SEWERAGE
9TH ST LEVELS

9

TRANSIT

F.B. 674

674

showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

Minutes.	Lks.	Minutes.	Lks.	Minutes.	Lks.
1	2⅓	21	49	41	95⅔
2	4⅔	22	51⅓	42	98
3	7	23	53⅔	43	100⅓
4	9⅓	24	56	44	102⅔
5	11⅔	25	58⅓	45	105
6	14	26	60⅔	46	107⅓
7	16⅓	27	63	47	109⅔
8	18⅔	28	65⅓	48	112
9	21	29	67⅔	49	114⅓
10	23⅓	30	70	50	116⅔
11	25⅔	31	72⅓	51	119
12	28	32	74⅔	52	121⅓
13	30⅓	33	77	53	123⅔
14	32⅔	34	79⅓	54	126
15	35	35	81⅔	55	128⅓
16	37⅓	36	84	56	130⅓
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

MICROFILMED
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Table for Running on Slopes.

In the following table the first column shows the angle, the second, the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle.	Cor. in links.	Angle.	Cor. in links.	Angle.	Cor. in links.	Angle.	Cor. in links.
°		°		°		°	
4	0·24	11	1·88	18	5·14	25	10·54
5	0·38	12	2·24	19	5·76	26	11·26
6	0·55	13	2·63	20	6·42	27	12·24
7	0·76	14	3·06	21	7·11	28	13·37
8	0·98	15	3·53	22	7·85	29	14·34
9	1·24	16	4·02	23	8·64	30	15·47
10	1·55	17	4·56	24	9·47	35	22·07

H.C.L.
D.C.M. } July 14/87

△	+	HI	—	Elev.	BB
B.M.	3.24	8.61		5.37	5.37
△ 3			7.26	1.35	
3+40			6.83	1.78	
△ 0			6.41	2.20	
0+50			5.78	2.83	
△ 1			5.37	3.24	
1+50			4.45	4.16	
△ 2			4.50	4.11	
2+50			4.28	4.33	
△ 3			3.66	4.95	
3+40			3.07	5.54	
△ 0			2.76	5.85	
0+50			2.38	6.23	
△ 1			1.35	7.26	
T.P.	7.00	14.26			
1+50			6.10	8.16	
△ 2	T.P. 5.18	14.25	5.19	9.07	
2+50			4.97	9.28	
△ 3			3.93	10.32	
3+40			3.06	11.19	
△ 0			2.50	11.75	

M & 8th St.

N & 9 ST.

M & 9 ST.

L & 9 ST.

H.C.L.
D.L.M. } July 14/87

△	+	H.I.	—	Elev	B.B.	
BM		14.25	2.46	11.79	11.78	
T.P.	7.05	18.84				
0+50			6.06	12.78		
△1			5.62	13.22		
1+50			5.32	13.52		
△2			4.16	14.68		
2+50			3.15	15.69		
△3			2.26	16.58		
3+40			1.27	17.57		K & 9 ST
△0			1.20	17.64		
0+50			0.83	18.01		
T.P.	6.88	24.89				
△1			6.13	18.76		
1+50			5.22	19.67		
△2			4.80	20.09		
2+50			4.08	20.81		
△3			3.26	21.63		
3+40			2.73	22.16		J & 9 ST
△0			1.57	23.32		
B.M.			1.47	23.42	23.42	
0+50			0.60	24.29		

H.C.L.
D.C.M. } July 14/87

△	+	H.I.	—	Elev	BB
T.P.	6.81	31.10		24.29	
△1			6.12	24.98	
1+50			5.27	25.83	
△2			4.81	26.29	
2+50			3.98	27.12	
△3			2.95	28.15	
3+40			2.90	28.20	
△0			2.33	28.77	
0+50			1.91	29.19	
T.P.	6.85	36.04			
△1			6.53	29.51	
1+50			5.95	30.09	
△2			5.08	30.96	
2+50			4.53	31.51	
△3			3.78	32.26	
3+50			2.23	33.81	
△0			2.40	33.64	
B.M.			2.86	33.18	33.17
0+50			0.24	35.80	
T.P.	9.10	44.90			
△1			7.45	37.45	

II & 9 57½

III & 9 57

H.L.L. } July 14/87.
D.L.M. }

△	+	H.I.	—	Elev	BB	
1+50		44.90	5.78	39.12		
△ 2			4.83	40.07		
2+50			3.91	40.99		
△ 3			2.71	42.19		
3+40			1.80	43.10		G & G 57.
△ 0			0.57	44.33		
T.P.	7.15	51.48				
0+50			6.17	44.31		
△ 1			4.98	46.50		
1+50			4.83	46.65		
△ 2.			3.84	47.64		
2+50			2.81	48.67		
△ 3			2.23	49.25		
3+40						F & G 57.
△ 0			0.51	50.97		
T.P.	7.57	58.04				
BM			7.47	50.57	50.58	
0+50			6.97	51.07		
△ 1			6.44	51.60		
1+50			5.67	52.37		
△ 2			4.14	53.90		

H.C.L
D.C.M } July 14/87

△	+	HI	—	Elev	BB.
2+50		58.04	3.00	55.04	
△ 3			1.75	56.29	
3+40			0.79	57.25	
△ 0			0.30	57.74	
T.P.	6.34	64.08			
0+50			5.83	58.25	
△ 1			5.96	58.12	
1+50			5.71	58.37	
△ 2			4.69	59.39	
2+50			4.26	59.82	
△ 3			3.77	60.31	
3+40			2.58	61.50	
△ 0			3.35	60.73	
T.P.	6.93	67.66			
B.M.			4.54	63.12	63.08
0+50			6.87	60.79	
△ 1			6.03	61.63	
1+50			5.48	62.18	
△ 2			4.94	62.72	
2+50			4.17	63.49	
△ 3			2.38	65.28	

E & 9 ST.

D & 9 ST.

HCL
D.E.M. } July 14/87

△	+	H.I.	—	Elev	BB
3+40		67.66	1.57	66.09	
△0			0.71	66.95	
T.P.	6.55	73.50			
0+50			6.19	67.31	
△1			5.55	67.95	
1+50			4.96	68.54	
△2			5.00	68.50	
2+50			5.74	67.76	
△3			7.43	66.07	
3+40			8.67	64.83	
△0			8.38	65.12	
BM.			8.08	65.42	65.40
TP	7.83	73.23			
0+50			8.26	64.97	
0+60			13.49	59.74	
△1			7.96	65.27	
1+50			7.43	65.80	
2			6.87	66.36	
2+50			5.27	67.96	
△3			0.70	72.53	
TP	11.45	83.98			

C & G ST.

BB & G ST.

Dry creek

HCL
DCM } July 15/87

△	+	HI	—	Elev.	BB
3+40		83.98	3.85	80.13	A & 9 ST.
T.P.			0.10	83.88	
T.P.	11.39	95.27			
△0			8.46	86.81	
T.P.			0.37	94.90	
T.P.	12.38	107.28			
0+50			11.55	95.73	
△1			4.06	103.22	
1+50			1.52	105.76	
△2			1.57	105.71	
2+50			1.40	105.88	
△3			2.01	105.27	
3+40			3.30	103.98	A St H & 9 ST.
△0			0.42	106.86	
T.P.	9.78	116.64			
0+50			6.98	109.66	
△1			6.40	110.24	
1−50			4.72	111.92	
△2			4.35	112.29	
2+50			8.58	108.06	
△3			2.18	114.46	

HCL
DCM

△	+	HI.	—	Elev	BB.	
T.P.		116.64	0.01	116.63		
T.P.	11.89	128.52				
3+40			9.17	119.35		Beech & G ST.
△0			5.38	123.14		
T.P.			0.00	128.52		
T.P.	11.16	139.68				
0+50			10.64	129.04		
△1			7.95	131.73		
1+50			3.77	135.91		
T.P.			0.00	139.68		
T.P.	11.88	151.56				
△2			10.88	140.68		
2+50			5.78	145.78		
△3			2.02	149.54		
T.P.			0.19	151.37		
T.P.	5.97	157.34				
3+40			5.69	151.65		Cedar & G ST
B.M.			6.09	151.25	151.28	
△0			4.50	152.84		
0+50			2.02	155.32		
△1			3.40	153.94		

1+50		157.34	7.49	149.85
△2			8.50	148.84
2+50			7.20	150.14
△3			1.81	155.53
T.E.	8.77	164.30		
3+40			3.43	160.87

END.

D.O.M. 9th St N of D Nov 27/87
Leonard

Sta	+	Hi.	−	Elev	
B.M.	3.47	66.55		63.08	9 & D N.W. cop tack top fence
31			5.23	61.32	
+20			5.29	61.26	D St
+40			5.71	60.84	
+60			5.53	61.02	N Z D St
+85			5.25	61.30	
32+10			4.84	61.71	
+35			4.40	62.15	
+60			4.23	62.32	
+85			3.80	62.75	
33+10			3.52	63.03	
+35			3.18	63.37	
+60			2.81	63.74	
+85			2.29	64.26	
34+10			2.03	64.52	
+35			1.66	64.89	
+60			1.01	65.54	S. Line C. St.
+80			0.72	65.83	
35			0.37	66.18	C. St.
+20			0.07	66.48	

Sta	+	Hi.	−	Elev.	
		66.55			
T.P.	3.975	69.23	1.295	65.255	
35+40			2.69	66.54	N. Line C St.
B.M.			2.57	66.66	9th & C S.W. Spk. tel Pole
B.M.			5.60	63.63	8 & C S.E. Brown Pin 7
B.M.	4.40	71.06		66.66	9th & C S.W. SPK tel Pole
35+65			4.23	66.83	
+90			3.98	67.08	
36+15			3.85	67.21	
+40			3.74	67.32	
+65			3.75	67.31	
+90			3.71	67.35	
37+15			3.40	67.66	
+40			3.46	67.60	
+65			3.36	67.70	
+90			3.50	67.56	
38+15			3.53	67.53	
+40			3.42	67.64	
B.M.			0.22	70.84	9 + B cap tac top hand

D.C.M.
T.T. 9th St. N of D Dec 1 87

Sta	+	Hi	−	Elev	
B.M.	4.71	75.55		70.84	9 & B Cap tac top Post
38+40			7.91	67.64	S J B St
+60			7.85	67.70	
+80			7.67	67.88	P St
39			7.44	68.11	
+20			7.30	68.25	N J R St
+45			6.67	68.88	
+70			6.26	69.29	
+95			5.87	69.68	
40+20			4.86	70.69	
+45			4.43	71.12	
+70			3.74	71.81	
+95			3.06	72.49	
41+20			1.98	73.57	
T.P.	10.96	85.55	0.96	74.59	
+45			9.45	76.10	
+70			6.88	78.67	
+95			4.37	81.18	
42+20			2.32	83.23	S J A
B.M.			1.49	84.06	9 & A N E St Post

DBM

J Leonard 9th St Nov & Dec 2/87

Sta	+	H.I.	−	Elev	
B.M.	11.23	95.29		84.06	9th & A N.E. Spik cr
42+40			10.73	84.56	
+60			9.22	86.07	A St
+80			8.35	86.94	
43			7.24	88.05	NZ A St
+25			5.27	90.02	
+50			3.39	91.90	
+75			1.22	94.07	
T.P.	11.59	106.44	0.44	94.85	
44			9.99	96.45	
+25			7.66	98.78	
+50			5.69	100.75	
+75			4.96	101.48	
45			3.90	102.54	
+25			2.75	103.69	
+50			2.38	104.06	
+75			1.80	104.64	
46			1.21	105.23	SZ Ash St
+20			0.60	105.84	
T.P.	8.52	114.87	0.09	106.35	

D.O.M.

T.T. 9 4/7 St N of D Dec 2/87

Sta	+	H.I.	−	Elev	
L		114.87			
46+40			8.48	106.39	
+60			8.32	106.55	
+80			8.54	106.33	N.T. Ash St
B.M.	2.29	115.68	1.48	113.39	9 4/7 & Ash tack top Rail Dec 5/87
47+05			8.77	106.91	
+30			8.05	107.63	
+55			7.44	108.24	
+80			7.07	108.61	
48+05			6.60	109.08	
+30			5.85	109.83	
+55			4.88	110.80	
+80			3.67	112.01	
49+05			2.46	113.23	
+30			1.07	114.61	
T.P.	11.06	125.91	0.83	114.85	
+55			9.53	116.38	
+80			8.04	117.87	S.T. Beach St
50			6.97	118.94	
+20			6.01	119.90	Beach St

Mundenhall

Leonard 9th St No 1 D Dec 7/87

Sta	+	H.I.	−	Elev	
50+40		125.91	5.55	120.36	
+60			4.59	121.32	
B.M.	8.96	132.62	2.25	123.66	9th + Beech NE Spik ... Post
+85			8.95	123.67	
51+10			6.74	125.88	
+35			4.68	127.94	
+60			2.25	130.37	
+85			0.05	132.57	
T.P.	11.12	143.54	0.20	132.42	
52+10			8.75	134.79	
+35			6.38	137.16	
+60			4.24	139.30	
+85			1.67	141.87	
T.P.	10.86	153.78	0.62	142.92	
53+10			9.45	144.33	
+35			7.16	146.62	
+60			4.90	148.88	
B.M.			2.96	150.82	9th + Cedar Sp in Post S E

9th St N of D Dec 9/87

Sta	+	Hi.	−	Elev	
Bm	6.30	157.12		150.82	9 & Cedar S.W. Spk Post
53+60			8.23	148.89	S L Cedar
+80			7.31	149.81	
54			6.70	150.42	Cedar St
+20			6.26	150.86	
+40			6.11	151.01	N L Cedar St
+65			5.84	151.28	
+90			5.56	151.56	
55+15			5.35	151.77	
+40			5.00	152.12	
+65			4.58	152.54	
+90			4.31	152.81	
56+15			3.84	153.28	
+40			3.88	153.24	
+65			3.64	153.48	
+90			3.40	153.72	
57+15			3.11	154.01	
+40					

9,27	83.37		84,10	
		6,58	86.79	
		5,35	88,02	

Mount Line East of 12 on Z

Sta	Elev	Grade	Cut	Fill		
66+01					Y	6+18
+13	9.47	1.70	7.77	7' 9¼		
+38	8.90	1.73	7.17	7' 2		
+63	6.83	1.77	5.06	5' 0¾		
+88	4.76	1.80	2.96	2' 11½		
67+13	3.70	1.84	1.86	1' 10⅜		
+38	3.18	1.88	1.30	1' 3⅝		
+63	2.82	1.91	0.91	0' 10⅞		
+88	2.48	1.95	0.53	0' 6⅜		
68+13	2.61	1.98	0.63	0' 7⅝		
+38	2.66	2.02	0.64	0' 7⅝		
+63	3.08	2.06	1.02	1' 0¼		St 13th St
+88	4.09	2.09	2.00	2' 0"		
69+13		2.13				
+38		2.17				
+63		2.20				
+88		2.24				
70+13		2.27				
+38		2.31				
+63		2.34				

Main line East of 2 on [illegible]

Sta	Elev	Grade cut	Fill
70+88		2.38	
71+13		2.42	
+38		2.45	
+63		2.49	
+88		2.52	
72+13		2.56	
+88		2.59	
+63		2.63	
+88		2.66	
73+13		2.70	
+38		2.74	
+63		2.77	
+88		2.81	
74+13		2.84	
+38		2.88	
+63		2.91	

63.23
4.11
67.34
292
6442

2 10
52
292

4.24
.82
5.06

67.34
5.06
62.28

TRAVERSE TABLE FOR TRANSIT BOOK,

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.30	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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