

lot, No. 14, forming a spur, which will throw the line a trifle to the north. From this point in the 10th Range, it runs to about the centre of lot 18, Kennedy, when the valley of Stevenson's Creek is taken. Some irregularity, but in no way of a serious character is met here. The line is forced northward, owing to a projecting spur, which comes out on lot 24. There is, moreover, a sufficient terrace on the side of the Creek to admit both the travelled roadway and the proposed railway. At some points adjustment of the former is called for, and some filling will be required to establish the latter. The point is now gained where the descent must be made to the lower ground, viz.: where the two Townships, Clarendon and Litchfield join.

In the Portage-du-Fort line we must follow a series of descending grades in the northern five miles before entering the village, and an additional descent is found on approaching the water. On the other hand the bridge would require to be thrown up as high as possible, with the rail laid on the upper chord, in order to facilitate the ascent to the high ground on the opposite shore in Ontario. The descent is somewhat lessened in Litchfield, as the water of Coulonge Lake, which may be held to be representative of the levels at La Passe, is about 80 feet higher than at Portage-du-Fort. One descent only is needed to approach the lower ground at this spot; and the ground, with the slight exception of the approach to Campbell's Lake, is almost level until the bridge site at La Passe is reached.

I am informed by gentlemen of the neighborhood that the hill is of clay and sand. Three or four feet of snow prevented any personal examination on my part. So far as a *reconnaissance* on snow shoes, with the heights gauged by the eye, enable me to judge, I should say that the amount of material to be placed in embankment would be from 50,000 to 60,000 cubic yards, and that the maximum grade of 52.80 to the mile would extend for 7,000 feet, (about  $1\frac{1}{3}$  miles.) The total height to be overcome is about 60 feet; but the 3,000 feet of cutting will occur on a gradual descent, so that the cutting in no place would exceed 13 ft. or 14 ft. This spot is the only place where work of any magnitude is met, and must be placed in contrast with the work on the several descents to the Portage-du-Fort Bridge.

Having gained the lower level on lot 4, Range 1, Litchfield, the course of the line would run diagonally to the mouth of a bay, surrounded by hills, at the commencement of Range 4, Litchfield, called Campbell's Lake. Stevenson's Creek must be crossed in this interval. It will be about 100 feet in width, with abutments about 20 feet high. Some irregular ground must be looked for in the transfer from the <sup>level</sup> bed of this