Book 3-A, Pt. 12

CONSTRUCTION NOTES

PROJ. 33-W4

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

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

	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

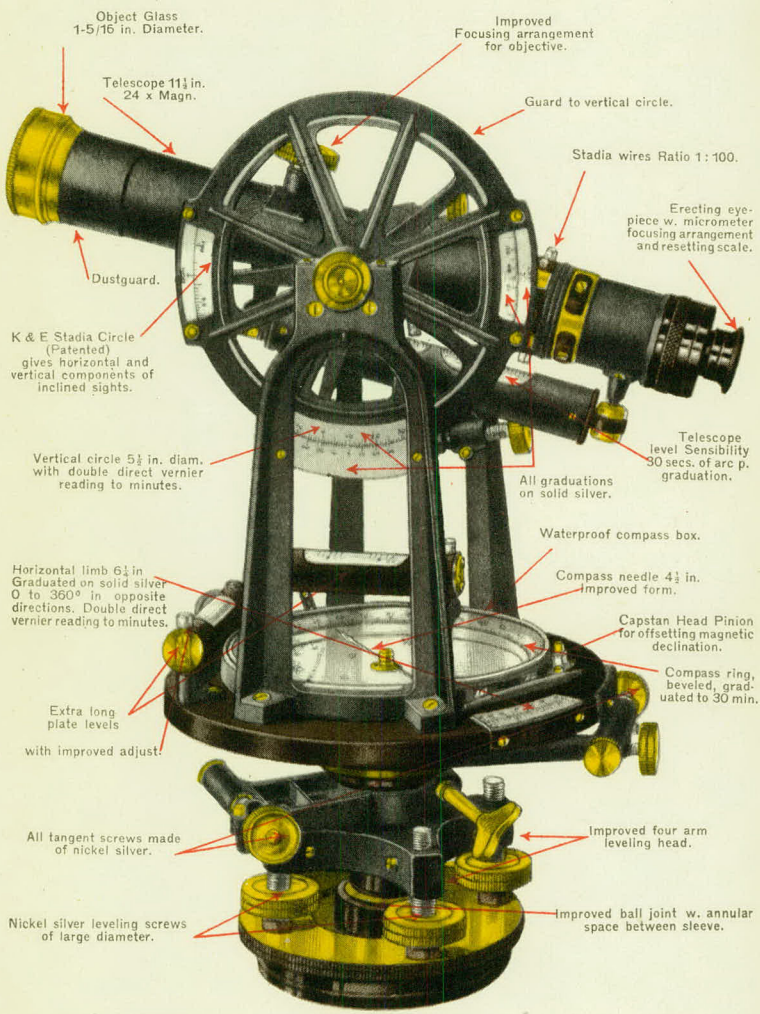
Calculated by Julien A. Hall, M. Am. Soc. C. E.

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

EXTRA FINE ENGINEERS' TRANSIT

No. 5060 S

KEUFFEL & ESSER CO., N.Y.



ALSO MADE WITH

INTERNAL FOCUSING TELESCOPE

PRACTICALLY DUST AND MOISTURE PROOF.

PROJ. # 33-W4

INDEX

	Page
Alignment	1
Slope Stakes	3 9
Culvert Stakes	77

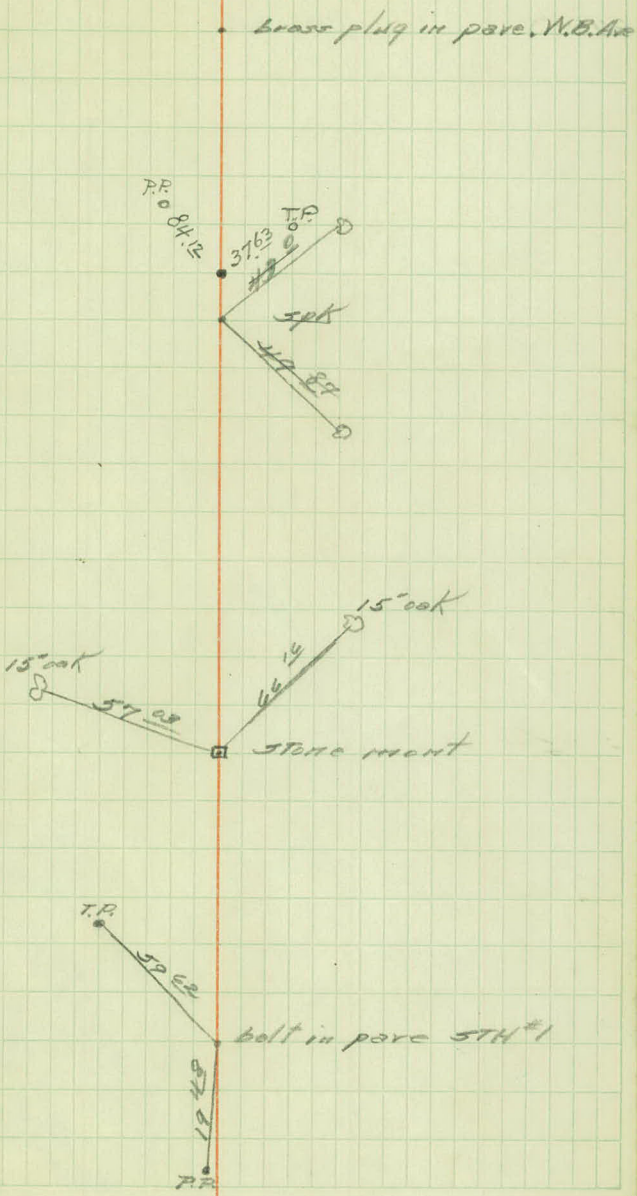
35+53.60

19+50.00 P.O.T.

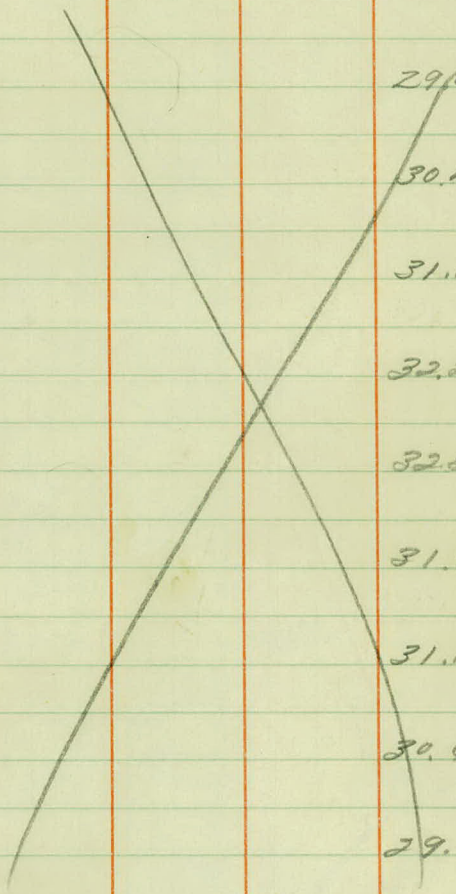
~~19+29.10~~

7+25.85

0+00


brass plug in pave. W.B.A.
R.R.
84.12
37.63
T.R.
spk
15" oak
15" oak
Stone mont
T.R.
bolt in pave 5TH #1
R.R.

BM	7.13	936.93	929.80	
0+37			29.30	7.6
1+50			29.6	7.3
1+00			30.4	6.5
+50			31.1	5.8
2+00			32.2	4.7
+20			32.5	4.4
3+60			31.9	5.0
3			31.1	5.8
+20			30.6	6.3
+70			29.7	7.2
4			29.2	7.7
+30			28.8	



B.M.	7.46	937.24		929.80	
0+00					
+25					
+37				929.5	7.8
+50				29.7	7.6
1				30.7	6.6
+50				31.6	5.7
2				31.9	5.4
+20				32.0	5.3
+40				31.8	5.5
3				31.3	6.0
+20				31.0	6.3
+70				30.3	7.0
4				29.9	7.4

Spk. in PP 1 No. of Sta. 0-

8.0 7.7
40 7.8 40

8.3 8.0 8.5 11.3 12.4 12.4
40 10 8.1 11 17 22 40

9.4 7.9 7.8 8.5 11.9 13.5
40 11 8.0 10 18 40

DC 1.7 7.6 -5.2
8.4 8.4 8.5 7.6 -0.1 8.8 12.0 12.8 13.3
40 28.8 23 10 7.7 11 18 29.4 40

+0.0 6.6 -2.3
6.5 6.6 6.9 6.5 -0.2 7.0 8.1 8.9 10.5
33 24.0 15 8 6.8 7 12 17.6 40

+2.8 5.7 DC 1.3
2.8 2.9 3.2 5.5 5.4 +0.1 5.7 4.7 6.4 7.3
33 28.2 22 12 7 5.6 2 8 22.9 33

+3.8 5.4 +3.8
2.1 1.6 1.8 4.0 4.8 4.6 +0.6 4.8 4.1 1.8 1.6 1.6
33 29.5 24 16 12 6 4.8 3 6 9 29.2 33
29.7 29.7

3.2 2.7 4.3 4.9 5.3 4.9 4.3 2.6 1.3 1.1
33 22 18 11 4.8 3 6 8 29.3 33

DC 1.6 5.5 +1.5
6.4 5.9 5.7 5.2 5.6 +0.1 5.5 5.1 4.0 4.2 4.0 3.5
33 23.4 19 12 11 5.4 3 8 11 17 26.2 33

-3.0 6.0 DC 1.5
10.0 9.0 6.4 6.3 -0.1 6.3 5.9 6.0 6.0 6.2
33 19.0 13 10 6.1 4 13 17 23.2 33

6.3
10.9 9.6 6.8 6.8 6.1 7.0 6.6
33 18 12 6.6 4 13 22 33

DC 0.8 7.0 +0.5
8.7 8.2 7.7 7.7 -0.6 7.8 7.4 6.1 6.7 6.5 6.3
33 22.2 17 9 7.6 5 9 13 19 24.8 33

DC 1.3 7.4 +1.0
8.7 8.1 7.7 8.2 -0.6 8.0 6.4 6.4 6.3
33 22.7 17 9 8.0 10 14 25.5 33

STA.	+	H.I	−	ELEV.	CR. ROD.
		937.24			
41+20				929.60	7.7
+27				29.5	7.8
+35				29.4	7.9
+42				29.4	7.9
5				28.8	8.5
+50				28.4	8.7
T.P.	6.22	933.56	9.92	927.34	
6				28.4	5.2
+32				28.5	5.1
+50				28.5	5.1
+65				28.5	5.1
7				28.7	4.9
+35				28.9	4.7

LT. RT.

9.6 8.5 8.7 7.7 8.7 6.6 5.8
33 15 9 8.4 18 12 33

9.9 8.8 7.8 8.8 8.0 8.7
33 15 8.6 6 10 33

10.3 9.9 9.1 7.9 9.1 8.7 8.7
33 19 15 8.8 6 8 33

-2.4 7.9 +1.3
11.0 10.3 9.1 -1.1 9.2 5.8 8.3 6.9 6.6 6.1
33 17.8 12 9.0 6 8 16 21 25.9 33

-4.3 8.5 +0.6
13.4 12.8 12.7 10.3 -1.3 9.8 10.3 9.1 7.9 6.6
33 21.6 17 12 9.8 8 11 15 24.9 33

-3.9 8.7 +0.9
13.3 12.6 10.2 -1.2 9.8 10.7 9.0 7.8 6.4
33 20.8 10 9.9 9 11 15 20.4 33

-3.5
-3.0 5.7 +0.8
9.6 8.7 6.8 -1.3 6.3 7.0 4.9 4.4 3.6
33 20.0 10 6.5 9 11 18 25.2 33

9.6 8.3 6.4 5.1 6.3 6.8 5.8 4.4
33 10 9 6.2 9 11 14 33

DC0.5 5.1 DC0.4
6.6 6.6 6.2 -1.0 6.2 6.9 6.3 6.2 4.8
33 21.6 11 6.1 9 11 22 22.4 33

7.5 7.2 6.3 5.1 6.1 7.2 6.8 3.5
33 18 10 6.0 7 14 25 33

4.7
DC0.9 DC1.2
5.3 6.8 6.1 6.5 6.1 -0.8 3.7 6.1
33 22.4 16 14 10 5.7 22.8 33

4.7
4.0 3.9 3.8 5.2 5.3 4.6
33 17 12 10 5.3 12 33

		933.54			
7+40				928.90	4.7
8				28.9	4.7
BM.			2.38	931.18	
+50				28.4	5.0
9				28.2	5.4
+50				27.7	5.9
10				27.2	6.4
+50				26.8	6.8
11				26.7	6.9
+50				26.9	6.7
12				27.1	6.5
+50				27.5	6.1
13				28.1	5.5
TP			4.96	928.40	

+1.2
3.6 3.5 3.6 5.8 5.5 -0.5 5.4 3.6 3.6 3.6
33 Z5.8 17 12 10 5.2 11 17 Z5.4 33

4.7
+1.3 +1.7
3.4 3.4 3.1 4.8 -0.2 4.9 3.3 3.0 3.4
33 Z6.0 18 12 4.5 11 17 Z6.5 33

8" oak 50' Rt. 7+67
4.6 3.9 3.7 5.0 +0.3 5.2 4.8 3.2 2.9 3.2
33 Z5.7 16 13 4.7 10 13 16 Z7.2 33

5.0
+2.1
+1.1
DC1.8
5.4
6.6 5.6 5.6 6.1 -0.5 6.1 5.8 4.7 4.3 4.4
33 Z3.7 16 14 5.7 8 14 17 25.4 33

+0.8
DC0.2 5.9 DC2.2
7.6 7.7 -1.3 7.2 7.8 9.7 7.6
33 Z1.3 7.2 10 16 Z1.3 33

DC0.2 6.4
-2.2
8.3 8.2 -1.4 7.6 8.4 8.6 9.2
33 Z1.3 7.8 10 15 17.4 33

6.8
-2.0 DC0.4
9.6 8.8 8.5 -1.4 8.3 7.6 8.7 8.4 8.5
33 17.0 12 8.2 6 10 15 Z1.6 33

-2.8
6.9
-3.0
9.8 9.7 8.7 -1.5 8.4 9.7 9.7 9.4
33 18.6 11 8.4 10 14 19.0 33
18.6

-2.8
6.7
-3.3
10.5 10.4 10.2 8.4 -1.3 8.4 9.8 10.0 10.0
33 Z0.4 17 14 8.2 10 14 19.6 33

-3.2
6.5
-3.1
9.7 9.7 9.6 7.8 -1.2 8.0 9.5 9.6 9.5
33 19.4 15 13 7.7 9 14 19.2 33

DC0.2
6.1
DC1.2
8.1 7.9 7.8 7.0 -0.5 7.0 6.9 6.7
33 Z1.3 18 11 6.6 16 Z2.8 33

5.5
+1.1 +2.9
4.5 4.4 4.9 5.6 5.8 5.4 +0.2 5.2 4.7 2.7 2.6 2.7
33 25.7 20 17 13 10 5.3 9 13 18 Z8.4 33

T.P.	844	934.94		926.50	
13+50				928.90	6.0
14				929.9	5.0
+50				930.9	4.0
15				931.8	3.1
+50				932.7	2.2
T.P.	863	937.33		928.60	
16				933.8	3.4
+50				935.0	2.2
17				935.9	1.3
+50				937.0	0.2
BM	896	945.06	1.12	936.11	936.10
18				938.1	7.0
+50				939.2	5.9
T.P.	526	946.68	364	941.42	
19				940.2	6.5

6.0

+2.2
3.9 3.8 3.5 3.3 3.2 +1.2 3.1 3.1 +3.2 2.8 2.9
40 27.3 21 17 12 4.8 12 18 28.8 40

5.0

+2.3
3.0 2.7 2.8 3.5 4.9 +0.3 3.0 2.8 +2.3 2.7 2.8
40 27.4 19 14 11 4.7 9 16 27.4 40

4.0

DC 1.9
4.8 4.1 3.8 3.1 3.4 4.8 -0.5 4.6 3.2 3.3 +0.7 3.3 3.5
40 23.8 20 18 14 11 4.5 5 10 17 25.1 40

-2.6
7.1 5.7 4.8 -1.5 3.1 4.6 -2.0 3.6 5.7
40 18.2 12 4.6 6 18.0 40

-3.4
6.2 3.6 4.3 -1.8 2.2 4.4 4.8 -2.4 4.6 4.0
40 19.8 10 4.0 8 10 17.8 40

-2.5
6.2 5.9 5.8 6.1 5.6 -1.9 3.4 5.3 5.9 DCAS 4.4
33 18.0 17 14 9 5.3 5 9 21.8 33

-2.4
4.6 4.6 4.9 4.4 -2.1 2.2 4.4 4.8 -2.6 4.5 4.6
33 17.8 14 11 4.3 5 10 15.2 33

-4.4
5.5 5.7 5.6 3.5 -2.0 1.3 3.6 5.5 -4.9 6.2 6.4
33 21.8 18 13 3.3 11 15 22.8 33

-3.0
3.1 3.2 3.0 2.0 -1.4 0.2 2.7 3.4 -3.4 3.6 3.4
33 19.0 17 13 1.4 13 17 19.8 33

Spk. 17 15" Oak 200' Rt. 17+10

+1.5
5.5 5.5 7.5 7.5 -0.1 7.0 7.3 7.1 6.0 +0.6 6.4 6.8
33 26.3 17 8 7.1 6 15 17 24.9 33

+4.5
1.4 1.4 1.5 3.1 5.7 5.5 +0.6 5.9 5.4 6.1 1.9 +3.2 2.7 2.8
33 30.8 23 19 14 12 5.3 7 14 18 28.8 33

+4.3
2.2 2.2 2.2 5.8 6.4 +0.5 6.5 6.4 6.1 3.5 +2.4 4.1 4.6
33 30.5 22 19 14 6.0 8 16 17 27.6 33

		946.68			
19+50				940.9	5.8
+92				41.2	5.5
20				41.2	5.5
+10				41.1	5.6
+50				41.0	5.7
21				40.7	6.0
+50				40.4	6.3
T.P.	1.25	944.43	3.50	943.18	
22				40.1	4.3
+50				39.8	4.6
23				39.5	4.9
+50				39.2	5.2
24				38.9	5.5

24'000 C. 21 F 7

5.8

+1.2 +0.6

4.5 4.6 4.9 6.1 5.3 +0.7 5.4 6.0 5.3 5.2 5.3
33 25.8 21 18 10 5.1 7 12 16 24.9 33

5.5

5.9 6.4 5.2 5.1 4.8 5.2 4.6
33 20 16 5.0 5 9 24 33

5.5

DC 1.2 +0.6

6.1 6.3 6.5 5.3 10.6 5.0 4.6 4.9 5.6
33 22.8 20 11 4.9 5 9 24.9 33

5.6

6.1 6.4 5.3 5.2 5.7
33 19 10 4.9 21 33

5.7

+0.7 +0.6

4.9 5.0 4.9 5.9 5.4 +0.5 5.4 6.0 5.1 5.7 5.2
33 25.1 17 14 10 5.2 6 13 15 24.9 33

6.0

+1.3 +0.4

4.4 4.7 5.0 5.8 5.2 +0.8 5.8 5.6 5.5
33 25.9 16 15 10 5.2 9 24.6 33

6.3

+1.6 +2.1

4.7 4.7 4.5 5.9 5.3 +1.1 5.2 4.2 4.2 4.3
33 26.4 18 14 10 5.2 12 17 27.3 33

4.3

Rain in T.P. 15 RF 5.4 = 21 = 5.0 +1.6

2.9 +1.1 2.7 3.8 3.7 3.5 3.6 4.0 3.4 2.7 2.4
33 3.2 26.0 18 14 11 +0.8 6 10 14 26.4 33

4.6

+2.0 +2.1

2.3 2.6 2.9 4.5 4.3 4.7 3.7 2.8 2.5 2.6
33 27.0 16 13 +0.3 10 11 15 27.2 33

4.9

+0.4 +1.2

4.3 4.5 4.4 5.5 4.9 4.8 4.9 5.3 4.1 3.7 4.0
33 24.6 15 13 5 +0.1 5 10 12 25.8 33

5.4

DC 1.1 DC 1.8

6.3 6.1 6.0 6.5 6.0 5.8 5.9 6.4 6.0 5.4 6.0
33 22.7 17 14 10 -0.6 5 10 12 23.7 33

5.5

-2.9 -2.0

8.0 8.4 8.0 6.7 6.5 6.9 7.6 7.5 7.4 7.8
33 18.8 14 9 -1.0 6 12 17.0 25 33

		944.43			
24+50				38.6	5.8
25				38.3	6.1
+50				38.0	6.4
26				37.7	6.7
T.P.	4.50	941.29	7.64	936.79	
+50				37.4	3.9
27				37.1	4.2
+50				36.8	4.5
28				36.5	4.8
+50				36.2	5.1
29				35.9	5.4
+50				35.6	5.7
30				35.3	6.0

					5.8			+2.9				
	DCA.5											
7.0	7.3	7.2	7.9	7.1	7.1	7.4	8.1	8.7	9.1			
33	21.8	17	13	9	-1.3	7	11	18.8	33			
					6.1							
	DC0.8								DC2.4			
7.0	7.3	7.4	7.8	7.5	7.5	7.5	8.3	7.7	7.5	7.9		
33	22.2	18	13	10	-1.4	8	10	11	24.9	33		
					6.4							
	DC1.3								DC1.0			
6.9	7.1	7.1	8.2	7.8	7.7	7.8	8.3	7.8	7.4	7.4		
33	23.0	18	13	9	-1.3	6	10	11	22.5	33		
					6.7							
	DC1.0								DC1.1			
7.8	7.7	7.5	8.0	8.2	7.8	7.9	8.6	8.0	7.6	7.9		
33	22.5	18	15	9	-1.1	6	10	11	22.7	33		
					3.9							
	DC1.6								DC1.4			
4.1	4.3	4.4	5.1	4.7	4.5	4.7	5.4	4.9	4.5	4.4		
33	23.4	16	12	8	-0.6	7	10	11	23.1	33		
					4.2							
	DC1.9								+0.3			
4.3	4.3	4.2	4.9	4.4	4.3	4.5	5.1	4.5	3.9	4.1		
33	23.9	14	13	10	-0.1	7	11	12	24.5	33		
					4.5							
	+0.5									+1.0		
3.6	4.0	4.2	5.0	4.3	4.1	4.3	5.1	4.1	4.0	3.5	3.8	
33	24.8	16	14	10	+0.4	6	11	13	14	28.5	33	
					4.8							
	+0.9								+1.4			
3.2	3.9	3.2	5.0	4.6	4.3	4.4	5.3	3.8	3.4	3.4		
33	25.4	17	15	10	+0.5	6	13	15	26.4	33		
					5.1							
	+1.6									+2.3		
3.1	3.5	3.4	5.4	4.8	4.6	4.4	5.1	3.4	3.4	2.8	3.4	
33	26.4	22	18	10	+0.5	10	14	15	21	27.5	33	
					5.4							
	+2.1								+2.8			
3.0	3.3	3.2	5.6	5.5	5.3	5.4	5.9	3.2	2.4	2.8		
33	27.2	20	18	11	+0.1	9	14	16	28.2	33		
					5.7							
	+0.8									+1.5		
4.9	4.9	5.1	6.9	6.4	6.1	6.3	6.7	5.1	4.9	4.2	4.6	
33	25.2	21	18	11	-0.4	8	14	16	21	26.3	33	
					6.0							
	DC0.4									DC0.9		
7.2	7.5	7.6	7.7	8.4	7.4	7.1	7.3	8.4	7.8	7.7	7.2	6.7	7.4
33	27	21.6	17	15	10	-1.1	7	12	15	19	22.2	25	33

		941.29			
30 +50				35.2	6.1
31				35.5	5.8
+41				36.2	5.1
32				37.3	4.0
T.P.	7.93	945.59	3.63	937.66	
+50				38.6	7.0
33				39.9	5.7
+22				40.5	5.1
+32				40.7	4.9
+40				40.9	4.7
+53.6	℄ W. B. Ave				
B.M.			4.41	941.18	941.17

			-4.16			6.1				-4.3		
		10.5	10.17	10.3	7.9	7.5	7.7	9.7	10.4	9.9		
		33	22.2	17	11	-1.4	8	14	21.6	33		
			-4.8			5.8					-4.7	
		10.0	10.6	9.9	7.8	7.6	8.2	9.3	10.2	10.5	10.0	
		33	22.6	15	10	-1.8	7	11	16	22.4	33	
			-3.3			5.1				-2.7		
6.8	7.4	8.3	8.4	8.0	7.1	7.0	7.2	8.1	7.7	7.8	7.1	7.2
33	27	21	19.6	15	9	-1.9	8	11	13	18.4	23	33
		+1.0				4.0				+1.0		
	2.8	3.0	5.3	4.7	5.1	4.5	4.6	5.0	4.2	3.0	2.8	
	33	25.5	20	12	8	-0.5	8	11	13	25.5	33	
	+2.10					7.0					+1.5	
5.0	5.0	6.2	8.0	7.6	7.0	6.6	6.6	7.3	6.6	5.6	5.5	5.8
33	27.0	23	18	14	11	+0.4	6	11	13	18	24.3	33
	+1.2					5.7				+0.4		
4.7	4.5	4.6	6.7	6.6	5.6	5.4	5.6	5.9	5.3	5.3	5.2	
33	25.8	22	18	15	9	+0.3	7	10	12	24.6	33	
						5.1						
	4.3	4.3	6.3	5.9	5.2	4.9	5.2	4.1	3.8			
	33	22	18	14	12	+0.2	10	15	33			
						4.9						
		6.2	5.8	4.7	5.0	4.7	4.9	4.6	4.3			
		33	20	17	14	+0.2	13	17	33			
						4.7						
			4.2	4.8		4.6	4.8	4.3				
			33	22		+0.1	20	33				
					4.26	4.41	4.55					
					33		33					

Brass Plug in Pavement @ W.B. Arc

B.M.	3.23	939.34		936.11	
17+50				37.2	2.14
17				36.2	3.14
+50				35.3	4.04
16				34.1	5.24
+50				33.0	6.34
15				32.1	7.24
+50				30.9	8.44
14				29.9	9.44
+50				28.9	10.44
13				28.1	11.24
T.P.	3.64	931.76	11.22	928.12	
+50				27.5	4.26
12				27.3	4.46
+50				27.2	4.56
11				27.0	4.76
+50				27.1	4.66
10				27.5	4.26
+50				27.9	3.86
					4.26
					4.66

0.2 Hi

0.2 Hi

31.8

7.5

6.24
4.06

0.2 Hi

0.3 Hi

0.2 Hi

B.M.	6.58	93638		929.80	
		27			
+50		28.65		929.7	↘6.68
1				30.7	↘5.68
+50				31.6	↘4.78
2				31.9	↘4.48
+50				31.8	↘4.58
3				31.3	↘5.08
+50				30.6	↘5.78
4				29.9	↘6.48
+50				29.3	↘7.08
5				28.8	↘7.58
+50				28.6	↘7.78
6				28.4	↘7.98
+50				28.5	↘7.88
7	3.48	93216	7.10	28.7	↘7.68
+50				28.9	↘3.26
8				28.9	↘3.26
+50				28.6	↘3.56
9				28.2	↘3.96
+50					
10	28.68				
+50	3.48		7.10		
11	32.16				
+50					
12					

SPR IN P.P. / No. OF STR. 0-23

	+50				
13					
	+50				
14					
	+50				
15					
	+50				
16					
	+50				
17					
	+50	9+260			
18				38.1	\4.5
	+50			39.2	\3.4
19		9+447		40.2	\2.4
	+50			40.9	\3.47
20				41.2	\3.27
	+50			41.0	\3.47
21				40.7	\3.77
	+50			40.4	\4.07
22				40.1	\4.37
	+50			39.8	\4.67
23				39.5	\4.97
	+50			39.2	\5.27

BM. spk in Elm. 941.87
260
23' Lt 20+40

		944.47			
		-7.91			
24		936.49		38.9	5.57
	+50	1.0		38.6	5.87
25		41.63		38.3	6.17
	+50			38.0	6.47
26				37.7	6.77
	+50			37.4	7.07
27				37.1	7.37
	+50			36.8	7.67
28		941.63		36.5	7.97
	+50			36.2	8.43
29				35.9	5.73
	+50			35.6	6.03
30				35.3	6.33
	+50			35.2	6.43
31				35.5	6.13
	+50			36.2	5.43
32				37.3	4.33
	+50			38.6	3.03
33				39.9	1.73
	+50				
34					
	+50				941.17
35					

Fair 68° F.

4-30-34

15

Weber
Skooglun
Wilke
Bell
Steinman

Final Survey

Sta.	+	H.I.	−	Elev.
B.M.	7.09	936.89		929.80
0+00				
+17				
+37				
+50				
1				
+50				
2				
+20				
+60				
3				
+20				
+70				

4-30-34

16

LEFT & RIGHT.

Spk. in P.P. 1 No 0 - 23'

				7.6/50	7.4	7.3/50				
					7.4					
			7.6/50	7.7/27	7.6	7.5/28	11.4/35	11.3/50		
					7.1					
		9.4/50	9.0/28	7.3/23	7.2	7.3/22	12.8/34	12.6/50		
					7.4					
8.0/40	8.1/29	8.9/27	9.0/24	7.3/20	7.0	7.2/19	12.4/30	12.4/40		
					7.2					
6.0/40	6.3/25	8.0/21	8.2/17	6.2/13	6.2	6.2/13	8.5/18	10.8/40		
					6.2					
2.9/40	2.8/28	7.2/21	7.3/17	5.3/13	5.3	5.3/13	7.3/17	7.3/21	6.2/23	7.3/40
					5.3					
2.2/40	1.4/30	6.8/21	6.8/17	5.0/13	4.8	5.0/13	6.8/17	6.8/21	1.2/30	1.7/40
					5.0					
3.1/40	2.6/28	6.7/21	6.6/17	4.8/13	4.7	4.9/13	6.7/17	6.5/21	0.5/29	0.5/40
					4.9					
	6.7/40	6.2/23	6.4/18	5.0/13	5.0	5.1/13	7.3/17	7.2/21	3.6/26	2.8/40
					5.1					
		9.8/40	8.5/19	5.6/13	5.6	5.6/13	7.7/17	7.2/21	6.2/23	5.3/40
					5.6					
		10.6/40	9.3/19	6.1/13	5.8	5.9/13	8.1/17	8.0/21	6.6/24	5.9/40
					5.9					
8.7/40	7.6/23	8.5/21	8.6/17	6.6/13	6.7	6.6/13	8.7/17	8.6/21	6.1/25	5.8/40
					6.6					

Sta	+	H.I.	-	Elev
4		936.89		
+20				
+27				
+35				
+42				
5				
+50				
6				
T.P.	7.00	933.72	10.17	926.72
+32				
+50				
+65				
7				
+35				

LEFT						RIGHT			
8.7/40	7.9/23	8.9/21	9.0/17	7.0/13	7.0	7.0/13	9.1/17	8.9/21	6.1/26	5.7/40
9.4/40	8.6/23	9.1/21	9.0/17	7.2/13	7.2	7.3/13	9.1/17	9.1/21	5.8/27	5.5/40
9.9/40	9.0/22	9.3/21	9.3/17	7.3/13	7.2	7.3/13	8.0/40			
		10.4/40	9.5/18	7.4/13	7.2	7.4/13	8.0/40			
		10.8/40	9.8/18	7.5/13	7.3	7.5/13	9.3/17	9.3/21	7.3/26	6.0/40
		13.4/40	12.4/22	8.1/13	7.9	8.0/13	10.1/17	10.0/21	7.5/25	6.0/40
		13.4/40	12.0/21	8.4/13	8.4	8.3/13	10.4/17	10.3/21	7.4/25	5.9/40
		13.1/40	12.0/20	8.5/13	8.4	8.5/13	11.0/17	10.9/21	7.7/25	6.5/40
		9.4/40	8.5/19	5.4/13	5.2	5.3/13	7.5/17	7.5/21	5.3/24	4.1/40
6.8/40	6.7/22	7.3/21	7.2/17	5.2/13	5.1	5.2/13	7.4/17	5.3/24	3.6/40	
		7.6/40	7.3/18	5.2/13	5.1	5.3/13	7.2/17	6.9/25	4.9/40	
5.4/40	6.1/22	7.1/21	7.0/17	5.0/13	4.9	5.0/20	6.6/25	5.7/40		
4.3/40	3.7/26	7.0/21	7.0/18	4.9/13	4.8	4.6/21	5.3/27	4.7/40		

		933.72 ✓			
7 +40					
8					
B.M.			2.51	931.21	931.18
+50					
9					
+50					
10					
+50					
11					
+50					
12		✓		✓	
T.P.	9.86	936.51	7.07	926.65	
+50					
13					
+50					

LEFT					℄		RIGHT			
40/40	3.7/26	6.9/21	6.8/17	4.9/13	4.8	4.7/16	6.3/19	5.9/23	3.8/27	3.7/40
4.1/40	3.5/26	6.5/21	6.6/17	4.8/13	4.9	4.8/13	7.0/17	6.9/21	3.1/27	3.6/40
5.8/40	4.1/26	7.0/21	7.1/17	5.1/13	5.1	5.1/13	7.0/17	7.0/21	3.0/28	3.8/40
7.3/40	6.0/24	7.8/21	7.8/17	5.5/13	5.4	5.5/13	7.5/17	7.4/21	4.5/26	4.5/40
8.0/40	7.7/22	8.2/21	8.1/17	6.0/13	5.9	6.0/13	8.0/17	8.1/20	7.8/21	7.6/40
8.5/40	8.4/22	8.7/21	8.5/17	6.5/13	6.2	6.5/13	8.9/17	9.4/25	9.5/40	
		10.0/40	9.2/18	6.8/13	6.6	6.8/13	9.0/17	9.1/20	8.5/22	8.7/40
		10.3/40	9.8/19	7.0/13	6.7	7.1/13	9.9/19	9.5/40		
		10.9/40	10.4/21	6.8/13	6.5	6.8/13	10.1/19	10.2/40		
		10.1/40	9.8/20	6.7/13	6.3	6.7/13	9.6/19	9.7/40		
West end Cuts.										
11.4/40	10.8/21	11.2/20	11.2/17	9.1/13	9.0	9.1/13	11.1/17	11.1/21	9.9/24	9.7/40
7.7/40	7.3/26	10.5/21	10.5/17	8.5/13	8.3	8.5/13	10.5/17	10.4/21	5.6/29	6.2/40
5.3/40	5.1/28	9.7/21	9.7/17	7.7/13	7.5	7.6/13	9.4/17	9.4/21	4.4/29	4.4/40

		✓			
		936.51			
14					
+50					
15					
+50					
16					
+50					
17		✓		✓	
T.P.	9.55	945.65	0.43	936.08	936.10
+50					
18					
+50					
19					
+50					

LEFT						RIGHT				
4.7/40	4.3/27	8.7/21	8.7/17	6.6/13	6.6/6.4	6.6/13	8.6/17	8.6/21	4.3/28	4.5/40
6.2/40	5.6/24	7.7/21	7.7/17	5.6/13	5.6/5.5	5.6/13	7.6/17	7.6/21	4.9/26	4.6/40
		8.4/40	7.2/18	4.5/13	4.7/4.4	4.4/13	7.2/19	7.3/40		
		7.7/40	7.2/20	3.5/13	3.8/3.5	3.5/13	6.0/18	5.6/40		
		5.4/40	5.0/18	2.4/13	2.7/2.4	2.5/13	4.4/18	4.4/21	4.2/22	3.6/40
		3.5/40	3.8/18	1.3/13	1.5/1.1	1.3/13	3.9/18	4.0/40		
		4.4/40	4.8/22	0.4/13	0.6/0.2	0.4/13	5.5/23	5.5/40		
Spot in 15" Oak 200' RT					17+10					
		11.1/40	11.5/20	8.5/13	8.3/8.7	8.4/13	12.1/20	12.1/40		
5.8/40	6.0/29	9.4/21	9.5/17	7.5/13	7.3/7.6	7.6/13	9.9/17	9.7/21	7.0/25	8.2/40
1.9/40	1.9/31	8.3/21	8.4/17	6.4/13	6.2/6.5	6.5/13	8.6/17	8.5/21	3.3/29	3.9/40
1.4/40	1.2/31	7.4/22	7.5/18	5.5/13	5.3/5.5	5.4/13	7.5/17	7.4/21	3.1/28	3.9/40
3.1/40	3.5/26	6.8/21	6.8/17	4.7/13	4.4/4.8	4.7/13	6.7/17	6.6/21	4.4/25	4.5/40

		945.65 ✓		
+92				
20				
+10				
+50				
21				
+50				
22				
+50				
23		✓		✓
T.P.	3.33	942.60	6.38	939.27
+50				
24				
+50				

Lt						Rt.				
4.5/40	5.0/23	6.1/21	6.3/17	4.5/13	4.3 (4.5')	4.3/13	6.1/17	6.2/21	4.6/24	4.8/40
			4.5/40	4.5/13	4.3 (4.5')	4.4/13	4.1/40			
4.9/40	5.3/24	6.1/22	6.1/18	4.5/13	4.4 (4.6)	4.3/13	6.1/17	6.1/21	4.5/23	4.4/40
3.4/40	4.1/25	6.6/21	6.6/17	4.6/13	4.5 (4.7)	4.6/13	6.7/17	6.6/21	4.0/25	4.3/40
3.7/40	3.7/27	6.8/21	7.0/17	5.0/13	4.8 (5.0)	5.1/13	7.3/17	7.2/21	4.5/25	4.4/40
4.6/40	3.8/27	7.3/21	7.2/17	5.3/13	5.0 (5.3)	5.2/13	7.2/17	7.2/21	3.2/28	3.1/40
4.5/40	4.2/27	7.6/21	7.6/17	5.6/13	5.4 (5.6)	5.5/13	7.5/17	7.5/21	4.2/27	4.2/40
4.4/40	3.9/28	7.7/21	7.8/17	5.9/13	5.6 (5.9)	5.9/13	8.0/17	7.8/21	3.7/28	3.8/40
5.8/40	5.8/25	8.2/21	8.3/17	6.2/13	6.0 (6.2)	6.2/13	8.1/17	8.0/21	5.0/26	5.3/40
4.9/40	4.2/24	5.5/21	5.5/17	3.5/13	3.3 (3.4)	3.3/13	5.3/17	5.4/21	3.6/24	4.2/40
		6.4/40	6.5/20	3.8/13	3.5 (3.7)	3.7/13	5.8/18	5.8/21	5.3/24	6.0/40
5.4/40	5.5/22	6.1/21	6.0/17	4.1/13	3.8 (4.0)	4.1/13	7.0/19	7.4/40		

		942.60 ✓		
25				
+50				
26				
+50				
27				
+50				
28				
+50				
29				
+50		✓		✓
T.P	7.31	941.68	8.23	934.37
30				
+50				

Lt					℄		Rt.			
5.6/40	5.4/22	6.4/21	6.4/17	4.3/13	4.3 4.2	4.4/13	6.5/17	6.5/21	5.7/23	6.3/40
5.5/40	5.3/23	6.7/21	6.6/17	4.7/13	4.6 4.5	4.6/13	6.7/17	6.6/21	5.4/23	5.8/40
6.0/40	5.9/23	7.0/21	7.0/17	4.9/13	4.9 4.8	4.9/13	6.9/17	6.8/21	5.8/23	5.9/40
6.0/40	5.7/23	7.2/21	7.3/17	5.2/13	5.2 5.1	5.2/13	7.3/17	7.3/21	5.7/24	5.8/40
6.1/40	5.6/24	7.5/21	7.5/17	5.5/13	5.5 5.6	5.6/13	7.5/17	7.5/21	5.1/25	5.5/40
5.4/40	5.4/25	7.8/21	7.8/17	5.8/13	5.8 5.8	5.8/13	7.8/17	7.8/21	4.8/26	5.2/40
4.9/40	5.2/25	8.0/21	8.0/17	6.0/13	6.1 6.0	6.0/13	8.0/17	8.0/21	4.7/27	4.7/40
4.9/40	4.9/26	8.5/21	8.5/17	6.5/13	6.3 6.4	6.4/13	8.2/17	8.2/21	4.4/27	4.8/40
4.4/40	4.3/28	8.7/21	8.7/17	6.8/13	6.7 6.7	6.8/13	8.8/17	8.8/21	4.1/28	4.4/40
6.4/40	6.5/26	9.2/21	9.2/17	7.2/13	6.9 7.0	7.2/13	9.2/18	9.2/21	5.5/26	5.8/40
8.0/40	7.9/22	8.7/21	8.6/18	6.5/13	6.2 6.4	6.6/13	8.5/17	8.5/21	7.4/23	7.5/40
		11.2/40	11.1/23	6.6/13	6.5 6.5	6.5/13	10.4/22	10.2/40		

Sta		
	941.68	
31		
+41		
32		
+50		
33		
+22		
+32		
+46		
+53.6	℄ W.B. Ave Pave	
B.M.	0.54 941.14	941.17

Left ℄ RIGHT

		10.5/40	11.0/23	6.4/13	6.2	6.4/13	10.9/23	10.3/40		
7.3/40	8.1/24	8.7/23	8.1/19	5.8/13	5.9	5.8/13	8.1/18	8.0/23	7.6/25	7.7/40
3.0/40	3.4/26	6.6/21	6.5/18	4.5/13	4.7	4.4/13	6.5/17	6.4/21	3.4/26	3.3/40
1.2/40	1.0/27	5.0/21	5.0/17	3.1/13	3.1	3.1/13	5.1/17	5.1/21	1.7/26	1.7/40
1.0/40	0.7/26	3.8/21	3.8/17	1.8/13	1.9	1.8/13	3.9/17	4.0/21	1.4/26	1.3/40
0.6/40	0.5/26	2.8/22	2.9/19	1.2/14	1.3	1.3/14	2.8/19	2.7/22	+ 8 over H.I. 0.2/27	1.0/40
		2.3/40	2.3/26	0.7/20	1.0	1.1/19	1.6/22	1.0/30	0.6/34	0.6/40
			0.6/40	0.6/20	0.8	0.8/20	0.5/40			
			0.4/40	0.4/20	0.54	0.6/20	0.7/40			

Brass plug in Pave. W. B. Dve + "F"

T.P.	1.09	938.75	930.10 8.65	937.66 930.10 8.65
30+73	18"X 42' P3		21' Lt Grade 10' O.S.	21' Rt. 1' Down 10' O.S.
T.P.	6.15	930.46	923.20 7.26	924.31 923.40 7.06
11+36	18"X 36' P3		18' Lt. Grade 10' O.S.	18' Rt. Grade 10' O.S.
B.M.	0.95	932.13	924.80 7.33	931.18 925.90 6.23
6+00	18"X 36' P3		19' Lt. Grade 10' O.S.	17' Rt. 4' Down 10' O.S.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

FOR SINGLE TRACK EMBANKMENT.

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

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