

Mr. Lavis. or that, and fixing the grade line to make the quantities balance exactly, who knows what will happen on construction?

Soundings are taken while locating, to get a general idea of the material, but it often looks very different when the cut is opened, and it often pays to raise the grade line to get over some hard material, or the reverse where no borrow is to be had where expected.

The writer firmly believes that the use of separate sheets is another deterrent to good alignment. The theory may be all right, but in practice it distinctly prevents a study of a long stretch of country. The ordinary drafting table is 5 ft. long, which, at 400 ft. to the inch, gives a range of less than 5 miles. With a roll, the line is worked back and forth, going from one end to the other and back with little trouble. If one has to hunt around and find missing sheets, fumble around for thumb-tacks, and then match the sheets together, the chances are he will let things pass that he would not otherwise, if he had only to unroll his map. It is a good thing, too, although the line on the 2 000-ft. map gives a general view, to run out the roll the length of the tent and get a good look over the whole length of the line, and it will often be found that curves which seem to be all right by themselves are bad when the line is looked at as a whole, and perhaps a little study then will fix them.

The writer, perhaps fortunately for him, has been connected at various times with much poor location, has done not a little himself, and it is because of this and because he thinks he knows most of the ways bad locations are made, that he is perhaps somewhat enthusiastic over the methods which were used on the Choctaw, Oklahoma and Gulf Railroad, and which appealed to him, particularly, as being practical, and as obtaining results, while avoiding all unnecessary refinement of accuracy.