

1875.
NEW ZEALAND.

REPORT ON NAPIER HARBOUR,

BY THE

ENGINEER-IN-CHIEF.

Presented to both Houses of the General Assembly by Command of His Excellency.

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

SIR,— Wellington, 1st October, 1875.
I have the honor to submit the following report on the Harbour of Napier, in accordance with your instructions to that effect:—

The port may be described as a deep indentation of the coast, across which a detached shingle beach has been formed from the materials brought down by the Tuki Tuki and Ngararoro Rivers. At the town of Napier an opening is maintained in the beach by the tidal flow into and out of the large basin enclosed by the beach and by the land waters of the Tutaikuri, Esk, and other smaller rivers which flow into the harbour.

The depth of water on the bar is very variable, and is daily becoming less, owing to the widening of the entrance now being caused by the action of the waves. Unless this widening is prevented, or some other steps taken to improve the bar, the port will probably be almost destroyed.

The tidal range is only about 4 feet, but the area of back-water is so great that there would be no difficulty in designing works which would greatly improve the harbour.

I propose to confine the outflow so as to enable the tides to counteract more effectively than they do at present the forces tending to maintain a bar at the entrances. Hereafter it is likely that, when works are undertaken for carrying the Taupo road across to the Northern Spit, they may be so designed as to allow the back-water to enter freely from the sea, and to return only through a narrow entrance, thus largely increasing the scour.

For the present, however, I recommend only the construction of guiding piers, and of such works as may be necessary to prevent further washing away of the Northern Spit. The cost of concrete would be greater than the Harbour Board could afford. I therefore recommend the use of jarrah cribwork filled with limestone rubble.

Two parallel piers, substantially built in this manner, would cost about £70,000, and would have the effect of increasing the water on the bar to 15 or 16 feet at ordinary high water.

When the railway is completed to Manawatu, the trade of the town of Napier will be much greater than at present, and a great extension of the wharf accommodation will be required. A further sum will be needed for this purpose hereafter; but it would be unnecessary to incur any expense on this account until the main work of improving the bar is completed.

If the bar is composed of large boulders below the depth of 15 or 16 feet, as is supposed to be the case, dredging would be required to get any greater depth than this; but if it should turn out that the bar is composed throughout of shingle only, I see no reason why a depth of 20 feet should not be procured by erecting scouring sluices in the manner above indicated, in connection with the works required for the Taupo road.

I have, &c.,
JOHN CARRUTHERS.

The Hon. the Minister for Public Works, Wellington.