

Book- 2 - Dr. 6

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

_____Bridge_____Survey

COUNTY RD. 1

From S.T.H. 8 To Bridge East

Road Acc't. No. 60

Date Filed 12-31-29 File _____

CHECK LEVELS
FROM CO. RD "H" TO CO. RD "I"
BRIDGE SURVEY

B.M. 4.49 886.98 ✓ 882.49 ✓
 10.86 897.07 ✓ 0.77 886.21 ✓
 5.57 900.49 ✓ 2.15 894.92 ✓
 9.10 905.49 ✓ 4.10 896.39 ✓

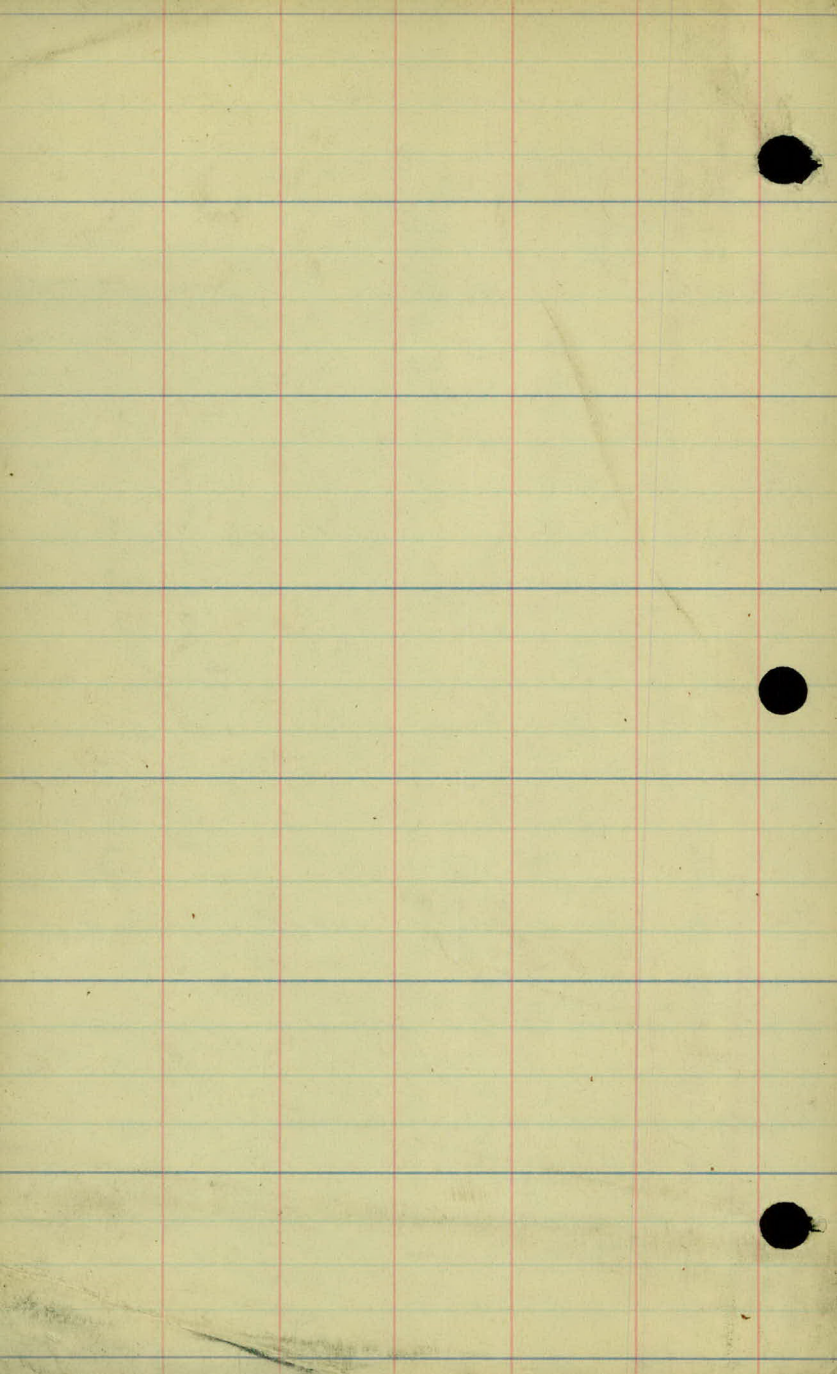
B.M. ✓ 6.35 899.14 ✓
 2.34 902.35 ✓ 5.50 899.99 ✓
 3.70 895.61 ✓ 10.44 891.71 ✓
 11.60 902.88 ✓ 4.33 891.28 ✓
 10.74 912.68 ✓ 0.94 901.94 ✓

B.M. 5.39 907.29 ✓

TOP OF BRASS PLUG INT. CO. ROAD H. & S.T.H. #63

TOP OF BRASS PLUG. INT. CO. ROAD H. & S.T.H. #63

TOP OF BRASS PLUG INT. CO. ROAD I. & S.T.H. #63



CHECK LEVELS

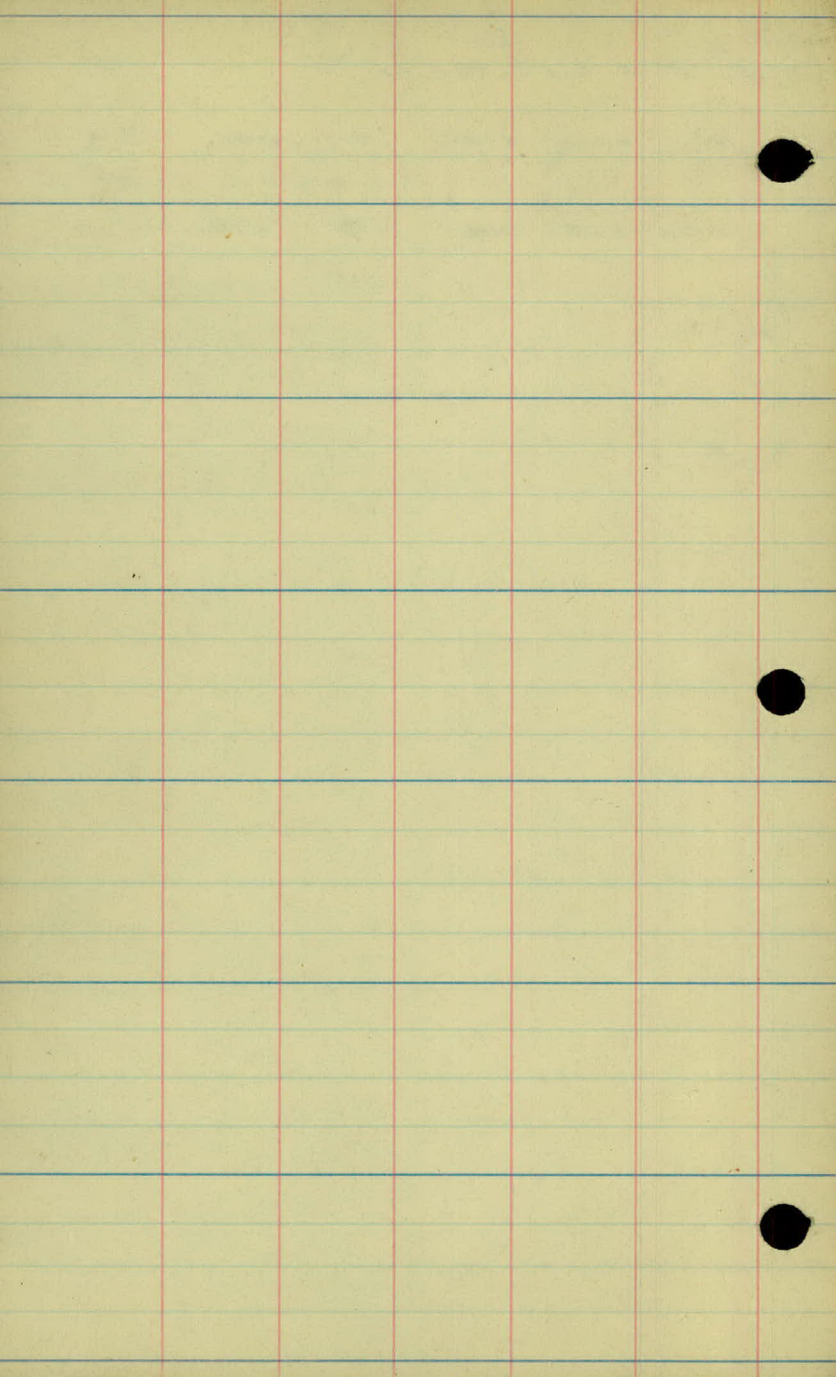
FROM Co. B.D. I TO Co. B.D. H

B.M. 4.39 885.98 ✓ 881.59 ✓
 12.78 897.61 ✓ 1.15 884.83 ✓
 12.46 907.61 ✓ 0.46 897.15 ✓

B.M. 1.65 908.94 ✓ 2.34 907.27 ✓ 907.29 ✓
 0.88 896.70 ✓ 13.12 895.82 ✓
 6.12 896.67 ✓ 6.15 890.55 ✓
 11.41 907.11 ✓ 0.97 895.70 ✓

B.M. 2.18 901.32 ✓ 8.00 899.11 ✓ 892.14 ✓
 2.93 898.41 ✓ 5.84 895.48 ✓
 7.82 891.26 ✓ 7.97 890.44 ✓

Mont. 8.72 ✓ 882.54 882.49



LEVELS FROM STA 0+00 TO
STA 14+00

Sta.	T	H.I. ✓	-	Elev.
B.M.	1.84	709.13		707.29
0 + 00				1.84 07.29
+13				1.97 07.16
+13 ⁵				1.71 07.42
+33				2.6 06.5
+50				2.9 06.2
1 + 00				4.3 04.8
+50				5.8 03.3
2 + 00				0.11
+50				98.7
3 + 00				✓ 90.9
	0.79	✓ 896.79	13.13	✓ 896.00
+50				93.4
4 + 00				90.9
+50				88.8
	0.90	✓ 888.05	9.64	✓ 887.15
5 + 00				86.5
+50				84.4
6 + 00				83.0

$$\begin{array}{r} 5.8 \\ \underline{3} \\ 7 \end{array}$$

$$\begin{array}{r} 8.0 \\ \underline{4} \\ 79 \end{array}$$

$$\begin{array}{r} 10.4 \\ \underline{5} \\ 10.3 \end{array}$$

$$\begin{array}{r} 13.2 \\ \underline{6} \\ 13.1 \end{array}$$

$$\begin{array}{r} 5.4 \\ \underline{7} \\ 3.2 \end{array}$$

$$\begin{array}{r} 5.9 \\ \underline{7} \\ 5.5 \end{array}$$

$$\begin{array}{r} 8.0 \\ \underline{7} \\ 7.6 \end{array}$$

$$\begin{array}{r} 8.2 \\ \underline{25} \end{array}$$

$$\begin{array}{r} 1.6 \\ \underline{8} \\ 1.1 \end{array}$$

$$\begin{array}{r} 5.7 \\ \underline{25} \end{array}$$

$$\begin{array}{r} 7.8 \\ \underline{40} \end{array}$$

$$\begin{array}{r} 10.3 \\ \underline{25} \end{array}$$

$$\begin{array}{r} 3.7 \\ \underline{8} \\ 3.2 \end{array}$$

$$\begin{array}{r} 8.0 \\ \underline{25} \end{array}$$

$$\begin{array}{r} 10.6 \\ \underline{40} \end{array}$$

$$\begin{array}{r} 11.1 \\ \underline{25} \end{array}$$

$$\begin{array}{r} 5.1 \\ \underline{7} \\ 4.7 \end{array}$$

$$\begin{array}{r} 10.0 \\ \underline{25} \end{array}$$

$$\begin{array}{r} 10.3 \\ \underline{40} \end{array}$$

✓
888.05

+50

82.7

7 +00

81.8

4.16

✓
885.65

6.56

✓
881.49

+50

81.2

8 +00

81.1

8 +15

8 +19

80.8

+22

79.0

+22

74.3

+25

72.6

+40

72.6
READINGS IN BOTTOM OF CREEK & TOP OF WATER

+54

72.6

+58

73.5

+63

+66

73.5

+64

81.4

110
25

49
8
5.4

73
25
11.8
40

10.4
25

5.7
8
6.3

10.1
25
11.4
40

7.9
25

4.2
8
4.5

8.8
25
8.4
40

8.1
25

4.4
8
4.6

7.9
25
10.1
40

4.52 ON FLOOR OF BRIDGE
8

4.9

6.7

11.4

EDGE OF CREEK.

13.1 TOP OF WATER.

250	200	150	100	50	0	50	100	150	200	250	300
12.8	12.8	12.9	12.9	13.0	13.1	13.1	13.2	13.2	13.2	13.2	13.2
13.6	13.5	13.5	13.4	13.7	13.7	14.0	14.2	14.1	14.1	14.5	14.1

872.0

879.04 TOP OF FLOOR.

13.1 TOP OF WATER.

12.2

4.34 ON FLOOR OF BRIDGE.
7.5

12.2

4.3

✓
885.65

8716

8720

8735

8743

8750

8717

8726

8733

8740

8746

8711

8722

8738

$$\begin{array}{r} 11.1 \\ 25 \end{array}$$

$$\begin{array}{r} 13.1 \text{ EDGE OF CREEK} \\ 25 \end{array}$$

$$\begin{array}{r} 13.7 \\ 25 \end{array}$$

$$\begin{array}{r} 13.1 \text{ EDGE OF CREEK} \\ 25 \end{array}$$

$$\begin{array}{r} 8.2 \\ 25 \end{array}$$

$$\begin{array}{r} 12.0 \\ 40 \end{array}$$

$$\begin{array}{r} 13.1 \text{ EDGE OF CREEK} \\ 40 \end{array}$$

$$\begin{array}{r} 14.0 \\ 40 \end{array}$$

$$\begin{array}{r} 13.1 \text{ EDGE OF CREEK} \\ 40 \end{array}$$

$$\begin{array}{r} 7.9 \\ 40 \end{array}$$

$$\begin{array}{r} 8.3 \\ 25 \end{array}$$

$$\begin{array}{r} \text{EDGE OF CREEK } 13.1 \\ 25 \end{array}$$

$$\begin{array}{r} 13.6 \\ 25 \end{array}$$

✓
885.65

8+47

8+50

8+60

8+71

9+00

80.4

9+50

80.5

10+00

80.8

10+50

81.7

B.M.

T.P.

9.85

✓ 892.80

4.06

✓ 881.59

2.70

✓ 882.95

11+00

82.5

11+50

83.9

12+00

85.1

12+50

EDGE OF CREEK $\frac{13.1}{25}$

$\frac{11.8}{25}$

$\frac{12.7}{25}$

$\frac{10.4}{25}$

$\frac{8.8}{25}$ 5.3 $\frac{4.6}{8}$ $\frac{8.3}{25}$ $\frac{9.1}{40}$

$\frac{6.3}{25}$ 5.2 $\frac{4.7}{9}$ $\frac{7.7}{25}$ $\frac{8.9}{40}$

$\frac{7.1}{25}$ 4.9 $\frac{4.6}{9}$ $\frac{8.8}{25}$ $\frac{9.3}{40}$

$\frac{5.0}{25}$ 4.0 $\frac{3.7}{10}$ $\frac{5.1}{25}$ $\frac{5.7}{40}$

3PK IN 24" OAK. 65 RT STA. 10+60.

$\frac{9.7}{25}$ 10.3 $\frac{9.8}{9}$ $\frac{12.0}{25}$ $\frac{9.2}{40}$

8.9 $\frac{8.3}{10}$

7.7 $\frac{7.0}{10}$

✓
892.80

12 + 50

86.5

13 + 00

87.9

13 + 50

89.1

14 + 00

✓ 90.5

✓
2.68

885.63

7.85

✓ 882.95

B.M.

4.04

881.59

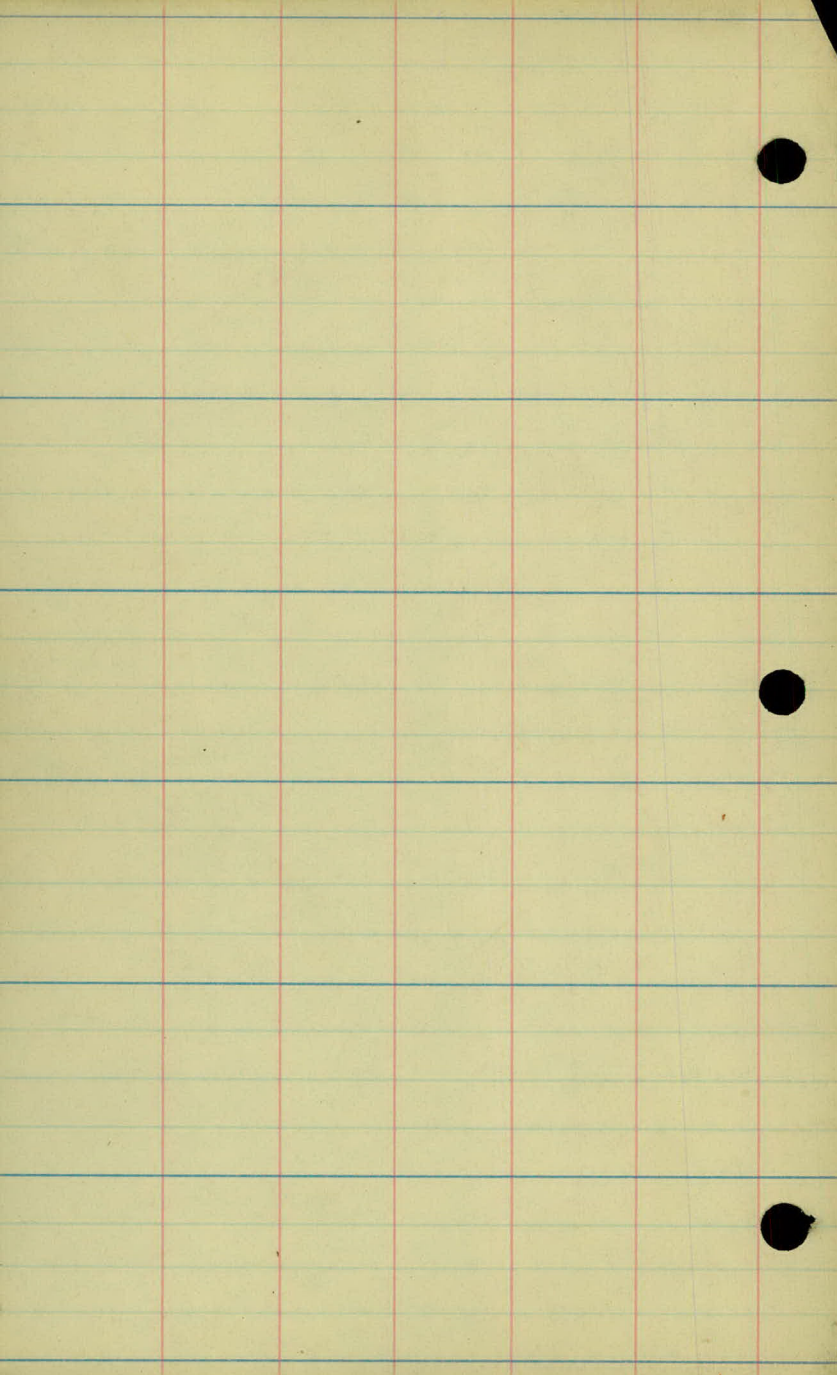
$$\begin{array}{r} 5.6 \\ 6.3 \overline{) 10} \end{array}$$

$$\begin{array}{r} 4.4 \\ 4.9 \overline{) 10} \end{array}$$

$$\begin{array}{r} 3.3 \\ 3.7 \overline{) 10} \end{array}$$

$$\begin{array}{r} 1.9 \\ 2.3 \overline{) 10} \end{array}$$

SPK IN 24" OAK GS RT. STA. 10+60.



ART TOPOC.

5

4

3

2

1

0 + 00

Co. Road I,
SEC. LINE

G.L. 1

F. 22
S.L. 16

+37 T.P. 22

G.L. 2

S.L. 16
F. 21

+54 X.M. SIGN 4

S.L. 3

S.L. 14
+98 F. 21
+98 F. 21
+89 F. 39

S.L. 6
+40 WATER MAIN 51

S.L. 12
F. 34

+69 T.P. 20

S.L. 8

S.L. 12
F. 27

+31 STOP SIGN 29
+30 JAW SIGN 29

+82 T.P. 20
+49 F. COR. 25

+39 CROSS DRAIN
15" X 52 C.M.

EXTEND 29.18 E.M.

S.T.H. # 63

MONT
CARPES 1200.

GRAVEL LINE

WOODS

11
10
9
8
7
6
5

8-8"x8" I. BEAMS STRINGERS
5-6" I. BEAMS END BENTS
1-4' PILE BENT.
3-4' POST BENTS
A IRON HAND RAIL 3' HIGH.
3"x12" PLANK FLOOR.
4"x6" GUARD RAIL.

468 F. 41

A37 F. 26

B. L. 17
F. 25
480 T. P. 23

428 BARE SIGNS

C. L. 18
FT 24

8166³ BRIDGE 0.
8157² BRIDGE 15 R.
8118⁶ BRIDGE 0.5 R.
8109² BRIDGE 15 R.

457 F. 23
457 T. P. 23

B.L. 15
F. 18

417 T.P. 23
The BRIDGE SIGN 19

G. L. 15
F. 23

S. L. O. O

WATER N/AN

[illegible]

S. L. 1

S.L. 17
F. 22
+70 T.P. 23

15

14

13

12

11

G.L.O.

G.L.O.

G.L. 19
F. 45

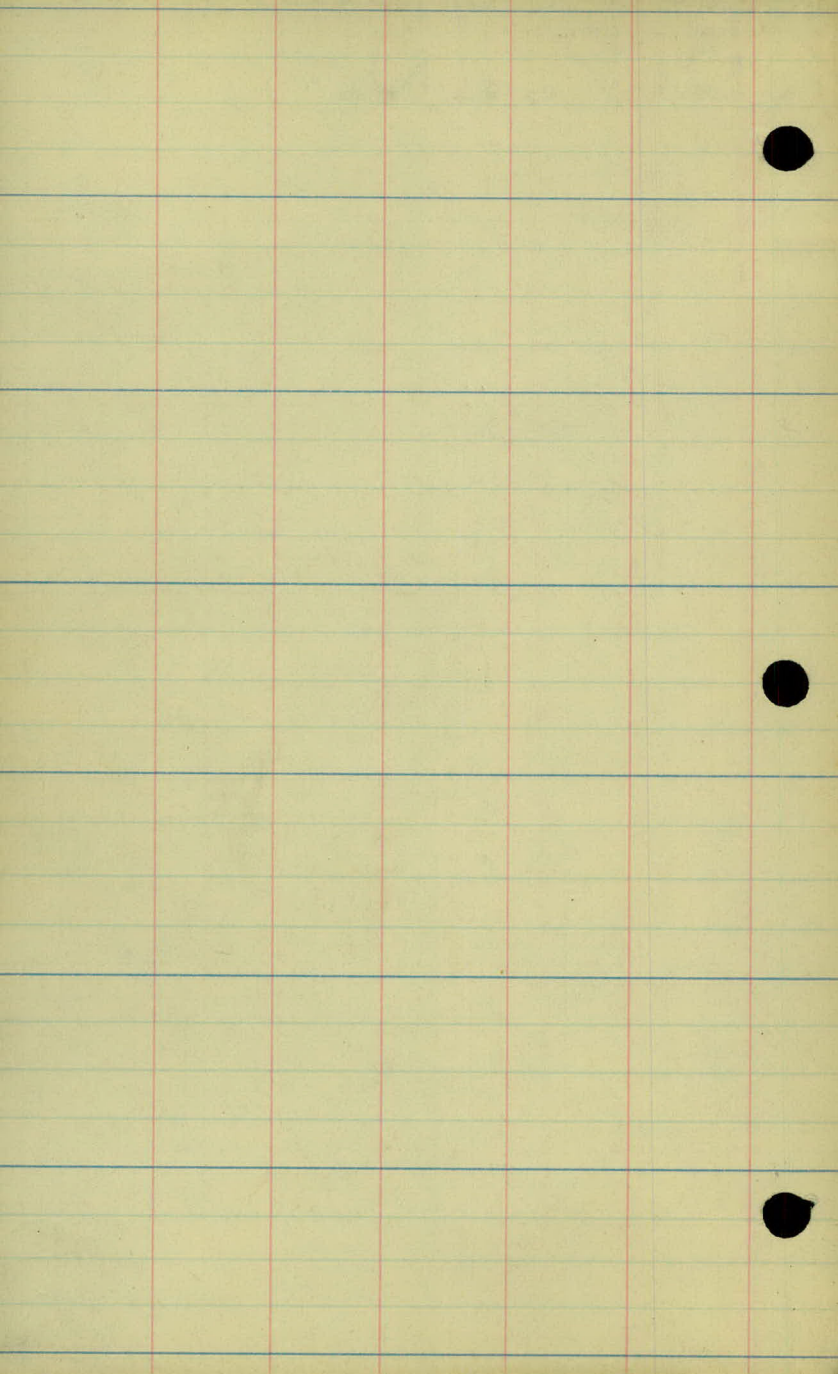
+92 T.P. 26

G.L. 19
F. 45

+52 T.P. 25

G.L. 18
F. 45

+14 T.P. 24



192 CREEK 2

175 CREEK 13 & 28

CREEK 22 & 34

150 CREEK 26 & 38

CREEK 34 & 45 R

130 CREEK 40 & 53 R.

SEC. LINE

9400

8495 1/2

MOCK CREEK

1400

1400 CREEK 14 & 30

1400 CREEK 12 & 40

1400

1400

1400

0420

045 CREEK 12 & 53

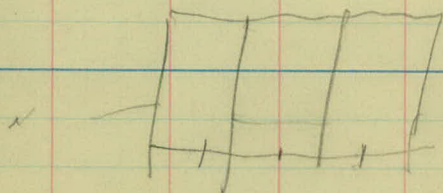
0175 CREEK 19 & 52

1400 CREEK 12 & 41

1422 CREEK 4

1453 CREEK 11

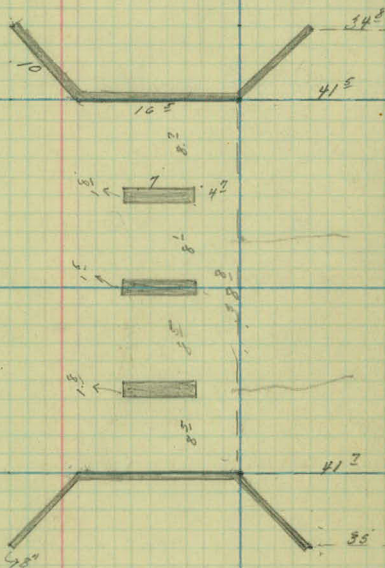
N
↓



WATER DEPT. BRIDGE

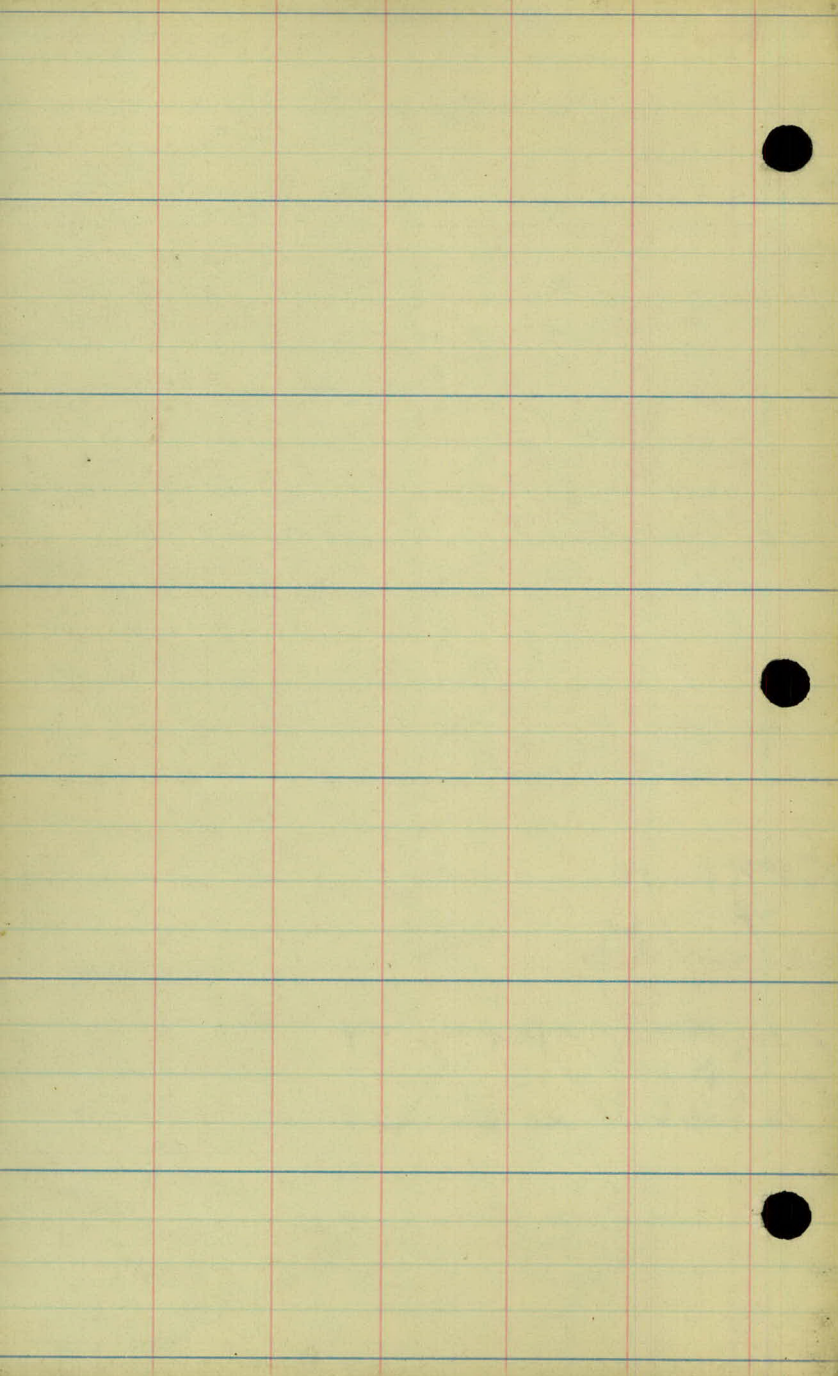
8+69² WING WALL 34²

8+62⁴ BRIDGE 41⁵



8+23⁶ BRIDGE 41² L.

8+16³ WING WALL 35¹ L.



SOUNDINGS.

SOUNDING #1 ON Φ AT STA. 8+25

0 - 3⁵ FINE SAND.

3⁵ - 4⁵ FIRM SAND.

4⁵ - 9' SAND & BLUE CLAY 9 HARD LOAM.

SOUNDING #2 ON Φ AT STA. 8+40.

0 - 3⁵ FINE SAND.

3⁵ - 4⁵ FIRM SAND.

4⁵ - 9' SAND CLAY 9 HARD.

SOUNDING #3 ON Φ AT STA. 8+55

0 - 7' FINE SAND MIXED WITH LITTLE BLUE CLAY

7' FIRM.

SOUNDING #4 20 FT. STA. 8+40.

0 - 3⁵ FINE SAND.

3⁵ - 4⁵ FIRM SAND.

4⁵ - 8' SAND CLAY

8' HARD LOAM.

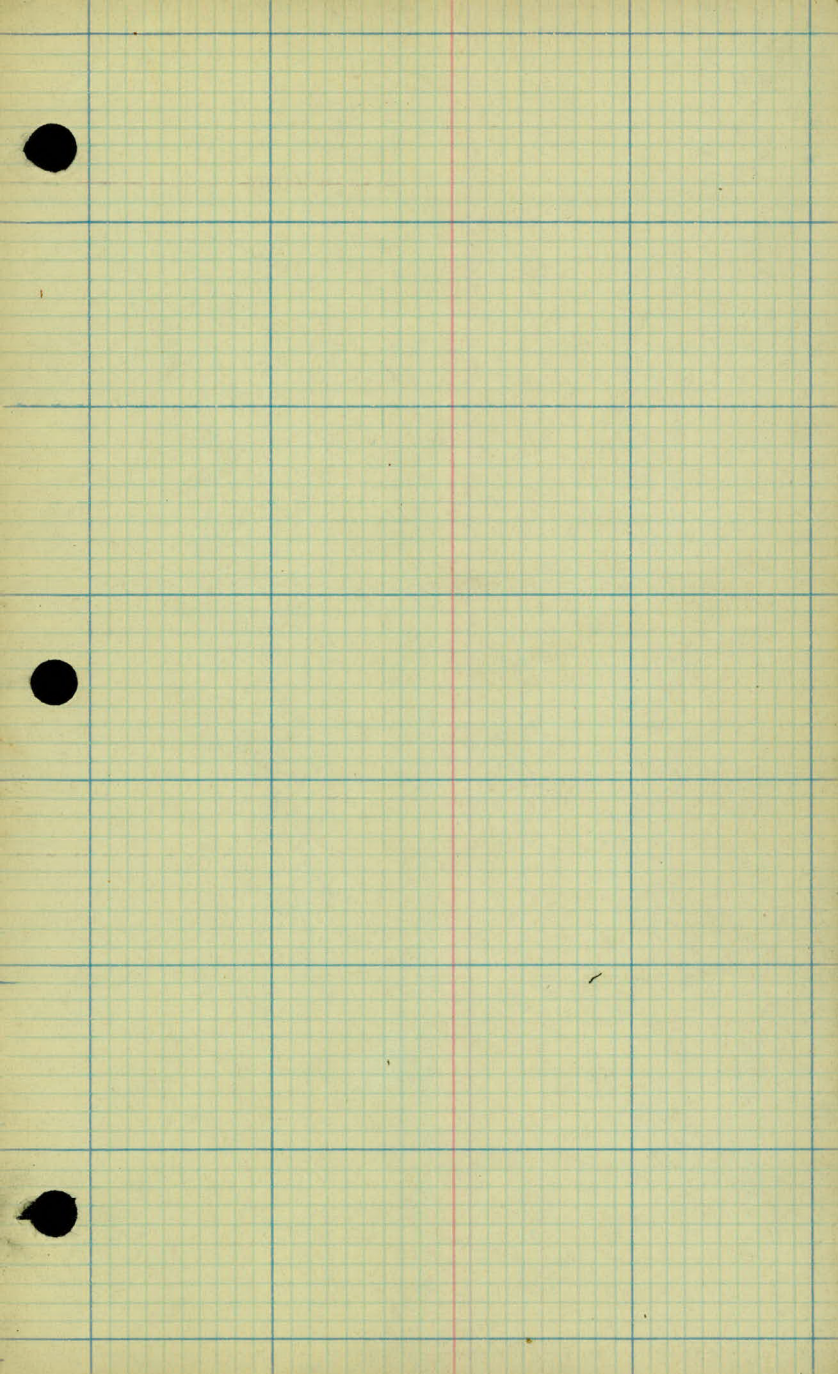
SOUNDING #5. 20 FT. STA. 8+40.

0 - 3⁵ FINE SAND.

3⁵ - 4⁵ FIRM SAND

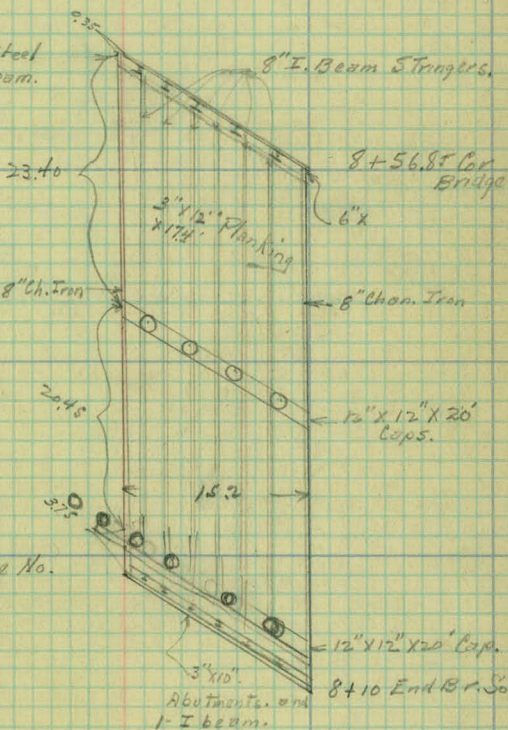
4⁵ - 8' SAND CLAY

8' HARD LOAM.



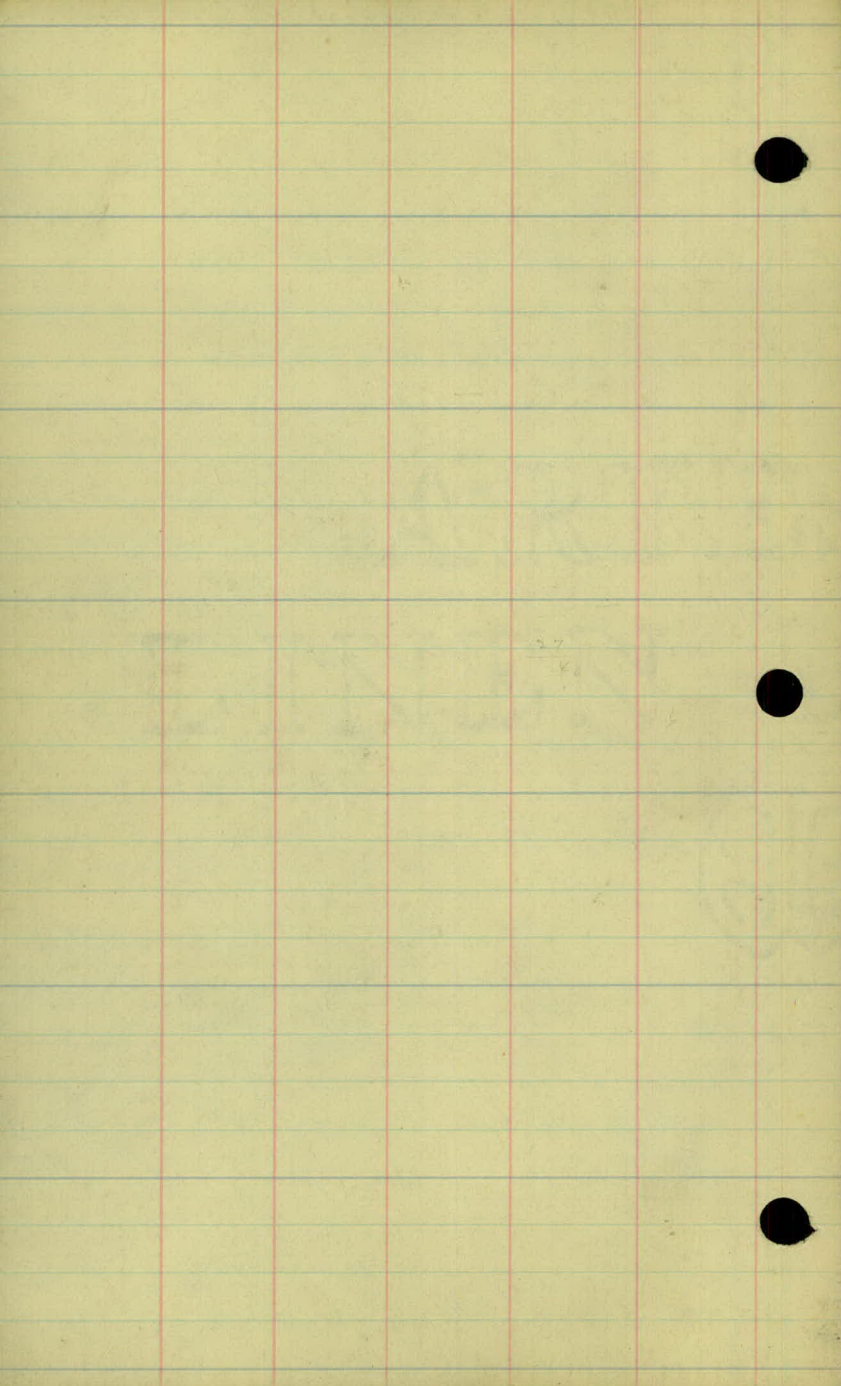
$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
 $\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$
 $\frac{1}{16} \times \frac{1}{16} = \frac{1}{256}$
 $\frac{1}{256} \times \frac{1}{256} = \frac{1}{65536}$
 $\frac{1}{65536} \times \frac{1}{65536} = \frac{1}{4294967296}$

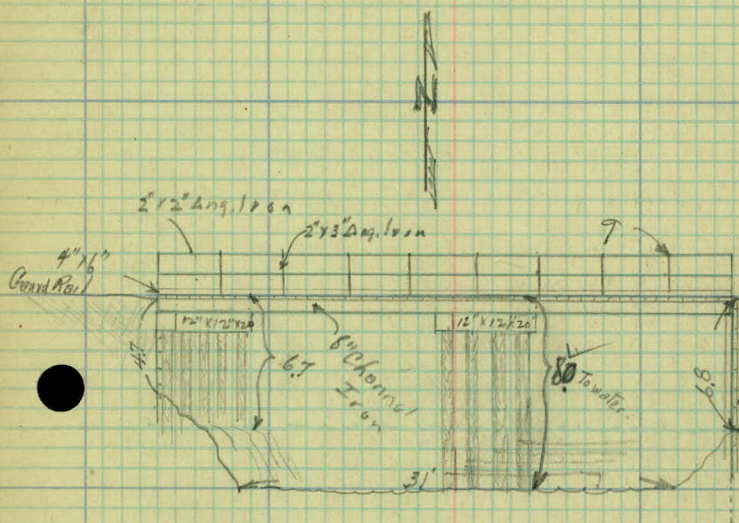
8+66.85 End Br. str. Steel
 $\frac{1}{2}$ " I Beam.



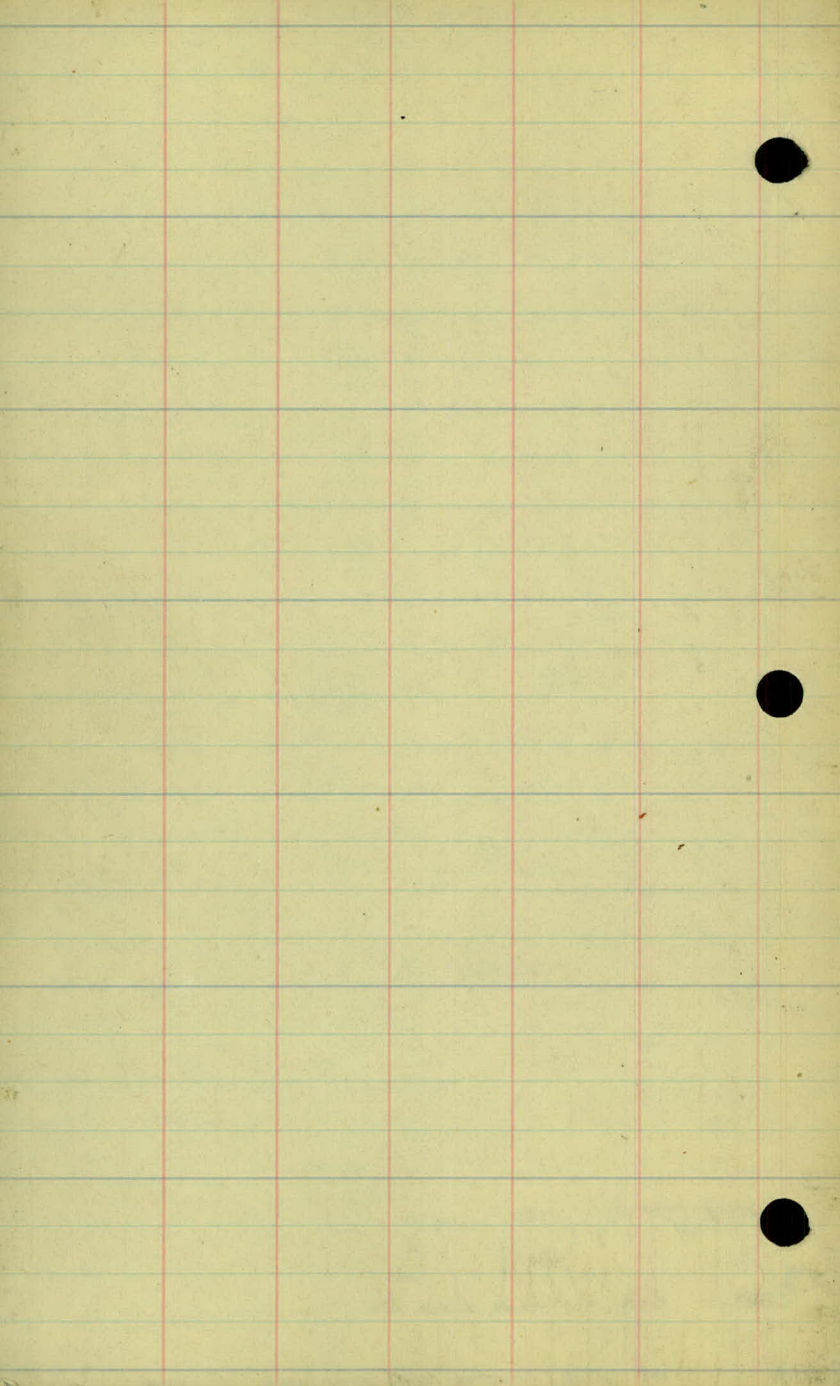
8+19 End Bridge No.

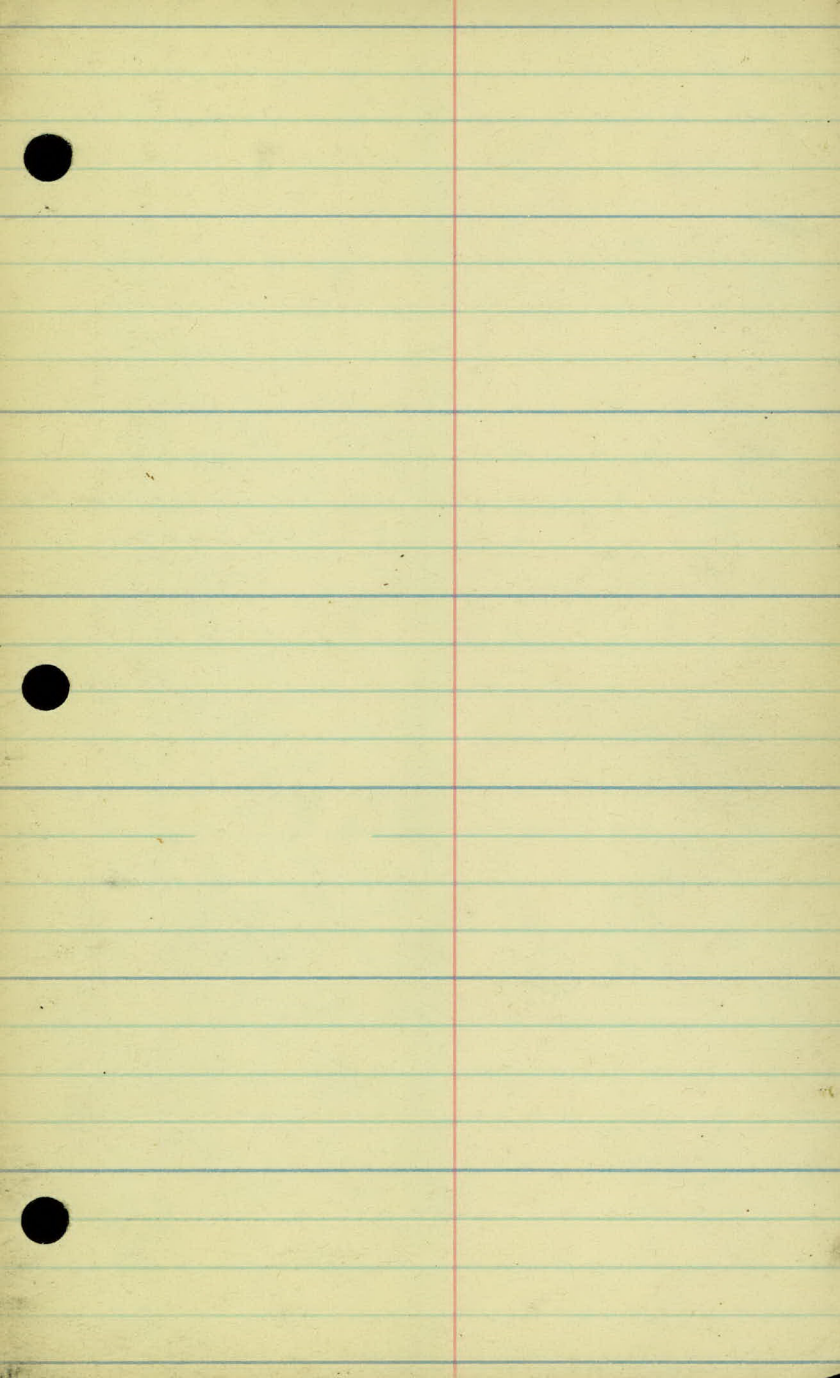
8+10 End Br. S.





Width of Road bed average 32'
Toe To Toe.





+	H.I.	-	Rod	Elev
---	------	---	-----	------

B.M.	0.58	882.17	£	881.59
------	------	--------	---	--------

8			1.1	81.1
---	--	--	-----	------

+19			1.0	81.2
-----	--	--	-----	------

+20			7.6	74.6
-----	--	--	-----	------

+42			8.75	73.42
-----	--	--	------	-------

+42			10.2	72.0
-----	--	--	------	------

+40			1.0	81.2
-----	--	--	-----	------

			0.8	81.4
--	--	--	-----	------

			8.0	74.2
--	--	--	-----	------

9+00			1.6	80.6
------	--	--	-----	------

			6.2	76.0
--	--	--	-----	------

Spt in Q. 65' Rt 10 + 60

~~E~~

Bottom of Abutment on Ground. W. end.

W.S. under Ctr. of Bridge.

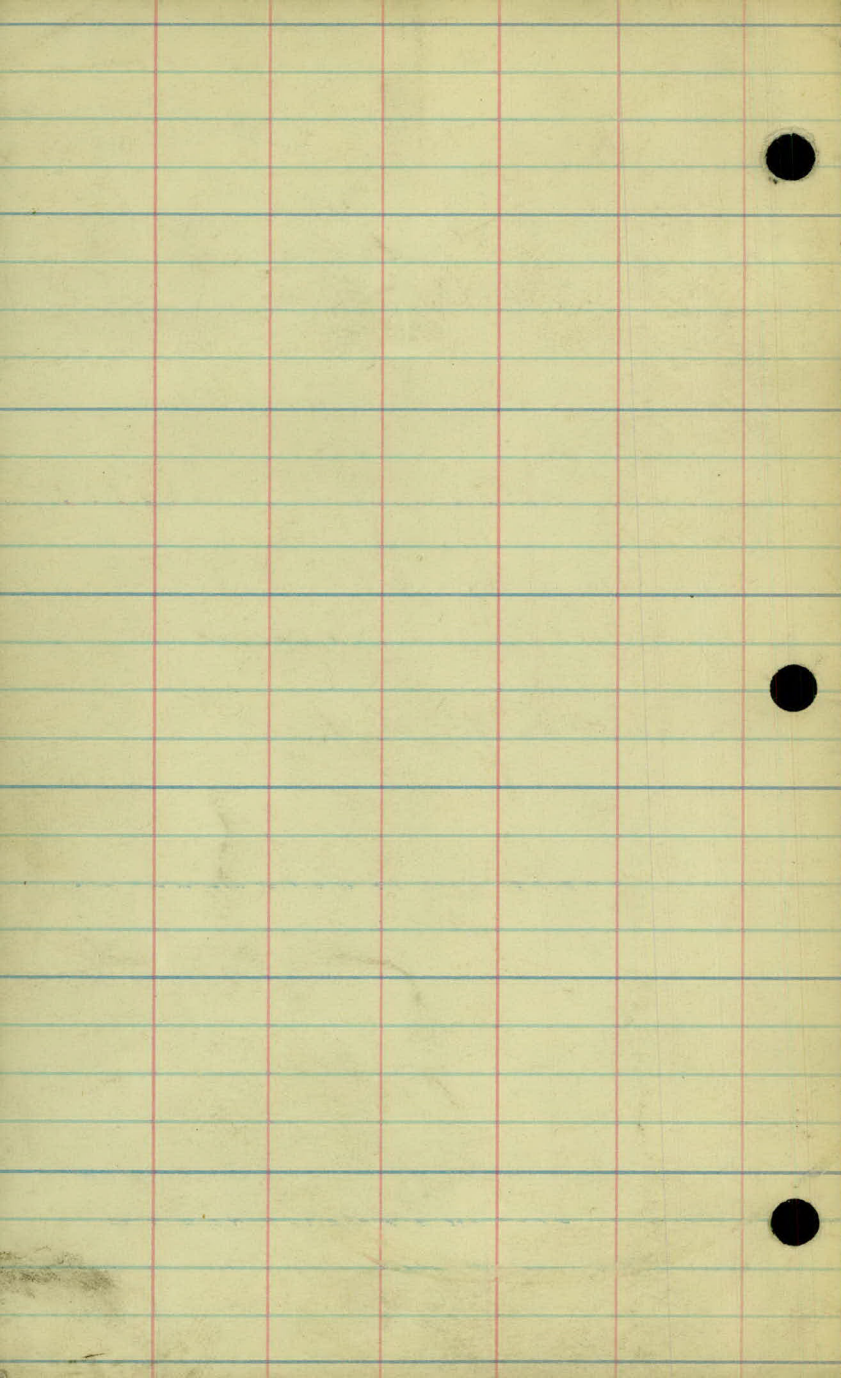
Bottom of ~~E~~ Creek.

Ctr. Bridge on top.

Top Bridge E. end.

Bottom Abutment E end Bridge

= Appr. Highwater mark.



Topog Notes
Road #60

Dec 1
1933

5

4

3

2

1

0+00

+72-12" W.I.I. 11'

Low Land

+68 T.P. 22'

+10 X F22

No. side of Present Rd.

So. side of Present Rd.

+36 T.P. 21'

+78 Rd. Sq. 9'

Water Wk. Pw + Conduit Pipe.

Scattered Oak Waste Trees and Stumps.

+10 X F21

+14'

+98 F. Cor. 21'
+97 T.P. 21'
+88 Δ F. 40'

+12'

F34'

+70 T.P. 20'

+10'

F28

+84 T.P. 20'

+56 Fld. Ent.

+49 F. Cor. 25'

+35 T.P. 48'

+39 X Dr. 15" X 52' C.M. 60-1 29' 23'
+30 Iron Rd Sq. 29'

STATE TRUNK HIGHWAY No. 63 PAVE.

11

10

9

8

7

6

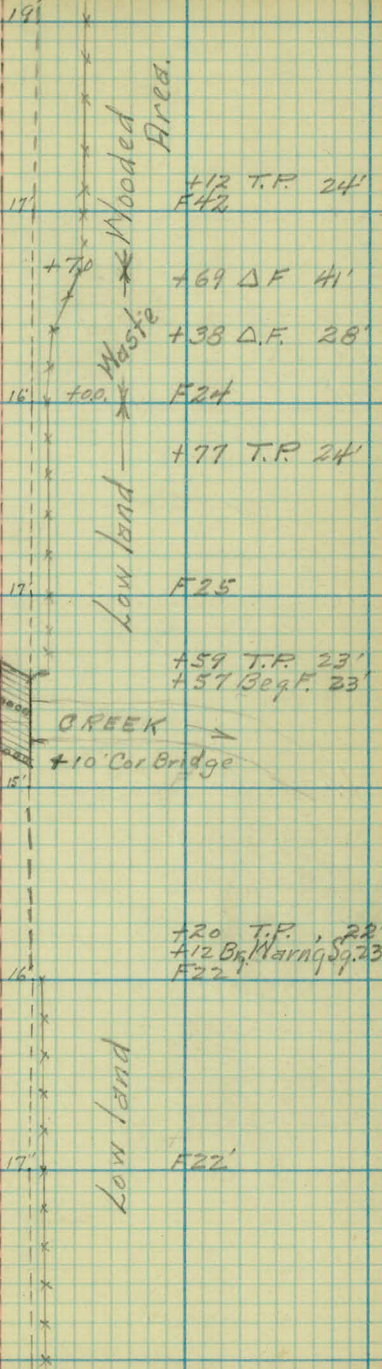
+88 Brg. Warning Sq. 6'

+19 Cor. Bridge

+47-15" Tw. Pop. 6'

+14-15" Tri' Pop. 9'

Water Works Rd.



17

16

15

14

13

12

+90 Pr. Dr.
+79 T.P.
+77-15" Oak 32'
22'

+13-10" Oak 22'

Water Wks B/W + Conduit Pipe

19'

18'

19'

19'

19'

19'

Wooded Area

Wooded Area

F39'

+70' T.P. 28'

F42

+30' T.P. 26'

F43

F45

+90 T.P. 26'

F46'

+49 T.P. 25'

F44'

+22 Pr. Dr.

23

22

21

20

19

18

+57 T.P. 33'

+28 Rd Sq. 24'

F37

F33

F33

+19' T.P. 32'

F36

F34

F38

+78 T.P. 31'

F34'

F39'

+70 F. Int.

+38 T.P. 30'

F38

+99-8" Apple Tr. 33'

+66-6" Apple Tr. 30'

+26 Beg. F 34'

+06 T.P. 29'

F39

Wooded Area.

26

25

24

Mont. = E Mounds View Rd.

+13 F. Cor. 33' x x x x
F33

4' 16'

x x x +98 Iron Sq. 27'
+90 F. Cor. 41'
+93 Beg. Rad.

F33'

3' 16'

= 15' 0"

F38'

+78 T.P. 34'

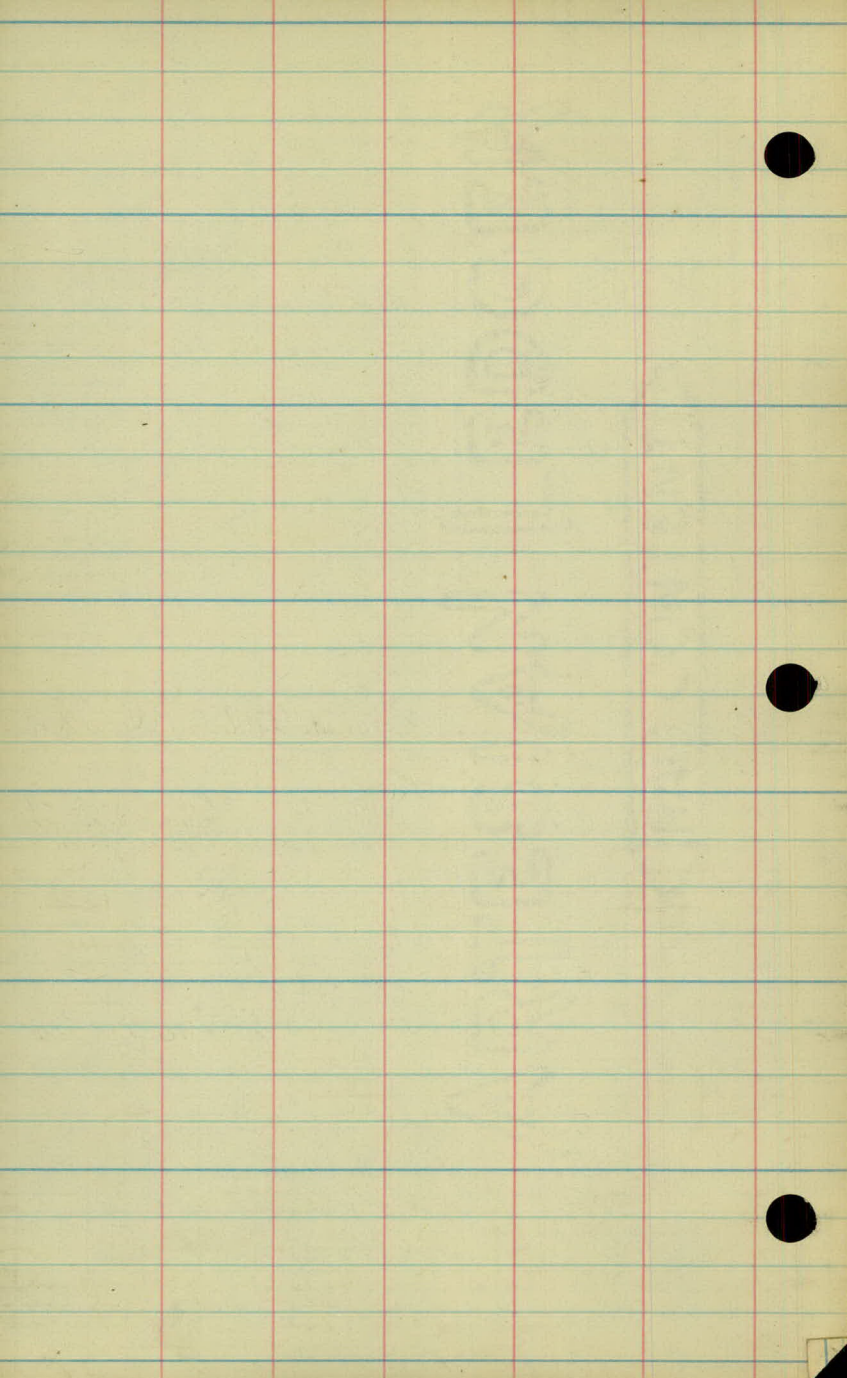
F33

5' 17'

F38

W. Wks. P.W.

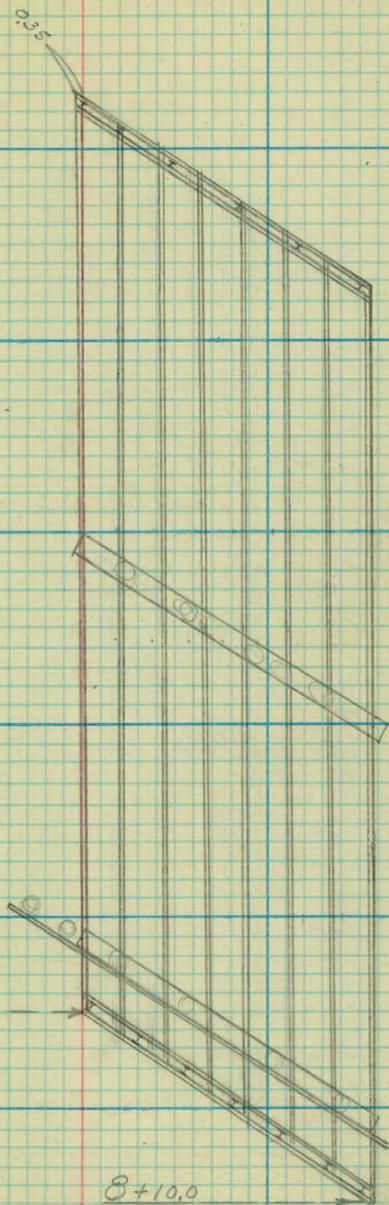
Scattered Oaks & Light Clearing

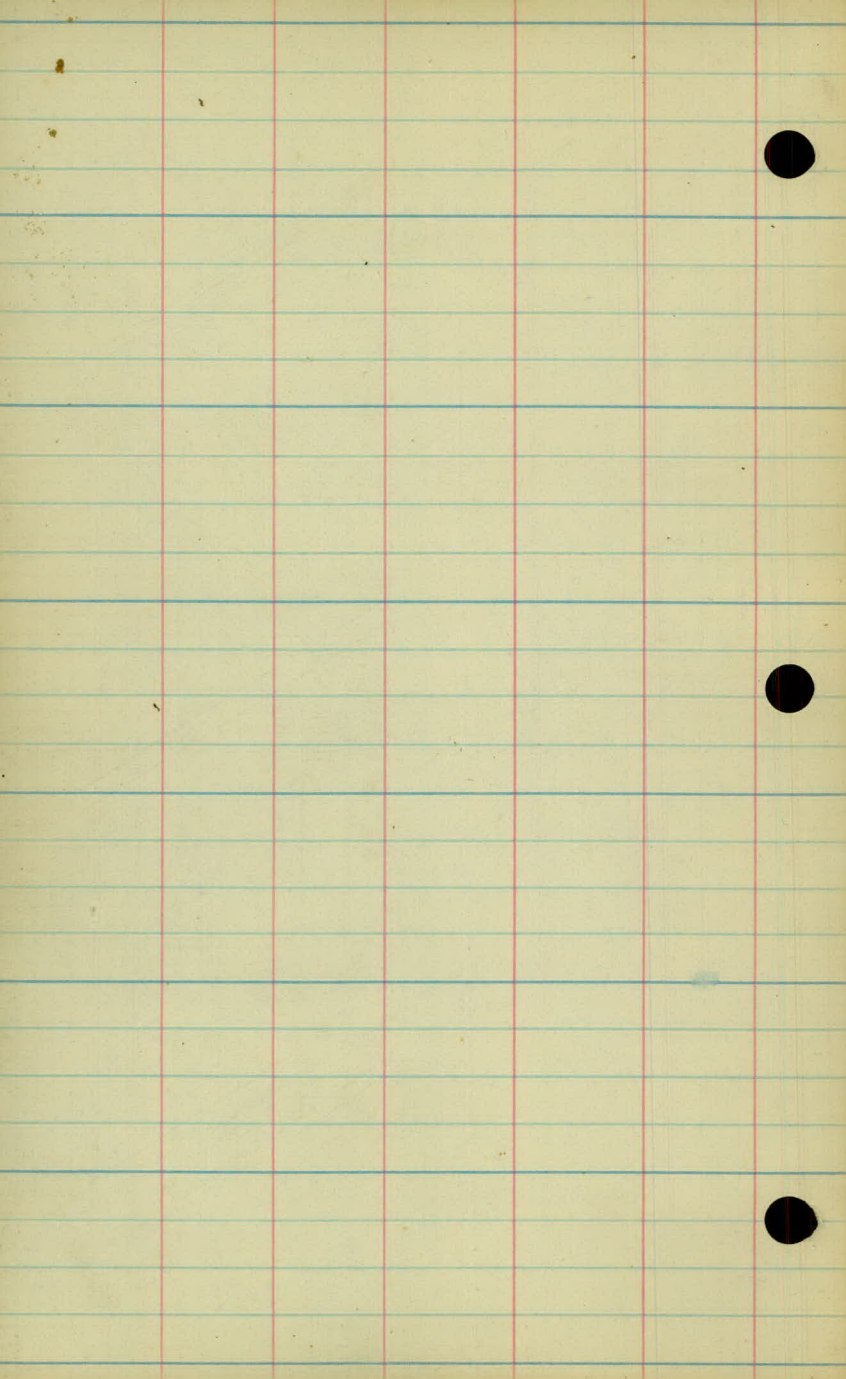


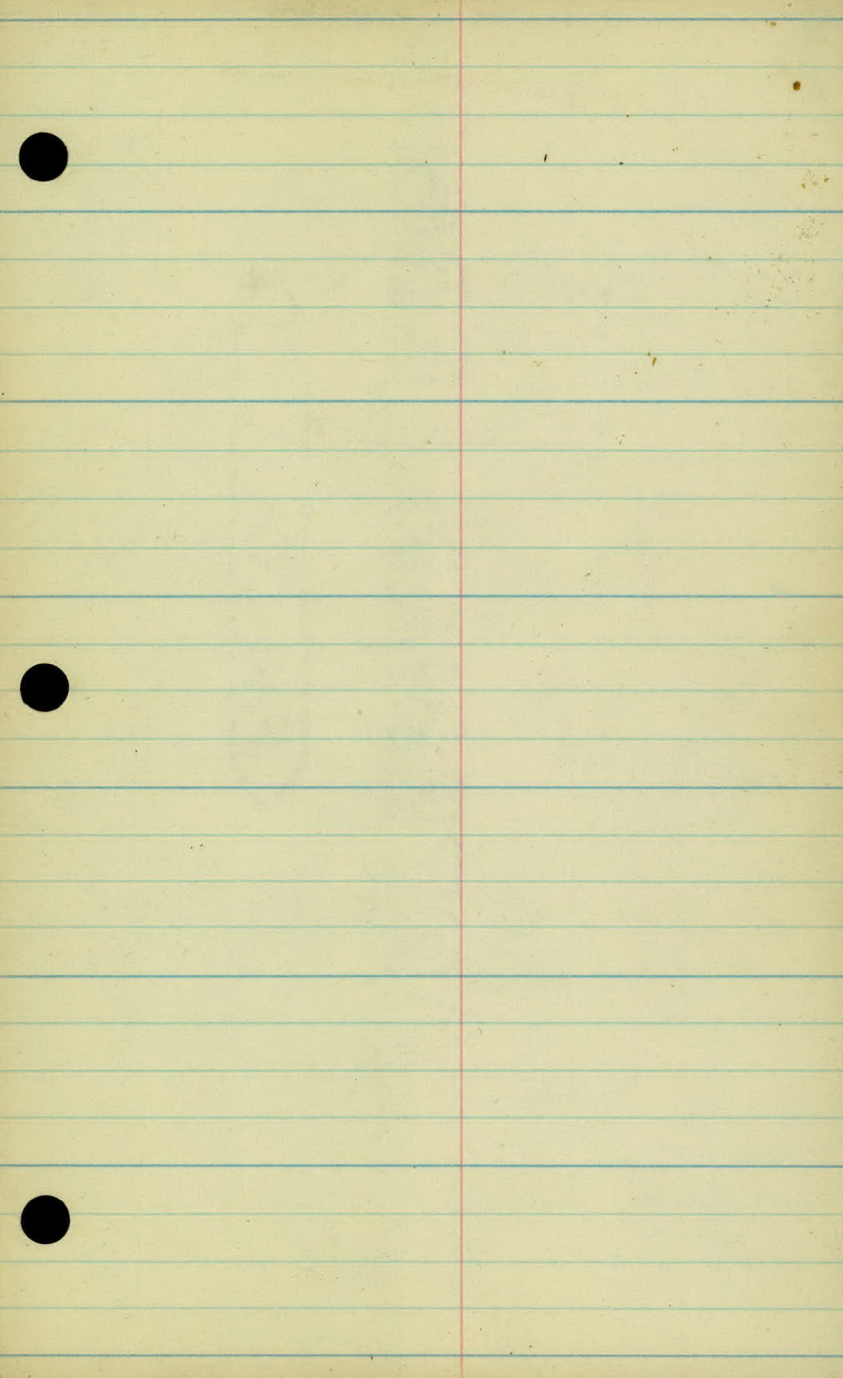
0.35

8+19.0

8+10.0







26+33²⁰ Mont End of Proj.

16+58⁹¹ P.O.T.

0+00



• *Spt*

S.T.H. #63

• *Cont. Perce.*

B.M. 411 ✓ 911.40 907.29

0+00 07.3-

+20 Shoulder line 07.2-

+28 06.8-

+36 06.4-

+48 06.1-

1 04.8-

+50 03.2-

2 01.0-

+50 ✓ 98.7-

T.P. 264 ✓ 90120 12.84 ✓ 898.56

3 96.0-

+50 93.5-

4 91.0-

Top of Brass plug Int. I and S.T.H. 63

$$\frac{3.0}{50} \frac{36}{25} 41 \frac{4.8}{30} \frac{5.3}{50}$$

$$\frac{3.0}{50} \frac{37}{26} 42 \frac{4.9}{25} \frac{5.2}{50}$$

$$\frac{5.2}{50} \frac{5.9}{36} \frac{3.9}{32} 46 \frac{4.9}{20} \frac{7.6}{26} \frac{8.4}{50}$$

$$\frac{5.8}{50} \frac{6.2}{33} \frac{4.3}{27} 50 \frac{5.0}{20} \frac{7.6}{26} \frac{8.5}{50}$$

$$\frac{2.5}{50} \frac{3.6}{40} \frac{4.3}{20} \frac{5.2}{12} 53 \frac{5.5}{15} \frac{4.0}{22} \frac{1.7}{25} \frac{2.8}{50}$$

$$\frac{3.0}{50} \frac{3.2}{46} \frac{6.5}{41} \frac{6.2}{11} \frac{6.8}{10} 66 \frac{6.9}{10} \frac{7.3}{19} \frac{2.1}{26} \frac{2.6}{50}$$

$$\frac{4.2}{50} \frac{4.2}{48} \frac{8.1}{41} \frac{7.7}{24} \frac{8.5}{8} 82 \frac{8.4}{12} \frac{8.1}{21} \frac{2.5}{28} \frac{2.4}{50}$$

$$\frac{5.8}{50} \frac{6.2}{46} \frac{10.2}{40} \frac{9.8}{25} \frac{10.6}{7} 104 \frac{10.5}{13} \frac{10.9}{24} \frac{3.6}{32} \frac{3.6}{50}$$

$$\frac{8.6}{50} \frac{8.6}{47} \frac{12.8}{39} \frac{12.3}{17} \frac{13.0}{7} 127 \frac{12.9}{14} \frac{13.3}{27} \frac{6.2}{35} \frac{5.8}{50}$$

$$\frac{1.4}{50} \frac{1.6}{46} \frac{4.9}{40} \frac{4.9}{20} \frac{5.4}{7} 52 \frac{5.2}{17} \frac{5.5}{23} \frac{4.9}{31} \frac{1.7}{36} \frac{0.7}{50}$$

$$\frac{5.1}{50} \frac{5.1}{45} \frac{6.8}{40} \frac{7.0}{27} \frac{7.7}{6} 7.7 \frac{8.0}{22} \frac{6.7}{26} \frac{6.3}{50}$$

$$\frac{8.5}{50} \frac{10.7}{33} \frac{10.2}{4} 10.2 \frac{10.3}{17} \frac{11.5}{22} \frac{11.3}{50}$$

Sta + H.I. - Elev

901.20

+41

T.P.

263

891.83

12.0

889.20

89.3

+57

88.6

5

86.6

+50

T.P.

584

890.03

7.64

884.19

84.5

6

83.0

+50

82.9

+57

82.9

+87

82.0

7

81.8

+50

T.P.

1.44

882.44

9.03

881.00

81.2

8

81.0

+15

81.0

+21

81.1

Left & Right

$\frac{10.0}{50} \frac{10.0}{46} \frac{14.8}{36} \frac{12.4}{29} \frac{11.9}{4} \frac{11.9}{18} \frac{13.8}{22} \frac{15.2}{37} \frac{15.2}{50}$

$\frac{1.6}{50} \frac{1.3}{46} \frac{6.4}{32} \frac{8.2}{21} \frac{6.9}{11} \frac{3.4}{4} \frac{3.2}{32} \frac{3.5}{18} \frac{5.8}{23} \frac{7.2}{37} \frac{7.4}{50}$

$\frac{2.1}{50} \frac{2.1}{46} \frac{8.7}{27} \frac{11.4}{24} \frac{11.8}{14} \frac{5.2}{4} \frac{5.2}{52} \frac{5.3}{17} \frac{9.0}{23} \frac{12.0}{46} \frac{12.0}{50}$

$\frac{2.3}{50} \frac{2.9}{47} \frac{14.2}{28} \frac{14.2}{22} \frac{12.8}{13} \frac{7.1}{4} \frac{7.3}{73} \frac{13.9}{19} \frac{14.5}{29} \frac{14.5}{50}$

Not in T.P. 5+68 - 22' Rt

$\frac{0.2}{50} \frac{0.8}{48} \frac{9.4}{35} \frac{12.8}{28} \frac{12.6}{16} \frac{11.0}{8} \frac{7.0}{2} \frac{7.0}{70} \frac{7.2}{17} \frac{12.1}{25} \frac{13.0}{31} \frac{12.7}{42} \frac{12.3}{50}$

$\frac{0.5}{50} \frac{0.7}{48} \frac{9.1}{36} \frac{12.1}{30} \frac{12.5}{22} \frac{10.1}{8} \frac{7.4}{7} \frac{7.2}{71} \frac{7.2}{19} \frac{12.2}{26} \frac{13.4}{34} \frac{14.0}{50}$

$\frac{0.5}{50} \frac{0.7}{48} \frac{9.1}{36} \frac{12.1}{30} \frac{12.0}{21} \frac{7.4}{13} \frac{7.1}{71} \frac{7.2}{18} \frac{12.2}{26} \frac{13.4}{34} \frac{14.0}{50}$

$\frac{1.0}{50} \frac{1.0}{47} \frac{8.4}{38} \frac{12.4}{27} \frac{6.8}{17} \frac{6.2}{11} \frac{7.5}{6} \frac{8.0}{80} \frac{8.0}{18} \frac{13.6}{28} \frac{13.0}{50}$

$\frac{1.2}{50} \frac{1.2}{46} \frac{9.3}{35} \frac{11.8}{28} \frac{12.8}{17} \frac{8.1}{3} \frac{8.2}{82} \frac{8.0}{18} \frac{13.0}{27} \frac{13.0}{50}$

$\frac{1.0}{50} \frac{1.0}{46} \frac{11.6}{30} \frac{12.4}{22} \frac{12.4}{8} \frac{8.8}{2} \frac{8.8}{88} \frac{8.8}{18} \frac{12.6}{24} \frac{13.6}{29} \frac{12.8}{33} \frac{13.2}{50}$

$\frac{1.7}{35} \frac{5.0}{25} \frac{7.5}{22} \frac{5.2}{19} \frac{3.4}{15} \frac{1.4}{14} \frac{1.5}{16} \frac{6.5}{24} \frac{7.4}{44} \frac{8.8}{50}$

$\frac{4.0}{33} \frac{5.0}{24} \frac{9.2}{23} \frac{1.0}{19} \frac{6.2}{17} \frac{3.7}{12} \frac{2.7}{3} \frac{1.4}{14} \frac{1.2}{16} \frac{7.1}{16} \frac{8.1}{33} \frac{9.4}{39} \frac{5.8}{45} \frac{4.3}{50}$

$\frac{+0.3}{38} \frac{8.0}{38} \frac{9.0}{33} \frac{9.5}{19} \frac{8.1}{16} \frac{4.0}{8} \frac{1.3}{13} \frac{1.2}{16} \frac{9.5}{16} \frac{9.8}{32} \frac{9.8}{50}$

2 Wing small

+ H1 ✓ -
882.44

8+25 81.2

+35 Toe Slope Pt. 81.1
10.0 872.44

+45 Top Slope Pt. 81.2

+55 81.2

+67 81.2

9 80.4

B.M. 0.82 881.62

+50 80.4

T.P. 873 889.25 ✓ 1.92 ✓ 880.52

8

+15

+21

+67

9

+50

LEFT £ RIGHT

$\frac{7.2}{50}$ $\frac{9.2}{44}$ $\frac{9.5}{19}$ $\frac{9.7}{4}$ 12 $\frac{1.2}{15}$ $\frac{10.2}{15}$ $\frac{10.4}{50}$

$\frac{1.4}{50}$ $\frac{10.4}{44}$ $\frac{9.0}{13}$ $\frac{10.4}{4}$ 1.3 $\frac{1.2}{15}$ $\frac{10.0}{15}$ $\frac{9.8}{34}$ $\frac{9.4}{50}$

Conduct. $\frac{9.3}{50}$ $\frac{9.3}{44}$ $\frac{9.6}{29}$ $\left\{ \begin{array}{l} \frac{10.7}{4} \\ \text{Bottom} \\ \text{Deck} \end{array} \right\}$ 12 $\frac{1.2}{15}$ $\frac{9.8}{15}$ $\frac{9.4}{31}$ $\frac{5.2}{42}$ $\frac{5.2}{50}$

$\frac{8.5}{44}$ $\frac{8.5}{29}$ $\frac{8.5}{7}$ $\frac{9.7}{4}$ 12 $\frac{1.1}{15}$ $\frac{7.7}{15}$ $\frac{4.4}{28}$ $\frac{4.7}{50}$

$\frac{7.7}{29}$ $\frac{8.2}{24}$ $\frac{8.6}{4}$ 12 $\frac{1.3}{17}$ $\frac{4.0}{24}$ $\frac{5.0}{50}$
Face Wing wall

$\frac{1.7}{35}$ $\frac{5.7}{27}$ $\frac{4.7}{23}$ $\frac{4.1}{6}$ $\frac{2.3}{2}$ 2.0 $\frac{1.8}{19}$ $\frac{5.0}{25}$ $\frac{6.0}{50}$

Spt in 24" 0. 6.5' Pt. 10 + 60
 $\frac{3.0}{32}$ $\frac{2.7}{20}$ $\frac{5.0}{14}$ $\frac{4.8}{7}$ $\frac{2.2}{2}$ 2.0 $\frac{2.0}{20}$ $\frac{4.5}{25}$ $\frac{6.4}{50}$

$\frac{0.7}{50}$ $\frac{0.7}{47}$ 8.3

$\frac{0.7}{50}$ $\frac{0.7}{47}$ 8.3

$\frac{0.7}{50}$ $\frac{0.7}{47}$ $\frac{6.0}{40}$ 8.2

$\frac{0.8}{50}$ $\frac{6.3}{46}$ $\frac{3.9}{39}$ 8.1

$\frac{0.7}{50}$ $\frac{0.7}{47}$ 8.9

$\frac{0.5}{50}$ $\frac{0.5}{47}$ 8.9

62.44
10.7
71.74

✓
889.25

10 80.8

+50 81.8

11 82.7

T.P. 716 ✓ 893.58 283 ✓ 886.42

+50 83.8

12 85.3

+50 86.6

13 88.0

+50 89.2

14 90.4

T.P. 11.43 ✓ 902.88 213 ✓ 891.45

+50 91.8

15 93.2

+50 94.9

16 96.3

Lt. ~~L~~ Rt.

$\frac{0.0}{50}$ $\frac{0.8}{48}$ $\frac{1.6}{32}$ $\frac{10.4}{16}$ $\frac{12.2}{10}$ $\frac{11.7}{8}$ $\frac{8.7}{2}$ 85 $\frac{8.6}{18}$ $\frac{12.5}{25}$ $\frac{13.0}{50}$

$\frac{0.0}{50}$ $\frac{0.0}{47}$ $\frac{8.4}{33}$ $\frac{9.0}{18}$ $\frac{9.8}{10}$ $\frac{7.6}{3}$ 75 $\frac{7.6}{19}$ $\frac{9.1}{25}$ $\frac{9.6}{50}$

over 141.

$\frac{+0.5}{50}$ $\frac{0.0}{45}$ $\frac{5.5}{35}$ $\frac{6.0}{13}$ $\frac{6.8}{6}$ 66 $\frac{6.4}{19}$ $\frac{8.2}{24}$ $\frac{8.3}{34}$ $\frac{5.3}{38}$ $\frac{5.7}{50}$

$\frac{5.5}{50}$ $\frac{6.4}{41}$ $\frac{8.1}{37}$ $\frac{9.1}{14}$ $\frac{10.1}{6}$ 98 $\frac{9.3}{19}$ $\frac{10.8}{24}$ $\frac{10.8}{35}$ $\frac{6.3}{40}$ $\frac{6.4}{50}$

$\frac{6.0}{50}$ $\frac{7.5}{42}$ $\frac{8.2}{21}$ $\frac{8.8}{12}$ 83 $\frac{8.0}{20}$ $\frac{9.3}{25}$ $\frac{9.1}{34}$ $\frac{8.1}{36}$ $\frac{4.1}{40}$ $\frac{4.1}{50}$

$\frac{7.0}{50}$ $\frac{7.6}{37}$ $\frac{7.4}{12}$ $\frac{8.0}{8}$ $\frac{8.0}{5}$ 70 $\frac{6.6}{9}$ $\frac{6.7}{20}$ $\frac{8.0}{28}$ $\frac{5.5}{37}$ $\frac{3.8}{39}$ $\frac{3.6}{50}$

$\frac{7.4}{50}$ $\frac{7.3}{31}$ $\frac{6.0}{18}$ $\frac{7.0}{11}$ $\frac{7.2}{5}$ 56 $\frac{5.4}{10}$ $\frac{5.5}{20}$ $\frac{6.5}{26}$ $\frac{5.8}{28}$ $\frac{4.8}{50}$

$\frac{7.0}{50}$ $\frac{6.0}{24}$ $\frac{5.0}{17}$ $\frac{5.6}{9}$ $\frac{6.2}{5}$ 44 $\frac{4.1}{10}$ $\frac{4.3}{21}$ $\frac{6.2}{25}$ $\frac{5.3}{29}$ $\frac{5.0}{45}$ $\frac{5.0}{50}$

$\frac{4.5}{50}$ $\frac{4.4}{24}$ $\frac{3.3}{18}$ $\frac{3.6}{9}$ $\frac{4.4}{6}$ $\frac{3.4}{2}$ 32 $\frac{2.8}{10}$ $\frac{3.1}{22}$ $\frac{3.7}{27}$ $\frac{3.0}{29}$ $\frac{2.4}{45}$ $\frac{2.4}{50}$

$\frac{12.0}{50}$ $\frac{12.0}{24}$ $\frac{11.0}{14}$ $\frac{11.1}{9}$ $\frac{11.8}{5}$ 11.1 $\frac{10.8}{11}$ $\frac{10.8}{20}$ $\frac{11.6}{27}$ $\frac{10.7}{29}$ $\frac{10.4}{50}$

$\frac{12.0}{50}$ $\frac{11.2}{28}$ $\frac{10.2}{20}$ $\frac{10.0}{8}$ $\frac{10.6}{6}$ $\frac{9.7}{3}$ 9.7 $\frac{9.2}{9}$ $\frac{9.2}{21}$ $\frac{10.0}{27}$ $\frac{9.0}{29}$ $\frac{8.6}{50}$

$\frac{10.7}{50}$ $\frac{10.0}{25}$ $\frac{9.0}{20}$ $\frac{8.1}{10}$ $\frac{9.2}{7}$ $\frac{8.4}{4}$ 8.0 $\frac{7.7}{9}$ $\frac{8.0}{20}$ $\frac{8.6}{27}$ $\frac{7.4}{29}$ $\frac{7.0}{50}$

$\frac{9.4}{50}$ $\frac{8.4}{26}$ $\frac{7.4}{21}$ $\frac{7.4}{7}$ 66 $\frac{6.2}{9}$ $\frac{6.4}{19}$ $\frac{6.6}{27}$ $\frac{5.3}{30}$ $\frac{4.5}{45}$ $\frac{4.5}{50}$

✓
902.88

+50

97.5

17

98.3

+50

98.6

18

✓

✓

99.3

T.P. 5.15 904.80 323 899.65

+50

99.5

19

99.4

+50

99.5

20

99.4

+50

99.2

21

99.2

+50

99.7

22

00.0

+50

00.2

Running 11-24-33 Snowing PM

LEFT & RIGHT

$\frac{7.1}{50} \frac{6.0}{27} \frac{5.2}{20} \frac{4.8}{10} \frac{6.1}{7} \frac{5.3}{4} 5.4 \frac{4.9}{9} \frac{5.3}{20} \frac{5.5}{27} \frac{2.7}{31} \frac{2.3}{50}$

$\frac{4.8}{50} \frac{3.8}{22} \frac{3.8}{11} \frac{5.0}{8} \frac{4.6}{5} 4.6 \frac{4.3}{9} \frac{4.6}{21} \frac{4.6}{26} \frac{2.0}{28} \frac{1.6}{50}$

$\frac{4.8}{50} \frac{4.0}{27} \frac{3.8}{11} \frac{5.0}{7} \frac{4.6}{5} 4.3 \frac{4.0}{10} \frac{4.3}{20} \frac{4.6}{24} \frac{2.4}{27} \frac{2.3}{50}$

$\frac{3.8}{50} \frac{3.8}{32} \frac{3.4}{16} \frac{4.2}{12} 3.6 \frac{3.5}{10} \frac{4.3}{23} \frac{3.0}{25} \frac{2.5}{33} \frac{3.2}{35} \frac{3.7}{50}$

$\frac{5.0}{50} \frac{5.0}{33} \frac{5.5}{8} \frac{6.0}{6} \frac{5.4}{2} 5.3 \frac{5.2}{8} \frac{5.7}{19} \frac{6.5}{23} \frac{5.3}{24} \frac{5.0}{32} \frac{6.2}{38} \frac{6.4}{50}$

$\frac{4.3}{50} \frac{5.4}{22} \frac{5.3}{9} \frac{6.6}{6} \frac{5.5}{3} 5.4 \frac{5.2}{10} \frac{5.5}{19} \frac{7.0}{22} \frac{6.1}{24} \frac{6.7}{37} \frac{7.4}{50}$

$\frac{4.7}{34} \frac{4.6}{34} \frac{5.3}{8} \frac{6.5}{5} \frac{5.5}{3} 5.2 \frac{5.0}{8} \frac{5.3}{18} \frac{6.7}{23} \frac{6.0}{25} \frac{6.3}{37} \frac{6.5}{50}$

$\frac{5.6}{50} \frac{5.4}{33} \frac{5.3}{8} \frac{6.6}{6} \frac{5.5}{3} 5.4 \frac{5.0}{8} \frac{5.4}{19} \frac{6.6}{23} \frac{5.2}{26} \frac{5.2}{39} \frac{5.3}{50}$

$\frac{6.7}{50} \frac{5.3}{34} \frac{6.0}{29} \frac{5.4}{8} \frac{6.6}{6} \frac{5.9}{3} 5.6 \frac{5.2}{8} \frac{5.2}{19} \frac{6.6}{24} \frac{5.3}{26} \frac{5.2}{38} \frac{5.2}{50}$

$\frac{6.8}{50} \frac{6.4}{31} \frac{6.0}{9} \frac{7.2}{6} \frac{5.7}{3} 5.6 \frac{5.2}{8} \frac{5.2}{18} \frac{6.5}{24} \frac{5.2}{26} \frac{5.2}{50}$

$\frac{6.0}{50} \frac{6.6}{41} \frac{5.8}{32} \frac{5.5}{9} \frac{6.6}{7} \frac{5.2}{4} 5.1 \frac{4.8}{8} \frac{5.1}{18} \frac{6.4}{22} \frac{5.1}{25} \frac{5.2}{50}$

$\frac{5.4}{50} \frac{6.1}{42} \frac{5.5}{35} \frac{5.0}{8} \frac{5.7}{6} \frac{5.0}{4} 4.8 \frac{4.5}{8} \frac{4.6}{19} \frac{6.2}{24} \frac{4.6}{27} \frac{5.4}{50}$

$\frac{5.2}{50} \frac{4.8}{33} \frac{4.6}{10} \frac{5}{9} \frac{4.6}{5} 4.6 \frac{4.4}{7} \frac{4.8}{18} \frac{6.1}{24} \frac{4.8}{28} \frac{5.5}{50}$

✓
91480

23 00.2

+50 00.2

24 00.2

+50 00.2

25 00.5

+50 00.4

26 00.4

+33² Mont & M.V. R.H. ✓ 00.3
B.M. 3.19 901.61

L1 $\frac{4}{5}$ R4

$\frac{55}{50}$ $\frac{53}{33}$ $\frac{50}{11}$ $\frac{61}{8}$ $\frac{48}{3}$ 46 $\frac{42}{7}$ $\frac{46}{17}$ $\frac{6.0}{24}$ $\frac{45}{26}$ $\frac{5.5}{50}$

$\frac{42}{50}$ $\frac{50}{29}$ $\frac{46}{12}$ $\frac{5.8}{9}$ $\frac{46}{5}$ 46 $\frac{43}{9}$ $\frac{44}{17}$ $\frac{5.5}{23}$ $\frac{4.5}{26}$ $\frac{5.2}{50}$

$\frac{50}{50}$ $\frac{46}{35}$ $\frac{48}{14}$ $\frac{62}{10}$ $\frac{47}{6}$ 46 $\frac{4.5}{8}$ $\frac{4.7}{19}$ $\frac{64}{24}$ $\frac{44}{27}$ $\frac{5.0}{50}$

$\frac{4.7}{50}$ $\frac{57}{41}$ $\frac{50}{34}$ $\frac{52}{12}$ $\frac{62}{10}$ $\frac{48}{7}$ 46 $\frac{4.6}{7}$ $\frac{4.7}{18}$ $\frac{60}{23}$ $\frac{48}{26}$ $\frac{48}{50}$

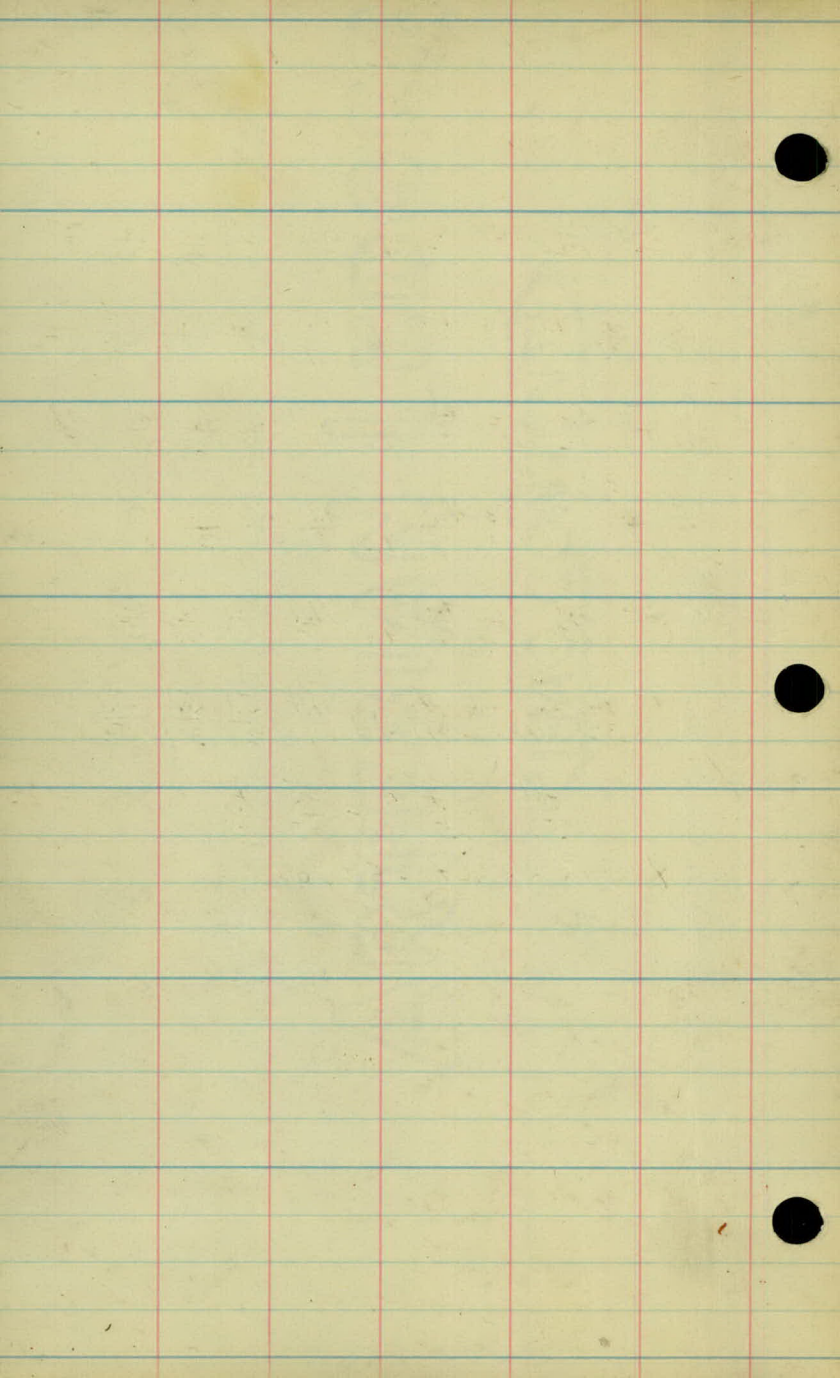
$\frac{4.6}{50}$ $\frac{5.6}{41}$ $\frac{48}{14}$ $\frac{53}{10}$ $\frac{4.7}{7}$ 43 $\frac{4.3}{6}$ $\frac{4.6}{16}$ $\frac{63}{21}$ $\frac{4.7}{24}$ $\frac{4.7}{50}$

$\frac{4.5}{50}$ $\frac{52}{30}$ $\frac{5.1}{15}$ $\frac{6.0}{12}$ $\frac{4.7}{9}$ 44 $\frac{4.9}{15}$ $\frac{6.0}{21}$ $\frac{48}{25}$ $\frac{5.0}{50}$

$\frac{4.0}{50}$ $\frac{48}{37}$ $\frac{42}{32}$ $\frac{51}{14}$ $\frac{56}{12}$ $\frac{44}{11}$ 44 $\frac{4.4}{9}$ $\frac{5.1}{20}$ $\frac{5.1}{37}$ $\frac{5.1}{50}$

$\frac{4.0}{50}$ $\frac{44}{25}$ $\frac{4.5}{25}$ $\frac{4.6}{50}$

Spr in 18" Oak 41 R4 25 + 90.



Souching's

Bridge on
County Rd. "J"

June
1934

B.M. 0.77 882.39 881.62
9.50 872.89

0 To 4.5 = Fine Quick sand

4.5 To 7' = Pressed Peet.

7' To 9' = Fine Sand + Blue Clay Mix.

9 To 20' = Fine Pressed Sand.

Sph in 24" Oz 65 Rt 10 + 60

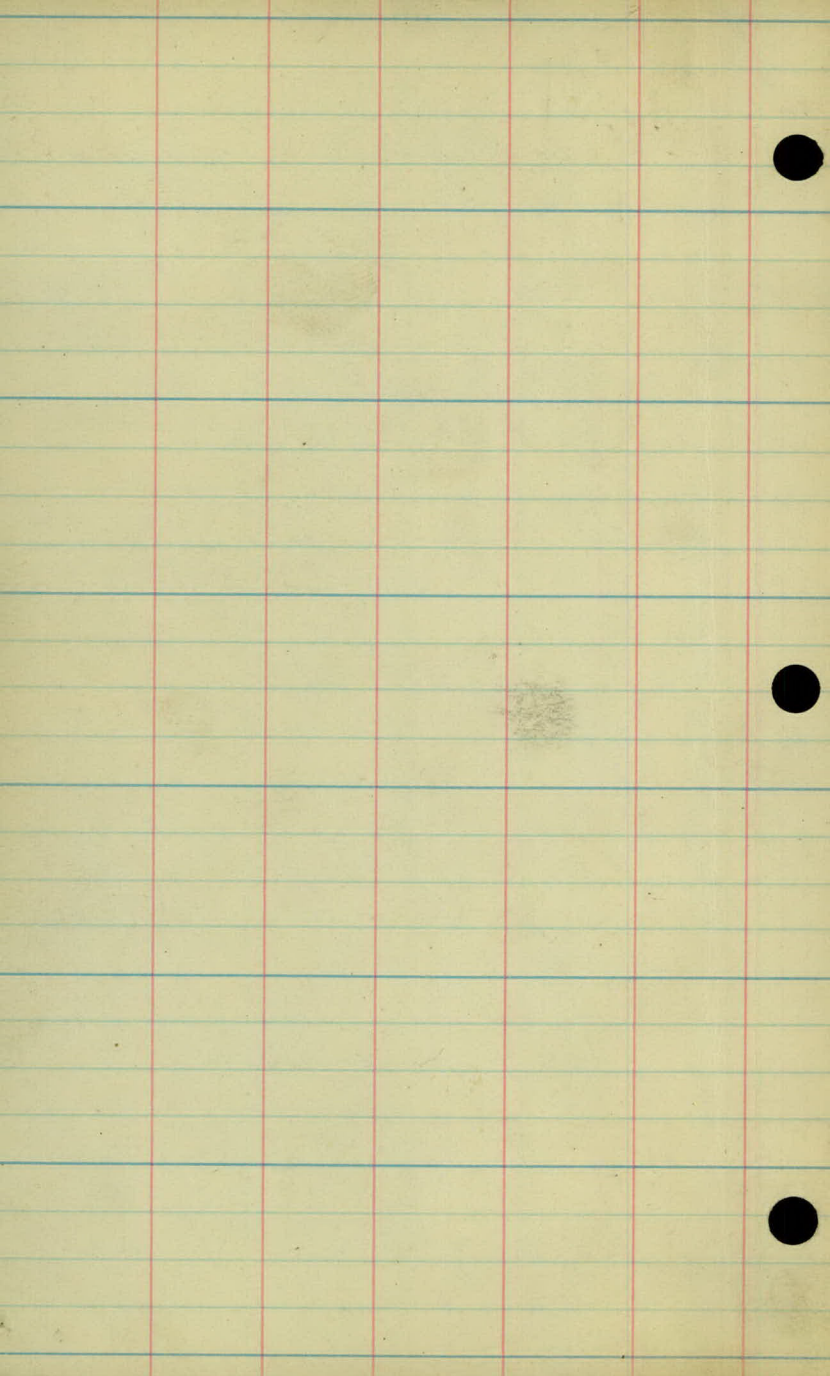
= Elev of ground at Sounding.

873 TO 868.50

868.50 TO 866.00

866.00 TO 864.00

864.00 TO 853.00



10/6/36

H.T. Portell

Rice Creek
Bridge
Co. Road I

£

EC = Edge Creek

T.B = Top Bank

4

$$\begin{array}{r}
 +85 \text{ Creek} \\
 +63 \text{ TB} \\
 10 - 17 \\
 +63 \text{ EC} \\
 0 - 12 \\
 \hline
 +83 \text{ TB} \quad \text{EC} \\
 0 - 28 \quad 8 - 21
 \end{array}$$

3

$$\begin{array}{r}
 \text{T.B} \quad \text{EC} \\
 12 - 40 \quad 15 - 34
 \end{array}$$

$$\begin{array}{r}
 +15 \text{ TB} - \text{EC} \\
 27 - 49 \quad 30 - 46 \\
 +50 \text{ TB} - \text{EC} \\
 24 - 46 \quad 31 - 42
 \end{array}$$

2

$$\begin{array}{r}
 \text{EC} \quad \text{T.B} \\
 24 - 38 \quad 20 - 43
 \end{array}$$

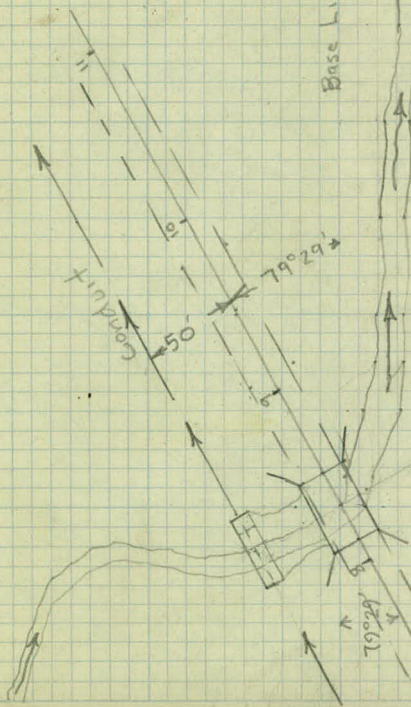
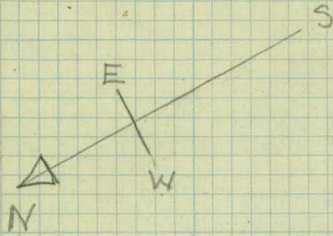
$$\begin{array}{r}
 +50 \text{ TB} \quad \text{EC} \\
 18 - 38 \quad 21 - 33
 \end{array}$$

1

$$\begin{array}{r}
 \text{T.B} - \text{EC} \\
 14 - 36 \quad 19 - 33
 \end{array}$$

$$\begin{array}{r}
 +24 \text{ PP} \\
 12 \\
 \text{Creek Bed} \quad 9 \\
 \text{Creek Bed} \quad 22 \\
 +17 \text{ Creek} \quad 1 - 16 \\
 \text{EC} \quad 0 - 14 \\
 +19 \text{ TB} - \text{EC} \\
 12 - 37 \quad 18 - 33 \\
 +50 \text{ Top Bank} - \text{EC} \\
 4 - 37 \quad 12 - 31 \\
 \text{Creek Bed} \quad 26 \\
 \text{Creek Bed} \quad 22
 \end{array}$$

00



Base Line

Rice Creek

8+43.43 ± Prop. Bridge
 # Aqueduct 50' Lt

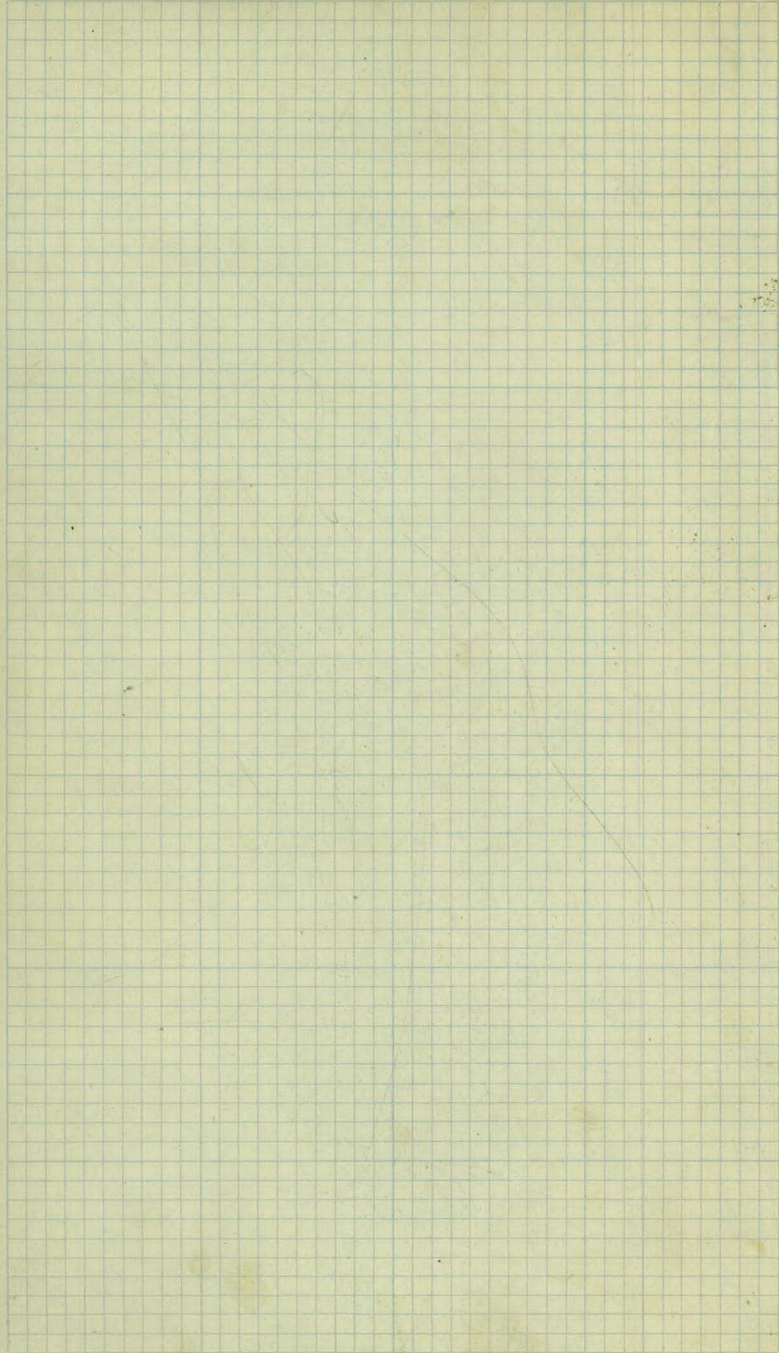
± Caisson in place 10/13/36 Sta 8+63.78

5.90 □ Sheetmg

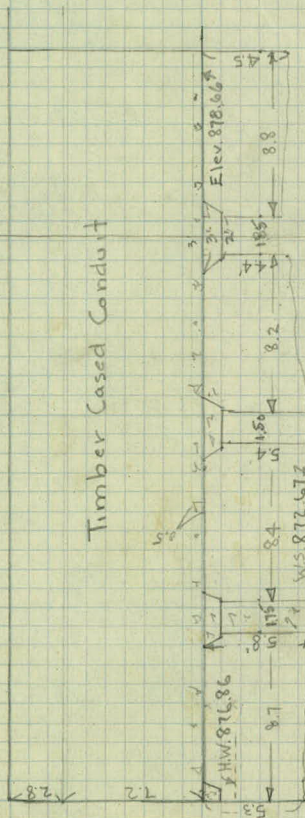
near Sta 8+63.78 for Pie #4

E. L.

1/11/37



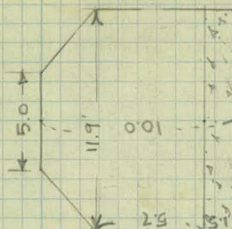
Timber Cased Conduit



South Elevation

Water Department Aqueduct

Scale 1" = 10'



Sec. A.A.

Scale 1" = 10'

81
76.86
4.14

