

These plans will be handed over to you in order to assist you as much as possible in the required work; you will not however be bound by them in any way, but you will be held entirely responsible for the correctness and completeness of all the plans, &c., you may furnish.

Amongst the modifications I propose to make as to the direction of the line, and of which I will hand over to you my notes taken on the ground, is one to avoid the present unfinished tunnel, and the very costly works in the loose ground to the north and south of it, by leaving the present line, say near the Newmarket Station, and curving round to the east descend to Hobson's Bay, skirting the spurs and high cliffs beyond, and following generally in a series of curves the line of coast in the harbour to the terminus, say near the wharf or breakwater.

Another line might also be examined, commencing with a rising gradient from Newmarket, thence through the Government Domain, with a descending gradient, and along the Strand Road to the site of the present viaduct; thence, as before described, to the wharves.

Your estimate will show the cost of these lines as compared with that of completing the present line by the tunnel; and, for convenience, the chainage might be reckoned each way from Newmarket, say from the third mile, as now chained, forwards to Tuakau, and backwards by each of the three lines to the harbour and wharf. You will oblige me by stating, at an early opportunity, whether you will undertake this work, and on what terms, say, so much per mile.

I have, &c.,

JOHN BLACKETT,  
Acting Engineer-in-Chief.

Henry Wrigg, Esq., C.E., Auckland.

### No. 10.

MR. WRIGG TO MR. BLACKETT.

SIR,—

Auckland, 3rd January, 1871.

I have the honor to acknowledge the receipt of your communication of the 31st ultimo, in which you ask me if I will undertake the works described in your letter having reference to the preparation of plans, sections, &c., necessary for the purpose of letting the works on the Waikato Railway by contract.

In reply, I beg to state that I am willing to do so. My proposal is, that I am paid £25 per mile for the length of line from Auckland to Tuakau, with the branch to Onehunga, and for such alternate lines as may be examined under your instructions. Payments to be made on account as the work proceeds. I have brought the amount down to the lowest figure that will enable me to produce satisfactory documents.

If my proposal is accepted, I think I shall be able to have the whole matter completed in fifteen or sixteen weeks from the time my proposal is accepted, and every effort will be made to do so.

I have, &c.,

John Blackett, Esq., C.E., Acting Engineer-in-Chief,  
Auckland.

HENRY WRIGG.

### No. 11.

MR. BLACKETT TO MR. WRIGG.

SIR,—

Public Works Office, Auckland, 6th January, 1871.

I have the honor to acknowledge the receipt of your letter of the 3rd instant, in which you engage to complete the survey and estimate for the Auckland and Waikato Railway, according to the terms of my letter of the 31st December to you, for the sum of £25 per mile, and to have it completed in say fifteen or sixteen weeks from date of acceptance of tender. I have now to inform you that your tender for this work is accepted, and that you may at once proceed with it.

I enclose a note to the Provincial Engineer, Auckland, stating that you have been appointed to complete the survey, and requesting him to place at your disposal all the plans, &c., connected with the railway.

On the other side are a few general notes for your guidance in making the survey and estimate, subject to such alterations as may be necessary and practicable to bring the cost within the sum named per mile.

Economize whenever practicable, but not so as to impair efficiency of work.

I have, &c.,

JOHN BLACKETT,  
Acting Engineer-in-Chief.

Henry Wrigg, Esq., C.E., Auckland.

### MEMORANDUM.

#### *Railway Line Auckland to Waikato.*

Gradients not to exceed 1 in 50, or in extreme cases 1 in 40 if short.

Curves not to be less than 5 chains radius.

Sleepers, 9" × 5" × 6' 6". Centres, 3 feet, all dressed.

Rails, about 40 lbs. to the yard.

Fish-plates at joints are flanged.

Bridges on timber framing, say on stone foundation if available at small cost.

Culverts in embankments of stone.

Culverts, small, say of brick.

Ballast, thickness under sleepers, say not less than 12" to 15".

Formation, say 12 feet.

Adopt contour work where practicable, to make work light.

Over bridges to be made for probable future second line, thus, 6 feet clear of outer rails on each side.