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ESTABLISHED

1871

1871

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Index.

Cross Sections - where needed -  
for Estimate of Yardage  
only. Sta. - 7700 to 87+96  
(El Capitan - Lakeside P.L.) 1-42  
Blank 43

Resurvey - 1935 - El Capitan - Lakeside }  
Pipeline Tunnel Portal to Co Road }  
Survey of 1935 - Thence " " }  
" Notes to El Monte Park } 44-55

Profile and Cross Sec Levels for Pipe }  
Line Study El Monte Park to Dam } 56-74

Cross-sections, Lakeside To El.  
Capitan Pipe line

Simpson  
Sommer Meyer  
McCarty

9/28/31

clear And Warm

Sta.	Elev.	Lf.	Rt.
-7+00		$\begin{array}{r} 772 \\ +4.3 \\ 10.0 \\ \hline 776.3 \end{array}$	$\begin{array}{r} 80.0 \\ +2.1 \\ 2.0 \\ \hline 82.1 \end{array}$
-6+17 <sup>2</sup>		$\begin{array}{r} 772 \\ +6.0 \\ 15.0 \\ \hline 778.0 \end{array}$	$\begin{array}{r} 76.2 \\ +3.1 \\ 2.0 \\ \hline 79.3 \end{array}$
-6+00		$\begin{array}{r} 772 \\ +5.2 \\ 15.0 \\ \hline 777.2 \end{array}$	$\begin{array}{r} 75.0 \\ +3.6 \\ 7.0 \\ \hline 81.6 \end{array}$
-5+50	From -6+00 +0.2	$\begin{array}{r} 776 \\ +5.9 \\ 15.0 \\ \hline 781.9 \end{array}$	$\begin{array}{r} 69.3 \\ -2.4 \\ 3.0 \\ \hline 70.9 \end{array}$
-5+00		$\begin{array}{r} 80.4 \\ +6.0 \\ 15.0 \\ \hline 91.4 \end{array}$	$\begin{array}{r} 72.2 \\ -2.0 \\ 5.0 \\ \hline 75.2 \end{array}$
-4+67 <sup>2</sup>		$\begin{array}{r} 79.5 \\ +5.0 \\ 15.0 \\ \hline 99.5 \end{array}$	$\begin{array}{r} 72.8 \\ -1.0 \\ 2.0 \\ \hline 73.8 \end{array}$

Note: All Rod Readings  
are Plus or Minus  
from elevation  
of the R. stations.

Lf.	Rt.
$\begin{array}{r} 772 \\ +4.3 \\ 10.0 \\ \hline 776.3 \end{array}$	$\begin{array}{r} 80.0 \\ +2.1 \\ 2.0 \\ \hline 82.1 \end{array}$
$\begin{array}{r} 772 \\ +6.0 \\ 15.0 \\ \hline 778.0 \end{array}$	$\begin{array}{r} 76.2 \\ +3.1 \\ 2.0 \\ \hline 79.3 \end{array}$
$\begin{array}{r} 772 \\ +5.2 \\ 15.0 \\ \hline 777.2 \end{array}$	$\begin{array}{r} 75.0 \\ +3.6 \\ 7.0 \\ \hline 81.6 \end{array}$
$\begin{array}{r} 776 \\ +5.9 \\ 15.0 \\ \hline 781.9 \end{array}$	$\begin{array}{r} 69.3 \\ -2.4 \\ 3.0 \\ \hline 70.9 \end{array}$
$\begin{array}{r} 80.4 \\ +6.0 \\ 15.0 \\ \hline 91.4 \end{array}$	$\begin{array}{r} 72.2 \\ -2.0 \\ 5.0 \\ \hline 75.2 \end{array}$
$\begin{array}{r} 79.5 \\ +5.0 \\ 15.0 \\ \hline 99.5 \end{array}$	$\begin{array}{r} 72.8 \\ -1.0 \\ 2.0 \\ \hline 73.8 \end{array}$



Sta.	Elev.	lf.	d	rt.
-2+05	Same Elev. as -2+00	$\frac{+3.5}{15^\circ}$ 73.5	$\frac{+0.4}{7^\circ}$ 70.4	$\frac{0.0}{16^\circ}$ 67.0
-1+71 <sup>06</sup>		$\frac{+2.3}{10^\circ}$ 74.2	$\frac{0.7}{2^\circ}$ 72.5	$\frac{-2.9}{4^\circ}$ 69.7
-1+31 <sup>7</sup>		$\frac{+4.3}{15^\circ}$ 77.2	$\frac{0.5}{2^\circ}$ 72.2	$\frac{-1.3}{5^\circ}$ 69.4
-1+06	From -1+31 <sup>7</sup> +1.8	$\frac{+3.4}{15^\circ}$ 77.1	$\frac{0.5}{4^\circ}$ 69.7	$\frac{-1.5}{18^\circ}$ 67.7
-0+91 <sup>2</sup>		$\frac{+6.1}{15^\circ}$ 79.2	$\frac{0.7}{2^\circ}$ 76.2	$\frac{-2.1}{16^\circ}$ 70.2
-0+60	From 0+91 <sup>2</sup> -0.6	$\frac{+8.0}{15^\circ}$ 80.2	$\frac{0.5}{3^\circ}$ 72.5	$\frac{-2.1}{15^\circ}$ 70.2
-0+39	From 0+00 +1.1	$\frac{+2.1}{15^\circ}$ 80.2	$\frac{-0.2}{4^\circ}$ 72.3	$\frac{-5.6}{14^\circ}$ 66.7
-0+16	From 0+00 +1.6	$\frac{+3.8}{15^\circ}$ 81.5	$\frac{+2.5}{11^\circ}$ 80.2	$\frac{-5.5}{17^\circ}$ 72.2

65.2  
27.2  
64.4  
30.0

69.4  
22.2  
69.2  
20.0

62.5  
7.2  
36.0

70.0  
16.0

74.2  
8.0

70.4  
7.0

73.5  
15.0

Sta.	Elev.	Lf.	f	Rt.
0+10	From 0+00 +0.3	$\frac{+4.2}{15}$	$\frac{80.2}{0.0}$	$\frac{-4.1}{4.0}$
0+40	From 0+30 -0.3	$\frac{+3.4}{15}$	$\frac{75.6}{0.0}$	$\frac{-3.9}{5.0}$
0+72 <sup>1</sup>	Ext.	$\frac{+4.0}{15}$	$\frac{78.2}{11.0}$	$\frac{-1.5}{4.0}$
1+07	From 1+11 <sup>4</sup> +1.8	$\frac{+6.5}{15}$	$\frac{78.2}{12.0}$	$\frac{-2.3}{5.0}$
1+37 <sup>5</sup>		$\frac{+6.3}{15}$	$\frac{76.2}{10.0}$	$\frac{-1.2}{3.0}$
+75		$\frac{+5.6}{15}$	$\frac{75.2}{10.0}$	$\frac{-1.9}{3.0}$
2+00		$\frac{+4.5}{15}$	$\frac{74.2}{10.0}$	$\frac{-0.7}{2.0}$
+51 <sup>4</sup>		$\frac{+1.0}{9}$	$\frac{76.2}{0.0}$	$\frac{-1.1}{3.0}$

Sta. Elev.

3+00

3+13

From 3+00  
- 2.7

3+21

+50

+75

4+25

+50

+75

751  
+ 31  
15

752  
+ 16  
6

~~752~~  
~~0.72~~  
%

700  
- 11  
5

711  
- 31  
8

685  
- 31  
22

652  
- 69  
32

731  
+ 34  
15

701  
+ 04  
4

569.7  
0.0

684  
- 11  
6

690  
- 07  
21

667  
- 31  
26

761  
+ 47  
15

728  
+ 13  
6

571.4  
0.0

699  
- 15  
5

687  
- 27  
6

691  
- 23  
20

674  
- 30  
25

781  
+ 51  
13

748  
+ 10  
13

571.8  
0.0

683  
- 31  
5

685  
- 33  
20

670  
- 40  
25

781  
+ 65  
15

746  
+ 30  
6

571.6  
0.0

685  
- 10  
5

682  
- 34  
19

654  
- 61  
31

762  
+ 61  
15

724  
+ 20  
3

572.4  
0.0

690  
- 14  
3

675  
- 29  
4

672  
- 27  
19

665  
- 30  
25

765  
+ 64  
15

720  
+ 26  
5

570.2  
0.0

661  
- 37  
4

665  
- 37  
20

651  
51  
25

754  
+ 37  
15

730  
+ 13  
6

571.4  
0.0

707  
- 10  
2

670  
- 47  
6

672  
- 45  
21

665  
51  
25



Sta. Elev.

5+00

+42 <sup>From 5+21.3</sup>  
+1.1

+59 <sup>From 5+21.3</sup>  
-1.1

+75

+94 <sup>From 5+75</sup>  
+2.2

6+25

+40 <sup>From 6+50</sup>  
-6.0

+50

	2f.	<del>2</del>	Rt.			
	$\frac{75.4}{15}$	$\frac{73.0}{5}$	$\frac{577.5}{0.0}$	$\frac{70.5}{4}$	$\frac{67.2}{5}$	$\frac{68.0}{22}$
	$\frac{72.0}{15}$	$\frac{70.5}{6}$	$\frac{577.9}{0.0}$	$\frac{68.4}{5}$	$\frac{67.9}{20}$	$\frac{65.1}{27}$
		$\frac{72.3}{15}$	$\frac{578.7}{0.0}$	$\frac{68.2}{7}$	$\frac{68.2}{21}$	$\frac{64.2}{30}$
	$\frac{78.2}{15}$	$\frac{75.2}{7}$	$\frac{573.7}{0.0}$	$\frac{73.5}{2}$	$\frac{70.2}{4}$	$\frac{68.9}{22}$
	$\frac{81.5}{16}$	$\frac{78.5}{7.5}$	$\frac{570.9}{0.0}$	$\frac{70.5}{3.5}$	$\frac{69.3}{7}$	$\frac{67.2}{19}$
	$\frac{80.5}{12}$	$\frac{76.0}{3}$	$\frac{579.0}{0.0}$	$\frac{69.5}{14}$	$\frac{65.7}{20}$	
	$\frac{82.2}{13}$	$\frac{77.4}{8}$	$\frac{579.0}{0.0}$	$\frac{70.2}{16}$	$\frac{66.2}{21}$	
	$\frac{82.2}{15}$	$\frac{79.2}{6}$	$\frac{576.1}{0.0}$	$\frac{70.3}{2.5}$	$\frac{70.5}{16}$	$\frac{65.1}{23}$

Sta. Elev.

6+75

7+00

+36

From 7+00  
-2.9

+50

+83

From 7+50  
+2.1

Foot of Large Boulder

8+00 Top of Large Boulder

8+10

From 9+01<sup>39</sup>  
+4.6

Foot of Large Boulder

7

	Lf.	Rd.
	827	795
	+61	+25
	15	6
	822	791
	+60	+42
	15	10
	792	749
	+61	+30
	15	8
	785	749
	+81	+33
	15	4
	781	751
	+60	+26
	15	8
	792	790
	-59	-66
	16	12
	792	847
	-09	-09
	10	10
	792	825
	-28	-19
	3	8
	801	774
	+71	+40
	15	7
	827	791
	+61	+25
	15	6
	822	791
	+60	+42
	15	10
	792	749
	+61	+30
	15	8
	785	749
	+81	+33
	15	4
	781	751
	+60	+26
	15	8
	792	790
	-59	-66
	16	12
	792	847
	-09	-09
	10	10
	792	825
	-28	-19
	3	8
	801	774
	+71	+40
	15	7
	827	795
	+61	+25
	15	6
	822	791
	+60	+42
	15	10
	792	749
	+61	+30
	15	8
	785	749
	+81	+33
	15	4
	781	751
	+60	+26
	15	8
	792	790
	-59	-66
	16	12
	792	847
	-09	-09
	10	10
	792	825
	-28	-19
	3	8
	801	774
	+71	+40
	15	7

s. edge of Rd at Foot of Large Boulder

Sta. Elev.

8+33 From 9+01.29  
-2.2

+50 From 9+01.29  
+2.3

+67 From 9+01.29  
-2.5

9+01.2

+52 From 9+01.29  
+1.6

10+00

+20 From 10+00  
-2.4

+40 From 10+00  
-6.5

8

$\frac{+8.9}{15}$	$\frac{+5.8}{4.5}$	$\frac{+0.3}{1.5}$	0.0	$\frac{-1.5}{4}$	$\frac{-2.1}{1.8}$	$\frac{-7.0}{2.7}$
	$\frac{+3.1}{1.5}$	$\frac{+1.2}{.9}$	0.0	$\frac{-5.15}{2}$	$\frac{-6.15}{1.8}$	$\frac{-11.25}{2.8}$
$\frac{+6.4}{1.5}$	$\frac{+3.1}{.5}$	$\frac{+0.9}{2}$	0.0	$\frac{-1.1}{4}$	$\frac{0.8}{2.2}$	$\frac{-4.3}{2.9}$
	$\frac{+2.0}{1.5}$	$\frac{+0.9}{1}$	0.0	$\frac{0.8}{1}$	$\frac{-2.15}{.5}$	$\frac{-3.0}{2.5}$
		$\frac{+1.4}{1.5}$	0.0	$\frac{-2.15}{8}$	$\frac{-5.4}{11}$	$\frac{-5.4}{2.6}$
		$\frac{-0.15}{.5}$	0.0	$\frac{-1.15}{12}$	$\frac{-2.1}{1.5}$	$\frac{-2.15}{2.8}$
$\frac{+0.13}{1.8}$	$\frac{-4.15}{1.2}$	$\frac{-0.1}{4}$	0.0	$\frac{-0.15}{12}$	$\frac{-1.1}{2.5}$	$\frac{-3.15}{3.1}$
		$\frac{+0.6}{3}$	0.0	$\frac{+0.6}{3}$	$\frac{+2.1}{9}$	$\frac{+2.1}{2.2}$
		$\frac{+0.6}{1.5}$	0.0	$\frac{+0.6}{1.5}$	$\frac{+2.1}{4.5}$	$\frac{+2.1}{1.5}$

Sta. 10+72 Elev. from 11+00 -1.2

11+20 From 11+00 +1.5

+73<sup>28</sup> From 11+72<sup>28</sup> -0.2

12+00

+25

+50

+75

+94<sup>37</sup>

$\frac{+6.4}{15}$	$\frac{+3.9}{8}$	$\frac{+1.2}{6}$	$\frac{0.0}{0.0}$	$\frac{-1.2}{5}$	$\frac{-1.3}{20}$	$\frac{-1.5}{27}$
$\frac{+5.8}{13}$	$\frac{+3.9}{8}$	$\frac{+0.6}{2}$	$\frac{0.0}{0.0}$	$\frac{-1.0}{8}$	$\frac{-0.4}{23}$	$\frac{-7.6}{33}$
$\frac{+6.2}{10}$	$\frac{+3.9}{6}$	$\frac{+0.9}{3}$	$\frac{0.0}{0.0}$	$\frac{-1.0}{9}$	$\frac{-1.0}{24}$	$\frac{-6.0}{34}$
$\frac{+6.2}{14}$	$\frac{+2.5}{5}$	$\frac{+0.3}{2}$	$\frac{0.0}{0.0}$	$\frac{-1.0}{7}$	$\frac{-2.0}{24}$	$\frac{-5.0}{33}$
$\frac{+4.6}{15}$	$\frac{+2.8}{11}$	$\frac{+2.2}{7}$	$\frac{0.0}{0.0}$	$\frac{-3.6}{3}$	$\frac{-3.8}{20}$	$\frac{-6.2}{31}$
$\frac{+6.7}{15}$	$\frac{+5.9}{11}$	$\frac{+0.2}{6}$	$\frac{0.0}{0.0}$	$\frac{-0.6}{15}$	$\frac{-3.5}{25}$	
$\frac{+1.1}{15}$	$\frac{-1.0}{7}$	$\frac{-0.2}{3}$	$\frac{0.0}{0.0}$	$\frac{-0.3}{15}$	$\frac{-3.2}{20}$	
$\frac{+0.3}{15}$	$\frac{+0.3}{3}$	$\frac{0.0}{0.0}$	$\frac{0.0}{0.0}$	$\frac{-1.5}{16}$	$\frac{-4.0}{23}$	

$\frac{67.9}{15}$  Lf.  $\frac{65.0}{6}$   $\frac{62.8}{5}$  Rt.  $\frac{62.7}{20}$   $\frac{62.7}{27}$   
 $\frac{72.5}{13}$   $\frac{70.5}{8}$   $\frac{67.2}{2}$   $\frac{66.7}{0.0}$   $\frac{66.2}{8}$   $\frac{63.7}{23}$   $\frac{63.3}{33}$   
 $\frac{72.1}{10}$   $\frac{69.2}{6}$   $\frac{66.2}{3}$   $\frac{66.0}{0.0}$   $\frac{66.0}{9}$   $\frac{63.3}{24}$   $\frac{63.2}{34}$   
 $\frac{72.8}{14}$   $\frac{69.2}{5}$   $\frac{67.0}{2}$   $\frac{66.7}{0.0}$   $\frac{65.2}{7}$   $\frac{64.2}{24}$   $\frac{60.9}{33}$   
 $\frac{72.5}{15}$   $\frac{70.2}{11}$   $\frac{70.1}{7}$   $\frac{71.9}{0.0}$   $\frac{64.3}{3}$   $\frac{64.1}{20}$   $\frac{61.1}{31}$   
 $\frac{70.9}{15}$   $\frac{70.1}{11}$   $\frac{64.4}{6}$   $\frac{64.2}{0.0}$   $\frac{63.5}{15}$   $\frac{60.7}{25}$   
 $\frac{65.2}{15}$   $\frac{63.1}{7}$   $\frac{68.2}{3}$   $\frac{67.1}{0.0}$   $\frac{63.2}{15}$   $\frac{60.4}{20}$   
 $\frac{65.7}{15}$   $\frac{66.3}{3}$   $\frac{66.0}{0.0}$   $\frac{64.5}{16}$   $\frac{64.4}{16}$   $\frac{61.4}{23}$

9/29/31

Simpson  
Sommer Meyer  
McCarty

9/29/30

clear - warm

10

Sta. Elev.

13+25

+50

+80

From 14+00  
+2.5

14+00

+19<sup>12</sup>

+65

From 14+19<sup>12</sup>  
+0.4

15+00

+25

$\frac{+3.00}{15}$	$\frac{+0.00}{7}$	$\frac{0.00}{0.00}$	$\frac{-1.00}{3}$	$\frac{-3.00}{6}$	$\frac{-3.00}{23}$	$\frac{-7.00}{31}$
74 <sup>4</sup>	72 <sup>2</sup>	72 <sup>1.6</sup>	70 <sup>2</sup>	68 <sup>1</sup>	67 <sup>1</sup>	65 <sup>1</sup>
$\frac{+2.00}{15}$	$\frac{+1.00}{7}$	$\frac{0.00}{0.00}$	$\frac{-1.00}{3}$	$\frac{-3.00}{9}$	$\frac{-3.00}{21}$	$\frac{-6.00}{29}$
74 <sup>4</sup>	72 <sup>2</sup>	72 <sup>1.6</sup>	70 <sup>2</sup>	68 <sup>2</sup>	65 <sup>5</sup>	66 <sup>2</sup>
$\frac{+2.00}{15}$	$\frac{+1.00}{7}$	$\frac{0.00}{0.00}$	$\frac{-1.00}{2}$	$\frac{-2.00}{6}$	$\frac{-3.00}{21}$	$\frac{-5.00}{25}$
72 <sup>5</sup>	70 <sup>5</sup>	70 <sup>3.3</sup>	69 <sup>3</sup>	68 <sup>2</sup>	68 <sup>3</sup>	66 <sup>3</sup>
$\frac{+3.00}{12}$	$\frac{+1.50}{3}$	$\frac{0.00}{0.00}$	$\frac{0.00}{2}$	$\frac{-1.00}{5}$	$\frac{-1.00}{19}$	$\frac{-3.00}{23}$
71 <sup>5</sup>	70 <sup>5</sup>	68 <sup>5</sup>	67 <sup>5</sup>	66 <sup>5</sup>		
$\frac{+3.00}{15}$	$\frac{+2.00}{6}$	$\frac{+0.00}{2.00}$	$\frac{0.00}{15}$	$\frac{-2.00}{23}$		
74 <sup>2</sup>	70 <sup>5</sup>	68 <sup>9</sup>	68 <sup>5</sup>	66 <sup>3</sup>		
$\frac{+5.00}{11}$	$\frac{+2.00}{2}$	$\frac{+0.00}{1.00}$	$\frac{0.00}{17}$	$\frac{-2.00}{22}$		
75 <sup>2</sup>	73 <sup>5</sup>	72 <sup>0</sup>	68 <sup>0</sup>	68 <sup>3</sup>	66 <sup>1</sup>	
$\frac{+5.00}{10}$	$\frac{+2.00}{7}$	$\frac{+1.00}{2}$	$\frac{-2.00}{2}$	$\frac{-2.00}{18}$	$\frac{-4.00}{23}$	
74 <sup>4</sup>	73 <sup>0</sup>	72 <sup>9</sup>	68 <sup>4</sup>	68 <sup>7</sup>	66 <sup>2</sup>	
$\frac{+3.00}{12}$	$\frac{+2.00}{8}$	$\frac{+1.00}{5}$	$\frac{-2.00}{3}$	$\frac{-2.00}{18}$	$\frac{-5.00}{24}$	
74 <sup>4</sup>	73 <sup>0</sup>	72 <sup>9</sup>	68 <sup>4</sup>	68 <sup>7</sup>	66 <sup>2</sup>	
$\frac{+3.00}{12}$	$\frac{+2.00}{8}$	$\frac{+1.00}{5}$	$\frac{-2.00}{3}$	$\frac{-2.00}{18}$	$\frac{-5.00}{24}$	

Sta. Elev.

15+50

+75

16+00

+25

+45

From 16+25  
+2.4

17+00

+20

From 17+00  
+1.2

	Lf.	Rt.
$\frac{+5.0}{13}$	$\frac{+3.4}{4}$	$\frac{+0.6}{18}$
$\frac{+3.0}{15}$	$\frac{+3.0}{10}$	$\frac{+0.2}{16}$
$\frac{+4.0}{11}$	$\frac{+2.0}{5}$	$\frac{+0.1}{17}$
$\frac{+6.0}{16}$	$\frac{+3.0}{8}$	$\frac{+4.0}{4}$
$\frac{+4.6}{14}$	$\frac{+2.0}{9}$	$\frac{+3.0}{3}$
$\frac{+7.0}{15}$	$\frac{+1.0}{4}$	$\frac{+7.0}{4}$
$\frac{+5.0}{12}$	$\frac{+2.0}{6}$	$\frac{+7.2}{3}$
$\frac{+8.0}{13}$	$\frac{+1.0}{4}$	$\frac{+6.5}{18}$
$\frac{+7.0}{15}$	$\frac{+1.0}{4}$	$\frac{+7.0}{4}$
$\frac{+8.0}{13}$	$\frac{+1.0}{4}$	$\frac{+7.0}{4}$
$\frac{+9.0}{14}$	$\frac{+1.0}{4}$	$\frac{+8.0}{4}$
$\frac{+10.0}{15}$	$\frac{+1.0}{4}$	$\frac{+9.0}{4}$
$\frac{+11.0}{16}$	$\frac{+1.0}{4}$	$\frac{+10.0}{4}$
$\frac{+12.0}{17}$	$\frac{+1.0}{4}$	$\frac{+11.0}{4}$
$\frac{+13.0}{18}$	$\frac{+1.0}{4}$	$\frac{+12.0}{4}$
$\frac{+14.0}{19}$	$\frac{+1.0}{4}$	$\frac{+13.0}{4}$
$\frac{+15.0}{20}$	$\frac{+1.0}{4}$	$\frac{+14.0}{4}$
$\frac{+16.0}{21}$	$\frac{+1.0}{4}$	$\frac{+15.0}{4}$
$\frac{+17.0}{22}$	$\frac{+1.0}{4}$	$\frac{+16.0}{4}$
$\frac{+18.0}{23}$	$\frac{+1.0}{4}$	$\frac{+17.0}{4}$
$\frac{+19.0}{24}$	$\frac{+1.0}{4}$	$\frac{+18.0}{4}$
$\frac{+20.0}{25}$	$\frac{+1.0}{4}$	$\frac{+19.0}{4}$
$\frac{+21.0}{26}$	$\frac{+1.0}{4}$	$\frac{+20.0}{4}$
$\frac{+22.0}{27}$	$\frac{+1.0}{4}$	$\frac{+21.0}{4}$
$\frac{+23.0}{28}$	$\frac{+1.0}{4}$	$\frac{+22.0}{4}$
$\frac{+24.0}{29}$	$\frac{+1.0}{4}$	$\frac{+23.0}{4}$
$\frac{+25.0}{30}$	$\frac{+1.0}{4}$	$\frac{+24.0}{4}$
$\frac{+26.0}{31}$	$\frac{+1.0}{4}$	$\frac{+25.0}{4}$
$\frac{+27.0}{32}$	$\frac{+1.0}{4}$	$\frac{+26.0}{4}$
$\frac{+28.0}{33}$	$\frac{+1.0}{4}$	$\frac{+27.0}{4}$
$\frac{+29.0}{34}$	$\frac{+1.0}{4}$	$\frac{+28.0}{4}$
$\frac{+30.0}{35}$	$\frac{+1.0}{4}$	$\frac{+29.0}{4}$
$\frac{+31.0}{36}$	$\frac{+1.0}{4}$	$\frac{+30.0}{4}$
$\frac{+32.0}{37}$	$\frac{+1.0}{4}$	$\frac{+31.0}{4}$
$\frac{+33.0}{38}$	$\frac{+1.0}{4}$	$\frac{+32.0}{4}$
$\frac{+34.0}{39}$	$\frac{+1.0}{4}$	$\frac{+33.0}{4}$
$\frac{+35.0}{40}$	$\frac{+1.0}{4}$	$\frac{+34.0}{4}$
$\frac{+36.0}{41}$	$\frac{+1.0}{4}$	$\frac{+35.0}{4}$
$\frac{+37.0}{42}$	$\frac{+1.0}{4}$	$\frac{+36.0}{4}$
$\frac{+38.0}{43}$	$\frac{+1.0}{4}$	$\frac{+37.0}{4}$
$\frac{+39.0}{44}$	$\frac{+1.0}{4}$	$\frac{+38.0}{4}$
$\frac{+40.0}{45}$	$\frac{+1.0}{4}$	$\frac{+39.0}{4}$
$\frac{+41.0}{46}$	$\frac{+1.0}{4}$	$\frac{+40.0}{4}$
$\frac{+42.0}{47}$	$\frac{+1.0}{4}$	$\frac{+41.0}{4}$
$\frac{+43.0}{48}$	$\frac{+1.0}{4}$	$\frac{+42.0}{4}$
$\frac{+44.0}{49}$	$\frac{+1.0}{4}$	$\frac{+43.0}{4}$
$\frac{+45.0}{50}$	$\frac{+1.0}{4}$	$\frac{+44.0}{4}$
$\frac{+46.0}{51}$	$\frac{+1.0}{4}$	$\frac{+45.0}{4}$
$\frac{+47.0}{52}$	$\frac{+1.0}{4}$	$\frac{+46.0}{4}$
$\frac{+48.0}{53}$	$\frac{+1.0}{4}$	$\frac{+47.0}{4}$
$\frac{+49.0}{54}$	$\frac{+1.0}{4}$	$\frac{+48.0}{4}$
$\frac{+50.0}{55}$	$\frac{+1.0}{4}$	$\frac{+49.0}{4}$
$\frac{+51.0}{56}$	$\frac{+1.0}{4}$	$\frac{+50.0}{4}$
$\frac{+52.0}{57}$	$\frac{+1.0}{4}$	$\frac{+51.0}{4}$
$\frac{+53.0}{58}$	$\frac{+1.0}{4}$	$\frac{+52.0}{4}$
$\frac{+54.0}{59}$	$\frac{+1.0}{4}$	$\frac{+53.0}{4}$
$\frac{+55.0}{60}$	$\frac{+1.0}{4}$	$\frac{+54.0}{4}$
$\frac{+56.0}{61}$	$\frac{+1.0}{4}$	$\frac{+55.0}{4}$
$\frac{+57.0}{62}$	$\frac{+1.0}{4}$	$\frac{+56.0}{4}$
$\frac{+58.0}{63}$	$\frac{+1.0}{4}$	$\frac{+57.0}{4}$
$\frac{+59.0}{64}$	$\frac{+1.0}{4}$	$\frac{+58.0}{4}$
$\frac{+60.0}{65}$	$\frac{+1.0}{4}$	$\frac{+59.0}{4}$
$\frac{+61.0}{66}$	$\frac{+1.0}{4}$	$\frac{+60.0}{4}$
$\frac{+62.0}{67}$	$\frac{+1.0}{4}$	$\frac{+61.0}{4}$
$\frac{+63.0}{68}$	$\frac{+1.0}{4}$	$\frac{+62.0}{4}$
$\frac{+64.0}{69}$	$\frac{+1.0}{4}$	$\frac{+63.0}{4}$
$\frac{+65.0}{70}$	$\frac{+1.0}{4}$	$\frac{+64.0}{4}$
$\frac{+66.0}{71}$	$\frac{+1.0}{4}$	$\frac{+65.0}{4}$
$\frac{+67.0}{72}$	$\frac{+1.0}{4}$	$\frac{+66.0}{4}$
$\frac{+68.0}{73}$	$\frac{+1.0}{4}$	$\frac{+67.0}{4}$
$\frac{+69.0}{74}$	$\frac{+1.0}{4}$	$\frac{+68.0}{4}$
$\frac{+70.0}{75}$	$\frac{+1.0}{4}$	$\frac{+69.0}{4}$
$\frac{+71.0}{76}$	$\frac{+1.0}{4}$	$\frac{+70.0}{4}$
$\frac{+72.0}{77}$	$\frac{+1.0}{4}$	$\frac{+71.0}{4}$
$\frac{+73.0}{78}$	$\frac{+1.0}{4}$	$\frac{+72.0}{4}$
$\frac{+74.0}{79}$	$\frac{+1.0}{4}$	$\frac{+73.0}{4}$
$\frac{+75.0}{80}$	$\frac{+1.0}{4}$	$\frac{+74.0}{4}$
$\frac{+76.0}{81}$	$\frac{+1.0}{4}$	$\frac{+75.0}{4}$
$\frac{+77.0}{82}$	$\frac{+1.0}{4}$	$\frac{+76.0}{4}$
$\frac{+78.0}{83}$	$\frac{+1.0}{4}$	$\frac{+77.0}{4}$
$\frac{+79.0}{84}$	$\frac{+1.0}{4}$	$\frac{+78.0}{4}$
$\frac{+80.0}{85}$	$\frac{+1.0}{4}$	$\frac{+79.0}{4}$
$\frac{+81.0}{86}$	$\frac{+1.0}{4}$	$\frac{+80.0}{4}$
$\frac{+82.0}{87}$	$\frac{+1.0}{4}$	$\frac{+81.0}{4}$
$\frac{+83.0}{88}$	$\frac{+1.0}{4}$	$\frac{+82.0}{4}$
$\frac{+84.0}{89}$	$\frac{+1.0}{4}$	$\frac{+83.0}{4}$
$\frac{+85.0}{90}$	$\frac{+1.0}{4}$	$\frac{+84.0}{4}$
$\frac{+86.0}{91}$	$\frac{+1.0}{4}$	$\frac{+85.0}{4}$
$\frac{+87.0}{92}$	$\frac{+1.0}{4}$	$\frac{+86.0}{4}$
$\frac{+88.0}{93}$	$\frac{+1.0}{4}$	$\frac{+87.0}{4}$
$\frac{+89.0}{94}$	$\frac{+1.0}{4}$	$\frac{+88.0}{4}$
$\frac{+90.0}{95}$	$\frac{+1.0}{4}$	$\frac{+89.0}{4}$
$\frac{+91.0}{96}$	$\frac{+1.0}{4}$	$\frac{+90.0}{4}$
$\frac{+92.0}{97}$	$\frac{+1.0}{4}$	$\frac{+91.0}{4}$
$\frac{+93.0}{98}$	$\frac{+1.0}{4}$	$\frac{+92.0}{4}$
$\frac{+94.0}{99}$	$\frac{+1.0}{4}$	$\frac{+93.0}{4}$
$\frac{+95.0}{100}$	$\frac{+1.0}{4}$	$\frac{+94.0}{4}$

Sta. Elev.

17+50 From 17+75 - 1.7

+75

18+00

+25

+57.99

+75

19+00

Lf. Rf.

$\frac{+7.2}{17}$	$\frac{+5.8}{12}$	$\frac{+4.2}{7}$	$\frac{+2.0}{3}$	$\frac{0.0}{0.0}$	$\frac{-4.0}{3}$	$\frac{-3.5}{18}$	$\frac{-8.2}{24}$
901	854	864	889.0	840	795	800	767
$\frac{+5.5}{13}$	$\frac{+3.0}{9}$	$\frac{+1.9}{4}$	$\frac{0.0}{0.0}$	$\frac{-0.15}{1}$	$\frac{-5.0}{4}$	$\frac{-4.0}{18}$	$\frac{-7.0}{24}$
907	872	872	865	855	802	815	762
$\frac{+4.3}{9}$	$\frac{+1.1}{5}$	$\frac{0.0}{0.0}$	$\frac{-1.1}{3}$	$\frac{-5.7}{5}$	$\frac{-7.8}{19}$	$\frac{-11.2}{29}$	
951	931	898	888	866	821	725	781
$\frac{+7.0}{15}$	$\frac{+5.0}{11}$	$\frac{+2.0}{6}$	$\frac{0.0}{0.0}$	$\frac{-1.0}{3}$	$\frac{-5.7}{5}$	$\frac{-5.2}{17}$	$\frac{-9.2}{25}$
979	930	930	930.9	941	945	979	
$\frac{+7.0}{14}$	$\frac{+2.1}{4}$	$\frac{0.0}{0.0}$	$\frac{-6.0}{4}$	$\frac{-6.7}{8}$	$\frac{-11.0}{27}$		
600	596	953	880	851	860	822	
$\frac{+7.0}{15}$	$\frac{+3.1}{6}$	$\frac{+1.0}{3}$	$\frac{0.0}{0.0}$	$\frac{-7.0}{4}$	$\frac{-7.0}{8}$	$\frac{-10.0}{25}$	
601	593	945	880	875	879	840	
$\frac{+10.0}{15}$	$\frac{+8.0}{10}$	$\frac{+4.9}{4}$	$\frac{0.0}{0.0}$	$\frac{-1.0}{2}$	$\frac{-1.3}{8}$	$\frac{-5.6}{24}$	

Sta. Elev.

19+25

+51<sup>25</sup>+71<sup>6</sup>

20+00

+24<sup>25</sup> D+87<sup>16</sup> B.C.

21+25

+50

$$\begin{array}{r} 6017 \\ +64 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 5972 \\ +24 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8720 \\ -5.5 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 895 \\ -5.0 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 902 \\ -9.4 \\ \hline 27 \end{array}$$

$$\begin{array}{r} 85 \\ -9.4 \\ \hline 27 \end{array}$$

$$\begin{array}{r} 6000 \\ +5.0 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 963 \\ +1.6 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8917 \\ -4.6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 901 \\ -4.0 \\ \hline 23 \end{array}$$

$$\begin{array}{r} 903 \\ -10.3 \\ \hline 31 \end{array}$$

$$\begin{array}{r} 997 \\ +6.0 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 977 \\ +4.0 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 951 \\ +1.0 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8937 \\ -1.0 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 922 \\ -6.0 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 884 \\ -5.0 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 890 \\ -4.7 \\ \hline 22 \end{array}$$

$$\begin{array}{r} 837 \\ -10.0 \\ \hline 34 \end{array}$$

$$\begin{array}{r} 973 \\ +5.6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 942 \\ +2.5 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8917 \\ -1.0 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 904 \\ -6.0 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 848 \\ -6.0 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 822 \\ -9.7 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 977 \\ +6.0 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 932 \\ +2.1 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8917 \\ -1.2 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 904 \\ -0.1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 835 \\ -7.0 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 832 \\ -7.2 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 787 \\ -12.5 \\ \hline 26 \end{array}$$

$$\begin{array}{r} 950 \\ +10.0 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 875 \\ +2.0 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8917 \\ -1.2 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 772 \\ -7.16 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 779 \\ -7.4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 732 \\ -12.1 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 935 \\ +9.0 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 891 \\ +4.2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 862 \\ +1.6 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8917 \\ -1.0 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 741 \\ -10.0 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 747 \\ -9.2 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 680 \\ -15.0 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 915 \\ +6.0 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 891 \\ +4.0 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 862 \\ +1.5 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 8917 \\ -1.0 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 830 \\ -1.0 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 720 \\ -12.0 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 730 \\ -11.5 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 648 \\ -20.0 \\ \hline 31 \end{array}$$



Sta. Elev

21+75

+98 From 21+75  
-3.5

22+03<sup>20</sup>

+38<sup>28</sup>

+50 From 22+38<sup>28</sup>  
-1.0

+64 From 22+38<sup>28</sup>  
-1.5

+76<sup>4</sup>

+87 From 22+76<sup>4</sup>  
-1.0

	Lf	Rt				
	89 <sup>4</sup>	82 <sup>7</sup>	80 <sup>9</sup>	79 <sup>9</sup>	71 <sup>5</sup>	72 <sup>2</sup>
	+8 <sup>5</sup>	+1 <sup>8</sup>	0.0	-1 <sup>0</sup>	-9 <sup>5</sup>	-8 <sup>1</sup>
	16	4	0.0	4	7	23
	88 <sup>1</sup>	80 <sup>1</sup>	52 <sup>7</sup>	69 <sup>7</sup>	70 <sup>5</sup>	67 <sup>3</sup>
	+10 <sup>7</sup>	+2 <sup>7</sup>	0.0	-7 <sup>7</sup>	-6 <sup>9</sup>	-10 <sup>1</sup>
	19	4	0.0	3	23	30
	83 <sup>4</sup>	81 <sup>3</sup>	77 <sup>1</sup>	69 <sup>3</sup>	70 <sup>1</sup>	67 <sup>5</sup>
	+11 <sup>6</sup>	+9 <sup>5</sup>	+5 <sup>30</sup>	+2 <sup>15</sup>	-1 <sup>3</sup>	-4 <sup>0</sup>
	15	11	2	1	25	28
	78 <sup>1</sup>	77 <sup>0</sup>	77 <sup>1</sup>	67 <sup>3</sup>	70 <sup>1</sup>	67 <sup>5</sup>
	+12 <sup>2</sup>	+9 <sup>1</sup>	+6 <sup>9</sup>	+4 <sup>1</sup>	0.0	-4 <sup>4</sup>
	19	13	6	2	0.0	21
	77 <sup>1</sup>	75 <sup>5</sup>	68 <sup>3</sup>	66 <sup>8</sup>	62 <sup>4</sup>	62 <sup>2</sup>
	+10 <sup>2</sup>	+7 <sup>6</sup>	+1 <sup>4</sup>	0.0	-4 <sup>15</sup>	
	19	12	8	0.0	21	
	75 <sup>0</sup>	72 <sup>2</sup>	69 <sup>2</sup>	65 <sup>5</sup>	65 <sup>5</sup>	62 <sup>2</sup>
	+8 <sup>6</sup>	+5 <sup>00</sup>	+2 <sup>3</sup>	-0 <sup>100</sup>	-0 <sup>19</sup>	-4 <sup>1</sup>
	16	9	3	1	16	22
	73 <sup>1</sup>	69 <sup>9</sup>	65 <sup>8</sup>	65 <sup>0</sup>	60 <sup>0</sup>	
	+8 <sup>1</sup>	+4 <sup>0</sup>	+0 <sup>100</sup>	0.0	-5 <sup>0</sup>	
	15	7	5	15	25	
	70 <sup>4</sup>	68 <sup>7</sup>	67 <sup>7</sup>	64 <sup>5</sup>	60 <sup>1</sup>	
	+10 <sup>100</sup>	+6 <sup>4</sup>	+4 <sup>1</sup>	+0 <sup>7</sup>	-3 <sup>9</sup>	
	17	8	3	1	24	

Sta. Elev.

23+14<sup>01</sup>

+28 From 23+14  
+0.6

+80 From 24+08<sup>68</sup>  
-1.4

24+08<sup>68</sup>

+50

25+00<sup>97</sup>

+23 From 25+00<sup>97</sup>  
+0.6

+70 From B.M. #4  
-6.7

	Lf.	L	Rt.
70°	66°	62°	62°
+7°	+3°	+0°	-0°
15	5	2	14
0.0	0.0	0.0	0.0
69°	67°	66°	62°
+5°	+3°	-1°	-1°
14	9	1	13
0.0	0.0	0.0	0.0
62°	61°	60°	59°
+4°	+1°	-0°	-3°
15	5	0	17
0.0	0.0	0.0	0.0
64°	62°	60°	59°
+3°	+1°	-0°	-2°
15	5	2	3
0.0	0.0	0.0	0.0
64°	62°	60°	59°
+3°	+1°	-0°	-1°
15	5	2	3
0.0	0.0	0.0	0.0
65°	62°	60°	59°
+4°	+1°	-1°	-2°
15	3	2	4
0.0	0.0	0.0	0.0
65°	62°	60°	59°
+2°	+0°	-3°	-3°
12	3	3	19
0.0	0.0	0.0	0.0
69°	64°	60°	57°
+4°	+2°	-1°	-5°
6	4	3	20
0.0	0.0	0.0	0.0

Sta.	Elev.
25+75	From B.M. #4 -4.8
26+05	
+27	From 26+05 -3.9
+63	From 27+00 +2.7
27+00	
+50	
+93	
28+31	From 27+93 -0.3

City Camp site - regrading towards  
 the South possible

to 3 1/2

Lf.	Rt.
652	611
+12	-30 <sup>RD</sup>
12	4
660	637
+16	-27
13	25
620	594
+22	-11 <sup>RD</sup>
11	7
615	601
+40	-15
15	5
638	572
+49	-17
15	6
595	550
+30	-10
12	6
557	541
+10	-14
9	3
557	515
+10	-28 <sup>RD</sup>
5	6
557	525
+10	-20 <sup>RD</sup>
5	21
557	515
+10	-25 <sup>RD</sup>
5	20
557	492
+31	-52
17	36









Sta.	Elev.		Lf.	¢	Rt.					
36+79	From 36+50 +1.9	Base of Large Boulder	$\frac{+13^{\circ}}{15}$	$\frac{+7^{\circ}}{11^{\circ}}$	$\frac{+3^{\circ}}{6}$	$\frac{0.0}{0.0}$	$\frac{-0^{\circ}}{3}$	$\frac{-2^{\circ}}{6}$	$\frac{-2^{\circ}}{16}$	$\frac{-6^{\circ}}{23}$
+89	same Elev 36+79	Note: This section over Large Boulder	$\frac{+15^{\circ}}{17}$	$\frac{+14^{\circ}}{8}$	$\frac{+11^{\circ}}{3}$	$\frac{0.0}{0.0}$	$\frac{-2^{\circ}}{4}$	$\frac{-2^{\circ}}{15}$	$\frac{-6^{\circ}}{21}$	
37+00		Base of Large Boulder	$\frac{+12^{\circ}}{15}$	$\frac{+6^{\circ}}{8}$	$\frac{0.0}{0.0}$	$\frac{-1^{\circ}}{5}$	$\frac{-2^{\circ}}{17}$	$\frac{-6^{\circ}}{20}$		
+50	From B.M. #5 +0.8		$\frac{+10^{\circ}}{15}$	$\frac{+3^{\circ}}{7}$	$\frac{0.0}{0.0}$	$\frac{-3^{\circ}}{5}$	$\frac{-3^{\circ}}{17}$	$\frac{-6^{\circ}}{21}$		
+75			$\frac{+9^{\circ}}{16}$	$\frac{+3^{\circ}}{7}$	$\frac{0.0}{0.0}$	$\frac{-0^{\circ}}{2}$	$\frac{-2^{\circ}}{6}$	$\frac{-3^{\circ}}{20}$	$\frac{-6^{\circ}}{25}$	
38+00			$\frac{+7^{\circ}}{15}$	$\frac{+2^{\circ}}{7}$	$\frac{0.0}{0.0}$	$\frac{-1^{\circ}}{4}$	$\frac{-3^{\circ}}{11}$	$\frac{-3^{\circ}}{21}$	$\frac{-5^{\circ}}{29}$	
+25			$\frac{+9^{\circ}}{19}$	$\frac{+3^{\circ}}{9}$	$\frac{0.0}{0.0}$	$\frac{-2^{\circ}}{8}$	$\frac{-2^{\circ}}{21}$	$\frac{-5^{\circ}}{28}$		
+65 <sup>66</sup>			$\frac{+6^{\circ}}{15}$	$\frac{+2^{\circ}}{7}$	$\frac{0.0}{0.0}$	$\frac{-1^{\circ}}{5}$	$\frac{-1^{\circ}}{15}$	$\frac{-4^{\circ}}{34}$		



Sta. Elev.

38+91<sup>±3</sup>

39+32

From 39+52.3

+0.8

Change of Elev.  
57.65  
59.75  
+75

+91

From 39+75

-0.9

+98

From 39+75

+3.2

Top of Boulder

40+05

From 40+25

+1.6

+35

From 40+25

+0.6

+75

22

Lf	±	Rt.
$\frac{+5^{\pm}}{13}$	$\frac{+1^{\pm}}{5}$	$\frac{-2^{\pm}}{6}$
$\frac{+5^{\pm}}{14}$	$\frac{+1^{\pm}}{4}$	$\frac{-3^{\pm}}{8}$
$\frac{+5^{\pm}}{15}$	$\frac{+1^{\pm}}{6}$	$\frac{-3^{\pm}}{3}$
$\frac{+6^{\pm}}{17}$		$\frac{-4^{\pm}}{9}$
$\frac{+4^{\pm}}{21}$	$\frac{-0^{\pm}}{10}$	$\frac{-1^{\pm}}{2}$
$\frac{+6^{\pm}}{18}$	$\frac{+1^{\pm}}{4}$	$\frac{-4^{\pm}}{10}$
$\frac{+6^{\pm}}{15}$	$\frac{+3^{\pm}}{6}$	$\frac{-0^{\pm}}{4}$
$\frac{+8^{\pm}}{16}$	$\frac{+3^{\pm}}{6}$	$\frac{-2^{\pm}}{5}$
		$\frac{-4^{\pm}}{18}$
		$\frac{-5^{\pm}}{25}$
		$\frac{-5^{\pm}}{32}$
		$\frac{-7^{\pm}}{18}$
		$\frac{-7^{\pm}}{32}$
		$\frac{-4^{\pm}}{19}$
		$\frac{-6^{\pm}}{32}$
		$\frac{-8^{\pm}}{10}$
		$\frac{-7^{\pm}}{20}$
		$\frac{-10^{\pm}}{32}$
		$\frac{-2^{\pm}}{9}$
		$\frac{-2^{\pm}}{20}$
		$\frac{-5^{\pm}}{34}$



sta. Elev. for X Sec.

42+67 From 43+00  
-3.0 535.1

+79 From 43+00  
-0.2 537.9

43+00 538.1

+46<sup>8</sup> s.c.

+75

44+00

+20

+50

lf. E Rt.

538.1

$\frac{+72}{15}$  0.0  $\frac{-3.0}{5}$   $\frac{-2.5}{14}$   $\frac{-1.0}{25}$

39.1 537.9 22.6

$\frac{+44}{14}$   $\frac{+12}{5}$  0.0  $\frac{-5.0}{7}$   $\frac{-5.0}{19}$   $\frac{-3.0}{26}$

Elevations for 530. n.

540.4 538.9 538.8 537.9 533.0 533.0 532.1

$\frac{+23}{17}$   $\frac{+0.8}{6}$  0.0  $\frac{-0.2}{2}$   $\frac{-6.1}{6}$   $\frac{-5.1}{19}$   $\frac{-6.0}{26}$

535.5

$\frac{+16}{15}$  0.0  $\frac{-2.0}{6}$   $\frac{-2.1}{15}$   $\frac{-6.3}{21}$

536.4

$\frac{+24}{14}$   $\frac{+15}{6}$  0.0  $\frac{+0.3}{3}$   $\frac{-0.1}{15}$   $\frac{-5.0}{24}$

537.9

$\frac{+26}{15}$   $\frac{+0.8}{6}$  0.0  $\frac{0.0}{3}$   $\frac{-1.5}{7}$   $\frac{-2.0}{18}$   $\frac{-5.4}{23}$

538.9

$\frac{+0.8}{15}$  0.0  $\frac{-1.0}{4}$   $\frac{-2.3}{8}$   $\frac{-2.4}{20}$   $\frac{-6.2}{25}$

540.3

$\frac{+14}{15}$  0.0  $\frac{-0.8}{7}$   $\frac{-2.0}{10}$   $\frac{-2.1}{24}$   $\frac{-5.2}{28}$



Sta. Elev.

47+52

48+00

+53 From 48+76<sup>3</sup>  
-3.3

+72 From 48+76<sup>3</sup>  
+0.3

+94 From 48+76<sup>3</sup>  
-1.3

49+21 From 48+76  
+0.9

+58 From 49+75  
+0.5

50+00

L<sub>f</sub>      R<sub>t</sub>

$\frac{+3.7}{13}$	$\frac{+0.6}{8}$	$\frac{0.0}{0.0}$	$\frac{-0.5}{5}$	$\frac{-0.7}{21}$	$\frac{-1.6}{33}$
$\frac{+5.4}{14}$	$\frac{+0.6}{5}$	$\frac{0.0}{0.0}$	$\frac{-0.6}{3}$	$\frac{-0.1}{18}$	$\frac{-1.1}{29}$
$\frac{+7.7}{15}$	$\frac{+3.7}{7}$	$\frac{0.0}{0.0}$	$\frac{-0.2}{2}$	$\frac{-0.3}{6}$	$\frac{0.0}{16}$
$\frac{+2.7}{15}$	$\frac{+1.0}{9}$	$\frac{0.0}{0.0}$	$\frac{-1.0}{6}$	$\frac{-2.2^{rd}}{8}$	$\frac{-2.2^{rd}}{16}$
$\frac{+1.1}{17}$	$\frac{+0.6}{5}$	$\frac{0.0}{0.0}$	$\frac{-0.3}{6}$	$\frac{-0.1}{16}$	$\frac{-2.3}{22}$
$\frac{+2.0}{17}$	$\frac{+1.1}{10}$	$\frac{0.0}{0.0}$	$\frac{-1.0}{4}$	$\frac{-2.6}{5}$	$\frac{-2.6}{14}$
$\frac{+4.2}{15}$	$\frac{+0.9}{9}$	$\frac{0.0}{0.0}$	$\frac{+0.1}{3}$	$\frac{+0.7}{13}$	$\frac{-0.7}{28}$
$\frac{+1.3}{16}$	$\frac{0.0}{0.0}$	$\frac{+0.1}{3}$	$\frac{0.0}{14}$	$\frac{-1.2}{26}$	

Sta. Elev.

50+25

$$\begin{array}{cccccc} \text{L.} & \text{C.} & \text{Rt.} & & & \\ \frac{+0.8}{15} & \frac{+0.5}{4} & \frac{0.0}{0.0} & \frac{-0.1}{3} & \frac{-0.1}{14} & \frac{-1.5}{28} \end{array}$$

+50

$$\frac{+1.4}{15} \quad \frac{+0.8}{2} \quad \frac{0.0}{0.0} \quad \frac{-0.1}{3} \quad \frac{-0.6}{16} \quad \frac{-1.7}{26}$$

+75

$$\frac{+0.9}{16} \quad \frac{+0.7}{4} \quad \frac{0.0}{0.0} \quad \frac{-1.0}{2} \quad \frac{-1.2}{17} \quad \frac{-2.0}{30}$$

51+00

$$\frac{+0.8}{15} \quad \frac{+0.7}{4} \quad \frac{0.0}{0.0} \quad \frac{-1.1}{1} \quad \frac{-1.2}{6} \quad \frac{-1.6}{19} \quad \frac{-2.8}{30}$$

+35<sup>89</sup>

$$\frac{+1.9}{15} \quad \frac{0.0}{0.0} \quad \frac{-0.5}{4} \quad \frac{-0.3}{18} \quad \frac{-2.1}{28}$$

3'x5'x5' Boulder on C. at Sta.

Note: 51+55 Not shown in X sections

Some El. 03  
+70 51+75

$$\frac{+1.2}{15} \quad \frac{0.0}{0.0} \quad \frac{-1.3}{6} \quad \frac{-1.1}{18} \quad \frac{-4.0}{28}$$

52+00

$$\frac{+5.0}{16} \quad \frac{+1.1}{7} \quad \frac{0.0}{0.0} \quad \frac{-0.5}{2} \quad \frac{-2.2}{4} \quad \frac{-2.6^{Pb}}{7} \quad \frac{-2.6}{16} \quad \frac{-4.9}{24}$$

From 52+00  
+20 -1.0

$$\frac{+2.5}{15} \quad \frac{+1.0}{6} \quad \frac{0.0}{0.0} \quad \frac{-0.6}{2} \quad \frac{-1.7}{6} \quad \frac{-1.7}{17} \quad \frac{-3.8}{23}$$

Sta. Elev.

52+58.5

From 53+00  
+0.1

53+05

From 53+00  
-2.7

+21

From 53+00  
+2.2

+35

From 53+00  
+2.8

+50

From 54+00  
+0.2

+90

54+27

+60

H. d. R.

$$\frac{+5^0}{16} \quad \frac{+1^5}{10} \quad \frac{0.0}{0.0} \quad \frac{-0^7}{3} \quad \frac{-1^8}{5} \quad \frac{-2^5}{17} \quad \frac{-3^0}{23}$$

$$\frac{+9^7}{15} \quad \frac{+1^0}{7} \quad \frac{0.0}{0.0} \quad \frac{-2^0}{3} \quad \frac{-2^2}{6} \quad \frac{-2^6}{21} \quad \frac{-4^5}{30}$$

$$\frac{+4^4}{16} \quad \frac{+1^7}{9} \quad \frac{0.0}{0.0} \quad \frac{-0^5}{4} \quad \frac{-0^3}{17} \quad \frac{-1^5}{23}$$

$$\frac{+9^0}{18} \quad \frac{+5^5}{12} \quad \frac{0.0}{0.0} \quad \frac{-5^5}{4} \quad \frac{-9^7}{17} \quad \frac{-6^1}{25}$$

$$\frac{+13^4}{18} \quad \frac{+10^3}{14} \quad \frac{+6^5}{6} \quad \frac{0.0}{0.0} \quad \frac{-6^0}{5} \quad \frac{-5^5}{16} \quad \frac{-9^2}{26}$$

$$\frac{+6^9}{20} \quad \frac{+4^8}{9} \quad \frac{0.0}{0.0} \quad \frac{-1^3}{2} \quad \frac{-10^9}{5} \quad \frac{-11^3}{16} \quad \frac{-14^2}{20}$$

$$\frac{+5^7}{16} \quad \frac{+2^3}{6} \quad \frac{0.0}{0.0} \quad \frac{-1^6}{3} \quad \frac{-11^3 \text{ Pd.}}{6^5} \quad \frac{-11^3 \text{ Pd.}}{17} \quad \frac{-16^3 \text{ River Bed.}}{25}$$

$$\frac{+3^2}{20} \quad \frac{+2^4}{12} \quad \frac{0.0}{0.0} \quad \frac{-2^8}{5^5} \quad \frac{-11^3}{7^5} \quad \frac{-11^6}{17} \quad \frac{-17^0 \text{ River Bed.}}{25}$$

10/1/31

sta. Elev.

55+00

+41 From 55+00  
-2.5

+95 From 55+00  
-3.0

56+33 From 56+53<sup>89</sup>  
-0.2

+75

57+00

+25

+75 From 58+00  
+0.6

29

577.1

Lf.	£	Rt.				
$\frac{+2^8}{15}$	$\frac{+1^2}{8}$	$\frac{0^0}{00}$	$\frac{-1^0}{5}$	$\frac{-8^6}{10}$	$\frac{-8^2}{20}$	$\frac{-14^7}{34}$ River

577.6

Lf.	£	Rt.				
$\frac{+3^7}{15}$	$\frac{+1^6}{7}$	$\frac{0^0}{00}$	$\frac{-1^3}{8}$	$\frac{-4^8}{10}$	$\frac{-4^3}{21}$	$\frac{-12^1}{35}$ River

578.1

Lf.	£	Rt.				
$\frac{+3^6}{16}$	$\frac{+1^3}{7}$	$\frac{0^0}{00}$	$\frac{-1^5}{4}$	$\frac{-4^0}{7}$	$\frac{-4^0}{18}$	$\frac{-6^4}{23}$ $\frac{-8^3}{32}$

578.7

Lf.	£	Rt.			
$\frac{+2^4}{13}$	$\frac{+1^3}{5}$	$\frac{0^0}{00}$	$\frac{-0^7}{3}$	$\frac{-0^5}{15}$	$\frac{-3^0}{29}$

580.8

Lf.	£	Rt.			
$\frac{-2^0}{13}$	$\frac{-0^9}{6}$	$\frac{0^0}{00}$	$\frac{-0^6}{3}$	$\frac{-0^2}{22}$	$\frac{-4^7}{40}$

582.7

Lf.	£	Rt.				
$\frac{+1^5}{15}$	$\frac{+0^8}{6}$	$\frac{0^0}{00}$	$\frac{-0^5}{4}$	$\frac{-1^8}{7}$	$\frac{-1^6}{25}$	$\frac{-2^2}{32}$ $\frac{-6^1}{44}$

582.9

Lf.	£	Rt.				
$\frac{+1^7}{15}$	$\frac{+0^7}{7}$	$\frac{0^0}{00}$	$\frac{-0^5}{9}$	$\frac{-2^0}{12}$	$\frac{-1^7}{26}$	$\frac{-5^0}{31}$ $\frac{-6^6}{42}$

582.8

Lf.	£	Rt.				
$\frac{+1^0}{14}$	$\frac{+0^1}{7}$	$\frac{0^0}{00}$	$\frac{-0^8}{8}$	$\frac{-2^4}{10}$	$\frac{-2^5}{21}$	$\frac{-5^9}{27}$



Sta. Elev

57+88 From 58+00  
-1.6

58+00

+30 From 58+50  
Some El.

+75

59+00

+25

+53 From 59+75  
+2.2

+75

L4

R4

$$\frac{+0.5}{14}$$

$$\frac{0.0}{0.0}$$

$$\frac{-0.4}{9}$$

$$\frac{-0.7}{19}$$

$$\frac{-3.6}{29}$$

$$\frac{+1.6}{15}$$

$$\frac{+0.9}{7}$$

$$\frac{0.0}{0.0}$$

$$\frac{-0.8}{6}$$

$$\frac{-1.5}{10}$$

$$\frac{-1.4}{19}$$

$$\frac{-4.8}{27}$$

$$\frac{+2.9}{15}$$

$$\frac{+1.0}{5}$$

$$\frac{0.0}{0.0}$$

$$\frac{-0.9}{4}$$

$$\frac{-3.0}{8}$$

$$\frac{-3.0}{19}$$

$$\frac{-6.7}{26}$$

$$\frac{+5.0}{15}$$

$$\frac{+3.7}{9}$$

$$\frac{0.0}{0.0}$$

$$\frac{-1.5}{3}$$

$$\frac{-3.3}{6}$$

$$\frac{-3.3}{15}$$

$$\frac{-8.7}{26}$$

$$\frac{+5.5}{14}$$

$$\frac{+3.4}{7}$$

$$\frac{0.0}{0.0}$$

$$\frac{-1.4}{3}$$

$$\frac{-3.5}{7}$$

$$\frac{-3.9}{16}$$

$$\frac{-9.1}{23}$$

$$\frac{+11.0}{15}$$

$$\frac{+7.6}{10}$$

$$\frac{+3.6}{7}$$

$$\frac{+2.2}{4}$$

$$\frac{0.0}{0.0}$$

$$\frac{-2.2}{3}$$

$$\frac{-2.4}{13}$$

$$\frac{-5.7}{19}$$

$$\frac{+12.5}{14}$$

$$\frac{+7.0}{12}$$

$$\frac{+3.0}{6}$$

$$\frac{0.0}{0.0}$$

$$\frac{-3.1}{3}$$

$$\frac{-3.7}{13}$$

$$\frac{-5.4}{22}$$

$$\frac{+11.2}{14}$$

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

$$\frac{+4.0}{20}$$

$$\frac{0.0}{0.0}$$

$$\frac{-1.2}{4}$$

$$\frac{-1.3}{13}$$

$$\frac{-3.2}{25}$$

Sta.

Elev.

60+04 From 59+75  
+2.3

+23 From 60+50  
+0.3

+50

+75

61+00

+18 From 61+00  
-0.5

+42<sup>34</sup>

+75

Lf.

Rt.

Rt.

2  
 $\frac{+13^1}{10}$   $\frac{+10^7}{11}$   $\frac{+3^7}{6}$   $\frac{+18^5}{80}$   $\frac{-1^8}{3}$   $\frac{-3^9}{5}$   $\frac{-3^7}{17}$   $\frac{-5^1}{27}$

$\frac{+9^2}{18}$   $\frac{+6^4}{11}$   $\frac{+2^1}{4}$   $\frac{+18^5}{80}$   $\frac{-3^5}{3}$   $\frac{-3^1}{18}$   $\frac{-4^0}{33}$

$\frac{+13^2}{12}$   $\frac{+5^1}{8}$   $\frac{+3^2}{5}$   $\frac{+18^5}{80}$   $\frac{-0^9}{2}$   $\frac{-2^7}{9}$   $\frac{-2^3}{17}$   $\frac{-3^0}{29}$

$\frac{+11^4}{14}$   $\frac{+7^7}{12}$   $\frac{+3^6}{6}$   $\frac{+18^5}{80}$   $\frac{-1^4}{3}$   $\frac{-3^8}{5}$   $\frac{-3^2}{17}$   $\frac{-3^6}{31}$

$\frac{+12^3}{13}$   $\frac{+8^8}{11}$   $\frac{+4^9}{7}$   $\frac{+2^4}{3}$   $\frac{+18^5}{80}$   $\frac{-1^4}{3}$   $\frac{-3^5}{6}$   $\frac{-3^1}{17}$   $\frac{-3^9}{29}$

$\frac{+10^9}{14}$   $\frac{+6^4}{9}$   $\frac{+3^6}{6}$   $\frac{+18^5}{80}$   $\frac{-2^6}{5}$   $\frac{-2^3}{18}$   $\frac{-3^0}{30}$

$\frac{+0^8}{8}$   $\frac{+18^5}{80}$   $\frac{-0^7}{5}$   $\frac{-0^8}{19}$   $\frac{-1^4}{31}$

$\frac{+0^7}{10}$   $\frac{+18^5}{80}$   $\frac{-0^9}{5}$   $\frac{-0^7}{19}$   $\frac{-1^3}{33}$

Sta. Elev.

62+25

+53<sup>5</sup>+81<sup>52</sup>

63+05

+30

+50

+70

+95

From 63+70  
-1.9Lf.  $\frac{d}{d}$  Rt.

$$\frac{+0^8}{10} \quad \frac{0^0}{20} \quad \frac{-0^6}{5} \quad \frac{-0^5}{16} \quad \frac{-1^3}{26}$$

$$\frac{+1^8}{10} \quad \frac{0^0}{20} \quad \frac{-0^7}{2} \quad \frac{-7^0}{4} \quad \frac{-6^4}{17} \quad \frac{-11^2}{26}$$

$$\frac{+2^1}{11} \quad \frac{+2^7}{5} \quad \frac{0^0}{20} \quad \frac{-4^4}{4} \quad \frac{-4^6}{14} \quad \frac{-8^3}{20}$$

$$\frac{+2^2}{10} \quad \frac{0^0}{20} \quad \frac{-5^2}{4} \quad \frac{-5^2}{15} \quad \frac{-8^1}{19}$$

$$\frac{+2^6}{11} \quad \frac{0^0}{20} \quad \frac{-0^7}{3} \quad \frac{-4^6}{6} \quad \frac{-4^0}{10} \quad \frac{-9^0}{27}$$

$$\frac{+2^0}{10} \quad \frac{0^0}{20} \quad \frac{-0^6}{3} \quad \frac{-3^5 \text{ Rd}}{5} \quad \frac{-3^1 \text{ Rd}}{16} \quad \frac{-4^0}{22} \quad \frac{-6^2}{26}$$

$$\frac{-2^0}{10} \quad \frac{-1^2}{5} \quad \frac{0^0}{20} \quad \frac{-1^0}{2} \quad \frac{-3^6}{4} \quad \frac{-3^7}{17} \quad \frac{-6^5}{25}$$

$$\frac{+3^1}{10} \quad \frac{+2^1}{5} \quad \frac{0^0}{20} \quad \frac{-1^7}{4} \quad \frac{-1^9}{18} \quad \frac{-4^5}{23}$$

Sta. Elev.

64+0.5 From 63+70  
+2.4+28 From 64+57<sup>53</sup>  
-2.0+57<sup>5</sup>

+80

From 64+80  
+95 +1.565+0.8 From 65+20  
-2.1

+20

+50 From 65+20  
+1.7Lf. 4  
-0<sup>8</sup>/<sub>10</sub> 0.0 -1<sup>0</sup>/<sub>2</sub> -5<sup>2</sup>/<sub>4</sub> -6<sup>1</sup>/<sub>19</sub> -11<sup>2</sup>/<sub>30</sub>64+57.9  
+3<sup>4</sup>/<sub>12</sub> +1<sup>7</sup>/<sub>4</sub> 0.0 -2<sup>3</sup>/<sub>4</sub> -2<sup>6</sup>/<sub>16</sub> -4<sup>7</sup>/<sub>24</sub>64+80.2  
+2<sup>1</sup>/<sub>10</sub> 0.0 -0<sup>5</sup>/<sub>3</sub> -2<sup>5</sup>/<sub>5</sub> -3<sup>0</sup>/<sub>16</sub> -3<sup>2</sup>/<sub>24</sub> -4<sup>7</sup>/<sub>31</sub>64+80.6  
+3<sup>0</sup>/<sub>11</sub> +1<sup>2</sup>/<sub>3</sub> 0.0 -2<sup>2</sup>/<sub>5</sub> -2<sup>7</sup>/<sub>18</sub> -4<sup>7</sup>/<sub>28</sub>64+81.1  
+2<sup>9</sup>/<sub>13</sub> +2<sup>0</sup>/<sub>7</sub> 0.0 -1<sup>1</sup>/<sub>2</sub> -3<sup>7</sup>/<sub>5</sub> -4<sup>0</sup>/<sub>17</sub> -7<sup>2</sup>/<sub>23</sub>64+81.3  
← same slope (18.1/20)  
+4<sup>3</sup>/<sub>9</sub> +2<sup>3</sup>/<sub>3</sub> 0.0 -1<sup>7</sup>/<sub>6</sub> -2<sup>1</sup>/<sub>18</sub> -5<sup>4</sup>/<sub>22</sub>64+81.7  
+3<sup>4</sup>/<sub>10</sub> +1<sup>2</sup>/<sub>4</sub> 0.0 -1<sup>0</sup>/<sub>2</sub> -4<sup>0</sup>/<sub>7</sub> -4<sup>4</sup>/<sub>18</sub> -7<sup>4</sup>/<sub>23</sub>64+82.1  
+2<sup>3</sup>/<sub>10</sub> +1<sup>2</sup>/<sub>4</sub> 0.0 -2<sup>5</sup>/<sub>6</sub> -5<sup>2</sup>/<sub>8</sub> -5<sup>3</sup>/<sub>21</sub> -9<sup>2</sup>/<sub>29</sub>

Sta. Elev.

65+84 From 66+00 +1.8

66+00

From B.M. #8 +50. -1.5

67+00

+46<sup>28</sup>

+85<sup>6</sup>

68+23<sup>86</sup>

+69 From 69+00 +2.0

Lf. 0 Rl.

5+48.1  
 $\frac{+2.2}{10}$   $\frac{+0.9}{4}$   $\frac{0.0}{0.0}$   $\frac{-0.6}{3}$   $\frac{-3.3}{6}$   $\frac{-3.2}{19}$   $\frac{-5.3}{27}$

5+46.3  
 $\frac{+1.9}{11}$   $\frac{+0.6}{5}$   $\frac{0.0}{0.0}$   $\frac{-1.1}{4}$   $\frac{-1.5}{18}$   $\frac{-3.2}{29}$

5+46.9  
 $\frac{+1.2}{10}$   $\frac{0.0}{0.0}$   $\frac{-0.5}{3}$   $\frac{-1.3}{5}$   $\frac{-1.3}{19}$   $\frac{-2.8}{26}$

5+44.9  
 $\frac{+1.3}{10}$   $\frac{+0.8}{5}$   $\frac{0.0}{0.0}$   $\frac{-1.3}{5}$   $\frac{-1.0}{20}$   $\frac{-2.2}{29}$  ✓

5+42.2  
 $\frac{+5.3}{20}$   $\frac{+0.6}{9}$   $\frac{0.0}{0.0}$   $\frac{-1.0}{5}$   $\frac{-0.9}{21}$   $\frac{-1.4}{29}$  at fence ✓

5+40.0  
 $\frac{+5.5}{20}$   $\frac{+0.3}{9}$   $\frac{0.0}{0.0}$   $\frac{-1.3}{4}$   $\frac{-1.3}{18}$   $\frac{-1.1}{27}$  at fence ✓

5. slope  
 $\times 9.8$   
 $\frac{+6.0}{10}$   $\frac{+4.2}{5}$   $\frac{+1.0}{2}$   $\frac{0.0}{0.0}$   $\frac{-0.5}{16}$  Fence 18.4  $\frac{-0.6}{30}$  ✓

5+32.2  
 $\frac{+7.5}{10}$   $\frac{+6.1}{6}$   $\frac{+4.4}{1}$   $\frac{0.0}{0.0}$   $\frac{+0.3}{15}$  Rd. ✓

sta. Elev.

69+00

↑  
4 in Road  
Level sections  
↓

71+50

72+25

+50

+75

73+15

From 72+75  
-2.6

+75

Lf.  $\phi$  Rl.

$$\frac{+6^8}{11} \quad \frac{+4^7}{6} \quad \frac{+1^8}{2} \quad \frac{501.3}{0.0} \quad \frac{+0^2}{14} \quad \frac{0.0}{19} \quad \checkmark$$

$$\frac{+2^6}{10} \quad \frac{+1^1}{2} \quad \frac{529.1}{0.0} \quad \frac{+0^3}{15} \quad \frac{-0^6}{20} \quad \checkmark$$

$$\frac{+1^0}{10} \quad \frac{+0^8}{1} \quad \frac{537.1}{0.0} \quad \frac{+0^4}{5} \quad \frac{-0^4}{18} \quad \frac{-1^0}{28} \quad \checkmark$$

$$\frac{+1^1}{10} \quad \frac{537.7}{0.0} \quad \frac{-0^1}{6} \quad \frac{-1^0}{18} \quad \frac{-1^5}{23} \quad \checkmark$$

$$\frac{+0^8}{10} \quad \frac{537.8}{0.0} \quad \frac{-0^2}{1} \quad \frac{-1^2}{18} \quad \frac{-2^5}{25} \quad \checkmark$$

$$\frac{+2^2}{10} \quad \frac{532.2}{0.0} \quad \frac{-0^5}{5} \quad \frac{-0^2}{20} \quad \frac{-0^7}{30} \quad \checkmark$$

$$\frac{+2^0}{10} \quad \frac{+0^8}{5} \quad \frac{533.7}{0.0} \quad \frac{-0^6}{4} \quad \frac{-2^4}{7} \quad \frac{-2^7}{18} \quad \frac{-3^2}{23} \quad \checkmark$$

sta. Elev.

74+25

$$\begin{array}{cccccc} \text{Lf.} & \text{R} & \text{Rf.} & & & \\ \frac{+1^8}{11} & \frac{+1^1}{6} & \frac{530.6}{0} & \frac{-0^3}{3} & \frac{-1^8}{4} & \frac{-1^4}{16} & \frac{-2^5}{23} & \checkmark \end{array}$$

+50

$$\begin{array}{cccccc} \frac{+2^3}{12} & \frac{+1^1}{4} & \frac{528.7}{0} & \frac{-0^6}{4} & \frac{-0^8}{17} & \frac{-1^8}{26} & \checkmark \end{array}$$

75+00

$$\begin{array}{cccccc} \frac{+0^5}{10} & \frac{528.6}{0} & \frac{-0^1}{3} & \frac{-1^1}{4} & \frac{-1^2}{18} & \frac{-2^3}{24} & \checkmark \end{array}$$

+37<sup>52</sup>

$$\begin{array}{cccccc} \frac{+0^8}{10} & \frac{528.7}{0} & \frac{-0^6}{2} & \frac{-0^6}{15} & \frac{-1^4}{23} & \checkmark \end{array}$$

76+00

$$\begin{array}{cccccc} \frac{+1^6}{10} & \frac{527.7}{0} & \frac{-0^2}{14} & \frac{-0^3}{23} & \checkmark \end{array}$$

+50

$$\begin{array}{cccccc} \frac{+2^2}{10} & \frac{+1^2}{1} & \frac{528.3}{0} & \frac{+0^2}{9} & \frac{-0^1}{23} & \checkmark \end{array}$$

77+00

$$\begin{array}{cccccc} \frac{+2^8}{10} & \frac{+0^9}{3} & \frac{528.2}{0} & \frac{-0^2}{3} & \frac{-0^4}{12} & \frac{-1^0}{25} & \frac{-3^5}{30} & \checkmark \end{array}$$

+50

$$\begin{array}{cccccc} \frac{+2^0}{11} & \frac{+1^1}{4} & \frac{527.7}{0} & \frac{-1^4}{3} & \frac{-1^0}{17} & \frac{-3^9}{23} & \checkmark \end{array}$$

Sta. Elev.

77+90 From 78+00  
-0.3

78+04 From 78+00  
+0.3

+10 From 78+00  
-0.5

+57 From 78+68.2  
-8.0

+68.9

79+00 From 78+68.2  
-7.2

+21.4

+42 From 79+50  
+0.5

This Section crosses over  
Large Boulder

37

Lf.	4	Rt.	
$\frac{+5.8}{13}$	$\frac{+2.1}{5}$	0.0	$\frac{-1.6}{4}$ $\frac{-7.8}{6}$ $\frac{-7.2}{17}$ $\frac{-12.2}{25}$ ✓

$\frac{+8.0}{10}$	$\frac{+6.0}{7}$ <i>Large Rock</i>	$\frac{+0.8}{3}$	0.0 $\frac{-2.1}{3}$ $\frac{-8.2}{5}$ $\frac{-8.0}{16}$ $\frac{-11.9}{24}$ ✓
-------------------	------------------------------------	------------------	--

$\frac{+8.5}{12}$	$\frac{+1.6}{3}$	0.0	$\frac{-1.8}{3}$ $\frac{-8.6}{6}$ $\frac{-8.1}{18}$ $\frac{-12.3}{26}$ ✓
-------------------	------------------	-----	--

$\frac{+8.2}{14}$	$\frac{+4.7}{7}$	0.0	$\frac{-1.7}{2}$ $\frac{-9.2}{6}$ $\frac{-8.4}{15}$ $\frac{-11.6}{19}$ ✓
-------------------	------------------	-----	--

$\frac{+6.0}{16}$	$\frac{+4.5}{10}$	0.0	$\frac{-1.6}{2.5}$ $\frac{-12.7}{4}$ $\frac{-17.1}{6}$ $\frac{-16.9}{15}$ $\frac{-20.5}{20}$ ✓
-------------------	-------------------	-----	--

$\frac{+13.0}{16}$	$\frac{+10.1}{12}$	0.0	$\frac{-9.7}{5}$ $\frac{-9.8}{14}$ $\frac{-13.0}{20}$ ✓
--------------------	--------------------	-----	---

$\frac{+9.3}{17}$	$\frac{+7.4}{14}$	$\frac{+3.6}{6}$	0.0 $\frac{-5.0}{1}$ $\frac{-16.9}{6}$ $\frac{-11.0}{17}$ $\frac{-13.0}{22}$ ✓
-------------------	-------------------	------------------	--

$\frac{+13.3}{20}$	$\frac{+11.2}{16}$	$\frac{+5.3}{7}$	0.0 $\frac{-11.0}{3}$ $\frac{-13.6}{6}$ $\frac{-13.4}{15}$ $\frac{-18.0}{23}$ ✓
--------------------	--------------------	------------------	---



79+58 From 79+50  
-0.9

+80 From 79+75  
-0.5

80+20 From 80+10  
-0.2

+54 From 80+10  
+4.5

81+03

+37 From 81+03  
+2.0

+68

+82 From 81+68<sup>55</sup>  
-4.6

Lf      R

$$\frac{+10^1}{20} \quad \frac{+9^2}{18} \quad \frac{+8^1}{11} \quad \frac{+3^1}{4} \quad \frac{522.4}{0.0} \quad \frac{-1^2}{3} \quad \frac{-11^9}{7} \quad \frac{-11^7}{17} \quad \frac{-15^6}{23}$$

$$\frac{11^0}{20} \quad \frac{+7^2}{15} \quad \frac{+2^6}{9} \quad \frac{529.6}{0.0} \quad \frac{-8^6}{7} \quad \frac{-8^7}{20} \quad \frac{-12^1}{29} \quad \checkmark$$

$$\frac{+13^2}{20} \quad \frac{+6^5}{11} \quad \frac{+3^3}{5} \quad \frac{529.6}{0.0} \quad \frac{-5^5}{1} \quad \frac{-7^4}{3} \quad \frac{-7^9}{15} \quad \frac{-11^6}{20} \quad \checkmark$$

$$\frac{+13^0}{19} \quad \frac{+7^8}{12} \quad \frac{+2^9}{4} \quad \frac{534.3}{0.0} \quad \frac{-10^5}{2} \quad \frac{-10^3}{13} \quad \frac{-14^6}{20} \quad \checkmark$$

$$\frac{+16^7}{20} \quad \frac{+12^5}{16} \quad \frac{+10^8}{6} \quad \frac{535.0}{0.0} \quad \frac{-12^9}{7} \quad \frac{-12^6}{14} \quad \frac{-17^5}{22} \quad \checkmark$$

$$\frac{+21^3}{25} \quad \frac{+12^5}{11} \quad \frac{+4^0}{2} \quad \frac{540.0}{0.0} \quad \frac{-14^7}{7} \quad \frac{-14^8}{16} \quad \frac{-21^7}{24} \quad \checkmark$$

$$\frac{+21^8}{27} \quad \frac{+20^0}{22} \quad \frac{+9^6}{11} \quad \frac{+4^4}{5} \quad \frac{544.8}{0.0} \quad \frac{-14^8}{3} \quad \frac{-14^8}{14} \quad \frac{-20^2}{21} \quad \checkmark$$

$$\frac{+29^4}{30} \quad \frac{+15^6}{13} \quad \frac{+5^0}{6} \quad \frac{535.7}{0.0} \quad \frac{-7^0}{0.0} \text{ Vertical Bank} \quad \frac{-9^8}{1} \quad \frac{-10^8}{13} \quad \frac{-16^8}{23} \quad \checkmark$$

357  
168  
189

Sta. Elev.

82+07<sup>22</sup>

+25 From 82+07<sup>22</sup>  
-1.2

+47 From 82+73<sup>05</sup>  
-5.4

+73

+94<sup>7</sup>

83+16<sup>76</sup> From 82+94<sup>7</sup>  
-6.9

+43 From 83+16<sup>76</sup>  
+8.6

+62 From 83+16<sup>76</sup>  
+7.7

Lf. R. R.

$$\frac{+13^3}{25} \quad \frac{+8^2}{14} \quad \frac{+4^2}{6} \quad \frac{+1^3}{4} \quad \frac{0.0}{0.0} \quad \frac{-19}{3} \quad \frac{-16^2 \text{ Rd.}}{45} \quad \frac{-16^5 \text{ Rd.}}{15} \quad \frac{-17^3}{20} \quad \frac{-21^6}{27} \quad \checkmark$$

$$\frac{+20^6}{25} \quad \frac{+15^0}{23} \quad \frac{+5^1}{6} \quad \frac{0.0}{0.0} \quad \frac{-1^4}{2} \quad \frac{-15^3 \text{ Rd.}}{4} \quad \frac{-15^1 \text{ Rd.}}{15} \quad \frac{-22^0}{23} \quad \checkmark$$

$$\frac{+39^1}{35} \quad \frac{+28^5}{25} \quad \frac{15^3}{12} \quad \frac{+8^0}{4} \quad \frac{0.0}{0.0} \quad \frac{-9^2 \text{ Rd.}}{7} \quad \frac{-9^0 \text{ Rd.}}{16} \quad \frac{-14^0}{20} \quad \checkmark$$

$$\frac{+28^0}{35} \quad \frac{+19^0}{27} \quad \frac{+13^1}{17} \quad \frac{+4^3}{5} \quad \frac{0.0}{0.0} \quad \frac{-1^5 \text{ Rd.}}{5} \quad \frac{-1^3 \text{ Rd.}}{15} \quad \frac{-20^0}{20} \quad \checkmark$$

$$\frac{+44^0}{46} \quad \frac{+33^2}{36} \quad \frac{+33^4}{35} \quad \frac{+32^0}{29} \quad \frac{+23^5}{21} \quad \frac{+13^0}{15} \quad \frac{+4^7}{5} \quad \frac{0.0}{0.0} \quad \frac{-4^0}{3} \quad \frac{-15^0 \text{ Rd.}}{5} \quad \frac{-15^0 \text{ Rd.}}{14} \quad \frac{-21^0}{21} \quad \checkmark$$

$$\frac{+48^8}{50} \quad \frac{+34^4}{32} \quad \frac{+28^2}{20} \quad \frac{+15^0}{4} \quad \frac{0.0}{0.0} \quad \frac{-7^5 \text{ Rd.}}{4} \quad \frac{-7^5 \text{ Rd.}}{15} \quad \frac{-14^4}{25} \quad \checkmark$$

$$\frac{+38^6}{50} \quad \frac{+22^5}{23} \quad \frac{+7^0}{3} \quad \frac{0.0}{0.0} \quad \frac{-3^8}{5} \quad \frac{-16^3 \text{ Rd.}}{6} \quad \frac{-16^0 \text{ Rd.}}{17} \quad \frac{-17^0}{21} \quad \frac{-21^0}{27} \quad \checkmark$$

$$\frac{+39^6}{50} \quad \frac{+24^0}{26} \quad \frac{+14^3}{13} \quad \frac{+7^0}{10} \quad \frac{0.0}{0.0} \quad \frac{-5^5}{2} \quad \frac{-7^0}{5} \quad \frac{-15^6 \text{ Rd.}}{8} \quad \frac{-15^2 \text{ Rd.}}{18} \quad \frac{-19^5}{25} \quad \checkmark$$

Sta. Elev.

83+70 From 83+62  
-15.3

$$\frac{+55^9}{50} \frac{+38^2}{35} \frac{+29^5}{22} \frac{+22^1}{11} \frac{+10^8}{6} \frac{+2^1}{22} \frac{0.0}{0.0} \frac{0.0^{Rd}}{8} \frac{0.0^{Rd}}{16} \frac{-5^0}{22} \quad \checkmark$$

40  
510  
245  
240  
15  
143  
767  
✓

+88 From 84+00  
+5.7

$$\frac{+50^2}{48} \frac{+39^5}{30} \frac{+14^2}{15} \frac{+4^6}{5} \frac{+2^2}{4} \frac{0.0}{0.0} \frac{-3^3}{4} \frac{-11^5^{Rd}}{5} \frac{-11^4^{Rd}}{17} \frac{-15^5}{24} \quad \checkmark$$

84+00

$$\frac{+50^0}{55} \frac{+40^0}{45} \frac{+23^5}{32} \frac{+12^0}{18} \frac{0.0}{0.0} \frac{-5^3^{Rd}}{6} \frac{-5^1^{Rd}}{14} \frac{-12^0}{24} \quad \checkmark$$

+33 From 84+00  
+4.8

$$\frac{+49^1}{55} \frac{+32^5}{38} \frac{+23^1}{27} \frac{+12^3}{16} \frac{+3^2}{4} \frac{0.0}{0.0} \frac{-5^0^{Rd}}{5} \frac{-5^0^{Rd}}{18} \frac{-12^0}{28} \quad \checkmark$$

+40

$$\frac{+50^0}{47} \frac{+44^6}{42} \frac{+33^0}{33} \frac{+22^6}{24} \frac{+18^4}{18} \frac{+5^5}{4} \frac{0.0}{0.0} \frac{-1^3^{Rd}}{3} \frac{-1^3^{Rd}}{17} \frac{-12^0}{25} \quad \checkmark$$

+78<sup>90</sup>

$$\frac{+38^6}{50} \frac{+25^0}{33} \frac{+17^6}{18} \frac{+2^5}{4} \frac{0.0}{0.0} \frac{-2^9}{3} \frac{-9^0^{Rd}}{3} \frac{-7^2^{Rd}}{13} \frac{-14^2}{20} \quad \checkmark$$

85+10 From 84+78<sup>90</sup>  
-4.0

$$\frac{+45^5}{50} \frac{+35^0}{35} \frac{+18^7}{13} \frac{0.0}{0.0} \frac{-2^7^{Rd}}{4} \frac{-2^5^{Rd}}{14} \frac{-8^0}{16} \quad \checkmark$$

+41

$$\frac{+34^5}{50} \frac{+25^0}{36} \frac{+12^0}{15} \frac{+5^9}{5} \frac{0.0}{0.0} \frac{-5^1}{3} \frac{-13^1^{Rd}}{5} \frac{-13^4^{Rd}}{14} \frac{-18^6}{20} \quad \checkmark$$

472  
150  
286  
✓

4/1  
5/1  
360

Sta Elev.

85+76 From 85+41  
+4.5

$$\frac{+30^{\circ}}{50} \quad \frac{+24^{\circ}}{39} \quad \frac{+12^{\circ}}{15} \quad \frac{0.0}{0.0} \quad \frac{-6.6}{4} \quad \frac{-15^{\circ \text{Rd}}}{5} \quad \frac{-15^{\circ \text{Rd}}}{14} \quad \frac{-21.5}{20} \quad \checkmark$$

86+09 From 85+76  
-5.4

$$\frac{+27^{\circ}}{70} \quad \frac{+18^{\circ}}{25} \quad \frac{+4^{\circ}}{4} \quad \frac{0.0}{0.0} \quad \frac{-5.6^{\text{Rd}}}{4} \quad \frac{-5.7^{\text{Rd}}}{15} \quad \frac{-11^{\circ}}{22} \quad \checkmark$$

+30

$$\frac{+26^{\circ}}{35} \quad \frac{+15^{\circ}}{17} \quad \frac{+7^{\circ}}{12} \quad \frac{0.0}{0.0} \quad \frac{-0.8}{2} \quad \frac{-10^{\circ \text{Rd}}}{5} \quad \frac{-9.8^{\text{Rd}}}{17} \quad \frac{-14^{\circ}}{24} \quad \checkmark$$

+50 From 86+30  
+1.2

$$\frac{+13^{\circ}}{21} \quad \frac{+25^{\circ}}{33} \quad \frac{+9^{\circ}}{8} \quad \frac{0.0}{0.0} \quad \frac{-9^{\circ \text{Rd}}}{6} \quad \frac{-9.0^{\text{Rd}}}{21} \quad \frac{-11^{\circ}}{25} \quad \frac{-17.5}{30} \quad \checkmark$$

+79 From 86+89.5  
+3.2

$$\frac{+18^{\circ}}{30} \quad \frac{+6^{\circ}}{10} \quad \frac{0.0}{0.0} \quad \frac{-11.5^{\text{Rd}}}{5} \quad \frac{-11.0^{\text{Rd}}}{20} \quad \frac{-14^{\circ}}{24} \quad \checkmark$$

+97 From 86+89.9  
Same Elev.

$$\frac{+20^{\circ}}{30} \quad \frac{+11^{\circ}}{13} \quad \frac{+6^{\circ}}{10} \quad \frac{0.0}{0.0} \quad \frac{-2^{\circ}}{2} \quad \frac{-7.0^{\text{Rd}}}{5} \quad \frac{-6.5^{\text{Rd}}}{18} \quad \frac{-12^{\circ}}{25} \quad \checkmark$$

87+17 From 87+38.7  
-3.9

$$\frac{20^{\circ}}{30} \quad \frac{+12^{\circ}}{17} \quad \frac{+5.5}{7} \quad \frac{0.0}{0.0} \quad \frac{-3^{\circ}}{3} \quad \frac{-8.0^{\text{Rd}}}{5} \quad \frac{-8.0^{\text{Rd}}}{18} \quad \frac{-13^{\circ}}{25} \quad \checkmark$$

+38

$$\frac{+15^{\circ}}{30} \quad \frac{+11^{\circ}}{21} \quad \frac{+5^{\circ}}{10} \quad \frac{0.0}{0.0} \quad \frac{-1.8}{2} \quad \frac{-10.9^{\text{Rd}}}{7} \quad \frac{-10.5^{\text{Rd}}}{21} \quad \frac{-15.8}{30} \quad \checkmark$$

sta.

Elev.

87+65 From 88+00  
+ 1.9

+96 From 88+00  
+ 0.4

47

Lf. 4. Rt.

$\frac{+14^7}{30}$   $\frac{+9^8}{21}$   $\frac{+3^1}{9}$   $\frac{-10}{2}$   $\frac{-11^2 \text{ Rd}}{8}$   $\frac{-11^4 \text{ Rd}}{23}$   $\frac{-18^8}{30}$

$\frac{+13^8}{30}$   $\frac{+11^E}{26}$   $\frac{+5^0}{14}$   $\frac{+2^6}{5}$   $\frac{-2^5}{3}$   $\frac{-11^5 \text{ Rd}}{8}$   $\frac{-11^3 \text{ Rd}}{22}$   $\frac{-16^E}{27}$

603  
166  
437

13



Resurvey of El Capitan Pipe  
Line location westerly from Tunnel  
Exit Portal.

Note - Axis of Dam is N. 1°55'E on true  
bearings.

Station	Angle	Bearing	Mag.
		S 82°38'28"	S 82°30'W

1+58.62 P.I.  $22^{\circ}43'$   
 $15^{\circ}25'40''$  Lf.  
 $22^{\circ}42'50''$

N. 73-38-42 W  
 N. 7A°50' W

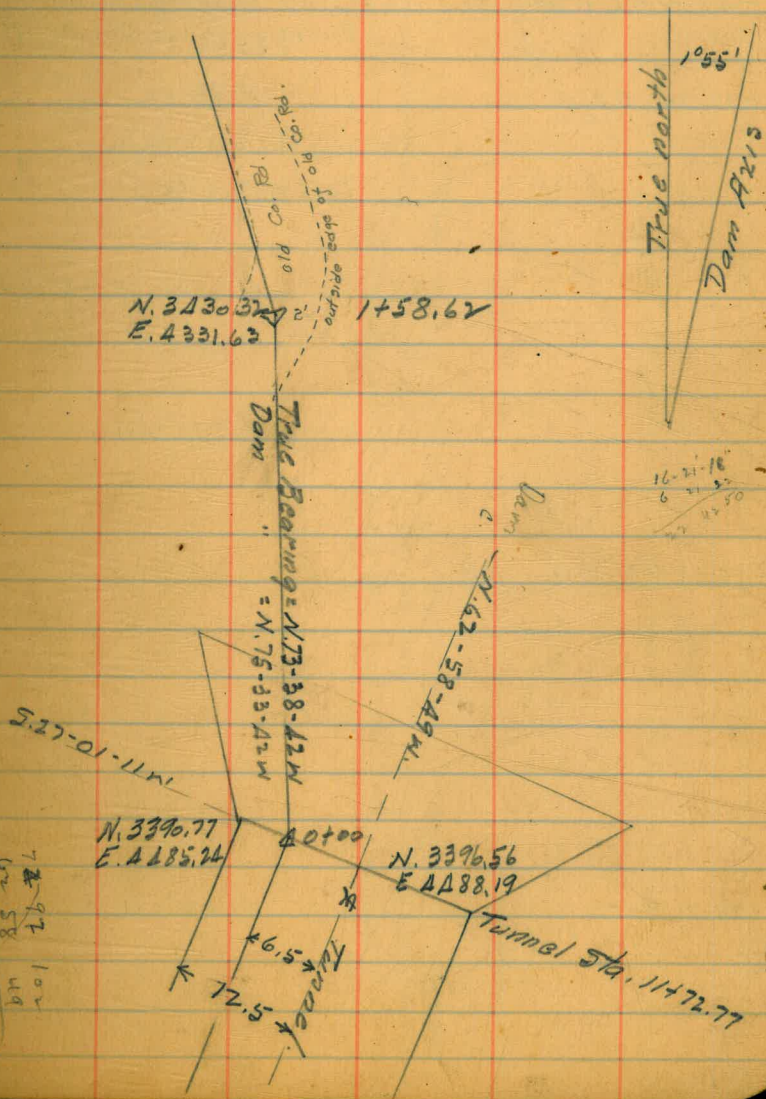
0+00 P.I. L 12 34 53 L 5 71 59 45 W  
 N 81 56-10 W  
 153 55 55

26' 04' 05"  
 11 72 77  
 84 17 15  
 94 55 62  
 44 20 59  
 74 52 18

72.97  
 62.58  
 101  
 49  
 12-34-53

March 14-1935.  
 Converse  
 Simpson  
 Soper  
 Remmen

44



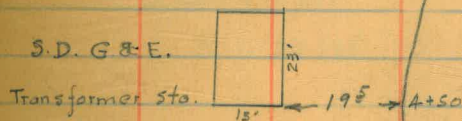
# El Capitan Pipe Line Resurvey Cont'd.

March-14-1935

45

Station	Angle	Bearing	Mag.
6+36.93	E.C.	N 62° 32' 32" W	
5+88.10	P.I.	11° 47' Rt.	P.I. on Old Pipe Line Survey About sta. 8+53±
5+38.74	B.C.		

$D = 12'$   
 $R = 478.3A \quad R = 480.10$   
 $T = 49.36 \quad T = 49.53 \checkmark$   
 $L = 98.19 \quad L = 98.77 \checkmark$   
 $E = 2.5$   
 $d. for i' = 3.581 \text{ slope } 10'$   
 $25' = 10' 29.525$

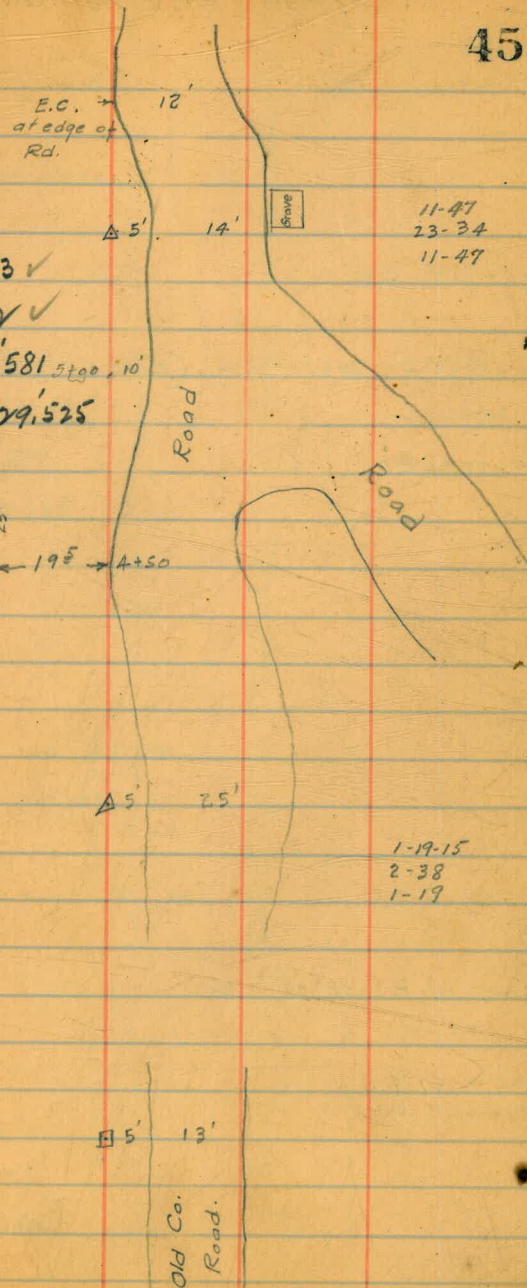


S 82° 19' 22" W 58° 40' N

3+15.31 P.I. 1° 19' Lt.

2+28.21 P.O.T.

582° 0' W



11-47  
23-34  
11-47

1-19-15  
2-38  
1-19

5' 13'

P.O. Co. Rd.



El Copitan Pipe Line Re Survey Cont'd.

March 14-1935

46

Station Angle Bearing Mag.

S 82° 26' 18" S 82° 0' W

11 + 32.76 E.C.

10 + 31.85 P.I. 24° 38' 40" Lf. (Cross on Large Boulder)

9 + 27.34 B.C.

N 72° 52' 32" N 72° 30' W

8 + 78.76 E.C.

8 + 25.00 P.I. 12° 59' Rt.

7 + 70.57 B.C.  
Cross on Boulder.

S 86° 40' W



~~D. = 12°~~  
~~R. = 478.34~~  
~~T = 104.51~~  
~~L = 206.46~~

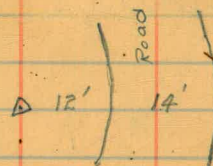
R = 480

T = 104.85 ✓

L = 206.46 ✓

d. for l' = 3.581

25' = 1° 29' 52.5"



24-39  
49-17-20  
24-38-40

B.C. 5' 16'

E.C. 26' 16'

Road

~~D. = 12°~~  
~~R. = 478.34~~  
~~T = 54.43~~  
~~L = 108.19~~  
~~E = 3.08~~

R = 480

T = 54.67 ✓

L = 108.77 ✓

d. for l' = 3.581

25' = 1° 29' 52.5"

P.I. 4' 14'

B.C. 4' 13'

12-59  
25-58  
12-59

El Capitan Pipe Line Re Survey Cont'd.

Station Angle Bearing Mag.

5.68°-12-33"

16+73.29 E.C.

16+14.40 P.I. 14°14'15" Lf.

15+54.68 B.C.

581°40'W

12+01.59 P.O.T.

March-16-1935

Converse  
Simpson  
Soper  
Remmen.

47

$D = 12^\circ$   $R = 480$

$R = 478.54$

$T = 57.72$

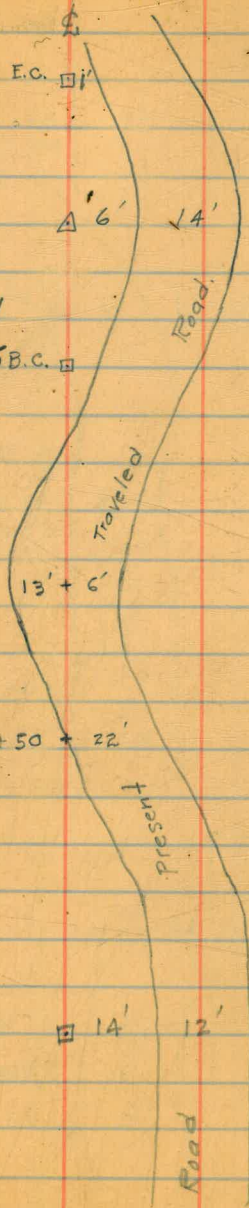
$L = 118.61$

$T = 59.95 \checkmark$

$L = 119.78 \checkmark$

d. for 1' = 3'.581

75' = 1°29'.525 B.C.



14-14-20  
28-28-30  
14-14-15

# El Capitan Pipe Line Re Survey Cont'd.

March - 16 - 1935

48

Station      Angle      Bearing      Mag.

20 + 53.84 E.C.

19 + 91.20 P.I. 15° 08' 50" Lf.

19 + 27.59 B.C.

N. 77° 19' 12" W. N. 75° 20' W

18 + 92.91 E.C.

18 + 18.36 P.I. 37° 28' 15" Rt.

17 + 36.80 B.C.

S 67° 40' W

~~D = 12°~~      R = 480  
~~R = 478.34~~  
~~T = 63.62~~      T = 63.82 ✓  
~~L = 126.25~~      L = 126.90 ✓  
 d. for 1' = 3.581 ✓  
 25' = 199.525 ✓

B.C. = B  
 So. edge of Rd.

E.C. = B  
 17'

Road

21'

5' Δ 16'

E.C. = B  
 So. edge of Rd.  
 27'

15-09  
 30-17-25  
 15-08-50

~~D = 24°~~      R = 240  
~~R = 240.49~~  
~~T = 81.56~~      T = 81.40 ✓  
~~L = 156.11~~      L = 156.96 ✓

d. for 1' = 7.162 ✓  
 25' = 2° 59' 049 ✓

B.C. = B  
 19'

Road

Δ 5' 21'

37-28  
 74-56-30  
 37-28-15

# El Capitan Pipe Line Resurvey Contd.

March-16-1935.

49

Station    Angle    Bearing    Mag.

30+56.96 - City's 6.4% Rd. Survey to Top of Dam.  
 377+67.63 - Co. Rd. Survey #606  
 23+26.08 - Pipe line Survey

$$\begin{array}{r} 23+26.08 \\ 21+79.27 \\ \hline 146.81 \\ 56.28 \\ \hline 203.09 \end{array}$$

N76°05'32"W N76°50'W

21+79.27 E.C.

21+23.93 P.I. 13°22'30" Rt.

20+67.88 B.C.

N89°28'02" West

P.I.  $\Delta$  375+02.71     $\angle$

Co. Rd. Survey #606

170°51'15"

30+99.74

9'

9'

City's 6.4% Rd. Survey to Top of Dam

Travelled Road.

28+66.59

E.C.  $\square$  18'  
So. edge of Rd.

P.I.  $\Delta$  18'  
So. edge of Rd.

B.C.  $\square$  18'  
So. edge of Rd.

Present.

17-05  
34-10-30  
17-05-15

4-51-15  
9-42-30  
4-51-15

23+26.08 = Pipe line Survey  
 377+67.63 = Co. Rd. Survey #606  
 30+56.96 = City's 6.4% Rd. Survey to Top of Dam

~~D = 12°~~  
~~R = 478.34~~  
~~T = 36.05~~  
~~L = 111.39~~

R = 480  
 T = 56.78 ✓  
 L = 112.051 ✓  
 d.i. = 3.581 ✓  
 25' = 1°29'52.5" ✓

13-22-15  
26-45

County road location - El Monte Park to El Capitan dam

Copied from location field book  
at court house. M.H. 3/18/35

Station      Bearing      curve data

S. 47° 55' E

310+91.10 E.C.

Δ 10° 00' R  
R 1500.0  
T 131.23  
L 261.80

305+29.30 B.C.

304+23.72 P.O.T.

S. 57° 53' E

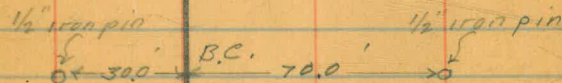
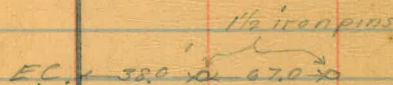
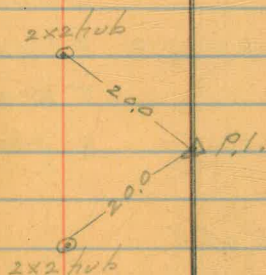
294+41.92 E.C.

Δ 24° 30' 30" R  
R 600.0  
T 130.32  
L 256.65

291+85.27 B.C.

S. 82° 25' 30" E

Reference pts



cont. from page 50

51

Station	Bearing	Curve data
---------	---------	------------

Reference points

S. 78° 47' E.

325+53.71 E.C.

Δ 16° 17' L

R 1500.0

T 214.59

L 426.30

1/2" iron pins  
 P.I. Δ - 25.0 - 0 - 55.0 - 0

321+27.41 B.C.

S. 62° 30' E

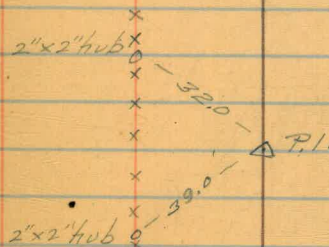
316+71.88 E.C.

Δ 7° 05' 30" R

R 1500.0

T 92.94

L 185.66



314+86.22 B.C.

S. 69° 35' 30" E

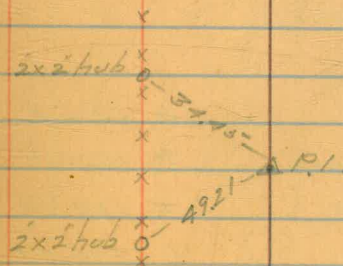
314+40.39 E.C.

Δ 21° 40' 30" L

R 600.0

T 114.86

L 226.98



312+13.71 B.C.

S. 47° 55' E

cont. from page 51

52

Station Bearing Curve data

Reference points

344+89.48 P.O.T.

342+73.80 P.O.T.

S.45°02'E

341+22.12 E.C.

$\Delta$  46°43' R

R 500.0

T 215.94

L 407.68

337+14.14 B.C.

336+30.0 P.O.T.

334+65.65 P.O.T.

330+95.78 Intersect El Monte Ranch Line  
N88°15'E

330+87.15 E.C.

$\Delta$  12°6'8" L

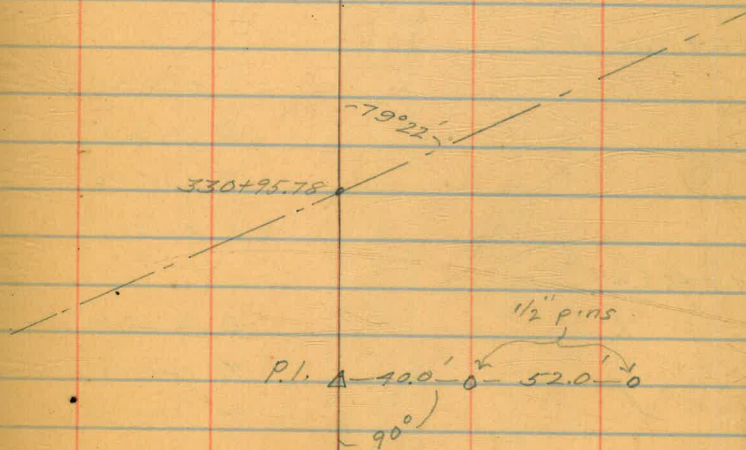
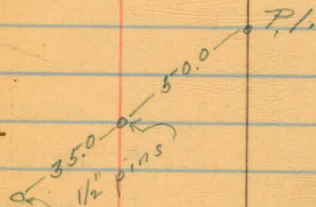
R 1000.0

T 113.64

L 226.31

328+60.84 B.C.

S.78°41'E



cont. from page 52

53

Station Bearing Curve data

Reference points

S. 86° 11' E

357+26.28 E.C.

$\Delta$  14° 31' L

R 600.0

T 75.84

L 152.02

355+74.26 B.C.

S. 71° 40' E

352+17.16 E.C.

$\Delta$  8° 11' 30" L

R 1774.25

T 127.05

L 253.67

349+63.49 P.C.C.

$\Delta$  18° 26' 30" L

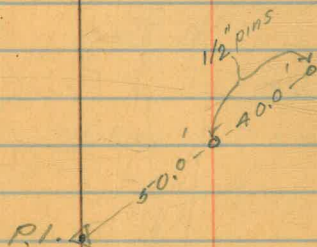
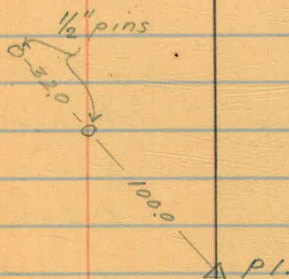
R 1000.0

T 162.34

L 321.84

346+41.65 B.C.

S. 45° 02' E





cont. from page 53

54

Station      Bearing      Curve data

Reference points

S. 72° 48' E

369+43.10 E.C.

$\Delta$  7° 55' L

R 1500.0

T 103.79

L 207.06



367+35.84 B.C.

S. 71° 53' E

366+07.48 E.C.

$\Delta$  20° 12' L

R 900.0

T 71.25

L 147.82

364+66.96 B.C.

S. 51° 41' E

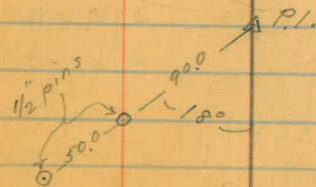
362+76.07 E.C.

$\Delta$  34° 30' R

R 450.0

T 139.73

L 270.96



360+05.11 B.C.

S. 86° 11' E

Station      Bearing      Curve data

3 378+61.72 E.C.  
 571°43' E  
 $\Delta$  21°50' R  
 R 500.0  
 T 96.44  
 L 190.53

3 376+71.19 B.C.  
 N86°27' E

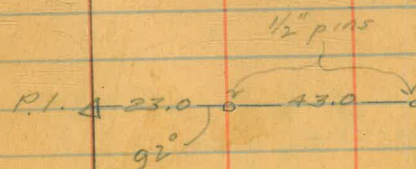
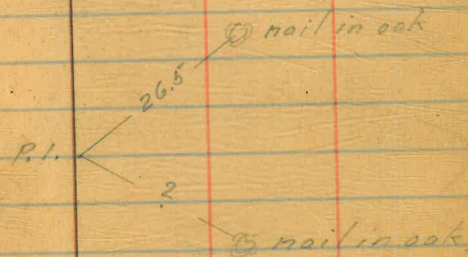
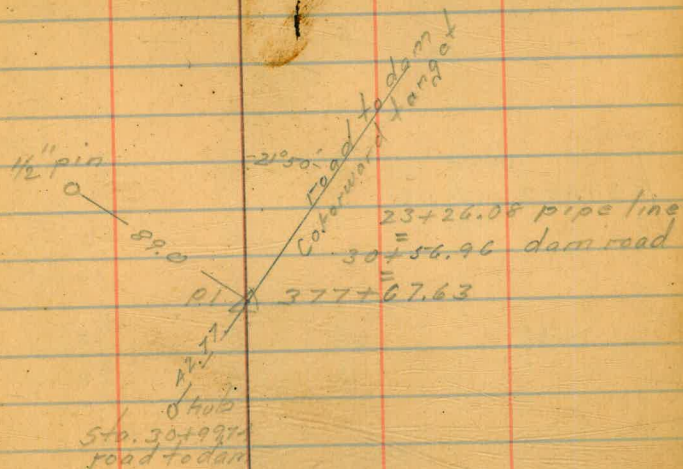
3 378+05.08 E.C.  
 $\Delta$  19°45' L  
 R 600.0  
 T 104.95  
 L 206.82

3 373+98.26 B.C.  
 573°48' E

3 373+63.33 E.C.  
 $\Delta$  60°00' R  
 R 2000.0  
 T 104.82  
 L 209.44

3 371+53.89 B.C.  
 579°48' E

Reference points



Profile and Cross-sections of County  
Road Survey, From El Monte Park to  
El Capitan Dam, For Pipe Line Location.  
Contd. From Book 506. Page 34

B.M.

514.43. Spike in

0.79 515.22

	Lf.	☉	Rt.
289+00	502.0 13 <sup>2</sup> <sub>128</sub> <sup>1</sup> 5 <sup>2</sup> 63	510.3 4 <sup>2</sup> 13	509.7 5 <sup>2</sup> 24

+50

	Lf.	☉	Rt.
	510.5 4 <sup>2</sup> 13	510.0 5 <sup>2</sup> 24	510.0 5 <sup>2</sup> Fence 24

290+00

	Lf.	☉	Rt.
	510.5 4 <sup>2</sup> 13	510.0 5 <sup>2</sup> 24	510.1 5 <sup>2</sup> Fence 24 <sup>5</sup>

+50

	Lf.	☉	Rt.
	510.5 4 <sup>2</sup> 13	510.1 5 <sup>1</sup> 24	510.2 5 <sup>0</sup> Fence 24 <sup>5</sup>

291+00

	Lf.	☉	Rt.
	510.4 4 <sup>2</sup> 13	510.0 5 <sup>2</sup> 24	510.0 5 <sup>2</sup> End of Fence 25

+50

	Lf.	☉	Rt.
	510.1 5 <sup>1</sup> 13	510.1 5 <sup>1</sup> 24	511.2 4 <sup>0</sup> Toe slope 67

291+85<sup>27</sup> B.C.

	Lf.	☉	Rt.	
	503.1 12 <sup>1</sup> <sub>70</sub> <sup>1</sup> 7 <sup>0</sup>	509.2 6 <sup>2</sup> 37	510.2 5 <sup>2</sup> 13	510.2 5 <sup>0</sup> 24

510.2  
4<sup>5</sup> Toe slope  
50

March-21-1935

Hill  
Simpson  
Saper  
Remmen.

56

S.W. Tree of a Group of 4 Trees,  
60' west of North Gate to El Monte Park.  
Old Pipe Line Survey B.M. #12.

See 316  
30

3/23/35  
Reduced  
3/27/35

3/23-27/35  
Reduced  
Plotted  
G.W.G.  
A.9-35  
3/27/35

515.22 Lt.  $\Phi$  Rt.  
 292+50 503.5 507.5 509.6 509.9 510.2  
 11<sup>1</sup>/<sub>2</sub> River 5<sup>2</sup> 5<sup>6</sup> 5<sup>3</sup> 5<sup>0</sup> Toe Slope  
 38 25 13  $\Phi$  28

293+00 503.8 509.5 509.4 509.2 510.4  
 11<sup>4</sup>/<sub>8</sub> River 5<sup>7</sup> 5<sup>8</sup> 6<sup>0</sup> 4<sup>8</sup> Rock Toe (Cape Horn) then 1-1 slope 40'  
 46 31 13  $\Phi$  11

+21 504.0 509.9 509.2 509.4  
 11<sup>2</sup>/<sub>8</sub> River 5<sup>3</sup> 6<sup>0</sup> 5<sup>8</sup> Toe Rock  $\frac{1}{2}$ -1 slope 14' then 4-1  
 45 35 13  $\Phi$

+30 504.0 510.5 509.1 509.2 531.2  
 11<sup>2</sup>/<sub>8</sub> River 4<sup>7</sup> 6<sup>1</sup> 6<sup>1</sup> Toe +16<sup>0</sup> then 4-1 slope 50'  
 54 40 13 10<sup>0</sup> Rock  $\Phi$  = on Top of Rock Point  
 And inside edge of Rd. Cape Horn.

T.P. 6.00 509.22  
 5.15 514.37

+55 503.6 510.5 509.2 508.9 514.7 532.0  
 10<sup>8</sup>/<sub>8</sub> River 3<sup>9</sup> 5<sup>2</sup> 5<sup>5</sup> Toe +17<sup>6</sup> then 4-1 slope 50'  
 50 35 13 9<sup>0</sup> Rock  $\Phi$  = on Top of Rock Point  
 Outside edge Rd. And inside edge Rd.

+55 use same x section 521.5  
 +71  $\Phi$

+75 503.7 510.3 509.6 508.9  
 10<sup>7</sup>/<sub>8</sub> River 4<sup>2</sup> 4<sup>8</sup> 5<sup>5</sup> then 1-1 slope 50'  
 48 30 13  $\Phi$  = Toe of Rock Point.  
 And inside edge Rd.  
 Outside edge Rd.

Plotted  
 G.W.G.  
 A-9-35

Contd. From Page 57.

March-21-1935

58

	514.37 <sup>✓</sup>		Lf.	Φ.		Rt.
294+00	503.7 <sup>✓</sup>	510.1 <sup>✓</sup>	509.8 <sup>✓</sup>	509.6 <sup>✓</sup>	509.4 <sup>✓</sup>	
	10 <sup>7</sup> River	4 <sup>3</sup>	4 <sup>6</sup>	4 <sup>8</sup>	5 <sup>E</sup>	inside edge Rd.
	37	21	13	Φ	32	and Toe slope
			Outside edge Rd.			

+ 41.92 E.C.	504.0 <sup>✓</sup>	504.6 <sup>✓</sup>	505.3 <sup>✓</sup>	506.4 <sup>✓</sup>	510.0 <sup>✓</sup>
	10 <sup>4</sup> River	9 <sup>8</sup>	9 <sup>1</sup>	8 <sup>0</sup>	4 <sup>4</sup> = outside edge
	25	13	Φ	13	42 of Rd.

T.P. 7.57 506.80<sup>✓</sup>

4.97 511.77<sup>✓</sup>

295+00	Note: From Sta. 295+00 to	506.3 <sup>✓</sup>
	Sta. 298+50 is Practically	5 <sup>E</sup>
+ 50	Level on Both sides	Φ
	of Φ.	506.2 <sup>✓</sup>

296+00		506.7 <sup>✓</sup>
		5 <sup>1</sup>
		Φ

+ 50		506.9 <sup>✓</sup>
		4 <sup>9</sup>
		Φ

297+00	505.1 <sup>✓</sup>	507.3 <sup>✓</sup>	507.0 <sup>✓</sup>
	6 <sup>2</sup> River	4 <sup>5</sup>	4 <sup>8</sup>
	58	28	Φ

+ 50		507.6 <sup>✓</sup>
		4 <sup>2</sup>
		Φ

298+00		507.4 <sup>✓</sup>
		4 <sup>4</sup>
		Φ

Plotted  
G.W.G.  
A-9-35

	511.77 ✓	Lf	Φ		Rt.
298+50			507.9 ✓ 3 <sup>9</sup> Φ		
299+00	508.1 ✓ 3 <sup>7</sup> 13		508.3 ✓ 3 <sup>5</sup> Φ	508.5 ✓ 3 <sup>3</sup> 13	
T.P.	3.04	508.73 ✓			
6.50	515.23 ✓				
+50		508.3 ✓ 6 <sup>2</sup> 13	508.7 ✓ 6 <sup>5</sup> Φ	508.6 ✓ 6 <sup>6</sup> 13	
300+00	505.9 ✓ 9 <sup>3</sup> River 127	507.3 ✓ 7 <sup>9</sup> 100	506.7 ✓ 9 <sup>2</sup> 30	509.0 ✓ 6 <sup>2</sup> 13	509.8 ✓ 5 <sup>4</sup> 13
+50		508.9 ✓ 6 <sup>3</sup> 13	509.3 ✓ 5 <sup>9</sup> Φ	510.8 ✓ 4 <sup>4</sup> 13	
301+00		509.0 ✓ 6 <sup>2</sup> 13	509.8 ✓ 5 <sup>4</sup> Φ	511.4 ✓ 3 <sup>8</sup> 13	
+50		508.7 ✓ 6 <sup>5</sup> 13	510.1 ✓ 5 <sup>1</sup> Φ	511.6 ✓ 3 <sup>6</sup> 13	
302+00		509.5 ✓ 5 <sup>7</sup> 13	511.8 ✓ 3 <sup>4</sup> Φ	511.9 ✓ 3 <sup>3</sup> 13	
+50		510.7 ✓ 4 <sup>5</sup> 13	512.3 ✓ 2 <sup>9</sup> Φ	512.6 ✓ 2 <sup>6</sup> 13	
303+00	507.2 ✓ 8 <sup>1</sup> River 100	507.6 ✓ 7 <sup>6</sup> 25	510.6 ✓ 4 <sup>6</sup> 13	511.7 ✓ 3 <sup>5</sup> Φ	512.5 ✓ 2 <sup>7</sup> 13

Plotted  
G.W.G.  
A-9-35

	515.23	Lf.	¢.	Rt.
T.P.		0.19	515.04 ✓	
	6.20	521.24		
303+50		512.4 8 <sup>8</sup> 13	512.5 8 <sup>7</sup> ¢	515.8 5 <sup>4</sup> 13
304+00		509.8 ✓ 11 <sup>4</sup> 13	511.2 ✓ 10 <sup>2</sup> ¢	513.0 ✓ 8 <sup>3</sup> 13
+50		513.1 ✓ 8 <sup>1</sup> 13	515.5 ✓ 5 <sup>7</sup> ¢	518.9 ✓ 2 <sup>3</sup> 13
305+00		513.6 ✓ 7 <sup>6</sup> 13	514.9 ✓ 6 <sup>3</sup> ¢	518.8 ✓ 2 <sup>4</sup> 7
+50		513.4 ✓ 7 <sup>8</sup> 13	516.1 ✓ 5 <sup>1</sup> ¢	519.3 ✓ 1 <sup>9</sup> 13
306+00	508.1 ✓ 13 <sup>1</sup> River 39	512.9 ✓ 8 <sup>3</sup> 25	513.9 ✓ 7 <sup>3</sup> 13	516.5 ✓ 4 <sup>7</sup> ¢
T.P.		0.68	520.56 ✓	
	7.75	528.31		
+50:	Outside edge of Present Traveled Rd.	516.1 12 <sup>2</sup> 13	521.0 ✓ 7 <sup>3</sup> 6	521.8 ✓ 6 <sup>5</sup> ¢
307+00	outside edge of Rd.	521.1 ✓ 6 <sup>6</sup> 19	522.4 ✓ 5 <sup>9</sup> 13	521.8 ✓ 6 <sup>5</sup> ¢
+50	"	522.9 ✓ 5 <sup>4</sup> 25	523.1 ✓ 5 <sup>3</sup> 13	522.5 ✓ 5 <sup>8</sup> ¢ = inside and

Note add. notes to shear slopes taken Apr. 10, 35 by G.W.G. This information requested by county surveyor.

520.1 ✓  
1<sup>1</sup> X  
13

521.8 ✓  
+0.6 = outside edge of Rd.  
18

521.4 ✓  
6<sup>9</sup>  
13

521.5 ✓  
7<sup>2</sup> = toe slope and  
19 inside edge of Rd.

" then 2:1 slope  
" " " boulders

edge of Rd.  
Toe of Slope

Plotted  
A-11-35  
G.W.G.

	528.31	Lf.	¢	
308+00	524.4 <sup>✓</sup> outside edge Rd → 39 24	524.3 <sup>✓</sup> 4 <sup>0</sup> 13	523.7 <sup>✓</sup> 4 <sup>6</sup> ¢ = inside edge Rd,	
+29.30 B.C.	524.3 <sup>✓</sup> 4 <sup>0</sup> 21	524.8 <sup>✓</sup> 3 <sup>5</sup> 13	524.6 <sup>✓</sup> 3 <sup>7</sup> ¢	
+50	524.5 <sup>✓</sup> 3 <sup>8</sup> 19	525.1 <sup>✓</sup> 3 <sup>8</sup> 13	525.3 <sup>✓</sup> 3 <sup>0</sup> ¢	
309+00	509.0 <sup>✓</sup> 19 <sup>3</sup> River 52	510.9 <sup>✓</sup> 17 <sup>4</sup> 40	526.2 <sup>✓</sup> 2 <sup>1</sup> 17	526.5 <sup>✓</sup> 1 <sup>8</sup> 13
			526.8 <sup>✓</sup> 1 <sup>5</sup> ¢	

T.P. 0.00 528.31<sup>✓</sup>  
12.31 540.62<sup>✓</sup>

+50	526.7 <sup>✓</sup> 14 <sup>4</sup> 30	528.4 <sup>✓</sup> 12 <sup>2</sup> 13	528.6 <sup>✓</sup> 12 <sup>0</sup> ¢	
310+00	530.9 <sup>✓</sup> outside edge Rd → 9 <sup>7</sup> 17	531.0 <sup>✓</sup> 9 <sup>6</sup> 13	531.2 <sup>✓</sup> 9 <sup>4</sup> ¢	
+50	533.4 <sup>✓</sup> 7 <sup>2</sup> 24	533.8 <sup>✓</sup> 6 <sup>8</sup> 13	533.4 <sup>✓</sup> 7 <sup>2</sup> ¢	
311+00	536.4 <sup>✓</sup> 4 <sup>2</sup> 29	536.5 <sup>✓</sup> 4 <sup>1</sup> 13	536.3 <sup>✓</sup> 4 <sup>3</sup> - Toe Slope ¢	
+50	540.4 <sup>✓</sup> 0 <sup>2</sup> 32	539.8 <sup>✓</sup> 0 <sup>8</sup> 13	539.9 <sup>✓</sup> 0 <sup>7</sup> ¢	

T.P. 0.24 540.38<sup>✓</sup>  
3.63 544.01<sup>✓</sup>

	Rt.	
	525.5 <sup>✓</sup> 2 <sup>8</sup> 5	536.3 <sup>✓</sup> 12
	524.5 <sup>✓</sup> 3 <sup>8</sup> 3	533.3 <sup>✓</sup> + 5.0 + "
	525.1 <sup>✓</sup> 3 <sup>2</sup> 5	" " " " "
	526.8 <sup>✓</sup> 1 <sup>5</sup> 8	532.8 <sup>✓</sup> + 4.5 + 13
		" " " " "
		" " " " "
		" " " " "
		" " " " "
		" " " " "

	528.6 <sup>✓</sup> 12 <sup>0</sup> 7	542.6 <sup>✓</sup> + 2.0 + 15
	530.9 <sup>✓</sup> 9 <sup>7</sup> 7	537.9 <sup>✓</sup> 2.7 + 15
		546.6 <sup>✓</sup> + 6.0 16
	533.4 <sup>✓</sup> 7 <sup>2</sup> 2	" " " " "
	533.6 <sup>✓</sup> + 3.0 + 100	538.6 <sup>✓</sup> + 18.0 + 11
	545.6 <sup>✓</sup> + 5.0 + 8.0	561.6 <sup>✓</sup> + 21.0 13

Plotted  
S.W.B.  
4-11-35



	544.01	Lf.	¢.	Rt.
312+00	510.1 33 <sup>3</sup> 70	540.3 37 25	540.7 33 13	540.9 31 3
		(outside edge Rd.)		inside edge Rd. 1/2-1 slope 10' then 2-1 D.S. 4nd Too Slope
+50	outside edge Rd. 539.4 46 24	539.8 47 13	540.3 37 3	541.0 30 10
313+00	"	538.0 60 22	538.3 57 13	538.4 56 13
				" 1/2-1 slope 11' then 2-1 "
+50	"	535.9 81 22	536.4 76 13	537.4 66 11
				" 541.0 0.0 + 1/4-1 slope 5' then 2-1 "
314+00	"	534.5 95 25	534.2 98 13	534.4 96 3
				" 1/2-1 slope 12' " " "
+50	"	531.8 122 21	532.2 118 13	532.3 117 3
				" 1/2-1 slope 45' " " rock

T.P.

12.59 531.42

0.47 531.89

	511.4	530.0	530.5	530.4	535.0
315+00	20 <sup>5</sup> 57	29 30	14 13	15 3	+3 13
					Too slope 1-1 slope 30' " " "
+50	528.6 33 32	528.7 37 13	528.6 33 5	530.9 10 3	1-1 slope 30' " loose r/f
316+00	527.1 48 32	527.1 48 13	527.3 46 6	" 0 3	531.0 0 3
					1 1/2- slope 50' then 2-1

Plotted  
G.W.G.  
4-12-35

	531.89	Lf.	¢	Rt.		
316+50	525.9 <sup>✓</sup> Rd. 6° 24	526.5 <sup>✓</sup> 5 <sup>4</sup> 13	526.9 <sup>✓</sup> 5° edge Rd. ¢	529.2 <sup>✓</sup> 22 8	5412/8 Toe slope 1/2-1-slope 10' then 1-1 40' D.C.	
317+00	525.6 <sup>✓</sup> " 6° 26	526.2 <sup>✓</sup> 5 <sup>2</sup> 13	526.2 <sup>✓</sup> 5 <sup>2</sup> edge Rd. ¢ and toe slope		5462/10 " " " 1 1/2-1-40' "	
+50	525.6 <sup>✓</sup> " 6° 29	526.0 <sup>✓</sup> 5 <sup>9</sup> 13	526.0 <sup>✓</sup> 5 <sup>3</sup> edge Rd. ¢	527.9 <sup>✓</sup> 4° 11	5579/24 " " " 15' " 2-1 slope "	
318+00	511.8 <sup>✓</sup> 20 1/2 River 50	524.9 <sup>✓</sup> 7° 33	525.5 <sup>✓</sup> 6 <sup>4</sup> 13	525.4 <sup>✓</sup> 6 <sup>5</sup> " ¢	526.7 <sup>✓</sup> 5° 9	" " " 36' " " " "
+50		524.5 <sup>✓</sup> " 7° 29	524.9 <sup>✓</sup> 7° 13	524.7 <sup>✓</sup> 7° ¢	527.3 <sup>✓</sup> 4° 8	" " " 25' " " " "
319+00	524.3 <sup>✓</sup> 7° 40	524.4 <sup>✓</sup> 7° 13	523.8 <sup>✓</sup> 8° edge 3 Rd. ¢	525.7 <sup>✓</sup> 6° toe slope ¢	5523/33 1/2-1 " 20' " 3-1 "	
T.P.		7.49	524.40 <sup>✓</sup>			
	3.83	528.23 <sup>✓</sup>				
+50	523.1 <sup>✓</sup> 5° 42	523.5 <sup>✓</sup> 4° 30 Edge Rd. 13	523.7 <sup>✓</sup> 4° 7 edge 7 Rd. and Toe slope	529.7 <sup>✓</sup> +1° ¢	5377/10 1-1 slope 8' then 2-1 slope D.C.	
320+00	523.6 <sup>✓</sup> 4° 43	523.9 <sup>✓</sup> 5° edge 30 Rd. 13	523.3 <sup>✓</sup> 4° 13	523.1 <sup>✓</sup> 5° " 8	5432/16 1-1 slope 16' then 3-1 "	
+50		522.5 <sup>✓</sup> 5° " 30	523.2 <sup>✓</sup> 5° 13	523.3 <sup>✓</sup> 4° " 7	5414/20 1 1/2 slope 20' then 3-1 "	

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528.23 ✓ Lf.  $\phi$

321+00 513.0<sup>13.0</sup> 513.9<sup>14.3</sup> 522.6<sup>5.6</sup> 523.1<sup>5.1</sup> 522.9<sup>5.3</sup>  
 15<sup>E</sup> River 85 40 26 Rd. 13  $\phi$  edge Rd.

+50 522.3<sup>5.9</sup> 522.7<sup>5.5</sup> 523.3<sup>4.9</sup>  
 20 Rd. 13  $\phi$

322+00 522.1<sup>6.1</sup> 522.5<sup>5.7</sup> 523.6<sup>4.6</sup>  
 20 13  $\phi$

Rt.

523.2<sup>5.33.2</sup>  
 5<sup>o</sup> - Toe slope 1/2-1 slope 5' then 4-1  
 4

523.1<sup>5.26.2</sup>  
 5<sup>o</sup> - Toe slope and 2.0 = 4-1 slope  
 6 edge Rd. 9

523.6<sup>5.25.8</sup> 528.2<sup>5.28.2</sup>  
 4<sup>E</sup> " 2<sup>E</sup> 1.0 +  
 7 13 25

B.M. #9 3.12 525.11 ✓ = check on

B.M. #9 - Rec. Elev. 525.08

+50 523.0<sup>5.2</sup> 523.5<sup>4.7</sup> 523.9<sup>4.3</sup> 524.2<sup>4.0</sup>  
 26 Rd. 13 1  $\phi$

323+00 524.4<sup>3.8</sup> 524.4<sup>3.8</sup> 527.6<sup>2.6</sup>  
 34 Rd. 13  $\phi$

527.4<sup>1.2</sup> About same slope 50' farther  
 13

529.5<sup>+1.3</sup> " " " "  
 13

T.P. 3.44 524.79 ✓  
 11.02 535.81 ✓

+50 527.8<sup>7.8</sup> 528.0<sup>7.8</sup> 528.5<sup>7.3</sup>  
 20 13  $\phi$

324+00 514.2<sup>21.6</sup> 519.4<sup>16.4</sup> 524.9<sup>10.2</sup> 528.2<sup>7.6</sup> 527.5<sup>8.3</sup> 530.4<sup>5.4</sup> 531.1<sup>4.7</sup>  
 122<sup>River</sup> 111 77 47 Rd. 26 Rd. 13  $\phi$

532.4<sup>3.4</sup> " " " "  
 13

532.9<sup>2.9</sup> " " " "  
 13

+50 529.8<sup>5.6</sup> 530.2<sup>4.8</sup> 531.0<sup>4.8</sup>  
 25 13  $\phi$

532.6<sup>3.2</sup> " " " "  
 13

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535.81 ✓ Lf.  $\frac{1}{2}$

325+00 531.4 ✓ 534.5 ✓  
 20' rd. 4<sup>2</sup> 1<sup>3</sup>  
 13  $\frac{1}{2}$

+50 529.9 ✓ 530.8 ✓ 530.9 ✓ 533.1 ✓  
 5<sup>2</sup> 5<sup>2</sup> 4<sup>2</sup> edge 2<sup>2</sup>  
 25 13 8 Rd.  $\frac{1}{2}$

326+00 529.9 ✓ 530.2 ✓ 530.8 ✓  
 5<sup>2</sup> edge 5<sup>2</sup> 5<sup>2</sup>  
 18 Rd. 13  $\frac{1}{2}$

Rt.

536.3 ✓  
 +0<sup>5</sup> About The Same Slope 30' farther  
 13

536.1 ✓  
 +0<sup>3</sup> " " " " " "  
 13

530.8 ✓ 532.0 ✓  
 5<sup>2</sup> edge 3<sup>2</sup> Gentle Slope on South  
 5 Rd. 13

T.P. 6.49 529.32 ✓  
 2.16 531.48

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+50 529.5 ✓ 530.2 ✓  
 2<sup>2</sup> edge 1<sup>3</sup>  
 13 Rd.  $\frac{1}{2}$

327+00 528.6 ✓ 529.0 ✓  
 2<sup>2</sup> edge 2<sup>5</sup>  
 13 Rd.  $\frac{1}{2}$

+50 515.3 ✓ 521.0 ✓ 524.7 ✓ 526.9 ✓ 527.1 ✓ 527.5 ✓  
 16<sup>2</sup> River 10<sup>5</sup> 6<sup>8</sup> 4<sup>5</sup> 4<sup>2</sup> " 4<sup>2</sup>  
 250 170 157 13 11  $\frac{1}{2}$

530.3 ✓ 532.4 ✓  
 1<sup>2</sup> edge +0<sup>2</sup> " " "  
 10 Rd. 13

528.8 ✓ 530.5 ✓  
 2<sup>2</sup> edge 1<sup>2</sup> " " "  
 11 Rd. 13

527.3 ✓ 527.8 ✓  
 4<sup>2</sup> " 3<sup>2</sup> " " "  
 11 13

328+00 526.4 ✓ 526.3 ✓ 526.5 ✓  
 about 0.5 layer 5<sup>1</sup> 5<sup>2</sup> 5<sup>2</sup>  
 20' rd. 13 11  $\frac{1}{2}$

+50 526.7 ✓ 526.9 ✓  
 4<sup>2</sup> edge 4<sup>5</sup>  
 13 Rd.  $\frac{1}{2}$

329+00 527.8 ✓ 528.0 ✓  
 3<sup>2</sup> 3<sup>5</sup>  
 13  $\frac{1}{2}$

526.4 ✓  
 5<sup>1</sup> Level 50' South to toe slope  
 13

526.7 ✓ 527.0 ✓  
 4<sup>8</sup> 4<sup>5</sup> Level 25' South to toe slope  
 12 13

527.9 ✓ 528.2 ✓ 527.8 ✓  
 3<sup>5</sup> 3<sup>3</sup> 3<sup>2</sup> - Toe slope  
 10 13 25

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531.48 Lf.  $\Phi$

Rt.

329+50  
 516.0  
 330+00 15<sup>5</sup> River 520.5 519.5 525.7 530.0 531.6 531.9 532.1  
 330 312 230 207 50 13 9  $\Phi$   
 0.5 lower 20 out 1<sup>2</sup> edge 1<sup>2</sup> edge 1<sup>2</sup> edge 1<sup>2</sup> edge 1<sup>2</sup> edge 1<sup>2</sup> edge  
 13 Rd. 13 Rd. 13 Rd. 13 Rd. 13 Rd. 13 Rd.

529.5 531.0  
 532.0 534.3  
 10<sup>5</sup> 12<sup>5</sup> 13  
 2<sup>2</sup> edge 0.5<sup>5</sup> toe slope  
 9<sup>5</sup> Rd. 13  
 Edge of Rd and toe slope

T.P. 0.42 531.06

12.21 543.27

+50 534.3 534.6 534.7  
 Gentle slope to River 9<sup>2</sup> 8<sup>7</sup> 8<sup>6</sup>  
 13 1<sup>7</sup>  $\Phi$   
 N. edge Rd.

535.4  
 7<sup>2</sup>  
 13

331+00 536.0 537.6  
 7<sup>2</sup> 5<sup>7</sup>  
 13  $\Phi$

537.7 538.1  
 5<sup>6</sup> N. edge Rd. 5<sup>2</sup>  
 10 13

+50 539.2 540.2  
 4<sup>1</sup> 3<sup>1</sup>  
 13  $\Phi$

541.0 541.1  
 2<sup>3</sup> 2<sup>2</sup> N. edge Rd. Gentle slope on south.  
 13 18

332+00 540.6 541.6  
 2<sup>7</sup> 1<sup>7</sup>  
 13  $\Phi$

542.6 543.8  
 0<sup>7</sup> 10<sup>5</sup> " " " "  
 13 24

T.P. 0.47 542.80

2.22 545.02

+50 540.8 542.2  
 Gentle slope to River 4<sup>2</sup> 2<sup>8</sup>  
 13  $\Phi$

543.1  
 1<sup>7</sup> Gentle slope on South  
 13

333+00 516.9 520.0 523.0 528.5 539.5 540.2  
 28<sup>1</sup> River 25<sup>2</sup> 22<sup>2</sup> 16<sup>5</sup> 5<sup>5</sup> 4<sup>8</sup>  
 420 300 155 147 13  $\Phi$

540.6 544.6  
 4<sup>4</sup> 0<sup>4</sup> N. edge Rd. - Gentle slope on South.  
 13 30

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545.02 ✓  
 333+50      Lf.      \$  
             Gentle slope      536.1 ✓      536.3 ✓  
             ← to River      8<sup>9</sup>      8<sup>7</sup>  
    13      \$

334+00      "      535.6 ✓      537.8 ✓      538.8 ✓  
    9<sup>4</sup>      7<sup>2</sup>      6<sup>2</sup>  
    13      8      \$

+50      "      535.2 ✓      538.9 ✓  
    9<sup>8</sup>      6<sup>1</sup>  
    13      \$

T.P.      2.14      542.88 ✓

2.57      545.45 ✓

335+00      543.2 ✓      543.3 ✓      543.0 ✓  
             2<sup>2</sup> - N. edge      2<sup>1</sup>      2<sup>4</sup>  
             20 Rd.      13      \$

+50      541.9 ✓      541.9 ✓      544.4 ✓  
             3<sup>5</sup> N. edge      3<sup>5</sup>      1<sup>2</sup>  
             30 Rd.      13      5 Rd.      \$

336+00      518.1 ✓      525.0 ✓      529.9 ✓      530.8 ✓      539.4 ✓      539.7 ✓      539.8 ✓      542.9 ✓  
             27<sup>3</sup>      20<sup>4</sup>      15<sup>5</sup>      14<sup>6</sup>      6<sup>2</sup> N. edge      5<sup>2</sup>      5<sup>6</sup> S. edge      2<sup>5</sup>  
             380 } 150 125 45      25 edge Rd.      13      4 Rd.      \$

River

+50      537.1 ✓      537.4 ✓      537.1 ✓      537.5 ✓  
             8<sup>2</sup> "      8<sup>2</sup>      8<sup>3</sup> "      7<sup>9</sup>  
             21      13      2      \$

337+00      535.8 ✓      535.9 ✓      535.3 ✓  
             9<sup>6</sup> N. edge      9<sup>5</sup>      10<sup>1</sup> S. edge  
             21 Rd.      13      \$ Rd.

+50      535.1 ✓      535.1 ✓      534.6 ✓  
             10<sup>3</sup> S. edge      10<sup>2</sup>      10<sup>8</sup> S. edge  
             21 Rd.      13      \$ of Rd. and top of slope

Rt.  
 536.5 ✓      538.2 ✓      544.0 ✓  
             8<sup>5</sup>      6<sup>8</sup>      1<sup>2</sup> - N. edge Rd.  
             13      20      34

540.4 ✓      543.5 ✓  
             4<sup>6</sup>      1<sup>5</sup> - N. edge Rd.  
             13      30

542.8 ✓      543.1 ✓  
             2<sup>2</sup> - N. edge Rd.      1<sup>9</sup>  
             7      13

543.2 ✓      549.0 ✓  
             2<sup>2</sup> S. edge      + 3<sup>5</sup>      Gentle slope on South  
             5 Rd.      13      +4.6  
    21

551.4 ✓      551.4 ✓      "      "      "      "      552.0  
             +6<sup>2</sup>      +6<sup>2</sup>      "      "      "      "      +6.5  
             3      13      "      "      "      "      21

549.5 ✓      549.8 ✓      "      "      "      "      550.9  
             +3<sup>9</sup>      +4<sup>4</sup>      "      "      "      "      +4.9  
             5      13      "      "      "      "      21

536.8 ✓      537.9  
             8<sup>6</sup>      "      "      "      "      "      7.6  
             13      "      "      "      "      "      21

535.5 ✓      536.0  
             9<sup>9</sup>      "      "      "      "      "      9.5  
             13      "      "      "      "      "      21

545.1 ✓      546.1 ✓  
             0<sup>3</sup>      +0<sup>7</sup>      "      "      "      "      546.5  
             8      13      "      "      "      "      +1.0  
    21

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545.45 ✓ Lf.  $\Phi$   
 338+00 534.7 ✓ 534.5 ✓ 533.5 ✓ 540.3 ✓  
 10<sup>7</sup> N. edge 10<sup>9</sup> 11<sup>7</sup> S. edge 5<sup>1</sup>  
 22 Rd. 13 3 Rd.  $\Phi$

RT.  
 547.3 ✓ 550.8 ✓  
 +1<sup>2</sup> +5<sup>4</sup> Gentle slope on South.  
 6 13

534.0  
 +6.7  
 21

T.P. 10.65 534.80 ✓  
 3.00 537.80 ✓

+50 534.0 ✓ 533.9 ✓ 532.9 ✓  
 3<sup>8</sup> N. edge 3<sup>9</sup> 4<sup>9</sup>  
 20 Rd. 13  $\Phi$   
 339+00 520.1 ✓ 525.4 ✓ 528.4 ✓ 533.2 ✓ 533.4 ✓ 532.8 ✓  
 17<sup>7</sup> River 12<sup>4</sup> 9<sup>4</sup> 4<sup>6</sup> N. edge 4<sup>4</sup> 5<sup>0</sup>  
 100 73 30 18 Rd 13  $\Phi$

532.9 ✓ 547.5 ✓ 550.9 ✓  
 4<sup>9</sup> S. edge Rd. +9<sup>7</sup> +13<sup>1</sup> Gentle Slope on South.  
 1 and toe slope 13 19

+50 532.9 ✓ 533.0 ✓ 532.6 ✓  
 4<sup>9</sup> N. edge 4<sup>8</sup> 5<sup>2</sup>  
 17 Rd. 13  $\Phi$   
 340+00 532.2 ✓ 532.7 ✓ 532.5 ✓  
 Shoulder 5<sup>6</sup> 5<sup>1</sup> N. edge 5<sup>3</sup>  
 17 13 Rd.  $\Phi$

532.7 ✓ 542.8 ✓ 549. ✓  
 5<sup>1</sup> S. edge Rd. +5<sup>0</sup> +11<sup>4</sup>  
 3 and toe slope 7 18

+50 531.5 ✓ 531.9 ✓ 531.9 ✓  
 6<sup>3</sup> 5<sup>7</sup> "  
 16 13  $\Phi$   
 341+00 530.6 ✓ 531.3 ✓ 531.3 ✓  
 7<sup>2</sup> 6<sup>5</sup> "  
 17 13  $\Phi$

532.4 ✓ 539.8 ✓ 545.4 ✓  
 5<sup>4</sup> " +2<sup>0</sup> +7<sup>5</sup> " " " " 596.3  
 5 8 15 " " " " +8.1  
 20

+50 531.5 ✓ 531.3 ✓ 531.0 ✓  
 6<sup>3</sup> 6<sup>5</sup> "  
 21 13  $\Phi$   
 342+00 521.0 ✓ 530.8 ✓ 530.7 ✓ 530.9 ✓  
 16<sup>8</sup> River 7<sup>0</sup> 7<sup>1</sup> 6<sup>9</sup>  
 55 24 13  $\Phi$

532.2 ✓ 537.8 ✓ 538.2 ✓  
 5<sup>6</sup> " 0<sup>0</sup> +0<sup>4</sup> " " " " 539.0  
 9 11 13 " " " " +7.0  
 21

T.P. 0.74 537.06 ✓  
 3.68 540.74 ✓

531.5 ✓ 535.7 ✓  
 6<sup>3</sup> " 2<sup>1</sup> " " " " 534.8  
 11 15 " " " " 3.0  
 21

B.M. 3.49 537.25 ✓ check on

531.0 ✓ 531.6 ✓  
 6<sup>8</sup> " 6<sup>2</sup> " " " " 533.8  
 11 13 " " " " 4.0  
 20

530.8 ✓ 533.3 ✓  
 7<sup>0</sup> " 4<sup>5</sup> " " " " 532.0  
 8 13 " " " " 5.0  
 21

531.0 ✓ 531.8 ✓  
 6<sup>8</sup> " 6<sup>0</sup> " " " " 533.8  
 5 13 " " " " 4.0  
 20

B.M. #7 - Rec. Elev. = 537.23

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		Lf.	¢	Rt.	
T.P.			537.06 ✓		
	11.32	548.38 ✓			
342+50	same at 25' out	531.2 ✓ 17 <sup>2</sup> 13	531.2 ✓ 17 <sup>2</sup> S. edge 5 Rd.	534.6 ✓ 13 <sup>8</sup> ¢	537.8 ✓ 10 <sup>6</sup> 13
343+00	"	534.5 ✓ 13 <sup>9</sup> S. edge 13 Rd.	536.9 ✓ 11 <sup>5</sup> 11	539.1 ✓ 9 <sup>3</sup> ¢	542.2 ✓ 6 <sup>2</sup> 13
+50	538.1 10.0 20	539.8 ✓ 8 <sup>6</sup> 13	542.3 ✓ 6 <sup>1</sup> ¢	544.4 ✓ 4 <sup>0</sup> 13	" " " " " "
344+00	same slope as sec's	543.3 ✓ 5 <sup>1</sup> 13	546.0 ✓ 2 <sup>4</sup> ¢	548.4 ✓ 0 <sup>2</sup> 13	" " " " " "
+50	521.9 ✓ -26 <sup>5</sup> River 80	531.6 ✓ 16 <sup>8</sup> 60 N. edge Rd.	542.5 ✓ 17 <sup>4</sup> 34 S. edge Rd.	546.9 ✓ 5 <sup>9</sup> 15 13	548.6 ✓ +0 <sup>2</sup> ¢
T.P.		1.08	547.30 ✓		
	6.82	554.12 ✓			
345+00	543.5 8.0 20	547.3 ✓ 6 <sup>8</sup> 13	550.1 ✓ 3 <sup>4</sup> ¢	553.2 ✓ 0 <sup>9</sup> 13	" " " " " "
+25	543.4 10.7 20	545.4 ✓ 8 <sup>7</sup> 13	548.2 ✓ 5 <sup>9</sup> ¢	549.9 ✓ 4 <sup>2</sup> 13	" " " " " "
+44	531.1 ✓ 22 <sup>9</sup> 23 S. edge Rd.	533.2 ✓ 20 <sup>9</sup> 13	536.9 ✓ 17 <sup>2</sup> ¢	540.8 ✓ 13 <sup>2</sup> 13	" " " " " "

Gentle slope on South

539.4  
9.4  
21

same slope as sec's

" " " " " "

" " " " " "

" " " " " "

" " " " " "

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	554.12 ✓	Lf.	Φ	Rt.
345+75	531.5 22.6 ± 21 rd.	538.4 ✓ 15.7 13	547.6 ✓ 6.5 Φ	551.4 ✓ 2.1 13
346+00	531.8 ± 22.3 ± 22 rd	537.1 ✓ 17.0 13	543.7 ✓ 10.4 Φ	550.4 ✓ 3.1 13

same slope for 20' out

T.P.	12.93	541.19 ✓		
3.03	544.22 ✓			

+50	532.4 ± 11.8 ± 22 rd.	536.8 ✓ 7.4 13	538.7 ✓ 5.5 Φ	545.2 ✓ +1.0 13
347+00	522.1 ✓ 22.1 River 100	533.1 ✓ 11.1 4.5 } N. edge Rd.	533.0 ✓ 11.2 2.5 } S. edge Rd.	535.8 ✓ 8.4 13
			536.7 ✓ 7.5 Φ	539.9 ✓ 4.3 13

same slope 20' out

+50	533.0 ± 10.6 ± 30 rd.	533.6 ✓ 10.6 13 } S. Edge Rd.	535.9 ✓ 8.3 Φ	536.2 ✓ 8.0 Toe slope 9
348+00	533.4 ✓ 10.8 N. edge 33 Rd.	533.8 ✓ 10.4 13	533.9 ✓ 10.3 9	538.0 ✓ 6.3 2-1 slope 13
			533.8 ✓ 10.4 Φ	535.9 ✓ 8.3 Toe slope 2-1 13

T.P.	9.94	534.28 ✓		
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+50	7.62	541.90 ✓		
349+00		533.9 ✓ 8.0 N. edge 20 Rd.	534.3 ✓ 7.6 13	534.4 ✓ 7.5 S. edge Φ Rd.
		534.9 ✓ 7.0 "	535.1 ✓ 6.8 13	535.6 ✓ 6.3 Φ
				535.1 ✓ 6.8 Toe slope 2-1 13
				535.8 ✓ 6.1 " " 2-1 7
				538.6 3.3 13

+50	536.4 ✓ 5.5 "	536.6 ✓ 5.3 13	536.9 ✓ 5.0 S. edge Φ And Toe	541.5 ✓ 0.4 7
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541.3 ✓ 0.6 13	533.9 +2.0 ± 20
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	541.90	Lf.	Φ	Rt.
350+00	522.5 <sup>✓</sup> 19 <sup>2</sup> River 90	540.0 <sup>✓</sup> 12 34	536.8 <sup>✓</sup> 5 <sup>1</sup> 13	536.8 <sup>✓</sup> 5 <sup>1</sup> 3
		N. edge Rd.	S. edge Rd. And Toe slope	4 <sup>1</sup> Φ
+50		535.8 <sup>✓</sup> 6 <sup>1</sup> -N. edge 21 Rd.	536.0 <sup>✓</sup> 5 <sup>2</sup> 13	535.9 <sup>✓</sup> 6 <sup>2</sup> Φ
			S. edge Rd. And Toe slope	4 <sup>1</sup> Φ
351+00		535.4 <sup>✓</sup> 6 <sup>5</sup> 22	535.7 <sup>✓</sup> 6 <sup>2</sup> 13	536.0 <sup>✓</sup> 5 <sup>2</sup> 7
				S. edge Rd. And Toe slope
+50		535.4 <sup>✓</sup> 6 <sup>5</sup> 20	535.6 <sup>✓</sup> 6 <sup>2</sup> 13	535.7 <sup>✓</sup> 6 <sup>2</sup> 10
				S. edge Rd.
352+00		535.6 <sup>✓</sup> 6 <sup>2</sup> -N. edge 13 Rd.	536.3 <sup>✓</sup> 5 <sup>2</sup> Φ	536.0 <sup>✓</sup> 5 <sup>2</sup> 13
		same slope as		
+50		536.3 <sup>✓</sup> 5 <sup>6</sup> 23	536.2 <sup>✓</sup> 5 <sup>7</sup> 13	536.6 <sup>✓</sup> 5 <sup>2</sup> Φ
				S. edge Rd.

T.P. 5.32 536.58  
 10.42 547.00  
 B.M. 7.31 539.69 check on B.M. #6 - Rec. Elev. 539.69

353+00	523.0 <sup>✓</sup> 24 <sup>2</sup> River 140	525.9 <sup>✓</sup> 21 <sup>1</sup> 130	526.8 <sup>✓</sup> 20 <sup>2</sup> 105	536.8 <sup>✓</sup> 10 <sup>2</sup> -N. edge 26 Rd.	537.1 <sup>✓</sup> 9 <sup>2</sup> 13	536.7 <sup>✓</sup> 10 <sup>2</sup> -S. edge Rd.	536.8 <sup>✓</sup> 10 <sup>2</sup> 13	same slope as
+50		537.8 <sup>✓</sup> 9 <sup>2</sup> -N. edge 31 Rd.	537.8 <sup>✓</sup> 9 <sup>2</sup> 13	537.6 <sup>✓</sup> 9 <sup>4</sup> -S. edge 9 Rd.	538.7 <sup>✓</sup> 8 <sup>2</sup> Φ	540.9 <sup>✓</sup> 6 <sup>1</sup> 13		
354+00		539.3 <sup>✓</sup> 7 <sup>7</sup> -N. edge 35 Rd.	538.9 <sup>✓</sup> 8 <sup>1</sup> 13	544.1 <sup>✓</sup> 2 <sup>2</sup> Φ	543.5 <sup>✓</sup> 3 <sup>2</sup> 13	543.4 <sup>✓</sup> 2.8 <sup>1</sup> 20		

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	547.00 ✓	Lf.	¢	Rt.						
354+50	540.0 ✓ 7° N. edge 34 Rd.	539.9 ✓ 7° S. edge 13 Rd.	542.0 ✓ 5° ¢	543.6 ✓ 3° 13	same slope 20'					
355+00	541.0 ✓ 6° N. edge 27 Rd.	541.4 ✓ 5° 13	541.1 ✓ 5° 5	540.6 ✓ 6° ¢	543.9 ✓ 3° 13					
+50	542.9 ✓ 4° 25	543.0 ✓ 4° 13	542.5 ✓ 4° 3	542.9 ✓ 4° ¢	546.3 ✓ 0° 13					
356+00	531.1 ✓ 15° 190	533.6 ✓ 13° 60	547.0 ✓ 0° 37	543.9 ✓ 3° 24	543.9 ✓ 3° 13	543.8 ✓ 3° 2	545.7 ✓ 1° ¢	552.7 ✓ +5° 4	553.0 ✓ +6° 13	" " "
	524.5 ✓ 22° 260	527.9 ✓ 19° 245	N. edge Rd.							

T.P. 2.98 544.02 ✓  
4.58 548.60

+50	543.7 ✓ 4° 22	543.7 ✓ 4° 13	543.9 ✓ 4° ¢	543.9 ✓ 4° S. edge 4 Rd.	549.3 ✓ +0° 13	same slope 20'		
357+00	534.5 ✓ 14° 50	535.0 ✓ 13° 28	542.5 ✓ 6° N. edge 11 Rd.	542.7 ✓ 5° ¢	543.0 ✓ 5° 10	544.1 ✓ 4° S. slope 2-1 13	gravelly clay	
+50	536.4 ✓ 12° 40	536.6 ✓ 12° 21	542.2 ✓ 6° 11	542.8 ✓ 5° ¢	542.9 ✓ 5° 10	544.7 ✓ 3° 13	537.0 +1.0 2-1 17	
358+00	536.4 ✓ 12° 37	536.8 ✓ 11° 28	542.9 ✓ 5° 17	543.1 ✓ 5° 13	543.4 ✓ 5° ¢	543.3 ✓ 5° 6	544.9 ✓ 3° 10	553.6 +5.0 2-1 15
+50	535.3 ✓ 13° 50	535.6 ✓ 13° 40	543.9 ✓ 4° 28	544.0 ✓ 4° 13	543.4 ✓ 5° S. edge ¢	543.3 ✓ 5° ¢	544.9 ✓ 3° 10	1-1 for 14' then 2-1

Plotted  
G.W.G.  
4-12-35

	548.60 ✓		Lf.	¢	Rt.				
359+00	529.1 ✓ 19 <sup>3</sup> / <sub>170</sub> River	533.5 ✓ 15 <sup>1</sup> / <sub>150</sub>	535.5 ✓ 13 <sup>1</sup> / <sub>50</sub>	544.4 ✓ 4 <sup>2</sup> / <sub>33</sub> N.edge Rd.	544.1 ✓ 4 <sup>5</sup> / <sub>13</sub>	543.1 ✓ 5 <sup>5</sup> / <sub>¢</sub> S.edge Rd.	543.6 ✓ 5 <sup>0</sup> / <sub>¢</sub> Toe slope 1-1 for 16' then 3-1	gravelly clay	
+50			543.7 ✓ 4 <sup>2</sup> / <sub>26</sub> N.edge Rd.	543.6 ✓ 5 <sup>0</sup> / <sub>¢</sub>	543.0 ✓ 5 <sup>6</sup> / <sub>¢</sub>	542.9 ✓ 5 <sup>7</sup> / <sub>10</sub>	542.9 ✓ +1.0 23	542.9 ✓ 546.6 ✓ +8.0 25	3-1
360+00			542.4 ✓ 6 <sup>2</sup> / <sub>22</sub>	543.0 ✓ 5 <sup>5</sup> / <sub>¢</sub>	543.0 ✓ 5 <sup>6</sup> / <sub>¢</sub>	542.7 ✓ 5 <sup>7</sup> / <sub>9</sub> S.edge Rd.	543.4 ✓ 5 <sup>2</sup> / <sub>13</sub> Toe slope 1-1 for 15' then 4-1		
+50			542.5 ✓ 6 <sup>1</sup> / <sub>17</sub>	542.7 ✓ 5 <sup>7</sup> / <sub>13</sub>	542.9 ✓ 5 <sup>7</sup> / <sub>¢</sub>	542.4 ✓ 6 <sup>2</sup> / <sub>11</sub>	543.9 ✓ 4 <sup>7</sup> / <sub>13</sub>		
T.P.	5.15	548.32 ✓	5.43	543.17 ✓					
361+00			542.2 ✓ 6 <sup>1</sup> / <sub>21</sub> N.edge Rd.	542.6 ✓ 5 <sup>7</sup> / <sub>13</sub>	542.7 ✓ 5 <sup>6</sup> / <sub>¢</sub>	542.4 ✓ 5 <sup>7</sup> / <sub>8</sub> S.edge Rd.	543.7 ✓ 4 <sup>6</sup> / <sub>13</sub> Toe slope 0.0 + +12.0 = 4-1	542.3 ✓ 540.3 ✓ 18 18	
+50			541.9 ✓ 6 <sup>4</sup> / <sub>27</sub>	542.8 ✓ 5 <sup>5</sup> / <sub>17</sub>	542.9 ✓ 5 <sup>4</sup> / <sub>13</sub>	542.8 ✓ 5 <sup>5</sup> / <sub>¢</sub>	542.6 ✓ 5 <sup>7</sup> / <sub>5</sub>	543.5 ✓ 4 <sup>8</sup> / <sub>9</sub>	545.5 ✓ 537.5 ✓ 2.8 + 2.2 = 2-1 17 20
362+00	530.3 ✓ 18 <sup>0</sup> / <sub>55</sub> River	532.3 ✓ 16 <sup>0</sup> / <sub>40</sub>	543.0 ✓ 5 <sup>3</sup> / <sub>22</sub>	543.1 ✓ 5 <sup>2</sup> / <sub>13</sub>	542.9 ✓ 5 <sup>4</sup> / <sub>¢</sub> S.edge Rd. And Toe slope				
+50			543.5 ✓ 4 <sup>8</sup> / <sub>22</sub> N.edge Rd.	543.5 ✓ 4 <sup>8</sup> / <sub>13</sub>	543.1 ✓ 5 <sup>2</sup> / <sub>¢</sub>	542.9 ✓ 5 <sup>4</sup> / <sub>1</sub>	543.7 ✓ 5 <sup>49.3</sup> / <sub>+1.0</sub> 1 1/2 = 1		1-1 for 10' then 3-1 rock
363+00			543.4 ✓ 4 <sup>7</sup> / <sub>20</sub>	543.9 ✓ 4 <sup>4</sup> / <sub>13</sub>	543.7 ✓ 4 <sup>6</sup> / <sub>¢</sub>	543.9 ✓ 4 <sup>4</sup> / <sub>5</sub> S.edge Rd. And Toe slope	1 1/2 = 1 slope		
+50			544.4 ✓ 3 <sup>7</sup> / <sub>20</sub>	544.6 ✓ 3 <sup>7</sup> / <sub>13</sub>	544.7 ✓ 3 <sup>6</sup> / <sub>¢</sub>	544.9 ✓ 3 <sup>4</sup> / <sub>6</sub>	1 1/2 = 1 for 8' then 2-1		

Plotted  
G.W.C.  
A-12-35

	548.32 <sup>✓</sup>		Lf.	Φ	Rt.	
364+00		544.8 <sup>✓</sup> 3 <sup>1</sup> / <sub>2</sub> N. edge 19 Rd.	545.6 <sup>✓</sup> 2 <sup>1</sup> / <sub>2</sub> 13	545.7 <sup>✓</sup> 2 <sup>6</sup> / <sub>16</sub> Φ	545.6 <sup>✓</sup> 2 <sup>1</sup> / <sub>2</sub> 3	S. edge Rd. 1 1/2-1 for 9', then 2 1/2, 2 1/2, then And toe slope
+50		546.1 <sup>✓</sup> 2 <sup>2</sup> / <sub>16</sub> 18	546.4 <sup>✓</sup> 1 <sup>2</sup> / <sub>16</sub> 13	546.9 <sup>✓</sup> 1 <sup>2</sup> / <sub>16</sub> Φ	547.4 <sup>✓</sup> 0 <sup>9</sup> / <sub>16</sub> 9	" 1 1/2-1 for 50'
T.P.		1.38	546.94 <sup>✓</sup>			
	6.70	553.64 <sup>✓</sup>				
365+00		530.7 <sup>✓</sup> 22 <sup>1</sup> / <sub>9</sub> RIVER 45 And toe slope	546.9 <sup>✓</sup> 6 <sup>1</sup> / <sub>2</sub> N. edge 19 Rd.	547.5 <sup>✓</sup> 6 <sup>1</sup> / <sub>2</sub> 13	548.0 <sup>✓</sup> 5 <sup>6</sup> / <sub>16</sub> Φ	548.0 <sup>✓</sup> 5 <sup>6</sup> / <sub>16</sub> 6
+50		548.3 <sup>✓</sup> 5 <sup>3</sup> / <sub>16</sub> 21	548.8 <sup>✓</sup> 4 <sup>8</sup> / <sub>16</sub> 13	548.9 <sup>✓</sup> 4 <sup>7</sup> / <sub>16</sub> Φ	549.1 <sup>✓</sup> 4 <sup>5</sup> / <sub>16</sub> 5	" 1 1/2-1 for 50'
366+00		548.5 <sup>✓</sup> 5 <sup>1</sup> / <sub>16</sub> 16	548.7 <sup>✓</sup> 4 <sup>9</sup> / <sub>16</sub> 13	549.0 <sup>✓</sup> 4 <sup>6</sup> / <sub>16</sub> Φ	549.0 <sup>✓</sup> 4 <sup>6</sup> / <sub>16</sub> 7	" 1-1 for 15', 2-1 for 30'
+50		547.4 <sup>✓</sup> 6 <sup>2</sup> / <sub>16</sub> 15	548.0 <sup>✓</sup> 5 <sup>6</sup> / <sub>16</sub> 13	548.7 <sup>✓</sup> 4 <sup>9</sup> / <sub>16</sub> Φ	549.0 <sup>✓</sup> 4 <sup>6</sup> / <sub>16</sub> 11	" 2-1 for 50'
367+00		547.9 <sup>✓</sup> 5 <sup>7</sup> / <sub>16</sub> 16	548.5 <sup>✓</sup> 5 <sup>1</sup> / <sub>16</sub> 13	548.5 <sup>✓</sup> 5 <sup>1</sup> / <sub>16</sub> Φ	548.9 <sup>✓</sup> 4 <sup>7</sup> / <sub>16</sub> 10	" 1-1 for 8', 3-1 for 40'
+50		549.2 <sup>✓</sup> 4 <sup>4</sup> / <sub>16</sub> 24	549.1 <sup>✓</sup> 4 <sup>5</sup> / <sub>16</sub> 13	549.0 <sup>✓</sup> 4 <sup>6</sup> / <sub>16</sub> S. edge 4 Rd. and toe slope	550.8 <sup>✓</sup> 2 <sup>8</sup> / <sub>16</sub> Φ	" 1-1 for 5', 5-1 for 30'
368+00		532.8 <sup>✓</sup> 20 <sup>8</sup> / <sub>80</sub> RIVER 80	542.3 <sup>✓</sup> 11 <sup>3</sup> / <sub>16</sub> 45	549.0 <sup>✓</sup> 4 <sup>6</sup> / <sub>16</sub> 30	549.6 <sup>✓</sup> 4 <sup>0</sup> / <sub>16</sub> 13	549.4 <sup>✓</sup> 4 <sup>2</sup> / <sub>16</sub> Φ
					549.7 <sup>✓</sup> 3 <sup>9</sup> / <sub>16</sub> 4	" 1-1 for 7', 6-1 for 30'
T.P.		4.14	549.50 <sup>✓</sup>			

Cont'd. in Book # 308 - Page 47

Plotted  
6.11.6.35  
4-13-35

3/23/35  
ch  
RTN









Sta. Elev.

3415 - 2.6

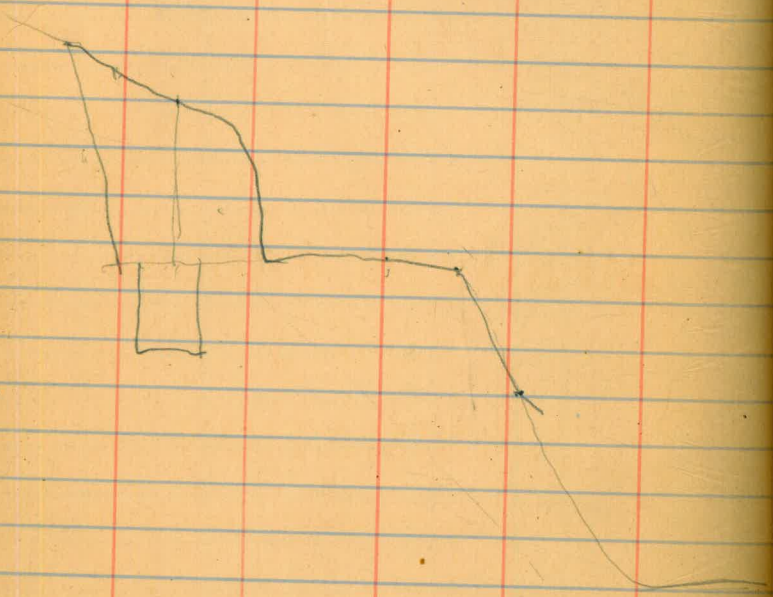
L.

R

$\frac{+4.8}{5.8}$

$\frac{+0.3}{2.6}$

5/2  
3



DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder  
 stake for any width roadway, slope 1 to 1  
 If ground is nearly level, the cut or fill at side  
 stake is located by the double entry method in  
 left column and top row. The number in body

**IMPROVED TABLES**  
**AND**  
**INFORMATION**

TABLE No. 2.

To find Tangent and External for curve of  
 any other degree divide by degree of curve and  
 add correction found in column of correction  
 Figure of curve with a given I may be found  
 by dividing tangent (or external) opposite I by  
 given tangent (or external).  
 The distance from a point on the tangent to  
 the curve is very nearly the square of the tangent  
 length divided by twice the radius.

$$\begin{array}{r} 81.225 \\ 37.195 \\ \hline 166.91 \\ 100 \\ \hline 266.91 \\ 100 \\ \hline 366.91 \\ 100 \\ \hline 466.91 \\ 100 \\ \hline 566.91 \\ 100 \\ \hline 666.91 \\ 100 \\ \hline 766.91 \\ 100 \\ \hline 866.91 \\ 100 \\ \hline 966.91 \\ 100 \\ \hline 1066.91 \end{array}$$

pipe line  
 415 + 10.54  
 418 + 17.89

N 48.53 W  
 N 27.19 W

319.12  
 185.42

209.85  
 164.74

1082.3

	Bearing	Distance	N	S	E	W.	com	Sum
353+93.31	S 25° 27' W	993.31		896.92		426.85	90296	42972
364+60.46	S 80° 13' W	1080.67		183.63		1064.96	16992	98546
368+96.34	S 81° 49' W	435.88		62.04		431.44	14234	98982
383+10.74	S 80° 22' W	1414.40		236.69		1394.46	16734	98590
396+57.02	S 80° 11' W	1346.68		229.6		1326.96	17050	98536
407+65.88	S 80° 16' W	1108.46		187.40		1092.51	16906	98561
409+75.39	N 11° 10' W	199.02	195.25	<del>195.25</del>		38.54	98107	19366
411+08.98	N 52° 56' W	190.73	114.96	<del>114.96</del>		152.19	60274	79793
415+10.54	N 85° 53' W	406.51	29.18			405.46	07179	99742
418+17.89	N 48° 53' W	319.12	209.85			240.42	65759	75337
420+01.26	N 27° 19' W	185.42	16474			85.09	88848	45891
	N 80° 46' E	6746.30						

713.98 1796.29 06658.88  
 713.98  
 1082.31

This point is  
 N 80° 24' E  
 378.21 from  
 end of E/Cap.  
 pipeline

1792.31  
 65793

$$\begin{array}{r} 377 + 67.63 \\ 23 + 26.08 \\ \hline \end{array}$$

$$\begin{array}{r} 400 + 9371 \\ 6 + 67 \\ \hline 10441 \end{array}$$

$$\begin{array}{r} 418401.7 \\ 50 \\ \hline \end{array}$$

$$\begin{array}{r} 417 + 52. \\ 423 + 56 \\ \hline \end{array}$$

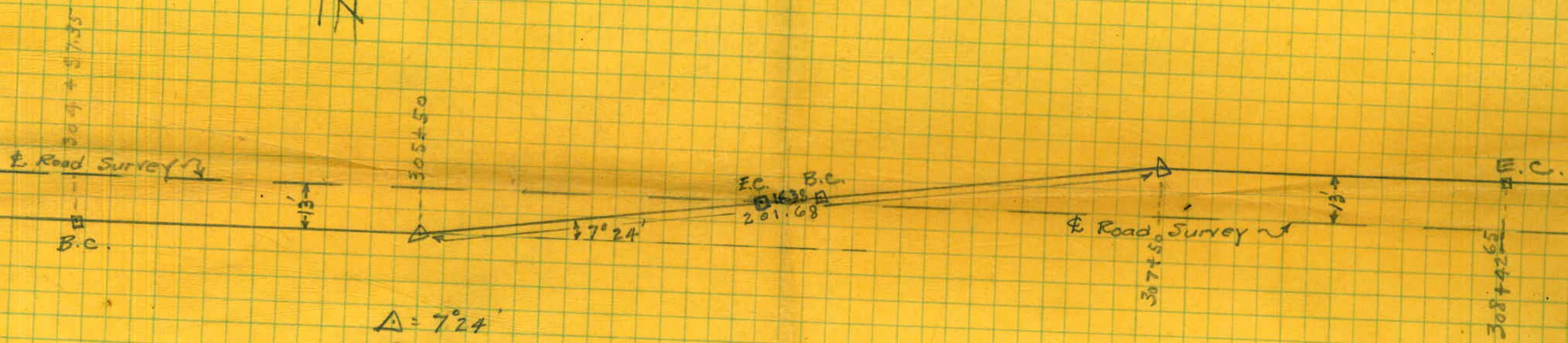
$$6404$$

$$1041$$

$$\begin{array}{r} 1645 + \text{total} \\ \hline \end{array}$$

Distance Sored  
by 1935 relocation.

$$\begin{array}{r} 1172 \\ 131 \\ \hline 1041 \end{array}$$



$\Delta = 7^{\circ}24'$   
 $D = 4^{\circ}$   
 $R = 1432.69$   
 $T = 92.65$   
 $L = 185.00$   
 $E = 2.99$

550.7

542.

---

8.7

1.

---

9.7

(10.)

0166  
1024  
166334  
166644  
567497  
55  
54418