EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

366

Distances from Center of Roadway for Cross-Sectioning

Roadway 16 feet wide. Side Slopes 1 on 1.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

N3530

E		
5060	561.7	✓ ✓
70	61.8	✓ ✓
80	61.8	✓ ✓
90	61.8	✓ ✓
5100	61.7	✓ ✓
10	61.8	✓ ✓
20	61.8	✓ ✓
30	62.0	✓ ✓
40	61.7	✓ ✓
50	61.6	✓ ✓
60	61.8	✓ ✓
70	61.6	✓ ✓
80	61.8	✓ ✓
90	61.8	✓ ✓
5200	61.9	✓ ✓
10	62.1	✓ ✓
20	62.0	✓ ✓
30	62.2	✓ ✓
40	62.3	✓ ✓
50	62.4	✓ ✓
60	62.5	✓ ✓
70	62.5	✓ ✓
80	62.6	✓ ✓
90	62.7	✓ ✓
5300	62.9	✓ ✓

S. Nothing on Newton sur.

N 3530

E		
5310	562.7	✓ ✓
20	62.9	✓ ✓
30	62.9	✓ ✓
40	63.0	✓ ✓
50	63.1	✓ ✓
60	63.2	✓ ✓
70	63.1	✓ ✓
80	63.1	✓ ✓
90	63.2	✓ ✓
5400	63.5	✓ ✓
10	63.4	✓ ✓
20	63.4	✓ ✓
30	63.7	✓ ✓
40	63.6	✓ ✓
50	63.5	✓ ✓
60	63.5	✓ ✓
70	63.6	✓ ✓
80	63.7	✓ ✓
90	63.7	✓ ✓
5500	63.7	✓ ✓
10	63.8	✓ ✓
20	63.7	✓ ✓
30	63.8	✓ ✓
40	63.9	✓ ✓
50	63.9	✓ ✓

✓

N3530

E	
5560	64.0
70	63.7
80	63.9
90	63.9
5600	63.9
10	64.0
20	64.0
30	64.1
40	64.1
50	63.9
60	63.7
70	63.9
80	63.8
90	63.8
5700	63.7
10	63.7
20	64.1
30	63.2
40	63.6
50	63.3
60	63.1
70	64.1
80	64.2
90	63.4
5800	62.8

Not on Dam Sec. N

N3530

E		
5810		562.5 ✓
20		62.5 ✓
30		62.4 ✓
40		62.1 ✓
50		61.4 ✓
60		60.4 ✓
70		60.9 ✓
80		61.0 ✓
90		60.3 ✓
5900		62.1 ✓
10		62.4 ✓
20		61.4 ✓
30		61.4 ✓
40		61.6 ✓
50		61.1 ✓
60		61.1 ✓
70		60.7 ✓
80	59.2	~~69.2~~ ✓
90		
6000		
10		
20		
30		
40		
50		

Not on Base Line

B339 P54

N3540

E		
4060	550.3	✓
70	50.4	✓
80	50.4	✓
90	50.5	✓
4100	50.5	✓
10	50.6	✓
20	50.5	✓
30	50.5	✓
40	50.6	✓
50	50.8	✓
60	50.9	✓
70	50.9	✓
80	51.0	✓
90	50.9	✓
4200	51.0	✓
10	51.0	✓
20	51.1	✓
30	51.0	✓
40	51.1	✓
50	51.1	✓
60	51.2	✓
70	51.1	✓
80	51.3	✓
90	51.3	✓
4300	51.5	✓

Spot on Dam Sec W

✓

N3540

E			
4310		51.4	✓
20		~~51.3~~	✓
30		51.3	✓
40		51.4	✓
50		51.5	✓
60		51.5	✓
70	51.2	~~51.5~~ ~~51.2~~ ~~51.1~~	
80	51.6	~~51.6~~ ~~51.5~~	
90	51.7	51.7	
4400		51.8	✓
10		51.9	✓
20		52.11	✓
30		~~52.4~~ ~~52.6~~	✓
40		52.6	✓
50		52.2	✓
60		52.6	✓
70		52.3	✓
80		52.4	✓
90		52.3	✓
4500		52.0	✓
10		52.2	✓
20		52.4	✓
30		52.5	✓
40		52.5	✓
50		52.5	✓

Three sets of figures → → →

B341 - P 50 - 57

N3540

E		
4560	552.6	✓
70	52.7	✓
80	52.7	✓
90	52.8 53.2	✓
4600	~~52.1~~	✓
10	52.5	✓
20	52.8	✓
30	52.3	✓
40	52.7	✓
50	52.5	✓
60	52.9	✓
70	52.8	✓
80	52.8	✓
90	52.9	✓
4700	52.9	✓
10	52.6	✓
20	53.1	✓
30	53.1	✓
40	53.2	✓
50	53.8	✓
60	53.8	✓
70	53.9	✓
80	54.3	✓
90	54.8	✓
4800	55.4	✓

✓

N 3540

E	
4810	556.3 ✓
20	57.4 ✓
30	58.8 ✓
40	60.3 ✓
50	59.8 ✓
60	59.8 ✓
70	60.5 ✓
80	60.4 ✓
90	60.6 ✓
4900	60.8 ✓
10	60.6 ✓
20	59.8 ✓
30	59.7 ✓
40	59.5 ✓
50	59.0 ✓
60	58.8 ✓
70	59.7 ✓
80	59.8 ✓
90	60.1 ✓
5000 ✓	61.5 ✓
10	61.7 ✓
20	61.6 ✓
30	61.6 ✓
40	61.7 ✓
50	61.8 ✓

✓

N3570

E	
5060	56.8 ✓
70	61.9 ✓
80	61.8 ✓
90	61.6 ✓
5100	61.7 ✓
10	61.7 ✓
20	61.6 ✓
30	61.8 ✓
40	61.6 ✓
50	61.7 ✓
60	61.9 ✓
70	61.7 ✓
80	62.1 ✓
90	62.0 ✓
5200	61.9 ✓
10	61.9 ✓
20	62.2 ✓
30	62.1 ✓
40	62.2 ✓
50	62.3 ✓
60	62.5 ✓
70	62.5 ✓
80	62.5 ✓
90	62.5 ✓
5300	62.5 ✓

P31 Book 334

✓

N 3540

E		
5310		562.6 ✓
20		62.8 ✓
30		62.8 ✓
40		63.0 ✓
50		63.1 ✓
60		62.9 ✓
70		63.1 ✓
80		63.2 ✓
90		63.1 ✓
5400		63.2 ✓
10		63.2 ✓
20		63.5 ✓
30		63.5 ✓
40		63.6 ✓
50		63.7 ✓
60		63.9 ✓
70		63.7 ✓
80		63.5 ✓
90		63.6 ✓
5500		63.5 ✓
10		63.4 ✓
20		63.8 ✓
30		63.8 ✓
40		63.8 ✓
50	63.9	~~63.8~~ ✓

B 331 P 69

N 3540

E		
5560	63.8	✓
70	64.0	✓
80	63.7	✓
90	63.6	✓
5600	63.8	✓ ✓
10	63.7	✓
20	63.9	✓
30	63.9	✓
40	64.0	✓
50	63.9	✓
60	63.8	✓
70	63.7	✓
80	63.6	✓
90	63.5	✓
5700	63.7	✓
10	63.8	✓
20	63.4	✓
30	63.3	✓
40	63.3	✓
50	63.4	✓
60	63.8	✓
70	63.9	✓
80	63.3	✓
90	63.0	✓
5800	62.7	✓

Not on Base Line

N3540

E	
5810	562.3 ✓
20	62.4 ✓
30	62.2 ✓
40	61.8 ✓
50	60.2 ✓
60	60.5 ✓
70	60.7 ✓
80	60.4 ✓
90	60.6 ✓
5900	61.4 ✓
10	61.3 ✓
20	61.3 ✓
30	61.3 ✓
40	61.8 ✓
50	60.9 ✓
60	60.9 ✓
70	60.6 ✓

Shot on Dam Ck

N3550

E		
4060	549.9	✓
70	50.2	✓
80	50.4	✓
90	50.5	✓
4100	50.5	✓
10	50.5 ~~50.6~~	✓
20	50.5	✓
30	50.6	✓
40	50.5	✓
50	50.8	✓
60	50.8	✓
70	50.9	✓
80	50.9	✓
90	51.0	✓
4200	51.0	✓
10	51.0	✓
20	51.0	✓
30	51.2	✓
40	51.2	✓
50	51.2	✓ ✓
60	51.3	✓ ✓
70	51.2	✓ ✓
80	51.1	✓ ✓
90	51.2	✓ ✓
4300	51.2	✓ ✓

Next one down Sec W.

N3550

E		
4310	51.4	✓ ✓
20	51.5	✓ ✓
30	51.5	✓ ✓
40	51.5	✓ ✓
50	51.4	✓ ✓
60	51.5	✓ ✓
70	51.6	✓ ✓
80	51.6	✓ ✓
90	51.5	✓ ✓
4400	51.7	✓ ✓
10	51.7	✓ ✓
20	51.8	✓ ✓
30	51.8	✓ ✓
40	52.0	✓ ✓
50	51.8	✓ ✓
60	51.8	✓ ✓
70	51.8	✓ ✓
80	52.1	✓ ✓
90	52.1	✓ ✓
4500	52.1	✓ ✓
10	52.2	✓ ✓
20	52.3	✓ ✓
30	52.3	✓ ✓
40	52.4	✓ ✓
50	52.4	✓ ✓

N 3550

E		
4560	52.5	✓ ✓
70	52.5	✓ ✓
80	52.5	✓ ✓
90	52.3	✓ ✓
4600	~~52.4~~ 52.3	✓ ✓
10	52.7	✓ ✓
20	52.7	✓ ✓
30	52.6	✓ ✓
40	52.8	✓ ✓
50	52.8	✓ ✓
60	52.8	✓ ✓
70	52.8	✓ ✓
80	52.8	✓ ✓
90	52.8	✓ ✓
4700	53.0	✓ ✓
10	53.0	✓ ✓
20	53.0	✓ ✓
30	53.1	✓ ✓
40	53.0	✓ ✓
50	53.1	✓ ✓
60	53.0	✓ ✓
70	53.8	✓ ✓
80	54.0	✓ ✓
90	54.1	✓ ✓
4800	54.0	✓ ✓

N3550

E		
4810	554.0	
20	54.9	
	55.8	
30	~~55.0~~	
40	56.5	
50	57.6	
60	59.1	
70	59.1	
80	59.7	
90	59.8	
4900	59.0	
10	58.1	
20	57.9	
30	58.1	
40	57.9	
50	58.3	
60	60.6	
70	60.2	
80	60.9	
90	60.2	
5000	61.3	
10	61.5	
20	61.8	
30	61.7	
40	61.7	
50	61.9	

P. 16 Book 334

N3550

E		
5060	61.9	✓ ✓
70	61.8	✓ ✓
80	62.0	✓ ✓
90	61.9	✓ ✓
5100	62.0	✓ ✓
10	62.2	✓ ✓
20	62.1	✓ ✓
30	61.9	✓ ✓
40	62.0	✓ ✓
50	62.1	✓ ✓
60	61.9	✓ ✓
70	62.1	✓ ✓
80	61.9	✓ ✓
90	62.1	✓ ✓
5200	61.9	✓ ✓
10	62.0	✓ ✓
20	62.2	✓ ✓
30	62.2	✓ ✓
40	62.2	✓ ✓
50	62.3	✓ ✓
60	62.3	✓ ✓
70	62.4	✓ ✓
80	62.4	✓ ✓
90	62.5	✓ ✓
5300	62.5	✓ ✓

✓

N 3550

E		
5310	562.5	✓ ✓
20	62.7	✓ ✓
30	62.8	✓ ✓
40	63.0	✓ ✓
50	63.9	✓ ✓
60	63.2	✓ ✓
70	63.1	✓ ✓
80	63.1	✓ ✓
50	63.2	✓ ✓
5400	63.0	✓ ✓
10	63.1	✓ ✓
20	63.2	✓ ✓
30	63.2	✓ ✓
40	63.3	✓ ✓
50	63.4	✓ ✓
60	63.3	✓ ✓
70	63.4	✓ ✓
80	63.4	✓ ✓
90	63.5	✓ ✓
5500	63.7	✓ ✓
10	63.9	✓ ✓
20	63.5	✓ ✓
30	63.7	✓ ✓
40	63.9	✓ ✓
50	63.8	✓ ✓

✓

N 3550

E		
5560	563.6	✓ ✓
70	63.7	✓ ✓
80	63.8	✓ ✓
90	64.1	✓ ✓
5600	64.1	✓ ✓
10	63.6	✓
20	63.6	✓
30	63.6	✓
40	63.5	✓
50	63.1	✓
60	63.3	✓
70	63.3	✓
80	63.3	✓
90	63.2	✓
5700	63.4	✓
10	62.9	✓
20	63.0	✓
30	63.5	✓
40	63.9	✓
50	63.9	✓
60	63.4	✓
70	63.8	✓
80	63.2	✓
90	62.9	✓
5800	62.6	✓

Bottom Grav. Sta. #

N3550

E		
5810	62.2	✓
20	62.0	✓
30	61.0	✓
40	60.0	✓
50	60.6	✓
60	60.5	✓
70	60.4	✓
80	60.8	✓
90	61.1	✓
5900	61.3	✓
10	61.2	✓
20	61.4	✓
30	61.4	✓
40	61.4	✓
50	60.7	✓
60	60.6	✓
70	59.2	✓
80		
90		
6000		

Watson Dam Sec H

N3560

E	
4060	550.7 ✓
70	50.7 ✓
80	50.1 ✓
90	50.3 ✓
4100	50.3 ✓
10	50.4 ✓
20	50.6 ✓
30	50.5 ✓
40	50.4 ✓
50	50.4 ✓
60	50.5 ✓
70	50.8 ✓
80	50.9 ✓
90	50.9 ✓
4200	50.9 ✓
10	50.9 ✓
20	51.0 ✓
30	51.0 ✓
40	51.0 ✓
50	51.2 ✓ ✓
60	51.2 ✓ ✓
70	51.2 ✓ ✓
80	51.3 ✓ ✓
90	51.3 ✓ ✓
4300	51.3 ✓ ✓

Not over Dam Sta. 4+

✓

N3560

E		P.O.
4310	51.2	✓ ✓
20	51.3	✓ ✓
30	51.4	✓ ✓
40	51.5	✓ ✓
50	51.5	✓ ✓
60	51.6	✓ ✓
70	51.6	✓ ✓
80	51.6	✓ ✓
90	51.8	✓ ✓
4400	51.7	✓ ✓
10	51.7	✓ ✓
20	51.7	✓ ✓
30	51.8	✓ ✓
40	51.7	✓ ✓
50	51.9	✓ ✓
60	52.1	✓ ✓
70	52.1	✓ ✓
80	52.1	✓ ✓
90	52.0	✓ ✓
4500	52.1	✓ ✓
10	52.3	✓ ✓
20	52.2	✓ ✓
30	52.1	✓ ✓
40	52.3	✓ ✓
50	52.2	✓ ✓

N3560

E		P.O.G.
4560	552.2	✓ ✓
70	52.1	✓ ✓
80	52.4	✓ ✓
90	52.1	✓ ✓
4600	52.4	✓ ✓
10	52.0	✓ ✓
20	52.5	✓ ✓
30	52.5	✓ ✓
40	52.9	✓ ✓
50	52.8	✓ ✓
60	52.7	✓ ✓
70	52.9	✓ ✓
80	53.0	✓ ✓
90	53.0	✓ ✓
4700	53.0	✓ ✓
10	52.9	✓ ✓
20	53.1 ~~53.0~~	✓ ✓
30	53.2	✓ ✓
40	53.3	✓ ✓
50	53.2	✓ ✓
60	53.3	✓ ✓
70	53.3	✓ ✓
80	53.4	✓ ✓
90	53.2	✓ ✓
4800	53.9	✓ ✓

N3560

E			
4810		55.4.1	✓ ✓
20		57.1	✓ ✓
30		54.3	✓ ✓
40		55.9	✓ ✓
50		56.4	✓ ✓
60		52.9	✓ ✓
70		57.3	✓ ✓
80		58.0	✓ ✓
90		57.6	✓ ✓
4900		57.6	✓ ✓
10	58.1	~~58.9~~	✓ ✓
20		59.0	✓ ✓
30		60.5	✓ ✓
40		61.1	✓ ✓
50		61.3	✓ ✓
60		61.6	✓ ✓
70		61.7	✓ ✓
80		61.9	✓ ✓
90		61.7	✓ ✓
5000		61.7	✓ ✓
10		61.9	✓ ✓
20		61.9	✓ ✓
30		62.0	✓ ✓
40		62.1	✓ ✓
50		62.2	✓ ✓

B 334 P 1

N3560

E		
5060	62.3	✓ ✓
70	62.2	✓ ✓
80	62.2	✓ ✓
90	62.2	✓ ✓
5100	62.1	✓ ✓
10	62.0	✓ ✓
20	62.0	✓ ✓
30	62.3	✓ ✓
40	62.2	✓ ✓
50	62.2	✓ ✓
60	61.9	✓ ✓
70	61.8	✓ ✓
80	62.1	✓ ✓
90	62.4	✓ ✓
5200	62.2	✓ ✓
10	62.1	✓ ✓
20	62.2	✓ ✓
30	62.1	✓ ✓
40	62.1	✓ ✓
50	62.6	✓ ✓
60	62.4	✓ ✓
70	62.4	✓ ✓
80	62.4	✓ ✓
90	62.6	✓ ✓
5300	62.9	✓ ✓

✓

P 31 Bk 334

N3560

E

5310	563.0	✓ ✓
20	62.7	✓ ✓
30	62.8	✓ ✓
40	62.9	✓ ✓
50	62.9	✓ ✓
60	62.9	✓ ✓
70	62.9	✓ ✓
80	63.3	✓ ✓
90	63.3	✓ ✓
5400	63.4	✓ ✓
10	63.2	✓ ✓
20	63.1	✓ ✓
30	63.3	✓ ✓
40	63.2	✓ ✓
50	63.3	✓ ✓
60	63.2	✓ ✓
70	63.3	✓ ✓
80	63.7	✓ ✓
90	63.5	✓ ✓
5500	63.7	✓ ✓
10	63.5	✓ ✓
20	63.8	✓ ✓
30	63.8	✓ ✓
40	63.7	✓ ✓
50	63.6	✓ ✓

N3560

E		
5560	563.7	✓ ✓
70	63.6	✓ ✓
80	63.6	✓ ✓
90	63.6	✓ ✓
5600	63.6	✓ ✓
10	63.6	✓
20	63.5	✓
30	63.5	✓
40	63.6	✓
50	63.9	✓
60	63.5	✓
70	63.6	✓
80	63.9	✓
90	63.7	✓
5700	63.3	✓
10	63.6	✓
20	64.2	✓
30	64.2	✓
40	63.9	✓
50	63.7	✓
60	63.2	✓
70	63.0	✓
80	62.6	✓
90	62.6	✓
5800	61.9	✓

Not on Dam Sec. 4

N3560

E		
5810	561.0	✓
20	60.5	✓
30	60.7	✓
40	59.7	✓
50	59.8	✓
60	60.6	✓
70	61.3	✓
80	61.4	✓
90	61.7	✓
5900	61.6	✓
10	61.5	✓
20	61.7	✓
30	61.3	✓
40	60.8	✓
50	60.6	✓
60	59.0	✓
70		
80		
90		
6000		

Watson Dam Loc. H.

N3570

E		
4080	551.5	✓
90	50.9	✓
4100	50.2	✓
10	50.4	✓
20	50.2	✓
30	50.5	✓
40	50.6	✓
50	50.6	✓
60	50.4	✓
70	50.7	✓
80	50.6	✓
90	51.0	✓
4200	51.0	✓
10	50.9	✓
20	51.0	✓
30	51.0	✓
40	51.2	✓
50	51.1	✓ ✓
60	51.1	✓ ✓
70	51.1	✓ ✓
80	51.3	✓ ✓
90	51.4	✓ ✓
4300	51.5	✓ ✓
10	51.5	✓ ✓
20	51.5	✓ ✓

Plot on Dam Sec. 4

N3570

E		P.O.G.
4330	551.4	✓ ✓
40	51.5	✓ ✓
50	51.5	✓ ✓
60	51.5	✓ ✓
70	51.4	✓ ✓
80	51.7	✓ ✓
90	51.8	✓ ✓
4400	51.8	✓ ✓
10	52.0	✓ ✓
20	51.8	✓ ✓
30	52.0	✓ ✓
40	51.9	✓ ✓
50	52.0	✓ ✓
60	51.8	✓ ✓
70	52.1	✓ ✓
80	52.1	✓ ✓
90	52.2	✓ ✓
4500	52.2	✓ ✓
10	52.2	✓ ✓
20	52.0	✓ ✓
30	52.2	✓ ✓
40	52.2	✓ ✓
50	52.3	✓ ✓
60	52.4	✓ ✓
70	52.5	✓ ✓

N3570

E		P.O.C.
4580	552.3	✓ ✓
90	52.4	✓ ✓
4600	52.4	✓ ✓
10	52.7	✓ ✓
20	52.7	✓ ✓
30	52.6	✓ ✓
40	52.6	✓ ✓
50	52.8	✓ ✓
60	53.0	✓ ✓
70	53.0	✓ ✓
80	52.9	✓ ✓
90	52.9	✓ ✓
4700	53.1	✓ ✓
10	53.2	✓ ✓
20	53.2	✓ ✓
30	53.2	✓ ✓
40	53.1	✓ ✓
50	53.1	✓ ✓
60	53.2	✓ ✓
70	53.2	✓ ✓
80	53.3	✓ ✓
90	53.3	✓ ✓
4800	53.2	✓ ✓
10	53.0	✓ ✓
20	53.5	✓ ✓

N3570

E			
4830	553.9	✓	✓
40	54.0	✓	✓
50	54.4	✓	✓
60	56.0	✓	✓
70	55.5	✓	✓
80	56.9	✓	✓
90	57.5	✓	✓
4900	59.1	✓	✓
10	596	✓	✓
20	60.0	✓	✓
30	60.3	✓	✓
40	61.1	✓	✓
50	61.5	✓	✓
60	61.5	✓	✓
70	61.9	✓	✓
80	61.9	✓	✓
90	61.9	✓	✓
5000	62.1	✓	✓
10	62.4	✓	✓
20	62.3	✓	✓
30	62.3	✓	✓
40	62.4	✓	✓
50	62.4	✓	✓
60	62.4	✓	✓
70	62.4	✓	✓

N3570

E		
5080	562.5	✓✓
90	62.5	✓✓ ~~62.4~~
5100	62.4	✓✓
10	62.6	✓✓
20	62.4	✓✓
30	62.2	✓✓
40	62.3	✓✓
50	62.2	✓✓
60	62.4	✓✓
70	61.9	✓✓
80	62.2	✓✓
90	62.1	✓✓
5200	62.5	✓✓
10	62.3	✓✓
20	62.2	✓✓
30	62.2	✓✓
40	62.2	✓✓
50	62.3	✓✓
60	62.3	✓✓
70	62.6	✓✓
80	62.7	✓✓
90	62.8	✓✓
5300	62.4	✓✓
10	62.4	✓✓
20	62.9	✓✓ ✓

P.O. Box 334

N3570

E			
5330	62.7	✓	✓
40	62.7	✓	✓
50	63.0	✓	✓
60	63.1	✓	✓
70	63.1	✓	✓
80	63.1	✓	✓
90	63.1	✓	✓
5400	63.4	✓	✓
10	63.5	✓	✓
20	63.2	✓	✓
30	63.1	✓	✓
40	63.0	✓	✓
50	63.0	✓	✓
60	62.9	✓	✓
70	63.0	✓	✓
80	63.0	✓	✓
90	63.2	✓	✓
5500	63.0	✓	✓
10	63.2	✓	✓
20	63.3	✓	✓
30	63.5	✓	✓
40	63.7	✓	✓
50	63.7	✓	✓
60	63.6	✓	✓
70	63.9	✓	✓

✓

N3570

E		
5580	563.6	✓ ✓
90	63.5	✓ ✓
5600	63.7	✓ ✓
10	63.5	✓
20	63.8	✓
30	63.8	✓
40	64.0	✓
50	63.9	✓
60	63.9	✓
70	63.0	✓
80	63.0	✓
90	62.5	✓
5700	64.6	✓
10	64.3	✓
20	64.2	✓
30	64.0	✓
40	63.7	✓
50	63.2	✓
60	63.0	✓
70	62.6	✓
80	62.3	✓
90	61.5	✓
5800	60.7	✓
10	61.3	✓
20	60.5	✓

Not on Dam Loc. 4

N3570

E		
5830	560.0	✓
40	59.7	✓
50	61.3	✓
60	61.9	✓
70	61.8	✓
80	61.9	✓
90	61.8	✓
5900	61.6	✓
10	61.5	✓
20	61.5	✓
30	61.2	✓
40	61.0	✓
50	59.4	✓
60		
70		
80		
90		

Not on Dam Sec 14

N3580

E	
4100	551.3 ✓
10	51.3 ✓
20	51.3 ✓
30	51.3 ✓
40	51.3 ✓
50	50.9 ✓
60	50.5 ✓
70	50.8 ✓
80	50.6 ✓
90	50.5 ✓
4200	50.6 ✓
10	50.8 ✓
20	51.1 ✓
30	51.0 ✓
40	51.1 ✓
50	51.3 ✓
60	51.3 ✓
70	51.4 ✓
80	51.4 ✓
90	51.3 ✓
4300	51.4 ✓
10	51.5 ✓
20	51.5 ✓
30	51.5 ✓
40	51.7 ✓

Post sec. Dam Sec. A.

N3580

E

4350	551.8	✓
60	51.6	✓
70	51.6	✓
80	51.8	✓
90	51.9	✓
4400	51.9	✓
10	51.9	✓
20	51.9	✓
30	51.9	✓
40	51.8	✓
50	52.1	✓
60	52.0	✓
70	52.2	✓
80	52.0	✓
90	52.1	✓
4500	52.2	✓
10	52.3	✓
20	52.3	✓
30	52.3	✓
40	52.4	✓
50	52.3	✓
60	52.3	✓
70	52.3	✓
80	52.4	✓
90	52.3	✓

✓

N3580

E	
4600	552.8 ✓
10	52.8 ✓
20	52.6 ✓
30	52.9 ✓
40	53.0 ✓
50	52.9 ✓
60	52.9 ✓
70	53.0 ✓
80	53.0 ✓
90	53.1 ✓
4700	53.1 ✓
10	53.2 ✓
20	53.3 ✓
30	53.3 ✓
40	53.4 ✓
50	53.4 ✓
60	53.3 ✓
70	53.4 ✓
80	53.3 ✓
90	53.2 ✓
4800	53.3 ✓
10	53.2 ✓
20	53.2 ✓
30	53.3 ✓
40	53.4 ✓

✓

N3580

E	
4850	553.9
60	53.8
70	53.8
80	58.4
90	55.4
4900	57.0
10	57.7
20	58.6
30	59.8
40	59.7
50	60.5
60	60.6
70	61.7
80	61.8
90	61.9
5000	62.1
10	62.5
20	62.3
30	62.4
40	62.4
50	62.3
60	62.5
70	62.4
80	62.5
90	62.5

N3580

E		
5100		562.5 ✓
10		62.6 ✓
20		62.7 ✓
30		62.7 ✓
40		62.6 ✓
50		62.6 ✓
60		62.6 ✓
70		62.2 ✓
80		62.6 ✓
90		62.5 ✓
5200		62.5 ✓
10	62.4	~~62.5~~ ✓
20		62.6 ✓
30		62.6 ✓
40		62.3 ✓
50		62.6 ✓
60		62.7 ✓
70		62.5 ✓
80		62.5 ✓
90		62.5 ✓
5300		62.7 ✓
10		62.8 ✓
20		62.9 ✓
30		62.7 ✓
40		62.8 ✓

B 334 P 33

N 3580

E	
5350	62.8 ✓
60	62.7 ✓
70	62.8 ✓
80	62.8 ✓
90	63.2 ✓
5400	62.9 ✓
10	62.9 ✓
20	62.9 ✓
30	62.9 ✓
40	63.3 ✓
50	63.7 ✓
60	63.7 ✓
70	63.7 ✓
80	63.4 ✓
90	63.3 ✓
5500	63.2 ✓
10	63.4 ✓
20	63.3 ✓
30	63.2 ✓
40	63.1 ✓
50	63.2 ✓
60	63.4 ✓
70	63.4 ✓
80	63.5 ✓
90	63.5 ✓

N3580

E		
5600	63.4	✓
10	63.4	✓
20	63.5	✓
30	63.3	✓
40	63.2	✓
50	63.3	✓
60	63.4	✓
70	64.0	✓
80	64.7	✓
90	64.5	✓
5700	64.4	✓
10	64.0	✓
20	63.7	✓
30	63.5	✓
40	63.3	✓
50	63.0	✓
60	62.6	✓
70	61.8	✓
80	61.1	✓
90	60.6	✓
5800	61.5	✓
10	60.1	✓
20	60.2	✓
30	59.5 ~~69.5~~	✓
40	60.1	✓

Not on Drawn See X

B 339 P 38

N3580

E		
5850	561.5	✓
60	61.7	✓
70	61.9	✓
80	61.8	✓
90	61.6	✓
5900	61.7	✓
10	61.4	✓
20	61.5	✓
30	61.2	✓
40	60.3	✓

Not on Base Sta. H

N 3590

E		
4160	551.4	✓
70	51.6	✓
80	51.5	✓
90	51.4	✓
4200	51.2	✓
10	50.8	✓
20	51.0	✓
30	51.0	✓
40	51.2	✓
50	51.2	✓
60	51.3	✓
70	51.3	✓
80	51.4	✓
90	51.5	✓
4300	51.5	✓
10	51.5	✓
20	51.7	✓
30	51.7	✓
40	51.6	✓
50	51.5	✓
60	51.6	✓
70	51.8	✓
80	51.8	✓
90	51.9	✓
4400	51.8	✓

Station Dam [illegible]

N3590

E	
4410	51.8 ✓
20	51.8 ✓
30	52.0 ✓
40	52.1 ✓
50	52.2 ✓
60	52.1 ✓
70	52.2 ✓
80	52.1 ✓
90	52.2 ✓
4500	52.1 ✓
10	52.4 ✓
20	52.4 ✓
30	52.4 ✓
40	52.3 ✓
50	52.2 ~~52.3~~ ✓
60	52.4 ✓
70	52.6 ✓
80	52.6 ✓
90	52.7 ✓
4600	52.7 ✓
10	52.8 ✓
20	52.8 ✓
30	52.8 ✓
40	52.9 ✓
50	52.9 ✓

✓

N3590

E		
4660	552.9	✓
70	53.0	✓
80	53.1	✓
90	53.1	✓
4700	53.2	✓
10	53.2	✓
20	53.2	✓
30	53.4	✓
40	53.4	✓
50	53.3	✓
60	53.2	✓
70	53.3	✓
80	53.4	✓
90	53.4	✓
4800	53.5	✓
10	53.7	✓
20	53.4	✓
30	53.4	✓
40	53.2	✓
50	53.3	✓
60	53.6	✓
70	54.0	✓
80	53.8	✓
90	53.9	✓
4900	54.6	✓

N3590

E	
4910	55.2 ✓
20	56.0 ✓
30	57.1 ✓
40	57.7 ✓
50	58.2 ✓
60	59.8 ✓
70	60.1 ✓
80	60.7 ✓
90	61.0 ✓
5000	61.5 ✓
10	62.0 ✓
20	62.0 ✓
30	62.4 ✓
40	62.3 ✓
50	62.6 ✓
60	62.3 ✓
70	62.3 ✓
80	62.3 ✓
90	62.5 ✓
5100	62.5 ✓
10	62.6 ✓
20	62.6 ✓
30	62.8 ✓
40	63.0 ✓
50	62.8 ✓

N3590

E

5160	562.5 ✓
70	62.6 ✓
80	63.0 ✓
90	62.9 ✓
5200	62.8 ✓
10	62.8 ✓
20	62.9 ✓
30	63.0 ✓
40	62.8 ✓
50	62.8 ✓
60	62.9 ✓
70	62.8 ✓
80	62.9 ✓
90	62.9 ✓
5300	63.0 ✓
10	63.1 ✓
20	63.0 ✓
30	62.9 ✓
40	62.8 ✓
50	62.8 ✓
60	62.7 ✓
70	62.7 ✓
80	62.7 ✓
90	62.7 ✓
5400	62.9 ✓

N3530

E		
5410	562.8	✓
20	63.1	✓
30	62.9	✓
40	63.2	✓
50	63.1	✓
60	63.2	✓
70	63.4	✓
80	63.7	✓
90	63.7	✓
5500	63.7	✓
10	63.6	✓
20	63.8	✓
30	63.6	✓
40	63.5	✓
50	63.2	✓
60	63.3	✓
70	63.3	✓
80	63.2	✓
90	63.4	✓
5600	63.6	✓
10	63.6	✓
20	63.6	✓
30	63.6	✓
40	63.9	✓
50	64.4	✓

Bottom Base Sec. 4.

N3550

E		
5600	64.6	✓
70	64.7	✓
80	64.4	✓
90	64.1	✓
5700	~~63.9~~ 63.8	✓
10	63.7	✓
20	63.5	✓
30	63.0	✓
40	62.7	✓
50	62.0	✓
60	61.5	✓
70	61.2	✓
80	60.8	✓
90	61.3	✓
5800	60.1	✓
10	59.6	✓
20	59.5	✓
30	59.6	✓
40	62.2	✓
50	61.9	✓
60	61.8	✓
70	~~61.8~~ 61.7	✓
80	61.6	✓
90	61.7	✓
5900	61.8	✓

Notre Dame See. *

B337 P5

B337 P43

E

1135.30

59 10	561.3	✓	Norton Dam Sec. 11
20	61.2	✓	
30	60.4	✓	
40	57.3	✓	

N3600

E		
4190	5 51.5	✓
4200	51.9	✓
10	51.8	✓
20	51.3	✓
30	51.1	✓
40	51.1	✓
50	51.1	✓
60	51.1	✓
70	51.1	✓
80	51.0	✓
90	51.2	✓
4300	51.3	✓
10	51.5	✓
20	51.6	✓
30	51.8	✓
40	51.7	✓
50	51.8	✓
60	51.8	✓
70	51.8	✓
80	51.9	✓
90	52.0	✓
4400	51.9	✓
10	52.1	✓
20	52.0	✓
30	52.1	✓

Not over Base Sta. H.

N3600

E	
4440	552.1 ✓
50	52.1 ✓
60	52.2 ✓
70	52.2 ✓
80	52.2 ✓
90	52.3 ✓
4500	52.3 ✓
10	52.4 ✓
20	52.4 ✓
30	52.4 ✓
40	52.5 ✓
50	52.5 ✓
60	52.6 ✓
70	52.7 ✓
80	52.7 ✓
90	52.8 ✓
4600	52.7 ✓
10	52.8 ✓
20	52.6 ✓
30	52.7 ✓
40	53.0 ✓
50	53.0 ✓
60	52.9 ✓
70	52.8 ✓
80	53.1 ✓

N3600

E	
4690	552.7 ✓
4700	53.2 ✓
10	53.3 ✓
20	53.2 ✓
30	53.4 ✓
40	53.3 ✓
50	53.1 ✓
60	53.4 ✓
70	53.3 ✓
80	53.4 ✓
90	53.4 ✓
4800	53.3 ✓
10	53.3 ✓
20	53.6 ✓
30	53.5 ✓
40	53.6 ✓
50	53.6 ✓
60	53.7 ✓
70	53.7 ✓
80	53.6 ✓
90	54.1 ✓
4900	54.1 ✓
10	54.5 ✓
20	54.2 ✓
30	55.4 ✓

N36 00

E		
4940	56.3	✓
50	56.5	✓
60	56.2	✓
70	57.6	✓
80	58.3	✓
90	59.4	✓
5000	60.0	✓
10	60.7	✓
20	61.1	✓
30	61.3	✓
40	61.5	✓
50	61.9	✓
60	62.1	✓
70	62.3	✓
80	62.3	✓
90	62.0	✓
5100	62.0	✓
10	62.2	✓
20	62.4	✓
30	62.6	✓
40	62.6	✓
50	62.8	✓
60	62.9	✓
70	62.9	✓
80	63.1	✓

N3600

E		
5190	563.0	✓
5200	63-3	✓
10	63.2	✓
20	63.0	✓
30	62.9	✓
40	62.9	✓
50	63.0	✓
60	63.0	✓
70	63.0	✓
80	63.0	✓
90	62.8	✓
5300	62.8	✓
10	63.2	✓
20	63.1	✓
30	63.0	✓
40	62.8	✓
50	62.8	✓
60	62.8	✓
70	63.2	✓
80	63.0	✓
90	63.2	✓
5400	63.2	✓
10	63.1	✓
20	63.5	✓
30	63.5	✓

E	N3600	
5440	563.0	✓
50	63.0	✓
60	63.4	✓
70	63.3	✓
80	63.3	✓
90	63.4	✓
5500	63.4	✓
10	63.4	✓
20	63.3	✓
30	63.2	✓
40	63.4	✓
50	63.4	✓
60	63.6	✓
70	63.8	✓
80	63.8	✓
90	63.9	✓
5600	64.0	✓
10	64.3	✓
20	64.5	✓
30	64.8	✓
40	64.9	✓
50	65.0	✓
60	64.6	✓
70	64.5	✓
80	64.1	✓

Rock exc. base of H.

N3600

E

5690	563.5	✓
5700	63.4	✓
10	63.3	✓
20	62.7	✓
30	61.9	✓
40	61.5	✓
50	61.4	✓
60	61.1	✓
70	60.8	✓
80	60.1	✓
90	59.7	✓
5800	59.3	✓
10	59.7	✓
20	60.0	✓
30	62.2	✓
40	61.8	✓
50	61.6	✓
60	61.7	✓
70	61.4	✓
80	61.5	✓
90	62.0	✓
5900	61.4	✓
10	61.1	✓
20	60.6	✓
30	59.0	✓

Not on Base Sta. H.

N36 10

E	
4220	552.2 ✓
30	52.4 ✓
40	52.0 ✓
50	51.4 ✓
60	51.1 ✓
70	51.2 ✓
80	51.4 ✓
90	51.5 ✓
4300	51.5 ✓
10	51.5 ✓
20	51.6 ✓
30	51.8 ✓
40	51.7 ✓
50	51.8 ✓
60	51.8 ✓
70	51.8 ✓
80	51.8 ✓
90	51.9 ✓
4400	51.8 ✓
10	51.9 ✓
20	51.9 ✓
30	52.0 ✓
40	51.9 ✓
50	52.1 ✓
60	52.1 ✓

Bot on Drum Sec H

N3610

E			
4470		52.2	✓
80		52.1	✓
90		~~52.2~~ 52.3	✓
4500		52.3	✓
10		52.4	✓
20		52.0	✓
30		52.0	✓
40		52.2	✓
50		52.2	✓
60		52.2	✓
70		52.2	✓
80		52.5	✓
90	52.4	~~53.4~~	✓
4600		53.5	✓
10		52.7	✓
20		53.6	✓
30		53.7	✓
40		53.2	✓
50		53.3	✓
60		53.6	✓
70		53.4	✓
80		53.6	✓
90		53.4	✓
4700		53.3	✓
10		53.2	✓

B337 P41

N36 10

E		
4720	53.3	✓
30	53.3	✓
40	54.1	✓
50	54.0	✓
60	54.1	✓
70	54.1	✓
80	53.6	✓
90	53.7	✓
4800	54.0	✓
10	54.0	✓
20	53.6	✓
30	53.3	✓
40	53.5	✓
50	53.3	✓
60	53.2	✓
70	53.5	✓
80	53.6	✓
90	54.0	✓
4900	53.6	✓
10	54.1 ~~54.0~~	✓
20	54.1	✓
30	54.4	✓
40	54.8	✓
50	55.9	✓
60	56.2	✓

N3610

E		
4970	556.3	✓
80	55.8	✓
90	56.8	✓
5000	57.5	✓
10	59.3	✓
20	59.8	✓
30	60.6	✓
40	60.4	✓
50	60.4	✓
60	60.2	✓
70	61.0	✓
80	61.3	✓
90	61.6	✓
5100	61.3	✓
10	60.6	✓
20	61.5	✓
30	61.7	✓
40	61.6	✓
50	61.7	✓
60	61.8	✓
70	62.9	✓
80	61.7	✓
90	62.2	✓
5200	62.3	✓
10	62.2	✓

N3610

E			
5220		62.3	✓
30		62.4	✓
40		62.3	✓
50		62.9	✓
60		62.7	✓
70		62.9	✓
80		63.0	✓
90		63.0	✓
5300		62.8	✓
10		62.8	✓
20		62.8	✓
30		62.9	✓
40		63.0	✓
50		63.2	✓
60		63.2	✓
70		63.4	✓
80		63.2	✓
90		63.4	✓
5400		63.4	✓
10	63.2	~~63.4~~	✓
20		63.1	✓
30		63.3	✓
40		63.4	✓
50		63.2	✓
60		63.2	✓

B 33A PST

E	N3610	
5470	563.2	✓
80	63.6	✓
90	63.4	✓
5500	63.2	✓
10	63.0	✓
20	63.2	✓
30	63.5	✓
40	63.5	✓
50	63.5	✓
60	63.9	✓
70	64.0	✓
80	64.4	✓
90	65.1	✓
5600	65.6	✓ ✓
10	65.1	✓
20	65.2	✓
30	65.0	✓
40	64.6	✓
50	64.5	✓
60	64.3	✓
70	64.0	✓
80	63.6	✓
90	63.2	✓
5700	62.8	✓
10	62.2	✓

Sloton Dam Sec. H

N3610

E	
5720	561.7 ✓
30	60.4 ✓
40	61.5 ✓
50	61.9 ✓
60	60.7 ✓
70	59.9 ✓
80	59.7 ✓
90	59.9 ✓
5800	60.1 ✓
10	60.2 ✓
20	61.9 ✓
30	61.5 ✓
40	61.5 ✓
50	61.5 ✓
60	61.5 ✓
70	61.5 ✓
80	61.7 ✓
90	61.3 ✓
5900	61.5 ✓
10	60.5 ✓
20	59.3 ✓

Not on Base Sec. H.

N3620

E	
4250	52.8 ✓
60	52.7 ✓
70	52.4 ✓
80	51.8 ✓
90	51.4 ✓
4300	51.4 ✓
10	51.7 ✓
20	51.7 ✓
30	51.6 ✓
40	51.6 ✓
50	51.6 ✓
60	51.6 ✓
70	51.6 ✓
80	51.5 ✓
90	51.5 ✓
4400	51.6 ✓
10	51.5 ✓
20	51.6 ✓
30	51.8 ✓
40	51.8 ✓
50	51.8 ✓
60	51.9 ✓
70	51.8 ✓
80	52.0 ✓
90	52.2 ✓

N 3620

E		
4500		552.2 ✓
10	52.2	~~52.3~~ ✓
20		52.7 ✓
30		52.9 ✓
40		52.9 ✓
50		53.0 ✓
60		53.0 ✓
70		53.5 ✓
80		53.7 ✓
90		54.0 ✓
4600		54.3 ✓
10		54.C ✓
20		54.3 ✓
30		54.3 ✓
40		54.C ✓
50		~~54.6~~ ✓
60		54.C ✓
70		54.7 ✓
80		54.8 ✓
90		54.7 ✓
4700		~~54.4~~ ✓
10		~~54.4~~ ✓
20		54.0 ✓
30		53.9 ✓
40		53.9 ✓

B 337 P 47

N3620

E	
4750	53.6 ✓
60	54.1 ✓
70	54.5 ✓
80	54.4 ✓
90	54.2 ✓
4800	54.0 ✓
10	54.0 ✓
20	54.3 ✓
30	54.4 ✓
40	54.3 ✓
50	53.5 ✓
60	53.2 ✓
70	53.3 ✓
80	53.5 ✓
90	53.6 ✓
4900	53.8 ✓
10	54.0 ✓
20	53.9 ✓
30	54.4 ✓
40	54.6 ✓
50	54.6 ✓
60	55.7 ✓
70	56.0 ✓
80	55.9 ✓
90	56.1 ✓

✓

N3620

E

N3620

E	
5000	56.3 ✓
10	56.9 ✓
20	57.2 ✓
30	58.3 ✓
40	58.3 ✓
50	58.8 ✓
60	59.7 ✓
70	57.9 ✓
80	57.7 ✓
90	57.5 ✓
5100	57.5 ✓
10	57.4 ✓
20	57.6 ✓
30	57.8 ✓
40	57.7 ✓
50	57.8 ✓
60	57.7 ✓
70	61.9 ✓
80	58.5 ✓
90	58.9 ✓
5200	59.9 ✓
10	61.0 ✓
20	61.7 ✓
30	62.0 ✓
40	61.7 ✓

N3620

E

5250		562.0	✓
60		62.3	✓
70		62.2	✓
80		61.2	✓
90		62.2	✓
5300		62.2	✓
10		62.4	✓
20		62.7	✓
30		63.0	✓
40		63.1	✓
50		63.1	✓
60		63.1	✓
70		63.2	✓
80		63.2	✓
90		63.4	✓
5400		63.5	✓
10		63.3	✓
20	63.2	~~63.3~~	✓
30		63.5	✓
40		63.2	✓
50		63.7	✓
60		63.7	✓
70	63.2	~~63.3~~	✓
80		63.3	✓
90		63.6	✓

B334 P56

B334 P61

N 36 20

E	
5500	63.7 ✓
10	63.9 ✓
20	64.3 ✓
30	63.4 ✓
40	64.7 ✓
50	64.8 ✓
60	65.0 ✓
70	65.0 ✓
80	65.2 ✓
90	65.4 ✓
5600	65.0 ✓
10	65.0 ✓
20	64.8 ✓
30	64.5 ✓
40	64.3 ✓
50	64.4 ✓
60	64.1 ✓
70	63.5 ✓
80	63.2 ✓
90	62.5 ✓
5700	61.9 ✓
10	61.4 ✓
20	61.1 ✓
30	62.3 ✓
40	61.9 ✓

Not in Dam. See H.

N3620

E		
57 50	60.7	✓
60	59.3	✓
70	59.5	✓
80	59.5	✓
90	59.8	✓
5800	59.7	✓
10	61.5	✓
20	61.5	✓
30	61.6	✓
40	61.4	✓
50	61.4	✓
60	61.4	✓
70	61.8	✓
80	61.6	✓
90	60.9	✓
5900	60.5	✓
10	59.0 ~~69.0~~	✓
20		
30		
40		
50		
60		
70		
80		
90		

Not in Base Sec. 4.

B 339 P 47

N3630

E		
4280	55.0	✓ ✓
90	53.6	✓ ✓
4300	52.3	✓ ✓
10	53.5	✓ ✓
20	52.1	✓ ✓
30	52.3	✓ ✓
40	51.9	✓ ✓
50	52.9	✓ ✓
60	53.9	✓ ✓
70	53.8	✓ ✓
80	54.2	✓ ✓
90	53.7	✓ ✓
4400	52.8	✓ ✓
10	53.3	✓ ✓
20	52.3	✓ ✓
30	53.8	✓ ✓
40	54.0	✓ ✓
50	54.3	✓ ✓
60	54.5	✓ ✓
70	54.6	✓ ✓
80	54.5	✓ ✓
50	54.6	✓ ✓
4500	55.2	✓ ✓
10	54.6	✓ ✓
20	55.3	✓ ✓

N3C 30

E			
4530	554.7	✓	✓
40	54.8	✓	✓
50	55.0	✓	✓
60	56.4	✓	✓
70	56.4	✓	✓
80	57.6	✓	✓
90	57.2	✓	✓
4600	57.1	✓	✓
10	57.7	✓	✓
20	58.4	✓	✓
30	57.7	✓	✓
40	56.9	✓	✓
50	57.3	✓	✓
60	57.7	✓	✓
70	55.7	✓	✓
80	55.6	✓	✓
90	55.1	✓	✓
4700	55.2	✓	✓
10	56.2	✓	✓
20	55.3	✓	✓
30	54.4	✓	✓
40	54.3	✓	✓
50	54.0	✓	✓
60	53.6	✓	✓
70	53.6	✓	✓

N3630

E			
4780		553.7	✓ ✓
90		54.2	✓ ✓
4800		54.1	✓ ✓
10		54.3	✓ ✓
20		54.3	✓ ✓
30		54.4	✓ ✓
40		54.4	✓ ✓
50		54.3	✓ ✓
60		54.3	✓ ✓
70		53.4	✓ ✓
80		53.5	✓ ✓
90		53.6	✓ ✓
4900		53.9	✓ ✓
10		54.0	✓ ✓
20		53.8	✓ ✓
30		54.1	✓ ✓
40		54.4	✓ ✓
50		54.4	✓ ✓
60		54.7	✓ ✓
70		55.0	✓ ✓
80		55.9	✓ ✓
90		56.0	✓ ✓
5000	56.5	~~56.0~~	✓ ✓
10		56.3	✓ ✓
20		56.6	✓ ✓

B. 334 P. 10

N3630

E			
5030		56.6	✓ ✓
40		56.6	✓ ✓
50		57.0	✓ ✓
60		57.1	✓ ✓
70		57.2	✓ ✓
80		57.3	✓ ✓
90		57.4	✓ ✓
5100		57.5	✓ ✓
10		57.4	✓ ✓
20		57.8	✓ ✓
30		57.8	✓ ✓
40		58.2	✓ ✓
50		58.4	✓ ✓
60		58.6	✓ ✓
70		58.2	✓ ✓
80		59.0	✓ ✓
90		58.9	✓ ✓
5200		58.5	✓ ✓
10		59.0	✓ ✓
20		59.3	✓ ✓
30		60.2	✓ ✓
40		60.5	✓ ✓
50		60.5	✓ ✓
60		62.3	✓ ✓
70		59.8	✓ ✓

N3630

E			
5280	5	60.0	✓ ✓
90		60.5	✓ ✓
5300		60.6	✓ ✓
10		60.9	✓ ✓
20		61.6	✓ ✓
30		62.3	✓ ✓
40		62.4	✓ ✓
50		62.6	✓ ✓
60		63.0	✓ ✓
70		62.6	✓ ✓
80		62.8	✓ ✓
90		62.8	✓ ✓
5400		62.8	✓ ✓
10		62.9	✓ ✓
20		63.1	✓ ✓
30		63.2	✓ ✓
40		63.1	✓ ✓
50		63.4	✓ ✓
60		63.5	✓ ✓
70		63.5	✓ ✓
80		63.9	✓ ✓
90		64.1	✓ ✓
5500		64.1	✓ ✓
10		64.2	✓ ✓
20		64.4	✓ ✓

N 3630

E		
5530	64.8	✓ ✓
40	65.0	✓ ✓
50	65.3	✓ ✓
60	65.4	✓ ✓
70	64.9	✓ ✓
80	65.5	✓ ✓
90	65.5	✓ ✓
5600	64.8	✓ ✓
10	64.7	✓
20	64.2	✓
30	64.3	✓
40	64.1	✓
50	63.9	✓
60	63.2	✓
70	62.8	✓
80	62.1	✓
90	61.3	✓
5700	61.2	✓
10	61.1	✓
20	61.7	✓
30	61.7	✓
40	60.1	✓
50	59.3	✓
60	59.7	✓
70	59.7	✓

All Elev. that is used on Dam Sections are ok (CBK is this Book)

Not on Dam See H.

Cont in #367

80

NE

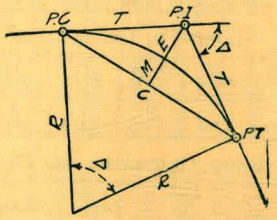
N3630

5780	559.5	✓
90	60.3	✓
5800	62.0	✓
10	61.7	✓
20	61.5	✓
30	61.4	✓
40	61.5	✓
50	61.3	✓
60	61.7	✓
70	61.5	✓
80	61.2	✓
90	60.6	✓
5900	59.1	✓

Not on Same Sht.

Cont. in F.Book #367

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius=R=$\frac{50}{\text{sin. } D/2}$ (1) Degree of Curve=D and sin. $\frac{D}{2}=\frac{50}{R}$ (2)

Tangent=T=R tan $\frac{\Delta}{2}$ (3) Length of Curve=L=100$\frac{\Delta}{D}$ (4)

Middle ordinate=M= R(1—cos. $\frac{\Delta}{2}$) (5) =R vers $\frac{\Delta}{2}$ (6)

External=E=T tan $\frac{\Delta}{4}$- (7) =R÷cos.$\frac{\Delta}{2}$—R (8)=R exsec $\frac{\Delta}{2}$ (9)

Long Chord=C=2 R sin.$\frac{\Delta}{2}$ (10) Δ=Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157+45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 (54.50÷100)²=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus (54.50)²÷(2 x 688.26)=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′+8° 20′÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=91.27 and from Table V correction=.10 or E=91.37 ft. Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and÷42=5.5 or D=5° 30′.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	25.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9+(20—16)÷2 or 2 ft. added to 41.9 =43.9. For slopes of 1 on 1 see inside of front cover.

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