

Bk. 32 - Dr 16

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

_____ PLAN _____ Survey

Keller Golf Course
(new Fill Replacing Bridge)
From _____ To _____
At Suspension Bridge

Road Acc't. No. _____

Date Filed 4/40 _____

File _____

Batter Dr 16

①

Plan Survey
for Filled Walkway
to Replace Bridge at
Keller Golf Course

Completed 4/9/40

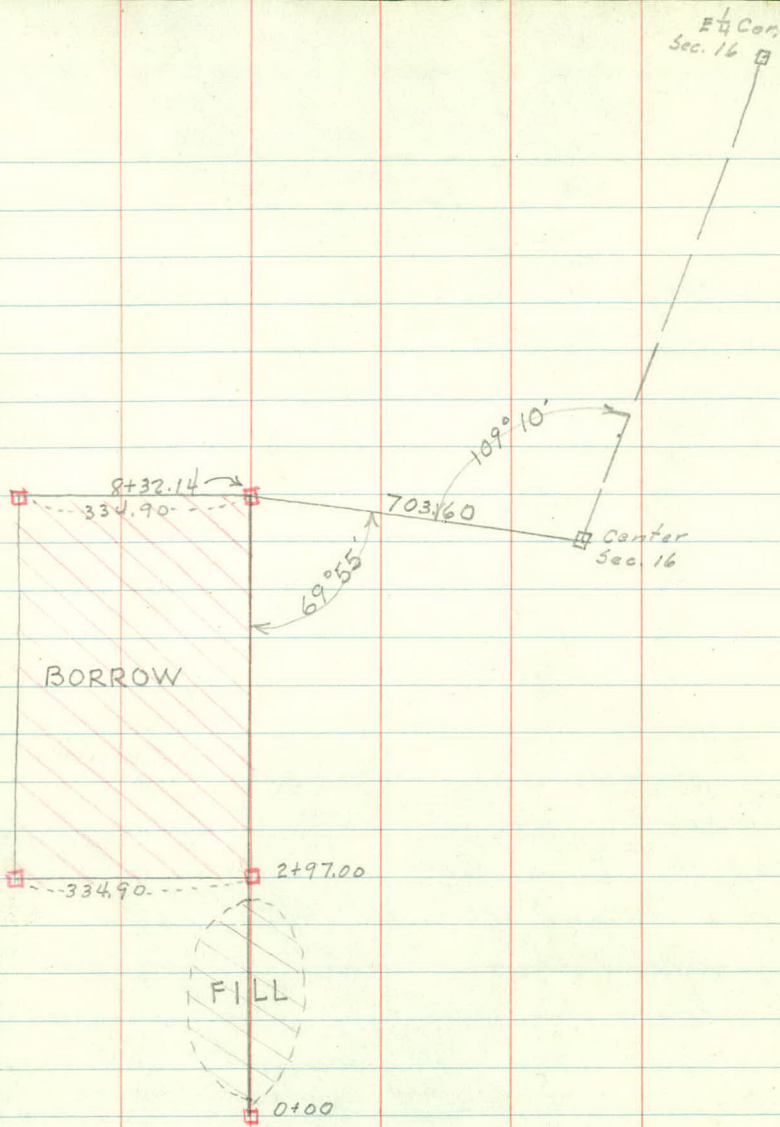
ADJ
WJB
HAW

4/4/40

Index:

Sketch - 1
Topography - 2-3
Cross Sec. Fill - 4-6
Soundings - 7
Cross Sec. Borrow - 8-10

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C. Fewer.



TOPOGRAPHY

3

+50 $\pm$ 5' Walk
+45 End Bridge

2

1

+13 Beg. Bridge

5+08 - 24" Oak - 257'

4+73 - 231'

4+67 - 8" Oak - 275'

4+50 - 6" Oak - 263'

+50 - 6" Oak - 211

+28 - 12" Oak - 163

+97 End Walk - 34'

+87 12" Oak - 9'

+75 Walk - 11'

+60 Walk - 4'

+35 End Sumac - 25'

+20 Sumac - 14.43

+00 Beg. Sumac - 15

+61 End Sumac - 39.60

150 Beg. Sumac - 50

+30 - 8" Oak - 72

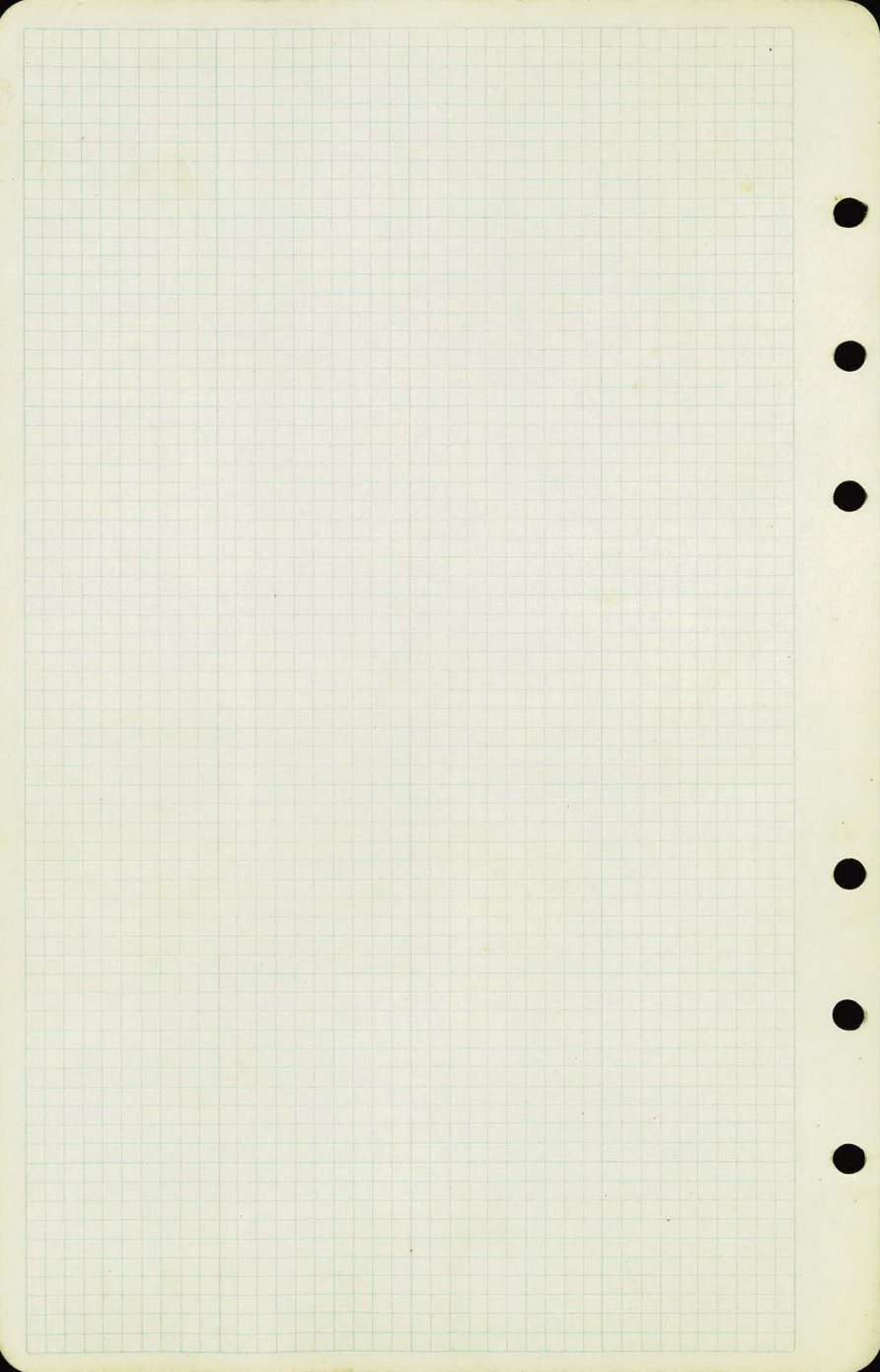


+09 - 8" Oak - 17

+00 End Sumac - 10'

+67 Beg. Sumac 14.45

+37 3" Fir - 15
+24 4" Fir - 28'



Cross Sections
for Proposed Fill
at Present Bridge

	+	↗	-	Elev.
B.M.	11.43	874.34		862.91.
	13.57	885.91	2.00	872.34.
	11.84	896.29	1.46	884.45.
B.M.			1.65	894.64.
check			1.58	894.71.
T.P.			2.0	94.3.
0+00				
+13			2.1	94.2
+27			4.2	92.1.
T.P.	0.98	887.05	10.22	886.07.
+50			4.3	82.8.
+75			12.1	75.0.
T.P.	10.43	884.48	13.00	874.05.
1+00			11.8	72.7.
+25			11.9	72.6.
+50			12.0	72.5.
+75			10.2	74.3.
2			4.8	79.7.
T.P.	12.69	896.57	0.60	893.88.

Brass Plate - S.E. Cor. W. Abut. - Keller Dam

Spike 8" Oak 72' Lt. of 30

$\frac{5.8}{75}$	$\frac{4.9}{67}$	$\frac{1.9}{59}$	$\frac{1.6}{21}$	$\frac{1.4}{11}$	2.0	$\frac{2.3}{32}$	$\frac{3.8}{48}$	$\frac{5.1}{75}$	$\frac{5.3}{60}$	$\frac{8.4}{75}$
------------------	------------------	------------------	------------------	------------------	-----	------------------	------------------	------------------	------------------	------------------

$\frac{2.5}{75}$	$\frac{1.9}{66}$	$\frac{1.3}{63}$	$\frac{1.2}{8}$	2.1	$\frac{1.9}{8}$	$\frac{2.5}{33}$	$\frac{5.0}{56}$	$\frac{9.4}{75}$
------------------	------------------	------------------	-----------------	-----	-----------------	------------------	------------------	------------------

$\frac{2.7}{75}$	$\frac{2.4}{68}$	$\frac{1.2}{65}$	$\frac{1.4}{8}$	4.2	$\frac{8.2}{28}$	$\frac{15.2}{75}$
------------------	------------------	------------------	-----------------	-----	------------------	-------------------

$\frac{+1.0}{75}$	$\frac{1.4}{47}$	$\frac{3.3}{17}$	4.3	$\frac{4.9}{8}$	$\frac{8.0}{32}$	$\frac{9.5}{53}$	$\frac{9.1}{75}$
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$\frac{8.1}{75}$	$\frac{9.3}{70}$	$\frac{9.8}{34}$	$\frac{11.6}{9}$	12.1	$\frac{13.3}{24}$	$\frac{14.0}{61}$	$\frac{13.4}{75}$
------------------	------------------	------------------	------------------	------	-------------------	-------------------	-------------------

$\frac{11.8}{75}$	$\frac{11.9}{50}$	$\frac{11.8}{25}$	11.8	$\frac{11.9}{25}$	$\frac{12.0}{50}$	$\frac{12.1}{75}$
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$\frac{12.2}{75}$	$\frac{12.2}{50}$	$\frac{12.2}{25}$	11.9	$\frac{12.2}{25}$	$\frac{12.0}{50}$	$\frac{12.2}{75}$
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$\frac{12.3}{75}$	$\frac{12.1}{50}$	$\frac{12.2}{25}$	12.0	$\frac{11.8}{25}$	$\frac{11.8}{50}$	$\frac{12.1}{75}$
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$\frac{12.0}{75}$	$\frac{12.0}{50}$	$\frac{11.9}{17}$	$\frac{10.5}{7}$	10.2	$\frac{9.2}{16}$	$\frac{8.7}{41}$	$\frac{9.9}{75}$
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$\frac{12.3}{75}$	$\frac{11.4}{52}$	$\frac{10.4}{48}$	$\frac{9.2}{38}$	$\frac{8.6}{20}$	$\frac{6.4}{12}$	4.8	$\frac{1.9}{20}$	$\frac{1.3}{37}$	$\frac{2.9}{54}$	$\frac{4.7}{75}$
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Sta.	+	π	-	Elev.
		896.57		
2+25			8.4	88.2
T.P.	12.66	908.51	0.72	895.85
2+50			13.2	95.3
+75			6.0	02.5
3+00			1.7	06.8
Check T.P.	13.78		13.78	894.73 (894.71)
B.M.	3.50		3.50	905.01

Profile of Bridge

0+00			14.1	94.4
+13	Begin		14.2	94.3
+50			14.2	94.3
1			14.2	94.2
+50			14.2	94.3
2			14.2	94.3
+45	End		13.8	94.7

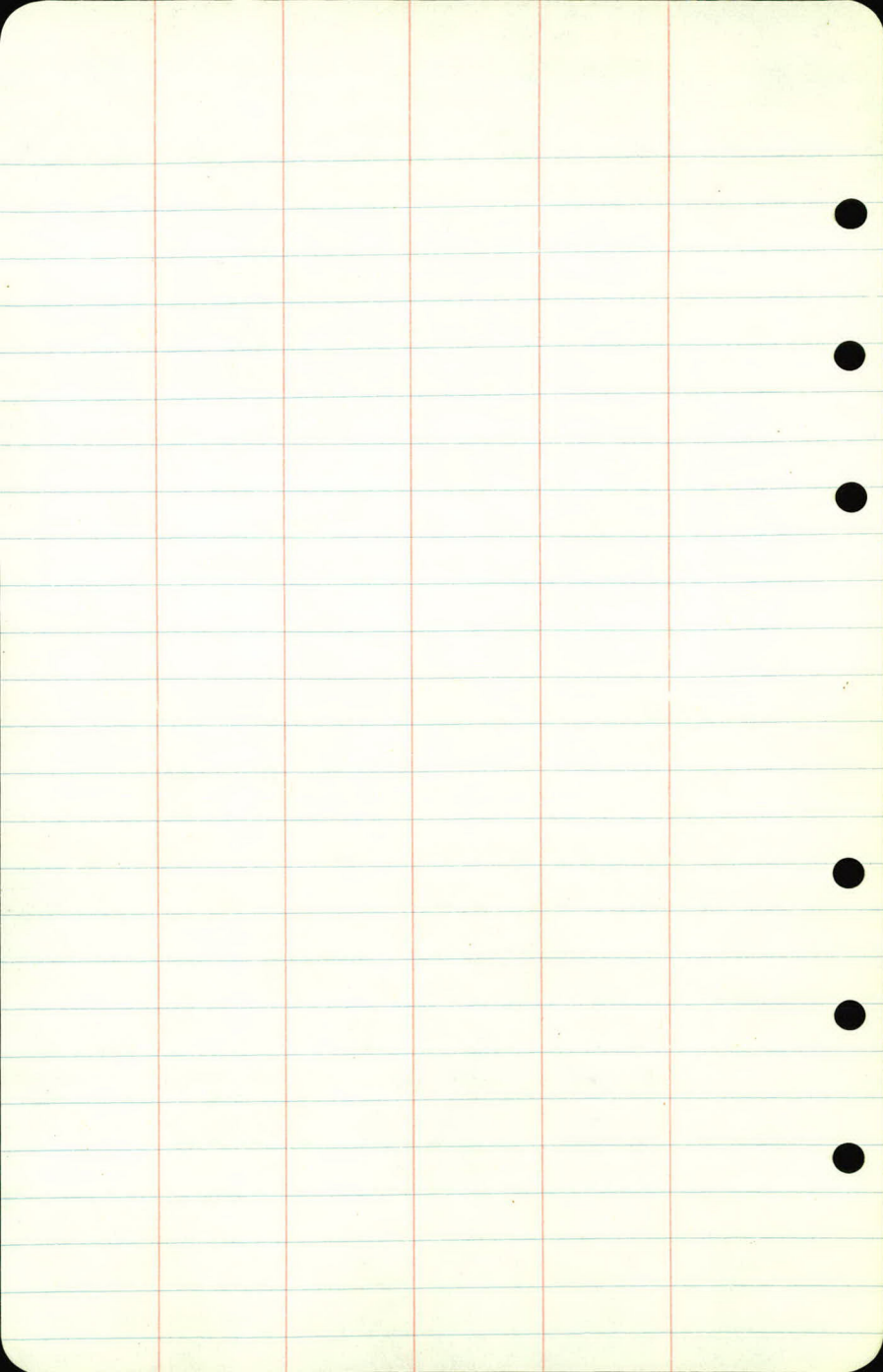
19.6	19.0	16.2	13.6	9.4	8.4	6.2	4.4	5.6	8.4	10.9
75	54	38	21	7	8.4	6	14	30	45	62
										75

21.0	18.9	15.9	12.9	12.1	10.3	10.5	11.2	17.4
75	47	14	5	13.2	10	21	42	77
								75

11.9	9.8	10.2	9.5	8.2	8.1	5.2	1.4	1.4	9.0	10.5
75	63	51	21	16	8	6.0	4	12	43	62
										75

3.9	3.6	4.6	1.6		0.6	0.8	1.0	6.5	6.9
75	63	21	13	1.7	7	7	48	67	75

Spike 12" Oak 10' Lt 2+85



Sounding Notes
for Proposed Fill
at Present Bridge

Lt.

Rt. 1

50'

25'

E

25'

50'

Sta.

0 + 00

0 + 75

1 + 00

(Sand)
3.0

1 + 00

(9.0)

(11.0)

(to Sand)
7.0

(8.0)

(9.0)

1 + 25

(10.0)

(9.0)

(11.0)

(9.5)

(10.0)

1 + 50

(9.0)

(10.5)

(9.5)

(9.0)

(9.0)

1 + 75

Cross Sections of
Borrow Pit

Sta.	+	⌈	-	Elev.
B.M.	8.97	913.98.		905.01
3				06.9.

+25

07.2

B.M.	12.47	917.48.	8.97	905.01.
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+50

06.1.

+75

04.8.

4

03.0.

+25

02.0.

+50

01.7.

T.P.	11.20	917.14.	11.54	905.94..
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+75

02.1.

Spike in 12" Oak 10' L 2485

273	260	205	179	121	101	94	103	97	71	
244	236	200	165	100	82	67	37	21	12	7.1

069

343	340	318
335	300	282

15.5	102	9.1	7.3	7.5	7.2	5.6	5.3	6.1	8.0	6.7
232	200	194	167	143	126	100	70	55	29	25

07.2

275	255	21.5	20.5
335	296	268	258

241	22.3	20.4	18.9	11.6	7.0	6.1	7.6	6.8	7.0	14.0
335	300	283	273	226	195	165	142	100	76	30

02.6

18.1	16.3	12.6	7.0	3.5	1.9	2.6	5.6	5.4	6.8	9.8	12.2
335	300	272	235	200	189	176	145	100	75	43	21

01.3

13.5	12.6	2.8	0.9	10.1	1.4	4.9	6.5	10.0	13.3
50	300	236	225	200	179	149	100	65	29

07.3

10.3	10.7	8.2	10.5	11.0	0.7	4.7	6.2	8.9	11.0	13.4
335	300	275	234	205	193	157	122	100	77	35

15.5

Tree

6.2	1.2	0.2	0.7	5.1	6.6	10.5	11.8	12.2	13.7	14.3
263	234	215	200	157	124	100	87	51	26	23

15.8

8.8	10.0	9.1
335	300	278

Tree

7.6	1.9	2.5	5.7	6.8	11.6	13.2	11.1	12.4	13.3
259	232	222	196	155	125	100	87	44	27

15.0

7.6	9.6
335	300

Sta + π - Elev.

917.14

5

03.1

+ 25

04.8

+ 50

05.6

+ 75

05.1

6

B.M.

12.10

03.9

905.04

(905.01)

4

24.0

Tree

(8.8) 8.4 5.6 4.2 5.4 6.0 8.0 13.1 14.6 11.1 11.1 12.0
 258 251 227 216 196 172 129 100 84 40 26 21 140

6.7 8.9 9.5
 335 300 271

5.9 9.1 9.9 9.9 7.5 6.9 7.5 8.1 16.2 15.5 12.7 11.6
 335 300 281 253 228 200 180 151 100 55 37 20 12.3

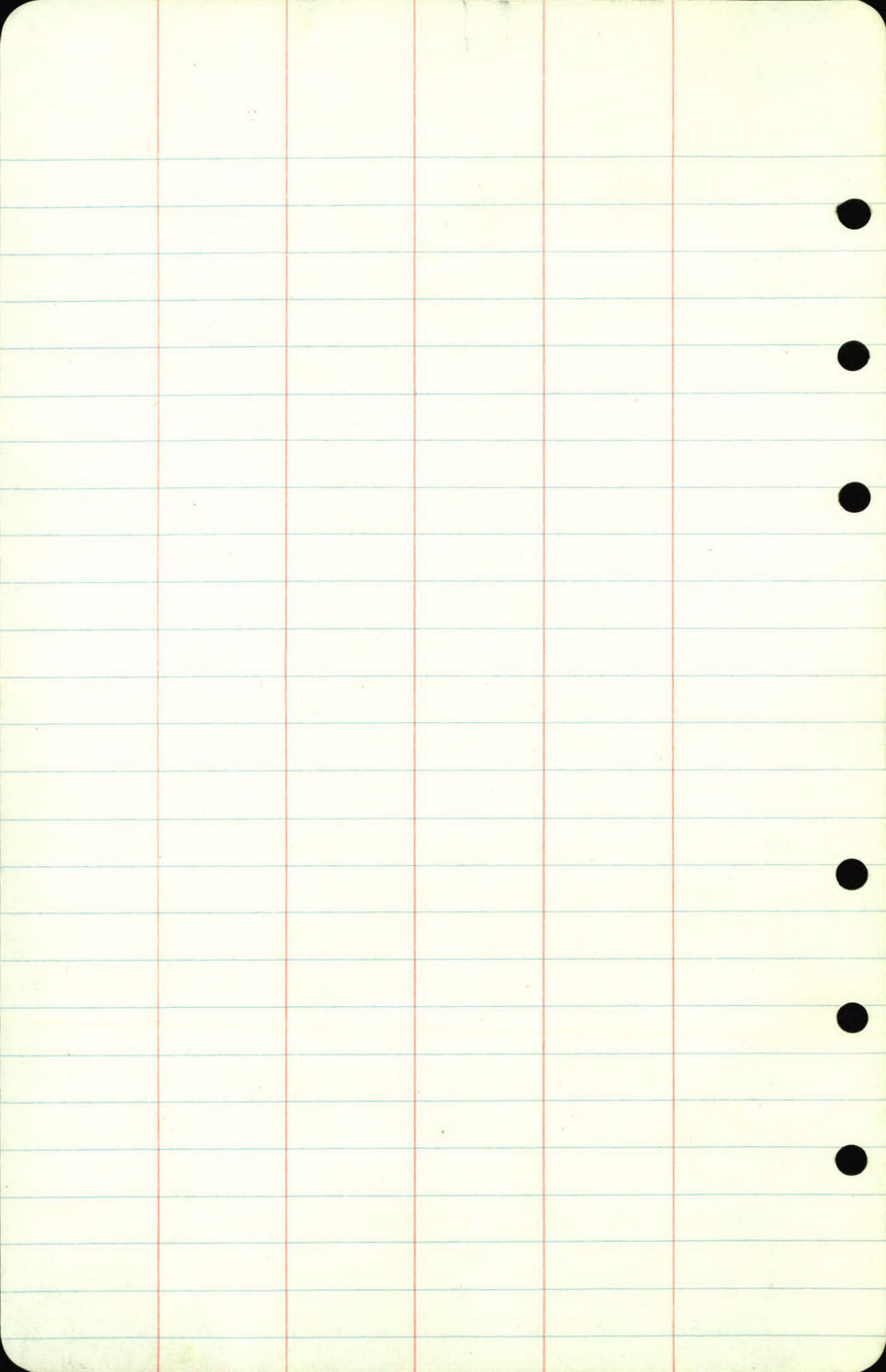
4.5 8.9 10.3 11.1 9.7 8.8 9.3 17.0 17.4 16.8 13.2
 335 300 284 255 228 200 158 113 100 44 17 11.5

2.2 7.6 8.9 10.8 12.2 11.6 11.0 17.5 17.8 17.6 13.9
 335 300 259 277 248 200 165 118 100 39 16 12.0

10.5 7.1 10.2 13.3 14.3 14.0 15.5 17.6 18.4 17.7 15.1
 345 300 274 249 227 200 146 120 100 39 20 13 2

Spike 10' Oak 10' L. 2185

2



Additional Levels
Flow Line of R.R. Culv.
at Keller Golf Club Bridge

4/8/40.

①

Pt.	+	π	-	Elev.
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B.M.	1.09			
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T.P.	0.86		11.35	
------	------	--	-------	--

R.R. - No. F.L.	} 24" x 52' Wrought Iron			
R.R. So. F.L.				

Rd. N. F.L.	} 24" x 70' Conc. Pipe			
Rd. S. F.L.				

Random Shots in Swamp - out 185'

0 + 21

+ 35

+ 50

+ 75

1 + 00

+ 25

+ 50

Spike 12" Oak - Lt Sta. 0+

12.38 - F.L.

12.46 - F.L.

12.40 F.L.

13.58 F.L.

13.0

13.4

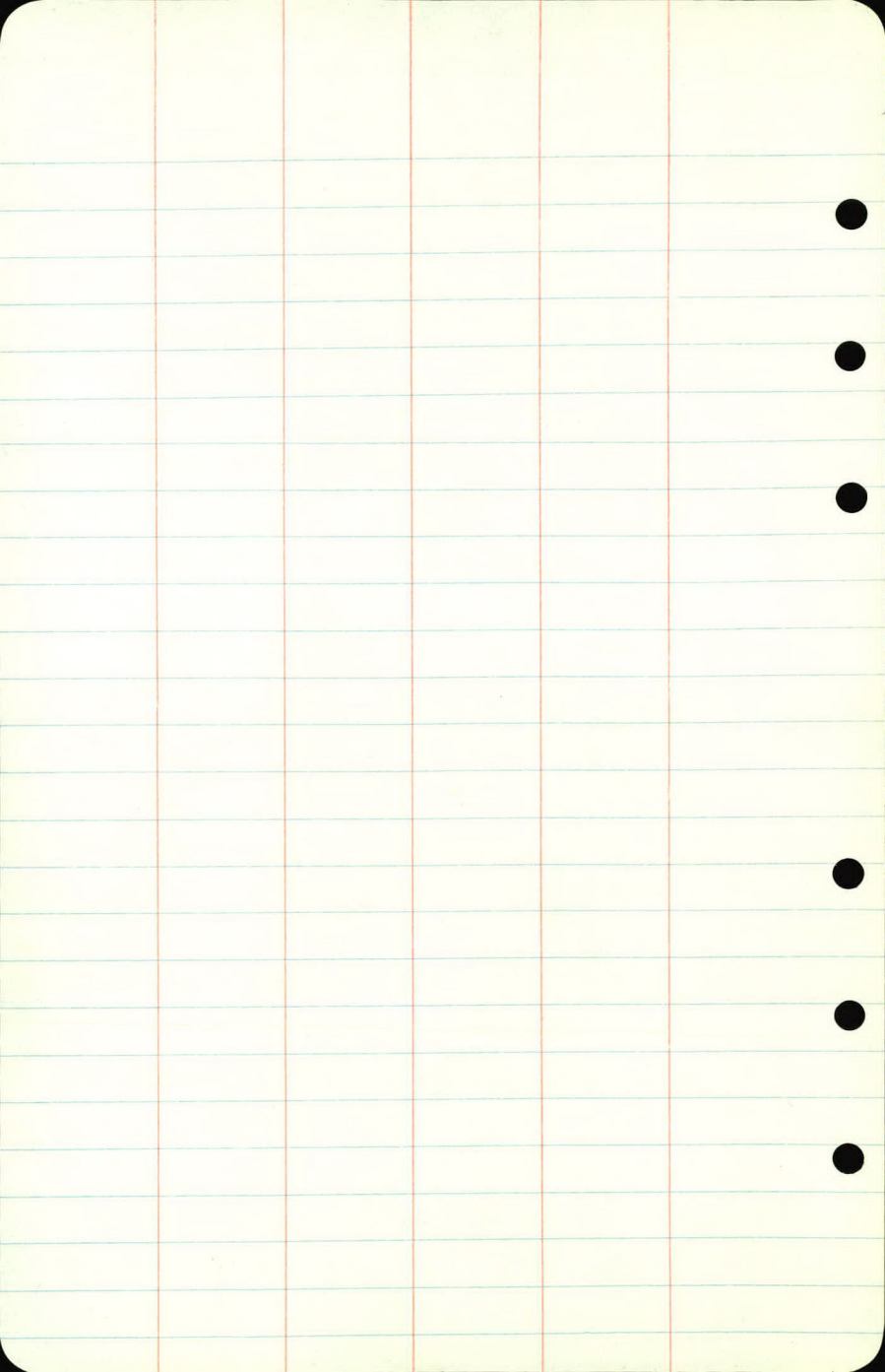
13.4

13.1

12.5

12.3

12.3



Additional Topography

at Keller Golf Club Bridge

3

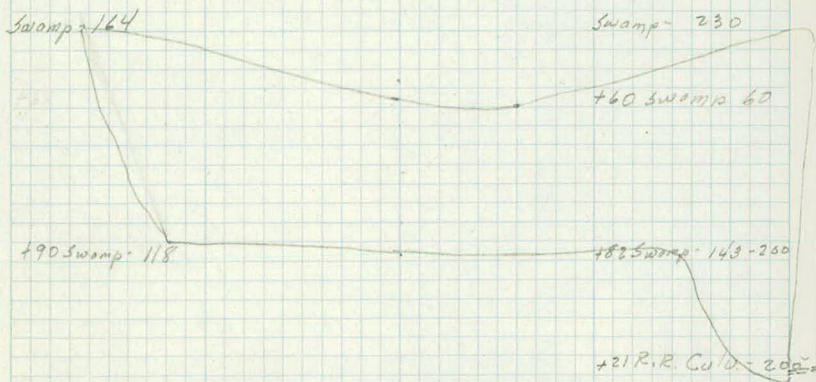
2

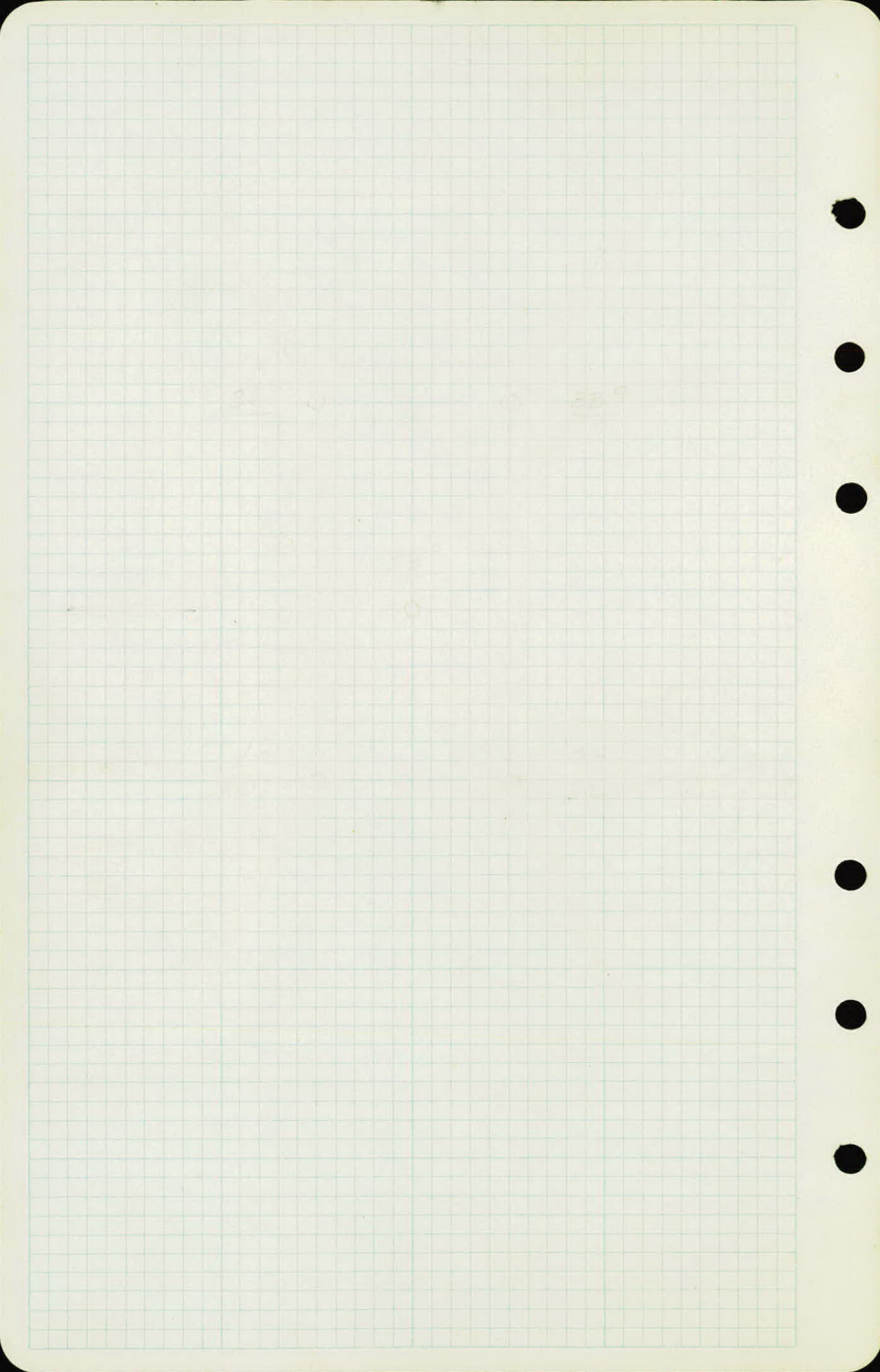
+ 63 Swamp xs $\frac{1}{2}$

1

+ 82 Swamp xs $\frac{1}{2}$

0





Levels
Keller Bridge
New Line

✓ 5/3/40
WJB
Incorporated on plan.

Sta	+	π	-	Elev
B.M.	1.81	896.52		894.71

o +12.7 Old Line =

o +100 New Line

95.2'

+13 = Edge Driving Tcc 96.2.

+27 87.6.

T.P. 0.90 894.00 1342 883.10.

+50 79.0 ✓

+75 73.1.

1 72.5.

+25 72.4.

+50 72.5.

+65 72.7.

+75 75.0.

2 82.0.

T.P. 11.53 893.09 0.44 883.56.

$$\begin{array}{r} 257 \\ 13 \\ \hline 12.7 \end{array}$$

Lt

R

Rt

Spt in 8'0. 72' Lt 0+30

1.31.38.95.010.911.511.611.511.39.02.0

Sta.	+	π	-	Elev.
		893.09		88.9 88.1
2	+25			91.3
	+33 = End Bridge			
T.P.	12.21	916.93	0.47	894.62
	+50			97.2
	+59 Edge S.W. 15 ft			900.0
	+63			900.2
B.M.			1.80	905.02 (905.01)

Lt

R

Rt

86.8

91.8

$$\frac{8.3}{9}$$

$$\frac{6.2}{9}$$

$$\frac{3.3}{9}$$

89.1

94.7

$$\frac{6.0}{9}$$

$$\frac{3.8}{9}$$

$$\frac{0.4}{9} \text{ on bridge}$$

95.1

98.2

$$\frac{11.7}{9}$$

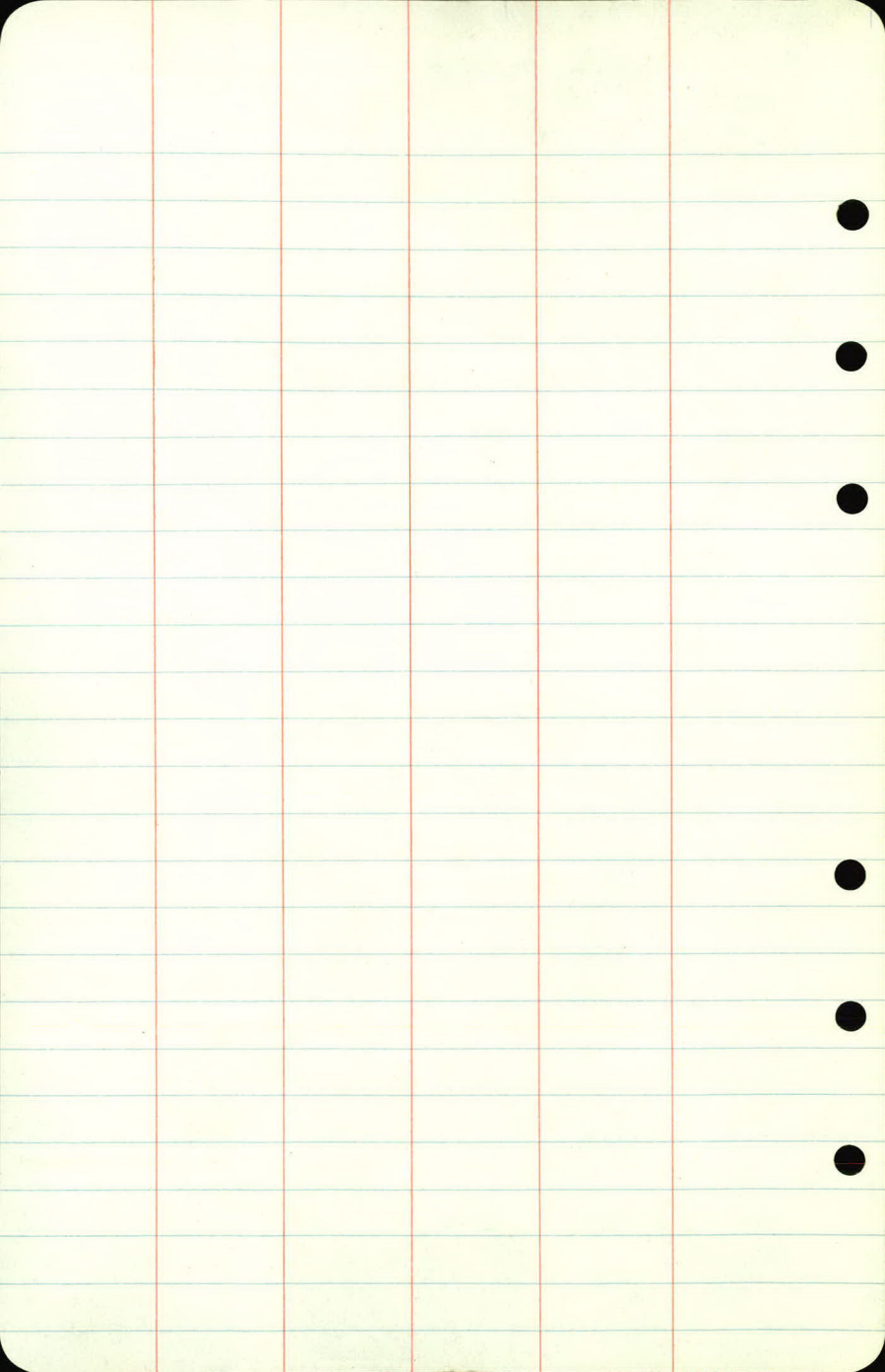
$$\frac{9.6}{9}$$

$$\frac{8.6}{55} \text{ N. Edge S.W.}$$

$$\frac{6.8}{9}$$

$$\frac{6.6}{9}$$

Spk 10/12" O. 10' Lt. 2+85

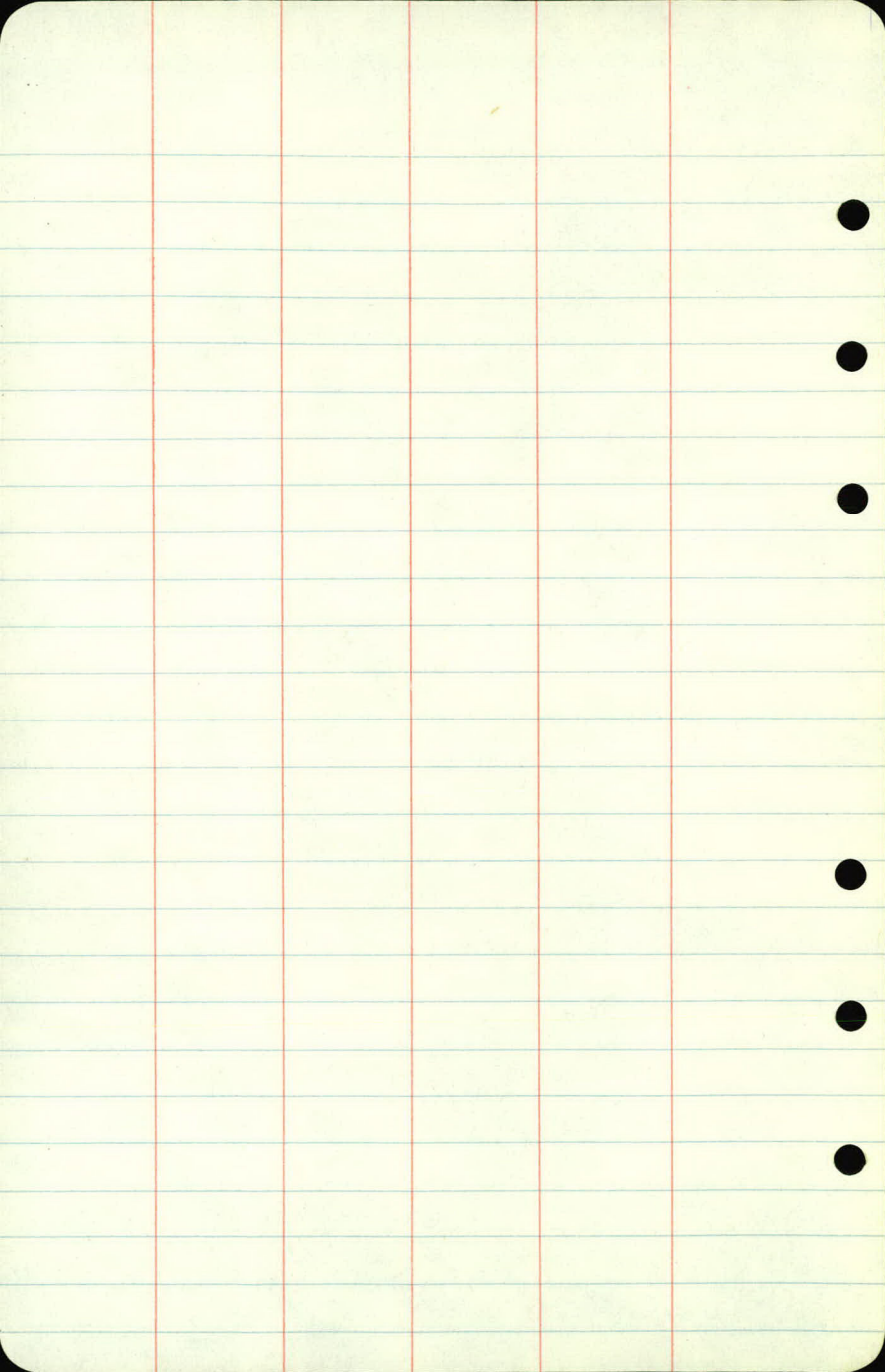


Slope Stakes

Borrow Pit

Keller Bridge

Sta.	+	π	-	Elev.	
B.M.	14.21	919.22			905.01
3	+50				
	+75	3.3% Grade			
4		4.0%			
	+25	4.8%			
	+50	5.0%			
	+75	4.2%			
T.P.	3.03	914.60	7.65	911.57	
5		3.1%			
	+25	4.2%			
	+50	4.2%			
	+75	4.2%			
6		3.1%			
B.M.			9.57	905.03	905.01



5-7-40

Slope Stakes
Fill
at Keller Bridge

Line changed to
38' Lt. of E. Bridge

Sta	+	-	Grade
B.M.	1.11	895.82	894.71

0	+13		95.2
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	+27		92.8
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T.P.	0.60	882.72	13.70	882.12
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	+50		89.6
--	-----	--	------

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

1			85.7
---	--	--	------

X	+25	} Equiv.	85.2
	+12		

	+25		85.2
--	-----	--	------

	+50		85.8
--	-----	--	------

	+75		87.4
--	-----	--	------

2			90.0
---	--	--	------

T.P.	12.60	895.32	0.00	882.72
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	+25		93.4
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T.P.	11.53	906.55	0.00	895.32
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Gr. Rod. Lt. E. Rt.

Spk. in 16" O. 32' Lt of 18

0.6

 $\frac{B.T.}{5'} / \frac{0.9}{5'}$ $\frac{0.8}{5'} / \frac{8.1}{5'}$

3.0

 $\frac{12.8'}{12.8'} / \frac{4.9}{-3.9}$ $\frac{7.2}{-4.2}$ $\frac{7.3}{-4.3} / 13.6'$

-6.9

 $\frac{23.4'}{23.4'} / \frac{2.3}{-2.2}$ $\frac{2.2}{-9.1}$ $\frac{4.0}{-10.9} / 26.8'$

-4.4

 $\frac{56.2'}{56.2'} / \frac{7.7}{-0.0}$ $\frac{26.8'}{26.8'} / \frac{6.5}{-10.9}$ Ground
 $\frac{9.1}{8.4} / \frac{9.1}{-13.5}$ $\frac{9.8}{-14.2} / 33.4'$

-3.0

 $\frac{90.0'}{90.0'} / \frac{9.1}{-9.0}$ $\frac{26.0'}{26.0'} / \frac{7.5}{-10.5}$ Gr.
 $\frac{10.5}{10.5} / \frac{10.4}{-12.4}$ $\frac{10.3}{-13.3} / 31.6'$

-2.5

 $\frac{94.0'}{94.0'} / \frac{9.6}{-9.0}$ $\frac{25.2'}{25.2'} / \frac{7.6}{-10.1}$ $\frac{10.5}{-13.0}$ $\frac{10.4}{-12.9} / 30.8'$

-2.5

 $\frac{92.9'}{92.9'} / \frac{10.2}{-9.0}$ $\frac{25.0'}{25.0'} / \frac{7.5}{-10.0}$ $\frac{10.4}{-12.9}$ $\frac{10.2}{-12.7} / 30.4'$

-3.1

 $\frac{92.3'}{92.3'} / \frac{10.2}{-9.0}$ $\frac{26.0'}{26.0'} / \frac{7.4}{-10.5}$ $\frac{10.3}{-13.4}$ $\frac{9.0}{-12.1} / 29.2'$

-4.7

 $\frac{11.4'}{11.4'} / \frac{10.2}{-9.0}$ $\frac{28.8'}{28.8'} / \frac{7.2}{-11.9}$ $\frac{7.2}{-11.9}$ $\frac{4.5}{-9.2} / 23.4'$

-7.3

 $\frac{105.1'}{105.1'} / \frac{10.0}{-9.0}$ $\frac{50.0'}{50.0'} / \frac{6.9}{-9.0}$ $\frac{20.6'}{20.6'} / \frac{5.5}{-12.8}$ $\frac{1.8}{-9.1}$ Gr. Rod = 5.3 $\frac{12.1}{-6.8} / 18.6'$

1.2

 $\frac{16.0'}{16.0'} / \frac{7.4}{-5.3}$ $\frac{5.8}{-3.9}$ $\frac{5.1}{-7.2} / 11.4'$

Sta.	+	π	-	Grade
------	---	-------	---	-------

		906.85		
--	--	--------	--	--

2	+33			
---	-----	--	--	--

				95.0
--	--	--	--	------

	+50			
--	-----	--	--	--

				98.0
--	--	--	--	------

	+59			
--	-----	--	--	--

				900.00
--	--	--	--	--------

B.M.				
------	--	--	--	--

		1.82		
--	--	------	--	--

				905.03
--	--	--	--	--------

				(905.01)
--	--	--	--	----------

Gr. Red.

Lt.

k.

Rt.

8.8

$$B.T. \frac{88}{5}$$

$$\begin{array}{r} B.T. \\ 90 \\ -02 \end{array}$$

$$\frac{88}{5} B.T.$$

6.8

Sph. in 18° 0.28' Rt 2+73

