

Dr. 12A - Bk 15

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

1417 Survey

HELLEN & HOLLOWAY ST.

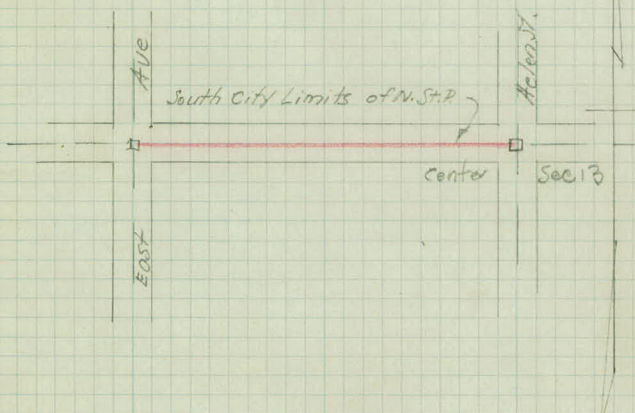
From IN SEC. 13-29-22
Co.

Road Acc't. No. —

Date Filed 1936

File B. 15 D. 12A.

Plan Survey
Hollaway Ave.
East Ave to Helen St.



Index	
Alignment	R2-3
Topography	R4-8
Cross Sections	R9-

W. H. Carlson
Nov. 1938



Alignment

Holloway Ave.

East Ave to Helen St.

Station	Point
26+17.35	Men.
17+57.66	P.O.T
11+16.44	P.O.T. from Men.
0+00 =	2 East Ave.

dear - cold
120

3

W. H. Carlso
H. Brattiger
A. Wilke.
L. B. Hendrix
A. Moschler
m. J. Gillett

center Sec
13

□

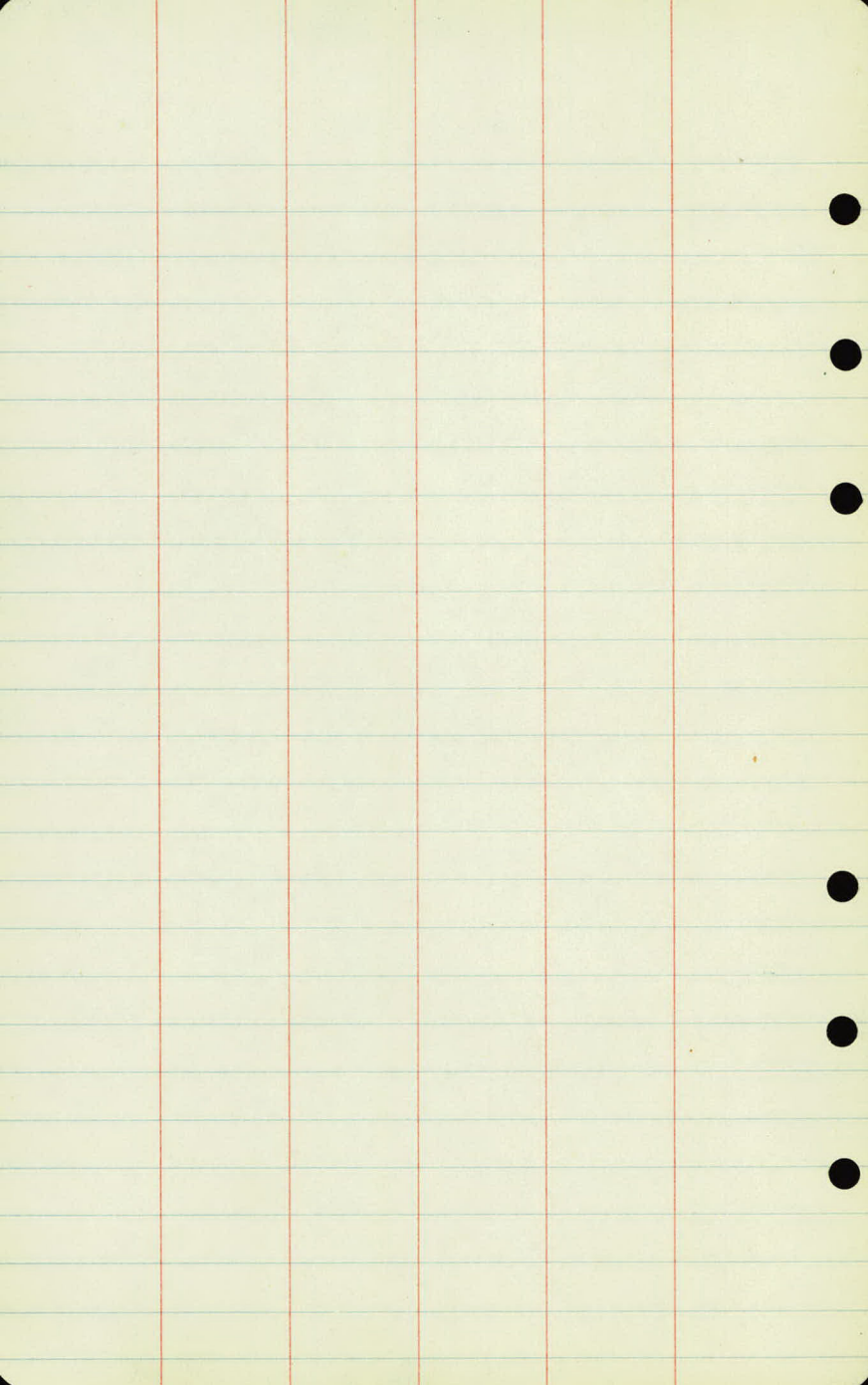
Stone Mon.

• Boat Spike

• Iron Mon.

□

Mon Tipped.



Topography.

5

8'

4

6'

3

7'

2

7'

1

7'

+30- $\pm$ 15" 28 C.M.
8K.

5'-23'

oto

+79-6" Tw. Oak 6'

+10-4" Oak 6'

F-9'

+99-8" Oak 6'

F-11'

F-11'

+80-4" Tw. Oak 9'

F-11'

+10-130g-Fence 11'

+16-5hldr New grade

Golf course

Waste land

Trail

East Ave (new grade)

12

12'

11

11'

10

11'

9

10'

8

10

7

9'

6

9'

F-2

F-3

F-3

F-6

F-7

F-8

F-9

Golf Course

cultivated

170-Field Ent

Waste Land



19

18

17

16

12'

15

13'

14

14'

13

14

Fairway
Golf Course

100'

Cultivated.

+67-R.R. 2'

+17-R.R. 2'

+43-10' Elm 30'
 +78-N. W. Cr. No. 78
 +24-35 Oak 27'
 +75-6" Tw. Sap. 31'
 +62-4' Elm 32'
 +62-R.R. 3'
 +52-Hedge 27'

Trail

13490-E.F.-0'

E-1'

+17.35 = 4 Holes St

26

25

24

23

22

21

20

(See Helen St. Survey.)

+18 Cor. 0.5

+18-P.P. 1'

Green.
8. Oak
+12

90 ft course

Cultivated

+49-10" 70. Oak 7'

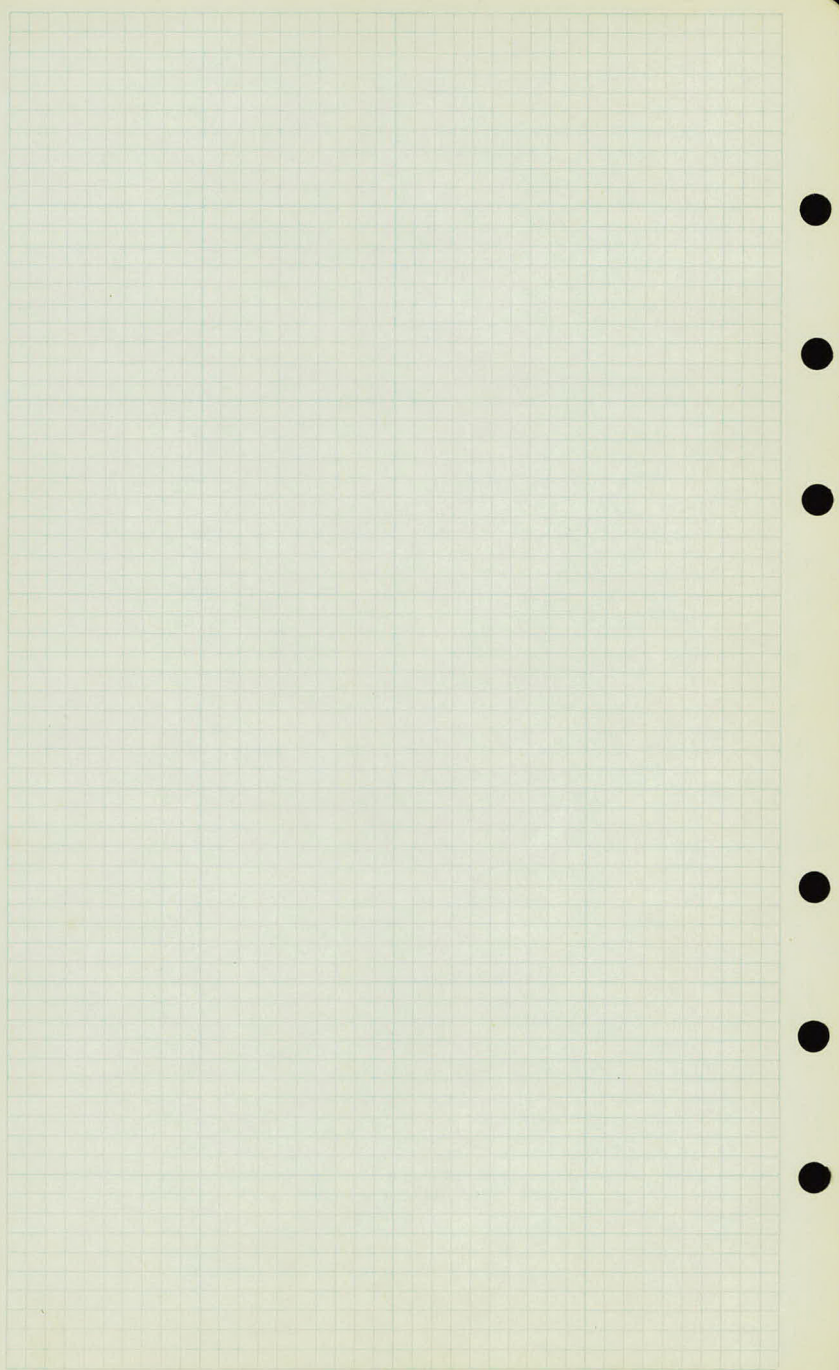
+69-P.P. 1'

+23-8" Oak-8'

+18-P.P. 1'

+68-P.P. 1'

+17-P.P. 2'



Cross-Sections.
& Bench Levels.

Station	+	-	Elev.
B.M.	8.07	1014.52	1006.45
T.P.		0.54	1013.98
	10.92	1024.90	
T.P.		1.30	1023.60
	13.66	1037.26	
T.P.		0.95	1036.31
	3.58	1039.89	
T.P.		13.08	1026.81
	0.87	1027.68	
T.P.		11.05	1016.63
	0.44	1017.07	
T.P.		12.26	1004.81
	0.33	1005.14	
T.P.		12.01	993.13
	0.28	993.41	
T.P.		11.02	982.39
	1.21	983.60	
B.M.	6.11	983.19	977.08
0+00 = E East Ave. See E. Ave.			77.0
			77.2
0+16			77.0
			77.2
0+26			76.6

Lt. E Rt.

Top Large Gray Boulder. 75' Lt. Sta. 26

Brattager

Gillen

Nov. 11-1936

Spike in 14" Oak. N.E. of East Ave + Holloway.

$\frac{22}{50}$

$\frac{62}{-}$

$\frac{52}{50}$

$\frac{2.4}{6}$
6

$\frac{62}{-}$

$\frac{48}{50}$

$\frac{9.3}{50}$

$\frac{88}{12}$

$\frac{66}{7}$

$\frac{46}{-}$

$\frac{6.1}{25}$

$\frac{8.6}{31}$

$\frac{7.5}{50}$

Station	+	π	-	Elev.
		983.19		
0+50				76.2
1+0				76.3
+30				76.9
+80				77.4
2+0				77.5
+50				78.4
3+0				79.9
T.P.	12.22	994.11	1.30	981.89
+50				81.4
4+0				83.1
+50				85.2
4+80				87.0

W.H.C.
H.B.
H.A.W. Nov. 27, 1936
L.B.H.

11

Lt. E. Ry.

$\frac{8.2}{5.0}$ $\frac{8.0}{14}$ $\frac{8.9}{6}$ $\frac{7.0}{3}$ $\frac{7.0}{-}$ $\frac{7.0}{2.0}$ $\frac{8.3}{23}$ $\frac{7.8}{5.0}$

$\frac{6.6}{3.3}$ $\frac{6.2}{19}$ $\frac{6.2}{8}$ $\frac{7.3}{4}$ $\frac{7.0}{2}$ $\frac{6.9}{-}$ $\frac{6.2}{8}$ $\frac{6.8}{17}$ $\frac{7.4}{2.0}$ $\frac{6.8}{2.2}$ $\frac{7.0}{5.0}$

$\frac{5.3}{3.3}$ $\frac{4.0}{19}$ $\frac{4.5}{9}$ $\frac{6.5}{6}$ $\frac{6.3}{-}$ $\frac{5.6}{7}$ $\frac{5.7}{1.5}$ $\frac{6.5}{17}$ $\frac{6.4}{2.2}$ $\frac{5.5}{2.3}$ $\frac{6.0}{3.3}$

$\frac{7.1}{3.3}$ $\frac{6.3}{7}$ $\frac{5.8}{-}$ $\frac{5.0}{8}$ $\frac{5.6}{17}$ $\frac{6.0}{2.0}$ $\frac{5.7}{2.2}$ $\frac{5.7}{2.3}$

$\frac{7.3}{3.3}$ $\frac{7.3}{12}$ $\frac{6.7}{3}$ $\frac{5.7}{-}$ $\frac{4.7}{8}$ $\frac{5.1}{1.3}$ $\frac{6.2}{1.8}$ $\frac{6.0}{3.3}$

$\frac{7.4}{3.3}$ $\frac{6.6}{16}$ $\frac{6.1}{11}$ $\frac{5.6}{3}$ $\frac{4.8}{-}$ $\frac{4.2}{7}$ $\frac{4.7}{1.4}$ $\frac{5.3}{1.9}$ $\frac{5.0}{3.3}$

$\frac{3.8}{3.3}$ $\frac{3.7}{2.0}$ $\frac{2.1}{9}$ $\frac{3.5}{9}$ $\frac{3.3}{-}$ $\frac{2.7}{8}$ $\frac{2.7}{1.7}$ $\frac{4.0}{2.0}$ $\frac{2.9}{2.8}$ $\frac{1.4}{2.9}$ $\frac{1.6}{3.3}$

$\frac{14.6}{3.3}$ $\frac{12.9}{2.1}$ $\frac{12.2}{11}$ $\frac{13.2}{7}$ $\frac{12.8}{3}$ $\frac{12.7}{-}$ $\frac{12.5}{1.4}$ $\frac{13.6}{2.1}$ $\frac{13.5}{2.7}$ $\frac{12.1}{3.0}$ $\frac{12.1}{3.3}$

$\frac{10.4}{3.3}$ $\frac{11.3}{1.3}$ $\frac{11.8}{8}$ $\frac{11.2}{5}$ $\frac{11.0}{-}$ $\frac{11.0}{1.3}$ $\frac{13.1}{2.0}$ $\frac{12.9}{3.3}$

$\frac{7.5}{3.3}$ $\frac{6.5}{7.1}$ $\frac{8.6}{7}$ $\frac{9.1}{3}$ $\frac{8.9}{-}$ $\frac{8.9}{1.5}$ $\frac{10.2}{2.0}$ $\frac{11.1}{3.3}$

$\frac{3.7}{3.3}$ $\frac{3.1}{2.9}$ $\frac{4.1}{2.4}$ $\frac{4.2}{11}$ $\frac{6.0}{7}$ $\frac{7.0}{2}$ $\frac{7.1}{-}$ $\frac{6.5}{1.4}$ $\frac{8.1}{2.4}$ $\frac{7.1}{2.7}$ $\frac{7.2}{3.3}$

Station	+	π	-	Elev.
		994.11		
5+0				88.4-
4+0				91.1-
T.P.	10.86	✓ 1004.75	0.22	✓ 993.89
5+75				93.6-
6+10				95.9-
7+50				97.2-
6+96				97.6-
7+0				97.8-
7+50				999.6-
8+0				1000.2-
7+50				1002.2-
T.P.	13.22	✓ 1017.02	0.95	✓ 1003.80
9+0				1005.6-

Lt. E Rt.

$$\begin{array}{r} 2.7 \\ 33 \end{array} \quad \begin{array}{r} 3.1 \\ 22 \end{array} \quad \begin{array}{r} 3.6 \\ 11 \end{array} \quad \begin{array}{r} 5.1 \\ 1 \end{array} \quad 5.7 \quad \begin{array}{r} 5.4 \\ 19 \end{array} \quad \begin{array}{r} 5.5 \\ 28 \end{array} \quad \begin{array}{r} 5.8 \\ 33 \end{array}$$

$$\begin{array}{r} 5.8 \\ 33 \end{array} \quad 5.0 \quad \begin{array}{r} 3.8 \\ 11 \end{array} \quad \begin{array}{r} 2.6 \\ 2 \end{array} \quad \begin{array}{r} 3.0 \\ 2 \end{array} \quad \begin{array}{r} 2.3 \\ 41 \end{array} \quad \begin{array}{r} 2.3 \\ 16 \end{array} \quad \begin{array}{r} 2.1 \\ 23 \end{array} \quad \begin{array}{r} 1.6 \\ 33 \end{array}$$

$$\begin{array}{r} 13.3 \\ 33 \end{array} \quad \begin{array}{r} 12.6 \\ 28 \end{array} \quad \begin{array}{r} 9.5 \\ 10 \end{array} \quad \begin{array}{r} 9.5 \\ 3 \end{array} \quad \begin{array}{r} 11.2 \\ 1 \end{array} \quad \begin{array}{r} 11.2 \\ 1 \end{array} \quad \begin{array}{r} 10.8 \\ 3 \end{array} \quad \begin{array}{r} 11.1 \\ 17 \end{array} \quad \begin{array}{r} 11.7 \\ 30 \end{array} \quad \begin{array}{r} 12.0 \\ 33 \end{array}$$

$$\begin{array}{r} 5.2 \\ 33 \end{array} \quad \begin{array}{r} 4.7 \\ 23 \end{array} \quad \begin{array}{r} 3.0 \\ 9 \end{array} \quad \begin{array}{r} 2.6 \\ 4 \end{array} \quad \begin{array}{r} 8.9 \\ 1 \end{array} \quad \begin{array}{r} 8.5 \\ 10 \end{array} \quad \begin{array}{r} 9.0 \\ 18 \end{array} \quad \begin{array}{r} 9.3 \\ 24 \end{array} \quad \begin{array}{r} 7.1 \\ 33 \end{array}$$

$$\begin{array}{r} 6.4 \\ 33 \end{array} \quad \begin{array}{r} 7.8 \\ 21 \end{array} \quad \begin{array}{r} 7.6 \\ 9 \end{array} \quad \begin{array}{r} 7.6 \\ 1 \end{array} \quad \begin{array}{r} 7.1 \\ 5 \end{array} \quad \begin{array}{r} 7.1 \\ 15 \end{array} \quad \begin{array}{r} 8.5 \\ 22 \end{array} \quad \begin{array}{r} 8.0 \\ 23 \end{array}$$

$$\begin{array}{r} 8.8 \\ 33 \end{array} \quad \begin{array}{r} 9.5 \\ 26 \end{array} \quad \begin{array}{r} 9.2 \\ 9 \end{array} \quad \begin{array}{r} 7.2 \\ 1 \end{array} \quad \begin{array}{r} 6.3 \\ 5 \end{array} \quad \begin{array}{r} 6.7 \\ 15 \end{array} \quad \begin{array}{r} 7.0 \\ 20 \end{array} \quad \begin{array}{r} 7.1 \\ 33 \end{array}$$

$$\begin{array}{r} 8.6 \\ 33 \end{array} \quad \begin{array}{r} 8.6 \\ 23 \end{array} \quad \begin{array}{r} 8.1 \\ 6 \end{array} \quad \begin{array}{r} 7.0 \\ 3 \end{array} \quad 7.0 \quad \begin{array}{r} 6.1 \\ 5 \end{array} \quad \begin{array}{r} 6.2 \\ 16 \end{array} \quad \begin{array}{r} 7.6 \\ 21 \end{array} \quad \begin{array}{r} 6.0 \\ 33 \end{array}$$

$$\begin{array}{r} 5.2 \\ 33 \end{array} \quad \begin{array}{r} 4.3 \\ 8 \end{array} \quad 5.2 \quad \begin{array}{r} 5.6 \\ 2 \end{array} \quad \begin{array}{r} 4.8 \\ 6 \end{array} \quad \begin{array}{r} 5.0 \\ 16 \end{array} \quad \begin{array}{r} 6.0 \\ 22 \end{array} \quad \begin{array}{r} 5.2 \\ 24 \end{array} \quad \begin{array}{r} 5.1 \\ 33 \end{array}$$

$$\begin{array}{r} 5.4 \\ 33 \end{array} \quad \begin{array}{r} 4.6 \\ 7 \end{array} \quad \begin{array}{r} 4.7 \\ 4 \end{array} \quad \begin{array}{r} 4.6 \\ 1 \end{array} \quad \begin{array}{r} 3.8 \\ 5 \end{array} \quad \begin{array}{r} 3.8 \\ 15 \end{array} \quad \begin{array}{r} 4.4 \\ 20 \end{array} \quad \begin{array}{r} 4.3 \\ 33 \end{array}$$

$$\begin{array}{r} 2.3 \\ 33 \end{array} \quad \begin{array}{r} 3.0 \\ 15 \end{array} \quad \begin{array}{r} 2.2 \\ 6 \end{array} \quad \begin{array}{r} 2.6 \\ 1 \end{array} \quad \begin{array}{r} 2.1 \\ 4 \end{array} \quad \begin{array}{r} 2.9 \\ 15 \end{array} \quad \begin{array}{r} 2.8 \\ 21 \end{array} \quad \begin{array}{r} 2.1 \\ 24 \end{array} \quad \begin{array}{r} 1.9 \\ 33 \end{array}$$

$$\begin{array}{r} 11.3 \\ 33 \end{array} \quad \begin{array}{r} 12.1 \\ 15 \end{array} \quad \begin{array}{r} 10.5 \\ 6 \end{array} \quad \begin{array}{r} 11.4 \\ 1 \end{array} \quad \begin{array}{r} 11.1 \\ 6 \end{array} \quad \begin{array}{r} 11.1 \\ 16 \end{array} \quad \begin{array}{r} 12.9 \\ 22 \end{array} \quad \begin{array}{r} 11.3 \\ 23 \end{array} \quad \begin{array}{r} 10.9 \\ 33 \end{array}$$

Station	+	π	-	Elev.
		1017.02		
7+50				08.2-
10+0				11.8-
I.P.				
+50				14.6-
T.P.	11.69	1027.81	0.90	1016.12
11				18.2-
+20				19.0-
+70				19.2-
12				18.6-
12+65				19.0-
13+10				15.5-
+40				19.1-
14				23.2-

4.

5.

6.

$$\begin{array}{r} 9.1 \\ 33 \end{array} \quad \begin{array}{r} 9.1 \\ 14 \end{array} \quad \begin{array}{r} 8.1 \\ 4 \end{array} \quad \begin{array}{r} 8.4 \\ 1 \end{array} \quad \begin{array}{r} 8.8 \\ 1 \end{array} \quad \begin{array}{r} 8.1 \\ 6 \end{array} \quad \begin{array}{r} 7.8 \\ 10 \end{array} \quad \begin{array}{r} 8.1 \\ 17 \end{array} \quad \begin{array}{r} 8.5 \\ 21 \end{array} \quad \begin{array}{r} 2.7 \\ 24 \end{array} \quad \begin{array}{r} 2.1 \\ 33 \end{array}$$

$$\begin{array}{r} 8.0 \\ 33 \end{array} \quad \begin{array}{r} 6.3 \\ 14 \end{array} \quad \begin{array}{r} 5.1 \\ 4 \end{array} \quad \begin{array}{r} 5.2 \\ 1 \end{array} \quad \begin{array}{r} 4.5 \\ 10 \end{array} \quad \begin{array}{r} 5.0 \\ 16 \end{array} \quad \begin{array}{r} 5.5 \\ 22 \end{array} \quad \begin{array}{r} 4.4 \\ 24 \end{array} \quad \begin{array}{r} 4.3 \\ 33 \end{array}$$

$$\begin{array}{r} 5.0 \\ 33 \end{array} \quad \begin{array}{r} 3.4 \\ 14 \end{array} \quad \begin{array}{r} 2.2 \\ 4 \end{array} \quad \begin{array}{r} 2.0 \\ 1 \end{array} \quad \begin{array}{r} 2.4 \\ 1 \end{array} \quad \begin{array}{r} 1.5 \\ 11 \end{array} \quad \begin{array}{r} 2.3 \\ 21 \end{array} \quad \begin{array}{r} 1.1 \\ 24 \end{array} \quad \begin{array}{r} 0.6 \\ 33 \end{array}$$

$$\begin{array}{r} 12.3 \\ 33 \end{array} \quad \begin{array}{r} 11.2 \\ 12 \end{array} \quad \begin{array}{r} 8.9 \\ 3 \end{array} \quad \begin{array}{r} 9.6 \\ 1 \end{array} \quad \begin{array}{r} 10.0 \\ 1 \end{array} \quad \begin{array}{r} 9.7 \\ 11 \end{array} \quad \begin{array}{r} 10.1 \\ 20 \end{array} \quad \begin{array}{r} 8.3 \\ 25 \end{array} \quad \begin{array}{r} 7.7 \\ 33 \end{array}$$

$$\begin{array}{r} 11.9 \\ 33 \end{array} \quad \begin{array}{r} 11.0 \\ 21 \end{array} \quad \begin{array}{r} 9.8 \\ 8 \end{array} \quad \begin{array}{r} 9.2 \\ 11 \end{array} \quad \begin{array}{r} 8.8 \\ 1 \end{array} \quad \begin{array}{r} 9.2 \\ 2 \end{array} \quad \begin{array}{r} 8.8 \\ 11 \end{array} \quad \begin{array}{r} 9.3 \\ 20 \end{array} \quad \begin{array}{r} 7.4 \\ 24 \end{array} \quad \begin{array}{r} 2.1 \\ 33 \end{array}$$

$$\begin{array}{r} 10.2 \\ 33 \end{array} \quad \begin{array}{r} 9.6 \\ 18 \end{array} \quad \begin{array}{r} 9.1 \\ 5 \end{array} \quad \begin{array}{r} 8.6 \\ 1 \end{array} \quad \begin{array}{r} 9.2 \\ 2 \end{array} \quad \begin{array}{r} 8.6 \\ 11 \end{array} \quad \begin{array}{r} 9.2 \\ 21 \end{array} \quad \begin{array}{r} 8.4 \\ 25 \end{array} \quad \begin{array}{r} 8.6 \\ 33 \end{array}$$

$$\begin{array}{r} 10.1 \\ 33 \end{array} \quad \begin{array}{r} 9.7 \\ 17 \end{array} \quad \begin{array}{r} 9.7 \\ 5 \end{array} \quad \begin{array}{r} 9.2 \\ 1 \end{array} \quad \begin{array}{r} 9.7 \\ 2 \end{array} \quad \begin{array}{r} 8.4 \\ 11 \end{array} \quad \begin{array}{r} 9.5 \\ 21 \end{array} \quad \begin{array}{r} 9.3 \\ 33 \end{array}$$

$$\begin{array}{r} 9.5 \\ 33 \end{array} \quad \begin{array}{r} 9.1 \\ 17 \end{array} \quad \begin{array}{r} 9.1 \\ 5 \end{array} \quad \begin{array}{r} 8.8 \\ 1 \end{array} \quad \begin{array}{r} 9.4 \\ 2 \end{array} \quad \begin{array}{r} 8.8 \\ 12 \end{array} \quad \begin{array}{r} 9.5 \\ 21 \end{array} \quad \begin{array}{r} 9.7 \\ 33 \end{array}$$

$$\begin{array}{r} 12.9 \\ 33 \end{array} \quad \begin{array}{r} 1.2 \\ 21 \end{array} \quad \begin{array}{r} 12.6 \\ 9 \end{array} \quad \begin{array}{r} 12.3 \\ 1 \end{array} \quad \begin{array}{r} 9.5 \\ 6 \end{array} \quad \begin{array}{r} 8.8 \\ 14 \end{array} \quad \begin{array}{r} 9.3 \\ 21 \end{array} \quad \begin{array}{r} 11.6 \\ 26 \end{array} \quad \begin{array}{r} 12.0 \\ 33 \end{array}$$

$$\begin{array}{r} 10.2 \\ 33 \end{array} \quad \begin{array}{r} 9.9 \\ 21 \end{array} \quad \begin{array}{r} 9.5 \\ 10 \end{array} \quad \begin{array}{r} 8.7 \\ 1 \end{array} \quad \begin{array}{r} 8.2 \\ 9 \end{array} \quad \begin{array}{r} 8.3 \\ 20 \end{array} \quad \begin{array}{r} 10.0 \\ 27 \end{array} \quad \begin{array}{r} 10.2 \\ 33 \end{array}$$

$$\begin{array}{r} 5.6 \\ 33 \end{array} \quad \begin{array}{r} 5.0 \\ 10 \end{array} \quad \begin{array}{r} 4.6 \\ 1 \end{array} \quad \begin{array}{r} 5.8 \\ 5 \end{array} \quad \begin{array}{r} 4.7 \\ 14 \end{array} \quad \begin{array}{r} 5.6 \\ 16 \end{array} \quad \begin{array}{r} 4.8 \\ 28 \end{array} \quad \begin{array}{r} 5.2 \\ 33 \end{array}$$

Station	+	π	-	Elev
		1027.81		
1450				22.8-
1560				22.3-
+50				24.4-
T.P.	12.34	1039.12	1.03	1026.78
16				29.6 30.6
B.M.	4.25	1039.12	4.25	1034.87
+35				33.5-
+65				35.3-
17				36.7-
T.P.	2.96	1040.64	1.04	1037.68
+58				37.0-
18				37.4-
+50				36.6-
19				34.1-

4. 2 RT.

$$\frac{55}{33} \quad \frac{52}{19} \quad \frac{54}{6} \quad 50 \quad \frac{55}{4} \quad \frac{48}{7} \quad \frac{48}{18} \quad \frac{53}{24} \quad \frac{58}{33}$$

$$\frac{60}{33} \quad \frac{59}{18} \quad \frac{59}{8} \quad \frac{55}{-} \quad \frac{5.5}{3} \quad \frac{4.2}{7} \quad \frac{3.7}{13} \quad \frac{4.2}{18} \quad \frac{4.7}{33}$$

$$\frac{3.6}{33} \quad \frac{45}{16} \quad \frac{41}{6} \quad \frac{34}{-} \quad \frac{2.5}{12} \quad \frac{3.0}{17} \quad \frac{3.0}{33}$$

$$\frac{8.2}{33} \quad 8 \quad \frac{9.8}{15} \quad \frac{9.5}{-} \quad \frac{11.2}{2} \quad \frac{10.6}{14} \quad \frac{10.1}{22} \quad \frac{8.31}{-} \text{St Flow Base}$$

Top Rock Granite

50 ct. 16 + 30

$$\frac{4.6}{33} \quad \frac{54}{19} \quad \frac{56}{-} \quad \frac{62}{20} \quad \frac{6.2}{33}$$

$$\frac{29}{33} \quad \frac{3.8}{-} \quad \frac{4.8}{33}$$

$$\frac{0.8}{33} \quad \frac{14}{17} \quad \frac{24}{-} \quad \frac{36}{33}$$

$$\frac{3.7}{33} \quad \frac{3.6}{-} \quad \frac{4.2}{13} \quad \frac{5.0}{33}$$

$$\frac{2.9}{33} \quad \frac{3.2}{-} \quad \frac{4.0}{14} \quad \frac{5.3}{33}$$

$$\frac{4.2}{33} \quad \frac{4.6}{15} \quad \frac{4.0}{-} \quad \frac{4.7}{16} \quad \frac{4.2}{33}$$

$$\frac{44}{33} \quad \frac{4.5}{-} \quad \frac{6.9}{13} \quad \frac{6.8}{33}$$

Station	+	π ✓	-	E/8V -
		1030.64		
19+50		✓		30.3 - ✓
T.P.	1.77	1030.35	12.06	1028.58
20				24.4 -
+40				22.3 -
+70				22.5 -
21		✓		20.0 - ✓
T.P.	1.11	1018.88	12.58	1017.77
+50				14.6 -
22				12.2 -
+50				10.6 -
23				09.2 -
+50		✓		06.9 - ✓
T.P.	2.90	1009.67	12.11	1006.77 996.77
24				05.7 -

#. E Rth

$$\begin{array}{r} 125 \\ 33 \end{array} \quad \begin{array}{r} 11.5 \\ 19 \end{array} \quad \begin{array}{r} 103 \\ \hline \end{array} \quad \begin{array}{r} 10.1 \\ 33 \end{array}$$

$$\begin{array}{r} 7.7 \\ 33 \end{array} \quad \begin{array}{r} 7.2 \\ 22 \end{array} \quad \begin{array}{r} 60 \\ \hline \end{array} \quad \begin{array}{r} 50 \\ 33 \end{array}$$

$$\begin{array}{r} 86 \\ 33 \end{array} \quad \begin{array}{r} 8.4 \\ 21 \end{array} \quad \begin{array}{r} 81 \\ \hline \end{array} \quad \begin{array}{r} 7.8 \\ 33 \end{array}$$

$$\begin{array}{r} 99 \\ 33 \end{array} \quad \begin{array}{r} 9.3 \\ 22 \end{array} \quad \begin{array}{r} 79 \\ \hline \end{array} \quad \begin{array}{r} 8.2 \\ 15 \end{array} \quad \begin{array}{r} 9.3 \\ 33 \end{array}$$

$$\begin{array}{r} 125 \\ 33 \end{array} \quad \begin{array}{r} 116 \\ 22 \end{array} \quad \begin{array}{r} 104 \\ \hline \end{array} \quad \begin{array}{r} 10.5 \\ 15 \end{array} \quad \begin{array}{r} 1.9 \\ 33 \end{array}$$

$$\begin{array}{r} 5.6 \\ 33 \end{array} \quad \begin{array}{r} 4.8 \\ 21 \end{array} \quad \begin{array}{r} 43 \\ \hline \end{array} \quad \begin{array}{r} 5.5 \\ 33 \end{array}$$

$$\begin{array}{r} 6.3 \\ 33 \end{array} \quad \begin{array}{r} 6.5 \\ 18 \end{array} \quad \begin{array}{r} 67 \\ \hline \end{array} \quad \begin{array}{r} 7.3 \\ 33 \end{array}$$

$$\begin{array}{r} 8.7 \\ 33 \end{array} \quad \begin{array}{r} 8.4 \\ 15 \end{array} \quad \begin{array}{r} 83 \\ \hline \end{array} \quad \begin{array}{r} 9.2 \\ 33 \end{array}$$

$$\begin{array}{r} 10.0 \\ 33 \end{array} \quad \begin{array}{r} 9.5 \\ 29 \end{array} \quad \begin{array}{r} 9.6 \\ 11 \end{array} \quad \begin{array}{r} 9.7 \\ \hline \end{array} \quad \begin{array}{r} 10.7 \\ 12 \end{array} \quad \begin{array}{r} 11.4 \\ 33 \end{array}$$

$$\begin{array}{r} 129 \\ 33 \end{array} \quad \begin{array}{r} 122 \\ 11 \end{array} \quad \begin{array}{r} 120 \\ \hline \end{array} \quad \begin{array}{r} 128 \\ 33 \end{array}$$

$$\begin{array}{r} 56 \\ 33 \end{array} \quad \begin{array}{r} 49 \\ 9 \end{array} \quad \begin{array}{r} 40 \\ \hline \end{array} \quad \begin{array}{r} 4.2 \\ 33 \end{array}$$

Station

+

 π ✓

-

Elev.

1009.67

2450

04.6

7540

04.4

750

04.3

76

07.6

+17.35

08.1

1008.03 = Top Mon.

B.M.

3.20

✓
1006.47

L₁

L

R₁

$$\frac{6.2}{33}$$

$$\frac{59}{22}$$

$$\frac{51}{21}$$

$$\frac{49}{33}$$

$$\frac{6.7}{33}$$

$$\frac{64}{21}$$

$$53$$

$$\frac{56}{33}$$

$$\frac{6.1}{33}$$

$$\frac{60}{9}$$

$$\frac{5.3}{7}$$

$$54$$

$$\frac{59}{23}$$

$$\frac{3.5}{50}$$

$$\frac{86}{33}$$

$$\frac{2.8}{17}$$

$$\frac{2.1}{21}$$

$$\frac{2.3}{50}$$

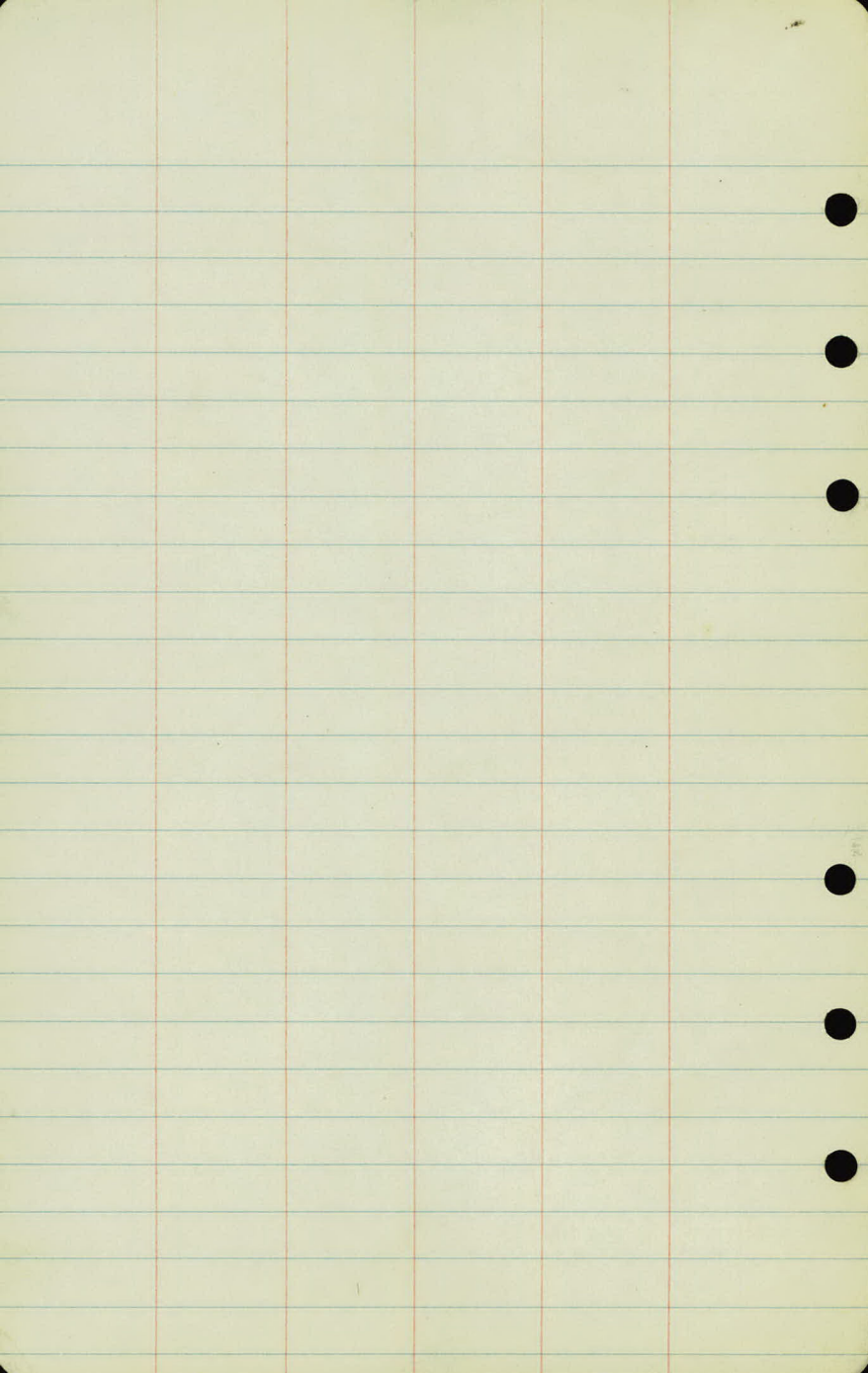
$$\frac{3.3}{50}$$

$$\frac{3.0}{37}$$

$$\frac{1.6}{21}$$

$$\frac{1.8}{50}$$

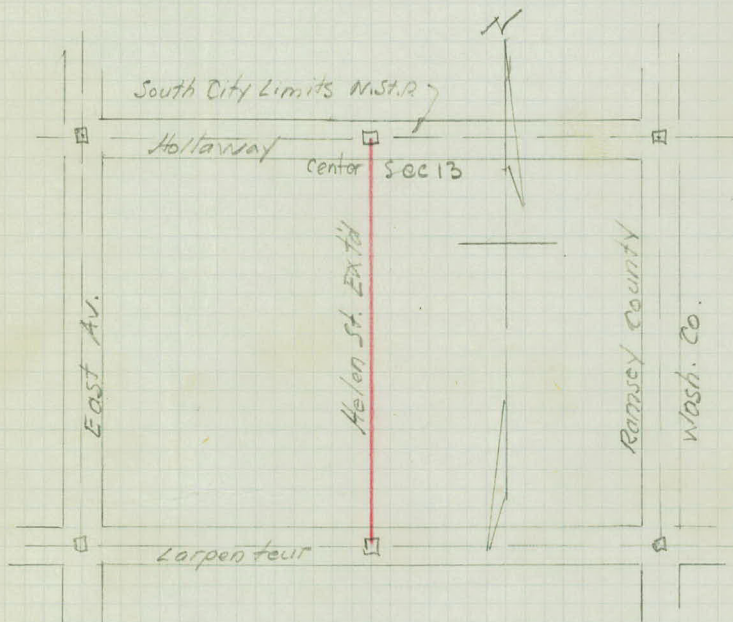
(Rec Helen St. Survey.)



Plan Survey

Helen St. Ext'd So. of N. St. P. Limits.

Carpentier to Holloway.



Index

Alignment

Topography.

Cross Sections.

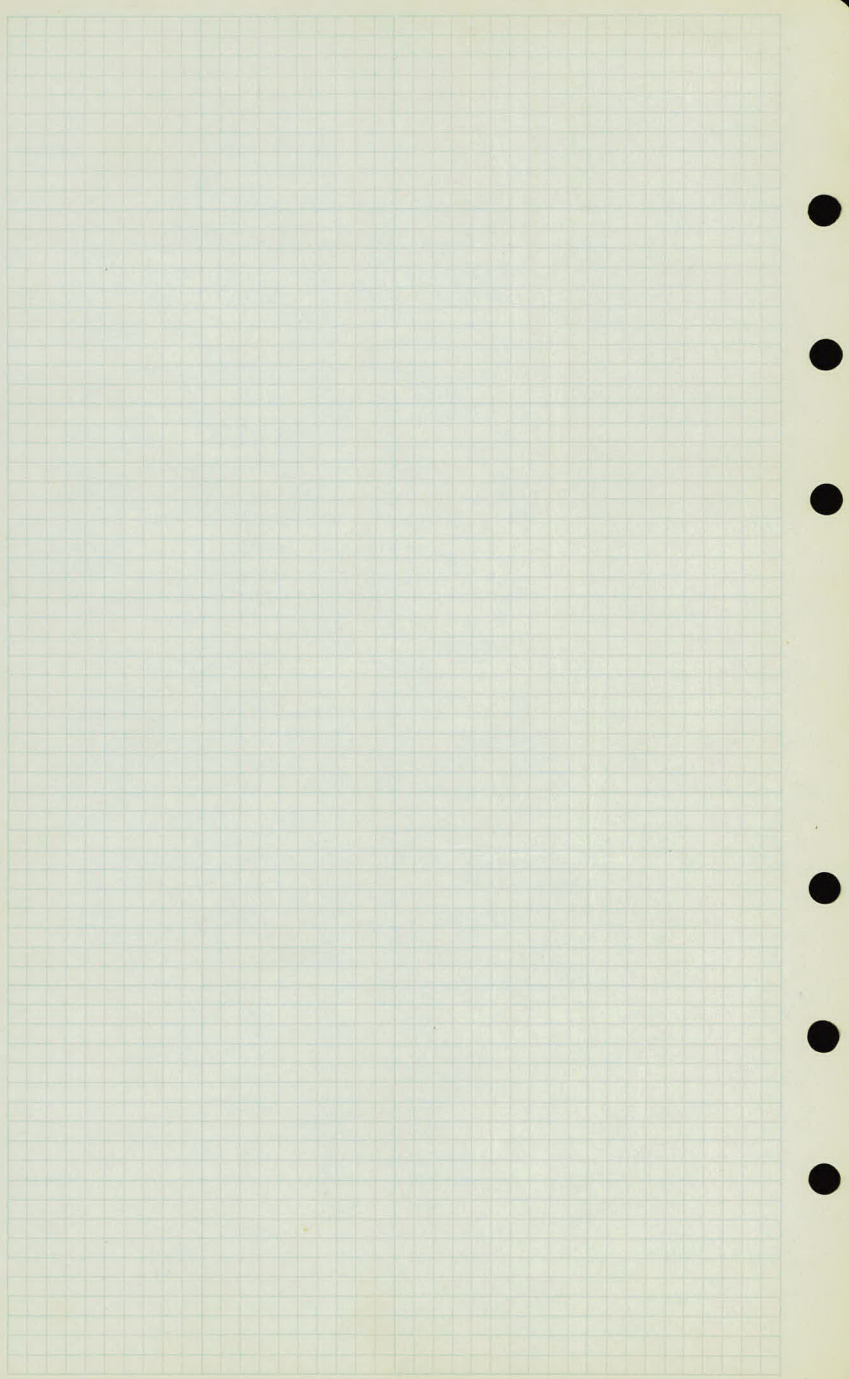
P 2 - P 3

4 - 8

9 - 17

W. H. Carlson

Nov. 27, 1936



alignment

Helen St.

Larpenteur to Co. Rd. A2

Station Point.

26+43.5 No. 12

19+28.23 P.O.T.

11+92.17 P.O.T.

10+48.70 P.O.T.

1+81.55 P.O.T.

0+00 & Larpeur

W.H. Carlson
K. Anker
L.B. Hendrix
A. Moeschter
H. Brattager
M.J. Gillen

3

Nov. 16, 1936

± Holloway-

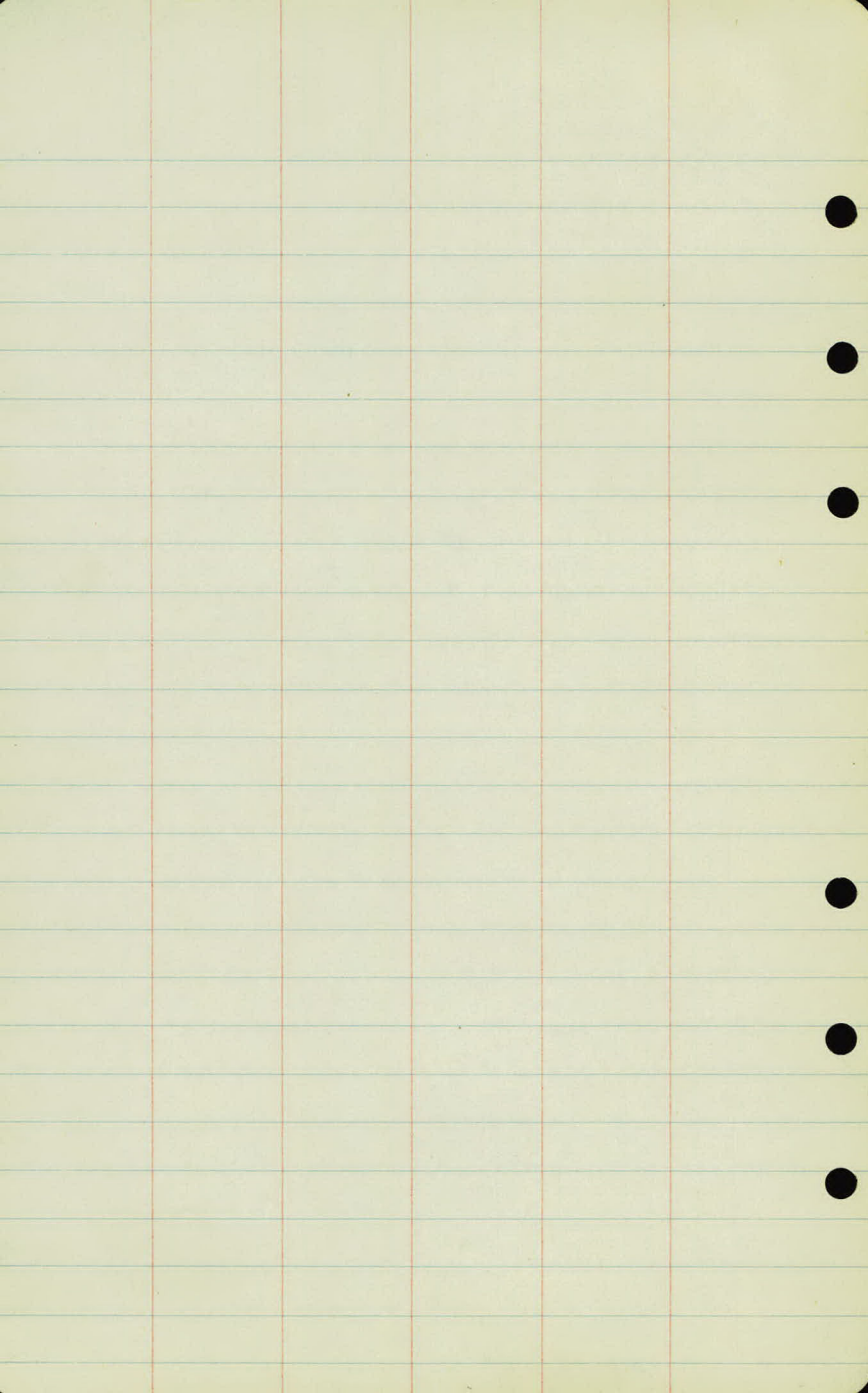
center
500.13

± 2"x2" Hub

± 2"x2" Hub.

880-43

± Carpenter



Topography.

Helen St. Ext'd

33-93

5

79-20

4

77-19

3

28-19

2

28-19

1

31-22

425 27-12

0+0

F-36-16

5

+69-A in F-48

Marsh

F-48' - F-14'

F-44' F-14'

Pasture

Cultivated.

F-42' F-16'

F-36' F-14'

Trail

F-35' F-15'

+33 - F. Cor. 11'
+25 - F. Cor. 30'

+07 - N. edge Tarvia

+16 - Shoulder Road
Gravel

Tarvia.

19

H₀

12

30

31

21

27

27

10

25

9

23

+30 - @ Ditch 3' Bot

8

L Road. 24

7

32-22

20

F-7

+77-F cor. 3' 6"

+80-F 37' 9"

42'-F-8'

+50-F-42-11'

F-40-13'

38' 10"

Fen 32'-12'

+50-Fence 33'-14'

33'-15'

+47-F cor. 15'

+40-Cu/V. 17'

6' No Good

15' X 16'

F-34-16'

+76-16' Will-13'

37' F-17

0.25'
Oak Swamp

Dry

Bog-

+36-F X 8'

E Ditch-58'

Meadow.

19

18

17

2 Trail / 123

16

140 - 119' - 2 Trail /

15

150 - 2 Trail / 111'

14

2 Trail 97'

150 2 Trail / 114

13

Cultivated

cultivated

181'

Barry
41'

450 F-127

F 140

F 600

En'

+43.5 = Mon & Holloway

26

25

24

23

22

21

20

Golf Course

0 1 2 3 4 5 6 7 8 9

Cult.

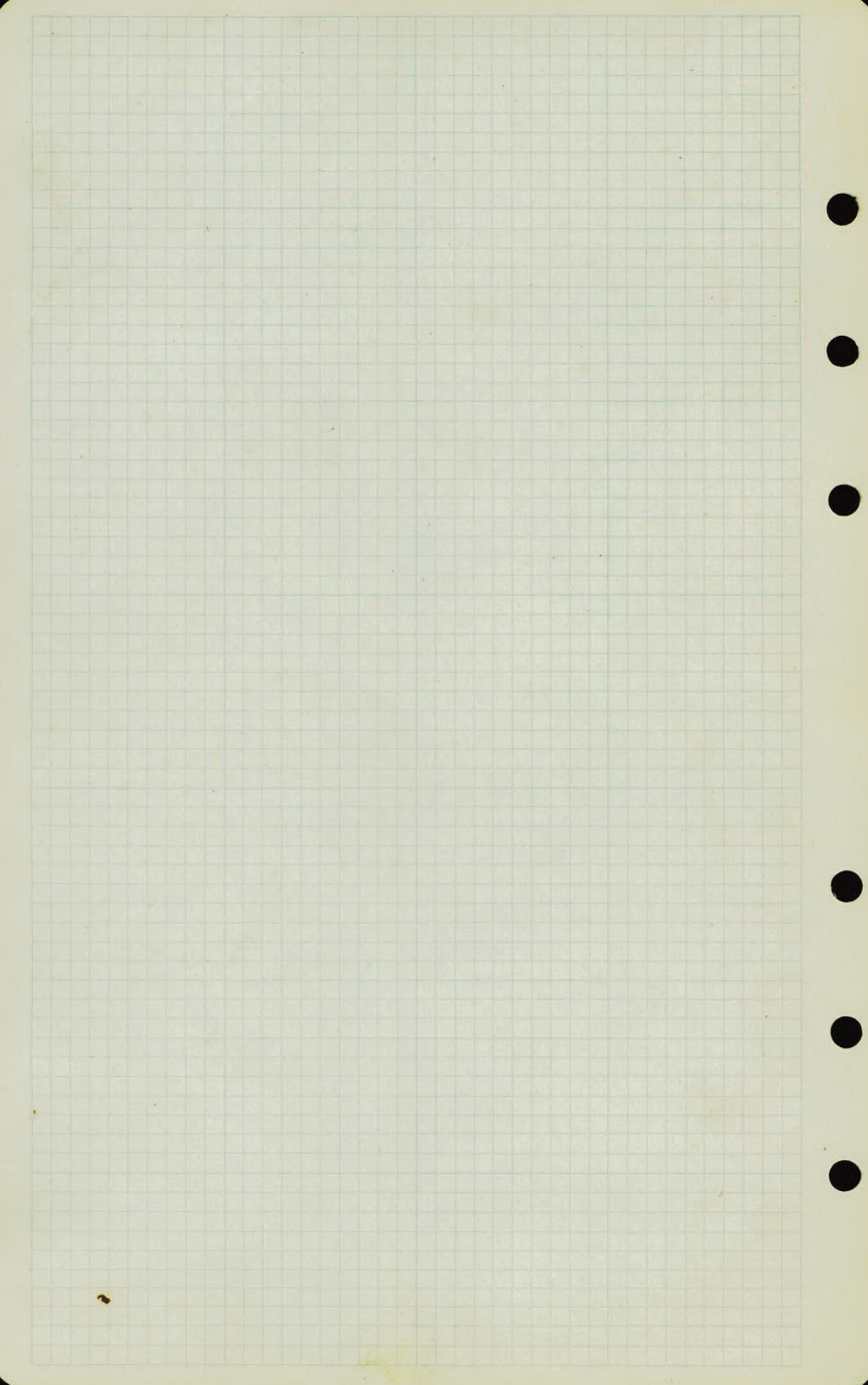
Poline r

Holloway.

+14- F. Cor. -27'
+47 P.R. 95

Cultivated.

Cultivated.



Cross-Sections.

Helen St. Extd So.

Station	+	π ✓	-	Elev.
B.M.	10.73	1013.31		1002.58
0+00				1002.58 -
0+16				02.2 -
0+22				00.6 -
0				
0+24				00.6 -
0+33				04.6 -
0+75				05.7 -
1+0				06.8 -
1+50				09.8 -
T.P.	11.97	1024.06 ✓	1.22	1012.09 ✓
1+80				11.6 -
2+0				10.7 -
2+20				08.6 -

Lt. C Rt.

Top Mon. & Carpenter

$$\begin{array}{r} 10.7 \\ \hline 50 \end{array} \quad \begin{array}{r} 1073 \\ \hline \end{array} \quad \begin{array}{r} 12.1 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 11.1 \\ \hline 50 \end{array} \quad \begin{array}{r} 111 \\ \hline \end{array} \quad \begin{array}{r} 12.3 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 12.3 \\ \hline 50 \end{array} \quad \begin{array}{r} 109 \\ \hline 30 \end{array} \quad \begin{array}{r} 108 \\ \hline 10 \end{array} \quad \begin{array}{r} 125 \\ \hline 8 \end{array} \quad \begin{array}{r} 127 \\ \hline \end{array} \quad \begin{array}{r} 139 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 123 \\ \hline 50 \end{array} \quad \begin{array}{r} 109 \\ \hline 30 \end{array} \quad \begin{array}{r} 108 \\ \hline 10 \end{array} \quad \begin{array}{r} 125 \\ \hline 8 \end{array} \quad \begin{array}{r} 127 \\ \hline \end{array} \quad \begin{array}{r} 139 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 12.3 \\ \hline 50 \end{array} \quad \begin{array}{r} 12.7 \\ \hline 35 \end{array} \quad \begin{array}{r} 10.4 \\ \hline 28 \end{array} \quad \begin{array}{r} 8.7 \\ \hline \end{array} \quad \begin{array}{r} 5.9 \\ \hline 32 \end{array} \quad \begin{array}{r} 2.1 \\ \hline 50 \end{array} \quad \begin{array}{r} 13.4 \\ \hline 75 \end{array}$$

$$\begin{array}{r} 12.3 \\ \hline 50 \end{array} \quad \begin{array}{r} 11.5 \\ \hline 36 \end{array} \quad \begin{array}{r} 9.4 \\ \hline 31 \end{array} \quad \begin{array}{r} 9.0 \\ \hline 15 \end{array} \quad \begin{array}{r} 8.1 \\ \hline 10 \end{array} \quad \begin{array}{r} 7.6 \\ \hline \end{array} \quad \begin{array}{r} 3.2 \\ \hline 27 \end{array} \quad \begin{array}{r} 2.4 \\ \hline 39 \end{array} \quad \begin{array}{r} 3.9 \\ \hline 50 \end{array} \quad \begin{array}{r} 11.1 \\ \hline 75 \end{array}$$

$$\begin{array}{r} 11.6 \\ \hline 50 \end{array} \quad \begin{array}{r} 9.9 \\ \hline 36 \end{array} \quad \begin{array}{r} 8.1 \\ \hline 32 \end{array} \quad \begin{array}{r} 8.6 \\ \hline 24 \end{array} \quad \begin{array}{r} 7.2 \\ \hline 11 \end{array} \quad \begin{array}{r} 6.5 \\ \hline \end{array} \quad \begin{array}{r} 4.5 \\ \hline 13 \end{array} \quad \begin{array}{r} 2.1 \\ \hline 72 \end{array} \quad \begin{array}{r} 2.3 \\ \hline 38 \end{array} \quad \begin{array}{r} 5.2 \\ \hline 50 \end{array} \quad \begin{array}{r} 13.0 \\ \hline 75 \end{array}$$

$$\begin{array}{r} 7.7 \\ \hline 50 \end{array} \quad \begin{array}{r} 6.8 \\ \hline 36 \end{array} \quad \begin{array}{r} 6.2 \\ \hline 29 \end{array} \quad \begin{array}{r} 5.8 \\ \hline 18 \end{array} \quad \begin{array}{r} 4.6 \\ \hline 15 \end{array} \quad \begin{array}{r} 3.5 \\ \hline 12 \end{array} \quad \begin{array}{r} 3.5 \\ \hline \end{array} \quad \begin{array}{r} 2.1 \\ \hline 20 \end{array} \quad \begin{array}{r} 6.3 \\ \hline 36 \end{array} \quad \begin{array}{r} 10.3 \\ \hline 50 \end{array} \quad (5.5 \text{ to } 7.5)$$

$$\begin{array}{r} 13.3 \\ \hline 50 \end{array} \quad \begin{array}{r} 11.9 \\ \hline 33 \end{array} \quad \begin{array}{r} 14.2 \\ \hline 24 \end{array} \quad \begin{array}{r} 14.2 \\ \hline 20 \end{array} \quad \begin{array}{r} 11.7 \\ \hline 15 \end{array} \quad \begin{array}{r} 12.5 \\ \hline \end{array} \quad \begin{array}{r} 14.8 \\ \hline 14 \end{array} \quad \begin{array}{r} 22.7 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 9.4 \\ \hline 50 \end{array} \quad \begin{array}{r} 8.8 \\ \hline 33 \end{array} \quad \begin{array}{r} 12.5 \\ \hline 27 \end{array} \quad \begin{array}{r} 12.2 \\ \hline 19 \end{array} \quad \begin{array}{r} 10.0 \\ \hline 16 \end{array} \quad \begin{array}{r} 11.9 \\ \hline 10 \end{array} \quad \begin{array}{r} 12.4 \\ \hline \end{array}$$

$$\begin{array}{r} 11.8 \\ \hline 50 \end{array} \quad \begin{array}{r} 9.9 \\ \hline 27 \end{array} \quad \begin{array}{r} 10.2 \\ \hline 20 \end{array} \quad \begin{array}{r} 9.1 \\ \hline 10 \end{array} \quad \begin{array}{r} 9.1 \\ \hline 16 \end{array} \quad \begin{array}{r} 13.2 \\ \hline 10 \end{array} \quad \begin{array}{r} 15.5 \\ \hline \end{array}$$

Station	+	π ✓	-	E/ev
		1024.06		
2+70				07.1 06.1
2+0				06.9 -
+50				09.0 05.0
+75				07.4 -
T.P.	4.14	✓ 1015.59	12.61	✓ 1011.45
1+80				
2+0				10.7
+30				08.6
+70				07.1 06.1
5+0				06.9 -
+50				09.0 05.0
+75				07.4 -

LH

C

RH

$$\begin{array}{r} 40 \quad 20 \quad 8.2 \quad 86 \quad 15.5 \\ 50 \quad 40 \quad 24 \quad 20 \quad 7 \end{array}$$

17.0

$$\begin{array}{r} 5.2 \quad 3.1 \quad 90 \quad 96 \quad 14.8 \quad 15.7 \\ 50 \quad 41 \quad 31 \quad 20 \quad 10 \quad 9 \end{array}$$

17.2

$$\begin{array}{r} 66 \quad 59 \quad 13.1 \quad 13.1 \quad 10.4 \quad 13.6 \quad 15.1 \\ 50 \quad 87 \quad 26 \quad 19 \quad 15 \quad 7 \end{array}$$

$$\begin{array}{r} 46 \quad 8.9 \quad 10.2 \quad 14.4 \quad 5.1 \quad 13.1 \\ 50 \quad 43 \quad 38 \quad 30 \quad 19 \quad 15 \end{array}$$

16.7

4.9

$$\begin{array}{r} 11.7 \\ 20 \end{array}$$

$$\begin{array}{r} 13.2 \\ 50 \end{array}$$

7.0

$$\begin{array}{r} 13.0 \\ 25 \end{array}$$

$$\begin{array}{r} 16.0 \\ 50 \end{array}$$

$$\begin{array}{r} 8.5 \\ 0 \end{array}$$

$$\begin{array}{r} 13.8 \\ 20 \end{array}$$

$$\begin{array}{r} 16.8 \\ 50 \end{array}$$

$$\begin{array}{r} 8.7 \\ 23 \end{array}$$

$$\begin{array}{r} 13.7 \\ 23 \end{array}$$

$$\begin{array}{r} 17.2 \\ 50 \end{array}$$

6.6

$$\begin{array}{r} 10.1 \\ 21 \end{array}$$

$$\begin{array}{r} 13.4 \\ 50 \end{array}$$

$$\begin{array}{r} 7.1 \\ 9 \end{array}$$

$$\begin{array}{r} 8.2 \\ 1 \end{array}$$

$$\begin{array}{r} 9.9 \\ 25 \end{array}$$

$$\begin{array}{r} 11.5 \\ 50 \end{array}$$

Station	+	π ✓	-	Elev.
		1015.59		
440				04.5 -
+50				01.1 -
540				01.4 -
+30				10 01.7 -
+60		✓		999.7 - ✓
T.P.	5.66	1008.01	13.24	1102.35
640				98.1 -
+50				96.9 -
740				96.9 -
840				96.7 -
+ 28				96.5 -
+ 29 } Bot# Ditch.				95.8 -
+ 32 }				95.8 -
+ 34				97.0 -
+50				96.8 -

L. E. R.

$$\begin{array}{r} 4.9 \\ 50 \end{array} \begin{array}{r} 4.8 \\ 43 \end{array} \begin{array}{r} 6.2 \\ 39 \end{array} \begin{array}{r} 7.4 \\ 29 \end{array} \begin{array}{r} 2.7 \\ 18 \end{array} \begin{array}{r} 10.8 \\ 9 \end{array} \begin{array}{r} 11.1 \\ - \end{array} \begin{array}{r} 12.4 \\ 25 \end{array} \begin{array}{r} 12.8 \\ 50 \end{array}$$

$$\begin{array}{r} 2.7 \\ 50 \end{array} \begin{array}{r} 8.1 \\ 44 \end{array} \begin{array}{r} 10.6 \\ 35 \end{array} \begin{array}{r} 10.4 \\ 24 \end{array} \begin{array}{r} 10.0 \\ 19 \end{array} \begin{array}{r} 13.9 \\ 10 \end{array} \begin{array}{r} 14.8 \\ - \end{array} \begin{array}{r} 15.4 \\ 20 \end{array} \begin{array}{r} 15.4 \\ 50 \end{array}$$

$$\begin{array}{r} 5.5 \\ 50 \end{array} \begin{array}{r} 5.7 \\ 47 \end{array} \begin{array}{r} 12.3 \\ 34 \end{array} \begin{array}{r} 11.6 \\ 29 \end{array} \begin{array}{r} 11.6 \\ 20 \end{array} \begin{array}{r} 14.2 \\ - \end{array} \begin{array}{r} 16.1 \\ 28 \end{array} \begin{array}{r} 16.3 \\ 50 \end{array}$$

$$\begin{array}{r} 5.0 \\ 50 \end{array} \begin{array}{r} 5.1 \\ 48 \end{array} \begin{array}{r} 13.5 \\ 26 \end{array} \begin{array}{r} 13.5 \\ 33 \end{array} \begin{array}{r} 12.9 \\ 30 \end{array} \begin{array}{r} 12.9 \\ 22 \end{array} \begin{array}{r} 12.1 \\ 17 \end{array} \begin{array}{r} 13.9 \\ - \end{array} \begin{array}{r} 15.6 \\ 17 \end{array} \begin{array}{r} 17.4 \\ 50 \end{array}$$

$$\begin{array}{r} 6.8 \\ 49 \end{array} \begin{array}{r} 14.1 \\ 26 \end{array} \begin{array}{r} 13.3 \\ 21 \end{array} \begin{array}{r} 12.6 \\ 10 \end{array} \begin{array}{r} 15.9 \\ - \end{array} \begin{array}{r} 17.2 \\ 20 \end{array} \begin{array}{r} 18.2 \\ 50 \end{array}$$

Top Large Boulder L. Sta. 5+55

$$\begin{array}{r} 6.3 \\ 50 \end{array} \begin{array}{r} 7.2 \\ 30 \end{array} \begin{array}{r} 7.3 \\ 23 \end{array} \begin{array}{r} 9.0 \\ 12 \end{array} \begin{array}{r} 9.9 \\ - \end{array} \begin{array}{r} 10.6 \\ 25 \end{array} \begin{array}{r} 11.1 \\ 50 \end{array}$$

$$\begin{array}{r} 9.3 \\ 50 \end{array} \begin{array}{r} 9.5 \\ 36 \end{array} \begin{array}{r} 8.4 \\ 30 \end{array} \begin{array}{r} 8.4 \\ 23 \end{array} \begin{array}{r} 10.6 \\ 17 \end{array} \begin{array}{r} 14.1 \\ - \end{array} \begin{array}{r} 11.2 \\ 25 \end{array} \begin{array}{r} 11.2 \\ 50 \end{array}$$

$$\begin{array}{r} 11.2 \\ 50 \end{array} \begin{array}{r} 11.0 \\ 37 \end{array} \begin{array}{r} 8.7 \\ 31 \end{array} \begin{array}{r} 9.2 \\ 20 \end{array} \begin{array}{r} 12.1 \\ 16 \end{array} \begin{array}{r} 12.1 \\ 13 \end{array} \begin{array}{r} 11.3 \\ 12 \end{array} \begin{array}{r} 11.1 \\ - \end{array} \begin{array}{r} 11.0 \\ 50 \end{array}$$

$$\begin{array}{r} 11.4 \\ 50 \end{array} \begin{array}{r} 11.6 \\ 33 \end{array} \begin{array}{r} 9.5 \\ 29 \end{array} \begin{array}{r} 10.0 \\ 17 \end{array} \begin{array}{r} 11.8 \\ 16 \end{array} \begin{array}{r} 11.8 \\ 13 \end{array} \begin{array}{r} 11.4 \\ 12 \end{array} \begin{array}{r} 14.3 \\ - \end{array}$$

$$\begin{array}{r} 11.5 \\ - \end{array}$$

$$\begin{array}{r} 12.2 \\ - \end{array}$$

$$\begin{array}{r} 12.2 \\ - \end{array}$$

$$\begin{array}{r} 11.0 \\ - \end{array}$$

$$\begin{array}{r} 11.4 \\ 48 \end{array} \begin{array}{r} 12.4 \\ 51 \end{array} \begin{array}{r} 12.7 \\ 62 \end{array} \begin{array}{r} 11.3 \\ 65 \end{array} \text{ in Ditch}$$

$$\begin{array}{r} 12.1 \\ 50 \end{array} \text{ in Ditch} \begin{array}{r} 12.1 \\ 35 \end{array} \begin{array}{r} 9.4 \\ 38 \end{array} \begin{array}{r} 9.6 \\ 19 \end{array} \begin{array}{r} 11.9 \\ 14 \end{array} \begin{array}{r} 10.9 \\ 12 \end{array} \begin{array}{r} 11.2 \\ - \end{array} \begin{array}{r} 11.1 \\ 50 \end{array}$$

Sta.	+	π ✓	-	E/eU.
		1008.01		96.8 96.2
9+0				
+65				97.2
10+0				999.3
+40				1004.1
+78				1002.2
11+0				02.3
+25				04.2
T.P.	12.40	1018.35 ✓	2.06	1005.95 ✓
+65				09.9
11+87				12.6
12+25				10.9
+50				11.6

4. 2. 21.

$$\begin{array}{r} 120 \\ 50 \end{array} \quad \begin{array}{r} 113 \\ 34 \end{array} \quad \begin{array}{r} 92 \\ 27 \end{array} \quad \begin{array}{r} 95 \\ 18 \end{array} \quad \begin{array}{r} 112 \\ 14 \end{array} \quad 112 \quad \begin{array}{r} 112 \\ 50 \end{array}$$

$$\begin{array}{r} 113 \\ 50 \end{array} \quad \begin{array}{r} 109 \\ 33 \end{array} \quad \begin{array}{r} 80 \\ 28 \end{array} \quad \begin{array}{r} 86 \\ 18 \end{array} \quad \begin{array}{r} 106 \\ 12 \end{array} \quad 108 \quad \begin{array}{r} 103 \\ 50 \end{array}$$

$$\begin{array}{r} 85 \\ 50 \end{array} \quad \begin{array}{r} 86 \\ 35 \end{array} \quad \begin{array}{r} 75 \\ 29 \end{array} \quad \begin{array}{r} 73 \\ 21 \end{array} \quad \begin{array}{r} 81 \\ 14 \end{array} \quad 87 \quad \begin{array}{r} 70 \\ 22 \end{array} \quad \begin{array}{r} 70 \\ 50 \end{array}$$

$$\begin{array}{r} 50 \\ 50 \end{array} \quad \begin{array}{r} 47 \\ 39 \end{array} \quad \begin{array}{r} 63 \\ 35 \end{array} \quad \begin{array}{r} 60 \\ 21 \end{array} \quad \begin{array}{r} 38 \\ 15 \end{array} \quad 39 \quad \begin{array}{r} 45 \\ 25 \end{array} \quad \begin{array}{r} 65 \\ 50 \end{array}$$

$$\begin{array}{r} 57 \\ 50 \end{array} \quad \begin{array}{r} 53 \\ 22 \end{array} \quad \begin{array}{r} 56 \\ 12 \end{array} \quad 58 \quad \begin{array}{r} 60 \\ 50 \end{array}$$

$$\begin{array}{r} 57 \\ 50 \end{array} \quad \begin{array}{r} 57 \\ 40 \end{array} \quad \begin{array}{r} 48 \\ 31 \end{array} \quad \begin{array}{r} 48 \\ 22 \end{array} \quad \begin{array}{r} 56 \\ 14 \end{array} \quad 57 \quad \begin{array}{r} 53 \\ 24 \end{array} \quad \begin{array}{r} 42 \\ 50 \end{array}$$

$$\begin{array}{r} 48 \\ 50 \end{array} \quad \begin{array}{r} 47 \\ 41 \end{array} \quad \begin{array}{r} 40 \\ 23 \end{array} \quad \begin{array}{r} 41 \\ 24 \end{array} \quad \begin{array}{r} 41 \\ 13 \end{array} \quad 38 \quad \begin{array}{r} 25 \\ 25 \end{array} \quad \begin{array}{r} 12 \\ 50 \end{array}$$

$$\begin{array}{r} 112 \\ 50 \end{array} \quad \begin{array}{r} 117 \\ 39 \end{array} \quad \begin{array}{r} 117 \\ 17 \end{array} \quad \begin{array}{r} 93 \\ 11 \end{array} \quad 85 \quad \begin{array}{r} 64 \\ 23 \end{array} \quad \begin{array}{r} 32 \\ 50 \end{array}$$

$$\begin{array}{r} 102 \\ 50 \end{array} \quad \begin{array}{r} 100 \\ 36 \end{array} \quad \begin{array}{r} 99 \\ 26 \end{array} \quad \begin{array}{r} 95 \\ 15 \end{array} \quad \begin{array}{r} 72 \\ 10 \end{array} \quad 58 \quad \begin{array}{r} 32 \\ 26 \end{array} \quad \begin{array}{r} 24 \\ 50 \end{array}$$

$$\begin{array}{r} 87 \\ 50 \end{array} \quad \begin{array}{r} 85 \\ 35 \end{array} \quad \begin{array}{r} 86 \\ 23 \end{array} \quad \begin{array}{r} 28 \\ 13 \end{array} \quad 75 \quad \begin{array}{r} 81 \\ 24 \end{array} \quad \begin{array}{r} 109 \\ 50 \end{array}$$

$$\begin{array}{r} 90 \\ 50 \end{array} \quad \begin{array}{r} 78 \\ 20 \end{array} \quad \begin{array}{r} 69 \\ 13 \end{array} \quad 68 \quad \begin{array}{r} 77 \\ 23 \end{array} \quad \begin{array}{r} 106 \\ 50 \end{array}$$

Station	+	Σ	-	Elev.
		1018.35		
1340				08.2
B.M.	5.22	1012.88	1069	1007.66
+28				06.5
+58				06.7
1410				05.7
+25				06.5
+65				10.1
T.P.	11.83	1021.29	3.42	1009.46
15				13.0
+25				15.0
+55				15.3
16				14.7
+45				15.9

LT. E RT

$\frac{11.2}{50}$ $\frac{11.2}{26}$ $\frac{11.2}{15}$ 102 $\frac{9.5}{25}$ $\frac{10.4}{50}$

R.R. Spikes in 10" Oak 50' Rt. 50' 13+16

$\frac{5.7}{50}$ $\frac{6.0}{28}$ $\frac{6.4}{30}$ $\frac{6.2}{30}$ $\frac{7.4}{50}$

$\frac{4.7}{50}$ $\frac{3.7}{21}$ $\frac{6.2}{22}$ $\frac{8.6}{22}$ $\frac{9.0}{50}$

$\frac{7.8}{50}$ $\frac{4.8}{28}$ $\frac{7.2}{23}$ $\frac{9.8}{23}$ $\frac{10.6}{50}$

$\frac{6.6}{50}$ $\frac{4.2}{22}$ $\frac{6.4}{25}$ $\frac{7.9}{25}$ $\frac{9.6}{50}$

$\frac{0.3}{50}$ $\frac{0.9}{28}$ $\frac{2.8}{25}$ $\frac{4.0}{25}$ $\frac{4.3}{50}$

$\frac{8.4}{50}$ $\frac{8.4}{26}$ $\frac{8.3}{25}$ $\frac{7.9}{25}$ $\frac{7.6}{50}$

$\frac{7.4}{50}$ $\frac{7.3}{25}$ $\frac{6.3}{29}$ $\frac{5.7}{29}$ $\frac{6.3}{50}$

$\frac{6.3}{50}$ $\frac{6.5}{25}$ $\frac{6.0}{15}$ $\frac{5.8}{15}$ $\frac{7.2}{50}$

$\frac{5.2}{50}$ $\frac{6.0}{25}$ $\frac{6.6}{25}$ $\frac{7.0}{25}$ $\frac{7.4}{50}$

$\frac{4.1}{50}$ $\frac{4.9}{24}$ $\frac{5.4}{26}$ $\frac{6.2}{26}$ $\frac{6.7}{50}$

Station	+	π ✓	-	Elev.
		1021.29		
17				17.2 -
+20				18.2 -
+60				17.1 -
18				16.5 -
+30				16.2 -
+65				16.2 -
19				17.8 -
+30				19.5 - 20.5 -
+65				18.8 -
T.P.	1.25	✓ 101900	3.54	✓ 1017.75
20 to				18.3 -
+35				15.1 -

	4.	5	6.	
$\frac{2.7}{50}$	$\frac{3.3}{29}$	$\frac{4.1}{-}$	$\frac{4.8}{30}$	$\frac{4.7}{50}$
$\frac{2.3}{50}$	$\frac{2.9}{28}$	3.1	$\frac{3.2}{25}$	$\frac{3.3}{50}$
$\frac{2.7}{50}$	$\frac{3.5}{27}$	$\frac{4.2}{-}$	$\frac{4.4}{25}$	$\frac{4.4}{50}$
$\frac{3.4}{50}$	$\frac{4.4}{27}$	$\frac{4.8}{-}$	$\frac{4.8}{28}$	$\frac{3.7}{50}$
$\frac{4.2}{50}$	$\frac{4.7}{30}$	$\frac{5.1}{-}$	$\frac{5.2}{29}$	$\frac{5.8}{50}$
$\frac{4.0}{50}$	$\frac{4.2}{25}$	$\frac{5.1}{-}$	$\frac{6.5}{25}$	$\frac{7.7}{50}$
$\frac{3.2}{50}$	$\frac{3.1}{25}$	$\frac{3.5}{-}$	$\frac{5.0}{27}$	$\frac{6.0}{50}$
$\frac{2.4}{50}$	$\frac{1.8}{25}$	$\frac{1.8}{-}$	$\frac{3.0}{25}$	$\frac{4.7}{50}$
$\frac{2.9}{50}$	$\frac{1.7}{23}$	$\frac{2.5}{-}$	$\frac{2.8}{26}$	$\frac{5.2}{50}$
$\frac{1.7}{50}$	$\frac{1.0}{30}$	0.7	$\frac{2.5}{20}$	$\frac{4.8}{50}$
$\frac{3.4}{50}$	$\frac{3.2}{25}$	$\frac{3.9}{-}$	$\frac{5.9}{29}$	$\frac{7.8}{50}$

Sta.	+	Δ	-	Elev.
		✓ 1019.00		
20+70				11.0 -
21+60				09.3 -
+25				08.9 -
+80				10.0 -
22+0				09.6 -
+30				07.7 -
+70		✓		07.9 - ✓
T.P.	6.25	1012.81	12.44	1006.56
23				05.7 -
+25				04.6 -
+60				05.4 -
24				07.1 -

H. L. H.

$$\begin{array}{r} 5.4 \\ 50 \end{array} \quad \begin{array}{r} 6.4 \\ 76 \end{array} \quad 80 \quad \begin{array}{r} 9.6 \\ 30 \end{array} \quad \begin{array}{r} 10.5 \\ 50 \end{array}$$

$$\begin{array}{r} 7.1 \\ 50 \end{array} \quad \begin{array}{r} 8.4 \\ 75 \end{array} \quad 97 \quad \begin{array}{r} 10.5 \\ 75 \end{array} \quad \begin{array}{r} 11.1 \\ 50 \end{array}$$

$$\begin{array}{r} 7.6 \\ 50 \end{array} \quad \begin{array}{r} 9.1 \\ 75 \end{array} \quad 101 \quad \begin{array}{r} 10.6 \\ 75 \end{array} \quad \begin{array}{r} 11.0 \\ 50 \end{array}$$

$$\begin{array}{r} 6.5 \\ 50 \end{array} \quad \begin{array}{r} 8.0 \\ 15 \end{array} \quad 90 \quad \begin{array}{r} 8.9 \\ 21 \end{array} \quad \begin{array}{r} 8.5 \\ 50 \end{array}$$

$$\begin{array}{r} 6.4 \\ 50 \end{array} \quad \begin{array}{r} 7.7 \\ 28 \end{array} \quad 94 \quad \begin{array}{r} 9.5 \\ 25 \end{array} \quad \begin{array}{r} 9.3 \\ 50 \end{array}$$

$$\begin{array}{r} 7.1 \\ 50 \end{array} \quad \begin{array}{r} 8.7 \\ 25 \end{array} \quad 113 \quad \begin{array}{r} 12.2 \\ 20 \end{array} \quad \begin{array}{r} 12.6 \\ 50 \end{array}$$

$$\begin{array}{r} 80 \\ 50 \end{array} \quad \begin{array}{r} 89 \\ 22 \end{array} \quad 111 \quad \begin{array}{r} 12.8 \\ 25 \end{array} \quad \begin{array}{r} 13.3 \\ 50 \end{array}$$

$$\begin{array}{r} 5.0 \\ 50 \end{array} \quad \begin{array}{r} 5.7 \\ 22 \end{array} \quad 71 \quad \begin{array}{r} 7.5 \\ 22 \end{array} \quad \begin{array}{r} 6.6 \\ 50 \end{array}$$

$$\begin{array}{r} 6.6 \\ 50 \end{array} \quad \begin{array}{r} 7.4 \\ 27 \end{array} \quad 82 \quad \begin{array}{r} 7.3 \\ 20 \end{array} \quad \begin{array}{r} 5.0 \\ 50 \end{array}$$

$$\begin{array}{r} 7.7 \\ 50 \end{array} \quad \begin{array}{r} 7.9 \\ 25 \end{array} \quad 74 \quad \begin{array}{r} 4.8 \\ 28 \end{array} \quad \begin{array}{r} 3.0 \\ 50 \end{array}$$

$$\begin{array}{r} 7.0 \\ 50 \end{array} \quad \begin{array}{r} 6.9 \\ 25 \end{array} \quad 57 \quad \begin{array}{r} 4.0 \\ 75 \end{array} \quad \begin{array}{r} 3.9 \\ 50 \end{array}$$

Sta. + ~~+~~ - Elev.

1012.81

24+30

07.2-

+75

05.4
05.2-

25

05.5-

+45

07.6-

26

07.8-

+435 Top Mon.

1008.03-

~~1008.03~~
+77

06.8-

-Check Levels-

B.M.

3.20

1009.65

6.36

1006.45

11.47

1018.03

3.09

1006.56

9.20

1024.30

2.93

1015.10

0.85

1013.93

11.24

1013.08

2.24

1006.71

9.46

1004.47

7.19

1005.85

8.05

998.66

B.M.

3.24

1002.61

Top of Monument Carpenter

$$\begin{array}{r} 6.0 \\ 50 \end{array} \quad \begin{array}{r} 6.7 \\ 25 \end{array} \quad \begin{array}{r} 5.6 \\ 17 \end{array} \quad \begin{array}{r} 4.6 \\ 17 \end{array} \quad \begin{array}{r} 5.4 \\ 50 \end{array}$$

$$\begin{array}{r} 8.9 \\ 50 \end{array} \quad \begin{array}{r} 8.3 \\ 25 \end{array} \quad \begin{array}{r} 7.4 \\ 22 \end{array} \quad \begin{array}{r} 6.7 \\ 22 \end{array} \quad \begin{array}{r} 6.5 \\ 50 \end{array}$$

$$\begin{array}{r} 9.2 \\ 50 \end{array} \quad \begin{array}{r} 8.7 \\ 26 \end{array} \quad \begin{array}{r} 7.3 \\ 25 \end{array} \quad \begin{array}{r} 6.4 \\ 25 \end{array} \quad \begin{array}{r} 6.2 \\ 50 \end{array}$$

$$\begin{array}{r} 9.0 \\ 50 \end{array} \quad \begin{array}{r} 7.4 \\ 25 \end{array} \quad \begin{array}{r} 5.2 \\ 26 \end{array} \quad \begin{array}{r} 4.5 \\ 26 \end{array} \quad \begin{array}{r} 4.6 \\ 50 \end{array}$$

$$\begin{array}{r} 8.6 \\ 50 \end{array} \quad \begin{array}{r} 6.2 \\ 15 \end{array} \quad \begin{array}{r} 5.0 \\ 0 \end{array} \quad \begin{array}{r} 4.7 \\ 12 \end{array} \quad \begin{array}{r} 5.5 \\ 46 \end{array} \quad \begin{array}{r} 6.1 \\ 50 \end{array}$$

$$\begin{array}{r} 8.4 \\ 50 \end{array} \quad \begin{array}{r} 6.2 \\ 25 \end{array} \quad \begin{array}{r} 4.8 \\ 13 \end{array} \quad \begin{array}{r} 4.78 \\ 27 \end{array} \quad \begin{array}{r} 6.2 \\ 27 \end{array} \quad \begin{array}{r} 6.6 \\ 50 \end{array} \quad \begin{array}{r} 7.2 \\ 100 \end{array} \quad \text{No Road}$$

$$\begin{array}{r} 8.6 \\ 50 \end{array} \quad \begin{array}{r} 6.8 \\ 21 \end{array} \quad \begin{array}{r} 5.8 \\ 12 \end{array} \quad \begin{array}{r} 6.0 \\ 76 \end{array} \quad \begin{array}{r} 6.8 \\ 76 \end{array} \quad \begin{array}{r} 8.0 \\ 30 \end{array} \quad \begin{array}{r} 8.3 \\ 50 \end{array}$$

Top Large Gray Boulder 10 Rt. Sta. 77+15

(1002.58) Mon @ Larpentur.

