

approximating to the present cost of work. We are satisfied that a barge-canal having a depth of 6 ft. and a bottom width of 30 ft., with locks 30 ft wide and 8 ft. deep and 150 ft long inside, could be constructed for less than £300,000. The scheme as detailed would involve the substitution of a double Bascule swing or rolling bridge for two spans of the present Mangere Bridge, the staunching of the existing approach embankment to the present bridge, and the closing of the present bridge by a bank containing a lock and having a wharf adjacent. Provision has been made for carrying the railway over the canal, and a clear headway of 10 ft. above the water-level can be obtained. It is, however, possible that in the regrading of this portion of the railway it may be desirable to raise the rail-level at this point, and any increase in head-room so gained would be valuable from the point of view of the canal. The Great South Road would be carried over the canal, and tow-paths by a three-span bridge at its present level; but it would be proposed to fill up a depression in the Panmure Road, and thus carry it over the canal at a sufficiently high level. A lock would be formed, with adjacent wharves, in the upper end of the Otahuhu branch of the Tamaki Creek at a point about 20 chains to the eastward of the Panmure Road.

The distance between the Auckland wharves and the Onehunga Wharf is practically the same by the Whau route and by the Tamaki, but the barges would be in a more exposed portion of the Waitemata Harbour by the Tamaki route than by the route through the Whau inlet. As, however, any barges that would navigate the canal would have to be capable of navigating the rough waters of the Manukau Harbour, this objection is of little moment.

As the control of the Waitemata and Manukau Harbours is vested in the Auckland Harbour Board, it appears clear that the construction and management of the canal should be in the hands of that body. We therefore recommend that powers be given to the Auckland Harbour Board to carry out the work and to levy tolls on vessels and goods passing through the canal.

We are of opinion that the present indications point to the low-lying lands surrounding the upper portion of the Manukau becoming largely a manufacturing district. The impounding of the tidal waters above the Mangere Bridge under the proposed scheme, by giving an extensive water-frontage capable of being served at all times by barge traffic, would be of great benefit, and would produce a trade between that district and the Auckland wharves that would warrant the construction of the canal. We therefore recommend that the Auckland Harbour Board should proceed to draw up a scheme for the reclamation of a portion of the lands now covered at high water within the impounded area and adjacent to the present water-frontage, including in such lay-out the provision of road and railway-siding access to the manufacturing building-sites that would be thus brought into existence. The Government should give every assistance by special legislation for the execution of this work, and it is believed that the asset so brought into existence would ultimately provide security for the interest and sinking fund on the loan necessary to carry out the works, including the construction of the Tamaki canal.

We draw attention to the letter from the Auckland Harbour Board, marked "Appendix A," containing the considered views of that Board as to the construction of the canal.

WAIUKU-WAIKATO CANAL.

Although the Tamaki barge-canal is of importance as giving Onehunga and the harbour of the Manukau water communication with the wharves at Auckland, its value would be very much increased if barge traffic could be established with the Waikato. If this could be done, coal and agricultural produce could be loaded on barges upon the river or its tributaries, and delivered without transhipment at the wharves in the Waitemata.

The proposal to construct a canal from the Waiuku River, a branch of the Manukau Harbour, past the Town of Waiuku and through a comparatively low saddle to connect with the Awarua Creek, which falls into the northern channel of the delta of the Waikato River, is a project that has been under consideration for many years.

In the year 1902 Mr. A. B. Wright, an officer in the then existing Roads Department, ran levels across this line and reported that a cut could be made