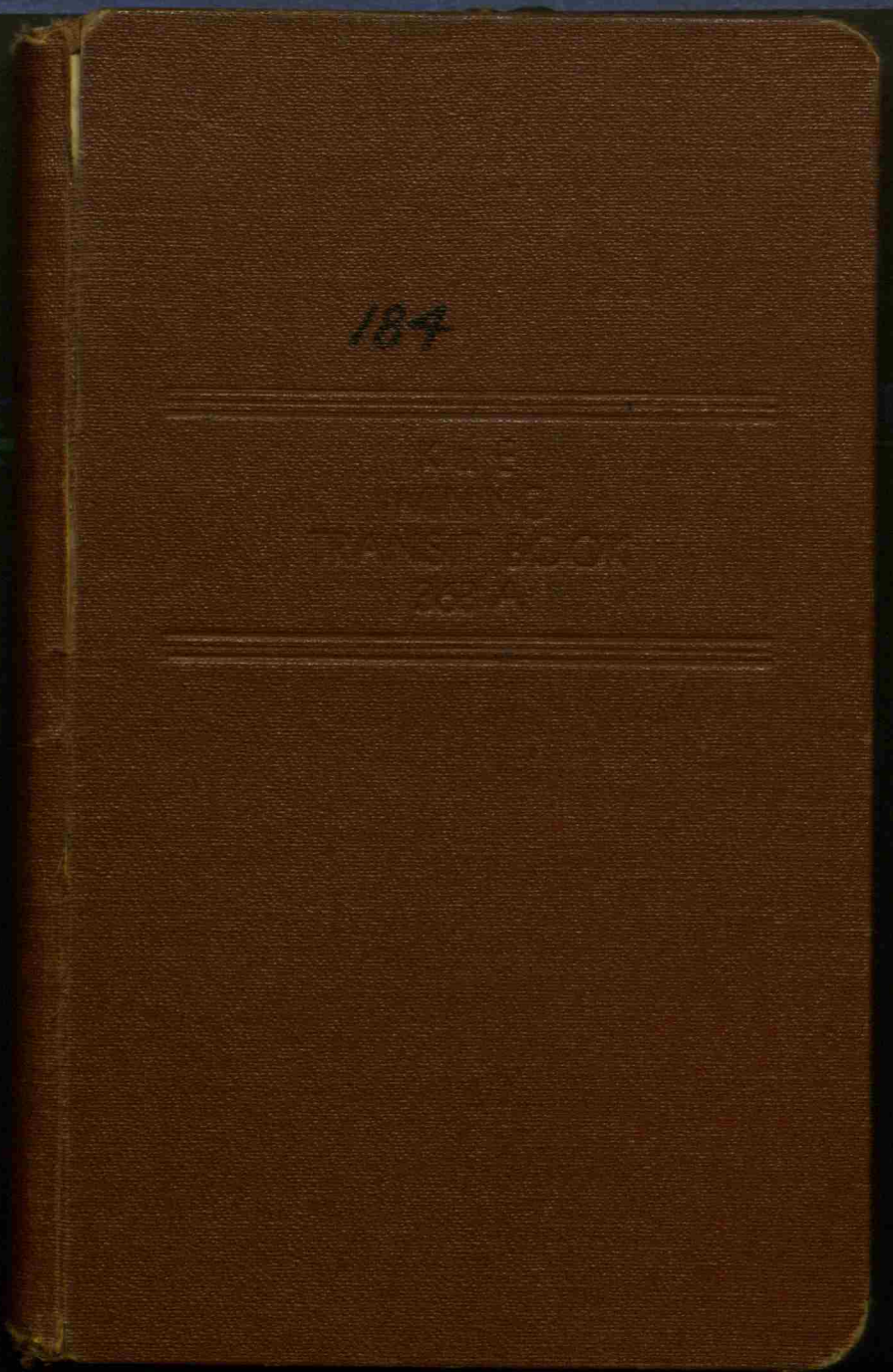

184

KEUFFEL & ESSER CO.

DRAWING MATERIALS
AND
SURVEYING INSTRUMENTS.
NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

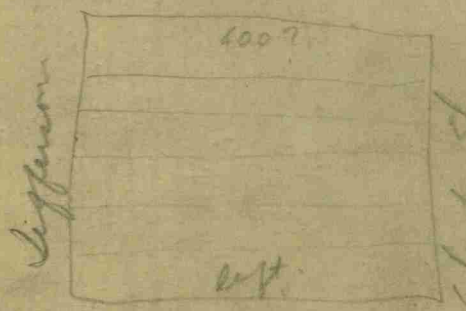
DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

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

44 miles
Ruth & Roy Leonard:
6 or 7 a.

1 a fronts stout at NE corner
From Wolfram Rd to E. line
1 acre fronts - Plat
make desc. - Blueprint



9 1/2
9 1/2

North Salem Steel Bridge

2 - End Posts
Mark - U_1 L_0

4 - Bars
Mark U_1 L_1

4 - Bars
Mark L_0 L_1

2 - Rd. Bars Cross underneath

4 - Rd. Bars Cross - above

2 - Top Lateral Struts

1 - New Partal Strut

2 - 6" 8# Ch.
5 - 6" 12¼# I Beams.

2 - 4" ch - 27'-8"
2 - 4' ch - 28'-9"

87+84
5+92
93+76
51
94+27
80
95+07

53+84
3+48
57+32

57+32
4+70
62+02

French Drain

Sec line - 53+84
Twp "
Dale N. line } 57+32
Isley S "

Dale W line } 62+02
Scott E. "

S Fenceline of O.S.R. - 87+84
N R/W of R.R. - 93+76
S " " " " - 94+27
N " " N.S.R. #34 - 94+27
S " " " " " " - 95+07

See David Smith

Marvin Jones on Smith
farm near French Dr.

O.K. on Ditch for Land Bank
Ground.

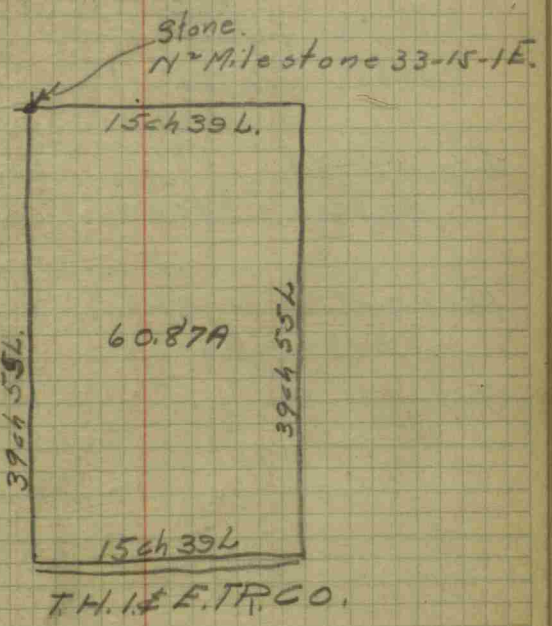
Survey for Walter Martin
Guilford Twp

Mar. 31, 1939

Sec. 33-15-1E.

M. Newman.

cloudy + rain



Mutual Ben. Life Ins Co.
20+75 - 26+35

Edgar Dale
32+60 - 39+90

Prudential Ins Co
83+99 - 88+39

Lambert Arm
0+90 - 3+40

3+40 - 5+90

100 - Kernodle

50 Gentry

5+80 Mut. Ben.

Rud. Ins. Co Allot. cleaned by A.C.L.-Ok
" " " " " " C.W. - No
Ham. + French Dale " Not cleaned
" " " Mut. Ben. " " "
Lambert Arm Not cleaned.

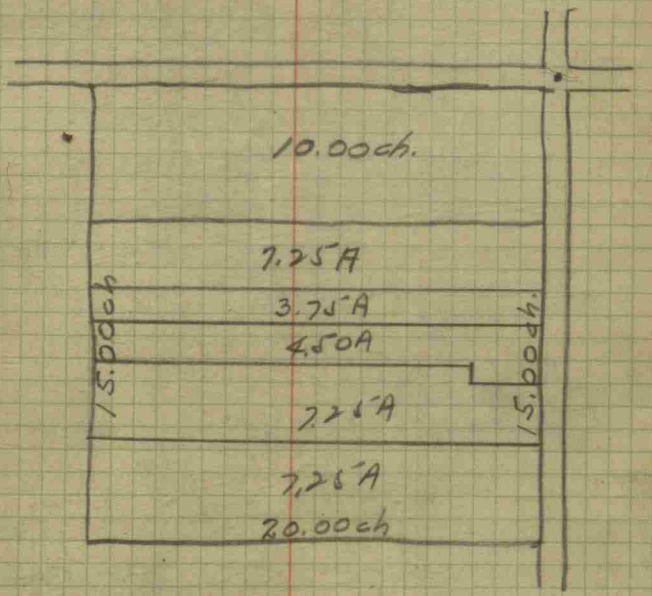
Survey for H. Phillips & H. Wilson

19-17-2E Brown twp

Mar. 31, 1939. M. Newman

Cloudy-rainy

(see plat in files for dimensions and Descriptions)

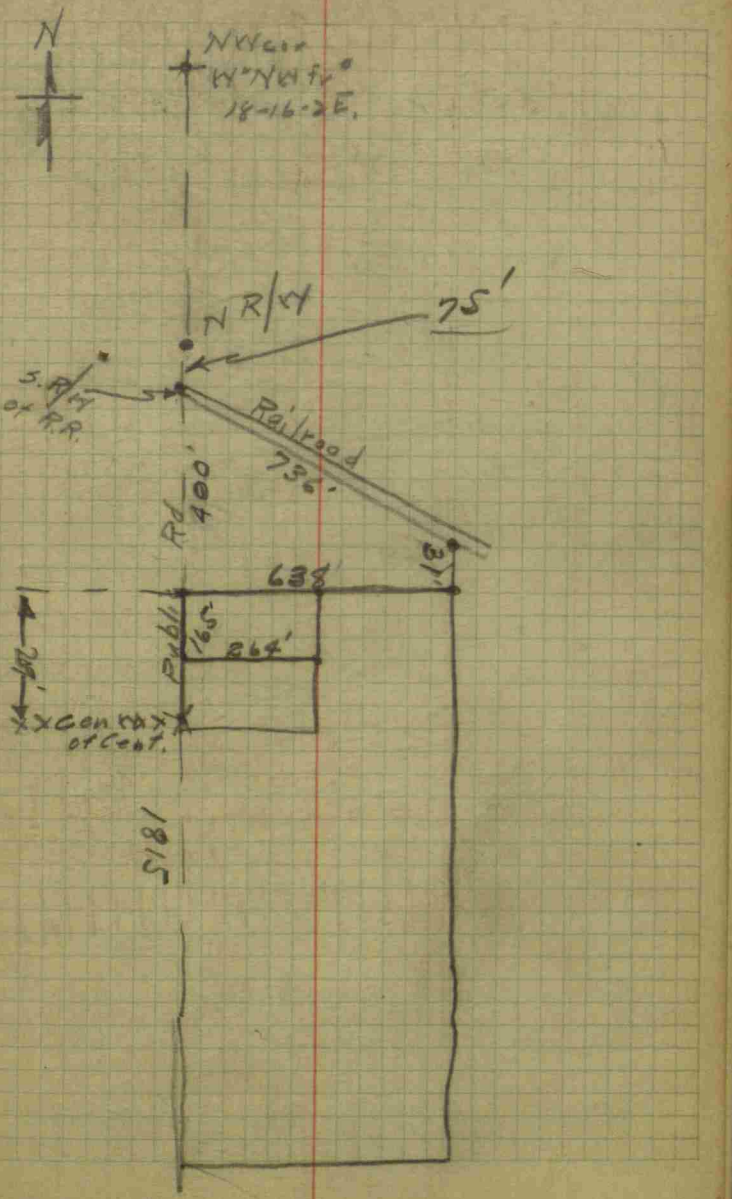


Survey for Geo. Turpin

Lin. Twp 18-16-2E.

Apr. 1, 1939 M. Newman.

Windy - cool.



Otto Whitaker Road 3½ Miles
Clay & Franklin Twp.

40' right-of-way staked.

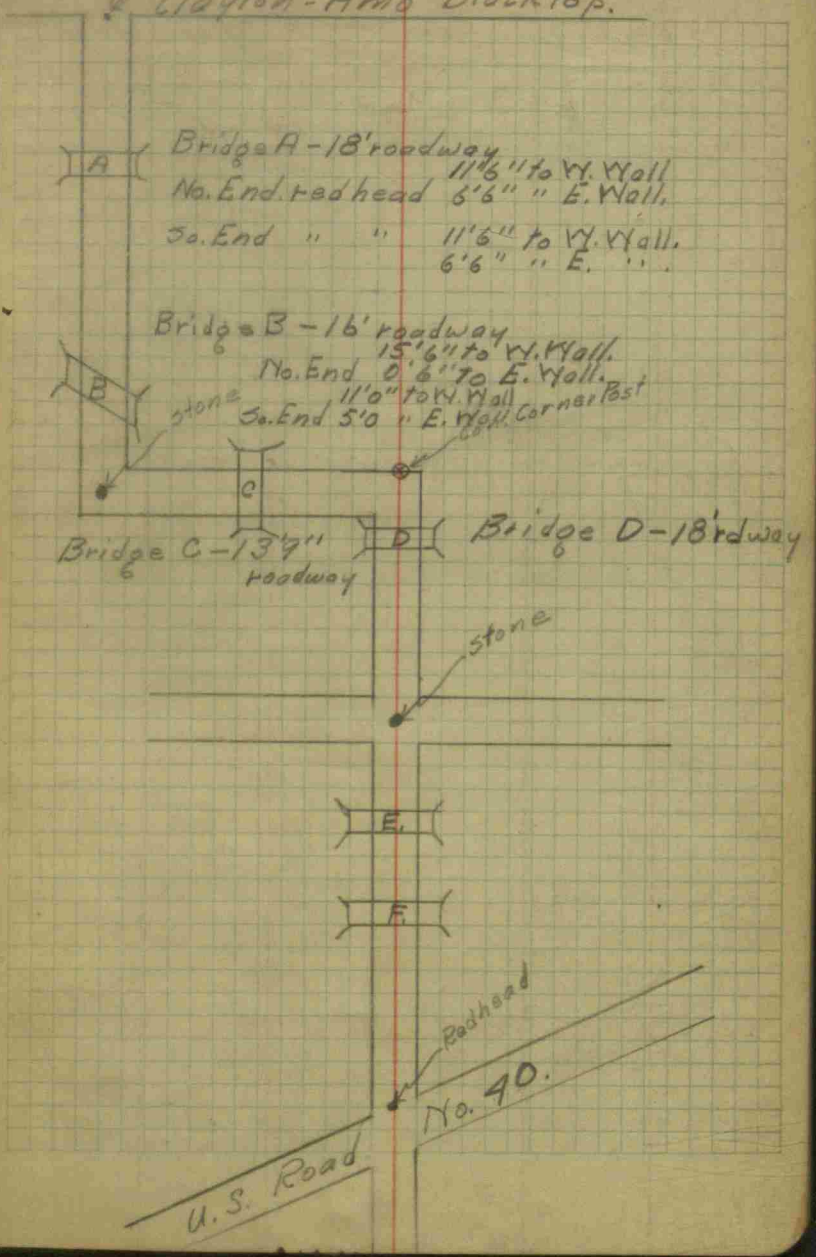
Stones

Stone at Cen. Sec 12-14-2W.
Witnessed 12/8/38. 1½' under Ground.
22'6" NE from Concrete Cor. Post.
21'8" SE " " " " .

Staked December 1938

H. Cook - M. Newman - O. Woodard.

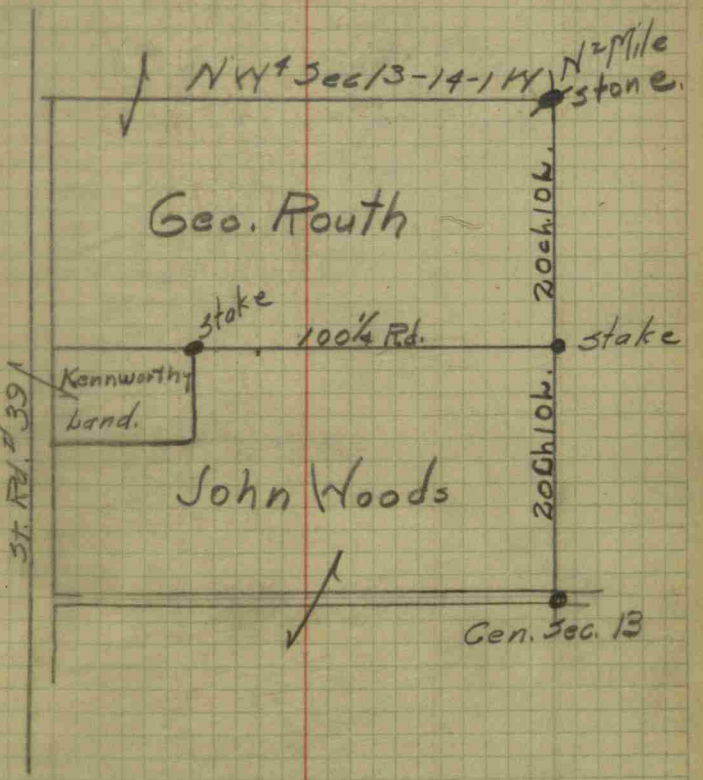
Clayton-Amo Blacktop.



Survey for Geo. Routh & John Woods

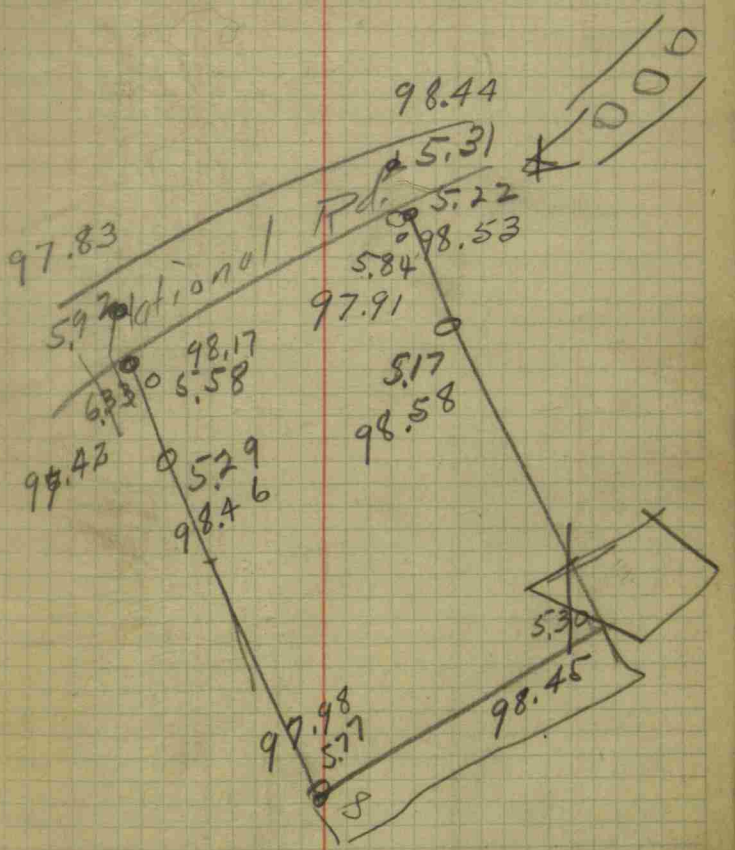
Section 13-14-14W.
April 6, 1939

M. Newman.



—	⊼	+	BM	
			100.00	W. corner pump house at Fitting
	103.75	3.75		

Levels for Wm Stafford.



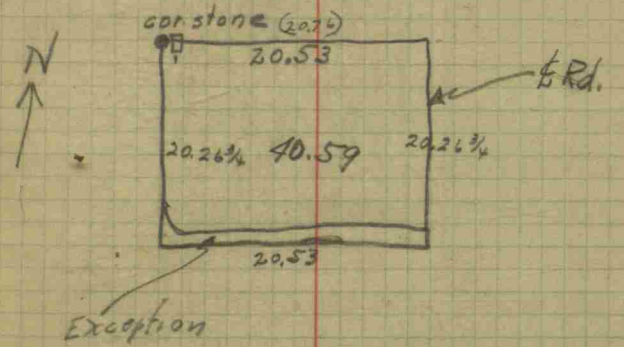
~~2756~~

20.26
20.53
6078
10130
405.20
40.59 378
41.59
1
40.59 A

Survey for H. Snyder.

April 26
Fair, warm.

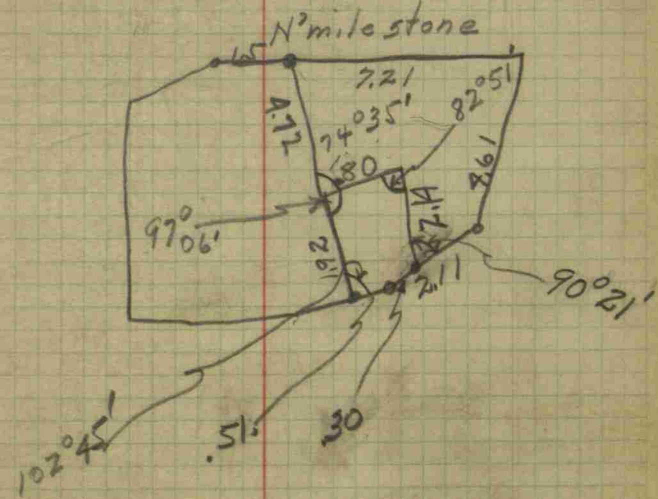
M. Newman
G. Wallis.



125'
65
190

80
66
480
480
52.80

Survey for Tom Merritt

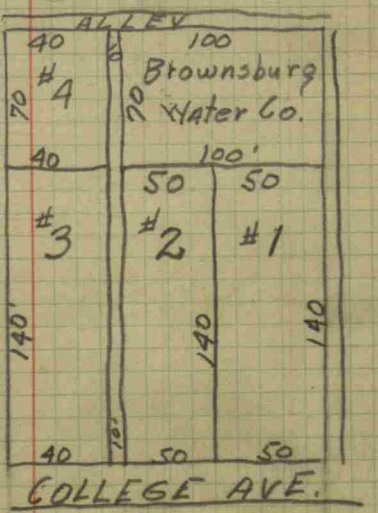


This must be in 34-16-1E.

Thompson & Thorp's 2nd Add.
To
Brownsburg, Ind.

June 8th 1939 — M. Newman
Clear - Warm — C. Walls.

See Plat in Files



—	π	+	BM
			200
	23.82	3.82	

Levels for Roeder

El. Bas. fl. 7.74 − 16.18

El. tile outlet 13.50 − 10.32

Allen Keeney description
exception in Evans Deed.

Look up Keeney description
and make survey Mon.

Wants north line run
and bt facing School Street.

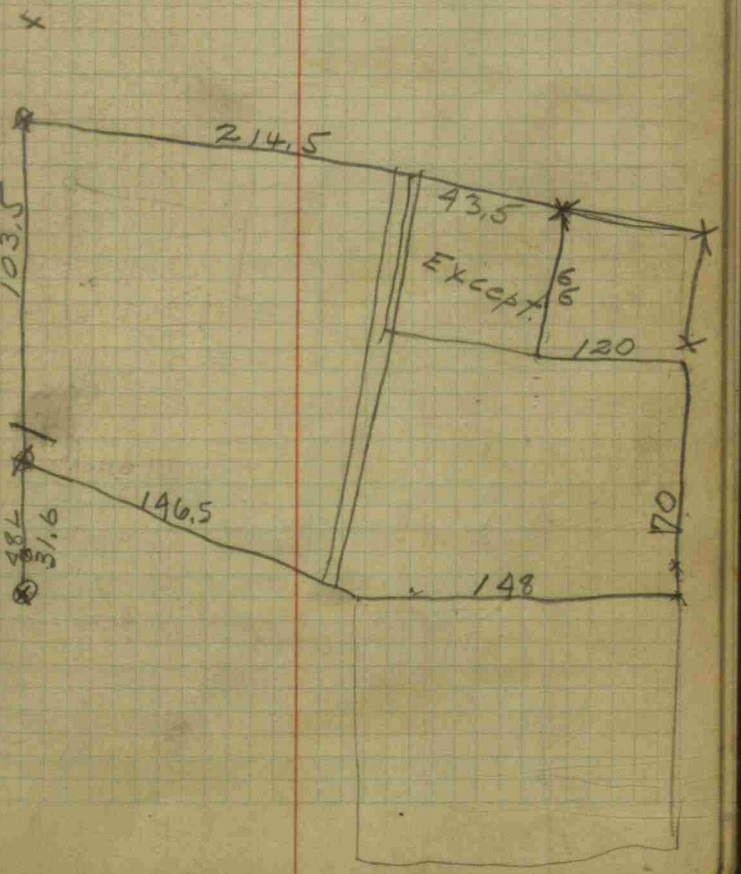
Methodist church description
for alley on South of Evans
ground.

Find description for N+S
alley.

Margaret Evans
Pittsboro Ind.

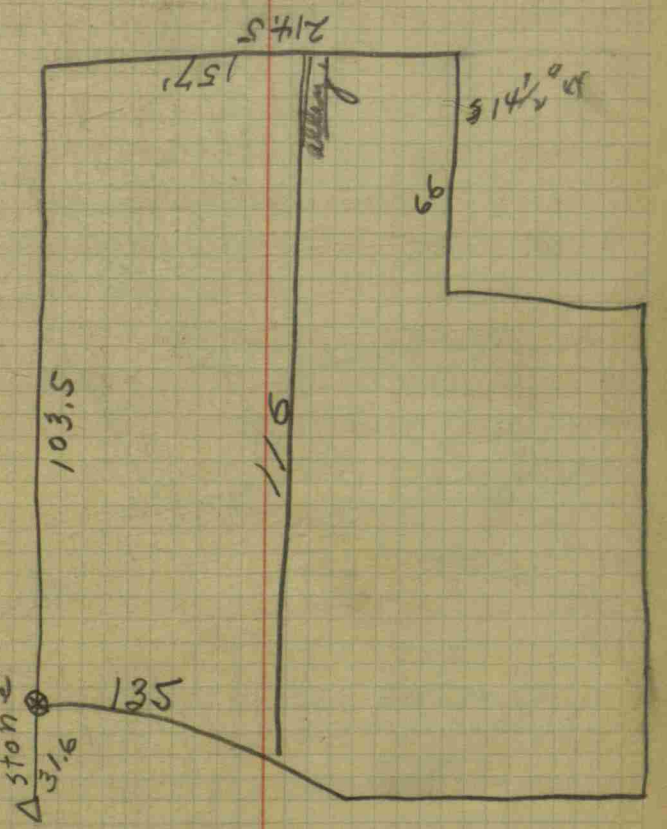
#1389

100' - S. Side All.
81' - N " "



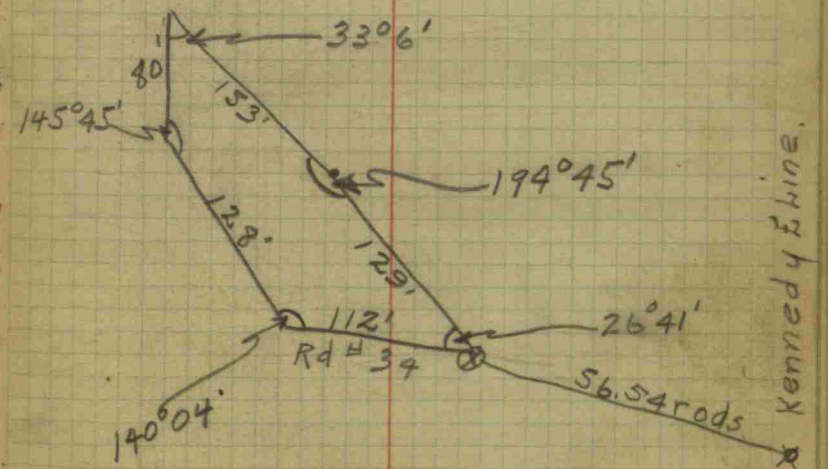
54

55



Frank Forman Survey

Lizton, Ind.



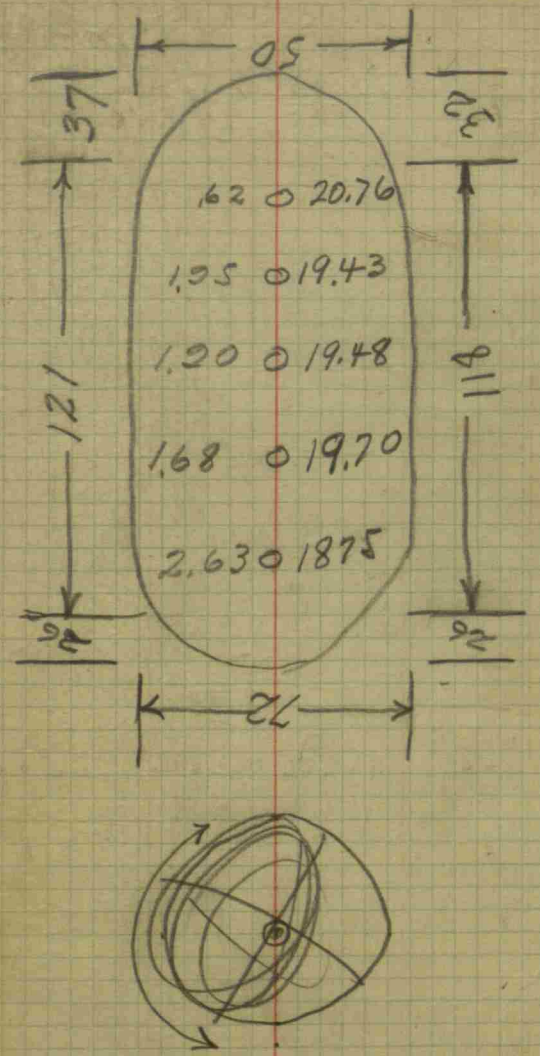
66½ rods
from Kennedy E line
933'

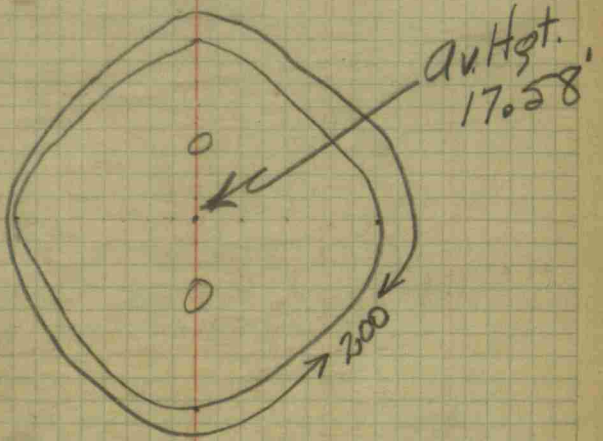
	—	π	+	BM
				10.00
		22.03	12.03	
	.50			21.53
		31.38	9.85	
check	12.04			19.34
		20.07	.73	
	10.08			9.99

July 15th 1939.

Marion Roberts Gravel
Eel River Twp.

South Pile




av. Hgt.
17.58'
300

−	π	+	BM	
			100.	E. END of N. H'way
	107.22	7.22		
1.20			106.02	
	114.52	8.50		
.70			113.82	

Block Rock Road Side Ditch
From Waggoner House West

0+00	11 45	
	95.77	
1+00	8 50	
	98 72	
2+00	6 63	
	100 59	
3+00	4 80	
	102 42	
4+00	3 90	
	103 32	
5+00	2 50	
	104 72	
6+0	8 20	
	106 32	
7+00	6 50	
	108 02	
8+00	4 80	
	109 72	
9+00	3 52	
	111 00	
~~10+00~~		

—	+	+	BM
			113.82
	127.17	835	
2.45			119.72
	125.52	580	
2.10			123.42

BM on top of NW. Conc. Gate Post.

10+00	9	40
	112	77
11+00	8	18
	113	99
12+00	7	20
	114	97
13+00	6	13
	116	04
14+00	5	30
	116	87
15+00	4	75
	117	42
16+00	5	45
	118	07
17+00	5	20
	118	32
18+00	7	00
	118	52
19+00	7	30
	118	22
20+00	6	65
	118	87
21+00	6	82
	118	70
22+00	7	00
	118	52
23+00	6	60
	118	92

—	π	+	BM
	102.68	2.68	100.00

on road of trees N. side of Drive

102.33
974
92.59

102.33
918
93 15

102.33
953
92 80

check T/e

100.00

102.33 233
543
93 33

11

Swartzbaugh Levels

	Top. stk.	Top T/e	Bot of side Dtch.
0+0	9.13 93 55	-92 59- 92.57 -93 15- 92 61 -92 80-	10.72 91 96
0+50			7.73 94 95
1+0	4.44 98 24	92.67	6.09 96 58
2+0	3.83 98 85		5.36 97.32
3+0	5.00 97.68		6.45 96 23
4+0	5.80 96.88		7.30 95 39
4+64			8.78 93.90
5+0	8.50 94 18		8.00 94.68
5+36	6.80 95 88		7.60 95.08

Station

0+00

2+00

4+50

5+00

6+70

8+00

8+90

10+00

13+00

16+00

17+70

18+00

18+20

200 ×

20+00

250 ×

22+60

50 ×

25+00

170 ×

28+00

130 ×

30+00

90 ×

32+95

110 ×

34+00

300 ×

36+65

300 ×

38+00

170 ×

39+40

30 ×

42+00

20 ×

44+40

180 ×

47+00

260 ×

48+45

240 ×

50+00

300 ×

52+00

200 ×

53+00

295 ×

55+00

105 ×

58+00

265 ×

60+00

135 ×

62+00

140 ×

64+40

260 ×

66+00

240

× 260

145 ×

155 ×

200 ×

100 ×

200 ×

300 ×

200 ×

200 ×

240 ×

160 ×

Stout - Richardson Drain

	X 280		X 115		X 300
68+80		91+00		116+00	
	X 220		X 215		X 400
71+00		93+15		120+00	
	X 200		X 100		X 285
73+00		94+15		122+85	
	X 200		X 185		X 215
75+00		96+00		125+00	
	X 200		X 235		X 300
77+00		98+35		128+00	
	X 330		X 110		X 145
80+30		99+45		129+45	
X	170		X 90		X 220
82+00		100+35		131+65	
	X 180		X 165		X 55
83+80		102+00		132+20	
	X 55		X 300		X 220
84+35	RQ	105+00		134+40	
	X 165		X 300		X 160
86+00		108+00		136+00	
	X 200		X 385		X 280
88+00		111+85		138+80	
	X 185		X 115		X 220
89+85		113+00		141+00	
					X 380
				144+80	150+00
				147+00	452+50

200 X
250

4+50 – 6'-10½" Tom Lawrence

5+00 – 7'-9"

6+70 – 6'-5½"

D-7 Road Levels
Sept. 6, 1939 - Cook Newman

	New Grade
0+0	12.22
0+50	10.22
1+0	8.22
1+00	6.22

3.23
12.23
5.23
7.00

4.
175) 7.00.
700

S. end culvert 6.23
N end culvert 5.23

Bottom of Ditch	Edge of BT	
12.22	10.83	0+00
4.82	3.23	2+00

5.80 root of tree

Sta	—	+	BM
	109.76	9.76	100.

Tile outlet at 15+28 - 51 - 9.76 976

15+28		
15+00		
14+50		
14+00		
13+50		
13+00		
12+50		
12+00		
11+50		
11+00		
10+50		

Tile Survey - Jim Barnard

81

stk	Grd. Montgomery Co.
102.96	102.64
6.80	7.12
103.21	102.64
6.55	7.12
103.24	102.71
6.52	7.05
103.34	102.86
6.42	6.90
103.73	103.34
6.03	6.42
104.51	104.00
5.25	5.76
104.48	103.92
5.28	5.84
104.25	103.85
5.51	5.91
104.38	103.98
5.38	5.78
104.46	104.04
5.30	5.72
105.16	104.84
4.60	4.92

	—	π	+	BM.	
		109.76			
10+00					
9+50					
9+00					
8+50					
8+00					
	4.97	111.25	6.46	104.79	
7+50	3.80			105.45	BM on root of Tree at Sta 8+00
7+00					
6+50					
	6+40 - E.I. 4" tile		7.19		
6+00					
5+50					
5+00					
4+50					

Stk	Gd.
105.86	105.46
3.90	4.30
106.46	105.94
3.32	3.82
106.27	105.54
3.49	4.22
103.83	103.01
5.93	6.75
104.79	103.48
4.97	5.28
105.28	104.79
5.97	6.46
105.07	104.62
6.18	6.63
105.97	105.15
5.28	6.10
105.31	104.90
5.94	6.35
106.79	105.73
4.96	5.52
106.93	106.62
4.32	4.63
106.71	106.32
4.54	4.93

	—	π	+	BM
		111.25		
4+00				
3+50				
3+00				
2+50				
2+00				
1+50				
1+00				
0+50				
0+00				

5th

107.02 4.23
107.34 3.91
107.63 3.62
107.49 3.76
107.53 3.72
107.75 3.50
108.60 2.65
108.65 2.60
108.05 3.20

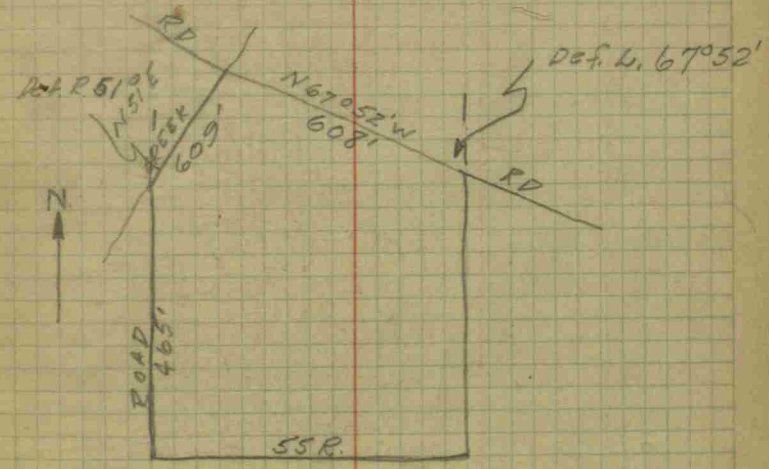
Tile at 0+0 Flowline 104.80
6.45

6d.

106.61 4.64
106.97 4.33
107.15 4.10
107.15 4.10
107.00 4.25
107.40 3.85
107.75 3.50
108.15 3.10
107.40 3.85

Foster Survey W. Hazlewood
Sept 27, 1940

Newman
Fisher



October 31-39 - Newman - Cook

	−	℄	+	B.M.	
				100.00	BM on Trunk of Ash Tree Sta 3+50
		103.50	3.50		
	2.45			101.05	

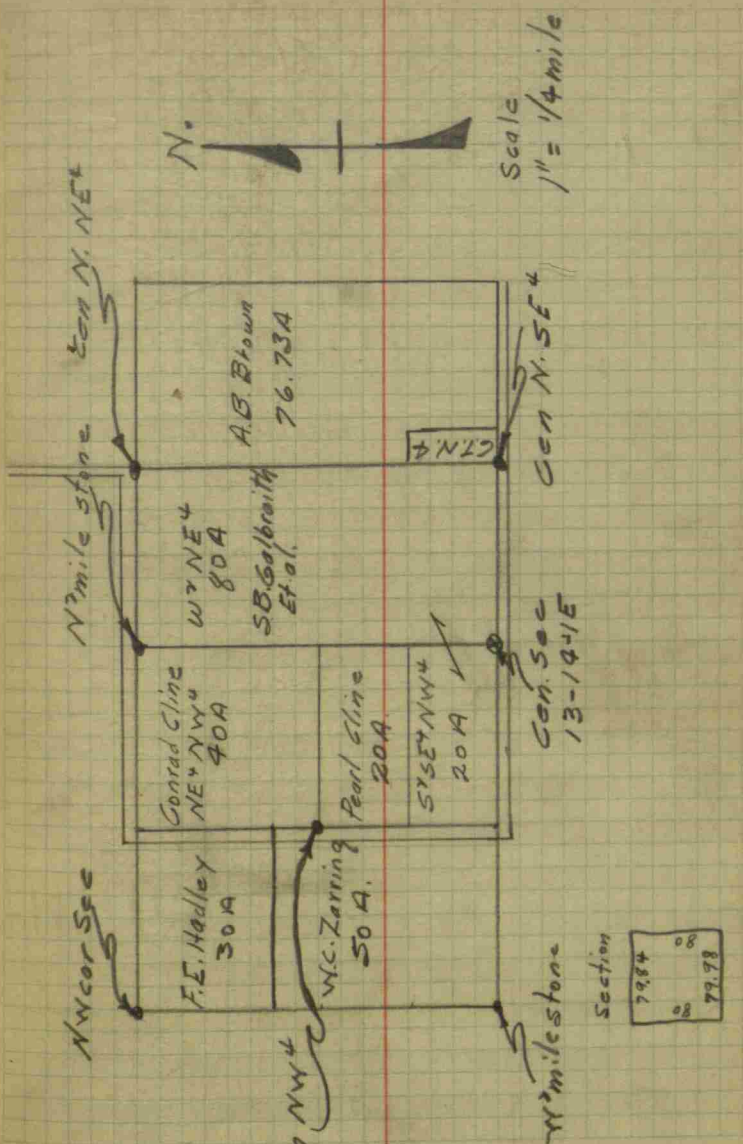
Gladden Ditch - Hend. Co

	Top Stk	& Ditch	& Mudcreek
			12 60
			90 90
3+0	4.90	6 70	
	98.60	96 80	
2+00	6.00	7 65	
	97.50	95 85	
1+50		6 20	
		97 30	
1+00	7.08	9 10	
	96 42	94 40	
0+0	7 74	10 90	
	95.76	92 60	
4+0	393	6 40	
	99.57	97 10	
5+0	4 00	5 78	
	99.50	97 72	
6+0	3 53	4 90	
	99.97	98 60	
7+0	3 64	4 55	
	99.86	98 95	
8+0	2 45	4 00	
	101.05	99 50	

—	x	+	BM	
			101.05	
	109.68	8.63		
4.70			104.98	
	115.23	10.25		
5.92			109.31	BM on Rod at Base of tree at Sta 18+00.

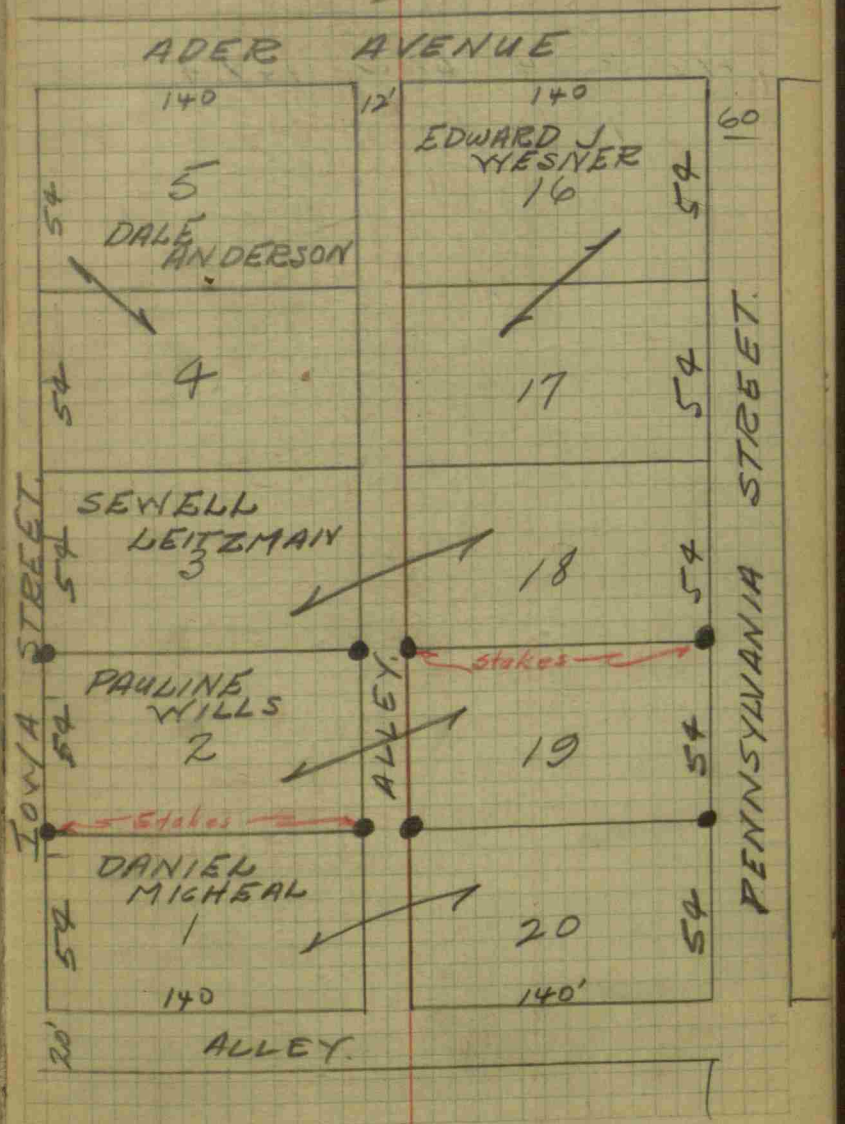
	Stk	℄
	101.28	100.03
9+00	8.40	9.65
	101.76	100.48
10+0	7.92	9.20
	103.10	101.78
11+0	6.58	7.90
	104.28	102.28
12+0	5.40	7.40
	104.87	102.58
13+0	4.81	7.10
	104.98	102.43
14+0	4.70	7.25
	106.79	104.23
15+0	8.44	11.00
	108.39	103.53
16+0	6.84	11.70
	108.43	104.88
17+0	6.80	10.35
	108.83	105.82
18+0	6.40	9.41
	110.09	105.58
19+0	5.14	9.65

Survey for Cline-Galbraith.
Sec. 13 T 14 N R 1 E.
April 1940. Cook.
Newman.



Pauline J. Wills Survey

Lots 2-19 Aderton's Add
To Clayton, Indiana



Lawrence Vannice Survey

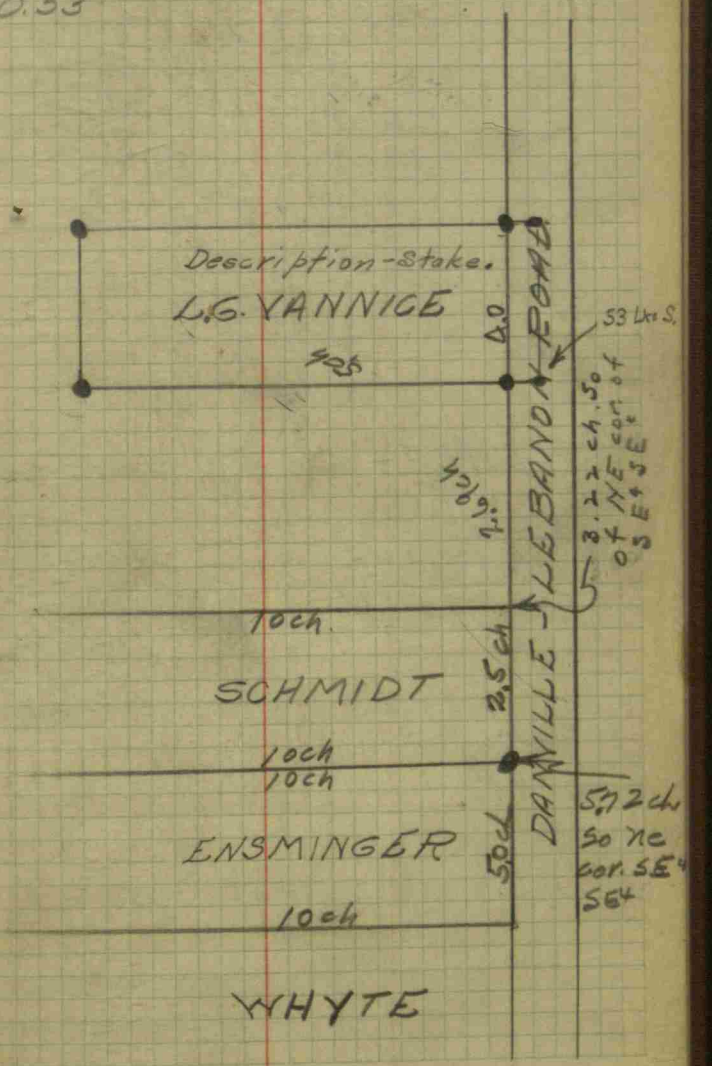
Pt SE4 34-16-1W. 148.A.

April 4th '40 — Cook
Clear-Windy — Newman.

Note: In 1946. the stakes set in this survey were missing. I was required to make a resurvey of tract labeled "Vannice" and locate lines. My procedure is in Bk 204 page 78.

S. Shartle.

3.22
2.69
0.53



1330
1326
7980
2660
3990
13'30
76358 0 40.48
74240
211800 43560
14240
37800
37480
34

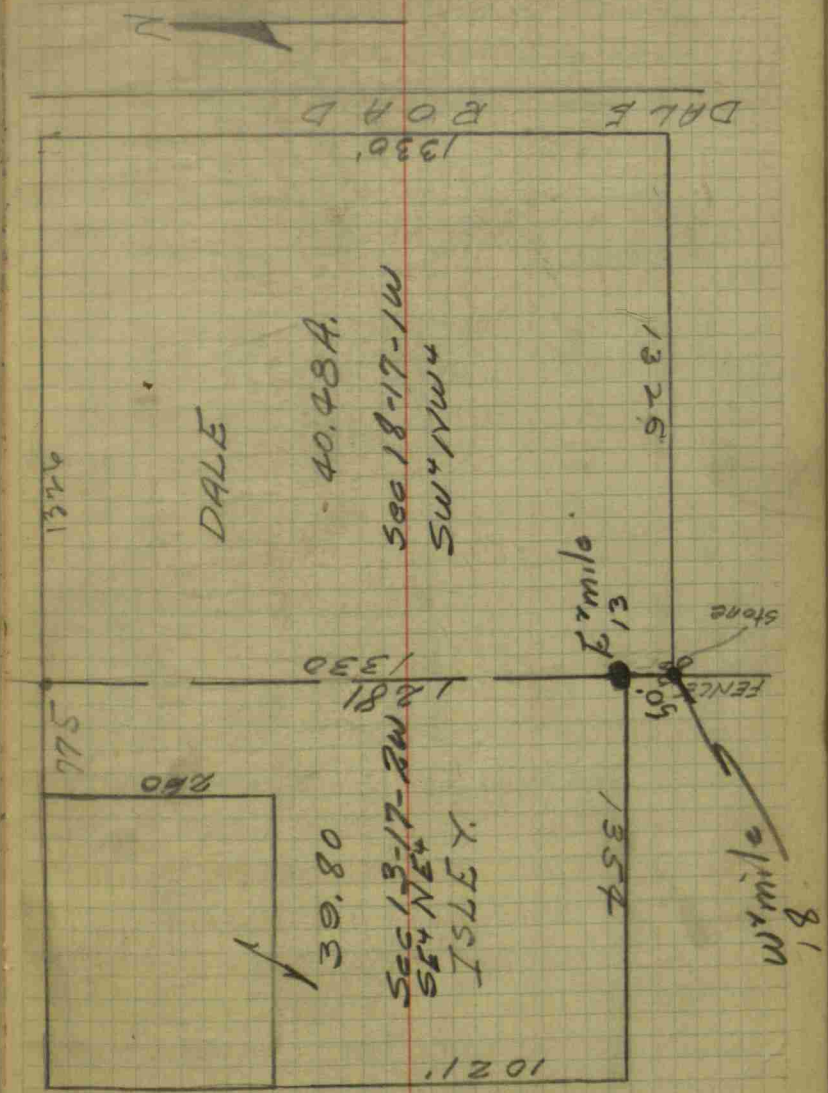
1280
1235
38400
3840
1280
17040
130680
39560
39204
3

DALE-ISLEY SURVEY

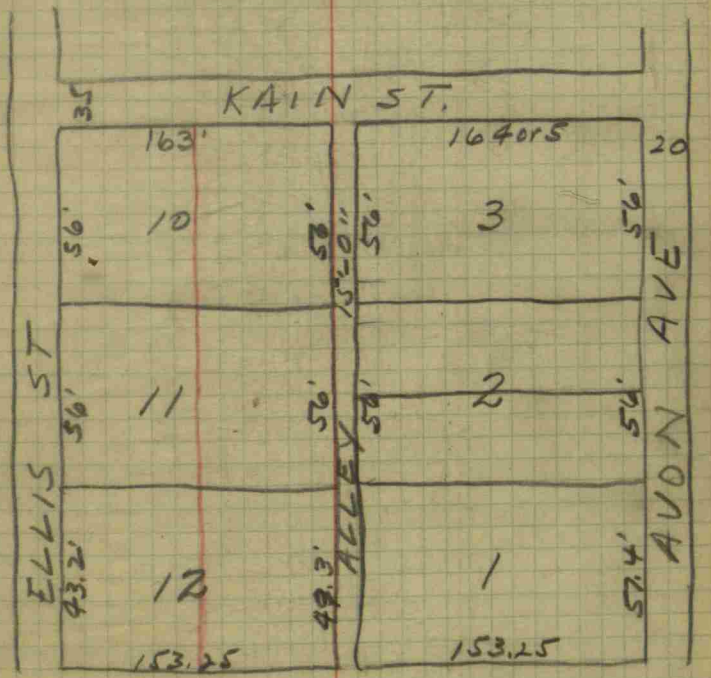
18-17-1W
13-17-2W

April 5, 48

Newman
Terry.



B.F. Ellis Add to Pfield.
Survey for F.E. Lape et al
April 11, 1940. EAIN.



Socony-Vacuum Oil Line
10" Pipe at Sta. 4+08
Top. Elevation- 93.63

102.10
8.47
93.63

136

Survey for Geo W^m Wells
Pt E^½ SW^¼ 33-16-1E.
March 30, 1940

Newman
Terry

161.21 R.
16.5
80605
96726
16121
2 | 2659.965
13 29

21.5
16.5
1075
1290
215
354.75

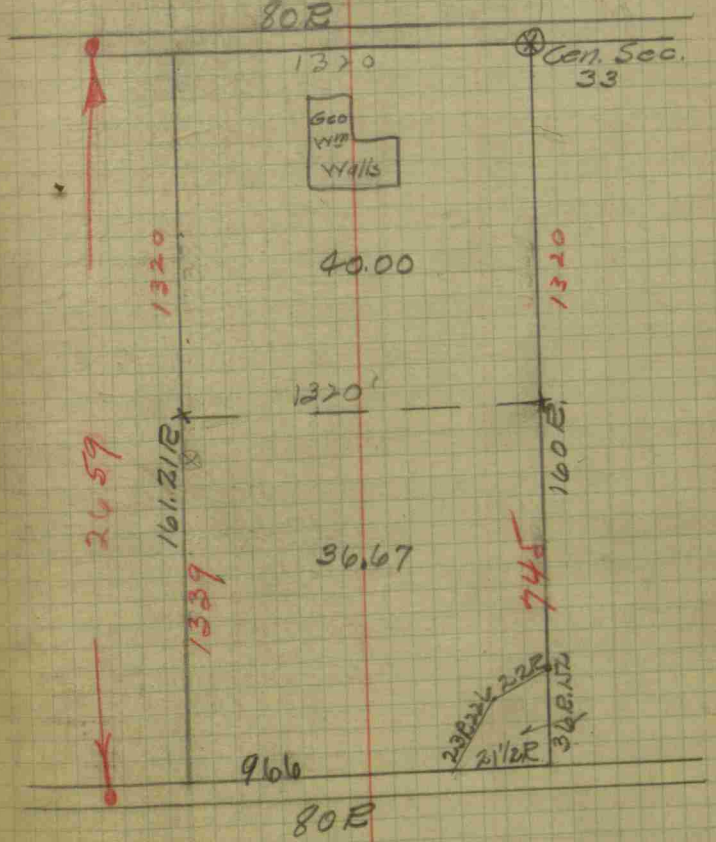
132.0
x 26.59
66 | 2660 | 423
264
198

16.5
36
990
945
45
9

983
354
1337

1339
594
2745

13



137

Cartersburg Church Levels

Aug. 23, 1939 — Cook, Newman

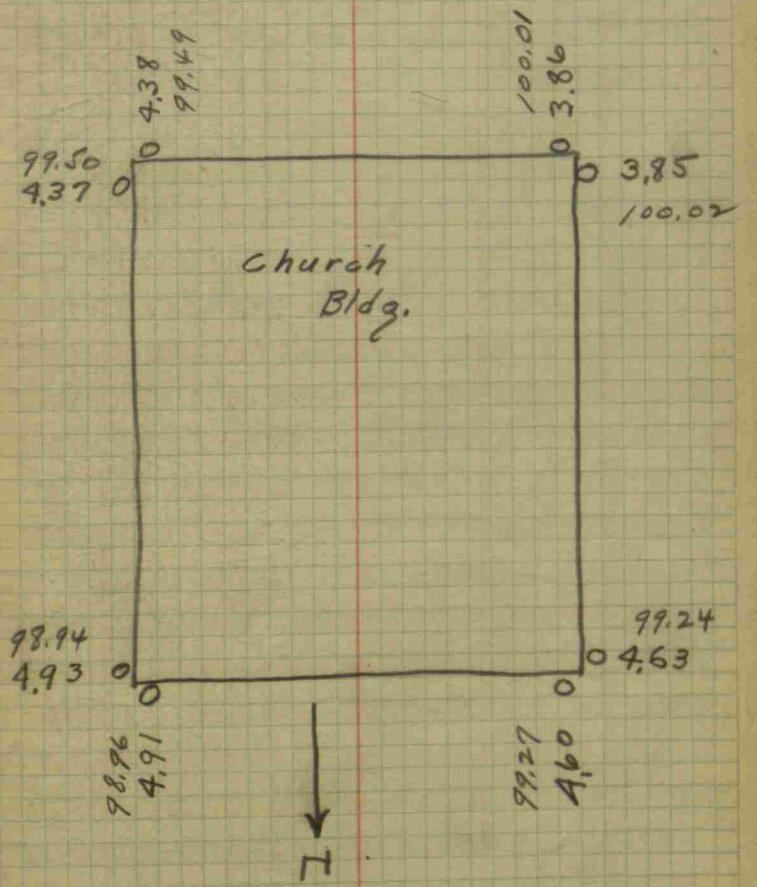
	−	+	BM	
			100.00	on SE Cor 2nd Block going West
	103.87	3.87		
0+00				
0+50				
1+00				
1+50				
2+00				

	Ditch	Top Stk
	91.47	
	12.40 (20'-0" No. of 0+00)	
	92.64	93.72
	11.23	10.15
	95.92	97.10
	7.95	6.77
	99.28	99.96
	4.59	3.91
	99.45	100.06
	4.42	3.81
	98.62	99.25
	5.25	4.62

Bottom Base floor will be 8'-10" below reading

2.12
101.75
9.83
92.92

Cartersburg Levels Cont.



	—	⊼	+	B.M.	
				100.0	SE Cor 2nd St. Quinn Yk
		104.43	4.43		

95.61 Bottom of footing
Grade 94.61 flow line of 6" file
94.21 outlet

	Stk. R	Top Stk Act
0+50	- 4.35	100.08
1+00	- 4.46	99.97
1+50	- 7.33	97.10
2+00	-10.75	93.68
Pitch	- 11.75	92.68

Oct. 12 '39
Clear-Cool.

H. Cook
M. Hawman

℄
100.78
3.65
5 10.

104.43
94.21
10.22

95.81
8.62

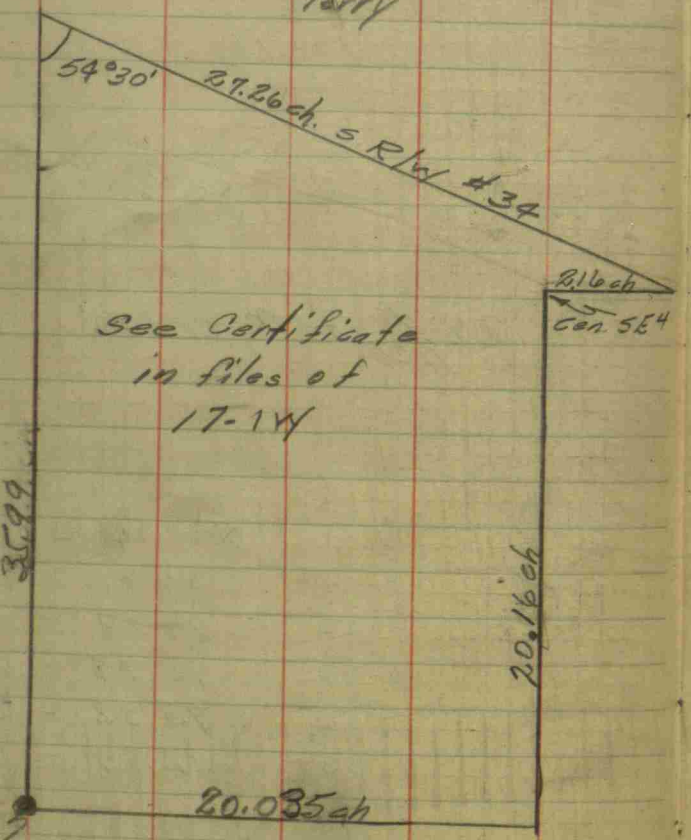
8 6/100 fall per 100'

	New Grade	Cut Off Stk
0+00	94.61	1.
0+50	94.18	- 5.90
0+00	93.75	- 6.22
1+50	93.32	- 3.78
2+00	92.89	- .79

Chas. Routh Survey

Clear-Norm
Sec 19-17-1W.

April 2, 1940
Newman
Terry

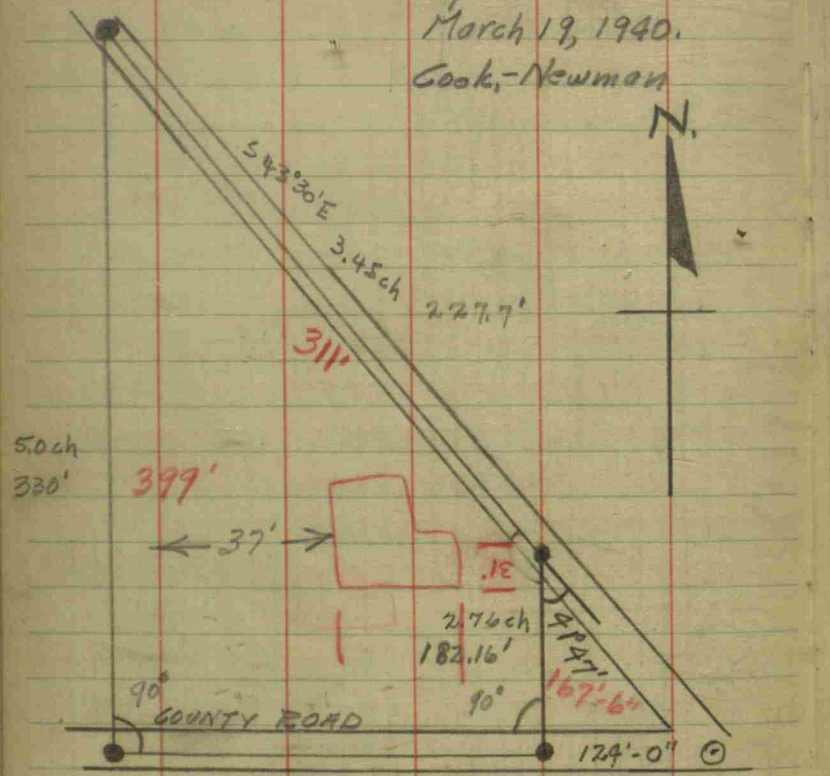


148

Ratliff Survey in Eel River

March 19, 1940.

Cook, - Newman



Contains 1.22 Acres,

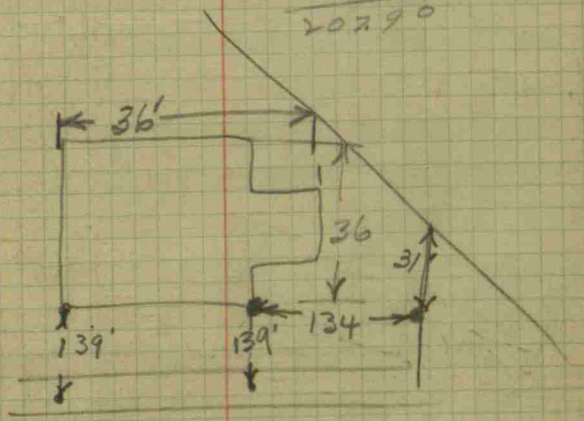
149

94
66
207
2070
207.0

2079
170
37.9

276
66
1656
1656
182.16

315
66
1890
1890
20790



SHINGLE ROOF
BRICK BLDG

150

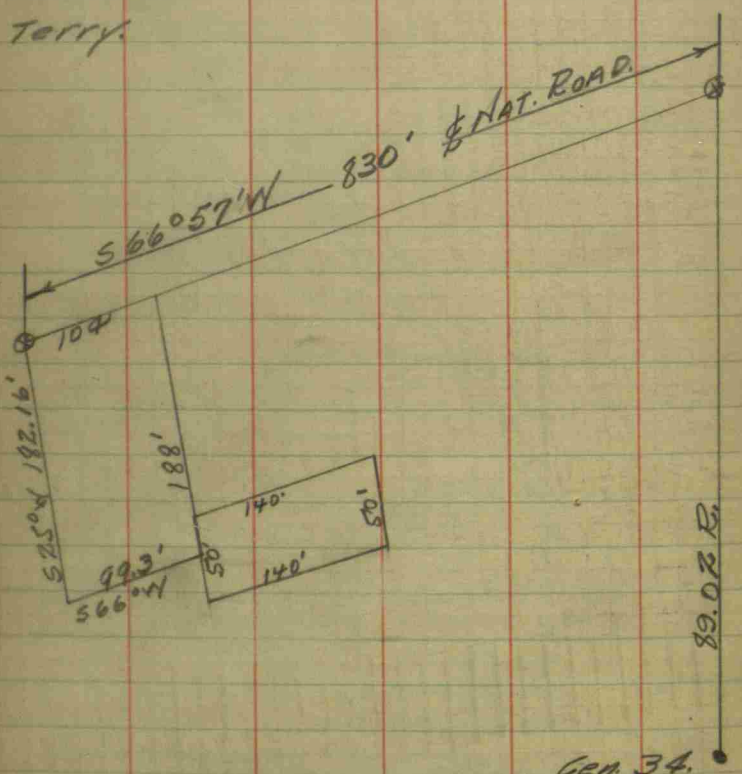
Benj. Hert and Russell McFall

PtE½ NW¼ 34-15-15

March 29, 1940

Newman

Terry.

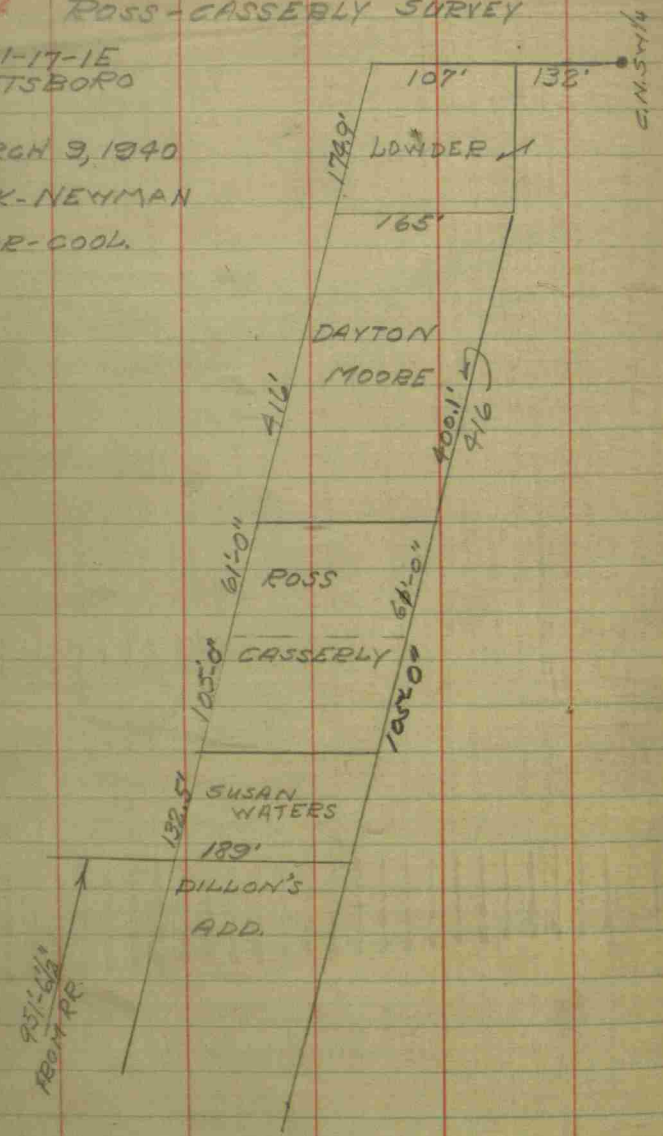


151

ROSS-CASSEBLY SURVEY

31-17-1E
PITTSBORO

MARCH 3, 1940
COOK-NEWMAN
CLEAR-COOL.



DILLON ADD. NW COR. 951'-6½" NORTH ON ℄ P+L RD FROM ℄ RR.

℄ P+L RD. 239' FROM CEN. NO. SW¼ SEC. 31-17-1E.

38
1.45
39.45

20
19

33.87

55

39.45) 133.63
11835
15280
11835
34450
31560
28900
27615
1285
1

33.87
4
135.48

Chas. Smith Survey

7-15-2W

max. 7°40'

Clear - Cool.
1:00 P.M.

39.45
3295
19725
35505
7890
11835
1299.8775

129.99

133.63
129.99
3.64

1.57

98.55
1.79
100.34
7.51
92.83
6.33
99.16
3.30
95.86
3.80
99.66
-3.48
96.18
+4.95

98.32
+7.09
102.41
-1.33
101.08
+2.05
103.13
-3.85
99.28
+5.12
104.43
3.47
100.96
+3.58
104.54

106.35
-4.43
101.92
+7.38
109.30
-3.83
105.47
+4.87
110.34
-5.90
104.44
+4.57
109.01
-3.36
105.65
+4.80

101.13
-3.30
97.83
+3.20
101.03
-2.30
98.73
+2.62
111.35
-5.65
95.70
+5.27
100.97
-2.65
98.32

-2.98
101.56
+3.06
104.62
-4.82
99.80
+4.96
104.76
-3.90
100.86
+5.20
106.06
-5.43
100.63
+5.72
106.35

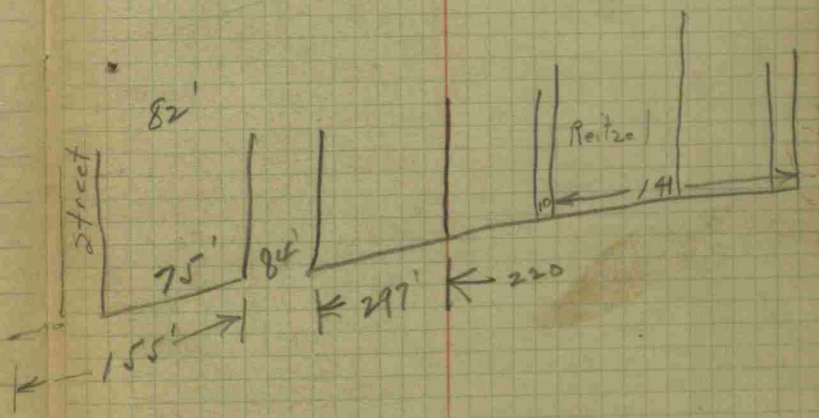
110.45
-4.22
106.23
5.56
111.79
-2.98
108.81
+5.32
114.13
5.16
109.07

1.52

544
72
472
420
52

180
100
140
420

36
14
50



160

27
6

132
500
250
882

180
100
140
440

4.00
4.80
5.10
5.00
6.20
6.20
6.05
6.20

Natural Trigonometrical Functions.

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	.0869	.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	.99389	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	7.428	.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	6.768	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	1.0178	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	1.0238	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	4.038	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.

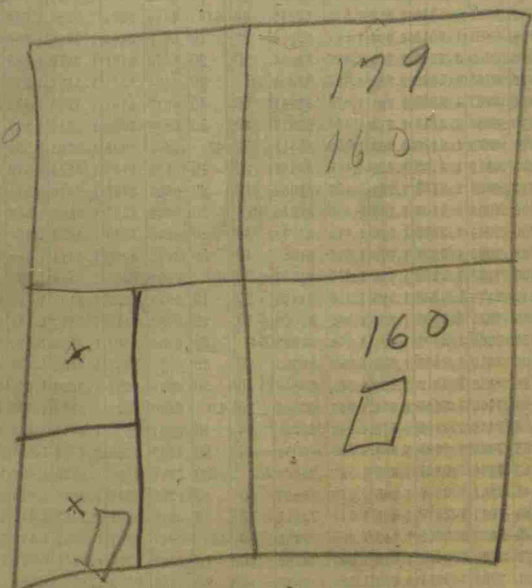
Inspeck drain across road at Snyder farm.

↑

640

270
563
810

1080
1350
257,010



6.56
4.78
5.10

510
5
460

510
5
560
20

560
25
585

700
130
830

165
11
165
165
1815

L. T. Isley
RR1 Jamestown

16.5) 9330 (56.54
825
1080
990
900
825
750
660
90

22+60
32+95

5.8

257,010
217800
347100

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.

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