

W
431

LEVEL BOOK

No. 380

4247. 20

6
431

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

- No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.
- No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.
- No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.
- No. 385 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 8 vertical and 4 horizontal lines to the inch, Center Line Red.

We also carry the Note Books listed above, bound in extra strong Fabri-Hide (otherwise the same quality of book), which can be furnished at a somewhat lower price.

In ordering Fabri-Hide covered books, add the letter "F" to catalog number.

THE FREDERICK POST CO.
 ENGINEERING and DRAFTING SUPPLIES
 IRVING PARK STATION

CHICAGO, ILL.
MICROFILMED

JAN 12 1965

Index

Page

Xsections of spillway for est #10 2-3

Xsections of spillway for est #11 4-11

Xsections of spillway for est #12 12-17

" " " " " 13 18-42

XSections of spillway for est #15 43-47

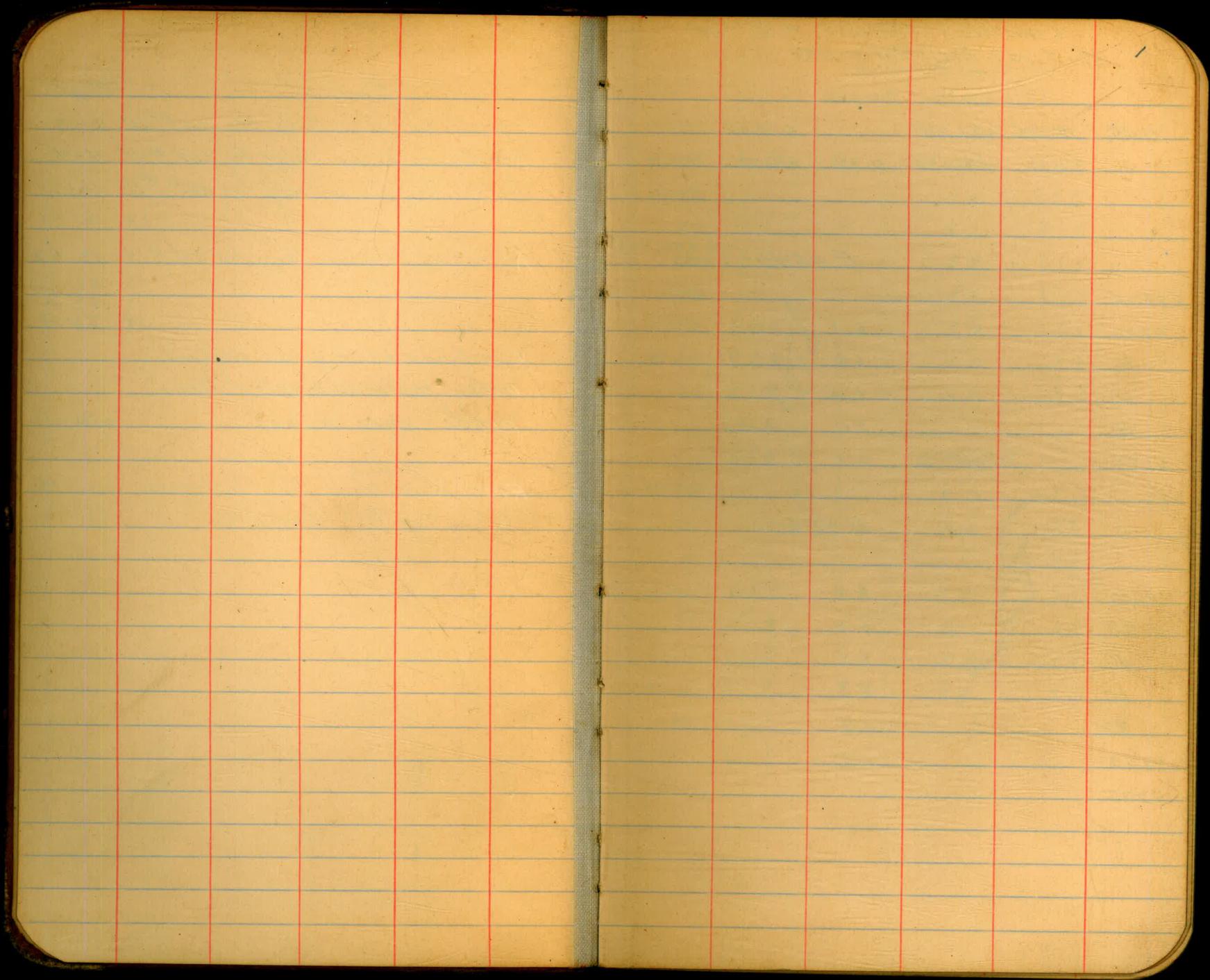
" " " " " 16 48-56

" " " " " 17 57-62

" " " " " 18 63-69

Xsections of original ground
under material wasted from
puddle core beach p.70-71Final ^{stripping} XSections So Abutement p.72-74

X Sec Top P.C. Spoil Mt. 73-76



X sections for Est. #10 of
spillway Exc. Mar 3-1933

B.M. 12.54 631.54 619.00
6.85 637.55 0.84 630.70

E 4540 (No Exc. on E 4520)

N 4305 0.6 20
4295 6.7 30.9
80 6.9 30.7
60 6.4 31.2
40 7.0 30.6
4220 6.1 31.5

plotted

E 4560

4200 5.2 32.4
20 6.2 31.4
40 6.5 31.1
60 5.8 31.8
80 6.5 31.1
4295 6.2 31.4
4305 0.6

0.6

Elliot Notes
Simpson X
Saper-Remmed Ch.
637.55 E 4580

2

0.6

4320
4305 6.4 31.2
4280 6.1 31.5
60 5.7 31.9
40 5.8 31.8
20 5.8 31.8
4200 5.0 32.6
4180 4.2 33.4
60 3.8 33.8

plotted

E 4600

4140 2.6 35.0
60 2.6 35.0
4180 3.7 33.9
4200 4.5 33.1
40 5.1 32.5
4280 5.8 31.8
4315 5.8 31.8
25

0.6

637.55

E4620

O.G

4315

4310

4280

40

4200

4160

4120

4115

4125

35

60

4200

40

80

4300

4305

4280

250

40

4200

4160

4140

4130

5.4 32.2

5.4 32.2

5.1 32.5

4.4 33.2

2.3 35.3

0.8 36.8

E4640

O.G

O.G

1.2 36.4

2.9 34.7

4.3 33.3

4.9 32.7

5.0 32.6

2.6 35.0

E4660

O.G

O.G

+9.0 46.6

+1.0 38.6

1.3 36.3

0.3 37.3

+3.0 40.6

O.G

637.55

E4680 (4690 is orig. ground)

3

4140

4160

4220

Check

+12.2 49.8

O.G

O.G

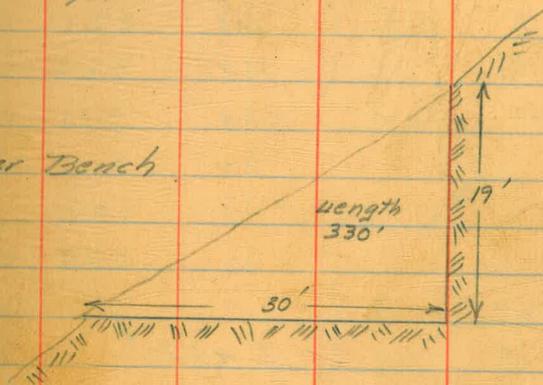
2.8 634.8

cut stake
N side at
10+20

Middle Bench



Upper Bench



plotted

plotted

Elliott - Notes X Sections of Spillway Est. #11
 Simpson - T
 Soper - H. Ch.
 Temmen - R. Ch.
 Mar 29 - 1933

plotted - F.O.

4

B.M.	6.31	638.95	632.64	N 4220	638.95	E 4580 ✓	
		No Excavation on E 4520		4200		7.4	31.5
			E. 4540 ✓	80		6.5	32.4
				60		5.8	33.1
N. 4305			0.G			5.4	33.5
						E 4600	
4290		8.4	30.5	4120		3.7	35.2
80		8.5	30.4	40		4.1	34.8
60		7.9	31.0	60		4.5	34.4
40		8.2	30.9	80		5.1	33.8
20		7.9	31.0	4200		5.9	33.0
			E 4560 ✓	20		6.3	32.6
4180		6.7	32.2	40		6.7	32.2
4200		6.8	32.1	60		7.2	31.7
20		7.9	31.0	80		7.6	31.3
40		7.8	31.1	4310		7.7	31.2
60		7.4	31.5	4330			
80		8.0	30.9			E 4620 ✓	
4290		8.0	30.9	4330			0.G
4310			0.G	4310		4.1	34.8
			E 4580 ✓	4280		7.5	31.4
			0.G	60		7.5	31.4
4320				40		6.6	32.3
4300		7.7	31.2	20		5.8	33.1
4280		7.8	31.1			5.4	32.5
60		7.3	31.6	4200		4.8	34.1
40		7.5	31.4	4180			

638.95 E4620 ✓
 4160 3.7 35.2
 40 3.4 35.5
 30 3.2 35.4
 20

0.9
 E4640
 4120 0.6
 30 2.7 36.2
 40 3.4 35.5
 60 4.4 34.5
 80 4.9 34.0
 4200 5.8 33.1
 20 6.6 32.3
 40 7.0 31.9
 60 6.0 32.9
 80 +1.2 40.1

4310 0.6
 E4660 ✓
 4320 655.5 0.6
 4310 659.0
 280
 230 +0.4 39.3
 4210 1.0 39.9
 4190 +1.7 40.6
 80 +1.2 40.1
 60 1.1 37.8

N 4150
 40
 30

4130
 4140
 60
 4180
 Elev. 12.90 667.05
 4230
 4270
 4290

4175
 4190
 4230
 B.M. 0.20 696.56
 4240
 T.P. 0.41 684.54
 4280
 4300
 20
 40

5
 638.95 E4660 ✓
 1.3 37.6
 +2.1 41.0
 0.6

E4680 ✓
 4130 0.6
 +13.7 52.6
 +13.7 52.6
 +13.7 52.6
 654.15
 1.3 65.7
 6.6 60.4
 0.6

E4700 ✓
 0.6
 +2.8 69.8
 +0.4 67.4
 696.36
 15.5 81.1
 12.43 684.13
 7.6 76.9
 9.8 74.7
 11.4 73.1
 12.3 72.2

	684.54		E 4700 ✓	
4360		12.4	72.1	
70				0.6
			E 4720 ✓	
4370				0.6
60		10.8	73.7	
40		10.9	73.6	
20		9.6	74.9	
4300		8.3	76.2	
4280		7.0	77.5	
60		4.8	79.7	
40		2.1	82.4	
B.M.	0.20		696.36	
20		11.1	85.5	
4200		8.1	88.5	
4190		6.6	90.0	
4180				0.6
			E 4740 ✓	
4110				0.6
15		12.3	98.9	
40		10.4	97.0	
60		1.9	94.7	
80		5.3	91.3	
4200		8.6	88.0	
20		11.1	85.5	

4240

60

80

4300

20

40

55

70

B.M.

0.20

T.P.

12.40

4110

20

40

60

80

4200

20

40

50

4120

30

40

696.56

E 4740 ✓

14.0

82.6

10.9

85.7

14.0

82.6

684.54

6.5

78.0

5.8

78.7

6.8

77.7

2.9

81.6

0.6

696.36

0.38

E 4760 ✓

0.6

8.1

00.5

7.1

99.5

8.8

99.8

4.8

03.8

3.1

05.5

1.4

07.2

0.0

08.6

0.6

E 4780 ✓

0.6

3.6

05.0

6.1

02.5

-0.48
4.11.88

outside of
slope stakes

	708.58	4780 [✓]	
4160		6.5	02.1
80		4.9	03.7
4200		2.6	06.0
20		1.1	07.5
40		4.2	08.8
	Transit		
11.88	719.98	0.48	708.10
60		10.0	10.0
80		9.0	11.0
4300		7.6	12.4
20		5.6	14.4
40		3.6	16.4
50			O.G.
T.P.	11.02	level	
	730.38	0.62	719.36
Check on H.I.		4.6	725.8
			Slope Stake 6-27-22 725.8
			E 4800 [✓]
4435			O.G.
30		3.5	26.9
20		4.7	25.7
4400		5.9	24.5
80		8.0	22.4
60		10.7	19.7
40	719.98		
40		2.8	17.2
420		4.7	15.3
4300		6.2	13.8

	719.98	E 4800 [✓]	
4280		8.2	71.8
60		9.0	11.0
40		9.1	10.9
20		11.2	08.8
4200		11.6	08.4
4180		10.0	10.0
60		8.3	11.7
40		3.1	76.9
20			O.G.
			E 4820 [✓]
B.M.	0.91	759.25	758.34
4135			O.G.
50			735.0
4200		30.9	28.4
			↑ Straight
4280	719.98	3.5	16.5
4300		3.7	16.3
20		3.5	16.5
40		1.1	18.9
	730.38		
60		8.6	21.8
80		6.4	24.0

	776.96	E 4880 ✓	
4140		4.0	73.0
60		6.5	70.5
80		7.2	69.8
4200		11.0	66.0

↑
Straight

	753.65		
↓			
4280		4.2	49.5
4300		7.3	46.4
20		10.1	43.6

742.90

40		2.4	40.5
60		5.1	37.8
80		7.3	35.6
4400		7.9	35.0
20		8.6	34.3
40		8.9	34.0
50		2.6	40.3

E 4900 ✓

4120			O.G.
30			
Elev.	0.64	808.84	808.2
4200		23.4	85.4

E 4900 ✓

753.65

4280	+1.0	54.7
4300	3.2	50.5
20	8.0	45.7
40	9.1	44.6
60	10.4	43.3
80	10.3	43.4
4410	1.0	52.7
4470		

O.G.

End Mar 30 - 1933

Start Mar 31 - 1933

E 4920 ✓

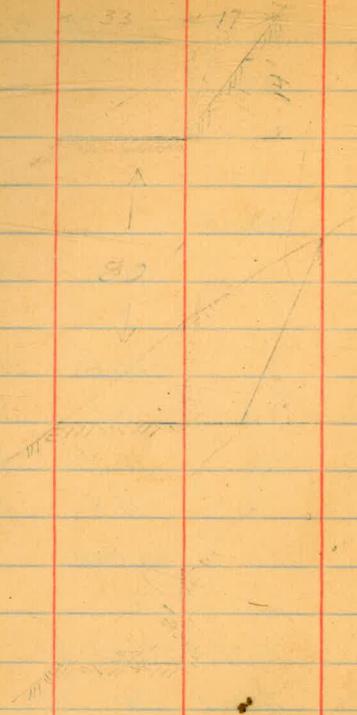
4220	808.8		O.G.
4260		18.5	90.3
4320			764.2
4380			

E 4940 ✓

4280			O.G.
4320		782.7	
4360			O.G.

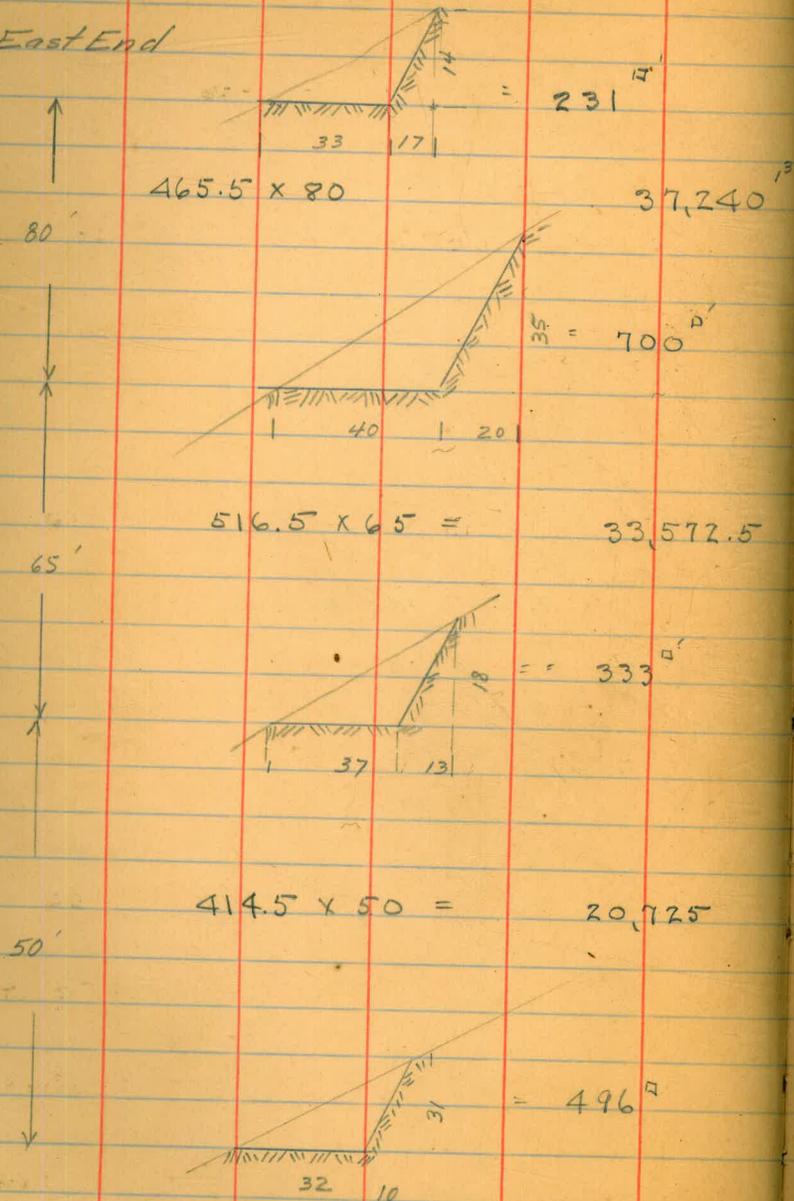
E 4950 is original ground

↑
8'
↓



TROAD ON E. SIDE SPILLWAY
Monthly Est # 11 - April 4 - 1933

East End



336 X 80 = 26,880

236 X 80 = 18,880

530.5 X 75 = 39,787.5

825 X 75 = 61,875

652.5 X 110 = 71,775

480 X 110 = 52,800

240 X 125 = 30,000

259,980 ft³

0.0

W. End about 15000

$259,980 \div 27 =$

9,629 Cubic Yards

X Sections of Spillway
 Estimate #12 - May 2 - 1933

Plotted 5/4/33

F.O. - P.E.L.

12

					754.48		E 5420 ✓	
		E 5520 is Orig. Ground		4273				O.G.
B.M.	12.51	754.48	741.97	4283		5.0	749.5	
		E 5500 ✓		4327		2.2	52.3	
N 4330			O.G.	4348		+9.3	63.8	
4306		11.2	43.3	4360				O.G.
4281		12.5	42.0				E 5400 ✓	
4270		19.0	35.5	4280				O.G.
		E 5480 ✓		4294		2.6	51.9	
4270		15.4	39.1	4335		0.0	54.5	
77		11.1	43.4	4364		+10.0	64.5	
4320		8.0	46.5	4378				O.G.
4343		+3.3	57.8				E 5380 ✓	
4345			O.G.	T.P.	13.05	766.83	0.70	753.78
		E 5460 ✓		4276				O.G.
4260			O.G.	4312		13.1	53.7	
4270		9.9	44.6	4356		9.0	57.8	
4320		6.5	48.0	4376		0.9	65.9	
45		+1.2	55.7	4383				O.G.
52			O.G.				E 5360 ✓	
		E 5440 ✓		4305		24.4	42.4	slope to O.G.
4355			O.G.	27		10.6	56.2	
40		+3.6	58.1	60		7.1	59.7	
4320		4.7	49.8	80		0.0	766.8	
4270		8.5	46.0	4393				O.G.
4258			O.G.					

	766.83		E 5340 ✓	
N. 4300				0.G
36		11.2	755.6	
70		6.1	60.7	
4390				0.G
			E 5320 ✓	
4310		21.2	45.6	Slope to 0.G
34		5.3	61.5	
50		4.2	62.6	
70		4.2	62.6	
4385				0.G
			E 5300 ✓	
4285				0.G
4320		2.6	64.2	
51		3.2	63.6	
72		+8.6	75.4	
4380				0.G
			E 5280 ✓	
4303				0.G
4310		0.3	66.5	
43		1.2	65.6	
54		+5.4	72.2	
43 64				0.G
T.P.		0.75	766.08	

12.05 778.13

	778.13		E 5260 ✓	13
4342				0.G
41		5.0	773.1	
29		10.4	67.7	
4304		10.5	67.6	
4280				0.G
			E 5240 ✓	
4338				0.G
28		4.4	73.7	
20		8.4	69.7	
4304		8.2	69.9	
4280				0.G
			E 5220 ✓	
4335				0.G
20		6.5	71.6	
4298		6.8	71.3	
4294				0.G
			E 5200 ✓	
4285				0.G
4295		5.4	72.7	
4330		3.5	74.6	
40		+2.9	81.0	
4345				0.G

	778.13	E 5180 ✓		
4372			0.6	
60		+16.0	794.1	
4330		1.9	80.0	
4297		3.3	74.8	
4270				0.6

		E 5160 ✓		
				0.6

4454				0.6
	12.66	808.71	796.05	
4400		0.2	808.5	
4380		-0.2	08.5	

	778.13			
4330		0.1	778.0	
4297		0.9	77.2	

		E 5140 ✓		
				0.6

4280				0.6
T.P.	11.86	789.60	0.39	777.74
4298			10.1	79.5
4328			10.1	79.5
	808.71			

4373		0.2	808.5	
4405		0.5	08.2	
4425		+13.0	21.7	
4440				0.6

	808.7	E 5120 ✓		14
4434				0.6
4420		+11.0	819.7	
4400		1.6	07.1	
4360		2.3	06.4	

	789.60			
4322		7.6	782.0	
4294		9.0	80.6	
4273				0.6

		E 5100 ✓		
				0.6
		6.0	83.6	
		5.7	83.9	

	808.7			
4348		4.1	804.6	
4393		2.6	06.1	
4411		47.8	16.5	
4415			835.2	
4428				0.6

		E 5080 ✓		
				0.6
B.M.	10.76	806.81	796.05	
4427				0.6
4409		+15.6	22.4	
4380		1.6	05.2	
4336		3.9	02.9	

	789.60	E 5080 ✓	
4308		3.8	85.8
4280		3.3	86.3
4270			0.6
	806.81	E 5060 ✓	
4444			0.6,
4397		0.9	05.9
4360		4.3	02.5
4326		4.8	02.0
	789.60		
4300		2.8	86.8
4265		1.8	87.8
4255			0.6
	806.81	E 5040 ✓	
4443			0.6
4395		2.1	04.7
4340		5.9	00.9
4310		5.7	06.1
	789.60		
4290		1.2	88.4
50		70.7	90.3
40			0.6
T.P.	12.53	802.10	0.03 789.57

	802.10	E 5020 ✓	
4230			0.6
34		9.9	92.2
4280		11.5	90.6
4290		2.6	99.5
4320		2.1	00.0
40		1.5	00.6
60		0.4	01.7
4390		72.9	05.0
T.P.	10.76	806.81	6.05 796.05
			End May 2-1933
			Start May 3-1933
4481			0.6
		E 5000 ✓	
4470			0.6
4440		0.0	06.8
4380		4.0	02.8
4360		6.0	00.8
4320		7.0	99.8
4285		8.6	98.2
4274		13.8	93.0
4230		13.7	93.1
25			0.6

806.81

E4980 ✓

4467

0.G

4450

+2.0 08.8

4400

3.0 03.8

4360

5.3 01.5

4320

7.1 99.7

4280

9.3 97.5

60

12.1 94.7

4230

11.8 95.0

4220

0.G

E4960 ✓

4.5

811.3

0.0 806.8

4470

0.G

4451

2.5 08.8

4420

4.1 07.2

4330

11.0 00.3

806.81

4280

9.8 97.0

4240

12.2 94.6

4210

12.7 94.1

4200

0.G

B.M.

1.55

797.60

796.05

4125

4130

4150

4190

4250

5.77

801.82

4280

4329

4364

4430

4490

4500

4447

4387

4362

4315

4270

4243

797.60

E4940 ✓

0.G

21.3 76.3

19.6 78.0

12.3 85.3

2.9 94.7

796.05

4.5 97.3

22.7 79.1

9.7 92.1

18.7 93.1

0.G

E4920 ✓

0.G

4.79 800.84

796.05

0.0 794.39

6.45 794.39

25.5 68.9

755.8

19.6 74.8

32.7 61.7

3.3 91.1

4.79 800.84

796.05

11.3 89.5

800.84

E4920 ✓

4218

32

97.6

4212

10.3

90.5

0.0 783.7

783.7

4160

5.9

77.8

4120

8.9

74.8

4110

0.0

West of 4920 Same as
last month.

Spillway Cross Sections
for Estimate No. 13

May 29, 1933,
Converse - Recording
Simpson - Inst.
Laudon - Chain
Daper - Chain
Garter - Stakes

B.M. 12.16 615.98 603.82

F.4420

N.4180	6.9	609.1	✓
90	5.6	610.4	✓
4200	4.9	611.1	✓
10	4.0	612.0	✓
20	3.3	612.7	✓
30	1.6	614.4	✓
40	+0.4	616.4	✓
50	+0.6	616.6	✓
60	+1.0	617.0	✓

B.M. 1.8A 634.48 632.64

F.4430

N.4280	5.2	629.3	✓
4270	4.7	629.8	✓
63	10.0	624.5	✓

615.98

58	+0.4	616.4	✓
50	+0.3	616.3	✓
40	+0.1	616.7	✓
30	+0.5	616.5	✓
20	3.4	612.6	✓
10	4.5	611.5	✓
4200	5.4	610.6	✓
4190	6.4	609.6	✓

E.4430

4180	615.98	7.0	609.0	✓
74		7.5	608.5	✓

F.4440

N.4160	8.7	607.3	✓
70	8.5	607.5	✓
80	7.7	608.3	✓
90	6.6	609.4	✓
4200	5.6	610.4	✓
10	4.4	611.6	✓
20	2.4	613.6	✓
30	0.1	615.9	✓
40	0.0	616.0	✓
50	+0.1	616.1	✓
54	+0.1	616.1	✓

634.48

55	12.4	622.1	✓
60	9.7	624.8	✓
70	5.0	629.5	✓
80	5.3	629.2	✓

E.4450

N.4280	5.3	629.2	✓
70	5.1	629.4	✓
60	8.8	625.7	✓
52	12.3	622.2	✓

	615.98	E.4450	
N.4250		+0.8 616.8	
40		+0.5 616.5 ✓	
30		0.2 615.8 ✓	
20		0.0 616.0 ✓	
10		2.6 613.4 ✓	
4200		5.2 610.8 ✓	
4190		6.8 609.2 ✓	
80		8.0 608.0 ✓	
70		9.2 606.8 ✓	
60		10.1 605.9 ✓	
55		9.8 606.2 ✓	
50		13.9 602.1 ✓	
40		20.1 595.9 ✓	
30		22.7 593.3 ✓	
20		29.2 586.8 ✓	
10		30.2 585.8 ✓	
4100		32.8 583.2 ✓	
4090		34.5 581.5 ✓	
80		33.5 582.5 ✓	
75		33.0 583.0 ✓	
70		24.7 591.2 ✓	
60		24.1 591.9 ✓	
		E.4460	
N.4060		23.4 592.6 ✓	
70		24.2 92.8 91.8 ✓	
80		24.9 93.1 91.1 ✓	

	615.98	E.4460	
N.4090		24.6 591.4 ✓	
4100		23.8 92.2 ✓	
10		22.0 94.0 ✓	
20		19.6 96.4 ✓	
30		14.8 601.2 ✓	
40		13.1 02.9 ✓	
50		12.1 03.9 ✓	
60		10.7 05.3 ✓	
70		9.6 06.4 ✓	
80		9.3 06.7 ✓	
90		6.8 09.2 ✓	
4200		1.9 14.1 ✓	
05		+0.4 16.4 ✓	
10		+0.4 16.4 ✓	
20		0.4 15.6 ✓	
30		0.2 15.8 ✓	
40		+0.3 16.3 ✓	
44		+0.7 16.7 ✓	
45		+4.6 20.6 ✓	
50	634.48	9.8 624.7 ✓	
60		6.5 28.0 ✓	
70		5.2 29.3 ✓	
80		5.1 29.4 ✓	

	634.48	E.4470			634.48	E.4480	
N.4280		4.9	629.6	✓	N.4242	6.0	628.5 ✓
70		5.0	29.5	✓	47	5.1	29.4 ✓
60		5.2	29.3	✓	60	5.0	29.5 ✓
52		5.2	29.3	✓	80	4.7	29.8 ✓
34	615.98	0.6	615.4	✓	4300	5.0	29.5 ✓
4200		0.5	15.5	✓		E.4490	
4180		8.4	07.6	✓	N.4300	4.8	629.7 ✓
60		11.2	04.8	✓	4280	4.6	29.9 ✓
40		13.5	02.5	✓	60	4.6	29.9 ✓
20		15.8	600.2	✓	40	4.9	29.6 ✓
4100		17.6	598.4	✓		615.98	
4080		19.7	96.3	✓	22	1.1	614.9 ✓
60		20.9	95.1	✓	4200	1.2	614.8 ✓
		E.4480			4180	1.5	614.5 ✓
4060		20.2	595.8	✓	43	13.7	02.3 ✓
80		19.2	96.8	✓	20	15.5	600.5 ✓
4100		17.6	98.4	✓	4100	17.2	598.8 ✓
20		15.5	600.5	✓	4080	18.8	97.2 ✓
40		12.6	02.4	✓	60	19.8	96.2 ✓
65		10.7	05.3	✓		E.4500	
87		1.9	14.1	✓	N.4060	19.7	596.3 ✓
4200		1.1	14.9	✓	80	18.5	97.5 ✓
20		0.8	15.2	✓	4100	17.0	99.0 ✓
28		0.7	15.3	✓	20	14.3	601.7 ✓
30		+1.8	17.8	✓	40	8.9	07.1 ✓
					60	1.3	14.7 ✓

	615.98	E. 4500		
N. 4170		1.8	614.2	✓
80		1.7	14.3	✓
4200		1.3	14.7	✓
15		1.2	14.8	✓
32	624.48	9.7	624.8	✓
33		4.8	29.7	✓
40		4.7	29.8	✓
60		4.3	30.2	✓
80		4.7	29.8	✓
90		4.4	30.1	✓
4300		7.2	27.3	✓

E. 4510

N. 4300		3.9	630.6	✓
4280		4.6	29.9	✓
60		4.1	30.4	✓
40		4.2	30.3	✓
23		4.7	29.8	✓
21		10.8	23.7	✓
05	615.98	1.1	14.9	✓
4180		1.5	14.5	✓
60		1.7	14.3	✓
50		1.4	14.6	✓
40		3.3	12.7	✓
20		9.4	06.6	✓
4100		13.7	02.3	✓
4090		17.1	598.9	✓

	615.98	E. 4510		
N. 4060		19.5	596.5	✓
		E. 4520		
N. 4090		10.9	605.1	✓
4120		4.9	11.1	✓
30		0.7	15.3	✓
40		1.4	14.6	✓
60		1.3	14.7	✓
80		1.4	14.6	✓
92		0.9	15.1	✓
4215	624.48	8.4	26.1	✓
16		4.4	30.1	✓
20		4.2	30.3	✓
40		3.8	30.7	✓
60		3.9	30.6	✓
80		4.7	29.8	✓
4300		1.5	33.0	✓

E. 4530

N. 4310		+4.0	638.5	✓
05		+3.2	37.7	✓
4294		3.2	31.3	✓
90		4.4	30.1	✓
80		4.3	30.2	✓
60		4.1	30.4	✓
40		3.7	30.8	✓
20		3.6	30.9	✓
07		4.1	30.4	✓

	634.48	E. 4530	
N. 4207		7.4	627.1 ✓
4190	615.98	+3.2	19.2 ✓
75		1.2	14.8 ✓
60		1.1	14.9 ✓
40		0.9	15.1 ✓
20		1.0	15.0 ✓
T.P.	5.14	620.71	0.41 615.57
05		6.0	14.7 ✓
4080		12.0	08.7 ✓
		E. 4540	
N. 4080		5.1	15.6 ✓
4100		5.5	15.2 ✓
20		5.4	15.3 ✓
40		5.5	15.2 ✓
60		5.7	15.0 ✓
80		+1.0	21.7 ✓
93	634.48	8.0	26.5 ✓
95		3.9	30.6 ✓
4200		3.7	30.8 ✓
20		3.2	31.3 ✓
40		3.6	30.9 ✓
60		3.7	30.8 ✓
80		4.0	30.5 ✓
92		3.9	30.6 ✓
4300		0.4	34.1 ✓
05		+5.5	40.0 ✓

	634.48	E. 4550	
N. 4307		+7.2	641.7 ✓
4300		+1.2	35.7 ✓
4294		3.1	31.4 ✓
80		3.7	30.8 ✓
60		3.0	31.5 ✓
40		3.6	30.9 ✓
20		3.0	31.5 ✓
4200		2.6	31.9 ✓
4180		2.9	31.6 ✓
77		6.8	27.7 ✓
30	620.71	5.3	16.4 ✓
4100		5.1	15.6 ✓
4080		5.1	15.6 ✓
		E. 4560	
N. 4080		4.9	15.8 ✓
4100		5.0	15.7 ✓
20		4.6	16.1 ✓
40	634.48	12.1	22.4 ✓
60		7.5	27.0 ✓
60		2.1	32.4 ✓
80		2.2	32.3 ✓
4200		2.3	32.2 ✓
70		3.2	31.3 ✓
40		3.1	31.4 ✓
60		2.9	31.6 ✓
80		3.4	31.1 ✓

	634.48	E. 4560			620.71	E. 4580			
N. 4296		3.3	631.2	✓	N. 4200	1.9	618.8	✓	
4309		+9.4	43.9	✓	20	2.6	18.1	✓	
		E. 4570			40	3.0	17.7	✓	
4312		+12.2	46.7	✓	60	2.7	18.0	✓	
07		+1.8	36.3	✓	80	3.3	17.4	✓	
4300		2.9	31.6	✓	B.M.	7.51	640.15	632.64	
4280		3.3	31.2	✓	12.90	652.11	0.94	639.21	
60		2.6	31.7	✓	4300	640.15	8.9	31.3	✓
40		3.1	31.4	✓	11		3.8	36.4	✓
20		3.0	31.5	✓	18	652.11	2.9	49.2	✓
4200		2.2	32.3	✓			E. 4590		
4180		1.7	32.8	✓	N. 4321		1.0	51.1	✓
60		1.5	33.0	✓	16	640.15	3.2	37.0	✓
40		1.4	33.1	✓	06		8.8	31.4	✓
36		7.1	27.4	✓	4300		9.0	31.2	✓
20		12.5	22.0	✓	4280		8.7	31.5	✓
4100	620.71	1.9	18.8	✓	60		8.6	31.6	✓
4080		3.7	17.0	✓	40		8.4	31.8	✓
		E. 4580			20		8.2	32.0	✓
N. 4080		11.3	609.4	✓	4200		7.5	32.7	✓
4100		8.7	12.0	✓	4180		6.3	33.9	✓
17		5.6	15.1	✓	60		6.1	34.1	✓
22		0.5	20.2	✓	40		5.8	34.4	✓
40		0.5	20.2	✓	20		5.5	34.7	✓
60		0.9	19.8	✓	4100		4.9	35.3	✓
80		1.3	19.4	✓					

		E. 4600		
N. 4100	640.15	4.6	635.6	✓
20		4.9	35.3	✓
40		5.2	35.0	✓
60		5.7	34.5	✓
80		6.3	33.9	✓
4200		7.1	33.1	✓
20		7.5	32.7	✓
40		7.9	32.3	✓
60		8.4	31.8	✓
80		8.7	31.5	✓
4300		9.1	31.1	✓
10		8.7	31.5	✓
19		2.9	37.3	✓
25	652.11	+0.7	52.8	✓
		E. 4610		
N. 4326		+4.3	56.4	✓
21		1.9	50.2	✓
19		10.5	41.6	✓
4300	640.15	8.2	32.0	✓
4280		8.4	31.8	✓
60		8.4	31.8	✓
40		7.5	32.7	✓
20		7.0	33.2	✓
4200		6.9	33.3	✓
4180		6.0	34.2	✓

		E. 4610		
N. 4160	640.15	5.4	634.8	✓
40		5.0	35.2	✓
20		4.5	35.7	✓
4100		4.1	36.1	✓
		E. 4620		
N. 4100		3.4	36.8	✓
20		3.6	36.6	✓
40		4.5	35.7	✓
60		5.0	35.2	✓
80		5.9	34.3	✓
4200		6.6	33.6	✓
20		6.7	33.5	✓
40		7.7	32.5	✓
60		8.6	31.6	✓
80		8.7	31.5	✓
95		8.5	31.7	✓
4313		0.1	40.1	✓
17		+7.7	47.9	✓
26	652.11	+3.3	55.4	✓
40		+2.6	54.7	✓
		E. 4630		
N. 4338		+2.3	54.4	✓
20		+2.5	54.6	✓
13		6.1	46.0	✓
4300		11.9	40.2	✓

		E. 4630		
N. 4280	640.15	7.0	633.2	✓
70		8.8	31.4	✓
60		9.1	31.1	✓
40		8.4	31.8	✓
20		7.0	33.2	✓
4200		6.5	33.7	✓
4180		6.2	34.0	✓
60		5.1	35.1	✓
40		4.2	36.0	✓
30		3.6	36.6	✓
21	652.11	8.3	43.8	✓
		E. 4640		
N. 4123		3.1	649.0	✓
30	640.15	1.3	38.9	✓
40		3.4	36.8	✓
60		5.4	34.8	✓
80		6.3	33.9	✓
4200		6.9	33.3	✓
20		7.6	32.6	✓
40		8.1	32.1	✓
60		5.3	34.9	✓
80		0.2	40.0	✓
4300	652.11	4.8	47.3	✓
10		1.0	51.1	✓
12.83	664.44	0.50	651.61	

		E. 4640		
N. 4315	664.44	9.9	654.5	✓
35		10.2	54.2	✓
39		+1.1	65.5	✓
50		0.0	64.4	✓
		E. 4650		
N. 4360		+2.1	66.5	✓
35		+2.4	66.8	✓
29		9.6	54.8	✓
10		9.5	54.9	✓
4294		8.0	56.4	✓
80	652.11	3.1	49.0	✓
60		10.0	42.1	✓
40		15.6	36.5 37.5	✓
20		18.5	33.6	✓
4200		18.1	34.0	✓
4180		18.1	34.0	✓
60		16.2	35.9	✓
40		11.4	40.7	✓
32		11.8	40.3	✓
26		0.0	52.1	✓
		E. 4660		
N. 4128		+6.5	658.6	✓
34		5.7	46.4	✓
40		5.1	47.0	✓
60		11.1	41.0	✓

		E. 4660			
N. 4170	652.11	13.2	638.9	✓	
80		12.3	639.8	✓	
90		11.5	40.6	✓	
A200		12.8	39.3	✓	
20		12.6	39.5	✓	
30		11.4	40.7	✓	
75	664.44	9.6	54.8	✓	
80		5.5	58.9	✓	
A300		8.1	56.3	✓	
15		8.6	55.8	✓	
	9.14	673.41	0.17	664.27	
24		14.5	58.9	✓	
29		4.8	68.6	✓	
50		5.2	68.2	✓	
70		7.0	66.4	✓	
		E. 4670			
N. 4360		4.0	69.4	✓	
40		3.7	69.7	✓	
17		2.5	70.9	✓	
A292	664.44	6.6	57.8	✓	
80		6.1	58.3	✓	
64		3.8	60.6	✓	
52		7.4	57.0	✓	
30		9.9	54.5	✓	
17		12.9	51.5	✓	

		E. 4670			
N. A210	664.44	19.3	645.1	✓	
A200		19.4	45.0	✓	
A190		16.2	48.2	✓	
70		20.2	44.2	✓	
60		16.5	47.9	✓	
38		9.8	54.6	✓	
35		0.5	63.9	✓	
May 31, 1933 Same Party as May 29.					
	3.98	668.25		664.77	
T.P.	12.52	680.56	0.21	668.104	
		E. 4680			
N. 4130		11.8	668.8		
40	668.25	2.0	66.2	✓	
48		11.8	56.4	✓	
60		12.8	55.4	✓	
70		16.9	51.3	✓	
80		16.5	51.7	✓	
90		7.7	58.5	✓	
A210		8.8	59.4	✓	
30		2.6	65.6	✓	
50		5.8	62.4	✓	
73		11.8	56.4	✓	
80	680.56	8.4	72.2	✓	
90		5.3	75.3	✓	

	680.56		E 4680		
N. 4300		6.9	673.7	✓	
20		9.0	671.6	✓	
40		9.1	71.5	✓	
60		10.6	70.0	✓	
70		7.2	73.4	✓	
75		+4.6	85.2	✓	
			E. 4690		
N. 4375		+5.4	86.0	✓	
70		6.6	74.0	✓	
60		10.1	70.5	✓	
40		7.8	72.8	✓	
20		7.6	73.0	✓	
4300		6.4	74.2	✓	
4280		3.7	76.9	✓	
	12.42	692.46	0.52	680.04	
65		680.56	1.4	79.2	✓
60			2.7	77.9	✓
50			16.3	64.3	✓
40			16.4	64.2	✓
20			13.6	67.0	✓
A700			11.9	68.7	✓
A190			11.2	69.4	✓
80			8.2	72.4	✓
60			14.5	66.1	✓
50			8.5	72.1	✓

	680.56	E. 4690		
N. 4140		4.8	675.8	✓
30		2.1	78.5	✓
			E 4700	
4130	692.46	6.1	86.4	✓
40		8.5	84.0	✓
50		12.0	80.5	✓
60		16.3	76.2	✓
70		13.3	79.2	✓
80	680.56	4.7	75.9	✓
A200		8.9	71.7	✓
20		11.2	69.4	✓
30		11.0	69.6	✓
40		+2.4	83.0	✓
60		3.1	77.5	✓
80		3.7	76.9	✓
A300		5.5	75.1	✓
20		6.1	74.5	✓
40		7.4	73.2	✓
60		7.2	73.4	✓
65		3.8	76.8	✓
70		+7.0	87.6	✓
			E 4710	
N. 4375		+11.1	91.7	✓
70		3.4	77.2	✓

E4710

N. 4360	680.56	7.1	673.5	✓
40		7.5	73.1	✓
20		4.9	75.7	✓
4300		4.4	76.2	✓
4280		2.9	77.7	✓
60		0.9	79.7	✓
40	692.46	10.1	82.4	✓
20		6.7	85.8	✓
4210		5.5	87.0	✓
4198		14.5	78.0	✓
90		10.2	82.3	✓
80		8.2	84.3	✓
70		4.4	88.1	✓
60		5.5	87.0	✓
50		4.5	88.0	✓
40		10.5	93.0	✓
30		+3.0	95.5	✓
		E. 4720		
N. 4130		+3.8	696.3	✓
40		+5.2	97.7	✓
60		+3.6	96.1	✓
80		0.1	92.4	✓
4200		3.8	88.7	✓
20		7.0	85.5	✓
40		9.7	82.8	✓

E4720

N. 4260	692.46	12.1	680.4	
80	680.56	2.1	78.5	✓
4300		3.2	77.4	✓
20		5.8	74.8	✓
40		6.7	73.7	✓
60		5.9	74.7	✓
74		0.0	80.6	✓
76		+12.2	92.8	✓
		E4730		
N. 4370		+10.7	691.3	✓
67		1.5	79.1	✓
60		1.9	78.7	✓
50		6.2	74.4	✓
40		6.1	74.5	✓
20		4.9	75.7	✓
4300		4.2	76.4	✓
4280		1.4	79.2	✓
60	692.46	12.0	80.5	✓
40		9.7	82.8	✓
20		7.0	85.5	✓
4200		3.9	88.6 88.6	✓
4180		0.5	92.0	✓
60		+3.0	95.5	✓
40		+5.5	98.0	✓
20		+3.2	95.7	✓

E. 4740

N. 4120	692.46	+5.2	697.7	✓
40		+5.7	98.2	✓
60		+2.4	94.9	✓
80		1.2	91.3	✓
A200		4.5	88.0	✓
20		7.0	85.5	✓
40		9.8	82.7	✓
50		10.7	81.8	✓
60		8.1	84.4	✓
70		7.1	85.4	✓
80		10.2	82.3	✓
A300		14.5	78.0	✓
20	680.56	2.1	79.5	✓
40		2.9	77.7	✓
55		+0.9	81.5	✓
63	692.46	+5.1	97.6	✓

E. 4750

N. 4350		+10.0	702.5	✓
40		8.5	684.0	✓
70		9.4	83.1	✓
A300		10.6	81.9	✓
A280		6.1	86.4	✓
60		2.3	90.2	✓
40		4.3	88.2	✓
20		1.1	91.4	✓
A200		0.2	92.3	✓

E. 4750

N. 4180	692.46	0.3	692.2		
	12.87	705.07	0.26	692.20	
	12.69	717.62	0.14	704.93	
60		705.07	9.3	695.8	✓
40			6.1	99.0	✓
20			5.8	99.3	✓

E. 4760

N. 4130		4.2	700.9	✓
40		5.0	700.1	✓
60		6.9	698.2	✓
80		5.0	700.1	✓
A200	717.62	11.9	05.7	✓
20		10.3	07.3	✓
40		8.6	09.0	✓
60		7.8	09.8	✓
Check		7.16	710.46	710.40
N. 4280	717.56	6.5	11.1	
A300		5.8	11.8	
20		12.5	05.1	
40		10.8	06.8	
T.P.	12.89	730.25	0.20	717.36
60		717.56	3.7	13.9
80			3.8	13.8
A400	730.25	14.1	16.7	
20		6.1	24.1	

E. 4770

N. 4420	730.25	4.9	725.3
4400		6.6	23.6
4380		8.7	21.5
60		11.1	19.1
40		13.6	16.6
20	717.56	3.2	14.4
4300		4.5	13.1
4280		6.6	11.0
60		7.9	709.7
40		8.9	08.7
20		10.5	07.1
4200		12.5	05.1
4180		15.6	02.0
60		17.1	700.5
40		16.1	701.5
30		15.4	702.2

E. 4780

N. 4130	717.56	15.1	702.5
40		14.6	03.0
60		14.9	02.7
80		13.5	04.1
4200		11.6	06.0
20		10.1	07.5
40		8.8	08.8
60		7.6	10.0

E. 4780

N. 4280	717.56	6.3	711.3
4300		4.6	13.0
20		3.0	14.6
40		0.9	16.7
60	730.25	11.4	18.8
80		8.3	21.9
4400		6.2	24.0
20		4.1	26.1

E. 4790

N. 4420		3.2	727.0
4400		4.9	25.3
4380		7.6	22.6
60		10.6	19.6
40		13.2	17.0
20	717.56	2.6	15.0
4300		4.5	13.1
4280		6.0	11.6
60		7.2	10.4
40		8.4	09.2
20		9.5	08.1
4200		10.6	07.0
4180		12.0	05.6
60		13.0	04.6
45		13.4	04.2
30		4.6	13.0

		E. 4800	
N. 4138	717.56	+2.1	719.7
60		11.8	05.8
80		11.0	06.6
4200		9.8	07.8
20		9.0	08.6
40		8.0	09.6
60		7.0	10.6
80		5.7	11.9
4300		4.0	13.6
20		2.3	15.3
40		0.3	17.3
60	730.25	10.5	19.7
80		7.4	22.8
4400		4.2	26.0
20		2.2	28.0
30		2.0	28.2
37		+7.5	37.7
		E. 4810	
N. 4436		+9.2	739.4
31		2.1	29.1
20		1.1	29.1
4400		3.9	26.3
4380		7.3	22.9
60		10.1	20.1
40		12.5	17.7

		E. 4810	
N. 4320	717.56	1.5	716.1
1300		3.5	14.1
4280		5.9	11.7
60		6.9	10.7
40		7.6	10.0
20		4.9	12.7
4200		+0.3	17.9
4180		0.7	16.9
60	730.25	11.5	18.7
50		6.9	23.3
45		6.6	23.6
40		2.4	27.8
		E. 4820	
N. 4147		+0.8	731.0
60		0.5	29.7
80		4.2	26.0
90		1.3	28.9
4200		3.8	26.4
10		1.3	28.9
20		4.9	25.3
40	717.56	4.9	14.7
50		0.5	17.1
70		4.9	14.7
80		4.7	12.9
4300		2.8	14.8
20		0.9	16.7

		E.4820	
N.4340	730.25	12.2	718.0
60		9.8	20.4
80		6.8	23.4
1400		3.6	26.6
20		0.6	29.6
T.P.	13.18 743.41	0.02	730.23
33		13.6	29.8
40		+1.8	45.2
		E.4830	
N.4445		+7.8	751.2
37		12.9	30.5
20		12.7	30.7
4400	730.25	2.5	27.7
4380		5.6	24.6
60		8.9	21.3
40		11.8	18.4
20		13.5	16.7
4300		13.9	16.3
4280		11.7	18.5
70		11.2	19.0
40		1.7	28.5
30		0.0	30.2
4205	743.41	4.7	38.7
4190		2.6	40.8
80		8.0	35.4
60		2.9	40.5

		E.4830	
N.4150	743.41	4.3	739.1
		E.4840	
N.4146			762.0
4158		+4.7	748.1
68		+11.6	755.0
80		+5.9	49.3
4190		+7.1	50.5
4215		+5.9	49.3
30		5.3	38.1
40		7.8	35.6
60		12.9	30.5
80	730.25	4.2	26.0
4300		7.4	22.8
70		11.4	18.8
40		8.9	21.3
60		6.1	24.1
80		2.5	27.7
4400		1.1	29.1
70	743.41	11.6	31.8
30		13.3	30.1
40		12.1	31.3
51		+14.7	58.1
T.P.		7.17	736.24
7.54	743.78	0.26	743.52
12.24	755.76		

June 1, 1933.
Same Party as May 31.

E. 4850

743.78

N. 4457		766.0
N. 4444	12.2	731.6
30	13.3	30.5
20	10.8	33.0
4400	13.1	30.7
A390	13.1	30.7
80	9.8	34.0
60	11.4	32.4
40	16.4	27.4
20	17.7	26.1
A300	13.6	30.2
A290	8.7	35.1
80	9.4	34.4
70	4.9	38.9
60	5.4	38.4
40	13.0	42.8
20	+0.2	56.0
10	+1.8	57.6
A200	+0.7	56.5
A180	+4.6	60.4
65	+12.1	67.9
55	+6.8	62.6
40	+15.9	71.7
20	+16.8	72.6
A105	+18.1	73.9

755.76

33

E. 4860

N. A105	755.76	+18.0	773.8
20		+16.7	72.5
40		+16.3	72.1
60		+16.5	72.3
80		+13.2	69.0
A200		+9.4	65.2
20		+6.3	62.1
30		+4.6	60.4
50		6.8	49.0
65		6.0	49.8
80		11.8	44.0
A300	743.78	5.5	38.3
20		8.6	35.2
40		8.4	35.4
60		7.3	36.5
80		10.2	33.6
A400		11.1	32.7
20		10.3	33.5
30		12.3	31.5
40		12.4	31.4
45		8.4	35.4
4461			769.8
N. A465			772.9
55		+9.1	752.9
50		6.4	37.4

E. 4870

E.4870

N.4440	743.78	12.3	731.5
30		12.2	31.6
20		9.7	34.1
4400		9.2	34.6
80		9.1	34.7
60		6.8	37.0
40		4.1	39.7
4320		0.6	43.2
4300	755.76	9.0	46.8
4280		5.7	50.1
60		2.2	53.6
T.P.	12.65	0.20	755.56
40		11.1	57.1
20		6.8	61.4
4200		2.9	65.3
4180		+0.8	69.0
60		+4.0	72.2
40		+5.9	74.1
20		+4.4	72.6
4100		+6.1	74.3

E.4880

N.4100	+5.8	74.0
20	+5.1	73.3
30	+6.8	75.0
40	+6.0	74.2

E.4880

N.4160	768.21	+3.2	771.4
80		+0.1	68.3
4200		3.5	64.7
20		6.7	61.5
40		10.9	57.3
60		14.7	53.5
80		18.6	49.6
4300	743.78	+2.7	46.5
20		0.4	43.4
40		3.4	40.4
60		5.8	38.0
80		7.3	36.5
4400		8.1	35.7
10		9.2	34.6
20		11.8	32.0
30		9.3	34.5
40		5.7	38.1
51		2.4	41.4
55		+10.5	54.3
4468			774.0

E.4890

N.4476			780.2
52	743.78	+9.2	53.0
5.0		+3.8	47.6
40		0.1	43.7

		E. 4890	
N. 4420	743.78	10.3	33.5
10		9.9	33.9
4400		7.4	36.4
4380		6.6	37.2
60		4.7	39.1
40		2.6	41.2
20		+0.2	44.0
4300		+3.1	46.9
280		+6.0	49.8
60		+9.5	53.3
	768.21		
40		11.3	56.9
20		6.7	61.5
4200		3.4	64.8
4180		+0.8	69.0
60		+3.4	71.6
40		+5.8	74.0
20		+7.4	75.6
10		+5.8	74.0
100		+5.6	73.8
		E 4900	
4100		+8.5	76.7
10		+5.5	73.7
20		+7.8	76.0
40		+6.1	74.3

			E 4900	
	768.21		+4.3	772.5
+160			+5.7	73.9
80			+10.2	78.4
200			+10.6	78.8
10				
	743.78			
T.F.	12.12	755.89	0.01	743.77
	768.21			
20			+15.7	83.9
60			0.6	67.6
	755.89			
80			1.4	54.5
4300			4.7	51.2
20			10.9	45.0
40			11.7	44.2
60			14.0	41.9
80			16.2	39.7
4400			16.5	39.4
20			14.6	41.3
52			0.9	55.0
4481				786.5
			E. 4910	
N. 4488	768.21		6.97.4	
4462			3.7	64.5
45			9.3	58.9
38			13.5	54.7

EA910

N. 4430	768.21	11.8	756.4
05	755.89	8.9	47.0
4380		10.1	45.8
60		6.6	49.3
40		4.3	51.6
20		4.3	51.6
10		2.2	53.7
	768.21		
T.P. 10.25	778.27	0.19	768.02
4280		3.2	75.1
60		+3.8	82.1
50		+3.6	81.9
20		+16.3	94.6
10		+7.8	86.1
4200		+6.9	85.2
4180		+1.6	79.9
60		3.5	74.8
40		2.9	75.4
20		2.0	76.3
10		3.4	74.9
4100		0.5	77.8

778.27	EA920
4110	1.4 76.9
20	2.0 76.3
40	1.4 76.9
60	0.8 77.5
80	+2.3 80.6
+200	+6.4 84.7
10	+12.2 90.5
20	+19.6 97.9
30	+19.2 97.5
45	+11.2 89.5
70	+12.8 91.1
83	0.0 78.3
	768.21
+315	5.3 62.9
	778.27
60	7.8
70	4.8
T.P. 1.84	778.87 1.24 777.03
12.12	791.23 0.24 779.11
95	778.87 23.8 55.1
44 15	15.5 63.4
35	13.7 65.2
45	9.3 769.6
94	807.3

Correct for mistake 778.63

June 2, 1933.
 Converse - Notes Loudon
 Simpson - Inst. Newcomb
 Soper - Chain

Chain

37

E 4940

		E. 4930	
4484		809.3	
N. 4473	791.23	15.0	796.2
4400	778.87	14.8	64.1
4390		4.2	74.7
75		5.6	73.3
65	791.23	7.3	83.9
50		16.3	74.9
10		19.2	72.0
4300		16.8	74.4
	11.81	0.42	790.81
4270		5.8	96.8
55		4.0	98.6
45		6.3	96.3
25		6.5	96.1
A200	791.23	5.5	85.7
A180		9.2	82.0
60		11.9	79.3
40		12.9	78.3
20		14.8	76.4
		E 4940	
N. A130		14.1	77.1
40		13.6	77.6
60		10.6	80.6
80		8.1	83.1
4200		4.5	86.7

Correct for mistake of 0.5

N. 4220	802.62	12.3	790.3
40		8.6	94.0
60		6.9	95.7
80		5.1	97.5
4320	791.23	11.5	79.7
60		5.4	85.8
70		+ 1.8	93.0
85		7.3	83.9
4435		2.8	88.4
55	802.62	5.0	797.6
75		+ 1.2	803.8
88		+ 24.3	15.5
	12.12	0.39	802.23
		814.35	
		E 4950	
N. 4485		+ 4.4	818.8
N. 4475		3.2	811.2
55		7.8	806.6
4440	802.62	5.0	797.6
4390		9.2	93.4
70		1.3	801.3
50		10.8	791.8
20		15.5	87.1
4310		3.3	799.3
4280		5.5	97.1
60		6.9	95.7
40		8.9	93.7
20		11.7	90.9

Correct for mistake of 0.5

E. 4950

N. 4200	802.62	15.1	787.5
4180		18.2	84.4
60		23.1	79.5
4140		25.1	77.5

E. 4960

N. 4150		22.8	779.8
60		23.0	79.6
80		12.6	90.0
90		5.3	97.3
4200		7.5	95.1
10		12.0	90.0
20		10.9	91.7
40		8.4	94.2
60		6.5	97.1
80		5.3	97.3
4300		3.6	99.0
20		2.8	799.8
40		1.4	801.2
60	814.35	11.4	803.0
80		6.7	07.7
4400		9.2	05.2
20		7.2	07.2
40		4.4	10.0
60		+2.3	16.7
70		+5.8	20.2
		3.7	900.7

Correct for mistake of 0.5

B.M. 12.40 771.41 759.01 On Aris.

13.02	784.08	0.35	771.06
11.44	794.86	0.66	783.42
		0.64	794.22
	802.12		794.20
	802.62	7.92	794.70
12.74	806.96		794.22

E. 4970

N. 4460			N. 6.
40		+2.6	809.6
20		0.7	06.3
4400		3.7	03.3
4380		3.9	03.1
60		5.6	01.4
40		6.8	800.2
20		7.5	799.5
4300		8.3	98.7
4780		9.6	97.4
60		11.7	95.3
40		12.9	94.1
30		13.4	93.6
4220		11.5	95.5

E. 4980

1230		12.0	
40		12.9	
60		12.5	

E. 4980

N. 4280	806.96	9.5	797.5
A300		8.2	98.8
20		7.3	799.7
40		6.9	800.1
60		5.7	01.3
80		4.7	02.3
A400		3.2	03.8
20		1.1	05.9
40		+2.0	09.0
60		+12.0	19.0
			N. 6.

E. 4990

4460		+14.1	21.1
20		0.6	06.4
4400		2.9	04.1
4380		4.8	02.2
60		5.7	01.3
40		6.6	800.4
20		7.2	799.8
4300		8.0	99.0
4280		9.2	97.8
70		9.5	97.5
60		13.5	93.5
40		13.4	93.6
30		12.9	94.1

806.96

E. 4990

N. 4220

11.0 796.0

E. 5000

N. 4230

13.3 793.7

40

14.2 92.8

60

14.7 92.3

70

14.8 92.2

80

9.3 97.2

A300

8.2 98.8

20

7.3 99.7

40

6.6 800.4

60

5.7 01.3

80

4.4 07.6

A410

2.0 05.0

62

+20.0 27.0

N. 6.

E. 5010

N. 6.

N. 4466

+26.5 833.5

A410

1.9 05.1

A380

4.2 02.8

60

5.7 01.3

40

6.7 00.3

70

7.4 799.6

A300

8.2 98.8

	806.96	E.5010	
N. A290		8.7	798.3
80		15.2	91.8
60	794.86	3.2	91.7
40		2.9	92.0
30		4.0	90.9

		E.5020	
N. A230		5.9	89.0
40		3.2	91.7
60		4.1	90.8
80		4.6	90.3
90	806.96	7.8	99.2
4300		7.8	99.2
20		7.1	99.9
40		6.6	800.4
60		5.3	01.7
80		3.7	03.3
4410		1.8	05.2
		N.6.	

		E.5030	
N.		N.6	
4390		2.7	04.3
80		3.7	03.3
60		5.3	01.7
40		6.2	00.8
20		6.6	00.4

	806.96	E.5030	
N.4300		6.4	800.6
A285	794.86	6.2	
A260		5.2	
40		4.0	

		E.5040	
N. A250		5.0	
60		5.5	
80		6.4	
90		6.7	
A310	806.96	6.1	800.9
20		6.1	00.9
40		6.1	
60		5.2	
80		3.7	
90		2.8	

		N.6.	
		E.5050	
N.		N.6.	
4385		2.8	
80		3.7	
60		4.9	
40		6.1	
30		6.0	
20		4.2	
A300	794.86	7.6	

E. 5050

N. 4280	794.86	7.2	787.7
70		7.0	87.9
60		6.1	88.8

E 5060

N. 4270		7.2	87.6
80		7.9	87.0
A305		8.5	786.4
75	806.96	5.1	801.9
40		5.2	01.7
60		4.5	02.5
80		3.2	03.8
			N. 6.

E. 5070

			N. 6.
A380		3.0	
60		4.0	
40		5.0	
30		4.3	
70	794.86	9.0	
4790		9.0	
70		8.3	

E. 5080

4780		8.8	
4300		10.0	
15		10.0	

E. 5080

N. 4335	806.96	4.1	07.9
60		3.4	03.6
80		1.8	05.2
4420		+21.5	28.5
45		+33.0	40.0
			N. 6.

E. 5090

			N. 6.
4420		+23.8	829.8
4380		1.4	05.6
60		3.0	04.0
40		3.9	03.1
33		5.5	01.5
20		10.6	84.3
	794.86		

E. 5100

N. 4790		11.5	
4300		11.8	
70		11.5	
50	806.96	7.4	
60		7.5	
80		1.5	
4420		+22.8	

N. 6.

N. 806.96 E. 5110
 4415 +14.0
 4385 0.8
 60 7.3
 55 1.2
 25 794.86 12.5
 4300 12.9
 4290 12.2
 E. 5120
 4290 14.4
 4300 14.0
 76 13.5
 58 806.96 1.2
 80 0.6
 95 +0.3
 4420 +12.5
 N. 6.
 E. 5130
 N. 6.
 4420 +12.5
 4400 +1.0
 4380 +0.7
 67 0.1
 28 794.86 14.3

N. 4310 794.86 E. 5130
 4295 14.9
 1.46 784.88 14.9
 783.42
 E. 5140
 11.4300 6.0
 30 5.5
 74 806.96 +1.2
 80 +0.8
 4400 +1.6
 28 +17.0
 N. 6.
 E. 5150
 N. 6.
 11.4428 +21.6
 1395 +1.4
 74 +1.0
 32 784.88 5.7
 20 6.9
 4300 7.1

X sections of Spillway
Est. No. 15

Aug. 3, 1933

B.M. 13.21 771.55 ✓ 758.34

1.00 770.55 ✓

12.13 782.68 ✓

E 4900 ✓

N 4090 5.2 77.5

4100 8.0 74.7

4140 8.9 73.8

4190 10.1 72.6

4230 6.8 75.9

40 3.4 79.3

North same as last X sections

E 4920 ✓

N 4270 1.0 83.7

North same as last X sections

4260 3.6 79.1

4200 7.7 75.0

4160 9.1 73.6

4130 8.6 74.1

4110 5.2 77.5

E 4940 ✓

4120 5.7 77.0

4130 8.4 74.3

4170 8.7 74.0

4210 7.4 75.3

4250 2.9 79.8

80 1.8 80.9

4290 45.0 87.7

North same as last X sections

Plotted Aug. 4, F.O. + R.E.L.

782.68

E 4960 ✓

4135 7.6 75.1

50 9.4 73.3

4230 8.0 74.7

4255 +3.0 85.7

4285 +4.6 87.3

813.1

4300 13.3 99.8

4360 11.6 01.5

North same as last X sections
Set B.M. 4.53 784.50 ✓

E 5000 ✓

N 4190 4.8 79.7

4200 6.8 77.7

4350 1.6 72.9

813.1

4350 Top 10.6 02.5

70 11.3 01.8

4420 6.2 06.9

4505 +2.3 15.4

Run to next line at top of slope

E 5040

Run to next line at top of slope

4495 +0.9 14.0

4440 2.4 10.7

4370 9.9 03.2

43

E5040 ✓

	11.60	791.57 ✓	779.97
4360		5.1	86.5
4320		8.8	82.8
4280		9.9	81.7
4260		10.8	80.8
4200		20.0	71.6 OG. +

813.1

E5080 ✓

Run to neat line at top of slope

4480		1.0	12.1
4400		5.8	07.3
	791.6		
4385		5.3	86.3
4360		7.5	84.1
4315		6.8	84.8

B.M. 12.31 749.16 ✓ 736.85

0.20 748.96 ✓

9.31 758.27 ✓

4300		1.8	56.5
4250		6.6	51.7
4240		11.9	46.4

Intersect O.G.

4180 12.7 45.6

or 1401 slope to O.G. from 4180 for deduction

758.3

E5120 ✓

4225		11.5	46.8
Intersect O.G. or 1401 to O.G. from 4225			
4300		9.9	48.4

791.57

4330		10.1	81.5
4360		9.8	81.8
4400		5.6	86.0

T.P. 11.19 801.60 ✓ 1.16 790.41 ✓

T.P. 0.81 800.79 ✓

12.32 813.11 ✓

4410		3.7	09.4
4460		0.5	12.6
4475		0.7	12.4

Run to neat line at top of cut

T.P. 12.08 824.61 ✓ 0.58 812.53 ✓

44

824.6

E 5160 ✓

↖ Run to rest line at top of cut

4485	12.4	812.2
4440	13.0	11.6
4397	15.5	09.1
	791.6	
4370	9.4	782.2
4350	10.4	81.2
	758.3	
4325	3.9	54.4
4290	10.0	48.3
Intersect O.G. or 1 to 1 slope to O.G. from 4235		
4235	12.0	46.3

824.6

E 5200 ✓

↖ 1/2 to 1 slope to O.G.

4510	+25.6	850.2
4470	9.7	14.9
4430	10.5	14.1
4415	8.9	15.7
	758.3	
4340	5.0	753.3
4300	8.7	49.6
Intersect O.G. or 1 to 1 to O.G. from 4250		
4250	10.8	47.5

824.6

E 5240 ✓

↖ 1/2 to 1 to O.G.

4505	+18.4	843.0
4460	8.3	16.3
4440	7.5	17.1
4420	6.2	18.4
	758.3	
4381	+13.1	771.4
4361	+13.1	71.4
4345	9.1	49.2
Intersect O.G. or 1 to 1 to O.G. from 4260		
4260	10.8	47.5

824.61

E 5280 ✓

↖ 1/2 to 1 to O.G.

4498	+8.8	833.4
4485	0.0	24.6
4435	2.2	822.4
	758.3	
4398	+10.0	768.3
4378	+10.0	768.3
4355	26.0	732.3
4310	26.0	732.3
4305	11.0	747.3
Intersect or		
4275	11.6	746.7

824.6

E 5320 ✓

↑ 1/2 to 1 to 0.6.

4503

850.6

4475

+7.2 31.8

4455

+3.7 28.3

758.27

4409

+7.3 65.6

4389

+7.3 65.6

4359

24.1 34.2

4327

24.1 34.2

4316

11.3 47.0

Intersect or

4300

12.8 45.5

T.P.

10.53 747.74 ✓

3.0

750.7 ✓

E 5360 ✓

4300

4.8 45.9

Intersect 0.6 or 1 to 1 slope from 4300 to 0.6.

4330

3.3 47.4

4335

14.0 36.7

4382

12.3 38.4

4395

+11.8 62.5

4430

+14.8 65.5

4500

+90.8 841.5

↓ 1/2 to 1 to 0.6.

46

E 5400 ✓

4.5

752.2

747.7

4283

5.6 46.6

Intersect 0.6 or 1 to 1 slope from 4283

4343

4.6 47.6

4350

12.5 39.7

4390

10.8 41.4

4407

+8.7 60.9

4482

+61.8 814.0

↓ 1/2 to 1 to 0.6.

E 5440 ✓

5.2

752.9

747.7

↑ 1/2 to 1 to 0.6.

4469

+45.0 97.9

4420

+4.1 57.0

4395

8.2 44.7

4360

8.9 44.0

4355

4.7 48.2

Intersect or slope 1 to 1 to 0.6.

4275

6.0 46.9

✓ E5480 ✓

	3.5	751.2	747.7
4278		7.3	43.9
Intersect a.g. or slope 1 to 1 to o.g.			
4335		2.2	49.0
4420		1.2	50.0
4453		+19.4	70.6
4458		+32.8	84.0
4461		+37.4	88.6
		↓ 1/2 to 1 to o.g.	

✓ E5500 ✓

B.M.	1.83	749.57	747.74
4277		8.0	41.6
Intersect o.g. or slope 1 to 1 to o.g. from 4277			
4340		0.8	48.8
4415		+0.8	50.4
4460		+39.6	89.2
		↓ 1/2 to 1 to o.g.	

749.57 E5520 ✓

T.P.		11.40	738.17 ✓
	9.1	747.3	
4274		7.4	39.9
Intersect o.g. or 1 to 1 slope			
4313		3.8	43.5
	14.3	762.0	747.7
4448		+26.0	88.0
4466		+36.9	98.9
		↓ 1/2 to 1 to o.g.	

E5560 is o.g.

Sept 5 - 1933
(Stadia)

X sections of spillway Est. #16

E 5560 is O.G.

E 5520 ✓

Transit Point	H. I.	Direction	Slope	Dist.	Vert. Angle	Hor. Dist.	Diff. Elev.	North. Elev.	Elev.	
N 4300 E 5520	742.1	So.	—	—	0.0	28	-2.5	4272	739.6	4272
#2		No.	—	—	0.0	15	+1.4	4315	743.5	4315
#3		No.	73		+23°33'	614	+26.6	4361	768.7	4361
#4		No.	—	—	—	110	+20.6	4410	762.7	4410
#5									791.4	on the 1/2 to 1 slope then 1/2 to 1 to O.G.

E 5500 ✓

N 4300 E 5500	H. I.	Direction	Slope	Dist.	Vert. Angle	Hor. Dist.	Diff. Elev.	North. Elev.	Elev.	
	744.0						328.0			
#1		So.	—	—	—	20	-1.9	4280	742.1	
#2		No.	—	—	—	40	+4.8	4340	752.8	
#3		No.	121		+6°31'	120	+13.6 (-54)	4420	752.2	
#4		No.	154		+8°45'	150.5	+23.0	4450.5	761.0	Then 1/2 to 1 to O.G.

E 5480 ✓

N 4300 E 5480	H. I.	Direction	Slope	Dist.	Vert. Angle	Hor. Dist.	Diff. Elev.	North. Elev.	Elev.	
	746.1						741.1			
#1		No.	154		+7°40'	150.5	+20.2	4450.5	766.3	1/2 to 1 to O.G.
#2		No.	—	—	—	130	+5.0	4430	751.1	
#3		No.	—	—	—	85	+2.5	4385	748.6	
#4		No.	—	—	—	33	+2.9	4333	749.0	
#5		So.	—	—	—	15	-1.8	4285	744.3	

Elliott - Notes
Simpson - X
Soper - Salgado - Ch + Rod

48

Plotted Sept. 7, 1933 F.O. + R.E.L.

E5440 ✓

Transit	H.I.	Direction	Sl. Dist.	Vert. L	Hor. Dist	Diff. Elev.	North	Elev.
N4300 E5440	747.7							
#1		So.	—	—	20	-0.9	4280	746.8
#2		No.	—	—	55	+0.8	4355	748.5
#3		No.	—	—	55	-8.0	4355	739.7
#4		No.	—	—	70	-15.0	4370	732.7
#5		No.	—	—	90	-15.8	4390	731.9
#6		No.	—	—	100	-10.7	4400	737.0
#7		No.	—	—	103	-1.1	4403	746.6
#8		No.	—	—	143	+1.0	4443	748.7

1/2 to 1 to O.G.

E5400 ✓

Transit	H.I.	Direction	Sl. Dist.	Vert. L	Hor. Dist	Diff. Elev.	North	Elev.
N4300 E5400	746.9							
#1		No.	—	—	145	-1.7	4445	745.2
#2		"	—	—	93	-4.6	4393	742.3
#3		"	—	—	88			
#4		"	—	—	75	-18.1	4375	728.8
#5		"	—	—	22	-18.1	4322	728.8
#6		"	—	—	21	+0.9	4321	747.8
#7		So.	—	—	15	-0.1	4285	746.8

1/2 to 1 to O.G.

E 5360 ✓

N 4300 E 5360	H.I.	Direction	Sl. Dist.	Vert. L.	Hor. Dist.	Diff. El.	North	Elev.
	746.0							
# 1		-	-	-	0.0	0.0	4300	746.0
# 2		No.	-	-	27	+1.5	4327	747.5
# 3		"	-	-	30		4330	726.2
# 4		"	-	-	70		4370	727.0
# 5		"	-	-	85	-5.2	4385	740.8
# 6		"	-	-	130	-3.3	4430	742.7
# 7		"	-	-	146	+2.2	4446	748.2

1/2 to 1 to O.G.

E 5320 ✓

N 4300 E 5320	H.I.	Direction	Sl. Dist.	Vert. L.	Hor. Dist.	Diff. El.	North	Elev.
	746.1							
# 1		No.	152	+3°43'		+9.7	4451	755.8
# 2		"	-	-	128	-3.9	4428	742.2
# 3		"	-	-	69	-7.8	4369	738.3
# 4		"	-	-	44		4340	726.6
# 5		"	-	-	17		4317	726.6
# 6		"	-	-	15	+0.9	4315	747.0
# 7		So.	-	-	3	0.0	4297	746.1

1/2 to 1 to O.G.

E5280 ✓

Transit	H.I.	Direction	Sl. Dist.	Vert. L.	Hor. Dist.	Diff. Elev.	North.	Elev.
N 4300								
E 5280	747.2							
#1		So.	—	—	22	-0.3	4278	746.9
#2		No.	—	—	2	+0.2	430.2	747.4
#3		No.	—	—	5	—	4305	724.2
#4		No.	50	-26°22'	41.2	-19.9	4341	727.3
#5		No.	60	-12°04'	57.4	312.2	4357	735.0
#6		No.	85	-8°01'	83.4	-11.7	4383	735.5
#7		No.	111	-3°28'	110.5	-6.7	4410	740.5
#8		No.	176	+10°49'	170	+32.3	4470	779.5 1/2 to 1 to O.G.

E5240 ✓

N 4280	H.I.	Direction	Sl. Dist.	Vert. L.	Hor. Dist.	Diff. Elev.	North.	Elev.
E 5240	747.2							
#1		No.	198	+9°51'	192.2	+33.3	4472	770.5 1/2 to 1 to O.G.
#2		No.	167	+6°45'	164.8	+19.3	4445	766.5
#3		No.	135	+8°27'	132.1	+19.7	4412	766.9
#4		No.	78	-11°21'	74.8	-15.0	4355	732.2
#5		No.	—	—	10	—	4290	724.4
#6		No.	—	—	9	+0.8	4289	748.0
#7		So.	—	—	20	-0.2	4260	747.0

ES200

Transit	H.I.	Dir.	Sl. Dist.	Vert. L	Hor. Dist	Diff. Elev	North	Elev.
N 4260								
ES200	747.4							
#1		So.	—	—	10	-0.3	4250	747.1
#2		No.	—	—	14	0.0	4274	747.4
#3		No.	—	—	17	—	4277	721.9
#4		No.	77	-16°15'	72	-20.6	4332	726.8
#5		No.	132	+7°13'	130	+16.4	4390	763.8
#6		No.	200	+6°32'	197.4	+22.6	4457	770.0
#7		No.	221	+8°48'	215.8	+33.4	4476	780.8

1/2 to 1 to O.G.

E5150

Transit	H.I.	Dir.	Sl. Dist.	Vert. L	Hor. Dist	Diff. Elev	North	Elev.
N 4300	5.1							
E 5150	751.0							
#1		So.	—	—	62	-4.5	4238	746.5
#2		No.	—	—	0.0	0.0	4300	751.0
#3		No.	72	+9°36'	70	+11.8	4370	762.8
#4		No.	148	+6°36'	146	+16.9	4446	768.0

1 to 1 to intersection with
1/2 to 1 slope

Transit	S.I.	N. or S.	Sl. Dist.	Vert. L.	Dist.	D.H. Elev.	North	Elev.
N 4300 E 5120	751.8							
#1		S.			73	-5.3	4227	746.5
#2		N.			0	0	4300	751.8
#3		N.	73	+9°30'	71	+11.9	4371	763.7
#4		N.	145	+9°15'	141	+23.0 (-3°)	4441	771.8
#5		N.	206	+17°0'	188.5	+52.5	4488.5	804.3 $\frac{1}{2}$ to 1 to O.G.

Transit	S.I.	N. or S.	Sl. Dist.	Vert. L.	Dist.	D.H. Elev.	North	Elev.
N 4300 E 5080	758.0							
#1		N.	206	+15°18'	191.5	+50.0	4491.5	808.0 $\frac{1}{2}$ to 1 to O.G.
#2		N.	170	+11°24'	173.4	+33.0	4473.4	791.0
#3		N.	135	+3°57'	135	+9.3 (-1°)	4435	766.3
#4		N.	47	+8°15'	46	+6.6	4346	764.6
#5		-	0	0	0	0	4300	758.0
#6		S.			23	-10.1	4277	747.9
#7		S.	113	-5°38'	112	-11.0	4188	747.0

Sept 6 - 1933

E 5060 ✓

54

Transit
N 4300
E 5060

4.7

H.I.

763.1

N. ors.

Sl. Dist.

Vert. L

Hor. Dist

Diff. Elev

North

Elev.

763.1

#1	S.	122	-5°42'	120.8	-12.0	4179	751.1
2	S.	95	-5°49'	94	-9.6 (7.0)	4206	760.5
3	S.	—	—	28	763.1 + 0.5	4272	763.6
4	N.	—	—	21	+1.7	4321	764.8
5	N.	—	—	130	+3.8	4430	766.9
6.	N.	162	+9°34'	157.5	+26.5	4457.5	787.6
7.	N.	198	+11°35'	190	+39.0	4490	802.1

1/2 to 1 to O.G.

N 4300
E 5020

5.2

763.9

E 5020 ✓

763.9

#1	N.	199	+10°25'	192.6	+35.1	4492.6	799.0
2.	N.	158	+10°11'	153.1	763.9 + 27.4	4453	791.3
3.	N.	—	—	118	763.9 + 4.7	4418	768.6
4.	S.	—	—	24	0.0	4276	763.9
5.	S.	61	+15°51'	56.5	763.9 + 16.0	4243.5	779.9

1/2 to 1 to O.G.

Level South to O.G.

55

E 4980 ✓

Transit N 4191.3 E 4980	S.I. H.I. 776.9	N. or S.	Sl. Dist.	Vert. L	Hor. Dist.	Diff Elev.	North	Elev.
#1		S.	—	—	36	776.9 +1.5	4155	778.4
2		N.	—	—	11	+0.4	4202	777.3
3		N.	32	-12°16'	30.6	-6.6 - (5°)	4222	765.3
4		N.	146	-4°20'	145.2	-11.0	4336	765.9
5		N.	—	—	187	-4.2	4378	772.7
6		N.	216	+2°29'	216	+9.3	4407	786.2
7		N.	250	+3°34'	250	+15.5	4441	792.4
8		N.	277	+2°53'	277	+13.8 - (4°)	4468	785.7
9		N.	305	+3°43'	305	+19.0	4496	795.9

1/2 to 1 to O.G.

E 4960 ✓

N 4191.3 E 4960	S.I. 775.3	N.	Sl. Dist.	Vert. L	Hor. Dist.	Diff Elev.	North	Elev.
#1		N.	307	+4°20'	305.2	775.3 +23.0	4496	798.3
2		N.	276	+3°21'	275.1	+16.0 - (3°)	4466	788.3
3		N.	208	+3°55'	207.1	+14.2	4398	789.5
4		N.	—	—	164	-8.3	4355	767.0
5		N.	—	—	25	-11.3	4216	764.0
6		N.	—	—	9	-0.5	4200	774.8
7		0	—	—	0	0.0	4191	775.3
8		S.	—	—	52	-0.2	4139	775.1

1/2 to 1 to O.G.

4940 ✓

Transit
N 4171³
E 49405.4
H.I.
774.3

N. or S.

Slope Dist

Vert. L

Hor. Dist

D. A. E. I.
774.3

North

Elev.

#1	S.	—	—	75	-5.2	4096	769.3
2	N.	—	—	16	+0.5	4187	774.8
3	N.	—	—	20	-7.8	4191	766.5
4	N.	119	-4°27'	118.3	+9.2	4289	783.5
5	N.	—	—	172	-7.4	4343	766.9
6.	N.	209	+2°27'	209	768.9 +9.0	4380	783.3
7.	N.	264	+3°18'	264	+15.1	4435	789.4
8.	N.	322	+4°04'	320.4	+22.8	4491	797.1

1/2 to 1 to O.G.

E 4920 ✓

N 4151.3
E 49204.9
774.2

#1	N.	—	—	133	774.2 +0.6	4284	774.8
#2	N.	99	-5°19'	98	+9.1	4249	783.3
3	N.	—	—	41	12 -7.8	4192	766.4
4	N	—	—	28	+0.4	4179	774.6
5	0	0	0	0	0	4151	774.2
6	S.	—	—	15	-5.3	4136	768.9
7	S.	—	—	67	-5.5	4084	768.7

North same as last Est.

E 4900 Same as last Est.

X Sections on Oct 3, 1933 for
monthly Est. of Spillway Excavation
and spoil. Elliott, Soper, Remmen

B.M.	3.80	753.80	750.00	✓
Set B.M.		6.90	746.90	✓
T.P.		11.10	742.70	✓
	1.44	744.14		✓

E 5600 is O.G.

E 5580 ✓

N 4290			O.G.
80	7.4	736.7	
60	8.8	35.3	
45	9.4	34.7	
40	7.0	37.1	
4208	8.1	36.0	
4197	16.2	27.9	
4165	29.3	14.8	
4090			O.G.

E 5560 ✓

4087			O.G.
4180	5.7	738.4	
4242	5.7	38.4	
38	6.3	37.8	
4260	6.8	37.3	

744.14 E 5560 ✓
6.3 737.8
O.G. ✓
E 5520 ✓
S

↑
on north same as last sections (p. 48)

4260	1.7	742.4
4220	3.8	40.3
4173	4.5	39.6
4024		O.G.

E 5500 ✓
S

4028		O.G.
4176	3.9	740.2
4220	3.6	40.5
4260	1.6	42.5

↑
on north same as last sections (p. 48)

E 5480 ✓
S

↑
on north same as last sections (p. 48)

4250	0.0	744.1
4248	4.2	39.9
4200	3.8	40.3
4173	13.0	31.1
4032		O.G.

744.14

E5460 ✓
S
X

4105			O.G.
4215		5.8	38.3
4248		5.7	38.4
B.M.	4.48	751.38	746.90
4253		6.2	45.2
Back of So. line of wier		2.9	48.5
B.M.	3.50	752.75	749.25
Top of O.G. concrete			730.7
4400		3.8	49.0
on top of 1/2 to 1 slope		5.3	47.5

744.14

E5420 ✓
S
X

4132			O.G.
4223		9.4	734.7
4245		9.7	34.4
4255	751.4	5.3	746.1
Back of wier		3.6	47.8
Top of O.G. conc.	752.8		729.8
4398		16.8	36.0
4402		8.7	44.1
on top of 1/2 to 1 slope		5.4	47.4

744.14

E5380 ✓
S
X

T.P.	0.58	731.66	13.06	731.08
4140				O.G.
4217			2.8	28.9
4242			2.2	29.5
		751.4		
4259			5.6	45.8
Back of wier			4.3	47.1
Top of O.G. Conc.		752.8		728.7
4383			19.5	33.3
4388			12.0	40.8
Top of 1/2 to 1 slope			9.2	43.6

731.66

E5340 ✓
S
X

4140				O.G.
4205			9.3	22.4
4233			8.7	23.0
4256	751.4		6.5	44.9
Back of wier			4.6	46.8
		752.75		
T.P.	0.70	743.17	10.26	742.49
Top of O.G. Conc.				727.2
4372			9.7	33.5
4383			2.7	40.5
Top of 1/2 to 1 slope			0.9	742.3

	731.66	E5300 $\frac{3}{x}$	
T.P. 0.25	718.77	13.14	718.52 ✓
4097			O.G.
4190		3.2	15.6
4222		1.6	17.2
4246	751.4	6.0	45.4
Back of wier		5.0	46.4
Toe of O.G. Conc.	743.2		726.1
4367		6.0	37.2
4400		3.7	39.5
Toe of $\frac{1}{2}$ to 1 slope		1.3	41.9

	718.77	E5260 $\frac{3}{x}$	
4101			O.G.
4200		7.1	711.7
4158		9.7	709.1
4256	751.4	4.5	46.9
Back of wier		4.8	46.6
Toe of O.G. Conc.	743.2		725.1
4345		11.1	32.1
4380		8.8	34.4
4387		3.2	40.0
Toe of $\frac{1}{2}$ to 1 slope		1.4	41.8

	718.77	E5220 $\frac{59}{5} \frac{3}{x}$	
T.P. 0.78	707.01	12.54	706.23 ✓
4100			O.G.
4146		2.5	04.5
4180		1.4	05.6
4235	751.4	4.2	47.2 2+16
Back of wier		3.7	47.5
Toe of O.G. Conc.	743.2		723.2
4320		15.7	27.5
4365		12.2	31.0
4375		4.6	38.6
Toe of $\frac{1}{2}$ to 1 slope		5.0	38.2 $\frac{5}{x}$

	751.38	E5180 $\frac{5}{x}$	
4177			O.G. Toe of slope?
T.P. 4.54	752.20 ✓	3.72	747.66 ✓
4225		5.4	46.8
Back of wier		4.9	47.3
	743.19		
T.P. 0.68	731.68	12.19	731.00
Back of wier		19.5	12.2
6' North of back of wier		19.5	12.2
" " " "		12.7	19.0
4300		11.7	21.0
4315		5.7	26.0
	743.2		
4360		6.8	36.4
Toe of $\frac{1}{2}$ to 1 slope		4.6	38.6

752.20 E5140 ✓

4200			0.6	
4228			5.7	46.5
Back of			5.2	47.0
wier				
B.M.	9.74	740.74 ^L ✓ 31.7		731.00 ✓

Back of wier		23.0	717.7
6' No. of back of wier		23.0	17.7
" " "		19.7	21.0
4300		18.7	22.0
4310		11.9	28.8
4330		5.4	35.3
4385		4.0	36.7
on toe of 1/2 to 1 slope		+13.0	753.7

752.2 E5100 ✓⁶⁰ ✓

4205		5.6	46.6
Back of wier		6.2	46.0
	740.7		
Back of wier		20.6	720.1
4295		16.5	24.2
4315		6.5	34.2
4360		6.3	34.4
4400		6.0	34.7
on toe of 1/2 to 1 slope		+13.0	753.7

✓_r

752.2	E5060	
4170	5.1	747.1 O.G. ±
Back of Wier	5.3	46.9
B.M. 6.33	737.33	731.00
Bucket Wier	14.0	23.3
4280	11.6	25.7
4290	16.1	21.2
4315	3.4	33.9
4360	3.5	33.8
Toe of 1/2 to 1 slope	2.7	34.6

✓_t

752.2	E5040	
4160	1.2	51.0 O.G. ±
4190	1.2	51.0
4220	5.4	46.8
737.33		
4230	7.7	29.6
4265	11.0	26.3
4300	11.8	25.5
4315	3.8	33.5
4360	4.6	32.7
Toe of 1/2 to slope	3.2	34.1 <i>Complete</i>

✓_r

T.P.	11.45	748.70	0.08	737.25	✓
T.P.	5.98	753.17	1.51	747.19	✓
	10.16	763.08	0.19	752.98	
	11.31	774.13	0.26	762.82	

4167	4.1	70.0	O.G.
4216	4.1	70.0	
		753.17	
4225	0.5	52.7	
		737.33	
4250	4.2	33.1	
4360	5.9	31.4	
Toe of 1/2:1 slope	5.4	31.9	

737.33 E4980 ✓^x

Toe of 1/2 to 1 slope	5.4	31.9	
4360	6.0	31.3	
4250	5.5	31.8	
753.17			
4240	6.2	47.0	
4220	3.1	50.1	
774.13			
4208	3.8	70.3	
4140	4.7	69.4	O.G.

774.13 E4940 ✓^x

4092	5.9	68.2	O.G.
4193	3.8	70.3	
753.17			
4205	3.1	750.1	
4214	5.3	47.1	
4255	5.1	48.1	
737.33			
4270	5.0	32.3	
4360	6.1	31.2	
Toe of 1/2 to 1 slope	5.1	32.2	

737.33 E4900 ✓^x⁶²

Toe of 1/2 to 1 slope	3.6	33.7	
4360	6.4	30.9	
4280	5.8	31.5	
753.17			
4263	5.7	47.5	
4225	5.5	47.7	
4205	4.2	49.0	
774.13			
4176	4.3	69.8	
4074	7.1	67.0	O.G.

774.13 E4860 ✓^x

4090	4.5	69.6	O.G.
4165	4.4	69.7	
4190	0.3	52.9	
4212	4.3	48.9	
4260	6.2	47.0	
4280	6.4	30.9	
4360	6.2	31.1	
Toe of 1/2 to 1 slope	3.2	34.1	

West of E4860 same as previous Estimates

Xsections of Spillway Exc.
and Spoil Oct 31 - 1933
Elliott-Soper-McHugh

63

B.M. 1.46 751.33 749.87
10.34 740.99 ✓
3.79 744.78

E 5600 is O.G.

E 5580

N 4290 O.G.
4280 8.4 36.4
4244 9.9 34.9
4240 8.0 36.8
4210 8.5 36.3
4197 16.4 28.4
4140 42.5 02.3
4082 O.G. Toe

E 5560

4075 O.G. Toe
4150 23.2 21.6
4165 17.7 27.1
4178 18.0 26.8
4193 6.9 37.9
4220 6.9 37.9
4245 6.2 38.6
50 7.2 37.6
83 6.9 37.9
4290 O.G.

744.78 E 5520 ✓

↑ on north same as previous

4260 2.4 42.4
4190 4.3 40.5
4165 22.2 22.6
4152 16.0 28.8
4025 O.G. Toe

E 5500

4026 O.G. Toe
4172 4.0 40.8
4220 4.3 40.5
4260 2.3 42.5

↓ on north same as previous

E 5480

4032 O.G. Toe
4180 6.0 38.8
4200 5.2 39.6
4220 5.1 39.7
4250 4.9 39.9
4252 0.3 44.5
B.M. 2.33 752.20 749.87
4350 4.0 48.2
on 1/2 to 1 to O.G. 3.9 48.3

752.20 E 5460

Back of wier			3.6	48.6
4290			5.4	46.8
4253			7.1	45.1
B.M.	2.91	752.78		749.87
	1.20	741.00	12.98	739.80
4247			2.4	38.6
4216			2.6	38.4
4200			14.4	26.6
4168			21.1	19.9
4064				0.6, Toe

752.2 E 5420

Back of wier			4.0	48.2
4255			6.3	45.9
		741.00		
4245			6.8	34.2
4223			6.7	34.3
4139				0.6, Toe
T.P.			11.61	729.39
	0.33	729.72		

752.2 E 5380

Back of wier			4.5	47.7
4258			6.4	45.8
		729.7		
4242			0.9	28.8
4218			1.4	28.3
4139				0.6 Toe

752.2 E 5340

Back of wier			5.1	47.1
4256			7.3	44.9
		729.7		
4232			7.1	22.6
4205			7.4	22.3
4137				0.6, Toe

	752.2	E5300	
Back of wier		5.2	47.0
4253		6.8	45.4
	729.72		
4222		13.0	16.7
4190		14.1	15.6
T.P.		12.82	716.90
	0.22	717.12	
4118		0.G.	Toe

Plotted for bottom
of puddle core spoil
Dec. 14-24 1934

	B.M.	2.3	752.3	750.0
Back of wier			4.2	48.1
4235			4.9	47.4
		717.1		
4181			11.4	05.7
4148			12.1	05.0
4102			0.G.	Toe

	752.2	E5260	
Back of wier		5.5	46.7
4245		5.6	46.6
	717.1		
4200		6.1	11.0
4158		8.2	08.9
4105		0.G.	Toe

	752.3	E5180	
Back of wier		4.8	47.5
4226		5.3	47.0
4177		0.G.	Toe

	752.3	E5140 ✓	
Back of wier	5.1	47.2	
4126	5.9	46.4	
4198		0.6	
		E5100 ✓	
4165		0.6	
4200	4.3	48.0	
4220 4241.4	6.3	46.0	
Back of wier	6.2	46.1	
		E5060	
4173		0.6	
4180	5.8	46.5	
Back of wier	4228 5.5	46.8	

Continued Nov 1 - 1933

B.M.	5.53	726.47	720.94
		E5000	
↑ 1/2 to 1 to Elev. 770 then level to O.G.			
4245	6.7	19.8	
4400	7.7	18.8	
4417	12.4	28.9	
on 1/2 to 1 to O.G.	13.0	29.5	

	726.5	E5020	
on 1/2 to 1 to O.G.	+3.8	30.3	
4416	+3.5	30.0	
4400	7.0	19.5	
4260	5.7	20.8	
4255	12.0	14.5	
4230	13.2	13.3	
4218	9.4	17.1	
B.M.	9.50	759.5	750.0
4215	3.1	56.4	
4184	+4.5	64.0	
4155	2.1	57.4	
4153	12.8	46.7	
4130	12.5	47.0	0.6. ±
		E5040	
4145	12.4	47.1	0.6. ±
4190	9.3	50.2	
4217	12.5	47.0	
	726.5		
4219	15.0	11.5	
4255	10.0	16.5	
4265	5.7	20.8	
4400	6.8	19.7	
4414	+4.8	31.3	
on 1/2 to 1 to O.G.	+5.0	31.5	

	726.5	E5060		
on 1/2 to 1 to O.G.		+6.4	32.9	
4412		+6.0	36.5	
4400		5.1	21.4	
at toe of Edge Concrete		5.2	23.3	

		E5100		
at toe of Edge Concrete		4.5	22.0	
4398		4.1	22.4	

	743.0			
4410		6.3	36.7	
on 1/2 to 1 slope to O.G.		6.8	36.2	

		E5140		
on 1/2 to 1 slope to O.G.		4.9	38.1	

4416		5.3	37.7	
------	--	-----	------	--

	726.47			
T.P.	7.99	731.36	3.10	723.37
4403		7.9	23.5	
at toe of Edge conc.		9.6	21.8	
T.P.	12.93	742.98	1.31	730.05

	731.4	E5180		
at toe of Edge conc.		8.5	22.9	
4400		7.5	23.9	
	743.0			
4413		4.8	38.2	
on 1/2 to 1 slope to O.G.		4.0	39.0	

		E5220		
	743.0			
on 1/2 to 1 slope to O.G.		4.4	38.6	
4410		3.4	39.6	

	731.4			
4400		5.6	25.8	
at toe of Edge conc.		7.6	23.8	

E 5260

Subgrade finished from toe of Ogee to
N 4398

	743.0		
4410	2.7	40.3	
on $\frac{1}{2}$ to 1 slope to O.G.	1.9	41.1	

E 5300

Subgrade finished from toe of Ogee to N. 4395

	742.98		
4407	2.5	40.5	
on $\frac{1}{2}$ to 1 slope to O.G.	1.3	41.7	
T. P.	7.80	750.60	0.18
			742.80

E 5340

Subgrade finished from toe of Ogee to N. 4395

	750.6		
4410	8.7	41.9	
on $\frac{1}{2}$ to 1 slope to O.G.	8.4	42.2	

E 5380

Subgrade finished from toe of Ogee to 4402

	750.6		
4412	8.3	42.3	
on $\frac{1}{2}$ to 1 to O.G.	7.3	43.3	

E 5420

Subgrade finished from toe of Ogee to 4395

	750.6		
4406	6.0	44.6	
on $\frac{1}{2}$ to 1 to O.G.	4.4	46.2	

E 5460

Subgrade finished from toe of Ogee to 4393

	750.6		
4400	2.0	48.6	
on $\frac{1}{2}$ to 1 to O.G.	3.2	47.4	

Nov. 3, 1933
Simpson
Salgado
Remmer

E 4960

B.M. 4.70 728.85 724.15

$\frac{1}{2}$:1 To Elev. 770, then Level to O.G.

4228	7.3	19.5	Top Slope
4310	9.8	19.0	
4390	8.3	20.5	
4425	2.1	26.7	
4453	1.1	27.7	Top Slope

$\frac{1}{2}$:1 To O.G.

E 4920

$\frac{1}{2}$:1 To Elev. 770, then Level to O.G.

4214	8.6	20.2	Top Slope
4295	9.1	19.7	
4410	4.4	24.4	
4450	3.5	25.3	

$\frac{1}{2}$:1 To O.G.

E 4880

$\frac{1}{2}$:1 To Elev. 770, then Level to O.G.

4202	9.4	19.4	
4310	11.2	17.6	
4380	9.8	19.0	
4403	4.2	24.6	
4444	4.0	24.8	

$\frac{1}{2}$:1 To O.G.

69

728.85

E 4840

South of Here same as Last Est.

4218	12.1	16.7	
4310	12.0	16.8	
4404	5.5	23.3	
4434	5.5	23.3	

$\frac{1}{2}$:1 To O.G.

E 4800 is same as Last Est.

Addition sections for original ground under material wasted from puddle core beach.

70

Jan 19-1934

E5320

N 4127

B.M. 9.84 713.67

T.P.

11.94 725.49

4198

4205

4215

4225

6.3 19.2

6.6 18.9

6.2 19.3

4.5 21.0

703.83

713.55

O.G. - Top

Sept. 28-30 1934

Ch for Clotting

E5360

N4142

4213

4217

4236

+0.6 26.1

-0.3 25.2

+0.6 26.1

O.G. Top

B.M.

2.42

706.25

4170

4150

4144

4128

T.P.

4110

4100

4080

+0.00

693.26

E5180

703.83

3.9 02.3

5.1 01.1

4.2 02.0

14.0 92.2

12.99 693.26

2.2 91.1

4.4 88.9

5.2 88.1

E5200

B.M.

7.02

710.85

4174

4146

4140

4120

4110

4080

T.P.

0.69

681.00

710.85

703.83

7.2 03.6

7.8 03.0

11.6 99.2

693.26

8.0 85.3

13.0 80.3

14.9 78.4

12.95 680.31

E5220

4177

4148

5.2 05.6

6.0 04.8

Ch for Clotting 9-28-34 C.B.H.

681.00

E5220

4110

3.9

677.1

✓

4100

9.3

671.7

✓

4080

11.1

669.9

✓

4060

10.4

670.6

✓

E5240

710.85

4186

2.9

707.9

✓

4160

4.0

06.8

✓

4152

3.9

06.9

✓

681.00

4110

5.0

676.0

✓

4100

8.9

72.1

✓

4090

8.9

72.1

✓

4075

18.2

62.8

✓

X Sections for top of ~~puddle~~ core
waste and bottom of spillway spoil
April 24, 1934, Elliott-Simpson, Super. Remmen

709.77

N 4180

T.P.

B.M.	4.50	709.77	705.27	0.55
5220		2.5	07.3	✓ ✓
30		1.5	08.3	✓ ✓
40		0.5	09.3	✓ ✓
50		+0.6	10.4	✓ ✓
60		+1.8	11.6	✓ ✓
70		+2.2	12.0	✓ ✓
80		+2.0	11.8	✓ ✓
90		+2.6	12.4	✓ ✓
5300		+0.4	10.2	✓ ✓
10		-2.8	07.0	✓ ✓
20		-4.0	05.8	✓ ✓

N 4160

5320		6.8	91.0	✓
10		4.0	93.8	✓
5300		+2.7	00.5	✓
5290		+5.9	03.7	✓
80		+0.5	98.3	✓
70		3.8	94.0	✓
60		1.9	95.9	✓

709.8

50		8.4	01.4	✓
40		2.4	07.4	✓
30		3.5	06.3	✓
20		1.8	08.0	✓

N 4170

5220		2.3	07.5	✓
30		1.2	08.6	✓
40		0.2	09.6	✓
50		2.2	07.6	✓
60		6.5	03.3	✓
70		8.2	01.6	✓
80		4.0	05.8	✓
90		+1.6	11.4	✓
5300		4.2	05.6	✓
10		9.6	00.2	✓
20		12.1	97.7	✓

N 4150

5220		4.9	04.9	✓
30		4.0	05.8	✓
40		6.4	03.4	✓
50		10.8	99.0	✓
60		9.2	88.6	✓
70		10.6	87.2	✓
80		7.0	90.8	✓
90		0.7	97.1	✓

Level 697.8

c.f. for plotting 9-25-34 B.H.

N4150

Level
697.8

5300	4.1	93.7	✓
10	9.3	88.5	✓
20	14.1	83.7	✓

N4140

5320	20.1	77.7	✓
10	15.4	82.4	✓
5300	9.7	88.1	✓
5290	6.3	91.5	✓
80	15.2	82.6	✓
70	15.9	81.9	✓
60	14.8	83.0	✓
50	7.0	90.8	✓
40	0.8	97.0	✓

Level
709.8

30	10.9	98.9	✓
20	8.6	01.2	✓

N4130

697.79

5220	4.8	93.0	✓
30	6.7	91.1	✓
40	8.0	89.8	✓
50	11.9	85.9	✓
T.P.	12.87	684.92	✓

0.22 Level
685.14Level
685.14

T.P.

0.91

Level
673.38

12.67 672.47 ✓

N4130

5260	5.1	80.0	✓
70	6.7	78.4	✓
80	9.4	75.7	✓
90	1.9	83.2	✓
5300	3.9	81.2	✓
10	8.9	76.2	✓
20	12.2	72.9	✓

N4120

5320	19.8	65.3	✓
10	12.3	72.8	✓
5300	11.2	73.9	✓
5290	8.2	76.9	✓
80	13.5	71.6	✓
70	10.1	75.6	✓
60	10.4	74.7	✓
50	3.2	81.9	✓
40	2.9	82.2	✓
30	1.3	83.8	✓
20	11.0	86.1	✓

N4110

	^x 685.1				
5220		5.1	80.0	✓	
30		8.4	76.7	✓	
40		9.1	76.0	✓	
50		9.9	75.2	✓	
60		12.4	72.7	✓	
70		11.9	73.2	✓	

^{L.}
673.38

80		2.3	71.1	✓	
90		6.9	66.5	✓	
5300		3.0	70.4	✓	
10		9.4	64.0	✓	
20		14.2	59.2	✓	
T.P.		13.00	660.38	✓	

0.37 ^x
660.75

N4100

5350		11.4	49.4	✓	
40		9.9	50.9	✓	
30		6.6	54.2	✓	
20		5.3	55.5	✓	
10		6.3	54.5	✓	
5300		0.7	60.1	✓	

^{L.}
673.4

5290		13.9	59.5	✓	
80		5.4	68.0	✓	

N4100

5270	^{L.} 673.4	2.4	71.0	✓	
60		1.1	72.3	✓	
50		0.7	72.7	✓	
40		0.0	73.4	✓	
30		+1.6	75.0	✓	
20		+3.8	77.2	✓	

N4090

5220		+0.9	74.3	✓	
30		0.3	73.1	✓	
40		1.5	71.9	✓	
50		2.7	70.7	✓	
60		4.4	69.0	✓	
70		9.1	64.3	✓	
80		10.3	63.1	✓	
90		19.9	53.5	✓	

^x
660.8

5300		9.1	51.7	✓	
10		12.6	48.2	✓	
20		9.2	51.6	✓	
30		8.6	52.2	✓	
40		10.7	50.1	✓	
50		12.8	48.0	✓	

OK for Clotting 7-28-34 EPH

8

Sept 6 - 1933

T.P.	12.06	765.11		753.05	
5060			2.0	763.1	
T.P.			0.70	764.41	
5020			1.2	763.9	
T.P.				764.41	
	11.64	776.05			
			0.81	775.24	
	6.72	781.96			
Check on Sh. Stk.			2.5	779.5	
				64.2	
				715.3	715.4
4980			5.1	776.9	
4960			6.7	775.3	
4940			7.7	774.3	
4920			7.8	774.2	

Sept 5 - 1933

B.M.	12.53	742.89		730.36	
T.P.			0.16	742.73	
	10.08	752.81			
E5520			5.5	747.3	
			10.7	742.1	
E5500			8.8	744.0	
E5480			6.7	746.1	
E5440			5.1	747.7	
E5400			5.9	746.9	
E5360			6.8	746.0	
5320			6.7	746.1	
5280			5.6	747.2	
5240			5.6	747.2	
5200			5.4	747.4	
T.P.			9.37	752.44	
	3.67	756.11			
T.P.			3.06	753.05	
	10.98	764.03			
5180			12.2	751.8	
5080			6.0	758.0	

79

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder
stake for any width roadway, slope 1 to 1
If ground is nearly level, the cut or fill at
stake is located by the double entry method in
left column and top row. The number in both

IMPROVED TABLES

AND

INFORMATION

To find Tangent and External for any
any other degree divide by degree of curve and
right correction found in column of correction
Degrees of curve with a given angle of deflection
by finding tangent (or external) opposite 1/2
given tangent (or external)
The distance from a point on the tangent to
the curve is represented the square of the tangent
length divided by twice the radius



4.4
2.7

5.3
2.8

50.4