

BK. 37 Dr. 11A

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

Plan Survey

OWasso St.

From Arbogast St. To Harriet Ave.

Slope stakes 5-9-47

Road Acc't. No.

Date Filed 7-25-47

File

PLAN SURVEY

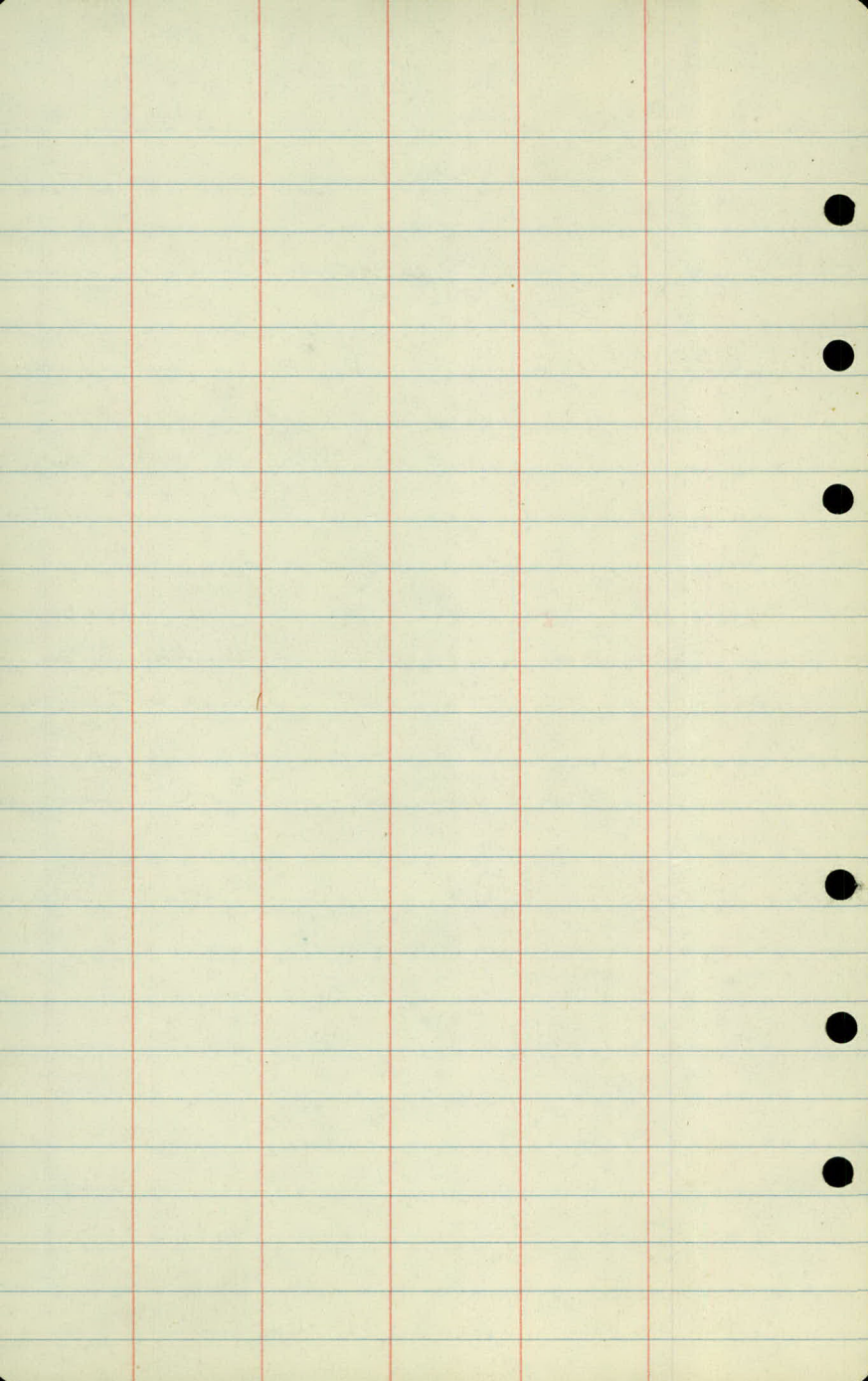
OWASSO ST.

Arbogast St. to Harriet Ave.

INDEX

Align.	1-2
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Bench Levels	8-9
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Rec'd 4/25/47 WTB



1

Alignment

Sta Point

16+39.85 = End of Platted Prop.

13+18.5 POT = E Harriet Ave.

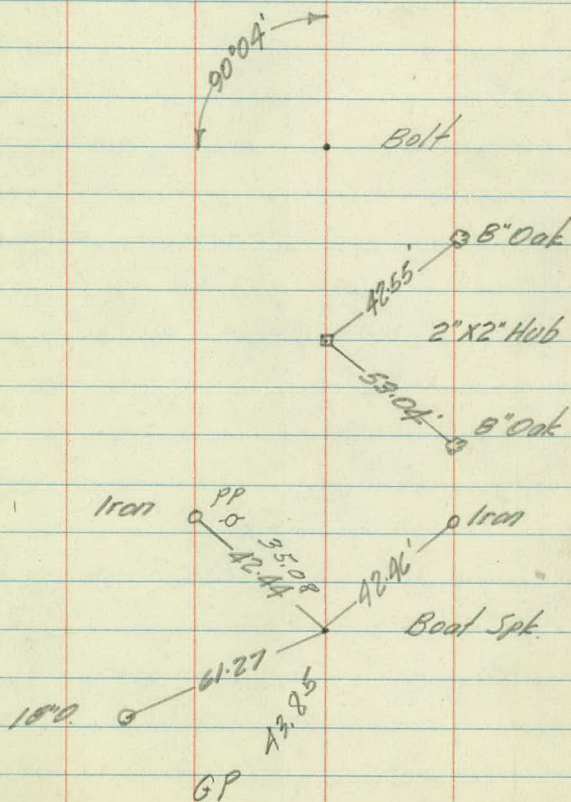
11+99.65 POT

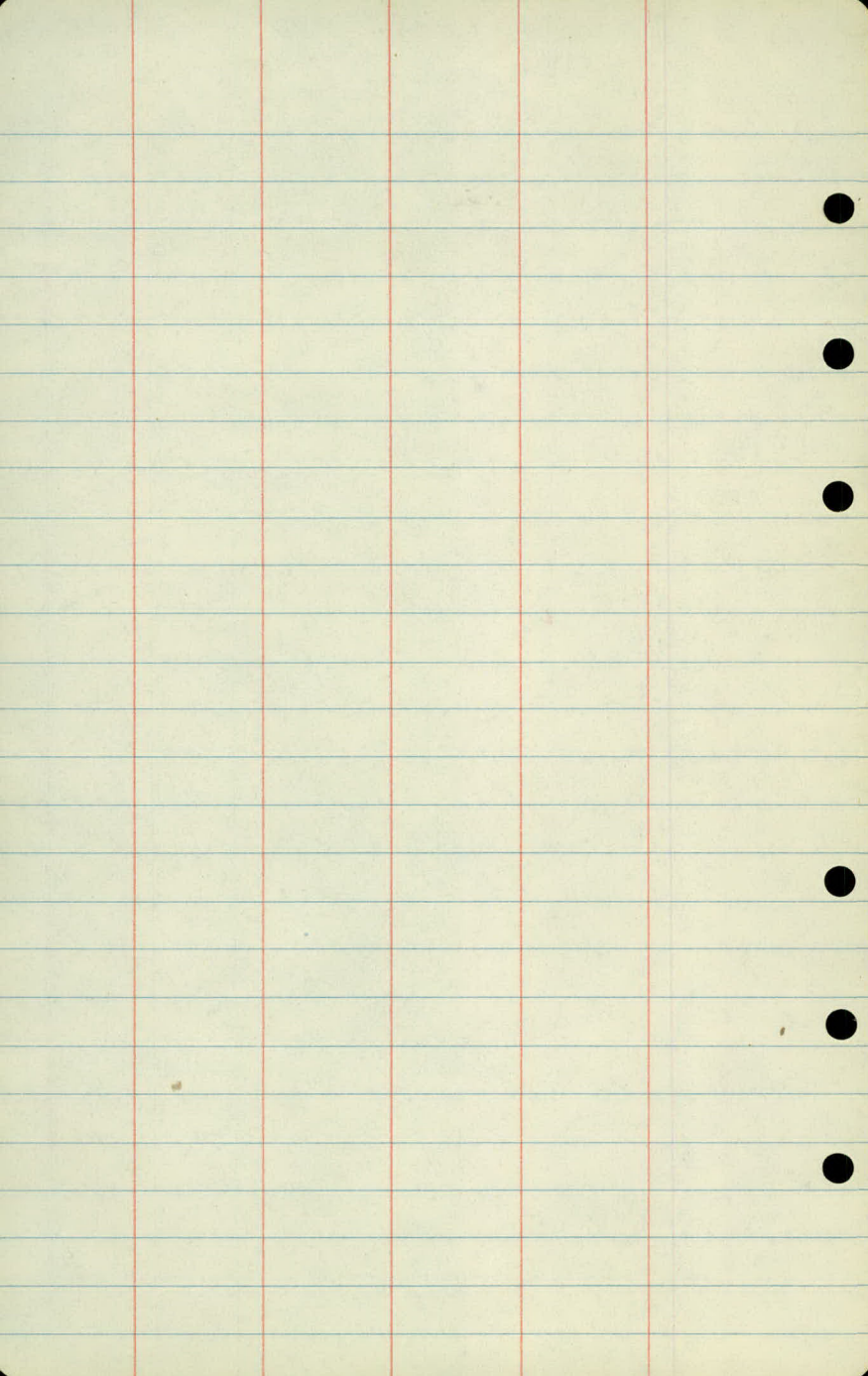
0+00 = E Arbogast St.

4-21-47

2

Bolt KIN SWAMP





Topography

4

3

2

1

0

$\left. \begin{array}{l} +14 \\ -14 \end{array} \right\} \text{RI.TOP}$

W N C W L

Abrogast Rd

16 Ditch - 58

Swamp 10' - 130'

+85-Swamp-20'

15

+90-Ditch-00 Swamp 10'

14

+18-Swamp & Bog ditch - 44'
Swamp-00

+50-Swamp-16'

13

Swamp-00

+73-6' B.E. 4'

+72-Group 4-10' B.S. 10'

+65-2-5' B.E. - 25'

+48-End of Woods-29'

12

Woods-32'

+56-Cor Woods-36'

11



4-21-47

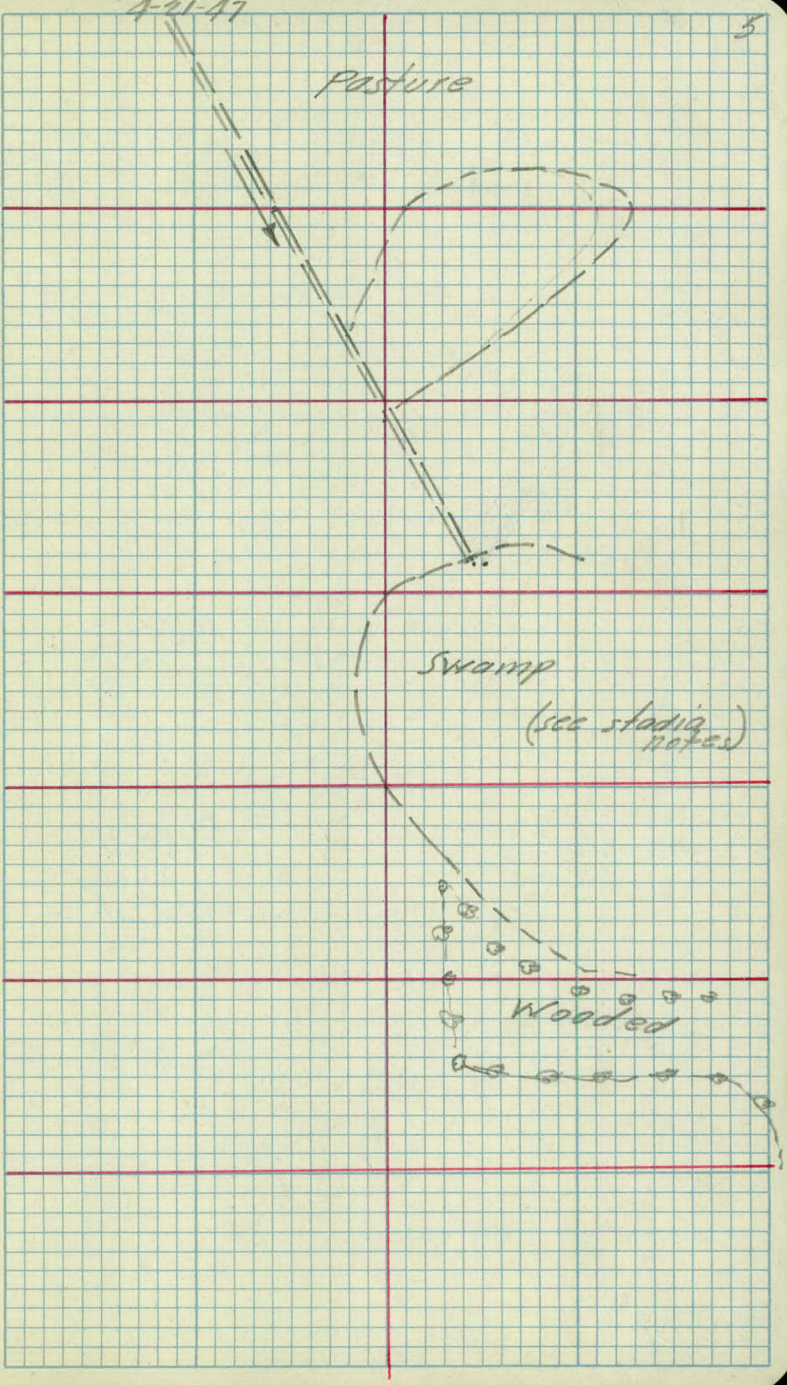
5

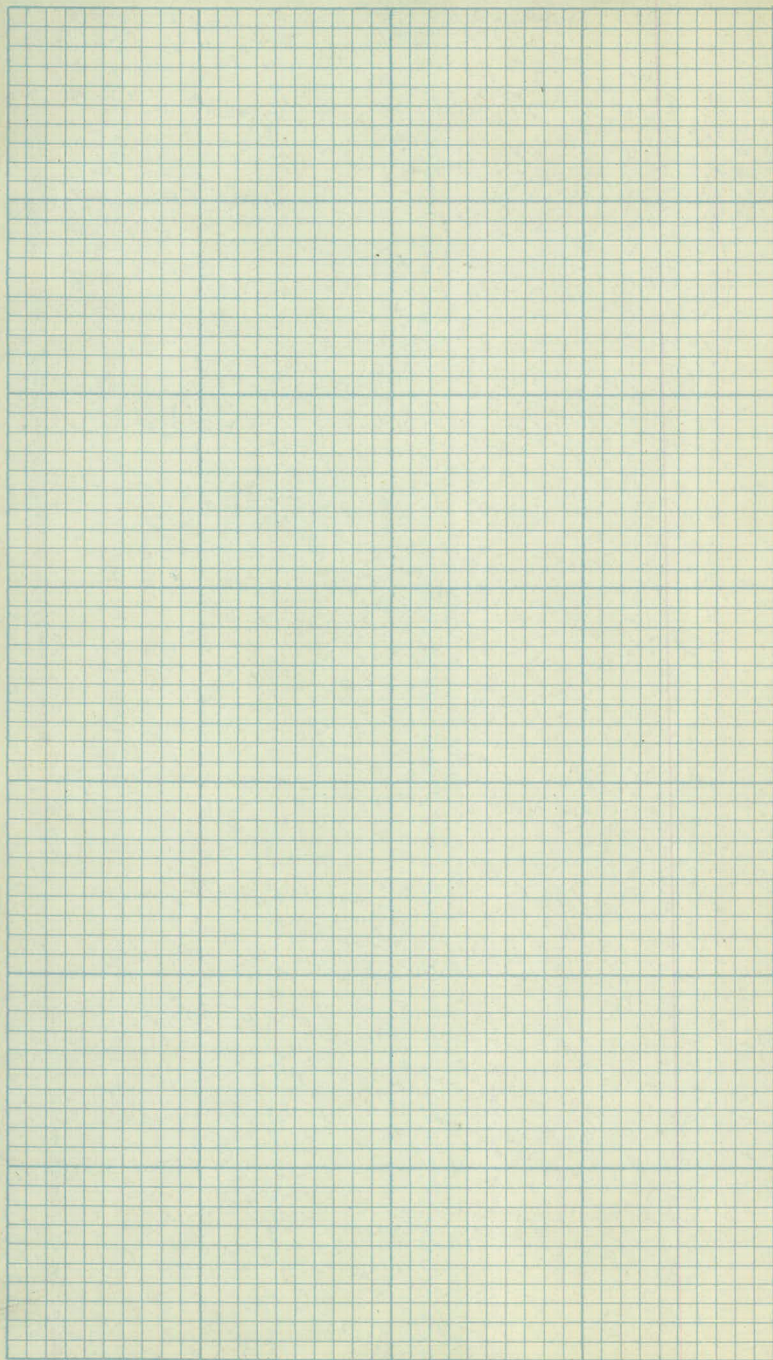
Pasture

Swamp

(see stadiag
notes)

Wooded





stadia

4-21-47

Object Azimuth Dist

π at Int. of Harriet &

Owasso. North- $0^{\circ}00'$

Edge Swamp. $53^{\circ}00'$ 134'

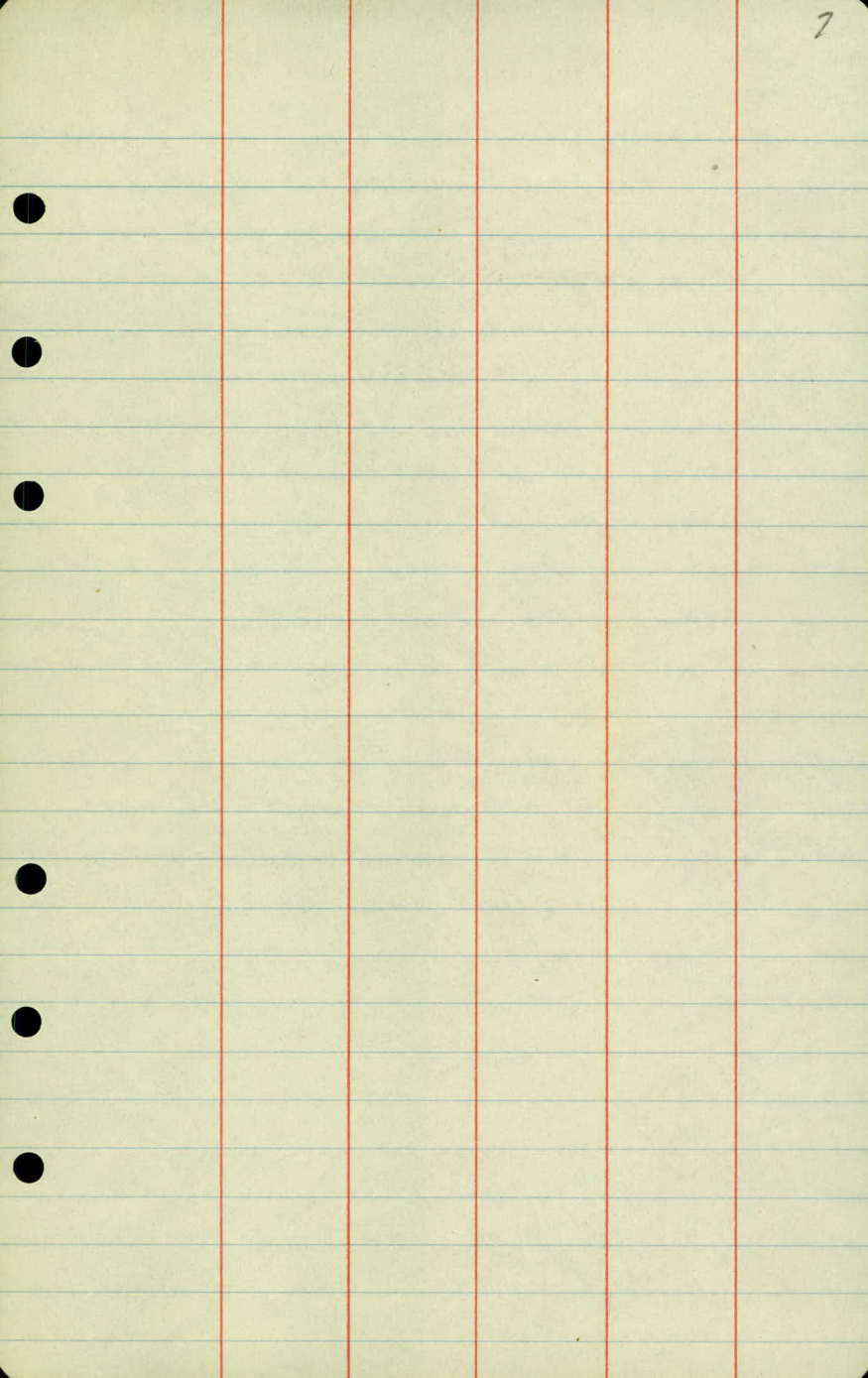
" " $80^{\circ}00'$ 200'

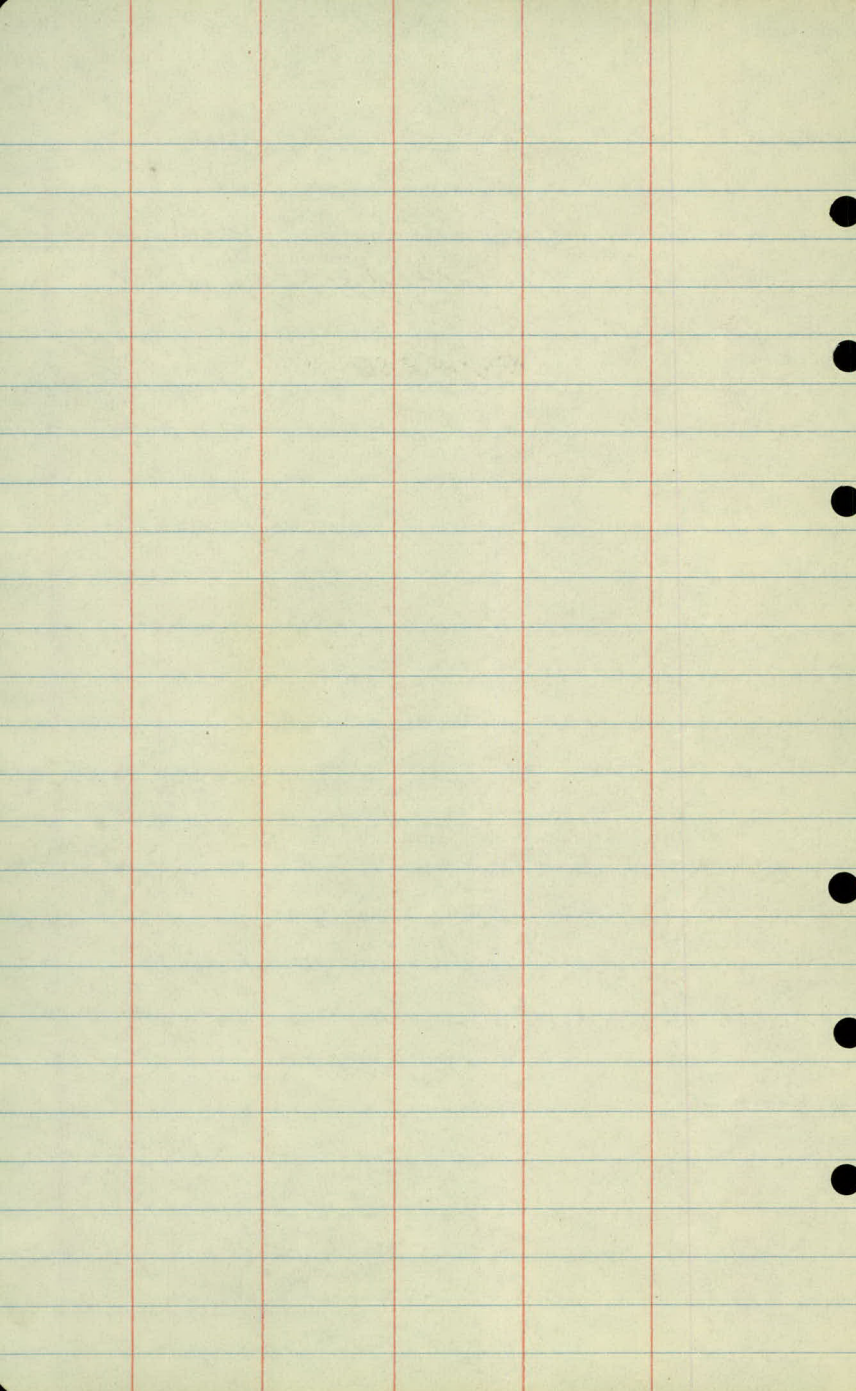
" " $113^{\circ}00'$ 245'

DITell " $115^{\circ}00'$ 246 To - S.E

$124^{\circ}00'$ 212

EDGE SWP. $134^{\circ}00'$ 154





Bench Levels

Owasso St.

Sta	+	π	-	Elev
B.M.	5.34	929.93		(924.59)
T.P.	0.67	917.46	13.14	916.79
T.P.	0.11	907.21	10.36	907.10
T.P.	1.16	897.01	11.36	895.85
T.B.M.	19.29	905.99	10.31	886.70
T.P.	13.45	919.35	0.09	905.90
T.P.	13.59	932.84 ⁸⁴	0.10	919.25
T.P.	13.73	946.43	0.14	932.70
T.P.	10.62	956.98	0.07	946.36
T.P.	0.43	944.08	13.33	942.65
T.P.	3.46	934.20	13.34	930.74
B.M.			6.48	927.72 (927.72)
T.P.	12.50	944.30	2.40	931.80 ✓
B.M.			1.40	942.90 (942.90)
B.M.	4.99	969.27		(964.28)
T.P.	1.57	962.61	8.23	961.04
T.P.	0.32	949.76	13.17	949.44
B.M.			6.88	942.88 (942.90)

L.A.
A.M.
M.B.

4-22-47

9

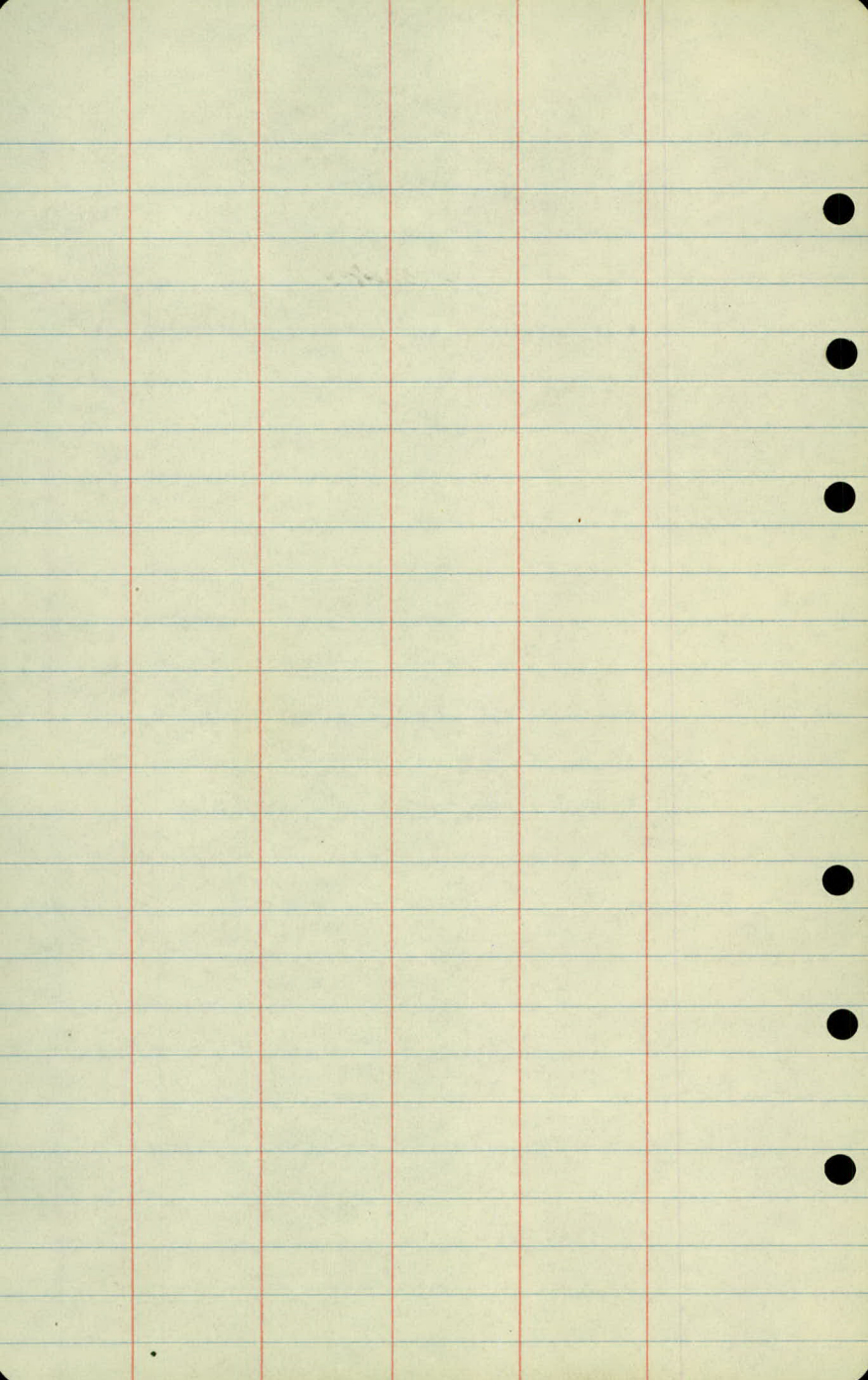
U.S.G.S. B.M. T 2 near Rice & "D"

Elev. Lake Owasso

Spk. in 24" Oak SW. Cor. Arbogast Rd. & Owasso St.

Spk. in 24" Oak S.E. Cor. Arbogast & Victoria

Spk. in 15" Oak 200' N & W. of Harriet & Victoria



Xsections

Sta.	+	-	Elev
B.M.	13.50	941.22	(927.72)

0 +00			28.6
-------	--	--	------

+16			28.3
-----	--	--	------

+19			26.5
-----	--	--	------

+24			26.5
-----	--	--	------

+30			28.3
-----	--	--	------

+41			29.9
-----	--	--	------

+70			31.6
-----	--	--	------

1			34.3
---	--	--	------

K.H. 4-22-47
A.M.
M.B.

Rain

11

L E R

Spt. in 24" O. SW. Cor. Arbogast Rd. & Omaso St.

12.4	12.6	12.6	11.9	11.2	✓
100	50	<u>50</u>	50	100	

13.2	12.9	12.5	✓
50 P. 49.1		50	

14.3	14.7	15.3	✓
50		50	

14.3	14.7	15.3	✓
50		50	

12.3	12.5	12.9	13.2	13.6	✓
50	30	<u>27</u>	27	50	

12.4	12.1	11.3	9.4	8.4	8.0	✓
50	23	<u>23</u>	23	38	<u>50</u>	

10.9	10.7	9.6	7.9	6.6	✓
50	29		25	50	

6.9	7.1	6.9	5.3	4.7	✓
50	27	<u>27</u>	30	50	

Sta + π - Elev

1 + 20 941.22
941.22 36.8

+50 39.8

+78 38.6

2 38.7

+50 40.1

T. P 13.31 952.84 1.69 939.53
939.53

3 42.4

+40 44.9

+73
+77 48.0

L

E

E

4.1
504.3
29

4.4

3.9
304.3
50

✓

1.8
501.4
241.0
91.4
—3.0
164.9
395.7
50

✓

2.9
502.6
322.6
—3.3
103.4
213.7
50

✓

3.1
502.4
322.5
—1.8
190.8
380.9
50

✓

0.1
501.3
301.1
—0.6
290.1
50

✓

10.2
5011.5
3311.3
1310.4
—9.8
710.0
2711.0
50

✓

7.9
509.4
338.9
117.9
—7.4
107.4
258.9
50

✓

57
5068
3462
2148
7610
957
2576
50

✓

Sta	+	π	-	Elev.
-----	---	-------	---	-------

952.54

952.84

4				48.8
T.P.	7.65	955.79	472	948.12

+11

+43

48.7

+75

48.2

5				48.9
---	--	--	--	------

+15

49.1

+40

47.7

+74

45.1

6

44.4

L

E

R

40 41 38

50 30 17

40 46 62 73 ✓

9 31 50

Top Rock at Sta 7120

4.4

6.1

7.1

7.1

7.3

9.6 ✓

50

32

13

23

50

4.1

6.0

7.0

7.6

8.1

9.1

9.8 ✓

50

35

17

—

7

29

50

4.9

6.3

6.9

6.9

7.4

8.8

10.0 ✓

50

33

12

—

6

30

50

5.4

6.2

6.0

6.5

6.7

7.5

8.8

9.9 ✓

50

34

20

11

—

12

36

50

6.2

6.7

7.3

8.1

8.6

9.0

10.1 ✓

50

34

15

—

13

28

50

7.7

9.1

10.6

10.7

11.3

12.1 ✓

50

34

11

—

22

50

9.5

10.6

11.4

11.9

12.5 ✓

50

29

27

50

Sta.	+	π	-	Elev.
		955.77		

6	+50			44.5
---	-----	--	--	------

7				46.1
---	--	--	--	------

	+50			47.1
--	-----	--	--	------

8				49.5
---	--	--	--	------

	+40			51.2
--	-----	--	--	------

	+65			51.2
--	-----	--	--	------

9				48.5
---	--	--	--	------

	+50			47.6
--	-----	--	--	------

6.1	9.9	11.3	11.3	11.7	12.2	12.4
50	20	10	—	20	29	50

8.2	8.9	9.1	9.7	10.1	10.8	11.2
50	30	18	—	15	30	50

5.4	6.1	7.2	8.2	8.7	7.2	7.8	8.0
50	31	15	3	—	19	36	50

2.5	4.0	5.0	6.2	6.3	6.8	6.3
50	39	23	8	—	26	50

1.9	2.4	3.3	4.6	5.1	5.8	5.9
50	37	25	—	16	33	50

2.3	3.2	4.6	5.0	6.2
50	26	—	25	50

3.6	4.7	7.3	8.1	7.5
50	27	—	23	50

3.7	5.0	6.4	8.2	9.4	9.4	9.8
50	31	13	—	17	28	50
		13?				
		4.1				

Sta	+	π	-	Elev
		955.77		

10700				47.5
-------	--	--	--	------

+33				49.5
-----	--	--	--	------

+72				52.1
-----	--	--	--	------

T.P	3.81	956.46	3.12	952.65
11		956.46		52.3

+21				52.7
-----	--	--	--	------

+55				53.9
-----	--	--	--	------

+83				54.9
-----	--	--	--	------

12				54.3
----	--	--	--	------

$\begin{array}{r} 2.1 \\ 50 \end{array}$
 $\begin{array}{r} 5.1 \\ 28 \end{array}$
 $\begin{array}{r} 7.5 \\ 10 \end{array}$
 $\begin{array}{r} 8.3 \\ - \end{array}$
 $\begin{array}{r} 9.0 \\ 16 \end{array}$
 $\begin{array}{r} 8.7 \\ 36 \end{array}$
 $\begin{array}{r} 8.9 \\ 50 \end{array}$ ✓

$\begin{array}{r} 0.4 \\ 50 \end{array}$
 $\begin{array}{r} 2.2 \\ 34 \end{array}$
 $\begin{array}{r} 3.6 \\ 17 \end{array}$
 $\begin{array}{r} 4.6 \\ 14 \end{array}$
 $\begin{array}{r} 6.3 \\ - \end{array}$
 $\begin{array}{r} 7.5 \\ 12 \end{array}$
 $\begin{array}{r} 7.9 \\ 28 \end{array}$
 $\begin{array}{r} 7.1 \\ 50 \end{array}$ ✓

$\begin{array}{r} +0.8 \\ 50 \end{array}$
 $\begin{array}{r} 1.2 \\ 19 \end{array}$
 $\begin{array}{r} 2.4 \\ 9 \end{array}$
 $\begin{array}{r} 3.7 \\ - \end{array}$
 $\begin{array}{r} 5.8 \\ 18 \end{array}$
 $\begin{array}{r} 5.9 \\ 29 \end{array}$
 $\begin{array}{r} 3.6 \\ 50 \end{array}$ ✓

$\begin{array}{r} 0.5 \\ 50 \end{array}$
 $\begin{array}{r} 1.0 \\ 41 \end{array}$
 $\begin{array}{r} 2.0 \\ 19 \end{array}$
 $\begin{array}{r} 4.2 \\ - \end{array}$
 $\begin{array}{r} 4.9 \\ 14 \end{array}$
 $\begin{array}{r} 5.2 \\ 32 \end{array}$
 $\begin{array}{r} 4.6 \\ 50 \end{array}$ ✓

$\begin{array}{r} 0.4 \\ 50 \end{array}$
 $\begin{array}{r} 2.2 \\ 38 \end{array}$
 $\begin{array}{r} 3.2 \\ 9 \end{array}$
 $\begin{array}{r} 3.8 \\ - \end{array}$
 $\begin{array}{r} 4.2 \\ 23 \end{array}$
 $\begin{array}{r} 5.4 \\ 50 \end{array}$ ✓

$\begin{array}{r} +1.4 \\ 50 \end{array}$
 $\begin{array}{r} +0.4 \\ 30 \end{array}$
 $\begin{array}{r} 0.3 \\ 24 \end{array}$
 $\begin{array}{r} 2.6 \\ - \end{array}$
 $\begin{array}{r} 3.9 \\ 29 \end{array}$
 $\begin{array}{r} 5.6 \\ 50 \end{array}$ ✓

$\begin{array}{r} +5.0 \\ 50 \end{array}$
 $\begin{array}{r} +4.7 \\ 32 \end{array}$
 $\begin{array}{r} 0.3 \\ 9 \end{array}$
 $\begin{array}{r} 1.6 \\ - \end{array}$
 $\begin{array}{r} 3.0 \\ 12 \end{array}$
 $\begin{array}{r} 3.8 \\ 28 \end{array}$
 $\begin{array}{r} 4.4 \\ 35 \end{array}$
 $\begin{array}{r} 6.4 \\ 50 \end{array}$ ✓

$\begin{array}{r} +5.8 \\ 50 \end{array}$
 $\begin{array}{r} +4.4 \\ 33 \end{array}$
 $\begin{array}{r} +0.4 \\ 17 \end{array}$
 $\begin{array}{r} 2.2 \\ - \end{array}$
 $\begin{array}{r} 3.4 \\ 11 \end{array}$
 $\begin{array}{r} 4.2 \\ 33 \end{array}$
 $\begin{array}{r} 6.2 \\ 50 \end{array}$ ✓

STA	+	π	-	ELEV
		956.46		

12+25				52.9
-------	--	--	--	------

+40

52.0

B.M

5.75

950.71

+70

47.3

13

42.3

+ 18.55

41.8

T.P

9.67

952.80

13.33

943.13

+60

42.1

14

42.3

+50

43.5

L			E		E	
12.0	0.4	2.3	3.6	4.6	10.4	✓
50	34	17		32	50	

1.0	2.6	4.5	5.8	6.8	13.9	✓
50	30	15	15	26	50	
SPIKE IN 10' OAK S.E. COR HARRIET + OWASSO						

4.6	5.3	8.1	9.2	13.2	14.8	✓
50	31	12		18	50	

9.4	10.6	14.1	14.2	14.8	✓
50	30	8		50	

12.0	13.6	14.7	15.4	15.9	✓
50	73		5	50	

10.0	10.0	10.7	11.7	12.7 ±	✓
50	23		10	50	

8.6	9.6	10.5	11.5	12.0 ±	✓
50	25	16	50		

edit 6

77	77	8.3	8.7	9.3	9.5	11.3	9.6	9.3	✓
50	36	16	8		22	26/27	30	50	

S/L	+	π	-	Elek
		952.80		

15				42.4
----	--	--	--	------

+50				42.9
-----	--	--	--	------

16				43.2
----	--	--	--	------

+23				44.0
-----	--	--	--	------

+39.8				45.7
-------	--	--	--	------

+		5.1		47.7
---	--	-----	--	------

17		33		49.5
----	--	----	--	------

+50		2.9		49.9
-----	--	-----	--	------

L

Z

R

9.2 9.3 9.2 10.4 10.4 9.6 9.4 8.9 ✓
 50 25 14 10 16 35 50

ditch

8.7 8.6 9.7 8.7 9.6 9.9 10.6 11.6 ± ✓
 50 41 37 36 33 25 15 50

8.8 7.6 7.7 8.8
 60 59 56 50 29

9.6 9.7 10.5 11.2 ± ✓
 14 30 50

7.8 8.2 8.8 9.3 9.9 10.3 ✓
 50 20 17 42 50

7.5 7.1 7.1 8.0 8.9 ✓
 50 25 23 50

7.0
 & ditch

Sta	+	π	-	Elev
		952.80		

18			2.3	50.5
----	--	--	-----	------

+31			0.0	52.8
-----	--	--	-----	------

+50			+1.0	53.8
-----	--	--	------	------

T.P	793	954.43	630	946.50
-----	-----	--------	-----	--------

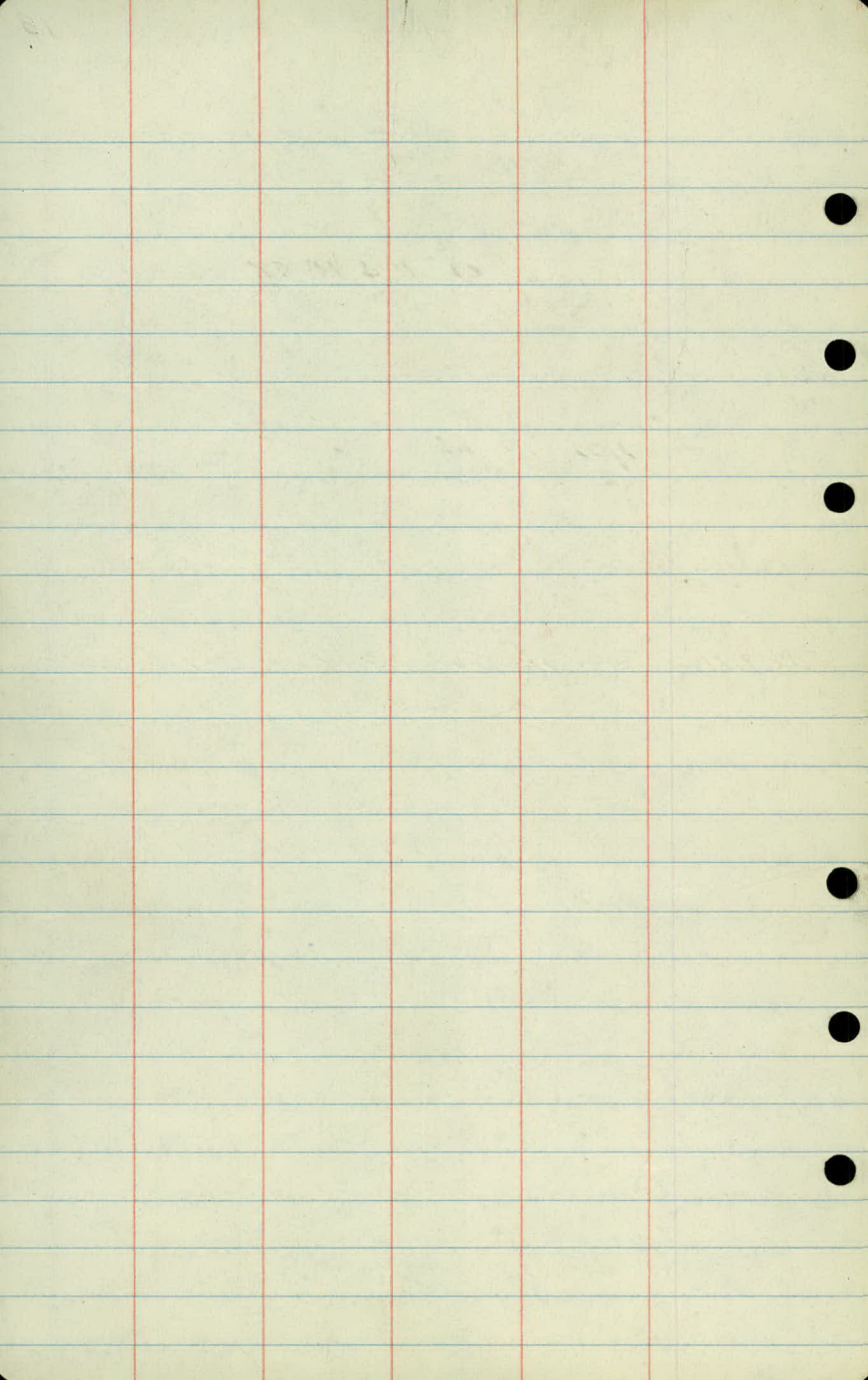
B.M.			373	950.70
------	--	--	-----	--------

L

E

E

Spk in 12" Tw. Oak. SW cor. Harriet & Duaso.



OWASSO ST.

stoking Notes

Sta.	P.E.	P.G.R.	-	Elev.
B.M.	1374	941.46		927.72
0 +00	28.6	12.9		
+30	29.0	12.5		
+41	29.5	12.0		
+70	30.9	10.6		
1	32.4	9.1		
+20	33.4	8.1		
+50	34.9	6.6		
+78	36.2	5.3		

K.A.
H.M.
M.B.
E.K.

5-9-41

L

E

R

Spt. in 24" oak S.W. Cor. Arbogast & Owasco St.

~~0.8~~
13.2

156' / 12.2

10.5
11.5

11.7 / 103' 19.4'

164' / 10.2
10.4

10.7
9.9

11.9 / 87' 19.8'

196' / 11.8
7.3

11.8
7.3

12.6 / 65' 21.2'

136 / 45' 23.2'

256' / 14.8
11.8

14.0
11.6

120 / 36' 22.0'

210' / 15.0
2.8

12.4
2.9

11.6 / 3.7' 19.2'

Sta	P.G.	P.G.R.	-	Elev
		941.46		
2	37.3	4.2		
+50	39.8	1.7		
T.P.	12.16	953.18	0.44	941.02
3	42.2	11.0		
+40	44.0	9.2		
+73	45.1	8.1		
4	45.8	7.4		
+43	46.5	6.7		
+75	46.7	6.5		

L

E

E

18.6' / 11.3
2.911.4
2.812.3 / 20.6'
1.916.2' / 10.1
1.610.3
1.410.6 / 17.2
1.115.0' / 12.00
11.510.2
10.810.8 / 17.6'
10.215.0' / 12.04
9.310.8
8.411.3 / 18.6'
7.919.0' / 11.5
6.612.9
5.212.3 / 20.6'
5.821.8' / 12.9
4.513.0
4.411.8 / 20.6'
5.621.2' / 12.6
4.112.3
4.412.1 / 20.2
4.620.4' / 12.2
4.311.5
5.010.5 / 17.0'
6.0

Sta.	P.G.	P.G.R.	-	Elev.
		953.18		
5	46.7	6.5		
+15	46.7	6.5		
+40	46.6	6.6		
+74	46.5	6.7		
6	46.5	6.7		
+50	46.7	6.5		
7	47.2	8.1 6.0		
+P	8.71	955.27	662	946.56
+50	48.1	7.2		

5-9-47

L

E

E

21.2' / 126
39

122
43

111 / 182
54

222 / 131
34

126
39

113 / 186
52

20.2' / 121
45

111
55

105 / 170
6.1

150 / BT
72

-1.5
82

-1.4 / 188
86

11.4' / -1.2
87

-2.2
89

-1.9 / 188
91

17.2' / -1.1
81

-2.2
87

-2.1 / 19.2
91

15.4' / -0.2
67

-1.2
72

-1.2 / 17.4
77

E 510.7

17.0' / 105
67

-0.1
73

10.4 / 160
6.3

Sta	P.G.	P.G.E.	-	Elev.
-----	------	--------	---	-------

98527

8	49.0	6.3		
---	------	-----	--	--

+40	49.4	5.9		
-----	------	-----	--	--

+65	49.6	5.7		
-----	------	-----	--	--

9	49.6	5.7		
---	------	-----	--	--

+50	49.4	5.9		
-----	------	-----	--	--

10	49.5	5.8		
----	------	-----	--	--

+33	49.8	5.5		
-----	------	-----	--	--

+72	50.5	4.8		
-----	------	-----	--	--

T.P.

K.M.
A.M.
M.B.
E.K.

5-14-41

L

E

R

19.2' / +1.6
4.7

-0.4
5.9

+0.1 / +6.2'

22.0' / +2.0
2.9

+1.8
4.1

+0.9 / +1.8'

21.2' / +2.6
3.1

+1.7
4.0

+1.2 / +1.4'

17.2' / +0.6
5.1

-1.1
6.8

-1.1 / +1.2'

16.6' / +0.3
5.6

-1.8
7.7

-2.6 / +2.0'

15.0' / +2.0
6.8

-1.9
7.7

-2.1 / +1.3'

21.6' / +2.8
3.7

-0.3
5.8

-1.0 / +1.0'

25.0' / +4.5
0.3

+1.7
3.1

+2.03 / +5.6'

Sta.	P.G.	P.G.R.	SWGR.	
		955.27		
		9.5		
11	51.0	4.3		
T.P.	813	960.80	2.60	952.67
+21	51.3	9.5		
+55	51.3	9.5		
+83	50.8	10.0		
12	50.3	10.5		
+25	49.3	11.5		
		5.9		
+40	48.6	12.2		
B.M.	378	964.47	12.11	950.69
+70	46.9	7.6		

L

E

R

21'8" / +29
6.9+1.2
3.1+0.4 /
3.9 / 16.8'21'2" / +26
6.9+1.5
8.0+1.1 /
8.4 / 18.2'26'3" / +5.1
4.4+2.6
6.9+1.5 /
8.0 / 19.0'30'0" / +4.4
0.6+4.1
5.930'0" / +8.7
1.8+8.9
6.6+2.6 /
7.9 / 21.2'38'4" / +6.2
5.3+8.4
8.1+2.3 /
9.2 / 20.6'26'2" / +5.2
2.0+3.1
9.1+1.7 /
10.5 / 19.4'

Spk. in 12" Tw Oak S.E. Cor Owassee & Harriet

20'6" / +2.3
5.3+0.4
7.2-2.1 /
11.1 / 21.2'

Sta.	P.G.	P.G.R.
		954.41

13	458	8.1
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118.55	459	9.2
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160	450	
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B

B.M.

950.70

K.A.
P.M.
M.B.
E.K.

5-14-47

180/-15
106

-3.7
12.4

B.T.
P.C.
30'

Spk in 12" oak SE. Cor. Harriet & Overassd.

