BK 37 Dr 16

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

Drainage Survey

Ditch # 2

From Pike Lake To Long Lake

Road Acc't. No.

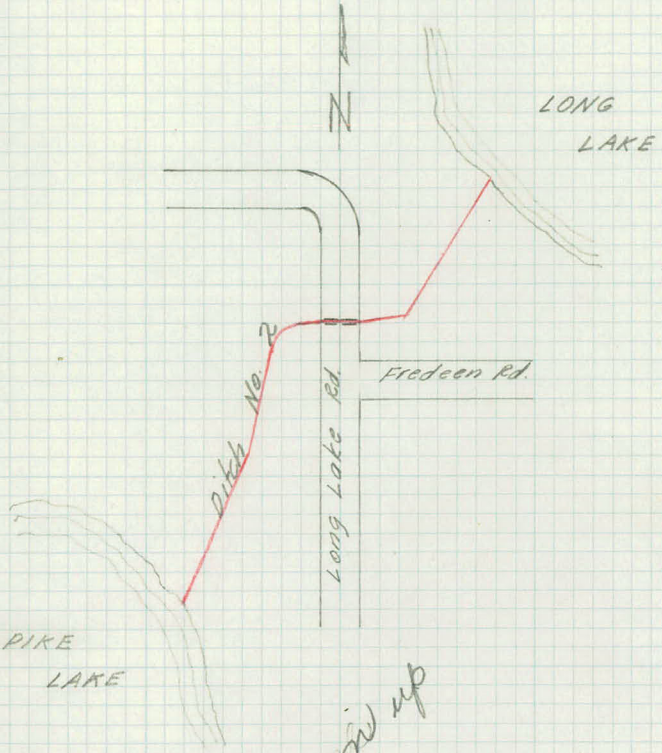
Date Filed File

BK 37 Dr 16

PLAN SURVEY

DITCH NO. 2

Pike Lake to Long Lake.



Drawing up
4/20/40

INDEX.

Align	1-3
Topog.	4-7
& Levels	8-13

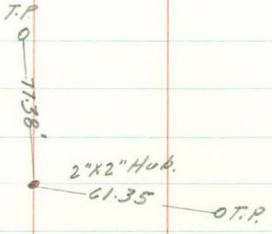
Alignment

Sta.		Point	Δ Lt.	Δ Rt.	
					Δ - 55° Rt
	+47.38	P.T.			T. - 21.01'
8	+29.70	P.I.		55°25'	L - 38.69
8	+08.69	P.C.			R - 40.00
3	+88.15	P.I.	15°24'		
0	+00				

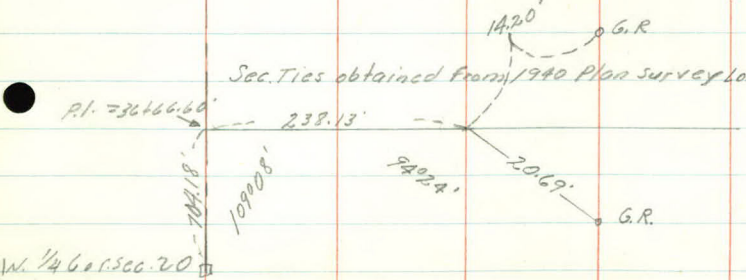
4-10-40
K.M.
L.G.
M.B.
C.N.

2

5



Sta.	Point	Δ Lt.	Δ Rt.	
9	+59.25	P.I.	22°36'	
9	+118.66	P.I.	12°11'	= End Curve
8	+94.27	P.O.T.	= P.O.T. 34+28.47 Long Lake Rd.	


14.20'
G.R
Sec. Ties obtained from 1940 Plan survey Long Lake Rd.
P.I. = 36466.60'
238.13'
1041.18'
1099.08'
94°24'
20.69'
G.R.
W. 1/4 Cor. Sec. 20

Topography

5

+35-Ditch-00
+33-16"Tw.Will-3'

4

Ditch-2'

+88 Ditch-0.0
+70-6"Pop.-3'

3

+64-30"Cott-12'
+60-24"Cott-11'
+56-36"Cott-12'

2

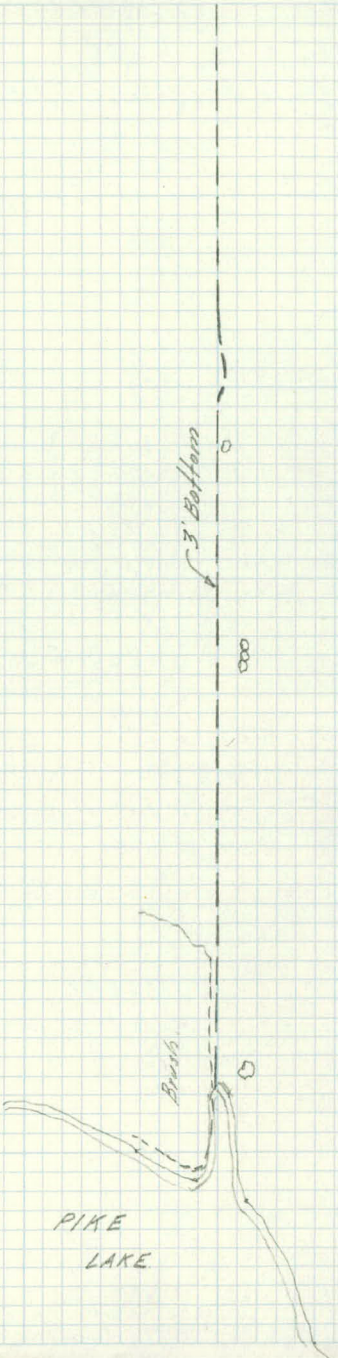
1 End Brush-3'

+45-15"Willow 9'

Brush-9'
0+00 Shore Line-41' 10'
-15-Shore Line-11'

0-25-Shore-15'

-1+80-Shore-50'


3' Bottom
Brush
PIKE
LAKE

+50-Fc X's R. - 9'

12

11

10

+1865-End 36" Conc Culv. 0.0
+107-G.R. X's R.
+94-Edge Block Top

9

+86-Edge Block Top
+82-G.R.-X's R.
+69.48-End 36" Conc. Culv-0.0

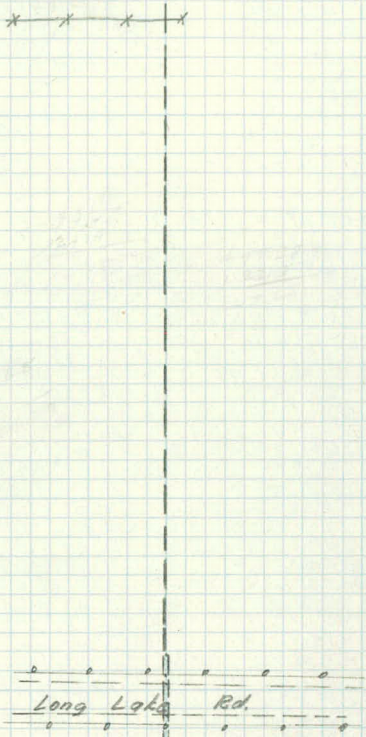
+97-Ditch - 2'

+109-Ditch-0.0

8

7

6


Long Lake Rd.

16

Lake - 16'

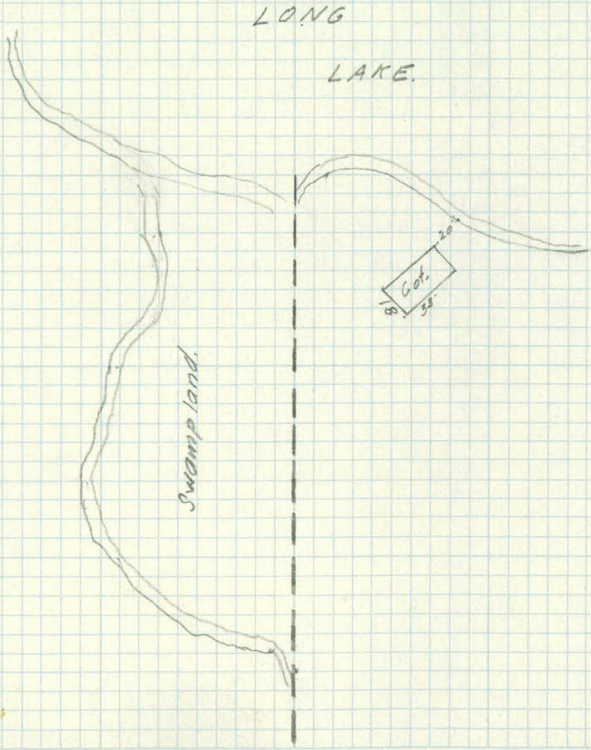
+90 - Cor. No. - 45'

15

+96 - Range Tie to No. -

14

13


LONG
LAKE.
Lot.
Swamp land.

& Levels
X Sections

Sta.		+	H	−	Elev.	
B.M.		2.45	880.40			877.95
T.P		3.17	874.64	8.93	871.47	
T.P		4.09	873.23	5.50	869.14	
				5.75	67.48	
0	-10			7.8	65.4	
0	+00			7.6	65.6	
	+15			7.1	66.1	
	+30			6.8	66.4	
	+50			7.0	66.2	
1				7.2	66.0	
	+50			7.6	65.6	
2				7.6	65.6	
	+50			7.6	65.6	

Lt ℄ Rt

Description

Spk. in T.P. W. side Long Lake Rd. at Fredeen Rd.

Elev. of Pike Lake.

+12.2 25	+12.2 7	+11.4 4	+10.1 3		+10.6 7	+11.6 9	+12.0 14	+12.3 25	
	+12.0 25	+12.2 5	+10.4 3		+10.4 3	+11.8 5	+11.9 25		
+11.9 25	+11.7 12	+13.1 9	+12.4 5	+10.5 1	+10.3 3	+13.3 6	+13.3 10	+12.3 13	+11.9 25
+12.8 25	+13.3 9	+12.1 5	+10.2 1		+10.4 3	+13.9 7	+13.9 11	+13.6 15	+12.3 25
+13.1 25	+13.5 11	+13.0 8	+12.3 4	+10.3 2	+10.3 1.5	+11.3 3	+13.6 5	+13.6 11	+12.6 25
	+13.7 25	+11.4 7	+10.9 2		+10.1 1.5	+13.0 4	+13.6 6	+11.6 13	+13.5 50
+11.5 25	+11.6 9	+13.1 6	+10.8 3		+10.5 2	+11.6 5	+15.6 11	+11.4 17	+11.1 25
+11.7 25	+11.9 8	+12.4 4	+10.6 2		+10.3 1.5	+13.0 5	+15.2 7	+15.2 11	+11.4 25

Sta	+	H	−	Elev.
		873.23		
2 +79			8.1	65.1
T.P.	2.77	873.56	2.44	870.79
3			8.0	65.6
3			6.6	67.0
+50			8.0	65.6
4			8.2	65.4
+35			8.1	65.5
+65			8.3	65.3
5			8.5	65.1
+50			8.2	65.4
6			8.3	65.3
+50			8.7	64.9

Lt. & Ct.

Description

+45 +51 +16 +04 | +04 +44 +49 +44 +41
25 9 3 15 | 16 7 11 13 25

+44 +44 +37 +05 | +03 +43 +46
25 11 6 25 | 15 7 25

Water Elev.

+32 +30 00 | +02 +34 +46 +38
25 5 20 | 2 5 11 25

+57 +56 +47 +25 | 00 +02 +40 +47
25 13 9 3 | 15 40 7 25

+52 +50 +26 +02 | +03 +33 +49 +46 +46
25 10 5 2 | 1.5 5 10 15 25

+46 +46 00 | +02 +34 +45 +44
25 8 2 | 1 4.5 8 25

+93 +41 +48 +44 +05 | +04 +41 +44
25 12 11 7 20 | 2.0 5.5 25

+31 +32 +40 +31 +02 | 00 +16 +33 +34
25 12 11 6 16 | 1.9 5.4 10 25

+30 +33 +37 +24 00 | 00 +18 +36 +34
25 11 10 6 2 | 2.4 5 11 25

+37 +36 +43 +42 +02 | +02 +32 +34 +56 +53
25 11 10 6 2.5 | 2 4 6 9 25

Sta.	+	±	−	Elev.
		873.56		
6	+85		8.5	65.1
	+90		8.1	65.5
7			8.4	65.2
	+50		8.4	65.2
8			8.5	65.1
	+40		8.9	64.7
T.P.		8.74 876.88	5.92	868.14
	+69.65	Flowline 36" Conc. Culv.	12.07	64.81
	+71		7.8	69.1
	+81		2.1	74.8
	+94.27		1.5	75.4
9	+08		1.4	75.5

Lt ℄ ct

Description

+3.9	+3.8	+4.3	+3.8	+0.6	+0.4	+3.4	+5.2	+6.1	
25	12	11	5	2.5	1.6	4	10	25	
+3.5	+3.5	+3.8	+4.0	+0.1	0.0	+3.8	+5.0	+5.7	
25	12	11	5.2	2.5	2	5	12	25	
+3.7	+3.7	+4.4	+3.7	+0.9	+0.2	+3.8	+5.0	+5.9	
25	10	9	6	2.5	2	5	9	25	
+2.6	+2.8	+3.8	+4.0	+2.4	+0.3	+0.9	+2.9	+4.7	+4.0	+4.6
2.5	16	13	9	5	2.5	1.6	5	10	15	25
+2.6	+2.5	+3.6	+3.6	+1.2	+0.1	+0.3	+2.4	+4.1	+2.5	+2.4
25	18	13	10	6	2.7	2	5	12	18	25
	+2.5	+3.0	+3.5	+0.3		+0.7	+2.6	+5.2	+3.6	
	25	17.0	7	2.5		2	5	14	25	
	+4.8	+5.0	+4.4	+2.7	0.0	+0.2	+3.5	+5.6	+4.6	
	25	13	9	4	13	15	6	14	25	

L. O. L. O.

Sta.	+	π	−	Elev.
		876.88		
9	+18		8.5	68.4
	+18.65	Flowline 36" Conc. Culv.	12.34	64.54
	+60		12.1	64.8
10			12.1	64.8
10			10.8	66.1
	+50		12.8	64.1
11			12.3	64.6
	+18		12.0	64.9
	+30		12.6	64.3
	+70		12.3	64.6
12			12.5	64.4

Lt ℄ Et

Description

+6.3/25 +6.4/13 +4.5/7 +0.9/2 +0.7/2 +5.3/7 +6.6/13 +7.1/25

+5.9/25.0 +5.5/19 +4.6/11 +3.7/7 +0.5/2.4 +0.3/1.2 +3.9/5.5 +4.8/11 +4.4/25

+4.8/25 +4.8/19 +4.2/6 +0.9/2 0.0/2.4 +4.6/6.0 +4.8/25

Elev. water

+4.6/25 +4.2/14 +4.2/6 +0.3/2.5 -0.3/1 +0.9/2.3 +4.7/6 +4.5/25

+4.7/25 +2.2/17 +3.4/12 +3.4/6 +0.3/2.6 +0.4/3.2 +3.0/5 +3.9/7 +2.4/16 +2.6/25

+1.8/30 +1.7/16 +2.9/11 +2.5/6 +0.4/3 +0.5/3 +3.7/7 +3.8/12 +2.8/17 +2.6/25

+2.3/25 +2.3/16 +3.2/12 +3.5/8 +2.6/5 +0.5/2.4 +0.1/2.5 +3.7/8 +3.9/13 +3.2/17 +3.2/25

+2.2/25 +2.2/17 +3.1/13 +3.2/10 +2.4/7 +1.6/5 -0.2/3.4 0.0/3.4 +1.8/4 +2.6/6 +2.9/11 +2.1/14 +2.0/25

+2.5/25 +2.5/16 +3.0/13 +2.9/7 +2.0/4 +0.1/2.8 0.0/3 +1.7/4 +3.0/7 +3.2/12 +2.6/15 +2.6/25

Sta.	+	℄	−	Elev.	
		876.88			
12	+50		12.9	64.0	
T.P.	5.08	871.84	10.12	866.76	
13			7.8	64.0	
	+50		7.7	64.1	
14			7.9	63.9	
	+50		8.0	63.8	
15			7.8	64.0	
	~~+42~~		7.8	64.0	
16	+76		6.8	65.0	
16			6.8	65.0	
	+50		8.2	63.6	
			5.94	65.90	
T.P.	9.72	881.38	0.18	876.66	
B.M.			3.38	878.00	877.95

Lt. & Rt.

Description

+2.5/25 +2.8/12 +2.4/7 +1.4/4.4 +0.5/2.5 +0.3/1.7 +1.5/5 +3.0/8 +3.0/13 +2.4/14 +2.4/25

+2.0/25 +2.3/15 +2.1/4 +1.3/3 +0.2/3 +1.7/4.5 +2.6/7 +2.5/13 +2.4/25

+1.5/25 +2.2/8 +1.3/3.0 +0.7/16 +0.2/3 +1.3/4.5 +2.2/8 +2.1/16 +2.0/25

+1.1/25 +0.9/5 +0.3/3.2 +0.1/4.2 +1.9/10 +2.3/13 +2.7/25

.66/25 +1.2/14 +0.6/10 +0.2/1.0 +0.5/3.5 +1.2/5.0 +2.3/25

2.0 -1.2/7 +0.2/4 +0.1/13 +0.1/25

-0.7/25 -0.5/13 to +0.4/7 +0.6/25

Elev. Long Lake