

and with all my other work and demands on my time, to sketch plans and to write specifications for heating and cooking for a large asylum, and that I must have some time, if I am to take immediate charge, to look very carefully into both subjects, and may have to delay the progress of works in consequence, for which claim will of course be made. It is not for me in any way to question the Hon. Minister's orders, nor have I any intention of doing so but it is only my duty and reasonable service to point out the possible drawbacks of swopping horses in the middle of the stream, as to which these cooking and heating apparatus are in point. Before I can assume charge in accordance with my instructions, it is essential, and is legally necessary, that I should do so by and with due authority (See clause 1 of General Conditions, interpretations, fourth paragraph.) The established form of this required notification is a writing under the Minister's hand. Otherwise I have, and shall have, no *locus standi*, and the contractor would be perfectly justified in asking who I was, and refusing to recognise me.

8. I wish to point out that on taking charge I shall have the defence-works of the colony, the parliamentary buildings work, and the Porirua Asylum under my control, and that my available staff for all these works will consist of a junior clerk. Unless I am given the command of a larger staff it is transparently obvious that not one of these things can be at all properly attended to, and that all three will have to take their chance. I must, therefore, press for proper staff.

I have thought it right to report fully so that I may take up my orders on defined lines. I shall be obliged if you will do me the favour to lay this memorandum before the Hon. Minister.

I have, &c.

ARTHUR BELL, M.Inst.C.E.,

Engineer for Defences.

The Engineer-in-Chief, Wellington.

No. 2.

MEMORANDUM for the Hon. the MINISTER for PUBLIC WORKS.

Public Works Department, Engineer-in-Chief's Office,

Wellington, 21st July, 1891

Re Porirua Lunatic Asylum Contract.

WITH a view of inquiring into the matters relating to the manner of carrying out the works on the above contract, to which attention has been called by Mr. A. Bell in his report dated 10th instant, I proceeded to Porirua yesterday morning and made a careful examination of the work done and material deposited on the ground by the contractor for the construction of the building. It was found that the whole of the ground for the site of the building had been excavated and levelled off to the grade-lines for the base of the structure, the concrete foundations for all the main walls were in, and, with the exception of two small portions of the outer-walls of the principal fronts, the brickwork of walls had been carried up to the height of the damp-course, which was also laid on all the walls that had been prepared to receive it.

Regarding the character of the work done, I may explain that the excavation of about 9ft. in depth from the original surface of the ground at the site of the building has removed all the soil and most of the clay down to the soft bed-rock over nearly the whole space occupied by the building; so that it was not necessary, except in three or four places, to go deeper than shown on contract drawings in order to obtain solid ground on which to place the foundation.

As now in position and completed, the concrete foundations appear to be properly constructed of good materials, thoroughly mixed, deposited, and consolidated in accordance with the terms of the specification, consequently there is no necessity for having the walls cut through, as suggested by Mr. Bell, in order to admit of an examination being made of their construction, as this can be seen by merely excavating down to the base of the concrete on each side of the walls wherever it may be desired to test the quality of the work done.

There is now only a small portion of the upper surface of the concrete foundations on which the brickwork has not been started. It is therefore difficult to judge of the extent of the faulty work mentioned by Mr Bell as due to the neglect of the contractor to keep the surface of the concrete clean and free from clay before commencing to lay the first course of bricks thereon. That portion of the concrete now visible is clean enough, however, though discoloured by the clay washed from the sides of the trench by the rain, and in places where the trenches have not been filled in alongside of the brickwork, the surface of the concrete is clean, so that it does not appear that any considerable portion of the surface of the concrete was fouled with clay when the brickwork was commenced, and this, though liable to make an imperfectly cemented joint between the concrete and brickwork, is not likely to cause unequal settlement resulting in cracks in the walls of the building.

The bricks used in the construction of the walls so far appear to be of fair quality, and the mortar is in accordance with the terms of the specification. But the workmanship throughout is of a very inferior character, no care whatever having been taken in starting the brickwork to keep the courses perfectly fair and level, consequently, the bed-joints are in some places too thick, or of unequal thickness, and no reasonable attempt has been made to keep proper bond, even in the face-work of walls, all of which indicate that the contractor is careless or indifferent regarding the character of the work he performs, however faulty and otherwise inferior it may be, providing it is accepted and passed by the Inspector, who should have pointed out the defective work to the contractor, and required him to alter it, and, in the event of his instructions not being immediately complied with, to report to the Engineer, so that steps might be taken to compel the contractor to carry out the work in a proper manner. It is, however, no part of an Inspector's duty to personally direct the workmen employed on the contract. The contractor only, or, in the event of his absence, the responsible foreman on the works, should be communicated with on all matters relating to the management and execution of the works contracted for.

Detail drawings of some of the most important works in the building have already been prepared and supplied to the contractor, and others are in hand, so that it is not anticipated that