

UNDER-PASS LOCATION
CENTERVILLE-ROAD
CO. PROJ. 23-03
RD. $\frac{1}{2}$ No 2

Office of Ramsey Co. Engineer
ST. PETERS, MINN.

Date

4-20-23

File

"5"

Centerville Road.

"6" line Underpass

Transit Notes

Sta. 0+00 - 22+92²

2 - Pages

R. E. Austin - Transit
Skoglund } chain
Ruttenberg }
Walsh - Stake Artist
Cullen - Rear Flag.

① of 2

⊕
Ang L Ang R

4-17-23
Calc.
Beas.

12+26 "L" Int. "NG" Line 11+86

9+00 \checkmark E.C.

N63°-08'E \checkmark

7+61 \checkmark P.I

62°55' \checkmark

5+85 \checkmark B.C.

4+51 \checkmark R.R

N0°-13'E \checkmark

2+07 \checkmark Mont.

0°13' \checkmark

0+75 \checkmark P.O.T.

N0°-0'E \checkmark

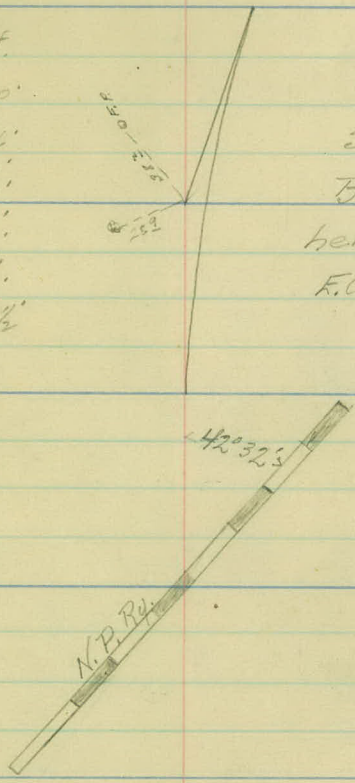
0+00 End. Pavement. Edjenton. St.

"L" line

±

Sta. - Def.
 5+85.6 - 0°00'
 6+00 - 10°26'
 + 50 - 60°26'
 7+00 - 110°26'
 + 50 - 160°26'
 8+00 - 210°26'
 + 50 - 260°26'
 9+00 - 310°26'
 + 00.2 - 310°27 1/2'

20° Curve, R.H.
 $\Delta = 62°55'$
 S.T. = 1+76.1 ✓
 B.C. = 5+85.6
 length = 314.6 ✓
 E.C. = 9+00.2



Mont. Cont. See 32



Ang. L. ~~Ang. R.~~

4-17-23
Calk
Bear

"L" line

$$\text{Equation} \begin{cases} 22 + 922 \approx \text{"L" line} = \\ 21 + 45.0 \text{ "S.C." line} \end{cases}$$

22 + 922 ✓ F.C.

N37°-35'E

20 + 342 P.I. ✓

5°09'

17 + 772 ✓ B.C.

14 + 425 ✓ F.C.

N32°-26'E ✓

13 + 680 P.I. 30°42' ✓

12 + 890 ✓ B.C.

N63°-08'E ✓

17+77 $\frac{1}{2}$ - 0 $^{\circ}$ 00'
 18+00 - 0 $^{\circ}$ 07'
 19+00 - 0 $^{\circ}$ 37'
 20+00 - 1 $^{\circ}$ 07'
 21+00 - 1 $^{\circ}$ 37'
 22+00 - 2 $^{\circ}$ 07'
 +92 $\frac{1}{2}$ - 2 $^{\circ}$ 34 $\frac{1}{2}$ '

F.P.
 53.25'
 20.55'
 T.P.

1 $^{\circ}$ Curve, Rt.
 $\Delta = 5^{\circ}09'$
 S.T. = 2572 ✓
 B.C. = 17+77 $\frac{1}{2}$
 length = 5150 ✓
 E.C. = 22+92 $\frac{1}{2}$

Sta. Def.
 12+892 - 0 $^{\circ}$ 00'
 13+00 - 1 $^{\circ}$ 06'
 +50 - 6 $^{\circ}$ 06'
 14+00 - 11 $^{\circ}$ 06'
 +42 $\frac{1}{2}$ - 15 $^{\circ}$ 21'

F.P.
 53.25'
 20.55'
 T.P.

2 $^{\circ}$ Curve, left.
 $\Delta = 3^{\circ}42'$
 S.T. = 790 ✓
 B.C. = 12+890
 length = 1+53 $\frac{1}{2}$ ✓
 E.C. = 14+42 $\frac{1}{2}$

Ang. 6 ⁴ Ang. TR.

Centerville Road

"L" line

Sta 0+00 to 22+92.2

Artificial Topography.

3 Pages.

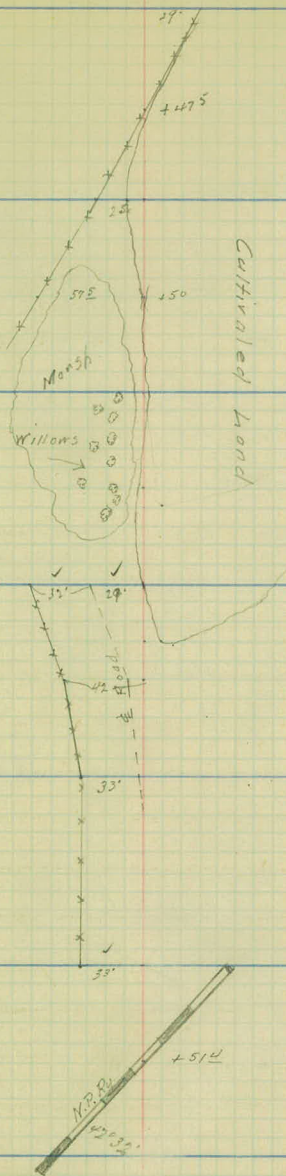
R.F. Austin Notes

Skoglund } chain -
Rattenberg }

0 of 3

4-19-29

"L" line



Topography for Sta. 0+00 To 5+00
Same as N.C. line

② of 3

"L" line

4-19-23

(2) of 3 17400

Cultivated Field

25x48 House

164 ± Driveway

Drive
36" track

Orchard

Garden

N.E.R.R.

12402 Fence

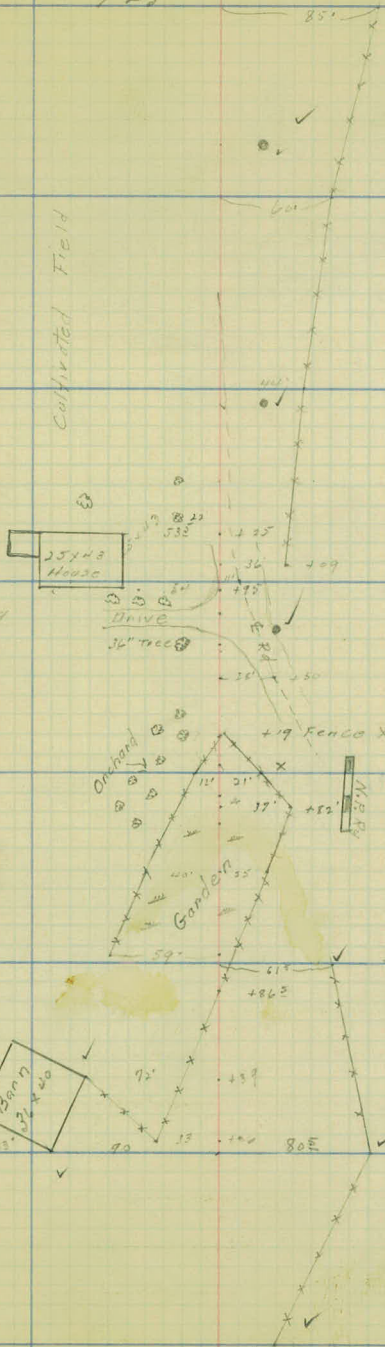
100 End Fence 12400

Bar N
32 x 40

106 Fence Cor. 33'

102 Δ of Fence 11400

10-100



127 T.P. 211 R

16400

192 T.P. 221 R

15400

12400

175 T.P. 301 R

150 L. 1050 R

103 RR x 21400 12400

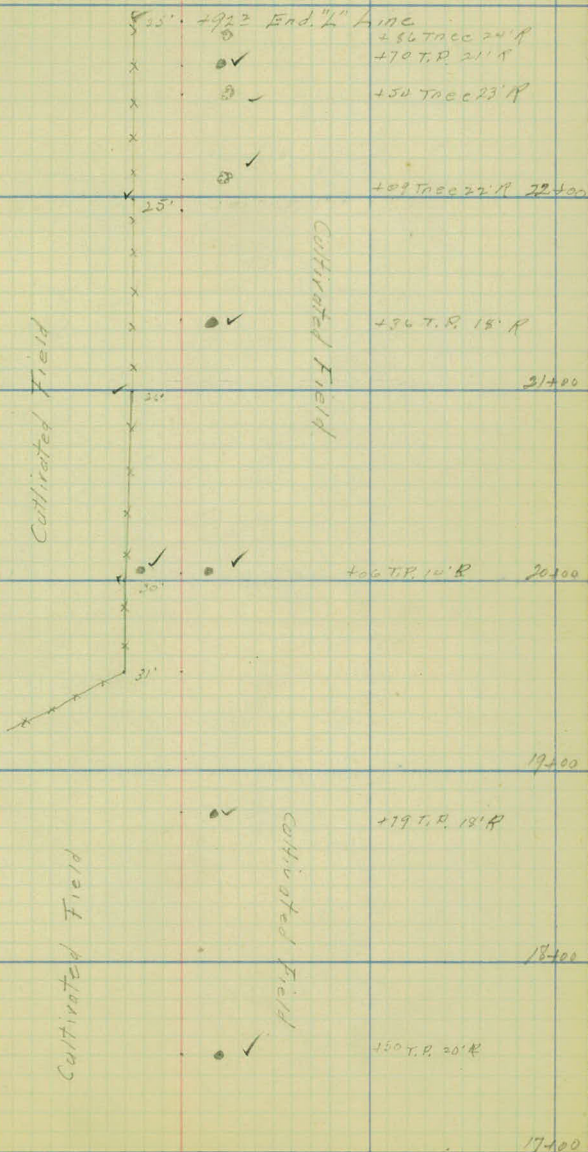
184 RR 194 R.R. ✓

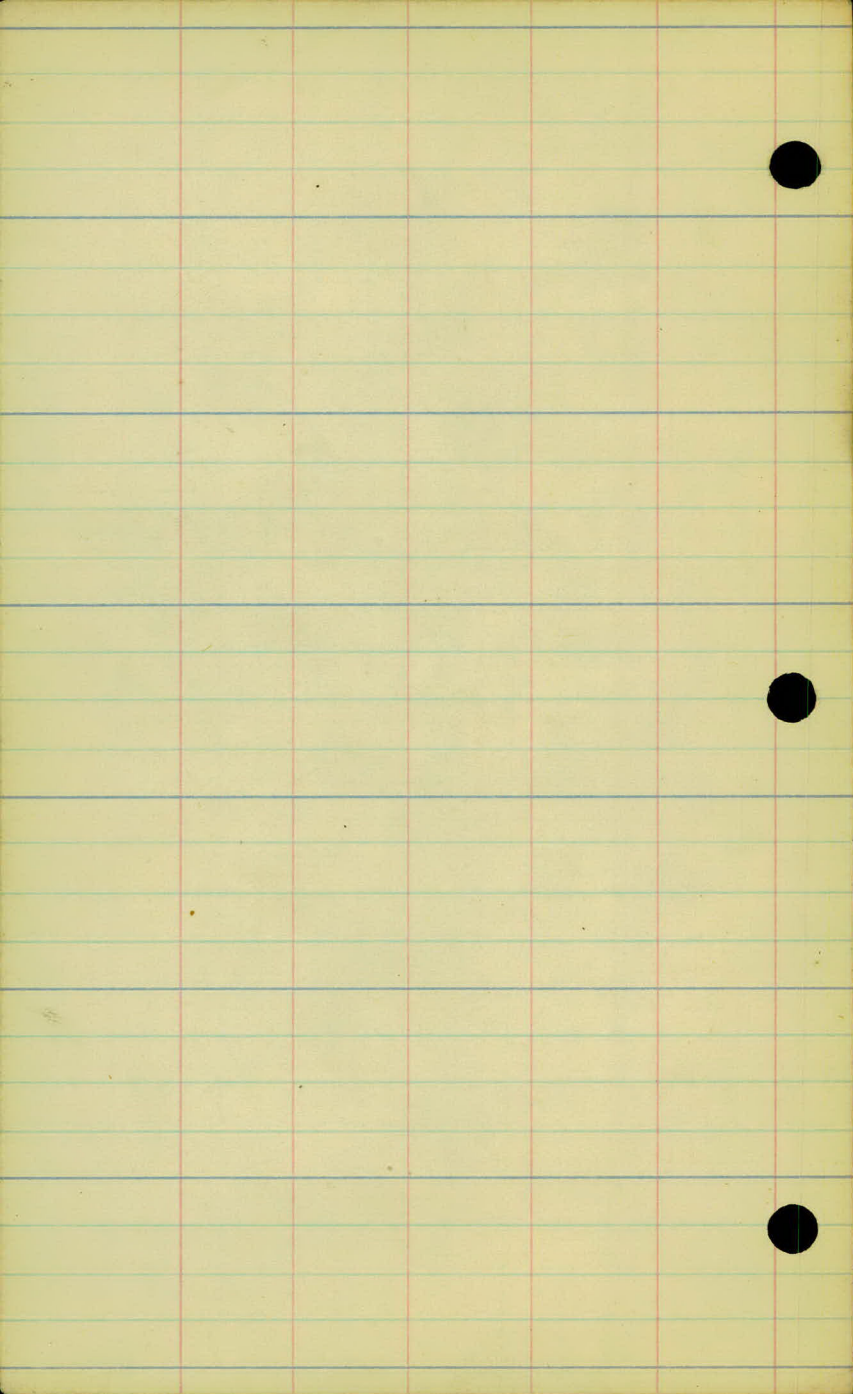
100

201

"L" line

"L" line





"L" Line Levels

R.L.
W.M.

'L' Line Levels Sheet 1 of 4

Station	BS.	H.I.	F.S.	Rod	Elev
					220.00
	3.76	223.76 ✓			
0+00				4.76	219.00 ✓
-1+00				5.3	218.5 ✓
-2+00				5.9	217.9 ✓
-3+00				6.5	217.3 ✓
1+00				4.8	219.0 ✓
2+00				8.0	215.8 ✓
B.M.			(79.3)		215.83 ✓
3+00				11.4	212.4 ✓
4+00			12.47		211.29 ✓
	2.65	213.94 ✓			
4+00	6.41			4.1	209.8 ✓
+53.75				4.26	209.68 ✓
+69				4.5	209.4 ✓
5+00				7.3	206.6 ✓
+85.6			12.54		201.40 ✓
	1.69	203.09 ✓	25.01 6.41		
6+00			19.60	.17	201.4 ✓
+50		220.00		6.3	196.8 ✓
7+00		201.40		10.7	192.9 ✓
+50		19.60		11.6	191.5 ✓
8+00				12.1	191.0 ✓
+50				11.4	191.7 ✓
9+00				9.56	193.53 ✓

B.M. Cherry Tree N.E. Cor of Centerville Edgerton Rds

RJL } 4-17-23
W.M. }

Moument 2707.4 High corner

Top of Hub 5785.6 TP BC,

EC,

2' Line Levels Sheet #2 of 4

Station	B.S.	H.I.	F.S.	Rod	Elev
	1.69	203.09 ✓			
9+48				8.2	194.9 ✓
10+00				6.1	197.0 ✓
+50				5.3	197.8 ✓
+84				10.5	192.6 ✓
11+20				7.1	196.0 ✓
11+20			1.06		202.03 ✓
	12.31	214.34 ✓			
11+42				10.0	204.3 ✓
12+00				4.1	210.2 ✓
			0.50		213.84 ✓
	7.90	221.74 ✓			
12+50	21.90			5.9	215.8 ✓
+89°	2.09			2.8	218.9 ✓
13+00	19.81			2.4	219.3 ✓
+50				3.7	218.0 ✓
+73				4.8	216.9 ✓
14+00	227.21			4.9	217.3 ✓
	201.40				
14+25	19.81			3.7	218.0 ✓
			(2.07)		219.67 ✓
15+00				2.8	218.9 ✓
16+00				1.7	220.0 ✓
17+00				0.9	220.8 ✓
			0.53		221.21 ✓
	5.26	226.47 ✓	2.09		

	203.04
	106
	<u>202.03</u>
R.I.L.	1231
W.M. } 4-17-23	<u>214.34</u>
	0.52
	<u>213.84</u>
	790
	<u>221.74</u>
	202
	<u>219.72</u>

	221.74
	0.53
	<u>221.21</u>
	526
	<u>226.47</u>
	309
	<u>223.38</u>

TP

BC.

EC.

B.M. dial in Tele Pole "5C" 13+25 15' R Elev 219.66

TP, Top of stake 17 to 0

Sheet # 3 of 4 "Li Line Levels"

Station	B.S.	H.I.	F.S.	Rod	Elev
	5.26	226.47	✓		
18+00				5.3	221.2 ✓
19+00				4.7	221.8 ✓
20+00				4.3	222.2 ✓
21+00				3.7	222.8 ✓
22+00				3.4	223.1 ✓
			3.09		223.38 ✓
22+922				3.06	223.41 ✓
	5.26				221.21
	3.06				220
	2.20				

R.H.
W.M. } 4-17-23

End of "S" Line on spike Elev 223.37

" " "L" " " "

"L" Line
Cross Sections

P.L.L.
W.M.
J.C.

Station		Elev	
Station		Elev	
-3+00		217.3	R.L. W.M. J.C. } 4-18-23
-2+00		217.9	
-1+00	5.1	218.5	
0+00	4.6	219.0 ✓	
+50	4.0	219.6 ✓	4.0
1+00	4.7	219.0 ✓	
+25	4.9	218.8 ✓	
2+00	7.8	215.8 ✓	
3+00	11.1	212.4 ✓	
4+00	2.2	209.8 ✓	
+51+	2.4	209.7 ✓	
+69	2.5	209.4 ✓	
5+00	5.4	206.6 ✓	
6+00	1.9	201.4 ✓	
+50	5.5	196.8 ✓	

L

Q

R

$$\frac{27-00}{33} \frac{24}{29} \frac{24}{27} \frac{24}{33} \frac{20}{21} + \frac{04}{15} + \frac{01}{10} + \frac{01}{10} + \frac{03}{15} - \frac{33}{22} - \frac{33}{26} - \frac{20}{27} - \frac{18}{33}$$

$$+ \frac{13}{33} + \frac{04}{25} \frac{14}{21} \frac{14}{19} + \frac{06}{15} + \frac{01}{10} + \frac{01}{16} + \frac{09}{15} - \frac{20}{21} - \frac{20}{25} - \frac{07}{28} - \frac{08}{33}$$

$$+ \frac{02}{33} \frac{06}{25} \frac{15}{23} \frac{15}{14} + \frac{03}{16} \frac{00}{10} + \frac{01}{10} + \frac{06}{16} - \frac{05}{20} - \frac{05}{24} + \frac{08}{25} + \frac{08}{33}$$

$$+ \frac{08}{33} + \frac{01}{24} \frac{09}{23} \frac{09}{19} + \frac{01}{15} + \frac{03}{10} - \frac{01}{16} + \frac{03}{15} - \frac{07}{19} - \frac{07}{23} + \frac{05}{24} + \frac{08}{33}$$

Q of Centerville Rd → + $\frac{05}{22}$

Q of Cent Rd

$$- \frac{22}{33} \frac{18}{26} \frac{11}{20} - \frac{10}{16} + \frac{03}{10} \frac{00}{22} - \frac{01}{33}$$

Q of Kodnais Blvd - $\frac{16}{33}$

+ $\frac{09}{33}$ ← Q of Cent Rd

$$- \frac{01}{33} \frac{17}{29} \frac{13}{14} - \frac{01}{12} + \frac{00}{12} \frac{07}{16} - \frac{07}{20} - \frac{01}{22} + \frac{32}{29} + \frac{32}{33}$$

$$- \frac{22}{33} \frac{11}{21} \frac{22}{20} \frac{22}{16} - \frac{05}{11} - \frac{03}{11} \frac{07}{18} - \frac{03}{22} + \frac{42}{33}$$

$$- \frac{43}{33} \frac{37}{19} \frac{00}{12} \frac{00}{7} - \frac{07}{12} - \frac{06}{21} - \frac{05}{33}$$

$$- \frac{29}{33} \frac{12}{26} \frac{08}{14} + \frac{08}{13} \frac{41}{20} - \frac{67}{33}$$

$$- \frac{42}{33} \frac{39}{23} \frac{22}{15} - \frac{04}{7} \frac{01}{21} + \frac{02}{24} - \frac{10}{33}$$

$$- \frac{18}{33} \frac{28}{24} \frac{23}{16} - \frac{08}{12} \frac{00}{8} - \frac{01}{12} - \frac{09}{28} - \frac{08}{22} + \frac{17}{30} + \frac{21}{33}$$

$$+ \frac{16}{33} - \frac{09}{24} \frac{25}{25} \frac{19}{18} - \frac{04}{12} - \frac{14}{15} - \frac{14}{16} + \frac{02}{18} + \frac{05}{33}$$

Q of Bod Rd

$$- \frac{29}{33} \frac{27}{26} \frac{05}{20} + \frac{00}{8} - \frac{04}{6} - \frac{09}{8} - \frac{09}{9} + \frac{09}{11} + \frac{18}{25} + \frac{02}{33}$$

Plowed Field ↗

L Line Cross Section

Station		Elev		
7+00	9.8	192.4	✓	R.I.L. W.M. J.C. } 4-18-23
+50	11.0	191.5	✓	
8+00	11.0	191.0	✓	
+50	10.6	191.7	✓	
9+00	8.9	193.5	✓	
+47.5				
10+00	7.0	197.0	✓	
+50	6.3	197.6	✓	
+84	11.6	198.6	✓	
11+00	8.0	196.0	✓	
+42	-0.5	204.3	✓	
12+00	6.4	210.2	✓	
12+50	5.4	215.8	✓	

L

Q

R

$$+ \frac{11}{33} + \frac{1.3}{24} + \frac{1.0}{11} + \frac{0.6}{5} - + \frac{2.7}{33}$$
 Plowed Field

Swamp
$$- \frac{1.7}{33} + \frac{2.5}{33}$$
 " "

"
$$- \frac{2.0}{33} + \frac{2.6}{33}$$
 Plowed Field

"
$$- \frac{2.4}{33} + \frac{3.0}{33}$$
 " "

Swamp
$$- \frac{3.1}{33} - \frac{3.0}{20} + \frac{2.6}{33}$$
 Plowed Field

Fence

$$- \frac{5.0}{33} - \frac{1.9}{22} + \frac{1.3}{27} + \frac{2.3}{32}$$
 Plowed Field

$$- \frac{2.4}{33} - \frac{4.8}{30} - \frac{5.9}{18} + \frac{1.0}{3} + \frac{2.7}{24} + \frac{4.5}{33} + \frac{10.0}{50}$$

?
$$+ \frac{6.2}{33} + \frac{7.0}{24} + \frac{2.2}{7} + \frac{2.4}{10} + \frac{9.8}{27} + \frac{10.4}{33} + \frac{17.2}{50}$$

$$+ \frac{3.9}{33} + \frac{4.9}{12} + \frac{3.9}{6} - \frac{0.8}{3} - \frac{3.0}{7} - \frac{3.0}{12} - \frac{1.8}{15} + \frac{6.5}{22} + \frac{7.3}{33} + \frac{4.5}{50}$$

$$- \frac{1.9}{33} - \frac{1.7}{19} - \frac{2.0}{5} - \frac{11.0}{15} - \frac{11.1}{23} - \frac{9.6}{26} - \frac{6.9}{33} - \frac{0.0}{47}$$

$$+ \frac{2.9}{33} + \frac{0.9}{5} + \frac{1.6}{15} - \frac{0.0}{16} - \frac{2.6}{22} - \frac{6.3}{30} - \frac{15.6}{46} - \frac{14.4}{57}$$

$$- \frac{2.7}{33} + \frac{0.6}{21} - \frac{0.0}{26} - \frac{1.3}{30} - \frac{3.6}{33} + \frac{8.4}{46} - \frac{18.6}{58}$$

L' Line Cross Sections

Station		Elev	
12+89°	2.3	218.9	✓
			R.I.L. W.M. } 4-18-23 J.C.
13+00	1.9	219.3	✓
+50	6.0	218.0	✓
+73	6.9	216.9	✓
14+00	6.8	217.3	✓
15+00	5.2	218.9	✓
16+00	4.1	220.0	✓
17+00	3.3	220.8	✓
18+00	3.0	221.2	✓
19+00	5.6	221.8	✓
20+00	5.2	222.2	✓
20+00	4.6	222.8	✓

Sheet # 3 of 4

L

Q

R

$$-\frac{1.3}{33} - \frac{2.0}{26} - \frac{2.0}{22} - \frac{0.7}{17} - \frac{0.5}{21} - \frac{2.4}{33}$$

$$\frac{0.0}{33} - \frac{1.6}{26} - \frac{1.6}{16} - \frac{0.5}{11} - \frac{1.3}{24} - \frac{3.1}{33}$$

$$+\frac{2.0}{33} + \frac{1.5}{15} - \frac{0.6}{9} - \frac{1.9}{12} - \frac{1.9}{13} - \frac{1.4}{15} - \frac{1.2}{27} - \frac{6.2}{33}$$

$$+\frac{3.1}{33} + \frac{2.9}{26} + \frac{0.5}{10} - \frac{0.9}{3} - \frac{0.9}{4} - \frac{0.2}{6} - \frac{0.0}{20} - \frac{0.4}{33}$$

$$+\frac{3.3}{33} + \frac{2.5}{26} + \frac{1.1}{12} + \frac{0.8}{8} - \frac{0.5}{6} - \frac{0.5}{5} - \frac{0.0}{4} + \frac{0.3}{10} - \frac{0.8}{25} - \frac{0.3}{33}$$

$$+\frac{2.1}{33} - \frac{0.1}{14} - \frac{1.0}{15} - \frac{1.0}{13} - \frac{0.2}{10} - \frac{0.5}{14} - \frac{1.2}{18} - \frac{1.1}{33}$$

$$+\frac{0.2}{33} + \frac{0.1}{24} - \frac{0.9}{17} - \frac{0.4}{12} - \frac{0.6}{12} - \frac{1.3}{19} - \frac{2.0}{33}$$

$$+\frac{1.1}{33} + \frac{0.2}{22} - \frac{0.8}{17} - \frac{0.8}{14} - \frac{0.5}{16} - \frac{0.3}{10} - \frac{0.2}{12} - \frac{0.2}{16} - \frac{1.1}{18} - \frac{2.0}{33}$$

$$+\frac{0.9}{33} + \frac{0.7}{26} \frac{0.1}{16} - \frac{0.1}{12} - \frac{0.3}{12} - \frac{1.8}{33}$$

$$+\frac{0.6}{33} + \frac{0.6}{24} - \frac{0.3}{17} - \frac{0.4}{11} - \frac{0.6}{10} - \frac{1.7}{11} - \frac{1.7}{18} - \frac{1.0}{16} - \frac{2.2}{33}$$

$$+\frac{1.1}{33} + \frac{0.6}{24} - \frac{0.6}{18} - \frac{0.6}{16} - \frac{0.1}{12} - \frac{0.6}{10} - \frac{1.3}{12} - \frac{1.3}{14} - \frac{0.5}{15} - \frac{2.0}{33}$$

$$+\frac{0.6}{33} + \frac{0.6}{16} - \frac{0.6}{14} - \frac{0.6}{13} - \frac{0.1}{10} - \frac{0.9}{12} - \frac{1.2}{13} - \frac{1.2}{14} - \frac{0.4}{17} - \frac{1.7}{33}$$

"L" Line Cross Sections

Station		Elev
22+00	4.2	223.1 ✓

+ 92.2 = 40 223.4 ✓ End of "L" Line

Σ 1 + 45 - "SC" Line

L

Q

R

$$+\frac{0,3}{33} + \frac{0,2}{17} - \frac{0,9}{13} - \frac{0,9}{11} - \frac{0,3}{8} - \frac{0,8}{14} - \frac{1,4}{15} - \frac{1,4}{16} - \frac{0,8}{18} - \frac{1,4}{33}$$

$$+\frac{0,2}{33} + \frac{0,1}{14} - \frac{0,9}{12} + \frac{0,9}{10} - \frac{0,2}{6} - \frac{0,4}{14} - \frac{1,3}{16} - \frac{1,3}{17} - \frac{0,2}{21} - \frac{0,8}{33}$$

"L" Line Cross Section

1/4 Cor. □ Mont 28+34.5

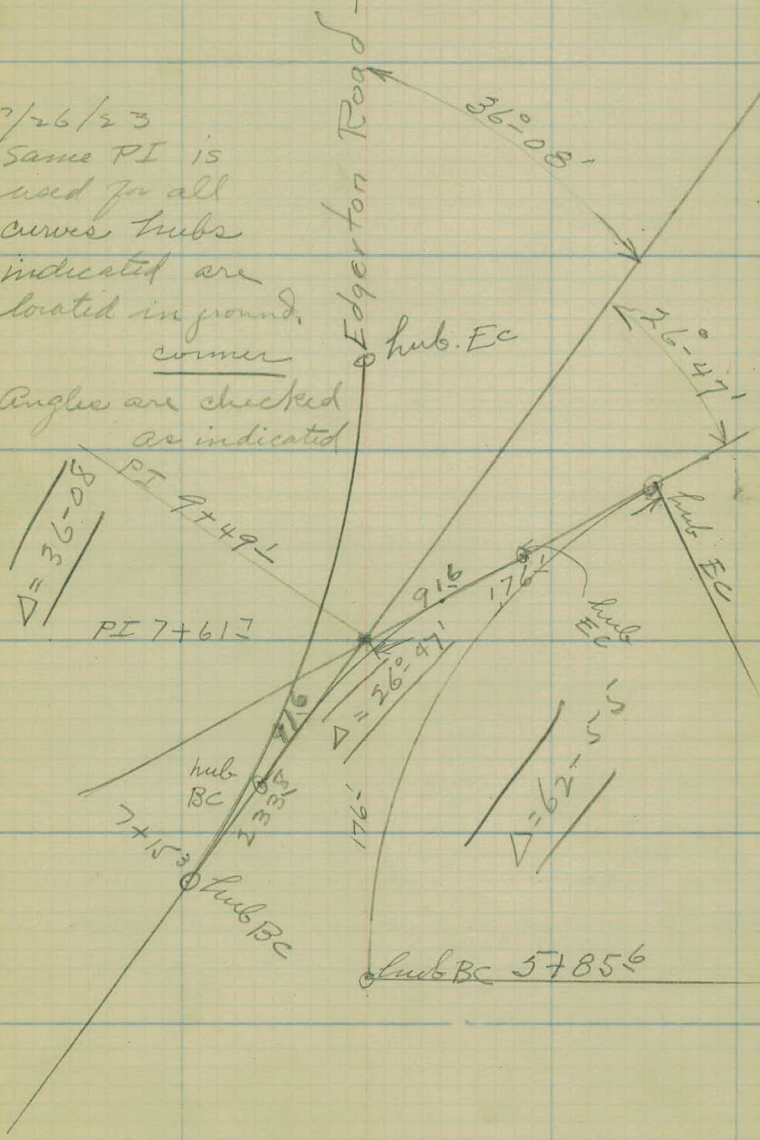
2/26/23
Same PI is
used for all
curves hubs
indicated are
located in ground.
corner

Angles are checked
as indicated

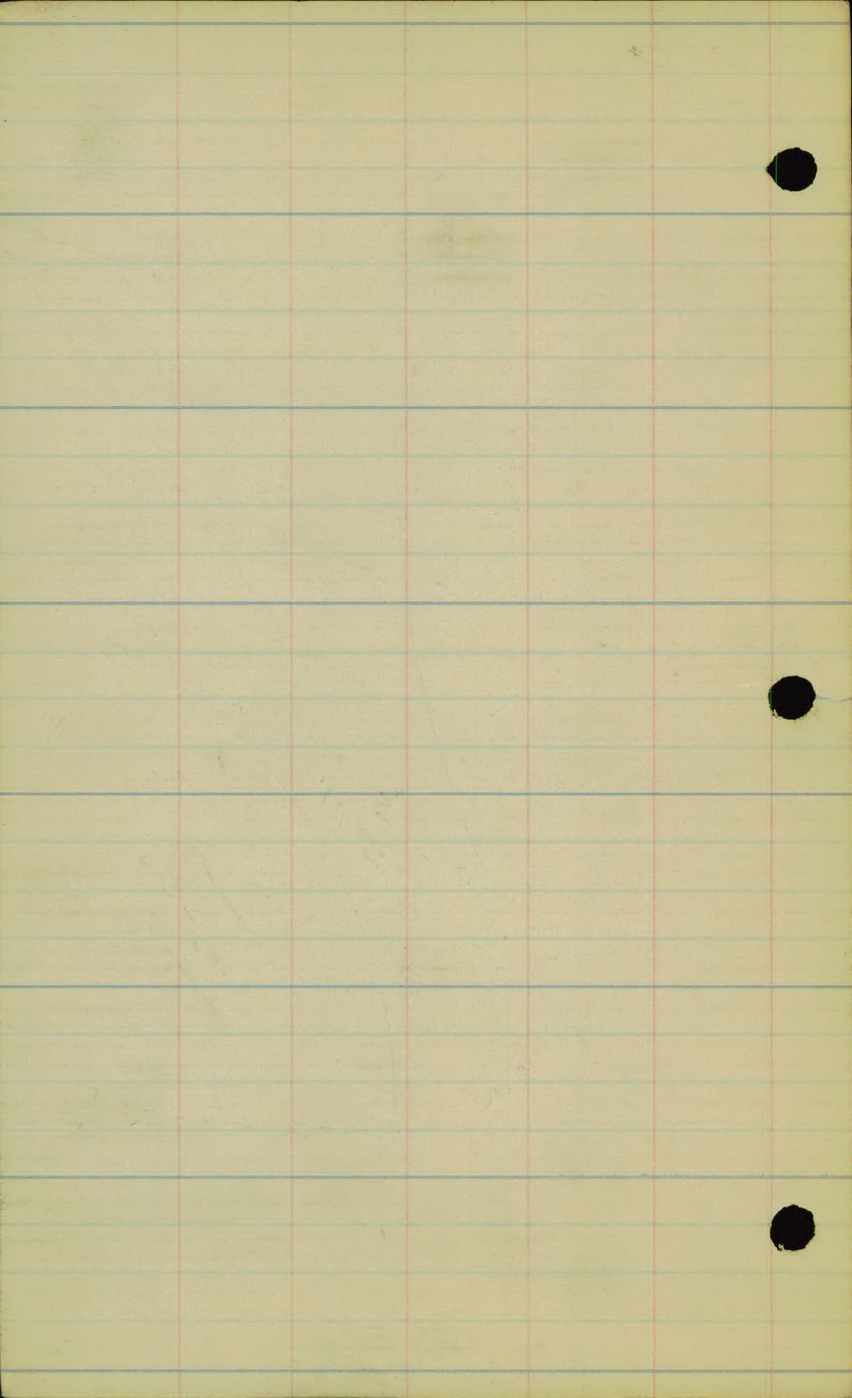
$\Delta = 36-08$

PI 7+49.1

PI 7+61.7



center Sec 32 □ Mont 2+07.4



Plans on hand inspection
Proj. 23-03

7/20/23
E.G.B.
R.J.W.
H.D.V.

0+74 F.E. to be built
R. 15" x 35' ✓

30" Pipe under Edgerton
W/H6 under new alignments
cattle pass ✓

13+65 F.E. L.
12" x 16' C.M. in P. ✓
Cond. OK,

15+00 Ent. R. ✓
P. 12" x 25'

22+00 F.E. R & L. ✓
P. 2-12" x 25'

24+50 Ent. L. ✓
P. 12" x 25'

27+30

A. E. R.
P. 12¹¹ x 25¹

Vadnais Blvd - Centerville Road.

"V.h." line

Transit Notes.

Sta. 0+00 - 11+41^E

2-Pages

R.F. Austin Transit
Skoglin } chain
Rattenberg }

0 of 2

4

4-18-23

Ang. L. Ang. R.

"V.L." Line

6+51.85 P.O.T.

3+05⁴⁴ F.C.

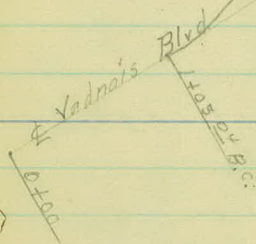
2+160 P.I. 58007

1+05⁰⁴ T.B.C.

0+00 spike

Sta. - Elev.

1+05 ⁰⁰	- 0000'
+ 50	- 6031'
2+00	- 13046'
+ 50	- 21001'
3+00	- 28016'
+ 05 ⁴⁴	- 29003 ¹ / ₂ '



29° Curve L.

$$\Delta = 58^{\circ}07'$$

$$S.T. = 110.96 \checkmark$$

$$B.C. = 1+05^{\circ}04'$$

$$\text{length} = 200.4 \checkmark$$

$$P.C. = 3+05^{\circ}44'$$

Ang h $\frac{1}{2}$ Ang. R.

"V.L." line

213

Equation $11 + 419 \text{ "V.L."} = 9 + 100 \text{ "h" line}$

10 + 368 E.C.

9 + 494 P.I.

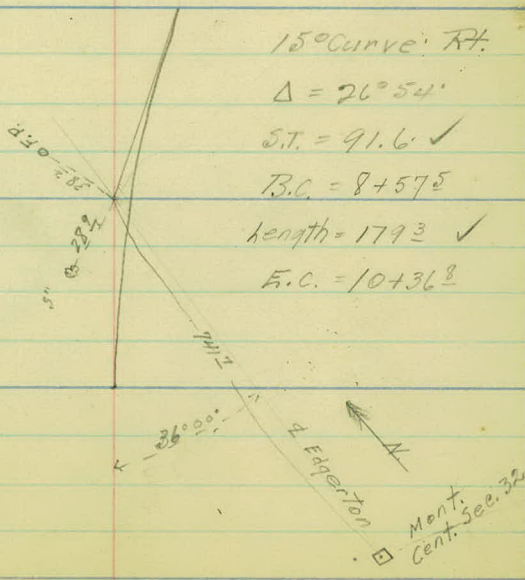
26° 54'

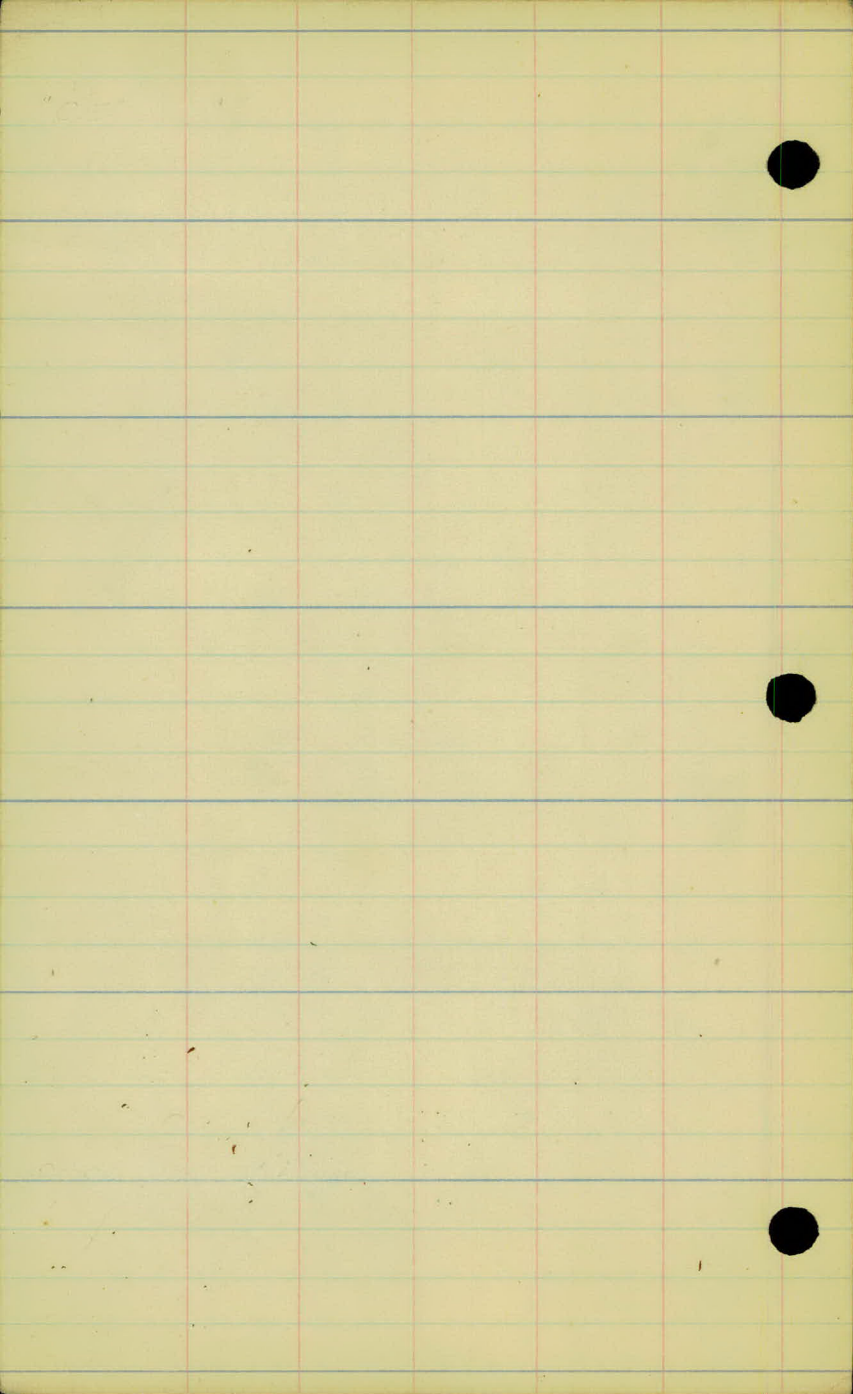
8 + 575 B.C.

"V.h." line.

Sta. - Def.
 8+57.5 - 0°00'
 9+00 - 3°11'
 +50 - 6°56'
 10+00 - 10°41'
 +36.8 - 13°27'

15° Curve RT.
 $\Delta = 26°54'$
 S.T. = 91.6 ✓
 B.C. = 8+57.5
 length = 179.3 ✓
 E.C. = 10+36.8





Vadnais Blvd. - Centerville Road.

"V.L." line

Artificial Topography

Sta. 0+00 - 11+41.5

2 Pages

R. E. Austin Notes
Skoglund } chain
Rattenberg }

"V.L." Line

125'

Lake Vadnois

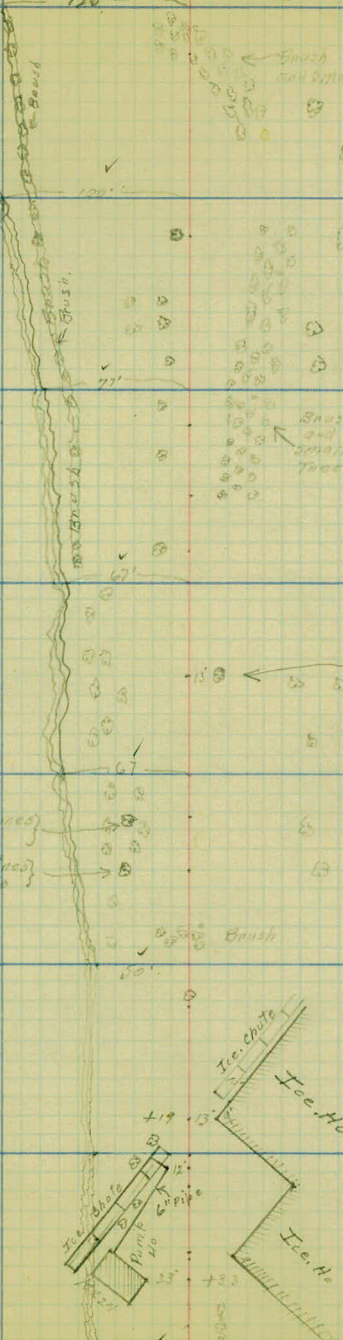
561 30' Tree 4' L

480 36' Tree 10' L

477 Tree 2 Cable Lines }
Trace to Ice. Ho.
450 Tree 2 Cable Lines }
Trace to Ice. Ho.

478 Tree 21' L
478 Sign. P. 11' L

408 Tree 13' L
400 Tree 17' L



Bush and small trees

Bush and small trees

447 Tree 2 Cables }
Trace to Ice. Ho.

Bush

Ice. chute
Ice. Ho.

Ice. chute
Ice. Ho.
Pump Ho. & Pipe

Ice. Ho.

6400

5400

4400

3400

2400

1400

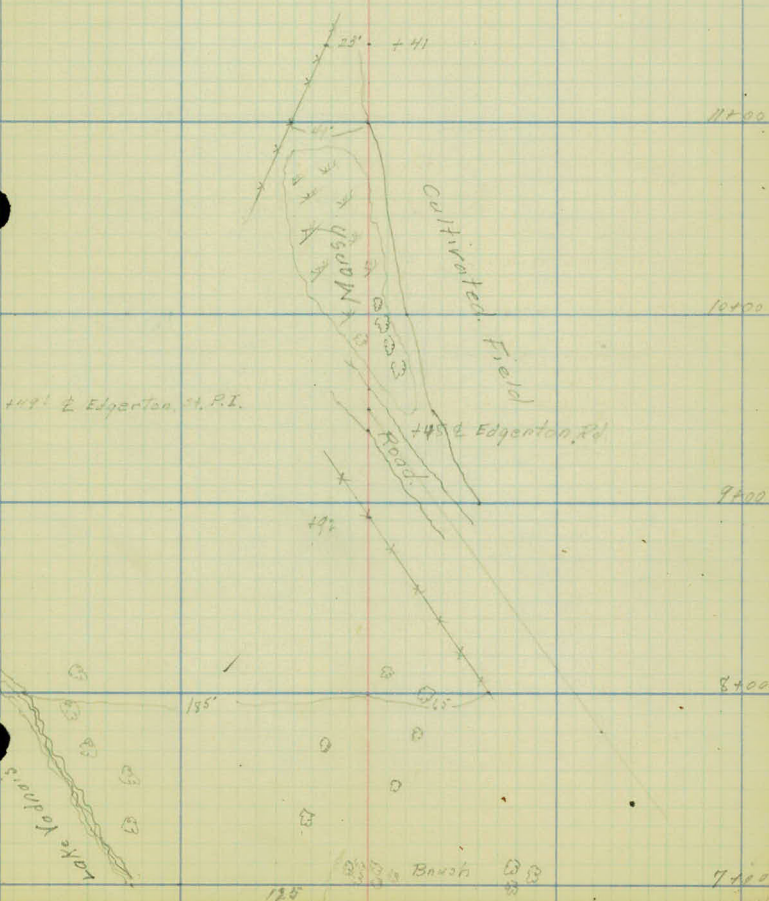
0400

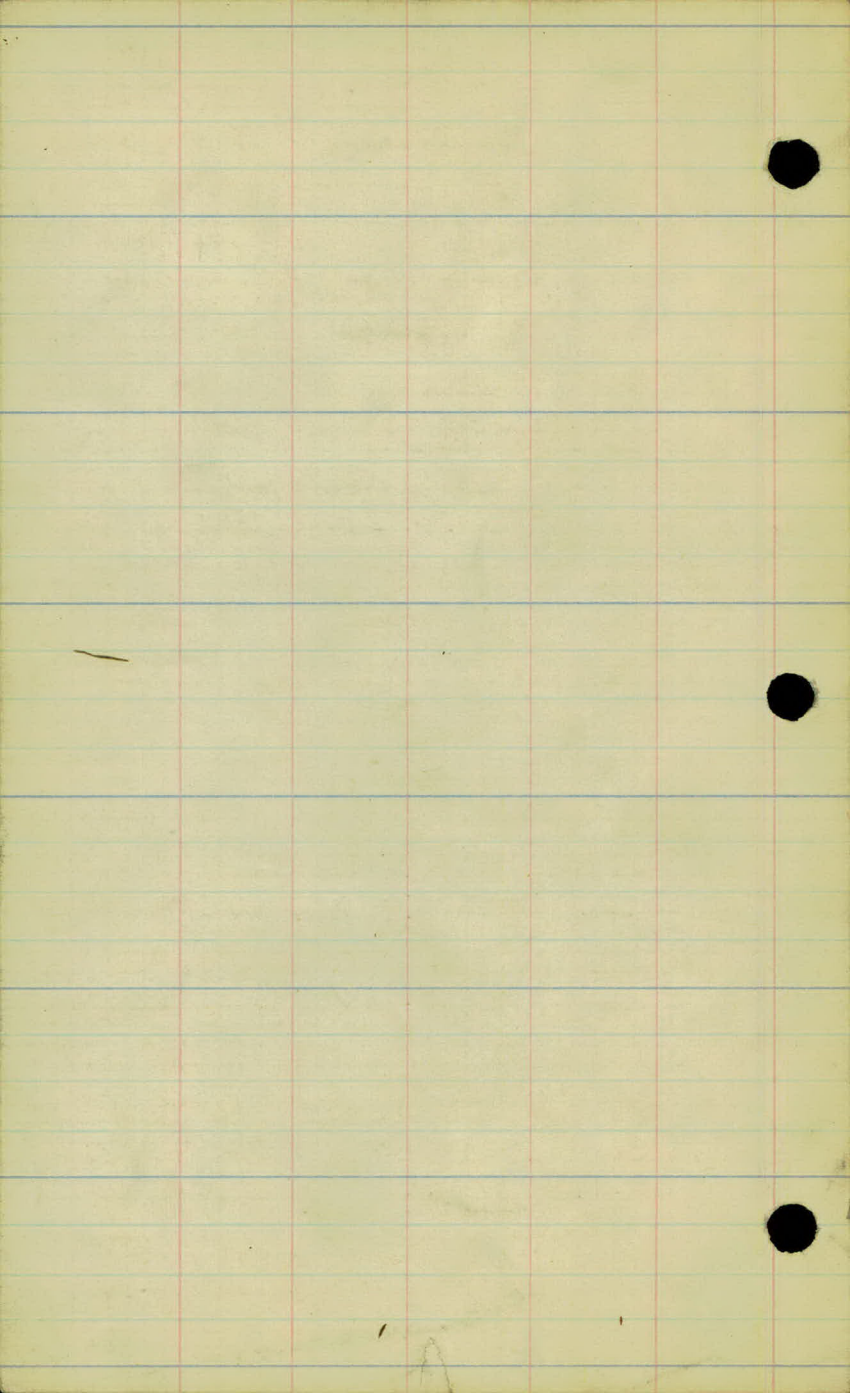
② 0520

4-18-23

"V.h." line

"V.h" line





"VL" Line Levels

3 Sheets

R.L.
WM } 4-18-23

"VL" Line Levels Sheet #1 of 3

Station	B.S.	H.I.	F.S.	Rod	Elev
	1.90	217.73			215.83
			12.47		205.26
	1.36	206.62			
0+00				7.6	199.0
1+00				5.3	201.3
+65				5.6	201.0
2+00				4.8	201.8
+50				6.7	199.9
+94				8.0	199.6
3+00				6.8	199.8
			11.53		195.09
	2.67	197.76			
4+00	5.93			5.6	192.2
5+00				6.7	191.1
6+00				5.9	191.9
+51.8				4.65	193.11
7+00				4.1	193.7
8+00			3.41		194.35
	2.98	197.33	2.74		
8+00			5.93	4.6	192.7
+57.5			21.18	5.99	191.54
9+00			215.83	6.5	190.8
+15			194.35	6.6	190.7
+21			21.48	4.6	192.7
+35				4.1	193.2
+50				4.7	192.6

BM Monument "L" Line 2+07.4 Elev 215.83

Top of bub

1.7

B.C.

Q of Edgerton road

"V" Line Levels

Station	B.S.	I.I.	F.S.	Rod	Elev
9+55	298	197.33		5.0	192.3
+62				7.6	189.7
10+00				8.1	189.2
+36.8				7.6	189.7
11+00				5.5	191.8
+41.5 = "L" 9+00.2				3.83	192.50

0.06 197.27 ✓

7.13	204.40		
<u>10.81</u>		2.99	201.41
<u>3.05</u>		<u>3.05</u>	194.35
7.06			<u>7.06</u>

Culvert

EC,

End of "VL" Line

201.40

T.P. On top of hub "L" Line B.C. 5785.6 Ele 201.40

"VL" Line Levels

Station

Elev

0+00

"VL" Line
Cross Sections

Sheets

B.M.

30

31

315

- "VL" Line Cross Section

Station	Elev
0+00	1990.
1+00	2013.
+50	2010.
2+00	2018.
+45	2011.
+50	1999.
460	2008.
+80	2006.
+94	1986.
3+00	1998.
4+00	1922.
5+00	1911.
6+00	1917.
7+00	1937.
8+00	1927.
+57.5	1915.

R.H.
W.M.
J.C. } 4-19-23

$$-\frac{115}{45} - \frac{105}{34} - \frac{100}{27} - \frac{43}{25} - \frac{17}{18} - \frac{08}{10} - \frac{03}{9} - \frac{05}{13} - \frac{38}{22} - \frac{38}{29} - \frac{07}{35}$$

$$-\frac{140}{50} - \frac{110}{37} - \frac{55}{22} - \frac{12}{12} - \frac{07}{9} - \frac{02}{9} - \frac{02}{14} - \frac{10}{16} - \frac{02}{17} - \frac{04}{33}$$

Φ of V.B.

$$-\frac{142}{58} - \frac{126}{39} - \frac{55}{17} - \frac{06}{6} - \frac{106}{5} + \frac{06}{13} + \frac{04}{24} + \frac{05}{33}$$

Φ of V.B

$$-\frac{131}{50} - \frac{75}{34} - \frac{30}{19} - \frac{06}{12} + \frac{05}{7} - \frac{02}{10} + \frac{07}{26} + \frac{05}{37}$$

$$-\frac{50}{33} - \frac{05}{18} - \frac{07}{7} + \frac{05}{12} + \frac{16}{33}$$

$$-\frac{32}{33} - \frac{01}{20} + \frac{08}{7} + \frac{16}{7} + \frac{26}{33}$$

$$-\frac{53}{33} - \frac{25}{23} - \frac{16}{16} - \frac{28}{12} - \frac{22}{6} - \frac{04}{2} + \frac{06}{12} - \frac{00}{14} - \frac{00}{19} + \frac{14}{26} + \frac{16}{33}$$

$$-\frac{55}{33} - \frac{40}{28} - \frac{50}{24} - \frac{45}{18} - \frac{16}{13} - \frac{09}{11} - \frac{09}{2} - \frac{05}{8} + \frac{08}{13} + \frac{09}{33}$$

$$-\frac{45}{33} - \frac{40}{31} - \frac{47}{28} - \frac{40}{23} - \frac{15}{18} + \frac{07}{9} - \frac{06}{7} + \frac{17}{3} + \frac{34}{33}$$

$$-\frac{90}{45} - \frac{67}{33} - \frac{65}{26} - \frac{35}{20} - \frac{15}{12} - \frac{25}{9} - \frac{20}{3} + \frac{20}{33}$$

$$-\frac{40}{55} - \frac{20}{45} - \frac{16}{33} - \frac{12}{4} + \frac{32}{5} + \frac{78}{26} + \frac{89}{33} + \frac{103}{45}$$

$$-\frac{10}{33} + \frac{07}{4} + \frac{50}{20} + \frac{121}{45} + \frac{122}{65}$$

$$-\frac{24}{33} - \frac{16}{7} + \frac{40}{14} + \frac{164}{43} + \frac{170}{65}$$

$$-\frac{36}{33} - \frac{32}{23} + \frac{50}{17} + \frac{138}{27} + \frac{155}{67}$$

$$-\frac{18}{33} + \frac{45}{33} + \frac{118}{44} + \frac{150}{56} + \frac{157}{78}$$

$$-\frac{15}{33} + \frac{27}{33}$$

"VL" Line Cross Section

Station	Elev	
9+20	190.8	R.I.L. WM } 4-19-23 J.C.
+15	190.7	
+21	192.7	
+55	192.3	
+62	189.7	
10+00	189.2	
+36.5	189.7	
11+00	191.5	
+41.5	193.5	

L

Q

R

Q Edg Rd

$$\begin{array}{r}
 -0.2' \\
 \frac{33}{33} \\
 -1.1' - 0.5' \\
 \frac{66}{66} \quad \frac{20}{20} \\
 -3.2' - 3.2' - 2.7' \\
 \frac{63}{63} \quad \frac{33}{33} \quad \frac{13}{13} \\
 -3.4' - 3.3' + 0.6' + 0.8' \\
 \frac{65}{65} \quad \frac{53}{53} \quad \frac{43}{43} \quad \frac{33}{33} \\
 -1.0' - 0.5' + 2.6' + 3.2' + 2.6' \\
 \frac{79}{79} \quad \frac{58}{58} \quad \frac{48}{48} \quad \frac{30}{30} \quad \frac{70}{70}
 \end{array}$$

Q of ER

$$\begin{array}{r}
 +0.7' + 3.5' + 4.0' + 4.0' + 3.0' + 6.0' \\
 \frac{13}{13} \quad \frac{25}{25} \quad \frac{35}{35} \quad \frac{45}{45} \quad \frac{57}{57} \quad \frac{60}{60} \\
 +2.3' + 3.4' + 2.2' + 2.9' + 2.2' + 5.0' \\
 \frac{7}{7} \quad \frac{22}{22} \quad \frac{33}{33} \quad \frac{48}{48} \quad \frac{53}{53} \quad \frac{83}{83} \\
 +2.6' + 0.5' - 1.0' + 0.0' + 2.5' \\
 \frac{15}{15} \quad \frac{37}{37} \quad \frac{42}{42} \quad \frac{46}{46} \quad \frac{79}{79} \\
 -2.4' - 1.7' + 0.6' + 0.0' + 2.4' \\
 \frac{8}{8} \quad \frac{26}{26} \quad \frac{33}{33} \quad \frac{48}{48} \quad \frac{75}{75} \\
 -0.1' + 0.6' + 0.0' + 2.0' + 2.0' + 4.5' \\
 \frac{6}{6} \quad \frac{20}{20} \quad \frac{28}{28} \quad \frac{33}{33} \quad \frac{43}{43} \quad \frac{76}{76}
 \end{array}$$

Q of L Line

$$\begin{array}{r}
 -0.0' - 0.4' + 0.1' \\
 \frac{75}{75} \quad \frac{33}{33} \quad \frac{16}{16} \\
 +0.2' + 1.1' + 2.2' + 2.3' + 2.6' + 5.0' \\
 \frac{6}{6} \quad \frac{10}{10} \quad \frac{14}{14} \quad \frac{25}{25} \quad \frac{33}{33} \quad \frac{57}{57}
 \end{array}$$

$$\begin{array}{r}
 -0.6' - 0.7' - 0.6' \\
 \frac{65}{65} \quad \frac{33}{33} \quad \frac{13}{13} \\
 +0.5' + 1.5' + 1.6' + 3.2' + 5.0' \\
 \frac{5}{5} \quad \frac{8}{8} \quad \frac{14}{14} \quad \frac{33}{33} \quad \frac{48}{48}
 \end{array}$$

Q of L Line

$$\begin{array}{r}
 -2.5' - 2.1' - 1.2' - 0.6' - 0.5' + 0.3' + 3.6' \\
 \frac{45}{45} \quad \frac{30}{30} \quad \frac{11}{11} \quad \frac{8}{8} \quad \frac{5}{5} \quad \frac{7}{7} \quad \frac{35}{35}
 \end{array}$$

Q of L Line

$$\begin{array}{r}
 -2.9' - 2.9' \\
 \frac{33}{33} \quad \frac{25}{25}
 \end{array}$$

$$\begin{array}{r}
 +2.6' \\
 \frac{33}{33} \text{ End of VL Line} =
 \end{array}$$

9 to 2.6" line

"VL" Line Cross Section

Station

Elev.

U2444