

W

529

1911

1912

1913

1914

1915

1916

1917

1918

1919

1920

1921

1922

1923

1924

1925

1926

1927

EUGENE DIETZGEN CO.

529

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS
Chicago New York San Francisco New Orleans Pittsburg Toronto

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1.

MICROFILMED

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

This Field Book is manufactured
of a high grade 50% Rag Paper
having a WATER RESISTING surface.

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2$ or 2 ft. added to $30.6 = 32.6$. For slopes of 1 on 1½ see inside of back cover.

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Construction Book EC. 3H1.

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" " " 25+93.99 - 26+75	45
" " " 11+50 - 12+64.26	46
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" " " 19+50 - 23+16.42	49 - 50
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" " " 26+00 - 28+50	52 - 53
" " " 30+89.88 - 33+32.81	54
" " " 36+00 - 37+46.11	55
" " " 28+75 - 30+89.88	56 - 57
" " " 39+78.25 - 42+30	58 - 59

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Profile-13' offsets, South of st. 104+00 - 119+50.93	60-63
Grades in ditch sta. 34+87.34 - 35+97.02	64
" " " " 33+75 - 34+75	65
" " " " 42+50 - 43+94.49	66
" " " " 55+04.94 - 59+95.03	67-68
" " " " 38+75 - 39+50	69
" " " " 37+75 - 39+78.25	70
" " " " 60+25 - 64+31.15	71-72
(Original x-section V. Chamber 160+00)	
{ New B.M. #17.11 }	73
Grades in ditch sta. 43+50 - 46+59.24	74-75
" " " " 46+00 - 51+28.39	76-77

May 6 1936
56 per
1360 ft
Remmen

Grade stakes in ditch 15+25 - 15+77.40

B.M.#2 570.57

6.38 576.95

TP 8.46 568.49

3.81 572.30

15+25 9.53 62.77

+50 9.75 62.55

+77.40 10.00 62.30

Ground level of ditch from grade stake
Distance + or - from grade stake
Not to be used for x-section.
Not an average between stations.
Taken at time of setting grades,
before fine grade

+0.5

0.0

-0.2

May 8, 1936

Soper
L. Bell
Remmen

Grade stakes in ditch sta. 16+00 - 17+25

B.M. 2 2.47 570.57

573.04

16+00 10.94 62.10

+25 11.17 61.87

+50 11.39 61.65

+76.1 11.62 61.42

17+00 11.84 61.20

+25 11.89 61.15

Bottom of ditch

+0.6

-0.1

+0.1

+0.5

+0.7

+1.0

May 6 1936
 Converse
 Super
 Remmen
 1364

Profile and cuts for blowoff ditch sta. 17+00

B.M. 2 2.59 573.16 570.57

0+00
 (E of ditch
 at Sta 17+00)

5.4 67.8

0+17 5.9 67.3

0+27 2.1 71.1

+43 7.3 65.9

+65 7.1 66.1

TP 11.00 562.16

3.90 566.06

0+76 6.2 59.9

Copied into Book 534

Void - see page 23.

Staked for 0.5 below grade - 0+17 - 0+76. Grade = -1.0%

Grade	cut to grade	cut for 0.5 below grade
-------	--------------	-------------------------

561.2	6.6	6.6
-------	-----	-----

61.0	6.3	$\begin{array}{r} \uparrow 1.3 \\ 6.8 \\ \downarrow \end{array}$
------	-----	--

60.9	10.2	10.7
------	------	------

60.8	5.1	5.6
------	-----	-----

60.5	5.6	6.1
------	-----	-----

60.4	0.9	0.0
------	-----	-----

May 8 1936
 Soper
 Remmen
 isbell.

4

x-section for valve chamber sta 13+00

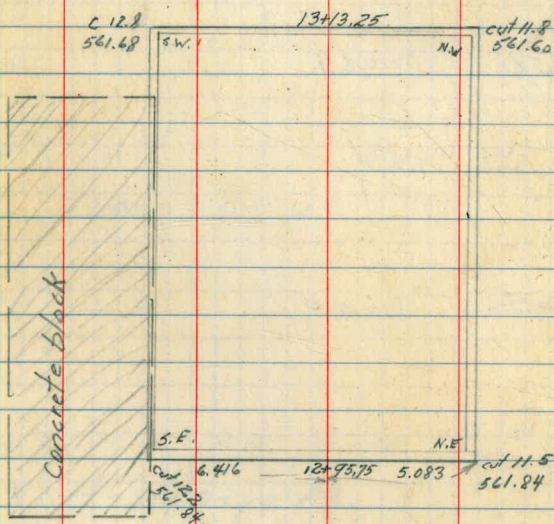
B.M. 13.09 576.74 563.65

LT 4 RT

12+95.75 $\frac{2.7}{6.4}$ 2.7 $\frac{3.4}{5.1}$

13+13.25 $\frac{2.3}{6.4}$ 2.8 $\frac{3.3}{5.1}$

⊕



⊕

Concrete above ground, but not shown in
 x-section, to be moved for valve chamber

$$\begin{aligned}
 9.6 \times 0.5 \times 0.5 &= 2.40 \text{ cu. ft.} \\
 4.8 \times 1.5 \times 0.3 &= 2.16 \text{ " " } \\
 \hline
 &= 4.56 \text{ " " } \\
 &4
 \end{aligned}$$

copied into Book $\frac{534}{31}$

May 11 1936
Soper
Remmen
Isbed

Cuts in ditch 12+00 - 12+75

B.M. #1			563.65
	12.83	576.48	
TP		6.26	570.22 (set new B.M.)
	8.53	578.75	
12+50		12.50	566.25 (cut 1°)
12+75		11.73	567.02 (cut 2°)
12+00		10.75	568.00 (cut 4°)

May 11 1936
Sber
Remmen
Isbell

Profile over 10' offsets sta 18+00 - 19+50

B.M. 3 6.06 574.95 568.89 Grade

18+00 6.4 68.5 61.0 7.5

+25 5.9 69.0 60.95 8.0

+50 5.3 69.6 60.90 8.7

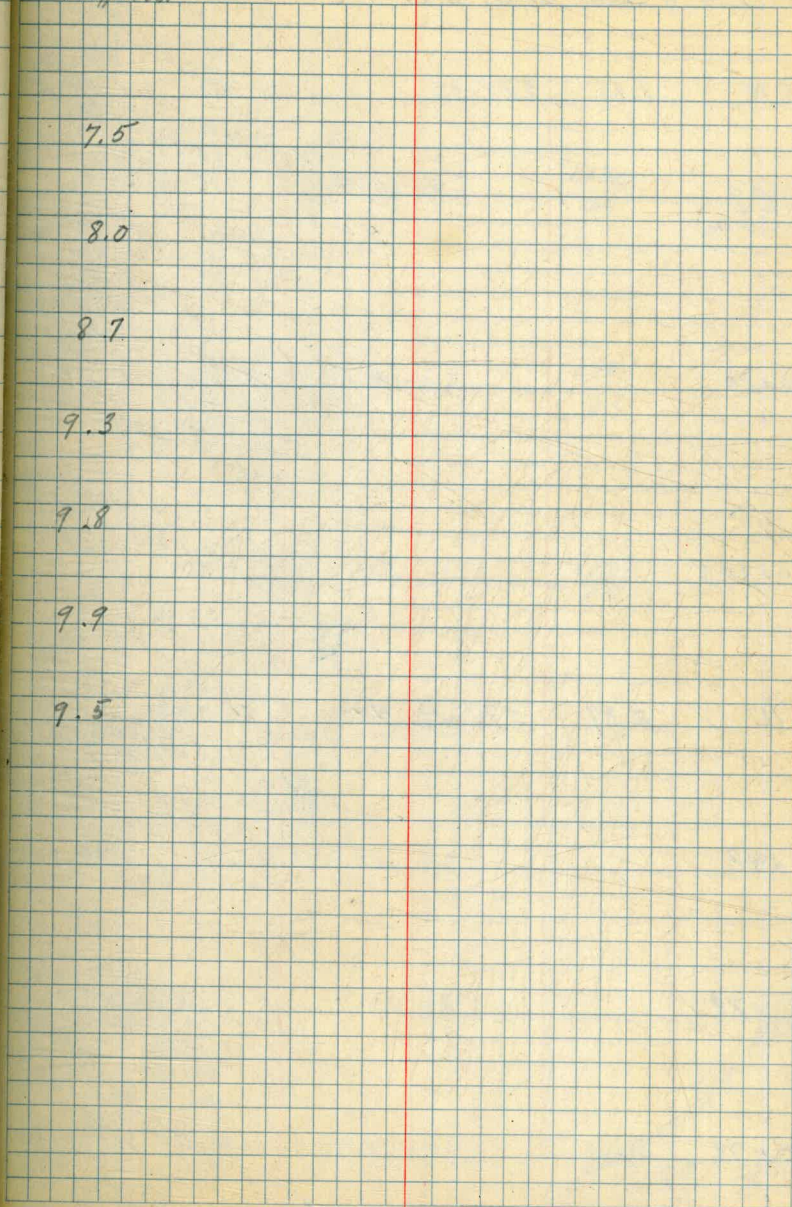
+75 4.8 70.1 60.85 9.3

19+00 4.3 70.6 60.80 9.8

+50 4.3 70.6 60.70 9.9

+66.20 4.7 70.2 60.67 9.5

10' offset cut



May 12 1936
Soper
Remmen
Isbell

Profile of drain ditch sta 13+12.

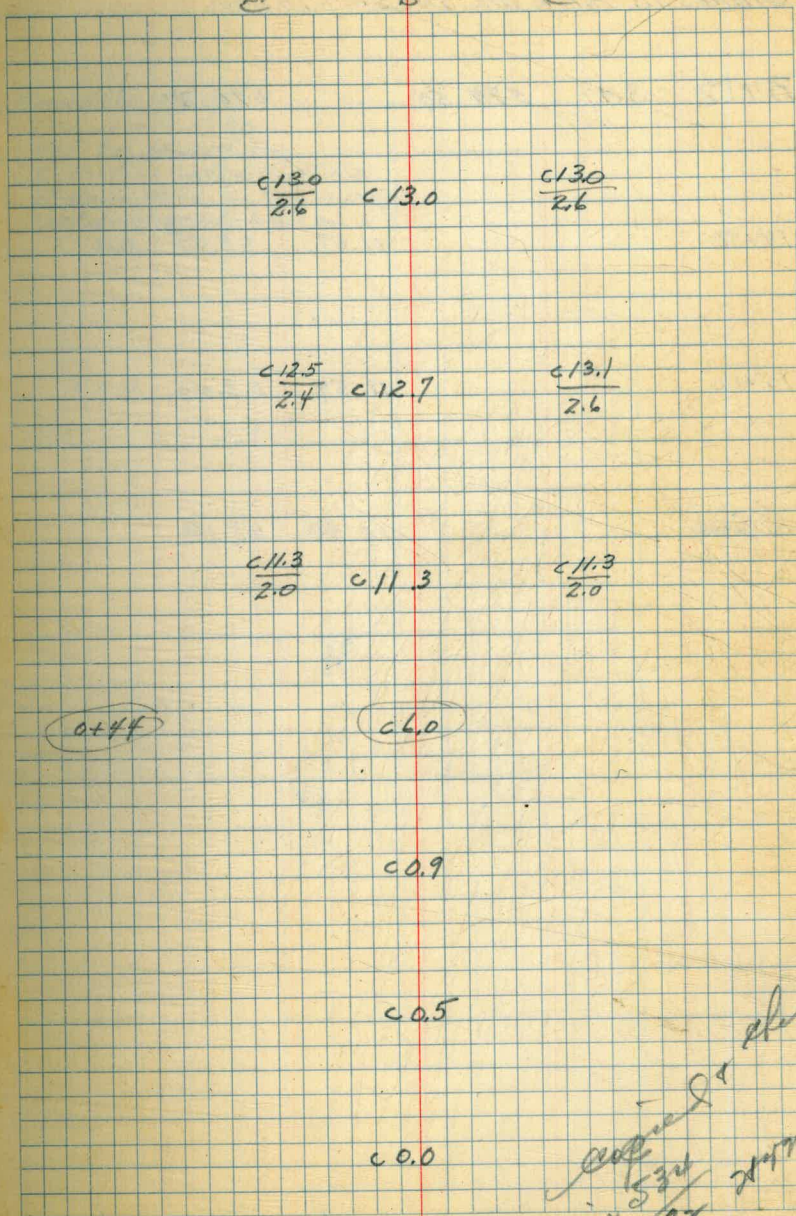
Grade

B.M	8.10	578.32	570.22	
0+00 (N. side of valve chamber)		4.7	73.6	560.6
0+20		5.2	73.1	60.4
0+35.5		6.8	71.5	60.2
IP	2.37	571.21	9.48	568.84
+48		10.2	61.0	60.1
+78		10.9	60.3	59.8
+78		11.4	59.8	59.8

20" wide,
bottom c' vert. $\frac{1}{4}$ slope
Grade - 1.0%

7

Lt E Rt



copied & checked
in 5/31/36
3/2/36

May 12 1936
Soper
Remmen
Isbell

Grades in ditch sta 14+50 - 15+00

B.M. 2 3.97 574.54 570.57

14+50 11.09 63.45

15+00 11.54 63.00

check 16+00 12.44 62.10

Ground level of ditch
from grade stake
Not to be used for
X-section - actual distance
at grade stake, not an average
between grade stakes.
0.0

+ 0.2

May 12 1936
Soper
Remmen
132011

9

Profile over 10 offsets 19+75 - 20+75

B.M. #3 1.90 570.79 568.89

19+75 1.8 69.0 60.65 c 8.4

20+00 2.7 68.1 60.60 c 7.5

+25 2.4 68.4 60.55 c 7.9

+56 2.2 68.6 60.50 c 8.1

+75 4.1 66.7 60.45 c 6.3

May 13 1936
Soper
Rehman
Isbell

Grades in ditch sta 17+50 - 19+00

BM^{#2} 3.21 573.78 570.57

don 17+25 12.63 61.15

17+50 12.68 61.10

18+00 12.78 61.00

+25 12.83 60.95

150 12.88 60.90

175 12.93 60.85

19+00 12.98 60.80

See page 16.

Bottom of ditch

0.0

+ 0.4

+ 0.3

- 0.3

+ 0.5

0.0

May 13 1936

Cooper
Pfeiffer
Isbell

Profile over 10' offsets sta. 20+75 - 24+00 Grade

BM[#] 3 2.17 570.86 568.69

20+75 2.7 68.2 60.45

21+00 4.2 66.7 60.40

+25 5.0 65.9 59.85

+50 5.1 65.8 59.30

+72.6 5.0 65.9 58.80

22+00 5.2 65.7 58.20

+50 6.8 64.1 57.10

23+00 7.3 63.6 56.00

+50 7.8 63.1 56.20

24+00 7.3 63.6 56.40

offset cut

7.8

6.3

6.1

6.5

7.1

7.5

7.0

7.6

6.9

7.2

See page 16.

May 14 1956

Jager
Remmen
Isbell

12

Grades in ditch sta 19+18.15 - 21+72.66

B.M. 2 3.43 574.00 570.57

TP 11.68 562.32

7.91 570.23

Chen 19+00 9.43 60.80

19+18.15 EC 9.47 60.76

+66.20 BC 9.56 60.67

+75 9.58 60.65

20+00 9.63 60.60

+25 9.68 60.55

+50 9.73 60.50

21+00 9.83 60.40

+25 10.38 59.85

+50 10.93 59.30

+72.66 EC 11.43 58.80

Bottom of ditch

-0.4

-0.7

-0.6

-0.4

-0.5

0.0

Lost

-0.3

+0.2

+0.1

May 15 1936

Sep
Permitt
15611

Profile over 10' offsets sta 24+50 - 25+50

B.M. #	0.11	568.87		Grade
24+50		5.4	63.5	56.60
25+00		4.7	64.2	56.80
25+50		4.8	64.1	57.00

10' off. cut.

6.9

7.4

7.1

May 15 1936

Soper
Kammen
Isbell

Profile over 10' offsets 26+00 - 27+13.73

B.M. #	3.22	571.98	568.76	Grade	10' off. cuts
26+00		5.2	66.8	58.65	8.2
+75		4.3	67.7	59.47	8.2
+50		3.4	68.6	60.30	8.3
+75		3.6	68.4	60.42	8.0
27+00		4.3	67.7	60.53	7.2
+13.73		4.3	67.7	60.59	7.1

May 16 1936
Soper
Remmer

Lead & back offset for Pier # 37, and pipe grade for
Pier # 35.

With Pier # 35 553.73

1.33 555.06

Pipe grade Pier # 35 4.33 550.73

1.0 above
top of concrete

for Pier # 37 2.33 552.73

May 16, 1936
Soper
Remmer

X-section for Pier # 38

offset plus
Pier # 37

552.73

1.86 554.59

4 4

11 + 07.7

$\frac{4.3}{5.0}$

61

$\frac{7.6}{5.0}$

reduced check
534
38 11

11 + 10.0

$\frac{3.3}{5.0}$

52

$\frac{6.3}{5.0}$

15

Original x-section on concrete apron for Pier # 37

11.1
0.99 553.72 552.73 (1.0 above top of conc. for Pier # 37)

Pier # 37

Lt

$\frac{11.68}{2.0}$

11.71

Rt

$\frac{11.77}{4.0}$

May 18, 1936
Super
Remmen
Isbell

Change of grades sta 17+25-20+25 to conform
to Steel Company's grade.

B.M. 2 570.57

2.61 573.18

don 17+00 11.98 61.20

17+25 12.04 61.14

+50 12.09 61.09

18+00 12.21 60.97

+25 12.27 60.91

+50 12.32 60.86

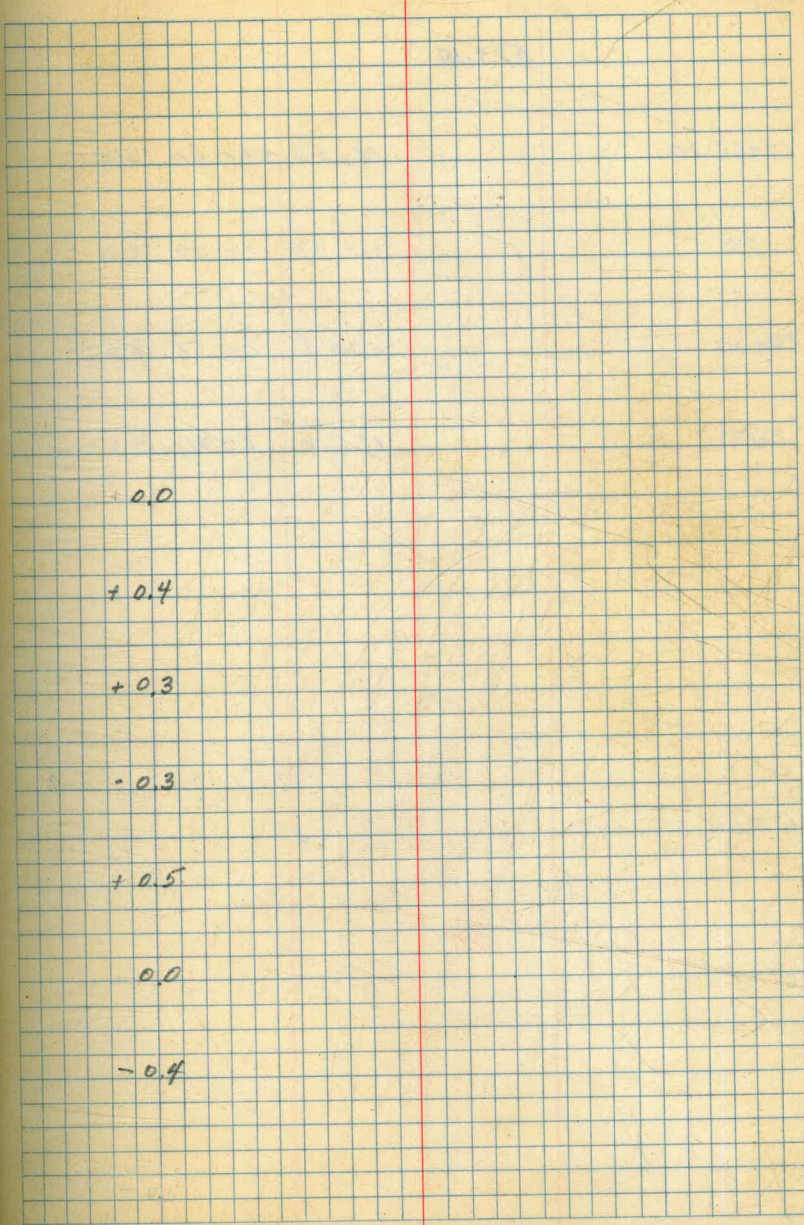
+75 12.38 60.80

19+00 12.43 60.75

+18.15 12.47 60.71

II 10.25 562.93

10.17 573.10



Cont'd from page 16.

573.10

19+66.20

12.50 560.60

+75

12.58 60.58

20+00

12.58 60.52

+75

12.64 60.46

-0.6

-0.5

-0.3

-0.4

17

May 19 1936

Soper
Isbell
Remmen

Grade in ditch sta. 14+20

B.M. 2

570.57

4.03

574.60

Sta. 14+50

11.15

63.45

14+20

10.88

63.72

Bottom of ditch

-0.1

May 20 1936

Soper
1560
Rammert

Change of grades 21+25 - 21+72.66

Grades in ditch to sta 25+54.42

B.M. 2			570.57
	2.69	573.26	
TP		2.06	571.20
	0.24	571.44	
den 20+25		10.98	60.46
21+25		11.53	59.91
+50		12.03	59.41
+72.66		12.49	58.95
22+00		13.03	58.41
TP		11.21	56.0.23
	8.13	568.36	
22+50		10.95	57.41
23+00		11.95	56.41
+15.42		12.26	56.10

Bottom of ditch
+ or - from grade.

- 0.4

+ 0.1

- 0.8

+ 0.2

- 0.2

- 1.0

- 0.2

568.36

23+50

12.11

56.25

24+00

11.89

56.47

+50

11.67

56.69

25+00

11.45

56.91

+50

11.23

57.13

+54.42

11.21

57.15

Bottom of ditch

-0.4

+0.2

-0.2

-0.1

-0.4

0.0

May 21 1936

Spry
Remmer
Kebel

21

Cuts on offsets sta 11+25-12+64.26

offset cut

Grade

D.M.

570.22

4.79

575.01

12+64.26

7.3

67.7

65.04

c 2.7

12+50

9.2

65.8

64.81

c 1.0

12+04.50

8.3

66.7

64.11

c 2.6

ok on

12+00

7.0

68.0

64.00

c 4.0

11+75

11.3

63.7

57.35

c 6.4

11+50

12.5

62.5

50.70

c 11.8

11+25

17.5

57.5

50.70

c 6.8

Approximate ground elev. N. side
at $\frac{1}{2}$ Pier 38 sta 11+08.86

27.2

47.8

TP

0.61

566.35

9.27

565.74

Nail in S.E. Cor.
Valve Chamber

4.55

61.80

562.84

FW 1.04 to top of concrete floor.

Rock in bottom
of valve chamber

3.92

62.43

May 21 1936

Super
Shell
Pumpkin

Cuts on 13' offset - sta 32+00 - 33+00

B.M. 5

579.73

4.29 584.02

32+00

2.82 81.20 73.20

c 8.0

+50

4.14 79.88 71.88

c 8.0

33+00

5.69 78.33 70.33

c 8.0

32+09.38

2.88 81.14 73.14

c 8.0

May 23 1936

Sosa
R. J. Mason
Isbell

23

Profile and cuts for blow off ditch, sta 17+00

0+00 = 2.00 Rt of ϕ of pipe sta 17+00

Grade = -1.00% from ϕ of pipe sta 17+00

			Grade
B.M. #2		570.57	
	1.98	572.55	
0+00			61.20
0+03	4.9	67.8	61.17
0+12	5.2	67.3	61.08
0+40	6.2	66.3	60.80
0+65	6.6	66.0 65.9	60.55
0+74	12.1	60.4	60.46

Neat Line Trench 4.0' wide

ϕ cut	Radius 10' offset	elev.	off. cut
		H.I. 572.55	
c 6.4	5.1	67.4	6.2
c 6.2	4.5	68.0	6.9
c 5.5	2.5	66.0	c 5.2
c 5.4	6.7	65.8	c 5.3
c 0.0	10.4	62.1	c 1.7

May 25 1936
Sager
Remmen
Isbell

24

offset plug
Pier # 37

552.73

2.78 555.51

offset hub
on N. side Pier # 38

8.00 547.51

~~Elev. - bottom of excavation for Pier # 38~~

~~offset plug
Pier # 37~~

~~552.73~~

~~0.70 553.43~~

~~Bottom of
excavation Pier # 38~~

~~12.1 541.3~~

~~Original ground elev. 547.8 - page 21~~

~~Final x-section on page 26~~

531.73

547.51

4.22

Fill 4.22 to top of concrete

May 25 1936
Soper
Isbell
Remmen

Cerades in ditch 11+75 - 12+04.50

B.M. 570.22

2.03 572.25

12+04.50 8.14 64.11

12+00 8.25 64.00

R 11.54 560.71

0.13 560.84

11+75 3.49 57.35

11+50 6.23 54.61

54.61
50.70

3.91 cut

May 26 1936

Jasper
Remman
Isbell

20

Final x-section of excavation for Pier # 38

offset piling
Pier # 37

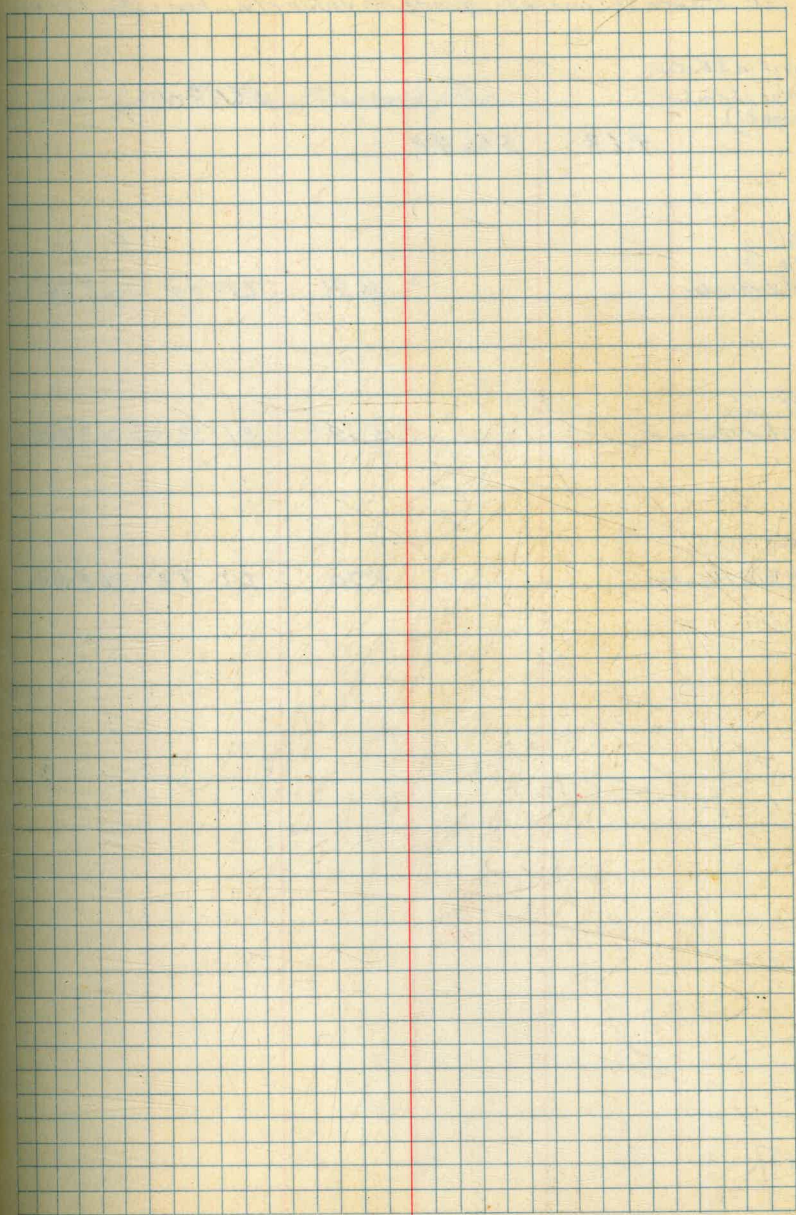
552.73

0.88 553.61

11+07.70	<u>LT</u>	<u>RT</u>
	<u>12.3</u>	<u>12.3</u>
	4.4	5.1

11+10.02	<u>12.2</u>	<u>12.1</u>
	4.4	5.1

Original x-section on page 15



May 26 1936

50 ft
Return
1st cell

Fill stakes to concrete grade in valve chamber - sta 13+00

Nail in S.E. Cor.
valve chamber
(page 21)

56.80

4.13

566.43

Nail in
N.E. Cor.
Valve chamber

Grade

4.81

61.62

62.84

Nail in
N.W. Cor.
Valve chamber

5.13

61.30

62.60

Nail in S.W.
Cor. Valve chamber

4.70

61.73

62.68

27

Fill 1.04 to top of concrete floor.

Fill 1.22 " " " "

Fill 1.30 " " " "

Fill 0.95 " " " "

May 26 1936

Sep
15
Remmen

Grade at sta 12+64.26

Grade stake
12+64.50

564.11

5.63 569.74

12+64.26

4.70 565.04

May 27 1936

Super
Remmen
Isbell

Grades in blow off ditch - started

B.M. 2 570.57

1.29 571.86

0+35 11.01 60.85

0+74 11.40 60.46

May 27 1936

Super
Remmen
Isbell

top of concrete - Pier # 38

offset plug
Pier # 37

552.73

2.83 555.56

check on fill for
Pier # 38

8.05 47.51

3.83 51.73

29

Fill 4.22 to top of concrete. $\begin{matrix} 517.51 \\ 42.22 \\ \hline 551.73 \end{matrix}$

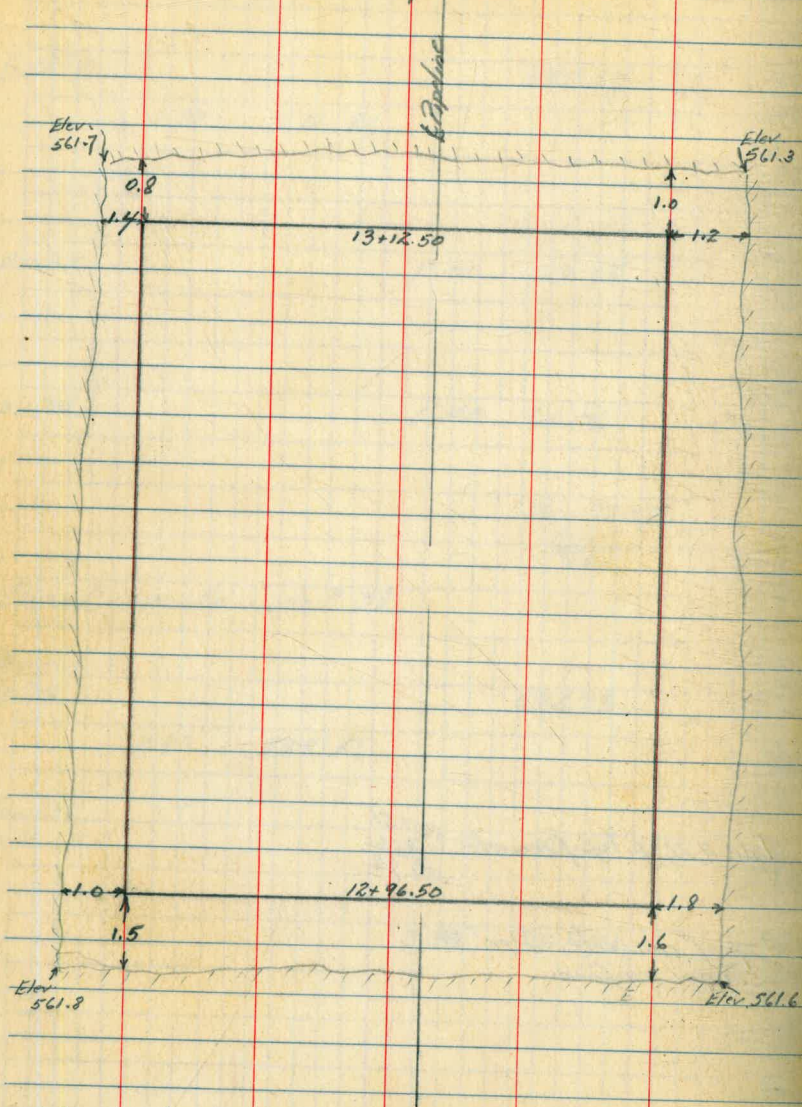
top of concrete - Pier # 38
Set nail in form.

May 28 1936

Soper
Rimmer
Isbell

30

Final x-section - bottom of valve chamber 13+00



Note: elevations shown in corners of excavation are same as elevations of nails for fill stakes - page 27

May 29 1936
Soper
Remmer
Isbell

31

Cuts for base of valve on blow off sta 17+00

B.M. #2

570.57

1.46 571.99

S.E. corner
con. block

5.3 66.7 58.71

Grade

Cut

8.0

N.E. corner

7.3 64.7 58.71

6.0

S.W. corner

4.4 67.6 58.71

8.9

N.W. corner

5.3 66.7 58.71

8.0

0+48.5 &

11.1 60.9 58.71

2.2

0+57 &

11.2 60.8 58.71

2.1

June 1 1936
Somet
L. S. Hill
Remmoo

32

Grades in ditch sta. 12+90 - 14+00

B.M. 570.22

8.22 578.44

P. 12.19 566.25

1.74 567.99

12+90 3.12 564.87

13+23 3.40 6459

13+50 3.64 6435

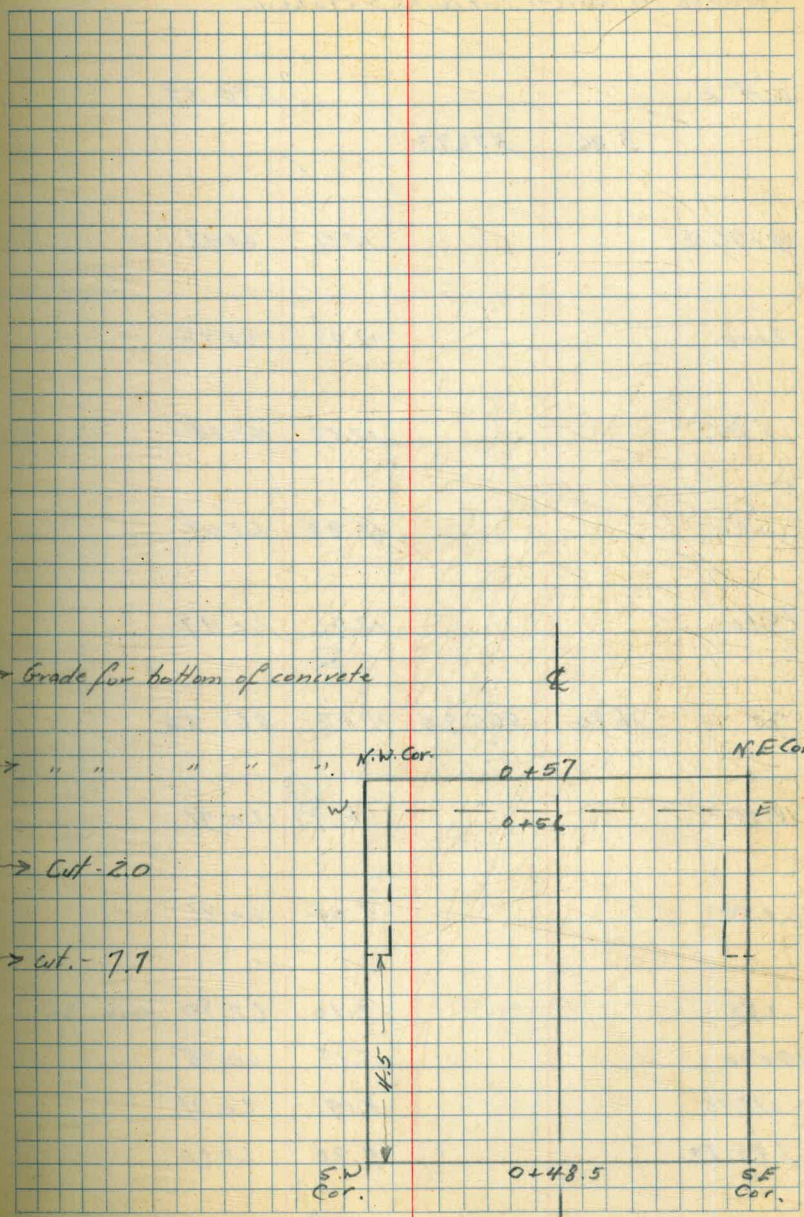
14+00 4.14 6385

June 2 1936

Soppy
126 ft
Kammers

Grades for backfill in blow off ditch and
cuts for concrete, valve base.

				Grade
B.M. 2				570.57
	0.95	571.52		
0+00				561.95
0+02		9.59	561.93	61.93
0+20		9.77	61.75	61.75
0+40		10.03	61.49	61.49
S.E. Cor.		12.81	58.71	58.71 → Grade for bottom of concrete
S.W. Cor.		12.81	58.71	58.71 → " " " "
N.E. Cor.		10.8	60.71	58.71 → Cut - 2.0
N.W. Cor.		5.1	66.4	58.71 → Cut - 7.7



June 4 1936

Super
Remmer
1260

34

Grades in ditch 16+76.12 - 19+66.20

BM ^{#2}				570.57
	3.36	573.93		
16+76.12			12.51	61.42
17+00			12.73	61.20
+25			12.79	61.14
+50			12.84	61.09
18+00			12.96	60.97
TP	4.40	565.90	12.43	561.50
18+25			4.99	60.91
+50			5.04	60.86
+75			3.10	62.80
19+00			5.15	60.75
+18.15			5.19	60.71
+96.20			5.30	60.60

Cut - 2.0

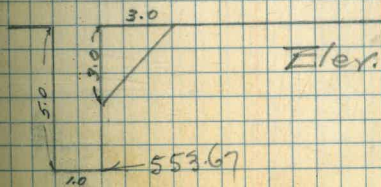
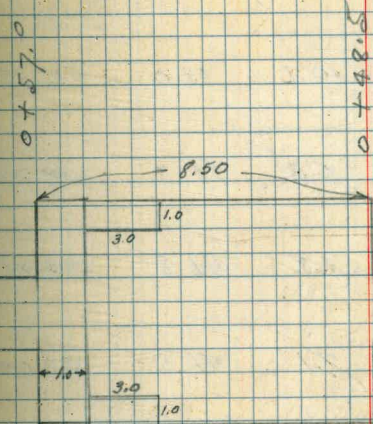
June 4 1936

Soper
Remmen
1564

Final x-section of blowoff ditch and valve base
(ditch back-filled with D.G.)

B.M. 2			570.57
	1.86	572.43	
0+02		10.5	561.9
0+20		10.7	561.7
0+48.5		10.9	561.5
TR	3.97	565.47	10.93 561.50
S.W. cor.		6.84	558.63
S.E. Cor.		6.84	558.63
0+56 (East)		7.01	558.46
0+56 (West)		6.92	558.55
0+56 (East-bottom of cutoff)		11.80	553.67
0+56 (West-bottom of cutoff)		11.80	553.67

35



Plan

Elev.

561.5

558.63

553.67

June 5 1936
Super
Remmen
Islet

36

Cutson 13' offsets 55+50-57+50 Grade

B.M. #87

539.32

9.28 548.60

57+50

10.6 38.0 531.58

57+00

5.3 43.3 32.27

56+50

6.8 41.8 32.96

56+00

7.1 41.5 33.65

55+50

7.2 41.4 34.34

55+54.94

55+04.94

4.9 43.7 34.96

Gut

6.4

11.0

9.8

7.9

7.1

8.7

June 5 1936
Soper
Remmon
Isbell

37

Grades in ditch, sta 19+75 - 21+72.66

B.M.#2			570.57		
	4.37	574.94			
R.			11.38	563.56	
	3.91	567.47			
19+75			6.89	60.58	
20+00			1.95	60.52	
+25			7.01	60.46	
+50			2.8	64.7	60.41
+75			2.1	65.4	60.35
21+00			4.9	62.6	60.29
+25			7.56	59.91	
+50			8.06	59.41	
+72.66 E.C.			8.52	58.95	

Cut 4.3

" 5.1

2.3

June 8 1936

Sgt
Remmen
Isbell

Checked elev. of Wye at Tunnel Plug

Offset plug
for Pier #2

565.06

0.77 565.83

Check on
Saddle of Pier #1

2.48 563.35

Bottom of Pipe
at West end of Wye.

2.37 563.46

June 10 1936

Spru

Rimm

1st hill

Concrete grades for anchor sta 11+50

offset plug
Pier # 37

552.73

5.65 558.38

check on grade
sta 11+75

1.04 557.34 (557.35)

2.68 55.70

2.68 55.70

~~offset plug
Pier # 37~~

~~552.73~~

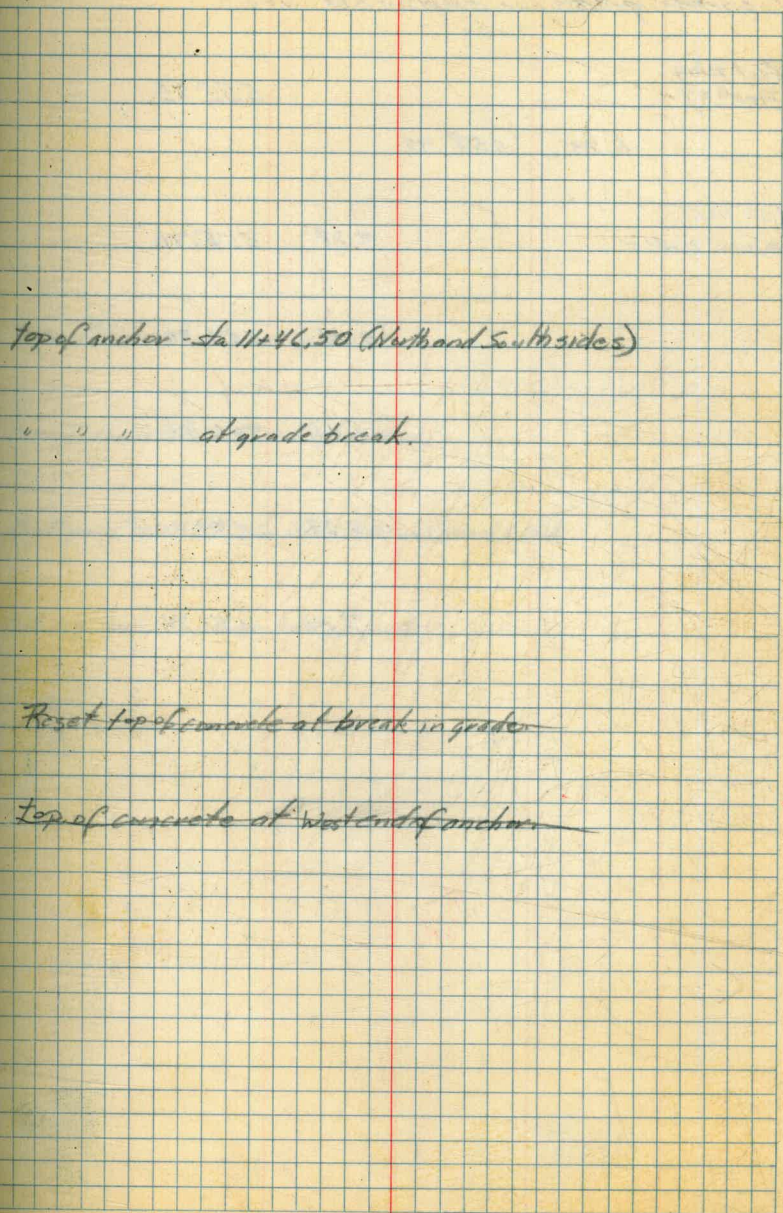
~~6.08 558.81~~

~~3.11 55.70~~

~~2.40 56.41~~

~~9.11~~

Next Page.



June 11, 1936

Super
Tabell
Kammery

Concrete grades for anchor sta 11450

Offset plug
Pier # 37

552.73

6.25 558.98

at or near
top conc. 11445

3.28 555.70

3.28 555.70

2.46 556.52

9.28 549.70

7.24 551.74

40

top of concrete at grade break

top of concrete, west end of anchor

Bottom of concrete, sta 11446.50 and grade break

Cut 1.0 vertically above end of anchor

June 11 1936
Soper
Remmen
Isbell

Grades in ditch sta 27+00 - 28+50

Grade

B.M			568.76	
	6.83	575.59		
27+00		12.02	63.57	60.47
TP		11.55	64.04	
	8.77	572.81		
27+50		12.17	60.64	60.64
+76.66		12.07	60.74	60.74
+92.81		12.02	60.79	60.79
28+00		11.81	61.00	61.00
+25		11.09	61.72	61.72
+50		10.36	62.45	62.45

41

Cut 3.1

Bottom of ditch
+ 0.0 - from grade

0.0

0.0

0.0

- 0.3

- 0.6

- 0.2

June 12 1926
Soper
Isbell
Remmer

42

Grades and cuts in ditch, 28+75 - 33+32.81 Grade

TP.			564.04	
	10.37	574.41		
ck on grade sta 28+50		11.96	62.45	
28+75		9.24	65.17	63.17
+96.46		9.62	64.79	63.79
29+25		7.34	67.07	65.07
29+50		6.21	68.20	66.20
TP.		5.91	568.50	
	12.31	580.81		
30+00.55		10.34	70.47	68.47
+25		10.84	69.97	69.97
+50		9.30	71.51	71.51
+59.05		8.74	72.07	72.07

Cut 2.0

Cut 1.0

Cut 2.0

Cut 2.0

Cut 2.0

Bottom of ditch, top - from grade
0.0

-0.1

-0.2

Cont'd from page 42

43

	580.81		Grade
30+89.88		6.84	73.97 573.97
31+00		6.91	73.90 73.90
TP.		6.91	573.90
	9.30	583.20	
31+50		7.65	75.55 73.55
32+09.38		10.06	73.14 73.14
+50		9.32	73.88 71.88
33+00		11.87	71.33 70.33
+32.81		9.89	73.31 69.31
TP.		7.61	575.57
	2.05	577.64	
TP		12.89	564.75
	0.81	565.56	
		4.34	561.22

Bottom of ditch

- 0.9

- 0.1

Cut 2.0

and for ditch

Cut 2.0

Cut 1.0

Cut 4.0

at B.M. # 57, Elev. 561.20

June 15 1936

Soper
Kinnaman
Isbell

44

Grades in ditch, sta 20+50 - 21+06.53 Grade

B.M. 2

570.57

3.19 573.76

R

10.25 563.51

8.08 571.59

ck on sta
20+35

11.13 60.46 60.46

20+50

11.18 60.49 60.49

20+75

11.24 60.35 60.35

21+00

11.30 60.29 60.29

+06.53

11.31 60.28 60.28

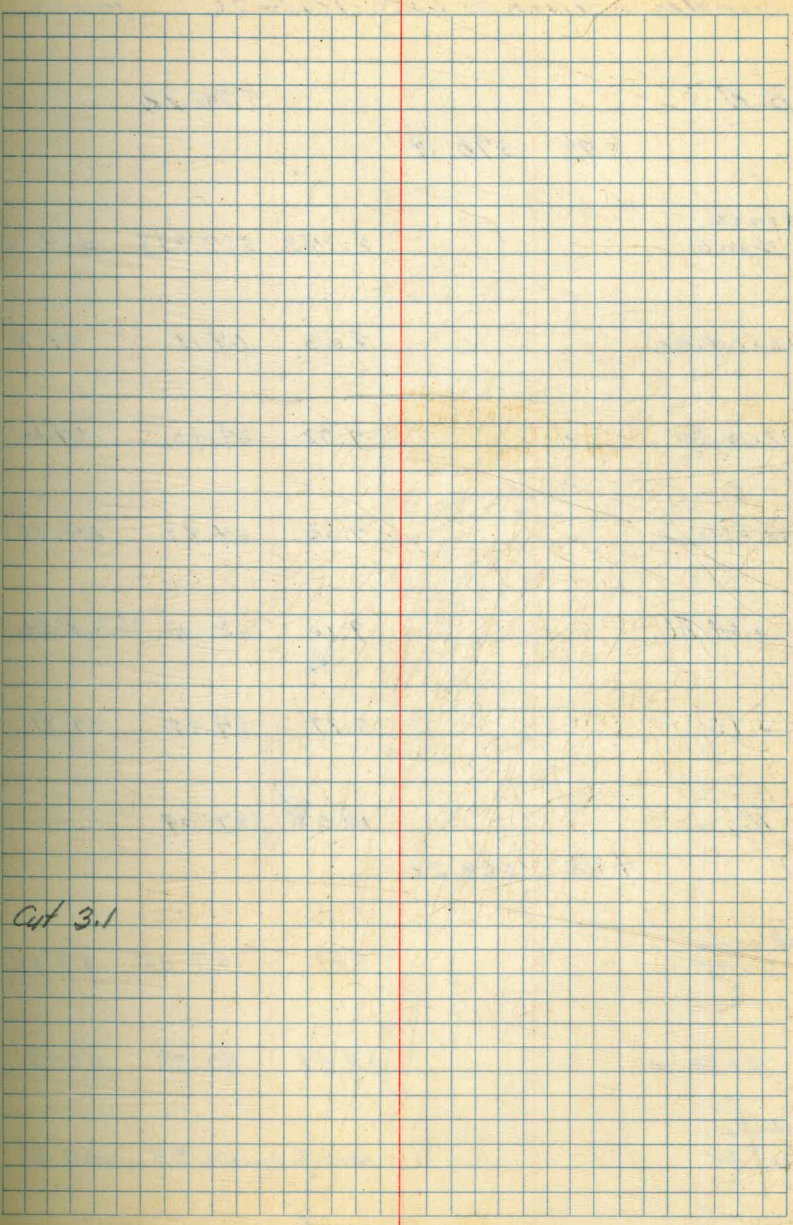
ck on sta
21+25

11.68 59.91

June 15 1936
Soper
Reimer
Lohd

Grades in ditch 25+93.99-26+75

B.M. 4		568.76		
	1.37	570.13		
ck on sta 25+54.42		12.98	57.15	57.15
25+93.99, R.C.		11.60	58.53	58.53
26+00		11.39	58.74	58.74
+ 25		10.52	59.61	59.61
+ 43.87		9.85	60.28	60.28
+ 50		9.83	60.30	60.30
+ 75		9.75	60.38	60.38
ck on cut sta 27+00		6.56	63.57	60.47



cut 3.1

June 17 1936
Super
Remmon
156.11

46

Grades in ditch sta 11+50-12+64.26 Grade

B.M			570.22	
	1.92	572.14		
ck on sta. 12+00		8.143	563.997	564.00
12+04.50		8.03	64.11	64.11
12+24.50		7.72	64.42	64.42
12+30.00		7.33	64.81	64.81
+64.26		9.10	63.04	65.04
+90		7.27	64.87	64.87
TP		13.05	559.09	
	4.13	563.22		
ck on sta 11+75		5.87	57.35	57.35
11+50.00		12.49	50.73	50.73
check on Pie ^p 38		12.57	50.65	50.73

Fill 2.00

0.08 low: for wrapping etc.

June 17 1926

Soper
Remmon
Shell

Grade

Grades in ditch 13+00 - 19+18.15

B.M. #2

570.57

3.77 574.34

on sta.

15+77.40

12.04 62.30 62.30

TP

12.04 562.30

6.01 568.31

on concrete

sta 13+00.00

4.50 63.81 64.80

Grades "raked in" sta 13+00 - 15+77.40

B.M. #2

570.57

2.80 573.37

16+76.12

13.95 59.42 61.42

16+50

11.72 61.65 61.65

16+25

11.50 61.87 61.87

16+00

11.27 62.10 62.10

47

Fill 0.99 top pipe grade

Fill 2.00 top pipe grade

Cont'd from page 47

49

573.37

Grade

17+00 12.17 561.20 561.20

+25 12.23 61.14 61.14

+55 12.29 61.08 61.08

+75 12.34 61.03 61.03

18+00 12.40 60.97 60.97

TR 12.41 560.96

4.64 565.60

18+09.38 6.65 58.95 60.95

+25 4.69 60.91 60.91

+50 4.74 60.86 60.86

+75 4.80 60.80 60.80

19+00 4.85 60.75 60.75

+18.15 4.89 60.71 60.71

Fill 2° to pipe grade

June 18 1936

Sept
Nimmen
Isbell

49

Grades in ditch sta. 19150 - 23+15.42

~~B.M. #2 570.57~~

~~3.62 574.19~~

~~TP 5.20 568.99~~

~~2.12 571.11~~

Grade

H. 566.96

4.72 565.68

19150 5.04 60.64 60.64

+66.20 5.08 60.60 60.60

+75 5.10 60.58 60.58

TP 5.10 560.58

4.50 565.08

20+00 4.56 60.52 60.52

+25 4.62 60.46 60.46

+50 4.67 60.41 60.41

Contd from page 49

50

	565.08		Grade
20+75		4.73 60.35	60.35
21+00		4.79 60.29	60.29
+106.53		6.80 58.28	60.28
+25		5.17 59.91	59.91
+50		5.67 59.41	59.41
+72.66		6.13 58.95	58.95
IP		3.89 56.19	
	2.64 563.83		
23+15.42		9.73 54.10	56.10

Grades from 21+72.66 - 23+15.42 - "raked in"

Fill 2⁰⁰ topipe grade

Fill 2⁰⁰ topipe grade

June 19 1936

Soper
1st
Remmen

51

Grades in ditch sta 23+15.42-25+70

Grade

B.M. 4

568.76

1.44 570.20

25+70

12.51 57.69 57.69

TP

12.51 557.69

4.28 561.97

25+54.42

6.82 55.15 57.15

Grades from 23+15.42-25+54.42, "raked in"

Fill 2° top pipe grade.

June 20 1936

Super
Remmer
Isbell

52

Grades in ditch sta	26+00 - 28+50	Grade
B.M. #4		568.76
0.95	569.71	
ck on sta 25+70	12.02	57.69 57.69
26+00	10.97	58.74 58.74
+75	10.10	59.61 59.61
+43.87	9.43	60.28 60.28
+50	9.41	60.30 60.30
+80	9.31	60.40 60.40
27+00	9.24	60.47 60.47
+13.23	9.20	60.51 60.51
+44	9.09	60.62 60.62
+76.66	8.97	60.74 60.74

(Contd from page 52)

569.71

27492.81

10.92

58.79

560.79

28400

8.71

61.00

61.00

420

8.13

61.58

61.58

450

7.26

62.45

62.45

53

Fill 2° to pipe grade

0

June 22 1936

Super
Isbell
Remmes

54

Grades in ditch 30+89.88 - 33+32.81 Grade

BM[#] 54 561.20

4.42 565.62

TP 1.08 564.54

11.20 575.74

TP 0.32 575.42

6.33 581.75

~~33+32.81~~ 12.44 69.31 569.31

~~32+09.38~~ 8.41 73.14 73.14

~~30+89.88~~ 7.78 73.97

Grades from 30+89.88 - 33+32.81 "raked in"

June 22 1936

Super
Isbell
Remington

55

Grades in ditch sta 36+00-37+46.11 Grade

B.M. 5A		561.20	
	1.60	562.80	
37+46.11	11.13	51.67	551.67
37+32.52	10.84	51.96	51.96
37+25	10.65	52.15	52.15
37+00	10.08	52.72	52.72
36+75	9.51	9	53.29
+50	8.94	53.86	53.86
+25	8.37	54.43	54.43
36+00	7.80	55.00	55.00

June 23 1936

Saper
Rimmer
Isbell

56

Grades in ditch sta 28+75-30+89.88 Grade

Grade at sta
30+25

569.97

0.97 570.94

28+75

7.77 63.17 63.17

+96.46

7.15 63.79 63.79

29+00

6.99 63.95 63.95

+25

5.87 65.07 65.07

+33.62

5.48 65.46 65.46

+50

4.74 66.20

+75

3.61 67.33

30+00.55

2.47 68.47

+04.88

2.17 68.77

+25

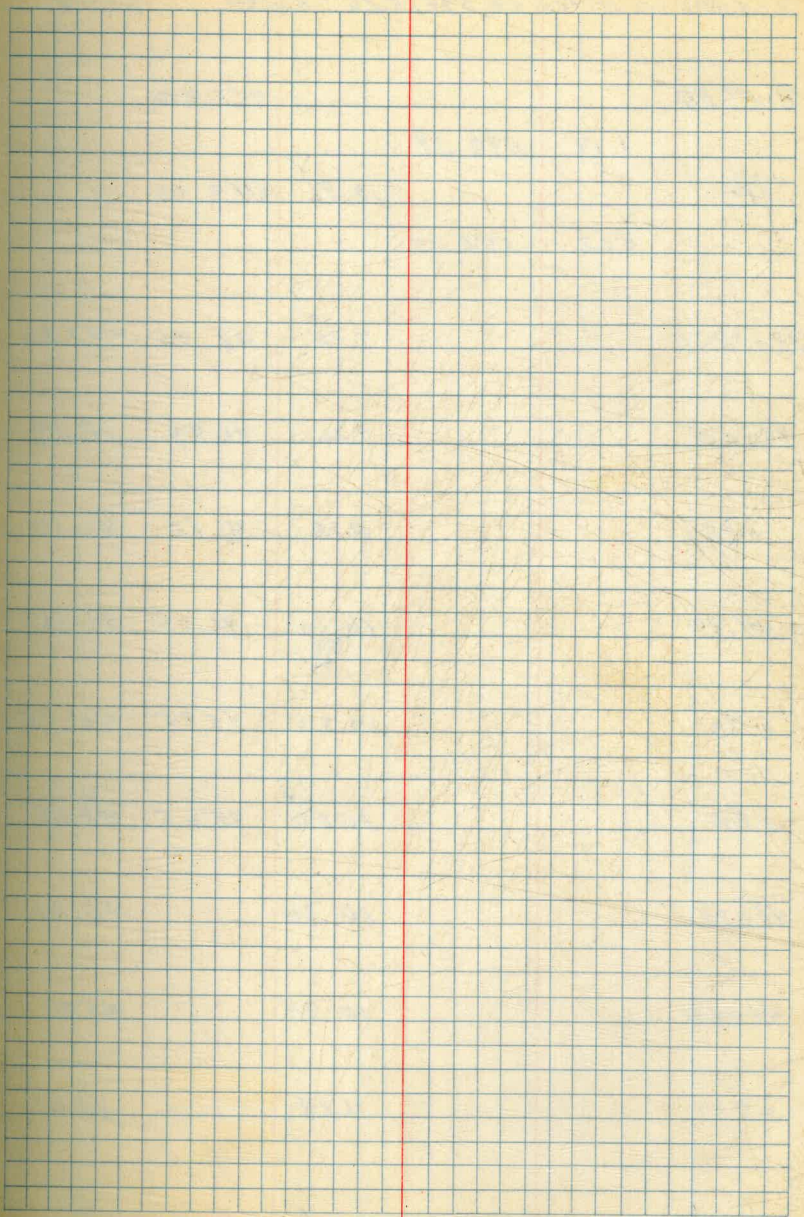
0.97 69.97

TP

0.97 569.97

Contd from page 56

77.			569.97	
	7.93	577.90		
30+50			6.39	71.51 71.51
+59.05			5.83	72.07 72.07
+89.88			3.93	73.97



June 23 1936

Saper
Reimer
16664

Grades in ditch sta 39+78.25 - 42+30 Grade

B M^o 54 561.20

1.19 562.39

TP 12.86 549.53

6.62 556.15

39+78.25 7.75 48.46 547.30

40+00 9.26 46.89 46.89

+25 9.73 46.42 46.42

+44.80 10.10 46.05 46.05

+70 10.30 45.85 45.85

+95 10.50 45.65 45.65

41+25 10.74 45.41

41+50 10.94 45.21

+75 11.14 45.01

(Contd from page 58)

556.15

41+89.03

11.25

544.90

42+00

11.33

44.82

+30

11.27

44.58

ckptn 12' offset
sta 41+89.03

4.7

51.4

TP.

2.58

553.57

59

51.4 cut 6.5
44.9
6.5

Nest in oak tree
sta 41+90 ±

June 24 1936

Super
Remmen
rebell

60

Profile of 13' offsets on Southside of line

Grade

Sta 104+00 - 119+50.93

B.M. #147

524.22

2.10 526.32

104+00

4.7

21.6

513.39

8.2

+46.49

5.3

21.0

12.12

8.9

105+00

7.7

18.6

10.99

7.6

+50

5.5

20.8

10.23

10.6

106+00

3.9

22.4

09.47

12.9

P.

10.12

516.20

4.54 520.74

106+40.44

0.3

20.4

08.85

11.6

+50

4.0

16.7

08.71

2.0

107+00

2.4

18.3

07.94

10.4

+50

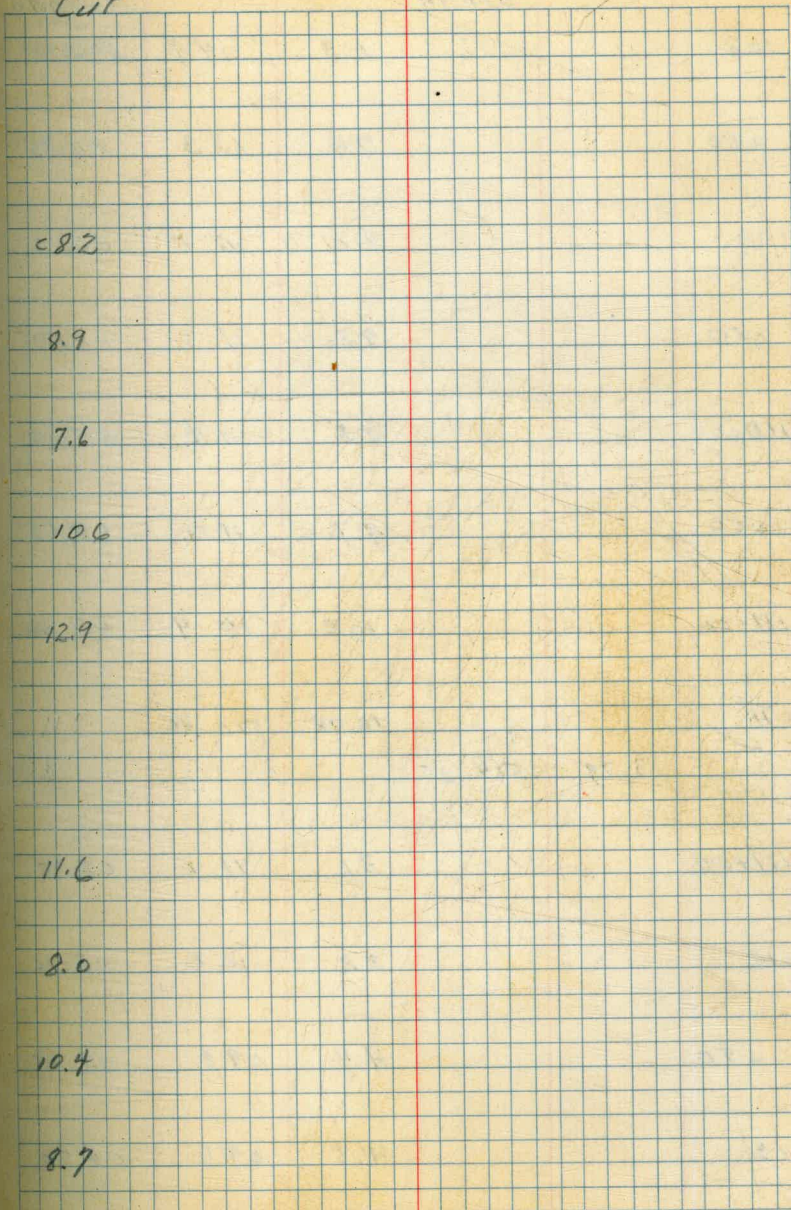
4.8

15.9

07.18

8.7

13' offset - Southside
Cut



Cont'd from page 60

	520.74			Grade
108		6.3	14.4	506.48
+50		7.4	13.3	06.25
109		8.2	12.5	06.16
+50		9.2	11.5	05.95
110+00		9.3	11.4	05.90
+50		9.7	11.0	05.65
111+00		10.3	10.4	05.50
TR		10.28	510.46	
	3.79	514.25		
111+50		3.1	11.1	05.35
+112		3.2	11.0	05.20
+50		4.4	09.8	05.05
113		4.6	09.6	04.90

13' offset southside

Cut

8.0
7.1
6.4
5.6
5.6
5.4
4.9
5.8
5.8
4.8
4.7

Cont'd from page 61

	514.25			
113+50		3.5	10.7	
114		5.1	08.6	
+50		5.7	08.5	
115		5.8	08.4	
+50		6.9	07.3	
116		6.3	07.9	
+50		4.8	09.4	13' offset
T.P.		3.63	510.52	
	3.70	514.32		
+94.28		1.1	13.2	14' offset
117+25		2.2	12.1	10.4 offset
+50		2.0	11.5	15.2
+75		4.9	09.4	13' offset

13' offset, southside

Grade	Cut
504.75	6.0
04.60	4.0
04.45	4.1
04.30	4.1
04.15	3.2
04.00	3.9
03.90	5.5
03.81	9.4
03.75	8.4
03.70	7.8
03.65	5.8

Cont'd from page 62

	514.32			Grade
118+00		4.5	09.8	03.60
+25		4.4	09.9	03.55
+50		4.1	10.2	03.50
+75		4.1	10.2	03.45
119		4.1	10.2	03.40
+25		4.2	10.1	03.35
+50.93 BC		4.3	10.0	03.30
Chan B.M. #17	+0.13	514.45		Rec Elev 514.43

13' offset - south side

Cut

6.2
6.4
6.7
6.8
6.8
6.7

June 25 1936

Soper
Remmen
Shell

64

Grades in ditch sta 34+87.34-35+97.02 Grade

BM[#] 517 561.20

4.71 565.91

ck on sta
36+00

10.91 55.00 555.00

35+97.02 10.84 55.07 55.07

+75 9.52 56.39 56.39

+50 8.02 57.89 57.89

35+30.02

35+30.18

6.82 59.09 59.09

35+100 5.02 60.89 60.89

34+87.34 4.26 61.65 61.65

June 26 1936
Soper
Remmer
Isbell

65

Grades in ditch, sta 33+75-34+75

Grade

BM ^o 54			561.20	
	6.27	567.47		
TP		5.11	562.36	
	12.82	575.18		
ck on sta				
34+87.34		13.53	61.65	61.65
34+75		12.79	62.39	62.39
34+50		11.27	63.89	63.89
34+25		9.79	65.39	65.39
34+00		8.29	66.89	66.89
33+88.43		7.60	67.58	67.58
33+75		7.18	68.00	68.00

June 27, 1931

Soper

Isbell

Remmer

Grades and cuts in ditch 42+50 - 43+94.49

II.

553.57 (page 59)

0.41 553.98

Grade

ok on
sta 42+30

9.40 44.58 544.58

42+50 9.56 44.42 44.42

175 9.76 44.22 44.22

43+00 9.96 44.02 44.02

+75 10.16 43.82 43.82

+50 10.35 43.63 43.63

+75 8.55 43.43 43.43

+94.49 EC 10.70 43.28

Cut 2.0

July 1 1936

Soper
Remmen
Isbell

67

Cuts and Grades in ditch sta Grade

55+04.94 - 59+95.03

B.M. 8H.

539.32

4.40 543.72

~~55+54.94~~
55+04.94 EC.

5.14 38.58 534.96

Cut 3.6

55+50

6.22 37.50 34.34

Cut 3.2

56+00

7.65 36.07 33.65

Cut 2.4

+50

8.22 35.70 32.96

Cut 2.7

57+00

11.45 32.27 32.27

+30

11.86 31.86 31.86

+56.03

12.22 31.50 31.50

+80

12.27 31.45 31.45

58+10

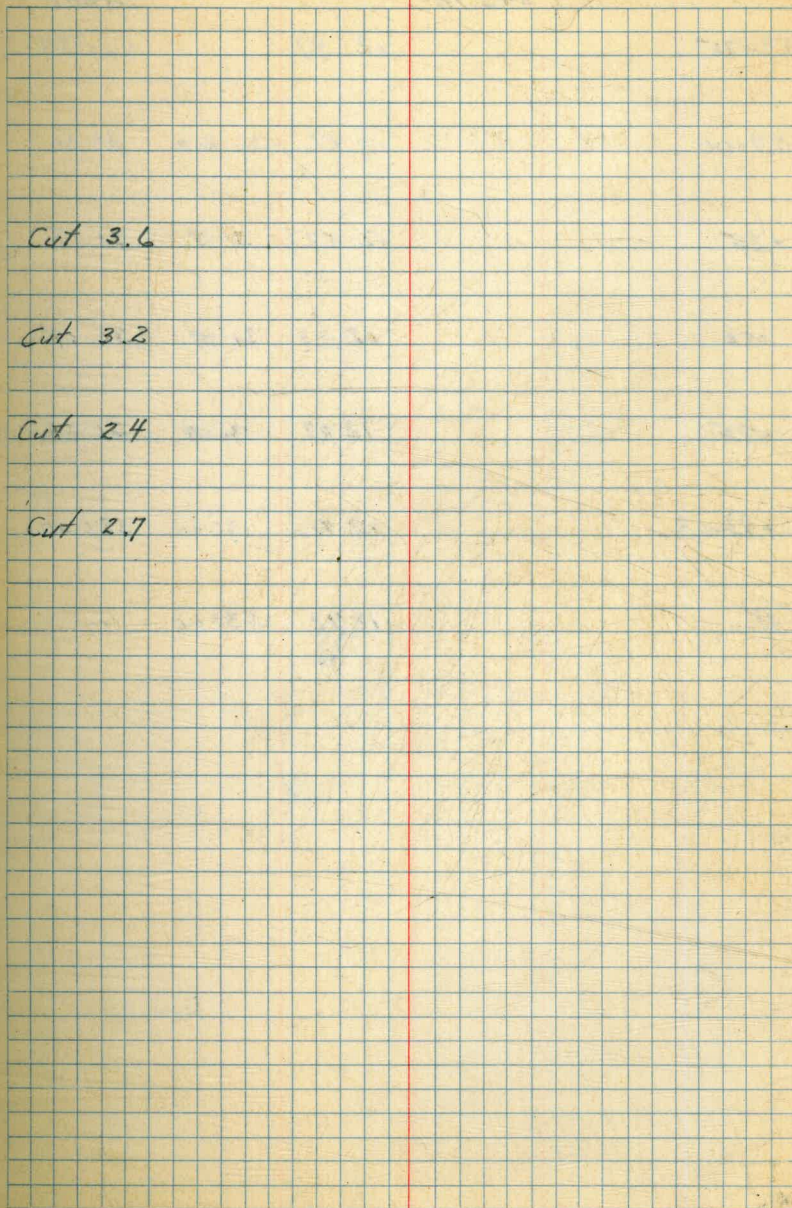
12.33 31.39 31.39

+40

12.40 31.32 31.32

+61.86

12.44 31.28 31.28



Cont'd from page 67

68

	543.72		Grade
58+75		12.47	531.25
59+00		12.52	31.20 31.20
+25		12.57	31.15 31.15
750		12.63	31.09 31.09
+75		12.68	31.04 31.04
+95.03		12.72	31.00 531.00
TP		12.72	531.00

July 1 1936

Sep
Rising
Island

69

Grades in ditch sta. 38+75 - 39+50

Grade

B.M. #5A

561.20

1.32 562.52

T.T.

13.25 549.47

2.49 551.96

39+50

4.13

47.83

ch on 40+00

5.07

46.89

46.89

39+25

3.66

48.30

39+00

3.19

48.77

38+75

2.72

49.24

July 2 1931

Soper
Remmes
L. Bell

70

Grades in ditch sta. 37+75 - 39+78.25

Grade

B. M. #5A

561.20

0.40 561.60

ck on sta
38+75

12.36 49.24 49.24

38+50

11.89 49.72 49.72

39+00

12.83 48.77 48.77

38+25

11.41 50.19 50.19

38+00

10.94 50.66 50.66

37+75

10.47 51.13 51.13

T.P.

11.61 549.99

1.41 551.40

39+78.25

4.10 47.30 47.30

ck on sta
40+44.89

5.35 46.05 46.05

July 3 1936

Soper
Isbell
Remmen

71

Grades in ditch sta 60+25 - 64+31.15

Grade

Station	Grade	Grade	Grade
P. (gauge)	11.79	542.79	531.00
60+25	11.86	30.93	530.93
+50	11.92	30.87	30.87
+75	11.98	30.81	30.81
61+00	12.03	30.76	30.76
+13.47 P.C.	12.06	30.73	30.73
+25	8.85	33.94	30.70
+50	12.15	30.64	30.64
+75	12.21	30.58	30.58
62+00	12.26	30.53	30.53
+25	12.32		30.47
+50	12.38		30.41

Cut 3.24

{Cont'd. from page 71}

72

	542.79		Grade
62+75	12.44	30.35	530.35
63+00	10.32	32.47	30.30
+75	12.55	30.24	30.24
+50	12.61	30.18	30.18
+75	12.67	30.12	30.12
64+00	12.72	30.07	30.07
+25	12.78	30.01	30.01
+ 31.15.P.C.	12.79	30.00	30.00
ck on 13' offset sta 63+00	3.36	39.43	30.30

Cut 2.17

39.43
30.30
9.13

Marked Cut 9.12

July 6 1936

Super
Remington
label

73

New B.M. 17A

B.M. 17

514.43

0.63 515.06

17A

4.83 510.23

Spike in 2"x8" Post 38' H sk 119+95

July 7 1936

Super
Remington
Isbell

Original x-section valve chamber sta 160+03.8

used Cal. Ex

$\frac{528}{55} m$

Lt
505.6 ✓
+ 0.1
159+99.5

4.6

Rt
505.7 ✓
+ 0.2

9.6

505.5 ✓

160+08.1
 $\frac{0.0}{4.6}$

505.7 ✓
+ 0.2

9.6

Plus elevations are from elev. at sta 160+00

(Elev. 505.5) ✓
Book 524

48

July 7 1936

- Super
Remington
1860

74

Grades in ditch sta 43+50 - 46+59.24

IP	1.29	554.86	553.57	(page 59)
			Grade	
ckon sta 43+25		11.04	43.82	543.82
150		11.23	43.63	43.63
+75		11.43	43.43	43.43
+94.49		11.58	43.28	43.28
44+10		11.71	43.15	43.15
140		11.95	42.91	42.91
+70		12.19	42.67	42.67
IP		12.07	542.79	
	9.47	552.26		
44+92.92		9.77	42.49	42.49
45+22.80		12.05	40.21	42.21
150		10.53	41.73	41.73

fill 200

[Cont'd from page 74]

552.26

451.75

10.87

41.39

461.00

11.20

41.06

125

11.54

40.72

150

11.87

40.39

159.24

12.00

40.26

July 8 1936

Soper
Pimm
1st well

76

Grades in ditch sta 46+00 - 51+28.39

IP 553.57 (page 59)

3.51 557.08

7.54 549.54

3.50 553.04

Grade

CK on sta
46+59.24

12.78 40.26 540.26

IP 12.78 40.26

7.51 547.77

46+00 6.71 41.06 41.06

+80 7.78 39.99 39.99

47+10 8.18 39.59 39.59

+40 8.59 39.18 39.18

+70 8.99 38.78 38.78

48+00 9.39 38.38 38.38

+30 9.79 37.98 37.98

+49.60 10.05 37.72 37.72

Cont'd from page 76

77

547.77

48+75 10.39 37.38 37.38

49+00 10.73 37.04 37.04

+10.63 10.87 36.90 36.90

50+00 11.06 36.71 36.71

TR 10.11 37.66

9.94 47.60

+75 10.95 36.65 36.65

+50 11.00 36.60 36.60

+75 11.05 36.55 36.55

51+00 11.11 36.49 36.49

+28.39 L.C. 11.17 36.43 36.43

ck on 13' offset
sta 51+00

4.72 42.88

At 4:15 P.M. July 6 1936, the contractor moved out of sta 119± to start in at sta 157± with the hoe. We were asked to put in line and grade, which we did by working one hour overtime. Had we known about this move beforehand the line would have been all staked out.

About noon July 7, I asked Bob Watson if he wanted the valve chamber at sta 160+03.2 staked out so the hoe could excavate it. Bob Watson said not to stake it, that he would excavate by hand. About 4 P.M. July 7 we went down to where the hoe was working. Mr. Darling asked us to stake out the valve chamber, which we did. The hoe was working at sta 159+40

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 of table in same row and column gives distance

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 connection found in column of connection. Degree of curve with a given T may be found by dividing tangent (or external) opposite T 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.

9.94

37.38
 9.54
 46.92
 33.24
 9.80

26.5
 4.3
 42.8
 47.6
 42.8
 49

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
 Roadway 16 feet wide. Side Slopes 1 on 1½
 For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20—16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.