

him as the cost of concrete does not contemplate the use of a sufficient proportion of cement to obtain blocks of the requisite strength for a structure of the kind required in this particular case; nor does he make due allowance for all the absolutely unavoidable contingencies attendant upon the carrying out of such a work, and for which provision must be made in framing a reliable estimate for this, as for all marine works of the class.

I may here mention, briefly, what is stated more at length in my report, that the preliminary quarry operations, as described by Mr. Rees—supplemented by a telegram from your Board—having shown that a sufficient quantity of suitable stone for the formation of the proposed breakwater as a rubble-mole, cannot be obtained, it became necessary to modify the first design, and substitute a structure of concrete masonry for the mound (*à pierres perdues*) and it is to this structure that the drawings, specification, and estimate above referred to will apply.

On the 5th February I asked Mr. Rees to furnish me with a statement of the plant which he had up to that time ordered (No. 4), and received this answer from him on the following day (No. 5). Having thus been made acquainted with the particulars of the plant and stores ordered by Mr. Rees, it was arranged between us that no further action should be taken in the way of ordering plant until the amended design had been approved by the Colonial Government and the Commissioners; but, at interviews which I had with Mr. Rees on the 4th and 5th February, when I showed him my sketches for the concrete pier, and mentioned to him the probable cost of the work, it was determined (to save time) that I should proceed, during his voyage out, with the completion of the contract, drawings, and specification for the special plant, so that, upon the receipt of a telegram to that effect, competitive tenders might be obtained by the Agent-General, or otherwise, as thought fit, for the supply of such special machinery as is required for works of this character, thus avoiding unnecessary delay. It was, therefore, with no little surprise that I received from Mr. Rees, on the 17th instant, a letter dated the 5th (Nos. 7 and 8), in which he expressed a desire to give me a cheque, before leaving for the colony, for my professional services in connection with the amended design, out of the unexpended balance of the £6,000 placed to his credit. As it appeared to me that Mr. Rees did not rightly understand his position with regard to myself as Consulting Engineer, and in view of the fact that the question of the design, the ordering of the further plant, and the engineering conduct of the works required, in the interests of the Commissioners, to be placed on a proper basis, such as usually observed in cases of an analogous kind, with which I, in common with other consulting engineers, have to do, I deemed it best to send my papers direct to the Board, and to forward tracings, which will be ready this evening, of four of the working drawings to Mr. Rees at Plymouth, where he will embark by the vessel which takes this letter. This course I explained in a letter addressed to Mr. Rees on the 17th (No. 9).

I may mention that I have no desire to order the special plant, nor to do more in connection with it than to prepare the drawings and specifications, to enable tenders to be obtained, and to have the conduct of its inspection during progress and on completion; and this appears to me to be a reasonable view, if I am to be held responsible for the satisfactory working of the machines, which latter is all important in an undertaking of this class, both with regard to economical working and rate of progress.

Whilst altogether disclaiming any desire to urge my professional services upon the Commissioners, it is incumbent upon me to state most clearly that, although I have provided in the drawings and specification for such works as appear to be best adapted to meet the requirements of the case, much will depend upon their local conduct; and I must distinctly decline to be held responsible in any degree for the satisfactory issue of this undertaking, unless I am furnished periodically with the usual reports and particulars of progress, so as to be able to watch the effects produced, and, if necessary, to direct any change in the mode of procedure—such, for instance, as modifying the level of the foundations, or otherwise, as may appear desirable during progress. I have thought it necessary to place this matter clearly before the Board: it will be for them to determine what course they will pursue. In the meantime I shall proceed with the completion of the drawings of the special setting-machine and other plant, as arranged, so that, should the amended design receive sanction, tenders for the work may be obtained by the Agent-General, should your Board so instruct.

I have, &c.,

The Chairman of the Harbour Board, New Plymouth, New Zealand.

JNO. COODE.

CORRESPONDENCE between Sir JOHN COODE and Mr. REES (referred to in the foregoing letter from Sir John Coode to the Chairman of the Harbour Board, dated the 19th March, 1880).

(No. 1.)—Sir JOHN COODE to Mr. J. R. REES.

DEAR SIR,—

5, Westminster Chambers, London, S.W., 18th December, 1879.

Referring to your calls here on the 8th instant, and again on the 16th, and also to the conversations which I had with you on those occasions, with reference to the proposed harbour works at New Plymouth, I asked you at the first interview to inform me “step by step of the phases through which the question of harbour improvement had passed from the receipt by the Commissioners of my report of the 28th February last up to the time of your departure for England.” You thereupon placed me in possession of what had been done in the way of preliminary arrangements, and opening out the quarries, &c., in order to test the quantity and quality of the stone, as recommended in my report; but you made no reference whatever to an important aspect of the case, with which I (quite accidentally) became acquainted yesterday, and which has caused me some little surprise—namely, a report to the Commissioners of the 28th August, in which you entered at length into the proposal for a rubble-mound, and suggested, in lieu thereof, the substitution of a concrete work. At our first interview I ought, I consider, to have been placed fully in possession of the fact that such a report had been presented to the Commissioners; but, putting this matter aside, the object of my writing now is to ask you to furnish me with a copy of your said report, and also with any you may have subsequently presented to the Board, and copies (or originals to be returned) of any designs, sections, or other official documents and estimates which you may have laid before them upon the subject of the proposed works, or of any modifications thereof; and I will thank you to forward these to me at your earliest convenience; also a memorandum of the proportions of stone of different sizes from one ton upwards, as nearly as you can judge from the recent workings, so that I may have an opportunity of investigating the case prior to our next interview, which was arranged for Saturday, the 20th, but which, under the circumstances, I would now suggest should be postponed until 1 o'clock of Tuesday, the 23rd. Upon the receipt of these papers, and after our interview, I shall be in a position to consider fully whether or not the data with which you will then have furnished me will be of such a character as to justify a departure from the mode of construction described in my report (which was only recommended after very careful consideration, and a lengthened experience in the execution of works of identical character both in this country and in the colonies); and, if so, what particular form of concrete structure will be best adapted to meet the requirements of this case. I understand that this expresses the desire of the Commissioners, as intimated in the letter of introduction which you brought from the Chairman; and I need only say that, if the investigations should prove that it will be to the interests of the works that a concrete structure should be adopted, I shall have not the slightest hesitation in recommending the same, notwithstanding the views expressed in my report of the 28th February last, which it must be remembered were given subject to the result of testing Paretutu. When sending forward the documents asked for above I will thank you to let me have at the same time any information in your possession with reference to the proposal to employ convict labour on these works, and the extent to which such labour may be expected to be available; also the terms upon which it would be afforded. No reference is made in your letter of the 9th instant to any of the above particulars.

J. R. Rees, Esq., Cannon Street Hotel.

Yours faithfully,

JNO. COODE.

(No. 2.)—Mr. J. REES to Sir JOHN COODE.

DEAR SIR JOHN,—

London, 19th December, 1879.

I have to acknowledge receipt of your letter of the 18th instant, to hand this day at 2 p.m. Some time in July last (I write from memory as to date) I was instructed by the New Plymouth Harbour Board to carry out the suggestions contained in your report of the 28th February, 1879, relative to the quantity and quality of stone in Paretutu, and it was in carrying out those instructions that I obtained the information forwarded to you in my letter of the 9th instant. With reference to my report to the Harbour Board, dated the 28th August, 1879, and to which you refer in your letter as above, I was requested by the Board to consider that report strictly confidential until they (the Board) deemed it expedient to publish it. My letters by last New Zealand mail came to hand late last night, as they had been addressed to Upper Clap-