9 1
+50	10.5		7 6
+25	10.0		7 1
9	9.5	2.9	6 6
+75	9.0		6 1
+50	8.0		5 1
+25	8.0		5 6

8	7.5	2.9	4 6
+75	7.5	3.0	4 5
+50	7.5		4 5
+25	7.0		4 0
7	7.0	3.0	4 0
+75	7.0		4 0
+50	6.5		3 5
+25	6.5		3 5
6	7.0	3.0	4 0
+75	7.0	3.1	3 9
+50	6.5		3 4
+25	6.0		2 9
5	6.5	3.1	3 4
+75	6.5		3 4
+50	6.5		3 4
+25	6.5		3 4
4	10.0	3.1	6 9
+75	10.5	3.2	7 3
+50	17.0		13 8
+25	11.5		8 3

3	12.0	3.2	8 8
+75	11.5		8 3
+50	14.5		11 3
+25	14.0		10 8
2	14.5	3.2	11 9
+75	15.0	3.3	11 7
+50	14.5		11 2
+25	13.5		10 2
1	12.0		8 7
+75	11.0	3.3	7 7
+50	6.5		3 2
+35	0.0	3.26 C=6.4	+ 3 3

C=6.4

+25	3.0	3.26	+ 0 3
+50	6.5	3.3	3 2
+75	12.0	3.2	8 8
1	12.0	3.2	8 8
+25	14.0	3.2	10 8
+50	15.0	3.2	11 8
+75	15.0	3.1	11 9
2	15.0	3.1	11 9
+25	14.0	3.1	10 9
+50	15.0	3.0	12 0
+75	13.0	3.0	10 0
3	12.5	3.0	9 5
+25	12.0	2.9	9 1
+50	10.5	2.9	7 6
+75	10.0	2.9	7 1
4	7.0	2.9	4 1
+25	7.0	2.8	4 2
+50	7.0	2.8	4 2
+75	6.0	2.8	3 2
5	5.5	2.7	2 8

+25	5.0	2.7	2 3
+50	5.0	2.7	2 3
+75	6.5	2.7	3 8
6	7.5	2.6	4 9
+25	8.0	2.6	5 4
+50	8.0	2.6	5 4
+75	8.0	2.5	5 5
7	8.5	2.5	6 0
+25	8.0	2.5	5 5
+50	8.5	2.5	6 0
+75	8.5	2.4	6 1
8	9.0	2.4	6 6
+25	9.5	2.4	7 1
+50	10.5	2.3	8 2
+75	10.5	2.3	8 2
9	11.5	2.3	9 2
+25	12.0	2.3	9 7
+50	12.5	2.2	10 3
+75	13.0	2.2	10 8
10	13.5	2.2	11 3

+25	14.0	2.1	11 9
+50	14.0	2.1	11 9
+75	14.5	2.1	12 4
11	14.5	2.0	12 5
+25	15.0	2.0	13 0
+50	15.0	2.0	13 0
+75	15.0	1.9	13 1
12	15.0	1.9	13 1
+25	15.0	1.9	13 1
+50	15.0	1.8	13 2
+75	15.0	1.8	13 2
13	15.0	1.76	13 2

0 $Q = 4.9$

+15	1.0	1.76	+0 8
+25	1.5		+0 3
+50	4.0		2 2
+75	5.5		3 7
1	7.5	1.8	5 7
+25	7.5	1.7	5 8
+50	7.5		5 8
+75	7.0		5 3
2	7.0		5 3
+25	8.5		6 8
+50	12.0	1.7	10 3
+75	10.5		8 8
3	10.5		8 8
+25	10.5		8 8
+50	10.0		8 3
+75	5.5	1.7	3 8
4	5.0	1.6	3 4
+25	4.0		2 4
+50	3.5		1 9
+75	3.0		1 4

5	2.5	1.6	0 9
+25	2.5		0 9
+50	2.5		0 9
+75	3.5		1 9
6	4.5		2 9
+25	5.5	1.6	3 9
+50	5.5	1.5	4 0
+75	5.5		4 0
7	6.0		4 5
+25	6.0		4 5
+50	6.5	1.5	5 0
+75	7.0		5 5
8	7.5		6 0
+25	7.5		6 0
+50	9.0		7 5
+75	8.0	1.5	8 0
9	9.0	1.4	8 1
+25	10.5		9 1
+50	10.5		9 1
+75	11.5		10 1

10	11.5	1.4	10 1
+25	12.0		10 6
+50	12.0		10 6
+75	12.0		10 6
11	12.0		10 6
+25	12.5	1.4	11 1
+50	12.5	1.3	11 2
+75	13.0		11 7
12	13.5		12 2
+25	13.0		11 7
+50	13.0		11 7
+75	13.0	1.3	11 7
13	12.5	1.26 G=4.4	11 2

H'			
+	+1.0	G=4.0	0.86
25	0.0	0.9	+1 9
50	1.0		0 1
+75	2.0		1 1
1	3.0		2 1
+25	4.0		3 1
+50	4.5		3 6
+75	4.5		3 6
2	5.0	0.9	4 1
+25	5.0	0.8	4 2
+50	9.0		8 2
+75	9.5		8 7
3	9.5		8 7
+25	9.5		8 7
+50	6.5		5 7
+75	3.5		2 7
4	3.0		3 2
+25	2.0		1 2
+50	1.5	0.8	0 7
+75	1.5		0 7

6	1.5		07
+25	1.6		07
+50	1.5		07
+75	1.5		07
6	3.0		22
+25	4.0		32
+50	4.5	0.8	37
+75	4.5	0.7	38
7	5.0		43
+25	5.0		43
+50	5.0		43
+75	5.5		48
8	6.5		58
+25	7.5		68
+50	8.5		73
+75	9.5		88
9	10.5	0.7	98
+25	10.5		98
+50	11.0		103
+75	11.0		103

10	11.5		108
+25	11.5		108
+50	11.5	0.7	108
+75	11.5	0.6	109
11	11.5		109
+25	12.0		114
+50	12.0		114
+75	12.0		114
12	12.5		119
+25	13.0		129
+50	13.0		129
+75	12.0		114
13	12.0	$\frac{0.6}{0.56}$	114
		$12.0 \cdot 0.56 = 6.72$	

I' G=38

00	+1.0	0.66	7 1 8
+25	0.0	0.7	7 0 7
+50	1.0 ⁻		0 8
+75	2.0		1 3
1	3.0		2 3
+25	5.0		4 3
+50	5.0		4 3
+75	5.0		4 3
2	6.0	0.7	5 3
+25	6.0	0.8	5 2
+50	8.0		7 2
+75	9.0		8 2
3	9.0		8 2
+25	7.0		6 2
+50	3.0		2 2
+75	2.0		1 2
4	2.0		1 2
+25	1.0 ⁻		0 7
+50	1.0 ⁻	0.8	0 7
+75	1.0 ⁻		0 7

5	1.0 ⁻		0 7
+25	1.0 ⁻		0 7
+50	1.0		0 2
+75	1.0		0 2
6	2.0 ⁻		1 7
+25	4.0		3 2
+50	4.0		4 2
+75	5.0	0.8	4 2
7	5.0	0.9	4 1
+25	5.0		4 1
+50	6.0 ⁻		5 6
+75	6.0 ⁻		5 6
8	7.0 ⁻		6 6
+25	8.0		7 1
+50	8.0		7 6
+75	9.0 ⁻		8 6
9	10.0 ⁻	0.9	9 6
+25	11.0		10 1
+50	11.0 ⁻		10 6
+75	12.0		11 1

10	13.0		12.1
+25	13.0		12.1
+56	13.0		12.1
+75	12.5		11.6
11	12.5	0.9	11.6
+25	12.5	1.0	11.5
+50	12.5		11.5
+75	12.5		11.5
12	13.0		12.0
+25	12.5		11.5
+50	17.0		16.0
+70	12.0		11.0
18	12.5	0.96 C _i = 4.1	11.5

13	12.5	0.96 C _i = 4.1	11.5
+75	12.5	1.0	11.5
+50	15.5		14.5
+25	13.0		12.0
12	13.0	1.0	12.0
+75	13.0	1.1	11.9
+50	14.0		12.9
+25	14.0	1.1	12.9
11	13.5		12.4
+75	13.5		12.4
+50	13.5	1.1	12.4
+25	11.0	1.2	9.8
10	12.0	checked at 10 + 5 one reading to many between them	10.8
+75	12.0	5 1.2	10.8
+50	11.5		10.3
9	11.0		9.8
+75	11.0	1.2	9.8
+50	10.5	1.3	9.2
+25	10.0		8.7
8	9.5	1.3	8.2

+75	8.5		72
+50	8.0	1.3	67
+25	7.0	1.4	56
7	6.4		51
+75	6.0		46
+50	5.5	1.4	41
+25	5.0		36
6	4.0		26
+75	2.5	1.4	11
+50	2.0	1.5	05
+25	2.0		05
5	2.0		05
5✓	2.0		05
+75	2.0	1.5	05
+50	2.0		05
+25	2.0		05
4	2.0	1.5	05
+75	2.5	1.6	09
+50	3.5		19
+25	6.5	1.6	49

3	9.0		74
+75	9.5		79
+50	9.5	1.6	79
+25	6.0	1.7	43
2	6.0		43
+75	5.5		38
+50	5.0	1.7	33
+25	5.0		33
1	3.0	1.7	13
+75	2.5	1.8	07
+50	2.5		07
+25	2.0		02
0	0.5	$C_1 = 4.9^{1.76}$	+ 13

K' G = 5.0

24' east of 00	+04	1.86	+ 2 3
00	3.5		16
+25	3.5	1.9	16
+50	3.0	2.0	10
+75	3.0		10
1	4.5	2.0	25
+25	5.0	2.0	30
+50	5.5	2.1	34
+75	6.0	2.1	39
2	6.0		39
+25	8.0	2.1	59
+50	10.0	2.2	78
+75	9.5	2.2	73
3	8.0	2.2	58
+25	5.0	2.3	27
+50	3.0	2.3	07
+75	3.0		07
4	3.0	2.3	07
+25	3.0	2.4	06
+50	2.5	2.4	01

+75	2.5		01
5	2.5	2.4	01
+25	3.0	2.5	05
+50	2.5	2.5	00
+75	2.5		00
6	3.0	2.5	05
+25	4.0	2.6	14
+50	5.0	2.6	29
+75	6.5	2.6	39
7	6.0	2.7	33
+25	7.0	2.7	43
+50	8.5		58
+75	9.0	2.7	63
8	10.0	2.8	72
+25	11.0	2.8	82
+50	11.5		87
+75	12.0	2.8	92
9	13.0	2.9	101
+25	13.0	2.9	101
+50	14.0	2.9	111

475	13.0	3.0	10 0
10	14.0	$C_1 = \frac{2.96}{6.1}$ ^{3.0}	11 0
+25	14.0	$\frac{3.16}{6.3}$ ^{3.2}	10 8
+50	14.0	3.2	10 8
+75	14.5		11 3
11	15.0		11 8
+25	15.5		12 3
+50	15.5		12 3
+75	16.0		12 8
12	16.0		12 8
+25	16.0		12 8
+50	15.5		12 3
+75	15.0	3.2	11 8
13	15.0	$\frac{3.16}{6.3}$	11 8

10	16.5	6.3 3.16	13 3
+75	16.5	3.2	13 3
+50	16.5		13 3
+25	16.5		13 3
12	16.0		12 8
+75	16.0	3.2	12 8
+50	16.0	3.3	12 2
+25	15.5		12 2
11	15.0		11 7
+75	15.0		11 7
+50	14.5	3.3	11 2
+25	14.5		11 2
10	14.5		11 2
+75	14.5		11 2
+50	14.0	3.3	10 7
+25	13.5	3.4	10 1
9	13.5		10 1
+75	12.5		9 1
+50	12.0	3.4	8 6
+25	13.0		8 6

8	11.0 ⁻		8 1
+75 ⁻	11.0		7 6
+50	10.0	3.4	6 6
+25 ⁻	9.5 ⁻	3.5	6 0
7	8.5 ⁻		5 0
+75 ⁻	7.5 ⁻		4 0
+50	6.0		2 5
+25 ⁻	4.5 ⁻	3.5	1 5
6	4.0		0 5
+75 ⁻	3.5 ⁻		0 0
+50	4.0		0 5
+25 ⁻	4.0	3.5	0 5
5	4.0		0 5
+75 ⁻	4.0		0 5
+50	4.0		0 5
+25 ⁻	4.0	3.6	0 4
4	4.0		0 4
+75 ⁻	4.0 ⁻		0 9
+50	4.0		0 4
+25 ⁻	6.0 ⁻	3.6	2 9

3	7.0	3.7	3 3
+75 ⁻	7.5 ⁻		3 8
+50	7.5 ⁻		3 8
+25 ⁻	7.0		3 3
2	7.0	3.7	3 3
+75 ⁻	7.5 ⁻		3 8
+50	7.0		3 3
+25 ⁻	6.5 ⁻		2 8
1	6.0	3.7	2 3
+75 ⁻	5.0		1 3
+50	4.5 ⁻		0 8
+25 ⁻	3.5 ⁻		+ 0 2
00	2.0 ⁻	3.8	+ 1 3
25' E.	2.00 = 6.9 = 3.76		+ 1 8

IT' G = 7.4

13	19.0	4.26	13 7
+75	18.0	4.3	13 7
+50	17.0		12 7
+25	16.5		12 2
12	16.5		12 2
+75	16.5	4.3	12 2
+50	16.5	4.4	12 1
+25	17.0		12 6
11	16.5		12 1
+75	16.5		12 1
+50	16.0		11 6
+25	15.5	4.4	11 1
10	15.5		11 1
+75	15.5		11 1
+50	15.0		10 6
+25	15.0	4.4	10 6
9	15.0	4.5	10 5
+75	14.5		10 0
+50	14.0		9 5
+25	13.5		9 0

8	14.0		9 5
+75	13.5	4.5	9 0
+50	13.5		9 0
+25	11.5		7 5
7	11.0		6 5
+75	9.5	4.5	5 0
+50	7.0	4.6	2 4
+25	4.0		+0 6
6	3.5		+1 1
+75	5.0		0 4
+50	5.0		0 4
+25	5.0	4.6	0 4
5	5.0		0 4
+75	5.0		0 4
+50	5.0		0 4
+25	5.0	4.6	0 4
4	5.0	4.7	0 3
+75	5.0		0 3
+50	5.0		0 3
+25	7.5		2 8

Cement outfall between

3	8.0		3 3
+75	8.0		3 3
+50	8.0	4.7	3 3
+25	8.0		3 3
2	8.0		3 3
+75	8.0		3 3
+50	8.0		3 3
+25	7.5	4.7	2 8
1	7.0	4.8	2 2
+75	6.5		1 7
+50	6.0		1 2
+25	5.0		0 2
00	4.0		+ 0 8
25 E	2.5	4.8	+ 2 3
45 E	2.5	G=7.9=4.76	+ 2 3

N/G=5.4

12	16.5	2.26	14 2
+75	15.0	2.3	12 7
+50	14.5		12 2
+25	14.0		11 7
12	14.0		11 7
+75	14.0		11 7
+50	13.5	2.3	12 7
+25	14.5	2.2	12 3
11	14.0		11 8
+75	13.5		11 3
+50	13.5		11 3
+25	13.5		11 3
10	13.5		11 3
+75	13.5	2.2	11 3
+50	13.0		10 8
+25	13.0		10 8
9	12.5		10 3
+75	12.5		10 3
+50	12.5		10 3
+25	12.0	2.2	9 8

8	11.5	2.1	94
+75	11.0		89
+50	10.0		79
+25	10.0		79
7	9.0		69
+75	8.0		59
+50	6.5	2.1	44
+25	5.0		29
6	3.0		09
+75	2.5		04
+50	2.5		04
+25	2.0		+01
5	2.0	2.1	+01
+75	2.0	2.0	05
+50	2.0		05
+25	2.0		00
4	2.0		05
+75	2.0		05
+50	4.0		20
+25	5.0	2.0	30

3	5.0		30
+75	5.0		30
+50	5.0		30
+25	5.5		35
2	5.5		35
+75	5.0	2.0	30
+50	5.0	1.9	31
+25	5.0		31
1	5.0		31
+75	4.0		21
+50	3.0		16
+25	2.0		06
00	1.5		+04
20 E	0.0		+19
50 E	+0.0	C ₁ = 5.0	+14

1.86

0' G = 4.9

13	15.0	1.16	13.8
+75	14.0	1.2	12.8
+50	13.5		12.3
+25	13.5		12.3
12	13.0		11.8
+75	13.0		11.8
+50	13.5		12.3
+25	13.5		12.3
11	13.0		11.8
+75	12.5	1.2	11.3
+50	13.0	1.1	11.9
+25	12.5		11.4
10	12.5		11.4
+75	12.5		11.4
+50	12.5		11.4
+25	12.5		11.4
9	12.0		10.9
+75	12.0		10.9
+50	12.0	1.1	10.9
+25	12.0		10.9

8	10.5	1.1	9.4
+75	11.0		9.9
+50	10.5		9.4
+25	9.5		8.4
7	8.5		7.4
+75	8.0	1.1	6.9
+50	7.0	1.0	6.0
+25	5.5		4.5
6	4.5		3.5
+75	3.5		2.5
+50	2.5		1.5
+25	2.0		1.0
5	1.5		0.5
+75	1.0	1.0	0.0
+50	1.0		0.0
+25	1.0		0.0
4	1.5		0.5
+75	2.0		1.0
+50	3.5		2.5
+25	4.5		3.5

3	4.5		35
+75	4.5		35
+50	4.5		35
+25	4.5	1.0	35
2	4.5	0.9	36
+75	4.5		36
+50	4.0		31
+25	4.0		31
1	4.0		31
+75	3.5		26
+50	3.0		21
+25	2.0		11
00	0.5		+04
25 E	+0.5	0.9	+14
50 E	+1.0	0.86	+19

P' C = 0.8

13	14.5	0.66	138
+75	13.5	0.7	128
+50	13.0		123
+25	13.0		123
12	12.5		118
+75	12.5		118
+50	13.0		123
+25	13.0		123
11	12.5		118
+75	13.0		123
+50	11.5		108
+25	12.5		118
10	12.5		118
+75	12.5		118
+50	12.5		118
+25	11.0		103
9	12.5		118
+75	11.5		108
+50	11.5		108
+25	11.5		108

8	11.5		108
+75	11.0		103
+50	10.5		98
+25	10.0	0.7	93
7	8.5	0.6	79
+75	8.0		74
+50	6.5		59
+25	6.0		54
6	5.0		44
+75	4.0		34
+50	3.5		29
+25	2.5		19
5	2.0		14
+75	1.5		09
+50	1.0		04
+25	1.0		04
4	2.0		14
+75	2.5		19
+50	3.5		29
+25	4.5		39

3	4.5		39
+75	4.5		39
+50	4.0		34
+25	4.0		34
2	4.0		34
+75	4.0		34
+50	4.0		34
+25	4.0		34
1	3.5		29
+75	3.5		29
+50	3.0		24
+25	2.5		19
00	0.0		+ 01
25 E	+0.5		+ 11
50 E	+1.0		+ 17
75 E	+1.0 $C=0.7$	0.56	+ 17

Q' C = 4.9

13	16.0	1.76	142
+75	15.0	1.8	132
+50	14.0		122
20	14.0		122
12	14.0		122
+75	14.0		122
+50	14.0		122
+25	14.0	1.8	122
11	14.0	1.9	121
+75	14.0		121
+50	14.0		121
+25	13.5		116
10	15.0		131
+75	14.0		121
+50	14.0	1.9	121
+25	14.0		121
9	13.5		116
+75	12.5		106
+50	13.5		116
+25	13.0		111

8	13.0	1.9	111
+75	12.5	2.0	105
+50	12.0		100
+25	11.5		95
7	10.5		85
+75	9.5		75
+50	8.5		65
+25	7.5	1.9	55
6	7.0	2.0	50
+75	6.5		45
+50	5.5		35
+25	5.0		30
5	4.0		20
+75	4.0		20
+50	3.0		10
+25	3.5	2.0	15
4	3.0	2.1	09
+75	4.0		19
+50	5.0		29
+25	5.0		29

3	6.0	2.0	3 9
+75	6.5	2.1	4 4
+50	6.5	2.1	4 4
+25	6.0	2.0	3 9
1	3.5	2.1	3 4
+75	5.5	2.1	3 4
+50	6.0	2.1	3 9
+25	5.5	2.1	3 4
1	6.0	2.1	3 9
+75	5.0	2.2	2 8
+50	5.0	2.1	2 8
+25	4.0	2.1	1 8
00	2.0	2.1	0 3
25 E	2.0	2.1	+ 0 2
50 E	1.0	2.1	+ 1 2
75 E	0.5	2.1	+ 1 7
100 E	0.0	$C = 5.3$ 2.16	+ 2 2

R' G = 6.7

10	18.0	3.56	14 4
+75	17.5	3.6	13 9
+50	16.0	3.6	12 4
+25	14.5	3.6	10 9
12	13.5	3.6	11 9
+75	16.0	3.6	12 4
+50	16.0	3.6	12 4
+25	17.0	3.6	13 4
11	17.0	3.6	13 4
+75	16.5	3.6	12 9
+50	16.5	3.7	12 8
+25	16.5	3.7	12 8
10	15.5	3.7	11 8
+75	14.5	3.7	11 8
+50	15.0	3.7	11 3
+25	15.0	3.7	11 3
9	15.0	3.7	11 3
+75	15.0	3.7	11 3
+50	15.0	3.7	11 3
+25	14.5	3.7	10 8

8	14.0	3.7	10 3
+75	14.0		10 3
+50	13.5		9 8
+25	13.0	3.7	9 3
7	12.5	3.8	8 7
+75	11.5		7 7
+50	10.5		6 7
+25	9.5		5 7
6	9.0		5 2
+75	7.0		3 2
+50	7.5		3 7
+25	7.0	3.8	3 2
5	6.5		2 7
+75	6.0		2 2
+50	6.0		2 2
+25	5.5		1 7
4	6.0		2 2
+75	6.0		2 2
+50	6.0	3.8	2 2
+25	6.5	3.9	2 6

3	6.5	3.9	2 6
+75	7.0		3 1
+50	7.5		3 6
+25	7.5		3 6
2	7.0	3.9	3 1
+75	7.5	3.86	3 6
		G=70	

S' C = 7.4

13	20.0	4.26	15 7
+75	19.5	4.3	15 2
+50	19.0		14 7
+25	18.0		13 7
12	18.5		10 7
+75	16.0		11 7
+50	16.5		12 2
+25	17.0		12 7
11	16.5		12 2
+75	16.5		12 2
+50	16.5		12 2
+25	16.5	4.3	12 2
10	16.5	4.4	12 1
+75	17.0		12 6
+50	17.0		12 6
+25	16.5		12 1
9	16.5		12 1
+75	16.0		11 6
+50	16.0		11 6
+25	16.0		11 6

8	15.5		11 1
+75	15.5	4.4	11 1
+50	15.0		10 6
+25	14.5		10 1
7	14.0		9 6
+75	13.0		8 6
+50	12.5		8 1
+25	11.5		7 1
6	10.5		6 1
+75	10.0		5 6
+50	9.5		5 1
+25	8.0		3 6
5	8.0	4.4	3 6
+75	7.5	4.5	3 0
+50	7.5		3 0
+25	7.5		3 0
4	7.5		3 0
+75	7.0		2 5
+50	7.5		3 0
+25	7.5		3 0

3	8.0		3 5
+75	8.0		3 5
+50	8.0	4.5	3 5
2 + 30	9.0	C=7.6 4.46	4 5

T G = 4.5

13	18.0	1.36	16 6
+75	17.0	1.4	15 6
+50	16.0		15 1
+25	16.0		14 6
12	15.0		14 1
+75	13.5		12 1
+50	13.0		12 1
+25	14.0		12 6
11	14.0		12 6
+75	14.0		12 6
+50	14.0		12 6
+25	14.0		12 6
10	13.5		12 1
+75	14.0		12 6
+50	14.0		12 6
+25	14.0		12 6
9	13.5		12 1
+75	13.5		12 1
+50	13.0		11 6
+25	13.0		11 6

8	12.5	1.4	11 1
+75	12.5		11 1
+50	12.0		10 6
+25	10.5		9 1
7	11.0		9 6
+75	11.0		9 6
+50	10.0		8 6
+25	9.5		8 1
6	8.5		7 1
+75	7.5		6 1
+50	6.5		5 1
+25	6.0		4 6
5	5.0		3 6
+75	5.0		3 6
+50	4.5		3 1
+25	4.5		3 1
4	4.5		3 1
+75	4.5		3 1
+50	4.5		3 1
+25	5.0		3 6
3	5.0	1.4	3 6
2+74	5.0	$C = 4.5 \cdot 1.36$	3 6

$U' C = 1.54$

13	21.0	2.26	18 7
+75	20.0	2.3	17.7
+50	19.0		16 7
+25	18.0		15 7
12	17.0		14 7
+75	16.5		14.2
+50	16.0		13 7
+25	15.5		13 2
11	15.5		13 2
+75	15.5	2.3	13 2
+50	15.0	2.4	12 6
+25	15.0		12 6
10	15.0		12 6
+75	15.0		12 6
+50	15.0		12 6
+25	15.0		12 6
9	14.5		12 1
+75	14.5		12 1
+50	14.5		12 1
+25	14.5		12 1

	14.0	2.4	11 6
	13.5		11 1
+50	13.5		11 1
+25	13.0		10 6
7	12.5		10 1
+75	12.0		9 6
+50	11.5		9 1
+25	11.0		8 6
6	10.5		8 1
+75	9.5	2.4	7 1
+50	9.0	2.5	7 0
+25	7.5		5 0
5	7.0		4 5
+75	6.5		4 0
+50	6.0		3 5
+25	6.0		3 5
4	6.0		3 5
+75	5.5		3 0
+50	6.0		3 5
+25	6.0	2.5	3 5
3+142	6.0	2.46	3 5

V' G = 7.4

10	20.5	4.26	19 2
+75	22.0	4.3	17 7
+50	21.5		17 2
+25	20.5		16 2
12	20.0		15 7
+75	19.0		14 7
+50	18.5	4.3	14 2
+25	18.0	4.2	13 8
11	18.0		13 8
+75	17.0		12 8
+50	17.0		12 8
+25	16.5		12 3
10	17.0	4.2	12 8
+75	17.0		12 8
+50	17.0		12 8
+25	17.0		12 8
9	16.5		12 3
+75	16.5		12 3
+50	16.5		12 3
+25	16.0	4.2	11 8

8	16.0	A.1	11 9
+75 ⁻	16.0		11 9
+50	15.5		11 4
+25	15.0		10 9
7	14.5		10 4
+75	14.0	4.1	9 9
+50	13.5		9 4
+25	13.0		8 9
6	12.5		8 4
+75	12.5		8 4
+50	10.5		6 4
+25	10.5	4.1	6 4
5	9.5	4.0	5 5
+75	9.0		5 0
+50	8.0		4 0
+25	7.5		3 5
4	7.0		3 0
+75	7.0		3 0
3+56	8.0	C ₂ 7.1=3.96	4 0

W.G = 7.0

3+96	8.0	3.86	4 1
4	8.0		4 1
+25	8.0		4 1
+50	8.5		4 6
+75	9.0	3.9	5 1
5	9.5	3.8	5 7
+25	10.5		6 7
+50	11.5		7 7
+75	13.0		9 2
6	13.0	3.8	9 2
+25	13.0		9 2
+50	14.0		10 2
+75	14.0	3.8	10 2
7	14.5	3.7	10 8
+25	15.0		11 3
+50	15.0		11 3
+75	16.0	3.7	12 3
+50	16.0		12 3
+25	16.0		12 3
+50	16.0	3.7	12 3

L75	16.5	3.6	12 9
9	16.5		12 9
7.25	16.5		12 9
9 + 50	16.5	3.6	12 9
+75	16.5		12 9
10	17.0		13 4
+25	17.0	3.6	13 4
+50	17.5	3.5	14 0
+75	17.5		14 0
11	18.5		15 0
+25	19.0	3.5	15 5
+50	20.0		16 5
+75	20.5		17 0
12	21.0	3.5	17 5
+25	22.0	3.4	18 6
+50	23.0		19 6
+75	24.0		20 6
13	25.0	3.36	21 6

$X' G = 6.5$

13	25.0	3.36	21 6
+75	24.5	3.4	21 1
+50	23.0		19 6
+25	22.0		18 6
12	21.5		18 1
+75	20.5	3.4	17 1
+50	20.0	3.3	16 7
+25	21.0		17 7
11	28.5		15 2
+75	18.0		14 7
+50	17.5		14 2
+25	17.0		13 7
10	16.5	3.3	13 2
+75	16.5		13 2
+50	16.5		13 2
+25	16.5		13 2
9	16.0		12 7
+75	16.0		12 7
+50	16.0	3.3	12 7
+25	15.5	3.2	12 3

8	15.5	3.2	12 3
+75	15.5		12 3
+50	15.5		12 3
+25	15.5		12 3
7	15.0	3.2	11 8
+75	14.5		11 3
+50	14.0		10 8
+25	14.0		10 8
6	13.5		10 3
+75	12.5		9 3
+50	12.0	3.2	8 8
+25	11.0	3.1	7 9
5	11.0		7 9
+75	10.5		7 4
+50	8.0		5 9
+25	8.0		4 9
++19 =	$\frac{4+36.5}{8.0}$	$Cl = 6.2 = 3.06$	4 9

Y' Cl = 5.9

432.5

13	25.0	2.76	22 2
+75	25.0	2.8	22 2
+50	24.0		21 2
+25	23.5		20 7
12	21.0	2.8	18 2
+75	20.0	2.7	17 3
+50	19.5		16 8
+25	19.0		16 3
11	18.5		15 8
+75	17.5	2.7	14 8
+50	17.5		14 8
+25	17.0		14 3
10	16.5		13 8
+75	16.0	2.7	13 3
+50	16.0	2.6	13 4
+25	16.0		13 4
9	15.5		12 9
+75	15.0	2.6	12 9
+50	15.0		12 4
+25	15.0		12 4

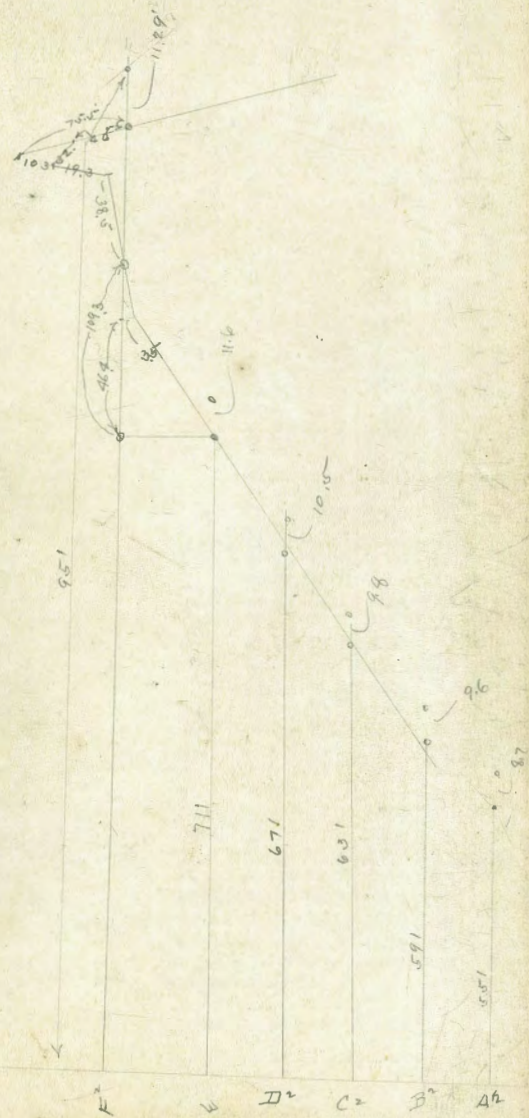
8	15.0		12 4
+75	15.0	2.6	12 4
+50	15.0	2.5	12 5
+25	14.5		12 0
7	14.0		11 5
+75	14.0	2.5	11 5
+50	13.5		11 0
+25	13.0		10 5
6	12.5		10 0
+75	12.0	2.5	9 5
+50	12.0	2.4	9 6
+25	11.0		8 6
5	10.5		8 1
+78	10.5	2.36	8 1

2'			
19	25.0	2.06	22 9
+75	25.0	G 5.2	22 9
+50	25.5		22 4
+25	24.5		22 4
12	23.0		20 9
+75	21.5		19 4
+50	21.0	2.1	18 9
+25	20.0		17 9
11	19.0	2.1	16 9
+75	18.0	2.0	16 0
+50	18.0		16 0
+25	18.0		16 0
10	17.0		15 0
+75	16.5		14 5
+50	16.0		14 0
+25	16.0		14 0
9	16.0		14 0
+75	15.0	2.0	13 0
+50	15.0		13 0
+25	15.0		13 0

8	15.0		130
+75	15.0		130
+50	15.0		130
+25	15.0		130
7	15.0	2.0	130
+75	14.0	1.9	121
+50	12.0		121
+25	14.0		121
6	13.0		111
+75	13.0		111
+50	12.0		106
+25	12.0	1.9	101
5419	12.0	$G = 5.0$ ^{1.86}	101

See Book 10/15

30.4
19.3
10.1



8.5.18

98
30.71
229.71

200.00
29.71
171.29

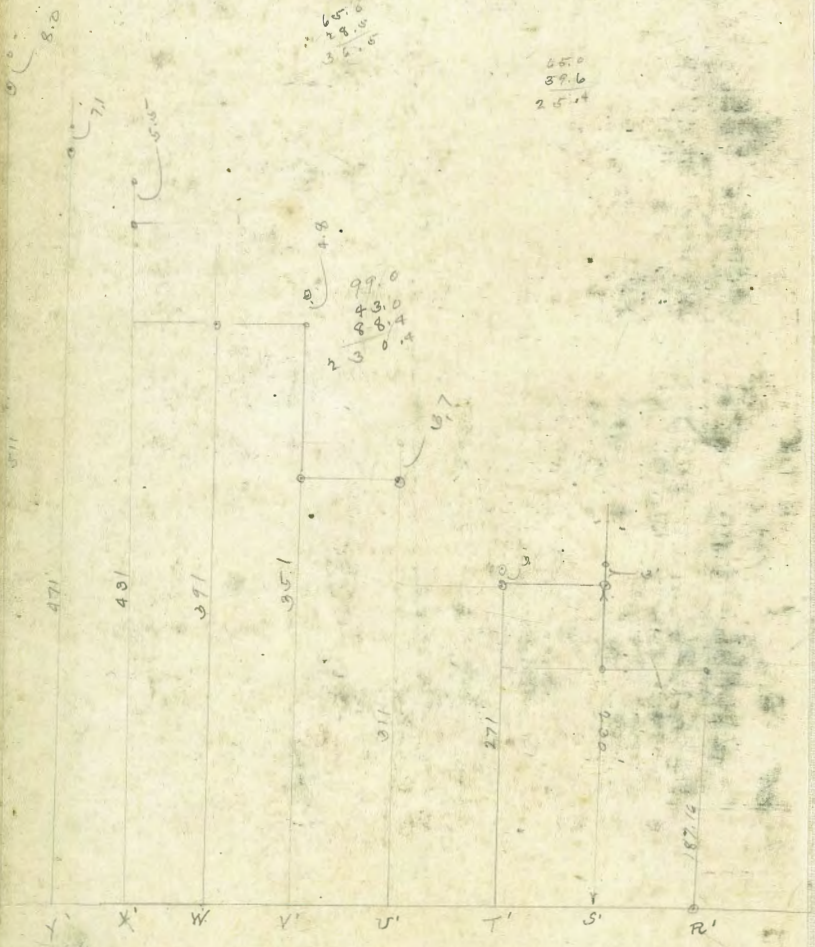
645.0
17.6
47.4

115.0
11.5
103.5

65.0
28.0
37.0

35.0
39.6
25.4

99.0
43.0
56.0



19.3

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 14 FEET WIDE. SIDE SLOPES 1 1/2 TO 1.
FOR SINGLE TRACK EMBANKMENT.

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

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