

W
371

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway for Single Track Embankment. Side Slopes 1 on 1.

H	0 JAN 1 1985										H
	.4	.5	.6	.7	.8	.9					
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 $30.6 + (20 - 16) \times 2$ or 2 ft. added to $30.6 = 32.6$. For slopes of 1 on $1\frac{1}{2}$ see inside of back cover.

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N 4260 to N 4630

1-79

E	N 4260 Elev.	P.O.C.
4460	616.4	✓
70	14.3	✓
80	17.6	✓
90	20.0	✓
4500	223	✓
10	238	✓
20	252	✓
30	263	✓
40	282	✓
50	288	✓
60	301	✓
70	312	✓
80	318	✓
90	311	✓
4600	315	✓
10	382	✓
20	439	✓
30	510	✓
40	559	✓
50	609	✓
60	66.1	✓
70	707	✓
80	748	✓
90	797	✓
4700	6834	✓

U.S.G.S. Datum -

N 4260

1

E	P.O.C.
4710	687.8 ✓ Copied from
20	91.3 ✓ Original detail
30	95.9 ✓ Paper sheet
40	701.0 ✓ 5/12/32
50	060 ✓ H.X.N.
60	093 ✓ N.C.
70	14.3 ✓
80	20.1 ✓
90	28.0 ✓
4800	325 ✓
10	357 ✓
20	422 ✓
30	48.1 ✓
40	53.3 ✓
50	58.2 ✓
60	69.2 ✓
70	74.6 ✓
80	77.8 ✓
90	82.3 ✓
4900	87.8 ✓
10	95.0 ✓
20	799.7 ✓
30	801.9 ✓
40	038 ✓
50	804.6 ✓

N 4260

F	ROC
4960	805.0 ✓
70	03.8 ✓
80	02.3 ✓
90	02.0 ✓
5000	800.0 ✓
10	798.6 ✓
20	96.9 ✓
30	94.2 ✓
40	89.3 ✓
50	86.6 ✓
60	84.0 ✓
70	82.3 ✓
80	76.2 ✓
90	71.6 ✓
5100	67.1 ✓
10	61.5 ✓
20	56.1 ✓
30	53.1 ✓
40	56.1 ✓
50	57.8 ✓
60	58.3 ✓
70	56.1 ✓
80	52.4 ✓
90	48.8 ✓
5200	749.0 ✓

N 4260

F	
5210	750.0 ✓
20	17.9 ✓
30	16.9 ✓
40	15.9 ✓
50	38.7 ✓
60	40.7 ✓
70	39.6 ✓
80	36.1 ✓
90	31.8 ✓
5300	28.4 ✓
10	23.6 ✓
20	16.7 ✓
30	09.3 ✓
40	07.3 ✓
50	12.5 ✓
60	18.2 ✓
70	21.7 ✓
80	20.8 ✓
90	28.1 ✓
5400	29.6 ✓
10	32.2 ✓
20	34.2 ✓
30	36.1 ✓
40	36.6 ✓
50	736.7 ✓

Original Grounds Checked. Plotting as shown by 9-11-34 CBH
for April 1935

2

E
 5460
 70
 80
 90
 5500
 10
 20
 30
 40
 50
 60
 70
 80
 90
 5600

N 4260

7355
 355
 30.1
 244
 20.1
 09.7
 13.1
 27.0
 35.9
 42.0
 42.9
 42.0
 41.2
 39.3
 7430

200

N 4270

3

E
 4460
 70
 80
 90
 4500
 10
 20
 30
 40
 50
 60
 70
 80
 90
 4600
 10
 20
 30
 40
 50
 60
 70
 80
 90
 4700

614.5 ✓
 13.5 ✓
 19.0 ✓
 21.9 ✓
 24.4 ✓
 26.3 ✓
 27.6 ✓
 28.9 ✓
 30.2 ✓
 32.4 ✓
 33.9 ✓
 34.7 ✓
 36.0 ✓
 34.4 ✓
 33.0 ✓
 37.7 ✓
 43.9 ✓
 51.8 ✓
 54.1 ✓
 58.9 ✓
 64.4 ✓
 69.9 ✓
 74.6 ✓
 79.2 ✓
 683.1 ✓

№4270

E

4710	687.9	✓
20	91.0	✓
30	96.0	✓
40	701.2	✓
50	05.3	✓
60	09.4	✓
70	13.6	✓
80	20.9	✓
90	26.4	✓
4800.	32.7	✓
10	36.8	✓
20	41.3	✓
30	47.9	✓
40	52.0	✓
50	55.7	✓
60	67.2	✓
70	71.9	✓
80	76.6	✓
90	81.3	✓
4900	83.6	✓
10	91.6	✓
20	797.4	✓
30	801.7	✓
40	03.4	✓
50	804.4	✓

№4270.

E

4960	805.0	✓
70	05.1	✓
80	04.0	✓
90	02.2	✓
5000.	02.2	✓
10	801.6	✓
20	799.5	✓
30	97.3	✓
40	94.0	✓
50	90.3	✓
60	87.8	✓
70	83.9	✓
80	79.2	✓
90	74.6	✓
5100.	69.7	✓
10	62.8	✓
20	61.6	✓
30	58.6	✓
40	61.0	✓
50	62.4	✓
60	61.8	✓
70	58.5	✓
80	57.1	✓
90	57.2	✓
5200.	758.0	✓

E	
5210	755.7 ✓
20	55.0 ✓
30	53.2 ✓
40	49.9 ✓
50	46.8 ✓
60	47.2 ✓
70	46.0 ✓
80	41.2 ✓
90	38.3 ✓
5300	34.7 ✓
10	28.4 ✓
20	20.6 ✓
30	15.7 ✓
40	09.0 ✓
50	18.6 ✓
60	21.8 ✓
70	27.5 ✓
80	29.6 ✓
90	32.6 ✓
5400	33.9 ✓
10	36.9 ✓
20	38.9 ✓
30	41.0 ✓
40	41.9 ✓
50	741.8 ✓

E	F.O.
5460	741.5 ✓
70	39.5 ✓
80	35.7 ✓
90	29.6 ✓
5500	24.9 ✓
10	18.5 ✓
20	20.0 ✓
30	27.4 ✓
40	34.2 ✓
50	46.6 ✓
60	48.5 ✓
70	48.9 ✓
80	47.4 ✓
90	46.4 ✓
5600.	748.5 ✓

E			
4460	619.5	✓	
70	19.0	✓	
80	^{20.1} 21.1	✓	✓
90	22.8	✓	
4500	25.9	✓	
10	27.7	✓	
20	29.8	✓	
30	31.3	✓	
40	33.7	✓	
50	35.0	✓	
60	37.0	✓	
70	37.8	✓	
80	36.6	✓	
90	38.3	✓	
4600	37.4	✓	
10	36.5	✓	
20	42.0	✓	
30	47.5	✓	
40	53.8	✓	
50	57.5	✓	
60	63.9	✓	
70	68.9	✓	
80	74.3	✓	
90	79.5	✓	
4700	683.1	✓	

E			
4710	686.6	✓	
20	91.3	✓	
30	95.4	✓	
40	701.0	✓	
50	04.6	✓	
60	09.6	✓	
70	14.8	✓	
80	21.6	✓	
90	25.9	✓	
4800	30.0	✓	
10	36.9	✓	
20	42.5	✓	
30	46.5	✓	
40	51.0	✓	
50	56.3	✓	
60	62.2	✓	
70	69.6	✓	
80	74.7	✓	
90	79.2	✓	
4900	83.1	✓	
10	88.4	✓	
20	795.7	✓	
30	800.8	✓	
40	02.1	✓	
50	803.3	✓	

N 4280

E			
1960	804.7	✓	
70	06.4	✓	
80	05.6	✓	
90	04.6	✓	
5000	03.9	✓	
10	02.8	✓	
20	801.5	✓	
30	799.9	✓	
40	97.0	✓	
50	94.3	✓	
60	90.9	✓	
70	86.0	✓	
80	83.8	✓	
90	78.2	✓	
5100	73.4	✓	
10	70.3	✓	
20	68.4	✓	
30	65.4	✓	
40	66.5	✓	
50	66.3	✓	
60	64.9	✓	
70	61.4	✓	
80	64.1	✓	
90	63.6	✓	
5200	762.9	✓	

N 4280

7

E			
5210	761.9	✓	
20	62.9	✓	
30	58.7	✓	
40	53.2	✓	
50	53.3	✓	
60	51.6	✓	
70	50.2	✓	
80	47.1	✓	
90	45.0	✓	
5300	39.7	✓	
10	33.8	✓	
20	26.6	✓	
30	18.6	✓	
40	14.9	✓	
50	22.0	✓	
60	26.9	✓	
70	31.4 31.5	✓	
80	29.1	✓	
90	37.4	✓	
5400	38.7	✓	
10	41.8	✓	
20	43.3	✓	
30	45.7	✓	
40	46.8	✓	
50	74.5	✓	

N 4280

E	F ₀
5460	748.6 ✓
70	46.8 ✓
80	42.7 ✓
90	36.4 ✓
5500	29.9 ✓
10	25.1 ✓
20	23.7 ✓
30	27.9 ✓
40	43.3 ✓
50	50.4 ✓
60	55.8 ✓
70	54.1 ✓
80	53.0 ✓
90	52.0 ✓
5600	751.6 ✓

N 4290

8

E	F ₀
4460	622.9 ✓
70	21.4 ✓
80	21.1 ✓
90	24.4 ✓
4500	27.3 ✓
10	29.6 ✓
20	31.5 ✓
30	33.9 ✓
40	36.2 ✓
50	38.3 ✓
60	39.5 ✓
70	40.8 ✓
80	41.7 ✓
90	41.1 ✓
4600	42.3 ✓
10	42.7 ✓
20	41.2 ✓
30	44.5 ✓
40	51.8 ✓
50	57.0 ✓
60	63.2 ✓
70	68.0 ✓
80	74.3 ✓
90	79.2 ✓
4700	682.1 ✓

N 4290

F			
47	10	684.9	✓
	20	89.6	✓
	30	94.9	✓
	40	699.5	✓
	50	705.8	✓
	60	10.9	✓
	70	15.6	✓
	80	20.5	✓
	90	25.4	✓
48	00	29.4	✓
	10	35.7	✓
	20	42.3	✓
	30	47.0	✓
	40	51.8	✓
	50	55.7	✓
	60	60.5	✓
	70	66.3	✓
	80	72.0	✓
	90	76.7	✓
49	00	80.3	✓
	10	90.4	✓
	20	95.3	✓
	30	797.2	✓
	40	800.8	✓
	50	802.1	✓

N 4290

9

F			
49	60	804.0	✓
	70	06.8	✓
	80	06.5	✓
	90	07.6	✓
50	00	08.8	✓
	10	08.2	✓
	20	06.4	✓
	30	03.0	✓
	40	800.0	✓
	50	797.3	✓
	60	92.6	✓
	70	91.2	✓
	80	86.4	✓
	90	81.2	✓
51	00	78.9	✓
	10	78.7	✓
	20	74.6	✓
	30	71.5	✓
	40	73.6	✓
	50	71.4	✓
	60	69.9	✓
	70	67.7	✓
	80	67.8	✓
	90	69.2	✓
52	00	768.5	✓

N 4290

F.O.

F	F.O.
5210	768.2 ✓
20	66.1 ✓
30	61.0 ✓
40	59.0 ✓
50	60.2 ✓
60	57.3 ✓
70	55.5 ✓
80	52.4 ✓
90	50.3 ✓
5300	43.5 ✓
10	37.1 ✓
20	30.3 ✓
30	20.7 ✓
40	13.9 ✓
50	18.4 ✓
60	29.9 ✓
70	37.0 ✓
80	40.7 ✓
90	43.4 ✓
5400	44.8 ✓
10	27.5 ✓
20	28.6 ✓
30	49.2 ✓
40	54.4 ✓
50	753.7 ✓

N 4290

F.O.

10

F	F.O.
5460	752.6 ✓
70	50.5 ✓
80	46.4 ✓
90	43.2 ✓
5500	36.4 ✓
10	25.7 ✓
20	26.4 ✓
30	33.8 ✓
40	42.9 ✓
50	53.5 ✓
60	60.1 ✓
70	60.8 ✓
80	60.9 ✓
90	57.5 ✓
5600	57.4 ✓

N 4300

E

4460	624.3	✓
70	238	✓
80	20.3	✓
90	25.2	✓
4500	28.1	✓
10	30.5	✓
20	33.5	✓
30	36.5	✓
40	39.5	✓
50	40.8	✓
60	43.1	✓
70	44.4	✓
80	45.0	✓
90	45.5	✓
4600	46.6	✓
10	46.5	✓
20	45.4	✓
30	42.9	✓
40	50.5	✓
50	55.9	✓
60	61.0	✓
70	67.1	✓
80	72.8	✓
90	78.4	✓
4700	681.7	✓

N 4300

11

E

4710	684.7	✓
20	88.5	✓
30	94.0	✓
40	698.9	✓
50	704.7	✓
60	09.6	✓
70	15.2	✓
80	19.5	✓
90	26.0	✓
4800	29.6	✓
10	32.5	✓
20	40.8	✓
30	46.2	✓
40	51.8	✓
50	55.7	✓
60	60.5	✓
70	65.7	✓
80	69.9	✓
90	74.6	✓
4900	79.8	✓
10	86.7	✓
20	90.7	✓
30	94.9	✓
40	97.3	✓
50	801.2	✓

E

N 4300

4960	803.5 ✓
70	06.4 ✓
80	08.2 ✓
90	09.9 ✓
5000	10.6 ✓
10	11.3 ✓
20	09.8 ✓
30	08.3 ✓
40	804.9 ✓
50	799.1 ✓
60	97.1 ✓
70	94.3 ✓
80	90.9 ✓
90	86.5 ✓
5100	⁸⁵⁶ 85.5 ✓
10	83.6 ✓
20	80.7 ✓
30	77.6 ✓
40	80.1 ✓
50	77.8 ✓
60	74.6 ✓
70	72.9 ✓
80	75.0 ✓
90	74.9 ✓
5200	774.2 ✓

p. 200

~~or 05.2~~

N 4300

12

E

5210	773.2 ✓
20	70.0 ✓
30	67.0 ✓
40	68.4 ✓
50	66.3 ✓
60	64.4 ✓
70	59.0 ✓
80	58.1 ✓
90	55.9 ✓
5300	50.5 ✓
10	44.9 ✓
20	39.4 ✓
30	30.5 ✓
40	20.9 ✓
50	28.9 ✓
60	35.5 ✓
70	41.5 ✓
80	46.4 ✓
90	49.5 ✓
5400	51.1 ✓
10	54.3 ✓
20	53.8 ✓
30	56.3 ✓
40	59.3 ✓
50	759.4 ✓

Original Ground under Spoil Area
It is shown by G.B.M.

N 4300

E	Fo.
5460	757.2 ✓
70	56.0 ✓
80	53.0 ✓
90	48.3 ✓
5500	43.5 ✓
10	38.0 ✓
20	30.1 ✓
30	40.6 ✓
40	49.2 ✓
50	56.5 ✓
60	66.2 ✓
70	66.6 ✓
80	65.5 ✓
90	63.1 ✓
5600	63.3 ✓

N 4310

13

E	Elev.
4460	626.0 ✓
70	25.8 ✓
80	23.9 ✓
90	24.4 ✓
4500	28.4 ✓
10	31.6 ✓
20	34.9 ✓
30	38.5 ✓
40	39.9 ✓
50	42.5 ✓
60	45.0 ✓
70	46.5 ✓
80	47.6 ✓
90	48.4 ✓
4600	49.5 ✓
10	49.7 ✓
20	49.2 ✓
30	49.5 ✓
40	48.4 ✓
50	51.5 ✓
60	59.8 ✓
70	64.8 ✓
80	69.9 ✓
90	76.7 ✓
4700	680.0 ✓

E	
4710	683.9 ✓
20	87.0 ✓
30	93.0 ✓
40	697.2 ✓
50	703.1 ✓
60	08.2 ✓
70	14.4 ✓
80	19.0 ✓
90	24.0 ✓
4800	28.5 ✓
10	33.8 ✓
20	38.7 ✓
30	45.5 ✓
40	50.2 ✓
50	56.0 ✓
60	60.3 ✓
70	64.6 ✓
80	68.5 ✓
90	74.9 ✓
4900	78.5 ✓
10	84.7 ✓
20	89.6 ✓
30	93.2 ✓
40	796.7 ✓
50	800.6 ✓

E	
4960	803.3 ✓
70	04.5 ✓
80	11.5 ✓
90	12.4 ✓
5000	12.6 ✓
10	13.5 ✓
20	13.3 ✓
30	11.5 ✓
40	09.1 ✓
50	03.7 ✓
60	800.3 ✓
70	797.3 ✓
80	93.8 ✓
90	93.6 ✓
5100	92.6 ✓
10	88.8 ✓
20	86.4 ✓
30	82.9 ✓
40	84.5 ✓
50	82.7 ✓
60	79.2 ✓
70	77.0 ✓
80	78.9 ✓
90	78.8 ✓
5200	779.4 ✓

NA310

E	
5210	777.5 ✓
20	71.7 ✓
30	73.5 ✓
40	74.4 ✓
50	73.9 ✓
60	72.6 ✓
70	67.3 ✓
80	64.0 ✓
90	62.0 ✓
5300	55.8 ✓
10	49.6 ✓
20	45.0 ✓
30	34.5 34.0 ✓
40	27.5 ✓
50	32.2 ✓
60	40.4 ✓
70	45.6 ✓
80	51.3 ✓
90	55.0 ✓
5400	57.3 ✓
10	58.4 ✓
20	62.3 ✓
30	62.6 ✓
40	64.2 ✓
50	763.7 ✓

N4310

15

E	Elev.
5460	763.6 ✓
70	61.4 ✓
80	56.7 ✓
90	54.7 ✓
5500	49.3 ✓
10	42.0 ✓
20	42.2 ✓
30	49.2 ✓
40	54.5 ✓
50	63.6 ✓
60	70.8 ✓
70	72.1 ✓
80	70.3 ✓
90	68.0 ✓
5600	767.2 ✓

E

N 4320

Elev.

4460	627.4	✓
70	28.0	✓
80	27.0	✓
90	24.2	✓
4500	28.5	✓
10	33.7	✓
20	36.8	✓
30	39.3	✓
40	42.2	✓
50	44.4	✓
60	47.8	✓
70	48.8	✓
80	49.8	✓
90	51.4	✓
4600	52.6	✓
10	52.7	✓
20	52.7	✓
30	54.7	✓
40	55.9	✓
50	56.1	✓
60	57.1	✓
70	63.1	✓
80	67.3	✓
90	71.9	✓
4700	676.5	✓

N 4320

16

E

Elev.

4710	680.7	✓
20	85.4	✓
30	89.5	✓
40	695.4	✓
50	700.3	✓
60	07.1	✓
70	12.7	✓
80	18.3	✓
90	22.7	✓
4800	27.8	✓
10	31.9	✓
20	38.2	✓
30	42.3	✓
40	49.0	✓
50	54.5	✓
60	60.2	✓
70	64.7	✓
80	68.0	✓
90	72.5	✓
4900	76.6	✓
10	82.2	✓
20	87.8	✓
30	92.5	✓
40	96.3	✓
50	798.4	✓

E

4960
70
80
90
5000
10
20
30
40
50
60
70
80
90
5100
10
20
30
40
50
60
70
80
90
5200.

4320

Elev.

802.0 ✓
05.1 ✓
09.4 ✓
12.6 ✓
14.5 ✓
15.2 ✓
16.1 ✓
14.8 ✓
14.3 ✓
10.9 ✓
07.6 ✓
801.8 ✓
798.8 ✓
800.4 ✓
799.2 ✓
94.1 ✓
89.8 ✓
90.3 ✓
90.0 ✓
88.0 ✓
84.2 ✓
81.7 ✓
81.9 ✓
83.5 ✓
783.0 ✓

E.

5210
20
30
40
50
60
70
80
90
5300
10
20
30
40
50
60
70
80
90
5400.
10
20
30
40
50
780.8 ✓
77.6 ✓
79.3 ✓
80.8 ✓
78.5 ✓
77.4 ✓
75.1 ✓
70.9 ✓
66.5 ✓
61.5 ✓
56.5 ✓
50.1 ✓
37.5 ✓
37.6 ✓
36.4 ✓
45.6 ✓
51.7 ✓
55.8 ✓
59.9 ✓
61.8 ✓
62.9 ✓
66.6 ✓
69.3 ✓
74.3 ✓
772.0 ✓

4320

17

✓ 100% - Original ground
Check for plotting error

N 4320

E

F.O.

5460	768.8	✓
70	66.8	✓
80	63.6	✓
90	61.2	✓
5500	54.3	✓
10	47.0	✓
20	50.8	✓
30	56.2	✓
40	63.3	✓
50	68.7	✓
60	75.5	✓
70	79.1	✓
80	76.3	✓
90	74.5	✓
5600.	770.5	✓

N 4330

18

E

Elev.

4460	629.6	✓
70	30.2	✓
80	30.7	✓
90	29.7	✓
4500	28.4	✓
10	33.4	✓
20	39.5	✓
30	42.8	✓
40	44.5	✓
50	46.9	✓
60	48.8	✓
70	51.0	✓
80	52.7	✓
90	54.5	✓
4600	55.8568	✓ ✓
10	57.7	✓
20	58.3	✓
30	60.1	✓
40	60.7	✓
50	61.3	✓
60	60.9	✓
70	61.6	✓
80	65.0	✓
90	72.0	✓
4700	77.3	✓

N 4330

Elev.

E	Elev.	
4710	682.2	✓
20	86.7	✓
30	88.8	✓
40	93.7	✓
50	698.6	✓
60	705.7	✓
70	09.5	✓
80	15.2	✓
90	19.2	✓
4800	25.3	✓
10	29.9	✓
20	32.3	✓
30	40.2	✓
40	46.5	✓
50	55.2	✓
60	58.5	✓
70	65.0	✓
80	68.5	✓
90	71.3	✓
4900	76.5	✓
10	79.8	✓
20	85.6	✓
30	90.1	✓
40	95.4	✓
50	797.5	✓

N 4330

Elev.

E	Elev.	
4960	800.8	✓
70	04.7	✓
80	08.7	✓
90	12.5	✓
5000	15.5	✓
10	17.5	✓
20	17.5	✓
30	17.0	✓
40	16.8	✓
50	14.6	✓
60	10.5	✓
70	06.8	✓
80	05.6	✓
90	04.9	✓
5100	803.6	✓
10	800.0	✓
20	795.5	✓
30	95.9	✓
40	95.3	✓
50	92.2	✓
60	88.7	✓
70	84.2	✓
80	87.0	✓
90	86.3	✓
5200	86.4	✓

19

#4330

F

5210	784.6	✓
20	81.2	✓
30	83.6	✓
40	86.3	✓
50	84.4	✓
60	83.7	✓
70	80.0	✓
80	75.9	✓
90	72.4	✓
5300	67.0	✓
10	61.8	✓
20	56.6	✓
30	46.2	✓
40	38.0	✓
50	40.2	✓
60	47.7	✓
70	55.3	✓
80	59.4	✓
90	65.0	✓
5400	65.2	✓
10	68.9	✓
20	73.5	✓
30	76.0	✓
40	77.7	✓
50	81.0	✓

#4330

20

F

F.O.

5460	774.2	✓
70	72.2	✓
80	68.1	✓
90	64.9	✓
5500	58.8	✓
10	50.3	✓
20	58.5	✓
30	63.1	✓
40	69.3	✓
50	76.5	✓
60	82.8	✓
70	84.1	✓
80	82.0	✓
90	80.3	✓
5600	779.0	✓

N 43 40

E	Elev.
4460	630.7 ✓
70	32.6 ✓
80	33.8 ✓
90	34.0 ✓
4500	33.3 ✓
10	35.4 ✓
20	40.0 ✓
30	44.7 ✓
40	46.8 ✓
50	53.0 ✓
60	51.4 ✓
70	53.6 ✓
80	55.2 ✓
90	56.9 ✓
4600.	59.1 ✓
10	60.3 ✓
20	60.5 ✓
30	62.5 ✓
40	64.5 ✓
50	65.7 ✓
60	66.0 ✓
70	64.7 ✓
80	66.9 ✓
90	70.8 ✓
4700.	77.6 ✓

N 43 40

21

E	Elev.
4710	684.3 ✓
20	89.3 ✓
30	91.2 ✓
40	94.8 ✓
50	696.7 ✓
60	703.3 ✓
70	06.3 ✓
80	11.8 ✓
90	15.9 ✓
4800	22.4 ✓
10	27.2 ✓
20	37.9 ✓
30	39.4 ✓
40	46.5 ✓
50	52.0 ✓
60	57.6 ✓
70	63.4 ✓
80	67.8 ✓
90	71.0 ✓
4900	75.0 ✓
10	80.3 ✓
20	84.4 ✓
30	90.3 ✓
40	94.0 ✓
50	797.9 ✓

N 4340

E	Elev.	
4960	800.3	✓
70	03.9	✓
80	08.7	✓
90	12.5	✓
5000	15.8	✓
10	18.4	✓
20	19.7	✓
30	21.1	✓
40	20.4	✓
50	17.9	✓
60	15.4	✓
70	12.4	✓
80	11.3	✓
90	10.5	✓
5100	807.4	✓
10	803.1	✓
20	802.2	✓
30	801.0	✓
40	799.9	✓
50	96.6	✓
60	92.7	✓
70	90.6	✓
80	92.7	✓
90	94.1	✓
5200	92.7	✓

N 4340

22

E	Elev.	
5210	790.3	✓
20	87.1	✓
30	90.0	✓
40	92.0	✓
50	91.7	✓
60	89.9	✓
70	86.6	✓
80	82.0	✓
90	77.9	✓
5300	73.6	✓
10	66.5	✓
20	61.7	✓
30	54.0	✓
40	38.7	✓
50	45.0	✓
60	51.5	✓
70	57.6	✓
80	64.5	✓
90	72.6	✓
5400	71.6	✓
10	74.4	✓
20	78.3	✓
30	80.5	✓
40	83.5	✓
50	783.1	✓

N 4340

E	Elev.	F.O.
5460	779.5	✓
70	77.0	✓
80	75.6	✓
90	70.2	✓
5500	60.0	✓
10	56.2	✓
20	63.8	✓
30	73.3	✓
40	75.9	✓
50	84.9	✓
60	88.1	✓
70	89.3	✓
80	87.9	✓
90	85.9	✓
5600	785.2	✓

N 4350

23

E	Elev.
4460	632.8 ✓
70	34.9 ✓
80	38.3 ✓
90	37.6 ✓
4500	38.5 ✓
10	38.1 ✓
20	41.7 ✓
30	46.0 ✓
40	49.8 ✓
50	52.6 ✓
60	54.4 ✓
70	56.6 ✓
80	58.0 ✓
90	60.3 ✓
4600	61.5 ✓
10	63.9 ✓
20	64.1 ✓
30	63.4 ✓
40	67.0 ✓
50	69.7 ✓
60	70.4 ✓
70	71.9 ✓
80	72.7 ✓
90	74.4 ✓
4700	79.1 ✓

N 4350

E	Elev	
4710	681.5	✓
20	88.6	✓
30	94.1	✓
40	696.1	✓
50	702.1	✓
60	06.1	✓
70	10.3	✓
80	14.3	✓
90	19.9	✓
4800	23.8	✓
10	30.8	✓
20	37.9	✓
30	43.8	✓
40	48.5	✓
50	53.5	✓
60	57.7	✓
70	64.1	✓
80	67.8	✓
90	71.0	✓
4900	76.1	✓
10	80.1	✓
20	85.0	✓
30	89.2	✓
40	94.2	✓
50	797.2	✓

N. 4350

24

E.	Elev.	
4960	800.1	✓
70	05.6	✓
80	08.4	✓
90	13.6	✓
5000	17.4	✓
10	20.0	✓
20	21.9	✓
30	22.8	✓
40	22.3	✓
50	21.1	✓
60	19.8	✓
70	17.6	✓
80	17.7	✓
90	17.1	✓
5100	13.4	✓
10	10.0	✓
20	08.4	✓
30	08.5	✓
40	04.6	✓
50	800.7	✓
60	796.8	✓
70	796.2	✓
80	797.7	✓
90	800.1	✓
5200	799.4	✓

E

5210	795.9	✓
20	92.3	✓
30	95.4	✓
40	96.0	✓
50	95.9	✓
60	93.8	✓
70	91.0	✓
80	87.2	✓
90	84.5	✓
5300	79.4	✓
10	75.4	✓
20	67.5	✓
30	60.5	✓
40	55.6	✓
50	46.9	✓
60	55.1	✓
70	63.6	✓
80	68.9	✓
90	77.4	✓
5400	77.4	✓
10	82.1	✓
20	84.9	✓
30	86.8	✓
40	87.0	✓
5450	85.7	

E.

F.O.

5460	784.5	✓
70	83.9	✓
80	79.4	✓
90	75.0	✓
5500	64.2	✓
10	62.1	✓
20	71.4	✓
30	77.7	✓
40	84.5	✓
50	89.5	✓
60	93.7	✓
70	94.4	✓
80	93.8	✓
90	93.4	✓
5600	93.1	✓

N 4360

E	Elev.
4460	634.6 ✓
70	38.1 ✓
80	39.7 ✓
90	41.2 ✓
4500	42.5 ✓
10	43.7 ✓
20	43.7 ✓
30	48.9 ✓
40	51.7 ✓
50	54.5 ✓
60	57.9 ✓
70	60.2 ✓
80	61.5 ✓
90	63.8 ✓
4600	64.8 ✓
10	66.8 ✓
20	68.0 ✓
30	69.1 ✓
40	69.4 ✓
50	72.6 ✓
60	74.0 ✓
70	76.1 ✓
80	78.0 78.7 ✓ ✓
90	81.1 ✓
4700	685.4 ✓

N 4360

26

E	Elev.
4710	684.0 ✓
20	88.0 ✓
30	94.0 ✓
40	698.0 ✓
50	703.1 ✓
60	685 ✓
70	12.5 ✓
80	17.6 ✓
90	20.1 ✓
4800	24.9 ✓
10	32.0 ✓
20	38.2 ✓
30	44.6 ✓
40	49.2 ✓
50	54.3 ✓
60	60.3 ✓
70	65.3 ✓
80	69.7 ✓
90	74.2 ✓
4900	77.2 ✓
10	82.9 ✓
20	86.0 ✓
30	90.3 ✓
40	95.8 ✓
50	798.6 ✓

4360

E	Elev.	✓
4960	80.28	✓
70	07.6	✓
80	11.2	✓
90	15.5	✓
5000	18.6	✓
10	22.0	✓
20	23.2	✓
30	23.6	✓
40	24.3	✓
50	24.4	✓
60	24.3	✓
70	24.2	✓
80	22.7	✓
90	20.2	✓
5100	17.4	✓
10	15.1	✓
20	13.7	✓
30	12.9	✓
40	08.3	✓
50	04.0	✓
60	03.2	✓
70	02.0	✓
80	04.1	✓
90	05.0	✓
5200	802.7	✓

4360

27

E	Elev.	✓
5210	799.3	✓
20	98.5	✓
30	800.9	✓
40	02.6	✓
50	01.3	✓
60	799.6	✓
70	97.0	✓
80	94.3	✓
90	90.2	✓
5300	85.2	✓
10	79.6	✓
20	73.9	✓
30	70.0	✓
40	68.2	✓
50	59.8	✓
60	58.8	✓
70	67.3	✓
80	73.8	✓
90	82.0	✓
5400	83.2	✓
10	86.9	✓
20	88.7	✓
30	91.3	✓
40	92.8	✓
50	787.7	✓

E	Elev.	
5460	788.8	✓
70	87.9	✓
80	84.4	✓
90	79.3	✓
5500	69.6	✓
10	67.4	✓
20	78.1	✓
30	85.1	✓
40	90.5	✓
50	794.8	✓
60	800.2	✓
70	799.9	✓
80	800.5	✓
90	01.2	✓
5600.	799.3	✓

E	Elev.	
4460	636.9	✓
70	39.7	✓
80	12.9	✓
90	45.1	✓
4500	16.5	✓
10	47.3	✓
20	47.8	✓
30	50.7	✓
40	55.9	✓
50	58.1	✓
60	60.6	✓
70	62.2	✓
80	64.1	✓
90	66.3	✓
4600	67.9	✓
10	69.6	✓
20	70.6	✓
30	71.8	✓
40	73.1	✓
50	73.6	✓
60	76.2	✓
70	78.6	✓
80	81.1	✓
90	84.2	✓
4700	687.8	✓

N 4370

E	Elev.	
4710	690.1	✓
20	91.1	✓
30	92.2	✓
40	697.7	✓
50	702.6	✓
60	07.2	✓
70	11.7	✓
80	18.2	✓
90	22.9	✓
4800	27.7	✓
10	32.2	✓
20	37.9	✓
30	44.5	✓
40	48.8	✓
50	53.9	✓
60	59.8	✓
70	65.9	✓
80	70.0	✓
90	74.4	✓
4900	78.0	✓
10	84.8	✓
20	89.9	✓
30	92.4	✓
40	796.5	✓
50	801.0	✓

N 4370

29

E	Elev.
4960	804.5 ✓
70	08.9 ✓
80	12.0 ✓
90	16.7 ✓
5080	20.0 ✓
10	24.1 ✓
20	24.7 ✓
30	27.9 ✓
40	26.8 ✓
50	28.3 ✓
60	27.5 ✓
70	28.6 ✓
80	27.0 ✓
90	24.8 ✓
5100	22.2 ✓
10	20.0 ✓
20	18.5 ✓
30	17.0 ✓
40	15.2 ✓
50	11.4 ✓
60	08.9 ✓
70	07.5 ✓
80	10.2 ✓
90	09.7 ✓
5200	810.3 ✓

N 4370

E	Elev.	
5210	801.4	✓
20	02.9	✓
30	07.3	✓
40	07.8	✓
50	07.5	✓
60	06.1	✓
70	03.4	✓
80	800.5	✓
90	796.1	✓
5300	91.3	✓
10	84.8	✓
20	79.7	✓
30	77.2	✓
40	72.2	✓
50	61.8	✓
60	63.2	✓
70	71.3	✓
80	80.4	✓
90	86.4	✓
5400	86.4	✓
10	91.1	✓
20	93.6	✓
30	95.5	✓
40	96.5	✓
50	791.7	✓

N 4370

30

E	Elev.	F.O.
5460	792.7	✓
70	95.6	✓
80	88.7	✓
90	83.6	✓
5580	77.3	✓
10	77.4	✓
20	84.0	✓
30	94.1	✓
40	794.8	✓
50	801.4	✓
60	05.4	✓
70	05.7	✓
80	06.5	✓
90	100	✓
5600	805.0	✓

N 4380

E	Elev.
4460	639.2 ✓
70	42.8 ✓
80	45.2 ✓
90	47.9 ✓
4500	49.0 ✓
10	51.0 ✓
20	52.8 ✓
30	53.8 ✓
40	56.9 ✓
50	62.0 ✓
60	63.5 ✓
70	64.7 ✓
80	66.4 ✓
90	69.5 ✓
4600	71.0 ✓
10	72.1 ✓
20	73.0 ✓
30	76.0 ✓
40	76.3 ✓
50	77.4 ✓
60	79.3 ✓
70	81.2 ✓
80	85.8 ✓
90	87.6 ✓
4700	690.1 ✓

N 4380

31

E	Elev.
4710	695.5 ✓
20	94.5 ✓
30	96.2 ✓
40	97.9 ✓
50	699.5 ✓
60	704.5 ✓
70	698 ✓
80	154 ✓
90	21.0 ✓
4800	26.5 ✓
10	33.3 ✓
20	38.8 ✓
30	44.0 ✓
40	49.4 ✓
50	53.5 ✓
60	59.3 ✓
70	65.0 ✓
80	70.4 ✓
90	74.6 ✓
4900	80.0 ✓
10	87.3 ✓
20	91.1 ✓
30	96.0 ✓
40	98.5 ✓
50	804.1 ✓

N 4380

E	Elev	
4960	806.8	✓
70	06.3	✓
80	14.0	✓
90	18.1	✓
5000	22.8	✓
10	26.4	✓
20	28.6	✓
30	30.2	✓
40	31.0	✓
50	31.4	✓
60	31.4	✓
70	31.2	✓
80	30.5	✓
90	29.1	✓
5100	26.5	✓
10	24.3	✓
20	23.4	✓
30	22.2	✓
40	19.9	✓
50	16.4	✓
60	15.6	✓
70	14.9	✓
80	15.1	✓
90	15.1	✓
5200	814.7	✓

N 4380

32

E	Elev.	
5210	812.0	✓
20	11.6	✓
30	11.9	✓
40	12.9	✓
50	13.0	✓
60	11.8	✓
70	09.6	✓
80	06.1	✓
90	800.8	✓
5300	796.3	✓
10	90.4	✓
20	85.3	✓
30	81.9	✓
40	80.5	✓
50	64.7	✓
60	71.6	✓
70	77.7	✓
80	83.8	✓
90	86.3	✓
5400	90.4	✓
10	95.2	✓
20	98.1	✓
30	799.4	✓
40	800.9	✓
50	795.5	✓

E

5460

70

80

90

5500

10

20

30

40

50

60

70

80

90

5600

N4380

Elev.

F.O.

798.1

✓

95.7

✓

92.4

✓

87.2

✓

86.0

✓

84.0

✓

89.6

✓

95.4

✓

799.5

✓

806.0

✓

12.2

✓

12.3

✓

13.4

✓

16.1

✓

811.4

✓

N4390

F

Elev.

33

4460

641.7

✓

70

45.8

✓

80

48.1

✓

90

50.0

✓

4500

54.0

✓

10

59.0

✓

20

58.0

✓

30

58.6

✓

40

56.3

✓

50

62.4

✓

60

65.0

✓

70

66.8

~~61.8~~

✓

80

68.6

✓

90

70.8

✓

4600

73.2

✓

10

74.7

✓

20

76.5

✓

30

77.9

72.9

✓

40

79.5

✓

50

81.9

✓

60

82.1

✓

70

84.9

✓

80

87.7

✓

90

89.5

✓

4700

693.3

✓

N 4390

E	Elev.	
4710	694.5	✓
20	98.2	✓
30	701.1	✓
40	02.6	✓
50	03.5	✓
60	03.2	✓
70	08.5	✓
80	13.2	✓
90	19.8	✓
4800	274	✓
10	294	✓
20	352	✓
30	43.1	✓
40	48.1	✓
50	54.2	✓
60	59.2	✓
70	63.1	✓
80	67.8	✓
90	75.4	✓
4900	80.0	✓
10	86.3	✓
20	93.6	✓
30	797.1	✓
40	800.6	✓
50	805.4	✓

805.4

N 4390

34

E	Elev.
4960	809.2 ✓
70	130 ✓
80	158 ✓
90	20.5 ✓
5000	24.1 ✓
10	28.1 ✓
20	30.6 ✓
30	32.6 ✓
40	33.6 ✓
50	34.6 ✓
60	34.6 ✓
70	34.6 ✓
80	33.5 ✓
90	32.6 ✓
5100	30.6 ✓
10	294 ✓
20	27.3 ✓
30	26.8 ✓
40	24.7 ✓
50	23.9 ✓
60	21.7 ✓
70	20.6 ✓
80	20.1 ✓
90	20.4 ✓
5200	819.1 ✓

N 4390

E	Elev.	
5210	815.8	✓
20	17.3	✓
30	18.4	✓
40	17.4	✓
50	19.1	✓
60	17.6	✓
70	14.5	✓
80	11.3	✓
90	08.1	✓
5300	802.1	✓
10	798.5	✓
20	92.3	✓
30	91.6	✓
40	86.6	✓
50	73.1	✓
60	78.9	✓
70	77.8	✓
80	86.2	✓
90	90.8	✓
5400	94.1	✓
10	800.5	✓
20	02.1	✓
30	04.1	✓
40	06.2	✓
50	800.6	✓

N 4390

35

E	Elev. F.O.
5460	805.3 ✓
70	00.4 ✓
80	799.0 ✓
90	92.7 ✓
5500	89.2 ✓
10	83.6 ✓
20	94.6 ✓
30	98.4 ✓
40	803.4 ✓
50	10.7 ✓
60	17.3 ✓
70	19.5 ✓
80	21.8 ✓
90	21.4 ✓
5600	17.9 ✓

N 4400

E

Elev.

4710	696.8	✓
20	700.5	✓
30	03.6	✓
40	06.3	✓
50	07.9	✓
60	11.1	✓
70	13.4	✓
80	17.9	✓
90	20.7	✓
4800	23.4	✓
10	29.7	✓
20	35.3	✓
30	41.5	✓
40	46.7	✓
50	52.5	✓
60	57.8	✓
70	63.1	✓
80	69.1	✓
90	76.4	✓
4900	80.4	✓
10	85.8	✓
20	95.0	✓
30	98.6	✓
40	802.8	✓
50	04.7	✓

N 4400

E

Elev.

4460	645.7	✓
70	48.8	✓
80	51.7	✓
90	51.9	✓
4500	55.8	✓
10	60.0	✓
20	62.1	✓
30	62.3	✓
40	66.4	✓
50	64.9	✓
60	67.7	✓
70	69.6	✓
80	71.1	✓
90	74.5	✓
4600	76.6	✓
10	78.5	✓
20	80.0	✓
30	81.9	✓
40	83.4	✓
50	84.6	✓
60	86.0	✓
70	86.8	✓
80	89.4	✓
90	92.2	✓
4700	95.2	✓

E	N 4400	Elev.
4960	812.5	✓
70	15.3	✓
80	18.4	✓
90	23.7	✓
5000	27.6	✓
10	30.5	✓
20	34.0	✓
30	35.7	✓
40	36.5	✓
50	37.3	✓
60	37.6	✓
70	37.4	✓
80	37.2	✓
90	35.6	✓
5100	34.5	✓
10	33.4	✓
20	32.4	✓
30	31.1	✓
40	30.2	✓
50	28.9	✓
60	27.8	✓
70	27.6	✓
80	30.4	✓
90	27.7	✓
5200	24.7	✓

E	N 4400	Elev.
5210	822.0	✓
20	24.5	✓
30	24.6	✓
40	24.9	✓
50	24.1	✓
60	22.1	✓
70	20.1	✓
80	17.1	✓
90	15.4	✓
5300	09.4	✓
10	805.0	✓
20	799.5	✓
30	96.0	✓
40	93.7	✓
50	87.0	✓
60	80.4	✓
70	84.4	✓
80	91.6	✓
90	93.9	✓
5400	799.4	✓
10	804.4	✓
20	06.8	✓
30	09.8	✓
40	10.5	✓
50	10.3	✓

N 4400

E	Elev.	Fo.
5460	810.6	✓
70	08.7	✓
80	803.1	✓
90	796.3	✓
5500	89.3	✓
10	90.2	✓
20	793.8	✓
30	801.1	✓
40	06.8	✓
50	14.1	✓
60	20.5	✓
70	24.4	✓
80	28.2	✓
90	27.5	✓
5600.	24.1	✓

N 4410

38

East	Elev.
4460	649.1 ✓
70	51.5 ✓
80	53.9 ✓
90	54.1 ✓
4500	58.2 ✓
10	63.0 ✓
20	64.5 ✓
30	67.0 ✓
40	68.3 ✓
50	68.7 ✓
60	69.4 ✓
70	71.8 ✓
80	74.2 ✓
90	76.9 ✓
4600	79.3 ✓
10	84.1 ✓
20	83.1 ✓
30	85.2 ✓
40	86.1 ✓
50	88.0 ✓
60	89.3 ✓
70	89.1 ✓
80	90.9 ✓
90	94.3 ✓
4700	97.5 ✓

N 4410

E	Elev.	
4710	699.8	✓
20	702.7	✓
30	05.5	✓
40	07.1	✓
50	13.0	✓
60	16.7	✓
70	19.2	✓
80	21.1	✓
90	23.9	✓
4800	23.4	✓
10	28.4	✓
20	34.4	✓
30	40.3	✓
40	44.5	✓
50	51.5	✓
60	58.6	✓
70	62.1	✓
80	68.7	✓
90	75.8	✓
4900	80.1	✓
10	85.8	✓
20	91.5	✓
30	799.1	✓
40	803.5	✓
50	10.7	✓

N 4410

39

E	Elev.	
4960	814.7	✓
70	17.9	✓
80	19.9	✓
90	24.6	✓
5000	28.6	✓
10	32.8	✓
20	33.8 36.0	✓ ✓
30	37.6	✓
40	39.4	✓
50	40.5	✓
60	40.5	✓
70	41.3	✓
80	40.6	✓
90	38.5	✓
5100	38.1	✓
10	38.3	✓
20	36.6	✓
30	35.8	✓
40	35.1	✓
50	33.2	✓
60	32.6	✓
70	33.5	✓
80	33.1	✓
90	33.0	✓
5200	30.9	✓

N 4410

E	Elev	p.p.s
5210	830.7	✓
20	31.5	✓
30	31.9	✓
40	31.1	✓
50	30.9	✓
60	32.6	✓
70	26.2	✓
80	21.4	✓
90	18.8	✓
5300.	15.7	✓
10	10.2	✓
20	807.8	✓
30	804.0	✓
40	798.7	✓
50	91.1	✓
60	83.7	✓
70	86.1	✓
80	797.7	✓
90	801.3	✓
5400	04.1	✓
10	06.7	✓
20	12.1	✓
30	15.5	✓
40	15.7	✓
50	15.4	✓

N 4410

40

E	Elev.
5460	815.3 ✓
70	11.9 ✓
80	06.4 ✓
90	801.4 ✓
5500	792.8 ✓
10	795.3 ✓
20	801.6 ✓
30	05.7 ✓
40	10.5 ✓
50	18.5 ✓
60	23.5 ✓
70	28.0 ✓
80	31.3 ✓
90	30.7 ✓
5600	827.8 828.7 ✓ ✓

E 4460

70

80

90

4500

10

20

30

40

50

60

70

80

90

4600

10

20

30

40

50

60

70

80

90

4700

N 4420

Elev.
651.9

✓

53.4

✓

55.8

✓

57.6

✓

62.4

✓

64.8

✓

67.3

✓

69.4

✓

71.1

✓

72.3

✓

74.4

✓

74.0

✓

76.6

✓

79.5

✓

81.8

✓

83.5

✓

85.6

✓

87.3

✓

89.6

✓

91.1

✓

93.2

✓

93.5

✓

92.5

✓

97.0

✓

700.9

✓

N 4420

41

E

Elev.

4710

702.7

✓

20

05.2

✓

30

08.4

✓

40

12.1

✓

50

15.4

✓

60

20.2

✓

70

23.4

✓

80

26.7

✓

90

28.0

✓

4800

28.6

✓

10

29.0

✓

20

31.5

✓

30

34.7

✓

40

44.2

✓

50

50.6

✓

60

59.8

✓

70

61.5

✓

80

71.4

✓

90

74.9

✓

4900

78.8

✓

10

85.3

✓

20

93.3

✓

30

799.7

✓

40

805.4

✓

50

813.0

✓

N4420

	Elev.	
4960	816.9	✓
70	19.2	✓
80	22.0	✓
90	25.8	✓
5000	32.2	✓
10	36.3	✓
20	38.4	✓
30	40.2	✓
40	41.0	✓
50	43.6	✓
60	44.2	✓
70	44.2	✓
80	43.9	✓
90	43.4	✓
5100	43.7	✓
10	43.1	✓
20	40.5	✓
30	41.4	✓
40	41.8	✓
50	41.9	✓
60	40.3	✓
70	37.5	✓
80	38.2	✓
90	37.6	✓
5200	36.3	✓

N4420.

42

E	Elev.	
5210	835.7	✓
20	36.9	✓
30	37.3	✓
40	40.8	✓
50	38.5	✓
60	37.3	✓
70	32.6	✓
80	29.0	✓
90	25.5	✓
5300	20.6	✓
10	16.9	✓
20	15.3	✓
30	10.4	✓
40	805.7	✓
50	799.4	✓
60	93.5	✓
70	791.5	✓
80	801.2	✓
90	05.5	✓
5400	07.7	✓
10	13.4	✓
20	18.5	✓
30	21.2	✓
40	23.6	✓
50	23.1	✓

N 4420

E	Elev.	F.O.
5460	821.3	✓
70	15.8	✓
80	11.8	✓
90	805.7	✓
5500	798.6	✓
10	797.6	✓
20	803.8	✓
30	08.4	✓
40	14.6	✓
50	22.4	✓
60	27.2	✓
70	32.1	✓
80	35.3	✓
90	34.6	✓
5600.	831.8	✓

N 4430

43

E	Elev.
4460	654.8 ✓
70	56.8 ✓
80	60.2 ✓
90	62.4 ✓
4500	64.9 ✓
10	67.5 ✓
20	69.3 ✓
30	71.5 ✓
40	73.7 ✓
50	76.2 ✓
60	77.0 ✓
70	76.9 ✓
80	77.8 ✓
90	81.1 ✓
4600	83.6 ✓
10	85.6 ✓
20	88.5 ✓
30	90.4 ✓
40	93.0 ✓
50	95.4 ✓
60	97.6 ✓
70	98.9 ✓
80	96.9 ✓
90	698.4 ✓
4700	702.3 ✓

E

N 4430

Elev.

4710	705.1	✓
20	68.0	✓
30	12.0	✓
40	15.9	✓
50	19.0	✓
60	22.5	✓
70	25.8	✓
80	29.1	✓
90	32.0	✓
4800.	34.5	✓
10	34.5	✓
20	38.2	✓
30	41.2	✓
40	44.3	✓
50	46.3	✓
60	56.4	✓
70	61.0	✓
80	67.8	✓
90	74.7	✓
4900.	80.8	✓
10	86.2	✓
20	794.3	✓
30	801.9	✓
40	07.9	✓
50	14.3	✓

N 4430

44

E

Elev.

4960	817.6	✓
70	23.5	✓
80	25.5	✓
90	30.6	✓
5000.	38.7	✓
10	40.3	✓
20	42.5	✓
30	44.1	✓
40	45.2	✓
50	46.9	✓
60	46.5	✓
70	46.4	✓
80	47.5	✓
90	47.5	✓
5100	47.7	✓
10	48.0	✓
20	47.4	✓
30	46.9	✓
40	47.9	✓
50	47.6	✓
60	46.7	✓
70	44.0	✓
80	43.2	✓
90	43.4	✓
5200	41.0	✓

#4430.

E

	Elev.	
5210	839.9	✓
20	42.1	✓
30	45.6	✓
40	44.0	✓
50	43.7	✓
60	42.1	✓
70	39.8	✓
80	36.3	✓
90	32.7	✓
5300.	26.2	✓
10	22.7	✓
20	21.7	✓
30	16.0	✓
40	11.0	✓
50	802.6	✓
60	796.6	✓
70	799.3	✓
80	807.0	✓
90	09.8	✓
5400	13.1	✓
10	18.7	✓
20	23.1	✓
30	24.8	✓
40	27.0	✓
50	26.9	✓

#4430.

45

E

Elev. F.O.

	Elev.	F.O.
5460	826.2	✓
70	18.1	✓
80	16.2	✓
90	808.1	✓
5500	799.3	✓
10	794.4	✓
20	803.4	✓
30	11.2	✓
40	20.6	✓
50	24.1	✓
60	30.9	✓
70	35.5	✓
80	38.6	✓
90	38.6	✓
5600.	835.9	836.9 ✓ ✓

E	Elev.
4480	663.9 ✓
90	67.2 ✓
4500	68.1 ✓
10	69.2 ✓
20	71.2 ✓
30	73.5 ✓
40	76.5 ✓
50	77.9 ✓
60	79.2 ✓
70	80.2 ✓
80	78.0 ✓
90	82.0 ✓
4600	86.1 ✓
10	88.5 ✓
20	91.1 ✓
30	93.2 ✓
40	96.4 ✓
50	700.0 ✓
60	03.2 ✓
70	03.7 ✓
80	02.0 ✓
90	01.6 ✓
4700	03.3 ✓
10	09.5 ✓
20	712.9 ✓

E	Elev.
4730	715.5 ✓
40	19.4 ✓
50	22.0 ✓
60	25.6 ✓
70	28.0 ✓
80	31.5 ✓
90	35.0 ✓
4800	39.5 ✓
10	42.7 ✓
20	45.0 ✓
30	48.0 ✓
40	51.0 ✓
50	53.6 ✓
60	56.8 ✓
70	57.7 ✓
80	66.1 ✓
90	71.6 ✓
4900	78.2 ✓
10	84.7 ✓
20	92.5 ✓
30	800.0 ✓
40	06.7 ✓
50	13.4 ✓
60	17.6 ✓
70	825.4 ✓

N 4440

E	Elev.	
1980	830.0	✓
90	348	✓
5000	386	✓
10	403	✓
20	44.3	✓
30	48.2	✓
40	49.3	✓
50	49.7	✓
60	49.8	✓
70	48.8	✓
80	51.9	✓
90	51.5	✓
5100	52.9	✓
10	53.1	✓
20	55.1	✓
30	54.2	✓
40	52.8	✓
50	52.0	✓
60	53.2	✓
70	52.9	✓
80	52.5	✓
90	49.7	✓
5200	47.1	✓
10	45.1	✓
20	47.7	✓

N 4440

47

E	Elev.	
5230	848.6	✓
40	58.0	✓
50	48.9	✓
60	48.2	✓
70	49.4	✓
80	41.0 51.0	✓ ✓
90	37.6	✓
5300	33.5	✓
10	31.8	✓
20	26.9	✓
30	22.9	✓
40	17.1	✓
50	09.4	✓
60	03.9	✓
70	06.6	✓
80	10.6	✓
90	16.6	✓
5400	19.2	✓
10	22.4	✓
20	28.7	✓
30	30.5	✓
40	30.5	✓
50	30.0	✓
60	28.6	✓
70	823.3	✓

E	N 4440	Elev.	F.O.
5480		821.8	✓
90		13.6	✓
5500		0.1	✓
10		06.2	✓
20		09.3	✓
30		10.6	✓
40		19.6	✓
50		28.7	✓
60		35.3	✓
70		39.3	✓
80		41.9	✓
90		42.3	✓
5600		41.3	✓

E	N 4450	Elev.
4500		670.6 ✓
10		71.1 ✓
20		72.3 ✓
30		75.6 ✓
40		78.2 ✓
50		81.0 ✓
60		82.6 ✓
70		84.0 ✓
80		83.2 ✓
90		84.5 ✓
4600		88.3 ✓
10		91.3 ✓
20		94.3 ✓
30		96.8 ✓
40		699.1 ✓
50		703.2 ✓
60		06.2 ✓
70		07.2 ✓
80		07.3 ✓
90		06.8 ✓
4700		08.5 ✓
10		11.0 ✓
20		13.2 ✓
30		18.6 ✓
40		722.2 ✓

N 4450

E	Elev.
4750	726.5 ✓
60	29.8 ✓
70	32.1 ✓
80	34.4 ✓
90	38.5 ✓
4800	42.2 ✓
10	45.9 ✓
20	50.5 ✓
30	53.3 ✓
40	57.7 ✓
50	60.8 ✓
60	60.4 ✓
70	63.7 ✓
80	69.4 ✓
90	74.2 ✓
4900	76.9 ✓
10	84.1 ✓
20	90.5 ✓
30	79.76 ✓
40	86.52 ✓
50	11.9 ✓
60	17.5 ✓
70	24.0 ✓
80	29.1 ✓
90	835.9 ✓

N 4450

49 ✓

E	Elev.
5000	840.6 ✓
10	44.4 ✓
20	47.6 ✓
30	50.5 ✓
40	51.4 ✓
50	53.1 ✓
60	53.3 ✓
70	54.4 ✓
80	55.7 ✓
90	56.3 ✓
5100	58.6 ✓
10	60.3 ✓
20	60.0 ✓
30	60.9 ✓
40	60.5 ✓
50	60.6 ✓
60	60.1 ✓
70	60.4 ✓
80	56.9 ✓
90	56.6 ✓
5200	53.5 ✓
10	52.2 ✓
20	53.3 ✓
30	54.1 ✓
40	854.7 ✓

N 4450

E	Elev.	
5250	854.1	✓
60	52.6	✓
70	52.2	✓
80	50.3	✓
90	43.9	✓
5300	41.9	✓
10	37.8	✓
20	33.9	✓
30	29.3	✓
40	21.8	✓
50	15.9	✓
60	07.4	✓
70	13.5	✓
80	15.2	✓
90	20.2	✓
5400	24.0	✓
10	29.9	✓
20	34.0	✓
30	34.7	✓
40	34.5	✓
50	33.0	✓
60	32.1	✓
70	27.7	✓
80	26.0	✓
90	817.6	✓

N 4450

50

E	Elev.	F.o.
5500	806.8	✓
10	12.9	✓
20	18.0	✓
30	17.1	✓
40	20.7	✓
50	30.5	✓
60	38.2	✓
70	42.6	✓
80	46.4	✓
90	47.3	✓
5600	46.5	✓

F	Elev.
4530	
40	
50	
60	
70	87.5 ✓
80	88.3 ✓
90	86.0 ✓
4600	904 ✓
10	94.2 ✓
20	97.4 ✓
30	699.5 ✓
40	702.9 ✓
50	06.3 ✓
60	09.0 ✓
70	10.9 ✓
80	12.1 ✓
90	12.8 ✓
4700	13.4 ✓
10	14.9 ✓
20	15.5 ✓
30	17.7 ✓
40	22.3 ✓
50	27.6 ✓
60	32.4 ✓
70	735.4 ✓

F	Elev.
4780	739.1 ✓
90	41.1 ✓
4800	45.7 ✓
10	49.6 ✓
20	52.9 ✓
30	56.7 ✓
40	64.3 ✓
50	66.6 ✓
60	67.9 ✓
70	68.0 ✓
80	71.5 ✓
90	78.3 ✓
4900	83.3 ✓
10	88.5 ✓
20	94.9 ✓
30	797.5 799.5 ✓ ✓
40	803.5 ✓
50	100 ✓
60	16.7 ✓
70	22.5 ✓
80	28.7 ✓
90	36.2 ✓
5000	42.4 ✓
10	46.7 ✓
20	850.5 ✓

✓

N 4460

E	Elev	
5030	853.4	✓
40	54.3	✓
50	56.2	✓
60	58.1	✓
70	60.8	✓
80	61.8	✓
90	62.1	✓
5100	64.4	✓
10	65.9	✓
20	65.8	✓
30	66.1	✓
40	67.6	✓
50	66.7	✓
60	66.9	✓
70	65.4	✓
80	63.3	✓
90	61.7	✓
5200	60.1	✓
10	58.0	✓
20	60.6	✓
30	60.3	✓
40	61.6	✓
50	61.6	✓
60	58.7	✓
70	58.6	✓

N 4460

52

F	Elev.	
5280	855.2	✓
90	52.1	✓
5300	49.8	✓
10	45.6	✓
20	40.6	✓
30	34.9	✓
40	29.0	✓
50	23.0	✓
60	17.4	✓
70	15.7	✓
80	21.0	✓
90	25.5	✓
5400	30.8	✓
10	34.0	✓
20	39.0	✓
30	39.4	✓
40	38.6	✓
50	38.4	✓
60	33.4	✓
70	34.6	✓
80	29.6	✓
90	24.2	✓
5500	11.8	✓
10	18.4	✓
20	25.7	✓
30	26.6	✓
40	27.6	✓
50	30.9	✓
60	41.3	✓
70	46.1	✓
80	50.4	✓
90	51.8	✓
5600	852.9	✓

N 4470

F	Elev
4580	692.0 ✓
90	92.1 ✓
4600	92.1 ✓
10	96.7 ✓
20	700.6 ✓
30	03.1 ✓
40	06.1 ✓
50	08.8 ✓
60	11.3 ✓
70	14.2 ✓
80	16.8 ✓
90	17.6 ✓
4700	18.8 ✓
10	19.6 ✓
20	21.1 ✓
30	19.5 ✓
40	26.8 ✓
50	29.7 ✓
60	35.5 ✓
70	39.8 ✓
80	41.3 ✓
90	45.0 ✓
4800	48.7 ✓
10	53.2 ✓
20	59.0 ✓

E

N 4470

Elev.

53

F	Elev.
4830	762.4 ✓
40	67.7 ✓
50	72.2 ✓
60	74.2 ✓
70	73.7 ✓
80	72.1 ✓
90	78.8 ✓
4900	87.4 ✓
10	94.9 ✓
20	800.3 ✓
30	04.0 ✓
40	07.9 ✓
50	12.3 ✓
60	17.3 ✓
70	23.3 ✓
80	29.3 ✓
90	36.0 ✓
5000	42.9 ✓
10	48.5 ✓
20	52.6 ✓
30	55.3 ✓
40	57.0 ✓
50	60.7 ✓
60	62.9 ✓
70	66.0 ✓
80	67.2 ✓

E

N 4470

Elev.

✓ P.O.S.

5090
5100
10
20
30
40
50
60
70
80
90
5200
10
20
30
40
50
60
70
80
90
5300
10
20
30
40

868.5 ✓
69.5 ✓
70.0 ✓
71.3 ✓
73.4 ✓
72.6 ✓
74.5 ✓
72.9 ✓
72.5 ✓
70.5 ✓
68.8 ✓
67.2 ✓
66.8 ✓
65.9 ✓
65.9 ✓
66.4 ✓
65.1 ✓
64.0 ✓
62.4 ✓
60.9 ✓
58.6 ✓
55.3 ✓
58.4 ✓
45.7 ✓
41.0 ✓
34.9 ✓

E

N 4470

Elev.

54

5350
60
70
80
90
5400
10
20
30
40
50
60
70
80
90
5500
10
20
30
40
50
60
70
80
90
5600

829.9 ✓
25.9 ✓
21.4 ✓
23.4 ✓
28.6 ✓
33.3 ✓
38.9 ✓
42.9 ✓
43.2 ✓
43.2 ✓
43.7 ✓
41.7 ✓
39.8 ✓
34.6 ✓
22.6 ✓
17.8 ✓
26.6 ✓
36.8 ✓
38.7 ✓
38.9 ✓
35.7 ✓
43.3 ✓
48.4 ✓
53.6 ✓
56.8 ✓
58.3 ✓

N 4480

F	Elev.	
4590	695.7	✓
4600	94.7	✓
10	98.0	✓
20	702.9	✓
30	05.5	✓
40	08.7	✓
50	11.9	✓
60	14.8	✓
70	17.9	✓
80	20.6	✓
90	21.8	✓
4700	23.6	✓
10	24.8	✓
20	26.1	✓
30	28.6	✓
40	28.1	✓
50	31.8	✓
60	38.0	✓
70	43.3	✓
80	45.5	✓
90	49.6	✓
4800	53.9	✓
10	57.6	✓
20	63.0	✓
30	66.3	✓

F

N 4480

Elev.

55

F	Elev.	
4840	770.0	✓
50	75.3	✓
60	79.1	✓
70	81.7	✓
80	81.7	✓
90	81.7	✓
4900	89.4	✓
10	97.5	✓
20	802.8	✓
30	08.1	✓
40	11.5	✓
50	16.4	✓
60	19.7	✓
70	26.7	✓
80	30.6	✓
90	37.0	✓
5000	43.0	✓
10	49.7	✓
20	54.8	✓
30	57.2	✓
40	61.0	✓
50	63.5	✓
60	66.7	✓
70	68.9	✓
80	70.2	✓
90	72.5	✓

22

F

5100

10

20

30

40

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70

80

90

5200

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5300

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40

W 44 80

Elev.

100%

877.9 ✓

74.6 ✓

79.5 ✓

79.3 ✓

81.6 ✓

78.9 ✓

78.0 ✓

77.5 ✓

76.1 ✓

75.4 ✓

74.8 ✓

73.6 ✓

72.2 ✓

70.8 ✓

70.4 ✓

71.4 ✓

70.0 ✓

67.4 ✓

67.0 ✓

65.5 ✓

62.0 ✓

57.7 ✓

50.9 ✓

46.2 ✓

42.9 ✓

F

N 4480

Elev.

56

5350

60

70

80

90

5400

10

20

30

40

50

60

70

80

90

5500

10

20

30

40

50

60

70

80

90

5600

838.2 ✓

33.3 ✓

29.0 ✓

26.2 ✓

33.3 ✓

37.4 ✓

42.0 ✓

46.7 ✓

47.5 ✓

48.4 ✓

49.0 ✓

48.2 ✓

45.1 ✓

42.8 ✓

33.9 ✓

26.6 ✓

39.1 ✓

46.8 ✓

48.4 ✓

48.2 ✓

45.5 ✓

45.8 ✓

58.8 ✓

57.5 ✓

62.0 ✓

65.2 ✓

E	Elev.
4600	699.7 ✓
10	700.2 ✓
20	05.1 ✓
30	07.7 ✓
40	12.1 ✓
50	14.5 ✓
60	19.0 ✓
70	21.6 ✓
80	23.8 ✓
90	25.9 ✓
4700	27.6 ✓
10	29.6 ✓
20	30.9 ✓
30	33.6 ✓
40	37.8 ✓
50	35.4 ✓
60	40.3 ✓
70	47.0 ✓
80	49.3 ✓
90	53.3 ✓
4800	59.4 ✓
10	65.9 ✓
20	66.1 ✓
30	71.2 ✓
40	74.1 ✓

Elev.	
4850	779.6 ✓
60	83.7 ✓
70	86.8 ✓
80	89.1 ✓
90	90.6 ✓
4900	91.4 ✓
10	798.4 ✓
20	805.1 ✓
30	09.2 ✓
40	15.6 ✓
50	19.3 ✓
60	22.8 ✓
70	25.7 ✓
80	33.1 ✓
90	39.1 ✓
5000	45.1 ✓
10	51.2 ✓
20	55.9 ✓
30	58.8 ✓
40	64.0 ✓
50	66.4 ✓
60	69.6 ✓
70	72.7 ✓
80	76.6 ✓
90	81.1 ✓

E	N 44 90 Elev	photo
5100	882.1 ✓	
10	86.1 ✓	
20	85.6 ✓	
30	85.1 ✓	
40	86.9 ✓	
50	85.9 ✓	
60	83.8 ✓	
70	86.1 ✓	
80	84.2 ✓	
90	83.2 ✓	
5200	81.0 ✓	
10	80.7 ✓	
20	79.1 ✓	
30	79.4 ✓	
40	75.2 ✓	
50	75.0 ✓	
60	74.7 ✓	
70	74.8 ✓	
80	72.9 ✓	
90	71.4 ✓	
5300.	67.7 ✓	
10	65.0 ✓	
20	57.9 ✓	
30	51.9 ✓	
40	48.0 ✓	

E	N 44 90 Elev.
5350	843.3 ✓
60	40.0 ✓
70	33.1 ✓
80	27.7 ✓
90	36.1 ✓
5400	40.1 ✓
10	44.4 ✓
20	50.3 ✓
30	52.0 ✓
40	52.9 ✓
50	53.1 ✓
60	52.7 ✓
70	50.8 ✓
80	47.0 ✓
90	43.1 ✓
5500.	33.0 ✓
10	36.9 ✓
20	47.7 ✓
30	54.2 ✓
40	55.6 ✓
50	53.1 ✓
60	51.2 ✓
70	54.0 ✓
80	61.3 ✓
90	67.9 ✓
5600.	872.2 ✓

N 4500.

E

4610

20

30

40

50

60

70

80

90

4700

10

20

30

40

50

60

70

80

90

4800

10

20

30

40

50

Elev.

704.8 ✓

08.1 ✓

10.8 ✓

15.1 ✓

20.1 ✓

23.0 ✓

25.5 ✓

27.7 ✓

30.8 ✓

32.7 ✓

34.4 ✓

35.0 ✓

39.1 ✓

41.0 ✓

43.7 ✓

43.3 ✓

48.2 ✓

53.6 ✓

56.4 ✓

60.8 ✓

66.9 ✓

70.2 ✓

74.2 ✓

78.0 ✓

81.3 ✓

N. 4500.

59

East

Elev.

4860

70

80

90

4900

10

20

30

40

50

60

70

80

90

5000

10

20

30

40

50

60

70

80

90

5100

787.2 ✓

91.8 ✓

94.5 ✓

95.1 ✓

96.4 ✓

98.1 ✓

807.1 ✓

13.7 ✓

18.0 ✓

22.5 ✓

27.3 ✓

30.1 ✓

34.9 ✓

41.1 ✓

47.7 ✓

54.0 ✓

60.3 ✓

62.9 ✓

67.7 ✓

69.8 ✓

72.7 ✓

76.8 ✓

82.3 ✓

84.0 ✓

88.3 ✓

4500

20.6

E	Elev.	
5110	890.6	✓
20	93.3	✓
30	91.3	✓
40	93.2	✓
50	92.4 92.5	✓ ✓
60	92.7	✓
70	92.6	✓
80	91.3	✓
90	90.3	✓
5200.	87.7	✓
10	86.4	✓
20	84.4	✓
30	84.2	✓
40	81.3	✓
50	83.7	✓
60	81.7	✓
70	80.7	✓
80	79.3	✓
90	77.3	✓
5300.	71.8	✓
10	70.1	✓
20	65.3	✓
30	59.8	✓
40	53.0 53.0	✓ ✓
50	48.2	✓

4500

69

E	Elev.	
5360	845.1	✓
70	41.1	✓
80	32.7	✓
90	36.1	✓
5400	42.1	✓
10	49.0	✓
20	53.8	✓
30	56.1	✓
40	57.7	✓
50	58.0	✓
60	59.5	✓
70	54.7	✓
80	53.1	✓
90	51.9	✓
5500	42.2	✓
10	37.5	✓
20	55.8 55.5	✓ ✓
30	59.0	✓
40	60.4	✓
50	59.9	✓
60	54.9	✓
70	60.7	✓
80	65.4	✓
90	72.4	✓
5600.	77.5	✓

N 4510

East

4620
30
40
50
60
70
80
90
4700
10
20
30
40
50
60
70
80
90
4800
10
20
30
40
50
60

Elev.

712.8 ✓
14.0 ✓
16.9 ✓
21.5 ✓
26.5 ✓
30.6 ✓
31.6 ✓
34.7 ✓
37.6 ✓
38.5 ✓
41.0 ✓
42.6 ✓
47.0 ✓
47.7 ✓
49.4 ✓
52.5 ✓
57.8 ✓
60.1 ✓
65.3 ✓
70.1 ✓
73.0 ✓
80.8 ✓
82.1 ✓
85.9 ✓
91.2 ✓

North 4510

61

East

4870
80
90
4900
10
20
30
40
50
60
70
80
90
5000
10
20
30
40
50
60
70
80
90
5100
10

Elev.

794.9 ✓
98.4 ✓
804.7 ✓
64.5 ✓
03.8 ✓
04.7 ✓
16.1 ✓
19.6 ✓
26.1 ✓
29.6 ✓
34.4 ✓
39.6 ✓
42.2 ✓
49.3 ✓
55.4 ✓
61.8 ✓
65.8 ✓
71.6 ✓
72.1 ✓
77.6 ✓
83.6 ✓
87.5 ✓
91.4 ✓
93.2 ✓
97.9 ✓

N 4510

East

	Elev.	POB
5120	897.8	✓
30	98.3	✓
40	97.8	✓
50	98.6	✓
60	96.2	✓
70	97.2	✓
80	97.9	✓
90	89.5 75.0	✓ ✓
5200	93.3	✓
10	93.3	✓
20	91.2	✓
30	92.5	✓
40	89.6	✓
50	89.9	✓
60	88.1	✓
70	85.6	✓
80	83.9	✓
90	81.2	✓
5300	76.8	✓
10	75.0	✓
20	71.2	✓
30	70.0	✓
40	61.2	✓
50	55.7	✓
60	49.3	✓

N 4510

62

East

	Elev.	F.O.
5370	846.9	✓
80	42.3	✓
90	40.3	✓
5400	42.0	✓
10	50.4	✓
20	54.2	✓
30	61.0	✓
40	62.2	✓
50	63.3	✓
60	64.2	✓
70	63.5	✓
80	59.6	✓
90	57.7	✓
5500	47.1	✓
10	43.8	✓
20	54.8	✓
30	63.3	✓
40	64.4	✓
50	64.3	✓
60	61.3	✓
70	62.4	✓
80	69.2	✓
90	76.5	✓
5600	81.6	✓

#4520

East	Elev.
4630	718.6 ✓
40	20.7 ✓
50	25.3 ✓
60	30.4 ✓
70	33.3 ✓
80	35.8 ✓
90	38.2 ✓
4700	41.4 ✓
10	43.9 ✓
20	44.9 ✓
30	46.5 ✓
40	50.1 ✓
50	52.7 ✓
60	53.9 ✓
70	55.3 ✓
80	61.9 ✓
90	65.0 ✓
4800.	72.2 ✓
10	75.5 ✓
20	78.3 ✓
30	83.3 ✓
40	86.2 ✓
50	88.4 ✓
60	93.2 ✓
70	99.1 ✓

#4520.

63

East	Elev.
4880	802.3 ✓
90	^{07.2} 07.1 ✓ ✓
4900.	10.8 ✓
10	11.3 ✓
20	12.7 ✓
30	11.3 ✓
40	22.2 ✓
50	27.4 ✓
60	33.0 ✓
70	38.8 ✓
80	43.8 ✓
90	47.3 ✓
5000	50.4 ✓
10	58.8 ✓
20	67.4 ✓
30	71.6 ✓
40	76.6 ✓
50	77.3 ✓
60	82.7 ✓
70	87.1 ✓
80	91.2 ✓
90	94.8 ✓
5100	903.0 ✓
10	04.3 ✓
20	03.4 ✓

E

N 4520

POB

	Elev.	POB
5130	906.2	✓
40	06.7	✓
50	05.9	✓
60	05.6	✓
70	03.7	✓
80	903.3	✓
90	02.9	✓
5200	900.6	✓
10	898.5	✓
20	96.3	✓
30	97.0	✓
40	98.1	✓
50	96.6	✓
60	93.7	✓
70	91.5	✓
80	88.2	✓
90	85.4	✓
5300.	81.8	✓
10	79.3	✓
20	74.5	✓
30	71.8	✓
40	66.6	✓
50	60.0	✓
60	56.9	✓
70	52.1	✓

N 4520

64

East

Elev. PO.

	Elev.	PO.
5380	848.2	✓
90	42.2	✓
5400	45.0	✓
10	51.6	✓
20	57.3	✓
30	62.5	✓
40	65.8	✓
50	68.8	✓
60	68.8	✓
70	68.5	✓
80	65.1	✓
90	61.4	✓
5500.	57.7	✓
10	51.8	✓
20	56.0	✓
30	66.4	✓
40	69.4	✓
50	68.3	✓
60	66.2	✓
70	68.1	✓
80	74.4	✓
90	80.4	✓
5600.	886.7	✓

N 4530.

E

Elev.

4710	746.3	✓
20	489	✓
30	522	✓
40	537	✓
50	570	✓
60	587	✓
70	606	✓
80	658	✓
90	694	✓
4800	738	✓
10	791	✓
20	817	✓
30	874	✓
40	901	✓
50	939	✓
60	996	✓
70	804.0	✓
80	060	✓
90	12.1	✓
4900	170	✓
10	214	✓
20	215	✓
30	182	✓
40	244	✓
50	297	✓

N 4530.

65

East

Elev.

4960	835.1	✓
70	42.0	✓
80	47.7	✓
90	52.4	✓
5000	56.2	✓
10	61.6	✓
20	67.9	✓
30	75.9	✓
40	80.0	✓
50	83.2	✓
60	87.2	✓
70	90.0	✓
80	98.8	✓
90	901.0	✓
5100	05.8	✓
10	07.5	✓
20	08.6	✓
30	11.6	✓
40	14.1	✓
50	10.3	✓
60	11.9	✓
70	13.1	✓
80	12.2	✓
90	09.2	✓
5200	907.3	✓

East

5210

20

30

40

50

60

70

80

90

5300

10

20

30

40

50

60

70

80

90

5400

10

20

30

40

50

Elev.

POB

908.1 ✓

04.2 ✓

04.3 ✓

04.0 ✓

03.3 ✓

899.9 ✓

98.0 ✓

95.4 ✓

93.6 ✓

88.1 ✓

85.0 ✓

80.0 ✓

72.8 ✓

70.8 ✓

66.5 ✓

61.8 ✓

59.6 ✓

48.2 ✓

45.9 ✓

53.7 ✓

55.9 ✓

61.3 ✓

67.1 ✓

71.7 ✓

73.0 ✓

East

Elev.

5460

70

80

90

5500

10

20

30

40

50

60

70

80

90

5600

4600

10

20

30

40

50

60

70

80

90

4700

874.2 ✓

74.9 ✓

71.4 ✓

67.8 ✓

62.3 ✓

54.8 ✓

61.1 ✓

69.8 ✓

74.2 ✓

73.1 ✓

71.1 ✓

72.4 ✓

79.4 ✓

86.9 ✓

91.4 ✓

24.4 ✓

28.6 ✓

N 4540

E

4710

20

30

40

50

60

70

80

90

4800

10

20

30

40

50

60

70

80

90

4900

10

20

30

40

50

Elev.

750.3 ✓

525 ✓

569 ✓

593 ✓

622 ✓

64.0 ✓

65.1 ✓

68.1 ✓

76.6 ✓

79.6 ✓

82.8 ✓

85.3 ✓

92.0 ✓

96.0 ✓

8005 ✓

022 ✓

067 ✓

11.1 ✓

14.9 ✓

19.9 ✓

24.7 ✓

28.2 ✓

28.9 ✓

29.7 ✓

31.7 ✓

N 4540

E

4960

70

80

90

5000

10

20

30

40

50

60

70

80

90

5100

10

20

30

40

50

60

70

80

90

5200

Elev.

836.3 ✓

42.8 ✓

49.2 ✓

55.8 ✓

61.5 ✓

65.9 ✓

69.6 ✓

77.1 ✓

83.8 ✓

87.0 ✓

91.4 ✓

97.4 ✓

901.9 ✓

06.4 ✓

11.1 ✓

11.2 ✓

12.9 ✓

15.9 ✓

18.5 ✓

19.2 ✓

16.4 ✓

16.3 ✓

16.6 ✓

14.5 ✓

11.7 ✓

67

M 4540

E	Elev.	FO.
5210	910.3	✓
20	10.8	✓
30	11.3	✓
40	10.7	✓
50	09.8	✓
60	06.6	✓
70	04.3	✓
80	02.7	✓
90	896.9	✓
5300	936	✓
10	899	✓
20	87.3	✓
30	81.3	✓
40	76.5	✓
50	71.7	✓
60	67.3	✓
70	64.2	✓
80	56.0	✓
90	52.3	✓
5400	61.8	✓
10	64.0	✓
20	64.1	✓
30	70.5	✓
40	75.0	✓
50	80.6	✓

N 4540

68

E	Elev.	FO.
5460	881.0	✓
70	80.3	✓
80	77.9	✓
90	74.9	✓
5500	59.2	✓
10	61.4	✓
20	66.9	✓
30	72.4	✓
40	79.3	✓
50	79.4	✓
60	76.4	✓
70	77.6	✓
80	83.1	✓
90	91.8	✓
5600	96.0	✓

N 4550

E	Elev.	
4720	755.9	✓
30	62.5	✓
40	65.6	✓
50	68.5	✓
60	69.2	✓
70	70.2	✓
80	75.0	✓
90	80.0	✓
4800	84.0	✓
10	87.1	✓
20	90.4	✓
30	95.3	✓
40	80.09	✓
50	03.7	✓
60	07.3	✓
70	12.3	✓
80	15.1	✓
90	19.4	✓
4900	23.9	✓
10	29.2	✓
20	32.6	✓
30	36.7	✓
40	39.7	✓
50	39.9	✓
60	37.9	✓

N 4550

69

E	Elev	
4970	845.1	✓
80	50.3	✓
90	58.6	✓
5000	64.2	✓
10	69.1	✓
20	73.9	✓
30	81.2	✓
40	85.6	✓
50	90.2	✓
60	94.4	✓
70	901.3	✓
80	07.6	✓
90	10.1	✓
5100	13.5	✓
10	14.8	✓
20	16.0	✓
30	20.9	✓
40	24.1	✓
50	23.1	✓
60	21.0	✓
70	26.6	✓
80	21.8	✓
90	22.9	✓
5200	21.1	✓
10	18.5	✓

N 4550

F	Elev	Prob.
5220	916.3	✓
30	16.3	✓
40	16.5	✓
50	16.0	✓
60	12.5	✓
70	11.8	✓
80	07.1	✓
90	04.8	✓
5300	02.6	✓
10	01.3	✓
20	894.2	✓
30	87.8	✓
40	84.4	✓
50	78.6	✓
60	74.6	✓
70	69.1	✓
80	61.6	✓
90	67.0	✓
5400	70.0	✓
10	68.5	✓
20	68.8	✓
30	74.2	✓
40	79.4	✓
50	83.9	✓
60	84.8	✓

N 4550

70

R	Elev.
5470	885.4 ✓
80	85.0 ✓
90	77.7 ✓
5500	71.7 ✓
10	65.1 ✓
20	73.2 ✓
30	79.2 ✓
40	86.3 ✓
50	85.4 ✓
60	84.2 ✓
70	84.1 ✓
80	88.9 ✓
90	94.8 ✓
5600	899.9 ✓

N 4560

E	Elev.	
4720	700.3	✓
30	64.7	✓
40	68.4	✓
50	72.7	✓
60	75.4	✓
70	79.7	✓
80	83.8	✓
90	83.8	✓
4800	87.1	✓
10	91.2	✓
20	93.5	✓
30	98.0	✓
40	804.6	✓
50	66.1	✓
60	09.5	✓
70	14.7	✓
80	19.3	✓
90	24.3	✓
4900	27.9	✓
10	31.4	✓
20	37.0	✓
30	40.4	✓
40	44.0	✓
50	46.3	✓
60	48.1	✓

N 4560

71

E	Elev.	
4970	846.4	✓
80	49.7	✓
90	60.0	✓
5000	67.5	✓
10	72.5	✓
20	77.6	✓
30	85.8	✓
40	89.1	✓
50	94.4	✓
60	97.3	✓
70	905.1	✓
80	10.1	✓
90	15.1	✓
5100	18.2	✓
10	21.9	✓
20	25.3	✓
30	29.5	✓
40	27.8	✓
50	29.4	✓
60	30.4	✓
70	31.3	✓
80	30.3	✓
90	30.2	✓
5200	29.0	✓
10	27.8	✓

N 4560

F	Elev	POB
5220	927.9	✓
30	28.0	✓
40	23.5	✓
50	21.9	✓
60	18.8	✓
70	16.5	✓
80	13.9	✓
90	10.5	✓
5300	07.8	✓
10	02.8	✓
20	898.2	✓
30	94.3	✓
40	91.1	✓
50	84.0	✓
60	78.8	✓
70	71.9	✓
80	63.5	✓
90	70.9	✓
5400	76.5	✓
10	75.7	✓
20	71.7	✓
30	77.2	✓
40	83.7	✓
50	88.3	✓
60	90.2	✓

N 4560

72

E	Elev.
5470	891.2 ✓
80	90.1 ✓
90	84.4 ✓
5500	79.2 ✓
10	67.7 ✓
20	79.4 ✓
30	85.4 ✓
40	90.9 ✓
50	92.1 ✓
60	91.2 ✓
70	86.7 ✓
80	92.4 ✓
90	99.7 ✓
5600	904.1 ✓

N4570

E	Elev.		E	Elev.	
4730	768.0	✓	4980	857.8	✓
40	72.8	✓	90	62.9	✓
50	75.8	✓	5000	68.3	✓
60	79.7	✓	10	75.3	✓
70	84.9	✓	20	81.9	✓
80	87.2	✓	30	88.0	✓
90	87.4	✓	40	92.7	✓
4800	91.3	✓	50	900.2	✓
10	95.2	✓	60	01.4	✓
20	98.4	✓	70	07.5	✓
30	805.8	✓	80	13.2	✓
40	08.4	✓	90	20.6	✓
50	11.0	✓	5100	24.2	✓
60	09.3	✓	10	28.7	✓
70	18.8	✓	20	32.5	✓
80	23.8	✓	30	33.2	✓
90	28.2	✓	40	33.4	✓
4900	31.6	✓	50	35.9	✓
10	34.4	✓	60	40.3	✓
20	40.4	✓	70	37.0	✓
30	43.6	✓	80	35.8	✓
40	46.7	✓	90	37.2	✓
50	53.6	✓	5200	37.3	✓
60	56.3	✓	10	37.5	✓
70	55.4	✓	20	31.8	✓

N4570

73

E	Elev. post		E	Elev.	
5230	932.5	✓	5480	894.4	✓
40	31.1	✓	90	90.1	✓
50	28.2	✓	5500	85.1	✓
60	26.8	✓	10	75.4	✓
70	20.4	✓	20	84.5	✓
80	18.2	✓	30	90.9	✓
90	15.6	✓	40	97.9	✓
5300	10.9	✓	50	98.3	✓
10	08.9	✓	60	97.7	✓
20	03.4	✓	70	96.2	✓
30	897.7	✓	80	98.2	✓
40	04.7	✓	90	904.9	✓
50	88.5	✓	5600	909.8	✓
60	83.8	✓			
70	73.0	✓			
80	71.4	✓			
90	79.4	✓			
5400	85.0	✓			
10	85.0	✓			
20	78.2	✓			
30	80.9	✓			
40	87.1	✓			
50	94.0	✓			
60	95.5	✓			
70	95.0	✓			

N 4580

E	Elev	
4740	776.3	✓
50	804	✓
60	832	✓
70	880	✓
80	911	✓
90	916	✓
4800	935	✓
10	999	✓
20	8039	✓
30	075	✓
40	119	✓
50	13.7	✓
60	15.6	✓
70	20.2	✓
80	26.7	✓
90	320	✓
4900	356	✓
10	384	✓
20	423	✓
30	488	✓
40	529	✓
50	574	✓
60	615	✓
70	650	✓
80	635	✓

E	Elev	
4990	863.7	✓
5000	70.0	✓
10	76.6	✓
20	84.5	✓
30	89.1	✓
40	96.5	✓
50	903.4	✓
60	05.4	✓
70	10.6	✓
80	15.6	✓
90	22.3	✓
5100	27.0	✓
10	31.0	✓
20	36.2	✓
30	40.2	✓
40	42.9	✓
50	43.4	✓
60	43.9	✓
70	45.3	✓
80	45.2	✓
90	46.8	✓
5200	49.8	✓
10	47.0	✓
20	43.9	✓
30	37.5	✓

N 4580

74

E	Elev	E	Elev		
5240	936.9	✓	5490	894.7	✓
50	337	✓	5500	90.7	✓
60	319	✓	10	83.8	✓
70	294	✓	20	88.6	✓
80	255	✓	30	96.3	✓
90	20.3	✓	40	904.2	✓
5300	17.6	✓	50	05.0	✓
10	14.9	✓	60	03.9	✓
20	080	✓	70	900.7	✓
30	038	✓	80	00.4	✓
40	809.9	✓	90	10.3	✓
50	930	✓	5600	914.5	✓
60	884	✓			
70	80.1	✓			
80	78.3	✓			
90	86.7	✓			
5400	91.8	✓			
10	88.5	✓			
20	87.2	✓			
30	84.4	✓			
40	91.1	✓			
50	97.5	✓			
60	99.6	✓			
70	899.8	✓			
80	99.6	✓			

N4590

F	Elev	F	Elev
4740	780.4 ✓	4990	871.9 ✓
50	83.8 ✓	5000	76.9 ✓
60	86.6 ✓	10	77.2 ✓
70	92.4 ✓	20	85.9 ✓
80	95.7 ✓	30	91.4 ✓
90	96.5 ✓	40	99.4 ✓
4800	98.3 ✓	50	905.1 ✓
10	801.4 ✓	60	09.1 ✓
20	05.8 ✓	70	12.7 ✓
30	11.6 ✓	80	17.4 ✓
40	14.7 ✓	90	25.7 ✓
50	17.8 ✓	5100	30.1 ✓
60	19.9 ✓	10	36.1 ✓
70	23.4 ✓	20	41.6 ✓
80	28.0 ✓	30	44.7 ✓
90	32.9 ✓	40	45.9 ✓
4900	38.5 ✓	50	51.1 ✓
10	44.5 ✓	60	55.4 ✓
20	48.9 ✓	70	52.9 ✓
30	53.3 ✓	80	53.6 ✓
40	57.3 ✓	90	53.2 ✓
50	63.5 ✓	5200	55.1 ✓
60	67.6 ✓	10	56.7 ✓
70	71.4 ✓	20	50.3 ✓
80	74.5 ✓	30	45.9 ✓

N4590

75

F	Elev.	F	Elev.
5240	943.1 ✓	5490	900.5 ✓
50	39.9 ✓	5500	896.9 ✓
60	36.6 ✓	10	87.9 ✓
70	37.3 ✓	20	93.8 ✓
80	27.9 ✓	30	904.4 ✓
90	25.5 ✓	40	09.9 ✓
5300	22.5 ✓	50	11.8 ✓
10	19.5 ✓	60	11.6 ✓
20	11.9 ✓	70	07.9 ✓
30	10.1 ✓	80	04.9 ✓
40	04.2 ✓	90	14.2 ✓
50	897.3 ✓	5600	918.8 918.2 ✓
60	93.8 ✓		
70	90.9 ✓		
80	87.8 ✓		
90	84.5 ✓		
5400	95.9 ✓		
10	94.8 ✓		
20	94.2 ✓		
30	91.2 ✓		
40	94.7 ✓		
50	900.5 ✓		
60	903.5 ✓		
70	05.9 ✓		
80	03.7 ✓		

N 4600

E	Elev.	F	Elev.
4750	787.2 ✓	5000	877.8 ✓
60	91.9 ✓	10	86.4 ✓
70	96.2 ✓	20	87.7 ✓
80	99.9 ✓	30	92.5 ✓
90	801.9 ✓	40	98.5 ✓
4800	01.4 ✓	50	907.0 ✓
10	05.4 ✓	60	11.5 ✓
20	08.7 ✓	70	16.2 ✓
30	14.3 ✓	80	21.4 ✓
40	17.9 ✓	90	27.3 ✓
50	23.3 ✓	5100	32.2 ✓
60	25.0 ✓	10	39.9 ✓
70	26.8 ✓	20	46.4 ✓
80	30.1 ✓	30	47.1 ✓
90	38.1 ✓	40	53.0 ✓
4900	40.5 ✓	50	60.0 ✓
10	47.3 ✓	60	62.1 ✓
20	53.4 ✓	70	60.9 ✓
30	56.8 ✓	80	59.0 ✓
40	61.7 ✓	90	60.8 ✓
50	65.9 ✓	5200	64.5 ✓
60	70.6 ✓	10	60.7 ✓
70	75.2 ✓	20	55.8 ✓
80	78.9 ✓	30	52.9 ✓
90	77.4 ✓	40	48.6 ✓

N 4600

76

E	Elev.	F	Elev.
5250	946.1 ✓	5500	904.6 ✓
60	42.5 ✓	10	893.0 ✓
70	40.7 ✓	20	895.9 ✓
80	38.6 ✓	30	908.7 ✓
90	30.7 ✓	40	14.8 ✓
5300	29.4 ✓	50	18.6 ✓
10	22.4 ✓	60	19.1 ✓
20	19.1 ✓	70	17.3 ✓
30	15.4 ✓	80	14.1 ✓
40	09.7 ✓	90	16.2 ✓
50	03.3 ✓	5600	923.6 ✓
60	895.1 ✓		
70	98.0 ✓		
80	96.0 ✓		
90	90.5 ✓		
5400	898.5 ✓		
10	901.5 ✓		
20	898.4 ✓		
30	96.1 ✓		
40	97.1 ✓		
50	902.1 ✓		
60	07.2 ✓		
70	09.5 ✓		
80	10.2 ✓		
90	06.6 ✓		

		N 4610			
F	Elev.	F	Elev.	F	Elev.
4750	790.5 ✓	5000	887.6 ✓		
60	95.2 ✓	10	92.0 ✓		
70	99.0 ✓	20	94.1 ✓		
80	803.7 ✓	30	96.6 ✓		
90	05.6 ✓	40	900.3 ✓		
4800	05.1 ✓	50	06.9 ✓		
10	09.8 ✓	60	13.3 ✓		
20	12.5 ✓	70	17.8 ✓		
30	18.3 ✓	80	22.5 ✓		
40	22.0 ✓	90	29.3 ✓		
50	27.1 ✓	5100	35.1 ✓		
60	30.0 ✓	10	41.2 ✓		
70	32.0 ✓	20	48.3 ✓		
80	35.7 ✓	30	52.6 ✓		
90	38.7 ✓	40	60.3 ✓		
4900	44.0 ✓	50	64.6 ✓		
10	51.4 ✓	60	65.8 ✓		
20	56.1 ✓	70	63.8 ✓		
30	63.2 ✓	80	64.2 ✓		
40	66.5 ✓	90	64.9 ✓		
50	69.9 ✓	5200	66.1 ✓		
60	75.5 ✓	10	62.6 ✓		
70	80.2 ✓	20	61.8 ✓		
80	83.0 ✓	30	56.6 ✓		
90	87.5 ✓	40	52.3 ✓		

		N 4610			
F	Elev.	F	Elev.	F	Elev.
5250	950.5 ✓	5500	909.0 ✓		
60	47.7 ✓	10	02.0 ✓		
70	44.3 ✓	20	06.1 ✓		
80	41.8 ✓	30	12.8 ✓		
90	37.1 ✓	40	19.0 ✓		
5300	31.5 ✓	50	25.2 ✓		
10	28.8 ✓	60	25.1 ✓		
20	24.2 ✓	70	24.3 ✓		
30	20.5 ✓	80	21.8 ✓		
40	14.1 ✓	90	21.0 ✓		
50	06.2 ✓	5600	26.6 ✓		
60	98.5 ✓				
70	03.8 ✓				
80	04.4 ✓				
90	02.4 ✓				
5400	04.5 ✓				
10	08.9 ✓				
20	04.5 ✓				
30	01.5 ✓				
40	899.2 ✓				
50	905.8 ✓				
60	11.2 ✓				
70	13.8 ✓				
80	13.5 ✓				
90	12.6 ✓				

#4620			#4620		
E	Elev.		E	Elev.	
4790	809.0	✓	5040	904.3	✓
4800	09.1	✓	50	07.1	✓
10	14.0	✓	60	12.4	✓
20	17.0	✓	70	21.2	✓
30	20.0	✓	80	23.9	✓
40	24.6	✓	90	31.1	✓
50	29.4	✓	5100.	37.2	✓
60	32.7	✓	10	42.8	✓
70	37.7	✓	20	52.2	✓
80	41.6	✓	30	56.5	✓
90	37.3	✓	40	61.3	✓
4900	47.7	✓	50	67.1	✓
10	54.7	✓	60	68.3	✓
20	61.1	✓	70	69.7	✓
30	65.4	✓	80	69.2	✓
40	70.1	✓	90	68.6	✓
50	73.2	✓	5200.	68.4	✓
60	77.2	✓	10	66.8	✓
70	83.5	✓	20	64.5	✓
80	86.8	✓	30	63.2	✓
90	90.4	✓	40	59.2	✓
5000	93.1	✓	50	54.7	✓
10	97.6	✓	60	51.1	✓
20	900.6	✓	70	49.2	✓
30	02.0	✓	80	48.3	✓

#4620			#4620		
E	Elev.		E	Elev.	
5290	941.6	✓	5540	925.1	✓
5300	36.5	✓	50	30.2	✓
10	32.7	✓	60	34.4	✓
20	27.5	✓	70	30.8	✓
30	22.6	✓	80	30.1	✓
40	18.3	✓	90	26.6	✓
50	11.0	✓	5600.	930.8	✓
60	05.5	✓			
70	09.3	✓			
80	10.7	✓			
90	08.4	✓			
5400	09.9	✓			
10	13.5	✓			
20	11.0	✓			
30	05.1	✓			
40	04.5	✓			
50	08.9	✓			
60	14.7	✓			
70	18.3	✓			
80	19.4	✓			
90	18.2	✓			
5500	14.0	✓			
10	13.6	03.6 ✓			
20	12.2	✓			
30	17.9	✓			

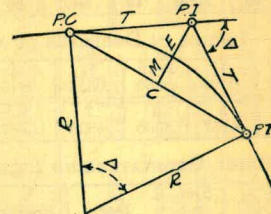
E	Elev.		E	Elev.	P.P.
4830	824.1	✓	5080	926.4	✓
40	28.3	✓	90	33.6	✓
50	33.2	✓	5100	38.9	✓
60	37.3	✓	10	44.4	✓
70	43.6	✓	20	51.9	✓
80	46.6	✓	30	57.9	✓
90	49.0	✓	40	64.3	✓
4900	50.6	✓	50	67.3	✓
10	58.4	✓	60	69.7	✓
20	63.3	✓	70	70.4	✓
30	70.0	✓	80	70.9	✓
40	74.4	✓	90	70.9	✓
50	77.0	✓	5200	72.7	✓
60	79.5	✓	10	72.0	✓
70	83.4	✓	20	67.5	✓
80	90.8	✓	30	67.0	✓
90	97.0	✓	40	65.1	✓
5000.	98.7	✓	50	63.4	✓
10	901.4	✓	60	56.4	✓
20	04.9	✓	70	53.6	✓
30	06.5	✓	80	51.4	✓
40	07.9	✓	90	45.8	✓
50	12.4	✓	5300	39.0	✓
60	15.1	✓	10	35.4	✓
70	21.8	✓	20	32.5	✓

E	Elev.		E	Elev.	
5330	927.6	✓	5580	935.6	✓
40	20.3	✓	90	33.9	✓
50	11.2	✓	5600.	935.6	✓
60	12.1	✓			
70	16.4	✓			
80	17.3	✓			
90	14.5	✓			
5400	15.4	✓			
10	17.2	✓			
20	15.1	✓			
30	12.1	✓			
40	09.0	✓			
50	14.3	✓			
60	18.8	✓			
70	24.2	✓			
80	25.6	✓			
90	24.1	✓			
5500	22.4	✓			
10	17.0	✓			
20	14.1	✓			
30	25.4	✓			
40	28.9	✓			
50	36.0	✓			
60	38.6	✓			
70	37.6	✓			

10/100
5/13/300
20/100
100

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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CURVE FORMULAS

Radius = $R = \frac{50}{\sin. \frac{\Delta}{2}}$ (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) = $R \text{vers} \frac{\Delta}{2}$ (6)

External = $E = T \tan \frac{\Delta}{4}$ (7) = $R \div \cos. \frac{\Delta}{2} - R$ (8) = $R \text{exsec} \frac{\Delta}{2}$ (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. $\Delta = 62^\circ 10'$ $D = 8^\circ 20'$. From Table IV for 1° curve $T = 3454.1$ and $\div 8\frac{1}{3} = 414.49$ 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 = $158 - \text{Sta. P. C.} = 54.50$, hence offset = $7.27 \frac{(54.50 \div 100)^2}{1} = 2.16$ ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 688.26) = 2.16$ ft.

Deflections.—Deflection angle = $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft. = (in minutes) $.3 \times C \times D^\circ$ or = defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve = $.3 \times 54.5 \times 8\frac{1}{3} = 136.2'$ or $2^\circ 16.2'$, or = $2.50 \times 54.5 = 136.2'$ from Table III. For Sta. 159 deflection angle = $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$, 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 $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 91.27$ and from Table V correction = .10 or $E = 91.37$ ft. Or suppose $\Delta = 32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E = 230.9$ and $\div 42 = 5.5$ or $D = 5^\circ 30'$.

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	26.2	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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