river. Before this can be done, a special examination of the site would be requisite; but I do not gather that difficulties of any moment would arise in the execution of a satisfactory line of communication between, say, Gladstone Street and the root of the external works at Maori Point.

I estimate the cost of the before-mentioned external works as follows:—

	£
Masonry root to viaduct, 550 feet in length	10,750
Iron viaduct, 1,410 feet in length .	48,980
Breakwater pier, 900 feet in length	135,180
West jetty, 430 feet in length, measured along the outside	30,790
East jetty, 430 feet in length, measured along the outside	20,700
	£246,400

The above amounts include contingencies, and the provision of the requisite plant; they are based upon such prices as I believe would be found sufficient, having regard to my experience of the prices applicable to other New Zealand harbours; although the local rates upon which the prices have been based are taken as much lower than named in the schedule attached to Mr. Perham's memorandum, to which I observe that Mr Blackett has appended a note that he considers the rates given "to be rather high," in which I concur.

The works described, if carried out in their entirety, would afford very perfect accommodation to the steamer and other trade; but important benefits would arise from the execution of the root, viaduct, and pier, omitting for a time the erection of the East and West jetties, in which case the expenditure on the three works would amount to £194,910. Unless this sum can be appropriated for external improvements at Gisborne, it is not advisable that they should be commenced.

Internal Works.

With regard to the question of improvements in the river itself, near the town, I may say that the conditions of the site are such as would not, in my opinion, justify the outlay that would undoubtedly be required to produce satisfactory results. For instance, a half-tide training bank would be required on the east side of the channel, and for its whole length, in order to concentrate the currents in connection with the breastwork and wharf proposed by Mr Drummond, the Town Engineer. With respect to the design for the breastwork, described in the specification and shown in the drawing sent to me from the colony, I may remark that the structure contemplated in these documents would need to be considerably strengthened if it were at any time determined to carry it into execution.

Mr Perham has called attention to the fact that during floods the waters from the Waimata "head" back those from the Taruheru. If considered expedient, this might be remedied by the construction of a V-shaped tongue from the point of land lying immediately at the junction of the two rivers, and, in connection therewith, the removal of the wharf and salient point on the west side, where the two rivers unite and form the Turanganui.

It is only right to mention that Mr Blackett, the Marine Engineer of the Colony, greatly facilitated my inspection at Gisborne, as at the other ports and rivers which I examined when in New Zealand; also that Captain Chrisp, the Harbourmaster at this place, gave me much valuable information as to the local conditions in respect of seas, tides, &c.

I have, &c.,

The Secretary, Marine Department, New Zealand. JNO. COODE.

WAITARA.

SIR,— 5, Westminster Chambers, London, S.W., December, 1880.

Having duly considered the physical conditions of the tidal compartment of the Waitara, which were observed and noted as far as practicable at the time of my local inspection, and having carefully studied the various features which have been more fully ascertained and recorded in the plan and sections made by Mr. A. Atkins, in conformity with a memorandum left by me when in the colony, I have now the honor to submit my report on the question of the improvement of the bar and entrance of this river.

The volume of the fresh-water discharge of the Waitara, when compared with that of many of the rivers of New Zealand, is, relatively speaking, but limited, the area of watershed being 500 square miles. The mean annual rainfall is, however, somewhat above the average, being recorded by Dr. Hector as 56 inches.

The distance from the sea of the head of the tide—in other words, the length of the tidal compartment—is about three miles. The range of ordinary spring tides is 9 feet at the bar, 6 feet 8 inches at the bridge (which is situated one statute mile from the sea, immediately under the south-western extremity of the Manukori pa), and 2 feet at the furthest point to which the observations extend, viz., 1¼ mile above the bridge. Although the range of ordinary spring