

DR 8 - BK 115

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

-----PLAN-----Survey

-----PROPOSED PIPE LINE-----

From Y.B. LAKE PUMP HO To S.T.H. #61 CULVERT

Road Acc't. No.-----

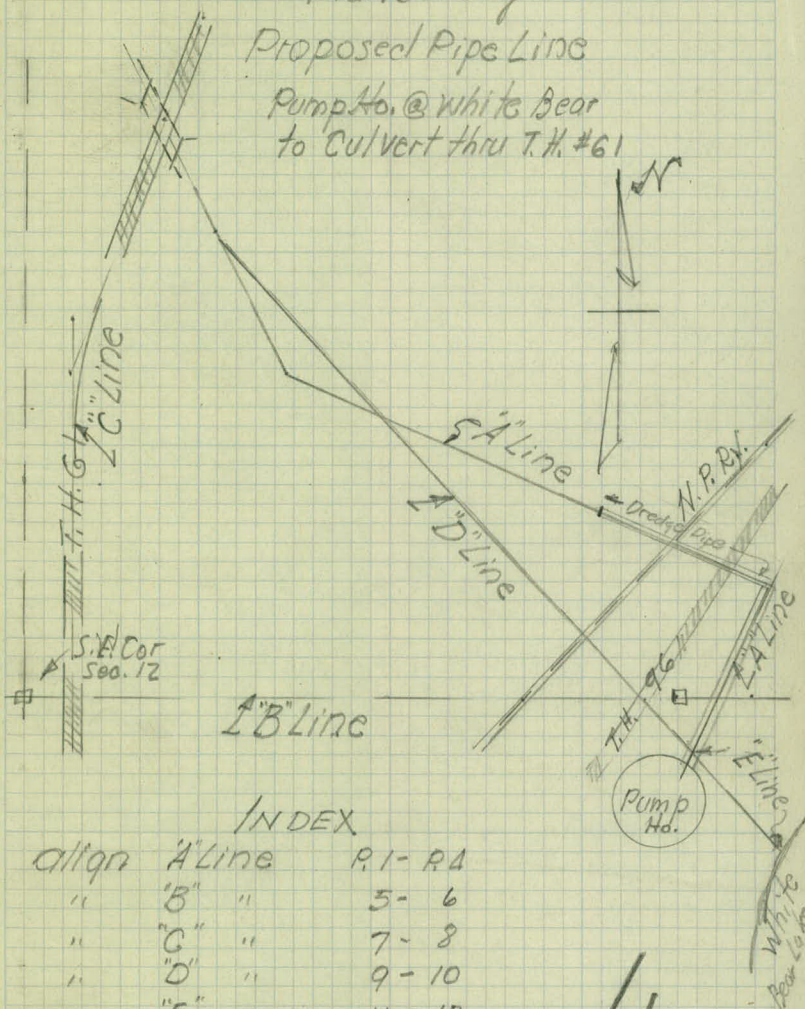
Date Filed-----

File-----

Plan Survey

Proposed Pipe Line

Pump Ho. @ White Bear
to Culvert thru T.H. #61

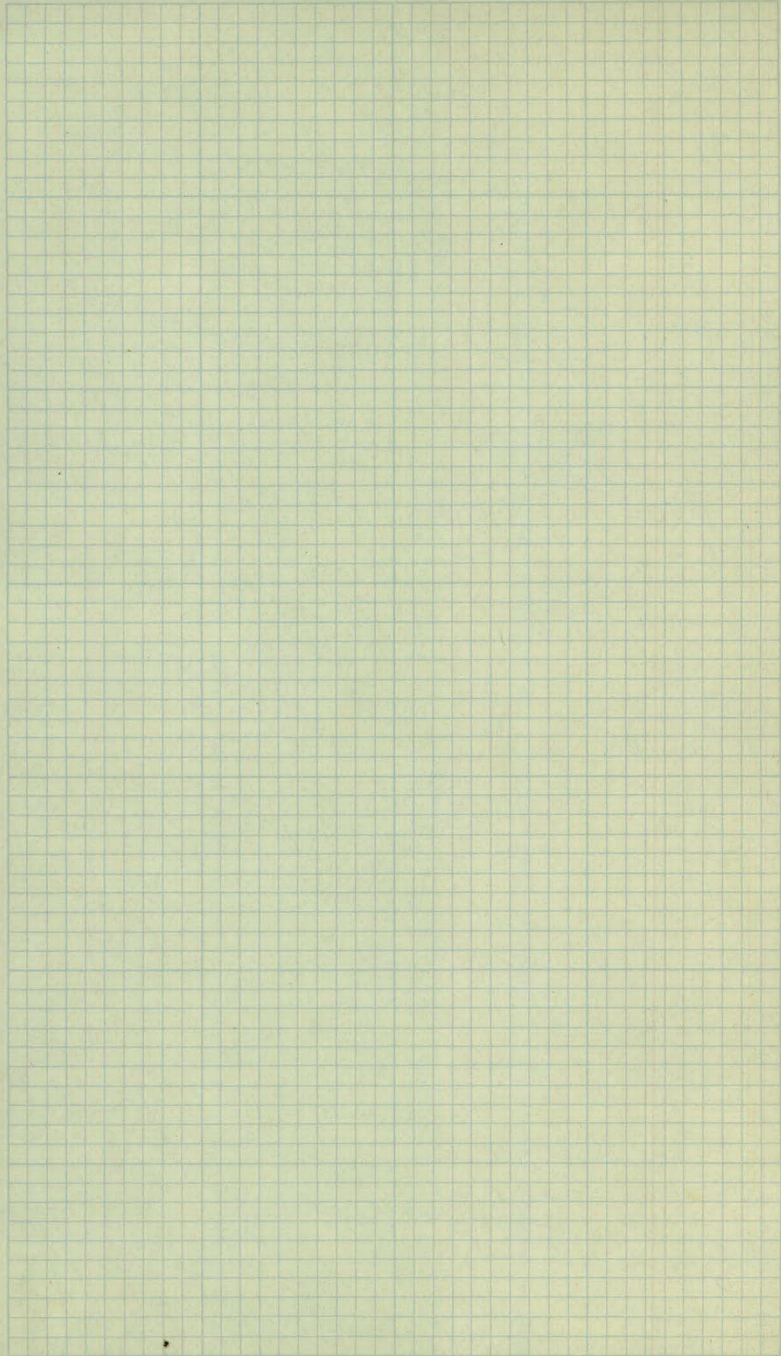


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W. H. Carlson 5/26/37

BOOK 115
P. 4



A-Line
alignment.

Existing Pipe Line

Sta. 0+0 to 8+61.3

Prop. Pipe Line 8+61.3 to 25+36.72

"A-Line cont'd

Sto.	Point	Angle Lt Rt.
------	-------	-----------------

2+51.12	P.I.	86°-50' Lt.
---------	------	-------------

1+63.47	See Line (X's)	
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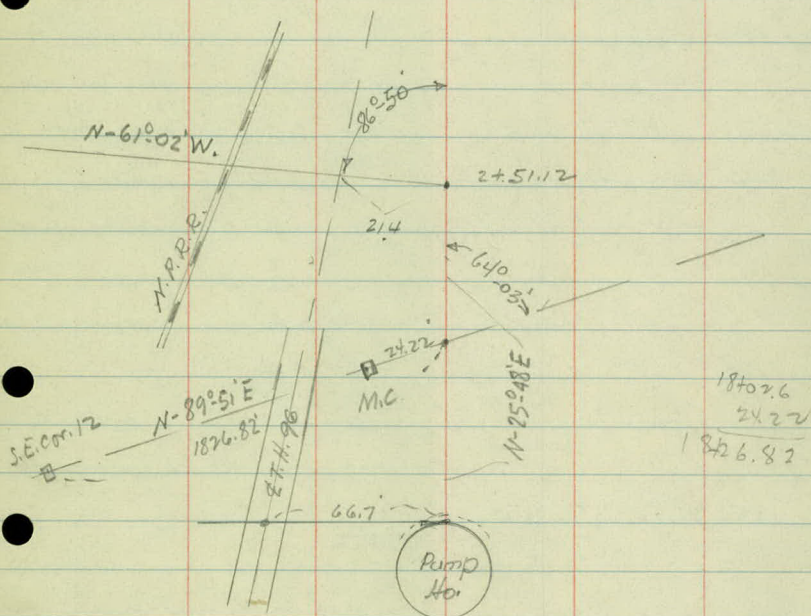
0+00	N. edge Pump Ho.	
------	------------------	--

W.H. Carlson

K. Anker

L.B. Hendrix

A. Moeschter



A Line cont'd

Sta.	Point	Angle	Lt	Rt
15+47.97	P.I.			39°54'

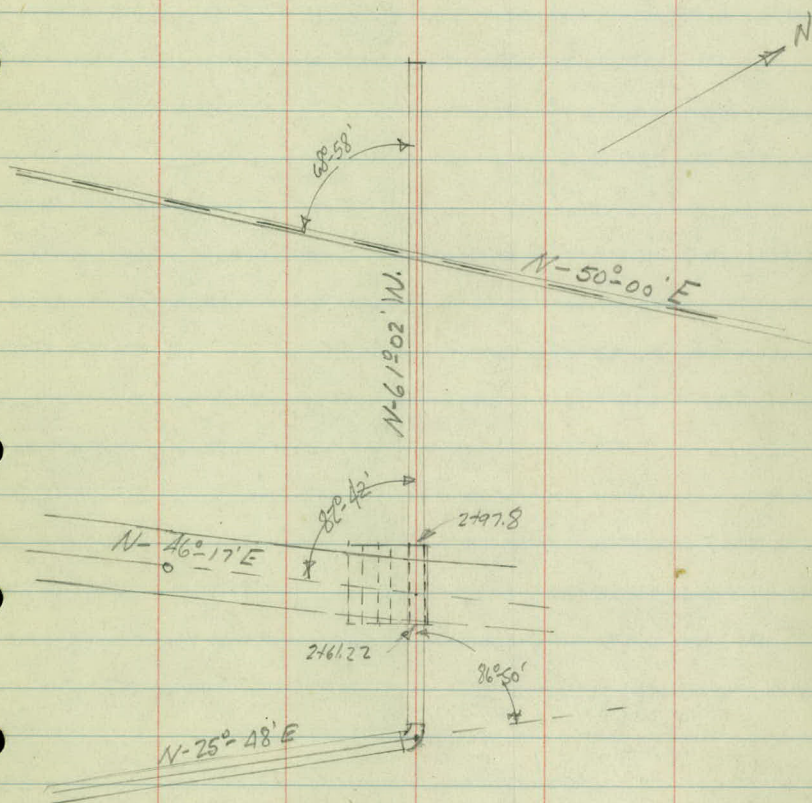
8+61.3- 12' Dredge.
End Pipe

5+64.75 2 N.P.R.R.

2+72.52 E.T.H. 96 - Tan Ext'd

2+51.12

$39.54'$
 To Highway
 Culvert.
 $N-21^{\circ}08'W.$



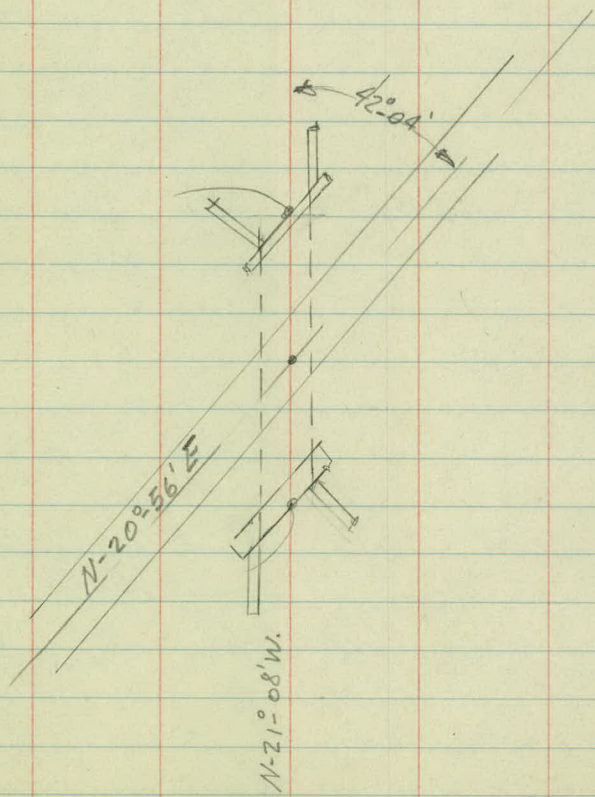
"A" Line Cont'd

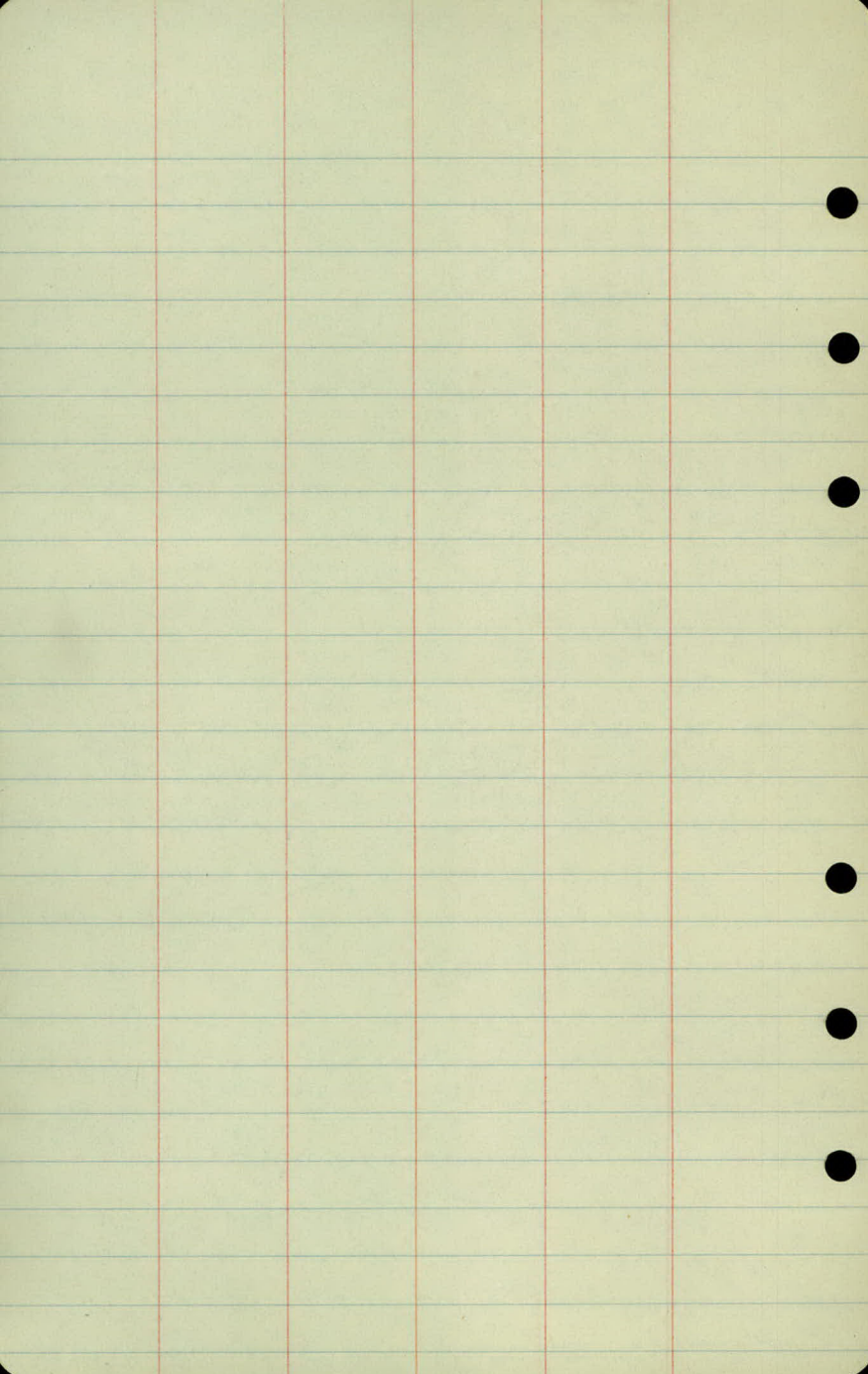
Sta.	Point	Angle	Et.
------	-------	-------	-----

26+06.87	End C/u.		
----------	----------	--	--

25+71.30			
----------	--	--	--

25+36.72	Beg. C/u.		
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"B" Line
alignment.

South Line Sec. 12

from the S.W. cor. 12 to M.C. east.

"B" Line

Sta.	Point	Angle Lt. Rl.
------	-------	------------------

18+26.82

18+02.16 Mon. M.C.

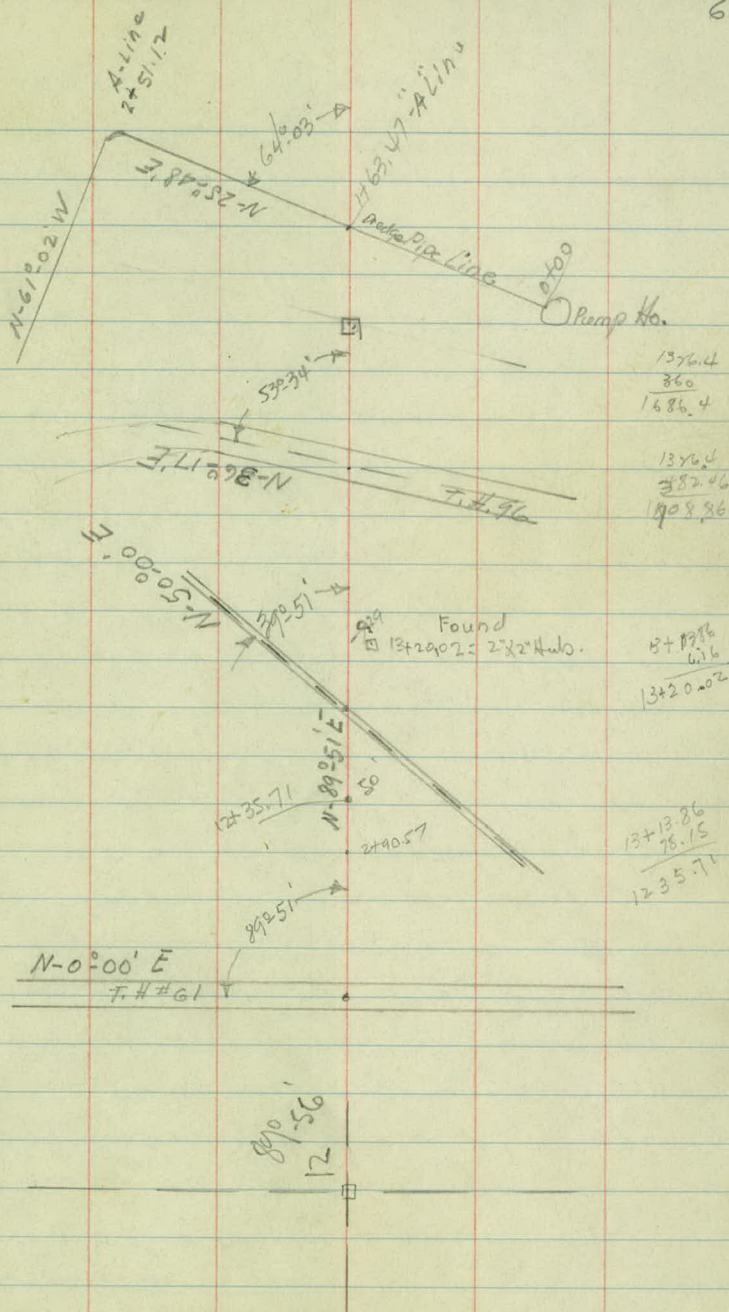
17+80.58 E.T.H. 96

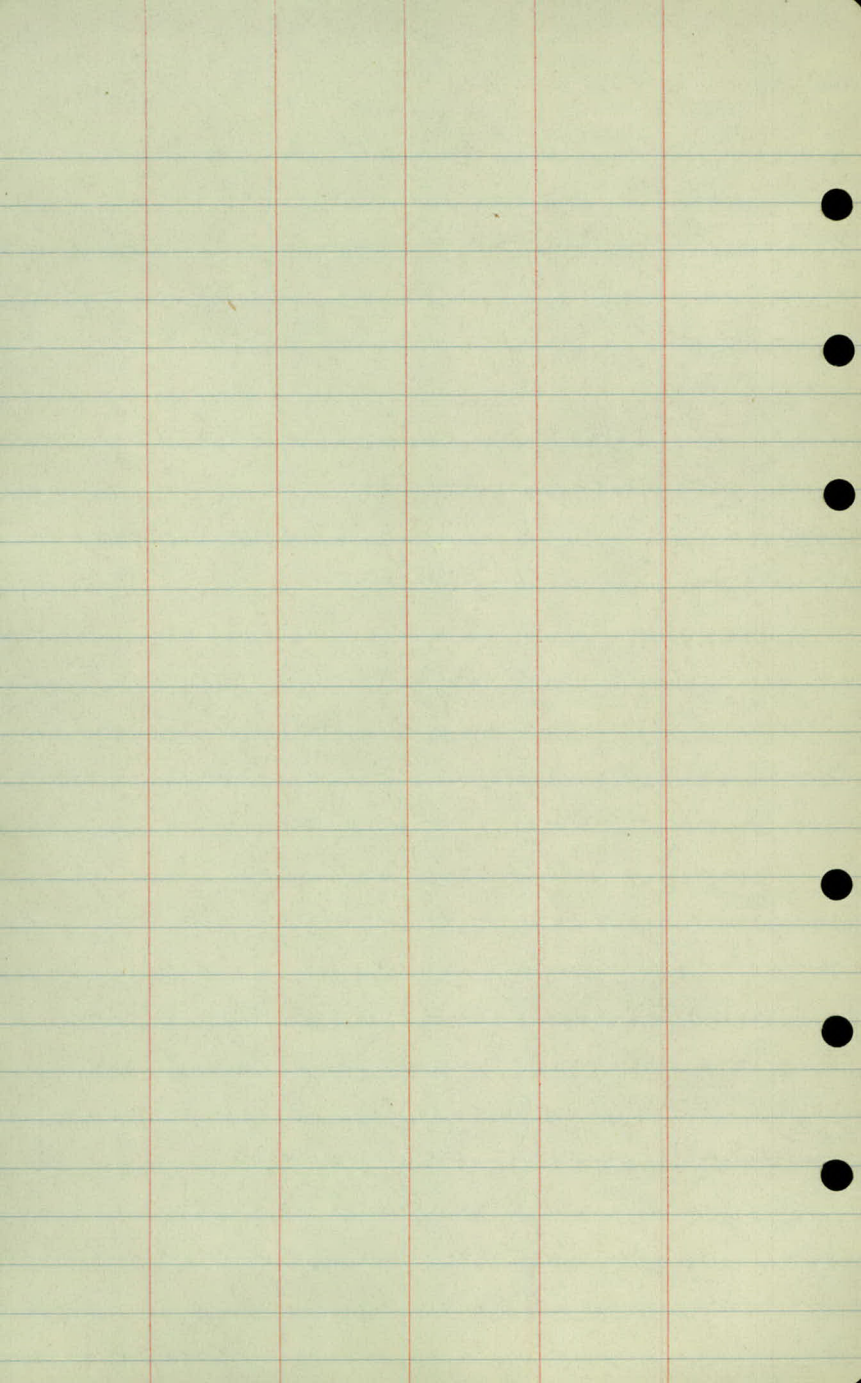
16+27.72 "D" Line

13+13.86 L.N.P. R.R.

0+97.78 E.T.H. 61

0+00 Mon.





"G" Line
Alignment

To T.H. #61

From S. Line Sec. 12 to Culv. North,

C Line

Sta. Point angle.
Lt. Rt.

17+09.61 $\angle$ Box Culv.

N-20°56'E

11+83.20 P.T.

A 20°56'E

D-5°00'

P.I. 9+76.3

X

T. 211.77

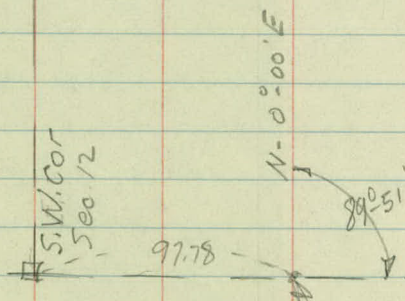
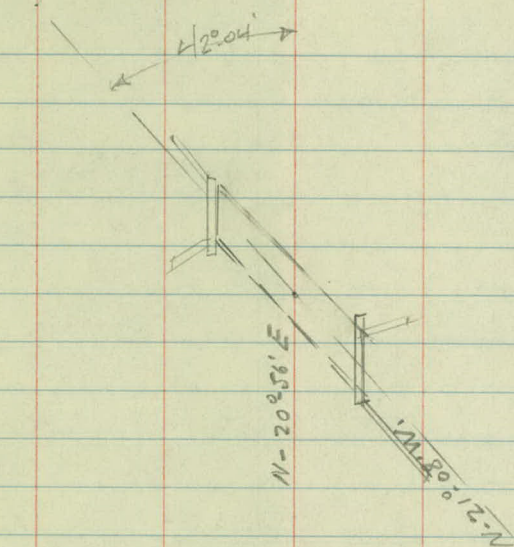
L. 418.67

7+64.53 P.C.

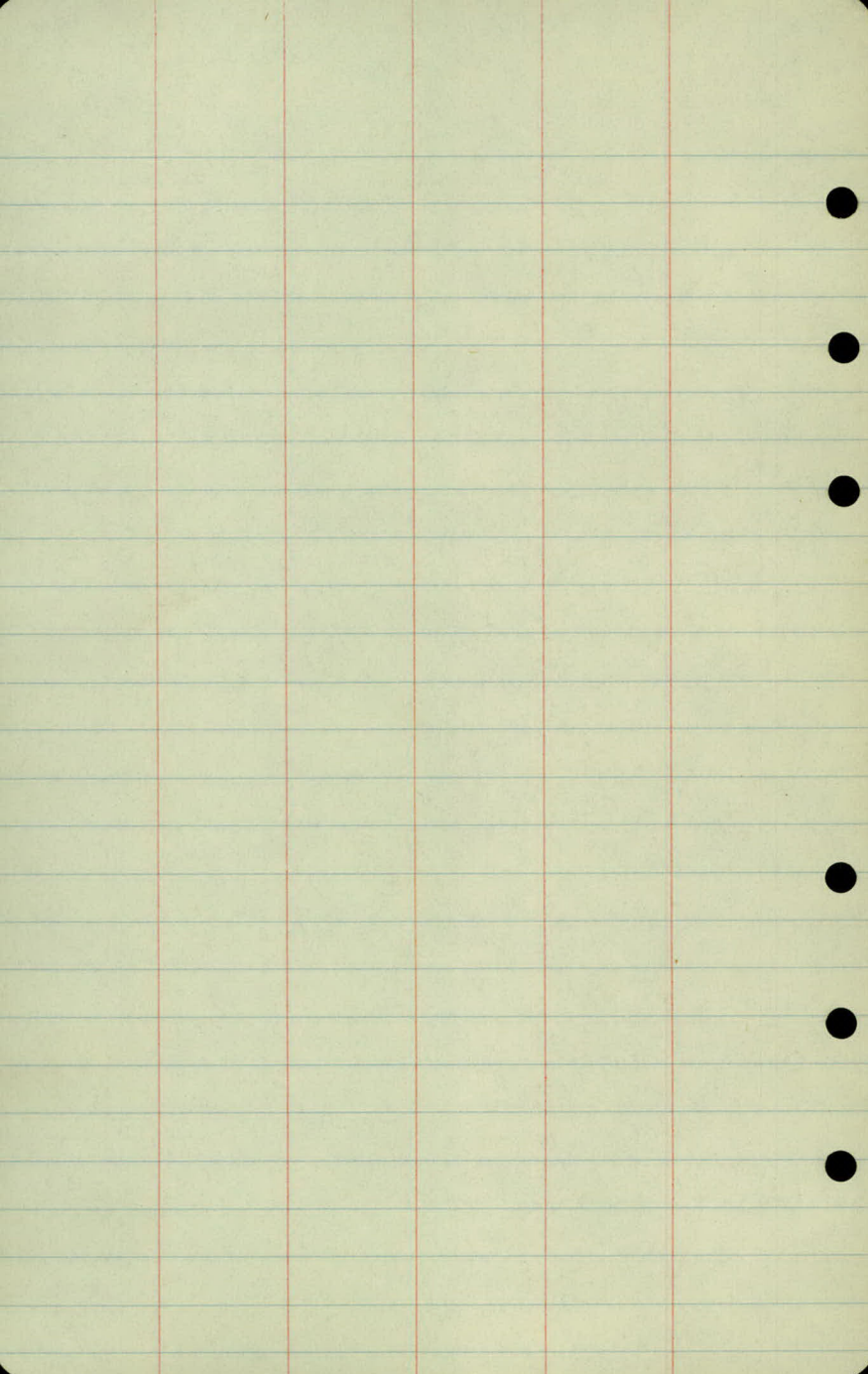
P= 1146.28

N-0°00'E

0+00 S. Sec. Line Sec. 12



Note: d Pavement not the
 & of Stewart = 96° Record



"D" Line
Alignment

Pump House to A Line 1970

"D" Line

Sta.	Point	angle	
		Lt	Rt.
19+70	^{28.} (19+70 A-Line)		22°30' RT

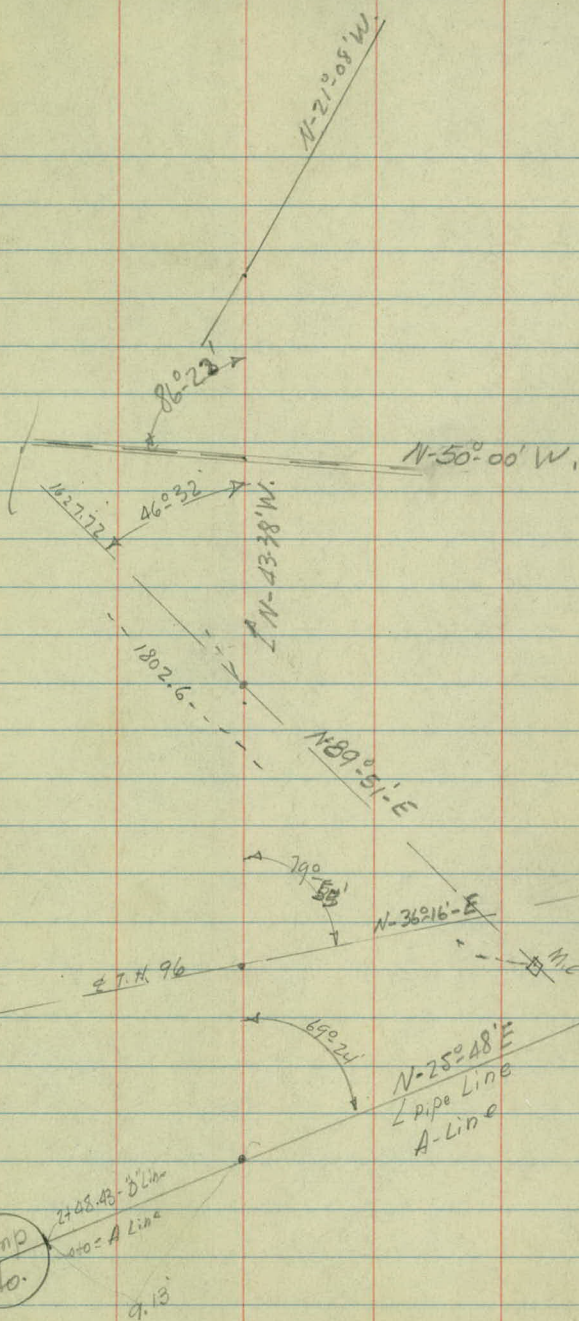
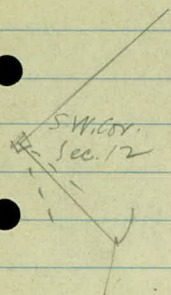
6+80.45 1 W.P.P.R

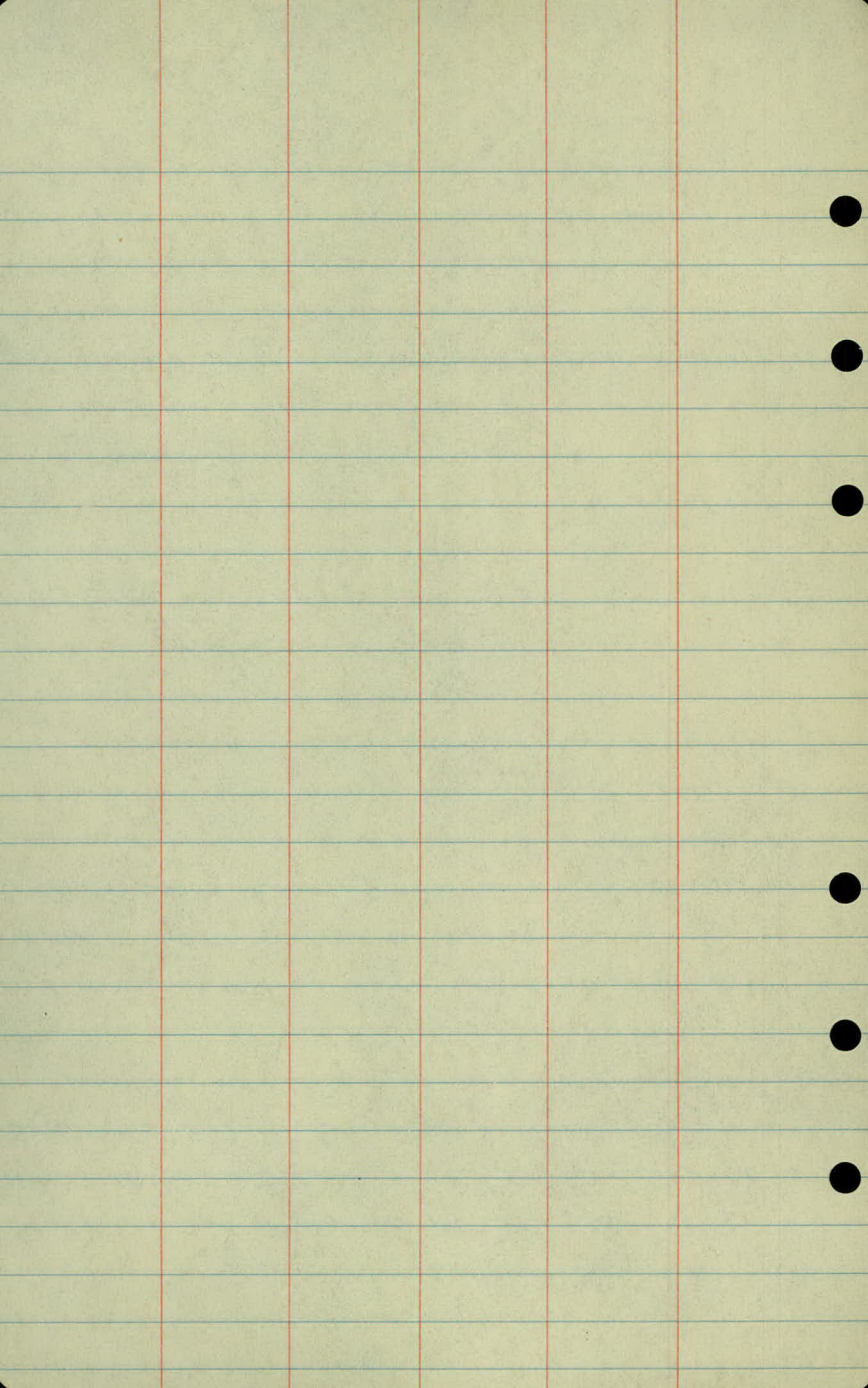
4+48.84 Sec. Line

3+23.89 2 P.O.U.

2+57.56 P.I. 69°24'

2+48.43 Pump Ho.





'E' Line
alignment.

Pump Ho. to Lake.

"E" Line

Sta.

Point

4487

Waters Edge

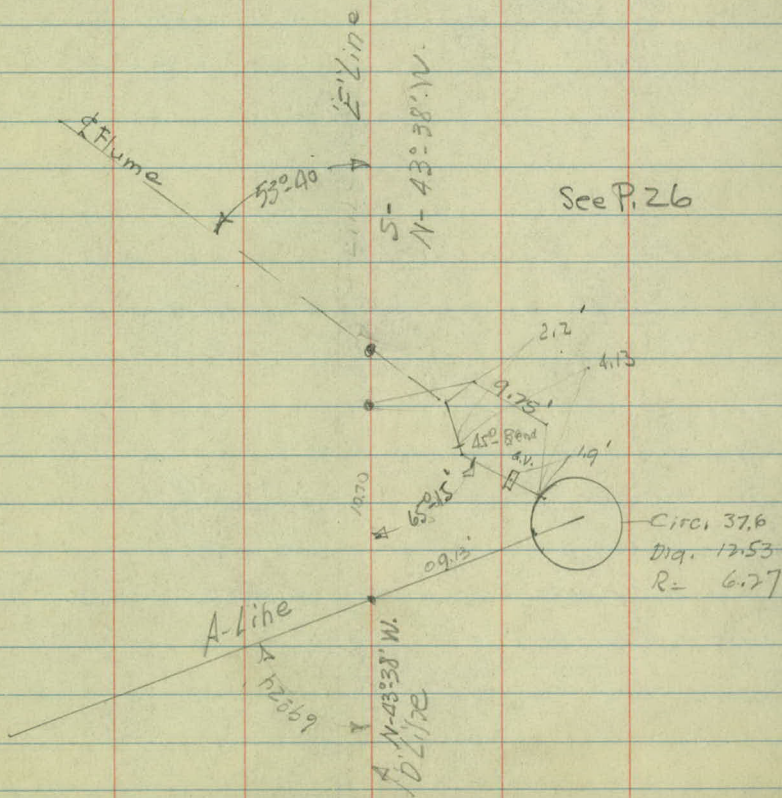
White Bear Lake

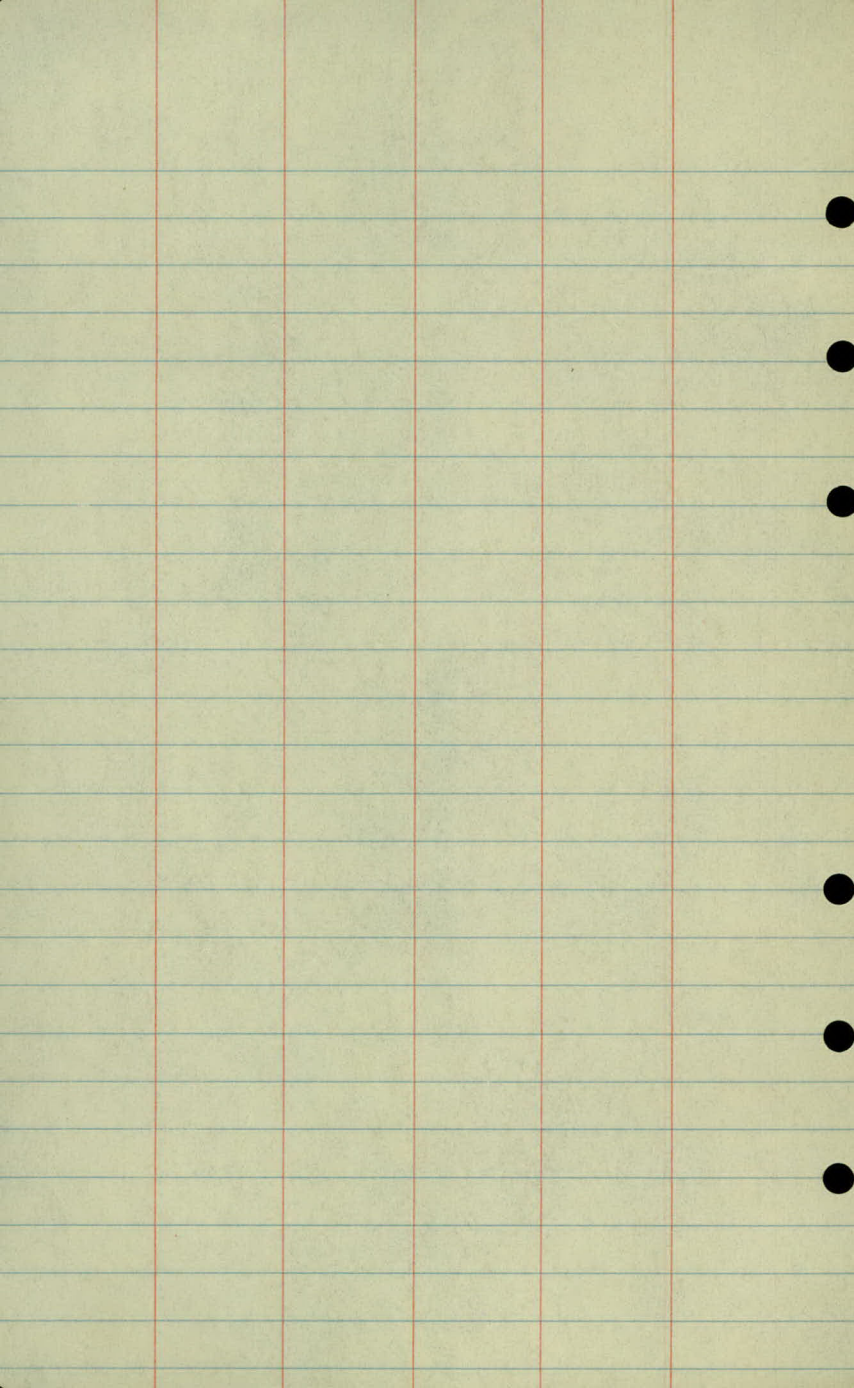
0+14.35- $\pm$ Flume

0+10.7

0+00 = 2+57.56 = 0" Line
0+09.13 = 2' Line

White Bear Lake.





Topography.

"D" Line.

76 to 6.87 - End Cu/U.

A Line

+86.7V. Bag Cu/U. 4x4' conc Bex

76

74

73

72



"D" Line

340

2457.56 - P./.

Ditch Bot# 3

W.W. 75



Ditch Bot# 1

 +75 26" Will - 5'
 2 End Fence.

Ditch Bot# 4 - 0'

 +13 - 15" Birch - 3'
 F - 04'

+35 - 15" Birch 5'

Ditch - 4' - 1'

+65 - 18" Will - 0'

~~+35 - 18" Elm. 0'~~
 +35 - 18" Elm. 0'

F - 3'

wto - Ditch 6' - 1'

+02 - D.F. - 04'

+2195 - Top Bank Ditch 00

+339 - Edge Pav.

+41 - T.P. 4'

+13.6 - Edge Pav.

T.H. 96

2+99 - Trans. Pole
32'X
21
93
 Pump No.
 93

L Oredge Pipe

"B" Line

18

17

16

15

14

$$\begin{array}{r} 13+14 \\ 58 \\ \hline 1256 \end{array}$$

213.86

13

"B" Line.

150-End Spur 11.0

1 Spur 130

2 Spur Track 160

1 Spur Track 150

1 Spur Track 0.0

4 Spur Track not Connected to Main Line

+13.86- 2 Spur 28.0

$$1.2 + 5.6 = \frac{6.8}{6.4} \text{ Bog Spur}$$

Not connected to M.

A-Line

7

6

164.75 ± N.P.R.R.

5

4

3

(2+72.2 - Tan 7.149%)
Extra $\sqrt{2497.8}$
+ 61.32 Culverts. 24" cons.

54 - 28 - 00

2+51.12 - Δ in pipe

Pump
No.

0+2.6 Gate,
Valve.

0+00

A-Line

← 8+61.3 - End Dredge Pipe

36" X 40" X 31.3
Oval Conc. Culv.

18.58'

15.8'

11'

10.9'

N.P.R.

2477.8 - Wall - 10'

W.W. 9' Wall - 11.4'

7+52 - W.W. 12.5'

2477.8 - Wall - 41'

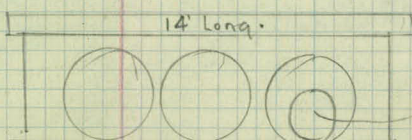
Wall - 6.7'

401 - Beg. Culv. + Wall - 4'

7+52 - W.W. 6.5'

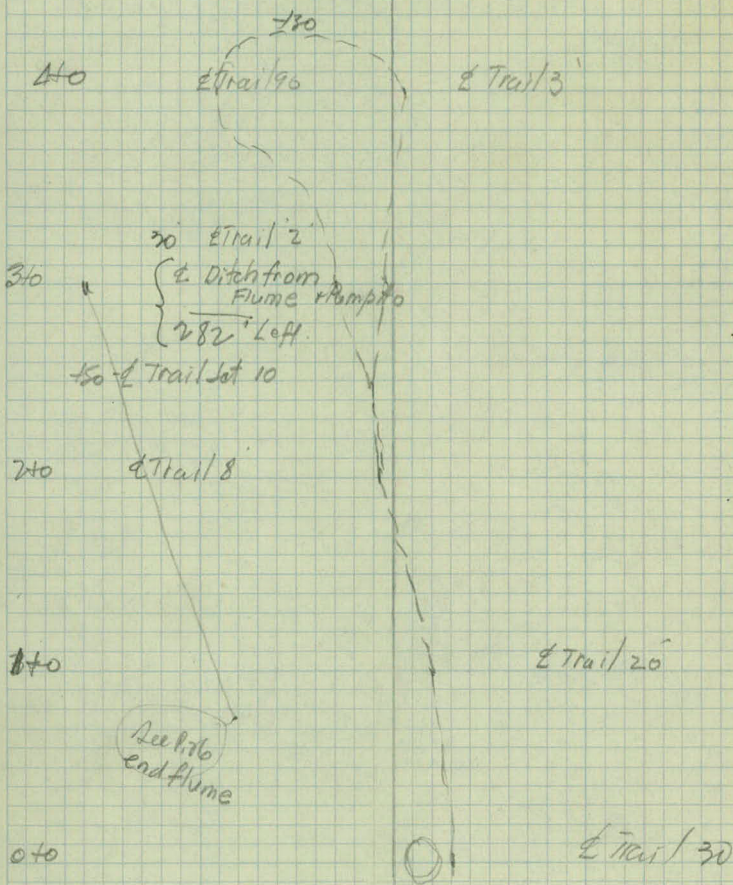
Dredge Pipe

Dredge Pipe Thru 24' Culv.



2.6' 2.8' Azine

"E" Line



See P. 56

Bench Levels.

				Elev.
B.M.	9.54	933.34		924.00
T.P.	5.27	934.28	4.43	929.11
✓	0.74	931.02	4.10	930.28
✓	3.80	931.47	3.35	927.67
	4.66	933.01	3.12	928.35
B.M.	4.21	932.07	5.15	927.86

"E" Line To Lake

0+0	4.51	27.56
0+06		
0+35	6.2	25.9
1+0	6.3	25.8
1+50	6.5	25.6
2+0	7.8	24.3
4+50	8.5	23.6
3	9.0	23.1
4	10.0	22.1
4.487	10.43	21.64

3207
1093
21.64

Top conc. H.W. T.H. 61- east side.

W.H. Carlson

K.A. Baker

L.B. Hendrix

A. Moschler.

5/16/37

Top conc. Sill & Door So. Side Ramp No.

Top Dredge Pipe

4.37

^{Pipe}
8 = Top Discharge to Wh. Bee

W. edge & Surface

May 16, 1937

Note:

921.69 - Elev. Lake @ Monitor

5/22-37

924.50 - Normal Elev.

A-Line

4.21 932.07

927.86

0400 4.57 27.50

140

7460 5.4 26.7

240 4.87 27.20

2451. 4.93 27.14

7461 7.32 24.75

+61 3.82 28.25

+97.8 5.40 26.67

+97.8 8.95 23.12

+97.8 7.35 24.72 ✓

440 8.0 24.1

540 9.7 22.4

+39 10.93 21.14 ✓

+46 10.1 22.0

+58 5.7 26.4

+64.75- 5.5 26.6

+70 5.8 26.3

+77 7.3 24.8

+83 10.2 21.9

640 10.3 21.8

Top Discharge Pipe

Top Dredge Pipe

" " "

" " "

→ Flow Line of center cul. Thru Pipe.

Top Wall.

" "

→ Fl. Line of center Cul.

→ Top Dredge Pipe

Gr. Elev.

" "

Top Dredge Pipe

Base of Rail

Culv.

$\frac{12.07}{11.14}$

"

$\frac{11.73}{11.14}$

} 5+64.75

(Note: Top Dredge Pipe
is the same as Ground Elev.)

Wet Marshy Ground. →

A-Line cont'd

93207

3.00

928.15

9.92

922.15

6722

39

21.3

+23

5.4

19.8

+27

5.4

19.8

+28

740

39

21.3

✓

840

40

21.2

✓

+62

4.7

20.5

+63

4.8

18.4

+61.3

5.80

19.35

✓

+68

6.8

18.4

+71

4.8

20.9

9

4.5

20.7

10

4.6

20.6

-

11

4.8

20.4

12

4.9

20.3

13

5.0

20.2

14

4.8

20.4

+11

5.0

20.2

+12

5.6

19.6

+13

5.6

19.6

+16

4.9

20.3

18

4.8

20.4

+48

5.2

20.0

$$\begin{array}{r} 45.14 \\ - 3.5 \\ \hline 41.64 \end{array}$$

Ditch Bott

" "

Top Dredge Pipe.

" " " " " "

GROUND

Bott Ditch

End of Dredge Pipe

Bott Ditch.

Wet Marshy Ground.

Bott Ditch

" "

A-Line confd

975.15

16			53	19.9	
T.P.	3.72	924.32	4.55		920.60
17			4.2	20.1	
18			4.2	20.1	
19			4.1	20.2	
470	3.38	924.32	3.38		920.94
20			3.9	20.4	
21			4.0	20.3	
21+70			3.8	20.5	
495			6.2	18.1	
T.P.	8.37	929.36	3.33		920.99
22+0					
23					
24				18.5	
25					
	5.33	929.33	5.33		924.0
25+26.72				18.47	
			8.73		

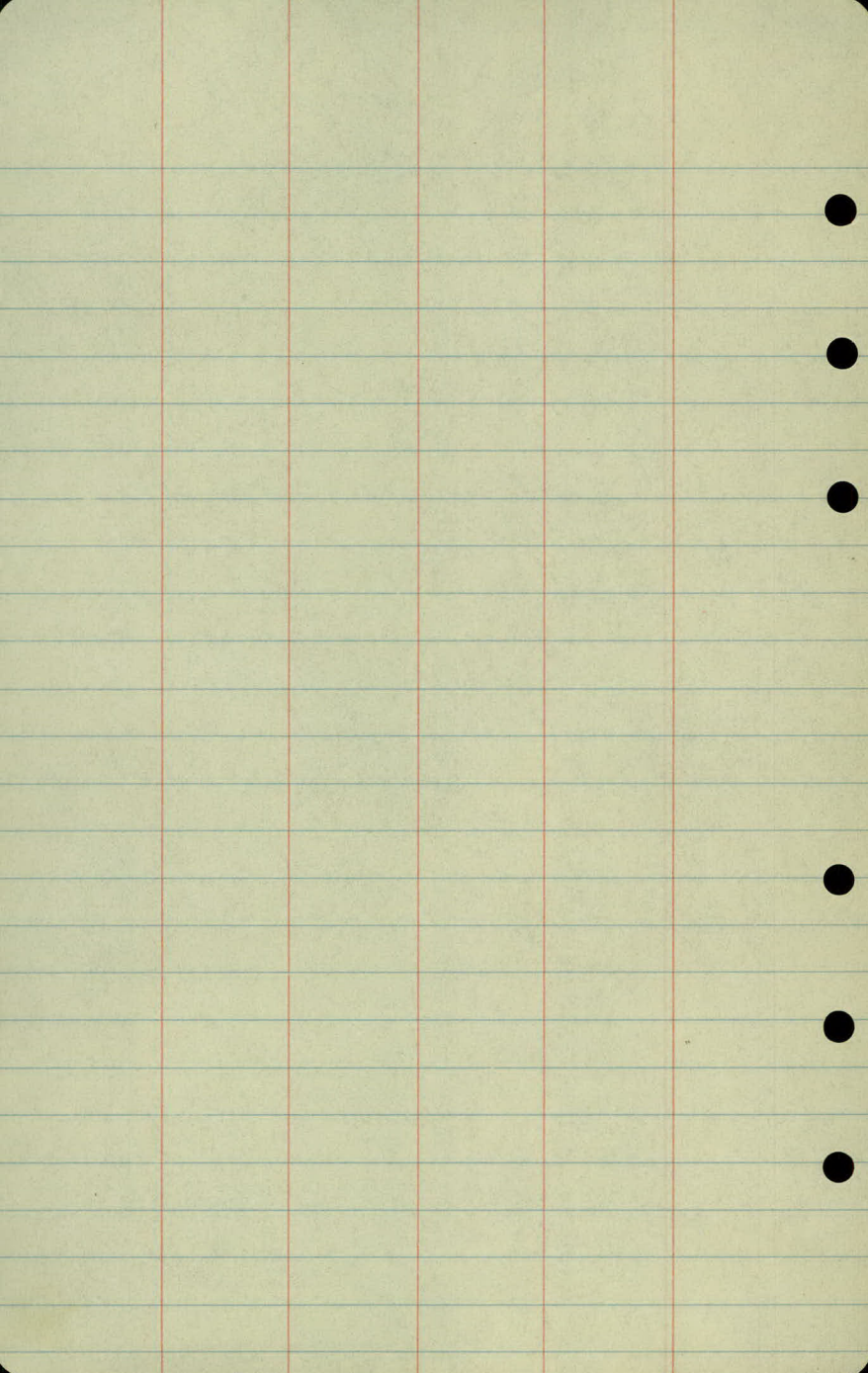
Top Bank Ditch

Bottom Ditch.

2

L.O. Top Bank $\frac{9.0}{9}$ $\frac{11.5}{6}$ Ditch $\frac{11.5}{1.0}$ " " $\frac{8.9}{7}$ $\frac{11.2}{4.0}$ Ditch $\frac{11.2}{1.0}$ " " $\frac{8.5}{7}$ $\frac{10.9}{4.0}$ Ditch $\frac{10.9}{1.0}$ " " $\frac{6.5}{7}$ $\frac{10.8}{3.0}$ Ditch $\frac{10.8}{1.0}$ $\frac{10.8}{1.0}$ = Flowline Box Cul.

Wet Marshy Ground



32.07
3.92
28.15

"D" Line

Level/s

"D" Line

4.21 932.07

927.86

2+57.56

4.51 27.56

+75

3.8 28.3

340

3.9 28.2

+13.6

3.82 28.25

+33.9

4.00 28.07

+3.9

4.0 28.1

+4.5

7.0 25.1

+7.3

7.4 24.7

+7.8

6.0 26.1

4

6.6 25.5

+7.5

7.4 24.7

5+6.5

7.03 25.04

5

8.2 23.9

+7.5

9.6 22.5

6+0

10.2 21.9

+3.5

10.6 21.5

+5.0

5.9 26.2

6+50.45

5.67 26.40

+8.6

6.0 26.1

+6.8

10.8 21.3

7+0

10.8 21.3

T.P

2.00

925.15

9.92

922.15

Top Dredge Pipe

Edge Pav.

11 12

A

Base Rail

Base Rail

Wet Washy Ground.

"D" Line control

9.5.15

4.03	4.2	21.0
+04	5.7	19.5
+07	5.7	19.5
+08	4.2	21.0
8	4.3	20.9
+78	4.4	20.8
+86	6.4	18.8
+88	6.4	18.8
+90	4.4	20.8
9	4.3	20.9
10	4.6	20.6
11	4.7	20.5
12	4.8	20.4
13	5.0	20.2
14	5.2	20.0
15	5.1	20.1
T. 477	5.2	20.0
+78	8.6	19.6
+79	8.6	19.6
+8	5.0	20.2
16	8.1	20.1
S.P. 1	3.7~	9.2060
17	4.3	20.0
	4.55	
	9.4.3~	

Bo H Ditch

" "

Bo H Ditch

"

Wet Marshy Ground

Ditch Bo H

" "

D Line

9v 4.3v

18to

4.2 20.1

19+

4.1 20.2

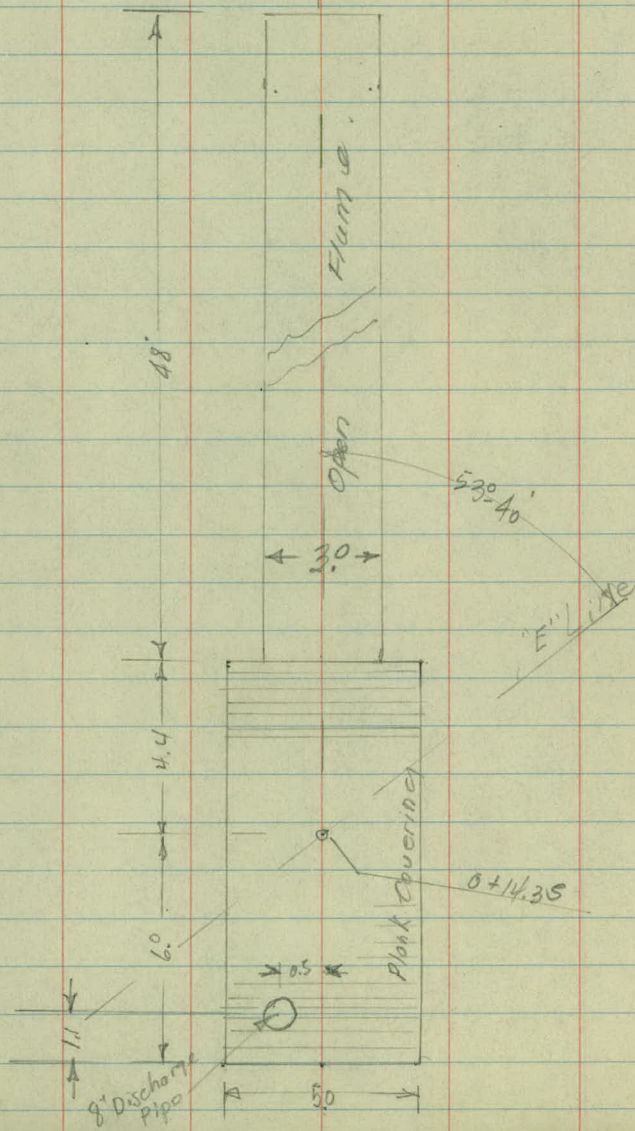
19+70 = (19+70 A Line)

4.0 20.3

3.78

920.94

Detail of Flume

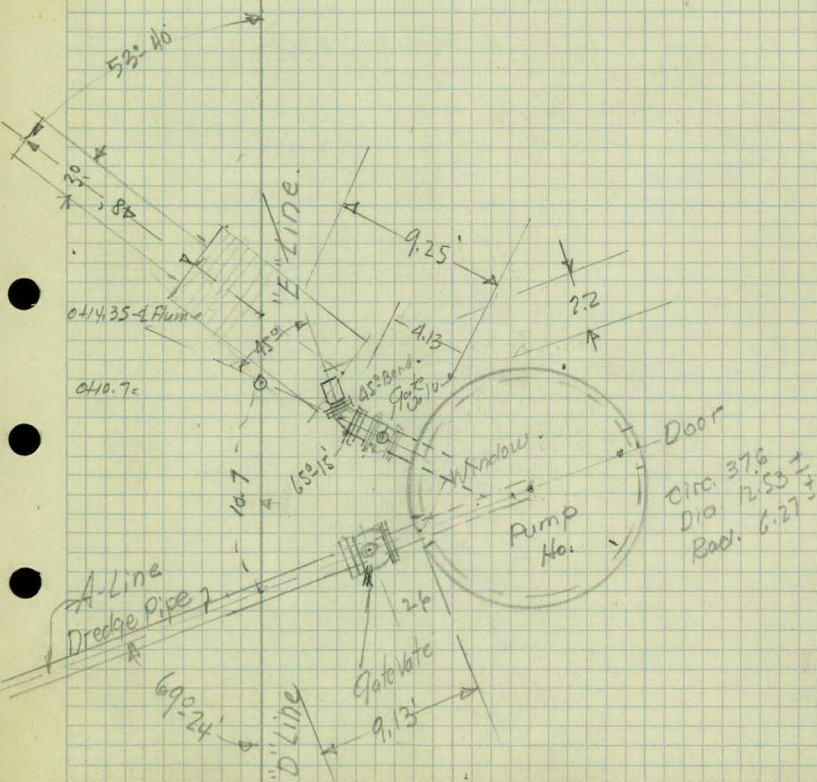


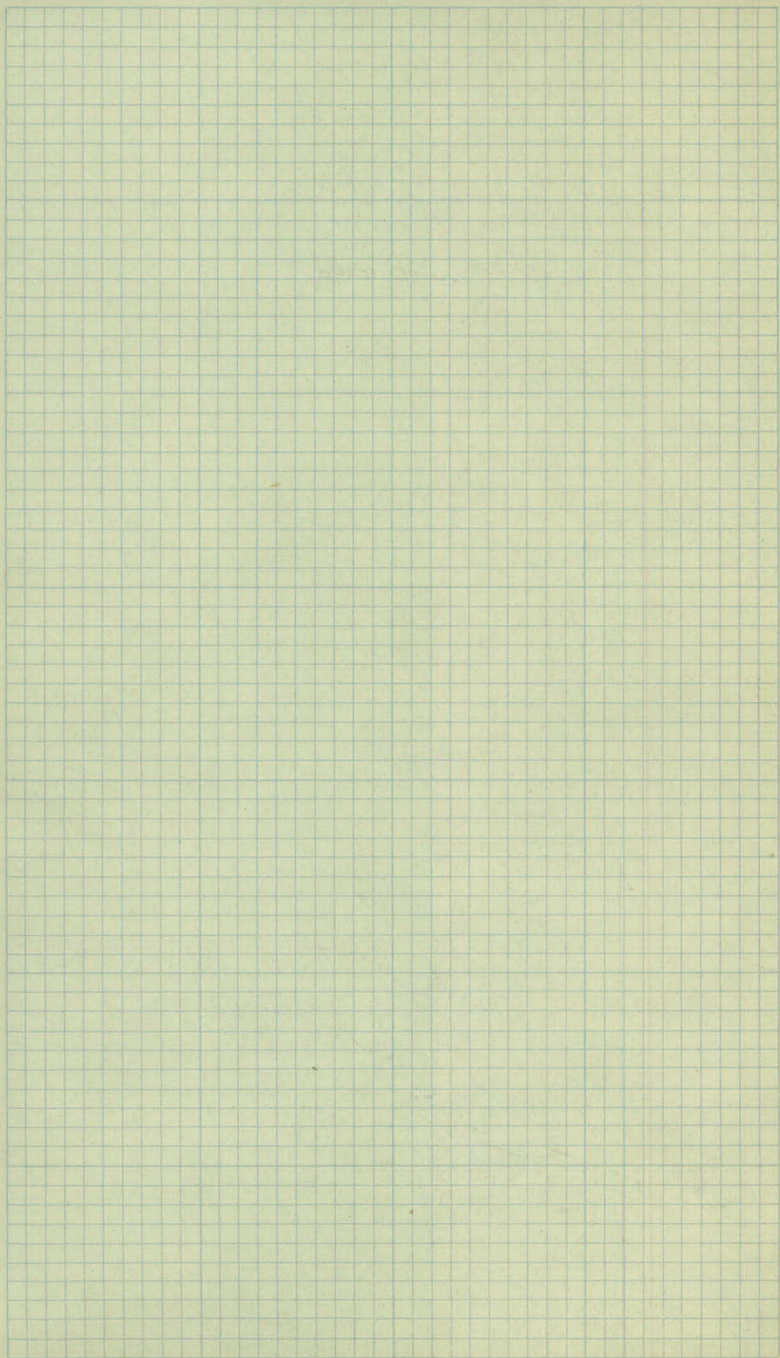
White Bear Lake

4487 Waters Edge

See P. 12

Detail of Piping
 @ Pump House.
 Scale 1" = 10'





Elevations of Culverts
near the Junction

T. H. #61, LINE of N. P. R. R.

W. H. Carlson
4-9-36

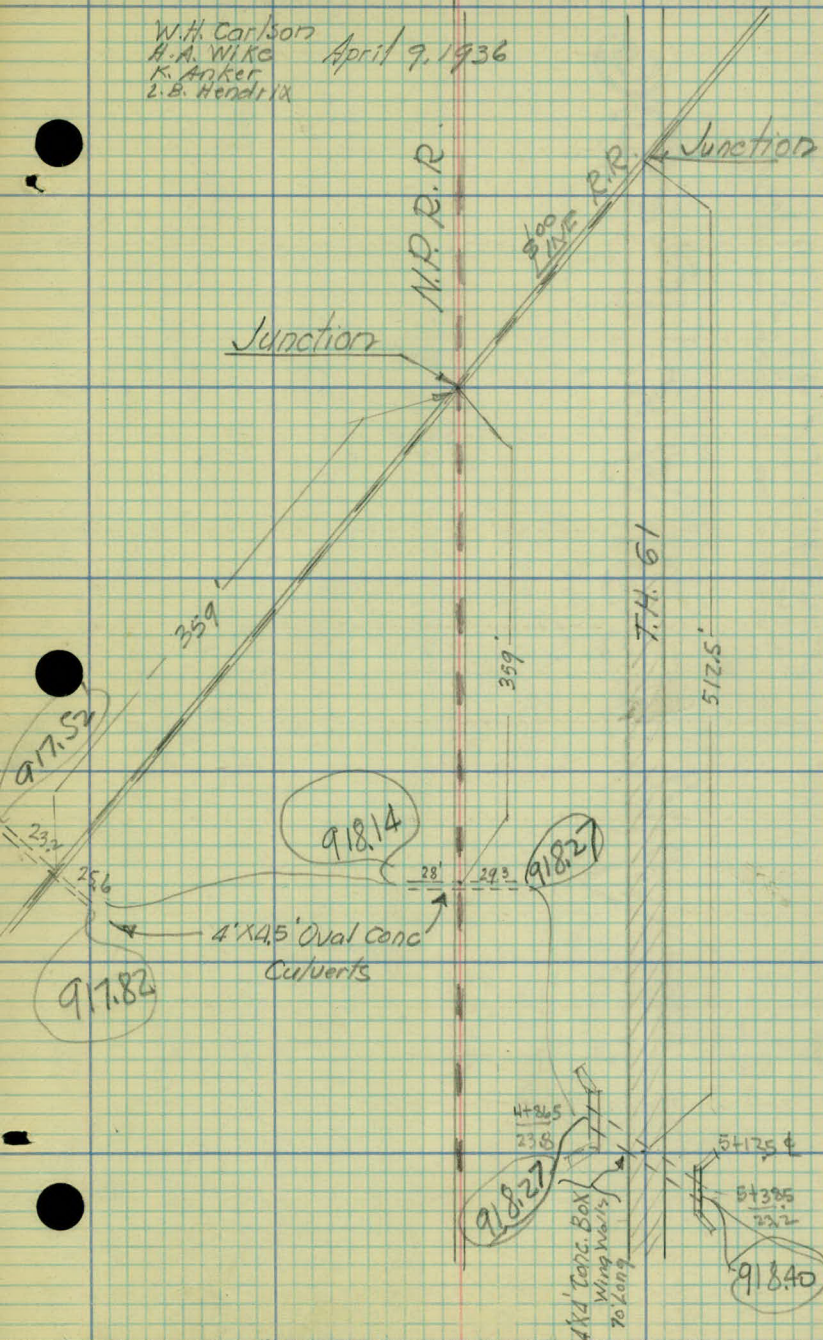
Sta.	+	X	-	Elev.	Top East H.W. T.H.G.1
	8.42	932.42		924.00	
T.H.G.1, Fl. Line East end.			14.02	918.40	
W.S. " "			12.73	919.69	
Top H.W. " "			8.42	924.00	
Top Pavement			4.32	928.10	
Fl. Line West end			14.15	918.27	
W.S. " "			12.74	919.68	
Top H.W. " "			8.55	912.87	

M.P.R.R. Fl. Line East end			14.15	918.27	
W.S. " "			12.90	919.52	
Top Rail			0.11	932.31	
Fl. Line West end			14.28	918.14	
W.S. " "			12.90	919.52	

⁵⁰⁰ LINE RR. Fl. Line South end			14.60	917.82	
W.S. " "			13.60	918.82	
Top Rail			1.50	930.92	
Fl. Line North end			14.90	917.52	
W.S. " "			13.90	918.52	

W.H. Carlson
H.A. Wike
K. Anker
L.B. Hendrix

April 9, 1936



#2.65

T W. C.
8-16-37

Man holes
near Prop Pipe Line.
(Sec. 12)

24" STORM SEWER ALONG
S.T.H. # 62 - NEAR BALD EAGLE,
NORTH & SOUTH OF N. SEC. LINE,
SEC. 12.

	+	X	-	Elev.
B.M.	9.46	933.66		924.00

T.H. Storm Sewer			8.33	925.33
Outlet W. of Culvert thru H.W. #61				-6.68
				918.65

T.P.	5.72	935.75	3.63	930.03
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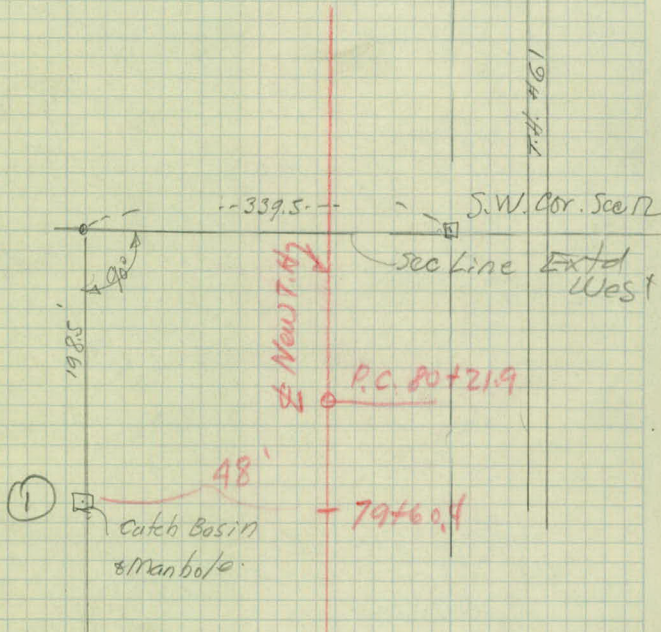
Fl. Line @ (T.H. 83 to 0)			12.77	922.98
Top M.H. Ring # 2			6.03	

Fl. Line ① (S.T.H. 79 to 60)			11.82	923.93
Top Ring			5.93	

Red Fig are T.H. Sta.

2

N.H.
82400



N.H.
76786

