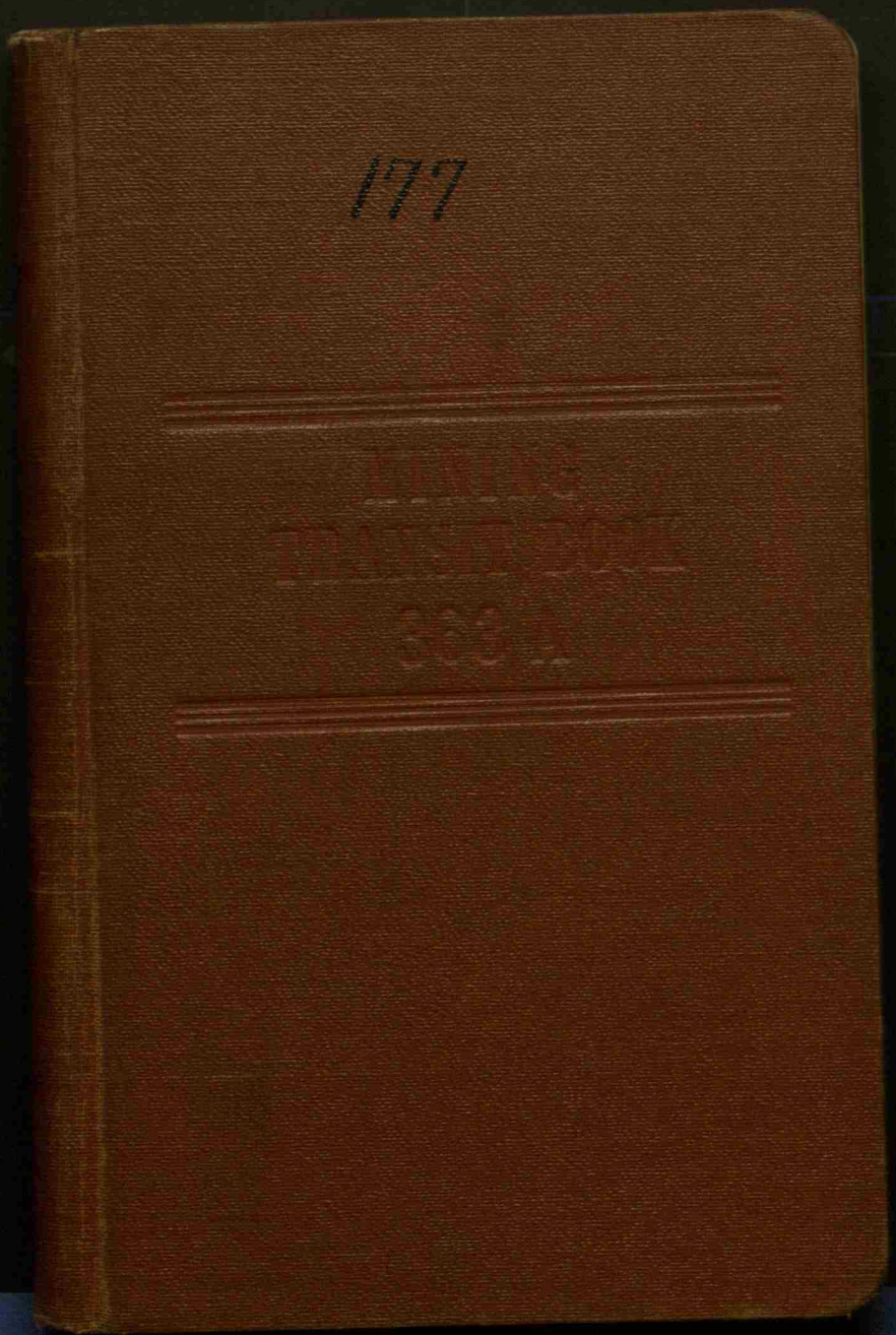

177

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

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

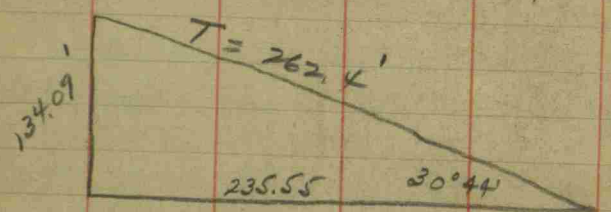
Calculated by Julian A. Hall, M. Am. Soc. C. E.

179 60
30 44
2)149 16 74° 38
14 60
9 76
8

Sec 41 42

Carlyle to Brick

963
1094
2057



$\sin 30°44' = \frac{a}{c}$

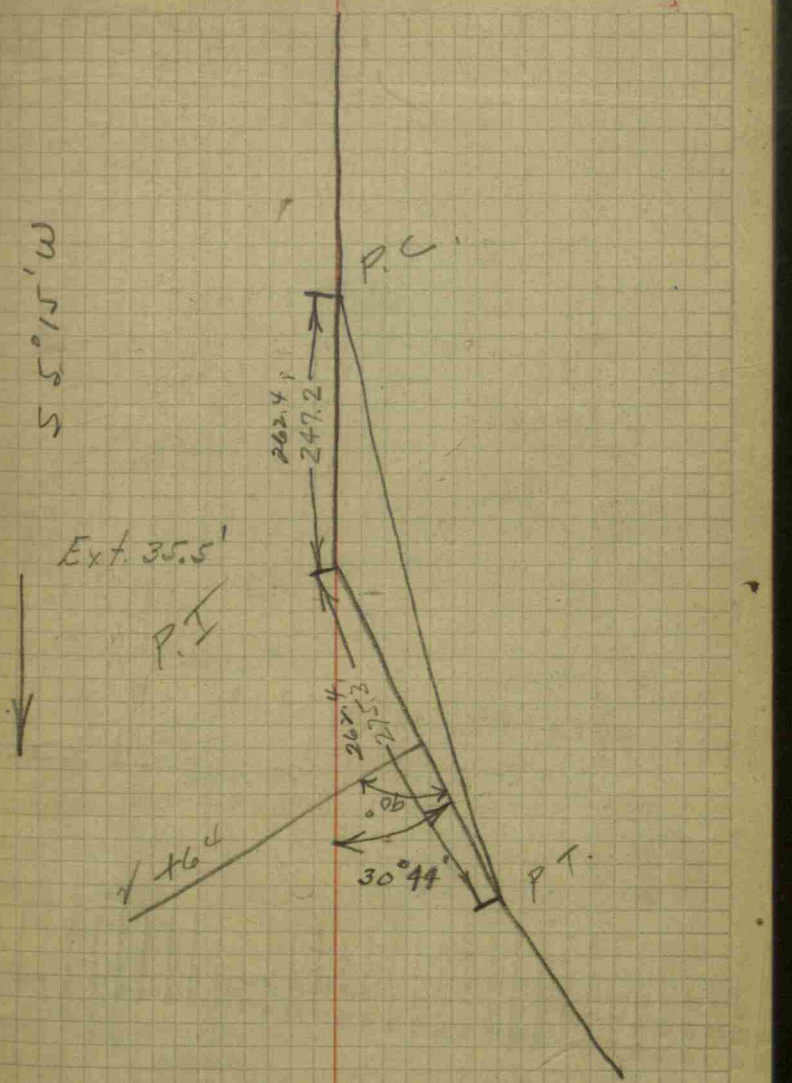
$.51104 = \frac{a}{262.4}$

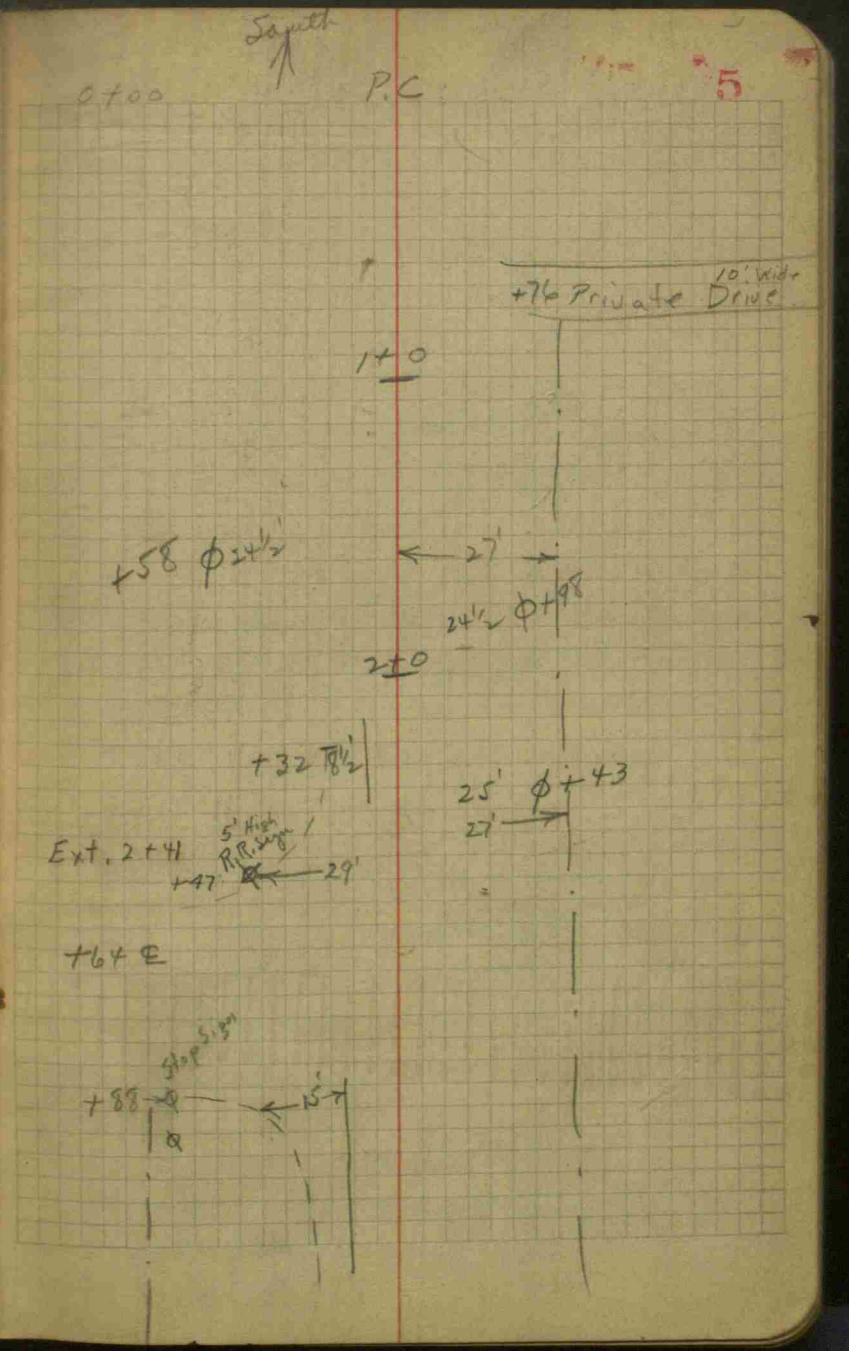
$a = 262.4 \times .51104 = 134.09'$

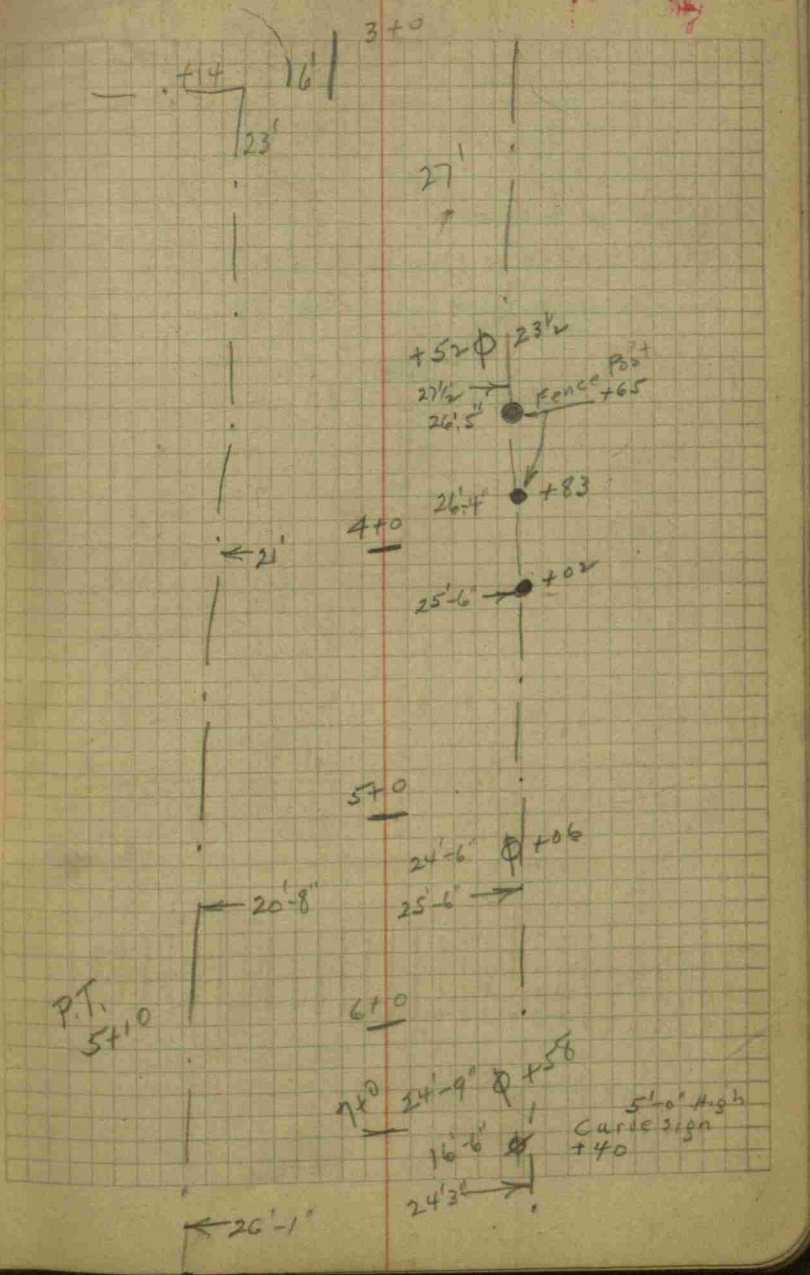
$\cos 30°44' = \frac{b}{c}$

$.85956 = \frac{b}{262.4}$

$b = .85956 \times 262.4 = 235.55'$



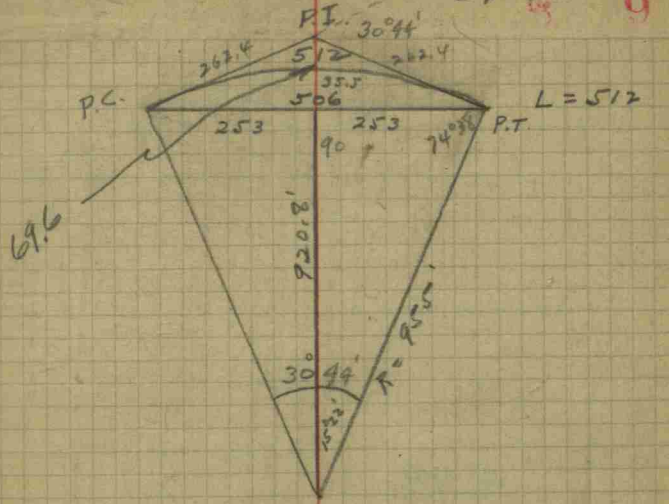

South
0+00
P.C.
+76 Private Drive 10' wide
1+0
+58 ϕ 24½
27'
24½ ϕ +98
2+0
+32 18½'
25' ϕ +43
27'
Ext. 2+41
5' High R.R. Sign
+47
29'
+64 E
+88
Stop Sign
15'
Q


3+0
+14
16'
23'
27'
+52
23½'
27½'
Fence
Post
+65
26'-5"
26'-4"
+83
4+0
21'
25'-6"
+02
5+0
24'-6"
+06
25'-6"
20'-8"
P.T.
5+10
6+0
7+0
14'-9"
+56
5'-0" High
Curve sign
+40
16'-6"
24'3"
26'-1"

Large Map
1" = 2'-0" - ½" = 1'-0"

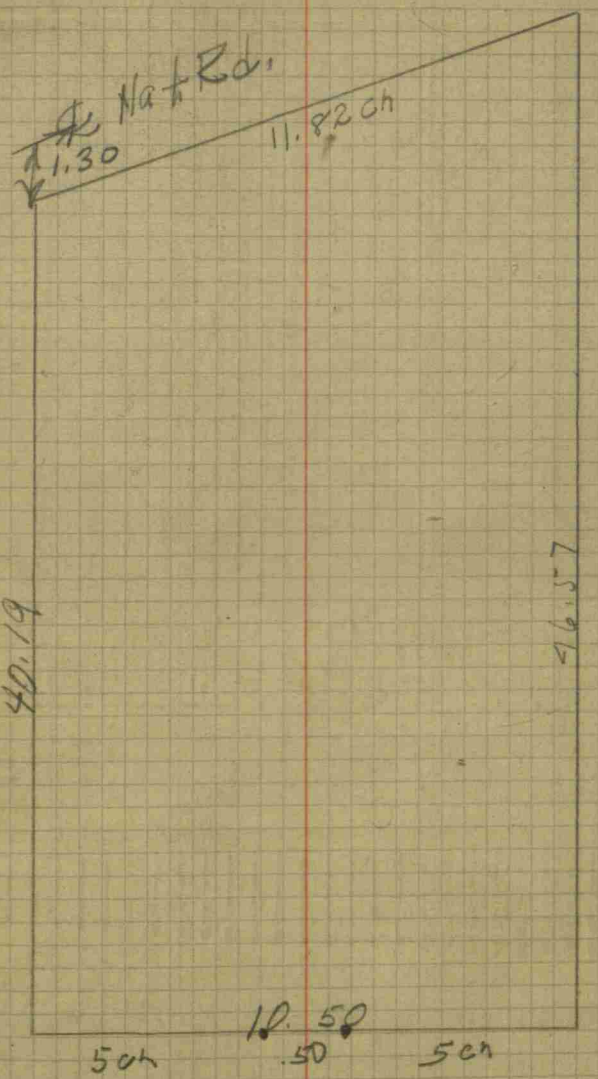
2+88 to 4+24 = 136'
curvature between
2+88 to 4+24 = 136 x 6° = 8.16 or 8°09'
means off of dead line about 19'

Ext. 35.5 9



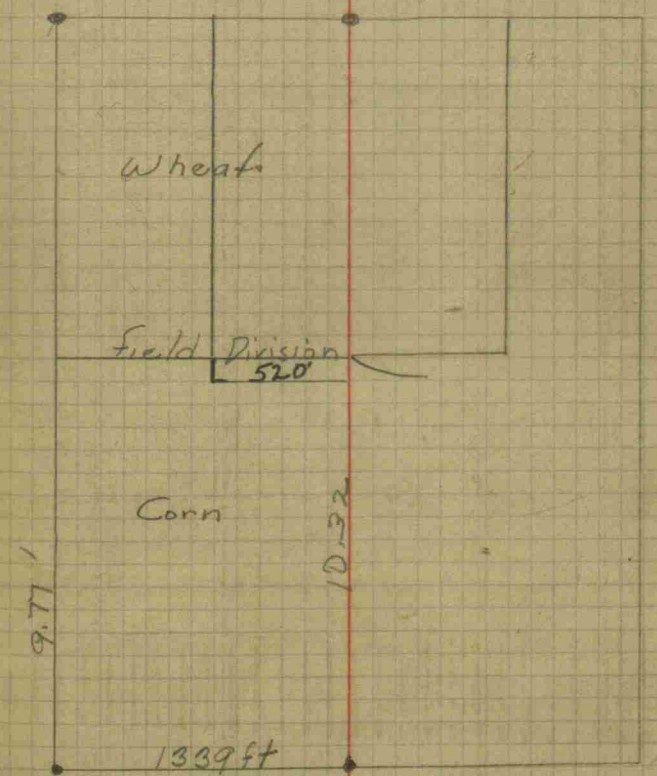
N

41.49



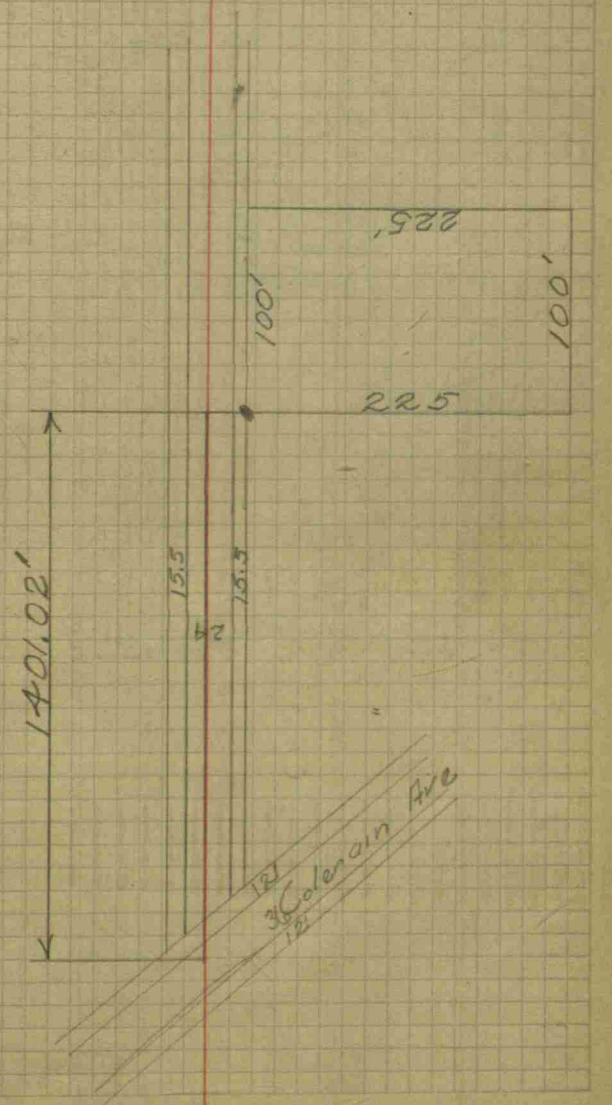
Section
E.R. 130' Right of Way

Sec. 9



24
31
55

12
15.5
27.5



19

20

269.5
5
269.0

13.02 ch

10.70 ch.

43.72
.66
26232
26232
2885.52

282
9
273

218
64
282
100
182 (91)

21

13.02
.66
7812
7812
859.32
706.2
1565.52

10.70
.66
6420
6420
706.20

1401.02
273
1674.02
1565.52
108.50

7.26
5.86
1.5 D

Markov Wall

179 - 60
92 - 50
87 - 10

92° - 50'

Bearing = N 87° 10' W

Little Jones Tile Line

0+0 at East End.

	−	H.I. 102.44	+ 2.44	BM 100.00
0+0				
1+0				
2+0				
3+0				
4+0				
5+0				
6+0				
7+0				
8+0				
9+0				
10+0				
11+0				
12+0				
13+0				
14+0				
15+0				
16+0				
17+0				

~~88.50~~ 11.50 feet from BM to water surface

Gd	S+K
93.94	94.54
8.50	7.90
	94.72
	7.72
	6.97 → 95.47
	96.59
	5.85
	5.76 → 96.68
	6.00 → 96.44
	6.12 → 96.32
	4.80 → 97.64
	5.20 → 97.24
	5.40 → 97.04
	5.45 → 96.99
	6.15 → 96.29
	6.40 → 96.04
	6.30 → 96.14
	6.53 → 95.91
	6.70 → 95.74
	9.20 → 93.24

		5+K	
0+0	north End.	3.90	Hard pan water [illegible]
1+0		4.03	
2+0		4.10	9.65
3+0		5.15	
4+0		5.15	
5+0		6.10	
6+0		6.50	
6+50		7.55	

Barlow Hill

Mar. 12, 1937

—	⊼	+	BM

BM on SW Cor. ∇
Walk at Stk 1+0 on
Arm EL → 100.00

	—	⊼	+	BM
		105.30	5.30	100.0

Station	Stk	Gd.
1+0 on Arm	100.55 4.75	102.28 3.02
2+0	101.70 3.60	101.65 3.65
2+58	101.15 4.15	101.18 4.12
6+43 = 0+0 on Arm	99.80 5.50	99.35 5.95
6+72 on main	99.96 5.34	99.50 5.80
7+0	100.49 4.81	99.95 5.35
8+0	101.68 3.62	101.16 4.14
9+0	101.08 3.22	101.70 3.60
10+0	101.65 3.65	101.45 3.85
11+0	101.52 3.78	100.95 4.35
12+0	101.78 3.52	101.10 4.10

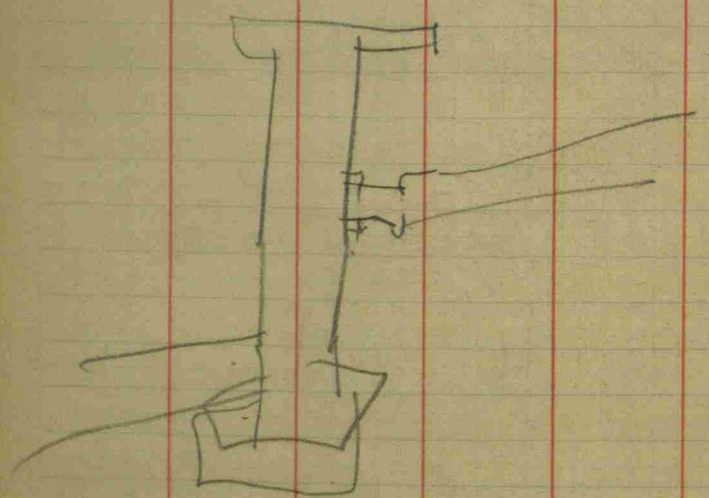
	−	℄	+	BM
		105.25	5.25	100.00
6+0				
5+0				
4+0				
3+0				
	9.02			96.23
		97.48	1.25	
2+0				
1+0				
	8.30			89.18
		90.32	1.14	
0+0				
	2.94	BM and Brass Rod Sheet		
	℄ Road	Sta. 0+0		El 87.38

℄	Gd
99.38	98.80
5.87	6.45
99.85	99.35
5.45	5.90
98.80	98.43
6.45	6.82
96.13	95.60
9.02	9.65
90.16	89.71
7.32	7.77
89.18	88.98
8.30	8.50
80.76	79.37
9.56	10.95

672' of 10" Drain Tile
+ and catch Basin at 6+43 and 6+72

Arm 6+43 8" Tile 2+58

Main 6+72 to 12+0 8" Tile



672' 10" Drain tile

786' 8" Drain tile

1200
672
528
258
786

from Stk 3 to ~~End~~
190 Ft

	−	T	+	BM
		96.73	0.50	96.23

2+0

1+10

Stk

91.53	91.15
5.20	5.58
89.94	88.83
6.79	7.90

Side ditch 100' 9.60
North

55
18
440
55
2)990 (55

50 Cu. Yds. dirt
to fill #1 + #2

#1 9 Joint tile 20" 3'-0" dep. 5'-6" dep. } Corn field

#2 24' of tile 20" 3'-0" to top tile } Corn field

#3 8'- of tile in orchard 20"
3'-6" top of tile

#4 10' of tile 20" orchard
4'-0" top of tile

Floor at Basement = 97.37

Station	−	⊼	+	BM		
		101.97	1.97	100.00		
0+0					3.24	98.73
0+50					3.75	98.22
1+0					4.20	97.57
1+50					4.68	97.29
2+0					5.15	96.82
2+50					5.58	96.39
3+0					5.30	96.67
3+50					5.31	96.66
4+0					5.70	96.27
4+50					6.38	95.59
5+0					6.70	95.27
5+50					6.92	95.05
6+0					7.11	94.86
	7.11			94.86		
		99.38	4.52			
6+50					4.90	94.48
7+0					5.20	94.18
7+50					5.14	94.24
8+0					5.73	93.65
+50					5.77	93.61
9+0					5.95	93.43
9+50					5.30	94.08
10+0					5.12	94.16

B.M. El 100.00 on Ledge at Second Concrete Block 5th 0+0.07 S E Corner

Sta	−	T	+	BM
		99.38		
10+50				
11+00				
11+50				
12+00				
12+50				
13+00				
13+50				
14+00				

Sta	Gd
5.35	94.03
5.18	94.20
5.27	94.11
5.17	94.21
5.43	93.95
5.08	94.30
5.60	93.78
90.91	90.65
8.47	8.73

Long Bridge Tile

BM. EL. 100.00 on SE. Cor. of SE Wing of Bridge
Sta. 0+0

	−	⊼	+	BM
				100.00
0+0		105.55	5.55	
1+0				
1+62				
2+0				
3+0				
3+28	4.94			100.61
4+0		105.69	5.08	
5+0				
6+0				

Stk	Ground	In ditch
	99.10	94.45
	6.45	11.10
	100.85	97.08
	4.70	8.47
	100.53	97.18
	5.02	8.37
	100.19	99.37
	5.36	6.18
	101.09	100.72
	4.46	4.83
	100.61	97.17
	4.94	8.38
	100.55	97.79
	5.14	7.90
	101.17	97.54
	4.37	8.15
	100.14	97.56
	5.55	8.13

	105.69
7+0	
7+10	
8+0	
9+0	
10+0	
11+0	
12+0	
13+0	
14+0	
15+0	
16+0	

S+K	Ground
100.04	97.39
5.65	8.25
	97.75
	7.94 fl. Tile
100.89	97.44
5.60	8.25
100.87	99.61
4.82	6.08
101.10	99.71
4.59	5.98
100.35	99.09
5.34	6.60
99.79	98.44
5.90	7.25
99.51	98.42
6.18	7.27
99.69	98.56
6.00	7.13
99.19	98.24
6.50	7.45
99.87	98.14
6.32	7.55

	−	T	+	BM
		108.28	8.28	100.00
		8.28		
		102.26	2.26	100.00

5.60
2.26
3.34

7.00
2.26
4.74

Parker Bridge

3'-4" below nail to top of footing

62

−	π	+	B/M
	10.5.58	6.59	100.00

9.00
1.16
10.16

9.05
1.16
10.21

10.16
4.42
5.74

9.37
5.09
28

10.26
5.27
4.99

100.15
5.43

101.02
4.56

10.61
6.41
4.20 0

10.50
4.77
5.73 1

10.26
5.17
5.09 1+62

9.45
1.16
10.61

9.34
1.16
10.50

9.10
1.16
10.26

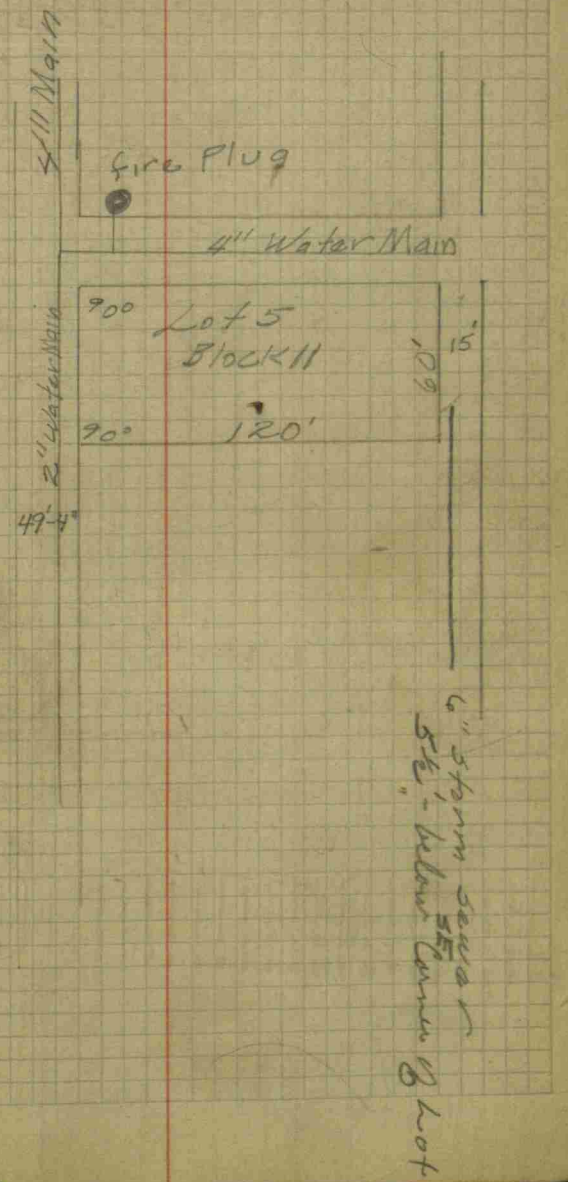
2 = 4.99

3 = 5.79

63

	−	℄	+	BM	
		101.53	1.53	100.00	(on top of screw of fire plug on Kramer st.
		97.06			
NW Cor.		4.47			
		96.79			
SW Cor		4.74			
		96.13			
SE Cor.		5.40			
		101.61	1.61	100.00	
		96.59			
NE Cor		5.02			

96.13
5.50
90.63



550
207
3850
11000
11385.0 (2.6
48560) 87120
2673237 0
550
11850
1185
130350

240
30
165.5
435.5

660
66
3960
3960
43560
3
130680

30.9
2.6
33.5

75
64
11

1975
682
3950
15800
11850
134690.
48560) 130680 (3.09
4.1500

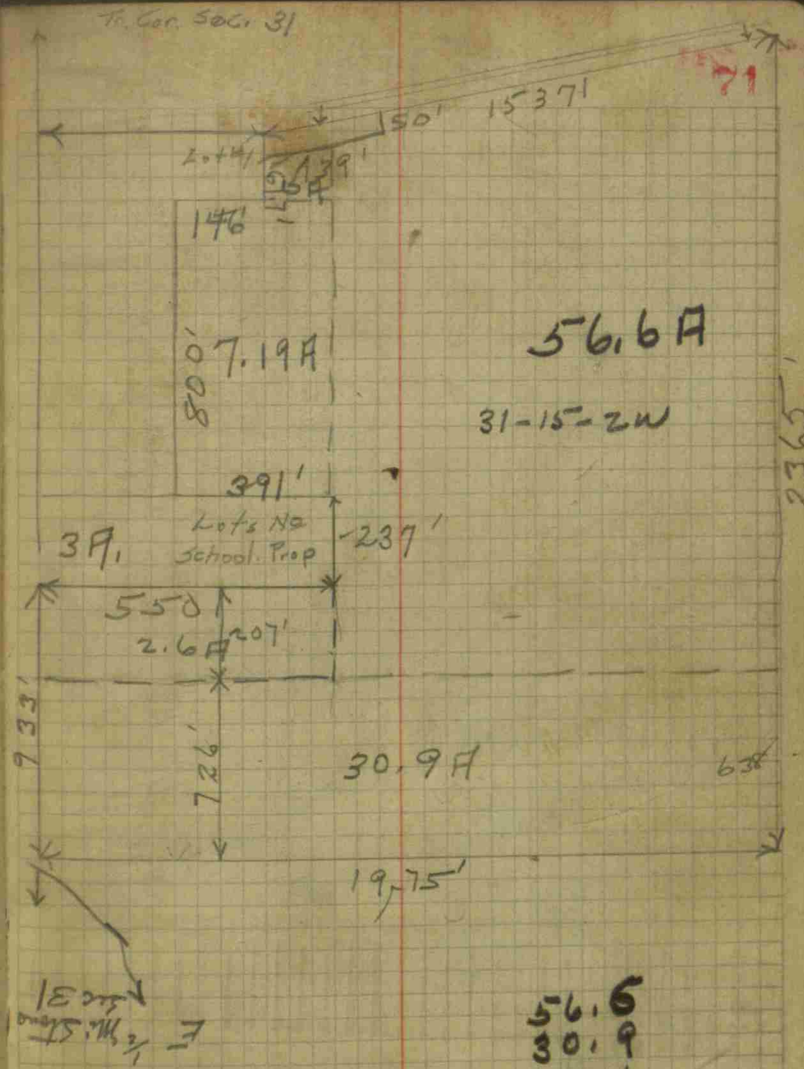
550
159
391

933
No. 7 (26

726
638
1364
2) 1364
682

61.7
12
1234
617
740.4
60
800.4

933
237
800
61.7
50
2081.7

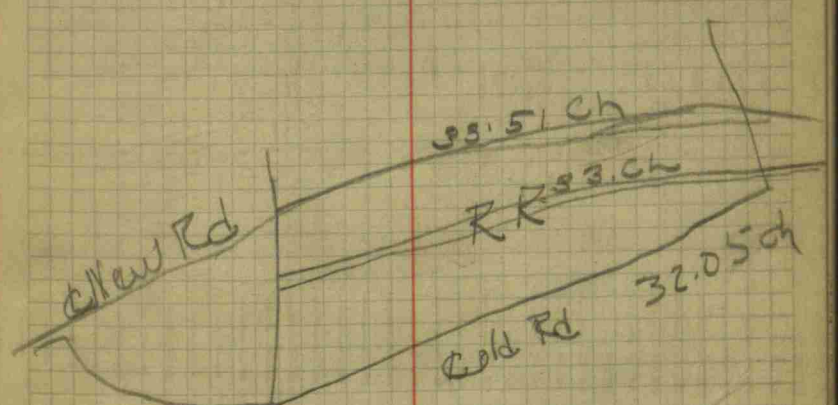


56.6
30.9
2.6
7.19
.6
97.79 A

Total

72

Simm. Survey



152

Ross Ditch N. Lyston

32' Span

12' Rise

NW Wing ∠ 90°

NE, SE, & SW Wings ∠ 45°

15' Present Roadway

first

151

6.50 floor of Care.

1400' @ 8' Tile.

55

1400
.08
112.00

1427.5
1727
99925
28550
99925
14275
43560) 24652925 (56.6
21 7800
287292
261360
259325

Angle.	Sine.	Tan.	Sec.	Cosec.	Cotg.	Cosin.	
° ′							
0	0	0	1.	∞	∞	1.	90
10	.0029	.0029		343.8	343.8	1.	50
20	.0058	.0058		171.9	171.9	.99998	40
30	.0087	.0087		114.6	114.6	.99996	30
40	.0116	.0116	1.0001	85.94	85.94	.99993	20
50	.0145	.0145	1.0001	68.76	68.75	.99989	10
1	0175	.0175	1.0002	57.30	57.29	.99985	89
10	.0204	.0204	1.0002	49.11	49.10	.99979	50
20	.0233	.0233	1.0003	42 98	42.96	.99973	40
30	.0262	.0262	1.0003	38.20	38.19	.99966	30
40	0291	.0291	1.0004	34.38	34.37	.99958	20
50	.0320	.0320	1.0005	31.26	31.24	.99949	10
2	.0349	.0349	1.0006	28.65	28.64	.99939	88
10	.0378	.0378	1.0007	26.45	26.43	.99929	50
20	.0407	.0407	1.0008	24.56	24.54	.99917	40
30	.0436	.0437	1.0010	22.93	22.90	.99905	30
40	.0465	.0466	1.0011	21.49	21.47	.99892	20
50	.0494	.0495	1.0012	20.23	20.21	.99878	10
3	.0523	.0524	1.0014	19.11	19.08	.99863	87
10	.0552	.0553	1.0015	18.10	18.07	.99847	50
20	.0581	0582	1.0017	17.20	17.17	.99831	40
30	.0610	.0612	1.0019	16.38	16.35	.99813	30
40	.0640	.0641	1.0020	15.64	15.60	.99795	20
50	.0669	.0670	1.0022	14.96	14.92	.99776	10
4	.0698	.0699	1.0024	14.34	14.30	.99756	86
10	.0727	.0729	1.0027	13.76	13.73	.99736	50
20	.0756	.0758	1.0029	13.23	13.20	.99714	40
30	.0785	.0787	1.0031	12.75	12.71	.99692	30
40	.0814	.0816	1.0033	12.29	12.25	.99668	20
50	0843	.0846	1.0036	11.87	11.83	.99644	10
5	.0872	.0875	1.0038	11.47	11.43	.99619	85
10	.0901	.0904	1.0041	11.10	11.06	.99594	50
20	.0929	.0934	1.0043	10.76	10.71	.99567	40
30	.0958	.0963	1.0046	10.43	10.39	.99540	30
40	.0987	0992	1.0049	10.13	10.08	.99511	20
50	.1016	.1022	1.0052	9.839	9.788	.99482	10
6	.1045	.1051	1.0055	9.567	9.514	.99452	84
10	.1074	.1080	1.0058	9.309	9.255	.99421	50
20	.1103	.1110	1.0061	9.065	9.010	.99390	40
30	.1132	.1139	1.0065	8.834	8.777	.99357	30
40	.1161	.1169	1.0068	8.614	8.556	.99324	20
50	.1190	.1198	1.0072	8.405	8.345	.99290	10
7	.1219	.1228	1.0075	8.206	8.144	.99255	83
10	.1248	.1257	1.0079	8.016	7.953	.99219	50
20	.1276	.1287	1.0082	7.834	7.770	.99182	40
30	.1305	.1317	1.0086	7.661	7.596	.99144	30
40	.1334	.1346	1.0090	7.496	7.429	.99106	20
50	.1363	.1376	1.0094	7.337	7.269	.99067	10
							82
	Cosin.	Cotg.	Cosec.	Sec.	Tan.	Sine.	Angle.

Angle.	Sine.	Tan.	Sec.	Cosec.	Cotg.	Cosin.	
° ′							
8	.1392	.1405	1.0098	7.185	7.115	.99027	82
10	.1421	.1435	1.0102	7.040	6.968	.98986	50
20	.1449	.1465	1.0107	6.900	6.827	.98944	40
30	.1478	.1495	1.0111	6.766	6.691	.98902	30
40	.1507	.1524	1.0115	6.636	6.561	.98858	20
50	.1536	.1554	1.0120	6.512	6.435	.98814	10
9	.1564	.1584	1.0125	6.394	6.314	.98769	81
10	.1593	.1614	1.0129	6.277	6.197	.98723	50
20	.1622	.1644	1.0134	6.166	6.084	.98676	40
30	.1650	.1673	1.0139	6.059	5.976	.98629	30
40	.1679	.1703	1.0144	5.955	5.871	.98580	20
50	.1708	.1733	1.0149	5.855	5.769	.98531	10
10	.1736	.1763	1.0154	5.759	5.671	.98481	80
10	.1765	.1793	1.0160	5.665	5.576	.98430	50
20	.1794	.1823	1.0165	5.575	5.485	.98378	40
30	.1822	.1853	1.0170	5.488	5.396	.98325	30
40	.1851	.1883	1.0176	5.403	5.309	.98272	20
50	.1880	.1914	1.0181	5.320	5.226	.98218	10
11	.1908	.1944	1.0187	5.241	5.145	.98163	79
10	.1937	.1974	1.0193	5.164	5.066	.98107	50
20	.1965	.2004	1.0199	5.089	4.989	.98050	40
30	.1994	.2035	1.0205	5.016	4.915	.97992	30
40	.2022	.2065	1.0211	4.945	4.843	.97934	20
50	.2051	.2095	1.0217	4.877	4.773	.97875	10
12	.2079	.2126	1.0223	4.810	4.705	.97815	78
10	.2108	.2156	1.0230	4.745	4.638	.97754	50
20	.2136	.2186	1.0236	4.682	4.574	.97692	40
30	.2164	.2217	1.0243	4.620	4.511	.97630	30
40	.2193	.2247	1.0249	4.560	4.449	.97566	20
50	.2221	.2278	1.0256	4.502	4.390	.97502	10
13	.2250	.2309	1.0263	4.445	4.331	.97437	77
10	.2278	.2339	1.0270	4.390	4.275	.97371	50
20	.2306	.2370	1.0277	4.336	4.219	.97304	40
30	.2334	.2401	1.0284	4.284	4.165	.97237	30
40	.2363	.2432	1.0291	4.232	4.113	.97169	20
50	.2391	.2462	1.0299	4.182	4.061	.97100	10
14	.2419	.2493	1.0306	4.133	4.011	.97030	76
10	.2447	.2524	1.0314	4.086	3.962	.96959	50
20	.2476	.2555	1.0321	4.039	3.914	.96887	40
30	.2504	.2586	1.0329	3.994	3.867	.96815	30
40	.2532	.2617	1.0337	3.949	3.821	.96742	20
50	.2560	.2648	1.0345	3.906	3.776	.96667	10
15	.2588	.2679	1.0353	3.864	3.732	.96593	75
10	.2616	.2711	1.0361	3.822	3.689	.96517	50
20	.2644	.2742	1.0369	3.782	3.647	.96440	40
30	.2672	.2773	1.0377	3.742	3.606	.96363	30
40	.2700	.2805	1.0386	3.703	3.566	.96285	20
50	.2728	.2836	1.0394	3.665	3.526	.96206	10
							74
	Cosin.	Cotg.	Cosec.	Sec.	Tan.	Sine.	Angle.

17+862
3+28
1610 And

E. + W. Line

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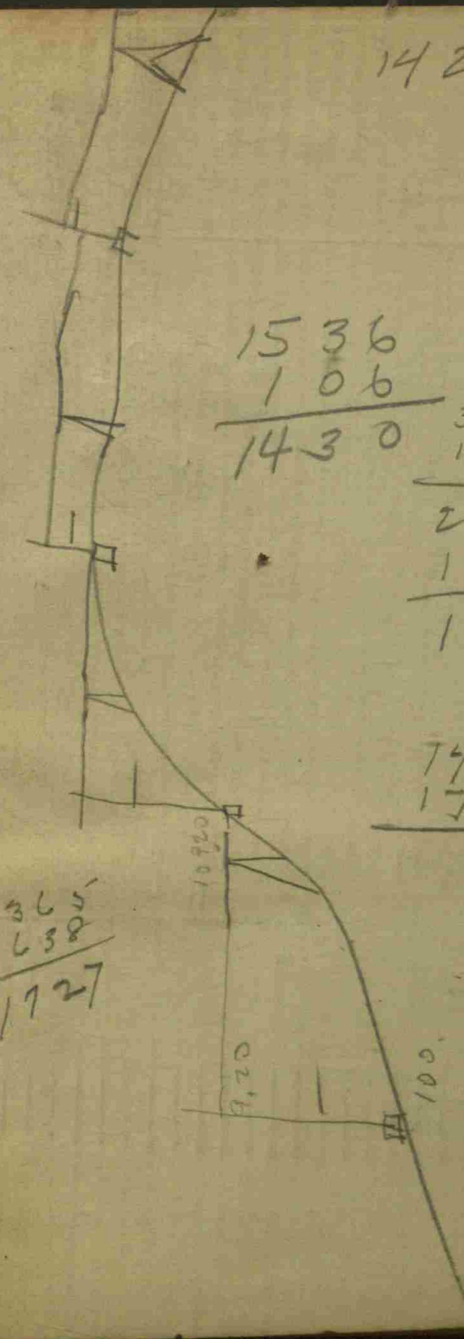

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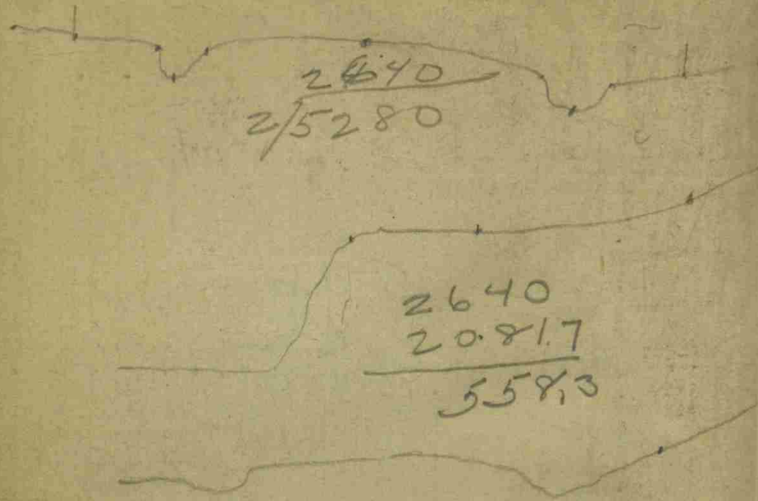

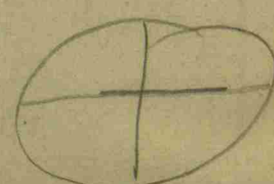

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MADE IN GERMANY.