

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

Drainage Survey

Larpenteur Ave & Pleasant St.

From..... To.....

Road Acc't. No.....

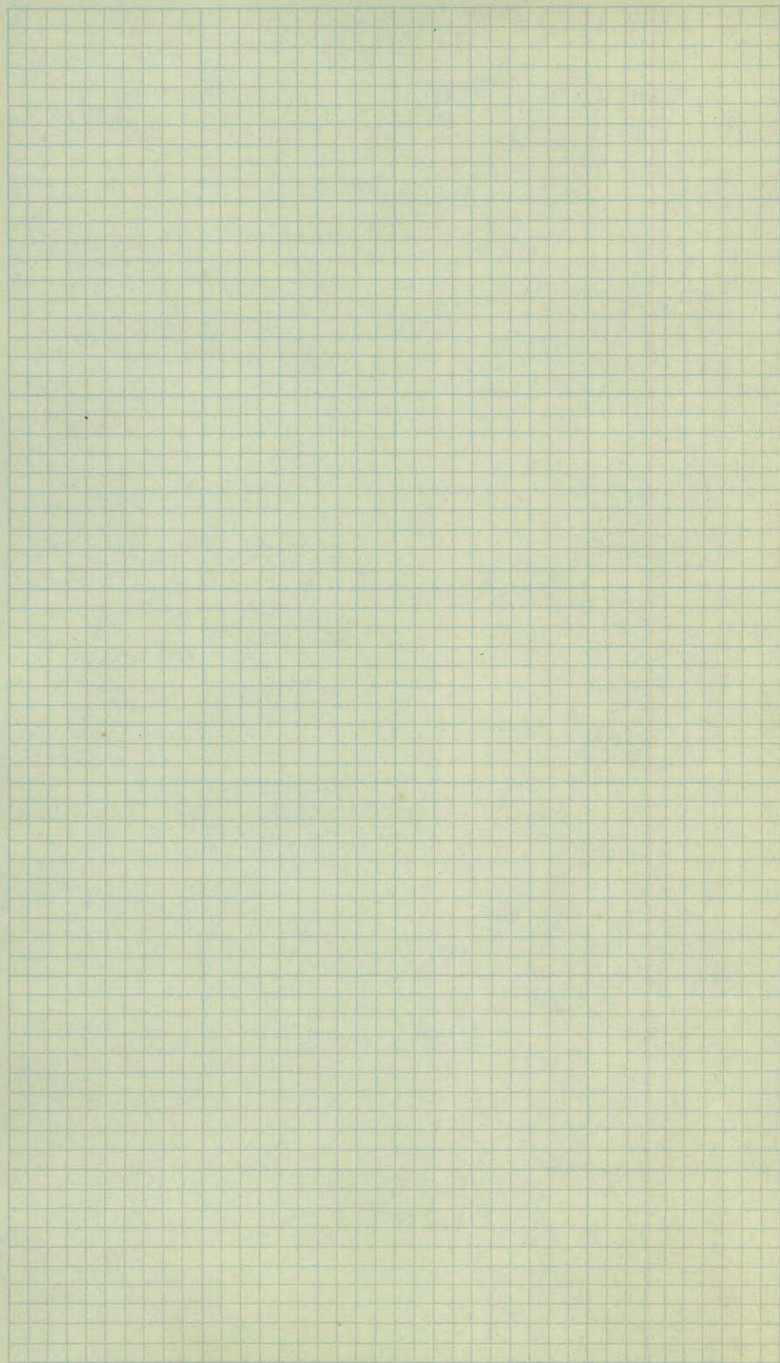
Date Filed.....

File.....

DRAINAGE SURVEY

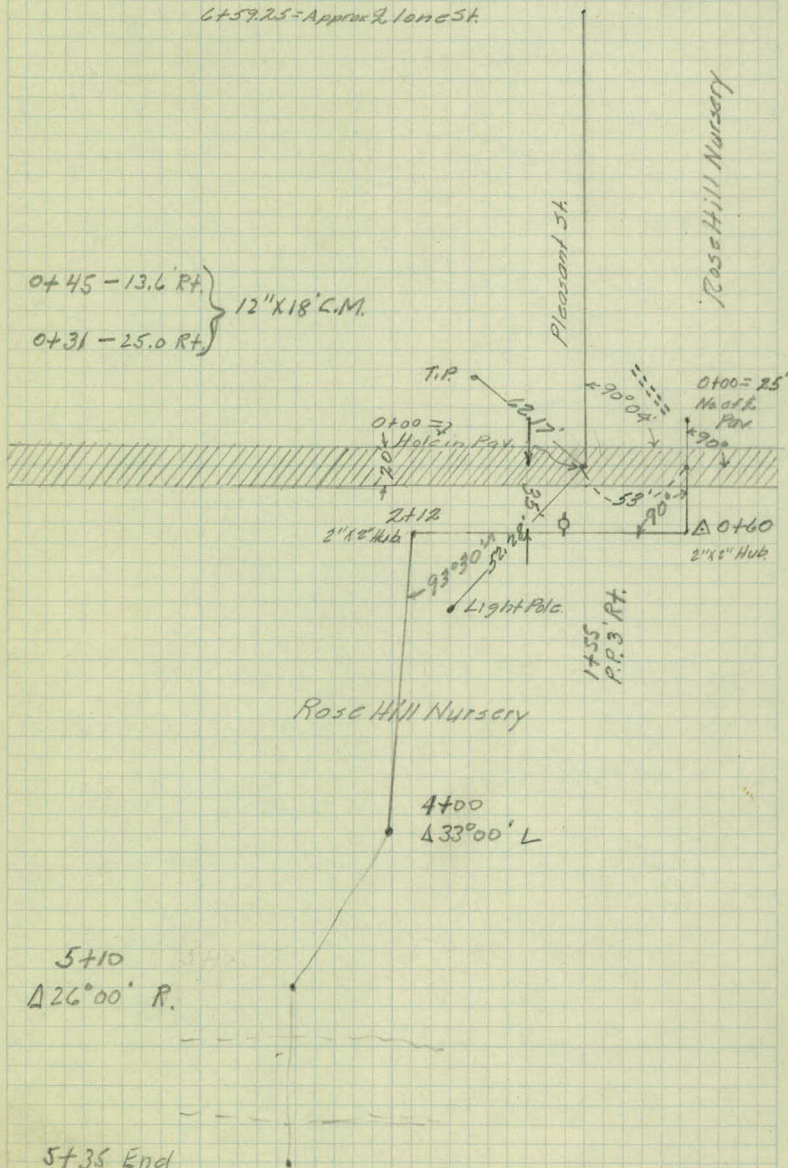
Larpentown & Pleasant St.

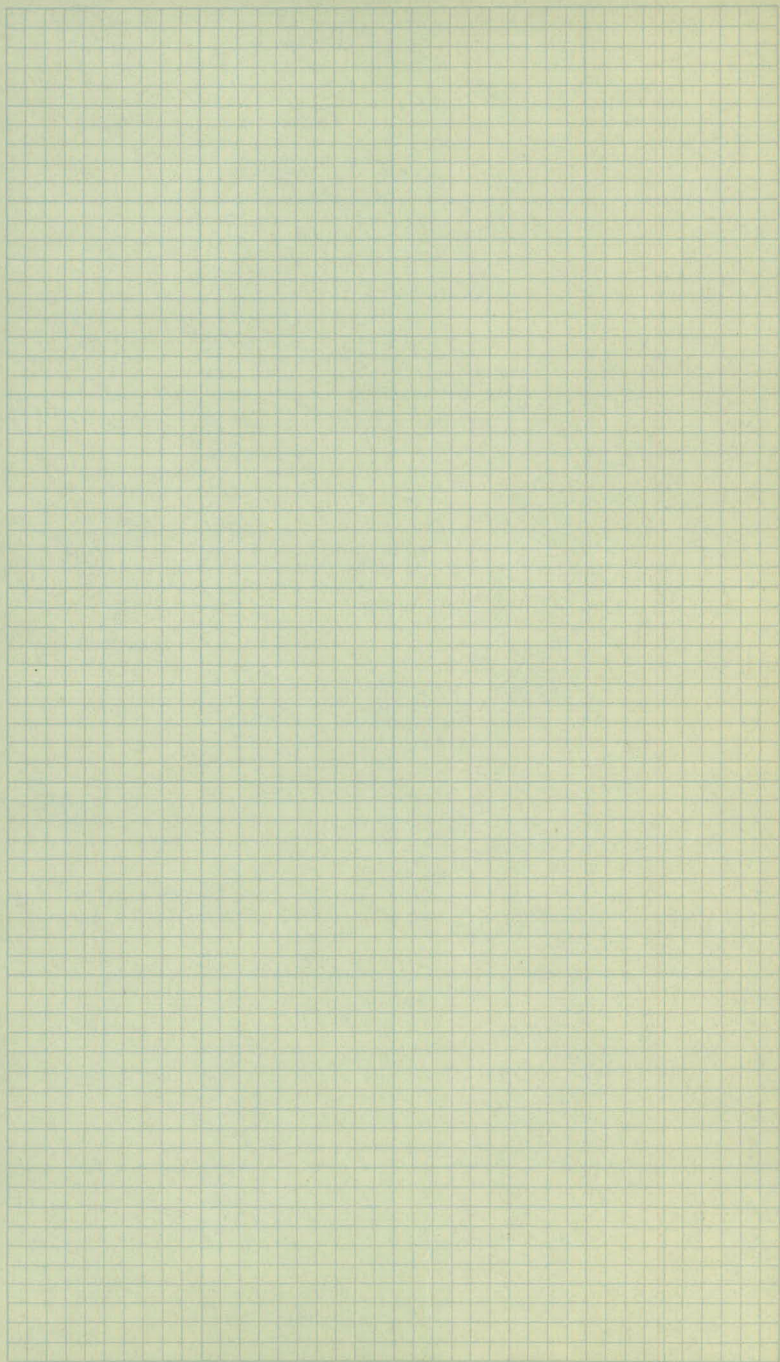
Align.



6+59.25 = Approx 2 lane St.

0+45 - 13.6' Rt.
0+31 - 25.0' Rt. } 12" x 18' C.M.





Pleasant St

X Sections & Levels

Sta	+	π	-	Elev
B.M.	6.16	106.16		100

0+00	$\pm$ Pave.			
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+21				00.5
-----	--	--	--	------

+25				00.6
-----	--	--	--	------

+29				00.7
-----	--	--	--	------

+31				00.7
-----	--	--	--	------

+60				00.8
-----	--	--	--	------

1				01.3
---	--	--	--	------

+50				01.9
-----	--	--	--	------

2				01.7
---	--	--	--	------

+50				01.5
-----	--	--	--	------

3				01.6
---	--	--	--	------

Lt

L

Rt

Tap Hole in Box Pleasant & Larp.

$$\begin{array}{r} 57 \quad 57 \quad 58 \\ \hline 22 \quad 33 \end{array}$$

$$\begin{array}{r} 56 \quad 57 \quad 77 \quad 77 \\ \hline 22 \quad 25 \quad 38 \end{array}$$

$$\begin{array}{r} 55 \quad 54 \quad 77 \quad 78 \\ \hline 22 \quad 25 \quad 33 \end{array}$$

$$\begin{array}{r} 55 \quad 54 \quad 54 \\ \hline 22 \quad 33 \end{array}$$

$$\begin{array}{r} 54 \quad 56 \quad 61 \quad 63 \quad 53 \quad 48 \\ \hline 8 \quad 9 \quad 12 \quad 14 \quad 20 \end{array}$$

$$\begin{array}{r} 49 \quad 51 \quad 58 \quad 58 \quad 52 \quad 48 \quad 40 \quad 38 \\ \hline 7 \quad 11 \quad 13 \quad 14 \quad 20 \quad 23 \quad 30 \end{array}$$

$$\begin{array}{r} 43 \quad 45 \quad 53 \quad 54 \quad 45 \quad 40 \quad 13 \quad 08 \\ \hline 8 \quad 11 \quad 14 \quad 15 \quad 18 \quad 24 \quad 30 \end{array}$$

$$\begin{array}{r} 15 \quad 46 \quad 53 \quad 52 \quad 45 \quad 32 \quad 29 \\ \hline 9 \quad 12 \quad 14 \quad 15 \quad 23 \quad 30 \end{array}$$

$$\begin{array}{r} 41 \quad 48 \quad 53 \quad 53 \quad 48 \quad 46 \quad 39 \quad 39 \\ \hline 10 \quad 12 \quad 15 \quad 16 \quad 20 \quad 23 \quad 30 \end{array}$$

$$\begin{array}{r} 46 \quad 47 \quad 52 \quad 53 \quad 49 \quad 42 \\ \hline 11 \quad 14 \quad 15 \quad 16 \quad 30 \end{array}$$

Sta + K - Elev.

106.16

3 +50

01.6

4

01.8

+50

02.0

5

02.2

+50

02.5

6

02.3

+44

01.9

7

01.2

Lt

L

Rt

$$\begin{array}{r} 46 \\ \hline 12 \end{array} \quad \begin{array}{r} 47 \\ \hline 16 \end{array} \quad \begin{array}{r} 52 \\ \hline 16 \end{array} \quad \begin{array}{r} 49 \\ \hline 17 \end{array} \quad \begin{array}{r} 49 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 44 \\ \hline 12 \end{array} \quad \begin{array}{r} 46 \\ \hline 16 \end{array} \quad \begin{array}{r} 52 \\ \hline 16 \end{array} \quad \begin{array}{r} 49 \\ \hline 18 \end{array} \quad \begin{array}{r} 48 \\ \hline 30 \end{array} \quad \text{Draw} \leftarrow$$

$$\begin{array}{r} 42 \\ \hline 12 \end{array} \quad \begin{array}{r} 45 \\ \hline 16 \end{array} \quad \begin{array}{r} 52 \\ \hline 16 \end{array} \quad \begin{array}{r} 49 \\ \hline 17 \end{array} \quad \begin{array}{r} 49 \\ \hline 22 \end{array} \quad \begin{array}{r} 44 \\ \hline 30 \end{array}$$

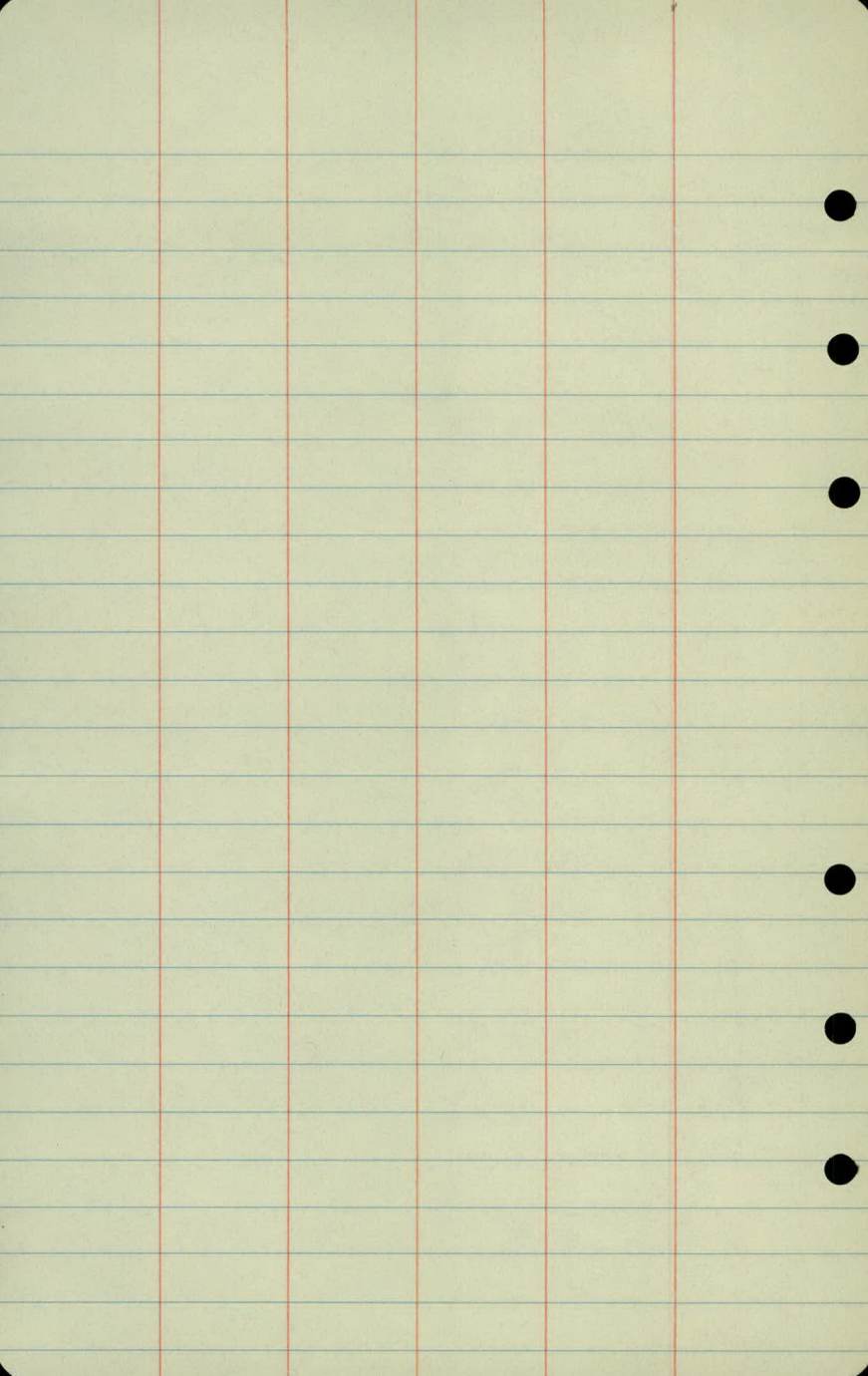
$$\begin{array}{r} 40 \\ \hline 12 \end{array} \quad \begin{array}{r} 42 \\ \hline 16 \end{array} \quad \begin{array}{r} 51 \\ \hline 18 \end{array} \quad \begin{array}{r} 48 \\ \hline 24 \end{array} \quad \begin{array}{r} 28 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 57 \\ \hline 16 \end{array} \quad \begin{array}{r} 40 \\ \hline 16 \end{array} \quad \begin{array}{r} 50 \\ \hline 17 \end{array} \quad \begin{array}{r} 50 \\ \hline 17 \end{array} \quad \begin{array}{r} 44 \\ \hline 18 \end{array} \quad \begin{array}{r} 13 \\ \hline 26 \end{array} \quad \begin{array}{r} 13 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 39 \\ \hline 12 \end{array} \quad \begin{array}{r} 39 \\ \hline 14 \end{array} \quad \begin{array}{r} 49 \\ \hline 18 \end{array} \quad \begin{array}{r} 47 \\ \hline 19 \end{array} \quad \begin{array}{r} 33 \\ \hline 27 \end{array} \quad \begin{array}{r} 0.0 \\ \hline 30 \end{array} \quad \begin{array}{r} 0.0 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 43 \\ \hline 18 \end{array} \quad \begin{array}{r} 44 \\ \hline 17 \end{array} \quad \begin{array}{r} 55 \\ \hline 18 \end{array} \quad \begin{array}{r} 58 \\ \hline 19 \end{array} \quad \begin{array}{r} 46 \\ \hline 21 \end{array} \quad \begin{array}{r} 40 \\ \hline 25 \end{array} \quad \begin{array}{r} 0.9 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 5.0 \\ \hline 11 \end{array} \quad \begin{array}{r} 54 \\ \hline 21 \end{array} \quad \begin{array}{r} 78 \\ \hline 30 \end{array} \quad \begin{array}{r} 76 \\ \hline 30 \end{array}$$



Levels Thru Roes Hill Nursery

Sta	+	π	-	Elev.
B.M.	120	121.20		100.00

0 +00				98.7
-------	--	--	--	------

+04				00.4
-----	--	--	--	------

+15				00.8
-----	--	--	--	------

+25				00.7
-----	--	--	--	------

+35				00.5
-----	--	--	--	------

+48				00.1
-----	--	--	--	------

+53				98.4
-----	--	--	--	------

+60				97.7
-----	--	--	--	------

1 +00				97.3
-------	--	--	--	------

+50				96.3
-----	--	--	--	------

2				95.1
---	--	--	--	------

Lt.

K

Rt.

Top Hole in the Pax. Pliers and a large

2.50.8

0.35

0.950.651.12.83.5

<u>4.5</u>	<u>3.9</u>	<u>3.3</u>	<u>1.6</u>	<u>1.2</u>
10	6	13	28	

<u>5.7</u>	<u>4.9</u>	<u>4.7</u>	<u>2.5</u>	<u>2.0</u>
10	6	14	25	

<u>6.6</u>	<u>6.1</u>	<u>5.9</u>	<u>3.1</u>	<u>2.5</u>
10	5	13	24	

Sta	+	A	-	Elev
		101.20		

2	+12	Balt Tan.		93.4
---	-----	-----------	--	------

	+50			92.0
--	-----	--	--	------

	+80			90.1
--	-----	--	--	------

3				89.4
---	--	--	--	------

T.P.	1.06	✓ 91.11	11.15	✓ 90.05
------	------	------------	-------	------------

	+20			88.6
--	-----	--	--	------

	+50			88.0
--	-----	--	--	------

	+75			87.1
--	-----	--	--	------

4				86.6
---	--	--	--	------

	+25			86.1
--	-----	--	--	------

	+50			85.7
--	-----	--	--	------

	+75			85.3
--	-----	--	--	------

14

2

21

$$\begin{array}{r} 78 \\ \hline 14 \end{array} \begin{array}{r} 33 \\ \hline 14 \end{array} \begin{array}{r} 27 \\ \hline 25 \end{array}$$

92

141

118

25

31

70

45

50

54

58

Sta	+	7	-	Elev
		91.11 ✓		

5				85.1
---	--	--	--	------

	+10			85.1
--	-----	--	--	------

	+35			84.8
--	-----	--	--	------

B.M.	385	90.21 ✓	4.75	86.36 ✓
------	-----	---------	------	---------

	+40			83.3
--	-----	--	--	------

	+70			81.2
--	-----	--	--	------

6				79.6
---	--	--	--	------

T.P.	1335	100.17 ✓	339	86.52 ✓
------	------	----------	-----	---------

B.M.			0.16	100.01 ✓
------	--	--	------	----------

LT

E

RL

60

60

63

End of Proposed 5' W
Gutter

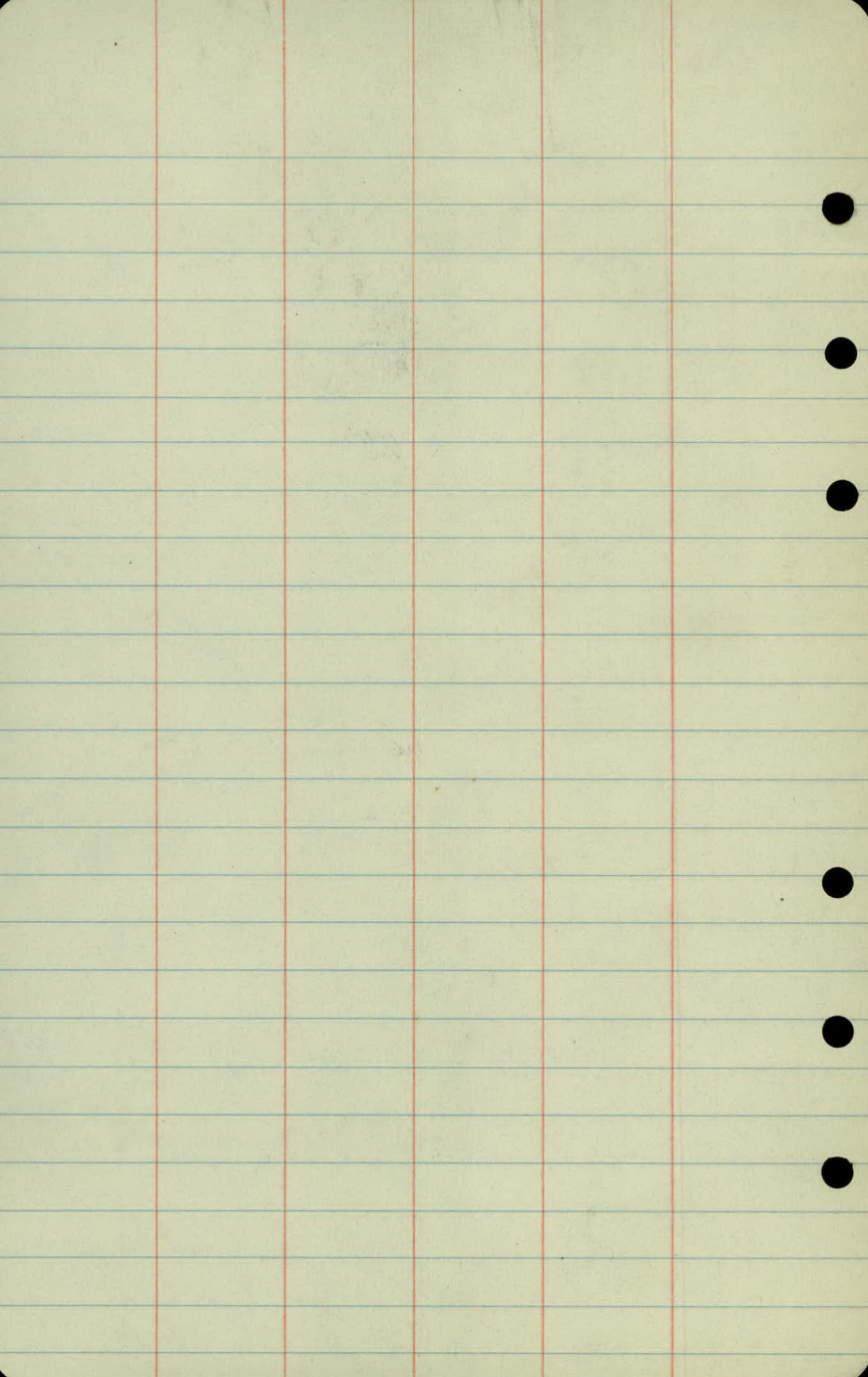
Nail in T.P. RL Stoz

69

90

106

Top Hole & Pleasant & L. Corp.



Pleasant St

Ditch Stokes.

Sta	+	X	-	Grade
B.M.	6.53	106.53		100.00

0+00

+33

99.0

+60

99.1

1

99.2

+50

99.3

2

99.4

+50

99.5

3

99.6

+50

99.7

4

00.05

5.71

102.22

4.33

102.22

+50

00.40

13' Top
 2:1 Slope
 4' Bottom
 2:1 Back Slope.

Gr. Rod. Lt. E. Rt.

Hole in Pav. Keep & Pleasant

7.6 $\frac{56}{102.2} / 25.4$

7.5 $\frac{56}{102.5} / 25.8$

7.4 $\frac{51}{109.3} / 28.5$

7.3 $\frac{46}{106.8} / 30.0$

7.2 $\frac{47}{104.1} / 30.0$

7.1 $\frac{50}{102.0} / 27.2$

7.0 $\frac{48}{102.6} / 26.6$

6.9 $\frac{48}{101.9} / 26.8$

6.8 $\frac{46}{101.6} / 24.0$

7.5 $\frac{57}{101.6} / 28.8$

Sta.

+

X

-

Grade

107.93

5

80.73

+30

81.10

Gr. Rod

14

2

21

7.2

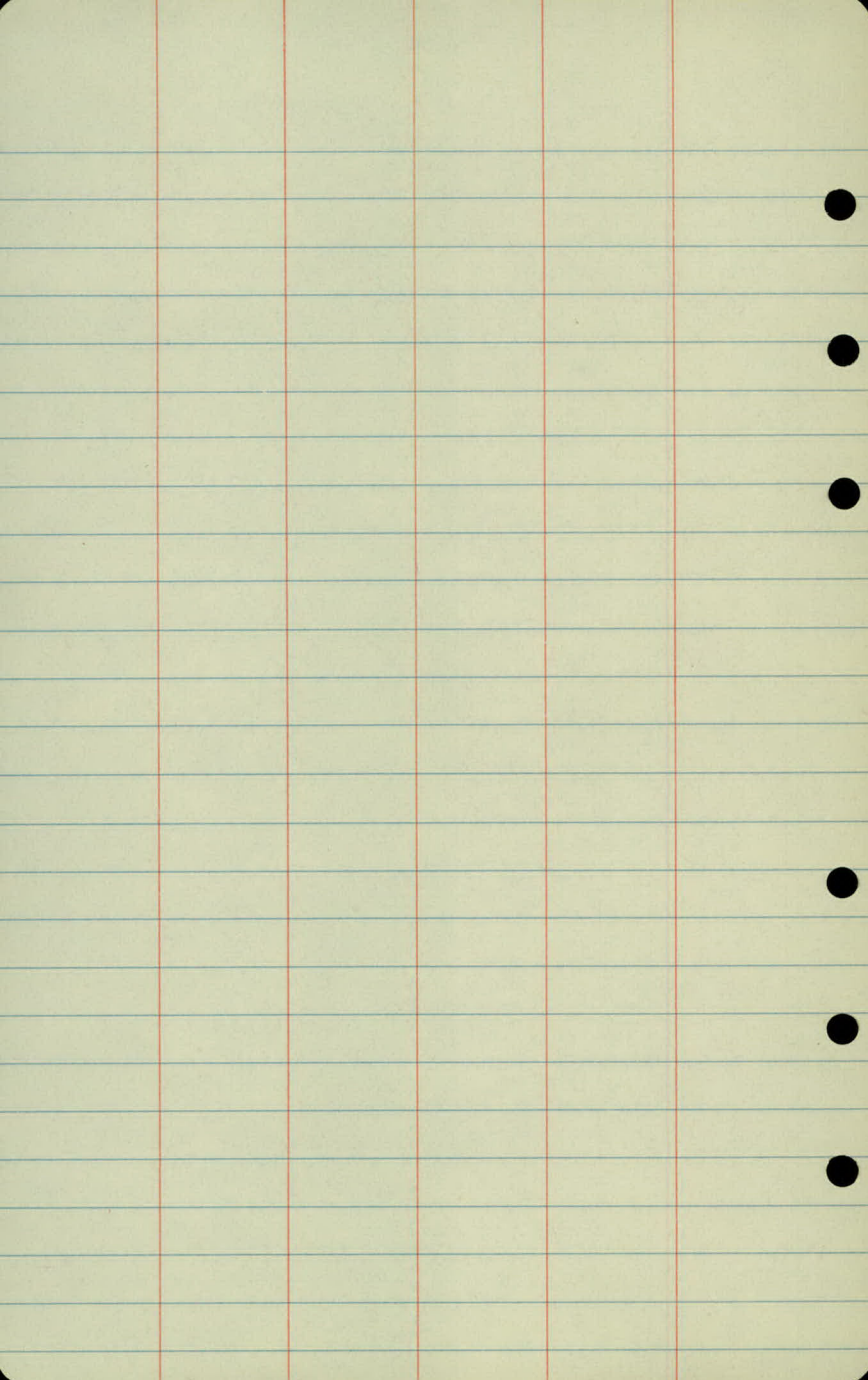
5.6

$\frac{44}{228} / 25.8$

6.8

54

$\frac{29}{229} / 27.6$



Rose Hill Ditch

Larp + Pleasant

Slope Stakes.

Sta	+	X	-	Grade
B.M	4.33	104.33		100.00

0+00				98.0
------	--	--	--	------

+60				96.6
-----	--	--	--	------

1				93.6
---	--	--	--	------

+50				94.4
-----	--	--	--	------

B.M	0.67	100.67		100.00
-----	------	--------	--	--------

2				93.2
---	--	--	--	------

+24				91.8
-----	--	--	--	------

+60				90.2
-----	--	--	--	------

3				88.2
---	--	--	--	------

T.P	2.02	71.5	11.54	89.13
-----	------	------	-------	-------

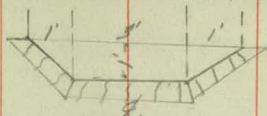
+50				87.1
-----	--	--	--	------

4				86.0
---	--	--	--	------

+50				84.9
-----	--	--	--	------

B.M,	4.13	70.55	4.73	86.42
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3' bottom Stone Gutter - 0+60 - 5+35



Gr. Road

Lt.

Rt.

Tree Hole in Pav. Large Pleasant.

6.3

7.7

8.7

7.9

7.5

8.9

10.3

12.5

4.1

5.2

6.3

Mail in T.P.

Sta

+

A

-

Grade

90.55

5

83.8

+2.0

83.9

+3.5

82.5

Gr. Road.

Lt

St

Rt

68

72

81

