

PORT DALHOUSIE.

This harbour has an advantage over that at Burlington, in being less exposed to the storms on the lake; and the soil which is a fine tough clay, is far more favorable for the purposes of canal navigation.

The piers, dam, waste weirs, entrance-lock and other works are in good order, having withstood the freshets of the creek from within, and the storms of the lake from without, without suffering any material injury.

Inside the lake lock, above the waste weir, there are from 10 to 12, and in some places 15 feet of water in the channel for nearly two miles up the valley of the Twelve.

I ascertained the depth of water in this harbor at two different periods; the first was in the beginning of this month, and the last time on Monday last. The lake was calm on both occasions, and the depth of water about the same.

On the lower sill of the lock I found $13\frac{1}{2}$ feet of water, and outside the lock between the piers the soundings were from $8\frac{1}{2}$ feet to 10 feet 11 inches. Two machines were in operation deepening the channel.

Beyond the piers, in a line with the entrance, the depth of water ranged from 10 feet 9 inches, to 12 feet 6 inches, until upon the bar, where the soundings were from 9 to 10 feet. Farther out in the lake, about a hundred yards in the same direction, I found fourteen feet of water.

The bar is about a chain in width, and in the two intended-channels the least depth upon it is 9 feet. It is intended to extend the main pier 60 feet further into the lake, and to place another pier across the bar in the same line from the lake excavating the channel 60 feet in width and eighteen inches deep across the bar.

The other ship channel, north of the main pier head, is to be excavated to the same depth, and a buoy placed on each side of the entrance for the guidance of the mariner. For his guidance also, two lights will be placed in a line with each other, and in a line with the main channel at a proper distance.

It is of consequence to the prosperity of the canal that this harbor should be speedily deepened and improved so as to insure the regular reception of steam-boats. A western merchant, after his property has arrived at Fort Erie, can depend upon its being forwarded to Montreal by a given day if sent over the portage, and by steam-boats from Queenston. To ensure confidence in the Welland Canal it is obvious that it should possess the same facilities for the regular transit of property by steam navigation, that are enjoyed on the Queenston route.

Lake Ontario is now understood to be between 15 and 24 inches higher than its level at certain seasons of the year, and its waters rise and fall not less than three feet, taking one season with another, in a period of five or six years.

I think it will be found necessary hereafter to widen the entrance lock so as to admit steam-boats of the size now navigating Lake Ontario, into the great dam; and if it should be determined to make this alteration, the lock ought to be placed at the first turn about 100 yards above its present site, which would leave a large and convenient basin for steam-boats and other large craft; the space outside the lock, between the piers, being too much confined.

On the dyke of the great pond, a saw-mill, with a horizontal or "re-action" wheel has been erected for years, which I was informed, had done considerable business.

Already has the anticipated commerce of the canal begun to attract capital to Port Dalhousie. They are building houses and stores and erecting granaries; and one merchant has established a wholesale store with a heavy stock of British goods. A road from this place to Niagara is much wanted.

The towing path from Port Dalhousie for several miles up the creek, is an artificial mound of earth raised on the left bank of the natural channel. It follows the windings of the creek, and will have to be stoned up, to prevent it from washing away, as will many of the artificial embankments on the line. The Erie Canal had to be stoned up on each side for many miles, to prevent the soil from filling up the channel. But these improvements can be made in the winter seasons when experience shall prove them to be necessary, after the canal is completed.

A floating bridge is made through the towing path about 200 yards above the entrance-lock, to enable vessels, rafts, &c. to pass from the canal into the grand basin. Should it be considered expedient to widen the present entrance-lock, instead of removing it further up the canal, I would suggest the propriety of placing another floating bridge on the towing path, immediately above that lock.

WATER POWER.

The advantages possessed by this line of canal for impelling machinery are very great. At the Grand River dam, there is water enough to spare for impelling a number of mills. At whatever place on the lake the ship canal shall terminate, there will be a fall of probably six or seven feet, with a never failing supply of water for