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467

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 IS 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.

Book 466 E 3980 to E 4720 incl.

467

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Original Xsections - Spillway Extension
 Mar 29 - 1934
 Elliott - Simpson - Soper - Remmon

133783

E 4730

E 4730

		4. #1	4210
B.M.	1.63	697.99	696.36
T.P.		12.65	685.34
	0.24	685.58	
		6. P. Simpson	
B.M.	1.63	697.99	693.36
T.P.		0.44	697.55
	11.01	708.56	
N 4100		4.4	704.2
10		4.4	4.2
20		4.6	4.0
30		5.0	3.6
40		4.9	3.7
50		6.0	2.6
60		8.2	0.4
70		11.2	697.4
		4. #1	
		698.0	
80		3.0	695.0
90		5.5	92.5
4200		7.6	90.5

Plotted

	#1	4210
	698.0	9.3
		88.7
		20
		11.5
		86.5
		30
		12.3
		85.7
	#2	
	685.6	
		40
		2.0
		83.6
		50
		3.9
		81.7
		60
		4.6
		81.0
		70
		5.6
		80.0
		80
		6.5
		79.1
		90
		8.0
		77.6
		4300
		9.0
		76.6
		10
		9.8
		75.8
		20
		10.7
		74.9
		30
		11.4
		74.2
		40
		11.6
		74.0
		45
		11.0
		74.6
		50
		7.9
		77.7
		60
		2.2
		83.4

Plotted

North + H.I. - Elev.

E 4730

#1
 4373 698.0 8.3 89.7 ✓
 75 12.6 85.4 ✓
 4381 1.1 96.9 ✓

E 4740

#2
 685.6 ✓
 4354 ? 668.0
 54 also 9.4 76.2 ✓
 46 12.1 73.5 ✓
 40 12.1 73.5 ✓
 30 11.8 73.8 ✓
 20 9.6 76.0 ✓
 10 9.3 76.3 ✓
 4300 8.8 76.8 ✓
 4290 8.1 77.5 ✓
 80 6.1 79.5 ✓
 70 5.2 80.4 ✓
 60 2.3 83.3 ✓
 #1 ✓
 698.0
 50 10.3 87.7 ✓

Plotted ✓

1888713

E 4740

#1
 4240 698.0 6.2 91.8 ✓
 30 4.6 93.4 ✓
 20 5.6 92.4 ✓
 10 4.1 93.9 ✓
 4200 3.8 94.2 ✓
 4190 3.0 95.0 ✓
 80 1.1 96.9 ✓
 X ✓
 708.6
 70 10.6 698.0 ✓
 60 8.4 700.2 ✓
 50 6.3 2.3 ✓
 40 5.3 3.3 ✓
 30 5.2 3.4 ✓
 20 5.0 3.6 ✓
 10 4.8 3.8 ✓

Plotted ✓

E 4750

4120 4.8 3.8 ✓
 30 5.2 3.4 ✓
 40 5.5 3.1 ✓

E 4750

	\bar{x}		
4150	708.6	5.4	703.2 ✓
60		7.2	1.4 ✓
70		5.8	2.8 ✓
80		3.9	4.7 ✓
90		6.2	2.4 ✓
4200		6.2	2.4 ✓
10		6.8	1.8 ✓
20		7.7	700.9 ✓
30		7.7	0.9 ✓
40		7.5	699.1 ✓
	L. #1 698.0		
50		3.7	94.3 ✓
60		8.8	89.2 ✓
70		11.9	86.1 ✓
	#2 685.6		
80		0.9	84.7 ✓
90		3.2	82.4 ✓
4300		3.6	82.0 ✓

Plotted -

1389713

E 4750

	\bar{x}		
4310	685.6	5.0	86.6 ✓
19		10.6	75.0 ✓
26E			668.0

E 4760

	\bar{x}		
4298.5			668.0
90		5.8	79.8 ✓
80		1.5	84.1 ✓
	\bar{x} 708.6		
58		1.9	706.7 ✓
50		11.3	9.9 ✓
40		10.7	9.3 ✓
30		1.0	7.6 ✓
20		1.6	7.0 ✓
10		2.6	6.0 ✓
4200		3.3	5.3 ✓
4190		3.9	4.7 ✓
80		4.5	4.1 ✓
70		5.0	3.6 ✓
60		5.2	3.4 ✓

Plotted -

1880713

E 4760

4150	708.6	5.1	703.5	'
40		5.2	3.4	'
30		5.3	3.3	'

E 4770

4130		4.5	4.1	'
40		5.2	3.4	'
50		5.0	3.6	'
60		4.8	3.8	'
70		4.7	3.9	'
80		4.6	4.0	'
90		4.0	4.6	'
4200		3.3	5.3	'
10		2.5	6.1	'
20		2.4	6.2	'
30		2.8	5.8	'
40		2.1	6.5	'
50		+0.4	9.0	'
4270.7			668.0	Grade

Plotted ↓

E 4780

	708.6			
42428				668.0
35		15.8		92.8
23		8.7		99.9
19		2.1		706.5
10		1.9		6.7
4200		2.1		6.5
4190		3.6		5.0
80		4.4		4.2
70		4.6		4.0
60		4.9		3.7
50		5.1		3.5
40		4.7		3.9
30		2.9		5.7

Plotted ↓

E 4790

4140		0.5		8.1
50		1.9		6.7
58		4.8		3.8

E4790

708.6

4170	4.4	704.2	✓
80	3.9	704.7	✓
90	3.8	704.8	✓
4195	3.6	705.0	✓
4209	4.7	703.9	✓
20 overhang	13.3	695.3	✓
149		668.0	

E4800

4150	12.4	711.0	✓
60	1.4	707.2	✓
70	3.7	704.9	✓
4187		668.0	

Original X Sections

Mar 31-1934

Sat. 10: AM.

Spillway

Elliott

Soper

Hammen

1839713

6

E 3970

B.M.	6.32	576.27	569.95	3960	576.3	5.8	570.5'
		E 3970		50		6.5	69.8'
N 4130		+1.0	577.3	40		6.8	69.5'
20		+0.2	76.5'	30		7.0	69.3'
10		+0.2	76.5'	20		7.3	69.0'
4100		+0.2	76.5'	10		6.1	70.2'
4090		0.0	76.3'	3900		7.2	69.1'
80		0.5	75.8'	3890		6.5	69.8'
70		0.3	76.0'		E 3960		
60		1.0	75.3'	3885		8.3	68.0'
50		1.6	74.7'	3900		8.1	68.2'
40		2.2	74.1'	10		5.9	70.4'
30		2.8	73.5'	20		6.4	69.9'
20		3.4	72.9'	30		7.0	69.3'
10		4.2	72.1'	40		6.6	69.7'
4000		4.8	71.5'	50		6.3	70.0'
3990		4.9	71.4'	60		6.0	70.3'
80		5.2	71.1'	70		5.5	70.8'
70		5.4	70.9'	80		5.3	71.0'

E 3960

3990	576.3	5.0	571.3
4000		3.6	72.7
10		3.8	72.5
20		3.2	73.1
30		2.6	73.7
40		2.0	74.3
50		1.4	74.9
60		0.8	75.5
70		0.2	76.1
80		0.5	75.8
90		0.0	76.3
4100		+0.3	76.6
10		+0.4	76.7
20		+0.4	76.7
30		+0.6	76.9

1336713

E 3950

4120	576.3	+0.7	577.0
10		+0.7	77.0
4100		+0.7	77.0
4090		+0.1	76.4
80		0.2	76.1
70		0.5	75.8
60		1.0	75.3
50		1.6	74.7
40		2.2	74.1
30		2.8	73.5
20		3.4	72.9
10		4.0	72.3
4000		4.9	71.4
3990		5.2	71.1
80		5.5	70.8
70		5.6	70.7
60		6.0	70.3
50		6.4	69.9
40		6.1	70.2

E3950

3930	576.3	7.5	568.8
20		6.9	69.4
10		7.1	69.2
3900		7.7	68.6
3890		8.1	68.2
80		8.2	68.1

End Mar. 31 - 1934

Start April 3 - 1934 - 3:15 P.M.

B.M. 9.19 579.14 569.95

E3940

4110		2.3	76.8
4100		2.3	76.8
4090		2.7	76.4
80		3.2	75.9
70		3.5	75.6
60		3.8	75.3
50		4.2	74.9
40		4.9	74.2
30		5.6	73.5

E3940

4020	579.1	6.0	573.1
10		6.8	72.3
4000		7.6	71.5
3990		8.0	71.1
80		8.3	70.8
70		8.6	70.5
60		8.7	70.4
50		9.3	69.8
40		9.8	69.3
30		10.4	68.7
20		10.7	68.4
10		10.9	68.2
3900		9.7	69.4
3890		10.0	69.1
80		10.7	68.4

E 3930

3870	579.1	12.0	567.1 [✓]
80		11.2	67.9 [✓]
90		10.3	68.8 [✓]
3900		9.9	69.2 [✓]
10		11.0	68.1 [✓]
20		10.7	68.4 [✓]
30		10.2	68.9 [✓]
40		9.5	69.6 [✓]
50		8.7	70.4 [✓]
60		8.8	70.3 [✓]
70		8.5	70.6 [✓]
80		8.3	70.8 [✓]
90		7.9	71.2 [✓]
4000		7.5	71.6 [✓]
10		6.7	72.4 [✓]
20		6.0	73.1 [✓]
30		5.3	73.8 [✓]
40		4.7	74.4 [✓]
50		4.3	74.8 [✓]

1359713

E 3930

4060	579.1	3.7	575.4 [✓]
70		3.4	75.7 [✓]
80		3.3	75.8 [✓]
90		3.8	75.3 [✓]
4100		2.4	76.7 [✓]

E 3920

4100		2.3	76.8 [✓]
4090		2.8	76.3 [✓]
80		3.1	76.0 [✓]
70		3.5	75.6 [✓]
60		3.9	75.2 [✓]
50		4.5	74.6 [✓]
40		4.8	74.3 [✓]
30		5.5	73.6 [✓]
20		6.0	73.1 [✓]
10		6.6	72.5 [✓]
4000		7.4	71.7 [✓]
3990		7.8	71.3 [✓]
80		8.4	70.7 [✓]

9

E 3920

3970	579.1	8.5	570.6 [✓]
60		8.6	70.5 [✓]
50		9.1	70.0 [✓]
40		10.7	68.4 [✓]
30		10.9	68.2 [✓]
20		11.1	68.0 [✓]
10		8.5	70.6 [✓]
3900		11.3	67.8 [✓]
3880		10.4	68.7 [✓]
70		11.9	67.2 [✓]

E 3910

60		12.7	66.4 [✓]
70		12.5	66.6 [✓]
80		12.3	66.8 [✓]
90		11.8	67.3 [✓]
3900		9.2	69.9 [✓]
10		10.3	68.8 [✓]
20		11.9	67.2 [✓]
30		11.5	67.6 [✓]

E 3910

3940	579.1	11.2	567.9 [✓]
50		9.5	69.6 [✓]
60		9.4	69.7 [✓]
70		8.7	70.4 [✓]
80		8.7	70.4 [✓]
90		7.9	71.2 [✓]
4000		7.3	71.8 [✓]
10		6.6	72.5 [✓]
20		5.9	73.2 [✓]
30		5.3	73.8 [✓]
40		4.8	74.3 [✓]
50		4.4	74.7 [✓]
60		3.8	75.3 [✓]
70		3.4	75.7 [✓]
80		3.1	76.0 [✓]
90		2.6	76.5 [✓]

E 3900

3	4070	579.1	3.2	575.9
	60		3.6	75.5
	50		4.1	75.0
	40		4.6	74.5
	30		5.0	74.1
	20		5.8	73.3
	10		6.5	72.6
	4000		7.2	71.9
	3990		7.9	71.2
	80		8.3	70.8
	70		8.4	70.7
	60		9.7	69.4
	50		11.1	68.0
	40		11.4	67.7
	30		12.4	66.7
	20		12.1	67.0
	10		9.9	69.2
	3900		10.4	68.7
	3890		9.9	69.2

E 3900

3890	579.1	12.7	566.4
70		12.6	66.5
60		11.3	67.8
	End April 13 - 1934		
	Start April 4 - 1934		
B.M.	6.37	576.32	569.95
	E 3890		
3850		10.6	565.7
60		7.9	68.4
70		10.0	66.3
80		10.4	65.9
90		9.7	66.6
3900		9.2	67.1
10		8.6	67.7
20		10.0	66.3
30		8.4	67.9
40		7.6	68.7
50		7.6	68.7
60		6.4	69.9

Elliott
Soper
Remmen

E 3890

3970	576.3	5.5	570.8
80		5.5	70.8
90		5.0	71.3
4000		4.3	72.0
10		3.6	72.7
20		2.7	73.6
30		2.0	74.3
40		1.3	75.0
50		0.9	75.4

E 3880

40		1.2	75.1
30		1.9	74.4
20		2.6	73.7
10		3.5	72.8
4000		4.3	72.0
3990		5.0	71.3
80		5.3	71.0
70		5.2	71.1
60		6.2	70.1

E 3880

3950	576.3	8.0	568.3
40		10.5	65.8
30		8.6	67.7
20		8.7	67.6
10		10.4	65.9
3900		10.3	66.0
3890		10.6	65.7
80		10.8	65.5
70		10.4	65.9
60		9.4	66.9
50		10.8	65.5

E 3870

3840		10.3	66.0
50		10.6	65.7
60		9.7	66.6
70		10.9	65.4
80		10.8	65.5
90		10.6	65.7
3900		10.7	65.6

E 3870

3910	576.3	10.0	566.3 ✓
20		5.7	70.6 ✓
30		10.3	66.0 ✓
40		11.2	65.1 ✓
50		7.9	68.4 ✓
60		7.4	68.9 ✓
70		4.6	71.7 ✓
80		5.2	71.1 ✓
90		4.8	71.5 ✓
4000		4.2	72.1 ✓
10		3.4	72.9 ✓
20		2.4	73.9 ✓
30		1.7	74.6 ✓
40		1.1	75.2 ✓

E 3860

30		1.7	74.6 ✓
20		2.4	73.9 ✓
10		3.3	73.0 ✓
4000		4.1	72.2 ✓

E 3860

3990	576.3	4.6	571.7 ✓
80		5.3	71.0 ✓
70		5.5	70.8 ✓
60		7.4	68.9 ✓
50		7.9	68.4 ✓
40		10.6	65.7 ✓
30		10.8	65.5 ✓
20		5.7	70.6 ✓
10		11.0	65.3 ✓
3900		10.9	65.4 ✓
3890		10.6	65.7 ✓
80		10.8	65.5 ✓
70		11.2	65.1 ✓
60		11.2	65.1 ✓
50		10.9	65.4 ✓
40		11.0	65.3 ✓
30		10.9	65.4 ✓

E 3850

3830	576.3	11.0	565.3 ✓
40		11.1	65.2 ✓
50		10.8	65.5 ✓
60		10.8	65.5 ✓
70		11.4	64.9 ✓
80		10.9	65.4 ✓
90		10.8	65.5 ✓
3900		11.3	65.0 ✓
10		11.2	65.1 ✓
20		6.6	69.7 ✓
30		11.2	65.1 ✓
40		10.3	66.0 ✓
50		7.8	68.5 ✓
60		6.8	69.5 ✓
70		5.9	70.4 ✓
80		4.9	71.4 ✓
90		4.6	71.7 ✓
4000		3.9	72.4 ✓
10		3.2	73.1 ✓
20		2.3	74.0 ✓
30		1.6	74.7 ✓

E 3840

4020	576.3	2.4	573.9 ✓
10		3.0	73.3 ✓
4000		3.7	72.6 ✓
3990		3.7	72.6 ✓
80		4.4	71.9 ✓
70		5.7	70.6 ✓
60		6.4	69.9 ✓
50		7.8	68.5 ✓
40		10.3	66.0 ✓
30		11.0	65.3 ✓
20		7.2	69.1 ✓
10		11.3	65.0 ✓
3900		11.3	65.0 ✓
3890		10.8	65.5 ✓
80		10.8	65.5 ✓
70		10.7	65.6 ✓
60		11.3	65.0 ✓
50		10.9	65.4 ✓
40		11.0	65.3 ✓
30		10.1	66.2 ✓
20		11.1	65.2 ✓

E 3830

B. M.	4.18	574.13	569.95
3820			9.1 565.0
30			8.4 65.7
40			9.2 64.9
50			9.2 64.9
60			9.0 65.1
70			8.6 65.5
80			8.8 65.3
90			8.7 65.4
3900			8.8 65.3
10			9.0 65.1
15			8.9 65.2
20			5.4 68.7
30			8.8 65.3
40			7.8 66.3
50			5.3 68.8
60			3.5 70.6
70			3.4 70.7
80			1.9 72.2
90			1.3 72.8
4000			1.3 72.8
10			0.7 73.4
20			0.0 74.1

E 3820

15

	574.1	
4010		0.5 573.6
4000		1.0 73.1
3990		0.9 73.2
80		2.3 71.8
70		2.9 71.2
60		3.4 70.7
50		1.8 72.3
40		7.6 66.5
30		8.4 65.7
25		5.9 68.2
20		8.4 65.7
10		8.8 65.3
3900		9.0 65.1
3890		8.5 65.6
80		9.0 65.1
70		9.1 65.0
60		9.1 65.0
50		9.6 64.5
40		9.7 64.4
30		9.0 65.1
20		9.5 64.6
10		9.2 64.9

E 3810

574.1

3810	8.3	565.8
20	9.5	64.6
30	8.6	65.5
40	9.3	64.8
50	10.5	63.6
60	9.7	64.4
70	9.6	64.5
80	9.2	64.9
90	8.8	65.3
3900	9.4	64.7
10	8.6	65.5
20	6.5	67.6
30	7.8	66.3
40	6.0	68.1
50	1.0	73.1
60	2.7	71.4
70	2.6	71.5
80	2.3	71.8
90	1.3	72.8
4000	0.9	73.2
10	0.4	73.7

E 3800

16

574.1

4000	0.7	573.4
3990	1.5	72.6
80	2.0	72.1
70	2.3	71.8
60	2.2	71.9
50	2.7	71.2
40	6.1	68.0
30	7.3	66.8
20	7.6	66.5
10	8.7	65.4
3900	9.4	64.7
3890	8.9	65.2
80	9.0	65.1
70	10.0	64.1
60	10.0	64.1
50	10.8	63.3
40	9.7	64.4
30	9.8	64.3
20	9.8	64.3
10	9.7	64.4
3800	10.2	63.9

E 3790

574.1

3800	10.5	563.6
10	9.5	64.6
20	9.6	64.5
30	10.1	64.0
40	10.8	63.3
50	11.0	63.1
60	10.6	63.5
70	10.3	63.8
80	9.5	64.6
90	9.2	64.9
3900	9.3	64.8
10	9.0	65.1
20	8.3	65.8
30	7.6	66.5
40	5.1	69.0
50	3.4	70.7
60	2.9	71.2
70	2.2	71.9
80	1.6	72.5
90	1.2	72.9
4000	0.6	73.5

E 3780

17

B.M. 4.92

574.87

569.95

3990	1.5	573.4
80	2.0	72.9
70	2.9	72.0
60	3.5	71.5
50	4.7	70.2
40	7.5	67.4
30	7.7	67.2
20	8.5	66.4
10	8.9	66.0
3900	9.5	65.4
3890	9.7	65.2
80	10.9	64.0
70	11.2	63.7
60	11.5	63.4
50	11.7	63.2
40	11.6	63.3
30	11.0	63.9
20	11.4	63.5
10	10.6	64.3
3800	11.6	63.3
3790	11.3	63.6

E 3770

574.9

3790	11.5	563.4
3800	11.7	63.2
10	9.7	65.2
20	11.3	63.6
30	10.9	64.0
40	12.1	62.8
50	11.9	63.0
60	11.5	63.4
70	11.1	63.8
80	10.6	64.3
90	9.7	65.2
3900	9.0	65.9
10	8.4	66.5
20	8.0	66.9
30	7.5	67.4
40	7.8	67.1
50	7.2	67.7
60	3.9	71.0
70	2.8	72.1
80	1.9	73.0
90	1.5	73.4

E 3760

18

574.9

3980	1.8	573.1
70	1.6	73.3
60	4.7	70.2
50	5.0	69.9
40	5.1	69.8
30	7.0	67.9
20	7.6	67.3
10	8.1	66.8
3900	9.0	65.9
3890	9.8	65.1
80	10.6	64.3
70	11.2	63.7
60	11.6	63.3
50	12.0	62.9
40	12.3	62.6
30	11.7	63.2
20	11.4	63.5
10	11.6	63.3
3800	12.0	62.9
3790	12.0	62.9
80	11.9	63.0

E 3750

574.9

3780	12.1	562.8 [✓]
90	12.1	62.8 [✓]
3800	12.3	62.6 [✓]
10	11.9	63.0 [✓]
20	11.9	63.0 [✓]
30	11.2	63.7 [✓]
40	12.5	62.4 [✓]
50	12.2	62.7 [✓]
60	11.8	63.1 [✓]
70	11.5	63.4 [✓]
80	10.2	64.7 [✓]
90	9.4	65.5 [✓]
3900	8.3	66.6 [✓]
10	7.7	67.2 [✓]
20	6.9	68.0 [✓]
30	6.5	68.4 [✓]
40	5.0	69.9 [✓]
50	4.4	70.5 [✓]
60	3.3	71.6 [✓]
70	2.2	72.7 [✓]
80	1.8	73.1 [✓]

E 3740

574.9

19

3970	2.1	572.8 [✓]
60	2.8	72.1 [✓]
50	3.9	71.0 [✓]
40	4.8	70.1 [✓]
30	5.8	69.1 [✓]
20	6.4	68.5 [✓]
10	7.1	67.8 [✓]
3900	10.2	64.7 [✓]
3890	13.5	61.4 [✓]
80	12.4	62.5 [✓]
70	11.9	63.0 [✓]
60	12.1	62.8 [✓]
50	12.4	62.5 [✓]
40	12.6	62.3 [✓]
30	12.6	62.3 [✓]
20	12.1	62.8 [✓]
10	10.9	64.0 [✓]
3800	12.5	62.4 [✓]
3790	12.2	62.7 [✓]
80	12.2	62.7 [✓]
70	12.4	62.5 [✓]

E 3730

574.9

3770	12.4	562.5 [✓]
80	12.6	62.3 [✓]
90	13.2	61.7 [✓]
3800	12.8	62.1 [✓]
10	11.3	63.6 [✓]
20	11.9	63.0 [✓]
30	12.7	62.2 [✓]
40	12.7	62.2 [✓]
50	12.3	62.6 [✓]
60	12.4	62.5 [✓]
70	12.1	62.8 [✓]
80	13.3	61.6 [✓]
90	10.5	64.4 [✓]
3900	7.0	67.9 [✓]
10	6.0	68.9 [✓]
20	6.0	68.9 [✓]
30	5.4	69.5 [✓]
40	4.5	70.4 [✓]
50	3.8	71.1 [✓]
60	2.9	72.0 [✓]
70	1.9	73.0 [✓]

E 3720

20

574.9

3960	2.4	572.5 [✓]
50	3.6	71.3 [✓]
40	4.1	70.8 [✓]
30	4.9	70.0 [✓]
20	5.6	69.3 [✓]
10	6.0	68.9 [✓]
3900	6.4	68.5 [✓]
3890	7.8	67.1 [✓]
80	13.4	61.5 [✓]
70	12.7	62.2 [✓]
60	12.5	62.4 [✓]
50	11.3	63.6 [✓]
40	12.9	62.0 [✓]
30	12.5	62.4 [✓]
20	11.8	63.1 [✓]
10	11.1	63.8 [✓]
3800	12.6	62.3 [✓]
3790	13.3	61.6 [✓]
80	12.7	62.2 [✓]
70	12.1	62.8 [✓]
60	12.5	62.4 [✓]

E 3710

574.9

3760	12.7	562.2 ✓
70	13.0	61.9 ✓
80	12.5	62.4 ✓
90	13.4	61.5 ✓
3800	12.6	62.3 ✓
10	11.3	63.6 ✓
20	12.3	62.6 ✓
30	12.5	62.4 ✓
40	12.4	62.5 ✓
50	10.7	64.2 ✓
60	11.1	63.8 ✓
70	14.1	60.8 ✓
80	10.3	64.6 ✓
90	6.7	68.2 ✓
3900	6.5	68.4 ✓
10	5.6	69.3 ✓
20	4.9	70.0 ✓
30	4.3	70.6 ✓
40	3.8	71.1 ✓
50	3.0	71.9 ✓
60	2.2	72.7 ✓

E 3700

574.9

21

3950	2.8	572.1 ✓
40	3.6	71.3 ✓
30	4.2	70.7 ✓
20	5.0	69.9 ✓
10	5.6	69.3 ✓
3900	6.7	68.2 ✓
3890	7.0	67.9 ✓
80	8.6	66.3 ✓
70	13.4	61.5 ✓
60	13.9	61.0 ✓
50	13.8	61.1 ✓
40	11.7	63.2 ✓
30	12.9	62.0 ✓
20	12.8	62.1 ✓
10	11.3	63.6 ✓
3800	12.2	62.7 ✓
3790	13.5	61.4 ✓
80	12.4	62.5 ✓
70	12.9	62.0 ✓
60	13.4	61.5 ✓
50	13.7	61.2 ✓

E 3690

574.87

3750	14.3	560.6'
60	13.9	61.0'
70	13.8	61.1'
80	13.6	61.3'
90	13.9	61.0'
3800	12.9	62.0'
10	12.9	62.0'
20	13.5	61.4'
30	13.1	61.8'
40	14.3	60.6'
50	13.9	61.0'
60	13.0	61.9'
70	9.0	65.9'
80	7.0	67.9'
90	6.7	68.2'
3900	6.2	68.7'
10	5.6	69.3'
20	4.7	70.2'
30	4.0	70.9'
40	3.1	71.8'

T. P.

0.93

573.33

2.47 572.40'

E 3680

573.3

22

3940	1.2	572.1'
30	1.6	71.7'
20	2.7	70.6'
10	3.6	69.7'
3900	4.7	68.6'
3890	4.9	68.4'
80	4.5	68.8'
70	9.0	64.3'
60	9.7	63.6'
50	12.0	61.3'
40	13.2	60.1'
30	13.4	59.9'
20	13.3	60.0'
10	12.2	61.1'
3800	12.1	61.2'
3790	12.0	61.3'
80	12.0	61.3'
70	12.6	60.7'
60	12.8	60.5'
50	13.3	60.0'
40	12.3	61.0'

E 3670

573.3

3740	11.2	562.1'
50	12.7	60.6'
60	12.0	61.3'
70	12.8	60.5'
80	12.3	61.0'
90	12.4	60.9'
3800	11.6	61.7'
10	13.2	60.1'
20	13.7	59.6'
30	13.7	59.6'
40	13.6	59.7'
50	12.0	61.3'
60	8.9	64.4'
70	8.2	65.1'
80	7.5	65.8'
90	5.9	67.4'
3900	4.5	68.8'
10	3.3	70.0'
20	2.2	71.1'
30	1.3	72.0'
40	0.3	73.0'

E 3660

573.3

23

3930	1.3	572.0'
20	2.3	71.0'
10	3.2	70.1'
3900	4.2	69.1'
3890	5.8	67.5'
80	6.9	66.4'
70	7.4	65.9'
60	7.7	65.6'
50	9.7	63.6'
40	13.4	59.9'
30	13.9	59.4'
20	14.3	59.0'
10	13.8	59.5'
3800	11.4	61.9'
3790	11.7	61.6'
80	11.7	61.6'
70	13.2	60.1'
65	12.8	60.5'
60	9.4	63.9'
50	9.2	64.1'
40	8.8	64.5'
30	8.6	64.7'

E 3650

24

573.3

3730	13.1	56.2 [✓]
40	12.2	61.1 [✓]
50	11.7	61.6 [✓]
60	12.1	61.2 [✓]
70	13.0	60.3 [✓]
80	12.6	60.7 [✓]
90	13.2	60.1 [✓]
3800	14.6	58.7 [✓]
10	14.7	58.6 [✓]
20	14.5	58.8 [✓]
30	13.5	59.8 [✓]
40	12.1	61.2 [✓]
50	8.2	65.1 [✓]
60	6.6	66.7 [✓]
70	5.6	67.7 [✓]
80	5.6	67.7 [✓]
90	4.8	68.5 [✓]
3900	3.6	69.7 [✓]
10	2.6	70.7 [✓]
20	1.8	71.5 [✓]
30	0.9	72.4 [✓]

Note: For sections from E 3640
to E 3370 use original sections
taken in 1932 or 1933

Original Xsections April 10-1934
 Elliott-Soper-Tempe

25

B.M. 3.72 563.55 559.83 Hub at 4
20+00

T.P. 3.61 559.94

1.54 561.48

E 3360

N 3750 +6.7

40 +5.6

30 +3.7

20 +1.9

10 1.6

3700 3.2

3690 4.0

80 4.8

70 5.4

60 6.3

50 9.1

40 10.0

30 8.1

20 12.1

10 13.6

E 3350

561.5

3610 13.8

20 10.9

30 7.6

40 7.5

50 6.9

60 6.2

70 5.2

80 4.7

90 3.9

3700 3.2

10 1.6

20 +2.4

30 +4.6

40 +6.0

50 +7.3

E 3340

561.5

3740	+6.4
30	+4.9
20	+3.1
10	0.0
3700	2.8
3690	3.9
80	4.7
70	5.6
60	6.4
50	6.9
40	7.4
30	9.4
20	11.4
10	14.1
3600	13.9

E 3330

561.5

3600	14.0
10	14.4
20	11.2
30	10.0
40	7.0
50	7.2
60	6.5
70	5.4
80	4.7
90	3.1
3700	1.7
10	+1.0
20	+3.8
30	+5.1
40	+6.5

E 3320

561.5

3730	+5.2
20	+3.6
10	+1.8
3700	1.6
3690	3.3
80	4.4
70	5.4
60	6.8
50	7.6
40	7.4
30	9.6
20	11.3
10	13.9
3600	14.1

E 3310

561.5

3600	14.5
10	14.0
20	13.0
30	10.4
40	7.5
50	7.3
60	7.5
70	5.0
80	3.4
90	2.3
3700	0.0
10	+2.0
20	+4.2
30	+5.5

April 11 - 1934

F 3300

F 3290

T.P.	0.98	560.92	559.94
3720		+4.5	
10		+2.8	
3700		+0.5	
3690		1.7	
80		3.6	
70		5.6	
60		6.4	
50		6.6	
40		6.9	
30		10.6	
20		10.0	
10		12.2	
3600		14.1	

560.92		
3590		16.0
3600		14.3
10		13.9
20		10.7
30		10.7
40		6.6
50		9.1
T.P.		6.29
3.65	558.28	554.63
60		2.7
70		2.4
80		0.8
90		+1.9
3700		+4.5
10		+6.0

E 3280

558.3

3700	+4.9
3690	+2.3
80	+0.4
70	1.9
60	3.4
50	7.1
40	4.2
30	9.0
20	8.5
10	10.3
3600	12.0
3590	13.4
80	13.5

E 3270

3580	13.8
90	13.7
3600	11.9
10	10.5

E 3270

558.3

3620	6.9
30	10.5
40	5.8
43	4.4
50	7.3
60	3.7
70	0.0
80	+0.5
90	+1.0
3700	+2.3

E 3260

3690	+2.5
80	+1.7
75	+0.7
65	+1.5
60	3.4
50	7.7
40	7.0

E 3260

558.3

3630	10.4
20	10.7
10	11.0
3600	12.8
3590	13.8
80	14.1

E 3250

3580	14.1
90	13.7
3600	13.6
10	11.3
20	10.6
30	10.5
40	9.0
50	6.3
60	2.0
65	1.6
67	+ 4.8

E 3250

558.28

3676	+4.8
80	+1.3
90	+2.1
T.P.	9.47 548.81
9.97	558.78

E 3240

3680	+0.6
75	+3.2
70	0.9
60	3.4
50	4.5
40	8.0
30	11.0
20	11.3
10	12.0
3600	13.9
3590	14.7
80	14.7

E 3240

558.8

3576	14.4
70	11.7

E 3230

3560	10.7
70	10.3
80	14.4
90	14.7
3600	14.1
10	12.8
20	11.3
30	10.8
40	7.6
50	4.2
60	2.9
70	0.2
80	+0.7

E 3220

558.8

3670	0.0
60	2.4
50	4.7
40	7.0
30	11.0
20	12.2
10	12.7
3600	14.4
3590	14.7
80	13.8
70	9.7
60	11.1

E 3210

3550	10.5
60	11.0
70	10.0
80	12.6
90	14.6

E 3210

558.8

3600	14.6
10	12.8
20	12.2
30	10.8
40	7.4
50	4.1
60	1.8

E 3200

3650	3.9
40	8.1
30	10.1
20	12.5
10	13.2
3600	14.9
3590	13.9
80	12.7

E 3190

558.8

3600	14.6
10	14.0
20	12.9
30	10.3
40	7.3
50	3.7
Check	10.3

Cut stake

548.5 548.5

X
 7aid.
 w.
 Original X Sections of
 Spillway Extension.
 April 13-1934.

(Most southerly of 2 proposed lines)

B.M. 1.39 561.33 559.94

T.P. 1.84 551.86 11.31 550.02

	Lt.				Rt.				
24+00	49.4 25 40	48.2 37 30	47.3 46 25	46.6 53 10	44.8 71 10	44.8 73 20	44.9 70 40	46.1 58 45	
23+75	47.0 49 40	46.5 54 27.2	44.6 73 25	44.8 71 8	44.9 70 22	46.7 52 27.4	47.6 43 36		
23+50	44.7 72 43	44.7 72 26.3	45.4 65 3	46.2 52 8	46.7 52 3	47.1 48 25	48.9 30 28.4	50.3 16 35	
23+25	44.6 73 45	44.7 72 26	46.9 50 18	47.7 42 8	47.4 45 12	49.7 22 16	50.5 14 27	54.3 +24 35	54.4 +25 45

Lt.

	45.5	47.1	45.4	47.1	48.6
23+00	64	48	26.2	48	33
	32	30	26.2	23	4

T.P 9.30 559.32 1.84 550.02

	47.3	47.5	50.1	49.5
22+75	12°	118	89	98
	40	22	8	8

	47.5	48.7	50.0	54.5	50.3
22+50	118	106	55	48	90
	50	33	29°	13	8

	50.9	54.4	52.4	51.8	50.9
22+25	84	49	62	75	84
	45	35	29	9	8

	56.5	52.7	52.6	52.7	51.4	51.3	50.9
22+00	28	66	55	66	79	80	80
	45	38	30	12	8	3	3

R.T.

	53.9	54.3	54.9
	420	5.5	430
	13	312	40

	50.1	55.3	56.2
	89	40	31
	24	36	50

	50.6	55.7	56.5	57.2
	87	36	35	21
	15	28	32	50

	52.2	56.5	58.2	58.7
	71	28	11	06
	20	34	50	

	52.5	56.1	59.8	58.6	57.7
	80	22	405	33	16
	4	9	25	33	50

Original sections

B.M. 3.13 563.07 559.94

21+75
 56.2 ✓
 69 10 102 112 6
 50 37 25 9 10

21+60
 55.6 ✓
 75 85 104 107 58
 50 33 25 14 4

21+55
 56.0 ✓
 71 78 104 107
 50 38 24 17

21+50
 56.5 ✓
 66 54.3 53.0 52.5 56.4 59.6 ✓
 50 31 24 13 12 3

11.1

57.8 ✓
 53 46 49
 6 23 45

58.2 ✓
 49 42 38
 13 34 50

56.6 ✓
 65 10.1 57.8 58.3 59.6 ✓
 12 2 18 20 50

55.3 ✓
 78 48 43 58.9 59.8 ✓
 11 25 33 50

slope stake

✓
 W

563.07

L.H.

	56.9	54.9	53.0	53.3
21+40	62 50	82 33	101 24	98 7

	58.1	53.3	53.5	58.0
21+25	50 50	98 27	96 11	51 4

	59.4	58.1	56.3	54.2	54.4	58.7
21+00	37 50	50 40	322 27	82 27	82 7	42 4

slope stake

T.P. 9.15 569.11 3.11 559.96

	58.0	57.3	54.8	55.0
20+75	111 40	118 29	143 42	141 2

R.H.

	57.1	58.6	59.6	59.8
	60 15	45 12	35 33	33 42

	59.5	60.2	61.6
	36 12	29 34	15 50

	60.1	60.1	60.2	61.8
	30 10	34 10	29 40	13 50

slope stake

	56.9	60.1	60.3	59.6	61.7
	122 10	90 8	88 20	95 31	74 50

✓
m

	569.1										
20+50	58.1 10 ⁷ 50	58.2 33 ¹ slope stake	58.3 10 ⁸ 26	55.6 13 ⁵ 14	55.7 13 ⁴ 4	58.1 11 ⁰ 9	60.3 8 ³ 17	60.4 8 ² 22	60.5 8 ⁶ 26	59.7 33 ⁹ slope stake	61.9 7 ² 50
20+25		59.6 9 ⁵ 50	58.4 10 ⁷ 40	59.2 10 ⁹ 25		56.5 12 ⁶ 18	56.6 12 ⁵ 4	57.5 11 ⁶ 17	58.5 10 ⁶ 24		61.4 7 ¹ 48
20+00	60.6 8 ⁵ 50	60.6 8 ⁵ 40	59.5 33 ⁸ slope stake	57.2 11 ⁹ 26	56.7 12 ⁴ 14	57.6 11 ⁵ 16	58.1 11 ⁰ 29	59.6 33 ⁸ slope stake	62.1 7 ⁰ 50		
19+75	61.7 7 ⁴ 50	64.5 4 ⁶ 34	60.3 8 ⁸ 24	60.5 8 ⁶ 5	58.7 10 ⁴ 4	57.6 11 ⁵ 4	58.0 11 ² 15	61.7 7 ⁴ 36	62.5 6 ⁶ 50		
19+50	60.8 8 ³ 50	60.7 34 ⁴ slope stake	60.8 8 ³ 23	62.2 6 ⁹ 4		58.6 10 ⁵ 15	59.0 10 ¹ 24	61.2 34 ⁶ slope stake	61.2 7 ⁹ 45		62.9 6 ² 50

569.11

L4.

T4.

19+25		62.0	62.9	61.0	62.0	61.3	59.8	59.6	64.3
	7 ¹		6 ²	8 ¹	7 ¹	7 ⁸	9 ³	9 ⁵	4 ⁸
	50		31	24	10	4	10	38	50
19+00	62.6	61.9	62.4	62.8	61.9	61.7	62.9	60.7	61.1
	6 ⁵	slope stake	6 ⁷	6 ¹³	7 ²	7 ⁴	6 ²	8 ⁴	slope stake
	50	35 ⁸	25	10	4	12	17	25	34 ⁶
T.P.	11.07	574.82	5.36	563.75					
18+75		62.8	63.1	62.7	62.1	63.0	62.9	61.1	60.8
	12 ⁰		11 ⁷	12 ¹	12 ²	11 ⁸	11 ⁹	13 ²	14 ⁰
	50		30	22	4	13	26	34	40
18+50	63.9	63.6	62.6	62.6	63.3	61.0	61.0	66.5	66.0
	10 ²	slope stake	12 ²	10 ¹²	11 ⁵	slope stake	13 ⁸	8 ³	
	50	35 ⁸	22	4	30	34 ⁵	42	50	
18+25		64.0	63.7	62.9	63.4	64.1	65.8	67.4	
	10 ⁸		11 ¹	11 ⁸	11 ⁴	10 ²	9 ⁰	7 ⁴	
	50		37	17	4	23	37	50	

√
21

Lt.

574.82

18+00	64.5	62.2	63.5	64.2
	10.3	slope stake 36	11.3	10.6
	50		32	
17+75	65.6	65.4	65.8	64.9
	9.2	9.4	9.0	9.9
	60	50	30	20
17+50	65.3	65.0	65.5	65.0
	9.4	slope stake 36.5	9.3	9.8
	60		30	
17+25	65.5	65.7	66.0	65.0
	9.3	9.1	8.8	9.8
	60	30	15	13
				5

RT.

	65.1	66.4	66.8	67.7
	9.2	slope stake 37.5	8.0	7.1
	20		50	60
	65.5	64.6	65.9	67.2
	9.3	10.2	8.9	7.6
	13	40	60	60
	65.6	68.2	65.6	72.3
	9.2	6.4	slope stake 36.8	2.5
	20	29		58
	65.9	65.1	66.1	68.7
	8.2	9.2	8.2	6.1
	4	19	34	40
				46
				50
				60
				70.2
				70.7

T.P. 4.89 575.63 4.08 570.74
 B.M. 5.68 569.95 569.95

17+00	66.7	66.6	68.4	68.4	65.9	66.2	70.0	68.6	65.2	65.2	68.1	69.0	71.3
	8.9	9.2	slope stake 38.5	7.2	9.7	9.4	5.6	7.0	10.4	10.4	7.5	slope stake 38.5	4.3
	60	50		30	20	10	3	4	5	16	25		60

Lit.

575.6

	67.5	67.7	68.7	66.9
16+80	81 60	79 40	69 32	87 22

16+75			78 60	78 40
-------	--	--	----------	----------

16+50	68.1 75 60	68.4 slope stake 38.2	70.0 56 10	71.0 46 8
-------	------------------	--------------------------------	------------------	-----------------

16+25		68.8 68 60	69.1 65 50	69.9 52 20
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B.M. 7.07 577.02 569.95

16+00	68.7 83 100	68.9 81 75	69.8 72 50	69.7 slope stake 38.2
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Rt.

40

	67.3	68.8	66.9	68.2	70.0	71.0	71.5
	83 10	88 4	82 10	74 20	56 28	46 40	41 60

	67.8	67.7	69.1	70.8	71.6
	78 30	79 4	65 20	48 35	40 60

	70.0	70.7	71.0	72.3
	56 25	49 25	slope stake 39.5	33 60

	70.4	71.8	72.1	
	52 8	38 40	35 60	

	70.0	70.9	71.4	72.8	73.3	74.7	75.6
	70 25	61 41	56 25	slope stake 40.4	37 50	23 75	14 100

577.0

	69.8	70.0	70.8	71.1
15+73	72	70	62	59
	102	75	50	25

	68.6	65.7	66.4	73.7
15+52 ²⁹	84	113	106	33
	4	8	20	40

Additional Quantities not Shown by X sections Between 15+50 and 20+00

1.5' x 2' x 3' = 9'	2 x 3 x 4 = 24'
2' x 2' x 4' = 16'	2 x 2 x 4 = 16'
2 x 2.5 x 3' = 15'	2 x 2 x 5 = 20'
2 x 2.5 x 3 = 15'	2 x 2 x 10 = 40'
2 x 2 x 3 = 12'	2 x 2 x 3 = 12'
3 x 3 x 4 = 36'	2 x 2 x 4 = 16'
2 x 2 x 3.5 = 14'	1.5 x 2 x 5 = 15'
4 x 4 x 4 = 64'	4 x 4 x 3 = 48'
3 x 2.5 x 4 = 30'	3 x 3 x 4 = 36'
211'	227'

	71.8	72.4	73.7	74.8	75.8
	52	46	33	22	12
	4	25	50	75	100

	74.2	75.6	76.5
	28	14	05
	50	70	100

211' ✓
 227' ✓
 76' ✓
 275' ✓
 227' ✓
 24' ✓
 19.0
 467/300
 200000
 Total
 200000

FINAL Original X Sections - Spillway Extension

May 3-1934

Used on X Sec Sheets -

B.M. A.82 701.18 696.36
This H.I. for this side of Page only.

Lf.

Vertical

7+40 ← $\frac{14^0}{84.0}$ $\frac{7^0}{80.0}$ $\frac{7^0}{74.0}$ $\frac{5^0}{62.0}$ $\frac{26^0}{59.0}$ $\frac{26^0}{20}$ $\frac{26^0}{10}$ $\frac{26^0}{10}$

7+43 +8⁶ +27¹ 3¹ 12⁵ 12⁵ +26¹ 7¹ 3¹ 18⁵
123 113 95 90 80 73 45 28 4

7+48 +6³ +3² +4² +3² +5² +5⁵ -2⁹ +7⁸
120 113 90 80 70 60 46 31

707.5
704.2
705.2
705.1
706.4
706.7
698.3
709.0
709.5
697.1
692.4
687.7
+8³ 25
-4¹ 19
8⁸ 5
13⁵ 4

Plotted
Ext. 5M
20"

Simpson
Saper
Remmen.

Rt.

675.7
689.49
672.7
673.1
675.1
677.3
13⁸ 16⁸ 16⁴ 14⁴ 12²
10 55 70 80 92
Finish Grade 50
Finish to O.G. Grade

Area
941.17

7.9 0.55 689.49 12.24 688.94
680.7 679.8 673.1 673.9 679.6 686.6 686.6
10 38 50 75 90 101 106
check on sta. 7150 ft.
4002.8
Finish Grade to O.G.

682.2 681.3 682.2 680.8 674.3 674.0 684.8 688.4 694.5
7³ 8² 7³ 8² 15² 15⁵ 4⁷ 1¹ +5²
10 20 30 40 53 70 90 100 109

of E.I. Plotting
7/24-1934 CBH

5421.3

Original Xsections - Spillway Extension
cont'd.

Used on X Sec Sheets

B.M.	4.82	701.18		696.36
T.P.	9.32	710.35	0.15	701.03
7+50	20 125	57 115	58 100	41 77
Gr 664.82 Cts	43.5	39.8	39.7	41.4
	706.5	704.6	704.5	706.2
	706.5	706.5	706.5	706.5
	705.9	705.9	705.9	705.9
	710.0	710.0	710.0	710.0
	709.7	709.7	709.7	709.7
	44	44	44	44
	40	40	40	40
	45.2	45.2	45.2	45.2
	44.9	44.9	44.9	44.9
T.P.	4.50	709.66	5.19	705.16
T.P.	6.27	711.04	4.89	704.77
B.M.			1.92	709.12
				709.15

1985-10

T.P.	0.55	689.49		688.94
	05	41	73	82
	24	3	15	40
	24.1	20.6	17.4	16.0
	688.9	685.4	682.2	680.8
	674.9	674.9	674.9	674.9
	680.9	684.7	687.9	687.9
	86	48	16	74
	87	90	100	109
	16.1	19.9	23.1	29.6

FINAL sections of Spillway Extension
 superceding Every previous section
 50' bottom $\frac{1}{2}$:1 Slope on No. 1:1 on So.
 Started this 19th day of May 1934

Grade 546.0

Note Slopes Cop. from FBook 474-34 to 37

Elliott - Saper - Remmon

Note: Fill in the slope stakes in their places as shown in book 474-p 34

Station	Left Side	Right Side	Area
15+75	69.9 - 75 65 50 71.4 71.3	574.26 72.1 56 10 78.3 73.9	1796.2 ^{sq}
16+00	Slope 1 to 1 20H 69.1 - 83 65 69.4 48.4 69.6 78 40 70.9 65 40 20	71.0 71.5 72.7 59 20 73.5 73.5 39 50	1716.3 ^{sq}
16+50	68.0 - 94 65 68.4 92 65 68.4 68.4 90 50 569.5 48.5	70.1 73 70.9 65 25 71.5 71.5 51 50	1643.7 ^{sq}
16+75	66.3 - 68.8 66.8 45.8 66.2 66.1 - 69.8 69.3 81 60 69.5 69.5 79 50 69.2 48.4	67.8 67.5 67.8 68.7 69.9 71.0 71.1 71.7 64 35 71.0 71.1 71.7 57 50 1527.6 ^{sq}	1527.6 ^{sq}
17+00	66.3 - 11 8 11 11 7 65 50 35 20 15 65.1 65.1 65.1 12.3 5	68.2 68.3 68.7 70.8 70.8 71.6 71.6 71.6 8 5 15 30 70.8 70.8 372 70.8 372 66 35 50 1390.0 ^{sq}	1390.0 ^{sq}

E. Ch. By G.B.H.

FINAL X SEC SPILLWAY EXTENSION

45

577.37

	65.4	56.6 42.6	65.7	64.8	69.8	67.1	65.1	65.4	No. 68.5	70.9	
17+25	120	113	120	76	103	123	120	895696	65	1344.2	
	65	30	15	5	4	5	15	25-368	50		

May 22 - 1934 Same crew

B.M. 2.76 572.71 569.95

17+50			65.9	56.5 44.5	65.3	65.7	66.5	5692 346	70.7	1297.1
			56	51	74	110	62	25	210	
			64.8		25	15	25		50	

17+75			64.8	56.5 44.5	65.2	64.8	66.7	5670 358	70.3	1260.4
			79	55	72	110	610	25	35	24
			55		25	15	25		55	

18+00			64.1	56.3 42.8	63.9	66.4	67.2 356	69.3	70.3	1226.0
			80	51	80	113	5672	54	51	
			63.2		25	25				

18+25	63.0	53.1 42.1	63.2	64.0	65.6	67.6 35.8	68.0	68.9	69.3	1190.0
	97		75	87	71	47	47	38		
	55		25	5	10	40	50			

El. ck by GBH

FINAL
SPILLWAY EXTENSION
572.71 So.

46

No.

18+50	63.5 562.5 41.5	62.6	63.0	61.9	61.6	67.1 568.4 36.2	1075.7
	92 55	10 30	92 10	108 15	111 15	56 30 36 50	

18+75	63.4 62.8 41.8	62.2	62.0	62.0	64.9 57.4 35.1	67.9 48 32 55	1065.8
	93 55	105 30	102 15	107 15	78 20	48 40 32 55	

19+00	62.5 562.6 41.6	62.0	62.0	60.9	61.7	65.2 566.4 35.2	1028.8
	102 50	102 15	102 15	118 15	110 10	75 30 53 50	

19+25	60.9 62.0 41.0	62.1	58.6	61.2	63.9	67.0 57.6 35.8	967.9
	118 50	106 40	141 15	115 10	88 20	52 30 42 45	

B.M. 9.72 569.55 559.83

19+50	60.5 561.0 40.0	62.5	58.8	58.8	60.6	61.1	63.7 564.9 34.6	946.8
	71 55	71 30	108 16	108 10	90 15	85 15	52 20 26 45	

ET. CR BY CBH

FINAL

27

	569.55	50.			No.				
19+75	60.5 91 50	60.2 94 36	57.7 119 28	58.2 114 18	61.1 85 22	62.8 88 22	66.8 28 36	68.1 15 50	908.2
20+00	56.3 56.9 35.9	57.7 57.7	57.0 12 50	57.8 118 25	58.0 116 14	59.9 92 14	62.5 7 17	68.5 1 50	863.6
20+25	133 50	119 18	91 9	80 10	34 35	15 50			873.2
20+50	55.6 140 50	58.3 113 25	61.0 86 20	60.1 95 10	59.8 98 4	67.9 17 50			917.0
20+75	55.2 144 50	55.1 145 40	57.1 96 30	60.0 99 15	59.7 89 10	67.1 25 35	68.2 14 50		962.6
21+00	54.2 154 55	58.4 112 45	60.1 95 30	60.1 95 5	60.7 89 9	63.2 64 20	67.3 20 35	68.6 10 50	958.7

Ele. ck by COH

FINAL

May 26-1934
Same Crew

48

B.M. 9.54 569.37 ✓ 559.83

	55.8	50	59.8	60.8
	136	101	96	86
21+25	50	35	20	4

	57.7	58.8	59.7	62.8
	117	100	97	66
21+50	45	20	4	20

	57.2	58.2	58.3	
	123	112	111	
21+75	45	35	20	

T.P.

11.47 557.90

4.99 562.89 ✓

	51.9	56.5	58.8	
	110	64	41	
22+00	50	40	30	

	50.9	58.1	58.6	
	120	65	48	
22+25	50	33	15	

	62.5	62.9	65.2	68.4
	69	65	42	10
	10	15	25	45

	66.6	69.0		
	28	04		
	32	50		

	57.1	60.1	63.3	68.2
	103	93	61	12
	4	10	25	45

	58.4	57.8	60.5	66.8
	45	51	24	39
	20	4	20	38

	57.4	64.4	67.2	
	35	15	43	
	15	35	50	

964.1 ✓

896.0 ✓

847.1 ✓

798.0 ✓

772.0 ✓

Check by G.B.H.

FINAL
Original

X Sections

	562.89	50		
22+50	50.2 122 50	50.4 125 40	53.0 67 27	57.2 57 10
22+75	49.6 133 50	50.7 122 32	51.4 81 21	56.5 64 4
23+00		54.4 85 45	54.2 81 20	

			No.	
	58.1	58.6	66.0	693.3
	57.7	58.5	64.5	588.5
	56.1	57.8	62.9	588.1

B.M. Check

2.95 559.94 559.94

May 28-1934

0.49 560.43

23+25	50.6 98 40	49.9 105 32	50.9 73 25	54.2 62 15	54.1 60 4
23+50		46.8 136 40	50.8 100 15	53.9 65 7	54.7

	55.0	57.6	58.0	60.1	498.8
	51.2	51.9	57.3	58.6	382.9

File. ck by C.B.H.

FINAL

So.

No.

50

560.43

T.P.

6.03 554.40

3.81 558.21

	46.4	47.7	49.5	47.7	48.9	52.3	50.3	51.9	55.4	57.6	
23+75	118	87	105	93	59	72	63	86	216.1		
	35	15	5	5	9	16	20	36			
	44.7	46.6	48.0	47.9	53.5	57.2	55.6				
24+00	135	116	102	103	42	28			128.5		
	35	17	4	10	25	40					
	44.4	44.3	45.8	46.0	47.7	48.4	51.1				
24+25	138	139	124	123	105	71			25.9		
	15	4	2	4	22	35					
	44.0	44.6	44.6	46.3	47.2	49.2					
24+50	142	136	7	119	90	35			1.7		
	4	7		15							

Note Slope Etc. & Dist out filled in from
 F. Book 474 on Sta + 50 + calc for Sta + 50 + 75.
 C.B.H. Aug-17-34.

Etc. dt by C.B.H.

X Sections of Spillway Extension
 Estimate #1 May 31 - 1934
 Elliott - Soper - Remmen

B.M. 0.87 575.13 ✓ 574.26

18+25 is original ground and
 so is everything West

		65.9	64.9	64.3
		South		
18+00	O.G. 36	92 30	102 4	108 20

		64.8	66.1	
17+75	O.G. 43	103 4	90 32	O.G. 37

		65.2	65.4	
17+50	O.G. 45	99 41	92 4	

		65.4	66.2	66.9
17+25	O.G. 46	92 43	89 4	82 33

		65.7	65.7	66.5
17+00	O.G. 46	94 43	94 4	86 35

640	North	O.G. 43	Original Ground
11			
40			

66	86	O.G.
	34	36

O.G.	38
------	----

O.G.	38
------	----

Estimate #1

South

575.13

16+75

O.G.
49

88
44

87
44

87
33

O.G.
39

16+50

O.G.
49

91
44

93
44

90
31

O.G.
38

16+25

O.G.
50

90
43

93
43

91
29

O.G.
38

16+00

O.G.
49

101
44

96
44

67
32

O.G.
39

15+75

O.G.
49

94
45

93
44

73
29

O.G.
36

15+52²⁹

O.G.
49

89
45

84
41

61
31

O.G.
37

Estimate #1.

June 1 - 1934
Elliot - Notes
Simpson -
Seper
Remmer

53

B.M.	3.44	577.70		574.26					No.
		So,							
		68.7		66.3					
15+25		9° on 1:1 slope to a.g.	114	60	0.G.				
	68.9	66.7	64.7	66.3					
14+75	8 ⁸ on 1:1 slope	11° 60	13° 65	114				10 ⁹ on 1:1 slope	
		70.5	69.2	65.3				66.8	
14+25		72 on 1:1 slope	85 70	124				12 ⁴ on 1:1 slope	
		70.3	65.3	65.9				65.6	
Ramp 13+75	0.G. 115	74 50	124	118 70				48.2 95 on 1:1 slope.	
		72.4	68.9	65.4				69.8	
13+25	5 ³ on 1:1 slope	8 ⁸ 60	12 ³ 65	118 50				79 on 1:1 slope	
		68.0	66.6	72.3				76.3	
12+75	9 ² on 1:1 slope	9 ⁶ 70	11 ¹ 65	54 75				14 on 1:1 slope	

577.7

So

No.

12+25

68.4
93
on 1:1 slope
102
67.5
84
50

74.4
31
+58
95
on 1:1 slope
83.5
83.8

11+80²⁹

69.3
84
on 1:1 slope
105
67.2
30

69.3
84
+0.7
40
+108
80
100
110
92.5
93.4
on 1:1 slope

11+60

71.5
64
on 7/8:1 slope
82
25
69.7

76.6
11
40
+118
80
107
110
98.0
98.2
on 7/8:1 slope

B.M.

11.19

598.33

587.14

11+40

75.1
232
on 3/4:1 slope
50
72.1
262
50
19.4
4

89.2
91
15
89.0
93
80
100
100
2.20
+44
on 3/4 to 1 slope

11+20

78.8
195
on 5/8:1 slope
217
45
76.6
19.7
186
10

82.9
154
5
89.9
104
5
88.5
98
70
93
7.6
+83
on 5/8

598.33

South

84.2

11+0029

141
on 1/2:1 slope

82.1

16²
40

87.3

11⁰
4

90.6

10+85

O.G.
8877
85

87.4

10⁹
40

87.2

9¹
4

90.1

10+75

O.G.
9082
60

87.6

87
4

90.0

83
20

T.P.

12.73

Level 1
610.91

0.15 598.18

99.2

10+50

O.G.
8011²
70

95.6

15³
45

93.6

10+3929

O.G.
9083
40

96.1

48
4

T.P. 11.73

622.17

0.47

610.44

55

North

88.8

95
45

09.3

+11⁰
85

09.5

+11²
on 1/2:1

87.2

9¹
30

12.1

+13⁸
80

13.0

+14⁷
on 1/2:1 slope

136

+15³
75

14.1

+15⁸
on 1/2:1 slope

78.7

12²
4

17.8

+6⁹
60

18.4

+7⁵
on 1/2:1 slope

15.3

+4⁴
35

19.7

+8⁸
80

20.2

+9.3
on 1/2:1 slope

610.91 So.

No.

			02.3		06.9
10+25	O.G.	86		40	
	85	55		4	

			06.5		04.5
10+10	O.G.	44		64	
	95	85		43	

T.P 11.73 622.17 0.47 610.44 ✓

T.P, 0.59 621.58 ✓

12.40 633.98 ✓
 Check of H.I.
 Cut stake at 10+00 4.0 630.0 630.1

			10.9		17.7		23.6
10+00	O.G.	23		16		10	
	85	63		21		4	

					24.4
9+75	O.G.	96			
	110	100			

			14.3		21.0		22.5

			14.7		14.8		17.7		16.9		13.7

			25.1		20.0		21.6		26.3

			22.7		22.7		23.6

Est. #1
So.

634.0

		26.8	22.2	23.7
9+65	O.G. 105	77 100	118 Φ	10 ³ 60
	29.1	27.0	25.0	23.0
9+50	49 on 1/2 tol	72 70	51 55	90 35
	28.4	26.2	26.8	
9+25	O.G. 96	56 85	78 65	72 40
	27.3	27.6	27.6	
9+00	O.G. 95	47 75	64 40	64 Φ
	30.7	28.6	28.8	
8+75	O.G. 72	33 45	54 Φ	52 50

8+60 original ground from here
East to 7+40 incl.

No.

57

		23.6	24.2	24.8
		10 ⁴ on 1/2 tol		
	23.6	26.8	24.2	24.8
	10 ⁴ 20	72 30	98 57	92 on 1/2:1
	24.4	24.5	27.4	31.1
	96 Φ	95 25	66 85	29 on 1/2:1
	26.9	27.4	31.4	
	71 40	46 80	26 on 1/2:1	
	O.G. 87			

Monthly Estimate #2 - Spillway Extension X sections
 July 2 - 1934 - E. Simpson - Super - Remmen

B.M. 1.09 697.45
 T.P. 12.77 684.68
 0.22 684.90

7+40 is original ground
 South

North

7+43 (original ground) O.G. 85
 89.9 ✓
 +5.0
 16

O.G. (original ground)
 85

7+48 O.G. 85
 90.6 ✓
 +5.7
 16

88.5 ✓
 +3.6
 37

7+50 O.G. 87
 90.6 ✓
 +5.7
 16

88.5 ✓
 +3.6
 37

7+60 O.G. 90
 86.3 ✓
 +1.4
 25

85.9 ✓
 +1.2
 45

7+75 O.G. 102
 84.5 ✓
 85.4 ✓
 +0.5
 40

83.4 ✓
 85.9 ✓
 15
 40

checked & plotted on 7/5/34 Sec.
 2022

Est. #2 - Sp. Hway Extension

684.90 ✓

South

North

Station	O.G.	113	80	55	682.8	O.G.	109	65	O.G.
8+00			45	21	680.2	33	45	65	
8+10	O.G.	115	55	30	679.4	37	13	18	O.G.
			85	45	681.6	12	20	40	70
8+15	O.G.	118	61	38	678.8		10	21	O.G.
			85	60	681.1			31	60
8+25	O.G.	127	78	52	679.7		25	19	O.G.
			88	40	665.0		20	45	60
8+35	O.G.	133	98	70	675.1		27	22	O.G.
			80	68	677.9		19	40	55
8+50	O.G.	128	132	104	675.2		34	32	O.G.
			100	80	662.1		10	10	40
T.P.			12.83	672.07					
	0.22	672.29							

Revised checked notes
7/5/04
7000

Est. #2 - Spillway Extension

672.29

South

North

8+55 O.G. 14 04 14² 23⁰
 128 100 80 55 15

670.9 671.9 658.1 649.3
 20⁵ 28⁵ O.G.
 10 25 60

8+60 O.G. 22 21 14³
 128 100 85 60

670.1 670.2 658.0 649.3
 25² 22³ 24¹ O.G.
 28 5 65

8+75 O.G. 42 13⁵ 24⁶ 29⁷ 27⁷
 110 95 80 58 40 25

667.6 658.8 647.7 642.6 644.6
 34⁷ 45² 42⁴ O.G.
 50 73 85

T.P. 12.94 659.35 ✓
 0.23 659.58

T.P. 12.73 646.85 ✓
 0.37 647.22

9+00 O.G. 32 10³ 10⁸
 102 80 65 55

650.4 643.5 636.9 636.4
 25⁸ 28² 26⁰ 20⁶
 50 75 on 1/2 to 1 finished slope

T.P. 12.89 634.33 ✓
 0.21 634.54

Est. #2 - Spillway Extension
 South
 634.54 ✓

North

61

T.P.

13.09 621.45 ✓

0.58 622.03 ✓

		633.5 ✓	633.0 ✓	616.6 ✓
9+25	O.G. 97	+115 95	+110 72	54 40
		627.8 ✓	627.0 ✓	610.2 ✓
9+50	O.G. 103	+58 100	+50 85	118 55
		604.5 ✓	603.1 ✓	603.1 ✓
9+65			O.G. 95	189 50
	616.9 ✓	604.5 ✓	600.5 ✓	597.6 ✓
9+75	5' on 1/2 to 1 slope	175 65	215 50	244 4

		604.3 ✓	597.3 ✓	
T.P.		13.01	609.02	
	0.31	609.33		
10+00		5.0 on finished slope	12.0 65	

		613.0 ✓	613.0 ✓	615.6 ✓	619.0 ✓	
	90	82	64	33		
	40	40	80	On 1/2 to 1 slope		
		605.2 ✓	606.3 ✓	608.5 ✓	619.0 ✓	613.7 ✓
	168	157	135			
	4	45	80	On 1/2 to 1 slope		
		600.1 ✓	600.3 ✓	603.4 ✓	608.5 ✓	613.7 ✓
	212	212	186			
	4	30	80	On 1/2 to 1 slope		
		603.8 ✓	603.4 ✓	603.4 ✓	608.5 ✓	613.7 ✓
	212	182				
	75	on 1/2 to 1				
		597.7 ✓	593.1 ✓	597.0 ✓		
	176	163	123			
	4	75	on finished slope			

Est. #2 - Spillway Extension

609.33

South

North

603.3 ✓

597.5 ✓

588.9 ✓

589.5 ✓

592.1 ✓

596.2 ✓

10+10

6°
on finished
slope

118
75

204
4

198
45

172
75

131
on finished
slope

T.P.

0.91

597.29

12.95

596.38

10+25

601.3 ✓
+4°
on finished
slope

597.5 ✓
+02
82

591.7 ✓
56
40

584.2 ✓
131
4

588.4 ✓
82
70

591.4 ✓
59
on finished
slope

Item I →

10+39²⁹

O.G.

596.6 ✓

581.1 ✓

584.0 ✓

588.6 ✓

Item II ↲

90

07
85

162
4

133
55

82
on finished
slope

10+50

596.8 ✓
0.5
on finished
slope

585.5 ✓
118
40

578.6 ✓
182
4

582.3 ✓
150
60

588.0 ✓
93
on finished
slope

T.P.

0.64

585.14

12.79

584.50

10+75

578.3 ✓
O.G.
87

68
60

575.10 ✓
10°
4

573.1 ✓
12°
15

579.0 ✓
61
65

582.1 ✓
3°
on finished
slope

585.14

So.

575.10 ✓

10+85²⁹

O.G.
88

10⁰
63

573.5 ✓

11⁶
4

571.3

13⁸
15

No.
578.9

62
80

582.4

2⁷
on finished
slope

T.P.

12.82

572.32

11+00

0.94

573.26

570.4 ✓

570.2 ✓

568.7 ✓

11+00²⁹

O.G.
90

22
70

31
4

14
10

573.0 ✓

03
55

577.7 ✓

+4.4
on finished
slope

11+20

580.6 ✓

566.0 ✓

566.6 ✓

566.0 ✓

574.8 ✓

577.0 ✓

+73
on finished
slope

73
80

67
4

73
15
72

+32
on finished
slope

11+40

575.3 ✓

562.2 ✓

564.3 ✓

573.3

574.1 ✓

+22
on finished
slope

11
85

90
4

0.0
75

+0.8
on finished
slope

559.6 ✓

558.8 ✓

562.5 ✓

566.6 ✓

572.1 ✓

11+60

137
on finished
slope

145
60

10⁸
4

67
40

12
on finished
slope

Est. #2 - Spillway Extension

	573.26 So.			573.26			
11+80.29	556.8 - 16.5 on finished slope		561.1 - 12.2		1.67	562.58 No.	
12+00	555.3 18° on finished slope	553.3 -	559.3 14°	563.3 10°			
12+25	552.3 20° on finished slope	551.3 -	557.9 - 15.4	568.1 - 5°			
12+50	552.5 21° on finished slope	551.4 - 17.4	559.8 - 13.5	568.0 - 5.3			
12+75	532.1 20.8 on finished slope	554.4 - 18.9	556.8 - 16.5	566.3 - 7.0			
13+00	21.2 on finished slope	550.4 - 22.9	552.3 4.5	21.0 2.0	553.0 - 20.3	566.0 - 7.3	565.3 8.0 on finished slope

12.37 560.89

64

Est. #2 - Spillway Extension

573.26

13+10	552.3 - 21 ⁰ on finished slope	550.2 - 23 ¹ 55	551.9 - 21 ⁴ 55	552.6 - 20 ² 50
13+25	552.2 - 21 ¹ on finished slope	552.1 - 21 ² 50	551.5 - 21 ⁸ 55	552.4 - 20 ⁷ 40
13+40	552.3 - 21 ¹ on finished slope	552.0 - 22 ⁶ 55	550.7 - 22 ⁶ 55	553.7 - 19 ⁶ 52
13+50		21 ³ on finished slope	22 ⁴ 55	18 ⁷ 52
T.P.		12.37	560.89	
	1.69	562.58		

Rough Check (13+50 on Lt. Stake mtd. C. 140) T.P. 6.83 555.75 555.64

End July 2 - 1934

564.7	8 ⁶ on finished slope	564.7	8 ⁶
562.8	10 ⁵ on finished slope	562.3	11 ⁰ on finished slope
563.2	10 ¹ on finished slope	562.8	10 ⁵ on finished slope
561.5	11 ⁸ on finished slope	562.6	10 ⁷ on finished slope

Est. #2 - Spillway Extension
July 3 - 1934

Elliott
Simpson
Soper
Remmen

66

B.M.	0.54	582.58		582.04
T.P.	3.76	573.64	12.70	569.88
T.P.			12.46	561.18

2.09 563.27

South

North

	553.2		550.8		550.3
13+75	10' on finished slope		12.5		13.0
	554.1		550.7		55
14+00	9' on finished slope		12.6		55
	555.7		555.0		551.1
14+25	7' on finished slope		8.3		12.3
	557.6		50		552.2
14+50	5' on finished slope		552.2		552.2
	559.6		558.9		553.1
14+60	3' on finished slope		4.4		10.2
			60		

	553.3				
	0.9				
	550.9				561.3
	12.4				2.0
	550.4				on finished slope
	12.9				
	557.7				on finished slope
	556.3				
	7.0				
	556.1				557.6
	7.3				
	45				5?
					on finished slope

Est. #2 - Spillway Extension

563.27

7.3
2.8
5.5

14+75
561.6 ✓
17
on finished slope
564.8 ✓
22
65
561.1 ✓
45
556.8 ✓
45
555.1 ✓
22

15+00
567.8 ✓
+15
on finished slope
566.0 ✓
+12
75
557.1 ✓
62
556.6 ✓
30

15+25
567.8 ✓
+45
on finished slope
566.0 ✓
+22
65
560.9 ✓
24
559.4 ✓
30

Item I ↑ (original ground)
15+52.29 O.G.
Item III ↓ 49

560.4 ✓
29
30
559.6 ✓
32
4

T.P. 2.17 561.10

7.07 568.17

555.0 ✓
83
30
558.6 ✓
42
55
559.4 ✓
41
35
561.1 ✓
22
on finished slope

559.4 ✓
39
on finished slope

559.4 ✓
34
30
559.4 ✓
82
29
0.G.
38

15+75

O.G.
48

559.0 ✓
92
25
559.0 ✓
92
4
559.4 ✓
82
29
0.G.
38

568.2

South

Station	O.G.	48	30	94	100
16+00				558.8	558.2
16+25	O.G. 48	21 36	116 22	566.1 556.6	556.4 558.2
16+50	O.G. 48	32 42	38 25	565.0 564.4	555.9 555.9
16+75	O.G. 47	38 30	123 20	564.4 564.3	555.9 564.3
17+00	O.G. 46	36 40	39 25	564.6 563.5	564.9 564.9
17+25	O.G. 45	42 37	33 20	564.9 563.5	564.9 564.9

North

Station	O.G.	27	38	85	85
16+00	O.G. 38			559.7	559.7
16+25	O.G. 38			559.7	559.7
16+50	O.G. 38			558.6	558.6
16+75	O.G. 37			558.1	558.1
17+00	O.G. 37			559.0	559.0
17+25	O.G. 37			559.4	559.4

Est. #2 - Spillway Extension

568.2

South

North

563.8

564.6

560.1

17+50

O.G.
44

44
38

6
22

8
13

9
29

9
29

O.G.
36

17+75

O.G.
44

38
31

5
28

7
29

9
29

O.G.
35

18+00

O.G.
38

52
13

9
5

9
26

9
26

O.G.
35

18+25

O.G.
32

12
12

12
12

10
21

7
29

O.G.
35

18+50

O.G.
28

11
23

12
12

10
16

10
16

O.G.
36

18+75

O.G.
21

9
15

10
15

9
8

9
8

O.G.
15

19+00 is original ground and no excavation from 19+00 to the river.
 Check on 18+00 slope stake ~ 10 567.2 567.2

X Sections Spillway Extension
Est. #3.

B.M.	12.58	668.38	665.80
		South 669.0 5	669.0
7+40	O.G. 85	+0.6 62	+0.6 34
			667.7
7+43	O.G. 85	0.7 65	1.0 15
			666.0
7+48	O.G. 88	2.4 67	1.3 25
			664.5
7+50	O.G. 88	3.9 67	2.7 25
			661.6
7+60	O.G. 90	6.8 69	6.0 40

Reduced by Machine
Williams & Hough
Plotted

Aug. 2 - 1934
Simpson
Super
Reamer
Slope
Fabelle.

North

	668.1	668.0	668.1	668.6
	0.3 8	0.4 45	0.10 83	+0.2 on Finished slope
	667.9	667.3	667.3	668.8
	1.1 8	1.1 50	1.1 84	+0.4 on Finished slope
	666.9		666.2	665.7
	1.5 8		2.2 52	2.7 on Finished slope
	666.6	665.1	665.4	
	1.8 8	2.9 60	3.0 on Finished slope	
	661.4	660.8	662.0	
	7.0 8	7.6 45	6.4 on Finished slope	

Est. #3 - Spillway Extension

668.38
South
 7+75 O.G. 9⁰ 11³
 99 83 40

T.P. 6.76 662.14 13.00 655.38

T.P. 1.25 650.50 12.89 649.25

8+00 O.G. 0¹⁰ 1¹²
 110 82 40

8+25 O.G. 6⁷ 7⁸
 121 80 30

8+50 O.G. 10⁸ 10⁸
 115 79

T.P. 9.53 638.31 12.72 637.78

6568 6525 North
 6574
 11⁶ 11² 11⁰
~~11~~ 55 on Finished
 Slope

6489 6487 6508
 6400 6508
 11⁶ 11⁰ 10³
~~11~~ 40 on Finished
 Slope

6426 6417 6428
 6417 6428
 7⁹ 8⁸ 7⁷
~~7~~ 35 on Finished
 Slope

6367 6362 6362
 6362 6362
 13⁸ 14³ 14³
~~13~~ on Finished
 Slope

Est. #3 - Spillway Extension

638.31
 630⁰ South
 8+75 complete +24¹ 1⁴ 3⁶
 105 78 20

6288 North
 6288
 9⁵
 on Finished slope

B.M. 8.02 630.29 Rec. Elev. = 630.30

7.08 637.37
Aug-3-1934

642.5
 635.7 633.3 622.1
 9+00 +12¹ 1² 4¹ 15³
 101 75 35 15

621.5 621.4 621.5
 15⁹ 16⁰ 15⁹
 50 on Finished slope

637.6 634.8 634.4 614.5
 9+25 +0³ 2⁶ 3⁰ 22⁹
 97 90 60 25

615.3 615.3
 22¹ 22¹
 on Finished slope

T.P. 0.62 625.33 12.66 624.71

T.P. 12.48 612.85

0.44 613.29

635.8 607.8 610.1
 9+50 +22⁵ 5⁵ 3²
 95 40 20

605.1 607.5
 8² 5⁸
 on Finished slope

Est. #3 - Spillway Extension

622.2
 613.29
 6030
 6036
 9+75 +8.9 94 10.3 55 97 40

T.P. 12.95 600.34

0.12 600.46
 602.3
 600.1

10+00 +1.5 0.4
 on Finished Slope 60

599.2
 10+25 1.3 2.4
 on Finished Slope 70

T.P. 12.84 587.62

0.34 587.96
 598.5
 595.0
 578.0

10+39.29 +10.5 94 +7.0 70 10.0 55

598.0
 10+50 +10.0 95 +8.0 75 13.0 65
 575.0

595.8
 17.5
 8
 North
 588.5
 14.5
 on Finished Slope

586.6
 13.9
 581.0

10.4
 on Finished Slope

577.8
 22.7
 581.0
 19.5
 on Finished Slope

573.1
 14.9
 576.7

11.3
 on Finished Slope

570.8
 17.2
 575.0
 13.0
 on Finished Slope

Est. #3 - Spillway Extension

587.96
 T.P. 12.88 575.08
 0.34 575.42
 South
 574.4
 10+75 10°
 on Finished Slope
 571.8
 10+85 3°
 on Finished Slope
 T.P. 0.28 562.82 12.88 562.54
 560.8
 11+00²⁹ 2°
 on Finished Slope
 551.5
 11+20 11°
 on Finished Slope

566.8
 8°
 65
 566.2
 9°
 70
 557.9
 7°
 50

4.62 558.20 check on slope stake
 Elev. 558.2

North

5420
 142
 564.7
 10°
 563.0
 12°
 40
 561.7
 13°
 563.8
 +1°
 on Finished Slope
 550.2
 12°
 559.7
 51°
 60
 561.1
 12°
 on Finished Slope

567.2
 8°
 on Finished Slope
 565.0
 10°
 on Finished Slope

562.82

North

T.P.

12.76 550.06

5.20 555.26

South

11+40

548.7

546.7

548.4

6⁶8⁶6⁹on Finished
slope8⁶on Finished
slope

546.7

545.7

548.9

11+60

8⁶9⁶6⁴on Finished
slope8⁶on Finished
slope

545.2

544.9

548.1

11+80²⁹10¹10⁴7²on Finished
slope8⁶on Finished
Slope

544.1

544.2

549.1

12+00

11³11¹6³on Finished
slope8⁶on Finished
slope

555.26

SouthNorth

12+50

542.7

12⁶on Finished
Slope

542.7

12⁶

⊗

545.8

9⁵on Finished
Slope

13+00

542.6

12⁷on Finished
Slope

542.1

13³

⊗

544.9

10²on Finished
Slope

13+50

541.7

13⁶on Finished
Slope

542.2

13⁴

⊗

543.9

11⁴on Finished
Slope

14+00

542.0

13³on Finished
Slope

543.2

12¹

⊗

543.6

11²on Finished
Slope

14+50

541.5

13⁸on Finished
Slope

543.9

11⁴

⊗

543.6

11²on Finished
Slope

118 03
90 52
23 48

555.26
South

North

542.3

542.0

545.3

545.1

15+00

13⁰
on Finished
Slope

13¹⁰⁰
20

10⁰
8

10³
on Finished
Slope

541.8

547.2

549.5

547.3

15+52²⁹
End of Item #2

13⁵
on Finished
Slope

8¹
8

50

8⁰
on Finished
Slope

T.P.

6.47 548.79

6.74 555.53

No Original
section
15+65

547.1

547.4

547.4

8⁴
on Finished
Slope

8¹
8

8¹
on Finished
Slope

+75

547.7

547.7

547.7

7⁸
on Finished
Slope

7⁰
8

7⁸
on Finished
Slope

16+00

548.1

548.1

548.1

7⁴
on Finished
Slope

7⁴
8

7⁴
on Finished
Slope

NorthNo Original
section
16+25

555.53

South

5488

67

on Finished
slope

5488

67

A

5488

67

on Finished
slope

16+50

5495

60

on Finished
slope

5495

60

A

5495

60

on Finished
slope

16+75

5501

54

on Finished
slope

5501

54

A

5501

54

on Finished
slope

17+00

O.G.

46

5505

50

25

5503

50

A

5503

50

23

O.G.

37.5

+25

O.G.

42.5

5517

22

25

5511

44

A

5507

48

23

O.G.

35

+50

O.G.

44.5

5514

41

28

5521

34

A

5531

24

25

O.G.

36.5

Est. #3 - Spillway

		555.53	553.9	553.4	555.2	North
17+75	O.G. 44	16 29	21	29	O.G. 34.5	
T.P.		0.27	555.26			
	10.48	565.74	552.3	555.2		
18+00	O.G. 43	94 34	10 28	10 30	O.G. 35.5	
+25	O.G. 45	71 38	92 28	80 30	O.G. 36	
+50		21 50	21 50	10 30	O.G. 36	
+75		27 45	27 45	6 28	O.G. 32	
19+00		27 45	27 45	10 35	O.G. 30	

Reduced by Machine
Plotted by J.W.

555.53
south
553.9

North

558.6
563.0
563.0
557.6
558.9

557.7
557.7
554.8
555.3

Est. #3 - Spillway Extension

	562.9	565.74	5574.7	5555	
	South			North	
19+25	28 42	79 35	11.0 2	10.2 10	O.G. 22
19+50	0.6 40	10.0 35	10.7 2	8.8 10	0.6 20
19+75	0.6 38	11.0 35	11.4 2	10.8 12	0.6 25
20+00	0.6 36	12.2 33	11.0 2	0.6 10	

Reduced by Machine
Plotted by J.M.W.
Called by C.C.H. 6/5-54

O.G. West of Here

8.98

556.76

Rec. Elev.
556.8

556.8



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.

MADE IN GERMANY.