

The other repairs should be carried out during the season, if possible.

Estimate No. 2, for 4 feet depth of water. The principal part of this work will consist of excavations of rock, loose rock, gravel, mud and clay, and removing logs and boulders from the bed of the river, with 12 miles of tow path. The repairs of dams and locks embraced in Estimate No. 1 will form part of this work, excepting repairs on Lower Brantford Lock, which in very low water has only 22 inches on the lower mitre sill and 2 feet 6 inches in the chamber, and for a 4 feet navigation will require an entire reconstruction, which is included in this estimate.

Estimates Nos. 3 and 4, for 6 feet and 7 feet 9 inches water throughout.

In these estimates the dams at Indiana, Mount Healy and York are to be raised 21 inches each, thereby reducing the amount of excavation. The locks are also in both cases to be deepened and increased in length from 96 feet to 150 feet, the latter being the length of locks on Welland Canal.

Large reduction might be made in No. 4 estimate by reducing the excavation between Indiana and Cayuga to 4 feet in depth, as in No. 2 estimate, by constructing a dam and lock above Cayuga Bridge, giving a lift of 4 feet, and it would be well to consider whether the disadvantage of the lock and dam, in amount of cost, and detentions in passing through, would be more than counterbalanced by the saving effected.

Entire length of the navigation from Brantford to the mouth of the river is  $57\frac{1}{2}$  miles, and of this distance there is over 7 feet 9 inches depth of water, as follows, viz.:

From Mouth to Cayuga .....	20 $\frac{3}{4}$ miles.
“ Indiana to Caledonia .....	2 $\frac{1}{4}$ “
“ Caledonia to Brantford .....	17 $\frac{3}{4}$ “
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	40 $\frac{3}{4}$ “

Leaving 16 $\frac{3}{4}$  miles of the river and canal to be deepened. In deepening and improving the present navigation, it should be between the 4 feet and the 7 feet 9 inches. The 4 feet would admit the passage of canal boats and barges, drawing 3 $\frac{1}{2}$  feet water, with a carrying