

W
524

ENGINEERS'
LEVEL BOOK
No. 412 F

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1.

For Single Track Embankment.

524

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

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 $1\frac{1}{2}$ see inside of back cover.

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652

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Re-profile of 2 sta. 366+50-374+50 67-68

" " " 311+98.44-312+50 69

" " " 375+00-389+00 70-72

March 28 1936
Soper
Remmen
Isbell

x-section April 3-36 1
+ or - from E

LT E RT

Re-profile of E 330+00 - 335+00

B.M. #36

441.06

9.75 450.81 ✓

330+00

8.4 442.4 ✓

+50

8.5 442.3 ✓

331

8.4 442.4 ✓

+50

8.2 442.6 ✓

332

7.7 443.1 ✓

+50

7.0 443.8 ✓

Note Bench Sections Taken here are in FA 526
14-15

450.21

333

6.2

444.6 ✓

+50

5.2

445.6 ✓

334

3.7

447.1 ✓

+50

1.9

448.9 ✓

335

0.1

450.7 ✓

+50

+2.0

452.8 ✓

checked on 4/6
(52.8)

FINAL PROFILE LEVELS. 4/2/36

Re-profile of Sta 57+00 - 79+96.10

March 30 1936

Soper
Isbell
Remmen

3

B.M.#8

535.64

9.34 544.98 ✓

57+00

6.7 538.3 ✓^m

+50

7.4 537.6 ✓

58+00

7.0 538.0 ✓

+15

6.1 538.9 ✓

+50

5.9 539.1 ✓

59+00

5.8 539.2 ✓

copied to
534
5/1/36

FINAL PROFILE LEVELS

544.98 ✓
6/20/36
m

59+50 6.4 538.6 ✓

60+00 6.4 538.6 ✓

+50 6.5 538.5 ✓

61+00 6.5 538.5 ✓

+50 6.7 538.3 ✓

62+00 6.7 538.3 ✓

+50 6.8 538.2 ✓

63+00 6.3 538.7 ✓

copy to
534
52 m.

FINAL PROFILE LEVELS.

544.98 ✓
4/30/36

63+50 7.0 538.0 ✓

64+00 7.3 537.7 ✓

TP 124 544.37 ✓ 1.85 543.13

Set new B.M.
= 87.

64+50 7.0 537.4 ✓

65+00 7.0 537.4 ✓

+50 7.4 537.0 ✓

66+00 7.6 536.8 ✓

150 7.9 536.5 ✓

67+00 8.0 536.4 ✓

copied to 534
53
2000

FINAL PROFILE LEVELS

544.37 6/30/36
M

67+50 8.5 535.9 ✓

68+00 8.4 536.0 ✓

+50 9.0 535.4 ✓

69+00 7.4 537.0 ✓

+50.68 5.9 538.5 ✓

+75 5.5 538.9 ✓

70+00 4.9 539.5 ✓

+25 4.3 540.1 ✓

+50 4.2 540.2 ✓

revised to
534
53 M

FINAL PROFILE LEVELS

544.37 ✓ 6/30/26
2

70+75

3.8

540.6 ✓

71+00

3.6

540.8 ✓

+25

3.5

540.9 ✓

+50

3.2

541.2 ✓

+75

2.8

541.6 ✓

72+00

2.7

541.7 ✓

+25

2.5

541.9 ✓

+50

2.5

541.9 ✓

exp 2/6
534
54 21m

FINAL PROFILE LEVELS.

6/30/36
W

544.37

72+75

2.5

541.9 ✓

73+00

2.6

541.8 ✓

+25

2.7

541.7 ✓

+50

3.1

541.3 ✓

+68.96 AC.

3.5

540.9 ✓

P.

1.84

543.20 ✓

3.01

541.36 ✓

74+00

2.5

540.7 ✓

+50

3.2

540.0 ✓

75+00

3.3

539.9 ✓

Revised to
534
55 PM

FINAL PROFILE LEVELS:

9

543.20 ✓

6/30/36
m

75+50

3.6

539.6 ✓

76+00

3.9

539.3 ✓

+50

4.5

538.7 ✓

77+00

5.3

537.9 ✓

+50

5.8

537.4 ✓

78+00

6.7

536.5 ✓

+50

7.7

535.5 ✓

79+00

8.6

534.6 ✓

+50

9.6

533.6 ✓

copy to
534
535 X m

FINAL PROFILE LEVELS

543.20 ✓
4/30/36
on

79+96.1080

10.2

533.0 ✓

TR

11.22

549.61 ✓

4.81

538.39 ✓

1.11

548.50 ✓
on

on 8.11.11
548.44

79

11

April 11 1936
Soper - Isbell
Kammen

12

Re-profile of Pipeline & over bench fill

Sta. 242+73.5 - 255+39

B.M. 29

461.86 ✓

5.52 467.38 ✓^m

242+73.5

4.4 63.0 ✓^m

from 509-11

243

4.6 62.8 ✓

+50

5.2 62.2 ✓

244

5.2 62.2 ✓

+50

5.7 61.7 ✓

245

6.0 61.4 ✓

✓
467.38

245 +50

6.3

61.1 ✓

TP

1.57

✓
462.59

6.36

461.02 ✓

246

2.1

60.5 ✓

+50

2.5

60.1 ✓

247

2.7

59.9 ✓

+50

3.4

59.2 ✓

248

3.8

58.8 ✓

+50

4.7

57.9 ✓

462.59 ✓

249

4.4

58.2 ✓

+50

4.7

57.9 ✓

250

4.8

57.8 ✓

+50

5.4

57.2 ✓

251

5.6

57.0 ✓

+50

6.0

56.6 ✓

252

6.2

56.4 ✓

TP.

2.47

458.87 ✓

6.19

456.40 ✓

458.87 ✓

252.150

2.7 456.2 ✓

253

3.5 55.4 ✓

+50

3.6 55.3 ✓

254

4.2 54.7 ✓

+50

4.2 54.7 ✓

255

4.8 54.1 ✓

+16

4.9 54.0 ✓

+39

6.5 52.4 ✓

~~To F.B. 509/14 F.B. 503-69 HES.~~check on BMⁿ 30
Rec. Elev. 454.11

4.76 454.11 ✓

The image shows an open notebook with two facing pages. Both pages are cream-colored and feature a grid of light blue horizontal lines and vertical red margin lines. The right page has the number '16' written in the top right corner. The notebook is set against a dark background.

Not to be used for Trench Ex
 Profile on Pipeline & for use in computing
 yardage of Class 2 Excavation sta 230+00 235+50

April 13 1936
 Saper
 Kemmer
 Isbell

17

B. M. 28

502.84

2.39 505.23 12.90 492.33

4.05 496.38

230+00

10.0

86.4

85.4

+25

8.3

88.1

+50

7.3

89.1

+75

6.0

90.4

231

5.5

90.9

See Note p. 17

18

✓
496.38

231.25 4.8 91.6 ✓

+56 4.6 91.8 ✓

+75 4.0 92.4 ✓

232 3.8 92.6 ✓

+25 3.5 92.9 ✓

+50 3.1 93.3 ✓

P. 469 498.10 2.97 493.41 ✓

+75 4.7 93.4 ✓

See Note Page 17.

✓
498.10

19

233 4.5 93.6 ✓

+25 4.6 93.5 ✓

+50 5.0 93.1 ✓

+75 5.3 92.8 ✓

234 5.7 92.4 ✓

+25 6.3 91.8 ✓

+50 7.0 91.1 ✓

+75 7.1 91.0 ✓

See Note Page 17

20

✓
498.10

235

74

90.7 ✓

+25

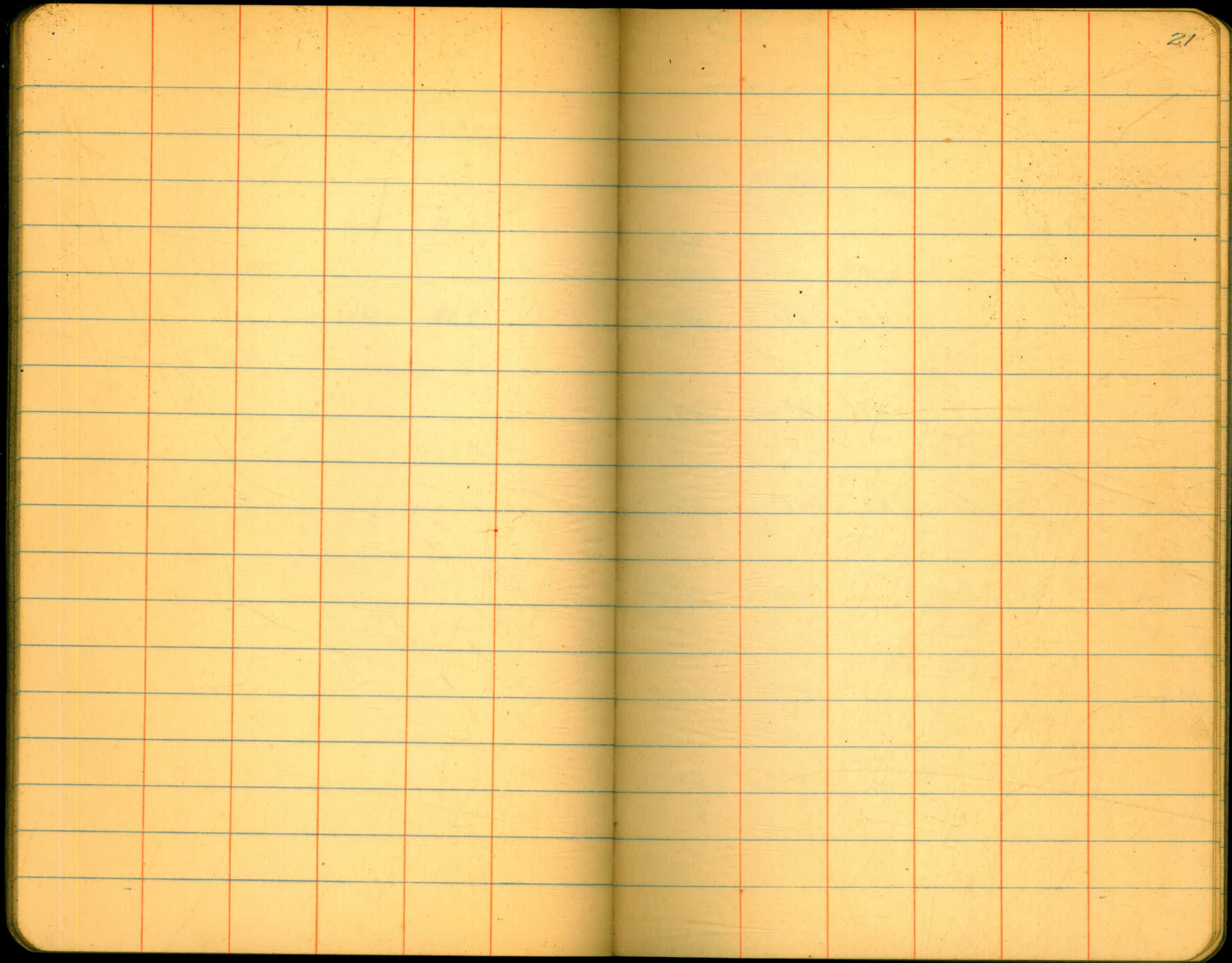
6.9

91.2 ✓

+50

8.4

89.7 ✓



April 20 1936
Soper Island
Kermadec

22

Re-profile of Pipeline @ sta. 219+00 - 222+00

BM #26		483.58			
	2.62	486.20		516/6 Grade -	c.p.# from 509-3
219+00		5.7	480.5	473.06	7.4
+25		6.1	480.1	472.97	7.1
+50		6.6	479.6	472.88	6.7
+75		6.9	479.3	472.80	6.5
220		7.1	479.1	472.71	6.4
+25		7.6	478.6	472.63	6.0

48620 ✓

220+50 7.1 479.1 ✓ 472.54 6.6

+75 7.3 478.9 ✓ 472.46 6.4

221 7.5 478.7 ✓ 472.37 6.3

+25 7.9 478.3 ✓ 472.29 6.0

+50 7.7 478.5 ✓ 472.20 6.3

+75 8.0 478.2 ✓ 472.11 6.1

222+50 71.77
223 71.53
750 71.29

222 7.7 478.5 ⁷²⁰² Original ground 6.5 Sec 506-4

TP 6.38 485.87 ✓ 6.71 479.49 ✓

Sta. 224+00 - 229+50

24

485.87

224+00

5.3

480.6

471.05

+25

5.2

480.7

470.93

+50

5.3

480.6

470.81

+75

5.2

480.7

470.70

225

5.8

480.1

470.57

+25

6.5

479.4

470.45

+50

6.8

479.1

470.33

+75

7.3

478.6

470.21

485.87

226

8.1

477.8

470.08

+25

8.2

477.7

470.16

+50

9.0

476.9

470.33

227

8.9

477.0

470.66

+50

8.5

477.4

471.00

228

8.0

477.9

471.90

+50

8.0

477.9

472.93

229

7.7

478.2

474.42

485.87

229+30

6.8 479.1 ✓ 475.31

+50

5.2 480.7 ✓ 475.91

T.P.

3.12 481.76 7.23 478.64

✓ w: 5/6/26

B.M. # 27

1.52 480.24 ✓ Rec. Elev 480.23

FINAL PROFILE LEVELS.

April 24 1936

6/30/36
W

So per
1824
Remmer

27

Profile - sta 27+50 - 30+00

B.M. # 5

579.73

5.78 585.51 ✓

Grade & cut

30+00

9.2 76.3 ✓

68.5 7.8

29+50

12.3 73.2 ✓

66.2 7.0

TP.

13.00 572.51 ✓

3.20 575.71 ✓

+25

3.7 72.0 ✓

65.1 6.9

29+00

4.4 71.3 ✓

64.0 7.3

28+75

5.5 70.2 ✓

63.2 7.0

Revised
534
45

FINAL PROFILE LEVELS.

575.71

6/30/36
M

Grade Cont

28+50

6.3

569.4 ✓

562.5

6.9

+25

7.0

68.7 ✓

61.7

7.0

28+00

7.5

68.2 ✓

61.0

7.2

27+75

7.5

68.2 ✓

60.9

7.3

+50

7.5

68.2 ✓

60.8

7.4

copied into
534
45. M

FINAL PROFILE LEVELS

April 25 1932
Soper - Isbell
Remmen

29

Profile - Sta 23+00 - 27+00

6/30/36
M

B.M. # 5			579.73		
	6.52	586.25			
TP		12.90	573.35		
	1.88	575.23			
TP		6.90	568.33		
	4.07	572.40			
set new B.M. # 4		3.64	568.71		
				Wail in rock 18' Ht 25+70	
				Grade	& cut
27+00		4.3	68.1	60.53	7.6
26+75		4.3	68.1	60.42	7.7
26+50		3.7	68.7	60.30	8.4
+25		4.9	67.5	59.47	8.0

copied
5/2/43

FINAL PROFILE LEVELS

30

	572.40		6/20/36 M	Grade	& cut
26+00	5.8	66.6	✓	558.65	8.0 ^v
25+50	8.5	63.9	✓	57.00	6.9 ^v
25+00	8.3	64.1	✓	56.80	7.3 ^v
24+50	9.2	63.2	✓	56.60	6.6 ^v
24+00	9.0	63.4	✓	56.40	7.0 ^v
23+50	9.3	63.1	✓	56.20	6.9 ^v
23+00	8.7	63.7	✓	56.00	7.7 ^v

FINAL PROFILE LEVELS.

April 27 1936

Saper
Isbell
Korner

31

Profile - sta. 80+00 - 116+50 ^{6/30/36} 09.17 cut from

to of road - sta. 84+98.62 - 102+44.05

B.M. # 11. 548.44

0.84 549.28 ✓

11 12.59 536.69 ✓^m

0.18 536.87 ✓

80+00 4.0 532.9 ✓

+50 4.7 532.2 ✓

81+00 5.6 531.3 ✓

+50 5.9 531.0 ✓

82+00 6.5 530.4 ✓^m

Checked notes
532
56 m.

Co

FINAL PROFILE LEVELS.

536.87

6/30/26
m

82+50. 6.9 530.0 ✓

83+00 7.2 529.7 ✓

+50 7.0 529.9 ✓

84+00 7.6 529.3 ✓

+50 6.8 530.1 ✓

TP 3.73 533.66 6.94 529.93 ✓

85+00 3.9 529.8 ✓

+50 4.4 529.3 ✓

6/30/26
534
57 m

FINAL PROFILE LEVELS

533.66 ✓

6/20/56
m

86+00 4.5 529.2 ✓^W

+50 5.1 528.6 ✓

87+00 5.2 528.5 ✓

+30 5.3 528.4 ✓

+50 6.5 527.2 ✓

88+00 6.4 527.3 ✓

Note: line drops over edge of fill 87+30 - 89+00

+50 7.8 525.9 ✓

+95 7.5 526.2 ✓

expanded to
5/28
57/24 m.

FINAL PROFILE LEVELS

533.66

4/30/36
m

89+00 7.4 526.3 ✓

+30 7.8 525.9 ✓

+50 9.4 524.3 ✓

90+00 10.4 523.3 ✓

+50 10.6 523.1 ✓

TR 8.77 532.04[✓] 10.39 523.27 ✓

91+00 8.5 523.5 ✓

+50 8.1 523.9 ✓

adjusted to $\frac{534}{58}$

FINAL PROFILE LEVELS

532.04

6/20/26
22

92+00 7.6 524.4 ✓

+50 7.1 524.9 ✓

93+00 6.4 525.6 ✓

+50 6.1 525.9 ✓

94+00 6.1 525.9 ✓

+50 5.4 526.6 ✓

95+00 4.3 527.7 ✓

+50 2.6 529.4 ✓

96+00 1.0 531.0 ✓

copy 2 1/2 534
59
112

FINAL PROFILE LEVELS

532.04

6/30/96
m

TP 5.00 536.82 ✓ 0.22 531.82 ✓^m

96+32 4.8 532.0 ✓

150 5.3 531.5 ✓

175 5.0 531.8 ✓

97+00 4.5 532.3 ✓

125 4.4 532.4 ✓

150 4.3 532.5 ✓

175 4.4 532.4 ✓

copied into 532
59
m

FINAL PROFILE LEVELS.

536.82 ✓
6/30/36
m

98+00	4.2	532.6	✓
+25	4.1	532.7	✓
+50	4.6	532.2	✓
99+00	5.5	531.3	✓
+50	6.0	530.8	✓
100+00	6.1	530.7	✓
+50	6.5	530.3	✓
101	7.5	529.3	✓
+50	9.7	527.1	✓

correct
5/31/60. m.

FINAL PROFILE LEVELS

6/20/36
NW

Cut.

Trench 5.6' wide.
Vertical S. des.

		536.82			
TP	0.59	527.78	9.63	527.19	✓
102+00			2.4	525.4	✓
+50			3.1	524.7	✓
103+00			4.4	523.4	✓
+50			5.6	522.2	✓
103+54				522.0	✓
104+00			5.9	521.9	✓
+10			6.1	521.7	✓
+50			7.9	519.9	✓
check on B.M. 74				512.03	✓
Rec Elev 525.11			2.76	525.02	✓
+73.46				511.39	✓

200 ft
 521.9
 522.0
 522.2
 523.4
 524.7
 525.4
 527.19
 527.78
 536.82

interpolated

Grade
515
44

7.4
8.5

8.6

7.9

FINAL PROFILE LEVELS.

Correction
on B.M.

4/30/96
m

B.M. ²	2.76	527.87 ^m	525.11	Grade	
+75			(519.2)	511.37	7.8
105		9.4	518.5 ^m	510.99	7.5
+50		10.8	517.1	510.23	6.9
106+00		12.0	515.9	509.47	6.4
+40.44			(515.2)	508.85	6.3
+50		12.9	515.0	508.71	6.3
TP	1.72	516.98 [✓]	12.61	515.26 [✓]	
107+00		2.5	514.5	507.94 [✓]	6.6
+50		2.6	514.4	507.18 [✓]	7.2
108+00		3.8	513.2	506.42 [✓]	6.8
+02.05			(513.2)	506.39 [✓]	6.8

FINAL PROFILE LEVELS.

	516.98	^{6/30/96} m	Grade	
108+50	3.8	513.2	✓ 506.25	7.0 ✓
109+00	4.4	512.6	✓ 506.10	6.5 ✓
+50	5.0	512.0	✓ 505.95	6.0 ✓
110+00	5.0	512.0	✓ 505.80	6.2 ✓
+50	5.3	511.7	✓ 505.65	6.0 ✓
111+00	6.0	511.0	✓ 505.50	5.5 ✓
+50	6.2	510.8	✓ 505.35	5.5 ✓
112+00	6.3	510.7	✓ 505.20	5.5 ✓

FINAL PROFILE LEVELS.

#

516.98

6/30/86

112+50

6.7

510.3

✓ 505.05

5.2

TP

2.57

512.88

6.67

510.31

✓

113+00

3.2

509.7

✓ 504.90

4.8

+50

3.6

509.3

✓ 504.75

4.6

114+00

3.8

509.1

✓ 504.6

4.5

+50

4.2

508.7

✓ 504.45

4.2

115+00

4.5

508.4

✓ 504.30

4.1

+50

4.6

508.3

✓ 504.15

4.2

FINAL PROFILE LEVELS.

#2

515
49

cut

	512.88				
116+00		4.6	508.3	✓ 504.00	4.3
+08.675			508.5	503.98	4.5
+50		3.6	509.3	✓ 503.90	5.4
+94.28				503.81	5.5
T.P.	3.95	515.28	1.55	511.33	✓
check on B.M. #17					
Rec. Lev. 514.43		0.84	514.44	✓	
B.M. #16	7.93	514.28		511.35	
116+94.28 B.O.		5.0	509.3	✓	
			509.3		
117		4.8	509.5	503.80	5.7
+25		4.8	509.5	503.75	5.7
+50		4.8	509.5	503.70	5.8

FINAL PROFILE LEBBNS. ✓ 6/30/36
M

43.

514.78 ✓

515 ✓

50 ✓

117+75 ✓

5.3 ✓

509.0 ✓

503.65 ✓

5.3 ✓

118 ✓

4.6 ✓

509.7 ✓

503.60 ✓

6.1 ✓

+75 ✓

4.3 ✓

510.0 ✓

503.55 ✓

6.4 ✓

+50 ✓

4.3 ✓

510.0 ✓

503.50 ✓

6.5 ✓

+75 ✓

4.3 ✓

510.0 ✓

503.45 ✓

6.5 ✓

119 ✓

4.3 ✓

510.0 ✓

503.40 ✓

6.6 ✓

+75 ✓

4.2 ✓

510.1 ✓

503.35 ✓

6.7 ✓

+50.93 E.G. ✓

4.2 ✓

510.1 ✓

503.30 ✓

6.8 ✓

See F.B. 508-51-10 61

FINAL PROFILE LEVELS 6/30/36
m.

See FB 516
for Grades
Apr 30, 1936.
Super
Isbell
Remmen
Grade

44

Copied from Loose Sheet No.

Cont.

B.M. #1	9.60	(573.25)	(563.65)	Grade		
11+12.7					0.0	
11+25			-16.7	56.5	550.7	5.8
11+50			10.3	62.9	550.7	12.2
+65			7.4	65.8	554.7	11.1
12+00			2.9	70.3	564.0	6.3
+50			0.2	73.0	564.8	8.2
T.P.	3.83	(576.17)	0.91	(572.34)		
13+00			2.3	73.9	564.8	9.1
+50			5.4	70.8	564.3	6.5
14+00			5.2	71.0	563.9	7.1
+50			5.4	70.8	563.4	7.4
15+00			6.7	69.5	563.0	6.5
+50			7.3	68.9	562.5	6.4
T.P.	4.98	(573.8)	7.34	(568.83)		
B.M. #2			3.27	(570.54)	(570.57)	Revised
"	2.68	(573.25)		(570.57)		
16+00			4.2	69.0	562.1	6.9

9.1
Value Chamber to be deducted.

FINAL PROFILE LEVELS 6/30/36
W.

45

	(573.25)		Grade	Cut.
16+25	4.6	568.6	561.9 ^v	6.7 ^v
+50	4.8	68.4	61.6 ^v	6.8 ^v
+75	5.5	67.7	61.4 ^v	6.3 ^v
17+00	5.7	67.5	61.2 ^v	6.3 ^v
+50	5.8	67.4	61.1 ^v	6.3 ^v
18+00	5.0	68.2	61.0 ^v	7.2 ^v
+25	4.4	68.8	60.9 ^v	7.9 ^v
+50	4.0	69.2	60.9 ^v	8.3 ^v
+75	3.7	69.5	60.8 ^v	8.7 ^v
19+00	3.5	69.7	60.8 ^v	8.9 ^v
+25	3.2	70.0	60.7 ^v	9.3 ^v
+50	4.0	69.2	60.6 ^v	8.6 ^v
+75	4.2	69.0	60.6 ^v	8.4 ^v
20+00	5.1	68.1 ^v	60.5 ^v	7.6 ^v
+25	5.8	67.4 ^v	60.5 ^v	6.9 ^v
+50	6.3	66.9 ^v	60.4 ^v	6.5 ^v
T.P.	1.53	570.85	3.93	(569.32)

Final Profile Levels.

46.

	$\langle 570.85 \rangle$		Grade	Cut
20+75	4.2	566.6	560.4 ✓	6.2 ✓
21+00	4.9	65.9 ✓	60.3 ✓	5.6 ✓
+25	4.7	66.1 ✓	59.9 ✓	6.2 ✓
+50	4.9	65.9 ✓	59.4 ✓	6.5 ✓
+72.6	5.1	65.7 ✓	58.9 ✓	6.8 ✓
22+00	5.4	65.4 ✓	58.4 ✓	7.0 ✓
+50	6.6	64.2 ✓	57.4 ✓	6.8 ✓
	2.14	$\langle 568.71 \rangle$	Elev. 568.76 ✓	

July 6 1936

Soper
School
Remmen

Profile before Excavation

B.M. 21

501.12

9.60 570.72

Grade

575.22

157+00

Rate 0.8467

5.1

505.6

496.59

9.0

From FB 506-64

+30

5.1

505.6

496.84

8.8

Note: Class 1 Ex paid

+50

3.6

507.1

497.01

10.1

to original ground book

158+00

4.1

506.6

497.43

9.2

506/64 except where

+50

5.5

505.2

497.86

7.3

allowed to bottom of Allowed

+80

5.5

505.2

498.11

7.1

Class 2 Ex and to Top of

159+00

6.8

503.9

498.28

5.6

authorized Bench Fill.

+30

6.7

504.0

498.53

5.5

J.T.N. 9/14/36.

+54.35

4.8

505.9

498.74

7.2

+62.76

EC.

July 7 1936

50 per
Remmen
15 bell

48

Profile prior to trench excavation 160+00 - 166+00

B.M. #	9.11	510.28	501.12	Grades 512 60		
160+00		4.8	505.5	499.06	6.4	For Class 1 Excavation.
+50		4.6	505.7	498.90	6.8	Use Original ground Elev
161		5.4	504.9	498.69	6.2	FB <u>508</u> 62-63 except
+50		5.7	504.6	98.49	6.1	where allowed to bottom of
162		5.8	504.5	98.28	6.2	allowed Class 2 Ex. and
+50		6.1	504.2	98.08	6.1	to top authorized Bench Fill
163		6.2	504.1	97.87	6.2	9/14/36
+50		7.1	503.2	97.67	5.5	See Book <u>528</u>
164		7.2	503.1	97.46	5.6	10-11
+50		7.7	502.6	97.25	5.3	
165		7.4	502.9	97.05	5.8	
+50		7.4	502.9	96.84	6.1	
166		7.0	503.3	96.64	6.7	

July 8 1936

Soper
Remmers
Isbell

49

E profile prior to trench excavation 166+50 - 169+00

B.M. 22	4.44	507.04	✓	502.60	✓	
166+50		4.2	✓	502.8	496.11	6.7
167		3.7	✓	503.3	95.52	7.8
+24.00		3.8	✓	503.2	95.24	8.0
+50		4.1	✓	502.9	94.94	8.0
168		6.2	✓	500.8	94.35	6.4
+50		7.9	✓	499.1	93.76	5.3
169		8.1	✓	498.9	93.17	5.7

July 10 1932

Soper
Kimmer
Lebell

50

Profile prior to trench excavation 169+50-185+50

B.M. # 22	2.71	505.31	✓	502.60	✓ ^m
169+50		6.6	✓	498.7	492.59 6.1
170+00		6.6	✓	498.7	92.04 6.7
+50		8.0	✓	497.3	91.98 5.3
171		7.3	✓	498.0	91.91 6.1
+40.21		7.3	✓	498.0	91.86 ^{6.4} 6.1
+75		7.0	✓	498.3	91.81 6.5
172+20		10.5	✓	494.8	91.76 3.0

Contd from page 50

July 11 1936

SOP
Lshell
Kominon

51

505.31

172+50 10.5 494.8 491.71 3.1

173 9.5 495.8 91.64 4.2

+50 9.6 495.7 91.58 4.1

TP 9.21 496.10

7.94 504.04

174+00 8.3 495.7 91.51 4.2

+50 9.0 495.0 91.44 3.6

175 9.0 495.0 91.38 3.6

+50 8.9 495.1 91.31 3.8

185 7.0 497.0 91.26 5.7

176 5.8 498.2 91.24 7.0

129.74 3.6 500.4 91.20 9.2

+50 3.2 500.8 91.18 9.6

177 3.9 500.1 91.11 9.0

+50 4.2 499.8 91.04 8.8

178 4.3 499.7 90.97 8.7

+50 4.9 499.1 90.31 8.8

Use Bottom of Allowed Class

✓ Ex for Top of Class 1.

See Sections.

m

	504.04				
TP		4.42	499.62		
	4.76	504.38			
179		5.0	499.4	489.62	9.8
+50		5.8	498.6	88.94	9.7
180+00		7.8	496.6	88.25	8.3
TP		8.00	496.38		
	2.04	498.42			
180+50		4.0	494.4	87.56	6.8
181+00		5.4	493.0	86.88	6.1
+50		6.8	491.6	86.19	5.4
182+00		7.3	491.1	85.55	5.5
+50		7.4	491.0	85.09	5.9
TP		6.25	492.17		
	1.91	494.08			
183		4.0	490.1	84.63	5.5
+50		5.1	489.0	84.18	4.8

Cont'd from page 52

✓
494.08

184+00

5.1

489.0

3rd Grade

483.72

575
74

5.3

150

5.3

488.8

83.26

5.5

185+00

5.2

488.9

82.90

6.0

150

5.1

489.0

82.88

6.1

See F.B. 508-70 to 75

✓ check BM 23

0.4

493.67

Revised 493.67

July 15 1936

S. J. P.
Remmers
15 Bell

54

Profile prior to trench excavation 223+70.34 - 226+65.81

B.M. #	7.73	487.96	480.23	434 p.5 = 480.23	
223+70.34 B.C.	7.6	480.4	71.19	9.2	from 509-4
224	7.4	480.6	71.05	9.5	
+25	7.6	480.4	70.93	9.5	
+50	7.2	480.8	70.81	10.0	
+75	7.3	480.7	70.70	10.0	
225	7.8	480.2	70.57	9.6	
+25	8.5	479.5	70.45	9.0	
+50	9.0	479.0	70.33	9.7	
+75	9.3	478.7	70.21	8.5	
226	10.2	477.8	70.08	7.7	
+25	10.3	477.7	70.16		
+50	11.2	476.8	70.33		
+65.81 EC	11.6	476.4	70.43		

As County marked here after Class 2, moved by Conk Dennis these levels should be used instead of bottom of Class 2 as shown on Section 5.

S. J. P.

July 15 1936

Sayer
Kerriman

55

Profile - prior to trench excavation 227+00 - 235+00

B.M. 27

480.83

4.39 484.22

227+00

7.8 476.8

+50

7.3 477.3

228

6.9 477.7

+50

6.9 477.7

229

6.6 478.0

+50

4.1 480.5

TP

2.02 482.60

12.23 494.83

+74.24

11.5 483.3

230+00

8.6 486.2

+25

6.8 488.0

+50

5.7 489.1

+75

4.4 490.4

231

3.8 491.0

Cont'd from page 55

56

494.83

231+50

3.0

491.8

232

2.2

492.6

+50

1.7

493.1

233

1.3

493.5

TP

1.33

493.50

224

495.74

233+50

2.6

493.1

234

3.5

492.2

+50

4.6

491.1

235

5.0

490.7

Cont'd on page 63

July 21 1936

50 per
Remmed
1 shell

57

4 profile - prior to trench excavation 258+59.17 - 263+00

B.M. # 31	1.65	462.55	460.90
258+59.17		2.9	459.7
259		3.5	459.1
+50		4.2	458.4
260		3.9	458.7
+50		3.7	458.9
261		4.6	458.0
+50		5.4	457.2
262		6.0	456.6
+50		6.1	456.5
263+00		5.7	456.9

Use Elev at Bottom
 of Allowed Class 2
 for Top of Class 1 See
 Sections 503
 53

OBH

from 509/15 from 503-69 HFS

(Edge of road - use original profile from here)

To - F.S. 509-16

Aug 10 1936
Super
13.00
Remmen

58

Profile prior to trench excavation 320+50-343+50

B.M. # 36 3.70 444.76 441.06

320+50 9.0 35.8

321 8.8 36.0

+50 9.1 35.7

322 8.6 36.2

+50 8.5 36.3

323 8.1 36.7

+50 8.0 36.8

324 7.8 37.0

+50 7.4 37.4

325 6.8 38.0

+50 6.3 38.5

326 5.6 39.2

+50 5.3 39.5

327 4.8 40.0

+50 4.4 40.4

444.76

B. 328 +00

4.2 40.6

+50

3.9 40.9

3 329

3.9 40.9

3 +50

3.2 41.6

330

2.2 442.6

3 +50

1.8 43.0

T

2.49 442.27

3 12.64 454.91

3 331

11.7 43.2

+50

11.4 43.5

3 332

11.1 43.8

+50

10.6 44.3

3 333

9.7 45.2

+50

9.1 45.8

3 334

7.8 47.1

+50

6.0 48.9

Contd from page 59

60

✓
454.91

2	335+00	4.1	50.8
	+50	2.0	52.9
	TP.	0.38	454.53

✓
12.73 467.26

	336	12.1	55.2
	+50	9.8	57.5
	337	7.8	59.5
	+50	5.6	61.7
	338	3.4	63.9
	+50	0.9	66.4
	TP.	0.09	467.17

12.55 479.72 ✓

	339	11.1	468.6 ✓
	150	9.3	470.4 ✓
	340	7.5	472.2 ✓
	150	6.0	473.7 ✓
	341	5.0	474.7 ✓

Cont'd from page 60

61.

479.72

341.50

4.8 474.9 ✓

342

4.7 475.0 ✓

150

5.4 474.3 ✓

343

5.1 474.6 ✓

150

4.5 475 ✓

To F.B 509-59 ✓

Final $\frac{1}{2}$ Profile
prior to excavation.

July 11 1936

Loger
Remains
1936

62

B.M. #20

503.52

3.41 506.93

145+63

5.3 501.6

from 506-60

146+00

4.6 502.3

146+15

6.2 500.7

cont in 506-60

} Class 1 Ex
To be paid, to
only 5.0' above
invert grade as M_{1/2}
See FB 528
8-11-36

Aug 6 1936
50701
15611
Remman

63

Profile prior to excavation 235+33.8 - 236+50

B.M. 28A

478.73

12.94 491.67

235+33.8

1.2 90.5

from p-56 This Book this sta. only then to

+50

3.2 88.5

pg. 509-9

236

11.6 80.1

for +50

T.P.

13.00 478.67

12.0 479.87

236+11.3

1.8 78.1

+50

8.5 71.4 (original ground)

Aug 11 1936
Soper
156
Remmen

64

Profile - prior to excavation 313+00 - 316+00

B.M. # 35

438.93

4.04 ^A 542.97

313+00

5.5 37.5'

from page 69 this book

+50

6.4 36.6'

314+05.34

5.9 37.1'

+50

6.1 ^{36.9}
37.9'

315+00

6.0 37.0'

+50

6.1 36.9'

To F.B. 509-30

Aug 14 1936
Soper
15 bell
Permanen

Profile prior to trench excavation 348+00 - 358+00.86

B.M. #38 476.31

0.13 476.44

TP 11.57 464.85

0.57 465.42

348+00 2.2 63.2

from 509-59

+50 2.7 62.7

349 3.7 61.7

+50 5.0 60.4

350 5.6 59.8

+50 6.0 59.4

351 6.2 59.2

Use original sections in book # 509-60

sta. 351+00 - 352+00

352+00 6.8 58.6

+50 6.6 58.8

353+00 6.4 59.0

TP 6.11 459.31

Cont'd from page 65

66

459.31

9.95 469.26

353+50

10.1 59.2

354

9.6 59.7

+50

8.9 60.4

355

8.2 61.1

+50

7.6 61.7

356

6.9 62.4

+19.53

6.7 62.6

+25

6.5 62.9

+50

6.7 62.6

+75

7.2 62.1

357

7.6 61.7

+25

7.7 61.6

+50

7.9 61.4

+75

8.4 60.9

358+01.86

9.0 60.3

To F.B. 509-61

* on B.M. 40
Rec. ch. 453.02

0.29 460.18

7.37 459.89

7.19 452.99

Aug 17 1936

Soper
Isbell
Remmen

67

Profile prior to trench excavation

B.M. 40 7.81 460.83 453.02

TP 9.34 451.49

2.33 453.82

366+50 4.5 49.3

from 509/62

367 3.9 49.9

+50 4.1 49.7

368 5.1 48.7

+50 6.5 47.3

369 7.7 46.1

+50 10.0 43.8

370 13.3 40.5

TP 12.88 440.94

0.85 441.79

+50 2.9 38.9

371 3.8 38.0

+50 4.0 37.8

Contd from page 67

68

✓
441.79

372 5.1 36.7

150 6.3 35.5

373 8.0 33.8

150 9.8 32.0

374 11.8 30.0

150 13.4 28.4

Cont page. 70 this book

ck on BM^e H

10.55

4

31.24

Rec. clv.

431.23

Aug 18 1936
Super
1564
Kinnison

69

Profile of trench excavation

B.M. # 35

438.93

3.51 442.44

311+98.44

6.1 363

from F.B. # 509-75

312+05.5

6.1 363

+10.0

4.5 37.9

+15.0

3.1 39.3

+20.0

3.3 39.1

+27.8

5.4 37.0

+50

4.3 38.1

To page 64 This Book

150
see 530
65 also

Aug 22 1936

Soper
Lebell
Remmon

70

E Profile prior to trench excavation

B.M. #41

431.23

0.96 432.13

375.400

4.8 27.3

from Page 68 this book

150

6.0 26.1

376

9.0 23.1

150

11.8 20.3

R.

13.02 419.11

0.91 420.02

377

1.5

150

3.1

378

4.6

150

5.3

379

6.1

150

6.8

380

7.4

E
 420.02
 380+50 8.2
 391 8.9
 +50 9.5
 382 10.4
 +50 10.9
 383 11.1
 R 11.07 408.95

1.90 410.85

383+50 2.2
 384 2.4
 +50 2.3
 385 2.3
 +50 3.6
 386 5.2
 +50 6.3
 387 6.9
 +50 7.0

410.85

388

7.1

+50

7.5

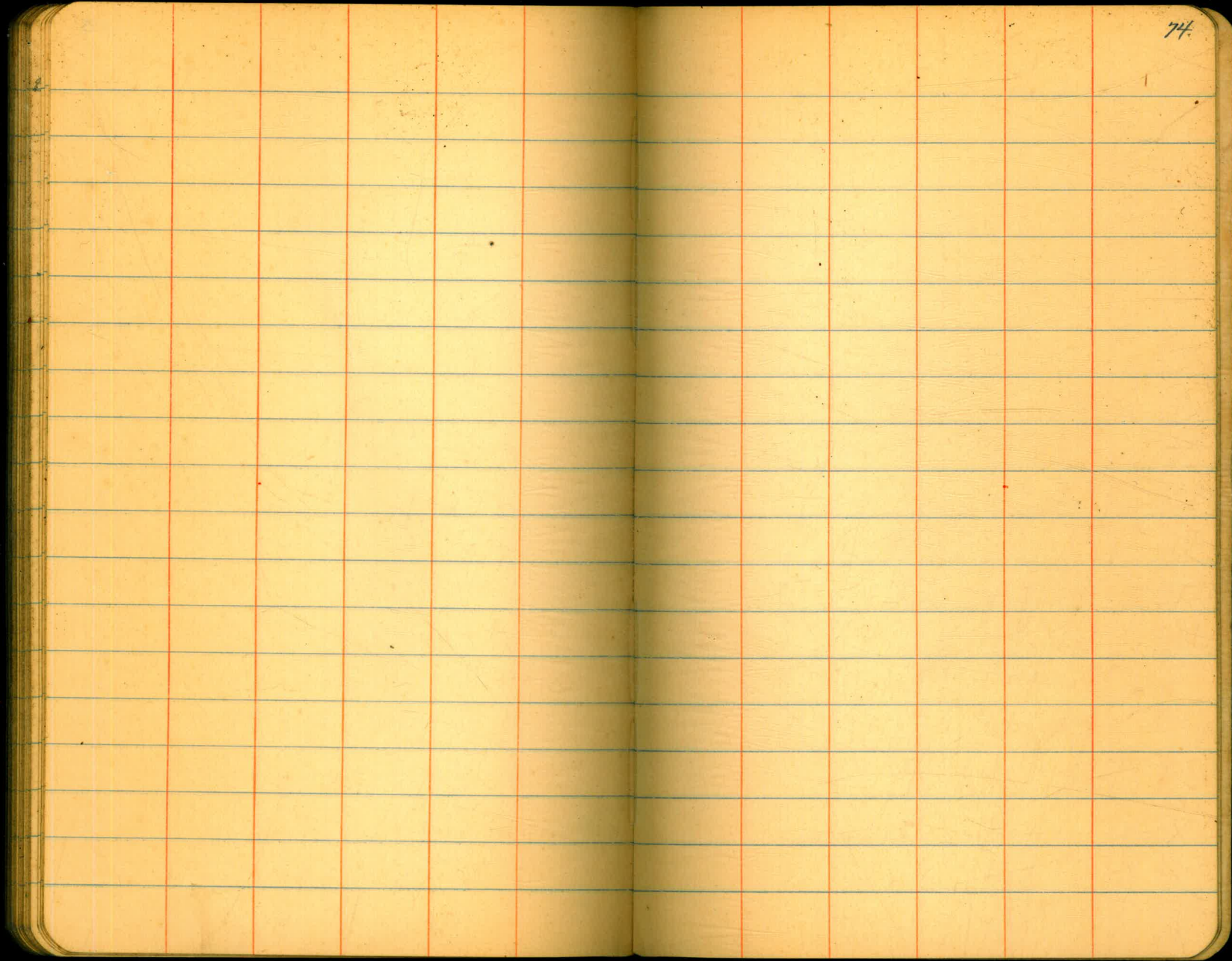
389

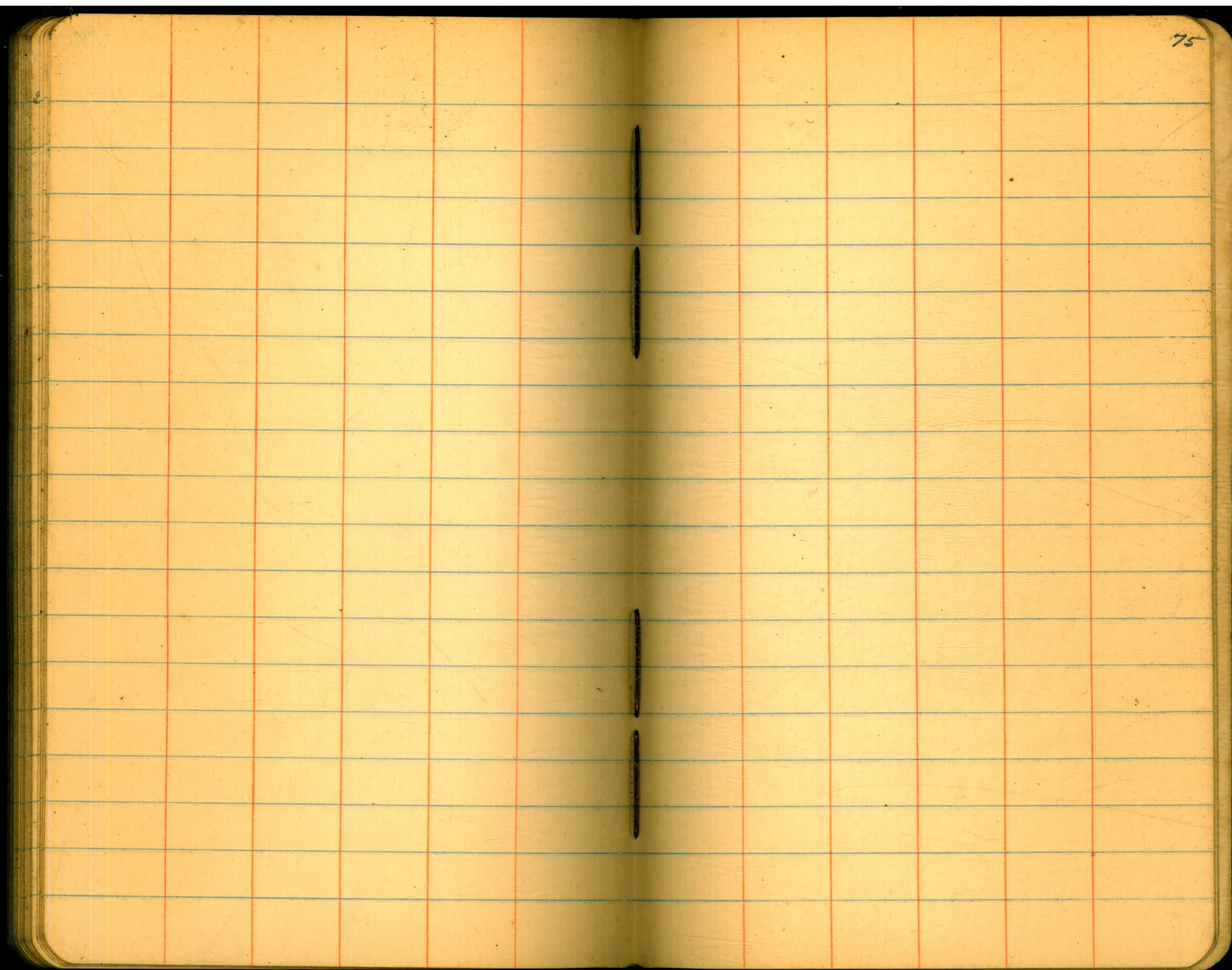
6.6

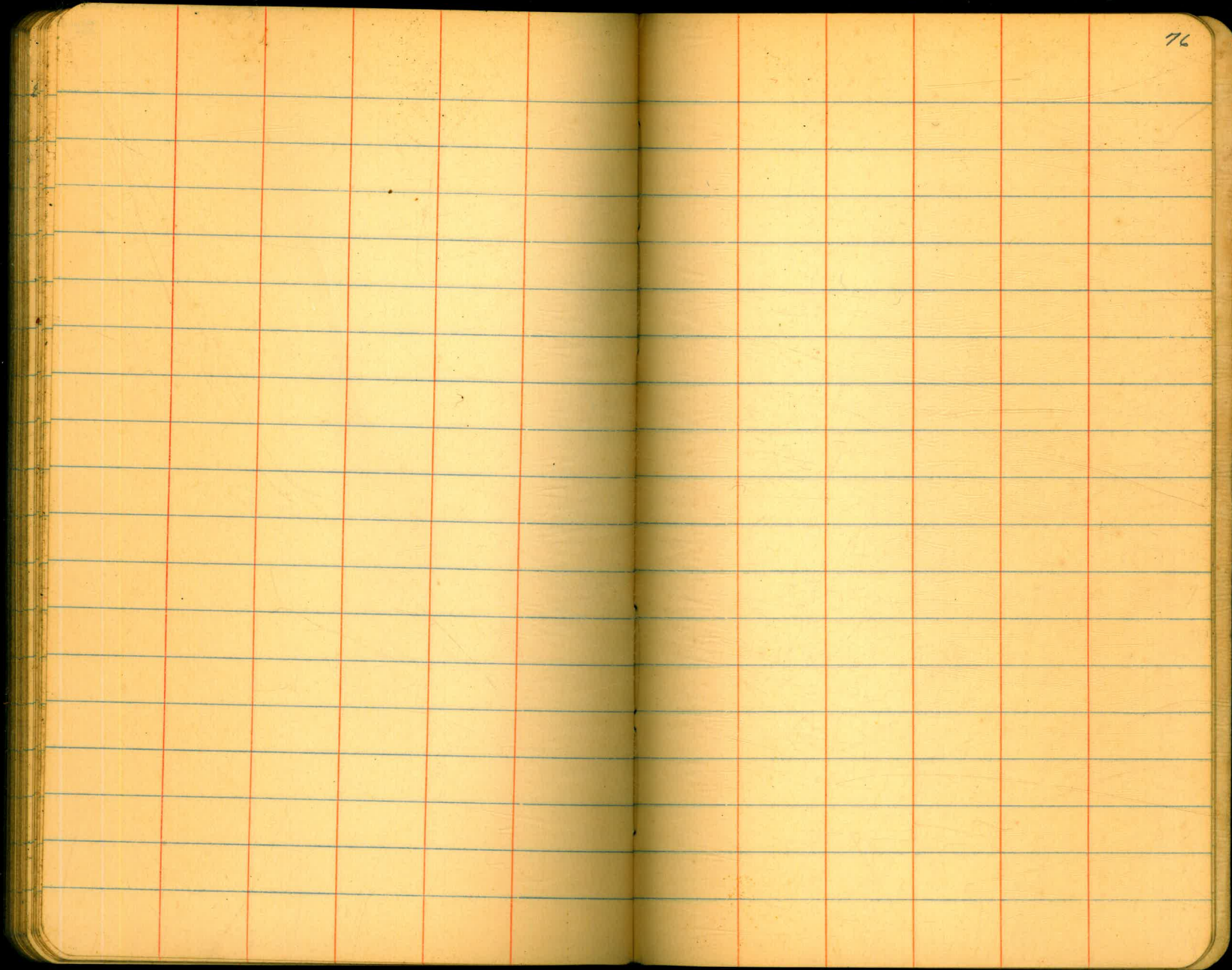
6.43 404.42

on side road - use original & profile from here

San B.M. 42 Rec. elev. 404.45







The image shows an open notebook with two facing pages. Both pages are cream-colored and feature a grid of light blue horizontal lines and vertical red margin lines. The right page has the number '78' written in the top right corner. The notebook is set against a black background.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide.

Side Slopes 1 on 1½.

For Single Track Embankment.

CALCULATION OF EARTHWORK.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if $w = 16.2$ and $h = 5.3$, cu. yds. $= 1.48 + .028 + .089 = 1.597$ cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) $= h$, and $\frac{1}{2}$ the roadbed $= w$, add the triangles formed by taking the distance out to each break in turn ($= w$'s) by the difference between the cuts (or fills) on each side of it ($= h$'s) always subtracting the outer from the inner.

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 $41.9 + (20 - 16) \div 2$ or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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