

Department of Public Works.

work was commenced by day labour in preparing the trench $3\frac{1}{2}$ miles for laying the pipe. This work comprised excavation in rock and earth, wood trestles and bridges, and certain works at the lake embracing a deep cut and drift through the rock to secure an efficient entry head, the construction of two earth dams at the outlet whereby there will be no waste during the dry season, and the lake raised about 5 to 6 feet, clearing and burning around the lake all timber and brush likely to fall in, and lastly, the construction of a good fence called the Russell patent, around the lake to keep off trespassers and to prevent cattle from wallowing in the water.

The line was carefully located with proper grades, so that in the course of laying the pipe, there were no unnecessary abrupt bends either vertical or horizontal. Where bends were necessary, the texture of the material of which the pipes were made was of such good quality, that they were bent cold up to 90 degrees without in any way injuring them. The converse lock-joint is an excellent one, which can, without any difficulty be made perfectly tight. When the pipe was laid with all the necessary entry-valves, stop-valves, blow-off air valves and relief-valves, and the water turned on not a leak appeared along the whole line.

The pipe was not quite ready by the 30th June, but on the 16th of the following month the water was admitted into the tanks of the hospital residence, and into the reserve tank capable of holding 20,000 gallons, situated on the highest point beyond the hospital.

The outlay on the water supply on the 30th June, amounted to \$15,915.72. The total cost, including all extras, will not pass the limit of the original estimate.

VICTORIA.

Work in connection with the removal of Pinnacle and Beaver Rocks, situated in the Inner Harbour, to a depth of 14 feet O. L. W. was continued until the appropriation was exhausted, the expenditure amounting to \$6,004.16.

At the beginning of the season it was necessary to overhaul the plant, which had suffered severely from being run into by steamers.

The year's work amounted to 554 lineal feet of holes drilled, loaded and exploded with 586 lbs., 60 per cent dynamite, and 597 tons rock were dredged and removed. The result has been the lowering of Pinnacle Rock over its entire area to 14 feet below zero on the tide gauge at the custom-house wharf, and the partial lowering of Beaver Rock to the same depth. This latter work will be completed in about 6 weeks.

II.—DREDGING OPERATIONS.

The question of dredging harbours and rivers has been for the last few years one of the important questions which has called forth great exertions from the Department of Public Works, owing to the progressive increase in the tonnage of vessels, and to the necessity of rendering harbours accessible at all stages of the tide.

A great number of navigable rivers have been considerably improved during the past 10 years, principally the St. Lawrence, the Detroit River, the Ottawa River and the St. John River, and it is a gratifying result to be able to point out that at the present date vessels with a draught of $27\frac{1}{2}$ feet can reach the port of Montreal, which is more than 1,000 miles from the seaboard.

The prosperity of the whole Dominion will depend principally upon the facilities afforded the maritime commerce in the shape of good and safe harbours on the oceans and lakes, and deep and easy channels in the navigable rivers, and in my opinion, expenditures, which will afford to vessels the means to penetrate as far inland as possible, and therefore to touch the largest industrial towns and the principal agricultural markets, are expenditures which will bring to the pockets of the whole people of this Dominion more wealth than any other expenditure.

During the fiscal year 1892-93, a great amount of dredging has been done in the Dominion, but the number of dredges at the disposal of the department, especially in the maritimes provinces, was not sufficient to enable the department to do all the work contemplated.