

on the Plan (perhaps the shortest practicable distance between the two points) is from 70 to 80 feet. The elevation of the plains to the westward of Queenston is rather over 100 feet, therefore 5 Locks of 9 feet lift would raise up a vessel from the River to the elevation of the plains of Niagara—nine Locks at the point where the line A terminates—and eleven Locks at Queenston.

It is evident from the great elevation to which the Canal would require to be raised at the two last mentioned places, that the ground could not be so well chosen, to avoid cutting and embankment, as it is on the line shewn, and the distance would probably be longer from the last named place because, in order to maintain the level it would be necessary to follow the sinuosities of the Lower Ridge, the base of which, near the Ten-Mile-Creek is of the same elevation as the plains to the westward of Queenston.

Taking all these circumstances into consideration it is evident that by making the place of departure at the mouth of the River, the entrance into the Canal would be exposed to the swells of the Lake. By making it higher up than Fort George the vessels must be detained when the wind is unfavourable, or they must be towed up the River, whilst no decided advantage either in distance or in expense of excavation would be gained.

From these facts I arrived at the conclusion that the point where the Canal should leave the River ought not to be lower down than a line drawn from the Episcopal Church at Niagara across the River to Fort Niagara nor higher up than the point on which Fort George stands.

My next object was to fix upon the best point of junction at the Welland Canal. In order to shew the reasons which induced me to prefer the spot which I have selected it will be necessary (however averse I may be to it, from inclination) to enter into some details concerning that work.

My first attention was given to the Locks on the hill, with the view of recommending the junction of your Canal to the Welland Canal at the base of the hill, if I found these Locks substantial, or at least so placed as to justify such a farther expenditure upon them as would make them substantial and permanently efficient.

The greater part of the Locks are in a ruinous state, and upon a minute examination of those which stand more firm, I found the timbers which appeared sound on the outside to be almost without an exception, decayed internally.

The Canal and Locks here are placed on the side of a steep shelv-