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FIELD BOOK  
361

1

# KEUFFEL & ESSER CO.

DRAWING MATERIALS  
AND  
SURVEYING INSTRUMENTS.  
NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

## TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.  
ROADWAY 18 FEET WIDE SIDE SLOPES 1 TO 1.  
FOR SINGLE TRACK EXCAVATION.

"Copyright, 1895, by Keuffel & Esser Co."

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

Calculated by Julien A. Hall, M. Am. Soc. C. E.

For Keith's Railroad Curve Tables see end of book.

3483+27.6  
3482+7.7  
506

670-16  
1900 R.  
170 53

5  
2.000

84-85=1506

84  
2.000  
170

SRA 80  
Res Const Brook  
Res Hoffman  
Res 4

## INDEX

L.S.H. Tr.

| Sta to Sta  | Kind          | Page to Page |
|-------------|---------------|--------------|
| 3211 - 3253 | Transit.      | 2 - 4        |
|             | Surfacing     | 11 - 13      |
| 3052 - 3584 | Level Notes   | 15 - 42      |
| 3285+20     | Ditch Offtake | 44           |
| 3293        | " "           | 45           |
| 3206        | Soundings     | 57           |

6/1-1916  
 L.S.H.  
 F.D.M.  
 L.E.R.

Grade

|         |         |         |
|---------|---------|---------|
| 3225+00 | 1187.00 |         |
| 3226+00 | 93.90   | 94.00   |
| 26+50   | 93.60   | 1196.50 |
| 3227    | 97.40   | 1179.00 |
| 27+28   | 98.70   | 1200.40 |
| 27+62   | 1201.70 | 1202.40 |
| 3228    | 1205.60 | 1205.00 |
| 28+50   | 1209.00 | 1208.00 |
| 3229+00 | 1210.40 | 1211.00 |
| 50      | 1212.70 | 1213.50 |
| 3230    | 1214.6  | 1218.00 |
| 3231    | 1224.1  | 1220.00 |
| +50     | 1224.2  | 1221.70 |
| 3232    | 1224.7  | 1223.40 |
| +36     |         |         |
| 3233    | 1221.10 | 1224.00 |
| 3234    | 1224.9  | 1226.00 |
| 3234+28 | 1224.9  |         |
| 3234+56 | 1227.9  | 1227.01 |
| 3235+00 | 1226.60 | 1227.80 |
| +42     | 1229.70 | 1228.55 |

Copied Book #1 Page 8.

22

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|      |      |      |      |
|------|------|------|------|
| -7.4 | -2.5 | -1.1 | +2.5 |
| 23.4 | 7.0  | 0.0  | 13.7 |
| -7.0 | -1.2 | 0.0  | +6.0 |
| 23.0 | 10.0 | 0.0  | 17.0 |
| -9.0 | -3.0 | 0.0  | +2.5 |
| 25.0 | 1.0  | 3.0  | 4.0  |
| -2.0 | 0.0  | +1.4 | +2.2 |
| 15.0 | 1.6  | 7.6  | 0.0  |
|      | 1.0  | 0.0  | 13.0 |
|      | 0.0  | 0.0  | 13.3 |
|      | 0.0  | 0.0  | 13.7 |
|      | 0.0  | 0.0  | 14.0 |
|      | 0.0  | 0.0  | 14.3 |
|      | 0.0  | 0.0  | 14.6 |
|      | 0.0  | 0.0  | 14.9 |
|      | 0.0  | 0.0  | 15.2 |
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|      | 0.0  | 0.0  | 15.8 |
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|      | 0.0  | 0.0  | 16.4 |
|      | 0.0  | 0.0  | 16.7 |
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|      | 0.0  | 0.0  | 17.6 |
|      | 0.0  | 0.0  | 17.9 |
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|      | 0.0  | 0.0  | 18.5 |
|      | 0.0  | 0.0  | 18.8 |
|      | 0.0  | 0.0  | 19.1 |
|      | 0.0  | 0.0  | 19.4 |
|      | 0.0  | 0.0  | 19.7 |
|      | 0.0  | 0.0  | 20.0 |
|      | 0.0  | 0.0  | 20.3 |
|      | 0.0  | 0.0  | 20.6 |
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|      | 0.0  | 0.0  | 21.2 |
|      | 0.0  | 0.0  | 21.5 |
|      | 0.0  | 0.0  | 21.8 |
|      | 0.0  | 0.0  | 22.1 |
|      | 0.0  | 0.0  | 22.4 |
|      | 0.0  | 0.0  | 22.7 |
|      | 0.0  | 0.0  | 23.0 |
|      | 0.0  | 0.0  | 23.3 |
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|      | 0.0  | 0.0  | 24.2 |
|      | 0.0  | 0.0  | 24.5 |
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|      | 0.0  | 0.0  | 28.7 |
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|      | 0.0  | 0.0  | 34.1 |
|      | 0.0  | 0.0  | 34.4 |
|      | 0.0  | 0.0  | 34.7 |
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|      | 0.0  | 0.0  | 35.3 |
|      | 0.0  | 0.0  | 35.6 |
|      | 0.0  | 0.0  | 35.9 |
|      | 0.0  | 0.0  | 36.2 |
|      | 0.0  | 0.0  | 36.5 |
|      | 0.0  | 0.0  | 36.8 |
|      | 0.0  | 0.0  | 37.1 |
|      | 0.0  | 0.0  | 37.4 |
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|      | 0.0  | 0.0  | 38.0 |
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|      | 0.0  | 0.0  | 38.9 |
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|      | 0.0  | 0.0  | 47.6 |
|      | 0.0  | 0.0  | 47.9 |
|      | 0.0  | 0.0  | 48.2 |
|      | 0.0  | 0.0  | 48.5 |
|      | 0.0  | 0.0  | 48.8 |
|      | 0.0  | 0.0  | 49.1 |
|      | 0.0  | 0.0  | 49.4 |
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|      | 0.0  | 0.0  | 50.0 |

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2

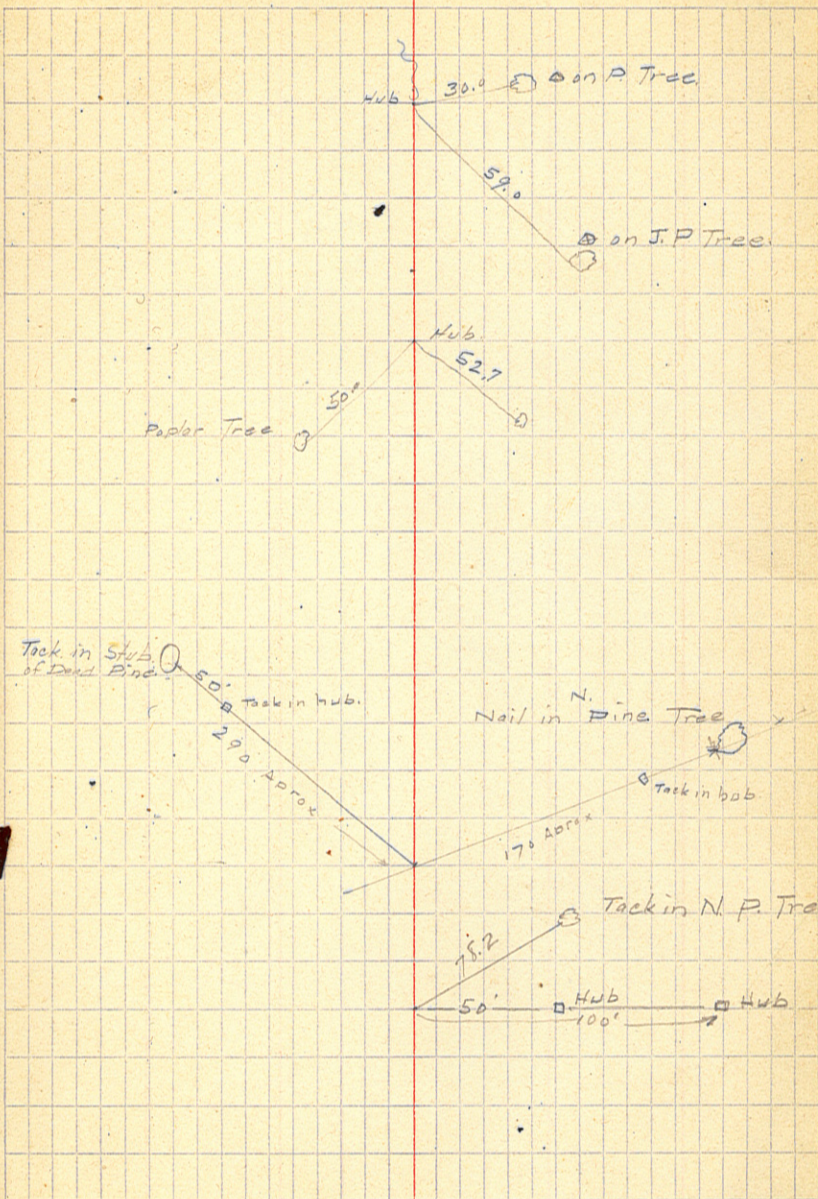
Δ L      Δ R.

3232+00

3224+45

3214+00

3211+77



5/25-16

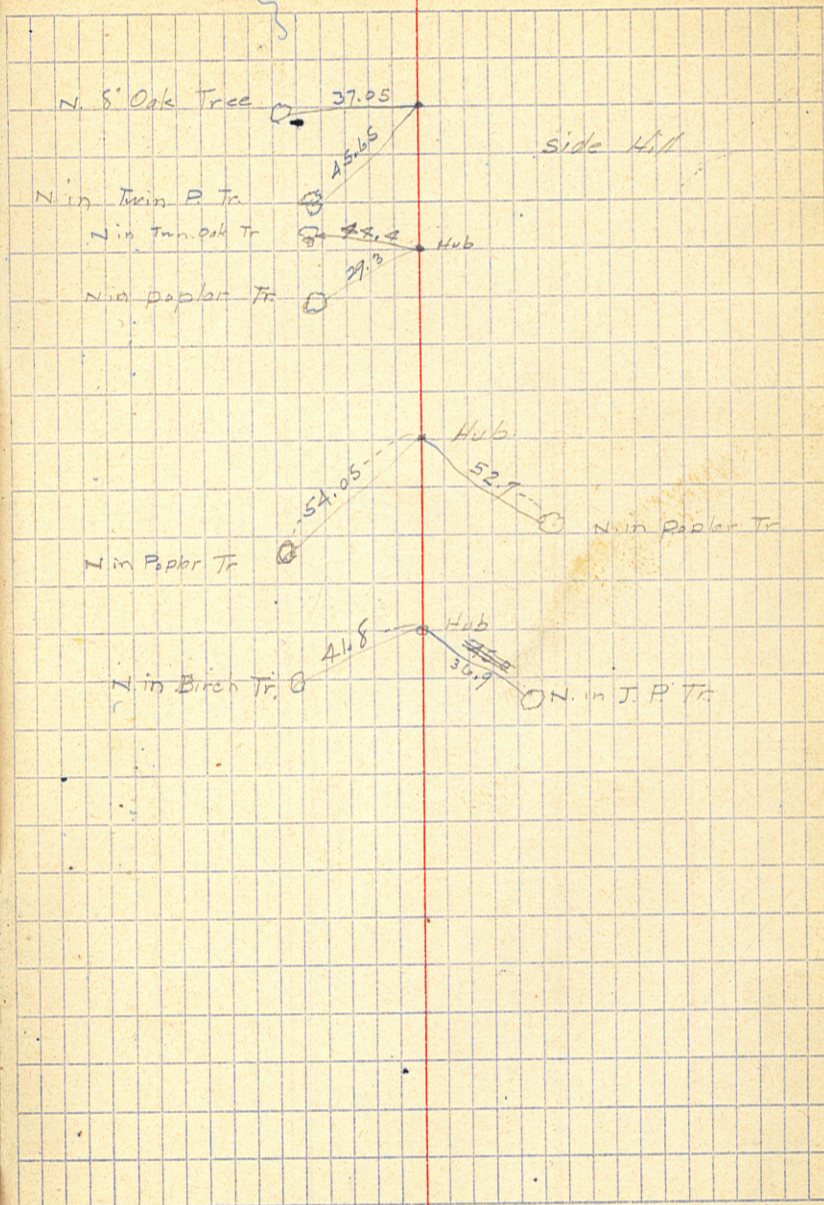
Δ L Δ R

3249+53

3245+20

3242+00

3238+00 P.O.T.



4

3253+60

N in N.P.T.C. 49.8  
N in 4<sup>th</sup> Poptar 49.2 Tr