

WACK-LONG  
FL. D. No 121

X. 200. Book No 1

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FIELD BOOK

880

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143

# 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 18 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.

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

U. S. B. M.

1390.17

Near Section House in Hackensack N.



# SECTION.

Weather  
Clear &  
Cool

9-1-20  
G. Weetman 2  
R. Peterson  
B. Weetman

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S			Cubic Yds.	Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment	Excav.		
00										1392.61 = B.M.
00	93.9	94.0		F01						1390.17 = U.S. B.M. + 1.67 1391.86 = T - 4.47 1387.39 = T.P. + 7.10 1394.49 - 4.00 1390.49 = T.P. + 7.12 1397.61 = T - 9.97 1387.64 = T.P. + 11.00 1398.64 = T - 5.75 1392.89 = B.M. + 4.42 1397.31 = T - 2.90 1394.41 = T.P. T4. St6 + 7.66 1394.07 = T
00	92.9 <sup>(33)</sup>	94.0								
+45	92.0 <sup>(37)</sup>	92.64								
1	91.6 <sup>(41)</sup>	93.2								
+08	91.5	93.1								
+A2	92.9	92.9								
2	93.1 <sup>(47)</sup>	92.4								
+50	92.8	92.0								
3	93.0 <sup>(51)</sup>	91.6								
+50	91.4	91.2 <sup>19</sup>								
+66	91.1	91.1								
A	90.4 <sup>(65)</sup>	90.8								
+17	89.8	90.6								
+50	88.9	90.4								
5	89.2 <sup>(41)</sup>	90.0 ✓								
+45	88.9	99.4								
6	87.2 <sup>(43)</sup>	89.2								

EXCAVATION	Embankment	Excav.	Embank.
9			
87.3 84.0 33	77.2 72.6 5.7	74.0 73.2 4.1	
97.3 91.6 5.7	92.3 87.4 4.9	90.3 86.8 3.5	
94.1 89.7 4.4			

# SECTION.

STA.	ELEVA.	GRADE	CUT OR FILL.				AREA'S				Cubic Yds.	Remarks		
			LEFT	C.		RIGHT	EXCAVATION		Embankment					
470	86.5	88.7												
7'	86.6 <sup>(54)</sup>	88.73												
440	87.1	88.9												
462	87.9 <sup>(45)</sup>	89.1												
8'	89.4	89.6												
+6	89.7	89.7												
9'	89.8 <sup>(33)</sup>	90.8												
+20	90.2	91.0												
+38	91.3	91.3												
+90	93.4	91.7												
10'	93.2 <sup>(47)</sup>	91.75												
+10	93.1	91.8												
+50	93.2	92.0												
11'	93.0 <sup>(44)</sup>	92.0												
+50	94.2	92.0												
+70	94.1	91.9												
12'	93.2 <sup>(48)</sup>	91.6												
+50	93.0	90.8												
13'	93.0 <sup>(49)</sup>	89.5												
+69.7	91.9 <sup>(38)</sup>	89.9												
14'	89.9 <sup>(41)</sup>	87.0												

1374.07 =  $\pi$   
 - 5.43  
 1370.64 = T.P.  
 + 5.77  
 1386.41 =  $\pi$   
 - 7.24  
 1389.19 = T.P.  
 + 2.52  
 1391.71 =  $\pi$

Start. 9-8-20

# SECTION.

B.M. = 1382.44  
Sp. in T.P. P.P. Sta. 16

1391.71  
9.27  
3 1392.44  
1.5  
5.4

9-9-20  
G.W.  
P.P.  
3.1

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S				Cubic Yds.	Remarks
			LEFT	C.	RIGHT	EXCAVATION		Embankment			
+50	86.7	85.7	10.2 233 19 10	C10 8	C01 C00 DC14 17 18 19.6	91.7 95.7 6.0	91.7 84.5 7.2	91.7 84.5 7.2	85.2 82.9	91.7 88.3 70.9	1391.71 = T - 12.16
15	85.4	84.5	1.4 246 15 7	C13 5	C09 C00 DC13 11 14 19.2	91.7 94.8	91.7 82.9	91.7 82.0	87.8 80.9 4.4	1379.55 = T.P. + 5.2 1384.77 = T - 6.10	
+50	86.1	83.2	9.3 255 19 10	C29 16	C00 DC11 16 19.1	91.7 82.9	91.7 82.0	91.7 82.0	87.8 80.9 4.4	1378.69 = T.P. on + 5.81 Rock	
+85	86.2	82.4	9.1 241 17 11	C30 C41 5 13.8	C10 C00 DC08 14 15.5 15	91.7 91.0	91.7 80.6	91.7 80.6	87.8 80.9 14.2	1384.78 = T	
16	85.7	82.0	9.5 233 20 10	C43 7	C00 DC00 14 18	91.7 10.7	91.7 4.2	91.7 4.5	87.8 80.9 4.4		
+03	85.6	81.9	9.6 232 11 8	C43 13.7	C00 DC00 12 18						
+38	81.1	81.1	6.0 240 16 7	C00 6.0	F27 F37 9 16.8	Grade					
+50	78.2	80.8	6.5 215 12	F24	F40 18.0	81.3					
17	76.7	79.7	7.2 18 153	F22 F32	F09 17.9	81.0			4.3		
+50	75.9	79.5	7.2 167	F29 F36	F37 17.1	80.9			5.0		
18	75.8	77.6	7.5 193 150	F40 F38	F37 17.6	80.8			5.0		Lower ditch grad
19	76.1	79.7	5.9 191	F23 F36	F40 18.0	80.6			4.5		
20	77.4	79.8	5.8 203	F12 F24	F39 17.9	80.4			3.0		
21	77.2	79.9	5.7 202	F13 F37	F38 17.7	80.2			3.0		
22	78.7	80.0		(00) F13	F 2.8 16.2						
23	79.3	80.0	22.8 22.8	C23 24.4	F08 15.2						more slope 16 on
24	81.3	80.0		C10	F 2.8 10.5						
23+10											
24	81.3	80.0		C43 26.3	F06 DC95 130 18.5						
+10	82.1	80.0									

+44 +44 +32  
33. 25 16 00 -15 -30  
+40 +40 +20 10 00 -10 25  
30 17 11 +10 30 00 -22 -46  
6 27

Same as 24

3 PI 33+92.1 = 32+42.9 on old line

# SECTION.

Sta.	Eleva.	Grade	CUT OR FILL.		
			LEFT	C.	RIGHT
24.5	80.5	80.0	C 3.5 25.5	G 0.5	F 2.0 15.0
25	78.4	80.0	C 2.0 24.0	F 1.6	F 3.0 16.5
+50	76.5	80.0	C 0.8 22.8	F 3.5	F 3.0 16.5
26	76.2	80.0	F 4.1 18.1	F 4.2	F 3.4 17.1
+50	76.0	80.0	F 2.8 16.2	F 3.5	F 3.5 16.7
27	79.0	80.0	C 1.1 23.1	F 1.0	F 1.3 14.0
+50	82.3	80.0	C 2.0 24.0	C 2.3	C 1.0 23.0
28	81.8	80.0	C 1.0 23.0	C 1.8	C 2.5 24.5
+50	81.0	80.0	C 0.5 22.5	C 1.0	C 1.0 23.0
+65	80.5	80.0	C 0.2 20.2	C 0.2	C 0.2 20.2
29	78.1	80.0	F 1.9 15.0	F 1.9	F 1.9 15.0
+46	75.8	80.0	F 5.2 19.8	F 4.2	F 3.2 16.8
30	75.0	80.0	F 4.4 18.6	F 4.1	F 3.1 16.7
+60	76.4	80.0	DC F 2.6 16.0	F 3.6	F 3.6 17.4
31	77.7	80.0	DC 2.5 F 1.0 23 13.5	F 2.3	F 3.3 17.0
32	83.8	80.8	C 3.4 25.4	C 3.0	C 1.7 23.7
+15	84.4	80.9	C 3.5 25.5	C 3.5	C 3.0 25.0
33	81.8	81.6	C 1.0 23	C 0.2	F 0.8 13.2
34	82.1				DC 1.2 22.0
+74.5	82.2				
36					
37					

34+74.5 to Sta 36 = 80.2'

Sept 25 1920  
 OL  
 E. M. G  
 28.5

AREA'S		Cubic Yds.		Remarks
EXCAVATION	Embankment	Excav.	Embank.	
+4.0 25	+39 +10 13 8	00 -1.9 5	-3.2 13	138448.7 -4.20 138028 = T.P. +3.42 138370 = T
+4.6 28	+44 +30 16 11	+22 00 7	-1.6 20	2.6 25
+5.3 30	+53 +34 33 8	+04 00 8	-1.0 28	2.3
+3.5 26	+110 12	00 -0.4 2.6	-2.0 20	
+3.2 24	+18 5	00 -0.4 2.8	-3.0 28	
+0.4 28	+0.4 30	00 -0.5 2.0	-1.1 24	
+0.9 28	+0.9 28	00 -1.6 2.4	-1.6 2.4	
+0.4 26	+0.4 26	00 +0.4 2.3	+0.4 2.3	
+1.6 24	+1.6 24	00 -0.2 2.5	-0.2 2.5	
+2.0 24	+2.0 24	00 -1.5 2.3	-1.5 2.3	
+0.4 28	+0.4 19	-0.4 13	-1.3 2.4	
0.0 25	0.0 16	-0.8 10	-0.6 2.5	
specular: 2	0.0 23	0.0 25	+0.4 2.5	
31+44	C 1.5 23.5	0.0	F 0.6 13.0	DC 1.4 2.0

# SECTION.

STA.	ELEVA.	GRADE	CUT OR FILL.		
			LEFT	C.	RIGHT
34					
34					
+74.5					
36					
33	81.8	81.6			
33+25	(1.9)	81.8			
+50	81.9	82.1	C0.8 228	F0.2 148	DC20 21
+75	(6)	82.3			
34	82.1	82.6	E0.5 225	F0.5 143	F1.5
+25	(6.1)	82.8			
+50	82.4	83.1	C0.6 22.6	F0.7 149	DC15 210
+75	82.2	83.3	DC15 220	F1.1 15	F2.0
36	83.8	84.0	DC15 F0.7 20.0	12.3 F0.2	DC20 12 28.0
37	(3.9)	= 85.0			

34+75 to 36 = 80.6

Handwritten calculations at the top of the page, including:  
 4) 130 / 12 = 10.8  
 33 = 81.6  
 850 / 81.6 = 10.4  
 252 / 340 = 0.74  
 840 / 268 = 3.13

EXCAVATION	AREA'S		Cubic Yds.		Remarks
	Embankment	Excav.	Embank.	Excav.	
927 926 1.0	885 923 6.6	00	00	-0.6	R
83.7 81.6 2.1	88.5 926 4.5	00	00	+0.4	
927 918 9.0	88.7 926 6.1	30	00	+0.3	
88.9 821 5.8	88.7 923 4.5	00	14	-0.4	
88.9 823 5.0	88.9 923 4.5	30	00	+0.4	
	88.9 820 3.9				

Additional notes on the right side:  
 1383.20 = T  
 279 = T.P.  
 1381.57 = T.P.  
 47.37  
 1388.98

Superlevelote 3'

Handwritten calculations at the bottom right:  
 275 / 80 = 3.44  
 355 / 340 = 1.04  
 205

# SECTION.

STA.	ELEVA.	GRADE	CUT OR FILL.		
			LEFT	C.	RIGHT
36					
37	84.6	1385.1			
38	85.2	1385.2			
39	85.6	85.3			
40	86.5	85.4			
+45	87.6	85.4			
41	85.7	85.5			
+08	85.5	85.5			
+50	84.5	85.33			
42	83.7	85.17			
+65	84.3	84.95			
43	83.5	84.93			
44	83.6	84.50			
45	82.7	84.17			
46	82.8	83.83			
+45	82.9	83.69			
+75	83.6	83.56			
47	84.4	83.5			
+20	85.0	83.43			
+50	85.5	83.33			
+85	84.6	83.2			
48	84.1	83.17			

# AREA'S

EXCAVATION			Embankment		Excav.	Embank.
88.3	88.7	89.0	88.3	88.3	88.3	
88.5	88.2	88.2	84.2	83.7	83.2	
88.8	88.7	89.1	84.1	84.5	83.2	
89.3	89.3	89.2	84.2	88.3	83.2	
89.4	89.2	89.1	84.1	88.1	83.2	
89.5	89.1	89.1	84.1	88.1	83.2	
89.6	89.1	89.1	84.1	88.1	83.2	
89.7	89.1	89.1	84.1	88.1	83.2	
89.8	89.1	89.1	84.1	88.1	83.2	
89.9	89.1	89.1	84.1	88.1	83.2	
90.0	89.1	89.1	84.1	88.1	83.2	

4-29-20  
 G Weetman  
 O.D. Rush  
 R. Peterson  
 Cubic Yds.

Clear  
 Remarks

1388.88 = T  
 - 3.75  
 1385.13 = T.P.  
 + 3.57  
 1388.60 = T  
 1388.83 = (Sta. 43)  
 + 3.45  
 1388.28 = T

26.10  
 24  
 26.0  
 21.9  
 20  
 22.2  
 18  
 22.2  
 18  
 22.2  
 18  
 22.2  
 18

22' backlot



# SECTION.

STA.	ELEVA.	GRADE	CUT OR FILL.		
			LEFT	C.	RIGHT
+36	83.0	83.0	Co.9 Co.0 F0.5 20.9 13 11	Co.0 11	Co.0 Co.2 14 20.2
+45	82.5	83.0	DC.08 F1.2 20.88 13.8	F0.5 13	F1.7 F2.0 DC.00 11 15 78
49	81.9	83.2	DC.03 F1.7 183 14.5	F0.9 10	F5.3 F6.1 10 21.2
+25	82.2	83.5	DC.04 F1.5 184 14.2	F1.1 14	F4.9 F5.3 14 20.0
50	84.8	84.8	C1.6 Co.1 216 14	F0.0 12.9	Co.4 DC.13 12.9 19.3
51	87.5	86.8	C1.5 Co.5 215 14.5	Co.5 9	Co.0 F0.2 DC.13 9 12.3 19.7
+35	87.5	87.5	Co.9 F0.2 20.7 14	Co.0 10	F1.3 F1.2 DC.08 13 13.8 18.3
52	87.9	88.8	DC.10 F1.1 190 13.6	F0.9 12	F1.6 F DC.00 12 14.4 14.9 18.3
+37	89.2	89.3	Co.6 Co.3 F0.6 203 13.3	F0.0 8	F1.0 F1.0 13.5 13.5
53	91.6	89.8	Co.7 Co.7 207 20.7	C1.8 15	C1.5 C2.3 C2.8 15 16 22.8
+80	92.1	89.9	C1.1 211 21.1	C2.7 17	C3.0 C3.8 17 23.8
54	91.4	89.2	C1.2 C1.5 215 21.5	C2.2 21.8	C1.8 C1.8 21.8 21.8
+50	88.9	88.4	Co.2 Co.5 205 20.5	Co.5 18	Co.3 Co.0 18 20
+60	88.3	88.3	DC.00 F0.8 20 12	Co.0 12	F0.1 DC.13 12 12 19.9
55	87.0	87.6	DC.04 F1.6 F1.9 184 14.4 18	F0.6 10	F1.1 F1.1 DC.0.9 10 13.9 13.9 18.9
+50	86.4	86.9	F1.8 14.7	F0.5 15.3	F2.2 15.3
56	84.9	86.1	F2.2 15.3	F1.2 16.3	F1.2 F2.2 F3.0 6 7 16.5
57	84.0	86.0	F3.3 17	F3.3 17	F2.0 F3.3 F3.3 7 11 16.3
58	84.3	86.0	F3.3 F3.3 17 17	F1.7 8	F3.2 F3.2 13 16.8
59	85.0	87.0	F1.8 F1.8 18 18	F2.0 11	F3.1 F3.2 15 16.8
+73	88.4	88.4	Co.4 Co.8 F0.8 204 12 4	F0.0 11	Co.0 Co.6 Co.8 11 14 21 22.8
7+82A	89.0	88.6	Co.7 Co.1 F0.4 207 15 5	Co.4 11	Co.3 Co.3 Co.2 16 21 23.2

Super Elev. = 174  
 1393.64  
 176  
 1391.68

AREA'S		Cubic Yds.		Remarks
EXCAVATION	Embankment	Excav.	Embank.	
93.3 83.7 5.1	93.6 88.9 4.8	93.6 88.9 4.8	93.6 88.9 4.8	1388.28 - 8.77
93.6 82.6 11.0	93.6 88.9 4.8	93.6 88.9 4.8	93.6 88.9 4.8	1391.87 = T - 3.79
91.8 86.0 5.8	91.8 87.0 4.8	91.8 87.0 4.8	91.8 87.0 4.8	1387.98 = T.P. - 7.57 = T
89.0 84.0 5.0	89.0 87.0 2.0	89.0 87.0 2.0	89.0 87.0 2.0	1386.72 = T.P. + 5.75
87.0 82.0 5.0	87.0 87.0 0.0	87.0 87.0 0.0	87.0 87.0 0.0	1392.70 = T 1391.87 = T
85.0 80.0 5.0	85.0 87.0 2.0	85.0 87.0 2.0	85.0 87.0 2.0	50 + 65 APPROACH LT Exc. 9 yds Emb 4 1/2 yds
83.0 78.0 5.0	83.0 87.0 4.0	83.0 87.0 4.0	83.0 87.0 4.0	
81.0 76.0 5.0	81.0 87.0 6.0	81.0 87.0 6.0	81.0 87.0 6.0	
79.0 74.0 5.0	79.0 87.0 8.0	79.0 87.0 8.0	79.0 87.0 8.0	
77.0 72.0 5.0	77.0 87.0 10.0	77.0 87.0 10.0	77.0 87.0 10.0	
75.0 70.0 5.0	75.0 87.0 12.0	75.0 87.0 12.0	75.0 87.0 12.0	
73.0 68.0 5.0	73.0 87.0 14.0	73.0 87.0 14.0	73.0 87.0 14.0	
71.0 66.0 5.0	71.0 87.0 16.0	71.0 87.0 16.0	71.0 87.0 16.0	
69.0 64.0 5.0	69.0 87.0 18.0	69.0 87.0 18.0	69.0 87.0 18.0	
67.0 62.0 5.0	67.0 87.0 20.0	67.0 87.0 20.0	67.0 87.0 20.0	
65.0 60.0 5.0	65.0 87.0 22.0	65.0 87.0 22.0	65.0 87.0 22.0	
63.0 58.0 5.0	63.0 87.0 24.0	63.0 87.0 24.0	63.0 87.0 24.0	
61.0 56.0 5.0	61.0 87.0 26.0	61.0 87.0 26.0	61.0 87.0 26.0	
59.0 54.0 5.0	59.0 87.0 28.0	59.0 87.0 28.0	59.0 87.0 28.0	
57.0 52.0 5.0	57.0 87.0 30.0	57.0 87.0 30.0	57.0 87.0 30.0	
55.0 50.0 5.0	55.0 87.0 32.0	55.0 87.0 32.0	55.0 87.0 32.0	
53.0 48.0 5.0	53.0 87.0 34.0	53.0 87.0 34.0	53.0 87.0 34.0	
51.0 46.0 5.0	51.0 87.0 36.0	51.0 87.0 36.0	51.0 87.0 36.0	
49.0 44.0 5.0	49.0 87.0 38.0	49.0 87.0 38.0	49.0 87.0 38.0	
47.0 42.0 5.0	47.0 87.0 40.0	47.0 87.0 40.0	47.0 87.0 40.0	
45.0 40.0 5.0	45.0 87.0 42.0	45.0 87.0 42.0	45.0 87.0 42.0	
43.0 38.0 5.0	43.0 87.0 44.0	43.0 87.0 44.0	43.0 87.0 44.0	
41.0 36.0 5.0	41.0 87.0 46.0	41.0 87.0 46.0	41.0 87.0 46.0	
39.0 34.0 5.0	39.0 87.0 48.0	39.0 87.0 48.0	39.0 87.0 48.0	
37.0 32.0 5.0	37.0 87.0 50.0	37.0 87.0 50.0	37.0 87.0 50.0	
35.0 30.0 5.0	35.0 87.0 52.0	35.0 87.0 52.0	35.0 87.0 52.0	
33.0 28.0 5.0	33.0 87.0 54.0	33.0 87.0 54.0	33.0 87.0 54.0	
31.0 26.0 5.0	31.0 87.0 56.0	31.0 87.0 56.0	31.0 87.0 56.0	
29.0 24.0 5.0	29.0 87.0 58.0	29.0 87.0 58.0	29.0 87.0 58.0	
27.0 22.0 5.0	27.0 87.0 60.0	27.0 87.0 60.0	27.0 87.0 60.0	
25.0 20.0 5.0	25.0 87.0 62.0	25.0 87.0 62.0	25.0 87.0 62.0	
23.0 18.0 5.0	23.0 87.0 64.0	23.0 87.0 64.0	23.0 87.0 64.0	
21.0 16.0 5.0	21.0 87.0 66.0	21.0 87.0 66.0	21.0 87.0 66.0	
19.0 14.0 5.0	19.0 87.0 68.0	19.0 87.0 68.0	19.0 87.0 68.0	
17.0 12.0 5.0	17.0 87.0 70.0	17.0 87.0 70.0	17.0 87.0 70.0	
15.0 10.0 5.0	15.0 87.0 72.0	15.0 87.0 72.0	15.0 87.0 72.0	
13.0 8.0 5.0	13.0 87.0 74.0	13.0 87.0 74.0	13.0 87.0 74.0	
11.0 6.0 5.0	11.0 87.0 76.0	11.0 87.0 76.0	11.0 87.0 76.0	
9.0 4.0 5.0	9.0 87.0 78.0	9.0 87.0 78.0	9.0 87.0 78.0	
7.0 2.0 5.0	7.0 87.0 80.0	7.0 87.0 80.0	7.0 87.0 80.0	
5.0 0.0 5.0	5.0 87.0 82.0	5.0 87.0 82.0	5.0 87.0 82.0	

B.M. 1391.60  
1391.44 S.M. ERROR  
(Use 1391.62)

# SECTION.

May 5 - 1920.  
G.W.  
O.P.  
R.P.

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S		Cubic Yds.		Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment	Excav.	Embank.	
60	90.1 <sup>(37)</sup>	89.0	C1.5 C1.7 C0.3 21.5 16 5	C1.1 15	C0.5 C0.5 C3.5 33 23.5	92.7 89.0 3.7	23.5 2.5	92.7 89.7 3.0	88.2 87.0 1.2	1392.70 = T - 5.42
+50	91.2 <sup>(34)</sup>	89.7	C0.8 C1.7 C2.4 20.8 21.7 15	C1.5 3	C0.4 C1.9 3 21.9	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	1387.28 = T.P + 5.42
61	91.6 <sup>(38)</sup>	89.8	C1.1 C0.6 28	C1.8 6	C1.0 C1.7 6 21.7	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	1387.21 = T - 11.27
+20	89.5	89.5	D0.16 F0.4 17.6 12.6	C0.0 20	C0.5 C2.2 20 22.2	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	1377.94 = T.P + 3.14
+27	89.0	89.4	D0.16 F0.4 17.6 12.6	F0.4 2	F0.2 18 21.7	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	1381.88
+50	88.4 <sup>(34)</sup>	87.3	F2.4 F2.4 15.6 15.6	F0.9 13.1	F0.7 F0.7 (+91 F0.2) 13.1 13.1	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
P.T. 71.7 = 87.8	88.1	88.7	F2.3 F2.0 13.5 8	F0.6 8	F0.6 F1.3 F1.5 D0.05 10 14.2 18.5	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
62	87.9	88.0	F1.4 F1.4 F0.1 14.1 7 3	F0.1 7	F0.1 F1.0 F1.1 D0.09 12 13.6 18.9	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+15	87.6	87.6	F1.2 F1.0 F0.0 13.8 7 3	F0.0 8	F0.0 F1.0 F1.1 D0.08 12 13.6 18.8	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
63	87.7	85.0	C5.0 C4.5 C2.9 25.0 14 6	C2.7 21.8	C1.8 18	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
P.L. + 0.2	87.6 <sup>(34)</sup>	84.8 = 85.8	C5.2 C5.2 25.2 16	C2.8 21.8	C1.8 18	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+50	86.3	83.5 = 84.5	C4.2 C3.7 C2.8 24.2 10 7	C2.8 10	C2.4 D0.45 10 19.5	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
64	84.3 <sup>(62)</sup>	82.0 = 83.0	C2.4 C2.4 22.4 14	C2.3 16	C0.0 D0.17 16 17.7	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+25	82.7	81.3 = 82.3	C2.1 C2.7 22.1 17	C0.5 4	C0.0 F1.8 4 14.8	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+50	81.0 <sup>(13)</sup>	80.5 = 81.5	C2.5 C2.5 22.5 10	C1.9 12	C0.0 D0.10 12 19.0	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+52	80.4	80.4 = 81.4	C2.0 C2.4 22.0 19	C0.0 15	F2.0 15	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+60	79.5	80.2 = 81.2	C0.7 F0.0 F0.7 20.7 12	F0.7 15.0	F2.0 15.0	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
65	75.6 <sup>(117)</sup>	79.0 = 80.0	F3.7 17.6	F3.4 17.9	F3.9 17.9	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+50	71.8	77.5 = 78.5	F6.5 21.8	F5.7 20.7	F5.4 20.7	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
66	68.4 <sup>(114)</sup>	76.8 = 77.8	F8.0 29.0	F8.4 29.0	F8.0 29.0	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+50	72.8 <sup>(118)</sup>	76.4 = 77.4	F2.7 14.1	F3.6 20.1	F5.4 20.1	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	
+75	73.9	76.4	C1.9 F0.0 21.9 12	F2.5 17.3	F3.5 17.3	92.7 89.3 3.4	23.5 3	92.7 89.6 3.1	88.2 87.0 1.2	

92.7  
89.3  
3.4

Revised grade - 1100 High

# SECTION.

Superior 3 - 4

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S		Cubic Yds.		Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment	Excav.	Embank.	
+80	74.7	76.5	$\frac{C2.8}{22.8}$	$\frac{F0.0}{8}$	$F1.8$	$\frac{F3.3}{17.0}$	$\frac{81.9}{77.0}$	$\frac{81.9}{76.0}$		1381.88 = T - 46.9
+95	76.5	76.5	$\frac{C3.8}{23.8}$	$\frac{C4.0}{18}$	$\frac{C0.6}{5}$	$\frac{F0.0}{12}$	$\frac{F0.0}{12}$	$\frac{81.9}{76.5}$		1377.19 = FTY on Road + 67.1 (C.F.E.C.) 1383.90 = T
67	77.6	76.5 77.0	$\frac{C4.6}{24.6}$	$\frac{C4.6}{15}$	$C1.1$	$\frac{C2.6}{10}$	$\frac{C0.0}{20}$	$\frac{81.9}{77.0}$		
+30	82.8	76.6	$\frac{C6.3}{26.3}$	$\frac{C6.5}{25}$	$C6.2$	$\frac{C3.1}{23.1}$		$\frac{83.9}{77.2}$		
+50	82.9	76.7 77.0	$\frac{C4.7}{24.7}$	$\frac{C6.1}{17}$	$C6.2$	$\frac{C4.4}{24.4}$		$\frac{83.9}{77.2}$		
68	79.7	76.96	$\frac{C0.6}{20.6}$	$C2.7$		$\frac{C3.3}{23.3}$				
P.T. + 37.1 = 69 + 61.8	78.8	77.2	$\frac{C0.3}{20.3}$	$C1.6$		$\frac{C0.9}{20.9}$				
P.C. + 68.5	78.5	77.2	$\frac{C0.7}{20.7}$	$C1.6$		$\frac{C0.3}{20.3}$				
70	77.3	77.3	$\frac{C1.3}{21.3}$	$\frac{C1.2}{3}$	$\frac{C0.0}{2}$	$\frac{C0.0}{6}$	$\frac{C1.0}{8}$	$\frac{C0.0}{17}$	$\frac{DC1.8}{17.8}$	
+20	76.9	77.4	$\frac{C0.3}{20.3}$	$\frac{C0.8}{15}$	$\frac{C0.6}{8}$	$\frac{F0.5}{4}$	$\frac{F0.0}{12}$	$\frac{DC2.0}{20.0}$		
+22	76.6	77.4	$\frac{F0.3}{20.0}$	$\frac{DC1.8}{18.8}$	$\frac{F0.0}{12}$	$\frac{F0.8}{4}$	$\frac{C0.1}{8}$	$\frac{DC1.7}{17.7}$		
+50	75.3	77.4	$\frac{F2.1}{15.2}$	$F2.1$		$\frac{F3.7}{17.6}$	$\frac{F3.7}{17.6}$			
71	75.3	77.8	$\frac{F2.9}{16.4}$	$F2.5$		$\frac{F2.2}{15.3}$				
+50	75.1	78.0	$\frac{F4.3}{18.5}$	$\frac{F2.2}{7}$	$F2.9$	$\frac{F3.3}{17.0}$				
P.K. + 87.2 = +92.5	75.5	78.1	$\frac{F5.8}{20.7}$	$\frac{F5.4}{18}$	$\frac{F5.3}{6}$	$\frac{F2.6}{12}$	$\frac{F2.5}{18}$	$\frac{F5.6}{20.4}$		
72	75.4	78.4	$\frac{F6.1}{21.2}$	$\frac{F5.7}{8}$	$F3.0$	$\frac{F3.0}{15}$	$\frac{F5.6}{18}$	$\frac{P6.0}{21.2}$		
+50	76.2	78.8	$\frac{F3.7}{17.6}$	$F2.6$		$\frac{F2.6}{10}$	$\frac{F4.6}{14}$	$\frac{F5.2}{19.8}$		
73	79.5	80.9	$\frac{F2.8}{17.2}$	$\frac{F1.7}{12}$	$E1.4$	$\frac{F0.7}{11}$	$\frac{F1.0}{13.5}$	$\frac{P6.0}{18.9}$		
+22	81.5	81.46	$\frac{PC1.8}{18.4}$	$\frac{F0.5}{12.5}$	$C0.0$	$\frac{C0.5}{9}$	$\frac{C0.0}{30}$	$\frac{C1.8}{18}$		
+25	81.8	81.6	$\frac{C1.8}{19.8}$	$\frac{C0.0}{12}$	$C0.2$	$\frac{C0.7}{9}$	$\frac{C0.6}{17}$	$\frac{C1.8}{21.8}$		

# SECTION.

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S		Cubic Yds.		Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment	Excav.	Embank.	
+35	83.3	81.79	$\frac{C16}{21.6}$	$\frac{C19}{21}$	$\frac{C06}{15}$	$\frac{C15}{13}$	$\frac{C19}{13}$	$\frac{C10}{21.0}$		
74	86.4	83.4	$\frac{C30}{23.0}$	$\frac{C36}{20}$	$\frac{C30}{16}$	$\frac{C30}{16}$	$\frac{C6.1}{10}$	$\frac{C4.8}{16}$		
+35	87.2	84.17	$\frac{C0.8}{20.8}$	$\frac{C2.5}{16.0}$	$\frac{C30}{16}$	$\frac{C37}{8}$	$\frac{C89}{16}$	$\frac{C85}{28.5}$		
+65	86.9	84.7	$\frac{C1A}{18}$	$\frac{C00}{17}$	$\frac{C2.4}{13}$	$\frac{C2.2}{14}$	$\frac{C3.1}{25}$	$\frac{C10.8}{30.5}$		
+85	86.3	84.9	$\frac{F0.4}{15}$	$\frac{C00}{12.7}$	$\frac{C1.9}{10}$	$\frac{C1.9}{9}$	$\frac{C2.3}{16}$	$\frac{C7.8}{31.2}$		
75	86.0	85.0	$\frac{F3.3}{17.0}$	$\frac{C10}{14}$	$\frac{C10}{7}$	$\frac{C1A}{12}$	$\frac{C5.4}{16}$	$\frac{C7.0}{27.0}$		
+20	85.1	85.14	$\frac{F0.4}{18.6}$	$\frac{F2.1}{8}$	$\frac{C00}{4}$	Grade	$\frac{C11}{13}$	$\frac{C6.0}{26}$		
+70	83.7	85.1	$\frac{F3.8}{17.7}$	$\frac{F2.9}{6}$	$\frac{C00}{14}$	$\frac{C11}{10}$	$\frac{C11}{13}$	$\frac{C11}{21.7}$		
+75	83.7	85.1	$\frac{F2.0}{18.0}$	$\frac{F2.9}{7}$	$\frac{F1.4}{10}$	$\frac{C00}{10}$	$\frac{C00}{20}$			
76	83.5	85.0	$\frac{F2.2}{18.3}$	$\frac{F3.5}{9}$	$\frac{C00}{9}$	$\frac{F1.5}{8}$	$\frac{C21}{13}$	$\frac{C90.0}{15.2}$		
72	83.5	84.9				$\frac{F1.4}{10}$	$\frac{C00}{20}$	$\frac{C00}{20}$		
+50	84.2	84.5	$\frac{F2.2}{15.3}$	$\frac{F1.7}{10}$	$\frac{F0.3}{3}$	$\frac{F0.3}{6}$	$\frac{C36}{7}$	$\frac{C56}{16}$	$\frac{C40}{34.0}$	
+55	84.4	84.45	$\frac{F2.2}{15.3}$	$\frac{F2.3}{12}$	$\frac{F0.9}{3}$	$\frac{C0.3}{7}$	$\frac{C2.1}{11}$	$\frac{C6.5}{20.2}$	$\frac{C70}{35.0}$	
77	85.5	84.0	$\frac{C10}{17.0}$	$\frac{C00}{14}$	$\frac{C0.9}{6}$	$\frac{C1.5}{5}$	$\frac{C2.8}{7}$	$\frac{C3.8}{20.8}$	$\frac{C40}{32.0}$	
Pt. +25	85.8	83.75	$\frac{C13}{11.3}$	$\frac{C1.8}{14.7}$	$\frac{C20}{10}$	$\frac{C12}{8}$	$\frac{C1.6}{9}$	$\frac{C2.3}{12}$	$\frac{C1.7}{21.7}$	
+43	83.5	83.57	$\frac{C1.6}{21.6}$	$\frac{C20}{13}$	$\frac{C10}{11}$	$\frac{C1.4}{14}$	$\frac{C00}{20}$	$\frac{C00}{28}$		
+65	83.7	80.35	$\frac{C13}{21.3}$	$\frac{C0.1}{14}$	$\frac{C0.3}{12}$	$\frac{C0.3}{10}$	$\frac{C00}{10}$	$\frac{F2.1}{15.3}$		
+70	83.3	83.3	$\frac{C1.5}{21.5}$	$\frac{C10}{17}$	$\frac{C00}{14}$	$\frac{C0.3}{12}$	$\frac{F1.8}{14.7}$			
78	82.7	83.0	$\frac{C00}{20.0}$	$\frac{F0.3}{14}$	$\frac{C0.7}{15}$	$\frac{C0.6}{6}$	$\frac{F0.3}{15.1}$			
+26	82.74	82.74	$\frac{DC.1.8}{19.8}$	$\frac{F0.2}{19}$	$\frac{C0.8}{17}$	$\frac{C00}{17}$	$\frac{F11}{13.7}$	$\frac{DC.0.3}{15.3}$	$\frac{DC.5}{2.0}$	
+39	82.61	82.61	$\frac{DC.1.8}{19.8}$	$\frac{C0.6}{17}$	$\frac{F0.3}{5}$	$\frac{C0.4}{17}$	$\frac{C00}{20}$	$\frac{C00}{26}$		

EXCAVATION	Embankment	Excav.	Embank.
89.8 83.0 6.8	89.8 85.0 4.8	89.8 84.0 5.8	89.8 83.0 6.8
89.8 84.7 5.1	89.8 85.0 5.2	89.8 84.0 5.8	89.8 83.0 6.8
89.8 83.0 6.8	89.8 85.0 4.8	89.8 84.0 5.8	89.8 83.0 6.8

Step bank on left.

$1383.90 = T$   
 $- 1.0 =$   
 $1382.90 = T.P.$   
 $+ 6.96 =$   
 $1389.86 = T$

24) 138538

# SECTION.

1382.22  
92.23  
90.05

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S		Cubic Yds.		Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment	Excav.	Embank.	
+70	83.3	82.3	19.2	19.2	22.5	898	902	1370.17	1389.86 = T	
79	82.8	82.0	14.3	14.3	20.9	820	822	1370.17	- 8.80	
+05	81.95	81.95	14	14	23.8	874	874	1370.17	1381.06 = T.P.	
+30	78.5	81.7	16.7	16.7	22.1	88	88	1370.17	+ 9.11	
+37	77.6	81.46	18.3	18.3	20	949	949	1370.17	- 3.00	
80	75.8	81.0	22.7	22.7	19.1	902	902	1370.17	1390.05 = T	
81	72.9	80.9	24.0	24.0	20.3	949	949	1370.17	- 3.00	
+40	73.5	81.2	23.6	23.6	20.3	902	902	1370.17	1387.05 = T.P. on	
82	78.2	82.4	17.9	17.9	17.4	844	844	1370.17	+ 7.83	
+50	82.4	83.6	20.7	20.7	18.9	844	844	1370.17	1394.88	
+40	81.8	83.4	20	20	18.6					
+70	84.1	84.1	21.3	21.3	20.0					
83	86.5	84.8	23.3	23.3	21.7					
84	91.0	87.2	24.4	24.4	22.6					
+35	91.5	88.0	25.5	25.5	22.1					
85	91.3	89.4	22.9	22.9	21.1					
+70	91.0	90.0	23.4	23.4	21.4					
86	91.0	90.22	22.1	22.1	20.3					
+50	90.6	90.6	18.4	18.4	15.4					
87	91.0	90.97	19.6	19.6	19.2					
+70	92.4	91.50	22.5	22.5	21.2					

# SECTION.

Super Elev. = 1.0

STA.	ELEVA.	GRADE	CUT OR FILL.		AREA'S	Cubic Yds.		Remarks	
			LEFT	C. RIGHT		EXCAVATION	Embankment		
+50	91.4	91.4							
+10	91.1	91.1							
88	92.5 <sup>(23)</sup>	91.72	$\begin{array}{r} C2.4 \ C1.2 \ C0.0 \ L \\ 2.4 \ 7 \ 4 \ 2 \ C0.8 \end{array}$	$\begin{array}{r} F0.0 \\ 12 \end{array}$					$\begin{array}{r} 1394.99 = T \\ - 2.67 \\ 1392.21 = T.P. \\ + 3.11 \\ 1395.32 = T \\ - 7.65 \\ 1387.67 = T.P. \\ + 2.12 \\ 1389.79 = T \end{array}$
+35	92.6	92.0	$\begin{array}{r} C0.9 \ C0.5 \ C0.0 \\ 2.9 \ 7 \ 4 \ C0.6 \end{array}$	$\begin{array}{r} L \ C0.0 \ C0.2 \\ 10 \ 13 \ 20.2 \end{array}$					
+70	92.6	92.2	$\begin{array}{r} C1.6 \ C1.9 \\ 2.6 \ 3 \ C1.4 \end{array}$	$\begin{array}{r} C1.6 \ C2.4 \ C2.5 \\ 10 \ 14 \ 22.5 \end{array}$					
89	93.0 <sup>(23)</sup>	92.2	$\begin{array}{r} C1.3 \ C2.1 \\ 2.3 \ 3 \ C1.3 \end{array}$	$\begin{array}{r} C1.3 \ C3.1 \ C3.3 \\ 10 \ 17 \ 23.3 \end{array}$					
+35	92.9	92.1	$\begin{array}{r} C1.1 \ C0.6 \\ 2.1 \ 4 \ C0.0 \end{array}$	$\begin{array}{r} C0.2 \ C0.7 \ C0.8 \\ 4 \ 14 \ 20.8 \end{array}$					
+40	92.1	92.1		$\begin{array}{r} F0.0 \\ 12 \end{array}$					
+45	92.1	92.1		$\begin{array}{r} F0.0 \\ 12 \end{array}$					
+70	90.6	91.9	$\begin{array}{r} D.C.2.8 \ F1.4 \ F1.6 \ F1.8 \ L \\ 1.8 \ 1.4 \ 1 \ 8 \ 5 \ 2 \ F1.3 \end{array}$	$\begin{array}{r} L \ F1.6 \ F1.6 \ D.C.0.8 \\ 10 \ 13 \ 19.4 \ 15.7 \end{array}$					
90	90.1 <sup>(36)</sup>	91.7	$\begin{array}{r} R.C.0.5 \ F1.6 \ F2.4 \ F2.5 \\ 1.8 \ 1.4 \ 8 \ 7 \ F1.6 \end{array}$	$\begin{array}{r} L \ F2.7 \ F2.7 \ +80 \ R.C.0.0 \\ 10 \ 13 \ 1.6 \ 19 \end{array}$					
91	89.5 <sup>(43)</sup>	90.9	$\begin{array}{r} D.C.1.4 \ F1.0 \ F1.4 \ L \ F2.4 \ L \\ 1.4 \ 1.3 \ 1.0 \ 8 \ 4 \ 2 \ F1.4 \end{array}$	$\begin{array}{r} L \ F2.5 \ F2.8 \\ 11 \ 13 \ 16.2 \end{array}$					
+50	89.9	90.5	$\begin{array}{r} D.C.1.8 \ F0.4 \ F0.6 \ L \ F1.2 \ L \\ 1.8 \ 1.2 \ 1.0 \ 8 \ 5 \ 2 \ F0.6 \end{array}$	$\begin{array}{r} L \ F1.2 \ F1.1 \ R.C.1.2 \\ 9 \ 13.7 \ 19.2 \end{array}$					
92	89.6 <sup>(55)</sup>	89.8	$\begin{array}{r} C1.7 \ F0.6 \ F0.6 \ L \ F1.0 \ L \\ 1.7 \ 1.2 \ 1.2 \ 10 \ 6 \ 7 \ F0.2 \end{array}$	$\begin{array}{r} L \ F0.7 \ F0.7 \ D.C.1.2 \\ 8 \ 11 \ 13.1 \ 19.2 \end{array}$					
+10	89.7	89.7	$\begin{array}{r} D.C.2.2 \ F0.0 \ L \\ 2.2 \ 12 \ C0.9 \end{array}$	$\begin{array}{r} L \ F0.6 \ F0.6 \ D.C.0.7 \\ 9 \ 12 \ 12.9 \ 12.7 \end{array}$					TP. 1391.56
+55	89.0	89.0		$\begin{array}{r} F0.0 \\ 12 \end{array}$					
93	89.8 <sup>(78)</sup>	88.3	$\begin{array}{r} C1.5 \ C0.3 \ L \\ 2.5 \ 6 \ 1 \ C1.5 \end{array}$	$\begin{array}{r} L \ C2.6 \ C2.7 \\ 9 \ 17 \ 22.7 \end{array}$					
+30	88.0	88.0		$\begin{array}{r} F0.0 \\ 12 \end{array}$					
+816	88.2	87.1	$\begin{array}{r} D.C.2.0 \ F1.8 \ F1.8 \ C0.0 \ L \\ 1.8 \ 1.8 \ 1.8 \ 10 \ 4 \ 3 \ C1.1 \end{array}$	$\begin{array}{r} L \ C3.0 \ C3.1 \\ 11 \ 21 \ 23.1 \end{array}$					
94	88.2 <sup>(30)</sup>	86.8	$\begin{array}{r} R.C.0.0 \ F1.8 \ F1.5 \ C0.0 \ L \\ 1.8 \ 1.7 \ 1.0 \ 6 \ 3 \ C1.4 \end{array}$	$\begin{array}{r} C1.6 \ C2.4 \ C2.9 \ C3.0 \\ 13 \ 16 \ 22.9 \ 27.0 \end{array}$					
+15	86.4	86.4		$\begin{array}{r} F0.0 \\ 12 \end{array}$					
+50	87.1 <sup>(55)</sup>	86.0	$\begin{array}{r} C0.5 \ C1.3 \ L \\ 2.0 \ 10 \ C1.1 \end{array}$	$\begin{array}{r} L \ C2.4 \ C2.6 \ C2.6 \\ 8 \ 12 \ 27.4 \ 34.6 \end{array}$					

# SECTION.

514  
F50  
26

Sta.	Eleva.	Grade	CUT OR FILL			AREA'S		Cubic Yds.		Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment	Excav.	Embank.	
+67				$\frac{F00}{12}$						
+70	85.7 <sup>(4)</sup>	85.7	$\frac{F26}{15.9}$	$\frac{F25}{15.8}$	$\frac{C00}{10}$	$\frac{C6.7}{10}$	$\frac{C6.7}{34.1}$	$\frac{82.3}{4.1}$		13879.4 = A - 4.1 13857.4 = T.P. stamp + 3.84 R+EG.
95	83.1 <sup>(4)</sup>	85.2	$\frac{F24}{18.6}$	$\frac{F21}{9.4}$	$\frac{F17}{15}$	$\frac{C00}{20}$	$\frac{C21}{22.1}$	$\frac{89.8}{8.5}$		1389.58 - 4.88 13847.0 = T.P.
+36.9 +42.9	81.6 <sup>(4)</sup>	85.0	$\frac{F21}{18}$	$\frac{F21}{8}$	$\frac{F3.4}{3}$	$\frac{F3.9}{12}$	$\frac{F3.9}{17.9}$	$\frac{83.0}{84.7}$		13847.0 + 4.61 = X 1389.31 = X
96	81.0 <sup>(4)</sup>	84.7	$\frac{F29}{19.4}$	$\frac{F37}{8.3}$	$\frac{F3.7}{6}$	$\frac{F5.9}{11}$	$\frac{F6.4}{21.6}$	$\frac{89.6}{84.7}$		
+50	81.4	84.7	$\frac{F12}{17.3}$	$\frac{F16}{14.0}$	$\frac{F4.0}{7.3}$	$\frac{F5.1}{8.4}$	$\frac{F5.4}{20.1}$	$\frac{89.6}{84.7}$		
97	83.1 <sup>(4)</sup>	84.8	$\frac{F17}{18.5}$	$\frac{F17}{14.6}$	$\frac{F2.5}{9}$	$\frac{F2.9}{14}$	$\frac{F3.4}{17.1}$	$\frac{89.6}{84.7}$		
+40				$\frac{F00}{12}$						
+50	84.8	84.8	$\frac{C1.1}{21.1}$	$\frac{C0.6}{11}$	$\frac{F0.7}{8}$	$\frac{F0.5}{10}$	$\frac{D.C.10}{12.8}$	$\frac{19.0}{19.0}$		
98	85.0 <sup>(4)</sup>	84.9	$\frac{C1.6}{21.4}$	$\frac{C0.5}{10}$	$\frac{F0.2}{8}$	$\frac{F0.5}{10.1}$	$\frac{D.C.17}{12.8}$	$\frac{19.7}{19.7}$		
+50	85.8	84.9	$\frac{C2.3}{22.3}$	$\frac{C2.0}{10}$	$\frac{L0.9}{6.9}$	$\frac{C0.3}{20.3}$	$\frac{+20. F00}{12}$	$\frac{1386.41}{1386.41}$		
99	85.0 <sup>(4)</sup>	84.8	$\frac{C0.6}{20.6}$	$\frac{C0.6}{11}$	$\frac{F0.4}{8}$	$\frac{F0.5}{6}$	$\frac{F10}{10}$	$\frac{D.C.21}{13.5}$		
+35				$\frac{F00}{12}$						
+60	86.0	84.7	$\frac{C0.0}{20}$	$\frac{C1.9}{9}$	$\frac{L}{5}$	$\frac{C1.3}{12}$	$\frac{C1.8}{14}$	$\frac{C1.5}{21.5}$		
+75				$\frac{F00}{12}$						
100	85.0 <sup>(4)</sup>	84.7	$\frac{F26}{18.9}$	$\frac{F17}{7.4}$	$\frac{L}{6.3}$	$\frac{C3.6}{10}$	$\frac{C4.8}{15}$	$\frac{24.8}{24.8}$		
+05	84.7	84.7	$\frac{F34}{20.1}$	$\frac{F30}{9.3}$	$\frac{L}{6.0}$	$\frac{C2.7}{7}$	$\frac{C3.3}{14}$	$\frac{C5.3}{25.3}$		
+50	82.5	84.6	$\frac{F22}{23.8}$	$\frac{F25}{21}$	$\frac{F3.7}{8}$	$\frac{L}{2}$	$\frac{F2.1}{12}$	$\frac{F3.0}{14}$	$\frac{C0.3}{15}$	$\frac{C3.1}{23.1}$
+65	82.1	84.6	$\frac{F23}{26.3}$	$\frac{F20}{14}$	$\frac{L}{2}$	$\frac{F2.5}{13}$	$\frac{L}{15}$	$\frac{C0.0}{15}$	$\frac{C2.1}{22.1}$	
+75	82.0	84.6	$\frac{F26}{26.4}$	$\frac{F22}{13}$	$\frac{F0.6}{9.2}$	$\frac{L}{10}$	$\frac{F2.4}{11.1}$			+10 D.C.22 - 10
+90	82.0	84.6	$\frac{F28}{26.7}$	$\frac{F22}{9}$	$\frac{L}{2}$	$\frac{F2.6}{17.1}$	$\frac{F3.4}{17.1}$			

# SECTION.

Weather

5-27-20

G. Neetman 15  
G. R. Bush  
P. 2000

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S		Cubic Yds.	Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment		
101 ✓	818 (47)	846	F9.9 26.9	F9.9 12 2 1/2 F2.8	F28 16.2	Excavation 89.3 84.6 4.7	Embankment 89.3 85.1	1389.31 = T - 5.27 1384.04 = T.P. 3.44 1387.48 = T	
+50	827	845	F9.7 26.6	F8.1 12 F1.8	L 16 2.2				
102 ✓	845 (45)	845	F4.7 19.1	5 6.0	C0.2 12 16 C3.2 C4.2 C4.2		Excavation 87.5 83.6 3.9	Embankment 87.5 82.7 4.8	
+20			415.20.0 18	F0.0 12					
+70	878	849	C2.2 22.2	C4.8 8 5 C3.4	L 12 17 C5.5 C6.4 26.4				
103 ✓	870 (49)	844	C3.0 23.0	C4.4 12 8 C2.6	C3.1 16 21 C5.4 C5.4 25.4	TT 1388.97			
+50	855	843.5	C1.3 21.3	13 C1.1	C1.0 21.0				
104 ✓	850 (50)	843	C0.6 20.6	C0.7 C1.1	C1.1 21.1				
+50	852	842.5	C0.2 20.2	C0.7 11 7 C1.0	C0.4 10 13 C1.9 C2.4 22.4				
+85	842	842	26.13 19.5	F0.0 12 C0.0	F0.1 10 C0.7 12				
105 ✓	83.6 (51)	842	Root F0.7 134	F1.3 11 6 F0.6	F0.7 12 133 C0.0 20.8 C1.3 21.3				
+120			F4.3 18	F3.3 8 C	F2.2 11 100 D0.11 19.1				
140	820 (52)	842	F4.5 18.8	F0.7 10 6 F2.9	L 11 15 F2.5 F2.0 26.00 15				
+50	842	840	F4.5 18.9	F3.5 10 6 F1.8	L 10 138 F2.2 F1.2 D1.11 19.1				
107 ✓	829 (53)	840	F2.9 16.4	5 F1.1	C0.0 11 21.0				
+27	840	840	F1.9 18.9	5 C0.0	F0.2 10 12 C1.0 C1.6 21.6				
+32			22.00 18	F0.0 12					
108 ✓	874 (39)	836	C0.8 20.8	5 C3.8	5 11 C5.9 C6.4 26.6				
+50	856	830	C0.8 20.8	5 C2.0	8 10 C3.8 C5.3 25.3				
109 ✓	853 (54)	821	C1.3 21.3	5 C3.2	C3.9 23.9				
+70	840	808	C0.5 20.5	5 C3.2	5 10 13 C5.2 C5.1 25.1				



# SECTION.

Super Elev = 14 ~ 7  
 $\frac{40.7}{2.5}$   
 $\frac{16}{16}$

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S				Cubic Yds.	Remarks
			LEFT	C.	RIGHT	EXCAVATION		Embankment			
110 ✓	82.4 (72)	80.3	DC.10 600 190 1408	C2.1	11 254						
+75			DC.00 500 18 12								
+36	79.5	79.5	F20 6 150 9	C00 9	C0A 11 240						
+80					F00 12						
111 ✓	75.4 (24)	78.5	F06 4 189 10	F31	F41 F38 16 177						
+70	72.6	77.2	F04 4 216 10	F46	F10 F10 6 225						
112 ✓	72.6 (44)	76.7	F03 F03 4 185 13	F41	F08 F00 4 21						
+50	73.6	75.8	DC.00 18 155	F22 6	F14 F11 11 137						
113 ✓	73.9 (58)	75.3	DC.07 18 187	F10	F23 8						
114 ✓	74.0 (50)	75.7	DC.07 18 207	F17	F05 173						
+35	75.3	76.0	DC.11 19 191	F11	F07 F07 2 176						
+70	73.9	76.3	DC.00 18 165	F24	F12 23.1						
115 ✓	74.2 (44)	76.77	F01 4 167	F03	F07 19.1						
+58.8	75.4 (58)	76.93	F00 4 165	F15	F08 F13 DC.03 10 140 153						
116 ✓	76.4 (58)	77.25	DC.10 18 190	F08	F05 F00 DC.10 4 8 129 190						
+17	77.4 (50)	77.4	DC.12 18 192	C04	C0A DC.13 12 193						
+50	80.1 (48)	77.64	C23 223	C25	C05 204						
117 ✓	80.4 (44)	78.03	C92 C58 292 7	C24	C00 20						
+12.5	80.3 (48)	78.13	C91 C48 291 6	C22	C00 AC.11 10 15 181						
118 ✓	80.6 (50)	78.81	C81 C57 310 7	C18	F00 DC.00 10 12 18						
+60	81.5	79.64	C85 C37 285 8	C19	C09 207						
+80	80.0	80.98	C45 C37 245 8	C00	C11 C08 12 19 208						
	79.2	80.2									

138748 = T  
 - 7.06  
 138042 = T.P. on down  
 + 0.54  
 138096 = T  
 - 4.42  
 137654 = T.P.  
 + 5.87  
 138241 = T

EXCAVATION

87.5	80.9	80.5	82.4
82.3	79.5	76.7	75.2
	2.4	4.8	7.2
80.9	80.9	82.4	82.4
76.3	75.7	76.3	75.2
	6.2	5.8	4.8
82.4		82	82.4
77.8		75.3	75.3
4.6		82.4	82.4
		5.0	
		82.4	
		4.8	
		19.2	
		3.6	

1876.36

# SECTION.

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S		Cubic Yds.		Remarks
			LEFT	C.	RIGHT	EXCAVATION	Embankment	Excav.	Embank.	
119 ✓	79.2 <sup>(22)</sup>	80.2	C2.2 22.2	6.0 F1.0	F1.0 13.2					1382.41 = X
+35	77.7	80.69	C1.8 2.9	C0.0 17	F3.9 5 F3.0					1382.21 = T.12
120 ✓	79.0 <sup>(18)</sup>	81.6	C3.4 23.4	C0.7 12	F2.3 10 F2.6					1388.04 = X
+60	82.2	82.4	C5.4 25.4	C3.6 10	F0.1 4 F0.2					1386.60
121 ✓	79.9 <sup>(10)</sup>	83.0	C0.6 20.6	F0.0 18	F1.0 14 F3.1					1388.97 = X
+20	79.5	83.28	F3.1 16.7	F4.0 9	F3.8 5 F3.8					
+50	79.8	83.7	F4.7 19.1	F5.2 8	F3.9 5 F3.9					
122 ✓	81.3 <sup>(36)</sup>	84.4	F2.9 16.4	F2.2 11	F3.5 8 F3.1					
+60	85.2	85.7	C0.6 2.6	F0.0 10	C0.7 13 C1.4 21.4					
123 ✓	82.0 <sup>(22)</sup>	85.8	C1.4 21.4	C1.1 12	C0.5 7 C1.2					
+50	89.0	86.27	C1.7 21.7	C2.6 8	C2.8 10 C3.4 12					
124 ✓	89.8 <sup>(17)</sup>	86.27	C3.4 23.4	C3.6 10	C4.1 12 C3.6 12					
+35	86.9	86.1	C4.7 24.7	C5.1 14.8	C4.4 12 C3.3 12					
+90	86.0	85.3	C1.7 21.7	C0.9 12	C1.3 5 C0.0 7					
125 ✓	85.3 <sup>(31)</sup>	84.9	C2.3 22.3	C1.8 14	C0.6 11 C0.4 5					
+25	84.3	84.3	C2.0 22.0	C1.4 13	C0.0 11 F1.4 14.1					
+85	81.9	82.95	C1.0 21.0	C1.8 15	C1.2 12 F1.0 6					
126 ✓	80.9	82.6	C2.15 19.8	C0.0 15	C1.2 12 F1.7					
+30		81.9	F2.6 15.9	F4.0 14.0	F3.6 10 F3.6 19.8					
127 ✓		80.3	F4.1 18.2	F4.8 15	F3.9 10 F3.8 3					
128 ✓		79.40	F4.5 19.8	F5.0 11	F3.8 6 F3.9 9					



# SECTION.

STA.	ELEVA.	GRADE	CUT OR FILL.			AREA'S				Cubic Yds.	Remarks	
			LEFT	C.	RIGHT	EXCAVATION		Embankment				
132	87.8	87.8	20.13	F0.3	F0.6	DC.07						
+50	87.4	87.4	21.2	F0.0	F0.5	DC.10						
776	87.6	87.1	20.5	F0.2	F0.3	DC.14						
133	87.6	86.9	21.1	F0.7	F0.8	DC.14						
+05		86.8	21.1	F0.9	F0.8	DC.15						
+50	89.3	86.4	23.5	F0.6	F0.5	DC.17						
134	86.9	86.0	20.7	F0.9	F0.5	DC.17						
+68	86.7	85.9	20.18	F0.0	F0.5	DC.16						
135	85.6	85.1	20.19	F0.2	F0.2	DC.18						
+45	84.6	84.6	20.5	F0.1	F0.9	DC.18						
136	84.0	84.2	20.11	F1.0	F1.5	DC.13						
+30	84.0	84.0	20.12	F0.9	F1.0	DC.13						
+85	84.3	83.5	20.3	F0.4	F0.0	DC.17						
137	83.6	83.3	20.7	F0.8	F0.0	DC.16						
+08	83.2	83.2	20.15	F0.5	F1.0	DC.14						
+45	81.8	82.9	20.3	F2.5	F1.1	DC.05						
138	81.2	82.7	15.6	F1.5	F1.5	DC.05						

7-12-20  
G. W.  
H. P.  
E. M. G.

EXCAVATION

Embankment

Excav.      Embank.

12 90.50

See Cor 452 / 6/13  
Bl. 522 00 E 21 22  
Bl. N 69 W 9 12

1393.51 = T.  
- 5.95  
1387.56 = T.P.  
+ 1.12  
1388.68 = T

+70 48x34" pipe