

PASTS

BOOK

1880

W210

210

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AGENTS FOR

"BERGER" TRANSITS and LEVELS

"GURLEY" SURVEYING and HYDRAULIC INSTRUMENTS

"CHICAGO" STEEL TAPES, etc.

Sta.	Elev.	Grade				L	E	R	+	H.I	-	Elev	
									1.81	132.81		138.00 B.M.	
1148+50	126.00	X							4.13	141.26	2.28	137.53	
										90' L	1149+00	138.15 B.M.	
+54 ⁵	125.82									0.85	132.00	132.15	
+63 ³	125.47		4.00%					9.5		3.78	136.69	6.09 132.91	
+75	131.50	125.00		14.81		10		3	7	10	4.32	145.28	2.23 132.86
						+7.6	+6.5	+6.8	+10.1	+10.1			
						7.2	8.3	8.0	4.7	4.7			
1149	131.50	124.00	X	15.81		10		7	10				
						+6.9	+7.5	+9.3	+11.1				
						8.9	8.3	4.5	4.7				
+25	133.10	125.00		14.81		10		4	10				
						+6.5	+8.1	+10.1	+10.3				
						8.3	6.7	4.7	4.5				
+50	133.80	126.00		13.81		10		4	10				
						+8.0	+7.8	+9.3	+9.6				
						5.3	6.0	4.5	4.2				
+75	134.90	127.00	4.00%	12.81		10		10					
						+8.0	+7.9	+8.9					
						4.8	4.5	3.9					
1150	135.20	128.00	+	11.81	0.69	10		10					
						+7.3	+7.7	+8.6					
						4.5	4.1	3.2					
+25	136.30	129.00		10.81	7.69	15	5	10					
						+13.4	+11.2	+7.3	+8.0				
						H.L.	H.L.	3.5	2.3				
+50	137.20	130.00		11.96	6.69	15	8	2	10				
						+24.8	+20.4	+7.2	+7.2	+7.7			
						H.L.	H.L.	4.8	4.8	4.3			
+75	137.70	131.00		10.96	5.69	15	9	2	10				
						+26.7	+20.7	+6.7	+6.7	+7.5			
						H.L.	H.L.	4.3	4.3	3.5			

Sta. Elev. Grade

145.28
12.07 153.07 4.28 141.00

152.69

Sta.	Elev.	Grade												
1154	147.80	141.00	11.69	4.28	10	3	1	10						
					+18.0 H.L.	+12.3 H.L.	+6.8 4.9	+6.2 5.5	+7.0 4.7	<				
+22.2 E	149.0	141.67	11.02	3.61 11.40	10	4	2	3	10					
					+15.3 H.L.	+12.8 H.L.	+8.4 8.6	+7.3 8.7	+5.4 4.6	+6.9 4.1	<			
+10	149.10	142.50	10.19	10.57	10	2		10	1					
					+11.3 H.L.	+6.6 3.6	+6.6 8.6	+6.7 3.5		<	6.10	157.47	1.12	151.57
+7.5	148.9	143.25	14.42	9.82	10			10			7.38	162.17	2.86	154.81
					+10.3 4.1	+5.7 8.7	+6.3 8.1			<			4.61	157.56
1155	149.50	144.00	13.67	9.07	8	3	2	10						
					+10.2 3.5	+7.3 6.4	+5.5 8.2	+5.5 8.2	+6.4 7.5	<				
+2.5	150.0	144.75	12.92	17.32	10	5		10						
					+12.2 5.1	+10.8 6.5	+8.0 4.9	+5.2 7.7	+5.2 7.7	+6.2 6.7	+			
+48.4 N		145.45			10	5		10						
					+11.1 5.6	+8.1 4.1	+5.2 6.5	+5.2 7.0	+6.1 6.1	<				
+50	150.70	145.50	12.17	16.67	10	5		10						
					+10.9 5.0	+7.1 4.3	+5.5 5.2	+5.5 5.2	+6.1 5.6	<				
+7.1	151.7	146.25	11.42	15.92	10	4	2	10						
					+10.9 5.0	+7.1 4.3	+5.5 5.2	+5.5 5.2	+6.1 5.6	<				
1156	152.30	147.00	10.67		10	4		10						
					+9.4 1.3	+5.6 3.1	+5.3 5.4	+5.7 4.5		<				
+2.1	152.7	147.75	9.92		10	5		10						
					+6.7 3.2	+5.2 4.7	+4.9 5.0	+5.5 4.4		<				
+10	153.80	148.50	9.17		10	6	5	10						
					+5.5 3.7	+5.2 4.0	+4.4 4.8	+5.3 3.5	+5.7 3.5	<				
+7.5		149.25	16.38		10	3		10			7.07	164.63		157.56
					+9.3 H.L.	+5.8 10.6	+6.1 10.3	+6.6 9.8						

Notes sent to office 8-15-26.

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3.00%

+

Sta. Elev. Grade

Sta.	Elev.	Grade							
1157	150.00	14.63 13.08	10	5	2	10	10.52	164.63	157.56 BM
			+15.1	+13.0	+4.6	+4.6	+5.8	168.08	
			3.0	5.1	10.0	10.0	8.8		
+25	150.75	13.88 17.33	10	3	10	10	12.22	176.12	+1.8
			+15.4	+13.3	+3.6	+5.9	7.31	182.05	1.38
			1.9	9.0	9.3	8.0			
+50	151.50	13.13 16.58	10	3	10	10	12.65	170.21	138.15 BM
			+13.2	+10.2	+5.1	+6.1			157.56
			3.4	6.4	8.0	7.0			
+75	152.25	12.38 23.87	10	4	10	10			
			+16.0	+12.8	+5.7	+6.2			
			7.5	11.1	6.7	6.2			
1158	153.00	11.63 23.12	10	3	10	10			
			+16.0	+13.1	+5.7	+6.3			
			7.1	10.0	5.9	5.3			
+25	153.75	10.88 22.37	10	2	10	10			
			+16.7	+12.2	+6.3	+6.5			
			5.7	10.2	4.6	4.4			
+50	154.50	10.13 27.55	10	2	10	10			
			+17.4	+13.3	+6.1	+6.6			
			10.2	14.3	4.0	3.5			
+75	155.25	9.38 26.80	10	3	10	10			
			+16.4	+13.3	+6.3	+6.8			
			10.7	13.4	3.1	2.5			
1159+02	156.07	8.56 25.98	10	4	10	10			
			+18.5	+16.6	+6.0	+7.0			
			7.5	9.4	2.6	1.6			
+27 ³	156.82	13.39 28.23	10	5	1	2	10		
			+17.1	+15.4	+6.1	+6.1	+7.2		
			8.1	9.6	7.3	7.3	7.3	6.2	
+52 ³	157.57	12.64 24.48	10	4	1	10			
			+16.1	+14.0	+6.2	+6.2	+7.0		
			8.4	10.5	6.4	6.4	5.6		
+77 ³	158.32	11.89 23.73	10	1	1	10			
			+13.7	+10.0	+8.0	+6.6	+6.9		
			8.0	13.7	9.9	5.3	5.0		

Sta. Elev. Grade

1159+83²EC. 158.50

1160 159.00 11.21
16.88

+25 159.75 10.46
16.13

+50 160.50 9.71
15.38

+75 161.25 14.63

1161 162.00 13.88

+25 162.75 13.13

+50 163.50 12.38

+75 164.25 11.63

1162 165.00 X 10.88

+17¹ 165.60 10.28

+42¹ 166.47 9.41

3.00%

3.50%

10 3
+10.8 +9.6
3.8 5.0

8 7
+13.9 +8.3
0.1 5.0

11 8
+21.4 +8.4
HL 4.7

10 8
+19.0 +8.0
HL 4.4

12 7
+11.0 +7.8
0.6 3.8

10 6
+7.5 +6.7
3.4 4.2

10 4
+7.3 +6.7
3.0 3.6

16 7 2
+11.2 +7.2 +6.7
HL 0.2 2.8

E

170.20

8.65 175.88 2.98 167.23

1060+50 100'R B.M. 9.44 160.77

10 2 10
+12.9 +8.5 +6.2 +6.6
4.0 2.7 3.0 4.6

10 3 10
+11.1 +8.9 +5.9 +6.7
5.0 1.6 4.6 3.8

10 2 10
+10.8 +9.2 +6.2 +6.7
4.6 0.5 3.5 3.0

1 10
+6.1 +6.1 +6.9
8.5 8.5 7.7

4 10
+5.9 +6.4 +7.0
8.0 7.5 6.9

4 10
+5.7 +6.5 +6.8
7.4 6.6 6.3

5 10
6.0 +6.4 +6.5
6.4 6.0 5.9

6 10
+5.6 +6.3 +6.5
6.0 5.3 5.1

5 10
+5.4 +6.3 +6.8
5.5 4.6 4.1

3 10
+5.9 +5.8 +6.9
+1.4 4.5 3.4

1
5.4 +5.4 +6.8
4.0 4.0 2.6

Sta.	Elev.	Grade			L	E	R			175.88			
115	1162+67 ^L	167.35	8.53 17.21		+12.9 4.3	+7.1 1.4	+5.5 3.0	+6.0 11.2	+6.9 1.6	10.24	184.56	1.56	174.32
	+22 ^L	168.22								12.32	196.54	0.34	184.22
	+95 ² EC.	168.33										3.82	187.72 0.11
										7.90	195.64		187.74
116	1163+00 90	168.50	16.06		+16.1 8.0	+13.4 2.1	+5.9 10.2	+5.9 10.2	+7.1 9.0	6.92	191.26	10.80	184.84 T.P. Hook
	+25 ^L	169.38	15.18		+13.4 1.8	+11.2 4.0	+5.7 9.3	+5.7 9.5	+6.9 8.3	10.56	198.30		187.74
	+50 ^L	170.25	14.31		+14.4 -0.1	+12.0 2.3	+5.5 8.8	+5.5 8.8	+6.8 7.5				
	+75 ^L	171.12	13.44		+15.2 1.4	+12.6 0.8	+5.8 7.6	+5.5 7.9	+6.7 6.7				
1164		172.00	12.56		+17.4 1.4	+12.4 0.2			+6.5 6.1				
	+10 B.C. 25	172.35	18.91 25.95		+18.4 7.6	+15.0 11.0			+6.8 12.1	+5.6 13.3	+6.4 12.3	+6.9 12.0	
11	+35 ^L 25	173.22	18.04 25.08		+20.6 4.5	+13.5 3.2			+7.9 10.1	+6.4 11.6	+6.6 11.4	+6.9 11.1	+8.1 9.0
	+60 ^L	174.10	17.16 24.120		+20.4 3.8	+13.9 4.3			+7.4 9.8	+6.3 10.9	+6.7 10.5	+7.0 10.2	+8.1 9.0
	+82 ² EC.	174.90	16.36 23.70		+17.0 6.4	+16.1 7.3			+7.4 9.0	+6.0 10.4	+6.8 9.6	+6.8 9.6	+8.0 8.4

1164+82.9
17.1

Sta. Elev. Grade

1165 175.50 15.76

+25 176.38 14.88

+50 177.25 14.01

+75 178.12 13.14

1166 B.C. 179.00 12.26

+20 179.70 11.56

+25 179.88

+40 180.40 10.86

+50 180.75

+60 181.10 10.16

+75 181.63

+80 181.80 9.46

1167 182.50

+07.2 EQ. 182.75 8.51

+25 183.38

+50 184.25

10
+12.0
3.8

10
+4.3
9.7

10
+3.5
9.6

10 6 42
+1.6 +1.6
10.4 10.4

10
+5.5
5.4

10
+5.5
5.4

(offset cut.)
6.4

7.2

±

5 1 10 24 28 44
+4.5 +6.5 +6.2 +6.9 +6.7 +8.2 +6.2
4.3 9.3 9.6 8.9 9.1 7.6 9.6

10 10 22
+4.8 +5.9 +6.7 +6.4
10.1 9.0 8.2 8.5

10 10 19
+5.4 +5.9 +6.3 +6.1
8.6 8.1 7.7 7.9

10 6 10 19
+5.5 +5.9 +6.3 +6.2
7.6 7.2 6.8 6.9

10 3 10 18
+4.2 +6.3 +5.8 +6.2 +6.3
8.1 6.0 6.5 6.1 6.0

2 1 19
+6.4 +5.7 +5.7 +6.6 +6.2
5.2 5.9 5.9 5.0 5.2

10 3 1 10 21
+6.0 +5.4 +5.7 +7.0 +6.4
4.9 5.0 5.2 3.9 4.5

10 2 2 4 10 22
+8.2 +8.6 +7.0 +5.5 +6.5 +7.0 +6.2
1.4 1.6 3.2 4.7 3.7 +3.2 4.8

1 3 5 10 23
+7.5 +5.7 5.5 +6.4 +6.9 +6.9
2.0 3.3 4.0 3.1 2.2 3.4

1 2 4 10
+7.9 +6.1 +5.7 +6.4 +6.8
0.6 2.4 2.8 2.1 1.7

10 ± 189.8
3 ± A

0 ± 191.3
3 ± A

191.26

Sta. Elev. Grade (offset cut)

1167+75	185.12	7.5
1168	186.00	7.6
+25	186.88	8.7
+50	187.75	7.7
+75	188.63	6.5
1169	189.50	10.5
+25	190.38	11.1
+50	191.25	11.9
+75	192.12	7.5
1170	193.00	7.9
+25	193.77	8.5
+50	194.53	9.0

+ 3.50%

+ 3.06%

C	+	π	-	EI
$\frac{73}{37} 192.6$				178.72
$\frac{63}{36} 193.60$	11.16			189.88
$\frac{43}{42} 195.60$		A	.08	189.80
$\frac{42}{39} 195.5$	10.10			199.90
$\frac{48}{39} 195.1$		B	.28	199.62
$\frac{48}{39} 200.0$	9.03			208.65
$\frac{71}{48} 201.5$				
$\frac{55}{37} 203.1$				
$\frac{90}{33} 199.6$				
$\frac{77}{32} 200.9$				
$\frac{63}{38} 202.3$				
$\frac{43}{42} 204.3$				

Sta.	Elev.	Grade	(Offset Cut)
1170+75	195.30		10.4
1171	196.07		10.0
+25	196.83		10.2
+50	197.60		11.2
+59 ³ B.C.	197.88		10.9
+84 ³	198.65		10.0
1172+09 ³	199.42		8.9
+34 ³	200.19		9.7
+59 ³	200.96		11.1
+70.4 E.C.	201.29		10.1
+75	201.43		11.1
1173	202.20		12.2

30.57%

E	+ π	- E1.
$\frac{2.9}{3.2}$ 205.7	208.65	
$\frac{2.5}{4.4}$ 206.1	12.77	6.01 202.64
$\frac{1.1}{4.2}$ 207.5		
$\frac{0.0}{4.1}$ 208.6		
$\frac{6.6}{3.3}$ 208.8		
$\frac{6.8}{4.9}$ 208.6		
$\frac{7.1}{5.1}$ 208.3		
$\frac{5.5}{4.4}$ 209.9		
$\frac{3.3}{4.1}$ 212.1		
$\frac{4.0}{4.5}$ 211.4		
$\frac{2.9}{3.8}$ 212.5		
$\frac{1.0}{3.4}$ 214.4		

Sta.	Elev.	Grade	(offset cut)	L	E	+	π	-	Elev.
1									
1173+25	202.97		12.4	$\frac{0.2}{3.8}$	215.4			5.22	210.19
+50	203.73		11.6	$\frac{1.8}{3.9}$	215.3	6.94	217.13		T.P. 1173+92.2
+75	204.50		11.7	$\frac{0.9}{4.1}$	216.2	0.95	217.66	-4.2	216.71
+92.7 B.C.	205.03		11.7	$\frac{0.1}{3.6}$	216.7	12.83	228.26		
1174+10 B	205.60		11.8	$\frac{0.3}{4.0}$	217.4				
+122		+3.067%							
+291 E.L.	206.16		10.8	$\frac{0.2}{3.8}$	217.0				
+50	206.80		11.1	$\frac{1.0}{3.5}$	217.9				
+75	207.57		8.5	$\frac{1.6}{4.1}$	216.1				
1175	208.33		5.8	$\frac{3.6}{7.1}$	214.1				
+25	209.10		6.3	$\frac{1.2}{3.2}$	215.4				
+50	209.87		8.8	$\frac{9.6}{4.2}$	218.7				

Sta.	Elev.	Grade	(offset cut)	C	+ T - El.
1175+75	210.64		9.9	$\frac{79}{49} 220.5$	220.26 2.25 226.01
1176	211.40		10.6	$\frac{63}{49} 222.0$	6.04 232.05
+25	212.17		10.7	$\frac{54}{49} 222.9$	
+50	212.94		11.7	$\frac{37}{49} 224.6$	
+75	213.70	+3.067%	12.7	$\frac{19}{39} 226.4$	
1177	214.47		11.8	$\frac{20}{49} 226.3$	
+25	215.24		9.7	$\frac{34}{49} 224.9$	
+34 ³ BC	215.52		8.4	$\frac{44}{41} 223.9$	
+50	216.00		7.4	$\frac{49}{52} 223.9$	
+57 ^E	216.18		6.0	$\frac{41}{52} 224.2$	
+80 ⁶ EC	216.73	+2.40% $\frac{20}{720}$		36	
1178	217.20		11.2	$\frac{40}{49}$	

Sta.	Elev.	Grade	(offset cut)
1178+25	217.80		10.8
+42 ^B D.C.	218.23		10.0
+69 ^B	218.86		9.6
+92 ^B	219.43		
+95 ^C EL.	219.48		9.8
1179	219.60		10.8
+25	220.20		10.8
+50	220.80		11.3
+75	221.40		12.2
1180	222.00		11.0
+25	222.44		9.3
+50	222.88		10.5

+2.40%

+1.75%

$\frac{34}{42} 228.6$
 $\frac{38}{40} 228.2$
 $\frac{35}{52} 228.5$
 $\frac{27}{42} 229.3$
 $\frac{27}{40} 229.8$
 $\frac{10}{48} 231.0$
 $\frac{101}{34} 232.1$
 $\frac{56}{33} 233.6$
 $\frac{62}{38} 233.0$
 $\frac{75}{34} 231.7$
 $\frac{58}{36} 233.9$

1158 4

+ 7 - E1,
 232.05
 B.M.
 5.20 226.85
 226.87
 12.29 239.16

Station Elev. Grade (offset cut)

Station	Elev.	Grade	(offset cut)
1180+75	223.31		10.5
1181	223.75		11.0
+20	224.19		11.2
+46 [±]	224.56		10.9
+71 [±]	225.00		10.8
+96 [±]	225.44		9.8
1182+21 [±]	225.87		9.0
+46 [±]	226.31		9.8
+71 [±]	226.75		9.8
+96 [±]	227.19		9.4
1183+21 [±]	227.62		9.7
+46 [±]	228.06		9.4

$\frac{54}{42} 233.8$
 $\frac{44}{42} 234.8$
 $\frac{38}{42} 235.4$
 $\frac{37}{42} 235.5$
 $\frac{44}{42} 234.8$
 $\frac{40}{42} 235.2$
 $\frac{43}{42} 234.9$
 $\frac{31}{54} 236.1$
 $\frac{26}{46} 236.6$
 $\frac{26}{44} 236.6$
 $\frac{19}{42} 237.3$
 $\frac{17}{42} 237.5$

+ + - Elev.
 239.16
 1.56 237.60
 7.37 244.97 B.M.
 10.61 234.36

 235.4
 224.2

 111.2

 234.8
 224.0

 110.8

Sta.	Elev.	Grade	(offset cut.)		+ π	-	Elev.
1183+57 ² EC	228.25		8.2	$\frac{28}{88}$ 236.1	11.58	A	234.389
+75	228.56		10.0	$\frac{16}{73}$ 237.6	T.P.	.87	245.10
1184+00	229.00		10.6	$\frac{54}{82}$ 239.6		B	250.28
+25	229.12		13.6	$\frac{23}{68}$ 242.7	10.83	C	269.75
+50	229.25		13.9	$\frac{19}{42}$ 243.1	9.75	D	267.55
+65 ^E 86	229.45				7.58	E	272.26
+75 ^E	229.50		14.3	244.4	10.18	F	272.26
+85 ^E	229.55		14.1	$\frac{14}{40}$ 243.6		G	280.37
+95 ^E	229.60		14.6	$\frac{9}{40}$ 244.1	12.72		
1185+05 ^E	229.65		13.6	$\frac{33}{50}$ 240.2			
+15 ^E	229.70		11.7	$\frac{51}{50}$ 240.4			
+25 ^E	229.75		11.1	$\frac{55}{58}$ 240.4			
+45 ^E	229.85		9.8	$\frac{60}{58}$ 240.4			
+58 ²	229.92		7.7	$\frac{150}{88}$ 240.2			
+75	229.88		7.8	$\frac{88}{150}$ 240.3			
58 ²				52 240.3			
1186	230.00		13.8	$\frac{27}{28}$ 240.7			

Note. From Sta. 1185+05^E
to Sta. Cuts at
& were taken.

Sta. Elev. Grade

πA
245.97

1186+25⁺ 231.67

14.2

$\frac{5\frac{1}{2}}{12^\circ} B$

45⁺ A 241.5 9.8

+50 233.34

14.2

$\frac{6^\circ}{12^\circ} B$

34⁺ A 242.6 9.3

+75[±] B.C. 235.06

15.0

$\frac{3\frac{1}{2}}{14^\circ} B$

19⁺ A 244.1 9.0

1186+93⁺ 236.21

14.2

$\frac{2^\circ}{15^\circ} B$

12⁺ A 245.0 8.8

πB
253.01

1187+10[±] C.C. 237.35

13.2

$\frac{2^\circ}{14^\circ} B$

7[±] B 245.8 8.4

+25⁺ 238.34

13.5

$\frac{1^\circ}{13^\circ} B$

7[±] B 246.0 7.7

+50 240.00 X

11.3

$\frac{2^\circ}{12^\circ} B$

5[±] B 247.3 7.3

+75⁺ 241.14

12.8

$\frac{7^\circ}{13^\circ} C$

4[±] B 248.1 7.0

+92[±] B.C. 241.92

11.6

$\frac{0^\circ}{13^\circ} B$

4[±] B 248.16 6.7

~~1188+17[±]~~

+30[±] 243.67

12.9

$\frac{5^\circ}{15^\circ} C$

2[±] B 250.2 6.5

+42[±]

+69[±] C.C. 245.38

13.9

$\frac{2^\circ}{16^\circ} C$

9[±] C 252.0 6.6

+6.67%

+5.33%

261.1

Sta.	Elev.	Grade	π " offset Cut.	E	\leq cut,
1188+75	245.63		π " C 261.11	13.2	$\frac{28}{16\frac{1}{2}}$ C 9 ^o C 6.5 252.1
1189	246.80			10.8	$\frac{40}{15\frac{1}{2}}$ C 8 ^o C 5.8 252.6
+25	247.93			11.1	$\frac{26}{14\frac{1}{2}}$ C 7 ^o C 6.1 254.0
+50	261.84 249.07			10.8	$\frac{17}{13\frac{1}{2}}$ C 5 ^o C 6.1 255.2
+75	261.84 250.24 11.60			12.8	$\frac{49}{15\frac{1}{2}}$ D 4 ^o C 6.1 256.3
1190	261.84 251.33 10.51			11.3	$\frac{74}{14\frac{1}{2}}$ D 3 ^o C 6.0 257.3
+25	261.84 252.47 9.37			10.6	$\frac{62}{14\frac{1}{2}}$ D 2 ^o C 5.9 258.4
+50	261.84 253.60 8.24		π " D 269.50	10.7	$\frac{52}{12\frac{1}{2}}$ D 1 ^o C 6.1 259.7
+75	254.73			10.4	$\frac{49}{11\frac{1}{2}}$ D 8 ^o D 6.3 261.0
1191	261.84 255.87 5.97			11.5	$\frac{26}{13\frac{1}{2}}$ D 7 ^o D 6.2 262.1
+25	261.84 257.00 4.84			13.0	$\frac{00}{14\frac{1}{2}}$ D 6 ^o D 6.5 263.5
+50	258.13			13.9	$\frac{36}{10\frac{1}{2}}$ E 5 ^o D 6.1 264.2

From here use Old Cross Sections

263.5
255.65
269.5
33
262.2

Sta.	Elev.	Grade	offset	Cut.	£	£	Cut.
1191 + 7 1/2	259.27		9.7		$\frac{10}{54}$ D	50° D	5.2
1192	260.40		9.5		$\frac{57}{72}$ E	35° D	5.6
+ 2 1/2	261.53		10.9		$\frac{32}{89}$ E	23° D	5.7
+ 4.5 3/8	262.48		14 2/3				
+ 7 1/2	263.80		13 1/4				
1193	264.93		10 2/3				
+ 2 1/2	266.06	4.53390	7 8/32				
+ 5 0	267.20		7 7/32				
+ 7 1/2	268.33		6 6/32				
1194	269.47		4 3/32				
+ 2 1/2	270.60		3 6/32				
+ 5 0	271.73		2 1/32				

$$\frac{10}{54} D \quad 50^\circ D \quad 264.5$$

$$\frac{57}{72} E \quad 35^\circ D \quad 266.0$$

$$\frac{32}{89} E \quad 23^\circ D \quad 267.2$$

$$269.5$$

$$267.2$$

Sta	Elev.	Grade	offset	Cut	±	± Cut	+	π	-	EI.
-----	-------	-------	--------	-----	---	-------	---	---	---	-----

$\frac{693.09}{20159}$

4533%

1194+62 ^{Ec}	272.29									
+75	272.86									
+87 ²	273.42									

Use Old Cross Sections to here-

1194+90 ^B	273.58									
1195+00	274.00 X									
+19 ^{Ec} ✓	274.93									

π F	283.44	9.6	92 ⁶	178	36 F	± Cut.
π G	293.09	8.2	10 ²	280.2		
			158 ⁶	129 ⁶		

+25

+50	3.65 ✓	276.40								
-----	--------	--------	--	--	--	--	--	--	--	--

7.8	8 ⁸	152 ⁶	282.5	10.6 ⁶	6.1
-----	----------------	------------------	-------	-------------------	-----

+71	2.95 ✓	277.60								
-----	--------	--------	--	--	--	--	--	--	--	--

7.6	7 ⁹	132 ⁶	283.4	3.7 ⁶	5.8
-----	----------------	------------------	-------	------------------	-----

293.1

25

1196	1.25 ✓	278.80								
------	--------	--------	--	--	--	--	--	--	--	--

6.2	8 ⁴	118 ⁶	284.7	8.4 ⁶	5.9
-----	----------------	------------------	-------	------------------	-----

+25	11.38 ✓	280.00								
-----	---------	--------	--	--	--	--	--	--	--	--

7.2	5 ²	12.2 ⁶	286.3	6.8 ⁶	6.3
-----	----------------	-------------------	-------	------------------	-----

+50	10.18 ✓	281.20								
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7.7	4 ²	132 ⁶	287.7	5.4 ⁶	6.5
-----	----------------	------------------	-------	------------------	-----

+71	8.98 ✓	282.40								
-----	--------	--------	--	--	--	--	--	--	--	--

6.0	3 ⁷	118 ⁶	288.7	4.4 ⁶	6.3
-----	----------------	------------------	-------	------------------	-----

1197	7.78 ✓	283.60								
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7.4	2 ¹	112 ⁶	289.8	3.3 ⁶	6.2
-----	----------------	------------------	-------	------------------	-----

Sta.	Elev.	Grade	offset	Cut
1197+25	6.58 ✓	284.80	4.80%	6.0
+50	5.38 ✓	286.00	X	7.3
775	3.98 ✓	287.40		7.4
1198	2.58 ✓	288.80		7.5
+25	10.32 ✓ 11.8	290.20		8.3
+50	8.92 ✓	291.60		8.1
+75	7.52 ✓	293.00	5.60%	9.0
1199	6.12 ✓	294.40		10.2
725	9.46 ✓	295.80		10.6
+50	8.06 ✓	297.20		9.2
+75	6.66 ✓	298.60		9.8
1200	5.26 ✓	300.00	X	10.2

πG
 293.09
 πH
 305.01
 πI
 316.42

#	Cut	+	π	-	EI.
$\frac{13}{12} G$	291.0	2.1 G	6.2	0.43	292.66
$\frac{12}{11} H$	292.5	0.6 G	6.5	0.16	304.85
$\frac{10}{12} H$	294.0	1.0 H	6.6		
$\frac{8}{13} H$	295.1	3.9 H	6.3		
$\frac{6}{14} H$	296.4	6.6 H	6.2		
$\frac{5}{13} H$	297.8	7.2 H	6.2		
$\frac{4}{14} H$	298.9	6.1 H	5.9		
$\frac{3}{14} H$	300.3	4.7 H	5.9		
$\frac{0}{15} H$	302.0	3.0 H	6.2		
$\frac{0}{13} H$	303.3	1.7 H	6.1		
$\frac{9}{13} I$	305.0	0.2 H	6.4		
$\frac{7}{14} I$	306.6	9.8 I	6.6		

Sta.	Elev.	Grade	offset	Cut.	±	±	Elev.
1200+25	4.00 ✓	301.26	10.9		52 148	307.6 I 88 I	316.42 T.P. 0.98 315.44
+10	2.74 ✓	302.52	10.0		54 138	308.7 I 77 I	
+58 ²	2.30 ✓	302.96	11.2	offset Cut.	05 150	309.4 R	
+70	1.47 ✓	303.79	9.5		11 160	R	
1201	9.32 ✓	305.05	8.0		11 141	R	124 5 01
+20	8.06 ✓	306.31	8.0		01 155	R	
+50	6.79 ✓	307.58	8.0	5.05 %	102 42	P	
+70	5.53 ✓	308.84	8.5		80 51	P	
1202	4.27 ✓	310.10	8.3		75 51	P	
+20	3.01 ✓	311.36	7.9		60 30	P	
+50	1.75 ✓	312.62	8.4		49 45	P	
+70	1.04 ✓	313.89	8.3		37 53	P	

Sta.	Elev.	Grade	offset cuts	offsets
1203	9.78 [✓]	315.15	10.6	$\frac{0^2}{6^2} P$
+25	8.52 [✓]	316.41		
+70	7.25 [✓]	317.68	8.6	$\frac{10^3}{7^2} M$
+77	5.99 [✓]	318.94	8.1	$\frac{9^8}{5^2} M$
1204	4.73 [✓]	320.20	7.6	$\frac{9^0}{4^2} M$
+21	3.47 [✓]	321.46	5.1	$\frac{10^2}{3^2} M$
+50	2.21 [✓]	322.72	6.6	$\frac{7^5}{3^2} M$
+75	.93 [✓]	324.00 ^X		
+77 ⁸	B.C. [✓]	324.06	7.5	$\frac{5^2}{3^2} M$
+97 ⁸	11.47 [✓]	324.46	6.2	$\frac{6^1}{3^2} M$
+17 ⁸	11.07 [✓]	324.86	8.4	$\frac{3^5}{3^2} M$
+37 ⁸	10.67 [✓]	325.26	10.6	$\frac{0^5}{6^2} M$
+57 ⁸	10.29 [✓]	325.66	12.2	$\frac{5^6}{8^2} K$

+5.0590

+2.0070

Sta.	Elev.	Grade	offset cuts	offsets
1205+86 ^{cc}	9.74 ⁷³	326.22	12.5	$\frac{48}{77} K$
1206+02 ^o	9.39 ⁴¹	326.54	11.4	$\frac{56}{82} K$
+22		326.94		$\frac{42}{72} K$
+25	8.93	327.00	12.4	$\frac{112}{112} K$
+42	12.17	327.17	14.9	$\frac{193}{193} K$
+52		327.27	11.1	$\frac{82}{82} K$
+62	11.97	327.37	8.9	$\frac{72}{72} K$
+72		327.47	6.2	$\frac{52}{52} K$
+82	11.74	327.57	3.9	$\frac{120}{65} K$
1207+032 ^{ec}		327.79		
+25		328.00		
+50		328.67		
+75		329.33		
1208	12.92 [✓]	330.00		
+25	11.12	331.0		
+33 ^o	10.48	332.44		

	Elev	
+	342.30	B.M.
1.23	343.53	
	9.53	334.00
2.81	336.81	
	12.27	323.84
2.10	325.94	
	12.97	312.97 T.P.
1.71	314.68	
	11.41	303.27
0.51	303.78	
	11.94	291.84
0.70	292.54	
	12.01	280.53
1.71	282.24	
		4.43
		284.96
		18
		283.2
		273.6
		9.6
3.26		

Sta.	Elev.	Grade	offset cut.	L.	±	R.	+	T	-	Elev.
1208+50 ²	8.68 ✓	334.24		5 ²			.97	367.11		366.14
+83 ²		336.04								
1209+08 ²		337.84								
+33 ² oc.		339.64								
+38 ² oc.										
+63			+7.2090							
+88										
1210+13										
+38		347.14								
+44 ²										
+50		348.00								
+63		348.75								
+88		350.20	+5.6090							
1211+13		351.65								
1211+19.2		352.01								
		348.2								

± cuts -

$$\begin{array}{r} 116 \\ -116 \\ \hline 355.5 \end{array}$$

$$\begin{array}{r} 112 \\ -112 \\ \hline 365.8 \end{array}$$

$$\begin{array}{r} 110 \\ -110 \\ \hline 356.1 \end{array}$$

$$\begin{array}{r} 105 \\ -105 \\ \hline 356.6 \end{array}$$

$$\begin{array}{r} 92 \\ -92 \\ \hline 357.3 \end{array}$$

$$\begin{array}{r} 92 \\ -92 \\ \hline 357.2 \end{array}$$

Sta.	Elev.	Grade
1211438	353.10	
+63	354.55	
+88	356.00	
1212711.2 +13.2	Equation 357.35	+5.8070
+21	358.03 359.10	
+432	353.00	X
+50	363.03	
+94 ³⁵	353.22	
1213	353.24	+0.42670
+50	353.45	
1214	353.67	
+50	353.88	
1215	354.09	

Sta.	Elev.	Grade	Cut.	+	-	Elev.
8	358.7					
7	359.5					
6	361.1					
7	362.5					
3	363.0					
3	363.3					
9	358.8					359.97
8	358.8					
7	360.8					
7	361.4					
6	361.4					
5	362.8					
5	363.1					

8.39 362.36

Sta. Elev. Grade

1215+50 354.31

1216 354.52

+50 354.73

1217 354.94

+50 355.16

1218 355.37

+50 355.58

1219 355.80

+54³⁵ 356.02

1220 +14³⁵ 355.51

+74³⁵ 355.00

1221+04³⁵ 355.00

15' P. Cut. 7 11 - Elev.

52 70 364.4 101 368.36

45 363.9 42 364.3 92

42 42 364.4 93

46 363.8 41 364.3 93

42 42 364.4 93

42 364.4 39 364.5 92

35 35 364.9 93

35 364.9 35 364.8 90

Cut.

15' L

48 365.4

48 365.1 49 Cut.

42 365.2

52 364.9

46 365.3

42 365.0

42 365.5

45 365.4

B.M.# 365.13

4.75 369.88

4.74 365.14

Sta.	Elev.	Grade	Cut.	15' L	±	+ 7	-	EI.
1221	+64 ³⁵	356.10	8.2	98	365.1	95	365.3	369.88
1222	+24 ³⁵	357.18	8.7	72	365.8	72	365.9	
	+50	357.29	8.7	32	366.0	32	366.0	
1223		357.50						
	+50	357.714						
1224		357.93						
	+16	358.00						
	+50	358.03						
1225		358.06						
	+50	358.10						
1226		358.14						
	+50	358.18						
1227		358.22						

+0.42670

+0.77970

Sta.	Elev.	Grade	✓ Rod
1227+50		358.26	
1228		358.30	
+50		358.33	0
1229		358.37	0
+50		358.41	+
1230		358.45	
+50		358.49	
+66 ⁹		358.5	X
1231		358.50	
+50		358.73	
1232		358.87	12.45
+50		359.01	12.31
1233		359.15	12.17

1233+10 359.29 12.03

1234 359.43 11.89

+10 359.57 11.75

1235 359.71 11.61

+10 359.85 11.47

1236 359.99 8.6 $\frac{82}{100}$

+042 360.04 79

+10 360.42 9.0

1237 360.88 9.2 73

+10 361.34 9.4 66

1238 361.81 9.7 58

+10 362.27 10.0 52

1239 362.73 10.8 38

+ T - E1

8.16 277.26 369.10

+ 28.10

+ 923.90

10' offset Cut

1239+JD 363.19 10.1 42

1240 363.65 10.1 36

+ JD 364.11 10.2 32

1241 364.58 10.2 25

+ JD 365.04 10.2 21

1242 365.50 10.6 13

+ JD 365.96 11.3 02

+543

366.00

1243 367.06

+ JD 368.22 9.8 82

1244 369.38 9.3 72

+ JD 370.54 8.8 62

1245 371.70 8.4 52

+ 9.2370

+ 2.3290

2

+ 4.02 385.98
0.76 385.22
5.11 390.33

E1
381.96

62 376.1
61 378.9
54 380.6

10' offset

1245 + 10	372.86	8.5	4 $\frac{1}{2}$
+ 99 $\frac{3}{4}$	374.00 X		
1246	374.00	7.9	4'
+ 10	374.17	8.1	3 $\frac{1}{2}$
1247	374.34	8.6	3 $\frac{1}{2}$
+ 10	374.50	9.2	2 $\frac{3}{4}$
		8' offs	
1248	374.67	9.3	2 $\frac{1}{2}$
+ 10	374.83	9.7	1 $\frac{1}{2}$
1249	375.00	10.2	0 $\frac{3}{4}$
+ 10	375.17	9.7	5 $\frac{1}{4}$
1250	375.33	9.9	5'
+ 10	375.50	10.1	5 $\frac{3}{4}$ A
1251	375.67	10.1	5 $\frac{1}{2}$ A

2.3290

10.33390

HI = 386.0

44	381.6		
39	382.1		
32	382.8		
23	383.3		
22	383.8		
13	384.3		
7	384.7		
0	385.2		
5	385.7		390.33
4	385.6		5.22 385.11
<hr/>			
		+	+
5	385.9	4.10	(A) 390.88
4	386.1		El. 386.78

Sta	Elev.	Grade	10' offsets	
1251 + 50		375.83	10.2	4.9
1252		376.00	10.6	4.2
+15		376.05		
+50		376.17 ✓	15' offsets	10.1
1253		376.33 ✓	10.2	5.9
+50		376.50 ✓	10.1	5.8
1254		376.67	10.0	5.7
+50		376.83	10.1	5.5
1255		377.00 X	9.9	5.5
+50		376.94	10.8	4.7
1256		376.88	9.8 ✓	5.7
+50		376.81	5' offsets	9.7 ✓
1257		376.75	9.5 ✓	6.1

390.9
 386.4
 15 A
 386.8
 42 A
 BM #175
 559 392.37
 BM #176
 5.1738720

+ π - E.I.
 385.11
 2.89 388.00
 2.92 389.70
 1.90 387.80
 2.06 389.86

+0.33370
 +0.33370
 +0.33370

-0.12570
 -0.12570

		Cut	5' offset.	4' 5' Cut.	+	π	-	E.I.
1257+50	376.69-	10.2	5 ¹ ^{386.5}	5 ¹ ^{386.6}	10.1	4.38	391.59	387.21
1258	376.62	9.8	5 ¹ ^{386.4}	5 ¹ ^{386.6}	10.0			5.35 386.24
+50	376.56	9.1	5 ¹ ^{385.7}	5 ¹ ^{385.8}	9.2			
1259	376.50	9.3	5 ¹ ^{385.8}	5 ¹ ^{385.8}	9.3			
+50	376.44	10.0	5 ¹ ^{386.4}	5 ¹ ^{386.5}	10.1			
1260	376.38	10.1	5 ¹ ^{8' offsets} ^{386.5}	4 ² ^{386.7}	10.3			
+50	376.31	10.5	4 ⁵ ^{386.8}	4 ² ^{386.9}	10.6			
1261	376.25	10.9	4 ⁵ ^{387.1}	4 ² ^{387.2}	11.0			
+50	376.19	11.1	4 ³ ^{387.3}	4 ² ^{387.4}	11.2			BM. Swift St.
1262	376.12	11.4	4 ¹ ^{10' offsets}	4 ² ^{387.5}	4.54	391.65		387.71
+50	376.06	10.7	4 ⁸	4 ⁶				
1263	376.00 X	10.3	5 ³	5 ¹ ^{386.5}				

-0.12590

		10' offsets		\$	\$ Cut.	391.65
1263 +50	375.58	10.3	52	55	391.6 386.1	
1264	375.16	10.1	63	59	385.7	
+50	374.74	10.3	66	64	385.2	
1265	374.32	10.2	71	69	384.7	
+50	373.90	10.3	29			386.23
1266	373.48	9.8	29			
+50	373.06	9.6	3.5			
1267	372.64	9.7	39			
+50	372.22	9.6	44			
1268	371.80	9.5	49			
+50	371.38	9.8	59			
+95.8	371.00					
1269	370.99					

			EI.
			384.03
	2.20	386.23	
			7.65 378.58 B.M. 378.56
	4.33	382.89	
			5.92 376.97 B.M. 376.98
	7.78	384.76	
			4.69 B.M. 380.07

		386.23	10' offsets	
1269 + 50	370.93 ✓		9.6	57
1270	370.88 ✓		9.2	61
+ 50	370.82 ✓		8.9	65
1271	370.77 ✓		8.4	70
+ 50	370.71		8.1	74
1272	370.66		7.6	77
+ 50	370.60	382.89	8.4	79
1273	370.55		7.6	82
+ 50	370.49		7.4	86
1274	370.44		7.3	89
+ 50	370.38		7.1	93
1275	370.33		6.9	97

380.5
 382.97
 378.5
 378.1

10' offsets

		π		
		382.89		
1275+50	370.27	✓	6.9	5 ²
1276	370.22	1190 ✓	6.8	5 ²
+50	370.16	10.04 ✓	6.6	6 ¹
1277	370.11	10.09 ✓	6.6	6 ²
+40	370.06	10.14 ✓	6.6	6 ²
+97 ²	370.0	✓ 10.20 ✓		
1278	370.01		7.0	5 ²
		π		
		384.76		
+50	370.12	10.08 ✓	7.4	7 ²
1279	370.23	10.97 ✓	7.6	6 ²
+50	370.34	2286 ✓	8.3	6 ²
1280	370.45	9.75 ✓	9.0	5 ⁴
		927 48		
+50	370.56	9.64	9.4	4 ⁸
1281	370.68		9.4	4 ⁶

18

7⁶ 377.3

7¹

6⁵ 378.3

5⁸

5² 379.6

4⁶

4⁵ 380.3

		384.76	Cut. 10' offsets		±	+	π	-	EI
1281 +50	370.79		9.4	4 ⁶	4 [±]				
1282	370.90		9.6	4 ³	4 [±]				
+10	371.01		9.8	4 ⁰	3 ⁸				
1283	371.13		10.0	3 ⁷	3 ³				
+50	371.24		10.3	3 ³	3 ⁰				
1284	371.35		10.7	2 ⁸	2 ⁶				
	229.00	387.39							383.18
+67	371.50		11.0	4 ²	4 ⁶	4.21	387.39		
+89 P.I.	371.55		10.9	4 ²	4 ²			7.38	380.01
1284	371.57				4 ²				
1285 +17	371.61		11.0	4 ⁰	4 ²				
+50	371.69								
+55 ^{1/2} P.I.	371.70		10.4	5 ³	5 ⁰				
1286	371.80 ✓		10.0	5 ⁶					
✓ +50	371.91	10.55 ✓	9.9	5 ⁶					
✓ +90	372.0	10.46 ✓							
1287 ✓	371.87		9.7	5 ⁸					

-130.00

387.4
41
372.6

	Grade	π	10' offsets	
1287 + JD	371.22	11.24 ✓	10.1	6'
1288 X ✓	370.57	11.84 ✓	11.3	6.5
+ JD	369.92	12.54 ✓	10.8	6.2
1289	369.27	13.19	11.1	2.3
+ JD X	368.62	✓ 10.5		
1290	367.97 ✓	10.2		
+ JD	367.32 ✓	10.7		
+ 75	367.00 X			
1291	366.51	9.3		
+ JD	365.57	9.2		
1292	364.63	9.3		
+ JD	363.69	9.4		
1293	362.75	10.0		

+	π	Elev	
		379.99	B.M.
2.73	382.72		
1.55	373.48	10.79	371.93
		7.86	365.62
	382.96		
	12.03		
	370.43	Elev	
	11.01		
	381.44		
	364.46		
	14.12	379.98	
	12.99		
	1.18		

	Grade	offset cut	
1293 + JD	361.81	9.8	11.5 371.6 370.6
1294	360.87	9.7	12.1 X 369.2
+ JD	359.93	9.3	9.3 Y 367.8
1295	358.99	8.8	5.2 Y 366.8
+ JD	358.04	8.8	6.2 Y 365.6
1296	357.11	8.5	7.2 Y 365.6
+ JD	356.17	9.4	7.2 Y 365.2
+ 85.8	355.50		
1297	355.61	9.7	8.3 Y 365.5
+ JD	355.56	9.9	8.0 Y 365.6
1298	355.61	10.0	7.2 Y 365.8
+ JD	355.65	10.2	7.2 Y 365.9
1299	355.70	10.2	7.5 Y

-1.88%

+0.094%

	Grade		offset cut,	
1299+JD	355.75	X 373.48	10.2	366.0 75 Y
1300	355.80		10.4	72 Y
+JD	355.84	90	10.7	72 Y
1301	355.89	+0.094		
+JD	355.94			
1302	355.98			
+15 ^B	356.00	X		
+JD	356.46			
1303	357.11	372.25	10.0	51 367.1
+JD	357.77		9.5	49 367.3
1304	358.42	+1.3190	9.3	45 367.7
+JD	359.08		8.9	42 368.0
1305	359.73		3.5	368.2

5.65

+ # π - E.I.
366.60
5.65 372.25

V.369+50	367.05
1310	367.09
+50	367.14
131A	367.18
+50	367.23
1312	367.27
+50	367.32
1313	367.36
+50	367.41
1314	367.46
+50	367.50
1315	367.55

+0.91%

π	10'R	+	π	-	EI.
380.97			380.97		
	49	EI offset 376.1		offset 9.1	Cut.
	49	376.1		9.0	
	48	376.2		9.1	
	49	376.1		8.9	
	52	376.0		8.8	
	51	375.9		8.6	
	53	375.7		8.4	
	54	375.6		8.2	
	56	375.4		8.0	
	54	375.6		8.1	
	55	375.4		7.9	
	54	375.6		8.1	

Sta. El. Grade

1315+50 367.59

1316 367.64

+50 367.68

1317 367.73

+50 367.77

1317+61³⁶ B.C.

+71⁴

+81⁴

+91⁴

1318+01⁴

+11⁴

1317+51⁵¹ E.C.

π
380.97

5⁴

+

π
380.97

offset

El.

8.0

6²

+

7.4

6⁴

+

6.9

6⁸

+

6.5

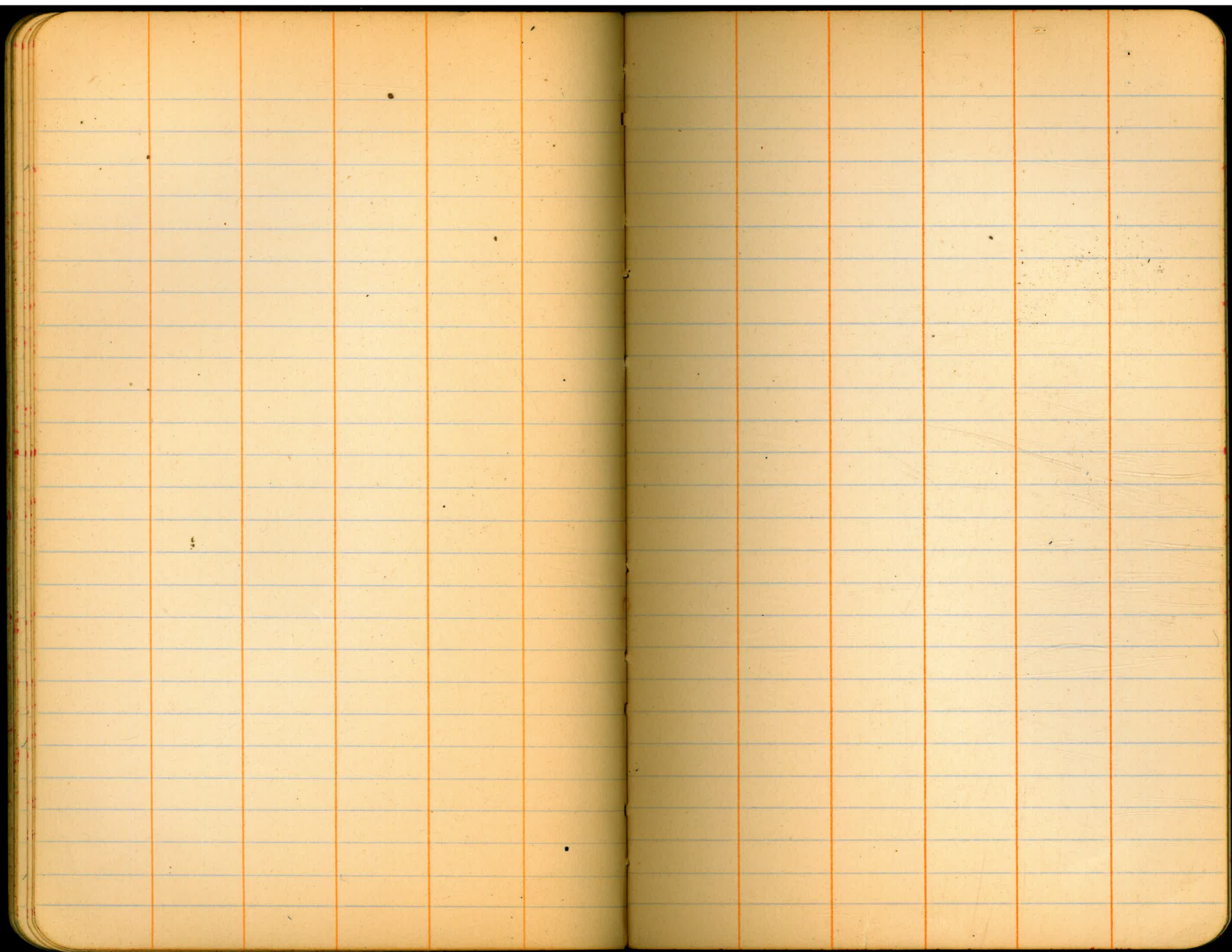
7¹

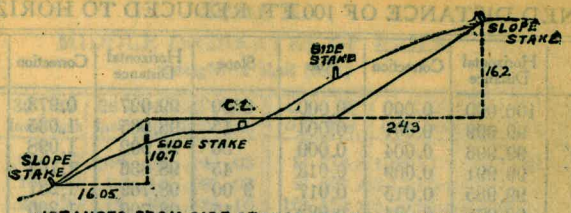
+

6.1

1318+50

+71⁰²





DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

377.3
 8.7

 368.6
 360.0

 8.6

364.9
 6.1

 358.8

358.8
 353.0

 5.8

146.3
38.7
145.0

66
.3
19.8

4.533
3.555

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8.9

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