

PAPERS RELATING TO RAILWAYS, NORTH ISLAND.

REPORT of Mr. J. J. O'NEILL on the proposed Line of Railway between Auckland and Riverhead.

SIR,—

Princes Street, Auckland, 10th June, 1872.

I have the honor to inform you that, in accordance with your instructions, I have made a careful reconnaissance, with an aneroid barometer, of the country between Auckland and the Kaipara Railway, which I found much more difficult to deal with, in an engineering point of view, than I expected, and beg to report as follows, namely:—

1. That a railway along the Auckland Harbour Coast would be most expensive to form, as it would involve the erection of bridges of great extent across tidal creeks, and the construction of sea walls.

2. That a railway close to the wooded ranges to the north-west of the Whau Portage would also be very costly, on account of the roughness of the country in that direction.

3. That it would be better to connect the proposed line with the Waikato Railway at Newmarket, as that route would be the easiest approach to Auckland.

4. That a line from the Whau Portage to Onehunga Station would be more expensive than from the same place to Newmarket; for although two lines could be got to Onehunga, one by the "Bluff," on the shore of the Manukau Harbour (where I understand ships of war can lie at all times), and the other by the Pa Valley, yet Onehunga could not be approached without some tunnelling, and a range would require to be crossed about 200 feet above the level of the sea. The route from the Whau to Onehunga by the Bluff is about half a mile shorter than from the Whau to Newmarket, and by the Pa Valley about a mile shorter.

After coming to the above conclusions I ran the most feasible line I could find between Newmarket and the Whau, thence to the Kaipara Railway, avoiding the Harbour shores and the wooded ranges, and the plans of which (six) and the sections (two) will be herewith forwarded to you along with the survey and level books.

The general line extends to about twenty-two and a half miles, but I have also run two alternative lines, one at Newmarket, between the points indicated by the letters A.B. on plans and sections, and the other at the back of Edgecomb's Northern Hotel, on the line C.D. on plans and sections. If the first be adopted it will save the crossing of the Kyber Pass Road and other roads, as can be seen by the plan, but it would necessitate the formation of a tunnel through scoria rock. If a line at the back of Edgecomb's Hotel be adopted, it would save the crossing of the Great North Road twice, and the line would then only cross the Great North Road once in its whole course.

A good stake has been put in at every change of direction of the line, a path being cut through the fern and scrub between each stake, so that there will be no difficulty in following the line, the magnetic courses of which are marked on the plan. The stakes have consecutive numbers cut on them, beginning at Newmarket. The plans are plotted to a scale of three chains to an inch, and the sections three chains to an inch horizontal, and thirty feet to an inch vertical.

The line will pass through scoria to the extent of about two and three-fourth miles, the scoria ground being coloured yellow on the sketch map which will be herewith sent to you; and the geological nature of the rest of the country through which the line will pass appears to be generally sandstone, with a superstratum of clay.

Between the Whau and the Kaipara Railway the line will cross two ranges, one of them about two hundred feet and the other about four hundred feet above the level of the sea. The latter height will require to be tunnelled to the extent of about a quarter of a mile. The steepest grade on the line will be about 1 in 45.

I have returned the sketch you gave me; and

John Carruthers, Esq., C.E.,
Engineer-in-Chief, Wellington.

I have, &c.,
JOHN JAS. O'NEILL, C.E.

STATE of WORKS on 1st June, 1872.—Proposed Auckland and Riverhead Railway Surveys.

From Newmarket to Riverhead.—Whole survey completed, being twenty-two and a half miles or thereby, between Newmarket and Riverhead, the plans and sections of which are in course of completion, and are expected to be finished in about a week.

JOHN JAS. O'NEILL,
Civil Engineer,
Princes Street, Auckland.

TABLE No. 3.—Auckland and Riverhead Railway.

Contractor.—John Jas. O'Neill, C.E.

Description and position of work.—Preliminary survey of proposed railway between Newmarket and Riverhead.

Time for completion of contract.—No time stated.

Amount of contract.—£207.

JOHN JAS. O'NEILL,
Acting Engineer.