

S. R. H. No 80

LATERAL No 1

From SRH 80 Sta 1459180
East to Jenkins

And notes on SR #2.
OFF To NE COR sec
32-137-29

(9)

FIELD BOOK

361

73

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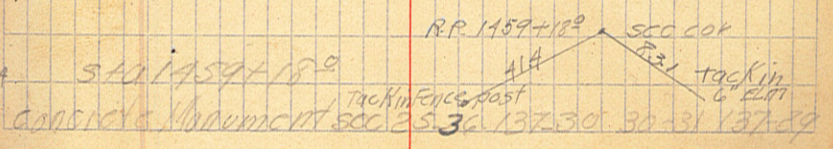
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- 4
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- 2
- 1

Random

00 A 90°31' R N 89°46' E East along North line of sec 31 32 33
 0100 = sta 1459+18 on S.R. H 80 N 00°43' N course
 of SR H 80. using 8° variation

Lateral Nol. of SR H 80
 Sept 21 1917
 G. B. Massey, Eng'r
 W. S. B. Weather
 Geo. King
 Rodman
 Rodman



East along north line sec 32 13729
Random line

Note for line East along Meine of

105+42° N.E. cor sec 32 137,29 sec cor 16.3'

91+00 P.O.T. 11.86' south to true line

78+86° 1/4 cor not found Road very crooked.

75+00 P.O.T.

52+46.6 800° 21' 52+46.6 = N.E. cor sec 31

39+00 P.O.T. Present road 6' to the North

31+00 P.O.T.

26 set on 1/4 cor. and back sight on sec cor

24 N 1/4 cor sec 31 Twp 137 R 29 6.4' to south of

25

LIST NO 1 of SR 186
Road to Jenkins E.

SEPT 21 1917

sec 33 13729 see next page continuation
of stationing

South of Randon Concrete Monument.

mostly on south side of Randon line

Twp 137 R 29 concrete monument in center of Road

N.W. cor sec 31 Twp 137 R 29

Random line

6.4' 1/4 corner

Random line

Random East along North line sec 33 137-29

158+55° N.E. COR SEC 33, 137-29 SEC COR 10.3

138+00 Pot

1/4 cor not found

124+00 Pot

105+42° N89°42' E

Sept 21 1917

3

using 8° variation
Line East along North Line of
SEC 33 TWP 137 R 29

South of 168+55° Random Line concrete Mark

N.E. COR SEC 33 137-29

158153^o

N.E. Cor sec 33 137-29

138100 Pot set 6.319 Ft south to true line
correction for one foot .001938

129100 Pot set south 3.60' to true line

1051422 ^{00°21'6" N 89°45'E}
N.E. Cor sec 32 137-29

91100 Pot set on true line

75100 Pot

52116^o ^{00°11'R 589°41'E}
SEC COR N.E. Cor sec 31 137-29

39100 Pot

31100 Pot

26100 Pot 1/4 cor

00 90°37'R 589°58'E using 8'00' variation
course of SRH80 N00°35'W
00 = sta 459+16^o SRH No 80 which is the sec
cor of secs 25-36, 137-20 and secs 3031
- 137-29. Cont. Man. 1/2' below grade.
Take sight North along line SRH80 and
then turn Right on line as shown above.

21AT No 1 SRH80 Sept 22. A
same crew

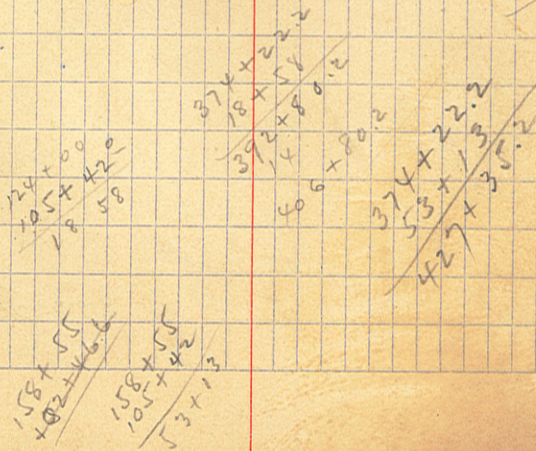
= 427 + 35.2 Project #19 - ~~1/2~~

= 406 + 80.2 Project #19 - ~~1/2~~

= 392 + 80.2 Project #19 - ~~1/2~~

missed sec corner to the north.

pot set 6.94' to south of hub 75100 random



sta	BS	HI	F.S.	Elev
B.M.	014	1109.88		1109.74
TP	212	1100.88	11.12	1098.76
TP	730	1096.39 ⁷⁷⁹	8.79	1092.69
TP	1083	1105.41 ⁹⁰⁷	1.81	1094.58
TP	1250	1117.10 ¹¹⁶⁹	0.81	1107.60
TP	1499	1118.00 ⁹⁰	1.09	1116.01
B.M.			1085	1107.15
00			11.5	06.5
+15			12.5	05.5
1		1159	12.6	05.4
TP	050	1106.91	12.09	1105.91
2			1.7	04.7
3			2.7	03.7
4			3.6	02.8
5			4.3	02.1
6			4.7	01.7
7			4.3	02.1
8			3.7	02.7
9			4.4	02.0
10			5.9	00.5
11			7.3	99.1
12			8.2	98.2
TP	280	1107.19 ⁸²²	8.02	1098.39
13			3.6	97.6
14			3.9	97.3

Levels Sept 22 1917

5

spike in WP tree 30' L 1487+80 SRH #80

spike in line post 20' L sta 1459+00 SRH #80

00 = sta 1439+17² SRH #80 sec corner secs 25-36 127.30
and 3031 TWP 187.29. Going east to Jenkins

old road same Elev

Sta	B.S.	I.I.	F.S.	Elev
		1101.19		
15			4.2	97.0
16			4.5	96.7
17			4.5	96.7
18			5.3	95.9
+25				
19			5.0	96.2
20			2.5	98.7
21			1.4	99.8
T.P.	1266	¹²⁵⁰ 1113.69	0.14	1101.93
22			12.1	01.6
23			10.9	02.8
24			10.5	03.2
25			7.1	06.6
26			4.7	109.0
B.M.			386	11.09.83
27			2.6	11.1
T.P.	1170	¹⁰⁹⁸ 1121.17	0.92	1112.77
28			10.8	13.7
29			9.6	14.9
30			4.7	19.8
+75			2.0	22.5
31			1.7	22.8
32			3.1	21.4
33			2.7	21.8

Sept 22 1917 6

old Bridge 1x12

top of 1/4 cor stake

seut edge of Road

" " " "

" "

" "

" "

Sta	BS	HI	F.S.	Elev
		112.43		
79			9.9	02.5
80			10.3	02.1
81			10.5	01.9
82			9.4	03.0
83			10.0	02.4
T.P.	10.10	112.61	9.92	110251
84			10.3	02.3
85			10.3	02.3
86			10.3	02.3
87			9.2	03.4
88			7.5	05.1
89			3.4	09.20
90			2.8	09.8
91			3.6	09.0
725			7.2	05.4
92			7.6	05.0
+50			7.8	04.8
93			10.7	01.9
T.P.	225	1104.90	9.96	110265
94			4.2	98.7
+50			5.8	99.1
95			4.4	00.5
+70			2.9	02.0
96			4.8	00.1

10

105+40
52+40
52+95.4

4'	South 1/2 center of old Road	same elev
4'	" " " "	" "
4'	" " " "	" "
	center of Bridge 8' x 16'	
	center of road	Big Swamp Grade about 1/2 FT Higher
	center of road 4' N	same elev
	" " " 4' N	" "
	" " " 6' N	" 12 Higher
	" " " 6' N	" 12 Higher
	" " " 6' N	same elev
	" " " 12' N	same elev
	" " " 12' N	" "
	" " " 5' "	" "
	" " " 5' "	.2 Higher
	" " " 5' "	.2 "
	" " " 4' "	same elev
	10' Road	
	10' Road	
	10' Road	
	10' Road	
	10' Road	

sta	B.S.	H.I.	F.S.	Elev
		1089.38		
BM	10.95	1097.53	2.80	1086.58
110 +75			9.4	881
111			10.5	870
+70				
112			11.1	864
+60			10.1	874
113			8.0	895
114			2.4	951
+75			2.6	950
115			3.3	942
+25			4.5	930
116			3.8	937
117			4.6	929
118			4.1	934
TP	12.66	1104.34	3.85	1093.67
119			11.2	957
120			9.2	971
+50			8.2	981
121			8.7	974
122			7.3	990
123			3.1	832
T.P	5.71	1111.75	0.30	1106.04
+50			3.7	881
124			1.9	899

Sept 22 1917

12

on Buck 15' R of sta 110+00 quit for day

Sept 25 1917

12" x 20' G.I.P. Now installed
in Road

4' south of Road

4' south of Road

in Road

" "

" "

" "

4' south of Road

in Road

in Road

" "

" "

" "

4' south of Road

in Road

4' south of Road

" "

Sta	BS	#1	FS	Elev
		111175		
125			24	099
126			3.9	07.9
127			4.8	07.0
128			5.0	06.8
+70			6.8	05.0
129			7.6	04.2
130			7.6	04.2
131			8.1	03.7
132			6.7	05.1
BM	1020	⁵⁸⁷ 1117.62	4.33	1107.42
133			10.7	06.9
134			10.9	07.0
+75			10.1	07.5
135			9.2	08.4
134			6.1	11.5
137			3.8	13.8
+60			3.7	14.2
138			4.5	13.1
139			9.2	08.4
140			12.3	05.8
TP	0.71	¹¹⁷⁴ 1105.88	12.15	1105.47
+50			2.3	03.6
145			5.9	100.0
148			10.7	95.2

Sept 25 1917

13

4'	south of Road		
6	"	"	
6	"	"	all distances
6	"	"	taken from center
6	"	"	of old Road
6	"	"	same level
6	"	"	unless otherwise
6	"	"	Noted
5	"	"	
BM	on large Rock 20' R. Sta 132+30		
5'	south of Road		
5	"	"	"
4	"	"	"
4	"	"	"
5	"	"	"
5	"	"	"
5	"	"	"
7	"	"	"
8	"	"	4 Higher in elev
10'	"	"	of road
5	"	"	"

Sta	BS	HI	FS	ELEV
		1105.88		
TP	0.51	^{12 33} 1093.55	12.84	1093.04
143			3.8	89.8
144			9.4	84.0
145		^{11 57}	12.4	81.2
TP	0.62	1082.16	12.01	1081.54
146			2.8	79.4
147			3.5	78.7
148			3.9	78.3
149			4.4	77.8
150			4.8	77.4
151			5.0	77.2
152			4.8	77.4
153			4.8	77.4
154			4.3	78.0
TP	1.32	⁶⁷ 1082.83	34.65	1078.51
155			4.2	78.6
156			4.4	78.4
157			1.9	77.9
158			5.6	77.2
+55			5.4	77.4
BM			4.91	1077.2

Sept 25 1917

Rainy

79

4' south of road
 4 " " " "
 3 " " " "

in Road

in Road

" "

" "

" "

" "

" "

" "

" "

in Road

3' North of Road

4 " " "

5 " " "

BM top Concrete monument NE Cor sec 33
 Twp 137 R. 29

Flat country
 but all
 road surface is
 natural ground

Sta	B.S.	I.I.	Rod	F.S.	Elev
B.M.	3.70	10350			99.80
26+05			71		96.7
26			72		96.3
+85			70		96.5
+79			79		98.6
+12			77		98.8
25			51		98.7
+50			55		98.0
+05			58		97.7
24			74		99.1
+73			58		97.7
+10			48		98.7
23			61		97.4
+85			65		97.0
+76			49		98.6
+12			51		98.4
22			54		98.1
+85			48		98.7
+67			62		97.3
+25			57		97.8
+05			68		96.7
21			50		98.5
+70			63		97.2
+15			55		98.0
20			60		97.5

Townsend State Road No 2 June 21/5
Harland
Village side Ditches

Levels on side ditch on L 21/6/12

Sta	BS	HI	Rod	FS	Elev
		10480			
+88			7.2		97.6
22			7.6		97.2
+21			5.7		99.1
+36			6.8		98.0
+50			5.9		98.9
+57			8.1		96.7
23			6.5		98.3
+90			5.3		99.5
24			7.0		97.8
+10			6.5		98.3
+25			7.0		97.8
25			6.9		97.9
26			6.1		98.7
+03			0.1		98.7
+12			7.8		97.0
+14			8.0		96.8
TP				4.95	99.5 99.0 .15
BM	570	10307			97.67
			#	7.76	95.32

Water elev Pine River June 26, 1918 oppo sta 17

Sta	Ground	Grade	Area	Figured July 4 Cayds.
14	97.8	96.22	7.35	
+94	92.8	96.27	2.76	9.5
15	98.1	96.17	6.51	1.0
16	92.0	96.12	3.11	17.8
17	96.7	96.07	2.78	10.9
18	96.7	96.02	2.59	9.9
+90	97.2	96.00	5.04	7.1
19	97.6	96.04	7.35	11.5
20	97.5	96.11		25.0
+15	98.0	96.12		4.1
+70	97.2	96.17		13.8
21	98.5	96.18		8.2
+05	96.7	96.18		1.1
+25	97.8	96.20		2.3
+67	97.3	96.23		9.6
+85	98.7	96.24		5.8
22	98.1	96.25		6.4
+12	98.4	96.24		3.4
+76	98.6	96.30		27.1
+85	97.0	96.31		2.3
23	97.9	96.32		2.0
+10	98.7	96.33		3.2
+73	97.7	96.37		20.0
24	99.1	96.39		10.0
+05	97.7	96.39		1.9
+50	98.0	96.43		11.3

SR #2. 18
3' Base 1:1 Slope (Int. Ditch on L) 24' from Center to Center

2	+1.6	+1.6	1.8
3	3.1		3.1
+06	+0.6	+0.6	+0.6
21			2.1
+1.6	+1.8	+0.7	
31			2.2
+0.9	+0.9	+0.9	
24			2.4
+1.2	0.6	0.6	
27			2.1
+0.7	0.7	+0.7	
22	+2.2		2.2
	+1.6		
	+1.4		
	+1.7		
	+1.0		
	+2.3		
	+0.5		
	+1.6		
	+1.1		
	+2.5		
	+1.8		
	+2.1		
	+2.3		
	+0.7		
	+1.1		
	+2.4		
	+1.3		
	+2.7		
	+1.3		
	+1.6		

	Ground	Grade	Area	Widths
25	98.4	96.76	9.65	15.7
+12	98.8	96.77	12.19	7.9
+79	98.9	96.52	10.71	28.4
+85	96.5	96.52		1.0
24	96.3	96.53		0.0
+05	96.4			275.2

on Right

14+50	98.9	96.3	11.07	15.2
15	97.9	96.28	5.39	20.7
16	97.8	96.23	5.81	18.2
17	97.2	96.18	4.00	20.7
18	97.7	96.13		9.9
+30	96.9	96.10		8.4
19	96.6	96.13		11.3
20	97.9	96.25	5.04	20.6
21	98.1	96.35	6.07	3.9
+15	98.1	96.37	7.99	0.7
+80	96.7	96.37		7.2
+55	98.7	96.91		10.4
+74	99.0	96.93		3.5
+86	97.6	96.49		3.5
22	97.2	96.45	2.59	6.3
+21	99.1	96.97	13.61	5.7
+36	98.0	96.49	6.75	4.8
+50	98.9	96.50		1.4
+57	96.7	96.57		

3' Base 1:1 Slope cut

19

$$\begin{array}{r} +2.1 \quad +1.9 \quad +1.4 \\ \hline 3.4 \quad 2.3 \quad 3.7 \end{array}$$

$$\begin{array}{r} +2.1 \quad +2.1 \quad 2.1 \\ \hline 3.4 \quad 0.0 \quad 3.2 \end{array}$$

0.0

0.0

21' from Center to Center

$$\begin{array}{r} \triangle +1.9 + 2.1 + 2.5 R \\ 3.4 \quad 4.0 \\ +1.3 \quad +1.3 \quad +1.3 \\ \hline 2.8 \quad 2.8 \\ 1.4 \quad +1.6 \quad +1.1 \\ \hline 2.6 \quad 2.6 \\ +1.0 \quad +1.0 \quad 1.0 \\ \hline 2.5 \quad 2.5 \\ 1.6 \\ +0.8 \\ \hline -0.2 \end{array}$$

$$\begin{array}{r} +1.2 \quad 1.2 \quad +1.2 \\ \hline 2.7 \quad 2.7 \\ +0.5 \quad +1.7 \quad +1.7 \\ \hline 2.0 \quad 3.2 \\ +1.7 \quad +1.7 \quad +1.7 \\ \hline 3.2 \quad 3.2 \\ +0.8 \end{array}$$

$$\begin{array}{r} +2.3 \quad +2.3 \quad +2.3 \\ \hline 3.8 \quad 3.8 \\ +2.1 \quad +2.6 \quad +2.6 \\ \hline 3.4 \quad 4.1 \\ +1.2 \quad +1.2 \quad +1.2 \\ \hline 2.7 \quad 2.7 \quad 2.7 \\ +0.7 \quad +0.7 \quad +0.7 \\ \hline 2.2 \quad 2.2 \\ +2.0 \quad +2.6 \quad 2.6 \quad +2.3 \\ \hline 3.5 \quad 3.8 \quad 3.8 \\ +1.5 \quad +1.5 \quad +1.5 \\ \hline 3.0 \quad 3.0 \\ +2.3 \\ \hline 4.2 \end{array}$$

44192² D R in Side of N & E Road.

35113² 046°28'R

30181² 069°05'R

29181² 032°21'L Follow old ditch.

23106² 050°00'R

15158 E & W Fence

14

13

12

11

10100 031°33'L

9

8

7

1515 012°22'R

6

5

4

3

2

1

00 = 105162² Using 8'30" variation

Transit Notes
off Lake To North July 6 1918 22

old ditch

side ditch

Road

Note There is no out let for side ditches.

ditch off lake

Stellar NE for acc 32 1726
137-29

Sta	BS.	HI	ROD	F.S.	FLP
	374	1088.88			1085.12
00			73		84.6
120			5.1		83.8
1			7.8		84.1
2			5.1		83.8
3			7.7		84.2
4			5.1		83.8
T.P.	2.73	1088.09 ⁸⁹		327	1085.61
5			4.1		83.9
6			4.2		83.8
1515	A	R	4.2		83.8
7			4.5		83.5
8			4.7		83.3
9			4.9		83.1
10			5.1		82.9
B.M.	2.00	1087.51 ⁸³		253	1085.51
11			4.5		83.5
12			5.0		82.5
13			5.0		82.5
14			5.2		82.3
15			5.5		82.0
T.P.	3.85	1086.96 ⁵⁵		110	1083.11
16			5.1		81.9
17			5.1		81.9
18			4.5		82.2

June 28 1918. J. Pomase 2
 W. Moulster
 Levels for Michael Webber 23

Enter Brush
 " "
 " "
 leave Brush
 berg
 50 CA

16 ft. from
 Sta 0120 to 6453
 20 ft. clearing

Top rock 5' 1 5' 11 8' 00

Sta	BS	HI	Red FS	Fly
		108696		
19			53	81.7
20			52	81.8
T.P.	2.40	¹³⁵ 1085.61	375	1083.21
		Fly levels		
			4.6	81.0
			5.2	80.4
			6.8	78.8
T.P.	2.70	1085.91		1083.21
21		²⁴ 81.8	4.2	²⁷⁰ 81.7
22			4.5	81.4
23			4.7	81.2
+06 ²			4.7	81.2
24			5.1	80.8
25			5.0	80.9
24			5.0	80.3
24			5.2	80.7
27			5.2	80.7
28			5.8	80.1
28			5.2	80.7
T.P.	1.54	1085.75	750	1081.41
29			4.4	81.4
+81 ²			4.3	81.7
30			4.6	81.4
+81 ²			4.6	81.4
+81 ²			6.2	77.8

JUNE 28/1918

3.7

789

82.1

789

3.7

846

804

30/37

24

37

open

on snag 5' Right Sta 19+85

upper end of old ditch original ground

Ditch 6" deep

Top Ditch

in ditch on snag 5' R Sta 14+85 July 6

open meadow

Beginning of old Ditch 14' wide

in ditch 1.5

Top Ditch 1.5

" "

" " in ditch

Top Ditch

" "

" "

" "

" "

" "

" "

in ditch

1.5 wide

Sta	Bs	HI	Rod	FS	Elev
		1085.75			
31			50	5.0	81.0
32			62		79.8
32			48		81.2
33			51		80.9
34			54		80.6
35			54		80.6
+132			69		79.6
+132			55.1		80.9
36			55		80.5
37			56		80.4
T.P.	5.07	^{1.25} 1084.67		6.35	79.60
38			58		78.9
38			45		80.2
39			46		80.1
40			47		80.0
41			54		78.8
41			46		80.1
42			45		80.2
43			53		79.9
44			52		79.5
44			68		77.9
+92.7			69		77.8
B.M.			52	4.45	^{79.5} 1080.22
45			40		80.7

July 6 1917

Top ditch	width ditch 2'
in ditch	
Top ditch	3'
" "	
" "	
in ditch	
Top ditch	
" "	3.3
" "	3.5
in ditch	
Top ditch	3.3
" "	
" "	3.0
in ditch	
" "	
" "	
" "	
" "	
" "	4.0
in side ditch of road	
Top ditch	
split in top part 50 ft	Sta 44+92.7
in road	

No other...

27

+784

+31

+18

+37

00

x

x

x

x

x

x

x

+784 End

+31

+18

+37

00

Beginning of section on N side N&S

← N and S Road →

End of section on East side N&S Road

surfacing Notes
 column of
 1/2 yds
 column of
 1/4 yds
 1/4 yds

July 26

11

" 27

11

" 29

33

" 30

37

" 31

27

109

14

109

1.5

545

109

1035

17.5

7

188.0

Total
 w/yds
 surfacing

July 13 1911

one yd
column

L

W

R.

15.3

111.50

24.8

12.35

25

" 11

7

Final

00 00 00

Area w/yds

09.8 10.5 10.0

20 10 14

00

121.9

Final

105 08.1 08.0 07.3 05.6 06.6 138.9

20 10.5 10.7 10.2 71 76

22 0 15

12.1

Final

103 07.2 11.7

103 10.9 10.7

32 20 0

42.1

Final

102 09.2 8.8 08.4 10.5

102 10.2 10.3 10.2 11.0

30 15 0 11

17.0

Final

00 00

10.1 09.8

14 0

00

32.2

196.2

side ditch East side of foot
 south of Bridge
 3/2 x 1 x 100.2 13 w/yds

13.0

693.9

surfacing
 Total

903.1

188.0

1091.1

Sketch showing
 Road when
 completed.

East & W Road

N&S Road on W line 500 4

N.W. Cor

500 4

137-30

Bridge

29

	BS	HI	Rod	FS	Elev
BM	475	1084.97			1080.22
			7.6		77.4
			75		77.5
			75		78.5
			67		78.3
			6.9		78.6
T.P.	182	^{1.73} 1083.24		6.55	1078.72
			58		77.4
T.P.	925	^{8.3} 1082.41		5.08	1078.16
			5.0		77.4
			3.4		79.0
			6.9		75.8
			1.7		77.7
T.P.	360	^{9.0} 1079.51		4.50	1077.91
			6.6		74.9
			1.6		76.9
			7.7		73.8
			6.6		74.9
T.P.	542	^{1.45} 1080.66		6.87	1079.69
			1.8		75.3
			5.3		74.8
			8.2		71.9
			7.1		73.0

J. Rose L. Aug. 5-1918
E. Cromwell

Fly levels from end of off take
which commences At NE corner 32
Elev of where off take leaves road. 787-29.
Near culvert
in old ditch

original ground
" " "
original ground
" " "
original ground
in ditch at Beaver dam
original ground
in ditch
orig er.
in ditch
orig ground
in ditch
orig er.
orig er.
orig er.
in Road
in ditch
orig er.

Follow old ditch
Higher ground
3960'

Approximate
length of extension
3960'

sketch showing extension
of ditch
end of present ditch
Road
culvert now in
Extension
to flow old ditch

Sta	grade	Bottom of Present ditch	area	cu yds.
30				
14+92	1078.01	1078.0	0.0	0.4
+858			2.6	8.2
47	78.08	78.0	2.6	6.8
43	78.16	78.1	1.1	8.9
42	78.24	78.7	3.7	13.5
41	78.32	78.8	3.6	15.9
40	1078.10	78.8	1.7	15.4
39	78.48	78.8	3.6	13.7
38	78.56	78.9	3.8	14.8
37	78.64	79.1	4.2	14.8
36	78.72	78.9	3.8	6.8
+43	78.75		2.7	5.1
+432	78.77	78.8	2.7	
+20	78.78			5.1
35	78.80	79.2	4.0	17.6
34	78.88	79.6	5.5	24.1
33	78.96	79.8	7.5	29.4
32	79.04	79.8	8.1	32.9
31	79.12	80.1	9.1	5.3
	78.8			
78.12	78.84	79.1	6.0	20.3
30	79.00	79.9	7.5	6.2
+812	79.04	79.8	10.4	26.8
29	79.20	79.9	7.4	27.4
28	79.36	80.2	7.4	

7-5-1
Pamase Economic
Cross section of off take. 32
24
546 1.8
782
54

L		R			
100	00	+02		1080.22	84.7
+10	+15	00	00	1.74	
+15	+20	00	00	87.14	
+20	+25	00	00	542	
30	15	13		79.21	
	+15	+02	00	12	12
	30	19		14	22
				27	
+16	+16	+08	+05	+13	+16
31	22	20		18	13
				31	
+16	+15	+03	+05	+05	+16
31	20	17		12	17
				30	
+17	+17	+06	+04	+13	+20
32	23	20		05	35
+16	+16	+03	+03	+13	+14
36	18	11		17	13
				27	29
				23	+06
				+03	+04
				10	30
				10	31
+15	+15	+03	+03	+14	+16
31	20	10		10	10
				29	
+18	+17	+05	+05	+15	+18
33	23	15		12	18
				35	20
				8695	
+20	19	+02	+02	+17	+17
35	20	08		08	11
				32	
+21	+14	00	00	+18	+19
36	18	13		14	23
				34	
+17	+17	+04	+04	+19	+18
32	20	14		20	33
+18	+18	+07	+07	+17	+18
33	24	23		20	11
				35	
+20	+20	+08	+08	+22	+21
35	15	12		08	14
				36	
+21	+25	+07	+08	+08	+23
35	20	14		08	12
				40	
+24	+25	+10	+10	+10	+25
37	20	13		07	13
				41	
+19	+19	+03	+03	+21	+21
34	20			15	36
18	+18	+09	+09	+17	+17
30	10			10	32
+20	+20	+22			
35		3.7			
+19	+19	+23			
39		3.8			
+13	+17	+17			
28		32			

Station 17 slope

My levels
from 23+06 to 30+81.2
Range of line as
proposed by P.O. Lock
H.I. Road E.S. Elev
1079.75
This point is
about 500' N 23+106

31

			Area	Cu yds
27		80.7	6.6	25.9
26		80.7	7.8	26.7
25		80.9	7.5	28.3
24		80.8	7.5	22.2
23		81.2	6.2	19.8
22		81.4	7.4	25.2
21		81.7	8.6	29.6
20		81.8	8.6	31.9
19		81.7	7.4	29.6
18		82.2	8.3	29.1
17		81.9	8.0	30.2
16		81.9	7.4	28.5
15		82.0	7.8	28.1
14		82.3	9.3	31.8
13		82.5	10.4	36.9
12	80.64	82.5	8.8	35.9
11	80.72	83.5	15.6	45.2
10	80.80	82.9	11.1	49.9
9	80.88	83.1	12.1	43.0
8	80.94	83.3	15.1	50.4
7	81.04	83.5	11.8	49.8
+51.5	81.08	83.8	14.8	23.8
6	81.12	83.8	15.0	28.4
5	81.20	83.9	15.6	56.7
4	81.28	83.8	16.8	60.0

80.80

Aug 20 1918

3' Rise 1 1/2 Slope L C R 1081.60 clwo

	+19	+13	+14
	31		29
	+20	+18	+11
	35		25
	+16	+13	+11
	31		24
	+11	+11	+11
	24		24
Wallace Ritchie	+14	+14	+14
Contractor	24		24
	+16	+16	+16
	31		31
Sept 16 finished	+18	+18	+18
	33		33
To 6 to 17 100	+18	+18	+18
	33		33
	+16	+16	+16
	31		31
	+15	+20	+15
	30		30
612.6	+17	+17	+17
	32		32
	+16	+16	+16
	31		31
	+18	+16	+17
	33		33
	+19	+18	+18
	34		34
	+22	+19	+18
	37		33
	+17	+19	+18
	32		33
	+25	+25	+25
	40		40
179.8	+21	+21	+23
	34		38
	+24	+22	+23
	39		38
	+21	+21	+25
	41		40
	+26	+27	+24
	41		41
	+27	+27	+25
	45		43
	+35	+25	+30
	50		45

Begin of of the
SE grade

Sept 16 1918

	Grade	Ground Elev	Area	Cu yds
32				
3	81.36	84.2	18.0	44.4
2	81.74	83.5	14.7	60.6
1	81.52	84.1	17.2	59.1
0+20	81.68	83.8	12.7	47.3
			Total Cu yds	1408.9

J.F.P.
H. Webber

Sept 16 1918

132	2.8	+ 38
77		78
119	12.4	+ 28
77		73
+ 35	+ 2.4	+ 30
50		43
126	2.0	+ 25
71		70

END

Estimate for entire ditch Made
out Oct 10 1918 1409 cu yds

34 $\frac{116.36}{2.30} = 18.46$
 BM. \checkmark 116.36
 6 $\frac{116.36}{5.42} = 121.78$
 +50
 +16
 5
 +72
 +31
 4
 +77
 3 + 58 $\times \quad \times \quad \times$
 8
 7

Oct 16 18
 Cross section on state Road #2
 To complete Road Fliswell Cont.

11.9	12.1	11.7	11.3	11.0	12.1	16.3	16.2
29	0	24	30.7				

17.4	12.1	11.7	11.3	11.0	11.7	16.6	16.6	level
32.4	28	16	0	16	24	28.3	31.2	

16.8	16.8	12.1	11.3	11.0	11.7	16.6	16.6	level
33	23	22	13	0	12	15	30	

16.8	16.6	11.8	11.2	11.4	11.8	16.6	16.5
31	22	19	13		7	9	30.9

16.6	16.8	13.3	12.4	12.8	16.5	16.5	16.5
30	29	20	14	4		13	30

16.2	16.0	15.3	15.9	16.4
29.6	13		13	28.5

15.6	15.4	13.9	14.4	14.0
28.5	13	0	13	26.8

14.3	13.9	12.7	12.9	13.1
26.8	13		13	26

From 510.3158 to 4131
 cross section will be as
 original / section shown
 Fliswell Cont. to 6100
 Fliswell Cont. to 6100
 Fliswell Cont. to 6100

12.1	0.97	0.9	0.5	0.9	1.0
29.4	26	0	13	28	32.4

36 Area cu yds

37.77 58

12.9

3758 00

Drive way for Hurd $\frac{1165.7}{6.3}$

1172.5 Total cu yds

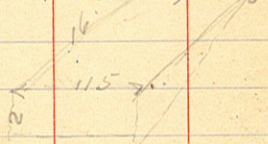
Extra fill

$\frac{500}{1222.5}$ total Ex.

Sketch shown drive way
made for Hurd
by Caswell

To left of sta 37900

Av. High 1' X 11.5' V X 16' L = 6.800 yds



Cross section of surfacing

3760 to 14100 35.2 cu yds per sta = 366.1

14100 to 23700 50.9 cu yds per sta = 590.7

23700 to 26+60 37.2 cu yds per sta = 59.2

1016.0

surfacing Hurd driveway

45

1020.5

summary

surfacing

1020.5

Excavation

1222.5

172

L C R

TA	174	119	122	120	116	121	
	278	26		19	23	24	78

00

1922 Loads claimed
by Caswell

3	5	9	5	3
10	5	0	5	10

3	8	10	5	3
10	5	0	5	10

5	5	5
10	0	10

Total surfacing

Daily Notes
LIFT No 1 of SRH 80

sept 11 1917 J Pomasel, W. Starkweather and Geo Kline go to Jenkins road and run 3 miles of center line along North line of secs 31 32 33 Twp 137 R 29 Geo Kline takes us to and from work with his car, and in the field he is chairman

sept 22 1917 same crew and fig. We put 2 miles of sec line onto the tree line and then run 2 miles of levels besides one mile from B.M. on SRH 80 to beginning of our work.

sept 25 1917. Pomasel and Starkweather go to road running West of Jenkins and put one mile on the level line and run levels over same. Vern Hardy takes us to work and waits until we finish to bring us back to P. R. M.

sept 26 1917. Pomasel and Starkweather in office marking two profiles

sept 28 Pomasel in office getting estimate of ~~center~~ No 1 of SRH 80

sept 29 Pomasel and Nelson estimate in the morning

LIAT No 1 OF SRH 80

LIVERY EXPENSE

Geo Kline Owner of Car

Sept 21 1917 Round trip

From PR. to 7 miles W.
West of car hrs. 4.00

Sept 22 Livery to
same place 4.00

claim made out \$8.00
Oct 1 1917

LIVERY EXPENSE

Vern Hardy owner

Sept 25 1917 From Pint R

to one mile west of
Jenkins and return

charges 4.00

claim made out Oct 2 1917

Boardsheet

H+Mist Hanson For Pamascl.	H+Brookside Hotel For Starkweather.	H+Travellers Hotel For Ego Kline
1917	1917	1917
Sept 21 BDSL.	Sept 21 BDSL.	Sept 21 BDSL.
Sept 22 BDSL	Sept 22 BDSL	Sept 22 BDSL
Sept 23 BDSL	Sept 23 BDSL	Sept 23 BDSL
Sept 25 BDSL	Sept 25 BDSL	Sept 25 0000
Sept 26 BDSL	Sept 26 BDSL	Sept 26 0000
Sept 28 BDSL	Sept 28 0000	" 28 0000
Sept 29 B.D.	" 29 0000	" 29 0000

6/12
5 days
 Claims made out Oct 21 1917
 X X X X X X X X X X X X X

TIME SHEET OF MATERIAL No.
 of SRH 80. Road to Jenkins

Month 1917 sept 1917
 Date 21 22 23 24 28 29
 J. Pomasol.
 W. S. W. Weather
 G. C. Ashline
 1 note 1256 8 22 days 800
 6 Kings 1000 made
 22 Oct 1917

KEITH'S RAILROAD CURVE TABLES.

Published by KEUFFEL & ESSER CO., New York.

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HOW TO USE KEITH'S TABLES.

EXAMPLE.

Wanted a Curve with an Ext. of about 12 ft. Angle
 of Intersection or I. P. = 23° 20' to the R. at Station
 542+72.

Ext. in Tab. IV opposite 23° 20' = 120.87
 120.87 + 12 = 10.07. Say a 10° Curve.

Tan. in Tab. IV opp. 23° 20' = 1183.1
 1183.1 + 10 = 118.31.

Tab. V. correction for A. 23° 20' for a 10° Cur. = 0.16
 118.31 + 0.16 = 118.47 = corrected Tangent.

(If corrected Ext. is required find in same way)
 Ang. 23° 20' = 23.33° + 10 = 2.3333 = L. C.

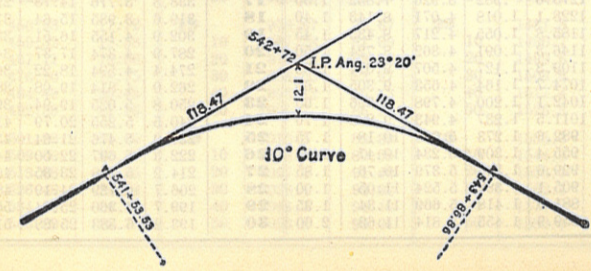
2° 19½' = def. for sta. 542	I. P. = sta. 542+72
4° 49½' = " " " +50	Tan. = 118.47
7° 19½' = " " " 543	B. C. = sta. 541+53.53
9° 49½' = " " " +50	L. C. = 2.33.33
11° 40' = " " " 543+	E. C. = sta. 543+86.86
86.86	

100 - 53.53 = 46.47 × 3' (def. for 1 ft. of 10° Cur.) = 139.41' =
 2° 19½'' = def. for sta. 542.

Def. for 50 ft. = 2° 30' for a 10° Curve.

Def. for 36.86 ft. = 1° 50½' for a 10° Curve

(These tables are published in Field Books of
 KEUFFEL & ESSER Co., New York, N. Y.)



Natural Tangents

deg.	0'	10'	20'	30'	40'	50'	deg.	0'	10'	20'	30'	40'	50'	deg.	
0	0000	0029	0058	0087	0116	0145	89	40	8391	8441	8491	8541	8591	8642	49
1	0175	0204	0233	0262	0291	0320	88	41	8693	8744	8796	8847	8899	8952	48
2	0349	0378	0407	0437	0466	0495	87	42	9004	9057	9110	9163	9217	9271	47
3	0524	0553	0582	0612	0641	0670	86	43	9325	9380	9435	9490	9545	9601	46
4	0699	0729	0758	0787	0816	0846	85	44	9657	9713	9770	9827	9884	9942	45
5	0875	0904	0934	0963	0993	1022	84	45	1.0000	1.0058	1.0117	1.0176	1.0235	1.0295	44
6	1051	1080	1110	1139	1169	1198	83	46	1.0355	1.0416	1.0477	1.0533	1.0599	1.0661	43
7	1228	1257	1287	1317	1346	1376	82	47	1.0724	1.0786	1.0850	1.0913	1.0977	1.1041	42
8	1405	1435	1465	1495	1524	1554	81	48	1.1106	1.1171	1.1237	1.1303	1.1369	1.1436	41
9	1584	1614	1644	1673	1703	1733	80	49	1.1504	1.1571	1.1640	1.1708	1.1778	1.1847	40
10	1763	1793	1823	1853	1883	1914	79	50	1.1918	1.1988	1.2059	1.2131	1.2203	1.2276	39
11	1944	1974	2004	2035	2065	2095	78	51	1.2349	1.2423	1.2497	1.2572	1.2647	1.2723	38
12	2126	2156	2186	2217	2247	2278	77	52	1.2799	1.2876	1.2954	1.3032	1.3111	1.3190	37
13	2309	2339	2370	2401	2432	2462	76	53	1.3270	1.3351	1.3432	1.3514	1.3597	1.3680	36
14	2493	2524	2555	2586	2617	2648	75	54	1.3764	1.3848	1.3934	1.4019	1.4106	1.4193	35
15	2679	2711	2742	2773	2805	2836	74	55	1.4281	1.4370	1.4460	1.4550	1.4641	1.4733	34
16	2867	2899	2931	2962	2994	3026	73	56	1.4826	1.4919	1.5013	1.5108	1.5204	1.5301	33
17	3057	3089	3121	3153	3185	3217	72	57	1.5399	1.5497	1.5597	1.5697	1.5798	1.5900	32
18	3249	3281	3314	3346	3378	3411	71	58	1.6003	1.6107	1.6212	1.6319	1.6426	1.6534	31
19	3443	3476	3508	3541	3574	3607	70	59	1.6643	1.6753	1.6864	1.6977	1.7090	1.7205	30
20	3640	3673	3706	3739	3772	3805	69	60	1.7321	1.7437	1.7556	1.7675	1.7797	1.7917	29
21	3839	3872	3906	3939	3973	4006	68	61	1.8040	1.8165	1.8291	1.8418	1.8546	1.8676	28
22	4040	4074	4108	4142	4176	4210	67	62	1.8807	1.8940	1.9074	1.9210	1.9347	1.9486	27
23	4245	4279	4314	4348	4383	4417	66	63	1.9626	1.9768	1.9912	2.0057	2.0204	2.0353	26
24	4452	4487	4522	4557	4592	4628	65	64	2.0503	2.0655	2.0809	2.0965	2.1123	2.1283	25
25	4663	4699	4734	4770	4806	4841	64	65	2.1445	2.1609	2.1775	2.1943	2.2113	2.2286	24
26	4877	4913	4950	4986	5022	5059	63	66	2.2460	2.2637	2.2817	2.2998	2.3183	2.3369	23
27	5095	5132	5169	5206	5243	5280	62	67	2.3559	2.3750	2.3945	2.4142	2.4342	2.4545	22
28	5317	5354	5392	5430	5467	5505	61	68	2.4751	2.4960	2.5172	2.5386	2.5605	2.5826	21
29	5543	5581	5619	5658	5696	5735	60	69	2.6051	2.6279	2.6511	2.6746	2.6985	2.7228	20
30	5774	5812	5851	5890	5930	5969	59	70	2.7475	2.7725	2.7980	2.8239	2.8502	2.8770	19
31	6009	6048	6088	6128	6168	6208	58	71	2.9042	2.9319	2.9600	2.9887	3.0178	3.0475	18
32	6249	6289	6330	6371	6412	6453	57	72	3.0777	3.1084	3.1397	3.1716	3.2041	3.2371	17
33	6494	6536	6577	6619	6661	6703	56	73	3.2709	3.3052	3.3402	3.3759	3.4124	3.4495	16
34	6745	6787	6830	6873	6916	6959	55	74	3.4874	3.5261	3.5656	3.6059	3.6470	3.6891	15
35	7002	7046	7089	7133	7177	7221	54	75	3.7321	3.7760	3.8208	3.8657	3.9136	3.9617	14
36	7265	7310	7355	7400	7445	7490	53	76	4.0108	4.0611	4.1126	4.1653	4.2193	4.2747	13
37	7536	7581	7627	7673	7720	7766	52	77	4.3315	4.3897	4.4494	4.5107	4.5736	4.6382	12
38	7813	7860	7907	7954	8002	8050	51	78	4.7046	4.7729	4.8430	4.9152	4.9894	5.0658	11
39	8098	8146	8195	8243	8292	8342	50	79	5.1446	5.2257	5.3093	5.3955	5.4845	5.5764	10

deg.	60'	50'	40'	30'	20'	10'	deg.	60'	50'	40'	30'	20'	10'	deg.
80	5.6713	5.7694	5.8708	5.9758	6.0844	6.1970	9							
81	6.3138	6.4348	6.5606	6.6912	6.8269	6.9682	8							
82	7.1154	7.2687	7.4287	7.5958	7.7704	7.9530	7							
83	8.1443	8.3450	8.5555	8.7769	9.0098	9.2553	6							
84	9.5144	9.7882	10.078	10.385	10.7111	11.059	5							
85	11.430	11.826	12.250	12.706	13.197	13.727	4							
86	14.300	14.924	15.605	16.350	17.169	18.075	3							
87	19.081	20.206	21.470	22.903	24.542	26.432	2							
88	28.636	31.242	34.368	38.189	42.064	49.104	1							
89	57.290	68.750	85.940	114.588	171.865	343.770	0							

Natural Cotangents

1.5
 $\frac{51080}{12} = 4256\frac{8}{3}$
 $\frac{62}{3}$
 12

1.5
 $\frac{9}{3} = 3$
 $\frac{90.5}{3} = 30.1\bar{6}$
 $\frac{913.5}{3} = 304.5$
 1.5

14.00
 3.58

Nov 14 41 load @ $\frac{1}{2}$ 10.92

922
 595
 327
 37

37
 5 3
 1000 1042
 37
 9 333
 7294
 373926
 1627554
 327 8860 (1.2)
 327
 690

