

Book # 88 - Dr # 8

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

DRAINAGE Survey

Co. RD. "C" SOUTH SIDE

From RICE ST. To WEST

Road Acc't. No.

Date Filed 1935 File

JUNE 5-35

- Proposed -
- Ditch -
So. Side of Co. Rd. "C"
West of Rice St.

0+00 = Mont. Rice St
+ Co. Rd. "C"

Plant Complete
June 19, 1935

B.M. + 41 - EIV
 159 959⁶⁰ 95791

0+00 57.9

1+00 54.6

2+07⁰ E Pot Hole 50.2

T.P. 263 95191 1026 949³⁴

3+00 48.4

4+00 47.5

2+07 Ext. Rt.

4+75 47.3

5 47.3

6 47.0

7 46.1

+60 45.5

8 45.2

- 2 -

Top of Mont. Rice St. & Co. Ref. "C"

$$\frac{165}{25}$$

$$165$$

$$\frac{175}{25}$$

$$\frac{36}{34} \quad \frac{58}{28} \quad \frac{56}{10} \quad 50 \quad \frac{56}{14}$$

$$\frac{156}{140}$$

$$\frac{50}{50}$$

$$\frac{138}{23}$$

$$\frac{130}{18}$$

$$\frac{103}{11}$$

$$94$$

$$\frac{99}{13}$$

Center
Pot Hole

$$\frac{60}{125} \quad \frac{50}{50} \quad \frac{52}{23} \quad \frac{66}{21} \quad \frac{66}{16} \quad \frac{44}{7} \quad 36$$

P. Hole

$$\frac{45}{14} \quad \frac{7.2}{22-26} \quad \frac{6.7}{30}$$

$$\frac{4.2}{100} \quad \frac{70}{50} \quad \frac{77}{27} \quad \frac{76}{15} \quad \frac{54}{11} \quad 45$$

$$\frac{5'}{14} \quad \frac{7.4}{20} \quad \frac{7.5}{27} \quad \frac{6.8}{30}$$

W.S. 7.01

$$\frac{2.4}{17} \quad \frac{5.7}{25} \quad \frac{5.6}{29} \quad \frac{4.3}{33} \quad \frac{4.4}{50}$$

$$\frac{3.4}{125} \quad \frac{7.1}{75} \quad \frac{44.278}{42-16} \quad \frac{5.2}{12} \quad 47 \quad \frac{5.4}{14} \quad \frac{7.5}{20-25} \quad \frac{6.2}{28}$$

Bot. Pot Hole

$$\frac{3.4}{125} \quad \frac{7.1}{70} \quad \frac{7.6}{38} \quad \frac{7.5}{15} \quad \frac{5.4}{12} \quad 47 \quad \frac{5.5}{14} \quad \frac{7.3}{19} \quad \frac{7.8}{24} \quad \frac{5.9}{28}$$

W.S. in Pt.

$$\frac{2.8}{100} \quad \frac{2.7}{50} \quad \frac{2.2}{34} \quad \frac{5.9}{24} \quad \frac{6.3}{25} \quad \frac{7.0}{21} \quad \frac{7.9}{21} \quad \frac{6.1}{18} \quad \frac{5.4}{12} \quad 50 \quad \frac{5.5}{18} \quad \frac{7.8}{22} \quad \frac{3.5}{29}$$

5.1 W.S. Pot Hole
160
45.2 260
6.8 Bot. Pot Hole

$$\frac{7.6}{100} \quad \frac{8.2}{50} \quad \frac{8.0}{26} \quad \frac{8.7}{24} \quad \frac{8.2}{18} \quad \frac{6.5}{13} \quad 59 \quad \frac{6.6}{13} \quad \frac{8.0}{17} \quad \frac{8.1}{27} \quad \frac{6.8}{31}$$

Bot. Pot Hole

$$\frac{4.8}{125} \quad \frac{9.7}{75} \quad \frac{11.0}{40} \quad \frac{9.55}{19} \quad \frac{10.6}{19} \quad \frac{7.2}{13} \quad 6.5 \quad \frac{7.2}{13} \quad \frac{9.1}{21} \quad \frac{9.6}{26} \quad \frac{8.1}{30}$$

91.0

$$\frac{8.4}{100} \quad \frac{8.7}{50} \quad \frac{9.3}{29} \quad \frac{9.6}{21} \quad \frac{7.1}{13} \quad 6.8 \quad \frac{7.4}{13} \quad \frac{9.1}{18} \quad \frac{9.8}{27} \quad \frac{9.1}{31}$$

Sta + π - EI

951.97

9+15 ctr Pot Hole 43.2

○ 539 950⁷⁶ 6.60 945.37 = 945.39

10 43.4

11 45.0

12 45.3

13 45.8

14 45.1

15 43.6

16 41.5

17 39.4

○ 073 ✓ 940⁰⁵ ✓ 11.44 939³² = 939.34

$\frac{5.1}{170}$ $\frac{9.7}{955}$ $\frac{10.6}{50}$ $\frac{9.9}{18}$ $\frac{7.4}{12}$ 6.8 $\frac{7.9}{14}$ $\frac{9.3}{22}$ $\frac{10.5}{27}$ $\frac{7.0}{32}$
 W.S. Bot Hole
 41.4

$\frac{7.0}{100}$ $\frac{8.4}{75}$ $\frac{6.2}{33}$ $\frac{7.2}{30}$ $\frac{7.4}{19}$ $\frac{8.6}{18}$ $\frac{5.7}{12}$ 5.4 $\frac{5.9}{12}$ $\frac{8.6}{19}$ $\frac{9.2}{31}$ $\frac{7.0}{35}$
 9.62 9.14 F.L. 10+01 15' CM 9.27 F.L.
 41.49

Edge Water Bot Pot Hole
 $\frac{9.4}{260}$ $\frac{12.8}{110}$ $\frac{9.34}{340}$ $\frac{10.0}{50}$ $\frac{9.4}{19}$ $\frac{6.6}{13}$ 5.8 $\frac{6.1}{14}$ $\frac{8.4}{19}$ $\frac{8.6}{26}$ $\frac{4.1}{34}$
 W.S.

$\frac{11.6}{200}$ $\frac{11.6}{150}$ $\frac{11.3}{100}$ $\frac{10.2}{50}$ $\frac{9.0}{17}$ $\frac{6.3}{12}$ 5.5 $\frac{6.0}{15}$ $\frac{5.7}{19}$ $\frac{7.3}{27}$ $\frac{2.4}{34}$

39.4
 13+00 $\frac{12.4}{275}$ B.P.H. - 10.63 W.S.

$\frac{6.3}{150}$ $\frac{10.7}{75}$ $\frac{10.1}{50}$ $\frac{7.8}{21}$ $\frac{5.7}{11}$ 5.0 $\frac{5.3}{14}$ $\frac{5.7}{24}$ $\frac{4.9}{31}$

B.P.H. 2 W.S. over H.L.
 $\frac{13.8}{110}$ $\frac{12.45}{75}$ $\frac{6.6}{18}$ $\frac{6.3}{11}$ 5.7 $\frac{5.8}{13}$ $\frac{5.5}{19}$ $\frac{4.0}{25}$

$\frac{11.0}{100}$ $\frac{10.6}{50}$ $\frac{8.8}{17}$ $\frac{7.8}{12}$ 7.2 $\frac{7.5}{13-17}$ $\frac{10.4}{25}$

$\frac{9.8}{100}$ $\frac{11.5}{50}$ $\frac{11.7}{18}$ $\frac{9.8}{12}$ 9.3 $\frac{9.9}{14}$ $\frac{10.5}{18}$ $\frac{11.0}{33}$

$\frac{11.9}{100}$ $\frac{10.2}{50}$ $\frac{11.1}{32}$ $\frac{15.1}{20}$ $\frac{12.5}{15}$ $\frac{11.9}{9}$ 11.4 $\frac{11.8}{16}$ $\frac{13.0}{22}$ $\frac{13.4}{33}$

+ H.I. - EIV
 940⁰⁵

18+00

37.1

18+60

15" X 36 Corr. X drain

19+00

35.5

20+00

35.4

21+00

35.3

22+00

35.3

23+00

34.8

24+00

32.3

25+00

28.5

T.P.

079

929³¹

1153

928⁵²

26+00

24.2

26+12¹⁵

569

923⁶² = 923⁷³

992

919³⁹ = 919⁵⁰

B.M.

2.47

- L -

R

21.5

$\frac{110}{200}$	$\frac{126}{Bott. Pond}$	$\frac{110}{75}$	$\frac{87}{60}$	$\frac{60}{18}$	$\frac{38}{11}$	30	$\frac{32}{16}$	$\frac{46}{20}$	$\frac{46}{26}$	$\frac{31}{31}$
E. Pond	125	E.P.	Top.W.							

$\frac{85}{17}$ 31.6

$\frac{74}{19}$ 32.1

$\frac{86}{75}$	$\frac{110}{50}$	$\frac{110}{22}$	$\frac{95}{18}$	$\frac{52}{10}$	45	$\frac{50}{17}$	$\frac{67}{21}$	$\frac{68}{28}$	$\frac{46}{31}$
	E. Pond	E. Pond							

$\frac{50}{50}$	$\frac{54}{27}$	$\frac{87}{21}$	$\frac{87}{19}$	$\frac{70}{17}$	$\frac{53}{13}$	47	$\frac{52}{18}$	$\frac{68}{23}$	$\frac{68}{28}$	$\frac{58}{33}$
-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	----	-----------------	-----------------	-----------------	-----------------

$\frac{86}{150}$	$\frac{88}{125}$	$\frac{100}{Bott. Pond}$	$\frac{87}{Top.W.}$	$\frac{96}{18}$	$\frac{58}{12}$	48	$\frac{55}{19}$	$\frac{73}{24}$	$\frac{72}{35}$	$\frac{62}{40}$
	E. Pond			E. Pond						

$\frac{88}{100}$	$\frac{88}{50}$	$\frac{78}{20}$	$\frac{55}{11}$	48	$\frac{55}{19}$	$\frac{77}{27}$	$\frac{77}{40}$
E. Pond	E. Pond						

$\frac{1.4}{50}$	$\frac{18}{20}$	$\frac{60}{14}$	53	$\frac{61}{16}$	$\frac{65}{32}$
------------------	-----------------	-----------------	----	-----------------	-----------------

$\frac{17}{23}$	$\frac{85}{15}$	78	$\frac{86}{19}$	$\frac{20}{28}$
-----------------	-----------------	----	-----------------	-----------------

$\frac{52}{26}$	$\frac{120}{17}$	116	$\frac{126}{13}$	$\frac{116}{21}$
-----------------	------------------	-----	------------------	------------------

$\frac{70}{50}$	$\frac{67}{23}$	$\frac{57}{11}$	51	$\frac{53}{13}$	$\frac{68}{50}$
-----------------	-----------------	-----------------	----	-----------------	-----------------

Mont. Western Ave. Co. Rd. "C"

Spk. in 18"ook N.W. Cor. Western + Co. Rd. "C"

Mont. Western Ave Co. Rd "C"

Sta

+

π

-

El.

26+35

27

28

①

3.08

13.47

29

30

+71

30' X 36' C.M. X Culv.

31

+68

24' X 48' C.M. X Culv

$$\frac{3.0}{50} \quad \frac{4.0}{26} \quad \frac{3.6}{9} \quad 3.3 \quad \frac{3.6}{12} \quad \frac{4.7}{38}$$

$$\frac{+3.5}{50} \quad \frac{0.5}{30} \quad \frac{2.0}{24} \quad \frac{6.7}{19} \quad \frac{7.0}{15} \quad \frac{6.7}{11} \quad 6.0 \quad \frac{6.8}{13} \quad \frac{7.4}{17} \quad \frac{6.0}{20}$$

$$\frac{+0.7}{50} \quad \frac{0.8}{34} \quad \frac{3.4}{26} \quad \frac{11.4}{16-11} \quad 10.6 \quad \frac{11.0}{11} \quad \frac{11.4}{15} \quad \frac{9.4}{20} \quad \frac{5.6}{23}$$

over HJ.

$$\frac{+2.0}{50-35} \quad \frac{5.5}{23} \quad \frac{5.3}{12} \quad 4.4 \quad \frac{5.0}{9} \quad \frac{5.2}{15} \quad \frac{6.0}{18}$$

$$\frac{10.2}{56} \quad \frac{11.0}{20} \quad \frac{8.7}{19} \quad 8.4 \quad \frac{9.1}{9} \quad \frac{16.5}{19} \quad \frac{17.0}{30}$$

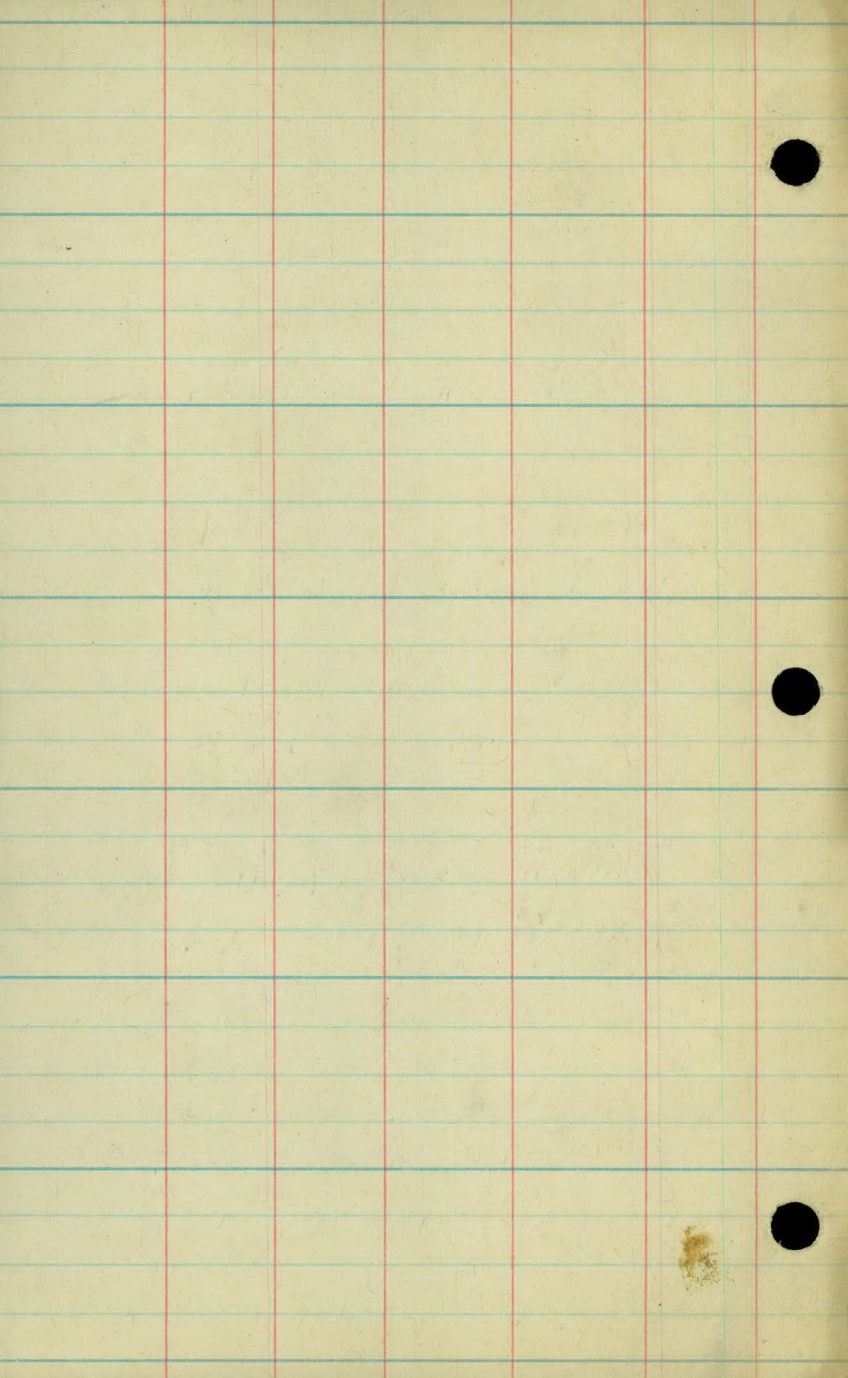
$$\frac{14.40 \text{ F.L.}}{20}$$

$$\frac{15.40 \text{ F.L.}}{16}$$

$$\frac{15.4}{50} \quad \frac{14.4}{35} \quad \frac{12.2}{19} \quad \frac{9.6}{13} \quad 9.1 \quad \frac{9.8}{9} \quad \frac{16.0}{17} \quad \frac{17.0}{25}$$

↓ F.L.

$$\frac{15.4}{50} \quad \frac{15.8}{28} \quad \frac{9.4}{14} \quad 8.7 \quad \frac{9.5}{9} \quad \frac{18.0 \text{ F.L.}}{21}$$



PLAN SURVEY
DRAINAGE SITUATION.

Co. Rd. "C"
Rice St. West.

Index
Alignment - 1-2
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Party:
R. Pease
A. Moeschler
C. Fewer

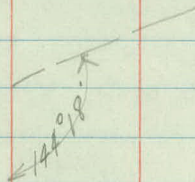
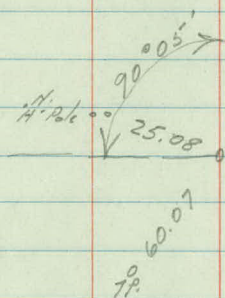
Worked up
4/20/41 How

24+05⁸ P.O. T.

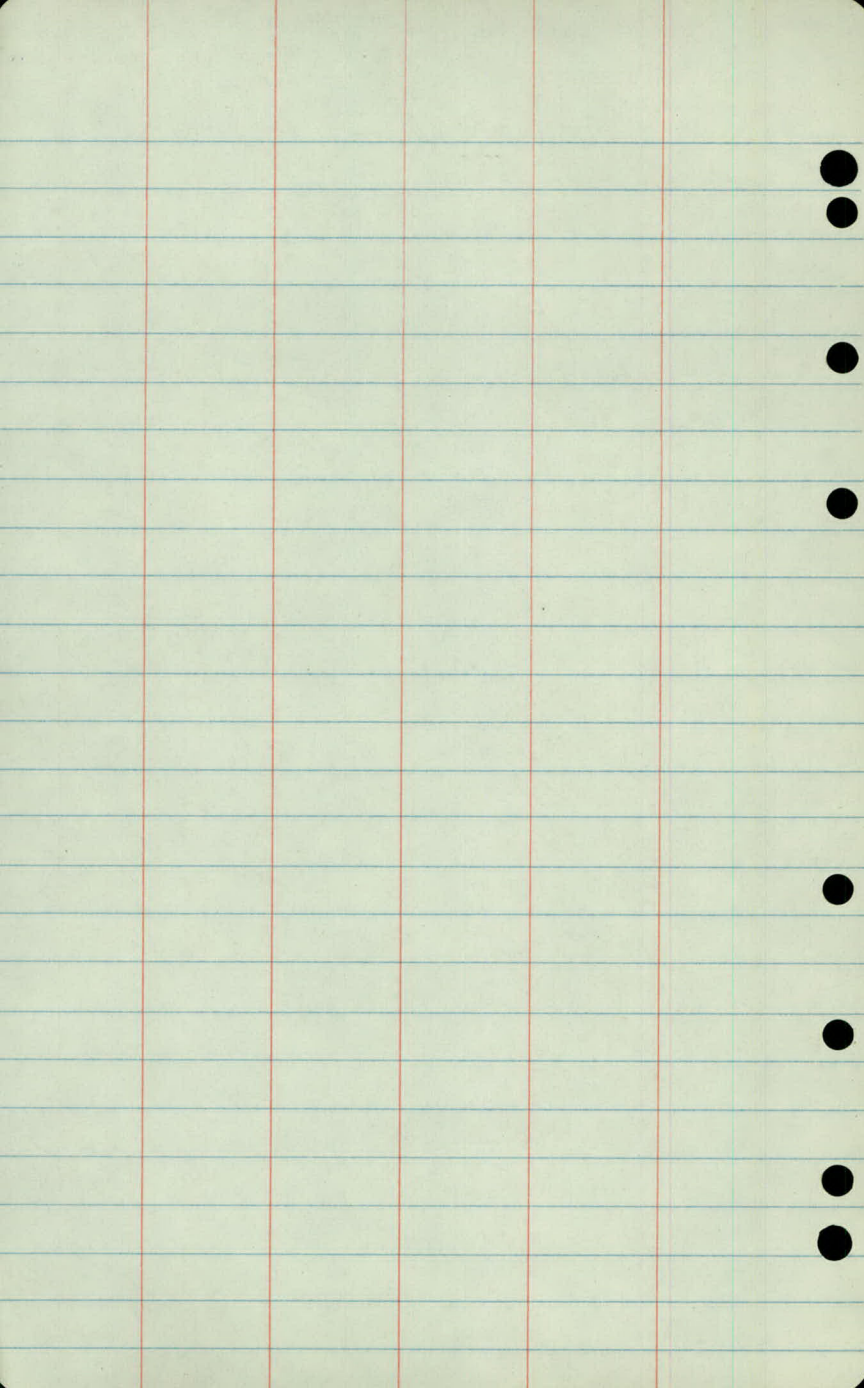
22+65³ P.I.

17+85⁰⁰ P.I.

+00 6 Rice St.



Mon S.E.
Cor Sec 1



TOPOGRAPHY
Drainage Situation

Co. Rd. "C" West of Rice St.

6	14	16
5	16	16
4	17	15
3	14	17
2	15	17
1	15	19

0 +12 Pave Xs $\frac{1}{2}$
-12 Pave Xs $\frac{1}{2}$

192 12" Oak 36

+26 End P.Hole - 20-78
+28 T.P. 28
P.Hole 19-80

+52 Beg. P.Hole 21-80
+44 Ent
15" x 20" C.M. 25

+82 T.P. 28

+71 Ent
15" x 20" C.M. 22
+57 T.P. 28
+56 2-1" Pops 39-50

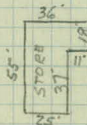
+28 P.Hole 23-75
+11 P.Hole 22-80
+91 Begun P.Hole 28-80

+41 T.P. 28

+76 Cor Store 51

+43 Rad P/12
+38 T.P. 28

+12 Rd P/ 34



Pot Hole

Pot Hole

RICE ST. 24' Conc. Pav.

+30 P.P. (Beg Fe) 28
+19 Ent
15" x 20" C.M. 23

+73 Fe. Cor. 33

+84 P.P. 27

Fe 33'

+37 End Wall 33
+32 P.P. 27
+12 Ent
15" x 24" C.M. 23

+35 Ent
15" x 20" C.M. 23

+84 P.P. 28

+40 Rad Pl. 17
+33 Cor Wall 33
+19 Arch. Co. 34
+12 Rad Pl. 37

6' Woven wire

Play Grounds

Grds

School

Masonry Wall

13

16

15

12

16

15

11

16

16

10

16

16

9

17

16

8

16

16

7

16

16

6

14

16

+01 Fe Cor. 29
+87 12" Oak 50
+78 T.P. 28

+27 P.Hole End. 90

Fe 29
+00 P.Hole 75-200

+50 P.Hole 50-245

+48 T.P. 28

+26 X Fe. 29

+25 Lot Iron 33

+93 Bag P.Hole 70-165

+87 T.P. 28

+52 Bag Fe 29

+39 Ent. 15" x 20" C.M. 24

+20 T.P. 28

+55 End P.Hole 20-100

+00 P.Hole 20-150

+92 T.P. 28

+68 P.Hole 19-100

+00 End P.Hole 21-100

+91 T.P. 28

+30 P.Hole 21-100

+00 Bag P.Hole 19-56

+84-15" Oak 42

+66 Field Ent. 15" x 20" C.M. 21

+33 T.P. 28

+26 X Ditch

+13 9" Oak 35

+01 Ent. 15" x 20" C.M. 21

145 P.P. 28

+42 S.W. Ent. 15" x 8" C.M. 22

109 P.P. 28

+63 Ent. 15" x 20" C.M. 25
+53 Fe Cor. 34

+99 12" Pop. 28
+82 X Fe. 30
+75 P.P. 28

Fe 30

+23 P.P. 28

Fe 30

+33 Bag Fe 30

+80 P.P. 28

+61 Ent. 15" x 20" C.M. 32
+51 Fe Cor. 31

20

+45 Pot Hole Xs $\frac{1}{2}$

19

+80 P.Ho. Xs $\frac{1}{2}$?

18

+109 Fe Xs $\frac{1}{2}$

+14 Lot Iron 09

17

14

16

16

16

15

15

17

15

14

16

14

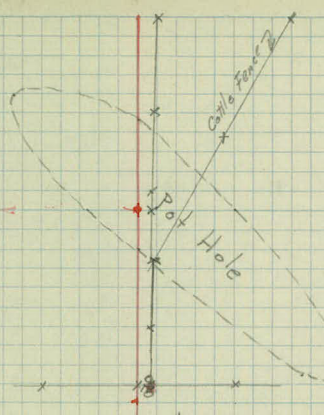
13

16

15

+60 P. Hole - 65

Pot Hole 26



Fe. 09
+100 Pot Hole 50
+74 Fe Cor 09

+15 Bce. P. Ho. 84-11
+13 H. Pole 06
+109 Fe 07
+109 Stump 06
+106 H. Pole 06

+82 Stump 37
+72 Stump 25

+83 Ent
15' x 20' C.M. 21

+53 12" Twin 0 59

+30 T.P. 28

+18 12" Oak 60
Fc 27

+18 Ent
15' x 20' C.M. 21
+98 P.P. 28

+74 T.P. 28

Fc 27

+40 T.P. 28

+42 P.P. 28

Fc 27

B.W. Fence

+05 T.P. 27

+88 Fe. Cor. 28
+75 Ent.

+87 P.P. 28

+62 15" Oak 43

+36 15" Oak 30

+20 Field Ent
15' x 20' C.M. 22

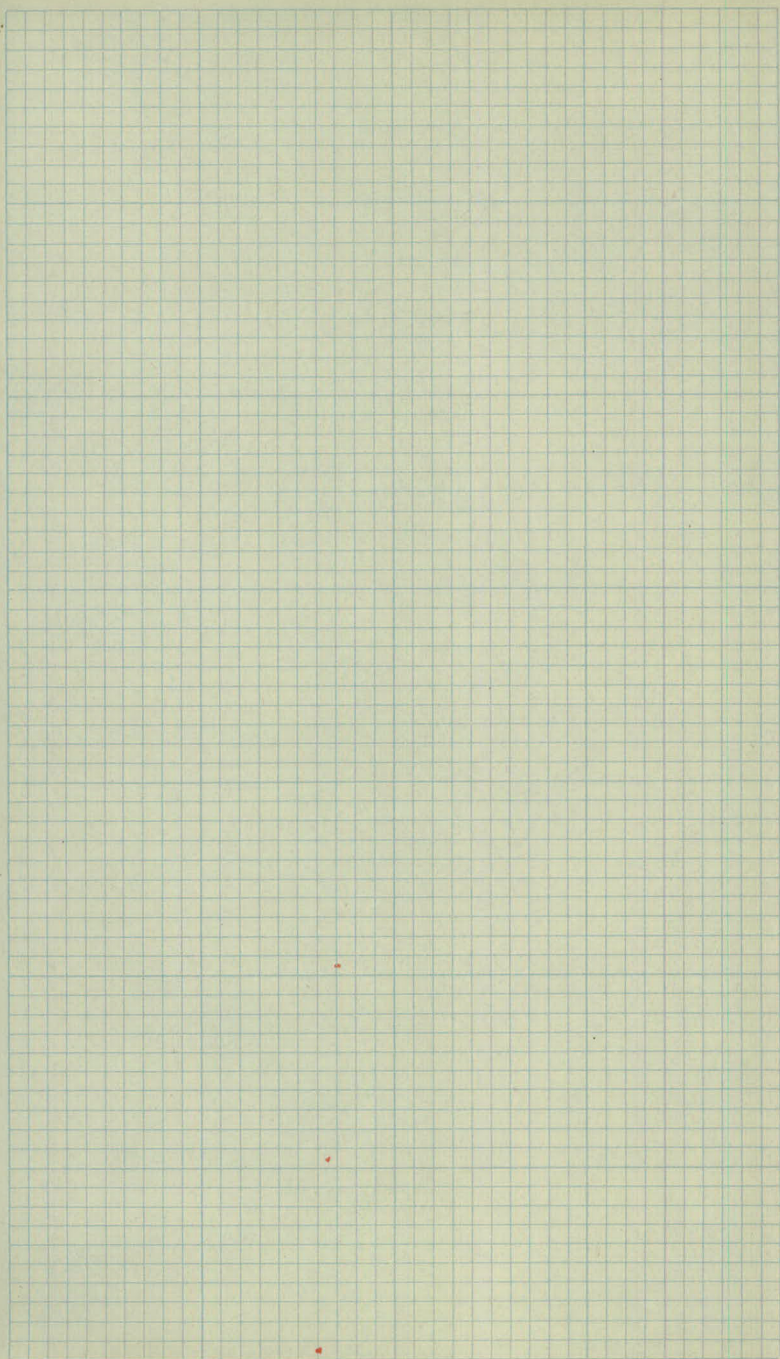
24/ 100 End Ditch - Beg. Tamarack Swamp.

23 110 Ditch Lvs $\frac{1}{2}$

162 Ditch xs $\frac{1}{2}$

22 100 Pot Hole xs $\frac{1}{2}$

21 161 P. No xs $\frac{1}{2}$



Drainage Situation

Co. Rd. "C" West of Rice

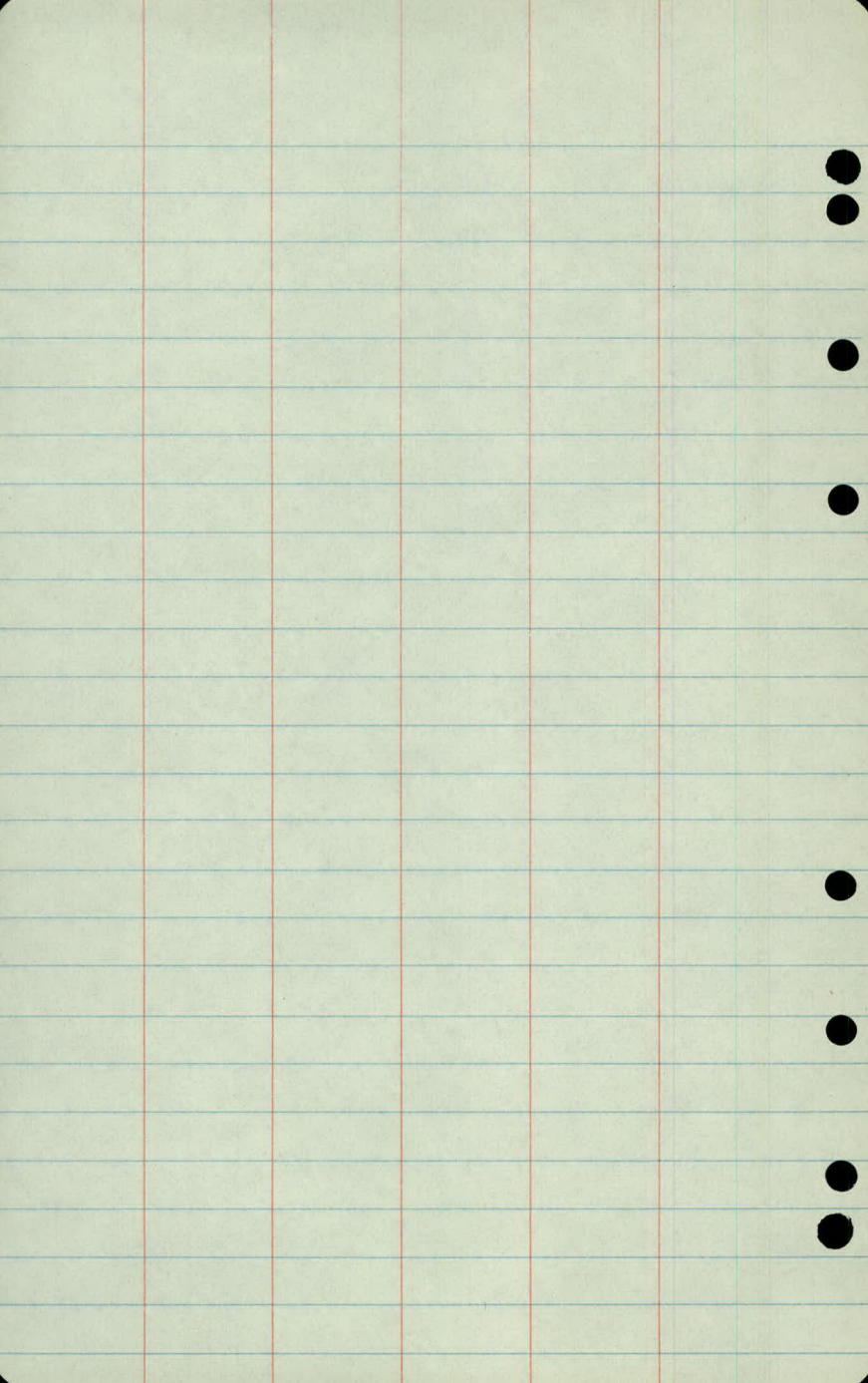
Bench Levels

Pt.	+	-	Elev.
B.M.	0.47	958.38.	957.91.
	3.38	951.95.	948.57.
B.M.	5.14	949.89.	944.75.
	1.63	945.04.	943.41.
		9.07	935.97.

Top Mon. "C" and Rice

3pk P.P. 28' R/L 3 to 8 + 23

3pk 15" Oak 13' R/L 22 + 51



Drainage Situation

Co. Rd. "C" West Rice

Cross Sections

Sta.	δ	π	-	Elev.
B.M.	0.45	958.36		957.91
0+00	$\pm$ Rice		0.45	57.91
+31			1.0	57.4
+50			1.6	56.8
1			3.9	54.5
+50			6.2	52.2
+83			7.6	50.8
2			8.1	50.3
+13			8.4	50.0
+32			8.8	49.6
+57			9.3	49.1
3			10.0	48.4
T.P.	3.72	952.10	9.98	948.38
+28			4.3	47.8
+50			4.5	47.6
+54			4.5	47.6
4			4.7	47.4

Top Mon Rice and "C"

$\frac{79}{100}$ $\frac{90}{84}$ $\frac{98}{66}$ $\frac{104}{47}$ $\frac{102}{28}$ $\frac{97}{21}$ $\frac{81}{16}$ 7.6

$\frac{92}{100}$ $\frac{110}{75}$ $\frac{117}{64}$ $\frac{121}{50}$ $\frac{119}{38}$ $\frac{113}{27}$ $\frac{104}{21}$ $\frac{85}{16}$ 81

H61

$\frac{100}{100}$ $\frac{111}{79}$ $\frac{123}{65}$ $\frac{123}{51}$ $\frac{122}{37}$ $\frac{112}{24}$ $\frac{106}{21}$ $\frac{89}{16}$ 84

$\frac{100}{100}$ $\frac{106}{64}$ $\frac{106}{35}$ $\frac{106}{20}$ $\frac{92}{15}$ 88

$\frac{100}{100}$ $\frac{100}{70}$ $\frac{102}{44}$ $\frac{100}{27}$ $\frac{113}{23}$ $\frac{113}{19}$ $\frac{96}{15}$ 9.3

$\frac{104}{100}$ $\frac{111}{74}$ $\frac{110}{52}$ $\frac{111}{26}$ $\frac{118}{23}$ $\frac{113}{18}$ $\frac{105}{16}$ 10.8

$\frac{49}{100}$ $\frac{49}{82}$ $\frac{59}{55}$ $\frac{61}{34}$ $\frac{63}{25}$ $\frac{63}{20}$ $\frac{47}{17}$ 43

$\frac{38}{100}$ $\frac{51}{75}$ $\frac{63}{52}$ $\frac{70}{34}$ $\frac{71}{24}$ $\frac{51}{16}$ 45

$\frac{40}{100}$ $\frac{42}{82}$ $\frac{49}{59}$ $\frac{56}{37}$ $\frac{73}{30}$ $\frac{73}{24}$ $\frac{51}{17}$ 45

$\frac{41}{100}$ $\frac{48}{75}$ $\frac{54}{37}$ $\frac{50}{34}$ $\frac{71}{30}$ $\frac{71}{27}$ $\frac{59}{25}$ $\frac{53}{15}$ 47
2

Sta.	+	π	-	Elev.
		952.10		
4 + 49			4.9	47.2
+ 53			4.9	47.2
+ 82			4.9	47.2
5			5.0	47.1
+ 17			5.0	47.1
+ 53			5.2	46.9
6			5.2	46.9
+ 26	Profile Ditch			
+ 50			5.5	46.6
7			5.9	46.2
+ 23			6.2	45.9
+ 55			6.3	45.8

E

44.7

5.4	5.0	5.3	5.6	7.4	7.3	6.8	5.3
<u>100</u>	88	61	33	29	26	23	16

5.5	6.3	6.9	6.4	6.7	7.1	7.3	5.4
<u>100</u>	79	65	57	44	38	25	18

44.1

5.7	6.9	7.9	8.0	8.0	7.8	6.9	5.4
<u>100</u>	81	58	42	33	25	20	18

44.2

5.8	6.5	7.0	7.3	7.6	7.8	7.9	7.6	5.4
<u>100</u>	82	72	65	50	41	33	21	17

4.7	6.1	6.8	7.2	7.0	7.0	5.6
<u>100</u>	75	66	53	31	22	17

3.4	4.4	5.2	5.0	5.6	7.0	5.5
<u>100</u>	75	58	32	26	23	19

45.1	44.6	44.9	45.5	2.2	2.7	3.0	3.6	5.6	6.7	5.2
				<u>100</u>	82	53	35	28	23-19	16

Swamp Shots				45.8	45.9	46.0	45.9	45.7	45.3	
7.0	7.5	7.2	6.6	6.3	6.2	6.1	6.2	6.4	6.4	6.8
<u>300</u>	275	250	225	200	175	150	125	100	75	50

5.7	5.4	5.8	5.6	7.2	5.7
<u>100</u>	82	50	27	23-19	16

43.7

7.5	8.4	8.1	8.2	8.1	6.3	5.9
<u>100</u>	68	45	29	24-20	16	

42.3

7.8	8.4	8.8	9.6	9.8	9.9	9.6	8.8	6.5
<u>100</u>	91	83	64	51	41	28	23	16

40.6

8.6	9.6	10.0	10.5	11.5	10.9	9.5	8.6	6.9
<u>100</u>	89	73	60	51	32	26	22	17

E

Sta.		π	-	Elev.
		952.10		
8			6.5	45.6
B.M.	4.91	949.66	7.37	944.73. (944.75)
+ 35			4.2	45.5
+ 69			4.2	45.5
9			4.3	45.4
+ 27			4.3	45.4
+ 75			4.4	45.3
10			4.4	45.3
+ 47			4.8	44.9
+ 50			4.8	44.9
T.P.	4.63	949.10	5.19	944.47.
11			4.3	44.8
+ 50			4.4	44.7
12			4.8	44.3

43.2

7.9 8.6 8.9 8.9 8.9 9.7 6.8
106 82 59 41 27 25.22 16 6.5

3pk P.P. 28.2 8123

6.2 6.3 6.2 5.8 5.8 6.3 6.9 6.3 4.4
100 91 78 53 30 28 24 21 17 4.2

6.1 6.8 7.3 7.7 8.4 8.1 7.5 6.3 6.0 6.7 6.7 4.8
153 139 128 118 100 92 75 50 33 27 21 17 4.2

40.7 40.9

6 6.8 7.2 8.0 8.7 9.0 8.8 8.3 8.4 8.2 7.8 7.0 5.0
155 140 125 118 95 83 79 66 55 32 28 22 17 4.3

41.9

6.2 7.0 8.2 8.8 8.6 8.0 7.8 7.7 6.6 5.2
140 125 100 85 75 50 30 25 21 19 4.3

5.1 5.3 5.7 5.7 6.0 4.8
100 75 40 25 20 16 4.4

4.5 5.4 5.7 5.8 6.4 5.1
100 78 50 30 23 17 4.4

6.2 5.7 5.1 5.1 7.1 5.2
100 85 54 29 25 17 4.8

7.3 7.9 8.2 7.6 7.4 7.3 5.4
100 82 55 40 30 24 17 4.8

10.6 11-

7.9 8.4 8.8 9.0 9.3 9.3 9.0 8.2 8.1 7.7 7.3 6.4 4.9
215 200 180 150 128 100 74 62 50 32 27 22 16 4.3

38.5

8.0 9.1 9.7 10.2 10.6 10.5 10.1 9.5 8.4 7.9 6.6 4.9
245 225 200 175 150 125 100 75 60 39 25 17 4.4

9.2 9.4 9.8 10.1 10.1 10.2 9.8 9.0 8.3 5.3 7.9 6.9 5.1
220 200 190 167 142 120 100 79 68 52 35 25 17 4.8

8.2 7.9
234 244

3 to	t	π	-	Elev
		949.10		
12 + 30			4.8	44.3
+ 63			4.8	44.3
13			5.0	44.1
+ 50			5.4	43.7
14			5.7	43.4
+ 50			6.1	43.0
T.P.	2.26	944.36	7.00	942.10
15			2.2	42.2
+ 50			3.0	41.4
16			3.9	40.5
+ 30			4.4	40.0
+ 54			4.8	39.6
+ 77			5.2	39.2

$\frac{83}{230}$ $\frac{87}{215}$ $\frac{85}{200}$ $\frac{85}{175}$ $\frac{90}{150}$ $\frac{88}{125}$ $\frac{89}{100}$ $\frac{86}{75}$ $\frac{83}{50}$ $\frac{79}{34}$ $\frac{74}{29}$ $\frac{51}{18}$ $\frac{48}{48}$

$\frac{80}{100}$ $\frac{83}{91}$ $\frac{79}{85}$ $\frac{71}{76}$ $\frac{71}{58}$ $\frac{68}{34}$ $\frac{65}{26}$ $\frac{53}{18}$ $\frac{48}{48}$

$\frac{82}{100}$ $\frac{91}{80}$ $\frac{92}{70}$ $\frac{84}{50}$ $\frac{72}{29}$ $\frac{61}{21}$ $\frac{53}{17}$ $\frac{50}{50}$

$\frac{94}{100}$ $\frac{91}{74}$ $\frac{82}{54}$ $\frac{60}{31}$ $\frac{60}{20}$ $\frac{54}{14}$ $\frac{54}{54}$

$\frac{110}{125}$ $\frac{117}{110}$ $\frac{120}{90}$ $\frac{111}{76}$ $\frac{92}{55}$ $\frac{71}{30}$ $\frac{63}{23}$ $\frac{59}{16}$ $\frac{57}{57}$

$\frac{96}{100}$ $\frac{105}{82}$ $\frac{100}{64}$ $\frac{82}{35}$ $\frac{74}{31}$ $\frac{69}{24}$ $\frac{63}{16}$ $\frac{61}{61}$

$\frac{45}{100}$ $\frac{42}{60}$ $\frac{35}{38}$ $\frac{28}{27}$ $\frac{29}{20}$ $\frac{26}{17}$ $\frac{22}{22}$

$\frac{37}{100}$ $\frac{27}{84}$ $\frac{42}{62}$ $\frac{51}{47}$ $\frac{43}{35}$ $\frac{43}{27}$ $\frac{33}{17}$ $\frac{30}{30}$

$\frac{35}{100}$ $\frac{39}{79}$ $\frac{47}{59}$ $\frac{55}{39}$ $\frac{55}{25}$ $\frac{41}{17}$ $\frac{39}{39}$

$\frac{39}{100}$ $\frac{46}{80}$ $\frac{56}{60}$ $\frac{64}{40}$ $\frac{59}{25}$ $\frac{48}{16}$ $\frac{44}{44}$

$\frac{42}{100}$ $\frac{43}{78}$ $\frac{62}{57}$ $\frac{63}{38}$ $\frac{59}{29}$ $\frac{65}{27}$ $\frac{62}{21}$ $\frac{51}{17}$ $\frac{48}{48}$

$\frac{34}{100}$ $\frac{32}{81}$ $\frac{38}{60}$ $\frac{46}{41}$ $\frac{49}{30}$ $\frac{67}{27}$ $\frac{65}{21}$ $\frac{55}{16}$ $\frac{52}{52}$

Sta.	+	π	-	Elev.
		944.36		
17			5.6	38.8
+50			6.5	37.9
+85 (P.I.)			7.0	37.4
18	shldr.		7.5	36.9
+09			9.9	34.5
T.P.	2.56	938.04	8.88	935.48
+30			4.5	33.5
+58			6.6	31.4
+74			8.7	29.3
19			10.4	27.6
+54			8.9	29.1
+80			5.6	32.4
20			5.6	32.4

6.9 5.3 4.2 4.2 5.0 7.0 7.0 5.8
100 84 64 44 30 27 20 16 5.6

11.3 9.0 8.1 7.5 7.3 8.0 7.8 7.0
100 75 60 39 27 23 19 15 6.5

15.4 12.4 12.0 11.1 10.2 9.7 7.5
100 75 66 50 33 26 16 7.0

6.6 7.1 7.9 8.3
50 25 7.5 25 50

7.0 8.0 9.9 11.1 11.5
50 30 9.9 25 50

0.0 1.9 4.6 5.2 5.6 6.3 7.5 8.5 9.3 9.9 9.7 8.9
50 27 11 45 9 16 29 42 50 61 78 100 115

1.4 3.6 5.0 7.7 9.8 10.4 10.3 9.9 9.1 8.3
50 30 16 6.6 9 27 48 65 83 94 100

2.8 4.8 6.3 7.9 9.4 10.3 10.5 10.6 10.1 9.0
50 36 21 8 8.7 9 20 32 50 68 83

6.9 8.9 9.6 10.1 10.7 10.7 10.5 9.6 9.0
50 37 26 12 10.4 9 14 30 37 51 60

8.8 9.8 10.2 10.2 9.6 8.1 7.7 7.6 7.3
67 59 40 22 8 8.9 9 27 40 50

8.0 8.0 7.0 6.0 5.7 5.7 6.1 7.3
64 45 27 11 6.6 9 17 29 50

4.7 4.5 5.2 5.6 5.8 6.6 7.0
50 28 10 9 32 50

Sta	+	π	-	Elev	
		938.04			
20 + 27			5.5	32.5	
+ 64			7.0	31.0	
T.P.	4.97	938.03 938.06	4.98	933.06	
21			8.6	29.4	
+ 30			7.3	30.7	
+ 65			7.1	30.9	
B.M.	2.07	938.04	2.07	935. ⁹⁶ 99	935.97
22			7.0	31.0	
+ 50			5.8	32.2	
+ 65	Fwd. Tang.		6.1	31.9	
23			8.5	29.5	
+ 50			9.8	28.2	
24			12.7	25.3	

5.8 6.6 6.9 7.3 7.1 7.1 6.5 6.5 7.0 6.8 6.4
100 86 66 50 28 14 9 23 41 64 88

30.7 5.1 5.3 5.3 6.4 6.7 6.5 5.9
50 39 20 5.5 9 22 31 50

31.3 31.0

Rock Lt. 20
6.4 7.0 8.0 7.3 8.3 8.5 8.7 8.7 7.4 7.6 7.6 8.7 8.2 7.0 6.1
150 130 115 90 72 50 32 20 14 86 9 28 45 55 68 95

29.3 29.3

6.4 6.9 7.3 7.4 7.5 7.5 8.1 8.3 7.5 7.6 7.3 7.3 7.2 6.6 6.2
130 115 100 75 60 40 39 19 9 73 9 25 40 50 73 81

29.6 29.6

6.7 6.9 7.1 8.0 8.2 8.2 7.5 7.0 6.7 6.4 5.9 4.2
95 77 65 55 38 27 14 7.1 9 19 25 34 50

29.8

Spk 15" Oak 13 Rt. 22+51

6.3 6.5 6.7 7.2 7.3 6.0 6.1 5.1 3.6 3.3
77 68 52 36 14 7.0 6 9 25 40 50

4.1 5.0 6.2 6.5 6.1 4.3 3.5 2.2 1.0
50 20 8 5.6 4 5.8 9 17 32 50

2.6 3.6 5.0 6.8 5.2 5.0 4.1 2.2 2.2
50 30 9 6.1 2.3 6 11 25 47 50

1.8 2.6 5.3 6.5 8.5 8.5 7.3 5.5 3.1 2.2
50 31 13 6 2 8.5 1 3 19 42 50.5

2.9 5.0 7.7 10.5 9.8 7.11 9.8 9.0 7.6
50 33 16 7.8 7.11 17 34 50

8.6 10.0 11.2 12.4 13.3 13.3 13.1
50 38 27 10 12.7 25 38 50

