

1880.

NEW ZEALAND.

PUBLIC WORKS STATEMENT,

BY THE MINISTER FOR PUBLIC WORKS, THE HON. RICHARD OLIVER,
FRIDAY, 6TH AUGUST, 1880.

SIR,—

Following the usual course, I propose to begin by briefly reporting the operations of the Public Works Department for the seven months which have elapsed since I had a like honor last December.

I shall condense this part of my statement as much as possible, as I do not wish to weary the House with a multiplicity of details, and because it will, when printed, be accompanied by full reports from various heads of departments, by copious tables, and by maps, which I hope honorable members will find useful, as exhibiting the progress we have made in the construction of the railways already authorized.

NORTH ISLAND RAILWAYS.

Kawakawa Railway.—Beginning with railway construction in the north of this Island, the work on the Kawakawa coal line has been continued. A bridge—which is the most important work, except the terminal wharf—is in course of construction.

Whangarei-Kamo Railway.—The works let on the Kamo Contract of the Whangarei Railway have been much delayed by the contractor, and are not yet finished, although the contract time has expired.

The delay has seriously interfered with the development of the coal trade of the district; and, with a view of assisting this industry, I have sanctioned the laying of a branch to connect the main line with a shipping place in the Borough of Whangarei, the local authorities having permitted the use of the streets for that purpose.

An exploratory survey between Helensville and Whangarei has been made for the purpose of ascertaining the practicability of constructing a railway through that country.

Another survey of a similar character has been made of the district between Whangarei and Kawakawa. Reports on these routes, with explanatory maps, will be placed in the hands of honorable members.

Kaipara-Waikato Railway.—The wharf at Helensville, on the Kaipara-Waikato Railway, has been finished satisfactorily, and the station buildings are nearly completed.

The line between Newmarket Junction and Waikomiti has been finished and opened for traffic. The gap, however, between Helensville and Auckland, caused by the non-completion of the Waitakerei Contract, still remains, and the condition of the work at the summit tunnel gives no promise that it will be finished in the contract time, which ends in September next.

The workshop-site contract at Newmarket is being pushed on energetically.

The contractor for the reclamation in Auckland having failed to carry out his contract, it was taken out of his hands, and a portion of it has been relet to another contractor.

The Ohaupo Contract has been finished, and the Waikato Railway is open as far south as Te Awamutu, about two and a half miles from the confiscated boundary.

Waikato-Thames Railway.—The Grahamstown Contract of the Waikato-Thames Railway is completed, and the Shortland Contract nearly so. The Waikato Contract, extending twelve and three-quarter miles east from Hamilton, is progressing favourably.

A survey of this line has been completed from Hamilton to Te Aroha, and up the Thames Valley for thirteen miles from Grahamstown, leaving about nineteen miles still unsurveyed.

Foxton-New Plymouth Railway.—The railway from New Plymouth was opened as far south as Stratford on the 19th December, and a further section to Ngairi will, it is expected, be open in a few weeks. Some other portions of this line between Stratford and Carlyle are under contract, some are being done by day labour; and between Carlyle and Wanganui the Waitotara Contract is approaching completion. The Waverley Section is in hand, and the Carlyle Wharf Contract has been let, while some portions of the works in the neighbourhood of Carlyle are now being prepared for absorbing unemployed labour.

Commodious workshops have been built at Wanganui, and a contract has been made for a new railway station and wharf at Foxton.

Wellington-Woodville Railway.—On the Wellington-Woodville Railway, the works of the Carterton Section, over twenty miles, have been vigorously prosecuted by the department, the average number of men employed being 275.

It is expected that by September next the whole distance between Wellington and Masterton will be open for traffic.

The Greytown Branch was opened on the 26th May.

With the view of finding work for the unemployed in this district, some men have been engaged in earthwork and bush-clearing on the Opaki Section beyond the Carterton Contract; and on the Crofton Section of the Wellington-Foxton Railway sometimes as many as 350 of the unemployed have been set at work. The number has now fallen below 100.

Napier-Woodville Railway.—The Napier-Woodville Railway is nearly completed to Makatoko, about seventy miles from Napier, and the last contract of five and three-quarter miles will shortly be ready for public traffic.

Works are being pushed on towards Tahoraite, about twelve miles farther, and surveys of the country to the south have been completed for about fifteen miles more.

Napier-Wallingford.—An examination of the country from Napier to Wallingford, through the district between the Tukituki River and the sea-coast, has been made, but the country appears to be very unsuitable for railway construction.

MIDDLE ISLAND RAILWAYS.

Nelson-Greymouth.—The works on the Nelson to Greymouth line at the northern end have been confined to the completion of the railway connecting the City of Nelson with the Port, and an extension three miles beyond Foxhill by the Bellgrove Contract, now almost completed.

At the Greymouth end, the Stillwater Contract, an extension of the original Brunner Railway for three-quarters of a mile, has been found to be a work of considerable difficulty and expense, the contract price for sixty-three chains being £12,234 for formation only.

The harbour works at Greymouth, which have been carried on as a part of the improvements designed to develop the coal industry in that district, were almost suspended for some little time, while awaiting Sir John Coode's report. It arrived in March last, and it is satisfactory to find that the work already executed has been approved and adopted by him as part of his design.

Hokitika-Greymouth Railway.—Some small contracts on the Greymouth-Hokitika Railway have either been finished or are near completion, and no new works were begun this year.

Picton-Hurunui Railway.—The last one and a quarter miles of the railway from Picton to Blenheim have been completed, and the station buildings at Blenheim are in hand.

Hurunui-Waitaki Railway, with Branches.—The new works on the main line from Hurunui to Waitaki are the Waipara Contract, of seven miles, extending from Amberley to the Waipara River, and the Weka Pass Section, nine miles long, a continuation of the line through the Pass to the Waikari and Hurunui Plains. The latter section was reserved from contract in order to provide work for the unemployed of Christchurch.

Springfield Branch.—The extension of the Malvern Branch to the Springfield Colliery was completed in February last.

Little River and Akaroa Branch.—The Ellesmere Formation Contract on the Little River and Akaroa Branch was finished in March. A contract has just been made for a portion of the plate-laying.

Ashburton Branch.—The first ten and three-quarter miles of the Ashburton Branch were opened for traffic on the 7th of April.

Opawa Branch.—On the Opawa Branch the bridge over the Opawa River has been built by contract, and the remainder of the work, with the exception of another bridge, has been reserved, in order to give work to the unemployed in the neighbourhood.

Canterbury Interior Main Line.—The only works on the Canterbury Interior Main Line which have been carried on during the year are two bridges, those over the Eyre and Temuka Rivers, which are now finished.

Lines South of the Waitaki.—Work on the main line south of the Waitaki has been almost entirely confined to the improvement of stations, the increase of wharfage and other necessary accommodation.

Branch Lines.—Further railway extension has been made on the following branch lines, viz. : The Livingston Branch, the Catlin's River, Tapanui, Edendale, Lumsden, Otautau, and Orepuki branches, and on the Otago Central Railway. On this latter, the Wingatui Section is under contract, and at the Hindon Section work has been afforded to a large number of the unemployed.

THE UNEMPLOYED.

The great depression from which nearly all our industries have suffered lately has thrown many workmen out of employment, and the Government have been called on to alleviate the consequent distress by finding work for them on the railways and roads which are in course of construction. We have thought it our duty to comply with these requests, and I am sorry to say that no less a number than 1,674 of these men are now being employed at low wages in various parts of the colony.

Although it is to be deplored that in a new country of such great natural resources as New Zealand this state of things should exist, yet it is by no means a new experience in the history of the colony. At various times during the last twenty years the authorities have found it necessary to afford similar temporary employment, but, fortunately, the need for the interference of the Government has in every case soon passed away, and has been succeeded by a large demand for labour in the ordinary industries of the country, and at the highest rates of wages known in any part of the world.

I believe, Sir, that honorable members will agree with me in thinking that this season of depression will also pass away, and give place to another period of prosperity not inferior to that which we have until lately enjoyed. The disorganization of the labour market is already beginning to work its own remedy by bringing into existence new industries in the chief centres of population, and developing the self-reliant spirit of our working classes.

There are also the most encouraging indications of a revival of the gold fields industry, which may be of the greatest value to the colony at large.

Meantime it is satisfactory to find that although many of the men thus employed by us are engaged in work to which they are unaccustomed, yet from their labour the colony has obtained a fair equivalent for the outlay.

GENERAL PROGRESS IN RAILWAY CONSTRUCTION.

The sums voted by Parliament for additional railway works in the last session, exclusive of preliminary surveys for lines not yet authorized, amounted to £2,308,700; on the 31st March £856,550 of this sum had been expended, and liabilities incurred amounting to £910,506, making a total of £1,767,056, and leaving an unexpended balance on last year's votes of £541,644.

Recognizing the necessity for spreading the expenditure of the remaining Public Works Fund over a period of at least the next three years, and believing that as some of the railway works had been adopted in times of great prosperity, Parliament would not disapprove, in our changed circumstances, of having an opportunity afforded of reconsidering them, I have not been in haste to press on the construction of new works. In fact, in the Middle Island only one new section of railway has been commenced since the end of our last session.

Many new sections were got ready for contract, and in some instances tenders were invited and received; but the grave considerations connected with a falling revenue, and increased deficit from our finished railways, could not be evaded, and obliged us to defer the acceptance of some of these tenders, so that time might be given for re-examining our future railway policy.

ROADS.

The expenditure of the votes for roads in this Island has, for the most part, been intrusted to the various local governing bodies.

The main roads under the charge of the Government have been maintained as usual during the year. These include the Great South Road, Auckland, the Tauranga-Taupo, and the Taupo-Napier Roads. On several other local roads a considerable amount of work has been done.

The road works instituted on the West Coast between the Waingongoro and Stony Rivers, crossing the Waimate Plains, have been carried on very satisfactorily, and the two sections of the road will probably meet in a few days. The character of the country is very favourable, no natural obstacles having been met. The cross road from Stratford to Opunaki through the bush is also being pushed on, and good progress is being made.

The amount expended on roads and bridges in the South Island during the past year is very small, and no new works of importance have been undertaken.

SNAGGING THE THAMES RIVER.

Although not such a public work as is usually referred to in a Statement of this kind, I cannot refrain from mentioning the self-reliant and public-spirited efforts made by Mr. Firth, of Matamata, to remove the snags from the river Thames at his own cost.

In these days, when colonists are too much in the habit of looking to the Government for almost everything, it is refreshing to see a public work so useful to the community begun, carried on, and finished by a private person, without even an application having been made to the Government for aid from the funds of the colony.

WATER-RACES.

As will be seen from the reports and statements attached, the expenditure upon water-races does not appear to have produced the large benefits which might naturally have been expected from it. None of the companies subsidized by Government have been a success, and in most cases the undertakings have been abandoned.

The total expenditure and liabilities upon water-races upon gold fields up to the 31st of March amounted to £441,633; of this amount £42,329 gives no return whatever. Works which have cost £86,485 have been handed over to local bodies; while from those races which are comparatively successful, viz., the Charleston, Nelson Creek, Waimea, and Mount Ida Races, costing £312,819, the yearly return represents only about 1 per cent.

The number of men, however, to whom these races afford the means of remunerative employment is 771, and their earnings per man average £140 a year.

THE COAL INDUSTRY.

Almost every month brings new discoveries of coal in some part of the colony, and it has become apparent that New Zealand is exceptionally rich in this mineral.

Our most important lines of steamers are now almost wholly supplied from the coal mines of the colony; and the more extended use of Native coals will effect a saving of £8,500 on our railways in the Middle Island for the current year, in addition to an almost equal amount heretofore saved on those in the North Island.

WORKING RAILWAYS.

During the recess, the management of the working railways has been the subject of inquiry by the Royal Commissioners appointed by His Excellency the Governor to report on the Civil Service of the colony, and also to some extent by the Royal Commissioners on Railways. The reports of these gentlemen are calculated to be of great service, and point out many defects in organization and practice, some of which have been already removed or are in course of removal; and the whole question of the management of the railways is under consideration in connection with the reports of the Commissioners.

The Working Railways Department began the last financial period under circumstances exceptionally unfavourable; heavy floods in the South having interrupted traffic over more than a hundred miles of line, causing loss of revenue, as well as a large expenditure for repairs.

Amongst the first effects of the commercial depression from which we have been suffering has been a diminution of our railway traffic. This result was to be expected, and the efforts of the department were directed to attaining greater economy in our system of railway management.

By working with a smaller staff of officers and men, and by reducing the number of trains and the speed at which they were run, a considerable saving has been accomplished, while the convenience of the public has not been very materially curtailed. The train-service has already been reduced by 370,000 miles a year, the staff has been reduced by 266 men, and it is estimated that these and other economies which have up to this time been effected will save on the year upwards of £44,000. Serious and constant attention is still being given to economise charges, and I am satisfied that the working expenses will be much further reduced.

As these alterations to which I have referred can hardly be said to have commenced until after the prorogation of Parliament, they had but a small portion of the last financial period wherein to operate; and I am sorry to say that, for the nine months ending the 31st March, the railways only gave us a return equal to slightly under $2\frac{1}{4}$ per cent. per annum, while the rate of interest which we have to pay is over 5 per cent. The loss, therefore, on the cost of the lines, which stands at £8,629,402, was at the rate of £237,730 per annum, and had to be furnished from taxation. In the prosperous years through which we have just passed we did not seriously regard the railway deficit, but thought only of the immense advantages of railways in settling and developing the resources of the country. We pointed to these advantages as justifying the expenditure, and spoke of our railways as remunerative undertakings, whether they contributed interest on their cost or not.

Now, if the colonists were a large joint-stock company, with equal shares, and an entire community of interests, this view might be correct; but the benefits of railways are very unequally distributed, many districts being quite unprovided with them, while all have to contribute to the taxation from which the loss is made up.

This charge on the colonial revenue is so great, that it is a serious element in the expenditure of the colony; and it becomes questionable whether a desirable outlay in some of the departments of Government can be continued if our railways be not made more nearly self-supporting.

The failure to obtain a greater direct return from our railways, such as is looked for in ordinary commercial enterprises, is no doubt mainly attributable to

the smallness of our population. We are still a small community in point of numbers, and are thinly scattered over a wide extent of country. Our people are so few that they fail to furnish traffic enough, either of passengers or goods, to make our lines pay at the ordinary rates hitherto current.

We have already many more miles of railway in proportion to our population than either England, France, the United States, Canada, or any of the Australian Colonies. In Great Britain there is one mile of railway to about 2,000 inhabitants, while in New Zealand there is one mile to 406. For every mile of railway in Victoria there are 108 per cent. more customers than we have. In the United States of America they have 43 per cent., in Canada 53 per cent., in New South Wales 148 per cent., in Great Britain 383 per cent., and in France 614 per cent. more people per mile of railway than in New Zealand.

If this contrast with other countries were confined to the South Island, which contains by far the largest portion of our railways, it would show the disproportion still more forcibly, for, instead of having 406 people per mile of railway, which, as I have said, is the average for the colony, the South Island has only 330 people per mile.

In New Zealand our average receipts per mile of railway last year were £648, while in England they amount to £3,485; yet, even with these comparatively large receipts, the railway dividends declared in England only average $4\frac{1}{2}$ per cent. per annum.

Next in importance, in my opinion, among the reasons for want of commercial success in railway working is the needlessly low tariff adopted in many districts. Between two places to which my attention has been called, where, before the railway was made, the freight charged was £3 per ton, our railway rate is 16s. 10d.; in another instance, the former rate was £6, and is now 17s. 2d.; in another, it has been reduced from £5 to 22s. 2d. No doubt at the commencement of a railway system in a new country it is easy to make mistakes, and by no means easy to make railways pay with only 406 people to every mile.

The result, however, has proved that the reduction was too great; for, although our chief end and aim in railway construction is, by facilitating travelling and cheapening the transit of goods, to open the country and develop its resources, we now discover that we have gone too far, and find ourselves face to face with a state of things as unpleasant as it was unexpected.

I hope, Sir, that I shall not be misunderstood as advocating any illiberality in the management of our railways. The best policy is to reach the multitude. I fully adopt the opinion expressed by Mr. Gladstone, when discussing the best means of making the Metropolitan District Railway pay. He said that, "as a rule, the State or individual or company thrives the best which dives deepest down into the mass of the community, and adapts its arrangements to the wants of the greatest number."

But, Sir, our population is, as I have already said, so small, and the country so sparsely settled, that rules of the kind just quoted have amongst us only a limited application. The large use made of the railways, however, proves that if our people were as numerous as the resources of the country warrant us in expecting they will become, our railways would pay far more than mere interest on cost, even with our present tariff.

The tonnage carried on our railways compares very favourably with the neighbouring colonies: Victoria carrying 1,062 tons, New South Wales 2,299 tons, and New Zealand 2,247 tons per 1,000 of population.

The number of passengers on New Zealand railways last year was 2,932,279, being 578 per cent. of our population. The number in Victoria was 3,829,256, being 437 per cent. of the population.

Now our freight traffic is not capable of indefinite increase, however low the rate may be. Nor can we raise our tariff beyond a fair payment for the service rendered, however much we might be inclined to do so. Our principal railways skirt the sea-coast, and we are restricted in our tariffs by the competition of water carriage. On the inland railways, too, the tariffs are at present more strictly limited than they would usually be because of the cheapness of horse food, and the competition of ordinary road vehicles.

Even if this were not so, I should not in any case advocate excessively high rates : it will take time to develop a true system of tariffs adapted to our circumstances. Our efforts must necessarily be tentative, must be carefully made, and constantly watched ; but railway rates that are only designed to bring in 5 per cent. on cost surely cannot be considered high if competing modes of conveyance permit their adoption.

We need not despair, I believe, Sir, of ultimately attaining a good result. We have covered the country with these stimulating and civilizing agencies : in their neighbourhood settlement will extend, population and industries will increase, and then our railways will become, if we desire it, aids to our revenue, instead of sources of temporary embarrassment.

At present, however, there is a feeling of great disappointment at the result exhibited by their yearly balance-sheet, and amongst other remedies it has been proposed to sell the railways. No doubt, Sir, if we could find a purchaser for them at cost price, such a course might seem to present an easy solution of the difficulty.

It is a suggestion that might have been expected, and has at least one merit—that of exceeding simplicity. Given a system of railways worked at a loss : to end the loss—sell the railways. Nevertheless, I fear, Sir, the proffered solution will not help us much. For it is clear that no company would buy our lines, except at a price calculated to yield at least the current rate of interest, which at present may be stated at from 7 to 10 per cent. These are the rates given for money advanced on freehold security, subject to little risk, and requiring from the owner scarcely any personal attention ; while railway investments are exposed to dangers of various kinds, such as floods, heavy payments for accidental injuries, depression of trade, and so on.

If, therefore, we seek to sell our railways, which are now paying only $2\frac{1}{4}$ per cent. interest, we shall have to accept for them a sum representing only a portion of their cost. Probably we should have to face a loss of millions of money, and certainly we should still be liable for the payment of the whole of the interest as at present ; while we should abandon all chance of retrieving our position by improved management, and forfeit for the railway system the advantages of increased population and growing industries.

If the colony were to sell the railways to a private firm, what would that firm do to insure a profit ? It may be answered in general terms “It would manage better.” Well, Sir, I admit that the management is capable of improvement. I concede that the Government will probably never be able to manage so well as a private firm might ; but no private firm is likely to engage in such a gigantic undertaking, and gross mismanagement by large public companies is a state of things with which we are not entirely unacquainted.

Of course a railway company would try to charge higher rates for carriage, but why cannot we ourselves do that ? Why should we submit to a heavy loss of capital to begin with, and then to the payment of extreme rates as well ?

Another and not the least objection to the proposal is, that a company occupying such a position would be a great power in the State, whose influence would probably not always be wielded in the interests of the people.

I feel quite sure, Sir, that it will never be necessary to accept this alternative, for I believe that careful and intelligent management, and the natural growth of traffic, will yet make our railways commercially successful.

Sir, the House will remember that, at the end of last session, the Government expressed their opinion that the character of the various lines of railway in course of construction had not been sufficiently examined before their adoption ; that, in the prospect of an insufficiency of funds to complete them, they ought to be reconsidered ; that we announced our intention of advising the appointment of a Royal Commission “to make a fuller and more complete investigation of the cost and economical value of the works commenced and proposed than it would be possible for the Government to complete before the next session of Parliament.”

His Excellency the Governor accordingly commissioned five gentlemen from different parts of the colony to make the inquiry. The Commissioners promptly entered on their duties, and, after taking evidence in nearly every district in which

railways are being constructed or are proposed to be made, they have presented a very valuable report as the result of their labors.

Copies of this report have, by command, been laid before Parliament; and although the conclusions at which the Commissioners have arrived may not be universally approved, yet we feel sure that the colony will recognize the impartial spirit in which their inquiries have been conducted, and we believe that these gentlemen have well earned the thanks of the community.

In saying this the Government would not be understood as adopting implicitly the whole of their recommendations. It is, perhaps, hardly within the bounds of possibility that a report dealing with so many works and proposals in all parts of the colony should be accepted in every particular. For the present, however, even the restricted programme recommended by the Commissioners is far beyond our means.

The estimated cost, beyond the present liabilities, of completing the lines of railway authorized by Parliament is £6,666,200. That being the case, it becomes sufficiently apparent that we must greatly modify our scheme of railway construction, postponing some important parts of it until population and settlement have largely increased, and until the railways already constructed have become more nearly self-supporting. We have not the funds necessary to complete it at present, nor will our ordinary revenue bear the increased demand which every additional mile of railway makes on it for yearly loss in working.

We have no alternative, therefore, but to confine our operations to the extension of some of the incomplete lines to such nearest points as will bring them into use, and, as far as possible, make the expenditure already incurred to some extent reproductive.

Of the amount voted last year for public works, no less a sum than £2,356,729 was for actual liabilities which we found in existence, and further expenditure to a considerable amount was made necessary by these liabilities.

Realizing the position of the Public Works Fund, we have endeavoured, Sir, to minimise expenditure, and to spread it over as large a space of time as possible.

We have stopped many new works, even after contracts had been prepared by the department and tenders received. Nevertheless the country has learnt from my honorable friend the Colonial Treasurer that the state of the Public Works Fund is most unsatisfactory.

In his Financial Statement, the Colonial Treasurer showed that the total Ways and Means on 31st March last was £3,262,410, and that the liabilities of the Public Works Fund on the same date amounted to £2,455,313, reducible, however, by £315,763, advances in the hands of officers of the Government; thus leaving a balance of £1,122,860 on 31st March, 1880, clear of liabilities.

Since 31st March the Ways and Means have been augmented by miscellaneous receipts and recoveries, £29,934; and during the four months ending 31st July the liabilities of the fund have been unavoidably increased to the extent of £330,871. Adding, then, £29,934 to the balance of £1,122,860 on 31st March, and deducting £330,871, we arrive at £821,923 as the available balance on 31st July.

The position of the account may perhaps be stated more clearly thus: the Ways and Means on 31st July amounted to £2,677,910 17s. 1d., consisting of:—

	£	s.	d.
Cash in hand	...	593,910	17 1
Treasury and Deficiency Bills	...	1,217,000	0 0
Investments	...	67,000	0 0
Guaranteed Debentures	...	800,000	0 0
		<u>£2,677,910</u>	<u>17 1</u>

The liabilities on the same date amounted to £2,202,474. There were, however, imprests outstanding on 31st July £346,486, making £1,855,988, the net amount of liabilities to be provided for, and leaving a balance of £821,923, as already stated, for new works and services.

The Estimates which I am about to submit make a further demand on this balance of £674,238, leaving £147,685 only for future appropriations from the Public Works Fund.

Bearing in mind the importance of spreading the expenditure of the balance of loan over the next two years, we should have preferred, Sir, to ask for the appropriation of a much smaller sum, but we have not found it possible to do so.

The votes for the various works which we now propose are designed to provide for the expenditure up to 30th June, 1881.

After that date, and until we are again in a position to become borrowers, the only sources whence we can draw supplies for these purposes will be a portion of the proceeds of land sales, and the saving from the estimates for the purchase of Native land, a saving which we have reason to believe may be considerable, but which at present it is impossible to estimate.

I will proceed, Sir, to briefly summarise the works proposed.

RAILWAYS.

The present contract at Kawakawa will be completed, and the remaining part of the line, including a small wharf, will be begun.

The Kamo line will be finished to Limeburners Creek.

The line from Kaipara to Te Awamutu will be completed fit for traffic.

The question of the propriety of constructing the Waikato-Thames Railway has been raised by the Railway Commissioners, who have recommended that it should at present be completed only to the junction with the projected Cambridge line, and that the Cambridge Section of eleven miles should be substituted. The Government intend to have the subject very carefully investigated with a view to determine which proposal will be most beneficial to the country, and will act accordingly. The vote will therefore be proposed in the alternative.

The line between Napier and Makatoko will be completed.

The Wellington and Opaki line will be completed as far as Masterton, and provision made for the unemployed on the extension to Opaki. The station works at Wellington will also be constructed.

The Foxton station and wharf, on the Wellington and Foxton line, will be completed.

Sundry necessary works on the opened lines between Foxton and Kai-Iwi will be executed; and the extension to Waverley, which is in hand, will be finished. The works in the neighbourhood of Carlyle will be proceeded with, giving work to the unemployed.

The contracts between Stratford and Hawera will be pushed on, and the formation to Normanby will probably be completed within the present year.

The extension of the line from Foxhill to Bellgrove, on the Nelson to Greymouth line, will be completed.

The Stillwater Section now in progress will be finished, and the Greymouth Harbour Works carried on.

The Picton and Blenheim line will be completed at the Blenheim end, where there are still some station works unfinished.

The section of the Main Line from Amberley to the Waikari Plains is to be finished; the nine miles through the Weka Pass being reserved for the unemployed. A few urgent station works on the open lines are provided for.

The Waimakariri Gorge portion of the Oxford-Sheffield line, which was reserved for the unemployed about a year ago, will be carried on as the demand for work may require. The extension of the Opawa Branch towards Fairlie Creek will also be carried out by the same means. The Ellesmere Section of the Little River and Akaroa Branch is to be completed.

The only expenditure proposed on the Otago main line is for the completion of the stations and other works now in progress. The Duntroon Branch is to be finished across the Maerewhenua River, the bridge over which is already built.

The formation on the first section of the Livingston Branch, recently resumed to give work to the unemployed, will be finished by them.

The sections of the Western Railways now in progress will be completed.

The Hindon Section of the Otago Central Railway, which was opened to the unemployed about a year ago, will be reserved exclusively for them, as it is now

the only suitable work in Otago on which a large number can be employed. At present there are about 700 men at work there; and, although this number will in all probability decrease during the summer months, I fear there is little prospect of a complete cessation in the demand which will be made on us for this kind of employment, and we have therefore made provision for supplying it on this section.

WATER-RACES, MIDDLE ISLAND.

The work of improving and extending the various water-races now in progress will be carried on.

ROADS.

In the North Island the proposed appropriations will admit of the road works in the Waimate Plains and other Native districts being continued, as well as for the maintenance in a serviceable state of certain main roads which it is necessary to keep open for traffic.

In addition to the completion of the various works in hand, the road from Nelson to Greymouth and Westport is to be improved throughout, so as to render it fit for coach traffic and make it an arterial line of communication between the north end of the Island and the West Coast.

CONCLUSION.

In conclusion, Sir, I would say that, although the Government have found it to be their imperative duty to abate the speed at which public works have until lately been carried on, yet we believe that the time is not far distant when the works now temporarily suspended may be resumed, and those now proposed to be curtailed completed.

The resources of New Zealand are so great, that, for her, there can be neither retrogression nor standing still; but, Sir, it is incumbent on us to recognize that for a State, as for an individual, a steady progress and an assured prosperity can only be maintained by obedience to the dictates of prudence.

I have now, Sir, to express my gratitude for the patient attention with which the House has honored me.

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CONSOLIDATED FUND.

PUBLIC WORKS DEPARTMENT.

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TABLE NO. 1.

SUMMARY showing the TOTAL EXPENDITURE on PUBLIC WORKS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date.

Number of Table containing details.	Works.	Expenditure to 30th June, 1879. (See last year's Table No. 1.)	Deduct Amounts recovered since 30th June, 1879, but which are for Services prior to that date.	Total Expenditure to 30th June, 1879.	Expenditure during 9 Months ended 31st March, 1880.	Total Expenditure to 31st March, 1880.	Liabilities, Authorities, Contracts, &c., 31st March, 1880.	Total Expenditure and Liabilities.	Works.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
2	Railways ...	*7,638,134 5 9	6,733 15 10	7,631,400 9 11	863,073 16 3	8,495,074 6 2	912,006 7 2	9,407,080 13 4	Railways.
3	Roads ...	751,052 4 9	1,187 1 1	749,865 3 8	54,032 5 6	803,897 9 2	186,622 14 3	990,520 3 5	Roads.
11 of 1877	Payments to Road Boards	225,000 0 0	...	225,000 0 0	...	225,000 0 0	...	225,000 0 0	Payments to Road Boards.
10 of 1878	Coal exploration and mine development	10,835 8 0	...	10,835 8 0	...	10,835 8 0	...	10,835 8 0	Coal exploration and mine development.
7	Water supply on gold fields	415,626 8 6	300 0 0	415,326 8 6	15,603 8 6	430,929 17 0	10,703 11 5	441,633 8 5	Water supply on gold fields.
8	Miscellaneous public works	215,394 13 11	316 16 9	215,077 17 2	259,850 8 5	474,928 5 7	73,309 6 5	548,237 12 0	Miscellaneous public works.
11 of 1877	Aiding works on Thames Gold Fields	50,000 0 0	...	50,000 0 0	...	50,000 0 0	...	50,000 0 0	Aiding works on Thames Gold Fields.
9	Telegraphs ...	328,219 17 3	234 5 3	327,985 12 0	40,777 19 9	368,763 11 9	40,250 0 0	409,013 11 9	Telegraphs.
10	Public buildings	449,676 7 3	75 7 0	449,601 0 3	202,418 10 4	652,019 10 7	205,121 15 11	857,141 6 6	Public buildings.
11	Lighthouses	81,240 3 2	...	81,240 3 2	3,963 0 7	85,203 3 9	119 16 9	85,323 0 6	Lighthouses.
...	Departmental	132,946 18 3	297 1 3	132,649 17 0	111,444 15 9	144,094 12 9	643 13 1	144,738 5 10	Departmental.
	TOTAL	10,298,126 6 10	9,144 7 2	10,288,981 19 8	1,451,764 5 1	11,740,746 4 9	1,428,777 5 0	13,169,523 9 9	TOTAL.

* This amount does not include the expenditure on railways of the late Provinces of Canterbury and Otago, which were valued at £731,759 and £372,522 respectively, and were not paid for out of Immigration and Public Works Loan, but were taken in reduction of the provincial debts. For particulars see foot-note on Table No. 2.

† If the amount £11,444 15s. 9d. (Departmental) be deducted from this sum it will leave £1,440,319 9s. 4d., which will be found to agree with the audited statement of Expenditure on Public Works (vide Appendix A).

W. A. THOMAS,
Accountant, Public Works.

TABLE No. 2.

STATEMENT showing the TOTAL EXPENDITURE on RAILWAYS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date.

Lines of Railway.	Total Net Expenditure to 30th June, 1879, as per Table No. 4.	Expenditure during 9 Months ended 31st March, 1880.	Total Net Expenditure to 31st March, 1880, as per Table No. 4.	Liabilities on Authorities, Contracts, &c., 31st March, 1880, as per Table No. 5.	Total Expenditure and Liabilities.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
NORTH ISLAND (as per particulars below)	2,815,807 19 0	368,968 5 11	3,184,776 4 11	424,160 0 2	3,608,936 5 1
MIDDLE ISLAND (as per particulars below)	4,814,756 17 7	494,705 10 4	5,309,462 7 11	487,846 7 0	5,797,308 14 11
MISCELLANEOUS SURVEYS ...	470 17 11	...	470 17 11	...	470 17 11
UNAPPORTIONABLE ...	364 15 5	...	364 15 5	...	364 15 5
Total ...	7,631,400 9 11	863,673 16 3	8,495,074 6 2	912,006 7 2	9,407,080 13 4
NORTH ISLAND.					
Kawakawa ...	27,126 14 0	1,287 5 1	28,413 19 1	10,106 2 5	38,520 1 6
Whangarei to Kamo ...	...	3,434 19 7	3,434 19 7	28,015 6 9	31,450 6 4
Kaipara to Waikato ...	954,318 11 9	77,152 7 9	1,031,470 19 6	126,711 8 10	1,158,182 8 4
Waikato to Thames—					
Hamilton to Te Aroha ...	183 6 3	5,875 17 6	6,059 3 9	31,489 2 8	37,548 6 5
Te Aroha to Thames ...	2,832 15 6	14,438 10 8	17,271 6 2	27,782 3 3	45,053 9 5
Branch to Hamilton ...	822 13 5	3,177 10 1	4,000 3 6	186 15 9	4,186 19 3
Wellington to Taranaki ...	...	...	...	...	...
Wellington to Napier—					
Napier to Woodville ...	401,748 4 10	33,954 15 4	435,703 0 2	22,818 11 7	458,521 11 9
Wellington to Woodville ...	628,489 12 11	85,563 12 8	716,027 0 1	64,818 2 5	784,177 11 7
Greytown Branch ...	...	1,973 14 6	...	3,332 9 1	...
Wellington to Foxton—					
Wellington to Johnsonville ...	1,527 0 1	26,475 4 11	29,098 13 10	10,416 14 10	40,234 7 9
Johnsonville to Foxton ...	...	1,096 8 10	...	718 19 1	...
Foxton to New Plymouth—					
Foxton to Carlyle ...	...	71,942 7 0	...	73,302 12 10	...
Greatford to Bull's ...	618,503 14 3	67 12 3	691,660 2 0	...	765,058 15 3
Taionui Branch ...	...	1,146 8 6	...	96 0 5	...
Carlyle to Waitara ...	172,474 8 3	39,206 13 6	211,681 1 9	24,099 17 5	235,780 19 2
PRELIMINARY SURVEYS:—					
Thames to Waikato ...	1,532 15 7	44 13 4	1,577 8 11	...	1,577 8 11
Mercer to Cambridge ...	528 17 3	...	528 17 3	...	528 17 3
Cambridge to Taupo ...	346 4 1	...	346 4 1	...	346 4 1
Masterton to Woodville ...	205 14 3	70 16 8	276 10 11	...	276 10 11
Hutt to Waikanae ...	1,717 16 5	...	1,717 16 5	...	1,717 16 5
Tokano to Napier ...	20 16 0	...	20 16 0	...	20 16 0
Waipukurau to Gorge ...	3,179 11 0	...	3,179 11 0	...	3,179 11 0
Waitara to Waitotara ...	87 10 0	...	87 10 0	...	87 10 0
Mountain Road to Opunake ...	161 13 2	1,058 13 0	1,220 6 2	...	1,220 6 2
Wellington to Foxton ...	...	69 1 7	69 1 7	...	69 1 7
Normanby to Hawera ...	...	29 3 4	29 3 4	...	29 3 4
Whangarei to Kawakawa ...	...	46 16 0	46 16 0	53 1 6	99 17 6
Napier to Wallingford ...	...	367 18 10	367 18 10	17 18 10	385 17 8
Auckland to Whangarei ...	...	431 10 0	431 10 0	194 12 6	626 2 6
Foxton to Carlyle ...	...	56 5 0	56 5 0	...	56 5 0
Total, North Island ...	2,815,807 19 0	368,968 5 11	3,184,776 4 11	424,160 0 2	3,608,936 5 1
MIDDLE ISLAND.					
Nelson to Greymouth—					
Nelson to Roundell ...	127,519 8 5	11,543 17 4	139,063 5 9	6,082 1 7	145,145 7 4
Greymouth to Nelson Creek, Construction ...	190,662 18 6	5,331 1 5	207,397 18 5	15,721 6 1	230,116 9 4
Greymouth Harbour Works ...	...	11,403 18 6	...	6,997 4 10	...
Greymouth to Hokitika ...	552 8 8	14,043 14 7	14,596 3 3	4,675 4 1	19,271 7 4
Westport to Ngakawau ...	205,907 12 10	3,502 17 7	209,410 10 5	4,911 3 5	214,321 13 10
Picton to Hurunui—					
Picton to Blenheim ...	163,262 19 8	9,580 16 3	172,843 15 11	5,507 8 3	178,351 4 2
Blenheim to Awatere ...	...	...	...	...	...
Hurunui to Waitaki—					
Main Line ...	...	134,826 11 0	...	75,165 16 5	...
Oxford Branch ...	...	...	...	50 0 0	...
Eyreton Branch ...	...	...	...	...	...
Lyttelton Branch ...	...	3,087 3 2	...	2,302 17 2	...
Southbridge Branch ...	1,543,935 0 5	...	1,692,749 3 11	390 0 0	1,774,617 11 6
Springfield Branch ...	...	7,740 4 2	...	2,912 16 6	...
Whitecliffs Branch ...	...	...	...	...	...
Opawa Branch ...	...	3,160 5 2	...	996 17 6	...
Waimate Branch ...	...	...	...	50 0 0	...
Carried forward ...	2,231,840 8 6	204,220 9 2	2,436,060 17 8	125,762 15 10	2,561,823 13 6

TABLE No. 2—continued.

STATEMENT showing the TOTAL EXPENDITURE and LIABILITIES ON RAILWAYS—continued.

Lines of Railway.	Total Net Expenditure to 30th June, 1879, as per Table No. 4.		Expenditure during 9 Months ended 31st March, 1880.		Total Net Expenditure to 31st March, 1880, as per Table No. 4.		Liabilities on Authorities, Contracts, &c., 31st March, 1880, as per Table No. 5.		Total Expenditure and Liabilities.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Brought forward ...	2,231,840	8 6	204,220	9 2	2,436,060	17 8	125,762	15 10	2,561,823	13 6
MIDDLE ISLAND—continued.										
<i>Hurunui to Waitaki—continued.</i>										
Main Line to Upper Ashburton ...	...		8,984	13 5	8,984	13 5	1,919	3 8	10,903	17 1
Little River to Akaroa ...	166	13 4	12,182	1 11	12,348	15 3	3,649	3 9	15,997	19 0
Washdyke to Opawa ...	...		9,316	8 0	9,316	8 0	2,805	16 0	12,122	4 0
<i>Canterbury Interior Main Line—</i>										
Oxford to Malvern ...	...		2,245	13 7	2,245	13 7	4,751	11 11	6,997	5 6
Whitecliffs to Rakaia ...	...		217	8 6	217	8 6	27	8 4	244	16 10
Temuka to Rangitata ...	...		3,601	12 8	3,601	12 8	1,045	9 5	4,647	2 1
<i>Waitaki to Bluff—</i>										
Main Line ...	...		109,956	1 1	...		158,204	0 7	...	
Dunroon Branch ...	...		1,250	6 10	...		788	2 1	...	
Ngapara Branch ...	...		4,630	6 7	...		4,931	0 5	...	
Port Chalmers Branch ...	2,247,939	10 3	8,988	13 0	2,374,278	11 5	21,795	11 10	2,560,533	2 10
Brighton Road Branch ...	...		751	14 9	...		219	15 3	...	
Outram Branch ...	...		718	8 5	...		...	...	...
Lawrence ...	...		43	10 6	...		316	1 3	...	
Ngapara Branch to Livingstone ...	107	16 0	16,784	2 9	16,891	18 9	528	1 10	17,420	0 7
Palmerston to Waihero ...	1,490	14 3	3,983	8 1	5,474	2 4	1,628	3 0	7,102	5 4
Main Line to Catlin's River ...	333	11 2	4,155	18 3	4,489	9 5	2,182	10 10	6,672	0 3
Waipahi to Heriot Burn ...	...		518	6 10	518	6 10	62,502	4 0	63,020	10 10
Edendale to Toitoto ...	133	10 4	7,747	7 2	7,880	17 6	2,657	12 7	10,538	10 1
<i>Otago Central—</i>										
Chain Hills to Taieri Lake ...	1,296	2 6	50,388	6 5	51,684	8 11	36,353	0 9	88,037	9 8
<i>Invercargill to Kingston—</i>										
Main Line ...	238,733	13 4	526	18 7	239,260	11 11	752	6 5	240,012	18 4
Lumsden to Mararoa ...	42	3 10	2,206	6 6	2,248	10 4	6,405	5 2	8,653	15 6
<i>Western Railways—</i>										
Makarewa to Riverton ...	...		7,034	3 10	...		12,828	19 1	...	
Riverton Branch to Otautau ...	56,487	6 4	15,739	19 9	89,220	14 2	18,242	4 3	133,418	10 3
Riverton to Orepuki ...	...		9,959	4 3	...		13,126	12 9	...	
Otautau to Nightcaps ...	45	11 3	3,005	12 2	3,651	3 5	3,188	12 10	6,839	16 3
Total ...	4,778,617	1 1	489,757	3 0	5,268,374	4 1	486,611	13 10	5,754,985	17 11
PRELIMINARY SURVEYS:—										
Foxhill to Brunner ...	2,872	19 1	404	4 11	3,277	4 0	...	...	3,277	4 0
Foxhill Southwards ...	454	11 8	...	...	454	11 8	...	...	454	11 8
Greymouth to Christchurch ...	798	0 9	...	...	798	0 9	...	...	798	0 9
Greymouth to Hokitika ...	2,753	17 1	9 12 7	...	2,763	9 8	1 10 2	...	2,764	19 10
Hokitika to Christchurch ...	...		...	...	34	16 8	...	...	34	16 8
Hokitika to Malvern ...	468	0 3	...	...	468	0 3	...	...	468	0 3
Hokitika Office ...	1,200	0 0	...	...	1,200	0 0	...	...	1,200	0 0
Greymouth to Amberley ...	10,783	2 0	...	...	10,783	2 0	...	...	10,783	2 0
Amberley to Hurunui ...	576	7 1	...	...	576	7 1	...	...	576	7 1
Hurunui to Blenheim ...	726	12 11	...	...	726	12 11	...	...	726	12 11
Ashburton to Alford Forest ...	229	2 7	...	...	229	2 7	...	...	229	2 7
Waimate to Hakateramea ...	207	2 10	...	...	207	2 10	...	...	207	2 10
Dunroon to Hakateramea ...	1,300	0 0	135	0 0	1,435	0 0	...	...	1,435	0 0
Orari to Hilton <i>via</i> Geraldine ...	302	11 2	...	...	302	11 2	...	...	302	11 2
Whitecliffs to Rakaia Gorge ...	218	12 10	...	...	218	12 10	...	...	218	12 10
Albury to Fairlie Creek ...	297	16 8	72	9 7	370	6 3	...	...	370	6 3
Oamaru to Waiareka ...	493	6 9	...	...	493	6 9	...	...	493	6 9
Waiareka to Livingstone ...	8	2 6	...	...	8	2 6	...	...	8	2 6
Dunedin to Moeraki ...	2,175	2 4	...	...	2,175	2 4	...	...	2,175	2 4
Clutha to Mataura ...	115	9 6	...	...	115	9 6	...	...	115	9 6
Taieri <i>via</i> Strath-Taieri to Clyde ...	5,352	12 3	...	...	5,352	12 3	...	...	5,352	12 3
Taieri River <i>via</i> Brighton ...	3	0 0	...	...	3	0 0	...	...	3	0 0
Green Island Extension ...	93	2 0	...	...	93	2 0	...	...	93	2 0
Clutha River Survey ...	0	18 6	...	...	0	18 6	...	...	0	18 6
Waipahi to Cromwell ...	100	0 0	...	...	100	0 0	...	...	100	0 0
Waipahi to Tapanui ...	442	16 1	212	4 6	655	0 7	36	5 2	691	5 9
Riverton to Orepuki ...	666	8 9	141	0 4	807	9 1	...	...	807	9 1
Gorge to Elbow ...	1,177	18 2	...	...	1,177	18 2	...	...	1,177	18 2
Otautau to Waiau and Nightcaps ...	615	0 9	185	10 0	800	10 9	70	0 0	870	10 9
Lyttelton Station-ground ...	40	0 0	...	...	40	0 0	...	...	40	0 0
Lumsden to Mararoa ...	111	6 0	321	10 6	432	16 6	45	11 6	478	8 0
Edendale to Fortrose ...	48	13 6	...	...	48	13 6	...	...	48	13 6
Edendale to Toitoto ...	156	9 0	280	3 7	436	12 7	117	0 5	553	13 0
Glen Tunnel to Rakaia Gorge ...	32	9 8	...	...	32	9 8	...	...	32	9 8
Malvern Branch ...	6	12 8	...	...	6	12 8	...	...	6	12 8
Oxford to Malvern ...	22	16 0	...	...	22	16 0	...	...	22	16 0
Carried forward ...	4,813,502	19 1	491,518	19 0	5,305,021	18 1	486,882	1 1	5,791,903	19 2

TABLE NO. 2—continued.

STATEMENT showing the TOTAL EXPENDITURE and LIABILITIES ON RAILWAYS, &c.—continued.

Lines of Railway.	Total Net Expenditure to 30th June, 1879, as per Table No. 4.		Expenditure during 9 Months ended 31st March, 1880.		Total Net Expenditure to 31st March, 1880, as per Table No. 4.		Liabilities on Authorities, Contracts, &c., 31st March, 1880, as per Table No. 5.		Total Expenditure and Liabilities.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Brought forward ...	4,813,502	19 1	491,518	19 0	5,305,021	18 1	486,882	1 1	5,791,903	19 2
MIDDLE ISLAND—continued.										
PRELIMINARY SURVEYS—contd.										
Aoreere Tramway ...	5	15 0	...	...	5	15 0	...	...	5	15 0
Lyttelton River to Akaroa ...	137	15 4	125	0 0	262	15 4	...	...	262	15 4
Malvern Ferry Bridge ...	19	16 0	...	...	19	16 0	...	...	19	16 0
Opawa Branch ...	54	18 2	36	0 0	90	18 2	64	0 0	154	18 2
Oxford to Temuka ...	147	13 7	...	...	147	13 7	...	...	147	13 7
Christchurch to Sumner ...	36	19 0	...	...	36	19 0	...	...	36	19 0
Oamaru to Livingstone ...	33	15 0	202	10 0	236	5 0	...	...	236	5 0
Winchester to Hilton ...	4	9 0	...	...	4	9 0	...	...	4	9 0
Amberley to Cook Strait ...	58	8 4	74	0 8	132	9 0	...	...	132	9 0
Amberley to Brunner ...	...	...	771	19 10	771	19 10	0	14 10	772	14 8
Sheffield to Kowai Pass ...	94	15 9	...	...	94	15 9	...	...	94	15 9
Otago Central ...	652	1 10	761	11 3	1,413	13 1	349	14 1	1,763	7 2
Orepuki Branch ...	...	...	108	6 8	108	6 8	...	...	108	6 8
Fairlie Creek to Mackenzie Country ...	...	...	251	1 9	251	1 9	83	18 3	335	0 0
Westport to Inangahua ...	...	...	636	1 2	636	1 2	27	0 2	663	1 4
Waiau Valley Route (Western Railways) ...	...	...	180	0 0	180	0 0	...	...	180	0 0
Nelson to Roundell ...	...	...	40	0 0	40	0 0	113	10 3	153	10 3
Dashwood Pass ...	...	...	...	...	...	...	200	0 0	200	0 0
Outram to Clarendon and Wangaloa ...	...	...	...	...	...	...	10	4 0	10	4 0
Incidental, General, &c. ...	7	11 6	...	...	7	11 6	115	4 4	122	15 10
Total, Middle Island ...	4,814,756	17 7	494,705	10 4	*5,309,462	7 11	487,846	7 0	5,797,308	14 11

* NOTE.—This amount does not include the expenditure on the railways of the late Provinces of Canterbury and Otago, which were valued as follows, viz. :—

CANTERBURY				OTAGO.					
	£	s. d.	£	s. d.		£	s. d.	£	s. d.
Lyttelton and Christchurch—					Bluff and Winton—				
Fencing and ditching ...	4,024	0 0			Grading and permanent way ...	116,388	0 0		
Culverts and diversions ...	6,215	0 0			Rolling-stock and machinery ...	15,410	0 0		
Level crossings ...	1,732	0 0			Station buildings ...	9,830	0 0		
Earthwork ...	10,000	0 0			Stock, plant, tools, and furniture ...	2,106	0 0		
Heathcote Tunnel ...	186,462	0 0			Stores at Invercargill ...	338	0 0		
Bridges ...	2,214	0 0			Level crossings and gates ...	325	0 0		
Lyttelton Station Reclamation ...	25,206	0 0			Points and crossings ...	1,920	0 0		
Permanent way ...	48,088	0 0			Bluff Wharf ...	9,223	0 0		
Station and other buildings ...	65,178	0 0						155,540	0 0
Double narrow-gauge line, with earthwork and buildings ...	3,213	0 0			Western Railways—				
Metalling, &c., in station yards ...	1,486	0 0			Works up to formation ...	32,721	0 0		
Points, crossings, traverses, and turntable ...	14,473	0 0			Permanent-way material ...	23,226	0 0		
Plant, tools, and machinery ...	13,966	0 0							
			382,347	0 0	Awamoko Branch, complete ...	...	...	55,947	0 0
Christchurch and Selwyn—					Waiareka Branch, complete ...	...	...	29,295	0 0
Grading, with bridges and culverts ...	20,480	0 0			Green Island Branch, complete ...	...	...	51,146	0 0
Permanent way, with points and crossings ...	39,470	0 0			Outram Branch, as completed up to 30th April, 1877 ...	...	...	9,693	0 0
			59,950	0 0	General—				
General—					Rolling-stock and machinery ...	11,252	0 0		
Stations and other buildings ...	9,148	0 0			Plants and tools ...	306	0 0		
Stores at Christchurch ...	11,139	0 0			Buildings, Port Chalmers and Clutha ...	1,360	0 0		
Platelayers' tools ...	785	0 0			Permanent-way material in stock ...	1,065	0 0		
Telegraph and stores ...	4,758	0 0			Stores at Dunedin ...	5,416	0 0		
Furniture and station plant ...	2,907	0 0			Land ...	11,820	2 5		
Land ...	91,357	0 0			Station plant and furniture ...	604	0 0		
Water-services ...	852	0 0							
Rolling-stock ...	76,063	0 0			Engineering and management, 5 per cent. on work in New Zealand, £235,315 ...	...	...	11,765	0 0
			197,009	0 0					
Opawa Branch complete ...	...	...	71,547	0 0					
Duplicates of engines and carriages ...	...	...	2,656	0 0					
Engineering and management, 5 per cent on £365,000 ...	...	...	18,250	0 0					
			£731,759	0 0					

TABLE No. 3.

STATEMENT showing the EXPENDITURE on ROADS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date.

	Expenditure to 30th June, 1879.			Expenditure during 9 Months ended 31st March, 1880.			Total Expenditure.			Liabilities.			Total Expenditure and Liabilities.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
ROADS, BRIDGES, AND WHARVES—NORTH ISLAND:															
Bay of Islands	33,151	6	9	...	...	...	33,151	6	9	1,372	7	8	34,523	14	5
Mangere Bridge	15,486	7	8	...	...	...	15,486	7	8	...	...	...	15,486	7	8
Thames	75	2	9	...	...	...	75	2	9	1,000	0	0	1,075	2	9
Waikato (less recovery, £1,100)	16,993	4	0	896	8	7	17,889	12	7	4,783	16	6	22,673	9	1
Bay of Plenty	72,408	8	0	3,067	13	0	75,476	1	0	15,850	7	4	91,326	8	4
Poverty Bay	16,317	8	2	86	8	6	16,403	16	8	5,639	8	4	22,043	5	0
Taupo	9,273	4	5	...	...	...	9,273	4	5	...	...	...	9,273	4	5
Napier	23,894	14	5	244	6	8	24,139	1	1	3,087	17	9	27,226	18	10
Seventy-Mile Bush	45,750	18	2	...	...	...	45,750	18	2	4,000	0	0	49,750	18	2
Wairoa	1,212	7	8	...	...	...	1,212	7	8	...	...	...	1,212	7	8
New Plymouth—Inland	3,760	17	3	...	...	...	3,760	17	3	...	...	...	3,760	17	3
Hawera to Waitara	13,907	6	6	...	...	...	13,907	6	6	561	17	0	14,469	3	6
Wai-iti to Patea	58,566	6	9	...	...	...	58,566	6	9	...	...	...	58,566	6	9
Patea to Wanganui	36,246	5	4	...	...	...	36,246	5	4	...	...	...	36,246	5	4
Wanganui to Taupo	5,156	2	2	...	...	...	5,156	2	2	...	...	...	5,156	2	2
Manawatu	44,522	19	0	107	11	8	44,630	10	8	500	0	0	45,130	10	8
Opaki to Manawatu Gorge	58,063	7	5	...	...	...	58,063	7	5	8,920	0	0	66,983	7	5
Hutt to Lowry Bay	290	0	0	...	...	...	290	0	0	...	...	...	290	0	0
	455,076	6	5	4,402	8	5	459,478	14	10	45,715	14	7	505,194	9	5
ROADS, BRIDGES, AND WHARVES—NORTH OF AUCKLAND:—															
Auckland District (less recovery, £50)	38,749	13	4	2,491	3	8	41,240	17	0	62,508	16	4	103,749	13	4
(For the Apportionment of the Vote of 1879 see Table 6)															
ROADS AND BRIDGES IN UNSETTLED DISTRICTS:—															
Patea and Taranaki ... ..	...	...	...	1,183	1	3	1,183	1	3	13,926	8	3	15,109	9	6
Unapportionable—Tools, &c. (less recovery, £12 1s. 1d.)	1,722	2	4	...	...	...	1,722	2	4	...	...	...	1,722	2	4
	1,722	2	4	1,183	1	3	2,905	3	7	13,926	8	3	16,831	11	10
ROADS—NELSON SOUTH-WEST GOLD FIELDS:—															
Buller to Arnould	70,199	8	8	2,297	12	2	72,497	0	10	667	1	1	73,164	1	11
Main Road to Boatman's	844	10	0	...	...	...	844	10	0	...	...	...	844	10	0
Westport to Lyell	7,273	13	10	...	...	...	7,273	13	10	...	...	...	7,273	13	10
Ahaura to Amuri	6,210	13	10	...	...	...	6,210	13	10	...	...	...	6,210	13	10
Nile Bridge	1,115	16	4	...	...	...	1,115	16	4	...	...	...	1,115	16	4
Takaka Valley	2,000	0	0	...	...	...	2,000	0	0	...	...	...	2,000	0	0
Collingwood to Quartz Range	507	1	1	...	...	...	507	1	1	...	...	...	507	1	1
	88,151	3	9	2,297	12	2	90,448	15	11	667	1	1	91,115	17	0
ROADS—WESTLAND:—															
Greymouth to Arnould	5,058	1	5	...	...	...	5,058	1	5	...	...	...	5,058	1	5
Greymouth to Okarito	95,071	0	4	910	17	5	95,981	17	9	5,957	11	0	101,939	8	9
South Creek to Main Line	281	17	6	...	...	...	281	17	6	...	...	...	281	17	6
Junction Line	3,923	9	5	...	...	...	3,923	9	5	...	...	...	3,923	9	5
Greenstone to Lake Brunner	2,756	5	6	...	...	...	2,756	5	6	...	...	...	2,756	5	6
Marsden to Maori Creek	2,538	3	0	...	...	...	2,538	3	0	...	...	...	2,538	3	0
Marsden to Paroa	798	8	0	...	...	...	798	8	0	...	...	...	798	8	0
Stillwater to Maori Gully	1,869	2	0	...	...	...	1,869	2	0	...	...	...	1,869	2	0
Kanieri Forks to Kanieri Lakes	1,578	1	0	...	...	...	1,578	1	0	...	...	...	1,578	1	0
Hokitika to Blue Spur	2,520	3	5	...	...	...	2,520	3	5	...	...	...	2,520	3	5
Kanieri Bridge	489	15	0	...	...	...	489	15	0	...	...	...	489	15	0
Waimea Bridge	207	12	6	...	...	...	207	12	6	...	...	...	207	12	6
Westland, general	2,613	13	3	...	...	...	2,613	13	3	...	...	...	2,613	13	3
	119,705	12	4	910	17	5	120,616	9	9	5,957	11	0	126,574	0	9
ROAD—HOKITIKA TO CHRISTCHURCH ...															
	41,661	2	2	3,290	16	2	44,951	18	4	591	19	11	45,543	18	3
ROADS TO OPEN UP LANDS BEFORE SALE:—															
<i>North Island.</i>															
Takahue to Hera Point	359	12	5	1,067	5	5	1,426	17	10	973	2	2	2,400	0	0
Purua and Mangakahia Districts	37	18	0	662	3	9	700	1	9	139	18	3	840	0	0
Block II., Tangihau	55	5	0	568	4	0	623	9	0	16	11	0	640	0	0
Lake Whangape to Block VII., Awaroa District	192	4	6	45	7	9	237	12	3	562	7	9	800	0	0
Waikato River to Block XVI., Awaroa District ... ..	...	...	...	11	14	6	11	14	6	1,108	5	6	1,120	0	0
Gisborne and Wairoa, road through Patutahi Block to Hangaroa Village site	3	3	0	383	10	0	386	13	0	0	7	0	387	0	0
Wairoa and Waikaremoana, bridle track through the Waiau District, Poverty Bay	5	0	0	299	18	6	304	18	6	495	1	6	800	0	0
Takahue to Manganuiowai ... ..	...	...	...	...	...	...	...	...	...	2,160	0	0	2,160	0	0
Maunganui Bluff ... ..	...	...	...	...	...	...	...	...	...	1,800	0	0	1,800	0	0
Opotiki ... ..	...	...	...	...	...	...	...	...	...	480	0	0	480	0	0
Pakiri ... ..	...	...	...	...	...	...	...	...	...	480	0	0	480	0	0
Te Puke ... ..	...	...	...	...	...	...	...	...	...	3,200	0	0	3,200	0	0
Te Aroha Block ... ..	...	...	...	157	10	3	157	10	3	3,342	9	9	3,500	0	0
Mountain Road to blocks under survey ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carried forward	653	2	11	3,195	14	2	3,848	17	1	14,758	2	11	18,607	0	0

TABLE NO. 3—continued.

STATEMENT showing the EXPENDITURE on ROADS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date—continued.

	Expenditure to 30th June, 1879.	Expenditure during 9 Months ended 31st March, 1880.	Total Expenditure.	Liabilities.	Total Expenditure and Liabilities.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
ROADS TO OPEN UP LANDS BEFORE SALE—contd.					
<i>North Island—continued.</i>					
Brought forward ...	653 2 11	3,195 14 2	3,848 17 1	14,758 2 11	18,607 0 0
Opening up Huiroa Block ...	147 6 0	433 19 0	581 5 0	134 2 6	715 7 6
Huiroa Block, bridge over Manganui River ...	...	672 1 3	672 1 3	34 0 0	706 1 3
Opening lands between Manganui and Patea Rivers	67 0 0	644 2 0	711 2 0	5 11 0	716 13 0
To complete bush-felling, Stratford	...	...	...	...	...
Cross roads at Stratford	...	...	...	...	...
Through parts of Blocks I., II., V., VI., X., Ngaire District	...	4 0 0	4 0 0	248 5 7	252 5 7
Through parts of Blocks III., V., X., Ngaire District	...	...	...	...	...
Block X., Huiroa	...	...	...	...	...
Egmont District	...	...	...	...	...
Tahoraiti District, Puketoi Blocks	...	1,451 14 1	1,451 14 1	1,108 5 11	2,560 0 0
Norsewood District, Ngamoko Block	36 11 5	475 10 3	512 1 8	251 11 11	763 13 7
Tukituki to Waipawa, through Makaretu Reserve	113 0 4	12 4 3	125 4 7	449 15 5	575 0 0
Waitara Block	91 5 0	689 15 6	781 0 6	18 19 6	800 0 0
Woodville District, Ahuaturanga Block	33 9 7	430 17 6	464 7 1	397 3 4	861 10 5
Puhui District	...	...	...	...	...
Waioira to Gisborne	...	...	...	2,000 0 0	2,000 0 0
Blocks V., VI., IX., and XIII., Kairanga Survey District, Palmerston North	...	1,505 4 6	1,505 4 6	1,353 18 6	2,859 3 0
Blocks II., III., VI., VII., X., and XI., Mongaone District, and Blocks XIV. and XV., Mangaho District, Forty-Mile Bush	545 0 0	4,000 0 0	4,545 0 0	1,055 0 0	5,600 0 0
Sandon Township, Manawatu District, Kiwitea Block	...	...	...	1,400 0 0	1,400 0 0
Blocks IV., X., and XIII., Wellington Country District	46 16 9	534 5 8	581 2 5	1,418 17 7	2,000 0 0
Pahiatua and Puketoi Blocks	...	...	...	6,000 0 0	6,000 0 0
Tokomaru Block	...	86 6 8	86 6 8	1,913 13 4	2,000 0 0
Otamakapua Block	...	...	...	...	...
Heao Block	...	...	...	...	...
<i>Middle Island.</i>					
Road through Crown lands, Rai Valley	...	...	...	...	...
Aorere Valley, Collingwood	378 16 8	1,871 4 5	2,250 1 1	2,449 18 11	4,700 0 0
Ahaura to Kopara Flat	218 18 2	1,741 0 6	1,959 18 8	40 1 4	2,000 0 0
Reefton to Marua, Matakītaki, and Buller	...	...	...	3,500 0 0	3,500 0 0
Road to Upper Ashley	25 0 0	679 15 0	704 15 0	4,331 15 0	5,036 10 0
Drainage of Lake Ellesmere	...	...	...	...	...
Kokatahi River to Hokitika River	329 7 0	640 13 0	970 0 0	...	970 0 0
Mount Bonar to Poerua River	...	900 0 0	900 0 0	580 0 0	1,480 0 0
Mapourika Lake to Waihou River	100 0 0	1,250 0 0	1,350 0 0	60 0 0	1,410 0 0
Mahitahi River to Haast River	...	...	...	...	...
Wataroa and Waitangi-taona	...	...	...	1,500 0 0	1,500 0 0
In the County of Westland	...	...	...	...	...
Otara to Waikawa and Bridge over Tokanui Creek	...	1,000 0 0	1,000 0 0	...	1,000 0 0
Benger District, from Minyon Burn Bridge up graded road-line to land under survey	...	...	...	500 0 0	500 0 0
Arrowtown to Crown Terrace	1,500 0 0	...	1,500 0 0	...	1,500 0 0
Waitahuna to Run 52c	...	600 0 0	600 0 0	600 0 0	1,200 0 0
Run No. 75 (Boyd's)	...	...	...	3,000 0 0	3,000 0 0
Opening up country between Seaward Forest and coast-line	38 9 6	1,741 19 6	1,780 9 0	2,219 11 0	4,000 0 0
Orepuki to Waiau	...	...	...	...	...
Opening up country, Forest Hill	...	...	...	...	...
Deduct recovery ...	4,324 3 4	24,560 7 3	28,884 10 7	51,328 13 9	80,213 4 4
	25 0 0	...	25 0 0	...	25 0 0
	4,299 3 4	24,560 7 3	28,859 10 7	51,328 13 9	80,188 4 4
ROADS THROUGH LANDS RECENTLY PURCHASED:—					
Opening up roads and constructing bridges through lands recently purchased	500 0 0	14,895 19 2	15,395 19 2	5,926 9 4	21,322 8 6
SUMMARY.					
NORTH OF AUCKLAND	38,749 13 4	2,491 3 8	41,240 17 0	62,508 16 4	103,749 13 4
NORTH ISLAND	455,076 6 5	4,402 8 5	459,478 14 10	45,715 14 7	505,194 9 5
UNSETTLED DISTRICTS, PATEA AND TARANAKI	1,722 2 4	1,183 1 3	2,905 3 7	13,926 8 3	16,831 11 10
NELSON SOUTH-WEST GOLD FIELDS	88,151 3 9	2,297 12 2	90,448 15 11	667 1 1	91,115 17 0
WESTLAND	119,705 12 4	910 17 5	120,616 9 9	5,957 11 0	126,574 0 9
HOKITIKA—CHRISTCHURCH	41,661 2 2	3,290 16 2	44,951 18 4	591 19 11	45,543 18 3
TO OPEN UP LANDS BEFORE SALE	4,299 3 4	24,560 7 3	28,859 10 7	51,328 13 9	80,188 4 4
THROUGH LANDS RECENTLY PURCHASED	500 0 0	14,895 19 2	15,395 19 2	5,926 9 4	21,322 8 6
	749,865 3 8	54,032 5 6	803,897 9 2	186,622 14 3	990,520 3 5

NOTE.—For the expenditure on Roads out of the Consolidated Fund, see Table No. 12,

TABLE No. 4.

STATEMENT showing the TOTAL EXPENDITURE on RAILWAYS, out of Immigration and Public Works Loan, to 31st March, 1880.—CLASSIFIED.

LINES OF RAILWAY.	EXPENDITURE TO 30TH JUNE, 1879. (Vide page 7 of P. W. Statement, 1879.)	DEDUCT CREDITS ON ACCOUNT OF EXPENDITURE made prior to 30th June, 1879, but only received during 1879-80.	TOTAL NET EXPENDITURE TO 30TH JUNE, 1879.	NET EXPENDITURE DURING NINE MONTHS ENDED 31ST MARCH, 1880.	TOTAL NET EXPENDITURE TO 31ST MARCH, 1880.	CLASSIFICATION OF TOTAL NET EXPENDITURE TO 31ST MARCH, 1880.													TOTAL NET EXPENDITURE TO 31ST MARCH, 1880.	LINES OF RAILWAY.
						LAND.	SURVEYS: PRELIMINARY AND WORKING.	CONSTRUCTION.					ROLLING-STOCK.		WORKSHOPS, STATIONS, AND WHARVES.	ENGINEERING AND OFFICE.	INCIDENTAL.			
								Grading.	Bridges and Culverts.	Fencing.	Permanent Way, New Zealand.	Permanent Way, England.	New Zealand.	England.						
NORTH ISLAND.																				
Kawakawa	£ 27,130 9 3	s. 3 15 3	d. 27,126 14 0	£ 1,287 5 1	s. 28,413 19 1	d. 28,413 19 1	£ 993 13 7	s. 3,022 12 0	d. 2,281 10 11	£ 7 0 0	s. 3,184 18 0	d. 10,640 2 2	£ 903 13 11	s. 3,672 13 1	d. 4,237 0 9	£ 2,396 1 1	s. 74 13 7	d. 28,413 19 1	Kawakawa.	
Whangarei to Kamo	...	...	...	£ 3,434 19 7	s. 3,434 19 7	d. 3,434 19 7	...	£ 1,602 5 5	s. 105 0 0	d. 497 0 0	£ 67 5 7	...	...	£ 501 15 8	s. 50 4 10	d. 3,434 19 7	...	...	Whangarei to Kamo.
Kaipara to Waikato	954,400 9 0	81 17 3	954,318 11 9	77,152 7 9	1,031,470 19 6	48,550 7 6	11,604 11 6	237,607 5 1	105,798 19 9	14,559 3 8	136,678 8 11	169,526 11 3	36,572 12 11	86,645 11 5	129,736 6 6	48,320 11 0	5,870 10 0	1,031,470 19 6	Kaipara to Waikato.	
Waikato to Thames	3,838 15 2	...	3,838 15 2	23,491 18 3	27,330 13 5	476 9 10	704 11 2	12,961 13 4	737 2 3	464 0 0	2,969 18 8	6,272 14 8	...	...	1,216 0 0	1,461 11 3	66 12 3	27,330 13 5	Waikato to Thames.
Waikato to Taranaki	Waikato to Taranaki.
Wellington to Napier	1,031,705 0 6	1,467 2 9	1,030,237 17 9	121,492 2 6	1,151,730 0 3	34,460 11 8	22,379 12 6	397,550 13 1	161,083 10 1	25,766 12 5	125,429 9 11	197,929 15 9	25,417 10 3	94,839 0 4	112,129 7 4	43,489 17 1	1,253 19 10	1,151,730 0 3	Wellington to Napier.	
Wellington to Foxton	1,534 10 1	7 10 0	1,527 0 1	27,571 13 9	29,098 13 10	...	3,390 2 11	17,408 14 10	6,380 10 10	33 12 0	149 15 6	...	...	...	1,280 7 3	455 10 6	29,098 13 10	Wellington to Foxton.	
Foxton to New Plymouth	791,203 8 0	225 5 6	790,978 2 6	112,363 1 3	903,341 3 9	36,923 0 5	22,618 13 8	179,128 1 7	126,122 4 7	29,018 17 3	129,011 1 6	174,657 11 0	25,988 3 8	59,927 6 3	81,563 13 4	36,784 15 2	1,597 15 4	903,341 3 9	Foxton to New Plymouth.	
PRELIMINARY SURVEYS:— North Island (for details see Table No. 2)	7,780 17 9	...	7,780 17 9	2,174 17 9	9,955 15 6	...	9,955 15 6	...	...	...	...	...	...	...	...	...	...	9,955 15 6	PRELIMINARY SURVEYS:— North Island (for details see Table No. 2).
TOTAL, NORTH ISLAND	2,817,593 9 9	1,785 10 9	2,815,807 19 0	368,968 5 11	3,184,776 4 11	121,018 7 9	71,647 0 10	759,281 5 4	402,508 18 5	70,346 5 4	397,490 18 1	559,026 14 10	88,882 0 9	245,084 11 1	325,885 17 8	134,234 18 6	9,369 6 4	3,184,776 4 11	TOTAL, NORTH ISLAND.	
MIDDLE ISLAND.																				
Nelson to Greymouth	318,458 9 8	276 2 9	318,182 6 11	28,278 17 3	346,461 4 2	26,764 18 11	5,471 2 3	110,447 0 5	47,746 10 6	7,860 15 0	29,215 7 9	33,040 17 8	5,611 16 1	21,987 17 3	39,790 3 8	17,709 18 11	814 15 9	346,461 4 2	Nelson to Greymouth.	
Greymouth to Hokitika	553 1 2	0 12 6	552 8 8	14,043 14 7	14,596 3 3	332 19 2	348 3 7	6,940 6 1	3,584 14 10	72 2 6	519 1 6	...	62 17 9	...	30 6 0	2,492 16 9	212 15 1	14,596 3 3	Greymouth to Hokitika.	
Westport to Ngakawau	205,909 8 10	1 16 0	205,907 12 10	3,502 17 7	209,410 10 5	8,280 0 5	6,548 17 2	55,127 17 2	13,597 7 9	117 0 0	22,155 2 7	27,446 12 6	3,464 6 9	19,228 5 10	44,357 2 1	8,688 13 1	429 5 1	209,410 10 5	Westport to Ngakawau.	
Pictou to Hurunui	163,308 15 11	45 16 3	163,262 19 8	9,580 16 3	172,843 15 11	11,373 6 0	2,162 19 11	54,763 1 7	33,886 6 9	1,342 5 8	18,020 11 6	22,165 5 3	2,885 10 4	8,806 7 10	11,922 0 10	5,322 19 6	193 0 9	172,843 15 11	Pictou to Hurunui.	
Hurunui to Waitaki	1,546,065 4 7	1,963 10 10	1,544,101 13 9	179,297 6 10	1,723,399 0 7	50,923 8 5	13,614 6 10	147,158 12 9	349,260 13 8	44,572 1 6	257,129 4 6	331,765 19 2	46,278 5 7	204,074 1 10	239,405 4 7	43,876 7 10	4,340 13 11	1,723,399 0 7	Hurunui to Waitaki.	
Canterbury Interior Main Line	...	...	...	6,064 14 9	6,064 14 9	1 19 4	115 4 7	6 6 0	5,478 19 11	...	...	...	...	...	...	454 7 2	7 17 9	6,064 14 9	Canterbury Interior Main Line.
Waitaki to Bluff	2,251,709 17 7	1,704 15 7	2,250,005 2 0	159,528 4 3	2,409,533 6 3	79,845 2 4	23,922 3 10	731,730 14 9	242,808 1 5	72,258 3 1	285,090 7 2	316,339 16 10	36,676 8 3	238,789 16 11	294,914 12 0	80,353 19 1	6,804 0 7	2,409,533 6 3	Waitaki to Bluff.	
Otago Central	1,939 18 3	643 15 9	1,296 2 6	50,388 6 5	51,684 8 11	25 4 6	1,914 6 10	40,091 5 9	6,875 10 10	238 12 8	244 0 11	...	...	...	482 19 6	1,812 7 11	...	51,684 8 11	Otago Central.
Invercargill to Kingston	238,959 3 2	183 6 0	238,775 17 2	2,733 5 1	241,509 2 3	2,606 13 5	2,962 18 9	42,463 11 8	9,951 19 3	3,417 7 0	54,823 8 1	73,911 16 6	3,183 11 1	24,744 2 4	12,463 16 6	10,358 14 10	621 2 10	241,509 2 3	Invercargill to Kingston.	
Western Railways	56,601 7 0	128 9 5	56,532 17 7	36,339 0 0	92,871 17 7	3,357 15 5	341 3 9	20,211 19 2	9,414 9 2	3,403 1 1	22,519 9 8	11,934 1 1	1,924 11 1	8,733 16 3	6,628 7 7	4,233 10 11	169 12 5	92,871 17 7	Western Railways.	
PRELIMINARY SURVEYS:— Middle Island (for details see Table No. 2)	36,139 16 6	...	36,139 16 6	4,948 7 4	41,088 3 10	...	41,088 3 10	...	...	...	...	...	...	...	...	...	...	41,088 3 10	PRELIMINARY SURVEYS:— Middle Island (for details see Table No. 2).
TOTAL, MIDDLE ISLAND	4,819,705 2 8	4,948 5 1	4,814,756 17 7	494,705 10 4	5,309,462 7 11	183,511 7 11	98,489 11 4	1,208,940 15 4	722,574 14 1	133,281 8 6	689,716 13 8	816,604 9 0	100,087 6 11	526,364 8 3	640,994 12 9	175,303 16 0	13,593 4 2	5,309,462 7 11	TOTAL, MIDDLE ISLAND.	
SUMMARY.																				
NORTH ISLAND:— Railways	2,817,593 9 9	1,785 10 9	2,815,807 19 0	368,968 5 11	3,184,776 4 11	121,018 7 9	71,647 0 10	759,281 5 4	402,508 18 5	70,346 5 4	397,490 18 1	559,026 14 10	88,882 0 9	245,084 11 1	325,885 17 8	134,234 18 6	9,369 6 4	3,184,776 4 11	NORTH ISLAND:— Railways.	
MIDDLE ISLAND:— Railways	4,819,705 2 8	4,948 5 1	4,814,756 17 7	494,705 10 4	5,309,462 7 11	183,511 7 11	98,489 11 4	1,208,940 15 4	722,574 14 1	133,281 8 6	689,716 13 8	816,604 9 0	100,087 6 11	526,364 8 3	640,994 12 9	175,303 16 0	13,593 4 2	5,309,462 7 11	MIDDLE ISLAND:— Railways.	
MISCELLANEOUS SURVEYS UNAPPORTIONABLE	470 17 11	...	470 17 11	...	470 17 11	...	470 17 11	...	...	...	...	...	...	...	...	...	...	470 17 11	MISCELLANEOUS SURVEYS. UNAPPORTIONABLE.
GRAND TOTAL	7,638,134 5 9	6,733 15 10	7,631,400 9 11	863,673 16 3	8,495,074 6 2*	304,529 15 8	170,607 10 1	1,968,222 0 8	1,125,083 12 6	203,627 13 10	1,087,207 11 9	1,375,631 3 10	188,969 7 8	771,448 19 4	967,245 5 10	309,538 14 6	22,962 10 6	8,495,074 6 2	GRAND TOTAL.	

* This amount does not include the expenditure on railways of the late Provinces of Canterbury and Otago, which were valued at £731,759 and £372,522 respectively, and were not paid for out of Immigration and Public Works Loan, but were taken in reduction of the provincial debts.

TABLE No. 5.

STATEMENT showing the LIABILITIES on RAILWAYS, out of Immigration and Public Works Loan, on 31st March, 1880.—CLASSIFIED.

LINES.	RAILWAYS UNDER CONSTRUCTION.			ROLLING-STOCK.				MISCELLANEOUS PLANT.	Permanent Way on English Contracts.	TOTAL LIABILITIES.	LINES.
	On Authorities.	On Contracts.	Total.	On Authorities.	On Colonial Contracts.	On English Contracts.	Total.	On English Contracts.			
NORTH ISLAND.											
Kawakawa	£ 334 19 3	£ 9,771 3 2	£ 10,106 2 5	£ ...	£ ...	£ ...	£ ...	£ ...	£ ...	£ 10,106 2 5	Kawakawa.
Whangarei to Kamo	2,400 15 10	13,959 3 8	16,059 19 6	...	...	10,000 0 0	10,000 0 0	...	1,955 7 3	28,015 6 9	Whangarei to Kamo.
Kaipara to Waikato	30,419 3 8	77,690 15 5	108,109 19 1	3,952 6 8	...	4,680 9 5	8,632 16 1	249 13 4	9,719 0 4	126,711 8 10	Kaipara to Waikato.
Waikato to Thames	2,969 18 2	25,288 3 6	28,258 1 8	...	...	27,000 0 0	27,000 0 0	4,200 0 0	...	59,458 1 8	Waikato to Thames.
Waikato to Taranaki ... ..	...	...	...	...	...	...	...	...	...	...	Waikato to Taranaki.
Wellington to Napier	22,361 7 10	30,455 3 3	52,816 11 1	2,774 13 8	...	19,270 5 11	22,044 19 7	477 1 4	15,630 11 1	90,969 3 1	Wellington to Napier.
Wellington to Foxton	1,999 2 2	...	1,999 2 2	...	...	9,000 0 0	9,000 0 0	136 11 9	...	11,135 13 11	Wellington to Foxton.
Foxton to New Plymouth	25,009 0 4	49,961 8 6	74,970 8 10	2,358 10 10	1,356 0 10	17,945 17 2	21,660 8 10	382 13 4	484 19 8	97,498 10 8	Foxton to New Plymouth.
PRELIMINARY SURVEYS:— North Island	265 12 10	...	265 12 10	...	...	...	...	...	...	265 12 10	PRELIMINARY SURVEYS:— North Island.
TOTAL, NORTH ISLAND	85,760 0 1	206,825 17 6	292,585 17 7	9,085 11 2	1,356 0 10	87,896 12 6	98,338 4 6	5,445 19 9	27,789 18 4	424,160 0 2	TOTAL, NORTH ISLAND.
MIDDLE ISLAND.											
Nelson to Greymouth	10,877 3 11	17,923 8 7	28,800 12 6	...	...	...	...	...	...	28,800 12 6	Nelson to Greymouth.
Greymouth to Hokitika	990 16 2	3,684 7 11	4,675 4 1	...	...	...	...	...	...	4,675 4 1	Greymouth to Hokitika.
Westport to Ngakawau	4,226 18 7	...	4,226 18 7	684 4 10	...	...	684 4 10	...	...	4,911 3 5	Westport to Ngakawau.
Pictou to Hurunui	466 14 3	5,040 14 0	5,507 8 3	...	...	...	...	...	...	5,507 8 3	Pictou to Hurunui.
Hurunui to Waitaki	40,606 14 1	14,253 1 3	54,859 15 4	8,695 18 0	1,566 19 10	13,147 14 11	23,410 12 9	2,202 10 1	9,769 12 10	90,242 11 0	Hurunui to Waitaki.
Canterbury Interior Main Line	3,090 13 7	2,733 16 1	5,824 9 8	...	...	...	...	...	...	5,824 9 8	Canterbury Interior Main Line.
Waikato to Bluff	75,731 17 8	137,896 3 5	213,628 1 1	3,363 15 3	2,786 16 6	13,166 11 7	19,317 3 4	2,569 9 2	20,238 10 1	255,753 3 8	Waikato to Bluff.
Otago Central	4,093 5 11	32,259 14 10	36,353 0 9	...	...	...	...	...	...	36,353 0 9	Otago Central.
Invercargill to Kingston	685 5 2	6,397 6 5	7,082 11 7	...	...	...	...	75 0 0	...	7,157 11 7	Invercargill to Kingston.
Western Railways	6,472 15 6	27,547 11 3	34,020 6 9	...	...	...	...	...	13,366 2 2	47,386 8 11	Western Railways.
PRELIMINARY SURVEYS:— Middle Island	1,234 13 2	...	1,234 13 2	...	...	...	...	...	...	1,234 13 2	PRELIMINARY SURVEYS:— Middle Island.
TOTAL, MIDDLE ISLAND	148,476 18 0	247,736 3 9	396,213 1 9	12,743 18 1	4,353 16 4	26,314 6 6	43,412 0 11	4,846 19 3	43,374 5 1	487,846 7 0	TOTAL, MIDDLE ISLAND.
SUMMARY.											
NORTH ISLAND	85,760 0 1	206,825 17 6	292,585 17 7	9,085 11 2	1,356 0 10	87,896 12 6	98,338 4 6	5,445 19 9	27,789 18 4	424,160 0 2	NORTH ISLAND.
MIDDLE ISLAND	148,476 18 0	247,736 3 9	396,213 1 9	12,743 18 1	4,353 16 4	26,314 6 6	43,412 0 11	4,846 19 3	43,374 5 1	487,846 7 0	MIDDLE ISLAND.
GRAND TOTAL	234,236 18 1	454,562 1 3	688,798 19 4	21,829 9 3	5,709 17 2	114,210 19 0	141,750 5 5	10,292 19 0	71,164 3 5	912,006 7 2	GRAND TOTAL.

TABLE No. 6.

STATEMENT showing the APPORTIONMENT of VOTE 92, ITEM 7 (1879-80), for ROADS, BRIDGES, and WHARVES, North of Auckland.

Names of Counties.	Areas.	Population.		Miles of Main North Road in each County.	Expenditure by General Government since Abolition of the Provinces, from 1st January, 1877, to 30th January, 1880.	Estimated Amount Required for Main North Road.	Amounts Allocated to Counties.	Total.
		European.	Native.						Total.
1. Waitemata	Acre. 322,000	3,424	236	17	£ 1,094 10 0	£ 2,500	£ 4,000	£ 6,500
2. Rodney	483,000	3,122	403	35	10,450 0 0	6,000	3,000	9,000
3. Hobson	526,000	2,171	394	11½	2,470 4 8	3,500	6,500	10,000
4. Whangarei	586,000	2,906	358	47	10,522 15 3	6,000	3,000	9,000
5. Bay of Islands	529,000	1,489	2,159	38	2,000 0 0	6,000	4,000	10,000
6. Hokianga	639,000	419	2,776	...	1,150 0 0	...	6,500	6,500
7. Mongonui	699,000	1,204	2,016	52	2,062 0 0	6,000	3,000	9,000
Totals	3,775,000	14,735	8,342	200½	*29,749 9 11	39,000	30,000	60,000

* The sum available out of the £65,000 appropriated by the Assembly was £60,000, the remaining £5,000 having been included in £29,749 9s. 11d. expenditure incurred prior to 30th January, 1880, as above stated.

TABLE NO. 7.

STATEMENT showing the EXPENDITURE for WATER-RACES on GOLD FIELDS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date

LOCALITY AND NAME OF COMPANY.	EXPENDITURE.						LIABILITIES.						TOTAL EXPENDITURE AND LIABILITIES.													
	Survey and Construction, 1870-79.		Subsidies, 1870-79.		Survey and Construction, 1879-80.		Subsidies, 1879-80.		Totals.		Authorities.			Contracts.		Subsidies.		Totals.								
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	£	s.	d.				
NORTH ISLAND.																										
AUCKLAND PROVINCIAL DISTRICT:—																										
Thames	70,326	5	3	...	6,882	14	0	...	77,208	19	3	27	6	6	...	27	6	6	77,236	5	9					
Less recovery ... 300 0 0																										
MIDDLE ISLAND.																										
WESTLAND PROVINCIAL DISTRICT:—																										
Hobonui	3	7	0	1,955	12	1	...	...	1,958	19	1	...	...	...	...	...	...	...	1,958	19	1	
Hibernian	12	5	8	1,992	14	8	...	...	2,005	0	4	...	...	...	...	...	...	...	2,005	0	4	
New River	21	5	0	3,496	0	3	...	...	3,517	5	3	...	...	377	12	0	...	...	3,894	17	3	
Waimea	141,618	15	3	...	...	...	...	...	144,590	9	4	1,439	6	9	4,692	0	0	...	150,721	16	1	
Mikonui	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Less recovery ... 47 16 0																										
Kanieri	1,681	9	5	...	3,167	14	5	...	4,849	3	10	112	12	7	706	4	0	...	5,668	0	5					
...	1	5	6	10,310	18	4	...	...	10,312	3	10	...	...	...	...	...	...	...	10,312	3	10	
NELSON PROVINCIAL DISTRICT:—																										
Nelson Creek	88,712	13	8	...	551	5	9	...	89,263	19	5	1,108	12	9	...	1,108	12	9	90,372	12	2					
Napoleon Hill	257	16	7	...	...	...	...	...	257	16	7	...	...	...	...	...	...	...	257	16	7	
Charleston Four-Mile	5,308	15	9	...	1,524	14	3	...	6,833	10	0	2,225	2	10	...	2,225	2	10	9,058	12	10					
OTAGO PROVINCIAL DISTRICT:—																										
Mount Ida	62,166	3	8	...	500	0	0	...	62,666	3	8	...	...	...	...	...	...	...	62,666	3	8	
Arrow	...	...	...	612	10	0	...	...	612	10	0	...	...	...	...	...	...	...	612	10	0	
Beaumont and Tuapeka	...	...	...	640	0	0	...	...	640	0	0	...	...	...	...	...	...	...	640	0	0	
Carrick Range	...	...	...	9,249	13	1	...	...	9,249	13	1	...	...	...	...	...	...	...	9,249	13	1	
Waipori	11,263	1	0	...	...	...	...	...	11,263	1	0	...	...	...	...	...	...	...	11,263	1	0	
Mount Pisgah	...	...	...	200	0	0	...	...	200	0	0	...	...	...	...	...	...	...	200	0	0	
DEPARTMENTAL:—																										
Salaries, Travelling, Advertising, &c.	5,495	16	4	...	5	6	0	...	5,501	2	4	14	14	0	...	14	14	0	5,515	16	4					
TOTAL	316,542	14	10	28,457	8	5	8,720	14	353,720	17	9	4,900	8	11	5,398	4	0	377	12	0	10,676	4	11	364,397	2	8
SUMMARY.																										
NORTH ISLAND	70,326	5	3	...	6,882	14	0	...	77,208	19	3	27	6	6	...	27	6	6	77,236	5	9					
MIDDLE ISLAND	316,542	14	10	28,457	8	5	8,720	14	353,720	17	9	4,900	8	11	5,398	4	0	377	12	0	10,676	4	11	364,397	2	8
TOTAL	386,869	0	1	28,457	8	5	15,603	8	439,929	17	0	4,927	15	5	5,398	4	0	377	12	0	10,703	11	5	441,633	8	5

TABLE NO. 8.

STATEMENT showing the EXPENDITURE ON MISCELLANEOUS PUBLIC WORKS out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date.

Service.	Expenditure to 30th June, 1879.		Expenditure during the 9 Months ended 31st March, 1880.		Total Expenditure to 31st March, 1880.		Liabilities.		Total Expenditure and Liabilities.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
NORTH ISLAND.										
Road, Whangarei to Port Albert ...	792	0 0	2,208	0 0	3,000	0 0	...	...	3,000	0 0
Road, Raglan to Waikato ...	2,000	0 0	...	...	2,000	0 0	...	...	2,000	0 0
Road, Thames to Ohinemuri ...	4,472	19 0	527	1 0	5,000	0 0	...	...	5,000	0 0
Road, Tauranga to Opotiki ...	119	18 0	...	...	119	18 0	500	0 0	619	18 0
Road, Taupo to Tauranga ...	38	12 0	200	0 0	238	12 0	1,261	8 0	1,500	0 0
Road, Gisborne to East Cape ...	257	12 0	779	16 0	1,037	8 0	42	12 0	1,080	0 0
Road, Gisborne to Wairoa ...	500	0 0	500	0 0	1,000	0 0	...	...	1,000	0 0
Waipoa River Bridge ...	4,130	10 2	50	0 0	4,180	10 2	...	...	4,180	10 2
Draining Patutahi Block ...	507	19 11	757	18 6	1,265	18 5	...	...	1,265	18 5
Road, Pukekohe to Waiuku ...	1,787	3 8	961	16 3	2,748	19 11	205	9 1	2,954	9 0
Road, Pukekohe to Bombay ...	235	2 4	745	12 4	980	14 8	19	5 4	1,000	0 0
Road, Hape to Karaka Creek ...	...	...	250	0 0	250	0 0	...	...	250	0 0
Bridge and Road, Karaka to Pukekohe East	...	...	...	...	...	...	150	0 0	150	0 0
Wharf at Pollock, Manukau Harbour ...	150	0 0	...	...	150	0 0	...	...	150	0 0
Road, Papakura to Wairoa ...	929	12 4	100	0 0	1,029	12 4	3	5 6	1,032	17 10
Coromandel Public Works,—	...	...	...	...	...	...	...	...	...	...
Road, Thames to Hastings ...	...	...	500	0 0	500	0 0	...	...	500	0 0
Road to Tokatea Range ...	1,000	0 0	...	...	1,000	0 0	...	...	1,000	0 0
Road, Coromandel to Hastings... ..	800	0 0	200	0 0	1,000	0 0	...	...	1,000	0 0
Road, Mackaytown to Waikato ...	1,000	0 0	...	...	1,000	0 0	...	...	1,000	0 0
Portage Road, Riverhead to Kaipara	250	0 0	...	...	250	0 0	...	...	250	0 0
Clearing Snags, Waikato ...	150	0 0	...	...	150	0 0	100	0 0	250	0 0
Pukekaroro Bridge, destroyed by flood	60	0 0	...	...	60	0 0	...	...	60	0 0
Contribution towards Bridge over Waikato, at the Narrows	300	0 0	...	...	300	0 0	...	...	300	0 0
Road, Mangaturoto to Waikiekie... ..	500	0 0	...	...	500	0 0	...	...	500	0 0
Opening Road at Ruataungata ...	150	0 0	...	...	150	0 0	...	...	150	0 0
Wharf at Whangarei Heads ...	600	0 0	...	...	600	0 0	...	...	600	0 0
Road at Maungakaramea ...	500	0 0	...	...	500	0 0	...	...	500	0 0
Tramway at Kamo ...	1,127	6 11	865	3 1	1,992	10 0	7	10 0	2,000	0 0
Matakana Wharf ...	260	11 3	295	19 0	556	10 3	...	...	556	10 3
Main Road, Mahurangi to Whangarei	400	0 0	638	0 0	1,038	0 0	962	0 0	2,000	0 0
Bridge over Waikato, at Hamilton ...	...	...	3,000	0 0	3,000	0 0	250	0 0	3,250	0 0
Drainage Lagoon, Mount Eden ...	348	12 0	...	...	348	12 0	...	...	348	12 0
Clearing Snags, Wairoa River ...	76	6 11	33	8 1	109	15 0	...	...	109	15 0
Mangere Bridge, Repairs ...	...	...	197	11 3	197	11 3	1,400	10 6	1,598	1 9
Tamaki Bridge, Repairs ...	827	19 0	828	9 9	1,656	8 9	...	...	1,656	8 9
Straightening Waiuku Channel ...	325	11 6	32	0 0	357	11 6	...	...	357	11 6
Bridge over Ahuriri Harbour ...	13	10 0	5,710	3 2	5,723	13 2	5,653	0 0	11,376	13 2
Road, Napier to Taupo ...	...	...	85	19 2	85	19 2	1,414	0 10	1,500	0 0
Road, Wairoa to Waikaremoana ...	766	11 4	733	8 8	1,500	0 0	...	...	1,500	0 0
Mountain Road to Taranaki ...	7,928	18 0	4,283	18 11	12,212	16 11	962	4 9	13,175	1 8
Opening Mountain Road to Patea ...	4,000	0 0	...	...	4,000	0 0	...	...	4,000	0 0
Main Road, Stony River to Waitotara	370	0 0	2,215	17 0	2,585	17 0	414	3 0	3,000	0 0
Loan to Waitara Harbour Board ...	...	...	500	0 0	500	0 0	1,500	0 0	2,000	0 0
Clearing Snags, Waitara River ...	...	...	63	13 2	63	13 2	...	...	63	13 2
Road, Wainui to Waipukurau ...	2,000	0 0	...	...	2,000	0 0	...	...	2,000	0 0
Road, Wainui to Inland Settlement ...	500	0 0	...	...	500	0 0	...	...	500	0 0
Road, Seventy-Mile Bush, Opaki to Kopua, including Manawatu Gorge Road	4,926	10 7	...	...	4,926	10 7	73	9 5	5,000	0 0
Ruamahunga Bridge, Opaki Road ...	4	5 9	2,821	16 4	2,826	2 1	3,127	13 4	5,953	15 5
Road, Rangitumau ...	715	4 6	...	...	715	4 6	284	15 6	1,000	0 0
Road and Bridge, Mungaroa to Waikanae ...	3,500	0 0	...	...	3,500	0 0	4,500	0 0	8,000	0 0
Road, Rangitikei to Murimoto, or Inland Patea	500	0 0	500	0 0	1,000	0 0	...	...	1,000	0 0
Road, Taueru ...	1,000	0 0	...	...	1,000	0 0	...	...	1,000	0 0
Road in Manchester Block ...	884	0 0	...	...	884	0 0	16	0 0	900	0 0
Road, Foxton to Otaki (inland) ...	367	2 4	997	12 6	1,274	14 10	1,725	5 2	3,000	0 0
Road, Masterton to Castlepoint ...	2,185	0 0	521	1 7	2,706	1 7	293	18 5	3,000	0 0
Road, Karere, Manawatu ...	...	...	100	0 0	100	0 0	200	0 0	300	0 0
Manawatu Bridge Approaches ...	184	6 7	...	...	184	6 7	15	13 5	200	0 0
Refund Expenditure, Manawatu Gorge Road	...	...	437	17 9	437	17 9	...	...	437	17 9
Combined Bridge over Waiohine ...	...	...	...	...	...	...	1,200	0 0	1,200	0 0
Bridge over Ruamahunga, at Hurinuioranga	55	3 4	2,374	0 0	2,429	3 4	570	16 8	3,000	0 0
Continuation of Kimbolton Road through Sandon Block (Kiwitea)	1,000	0 0	...	...	1,000	0 0	...	...	1,000	0 0
Trunk Roads, County Wanganui ...	1,500	0 0	...	...	1,500	0 0	...	...	1,500	0 0
Wanganui to Taupo Road ...	...	...	500	0 0	500	0 0	...	...	500	0 0
MIDDLE ISLAND.										
Road, Oronoko to Stanley Brook ...	327	0 0	...	...	327	0 0	673	0 0	1,000	0 0
Road, Takaka to Motueka, and Approaches to Wharf, Waitapu	...	...	1,178	14 0	1,178	14 0	21	6 0	1,200	0 0
Takaka Tramway ...	...	...	...	...	...	...	2,000	0 0	2,000	0 0
Bridge over Wairoa and Waimea District	1,510	8 1	1,941	3 4	3,451	11 5	65	2 4	3,516	13 9
Wakamarina Road, County Marlborough	...	...	306	1 6	306	1 6	300	0 0	606	1 6
Road, Takaka to Motueka ...	...	...	...	...	...	...	700	0 0	700	0 0
Track, Motueka to Karamea ...	...	...	...	...	...	...	1,000	0 0	1,000	0 0
Road, Nelson to Havelock ...	300	0 0	...	...	300	0 0	...	...	300	0 0
Rai Road, County Marlborough ...	...	...	400	0 0	400	0 0	...	...	400	0 0
Rai Road, County Waimea ...	...	...	250	0 0	250	0 0	250	0 0	500	0 0
Kaikoura Jetty ...	...	...	...	...	...	...	30	9 2	30	9 2
Carried forward ...	59,135	17 6	39,502	2 4	78,637	19 10	31,892	18 5	130,530	18 3

TABLE No. 8—continued.

STATEMENT showing the EXPENDITURE ON MISCELLANEOUS PUBLIC WORKS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date—continued.

Service.	Expenditure to 30th June, 1879.	Expenditure during 9 Months ended 31st March, 1880.	Total Expenditure to 31st March, 1880.	Liabilities.	Total Expenditure and Liabilities.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
MIDDLE ISLAND—continued.					
Brought forward ...	59,135 17 6	39,502 2 4	98,637 19 10	31,892 18 5	130,530 18 3
Bridge over Clarence River ...	20 0 0	...	20 0 0	5,000 0 0	5,020 0 0
Bridge over Arnold River ...	1,500 0 0	...	1,500 0 0	...	1,500 0 0
Road, Nelson to Tophouse and Tarnedale—					
£594 3 3					
Less Recoveries 116 16 9					
	477 6 6	906 0 11	1,383 7 5	693 19 1	2,077 6 6
Bridge over Inangahua ...	...	...	...	...	...
Bridge over Ahaura River ...	3,446 5 4	6,802 1 11	10,248 7 3	20 0 0	10,268 7 3
Bridge over Nelson Creek ...	253 14 0	3,824 14 0	4,078 8 0	921 12 0	5,000 0 0
Road, Westport to Lyell, including Bridge over Ohika River	2,383 14 0	2,172 3 10	4,555 17 10	1,027 1 0	5,582 18 10
Road, Nelson to Westport and Greymouth	7,186 15 10	2,628 7 0	9,815 2 10	...	9,815 2 10
Road, Motupiko to the Lyell by the Hope ...	...	...	...	...	...
Hokitika Harbour Improvement ...	10,938 18 9	6,061 1 3	17,000 0 0	3,000 0 0	20,000 0 0
Bridge over Teremakau, Kumara ...	4,762 5 4	3,565 8 5	8,327 13 9	94 19 0	8,422 12 9
Bridge over Hokitika at Kanieri ...	3,971 7 3	3,935 4 3	7,906 11 6	93 8 6	8,000 0 0
Road by Coast from Hokitika to Haast Pass	1,203 3 6	1,781 19 0	2,985 2 6	861 10 10	3,846 13 4
Main Road near Longford ...	1,500 0 0	500 0 0	2,000 0 0	1,500 0 0	3,500 0 0
Buller Valley, Completion to Orawatti ...	910 18 3	1,089 1 9	2,000 0 0	...	2,000 0 0
Bridge over Buller River on Nelson to Reef-ton Road	2,500 0 0	1,500 0 0	4,000 0 0	2,000 0 0	6,000 0 0
Removal of Rock, &c., Martin's Bay, &c. ...	5 0 0	...	5 0 0	...	5 0 0
Compensation to A. Stitt, Buller Road Con-tract	620 0 0	...	620 0 0	...	620 0 0
Jetty at Port Levy ...	250 0 0	...	250 0 0	...	250 0 0
Road, Port Levy to Pigeon Bay ...	...	500 0 0	500 0 0	...	500 0 0
Road, Purau to Port Levy ...	...	500 0 0	500 0 0	...	500 0 0
Main Road through Pelorus District ...	...	208 13 6	208 13 6	1,691 6 6	1,900 0 0
Ashley Bridge Approaches ...	...	...	...	500 0 0	500 0 0
Upper Waitaki Bridge ...	...	2,500 0 0	2,500 0 0	2,500 0 0	5,000 0 0
Kawarau Bridge at Junction, Arrow River ...	62 9 0	6,093 0 0	6,155 9 0	1,844 11 0	8,000 0 0
Frankton Jetty ...	...	...	...	400 0 0	400 0 0
Portobello Road ...	282 10 6	150 0 0	432 10 6	11 15 6	444 6 0
Anderson's Bay Road ...	...	...	...	...	...
Hurunui to Greta Bridge ...	2,898 4 7	...	2,898 4 7	...	2,898 4 7
Purchase of Beaumont Bridge ...	3,000 0 0	...	3,000 0 0	2,000 0 0	5,000 0 0
Purchase of Bridge over Clutha at Clyde ...	5,000 0 0	...	5,000 0 0	...	5,000 0 0
Subsidy to complete Clutha Bridge ...	...	...	...	2,500 0 0	2,500 0 0
Purchase of Victoria Bridge over Kawarau	4,000 0 0	...	4,000 0 0	...	4,000 0 0
Jetty at Toitoto ...	1,000 0 0	...	1,000 0 0	...	1,000 0 0
Road, Toitoto (inland) ...	986 16 0	13 4 0	1,000 0 0	...	1,000 0 0
Road, Wyndham to Toitoto ...	1,415 12 6	84 7 6	1,500 0 0	...	1,500 0 0
Road, Gore to Switzers ...	3,495 9 0	504 11 0	4,000 0 0	...	4,000 0 0
Road, Lawrence to Roxburgh ...	5,000 0 0	...	5,000 0 0	...	5,000 0 0
Road, Roxburgh to Clyde ...	2,500 0 0	...	2,500 0 0	...	2,500 0 0
Road, Waipori to Lawrence <i>via</i> Bungtown	400 0 0	...	400 0 0	...	400 0 0
Road, Fitzgerald to Dalhousie ...	500 0 0	...	500 0 0	...	500 0 0
Duthie's to Tuapeka Mouth <i>via</i> Tuapeka River	500 0 0	...	500 0 0	...	500 0 0
Main Road, Otago, Palmerston to Houndburn	2,500 0 0	...	2,500 0 0	...	2,500 0 0
Jetty at Balclutha ...	250 0 0	...	250 0 0	...	250 0 0
Manuherikia Bridge, St. Bathans ...	500 0 0	...	500 0 0	...	500 0 0
Maerewhenua Railway Bridge ...	1,628 17 6	509 7 11	2,138 5 5	29 0 6	2,167 5 11
Main Road, Glenomaru to Catlin's River ...	1,000 0 0	...	1,000 0 0	...	1,000 0 0
Removal of Rocks, Catlin's River ...	...	153 10 5	153 10 5	52 12 1	206 2 6
Erection of Jetty and Shed, Catlin's River	80 0 0	385 7 6	465 7 6	3 12 6	469 0 0
Road, Maori Kaika to Taiaroa Head Lighthouse	251 1 6	231 3 8	482 5 2	116 2 10	598 8 0
Bridge over Oreti at Elbow ...	2,216 6 2	3,617 15 4	5,834 1 6	165 18 6	6,000 0 0
Protective Works, Dipton ...	500 0 0	...	500 0 0	...	500 0 0
Completion of Road, Waikari to Waitati ...	...	1 1 6	1 1 6	148 18 6	150 0 0
Gore Bridge (liability) ...	1,254 16 7	...	1,254 16 7	...	1,254 16 7
Beacon at Queenstown ...	35 0 0	...	35 0 0	...	35 0 0
Bannockburn Bridge ...	2,500 0 0	...	2,500 0 0	...	2,500 0 0
Sundry compensations, &c. ...	1,336 10 10	...	1,336 10 10	...	1,336 10 10
Allowance to Widow of G. M. Wink ...	...	400 0 0	400 0 0	...	400 0 0
Harbour Defences ...	6,410 9 5	28,103 4 4	34,513 13 9	403 9 2	34,917 2 11
Roads in Deferred-payment Blocks disposed of prior to 1st January, 1878	9,610 0 0	360 0 0	9,970 0 0	...	9,970 0 0
Loans to Local Bodies to repair damages caused by floods	£48,135 0 0	...	...	...	...
Less Recoveries 200 0 0					
	47,935 0 0	300 0 0	48,235 0 0	...	48,235 0 0
Railway Material, Gisborne to Ormond ...	4,963 7 4	11 14 3	4,975 1 7	...	4,975 1 7
Amounts payable to Counties in respect of Stoppages of Land Revenue—					
Canterbury ...	...	91,591 1 10	91,591 1 10	8,408 18 2	100,000 0 0
Otago ...	...	49,364 1 0	49,364 1 0	5,427 12 4	54,791 13 4
Total ...	£ 215,077 17 2	259,850 8 5	474,928 5 7	73,309 6 5	548,237 12 0

TABLE No. 9.

STATEMENT showing the EXPENDITURE on TELEGRAPHS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date.

	Miles of		Expenditure to 30th June, 1879, as per Table 15 of last Year.	Deduct Amounts Recovered since 30th June, 1879, but for Services prior to that Date.	Net Expenditure and Liabilities.
	Poles.	Wire.			
Expenditure, &c., to 30th June, 1879	2,228	5,773	£ s. d. 328,219 17 3	£ s. d. 234 5 3	£ s. d. 327,985 12 0
Expenditure from 1st July, 1879, to 31st March, 1880, as under, viz. :—	...	...	...	...	...
Dunedin to Mosgiel, additional line ... ..	...	11	...	...	53 2 8
Rolleston to Darfield Junction, deviation ...	16	16	...	...	843 17 5
Blenheim to Christchurch, reconstruction, additional expenditure	...	...	...	...	599 0 0
Reefton to Ahaura, reconstruction, additional expenditure	...	...	...	...	188 1 8
Lowther to Kingston Line, additional expenditure	...	...	...	...	782 8 4
Catlin's River Line, additional expenditure ...	...	...	...	...	614 19 8
Havelock to Nelson, reconstruction	40	80	...	...	749 3 10
Wairoa Line and two-wire, Auckland to Waipu	62	119	...	...	7,243 14 9
Wellington to Auckland, extra wires ... ..	...	540	...	...	8,818 13 11
Palmerston to Woodville Line	17	17	...	...	1,932 17 7
Fourth wire, Wellington to Wanganui ... ..	...	140	...	...	2,415 2 1
Foxton to Palmerston, reconstruction	28	28	...	...	223 7 10
New Stations; expenditure on lines in course of construction not yet brought to charge; also sundry material lying in stock	...	...	...	...	16,313 10 0
Total Expenditure to 31st March, 1880 ... ..	...	...	...	...	368,763 11 9
Liabilities on 31st March, 1880 ... ..	...	...	...	...	40,250 0 0
Total Expenditure and Liabilities to 31st March, 1880	...	...	...	...	£409,013 11 9

TABLE No. 10.

STATEMENT showing the EXPENDITURE on PUBLIC BUILDINGS, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date.

	Expenditure to 30th June, 1879.		Less Amounts Recovered since 1st July, 1879, for Services prior to that Date.		Net Expenditure to 30th June, 1879.		Expenditure during the 9 Months ended 31st March, 1880.		Total Expenditure to 31st March, 1880.		Liabilities on 31st March, 1880.		Total Expenditure and Liabilities to 31st March, 1880.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Judicial	41,957	15 2	25 11 0	41,932	4 2	36,566	7 3	78,498	11 5	41,200	0 0	119,698	11 5	
Postal and Telegraphic	67,584	5 7	...	67,584	5 7	11,360	2 9	78,944	8 4	5,992	19 0	84,937	7 4	
Customs	1,932	0 3	...	1,932	0 3	36	13 6	1,968	13 9	...	...	1,968	13 9
Offices for Public Departments	144,728	6 8	...	144,728	6 8	200	0 0	144,928	6 8	...	...	144,928	6 8
Lunatic Asylums...	17,633	0 9	19 16 0	17,613	4 9	27,438	15 4	45,052	0 1	103,189	2 6	148,241	2 7	
School Buildings...	156,950	0 0	...	156,950	0 0	121,568	13 8	278,518	13 8	54,431	17 10	332,950	11 6	
Hospitals	9,055	16 6	...	9,055	16 6	5,247	17 10	14,303	14 4	307	16 7	14,611	10 11	
Miscellaneous	9,835	2 4	30 0 0	9,805	2 4	...	...	9,805	2 4	...	...	9,805	2 4
Total	449,676	7 3	75 7 0	449,601	0 3	202,418	10 4	652,019	10 7	205,121	15 11	857,141	6 6	

TABLE No. 11.

STATEMENT showing the EXPENDITURE on LIGHTHOUSES, out of Immigration and Public Works Loan, to 31st March, 1880, and the LIABILITIES on that date.

—	Expenditure to 30th June, 1879.			Expenditure during 9 Months ended 31st March, 1880.			Liabilities.			Total Expenditure and Liabilities on 31st March, 1880.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Expenditure on sundry works prior to 30th June, 1879	81,240	3	2	...	...	...	...	...	...	81,240	3	2
Expenditure on following works during 1879-80, viz. :—												
Akaroa Lighthouse ... ..	...	...	...	1,530	9	9	...	...	...	1,530	9	9
Cape Saunders Lighthouse ... ..	...	...	...	1,834	9	11	17	18	6	1,852	8	5
Hokitika Lighthouse... ..	...	...	...	171	0	5	2	2	6	173	2	11
Stephens Island Lighthouse ... ..	...	...	...	1	5	6	...	...	...	1	5	6
Timaru Lighthouse ... ..	...	...	...	...	...	...	25	0	0	25	0	0
Marine Store ... ..	...	...	...	425	15	0	74	15	9	500	10	9
Total	81,240	3	2	3,963	0	7	119	16	9	85,323	0	6

TABLE No. 12.

STATEMENT showing the EXPENDITURE for REPAIRS and MAINTENANCE of ROADS, out of Consolidated Fund, 1st July, 1875, to 31st March, 1880, and the LIABILITIES on latter date.

Districts.	Expenditure to 30th June, 1879, out of Votes for 1875-79.			Expenditure, during the 9 Months ended 31st March, 1880.			Total Liabilities on Authorities and Contracts, 31st March, 1880.			Total Expenditure and Liabilities to 31st March, 1880.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Expenditure, 1st July, 1875, to 31st March, 1880,—												
Bay of Islands	1,160	4	0	296	9	6	...	...	...	...	...	...
Thames ... ..	...	...	...	2,161	16	3	...	...	...	...	...	...
Waikato	12,753	12	11	1,912	6	2	...	...	...	...	...	...
Bay of Plenty	9,822	0	7	1,412	11	1	...	...	...	...	...	...
Poverty Bay	£1,988	8	0	...	...	...	...	...	...	...	...	...
Less Recovery	12	1	1	...	...	...	...	...	...	...	...	...
	1,976	6	11	62	10	0	...	...	...	...	...	...
Napier	2,372	1	5	389	15	4	...	...	...	...	...	...
Taupo	249	12	2	...	...	...	...	...	...	...	...	...
Manawatu	2,358	6	0	...	...	...	...	...	...	...	...	...
Opaki	1,184	14	5	...	...	...	...	...	...	...	...	...
Patea-Wai-iti	3,604	18	1	83	4	2	...	...	...	...	...	...
Wanganui	1,438	7	2	200	0	0	...	...	...	...	...	...
Mangere Bridge	63	0	9	...	...	...	...	...	...	...	...	...
Wairoa	58	11	9	...	...	...	...	...	...	...	...	...
Seventy-Mile Bush, Hawke's Bay	780	3	0	...	...	...	...	...	...	...	...	...
Stewart Island ... ..	...	...	...	100	0	0	...	...	...	...	...	...
	37,821	19	2	6,618	12	6	...	...	...	44,440	11	8
Great South Road	2,583	12	7	2,254	5	0	...	...	...	4,837	17	7
Liabilities on 31st March, 1880,—												
Bay of Islands ... ..	...	...	...	...	...	...	2,589	17	0	...	...	...
Thames ... ..	...	...	...	...	...	...	194	3	9	...	...	...
Bay of Plenty ... ..	...	...	...	...	...	...	6,698	5	0	...	...	...
Waikato ... ..	...	...	...	...	...	...	2,031	6	2	...	...	...
Poverty Bay ... ..	...	...	...	...	...	...	40	0	0	...	...	...
Wanganui ... ..	...	...	...	...	...	...	4,000	0	0	...	...	...
Hawke's Bay ... ..	...	...	...	...	...	...	1,802	14	8	...	...	...
Taranaki ... ..	...	...	...	...	...	...	3,500	0	0	...	...	...
	...	...	...	...	...	...	...	...	...	20,356	6	7
Great South Road ... ..	...	...	...	...	...	...	...	...	...	546	15	1
Total ... ..	...	...	...	...	...	...	...	...	...	70,181	10	11

TABLE NO. 13.
NEW ZEALAND RAILWAYS.

STATEMENT of Accounts for the Nine Months ending 31st March, 1880.

Dr.	£	s.	d.	£	s.	d.	Cr.	£	s.	d.
To Cash in hand and outstanding, North Island, 1st July, 1879	...	2,444	1	6	...	126,152	16	8		
" " " " Middle Island, "	...	18,204	9	1	...	472,749	12	2		
Passengers, Parcels, Goods, &c., North Island, 31st March, 1880	...	135,471	9	10	...	1,524	6	4	598,902	8
" " " " Middle Island, "	...	448,936	9	9	...	40,171	11	2	41,695	17
						574,497	19	7		
										557,206
										11
										4
To Amount paid into Public Account, North Island, 31st March, 1880	...	124,628	10	4	...	3,287	1	0		
" " " " Middle Island, "	...	432,578	1	0	...	34,562	17	10		
Less Cash in hand and outstanding, North Island, 1st July, 1879	...	2,444	1	6	...	557,206	11	4		
" " " " Middle Island, "	...	18,204	9	1	...	20,648	10	7		
						536,558	0	9		
" " " " North Island, 31st March, 1880	...	3,287	1	0	...	91,439	16	3		
" " " " Middle Island, "	...	34,562	17	10	...	338,844	6	3		
Recoveries to Vote, North Island	...	14	18	10	...	430,284	2	6		
" " " " Middle Island	...	1,165	14	9	...	34,046	12	5		
						111,257	18	3		
						145,304	10	8		
						575,588	13	2		
						595,056	10	2		
						37,849	18	10		
						37,849	18	10		
						595,056	10	2		

R. WHITAKER,
Chief Accountant, Railway Department.

TABLE No. 14.

STATEMENT showing the RECEIPTS and EXPENDITURE of the NEW ZEALAND RAILWAYS for the Years 1877-78, 1878-79, and 1879-80.

Particulars.	1877-78.			1878-79.			1879-80.		
	Twelve Months.			Twelve Months.			Nine Months.		
	£	s.	d.	£	s.	d.	£	s.	d.
RECEIPTS.									
Parcels, Passengers, &c.	255,051	18	1	355,618	5	4	273,658	12	2
Goods and Live Stock	281,238	19	1	381,044	5	0	285,972	5	4
Miscellaneous	33,607	11	1	21,433	17	10	15,957	15	8
Total	569,898	8	3	758,096	8	2	575,588	13	2
EXPENDITURE.									
Maintenance	130,913	5	4	193,295	3	5	154,503	10	8
Locomotive	99,948	10	4	137,774	1	2	111,990	12	4
Repairs of Carriages and Wagons	20,348	17	1	32,547	12	9	25,423	7	3
Traffic	134,256	5	10	157,960	10	1	116,258	15	7
General Charges	18,757	16	11	22,503	10	1	20,520	12	8
Sundries	1,670	18	7	1,397	17	6	1,587	4	0
Total	405,895	14	1	545,478	15	0	430,284	2	6
PROFIT	164,002	14	2	212,617	13	2	145,304	10	8
Miles open for Traffic, average	955 m.			1,095 m. 65 ch.			1,153 m. 18 ch.		
Number of Passengers	*1,542,695			†2,722,740			†2,313,168		
Tonnage of Goods	864,947			959,756			805,686		
Train-miles Run	1,904,374			2,488,073			2,000,485		
Receipts per Mile of Railway open	£596 17s. 5d.			£691 18s. 3d.			£648 16s. 10d.		
Receipts per Train-mile	5s. 11½d.			6s. 1d.			5s. 9d.		
Expenses per Train-mile	4s. 3d.			4s. 4½d.			4s. 3½d.		
Expenses per cent. of Receipts	£71 6s. 5d.			£71 18s. 5d.			£74 15s. 2d.		
Average Capital invested on Lines open, inclusive of interest thereon from approximate date of commencing works to the opening of the lines for traffic	£7,284,106			£8,362,332			£8,629,402		
Percentage on Capital furnished by the working of Lines	2'25			2'54			1'69=2'25 per an.		
Percentage of Deficit furnished out of Consolidated Revenue, assuming that the interest paid on the loan is 5 per cent.	2'75			2'46			2'06=2'75 per an.		

* Return tickets counted as one passenger.

† Return and Saturday tickets counted as two passengers.

R. WHITAKER,
Chief Accountant, Railway Department.

TABLE No. 15.

NEW ZEALAND RAILWAYS.—CLASSIFIED STATEMENT showing RECEIPTS and EXPENDITURE, and PROPORTION of each CLASS of EXPENDITURE to MILEAGE, and RECEIPTS and INTEREST on CONSTRUCTION per MILE of RAILWAY and per TRAIN MILE, for the Nine Months ending 31st March, 1880. ALL SECTIONS.

SECTIONS.	MILEAGE.		RECEIPTS.			CLASSIFIED EXPENDITURE.								PROPORTION OF EACH CLASS OF EXPENDITURE TO MILEAGE AND RECEIPTS.										INTEREST ON CONSTRUCTION COST.					
	Open for Traffic.	Train Mileage.	Total.	Per Mile of Railway per Annum. (Average).		Maintenance of Way.	Locomotive Power.	Repairs of Carriages and Wagons.	Traffic Expenses.	General Charges.	Sundries.	Total.	Total for Nine Months.			Maintenance.		Locomotive.		Carriage and Wagon Repairs.		Traffic Expenses.		General Charges.		Sundries.		Per Mile of Railway, per Annum.	* Per Train Mile.
				Per Cent. of Receipts.	Per Mile of Railway, per Annum. (Average).								Per Train Mile.	Per Mile of Railway, per Annum. (Average).	Per Train Mile.	Per Mile of Railway, per Annum. (Average).	Per Train Mile.	Per Mile of Railway, per Annum. (Average).	Per Train Mile.	Per Mile of Railway, per Annum. (Average).	Per Train Mile.	Per Mile of Railway, per Annum. (Average).	Per Train Mile.	Per Mile of Railway, per Annum. (Average).	Per Train Mile.				
North Island Sections	361	519,260	£ 125,486 s. d. 8 8	£ 472 s. d. 16 2	s. d. 4 10	£ 32,323 s. d. 16 9	£ 29,568 s. d. 0 6	£ 4,478 s. d. 13 7	£ 19,339 s. d. 3 8	£ 5,657 s. d. 13 2	£ 72 s. d. 8 7	£ 91,439 s. d. 16 3	£ 72 s. d. 8 7	£ 344 s. d. 53	d. 42 26	£ 121 s. d. 79	d. 14 94	£ 111 s. d. 41	d. 13 67	£ 16 s. d. 87	d. 2 07	£ 72 s. d. 87	d. 8 94	£ 21 s. d. 32	d. 2 61	£ 0 s. d. 27	d. 0 03	£ 355	s. d. 3 84
Middle Island Sections	811	1,481,225	£ 450,102 s. d. 4 6	£ 723 s. d. 19 11	s. d. 6 1	£ 122,179 s. d. 13 11	£ 82,422 s. d. 11 10	£ 20,944 s. d. 13 8	£ 96,919 s. d. 11 11	£ 14,862 s. d. 19 6	£ 1,514 s. d. 15 5	£ 338,844 s. d. 6 3	£ 75 s. d. 28	£ 545 s. d. 04	d. 54 90	£ 196 s. d. 53	d. 19 80	£ 132 s. d. 58	d. 13 35	£ 33 s. d. 69	d. 3 39	£ 155 s. d. 89	d. 15 70	£ 23 s. d. 91	d. 2 41	£ 2 s. d. 44	d. 0 25	£ 374	s. d. 3 04
Total	1,172	2,000,485	£ 575,588 s. d. 13 2	£ 648 s. d. 16 10	s. d. 5 9	£ 154,503 s. d. 10 8	£ 111,990 s. d. 12 4	£ 25,423 s. d. 7 3	£ 116,258 s. d. 15 7	£ 20,520 s. d. 12 8	£ 1,587 s. d. 4 0	£ 430,284 s. d. 2 6	£ 74 s. d. 76	£ 485 s. d. 05	d. 51 62	£ 174 s. d. 17	d. 18 53	£ 126 s. d. 24	d. 13 44	£ 28 s. d. 66	d. 3 05	£ 131 s. d. 06	d. 13 95	£ 23 s. d. 13	d. 2 46	£ 1 s. d. 79	d. 0 19	£ 363	s. d. 3 24

* Per Train Mile upon actual Mileage for Nine Months.

TABLE No. 16.

NEW ZEALAND RAILWAYS.—STATEMENT of RECEIPTS and EXPENDITURE from 1874-75 to 1879-80 on Railways Open for Traffic.

SECTION.	RECEIPTS.							EXPENDITURE.							PROFIT.		
	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80 (9 Months).	Total.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80 (9 Months).	Total.	Profit.	Loss.	Net Profit.
Kaipara	£ ... s. d. ...	£ 2,497 s. d. 18 9	£ 3,778 s. d. 4 5	£ 3,925 s. d. 3 10	£ 4,992 s. d. 17 4	£ 4,166 s. d. 8 3	£ 19,360 s. d. 12 7	£ ... s. d. ...	£ 2,638 s. d. 16 3	£ 4,296 s. d. 11 6	£ 4,765 s. d. 4 1	£ 4,955 s. d. 18 10	£ 3,871 s. d. 0 10	£ 20,527 s. d. 11 6	£ ... s. d. ...	£ 1,166 s. d. 18 11	£ ... s. d. ...
Auckland	£ 12,544 s. d. 5 1	£ 22,487 s. d. 16 10	£ 21,868 s. d. 3 9	£ 37,321 s. d. 10 6	£ 52,477 s. d. 18 2	£ 45,736 s. d. 2 2	£ 192,435 s. d. 6 6	£ 10,538 s. d. 17 9	£ 19,416 s. d. 18 1	£ 17,663 s. d. 8 10	£ 29,133 s. d. 15 4	£ 41,521 s. d. 16 1	£ 30,277 s. d. 3 3	£ 148,551 s. d. 19 4	£ 43,883 s. d. 17 2	£ ... s. d. ...	£ ... s. d. ...
Napier	£ 5,587 s. d. 9 3	£ 12,417 s. d. 2 4	£ 21,374 s. d. 13 10	£ 25,263 s. d. 13 11	£ 27,503 s. d. 15 8	£ 20,337 s. d. 0 10	£ 112,483 s. d. 15 10	£ 3,559 s. d. 0 3	£ 7,902 s. d. 12 0	£ 13,239 s. d. 19 2	£ 18,216 s. d. 10 2	£ 19,255 s. d. 19 10	£ 13,402 s. d. 0 6	£ 75,576 s. d. 1 11	£ 36,907 s. d. 13 11	£ ... s. d. ...	£ ... s. d. ...
Wellington	£ 6,924 s. d. 0 9	£ 9,429 s. d. 5 3	£ 11,518 s. d. 18 3	£ 16,100 s. d. 3 9	£ 30,401 s. d. 6 5	£ 22,708 s. d. 2 11	£ 97,081 s. d. 17 4	£ 5,032 s. d. 7 8	£ 6,203 s. d. 10 2	£ 9,893 s. d. 19 2	£ 11,718 s. d. 15 4	£ 22,919 s. d. 11 7	£ 19,690 s. d. 0 7	£ 75,548 s. d. 4 6	£ 21,533 s. d. 12 10	£ ... s. d. ...	£ ... s. d. ...
Wanganui	£ ... s. d. ...	£ 9,940 s. d. 12 10	£ 8,540 s. d. 1 8	£ 15,040 s. d. 19 1	£ 35,171 s. d. 16 1	£ 27,104 s. d. 17 5	£ 95,798 s. d. 7 1	£ ... s. d. ...	£ 10,878 s. d. 5 5	£ 7,791 s. d. 7 6	£ 15,015 s. d. 14 6	£ 22,614 s. d. 2 7	£ 19,304 s. d. 13 0	£ 75,604 s. d. 3 0	£ 20,194 s. d. 4 1	£ ... s. d. ...	£ ... s. d. ...
New Plymouth	£ ... s. d. ...	£ 1,833 s. d. 12 3	£ 2,641 s. d. 19 1	£ 4,930 s. d. 7 3	£ 6,267 s. d. 8 5	£ 5,433 s. d. 17 1	£ 21,107 s. d. 4 1	£ ... s. d. ...	£ 2,190 s. d. 12 0	£ 3,271 s. d. 2 2	£ 5,075 s. d. 3 2	£ 5,612 s. d. 7 0	£ 4,894 s. d. 18 1	£ 21,044 s. d. 2 5	£ 63 s. d. 1 8	£ ... s. d. ...	£ ... s. d. ...
Greymouth	£ ... s. d. ...	£ 1,063 s. d. 8 8	£ 7,920 s. d. 11 7	£ 8,763 s. d. 1 1	£ 8,852 s. d. 7 5	£ 7,683 s. d. 2 6	£ 34,282 s. d. 11 3	£ ... s. d. ...	£ 4,346 s. d. 19 6	£ 5,738 s. d. 4 1	£ 4,724 s. d. 2 5	£ 3,619 s. d. 4 9	£ 19,312 s. d. 2 5	£ 14,970 s. d. 8 10	£ ... s. d. ...	£ ... s. d. ...	£ ... s. d. ...
Westport	£ ... s. d. ...	£ ... s. d. ...	£ 858 s. d. 12 6	£ 1,382 s. d. 16 11	£ 2,686 s. d. 13 0	£ 2,377 s. d. 16 2	£ 7,305 s. d. 18 7	£ ... s. d. ...	£ 833 s. d. 6 6	£ 1,749 s. d. 6 11	£ 3,427 s. d. 16 9	£ 2,879 s. d. 0 11	£ 8,889 s. d. 10 1	£ ... s. d. ...	£ ... s. d. ...	£ ... s. d. ...	£ ... s. d. ...
Nelson	£ ... s. d. ...	£ 2,531 s. d. 4 1	£ 6,209 s. d. 13 3	£ 6,189 s. d. 5 6	£ 7,111 s. d. 6 0	£ 5,872 s. d. 0 11	£ 27,913 s. d. 9 9	£ ... s. d. ...	£ 2,303 s. d. 17 9	£ 5,490 s. d. 9 5	£ 4,592 s. d. 17 2	£ 24,320 s. d. 2 7	£ 3,593 s. d. 7 2	£ ... s. d. ...	£ ... s. d. ...	£ ... s. d. ...	£ ... s. d. ...
Pictou	£ ... s. d. ...	£ 3,516 s. d. 3 2	£ 5,731 s. d. 4 5	£ 4,991 s. d. 6 11	£ 5,270 s. d. 10 6	£ 3,545 s. d. 9 8	£ 23,054 s. d. 14 8	£ ... s. d. ...	£ 3,083 s. d. 9 9	£ 5,165 s. d. 12 1	£ 5,074 s. d. 0 3	£ 4,841 s. d. 2 5	£ 3,309 s. d. 8 2	£ 21,533 s. d. 12 8	£ 1,521 s. d. 2 0	£ ... s. d. ...	£ ... s. d. ...
Christchurch	£ ... s. d. ...	£ ... s. d. ...	£ 220,745 s. d. 5 2	£ 445,989 s. d. 19 6	£ 577,360 s. d. 9 2	£ 430,623 s. d. 15 3	£ 1,674,719 s. d. 9 1	£ ... s. d. ...	£ 152,808 s. d. 1 11	£ 303,505 s. d. 5 11	£ 409,576 s. d. 14 7	£ 324,383 s. d. 15 3	£ 1,190,273 s. d. 17 8	£ 484,445 s. d. 11 5	£ ... s. d. ...	£ ... s. d. ...	£ ... s. d. ...
Total	£ 25,055 s. d. 15 1	£ 65,717 s. d. 4 2	£ 311,187 s. d. 7 11	£ 569,898 s. d. 8 3	£ 758,096 s. d. 8 2	£ 575,588 s. d. 13 2	£ 2,305,543 s. d. 16 9	£ 19,130 s. d. 5 8	£ 55,591 s. d. 13 1	£ 224,800 s. d. 17 9	£ 405,895 s. d. 14 1	£ 545,478 s. d. 15 0	£ 430,284 s. d. 2 6	£ 1,681,181 s. d. 8 1	£ 627,112 s. d. 19 1	£ 2,750 s. d. 10 5	£ 624,362 s. d. 8 8

SUMMARY.

YEAR.	RECEIPTS.			EXPENDITURE.			PROFIT.		
	North Island.	Middle Island.	Total.	North Island.	Middle Island.	Total.	North Island.	Middle Island.	Total.
1874-75	£ 25,055 s. d. 15 1	£ ... s. d. ...	£ 25,055 s. d. 15 1	£ 19,130 s. d. 5 8	£ ... s. d. ...	£ 19,130 s. d. 5 8	£ 5,925 s. d. 9 5	£ ... s. d. ...	£ 5,925 s. d. 9 5
1875-76	£ 58,606 s. d. 8 3	£ 7,110 s. d. 15 11	£ 65,717 s. d. 4 2	£ 49,320 s. d. 13 11	£ 6,270 s. d. 19 2	£ 55,591 s. d. 13 1	£ 9,285 s. d. 14 4	£ 839 s. d. 16 9	£ 10,125 s. d. 11 1
1876-77	£ 69,722 s. d. 1 0	£ 241,465 s. d. 6 11	£ 311,187 s. d. 7 11	£ 56,156 s. d. 8 4	£ 168,644 s. d. 9 5	£ 224,800 s. d. 17 9	£ 13,565 s. d. 12 8	£ 72,820 s. d. 17 6	£ 86,386 s. d. 10 2
1877-78	£ 102,581 s. d. 18 4	£ 467,316 s. d. 9 11	£ 569,898 s. d. 8 3	£ 83,925 s. d. 2 7	£ 321,970 s. d. 11 6	£ 405,895 s. d. 14 1	£ 18,656 s. d. 15 9	£ 145,345 s. d. 18 5	£ 164,002 s. d. 14 2
1878-79	£ 156,815 s. d. 2 1	£ 601,281 s. d. 6 1	£ 758,096 s. d. 8 2	£ 116,879 s. d. 15 11	£ 428,598 s. d. 19 1	£ 545,478 s. d. 15 0	£ 39,935 s. d. 6 2	£ 172,682 s. d. 7 0	£ 212,617 s. d. 13 2
1879-80 (nine months)	£ 125,486 s. d. 8 8	£ 450,102 s. d. 4 6	£ 575,588 s. d. 13 2	£ 91,439 s. d. 16 3	£ 338,844 s. d. 6 3	£ 430,284 s. d. 2 6	£ 34,046 s. d. 12 5	£ 111,257 s. d. 18 3	£ 145,304 s. d. 10 8
Total	£ 538,267 s. d. 13 5	£ 1,767,276 s. d. 3 4	£ 2,305,543 s. d. 16 9	£ 416,852 s. d. 2 8	£ 1,264,329 s. d. 5 5	£ 1,681,181 s. d. 8 1	£ 121,415 s. d. 10 9	£ 502,946 s. d. 17 11	£ 624,362 s. d. 8 8

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APPENDICES TO THE PUBLIC WORKS STATEMENT, 1880.

APPENDIX A.

AUDITED STATEMENT OF EXPENDITURE ON PUBLIC WORKS OUT OF THE IMMIGRATION AND PUBLIC WORKS LOAN FOR THE YEAR 1879-80.

Prepared in compliance with Section 9 of "The Public Works Act, 1876."

The Hon. R. OLIVER to the COMMISSIONERS of AUDIT.

GENTLEMEN,—

Public Works Office, 25th May, 1880.

In compliance with the 9th section of "The Public Works Act, 1876," I enclose a statement of the expenditure during the preceding financial year upon all Government works authorized by Parliament under "The Immigration and Public Works Appropriation Act, 1879."

I have, &c.,

The Commissioners of Audit, Wellington.

R. OLIVER,

Minister for Public Works.

STATEMENT of NET EXPENDITURE for the Year 1879-80, out of IMMIGRATION and PUBLIC WORKS LOAN, to be forwarded to the Audit in compliance with Section 9 of "The Public Works Act, 1876."

CLASS.	SUMMARY.	NET EXPENDITURE.		
		£	s.	d.
III.	RAILWAYS	856,550	11	2
IV.	SURVEYS	7,123	5	1
V.	ROADS	39,136	6	4
VI.	LAND PURCHASES	14,895	19	2
VII.	WATERWORKS ON GOLD FIELDS	15,603	8	6
VIII.	TELEGRAPH EXTENSION	40,777	19	9
IX.	PUBLIC BUILDINGS	202,418	10	4
X.	LIGHTHOUSES	3,963	0	7
XI.	MISCELLANEOUS PUBLIC WORKS	259,850	8	5
	TOTAL NET EXPENDITURE ON WORKS OUT OF IMMIGRATION AND PUBLIC WORKS LOAN.	£1,440,319	9	4

Examined and found correct.
JAMES EDWARD FITZGERALD,
Controller and Auditor-General.

W. A. THOMAS,
Accountant, Public Works.
25th May, 1880.

Enclosure in Appendix A.
PUBLIC WORKS NET EXPENDITURE, 1879-80.

Vote.	Item.	Particulars.	Items of Appropriation.			Appropriation.			Items of Expenditure.			Expended out of Appropriation.			Expended in Excess of Appropriation.			Total Expenditure.		
			£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
		CLASS III.—RAILWAYS.																		
72	Kawakawa	...	...	...	...	10,500	0	0	...	...	...	1,287	5	1	...	...	...	1,287	5	1
73	Whangarei to Kamo	...	...	...	...	49,000	0	0	...	...	...	3,434	19	7	...	...	...	3,434	19	7
74	Kaipara to Waikato	...	...	...	...	202,000	0	0	...	...	...	77,152	7	9	...	...	...	77,152	7	9
75	Waikato to Thames	...	...	...	...	115,600	0	0	...	...	...	23,491	18	3	...	...	...	23,491	18	3
76	Waikato to Taranaki	...	...	...	...	5,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
77	Wellington to Napier	...	...	...	...	228,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
78	Wellington to Foxton	...	...	...	...	55,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
79	Foxton to New Plymouth	...	...	...	...	233,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
80	Nelson to Greymouth	...	...	...	...	147,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
81	Greymouth to Hokitika	...	...	...	...	46,500	0	0	...	...	...	...	...	...	...	...	...	...	...	...
82	Westport to Ngakawau	...	...	...	...	14,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
83	Picton to Hurunui	...	...	...	...	37,500	0	0	...	...	...	...	...	...	...	...	...	...	...	...
84	Hurunui to Waitaki	...	...	...	...	361,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
85	Canterbury Interior Main Line	...	...	...	...	42,600	0	0	...	...	...	...	...	...	...	...	...	...	...	...
86	Waitaki to Bluff	...	...	...	...	498,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
87	Otago Central	...	...	...	...	120,800	0	0	...	...	...	...	...	...	...	...	...	...	...	...
88	Invercargill to Kingston	...	...	...	...	18,800	0	0	...	...	...	...	...	...	...	...	...	...	...	...
89	Western Railways	...	...	...	...	133,400	0	0	...	...	...	...	...	...	...	...	...	...	...	...
		Total Appropriation and Expenditure, Class III....	...	...	...	2,308,700	0	0	...	...	...	856,550	11	2	...	...	...	856,550	11	2
		CLASS IV.—SURVEYS OF NEW LINES OF RAILWAY.																		
90	Surveys, North Island	...	...	...	...	6,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
91	Surveys, Middle Island	...	...	...	...	14,958	16	0	...	...	...	...	...	...	...	...	...	...	...	...
		Total Appropriation and Expenditure, Class IV....	...	...	...	20,958	16	0	...	...	...	7,123	5	1	...	...	...	7,123	5	1
		CLASS V.—ROADS.																		
92	North Island	...	...	...	...	165,904	12	0	...	...	...	...	...	...	...	...	...	...	...	...
93	Nelson South-West Gold Fields	...	...	...	...	12,264	7	3	...	...	...	...	...	...	...	...	...	...	...	...
94	Westland	...	...	...	...	9,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
95	Hokitika to Christchurch	...	...	...	...	12,000	0	0	...	...	...	...	...	...	...	...	...	...	...	...
		Carried forward	...	...	...	199,168	19	3	...	...	...	14,575	19	1	...	...	...	14,575	19	1

PUBLIC WORKS NET EXPENDITURE, 1879-80—continued.

Vote.	Item.	Particulars.	Items of Appropriation.	Appropriation.	Items of Expenditure.	Expended out of Appropriation.	Expended in Excess of Appropriation.	Total Expenditure.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
		Brought forward	...	199,168 19 3	...	14,575 19 1	...	14,575 19 1
96		CLASS V.—ROADS—continued. <i>Roads to open up Lands before Sale:</i> — Auckland,—						
1		Takahue to Hera Point	2,040 7 7	...	1,067 5 5	...	...	...
2		Purua and Mangakahia Districts	802 2 0	...	662 3 9	...	...	...
3		Block II., Tangihau	584 15 0	...	568 4 0	...	...	...
4		Lake Whangape to Block VII., Awaroa District	607 15 6	...	45 7 9	...	...	...
5		Waikato River to Block XVI., Awaroa District	1,120 0 0	...	11 14 6	...	...	...
6		Gisborne and Waimea Road to Hangarua	533 17 0	...	383 10 0	...	...	...
7		Waimea and Waikaremoana, through Waiau District, &c.	835 0 0	...	299 18 6	...	...	...
8		Takahue to Mangenuiawai	2,160 0 0	...	...	...	...	...
9		Manganui Bluff	1,800 0 0	...	...	...	...	...
10		Opotiki	480 0 0	...	...	...	...	...
11		Pakiri	480 0 0	...	...	...	...	...
12		Te Puke	3,200 0 0	...	...	...	...	...
13		Te Aroha Block	3,500 0 0	...	157 10 3	...	...	...
14		Taranaki,—						
15		Mountain Road to Blocks under Survey	2,860 0 0	...	...	...	...	...
16		Opening up Huairoa Block	680 14 0	...	433 19 0	...	...	...
17		Huairoa Block to Bridge over Manganui	800 0 0	...	672 1 3	...	...	...
18		Opening Lands, Manganui and Patea Rivers	715 0 0	...	644 2 0	...	...	...
19		To complete Bush-felling, Stratford	380 0 0	...	...	...	...	...
20		Cross Roads at Stratford	1,246 0 0	...	...	...	...	...
21		Through parts of Blocks I., II., V., VI., X., Ngaire District	1,880 0 0	...	4 0 0	...	...	...
22		Through parts of Blocks III., V., X., Ngaire District	1,184 0 0	...	...	...	...	...
23		Block X., Huairoa District	640 0 0	...	...	...	...	...
24		Egmont District	160 0 0	...	...	...	...	...
25		Hawke's Bay,—						
26		Tahoraiti District, Puketoi Blocks	2,560 0 0	...	1,451 14 1	...	...	...
27		Norsewood District, Ngamoko Block	763 8 7	...	475 10 3	...	...	...
28		Tukituki to Waipawa, through Makarehu	461 19 8	...	12 4 3	...	...	...
29		Waipara Block	828 15 0	...	689 15 6	...	...	...
30		Woodville District, Ahuaburanga Block	861 10 5	...	430 17 6	...	...	...
31		Puhai District	520 0 0	...	...	...	...	...
32		Waimea to Gisborne	2,000 0 0	...	...	...	...	...
		Wellington,—						
		Blocks V., VI., IX., X., and XIII., Kairanga Survey District	5,000 0 0	...	1,505 4 6	...	...	...
		Mangahoe and Mangahoe District	5,055 0 0	...	4,000 0 0	...	...	...
		Carried forward	46,720 4 9	199,168 19 3	13,515 2 6	14,575 19 1	...	14,575 19 1

PUBLIC WORKS NET EXPENDITURE, 1879-80—continued.

Vote.	Item.	Particulars.	Items of Appropriation.	Appropriation.	Items of Expenditure.	Expended out of Appropriation.	Expended in Excess of Appropriation.	Total Expenditure.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
96		Brought forward	46,720 4 9	199,168 19 3	13,515 2 6	14,575 19 1	...	14,575 19 1
		<i>CLASS V.—ROADS.—continued.</i>						
		<i>Roads to open up Lands before Sale—continued.</i>						
		Wellington—continued.						
		Sandon Township, Manawatu District, &c.	1,400 0 0	...	...	...	...	...
33		Blocks IV, X., and XIII, Wellington Country District	1,953 3 3	...	...	...	...	...
34		Fahiatua and Puketoi	6,000 0 0	...	...	...	...	...
35		Tokomaru Block	2,000 0 0	...	...	...	...	...
36		Otamakapua Block	2,000 0 0	...	...	...	...	...
37		Heao Block	1,000 0 0	...	...	...	...	...
38		Marlborough—	...	...	...	...	...	...
		Road through Crown Lands, Kai Valley	1,000 0 0	...	...	...	...	...
39		Nelson—	...	...	...	...	...	...
		Aorere Valley, Collingwood	4,321 3 4	...	...	...	...	...
40		Abaura to Kopara Flot	1,781 1 10	...	...	...	...	...
41		Reefton to Maruia, Matakitaki, and Buller	4,900 0 0	...	...	...	...	...
42		Canterbury—	...	...	...	...	...	...
		Road to Upper Ashley	4,975 0 0	...	...	...	...	...
43		Drainage of Lake Ellesmere	400 0 0	...	...	...	...	...
44		Westland—	...	...	...	...	...	...
		Kokitahi River to Hokitika River	640 13 0	...	...	...	...	...
45		Mount Bonar to Poenua River	1,480 0 0	...	...	...	...	...
46		Mapourika Lake to Waihou River	1,310 0 0	...	...	...	...	...
47		Mahitahi River to Haast River	4,000 0 0	...	...	...	...	...
48		Waiaroa and Waitangi-taona	1,500 0 0	...	...	...	...	...
49		In the County of Westland	1,000 0 0	...	...	...	...	...
50		Otago—	...	...	...	...	...	...
		Oraara to Waikawa and Bridge over Tokanui	2,000 0 0	...	...	...	...	...
51		Benger District, from Minnyon Burn Bridge	500 0 0	...	...	...	...	...
52		Waitahuna to Run 52c	1,200 0 0	...	...	...	...	...
53		Run No. 75 (Boyd's)	3,000 0 0	...	...	...	...	...
54		Southland—	...	...	...	...	...	...
		Opening up Country between Seaward Forest and Coast Line	3,961 10 6	...	...	...	...	...
55		Orepuki to Waiaru	500 0 0	...	...	...	...	...
56		Opening up Country, Forest Hill	5,000 0 0	...	...	...	...	...
57			...	103,642 16 8	...	24,560 7 3	...	24,560 7 3
		Total Appropriation and Expenditure, Class V.	...	302,811 15 11	...	39,136 6 4	...	39,136 6 4

PUBLIC WORKS NET EXPENDITURE, 1879-80—continued.

Vote.	Item.	Particulars.	Items of Appropriation.	Appropriation.	Items of Expenditure.	Expended out of Appropriation.	Expended in Excess of Appropriation.	Total Expenditure.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
98	I	CLASS VI.—LAND PURCHASES, NORTH ISLAND. Opening up Roads and constructing Bridges through lands recently purchased. (This is the only vote in this class that is for Works.)	...	25,000 0 0	...	14,895 19 2	...	14,895 19 2
99		CLASS VII.—WATERWORKS ON GOLD FIELDS.						
100		Water-races, North Island	...	10,383 5 6	...	6,882 14 0	...	6,882 14 0
		Water-races, Middle Island	...	29,500 0 0	...	8,720 14 6	...	8,720 14 6
		Total Appropriation and Expenditure, Class VII.	...	39,883 5 6	...	15,603 8 6	...	15,603 8 6
101		CLASS VIII.—TELEGRAPH EXTENSION.						
		Telegraph Extension	...	70,250 0 0	...	40,777 19 9	...	40,777 19 9
102		CLASS IX.—PUBLIC BUILDINGS.						
103		Judicial	...	90,257 10 0	...	36,566 7 3	...	36,566 7 3
104		Postal and Telegraph	...	26,665 0 0	...	11,360 2 9	...	11,360 2 9
105		Customs	...	2,240 0 0	...	36 13 6	...	36 13 6
106		Offices for Public Departments	...	200 0 0	...	200 0 0	...	200 0 0
107		Lunatic Asylums	...	100,000 0 0	...	27,438 15 4	...	27,438 15 4
108		Hospitals	...	8,000 0 0	...	5,247 17 10	...	5,247 17 10
		School Buildings	...	181,000 0 0	...	121,568 13 8	...	121,568 13 8
		Total Appropriation and Expenditure, Class IX.	...	468,362 10 0	...	202,418 10 4	...	202,418 10 4
109		CLASS X.—LIGHTHOUSES.						
		Lighthouses	...	6,150 0 0	...	3,963 0 7	...	3,963 0 7
110		CLASS XI.—MISCELLANEOUS PUBLIC WORKS.						
I		Road, Whangarei to Fort Albert	2,208 0 0	...	2,208 0 0	...	...	...
2		Bridge over Waipa on Raglan Main Road	4,000 0 0	...	...	...	...	...
3		Road, Thames to Ohinemuri	527 1 0	...	527 1 0	...	...	...
4		Road, Tauranga to Opotiki	1,450 0 0	...	...	...	...	...
5		Road, Taupo to Tauranga	1,461 8 0	...	200 0 0	...	...	...
6		Road, Gisborne to East Cape	822 8 0	...	779 16 0	...	...	...
7		Road, Ormond to Opotiki	1,000 0 0	...	...	...	...	...
8		Road, Gisborne to Wanua	500 0 0	...	500 0 0	...	...	...
9		Waipoa River Bridge	92 17 6	...	50 0 0	...	...	...
10		Draining Patutahi Block	757 18 6	...	757 18 6	...	...	...
11		Road, Pukekohe to Waikou	1,167 5 4	...	961 16 3	...	...	...
12		Road, Pukekohe to Bombay	764 17 8	...	745 12 4	...	...	...
13		Road, Hape to Karaka Creek	250 0 0	...	250 0 0	...	...	...
14		Bridge on Road, Karaka to Pukekohe East	150 0 0	...	...	...	...	...
		Carried forward	15,151 16 0	...	6,980 4 1	...	...	...

PUBLIC WORKS NET EXPENDITURE, 1879-80—continued.

Vote.	Item.	Particulars.	Items of Appropriation.	Appropriation.	Items of Expenditure.	Expended out of Appropriation.	Expended in Excess of Appropriation.	Total Expenditure.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
		Brought forward	15,151 16 0	...	6,980 4 1	...	...	...
110		CLASS XI.—MISCELLANEOUS PUBLIC WORKS—continued.						
15		Road, Papakura to Wairoa ...	103 5 6	...	100 0 0	...	...	...
16		Road, Thames to Hastings ...	500 0 0	...	500 0 0	...	...	...
17		Road, Coromandel to Hastings ...	200 0 0	...	200 0 0	...	...	...
18		Clearing Snags, Waikato ...	100 0 0	...	...	...	...	...
19		Tramway at Kamo ...	872 13 1	...	865 3 1	...	...	...
20		Matakana Wharf ...	295 19 0	...	295 19 0	...	...	...
21		Main Road, Mahurangi to Whangarei ...	1,600 0 0	...	638 0 0	...	...	...
22		Bridge over Waikato at Hamilton ...	3,500 0 0	...	3,000 0 0	...	...	...
23		Mangere Bridge Repairs ...	1,800 0 0	...	197 11 3	...	...	...
24		Tamaki Bridge Repairs ...	828 9 9	...	828 9 9	...	...	...
25		Straightening Wauku Channel ...	32 0 0	...	32 0 0	...	...	...
26		Road, Wairoa to Waikaremoana ...	733 8 8	...	733 8 8	...	...	...
27		Clearing Snags, Wairoa River ...	33 8 1	...	33 8 1	...	...	...
28		Road, Napier to Taupo ...	1,500 0 0	...	85 19 2	...	...	...
29		Bridge over Ahuriri Harbour ...	11,986 10 0	...	5,710 3 2	...	...	...
30		Mountain Road, Taranaki ...	5,246 3 8	...	4,283 18 11	...	...	...
31		Main Road to Stony River, Waitotara ...	2,630 0 0	...	2,215 17 0	...	...	...
32		Loan to Waitara Harbour Board ...	2,000 0 0	...	500 0 0	...	...	...
33		Clearing Snags, Waitara River ...	69 7 9	...	63 13 2	...	...	...
34		Road, Seventy-Mile Bush, Opaki to Kopua ...	73 9 5	...	...	...	...	...
35		Ruamahunga Bridge, Opaki Road ...	5,995 14 3	...	2,821 16 4	...	...	...
36		Road, Rangitumau ...	284 15 6	...	...	...	...	...
37		Road and Bridge, Mungaroa and Waikanae ...	4,500 0 0	...	...	...	...	...
38		Road, Rangitikei to Murimoro, or Inland Patea ...	500 0 0	...	500 0 0	...	...	...
39		Road in Manchester Block ...	16 0 0	...	...	...	...	...
40		Road, Foxton to Otaki, inland ...	2,632 17 8	...	907 12 6	...	...	...
41		Road, Masterton to Castlepoint ...	815 0 0	...	521 1 7	...	...	...
42		Road, Karere to Manawatu ...	300 0 0	...	100 0 0	...	...	...
43		Manawatu Bridge Approaches ...	15 13 5	...	...	...	...	...
44		Refund of Expenditure, Manawatu Gorge Road ...	459 0 0	...	437 17 9	...	...	...
45		Combined Bridge over Waiohine ...	1,200 0 0	...	...	...	...	...
46		Bridge over Ruamahunga at Hurenuioranga ...	2,944 16 8	...	2,374 0 0	...	...	...
47		Wanganui to Taupo Road ...	500 0 0	...	500 0 0	...	...	...
48		Road, Oronoko to Stanley Brook ...	673 0 0	...	...	...	...	...
49		Road, Takaka to Motueka, and Approach to Wharf, Waitapu ...	1,200 0 0	...	1,178 14 0	...	...	...
50		Takaka Tramway ...	2,000 0 0	...	...	...	...	...
51		Road, Takaka to Motueka ...	700 0 0	...	...	...	...	...
		Carried forward	73,984 8 5	...	36,604 17 6	...	...	...

APPENDIX B.

STATEMENT of all LIABILITIES in respect of the Services of the Public Works Department outstanding at the close of the Financial Period ended 31st March, 1880, prepared in terms of Section 2 of "The Public Revenues Act, 1879," and forwarded, as therein provided, to the Audit Office, on 30th April, 1880.

SUMMARY.

Class.	Votes.	Particulars of Service.	Amount.	Total.
		IMMIGRATION AND PUBLIC WORKS LOAN.	£ s. d.	£ s. d.
II.	68-71	Departmental	643 13 1	
III.	72-89	Railways	910,506 1 2	
IV.	90-91	Surveys of new lines	1,500 6 0	
V.	92-96	Roads	180,696 4 11	
VI.	98	Land purchases	5,926 9 4	
VII.	99-100	Waterworks	10,703 11 5	
XI.	110	Miscellaneous public works	73,309 6 5	
		Liabilities of the Public Works Department on Immigration and Public Works Loan ... ..	...	1,183,285 12 4
		CONSOLIDATED FUND.		
		Liabilities Vote I., item 42, and Miscellaneous Services, Class X., Vote 63	29,976 13 5	
		Class X., Vote 63, Inspector of Machinery	50 0 0	
				30,026 13 5
		W. A. THOMAS, Accountant, Public Works.		£1,213,312 5 9
		30th April, 1880.		
II.		DEPARTMENTAL PUBLIC WORKS.		
	68	Departmental Head Office,— (Nil) ... ..	...
	69	Head Office, North Island,— Contingencies	95 6 2	95 6 2
	70	Head Office, Middle Island,— Contingencies	548 6 11	548 6 11
	71	Photo.-Litho. for Office of Engineer, Middle Island,— (Nil) ... ..	...
		Total Class II. ... ..	...	£643 13 1
II.		RAILWAYS.		
	72	Kawakawa,— Salaries	13 19 10	
		Contingencies	320 19 5	
		Contracts	9,771 3 2	10,106 2 5
	73	Whangarei-Kamo,— Salaries	64 8 0	
		Contingencies	1,840 2 10	
		Contracts	13,659 3 8	
		Land compensation	496 5 0	
		Material ordered from England	11,955 7 3	28,015 6 9
		Carried forward ... ..	...	38,121 9 2

STATEMENT of all LIABILITIES, Public Works Department—*continued.*

Class.	Votes.	Particulars of Service.	Amount.			Total.		
			£	s.	d.	£	s.	d.
		Brought forward ... ..	...			38,121	9	2
III.		RAILWAYS—<i>continued.</i>						
74		<i>Kaipara-Waikato,—</i>						
		Salaries	41	10	0			
		Contingencies	33,897	10	0			
		Contracts	77,690	15	5			
		Land compensation	432	10	4			
		Material ordered from England	14,649	3	1			
						126,711	8	10
75		<i>Waikato-Thames,—</i>						
		Salaries	119	2	6			
		Contingencies	2,832	10	8			
		Contracts	25,288	3	6			
		Land compensation	18	5	0			
		Material ordered from England	31,200	0	0			
						59,458	1	8
76		<i>Waikato-Taranaki,—</i> (Nil)						
77		<i>Wellington-Napier,—</i>						
		Salaries	173	13	4			
		Contingencies	24,909	5	10			
		Contracts	30,455	3	3			
		Land compensation	53	2	4			
		Material ordered from England	35,377	18	4			
						90,969	3	1
78		<i>Wellington-Foxton,—</i>						
		Salaries	110	0	0			
		Contingencies	1,889	2	2			
		Material ordered from England	9,136	11	9			
						11,135	13	11
79		<i>Foxton-New Plymouth,—</i>						
		Salaries	338	16	8			
		Contingencies	26,738	16	10			
		Contracts	51,317	9	4			
		Land compensation	239	17	8			
		Material ordered from England	18,813	10	2			
						97,498	10	8
80		<i>Nelson-Greymouth,—</i>						
		Contingencies	10,877	3	11			
		Contracts	17,923	8	7			
						28,800	12	6
81		<i>Greymouth-Hokitika,—</i>						
		Contingencies	990	16	2			
		Contracts	3,684	7	11			
						4,675	4	1
82		<i>Westport-Ngakawau,—</i>						
		Contingencies	4,911	3	5			
						4,911	3	5
83		<i>Picton-Hurunui,—</i>						
		Contingencies	466	14	3			
		Contracts	5,040	14	0			
						5,507	8	3
84		<i>Hurunui-Waitaki,—</i>						
		Salaries	20	16	0			
		Contingencies	49,020	19	5			
		Contracts	15,820	1	1			
		Land compensation	260	16	8			
		Material ordered from England	25,119	17	10			
						90,242	11	0
85		<i>Canterbury Interior Main Line,—</i>						
		Contingencies	3,090	13	7			
		Contracts	2,733	16	1			
						5,824	9	8
		Carried forward ... ..	...			563,855	16	3

STATEMENT of all LIABILITIES, Public Works Department—*continued.*

Class.	Votes.	Particulars of Service.	Amount.			Total.		
			£	s.	d.	£	s.	d.
		Brought forward ... ..	...			563,855	16	3
III.		<i>RAILWAYS—continued.</i>						
86		<i>Waitaki-Bluff,—</i>						
		Salaries	32	1	8			
		Contingencies	53,278	16	6			
		Compensation to Otago Harbour Board	25,500	0	0			
		Contracts	140,682	19	11			
		Land compensation	284	14	9			
		Material ordered from England	35,974	10	10			
						255,753	3	8
87		<i>Otago Central,—</i>						
		Contingencies	4,093	5	11			
		Contracts	32,259	14	10			
						36,353	0	9
88		<i>Invercargill-Kingston,—</i>						
		Contingencies	674	16	6			
		Contracts	6,397	6	5			
		Land compensation	10	8	8			
		Material ordered from England	75	0	0			
						7,157	11	7
89		<i>Western Railways,—</i>						
		Contingencies	6,465	5	6			
		Contracts	27,547	11	3			
		Land compensation	7	10	0			
		Material ordered from England	13,366	2	2			
						47,386	8	11
		Total Class III.—Railways ... ..	...			£910,506	1	2
IV.		SURVEYS OF NEW LINES OF RAILWAY.						
90		<i>Surveys, North Island,—</i>						
		Contingencies	265	12	10			
						265	12	10
91		<i>Surveys, Middle Island,—</i>						
		Contingencies	1,234	13	2			
						1,234	13	2
		Total Class IV.—Surveys ... ..	...			£1,500	6	0
V.		ROADS.						
92		<i>North Island,—</i>						
		Salaries	70	5	6			
		Contingencies	57,379	18	1			
		Contracts	2,822	15	10			
		Grants to local bodies	61,877	19	9			
						122,150	19	2
93		<i>Nelson South-West Gold Fields,—</i>						
		Contingencies	67	1	1			
		Grants to local bodies	600	0	0			
						667	1	1
94		<i>Westland,—</i>						
		Contingencies	3,957	11	0			
		Grants to local bodies	2,000	0	0			
						5,957	11	0
		Carried forward ... ..	...			128,775	11	3

STATEMENT of all LIABILITIES, Public Works Department—*continued.*

Class.	Votes.	Particulars of Service.	Amount.	Total.
			£ s. d.	£ s. d.
		Brought forward ... ..	...	128,775 11 3
V.		ROADS—<i>continued.</i>		
	95	<i>Hokitika—Christchurch,—</i> Contingencies	591 19 11	591 19 11
	96	<i>Roads to open Lands before Sale,—</i> Contingencies Contracts Grants to local bodies	22,944 9 4 2,263 11 10 26,120 12 7	51,328 13 9
		Total Class V.—Roads ... ..	...	£180,696 4 11
VI.		LAND PURCHASES.		
	97	<i>Land Purchases, North Island,—</i> Not under Public Works Department ... ..	...
	98	<i>Opening up Roads through Lands recently purchased,—</i> Contingencies Grants to local bodies	4,016 9 4 1,910 0 0	5,926 9 4
		Total Class VI. (only so far as it relates to Public Works Department) ... ..	...	£5,926 9 4
VII.		WATERWORKS ON GOLD FIELDS.		
	99	<i>Water-races, North Island,—</i> Contingencies	27 6 6	27 6 6
	100	<i>Water-races, Middle Island,—</i> Contingencies Contracts	4,900 8 11 5,775 16 0	10,676 4 11
		Total Class VII.—Waterworks on Gold Fields ... ..	...	£10,703 11 5
XI.	110	MISCELLANEOUS PUBLIC WORKS.		
		Salaries	21 6 8	
		Contingencies	7,765 19 1	
		Contracts	12,026 12 2	
		Land	3 6 8	
		Grants to local bodies, balance of amount Voted in respect of surplus land revenue, Canterbury	8,408 18 2	
		Voted in respect of surplus land revenue, Otago	5,427 12 4	
		Total Class XI.—Miscellaneous Public Works ... ..	...	£73,309 6 5
X.		CONSOLIDATED FUND.		
		Liabilities of 1878–79, Vote I., Item 42, and Class X., Miscellaneous Services ... ..	...
		Salaries	15 0 0	
		Contingencies	11,320 3 4	
		Contracts	1,678 17 0	
		Land	2,007 5 9	
		Grants to local bodies	14,955 7 4	
		Total Class X.—Miscellaneous Services ... ..	...	£29,976 13 5
		INSPECTOR OF MACHINERY.		
		Travelling expenses, &c. ... ..	...	£50 0 0

APPENDIX C.

ANNUAL REPORT ON RAILWAYS IN THE NORTH ISLAND BY THE ENGINEER IN CHARGE.

The ENGINEER in CHARGE, North Island, to the Hon. the MINISTER for PUBLIC WORKS.

SIR,— Public Works Office, Wellington, 31st March, 1880.

I have the honor to forward annual report on railway works executed during the period extending from 30th June, 1879, to 31st March, 1880.

	£	s.	d.
The expenditure on railways in the North Island up to the 31st March, 1880, was, exclusive of preliminary surveys	3,174,820	9	5
The amount of contracts let and other liabilities	423,894	7	4

Total expenditure and liabilities	£3,598,714	16	9
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The table below shows the lengths of the lines and the number of miles opened for traffic in the North Island, with expenditure and liabilities; and the second table, at end of this report, gives a list of railways and all contracts completed or in progress, with the times of completion, &c. The number of miles opened for traffic during the last nine months is 24 miles 22 chains.

Name of Railway.	Expended to			Liabilities on			Length.	Open for Traffic.
	31st March, 1880.			31st March, 1880.				
NORTH ISLAND.	£	s.	d.	£	s.	d.	M. Ch.	M. Ch.
Kawakawa	28,413	19	1	10,106	2	5	8 28	2 68
Whangarei-Kamo	3,434	19	7	28,015	6	9	8 0	
Kaipara-Waikato	1,031,470	19	6	126,711	8	10	146 45	121 78
Waikato-Thames	27,330	13	5	59,458	1	8	62 1	1 1
Waikato-Taranaki ... ..	...	...	...	...	...	...	125 0	
Wellington-Napier	1,151,730	0	3	90,969	3	1	220 60	109 3
Wellington-Foxton	29,098	13	10	11,135	13	11	67 40	
Foxton-New Plymouth	903,341	3	9	97,498	10	8	217 40	128 41
Total	3,174,820	9	5	423,894	7	4	855 54	363 31

AUCKLAND DISTRICT.

KAWAKAWA RAILWAY.

The *Taumarere Contract* has been let. It comprises one mile of formation, and includes the Kawakawa Bridge, which, next to the terminal wharf, is the most important work on the line. Delay took place in properly testing the ground for this bridge, the result of the borings being to show the existence of a very deep and soft stratum of mud underlying the surface crust, which involved the adoption of foundations of an exceptional character, and a general rearrangement of the first designs for the bridge, which had been prepared. The contractor has begun work on this contract.

It is hoped that the remainder of the line—about 4½ miles—may be got ready for contract soon. The survey of the lower end of the line involves great consideration, and offers many difficulties, particularly in the proper location of the proposed deep-water wharf, the design for which structure, and coal-loading arrangements generally, will demand careful study.

WHANGAREI-KAMO RAILWAY.

The *Kamo Contract* (2 miles 55 chains) is still unfinished, and is five months behind time. The contractor has displayed a singular want of energy in carrying on the work, and, in spite of all urging on the part of the Engineer, it will probably be the end of May before he has quite completed it. The summit cutting proved to be a difficult piece of work, the lower 5 feet of it being a soft clay containing much water; but proper drains have been introduced, and the work now promises to stand well.

The *Whangarei Contract* (includes 2 miles 50 chains formation and 5 miles 25 chains permanent way) has been lately let, and the contractor is making good progress. The works of the Kamo Contract, over which a portion of his contract extends, are ready for him so far as he can use them.

The survey plans for the remainder of the line to a shipping-place have been received, but the contract plans are not yet prepared. The exact point and depth of water to which the line shall be extended is yet to be determined, and instructions are required on this head before the work is prepared for tender.

KAIPARA-WAIKATO RAILWAY.

Helensville Contract.—The second contract for the wharf and permanent way has been satisfactorily completed, and the wharf is now a substantial, sound structure. The station-buildings at this terminus are now being built, and are expected to be completed by 19th July next, the end of the time allowed under the contract.

Auckland Contract (9 miles 61 chains).—This work, after long delay, has at last been completed. The works are in good order, and trains are now running between Newmarket Junction Station and Waikomiti Station.

Waitakerei Contract (12 miles 64 chains).—With the exception of the work connected with the summit tunnel, this contract has been pushed on vigorously, but cannot now be completed within contract time—11th September, 1880. The grading is about half finished; bridges and culverts about seven-eighths. Station-buildings at Kumeu are finished.

Newmarket Junction Station Contract.—This work has been carried on satisfactorily, and is well advanced. It involves a diversion of the main line, which it is expected will be made about the middle of April; after which the erection of the Remuera Road over-bridge will be begun.

Newmarket Workshops Site.—This includes the formation and drainage of a piece of ground on which it is intended to build workshops. The work has been carried on with energy, and it is expected will be finished within contract time.

Reclamation Contract, Auckland Harbour.—The contractor for this failed to carry out the work properly, and it was found necessary, under the powers given by the General Conditions, to serve the usual notices, and to absolutely determine the contract. The work will be re-advertised for tender.

Ohaupo Contract (6 miles 20 chains).—The contractor for this work has prosecuted it with energy, and in a satisfactory manner; it is, however, behind time, due, in some measure, to extra works ordered. It is expected that the ballasting will be complete about the end of April, shortly after which it may be opened for traffic.

Newcastle Railway Wharf Contract.—This work has been finished, and handed over to Working Railways Department.

WAIKATO-THAMES RAILWAY.

Waikato Contract (12 $\frac{3}{4}$ miles), being part of the Waikato-Thames Railway, commencing at Hamilton East and extending eastward. It includes station-formation and buildings at Hamilton East; the remainder of the work being swamp-drains and formation. The work is progressing well, and it is expected will be finished in contract time.

Grahamstown Contract.—Reclamations for railway purposes. This has been satisfactorily completed.

Shortland Contract.—This work, although much behind time, is now nearly completed, and is a good piece of work.

Kauaeranga Contract.—This consists of a railway bridge over the Kauaeranga River. The work is now complete, and has been finished in a satisfactory manner.

Native Labour.—The formation of about 2 miles of railway was set aside for the employment of resident Natives. They worked at piecework for some time, but afterwards left for the kauri-gum fields, and decline to return unless at increased rates or at day-work wages. The latter, however, will not be allowed.

MISCELLANEOUS WORKS.

Mangere Bridge Repairs.—The work on this contract was delayed for some time for the want of proper piles, and it was feared that the contractor would fail to carry out the work; on being served with a proper notice, however, more satisfactory arrangements were made, and the work progressed better. About three-fourths of the piles are now driven. The work consists of the restoration of the piers of the bridge, the jarrah piles, &c., of which had become, in many cases, entirely eaten through by the *teredo*, and the rest were being rapidly destroyed. The new piles are of heart of totara, which is found to resist the attacks of the *teredo*.

Bridge-painting Contract.—This is for painting the bridges on the Auckland Contract, and is now being carried out.

SURVEYS.

Waikato-Thames.—In Waikato a preliminary survey from 14 miles to 30 miles at Te Aroha has been made, and in the Thames Valley contract survey has been made up to 13 miles 63 chains, leaving about 19 miles unexplored in the Thames Valley.

Kawakawa.—Remainder of contract surveys have been made.

Whangarei-Kamo.—Remainder of line surveyed to deep water.

From Auckland Northwards.—An exploratory survey is now in progress for the purpose of ascertaining the practicability of making a railway between Helensville and Whangarei, and of ascertaining the character of the country through which it would pass.

About 59 miles of this survey have been accomplished, but the progress has necessarily been slow, as the country is very rough, mostly covered with dense forest, and intersected by numerous streams, with ranges of varying heights; the main (north and south) range varies from 300 to 800 feet high, throwing off lateral spurs to the east and west coasts, some of them very difficult to cross or grade a line over in any way. Attached to this is a brief report on the progress already made, by Mr. C. B. Knorpp, with explanatory map.

Another survey of similar character has been made between Whangarei and Kawakawa. The distance is about 28 $\frac{3}{4}$ miles as surveyed; the country would appear to be not unfavourable for a line of railway, and none of the grades would exceed 1 in 50. Attached is a brief report on this from the District Engineer, with explanatory map.

HAWKE'S BAY DISTRICT.

NAPIER-WOODVILLE RAILWAY.

Papatu Section (64 miles 48 chains to 69 miles 70 chains).—As described in last year's report, the formation over this length was let out in small contracts, and the lighter portions were finished. The heavier cuttings and banks have since been completed, but owing to the very wet weather experienced they have given much trouble. The slips have been very heavy and continuous, necessitating much

extra work and many drains to lay the ground dry. The slips will require very careful watching and attention, as the ground is so treacherous and uncertain, and may yet lead to much further expense.

Papatu Bridge Contract.—The third bridge—that over the Mangarangiora—was finished 21st February, thus completing the contract, which has been most satisfactorily and creditably executed.

Makatoko Permanent-way Contract (65 miles 57 chains to 69 miles 70 chains).—Contractors are making very good progress, having laid the line up to 69 miles, including the Ormondville Station. The late heavy storm delayed the work several weeks.

Tahoraite Section (11 miles $76\frac{1}{2}$ chains, extending from 69 miles 70 chains to 81 miles $66\frac{1}{2}$ chains, where the line emerges on to the Tahoraite Clearing).—Over this length the bush has all been felled three chains wide, and the centre chain cleared of all loose timber.

Napier Station and Workshops Site.—Additional land has been acquired adjoining the Railway Station, for the purpose of erecting workshops and store, and the whole has since been reclaimed—the material being procured from the bluff at about one mile. A contract was let last year for the erection of workshops and store, which has since been satisfactorily completed. The lines and sidings to the workshops have also been laid. The engine and machinery are now in course of erection, and it is hoped will soon be ready for work.

SURVEYS.

From 69 miles 70 chains to 82 miles the line has been pegged out ready for contract, and plans prepared, so that tenders may be called for a portion. It has been suggested that an alternative and shorter line might be found over a portion of this length, and the country is being further examined with the view of ascertaining if this is correct. From 82 miles to 85 miles the line has been pegged out ready for contract, but plans are not yet completed. Beyond the latter point the survey and pegging-out are being continued towards Woodville, about 96 miles.

East Coast.—Instructions were given, in August, 1879, to make a flying survey of the country from Napier to Wallingford, through the district situate between the Tukituki River and the sea-coast, with the view of determining its suitability for—(1) a main line of railway running through it; (2) in default of this being found practicable, then branch lines of railway, say three in number, from the main line of railway; (3) in case this also was found to be impracticable, whether good branch roads instead of railways might not be carried out. A survey has accordingly been made and reported on, showing conclusively that the country is eminently unsuited for proposals No. 1 and No. 2, and that the district is already provided with five roads crossing it from east to west. One or two extracts from the report may suffice to show the character of the country through which it has been proposed to construct a railway, estimated by the proposers to cost £4,000 per mile; thus: "The country . . . consists of a mass of hills varying from 50 to 1,500 feet in height through its entire length, with minor ranges protruding in almost every direction from the main range. . . . No route could be discovered through it without being compelled to have recourse to curves far exceeding the usual limits of railway practice; and this fact, coupled with that of being compelled to resort to grades of exceptional steepness, . . . and where the alternative of tunnelling is out of the question, the case becomes a hopeless one. . . . The full length of the line surveyed is 57 miles 5·70 chains.—T. M. FOY, C.E."

NOTE.—The report and plans are now recorded in the Public Works Office, and attached is a brief explanatory map.

MANAWATU DISTRICT.

FOXTON-CARLYLE RAILWAY.

Wanganui Wharf and Reclamation Contract.—The contract time for this work will expire 16th April, 1880, but the work will most probably not be finished for two months later.

The whole of the timber wharf, with stone-pitching, 900 feet, has been completed; also about one-half of the pitching below the wharf. Earthwork generally about four-fifths completed, and more than one-half of the surface metalling. The new wharf has been used for shipping, and as soon as possible the railway line and sidings will be laid, and tenders will be called for the erection of the station-buildings.

Waitotara Contract (13 miles 5 chains).—This should have been completed on 5th December, 1879, but the work has been much delayed through bad weather and various other causes. It is hoped, however, that this section may be ready for traffic about the end of June, and contractors are being urged to make every exertion. About $8\frac{1}{2}$ miles are now linked in.

Waverley Contract (6 miles 70 chains).—This work—formation and permanent-way—has been let by contract, to be finished 31st January, 1881. Contractor is making fair progress.

Carlyle Branch.—The preliminary steps have been taken for beginning the work of formation and bridges, which will be in hand in few days.

Waitotara and Waverley Station-Buildings Contracts have been let, and are progressing satisfactorily.

Wanganui Workshops Contract No. 1.—This was completed in January, 1880, and the engine and machinery are being erected.

Wanganui Workshops Contract No. 2, including smith and boiler-shop, &c., is expected to be finished in a few days. The workshops are at East-town, on the east bank of the river, where the ground for these shops has been formed and drained, and rails, sidings, and turntables laid down complete.

Footway on the Railway Bridge, Wanganui.—This was completed 1st March, 1880.

Works on constructed Lines.—Numerous works have been executed in the way of extra sidings, crossings, additions to stations, water supply, cattle pens, platelayers' cottages, &c., as have been found requisite from time to time.

SURVEYS.

Wellington-Foxton.—Last year the proposed line, Foxton to Horowhenua, 11 miles 20 chains, was surveyed and plotted; and since then the survey from Horowhenua Junction to Longburn Flag-

station, which is 4 miles from Palmerston (on the Foxton-Palmerston section) has been in progress: 15½ miles have been surveyed, but not plotted, and 9½ miles explored but not yet surveyed; making 25 miles in all. Many trial lines have been cut over this ground, to insure the best line being obtained, much of the ground being liable to heavy floods. For the same reason, it is proposed to have an alternative survey of a portion of the Foxton-Horowhenua section.

Bunnythorpe-Woodville.—The survey of this section was discontinued for some time, but has been resumed; and a trial line is now being pushed through the Manawatu Gorge, on the right, or north, bank of the river.

Land Plans.—These have been prepared for a distance of 16 miles on the Foxton line; and on the Waitotara-Waverley section the fieldwork is complete, and plans are now being plotted. Survey plans and sections have been made for the proposed new railway station and wharf at Foxton, including a necessary deviation of the railway line, and the work is being prepared for contract under public tender.

CARLYLE-NEW PLYMOUTH RAILWAY.

Ngatoro Section (8 miles 60 chains to 13 miles 40 chains).—This was opened for traffic on 19th December, 1879.

Waipuku Section (13 miles 40 chains to 17 miles 52 chains).—This also was opened for traffic on the same date as above.

Stratford Contract.—(17 miles 52 chains to 22 miles 20 chains).—This contract included formation, permanent-way, and stations; and was so far completed as to be opened for traffic on the same day as the preceding sections, as far as Stratford—22 miles.

Mangawhero Contract (22 miles 20 chains to 29 miles).—This includes formation and permanent-way. The date for completion is the 5th November, 1880; but the contractor has been offered a bonus to complete the line ready for traffic up to 25 miles 45 chains by June, and he is making every effort to accomplish this: adding about 3½ miles to the working railway, and so diminishing the distance to be travelled over the road by coach in winter by the same amount. The line is already linked in for 1 mile 20 chains.

Waingongoro Contract (4 miles 34 chains).—This is being prepared for public tender, and will be advertised shortly as a formation and permanent-way contract. It has occupied a considerable time in survey and explorations to obtain the best line in a difficult piece of country.

Normanby Section (4 miles 0 chains).—This joins the above, and extends southwards to and through the Township of Normanby. Over this length bush-clearing to 4 miles from Normanby has been executed by petty contracts and day-labour, and the remaining portion, 4 miles to 8 miles 33·86 chains, extending over the Waingongoro section, is being cleared by petty contracts. Formation over the first portion is completed to 3 miles, and another mile will be finished in a few weeks. The remainder will be executed by petty contracts as soon as bush clearing is completed.

Workshops, Sentry Hill.—These buildings have been erected by contract, and were finished in January, since when the erection of the machinery has been progressing; and a contract has been let for the formation of the workshops yard, and the laying of rails and sidings in connection with the shops. It is expected that these will be finished, and the machinery erected, by the middle of May.

Surveys.—The surveys completed were those for the Waingongoro and Normanby sections, as well as for a water supply for the Sentry Hill workshops. Surveys have also been in progress during the year between Normanby and Carlyle, including the Carlyle branch. The latter line, after many trials to secure the best, may now be considered as definitely fixed. The main line has been the subject of much exploration and many trial lines, especially in the neighbourhood of the Rivers Tangahoe and Manawapou, which presented many difficult features. A suitable line has, however, been found a little more to the seaward than the original one, and the surveys are nearly complete for this particular section.

WELLINGTON DISTRICT.

Wellington Railway Wharf and Reclamation Contract.—This includes the erection of a timber railway wharf, 650 feet long and 35 feet wide, springing from a triangular base filled in solid, and surrounded next the sea with a timber and concrete retaining-wall 530 feet long. On the wharf is laid three lines of rails, with the necessary points and crossings. It is expected to be fully complete by about the middle of April, and the work has been most energetically and faithfully carried out in every respect.

Petoni Workshops Contract.—This included the building of three shops each 50 feet by 40 feet, and one 63 feet by 47 feet; the whole was completed in a satisfactory manner by 31st January. The steam engines and various machines have been erected in their places; the shafting for driving these has also been fixed, and in a short time these workshops will be in working order. The roads intended to connect the whole of the shops with the sidings in the yard are being laid, and the engine traverser and turntables are being fixed. An office for the manager has also been erected within the workshops yard. A main drain, intended to lay dry the workshops ground, has been laid throughout its length, and a set of water tanks, capable of holding 6,400 gallons, has been erected; a well has also been dug and a pump fixed for filling the tanks, from which pipes will be carried to the various shops.

Carterton Contract (20 miles 41 chains long).—This work, since it was taken over by the Public Works Department for completion, has been pushed on as vigorously as possible, the average number of men employed being about 275; latterly, however, this number has been reduced about one-half, as much of the work has been finished. All the heavy works, including bridges and culverts, large cuttings and embankments, are nearly completed, the work yet remaining to be done consisting of laying of permanent-way and ballasting, &c. It is expected that the whole of the works will be completed and ready for traffic to Masterton by the 1st September.

Greytown Branch Railway.—The formation of this was let by contract, and finished on 10th January. Since then the permanent-way has been laid by the Public Works Department, and con-

tracts are in progress for the station-buildings and fencing. It is expected that the portion of main line from Featherston to Woodside, and this branch, will be ready to open for traffic by the 14th May next, adding thereby about 9 miles to length of working railways.

Opaki Section of Main Line.—With the view of affording work for the unemployed in and around Wellington, arrangements were made, on 17th March, for beginning the formation of the above, immediately beyond the Carterton contract. Thirty men were accordingly sent from Wellington, and have been employed in bush-clearing and earthwork.

Working Railways.—Several additions to station-buildings have been made, and seven platelayers' cottages built; 2 new single Fairlie locomotive engines have been erected, also 30 timber trucks, 20 cattle wagons, and 25 low-side wagons. Four six-wheel composite carriages have arrived, fitted with Cleminson's patent radial axles; two of these have been erected, and, so far, give great satisfaction.

WELLINGTON-FOXTON RAILWAY.

Crofton Section.—The work on this was begun on 1st September, 1879, in order to give employment to men who were out of work. One hundred men were taken on at once, and by the end of a month this number had increased to 320. The average number employed from October to February was 330, since which the force has been reduced to about 120, and further reductions will be made in April, as many portions of the work are being finished. Very good progress has been made throughout, and it may be considered that fair value has been obtained in the quantity of work done; it extends over a length of 4 miles 55 chains—namely, from 1 mile 10 chains to Johnsonville Station, 5 miles 65 chains.

SURVEYS.

Wellington to Johnsonville (7 miles).—This has been completed, and the line finally located.

Johnsonville to Paramatta Point (Porirua Harbour).—This line has been selected and pegged out. Careful examination has been made of the country between Johnsonville and the West Coast, and trial lines have been surveyed on both sides of the valley leading to Tawa Flat and around the shore Porirua Harbour to the narrowest part at Paramatta Point, proposed as a crossing-place.

Paramatta Point to Waikanae River.—Trial lines are now being surveyed to secure the best line between these two places.

Masterton to Woodville, by way of Alfredtown.—An exploratory survey of this line has been made, the report on which tends to show that the proposed line will be no improvement on that originally surveyed by way of the Forty-Mile Bush. A few extracts will give an idea of the character of the country, and of any line that might be taken through it—viz.: "For the first 6 miles the line passes over ground favourable enough for a line of railway; but from this point to the 20th mile, at the Township of Alfredtown, a distance of 14 miles, it would be subjected to many sharp curves, with side-hill cutting the whole way. This is no doubt the worst part of the whole line, and is, in my opinion, sufficient in itself to condemn the route, as there is no avoiding the valley of the Wangashu River. . . . The worst or most difficult part of the line has been levelled over, showing the ruling gradient of this line to be 1 in 25 . . . and the constructive works to carry this grade would be found to be as costly as tunnelling. . . . Nothing of this kind occurs upon the Forty-Mile-Bush line . . . the ruling gradient upon which is shown to be 1 in 52 . . . and at most will not exceed 1 in 50. . . . The distances of the respective routes are as follows: Forty-Mile Bush line, 47 miles; Alfredtown, 58 miles. . . . I consider the route *via* Alfredtown to be altogether an impracticable one. . . . From every point of view in which the subject may at present be considered, the Forty-Mile Bush line is infinitely the more preferable of the two.—T. M. Fox, C.E."

A sketch-map attached to this report shows the relative positions of the Alfredtown and Forty-Mile Bush routes.

MAPS.

One plain outline map of the North Island and four diagram maps on enlarged scale, showing railway lines and railway stations, &c., are attached to this report.

I have, &c.,

JOHN BLACKETT,
Engineer in Charge, North Island.

The Hon. the Minister for Public Works.

Enclosure 2 in Appendix C.

REPORT ON EXPLORATION FOR A RAILWAY LINE FROM
HELENSVILLE TO WHANGAREI.

Mr. C. B. KNORPP, C.E., to ENGINEER IN CHARGE, North Island.

From the Helensville wharf* it is proposed to carry the railway along the right bank of the Kaipara River to its junction with the Kaukapakapa; thence it will follow the Kaukapakapa a short distance, cross that river and run up the Tukuro Creek, and, by a tunnel 12 chains long, through the range between the Kaukapakapa and Makarau, about 1 mile west of the Flat-topped Mountain; thence across four branches to the head-waters of the Makarau, where, by a tunnel 19 chains long, it will enter the Areparera drainage, and follow that stream for 5 miles. It will then, by a tunnel 13 chains long, enter the Onehunga Valley, follow that stream to the junction with the Kaitoto; follow the left bank of it and then cross it about $\frac{1}{2}$ a mile above its junction with the Oteo, the left bank of which it will follow for 3 miles, then cross that river and pass to the east of Wellsford. It will head all the tidal creeks of the Oruawharo, and pass through the watershed of the latter and the Otamatea by a tunnel 9 chains long; thence across the Waitapu and Kaiwaka to the west of the Pukekaroro, and south and east of Pukekahu, across the Wairau Creek and the Waitepoko, then, through a tunnel $6\frac{1}{2}$ chains long, into the Valley of the Mongonui. This is as far as the exploration has extended; but no more serious difficulty appears to bar the way to Whangarei.

The grades on this line will be generally 1 in 50, except on the south side of the 2nd, 4th, and 5th tunnels, and from the Wairau Creek to the summit on the Tutainui, where 1 in 40 grade will have to be used. Near the several tunnels and on the banks of the Oteo some rather sharp curves will be required, and one at least of 6 chains radius at the Wairau Creek.

The whole country is very broken and rugged, and the greater part covered with dense bush containing in patches fine kauri timber; and the railway will be expensive in construction and maintenance.

There is first-class timber for viaducts, bridges, and sleepers, wherever required; but there is no good ballast along the line, nor building-stone, except some soft sandstone from the Makarau to the Onehunga Stream, and soft limestone similar to that at Napier, north of Kaiwaka.

Camp Mangatoroto.

C. B. KNORPP.

Enclosure 3 in Appendix C.

REPORT ON EXPLORATION FOR A RAILWAY-LINE FROM
WHANGAREI TO KAWAKAWA.

MEMORANDUM FOR THE ENGINEER IN CHARGE, North Island.

I ENCLOSE herewith general map of country. I examined the country in September last, and directed the trial of a line to avoid the heavy works, including a tunnel, at Kamo end. This deviation gives a good surface line, but with a summit 61 feet higher and length $1\frac{1}{2}$ mile more than by the tunnel route.† The distance from $4\frac{1}{2}$ miles to at least 13 miles is subject to floods after every rain, and, if ever the line is undertaken, it should be in connection with the drainage of the Papakuri Swamp, by cutting a new channel through the rocks, as previously reported on. That would lower the waters in the Wairau Valley and its tributaries about 15 feet. All the land affected by this drainage would be good land.

Much of the land beyond 14 miles is poor gum land, but the chalky-looking flint found over the coal at Kawakawa is to be seen on nearly all the hills from Hikurangi to Kawakawa, indicating coal.

The instructions being to make for Kawakawa, the low range at 21 miles 30 chains was crossed, the route leading down a very narrow valley, the head of the Pokapoka Stream, which joins the Waioio at the Waioio Native settlement. If, however, this line comes to be considered as part of the Northern system of railways, I would advocate a different route from 21 miles. It is there in the Ramarama Valley, which, after a long detour to the west, runs northward, and joins the Kawakawa Valley, some miles west of the coal mines. The line could thus be taken, through easy country and good land, to join a line from Kawakawa deepwater to Hokianga, and the traffic could be accommodated to great advantage, whether for Kawakawa and the Bay of Islands on the one hand, or for Kaitoke and Hokianga on the other. I am strongly of opinion that this Kawakawa and Hokianga line should be the first to be undertaken of all the northern lines projected. It would be an easy line and bring a very large extent of splendid land within reach of a first-class shipping-place. I have only further to remark that Mr. Vickerman has carried out his instructions in a manner reflecting much credit on himself as an explorer. As an aneroid survey I think it could not be better performed, and it must be remembered it was done in two months, from 10th July last, a not very favourable period of the year.

JAMES STEWART, D.E.

* The end of the present railway.

† About 2 miles from Kamo, the summits being respectively 529 feet and 468 feet above datum.

APPENDIX D.

ANNUAL REPORT ON ROADS IN THE NORTH ISLAND, INCLUDING OTHER MISCELLANEOUS WORKS, BY THE ENGINEER IN CHARGE.

The ENGINEER in CHARGE, North Island, to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Public Works Office, Wellington, 31st March, 1880.

I have the honor to forward annual report on roads and other miscellaneous works for the nine months ending 31st March, 1880.

AUCKLAND.

Great South Road.—The work on this road has been the usual repairs to the surface, and to culverts and bridges. The Slippery Creek Bridge at Drury has been replaced by a larger structure, and the wings of the Hingaia Bridge, also at Drury, have been replaced with small spans as an improvement. The road generally is in very good order, but a few places require a coat of metal.

Panmure Bridge.—At date of last report the contract for repairs of this bridge was in progress. A large amount of extra work was found necessary on stripping off the old work.

Pukekohe and Waiuku Road.—The expenditure on this road was made in piecemeal about two-thirds, and in wages one-third. About three-quarters of a mile have been metalled, and 2,548 cubic yards of earth have been moved in improving the hill at Waitangi Stream and other places.

Pukekohe and Bombay Road.—About half the expenditure has been for land compensation, including cost of fencing through such land; the earthworks have been mostly in side-cutting, and the approaches to the bridge at Bombay Mill. No metalling has been done, but material for metalling exists in the shape of basaltic boulders, at the ends and middle of the road.

Hunua Road.—The only work done on this road was a cutting at the summit, the completion of which has enabled the settlers to use wheeled vehicles instead of pack-horses, which for twenty years have been used for carrying goods on this road.

Cambridge-Taupo Road.—On this the work has been done by the Armed Constabulary Force, commencing in January, and consists of 7 chains of heavy side-cutting, widened at about 3 miles (reckoning from the junction with Taotaoroa Highway Road), bank drained, slopes turfed, earthwork about 3,000 cubic yards; at 3 miles 40 chains, 11 chains of stream cleared, snagged, and deepened to prevent it flooding the road; at 5 miles, one bridge, 20 feet span, built; at 11 miles, a 2-feet culvert and 400 cubic yards of bank, and 3 miles 40 chains of road widened and formed.

Cambridge and Rotorua Road.—This road leaves the Cambridge-Taupo Road at about 12 miles, sloping to the left and reaching the level of the Waitoa Plain by grades, of which the steepest is 1 in 13. The work done consists of—survey, 2 miles; clearing in fern and manuka, 1 mile; forming, 50 chains; metalled with clay slate rock, 4 chains. Exploration as far as Tapapa has been made, and a very good line of road can be obtained; only three rivers occur on the route—namely, the Oraka, the Waikou, and the Waimakariri. These have been measured, and plans have been prepared for the bridges, which will shortly be advertised for public tender.

Hamilton and Raglan Roads.—These have been examined and several parts prepared for contract.

Te Awamutu Railway Station Road (66 chains long).—The formation of this has been let by contract for £171 14s. 6d., and metalling will be done as far as the remainder of the funds available will allow.

Cambridge-Tauranga Road.—A survey of this has been made from the Wairoa River, at the Omana Creek Bridge, to the Waihou River, about 26 miles. A very direct line has been obtained, considering the nature of the country to be traversed. It crosses the main dividing range at a height of 1,710 feet above sea level; over this the gradients are good, the descent into the Waihou Valley being about 1 in 16½. It is proposed that the survey should be continued to join the Rotorua Road near to where it leaves the Taupo Road; this part is flat throughout, and about 8 miles would effect the junction. The survey plans of the portions surveyed are now in hand, and will shortly be completed.

BAY OF PLENTY.

Otara Cart-bridge.—This work has been completed during the year—length, 360 feet; it crosses the River Otara.

Whakatane-Ohope Road.—This road has been put in good repair over a distance of 3½ miles. Seven new culverts have been constructed.

Whakatane-Te Teko Road.—Twelve small bridges and culverts have been built on this road, with about 2,300 cubic yards of earthwork in the approaches. A ditch about 1½ miles long has also been dug by Native labour through a swamp to drain the road.

East Cape Road.—Twelve miles of this road have been maintained by Native contractors during the year.

Te Teko and Galatea Road.—This is in a bad state of repair, particularly the bridges. Instructions have been given to have them repaired.

Tauranga-Taupo Road.—This has generally been maintained in fair order for traffic, but the heavy rains experienced from July, 1879, to end of January, 1880, coupled with heavy traffic, placed the road in bad condition. The weather improved in February, and allowed the necessary repairs to be made, including a considerable amount of drainage, and the worst parts in the Mangarewa Gorge have been metalled and put in a serviceable condition.

Most of the work of maintenance used to be done by Natives, but they have ceased to care about employment, and the work lately has been done by Europeans. About twelve men are constantly employed between Oropi and Atiamuri—60 miles. Those bridges and culverts which were built of rimu when the road was first made, no other timber being available, are gradually being rebuilt of more durable timber, the rimu being now in a state of decay.

Rotorua and Tarawera Road.—The heavy rains of last winter cut this road up very much, but the needful repairs have been effected, and it is now in fair order.

TAUPO-ATIAMURI.—NAPIER-TAUPO.

Kaiwaka-Stony Creek (31 miles).—This has been kept in good order by day-labour, and sundry improvements have been made at various points. The road is now in fair order for traffic.

Stony Creek-Atiamuri (69 miles).—This has been kept in repair mostly by Native Armed Constabulary men, and is now in fair condition for traffic throughout. The Rangitaikai Bridge, trussed, 40-foot span, and the Waipuwera Bridge, 25-foot span, plain, have been reconstructed of good and durable materials; also, several smaller bridges and culverts have been substantially repaired.

EAST COAST.

There has been no road work done on Government roads during the year, with the exception of a short road deviation, 12 chains long, from the Norsewood-Ormondville Road through the Railway Reserve into the Ormondville Railway Station ground, crossing the line about 67 miles 75 chains. This piece of road will require to be metalled.

Tenders have been invited for metalling the branch road from the Makotoko Railway Station to the main road, a distance of 3 miles 38½ chains; and, after tenders have been accepted, it is expected that the work will be done by the middle of June.

A proposal has been submitted to make a branch road from the railway line at about 74 miles to the main road, about 40 chains. This is the only easily-accessible place from the railway line to the main road between Makotoko Station—69 miles 60 chains—and Tahoraite Station, at 82 miles 25 chains. It would appear advisable to make this branch, as it is desirable to establish communication between the railway and road at as many points as possible, to develop future traffic for the railway.

Patutahi Drainage Works, Poverty Bay.—The first contract for these was in hand in June last, and has since been completed—41 miles 70 chains. A second contract, 1 mile, has since been let and completed. Both have been well executed, and the drain answers well.

Port Ahuriri Bridge, Napier.—This contract was let on 13th August last, and the contract time will expire on 13th August, 1880. The contractor is making excellent progress, and doing his work well. Nearly all the piles in the ordinary piers are now driven, and the superstructure is nearly half finished.

MANAWATU DISTRICT.

The Manawatu Gorge Road has been maintained in good order during the year. The traffic was interrupted and the road damaged by heavy rain-storm, 20th March. The Manawatu Gorge Bridge was also damaged to a small extent by heavy drift timber. This and the road are now being repaired.

Kairanga Survey Block.—Bush-felling and road-clearing have been completed for a length of 14 miles 3 chains. A contract has been let for 4 miles 72½ chains of drain in connection with 2 miles 55 chains of road formation, and the work is now in progress.

Road Bridge over Manawatu, near Palmerston.—This has been screwed up and painted, and some repairs have been executed to the north approach.

TARANAKI DISTRICT.

Manganui Cart-bridge.—This is situated on the Tariki Road, near Waipuku, and the work has been completed. It consists of one span of 60 feet and three spans of 30 feet.

Gravelling the Mountain Road.—Several contracts were advertised for public tender, but only one was accepted, the tenders for the others being too high. The one under contract is 105·71 chains long, and is situated between Waipuku and Midhurst Townships. Date for completion, 6th May.

WELLINGTON DISTRICT.

Opaki Bridge Contract.—This contract is for erecting a road bridge of three 80-foot spans over the Ruamahunga River, on the main road to Opaki and Seventy-Mile Bush, and the formation and metalling of 22 chains of road on the southern side of the river, and of 29 chains on the northern side. The contractor has not made rapid progress, owing, partly, to numerous floods. The north and south abutments and No. 1 pier (of concrete) are completed, and the work is good. No. 2 pier is not yet commenced. A large quantity of timber is delivered, and the road-work is well advanced; but the work will not be completed within the time allowed.

Footpaths Contracts, Thorndon Reclamation.—This was for forming, kerbing, and gravelling about 81 chains of footpaths in Whitmore, Ballance, Stout, Featherston, and Maginnity Streets, and Custom-house Quay. The work was satisfactorily completed, 20th October, 1879.

ARCHITECT'S BRANCH.

Annual Report of the Architect is attached hereto.

The Hon. the Minister for Public Works.

I have, &c.,
JOHN BLACKETT,
Engineer in Charge, North Island.

[*Postscript to Annual Report on Roads up to 10th May, 1880.*]

ROADS ON WAIMATE PLAINS AND ADJOINING DISTRICTS.

Waimate Plains.—Proceeding from the River Waingongoro westwards, about 15 miles of the road formed some years since have been repaired and widened by the Armed Constabulary Force and Public Works Volunteers. Other works, such as lowering grades and substantially repairing bridges and culverts, have been done and are now being done by another party of workmen, following the first. The gravelling of about $2\frac{3}{4}$ miles of this road, starting at the Waingongoro River, has been executed, and about 7 miles more are now in hand under contract.

Stratford-Opunake.—This is intended to be a line of communication between these places as direct as possible. It lies mostly through bush, and the country has been found to be not unfavourable for road-making. The bush has been underscrubbed 2 chains wide, with a track cleared in the centre 16 feet wide, for a distance of $3\frac{1}{2}$ miles from Stratford; beyond this only the 16 feet will be cleared at present, so as to secure a through communication as early as possible. The survey line is cut for 8 miles from the Stratford end, and it is intended to begin with the survey and work at the Opunake end almost immediately.

Stony River-Opunake.—That portion of the old road from Stony River to where the new road leaves it—about 2 miles—has been put in a thoroughly good state of repair, including 54 chains of gravelling. The new road has been formed about 2 miles, and another mile will shortly be ready for dray traffic. The country is generally suitable for road-making, with abundance of good gravel, as well as stone. At the Opunake end about 2 miles of 20-foot track has been formed north of Umuroa, the point to which the road was formerly made from Opunake. The gap between this and the Stony River end is about 12 miles, which, with ordinarily good weather, may be opened in about two months' time.

Enclosure in Appendix D.

ANNUAL REPORT ON PUBLIC BUILDINGS AND WORKS, NORTH ISLAND,

FOR THE NINE MONTHS ENDING 31ST MARCH, 1880.

SIR,—

I have the honor to report, for your information, upon the various buildings designed, added to, or altered; together with contracts let, in progress, or completed from 1st July, 1879, to 31st March, 1880, in connection with the Architect's Branch of the Public Works Service.

Designs have been prepared for the following works—namely, police buildings at Wellington (brick, including Police Court), Wanganui, Carlyle, Stratford, Inglewood, Waitotara, Waitara, Manutahi, Normanby, Halcombe, Turakina, Hawera, Otaki, New Plymouth, Tolago Bay, Awanui, Ohinemutu, Opotiki, Whakatane, Maketu, Hamilton East, Tauranga, Katikati, and Warkworth. For post offices at Dargaville and Te Koporu; whilst plans have been prepared for additions to offices at Kawakawa, Lower Hutt, and Wanganui. For two drillsheds at Wellington—one 50 ft. by 100 ft., for the Armed Constabulary, at Mount Cook, and the other 100 ft. by 100 ft., for Volunteers, on the Reclaimed Land. For extensive alterations and additions to the lunatic asylum and H.M. gaol, Wellington. The former consisting of a new west wing for females, and alterations to old building for both sexes. The latter consisting of brick additions providing cells, stores, infirmary, offices, &c. The above list comprises the principal buildings for which drawings and specifications have been made.

Contracts have been completed either for new buildings or additions to accommodate various departments at the following places, viz.: New Courthouses at Feilding, Papakura, Alexandra, Te Awamutu, and Ohinemutu; also alterations at Turakina and New Plymouth. New post offices and telegraph stations have been completed at Newton (Auckland), Ohaupo, Raleigh, Carlyle, Port Albert, Woodville, and Pahi; and additions at Foxton, Hawera, Masterton, Waipukurau, and Waipawa. Contracts for new police buildings have been completed at Port Albert, Marton, Palmerston, Hastings, Greytown, Napier, Port Ahuriri, Woodville, and Wanganui; and at Featherston immigration cottages have been converted into police station.

Miscellaneous.—A new drillshed and a new barrack-room for Armed Constabulary, Wellington, have been completed; a store shed at Wellington, and cable-house at Wanganui for Telegraph department; residence for railway manager at Petone; sheep-dip and quarantine stations at Auckland and Wellington; painting departmental offices, ministerial residences, Museum, Government House, Provincial Buildings, and Government Printing Office, Wellington.

Contracts in Progress.—The most important contract in hand is that for the new Supreme Court, Wellington. The contractor is making good progress with the work, and he bids fair to complete the building in contract time. When finished, it will, I believe, not only be an ornament to the city, but will also provide ample accommodation for many years to come. The work is being carried out in the most substantial manner, whilst every care has been taken in its design and construction to provide a

pleasing exterior combined with the best internal arrangements for securing light, ventilation, good acoustics, and convenience. A contract has been let at Auckland for the conversion of the old Wesleyan Chapel, High Street, into a Resident Magistrate's Court and offices. This work has been intrusted to a private architect. Sixteen contracts are in progress for the erection of police buildings—namely, at Carlyle, Inglewood, Waitotara, Waitara, Manutahi, Normanby, Tolago Bay, Awanui, Hamilton, Ohinemutu, Opotiki, Whakatane, Maketu, Tauranga, Katikati, and Warkworth.

A contract has been let for additions to Her Majesty's Gaol, Wellington. The work is being pushed on, and the time for completion is fixed on the 25th August, 1880.

Two contracts have been taken for works at the Lunatic Asylum, Wellington; both are in a forward state, and when completed greatly increased accommodation will be provided.

The new west wing to the Whau Lunatic Asylum, Auckland, is being done under the supervision of a private architect, and is progressing satisfactorily.

Two contracts are in progress for additions to post and telegraph offices; one at the Lower Hutt and the other at Wanganui; both are nearly completed.

A new drill-shed for Volunteer purposes is in course of erection on the reclaimed land, Wellington, and is to be completed in May, 1880.

Besides the above, many small works have been undertaken, such as repairs, minor alterations, additions, &c.

The total expenditure in the Architect's Branch, North Island, during the nine months has been:—

	£	s.	d.
Judicial	12,818	8	7
Postal and Telegraph	4,317	19	4
Offices for Public Departments	2,655	10	4
Lunatic Asylums... ..	13,021	11	5
Miscellaneous	22,773	7	11
	<u>£55,586</u>	<u>17</u>	<u>7</u>

I have, &c.,

P. F. M. BURROWS,

Architect.

The Engineer in Charge, North Island, Wellington.

Sketch Map OF THE KAIPARA - WAIKATO WHANGAREI-KAMO AND KAWA KAWA RAILWAYS

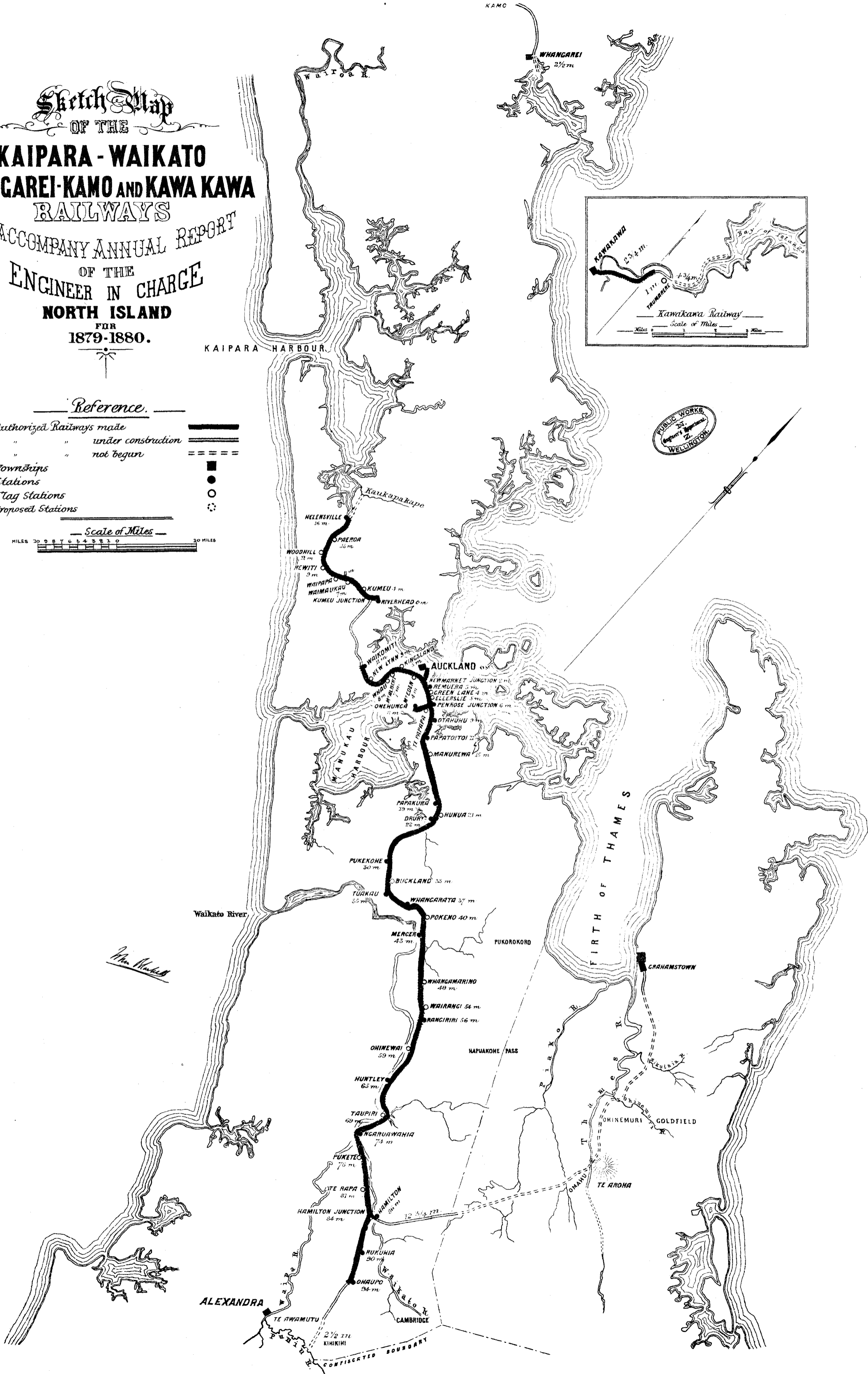
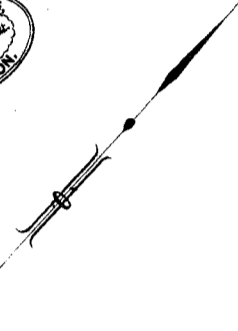
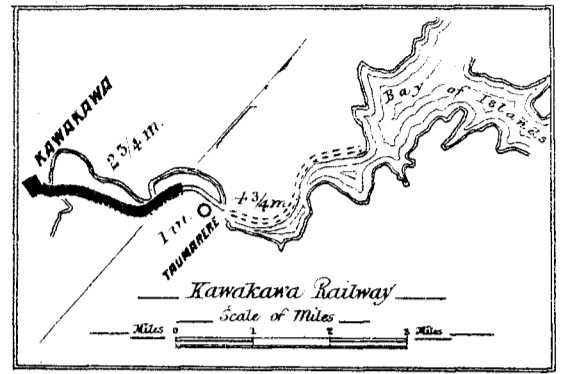
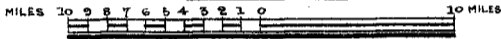
TO ACCOMPANY ANNUAL REPORT
OF THE
ENGINEER IN CHARGE
NORTH ISLAND
FOR
1879-1880.



Reference.

- Authorized Railways made
- " " under construction
- " " not begun
- Townships
- Stations
- Flag Stations
- Proposed Stations

Scale of Miles



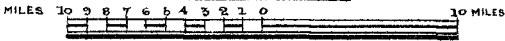
John White



Sketch Map
OF THE
NAPIER - WOODVILLE
RAILWAY

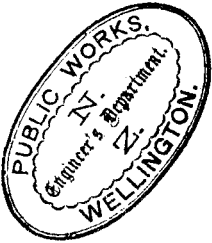
TO ACCOMPANY ANNUAL REPORT
 OF THE
ENGINEER IN CHARGE
NORTH ISLAND
 FOR
1879-1880.

Scale of Miles

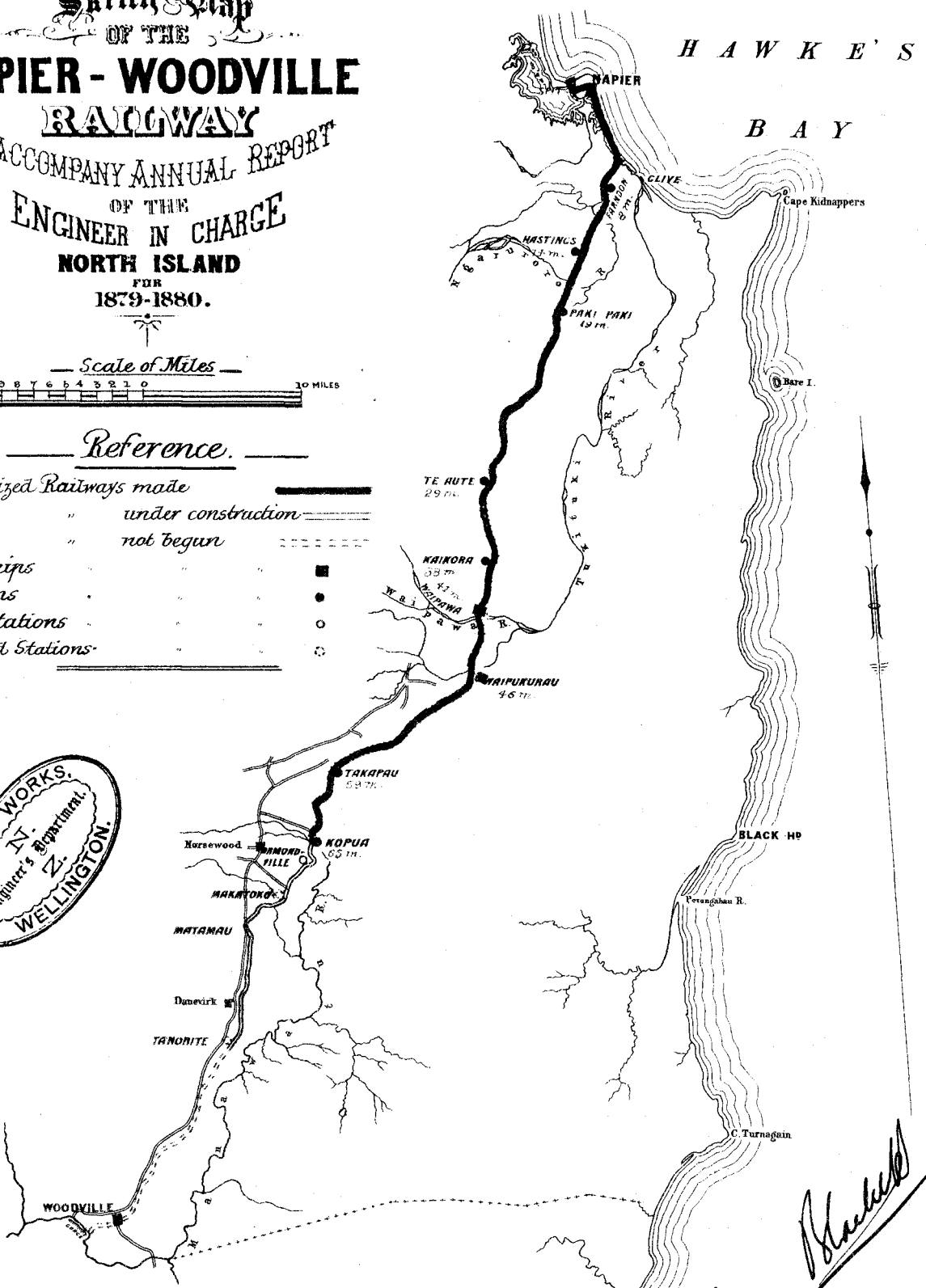


Reference.

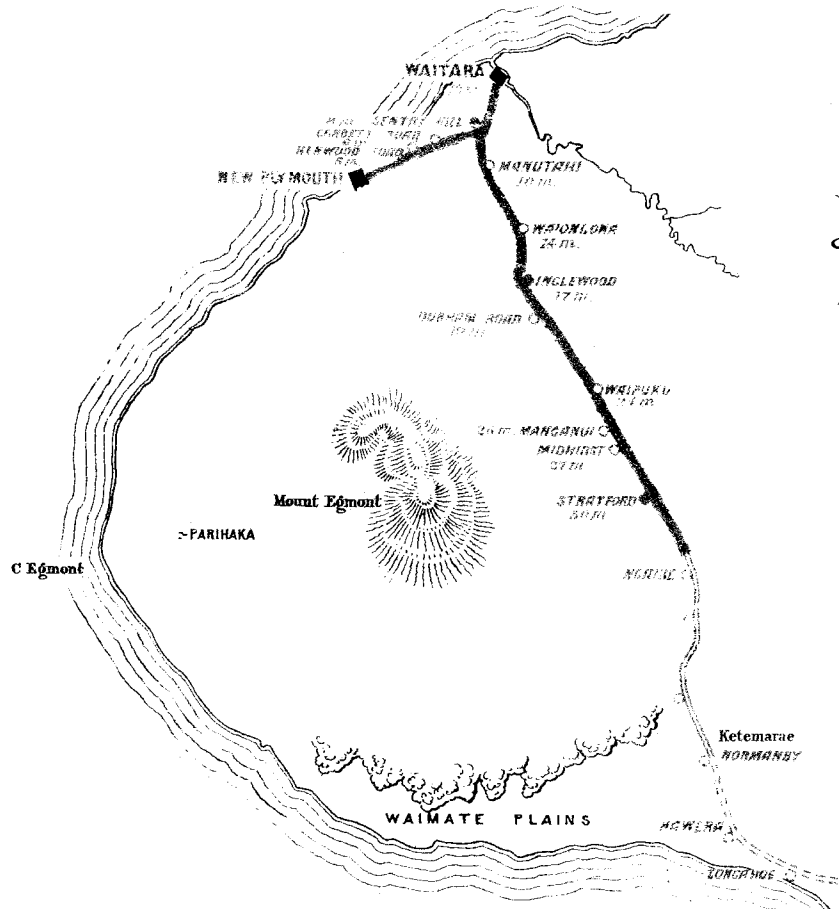
- Authorized Railways made
- " " under construction
- " " not begun
- Townships
- Stations
- Flag Stations
- Proposed Stations



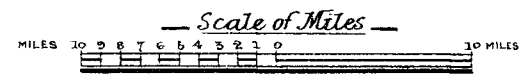
HAWKES BAY



Wm. Blackwell



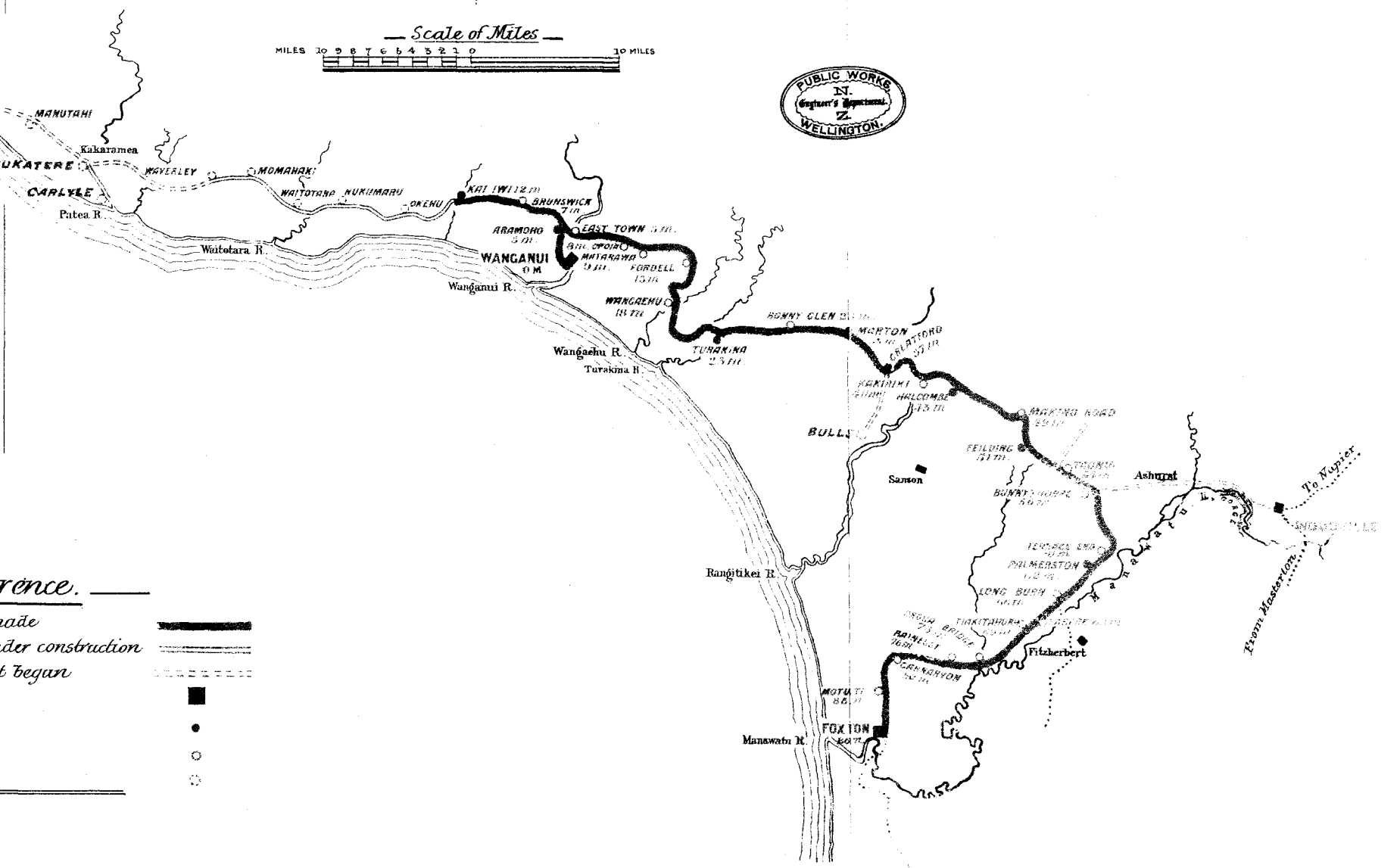
Sketch Map
 OF THE
FOXTON-NEW PLYMOUTH
RAILWAY
 TO ACCOMPANY ANNUAL REPORT
 OF THE
ENGINEER IN CHARGE
NORTH ISLAND
 FOR
1879-1880.



Wm. Blackall

Reference.

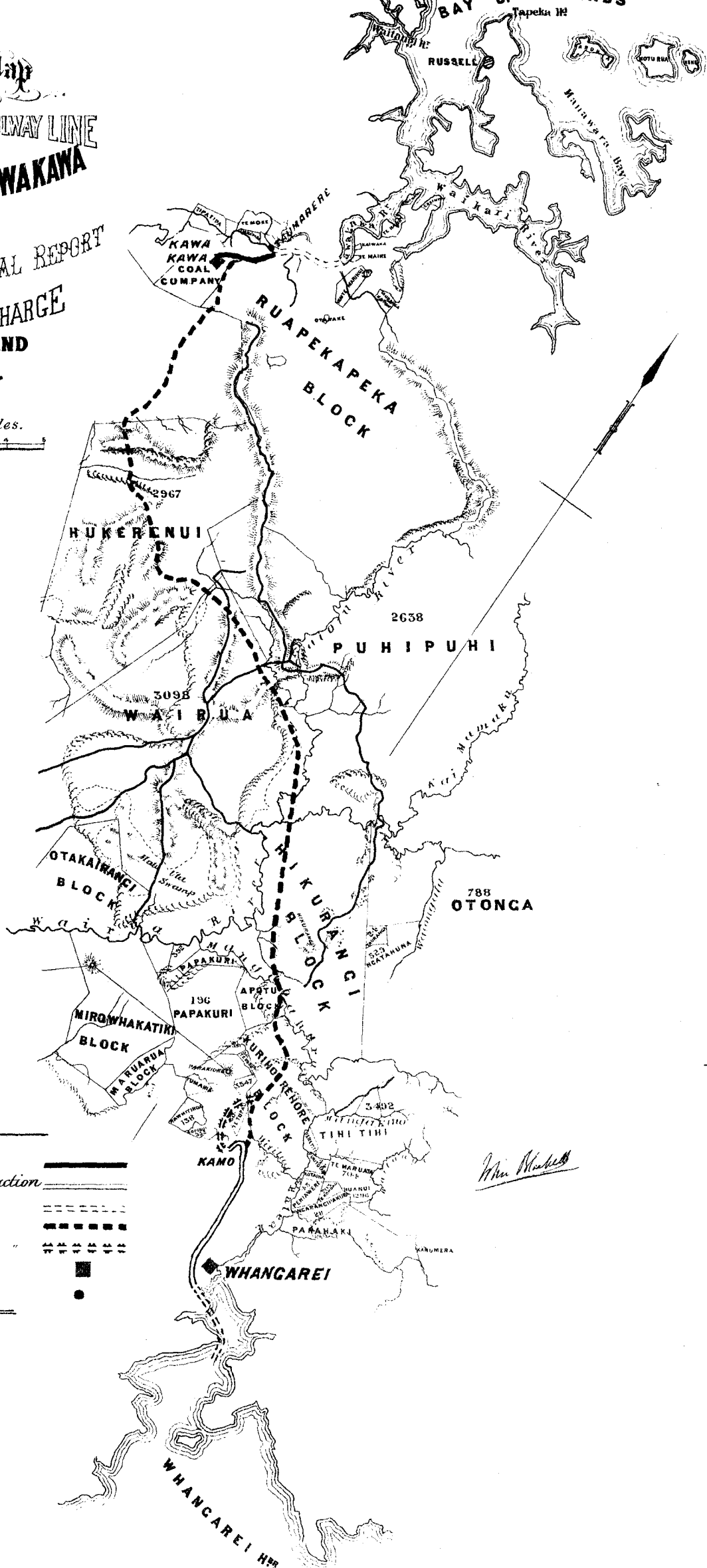
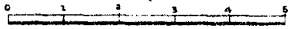
Authorized Railways made	
" " under construction	
" " not begun	
Townships	
Stations	
Flag Stations	
Proposed Stations	



Sketch Map
OF THE
EXPLORATION FOR A RAILWAY LINE
FROM
WHANGAREI TO KAWAKAWA

TO ACCOMPANY ANNUAL REPORT
OF THE
ENGINEER IN CHARGE
NORTH ISLAND
FOR
1879-1880.

Scale of Miles.



Reference.

- Authorized Railways made
- " " under construction
- " " not begun
- Line explored
- Alternative Line " " " "
- Townships
- Stations

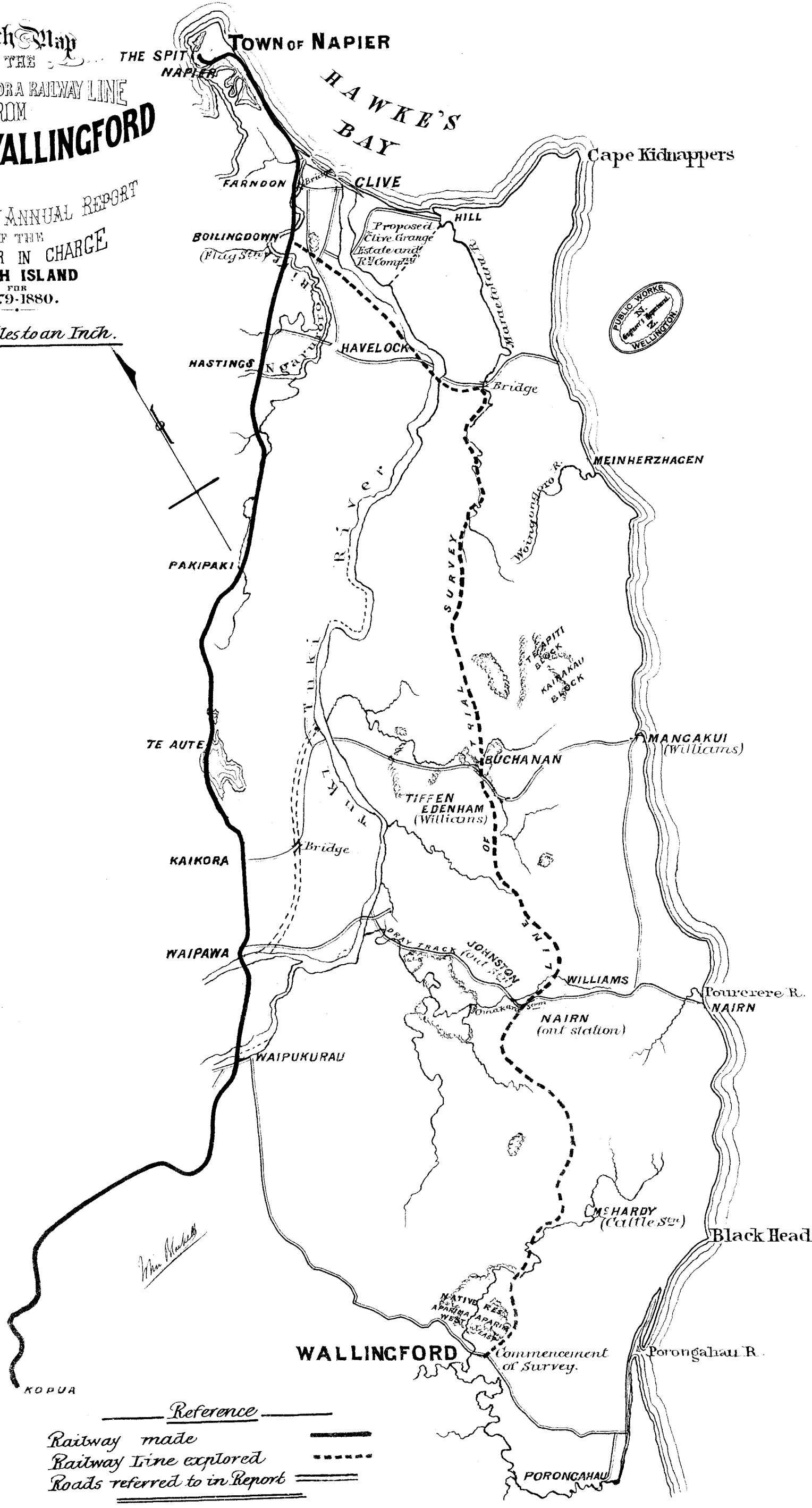
Wm. Marshall



Sketch Map
 OF THE
EXPLORATION FOR A RAILWAY LINE
 FROM
NAPIER TO WALLINGFORD

TO ACCOMPANY ANNUAL REPORT
 OF THE
ENGINEER IN CHARGE
 FOR
NORTH ISLAND
 FOR
 1879-1880.

Scale, 4 Miles to an Inch.



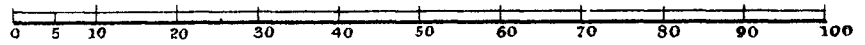
Map of the NORTH ISLAND NEW ZEALAND

PUBLIC WORKS DEPARTMENT
1880.

John Blackett, M. Inst. C. E.
Engineer in Charge

DRAWN BY A. KOCH.

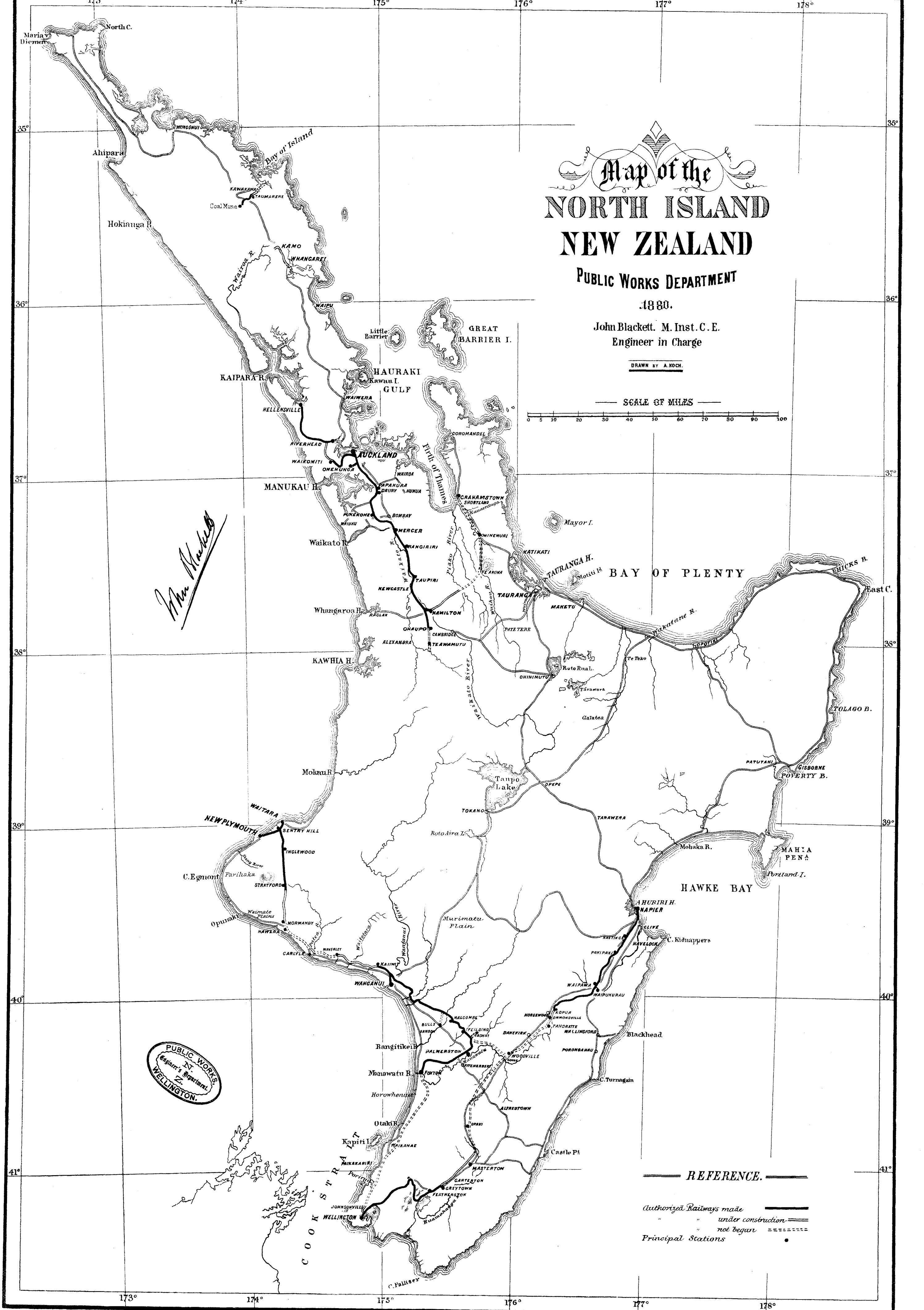
SCALE OF MILES



John Blackett

PUBLIC WORKS
DEPARTMENT
ENGINEER'S OFFICE
WELLINGTON.

REFERENCE.
Authorized Railways made
" under construction
" not begun
Principal Stations



APPENDIX E.

ANNUAL REPORT ON THE PUBLIC WORKS OF THE MIDDLE ISLAND.

The ENGINEER in CHARGE, Middle Island, to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Public Works Office, Dunedin, 31st March, 1880.

I have the honor to submit the following report on the various works completed and in progress in the Middle Island during the past financial year:—

In order to facilitate reference I will adhere generally to the arrangement of the subject and mode of giving information adopted in former reports; the headings being as follow: 1st. Railways; 2nd. Roads and Bridges; 3rd. Water-races; 4th. Miscellaneous Works; 5th. Buildings; 6th. Surveys of Unauthorized Lines; 7th. General Remarks.

RAILWAYS.

GENERAL.

In my last annual report I referred to the desirability of having a general report prepared, giving a full description of the railways in the Island, and my intention to have it done. In consequence of the shortness of the recess, and a press of other work, the report has not yet been prepared; but the information required for it is being collected as opportunity offers. A general report of this kind, giving particulars of cost and other statistics up to a certain date, and accompanied by explanatory maps and drawings, would, I have no doubt, be of considerable service to the department and the Government, as a ready means of reference when information is required.

The following statement shows the expenditure and liabilities on railways in the Middle Island up to the 31st March, 1880, including surveys and the valuation of the provincial lines:—

	£	s.	d.
Total expenditure out of loan	5,309,462	7	11
Valuation of Provincial lines	1,104,281	2	5
Total expenditure up to 31st March, 1880	6,413,743	10	4
Liabilities on 30th March, 1880	487,846	7	0
Total expenditure and liabilities... ..	£6,901,589	17	4

The details of the above, together with the lengths of railways authorized and open, are given in the following table, the lines taken over from the Provincial Governments of Canterbury and Otago, and the expenditure on preliminary surveys, being included:—

Name of Railway.	Total Length on which Expenditure Authorized.	Open for Traffic.	Expenditure to 31st March, 1880.		Liabilities on 31st March, 1880.	
	M. chs.	M. chs.	£	s. d.	£	s. d.
AUTHORIZED BY "THE IMMIGRATION AND PUBLIC WORKS APPROPRIATION ACT, 1879:—"						
Nelson to Greymouth	70 0	26 60	346,461	4 2	28,800	12 6
Greymouth to Hokitika	24 0	...	14,596	3 3	4,675	4 1
Westport to Ngakawau	19 19	19 19	209,410	10 5	4,911	3 5
Pictou to Hurunui	31 32	17 10	172,843	15 11	5,507	8 3
Hurunui to Waitaki	406 0	316 45	1,723,399	0 7	90,242	11 0
Canterbury Interior Main Line	41 0	...	6,064	14 9	5,824	9 8
Waitaki to Bluff	398 53	321 31	2,409,533	6 3	255,753	3 8
Otago Central	65 0	...	51,684	8 11	36,353	0 9
Invercargill to Kingston	107 16	87 26	241,509	2 3	7,157	11 7
Western Railways	64 0	29 0	92,871	17 7	47,386	8 11
Preliminary Surveys ... ..	...	...	41,088	3 10	1,234	13 2
Total	1,226 40	817 31	5,309,462	7 11	487,846	7 0
PROVINCIAL GOVERNMENT LINES:—						
Canterbury (lengths included above) ... ..	...	...	731,759	0 0	...	...
Otago " " ... ..	...	...	372,522	2 5	...	...
GENERAL TOTALS	1,226 40	817 31	6,413,743	10 4	487,846	7 0

The following statement shows the rate at which the several railways in the Middle Island have been completed during each financial year, further details being given in the table hereto appended (Enclosure No. 1):—

LENGTHS of RAILWAY OPENED in MIDDLE ISLAND during Financial Year.

Up to 30th June, 1872.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	Total.
M. chs. 76 30	M. chs. 27 77	M. chs. 11 30	M. chs. 127 60	M. chs. 247 71	M. chs. 153 69	M. chs. 94 66	M. chs. 58 57	M. chs. 18 51	M. chs. 817 31

The schedule of contracts entered into during the financial year shows that only one new section of railway has been commenced since the last session of Parliament, viz., the Waicōla section of the Otautau to Nightcaps line. Surveys and contracts have, however, been prepared for nearly all the sections contemplated under the Appropriation Act.

NELSON TO GREYMOUTH RAILWAY.

Section, Port of Nelson to Roundell.—The length of this section, as authorized, is 52 miles. Of this length, 19 miles, between the City of Nelson and the Township of Foxhill, has been opened since 1876; and the connection between Nelson and the Port—a distance of about a mile—is expected to be completed early in May. The Bellgrove Contract, 3 miles long, an extension inland of the present line, is fast approaching completion. Another subsection, the Wai-iti Contract, 6 miles long, was prepared, and advertised for tenders, but the acceptance of a tender has been postponed. Surveys of the remainder of the section to Roundell are in progress.

The works on the Port line consist chiefly of filling in the foreshore of the harbour, building a sea-wall, and laying the line, together with water-supply and other minor works at the wharf. The contracts have been fairly carried out, and the sea-wall—the most important work—is standing well.

The Bellgrove Contract is for formation and bridges only. The Wai-iti Bridge, which is the principal structure, has six spans of 40 feet and two of 11 feet. It has been carried out in a very satisfactory manner. Provision must shortly be made for laying the permanent way and finishing the stations on the Bellgrove extension. The necessary sleepers are now being provided by contract.

The Wai-iti Contract, lately advertised, was also for formation and bridges only. Considering the nature of the country the works are comparatively light: they consist principally of earthworks. There are four heavy cuttings from 6 to 10 chains long and 20 to 50 feet greatest depth, and six embankments from 4 to 9 chains long and 30 to 80 feet extreme height. The remainder of the subsection is, however, remarkably easy, and the tenders received were very satisfactory.

As you are aware, there has been a considerable agitation with reference to the route the railway should take between Foxhill and the Buller Valley: it is therefore advisable to refer to the subject somewhat in detail. Five or six different lines and combinations of lines have been examined and surveyed with more or less minuteness, according as they appeared feasible. There are, however, only two between which there is anything like competition: these are the Hope or Rochfort's line, originally surveyed in 1874, and the Blue Glen line, now adopted.

The Hope line went directly through the Spooner Range to the Motueka Valley, thence up the Motupiko Valley and Clark's Creek to the Hope Saddle, and down the Hope River to the Buller Valley.

The Blue Glen line follows the Wai-iti Valley to the head, then crosses by Ray's Saddle into the Motueka Watershed, the main stream being crossed immediately above the confluence of the Blue Glen Creek. The Blue Glen is then followed to near its head in the Big Bush, where the range between it and the Motupiko is pierced by a long tunnel. From this point the line runs up the Motupiko to Roundell, and down the Black Valley to the Buller.

The following is a comparative statement of the leading features of the two lines, as determined by the trial surveys:—

Particulars.	Hope Route.	Blue Glen Route.
Length from Foxhill to Hope Junction ...	32 miles.	42 miles.
Ruling gradient	1 in 33.	1 in 50.
Length of tunnelling	77 chains in two tunnels.	84 chains, four tunnels; longest 54 chains, and shortest 5 chains.
Accommodation afforded	Accommodates the Motueka Valley and its tributaries better than the Blue Glen route, but leaves out the traffic of the Upper Wairau.	Accommodates the Upper Wairau Valley better than the Hope route, but leaves out the Motueka Valley.

The length of the 1 in 33 gradient on the Hope route is comparatively small, so it might be reduced to 1 in 35; but it is impossible to go beyond this at anything like a reasonable expenditure, there being long inclines at the latter rate. It is therefore quite obvious that there can be no comparison between the two lines in the most important feature of gradients.

The trial survey of the Blue Glen route was on $5\frac{1}{2}$ -chain curves, but the permanent line is being set out with minimum curves of $7\frac{1}{2}$ chains, the limit on the main line in Canterbury and Otago. This reduces the length by about $1\frac{1}{4}$ miles, but increases the length of tunnelling by about half a mile. The main tunnel is not, however, increased; on the contrary, it is shortened by about 11 chains. Subject to slight alterations that may yet be made, the lengths of the tunnels on the Foxhill to Roundell line are as follow:—

	Length.
Spur No. 1	13 chains.
" 2	5 "
" 3	9 "
" 4	4 "
Ray's Saddle	10 "
Postman's Saddle	(about) 21 "
Gordons	(about) 14 "
Spur No. 5	5 "
Blue Glen	43 "
Total	124 "

So far as distance is concerned, the Hope line has the advantage by about 9 miles, and probably the cost will be somewhat less; but our information is not sufficiently detailed to enable anything like a correct comparison to be made in the latter particular. In any case the difference is too small to be regarded in an undertaking of such magnitude; and, if the relative carrying capacity of each line is taken into consideration, the balance is immensely in favour of the Blue Glen line.

With reference to the accommodation afforded to the district traversed, I think there is little to choose from between the two lines. What is gained on the one is lost on the other, and the character of the country is much the same in both cases.

It is thus shown that, while there is little difference between the lines in minor points, the most important consideration—easy gradients—is greatly in favour of the Blue Glen one. For this reason the balance of advantages would still be on the same side, even if the line were much longer, more expensive, and farther away from the good country. Under those circumstances there was no difficulty in arriving at the conclusion that the Blue Glen line was infinitely the better of the two, and it was accordingly adopted.

Having compared the two lines that came more directly into competition, it is necessary to refer generally to the others that have been proposed and examined.

The first went through the Spooner Range by Rochfort's line, but with 1 in 50 gradients; then followed up the Motupiko to a junction with the Blue Glen line in the Big Bush; its object being to accommodate the Motueka Valley settlers, without necessitating the heavy gradients of the Hope Saddle. These advantages are not, however, commensurate with the extra length of line and heavy outlay involved. The line would be 9 miles longer than the Blue Glen one, and would possibly cost nearly a quarter of a million more—the tunnel through the Spooner Range being $2\frac{1}{2}$ miles long—nearly a mile longer than the Lyttelton tunnel, the longest in New Zealand.

Another line was proposed through the Spooner Range by way of Pretty Bridge Creek and Brown's Gully. It was strongly advocated and pressed on the attention of the Government by the Motueka Valley settlers. From an inspection of the ground I felt sure that it was impracticable, but to put the matter beyond doubt I had some levels taken. These showed that with 1 in 50 gradients it would be necessary to have a tunnel $2\frac{1}{2}$ miles long through the main range, and one of nearly half a mile through a subsidiary spur. The latter might be avoided by running up the Motueka Valley about a mile, and doubling back to the confluence of the Motupiko, but this would be worse than the second tunnel. Even with gradients of 1 in 35, as on Rochfort's line, it would require $1\frac{1}{4}$ miles of tunnelling at the Spooner Range. Altogether, the Pretty Bridge route is the least feasible of the many that have been proposed.

In addition to those above described, several other routes through the Spooner Range have been examined, but none of them bear comparison with the adopted one by Blue Glen. Unless we commence far back on the present line, and go round the coast, there is no way of getting into the Lower Motueka Valley without heavy tunnelling. This is because the lines come square at the range where there are no lateral spurs or rising ground suitable for running a gradient on. In the case of the Blue Glen route the range is parallel with the general direction of the line; consequently the whole length is available for running up a gradient: the proof being that, while the shortest tunnel, with 1 in 50 gradients, on any of the other lines is 200 chains, the Spooner Range is pierced on the Blue Glen route by one of 10 chains.

Considering the exceptional roughness of the country through which it passes, and the height to be attained, the line from Foxhill to Roundell is particularly good, and comparatively inexpensive. With the exception of the tunnelling and heavy earthworks already referred to, there are no works of magnitude, the bridging being exceptionally light.

The setting out of the railway-line between Foxhill and Roundell has been one of the most difficult works of its kind in this Island, and the local engineers deserve great credit for the satisfactory results arrived at.

Section, Greymouth to Nelson Creek.—The length of this section, as authorized, is 18 miles; $7\frac{3}{4}$ miles of which comprise the original Brunner Railway, and about three-quarters of a mile the Stillwater Contract, commenced in August last, the balance of $9\frac{1}{2}$ miles being under survey. In consequence of the line having to follow the precipitous banks of the Grey, the works on the Stillwater subsection are very difficult: they include a short tunnel and a considerable amount of heavy earthwork: the contract price for 63 chains being £12,534 for formation only. Fortunately the extension of the line towards Nelson Creek is on much more favourable ground.

During the past year trial surveys have been made of this extension, and a subsection of 3 miles has been permanently set out, the contract and drawings being well advanced.

Greymouth Harbour Works.—The work done on the Greymouth Harbour Works during the past year consists chiefly of the extension of the main training wall on the south side of the river for a distance of 730 feet, together with reclamation between it and the shore. These works have involved the placing of about 12,500 tons of rock, 8,800 tons of quarry rubbish, and 120,000 tons of shingle dredged from the river-bed. The average cost per ton has been 3s. 2d. for rock and 11d. for shingle. This system of backing-up the training wall with dredgings taken from the river is working satisfactorily: it serves the double purpose of providing materials for filling at a moderate price, while keeping clear the channel and wharves for shipping. The small dredge "Hapuka" continues to work well, but she is not, alone, sufficient for all the requirements of the place, so another is being built in Dunedin. The new dredge will be about double the capacity of the present one. The two dredges will be fully employed if the works are pushed on at anything like a fair rate of speed.

Greater progress might have been made with the Greymouth Harbour Works during the past year were it not that Sir John Coode had indicated a point beyond which it was not desirable to go with the sea-wall till he had considered the whole scheme, and this point was reached early in the year. His report was received in the colony early this month, and work on the sea-wall was resumed immediately on its receipt.

Working surveys and plans have been prepared for a new station and coal-shipping appliances

at Greymouth. If the improvement of the harbour is to proceed at anything like a moderate rate, it will be necessary to put these latter works in hand at an early date.

In connection with this subject, I submit for general information the following table showing the depths of water on the Grey Bar at each high water of spring and neap tides every month, from June, 1879, to March, 1880, inclusive:—

Month.	Spring Tides.	Neap Tides.
1879.		
June	12 and 11 feet	11 feet.
July	10 and 7 feet	...
August	9 and 10 feet	8 and 6 feet.
September	9, 10, and 11 feet	8 and 10 feet.
October	10 and 10 feet	10 and 11 feet.
November	10 and 11 feet	10 and 7 feet.
December	11 and 12 feet	11 and 11 feet.
1880.		
January	13 and 10 feet	8 and 10 feet.
February	10 and 10 feet	9 and 7 feet.
March	12 and 11 feet	9 and 9 feet.

PICTON TO HURUNUI RAILWAY.

Section, Picton to Awatere.—Including the 18½ miles of the original Picton and Blenheim Railway, this section, as now authorized, is 31½ miles long.

The only portion in progress during the year is the last mile and a quarter leading into the Town of Blenheim. The making of the line is fast approaching completion, and a tender for the station buildings has just been accepted. The principal work on this sub-section is the bridge over the Opawa, which has one span of 80 feet, two of 60 feet, twelve of 30 feet, and two of 11 feet. The works are being carried out in a satisfactory manner.

The land surveys for the Blenheim Section are completed, and the working survey of the extension of the railway from Blenheim to the Awatere River is in progress. The line selected is that by the Dashwood Pass.

WESTPORT TO NGAKAWAU RAILWAY.

There have been no construction works worth mentioning on this line during the past year, but the survey for land purposes has been in progress.

The Buller Relief Channel, cut last year, promises to be a success. Its original bottom width was only 6 feet, but it has been increased by successive floods to an average of about 130 feet.

As done in the case of the Grey, I submit for general information the following table showing the depth of water on the Buller Bar at each high water of spring and neap tides every month, from June, 1879, to March, 1880, inclusive:—

Month.	Spring Tides.	Neap Tides.
1879.		
June	14½ and 14 feet	12 and 12¼ feet.
July	13½ and 12½ feet	11½ and 10¾ feet.
August	12 and 13½ feet	11 and 11½ feet.
September	13 and 12 feet	11 and 11¼ feet.
October	12½, 13¾, and 13 feet	10 and 11¼ feet.
November	13½ and 12 feet	10¼ and 10¾ feet.
December	12½ and 11½ feet	11½ and 11¼ feet.
1880.		
January	12¼ and 12¼ feet	10¼ and 9¾ feet.
February	12¾ and 12½ feet	11¼ and 10 feet.
March	14¼ and 13½ feet	11¼ and 10 feet.

HOKITIKA TO GREYMOUTH RAILWAY.

At the beginning of last year four sections of this railway were in progress. Three of them were regular contracts, and the fourth was piece-work.

The Hampden Street Contract, which was merely for filling-in a waterhole on the line within the Town of Hokitika, was finished in December.

The Hokitika Contract, for 3 miles of formation at the Hokitika end, was finished in February.

The Greymouth Contract and Paroa (piece-work section) are approaching completion. They comprise 6¾ miles of formation and 2 miles of permanent way, the latter being required in connection with the Greymouth Harbour Works.

The works on the sections of the Greymouth to Hokitika that have been commenced are very light, and require no special comment. No new works were begun during the year, neither have there been fresh surveys in progress.

HURUNUI-WAITAKI RAILWAY WITH BRANCHES.

Main Line.—The new sections that have been in progress during the year are the Waipara Contract, 7 miles, extending from Amberley to the Waipara River; and the Weka Pass Section, 9

miles long, a continuation of the line through the Weka Pass to the Waikari: the latter was reserved from contract so as to provide work for the "unemployed" of Christchurch.

The Waipara Contract, which includes formation, platelaying, and station buildings, is expected to be finished in June. The principal works are a large cutting through the shingle terrace on the south side of the Waipara and the Waipara Bridge. The cutting is about 40 chains long, with an extreme depth of 37 feet, and the bridge has thirty-one spans of 40 feet and six spans of 11 feet each. The works are being carried out in a satisfactory manner.

The Weka Pass Section was opened out in June last, and has since been carried on at varying rates of speed according as the men came, except for about two months at harvest time, when the works were closed altogether. The Weka Pass Section is the heaviest on the main line in Canterbury. It is necessary to rise 580 feet in $7\frac{1}{2}$ miles, in order to get from the Waipara to the Waikari and Hurunui Plains, and the intervening country is very rough. The ruling gradient on the incline is 1 in 50, but there is only $1\frac{1}{2}$ miles at this rate, the remainder being 1 in 55 and downwards. The sharpest curves are $7\frac{1}{2}$ chains radius, but the number of these is very small, and there are no reverse curves. The sharpest curves do not occur on the steepest gradients, and the steep gradients are in favour of the heavy grain traffic which may be expected from the upper plains; consequently the line on the whole is a good one.

The works in the Weka Pass consist chiefly of heavy cuttings, generally in soft limestone rock. The summit cutting is about 30 chains long, with an extreme depth of 36 feet, and there are four others from 10 to 20 chains long, and 30 to 40 feet deep.

The amount expended on the Weka Pass Section during the year is in round numbers £15,000. The average cost of the work has been, for labour only: earthwork, 9 $\frac{1}{2}$ d. per cubic yard; loose rock, 1s. 7d.; and solid rock, 2s. 10d. Except in the case of small works that cannot be measured the men are all employed by the piece. At first the prices were fixed at rates calculated to enable an ordinary workman to earn 9d. an hour, but they have lately been reduced, so that married men can only earn 28s. a week, and single men 21s. There have not been so many men coming to the work since the pay was reduced. At present there are only about 100 on the Weka Pass Section. The land plans on the Waipara Contract are all finished, and the survey for those on the Weka Pass Section is in progress and well advanced; the whole is expected to be complete in about three months.

The principal works that have been in progress on the open portion of the main line during the past year are workshops at Addington, protective works at Timaru, and minor additions to stations.

The principal buildings now completed at Addington consist of wood-working shop with engine and boiler house, carriage and wagon erecting shop, smiths' shop, and machine shop, with engine and boiler-house; an engine-house for the smiths' shop is in course of erection, and tenders are being called for the locomotive erecting shop.

The protective works at Timaru were in consequence of an encroachment of the sea on the line in Caroline Bay. A special report on this subject has been submitted to you by the Marine Engineer.

All the works on the open line above referred to as finished were carried out by the Working Railways Department, but all the new works of a similar kind are now under the direct control of this department. With the view of its being entirely remodelled and extended, instructions have been given for a complete survey and plan of the Timaru station.

Springfield Branch.—The contract for the Malvern Branch Extension to Springfield commenced in April, 1879, and described in my last annual report, was finished and opened to Springfield in January, and to the coal-mine in February. With the exception of being considerably behind time, the works were completed in a satisfactory manner.

Little River-Akaroa Branch.—The Ellesmere Contract, on the Little River and Akaroa Branch, let in June, 1879, is just finished. The length of the section is 17 miles, and the contract was for formation and bridges only. The line is particularly good, being practically level and straight. The works are very light, the earthwork being chiefly embankments along the low ground in the vicinity of Lake Ellesmere, from 2 to 4 feet high. The bridges, which are ten in number, have in all two spans of 40 feet, three of 20 feet, nine of 13 feet, and twenty of 11 feet.

Tenders are now advertised for the platelaying of the Ellesmere Section. The remainder of the line to Little River, 8 miles, is being prepared for contract. This subsection will also be practically level, but the line will be somewhat tortuous where it skirts the margin of Lake Forsyth. The land plans for the Ellesmere Section are completed.

A preliminary survey of the portion of this line between Little River and Akaroa was made for the department by Mr. Hardy Johnston, who had been previously engaged on the same work by the Ellesmere Trust. His plans shew the line to be very difficult. With gradients of 1 in 50, and 7 chain curves, the summit tunnel will be 1 mile 25 chains long, and there is a long succession of very heavy cuttings and viaducts leading to it on both sides. There is also another tunnel of 43 chains through a spur between German Bay and Akaroa. The length of the line from Caton's Valley, Little River, to the Town of Akaroa, is 23 miles. Mr. Johnston's estimate, exclusive of land, stations, and rolling-stock, is £316,000. I do not consider this too high; on the contrary, I think that the line will cost probably more than the amount stated, there being so much uncertainty and risk in the long tunnels and other heavy works necessary.

Ashburton Branch.—The Ashburton Contract for the first $10\frac{1}{2}$ miles of the Ashburton Branch, let in April, 1879, is fast approaching completion, and the line will be open in the course of a few weeks.

The works on the Ashburton branch are particularly light, being chiefly formation, and the alignment and gradients are first class.

A contract for the second section, $8\frac{1}{2}$ miles, of the Ashburton Branch is in course of preparation; this will bring it to near the crossing of the Ashburton River. The works on the second section will be as light as those on the first, and the character of the line is the same in both cases. The land plans for the portion under construction are expected to be finished in June.

Opawa Branch.—The total length of this line opened out is the $10\frac{1}{2}$ miles to Fairlie Creek, of

which 1 mile 18 chains comprises the Albury Contract, let in June, 1879; the remainder, known as the Albury Downs Section, being reserved to give work to the "unemployed." The curves on this line are very easy, and the ruling gradient is 1 in 60. The earthworks on about 1 mile through the Albury Downs are very heavy. There are three cuttings of an aggregate length of 25 chains, and an average depth of about 30 feet, with two embankments to correspond, the largest being 30 chains long and 30 feet extreme height. The earthworks on the remaining 9 miles of the section are, however, very light.

The Albury Contract consisted of a bridge of thirty spans of 40 feet and two of 11 feet, with approaches thereto, over the Opawa river. The works, which are just being finished, have been carried out satisfactorily.

The Albury Downs Section was opened out to the "unemployed" in October, 1879, and closed early in February, nothing having been done since. About £8,000 has been expended on the section, almost entirely in earthwork and culverts. The conditions were the same as at Weka Pass, and the average cost to date of the earthwork has been about 8d. per cubic yard for labour.

The Tengawai River, which occurs at the commencement of the Albury Downs Section, will take a bridge about 25 chains long. No provision has yet been made for its erection. The work should, I think, be done by contract in the usual way.

The survey for land plans on the Opawa Branch has been completed to Fairlie Creek. A preliminary survey of the continuation of the line to Burke's Pass and the Mackenzie Country has also been made; it shows that a first-class railway can be made right across the range into the Waitaki watershed at a very moderate cost. The ruling gradients will be about 1 in 50, and the sharpest curve 12 chains radius. The length of the line from Fairlie Creek to the Mackenzie Plains, on the western side of the Pass, will be 19 miles. Of this distance 16½ miles is surface-forming and light earthwork; the remaining 2½ miles are considerably heavier, but there is nothing of a formidable character. There is no tunnel at the summit, but an open cutting 30 chains long and 45 feet extreme depth; it will, however, be necessary to have a tunnel of 7 or 8 chains length through a spur on the eastern side to avoid sharp curves. There are no large rivers, and few streams or watercourses of any kind on the line between Fairlie Creek and Burke's Pass.

CANTERBURY INTERIOR MAIN LINE.

Two contracts only have been in progress on this line during the year—viz., the Eyre and Temuka Bridges, situated respectively near the northern and southern extremities; the former is fast approaching completion, and the latter is quite complete, the work in both cases being well done. The Eyre Bridge has twenty-one spans of 40 feet and two of 11 feet, and the Temuka Bridge twenty-three spans of 40 feet and two of 11 feet.

Working surveys have been made and contracts prepared for portions of the three sections of this line for which appropriation was taken last year, as follows:—

	Miles.
Oxford—Malvern Section, West Oxford Contract	7½
White Cliffs—Rakaia Section, Selwyn Contract	4¾
Temuka—Rangitata Section, Kakahu Contract	5¾

A section at the Waimakariri Gorge was also prepared for the "unemployed," but it has not yet been opened out.

The alignment and gradients on the Canterbury Interior line are good throughout, and the works are remarkably light; with the exception of a few heavy cuttings through the river terraces there is little in the way of earthworks beyond mere surface forming. The contracts that have been prepared are for formation and bridging; but the only bridge of any importance is that over the Selwyn, on the White Cliffs—Rakaia Section, which will have twenty-three spans of 40 feet and two of 11 feet.

WAITAKI-BLUFF RAILWAY, WITH BRANCHES.

Main Line.—The works in progress on the main line during the past year consist chiefly of minor additions to stations, increased station and wharfage accommodation at Port Chalmers, reclamation for new station at Dunedin, and river protective works at Balclutha.

The building for the new passenger station at Port Chalmers was completed in January, and is now occupied by the Working Railways Department in connection with the old platform, the other works not being sufficiently advanced to admit of trains coming to the new platform. The station building is a plain stone structure of moderate size.

In consequence of some little difficulty in getting piles, the work on the steamer wharf was delayed a little at the commencement, but it is now proceeding rapidly. The first instalment, which provides 1,050 feet berthage, is expected to be finished in July, and the whole contract of 1,650 feet will probably be completed about the end of December next. This wharf, which was more fully described in last year's report, is simply a continuation, seawards, of George Street for a distance of 700 feet. It is 66 feet wide, and has an ordinary timber wharf on each side, with solid filling in the middle; there is also a single cross wharf at the inner end connecting it with the Bowen Pier.

A contract for a small piece of reclamation between the steamer wharf and the graving dock is being prepared. This work is urgently required in connection with the new station, as there is not sufficient room for sidings on the ground already reclaimed. It is also proposed to further increase the wharfage accommodation by extending the present wharves to the lengths originally proposed, which will give berthage for five or six more vessels.

The contract for reclaiming a site for the new railway station at Dunedin, which was entered into in June last, has not progressed so rapidly as it ought to have done. The delay is mainly attributable to the objection raised by the Corporation of St. Kilda to the taking of materials for reclamation from the Ocean Beach Sand Hills. The matter is, however, on a fair way towards settlement, so I hope than greater progress will be made with the works during the ensuing year.

The Clutha River has for many years been encroaching on its banks at the upper side of the peninsula on which the township of Balclutha stands, the middle of the river being now about where

its southern bank originally stood. A survey made by this department in 1871 showed that $15\frac{1}{2}$ acres had been carried away since the original land survey in 1847, and in October, 1879, the amount had increased to 52 acres. The great flood which occurred at the beginning of that month, and more particularly the long-continued high state of the river for some time afterwards, made such rapid inroads into the bank that the town and railway-works were in imminent danger of being carried away.

Steps were at once taken to stop the encroachment by temporary works. In consequence of the great depth of water and the strength of the current against the bank, it was difficult to find a ready means of protection, but a simple plan was ultimately decided on, that proved quite successful. A row of large bags filled with shingle was first lowered into the river at the foot of the bank by means of rails and wire rope; next the slope was covered with long fascines put together on the bank, and pushed down inside the wires by poles; then the wires were pulled tight over the fascines and fastened to stakes driven into the ground at some distance back from the bank.

All the temporary works that were necessary to stop the encroachment having been completed, a facing of stone was placed on the slope for a distance of nearly a mile. If durable stone in large blocks had been procurable, a covering of this kind would, in itself, be sufficient for all purposes; but, in the absence of first-class materials, the present facing is only calculated to resist the ordinary wearing away of the banks. Although quite sufficient for this purpose, it may not be able to resist a strong current; it is, therefore, proposed to throw out three or four timber groins to deflect the current from the banks, and induce a deposit against them.

The whole question of the Clutha floods, and the means of averting or ameliorating the damage done by them, has been referred to a Commission composed of Messrs. Bell and Higginson and myself. The investigation is now proceeding, and the report will be submitted to you in time for the meeting of Parliament.

A detailed survey and complete plan of the Oamaru station have been ordered, with the view of its being entirely remodelled. Several sites have been proposed for the new station, but until the plans are completed it is impossible to come to a satisfactory conclusion. Among other schemes that have been suggested is that of keeping the station entirely on the present site, and diverting the railway south of Oamaru so as to go behind Cape Wanbrow, the ridge leading thereto being tunnelled. The object of this deviation would be to have an unbroken line right through, instead of the present back shunt at the Oamaru station, and to avoid the steep gradient running down to the busiest parts of the town on the level of the streets. A detailed survey has been made of this line, and borings taken at the proposed tunnel. Although the difficulties likely to be met with are not insuperable, they are sufficient to prevent the adoption of the scheme. The length of the deviation would be about $3\frac{1}{2}$ miles, and its cost from £45,000 to £60,000, according to the quantity of lining required in the tunnel, which would be 50 chains long. The advantages gained are by no means commensurate with this great outlay, for the gradient is only reduced from 1 in 50 to 1 in 70, and the piece of level line between the foot of the incline and the station would be entirely lost.

Duntroon Branch.—The only construction work in progress on this line during the past year was the bridge over the Maerewhenua, which was all^o but completed at the date of my last annual report. The contract has been carried out in a satisfactory manner.

Ngapara-Livingstone Branch.—The first portion of this line, called the Windsor Section, was commenced in July, 1879, to give work to the "unemployed" of Oamaru, and was carried on vigorously till January of this year, when the works were stopped altogether, and they have not yet been resumed. The total length opened out is 12 miles.

The curves on this line are good, so is also the ruling gradient, which is 1 in 50; there is, however, a continuous rise of about $5\frac{1}{2}$ miles, mostly at this rate. The works are rather heavy, there being two tunnels 13 and 11 chains long respectively, and about 8 miles of earthwork in cuttings, generally 5 to 15 chains long and 10 to 30 feet deep, with embankments to correspond. There will only be two small bridges on the section now under construction, but the culverts are numerous. The earthworks and culverts are nearly finished, but the tunnels are not yet begun.

The total expenditure to date on the Windsor Section is about £21,500. 230,000 cubic yards of earth-cutting, 26,000 cubic yards of rock-cutting, and 3,600 cubic yards of masonry have been executed. The price paid for the main item, earthwork, has been about 10d. per cubic yard for labour only. The conditions on which the work was done were the same as in Canterbury, viz., the men were employed by the piece at rates calculated to enable them to earn 9d. an hour. About 400 men were employed at one time shortly before the works were stopped.

The survey for the land plans for the Windsor Section are in progress.

Brighton Road Branch, Green Island.—With the exception of the station arrangements, the extension of this line to the Brighton Road was finished at the end of last year. These were duly completed, and the whole line opened for passenger traffic on the 4th September, 1879.

Catlin's River Branch.—A contract for the first portion of this line, known as the Invertiel Section, let in April, 1879, is now all but completed. The length of the section is $2\frac{1}{2}$ miles, and the gradients and curves are much the same as on the main line. The works are moderately light, consisting chiefly of shallow cutting and filling, and about 40 chains of an embankment along the low ground of from 6 to 9 feet high, together with five small bridges.

A contract was prepared and tenders received for the Puerua Section of this branch, $4\frac{1}{2}$ miles being the balance of the length for which an appropriation was made last year. The acceptance of a tender has, however, been postponed. So far as the character of the line and works are concerned, the Puerua Section is much the same as the Invertiel one above described.

Waipahi-Heriot Burn Branch.—Of the 25 miles of this branch $15\frac{1}{2}$ miles only are in progress, viz., the Tapanui Contract, let in July, 1878, under special conditions as to payments. Instead of the usual progress-payments monthly, the contractors were only to be paid on the completion of the works.

For the first twelve months after the contract was let the works progressed with great rapidity, and there was every prospect of their completion before contract time; but the commercial depression

which then took place over the whole colony affected the contractors' financial arrangements so much that they were obliged to proceed more slowly, and in September last the works came to a standstill altogether. Under the provisions of last year's Public Works Act the original contract was modified to enable certain payments to be made, so the works recommenced in January. One of the conditions of the new agreement was the completion of the line to the Pomahaka Bridge by the 21st March. This condition has not been fulfilled, but the contractors are making considerable efforts to complete this portion without delay, so it is expected to be opened at an early date. It will, however, be well on to December before the whole of the contract is finished and the line open to Kelso.

As stated in a previous report, the alignments and gradients of the Waipahi-Kelso line are good, and the works are comparatively light. All the works executed to date have been done in a satisfactory manner.

Detailed surveys of the remainder of this branch to the terminus at Heriot Burn, about 10 miles, have been made during the year. They show the country to be particularly favourable to railway construction, a first-class line being obtainable at little cost. Before the whole of this portion was set out, trial sections were run across the watershed in the Heriot District and down to the Clutha Valley, so that, however little of the line is made, it may become a link in the general system. These sections show that workable lines can be got from the Tapanui Plains to Lawrence and up the Clutha Valley. The country is, however, very rough, and a railway through it would be steep, tortuous, and costly, much the same as the present Lawrence line.

Edendale and Toitois Branch.—The Wyndham Contract, being the first 4 miles, is the only portion of this line on which work has been done. It extends from the main line across the Mataura River to the Township of Wyndham. The contract, which was let in May, 1879, and is fast approaching completion, includes formation and bridges only. The works on $2\frac{1}{2}$ miles are particularly light, being nothing but surface-forming. There is, however, a cutting 20 chains long and 17 feet extreme depth through the terrace on the south side of the river, and an embankment 50 chains long and from 6 to 8 feet high on the river flat. The bridging consists of the Mataura Bridge, of nine spans of 60 feet, two of 13 feet, and two of 11 feet; and three small bridges of the aggregate length of 147 feet.

The curves and gradients on the Wyndham Section are much the same as on the main line, but the greater portion is quite straight.

Nine miles of the continuation of the line from Wyndham towards Toitois have been set out for contract, and a trial survey made of five more; the route adopted being that along the banks of the Mataura River.

As stated in my general report on railway surveys in 1878, there are several routes to choose from in making a line between Wyndham and the Lower Toitois District. The ultimate selection was, however, confined to two, viz., the one just mentioned as following the course of the Mataura, and another which branches off from it at the crossing of the Wyndham River and runs up the valley at Brand's Homestead and the Kuriwao Valley to near Glenham Station; then follows the low undulating ground to near the Pine Bush Hotel and the Waimahaka Creek, where the two rejoin. The former is known as the River route, and the latter as the Inland route.

From the reconnaissance surveys, the balance of advantages appeared to be clearly in favour of the River route; but, out of deference to the wishes of the residents of the district, and in order to put the matter beyond doubt, detailed surveys were made of both. The result fully bears out the first impression, there being a decided difference in favour of the line originally preferred.

The River line is practically level. There is one curve of $7\frac{1}{2}$ chains radius, but the others are all flatter, and the works are very light. The Inland line has about twenty $7\frac{1}{2}$ -chain curves, with gradients of 1 in 46, and very expensive works. These include a long succession of heavy earth-works and a tunnel 14 chains long, with either another tunnel of 8 chains or a cutting 50 feet deep. Furthermore, the cost of the inland line will be £11,000 more than the river one.

The advantages claimed for the Inland route are that it opens up the country better. If it were possible to take the line right away from the river five or six miles, this argument would hold good; but the two lines are in no place more than two and a half miles apart, and only about two miles where stations are likely to be, and there is no difficulty in making good roads between them; consequently the extent to which the country is opened up is by no means commensurate with the difference in the character of the lines and the extra outlay involved. Besides, the districts on the southern side of the Mataura, which is better accommodated by the River route, is of nearly as much importance as those on the northern side.

OTAGO CENTRAL RAILWAY.

General.—The total length of this line from its junction with the main trunk railway at Chain Hills to Albertown, on Lake Wanaka, is about 160 miles, and the length of the section from Chain Hills to the Taieri Lake, for which an appropriation was taken last year, is about 65 miles.

The various steps taken and the state of the works and surveys on the Otago Central Railway are as follow: (1.) The Wingatui Section, $6\frac{1}{2}$ miles, from Chain Hills to Mullocky Gully, was let by contract in May, 1879, and the works are now well advanced. (2.) The Hindon Section, $17\frac{1}{2}$ miles, from Mullocky Gully to the Nenthorne, was opened out for the "unemployed" in June, 1879, and the works have since been carried on without intermission. (3.) Contract surveys have been prepared for the Nenthorne Section, 9 miles, from the Nenthorne to the Sutton, and again from the Rough Ridge to Cromwell, a distance of 47 miles. Preliminary surveys have been made of all the intervening distance between the Sutton and the Rough Ridge, except the Strath-Taieri portion, which is practically level. Nothing has yet been done in the way of survey between Cromwell and Lake Wanaka; but here also the country is particularly easy, so a preliminary survey is scarcely required.

It will thus be seen that our information with reference to the line is tolerably complete, so a correct idea can now be formed of its capabilities and general character.

So far as alignments and levels are concerned, the surveys show the line to be considerably better than was at first expected. The sharpest curves are $7\frac{1}{2}$ chains radius, and the steepest gradient 1 in

50, as on the main line; but few of the sharp curves occur on the steep gradients, and there are no reverse curves; consequently the Otago Central is slightly better than the main line.

The works are on the whole much the same as was anticipated; some items are heavier, but in other cases the balance is on the opposite side. The heaviest works on the line occur between North Taieri and the Sutton Creek, but there are also short lengths at Hyde and Poolburn Gorge where the earthwork will be heavy. The heaviest formation works of all occur in the first mile and last two miles of the Hindon Section, where the line enters and leaves the Taieri Gorge. At those places there is a succession of rock cuttings ranging from 3 to 8 chains long, and 30 to 70 feet extreme depth, with embankments to correspond.

A cursory inspection would lead to the impression that the difficulties in the Taieri Gorge itself are of a very formidable character, but such is not really the case. The ground is by no means unfavourable to railway construction; the main slope of the hills is tolerably regular, and the sharp spurs that run out are generally mere razor-backs, of no width. The formation on six out of the twelve miles in the gorge proper consists chiefly of cuttings under 10 feet deep, with embankments to correspond. There is a large number of very deep rock cuttings on the other portions, amounting in the aggregate to a great quantity; but the cuttings are all very short; indeed, this is a peculiarity on the whole of the line. There are in all ninety large cuttings on the Wingatui and Hindon Sections, seventy ranging from 20 to 40 feet extreme depth; and twenty ranging from 40 to 70 feet extreme depth. Of this total number, seventy are from 2 to 5 chains long, fifteen from 5 to 7 chains long, and five from 7 to 10 chains long. The rock is all schist, and the dip of the strata is generally into the hill, so there is not much danger of large slips.

The tunnels on the Otago Central Railway between Chain Hills and the Strath-Taieri Plain are as follow:—

No.	at	5 miles	20 chains	...	...	Length.
						10 chains.
" 2	" 6	" 7 $\frac{1}{2}$	"	...	...	18 "
" 3	" 7	" 57	"	...	...	7 "
" 4	" 9	" 59 $\frac{1}{2}$	"	...	...	6 "
" 5	" 12	" 60 $\frac{1}{2}$	"	...	...	7 "
" 6	" 16	" 9 $\frac{1}{2}$	"	...	...	3 $\frac{1}{2}$ "
" 7	" 19	" 15 $\frac{1}{2}$	"	...	...	2 "
" 8	" 19	" 79 $\frac{1}{2}$	"	...	...	3 $\frac{1}{2}$ "
" 9	" 23	" 4	"	...	...	4 $\frac{1}{2}$ "
Total						61 $\frac{1}{2}$ "

Nos. 1 and 2 are on the Wingatui Section; No. 2 pierces the saddle on the dividing range, between the Taieri Plains and Mullocky Gully; all the others are through spurs, put in to avoid sharp curves. The trial section at the Taieri Lake shows another tunnel of 11 chains also through a spur, but it can be avoided if considered desirable when making the permanent survey. These constitute all the tunnelling from Chain Hills to Lake Wanaka, a distance of 160 miles. When we consider that the line goes right into the interior, and that it has to rise against the general fall of the country, as well as to cross the dividing ridge between the Taieri and Clutha watersheds, the result must be taken as very satisfactory, more particularly as seven out of the ten tunnels are too small to be so termed.

Among the most important and expensive works on the Otago Central Railway is the bridging. In addition to the rivers, there are a number of narrow deep gorges to be crossed at a high level. They have generally large streams at the bottom, so it is cheaper to cross them on open viaducts than make solid embankments with large culverts. There will be in all seven or eight bridges of this kind between Chain Hills and Strath Taieri, of the aggregate length of 30 or 35 chains. The largest is that over Mullocky Gully, which will be 7 chains long and 140 feet above the level of the creek. The two highest piers will not, however, be more than 120 feet, and the next two not more than 70 feet. The other bridges will be much smaller than this, the piers being generally from 20 to 50 feet high, and in one case 80 feet. A general design has been got out for these bridges: it is proposed to make them of iron, all to the same pattern, with spans of 105 and 66 feet, according to the requirements of each place. The piers in the river crossings are to be the usual cast-iron cylinders, and in deep ravines open ironwork, the shorter ones being masonry.

The work of setting out the railway through the Taieri Gorge has been a very laborious one for the local engineers. In consequence of the roughness of the ground, the line had, in some places, to be traced out time after time till the proper section was obtained. The result is, however, well worth the labour expended on the work, the line being particularly well laid out.

Wingatui Section.—As already stated, this section has been under contract for ten months, and good progress has been made with the works. All the culverts are finished, and the earthworks are well advanced. The cuttings at the western end of the first tunnel and the eastern end of the second one have been taken out, and they show solid clay-slate rock, so it is anticipated that there will be little difficulty in the driving. All the works on the Wingatui Section are being carried out in a very satisfactory manner, and there is no appearance of slips or anything else likely to give trouble.

Hindon Section.—This section, which was reserved from contract to give work to the "unemployed" of Dunedin, has been in progress for nine months. The greatest number of men employed at any time was seven hundred, and the least two hundred and twenty-five. Like all the other works of the same kind throughout the Island, the terms were piecework, at prices calculated to enable ordinary workmen to earn 9d. per hour. The men's time was carefully kept for some months, and it was found that the earnings did not in any case exceed the amount stated, and the average was considerably under it. Under the new arrangement now coming into force, the terms are altered, so that married men will only earn 28s., and single men 21s. a week.

The expenditure on the Hindon Section for the nine months ending this date is £35,350, and the amount of work done on the principal works is as follows: Earthwork, 212,000 cubic yards; rock

cutting, 157,000 cubic yards; and rubble masonry, 3,400 cubic yards. The exact average prices paid for labour only have been—earthwork, 10d. per cubic yard; and rock cutting, 1s. 5d. per cubic yard. Considering the inaccessibility of the situation, the character of the materials, and the conditions under which the work was done, it is scarcely possible to get a more satisfactory result.

INVERCARGILL-KINGSTON RAILWAY, WITH BRANCH.

Lumsden-Mararoa Branch.—The formation on the first six miles of this branch, known as the Lumsden Contract, which has been in progress since July, 1879, is now nearly finished. The line is practically straight and level, and the works are very light, being chiefly surface-forming, low embankments, and small bridges and culverts.

The Oreti Bridge, which occurs in this section, was begun by the county as a road bridge; but the Government took it over when the piers were in, and it is now being completed as a combined road and railway bridge. It has nine spans of 64 feet, and one span of 13 feet.

Tenders are now advertised for the Castle Rock Contract, the continuation of the branch for $12\frac{3}{4}$ miles along the Five-Rivers Plain. The line is nearly all straight, and the gradients easy, nothing steeper than 1 in 55. With the exception of 2 miles in ascending and descending a terrace where there are three cuttings respectively 30, 20, and 15 chains long, and 15, 14, and 16 feet extreme depth, the works are particularly light, being merely surface-forming and a few culverts.

WESTERN RAILWAYS.

Otautau Branch.—This section was opened for traffic on the 15th December, 1879, and has since been running satisfactorily. The station buildings were scarcely finished when the line was open, but they are now all complete.

Riverton-Orepuki Branch.—The Riverton Section, being the first 6 miles of this line, is the only portion at present under construction. The works had been begun by the Provincial Government of Otago, and the contract for their completion was let in June, 1879; it includes formation and permanent way. With the exception of one 5-chain curve approaching the Aparima Bridge, the alignment and levels of this branch are much the same as on the main line, the ruling gradient being 1 in 50. The only work of importance is a cutting through a ridge, 30 chains long and 30 feet extreme depth, with an embankment of much the same dimensions.

Except the large cutting, of which there is about 30,000 cubic yards to do, the works on the Riverton Section are well advanced.

A contract survey of 7 miles more of the Orepuki Branch, in continuation of the present contract, has been made, and the plans are in progress.

Otautau-Nightcaps Railway.—The total length of this line, from the Otautau Township to the Nightcaps Coal Field, is $10\frac{5}{8}$ miles, of which $3\frac{1}{8}$ miles constitute the Opio Section, begun in June, 1879, and $7\frac{1}{2}$ miles the Waicola Contract, now being let.

This line is nearly all straight, and the levels are good, the ruling gradient being 1 in 66. Furthermore, the inclines are in favour of the heavy mineral traffic which may be expected from the coal fields. The works are all very light, mere surface-forming and light earthwork, with three small bridges. The Opio Contract is nearly finished.

ROLLING-STOCK.

The rolling-stock received in the Middle Island during the past year consists of 13 locomotives, 10 American cars, 1,050 sets of wagon ironwork and wagons, and 100 timber trucks. With the exception of 3 locomotives (the balance of an old order), 100 timber trucks and 90 wagons imported under a special contract, and some wagons sent from the North Island, nearly all the stock was imported to the order of the Working Railways Department, and erected in the railway workshops.

ROADS AND BRIDGES.

NELSON DISTRICT.

Tophouse and Tarndale Road.—Four small contracts were let for this road, three of which are approaching completion and the fourth is well advanced. Contracts for two more sections are being prepared. These five sections, about 6 miles in length, will complete the road between Tophouse and the Woolshed Flat.

Pelorus Valley Roads.—Of the works included under this head the Wakamarina Bridge is in progress, and tenders are advertised for the Kaituna one. Contracts are in course of preparation for the improvement of the roads generally—a total length of 30 miles. The survey is finished for 16 miles, and in progress on the remainder. The work is being cut up into two-mile contracts, the first three of which are nearly ready for advertising.

Bridge over Wairoa River.—This bridge was completed and open for traffic in October, the works having been carried out in a satisfactory manner.

WESTLAND DISTRICT.

Westport to Reefton Road.—The only work in progress on this road during the year was the bridge over the Ohikanui River. The bridge itself was finished in September, but the approaches, which involved a large quantity of rock-cutting, were not completed till March.

Reefton to Greymouth Road.—A site has been selected for the Inangahua Bridge at the lower end of Reefton, near the present foot-bridge, and the detailed survey is in progress. The width of the river at this point is only about 350 feet, the floods do not rise to a great height, and the bottom is good; consequently the bridge will not be expensive nor difficult to construct. The only thing to be specially provided against is the large quantities of timber brought down by floods, which necessitates the adoption of spans of considerable length.

The bridge over the Ahaura River was satisfactorily completed in October, and it has since been severely tested by heavy floods, which, however, did it no harm.

Greymouth-Okarito Road.—The bridge over the Teremakau at Kumara was completed in September. A heavy flood which occurred at the end of December carried away one of the dolphins that protect the piers, and another has subsequently been destroyed in a similar manner; but no damage was done to the bridge itself. It is proposed to rebuild these two dolphins on a stronger plan than the one first adopted.

The bridge over the Hokitika River at Kanieri was completed in August, the works having been carried out in a satisfactory manner.

The only other works in progress on the Greymouth-Okarito Road during the year were wire foot-bridges over the Waitaha River and Evans' Creek, and a horse-bridge over a branch of the Okarito River. The foot-bridges are finished, and the horse-bridge is well advanced.

Okarito to Haast Pass Track.—The last of the small contracts for formation on this track has been finished during the year, and the bridge over the Wills is in progress and expected to be completed in May. On its completion there will be a line of communication open for horse and cattle traffic right through from the beach at the mouth of the Haast River to Haast's Pass, on the boundary of Otago. A track was made from Lake Wanaka to the latter point some years ago, so that communication will shortly be completed right across the island. I understand, however, that, although not very bad, there is a portion of the track on the Otago side which requires to be repaired and improved to make it passable at all seasons.

General.—Hereto is appended a statement (Enclosure No. 2) prepared by the Resident Engineer, showing the works executed on roads in Westland to 31st March, 1880.

CHRISTCHURCH-HOKITIKA ROAD.

The weather on the West Coast has been exceptionally fine during the past year, consequently the road has been maintained in good order at a moderate cost.

The river has for some years been encroaching on the road in the Otira Valley to such an extent that it has become necessary to make a diversion clear of the river-bed for $3\frac{1}{4}$ miles. A contract is now being prepared for the work, which will not be heavy.

Similar encroachments on a smaller scale are also taking place in the Bealey and Teremakau Valleys. The road is now being diverted for half-a-mile at the former place, and, in all probability, a diversion of $1\frac{1}{4}$ miles will be necessary at the Teremakau during the ensuing year.

CANTERBURY DISTRICT.

Rakaia Gorge Bridge.—The only work to be mentioned under this head in Canterbury for the year is the Rakaia Gorge Bridge, the materials for which arrived from England in April last. Tenders were twice called for the erection of the bridge; the first time the lowest tenderer would not take up the contract, and the second time no tenders came. It was then decided to proceed with the work by day labour, and a contract has been entered into for carting the materials to the site, but the erection has not yet been commenced.

OTAGO DISTRICT.

Maori Kaika Road.—The dray road has been extended for some distance along the beach from Portobello Bay to the Kaika, and a track is being formed from thence round Point Harrington to near Taiaroa Heads. The work is done by day labour, the Maoris in the district being principally employed.

Waikari-Waitati Road.—Surveys are in progress on this road, from the point in the Leith Valley up to which it was completed by the provincial authorities. to Blueskin. It is proposed to give the work to the "unemployed" of Dunedin on the same terms as the railway works.

GENERAL.

In addition to the above, this Department has done work for the Lands Department in connection with "Roads to open up Lands before sale," as follows:—

Nelson—Aorere Valley Roads.—A pack track has been constructed as far as Brown's River, and the road along the Aorere from Maori Garden to Devil's Boots opened up. Improvements have also been made on the main road from Collingwood up the valley for about 14 miles. Surveys and plans are in course of preparation for converting the pack track above mentioned into a dray road.

Westland—Ahaura to Kopara Flats.—The small contracts in hand at the beginning of the year were satisfactorily completed in November. There still remains 11 miles of the road to finish, five at the Orwell Creek, and six at the Kopara end; the former section had previously been partially formed, but nothing has been done to the latter.

Southland—Seaward Bush and Coast Line Road.—This road, which is $2\frac{1}{2}$ miles in length, was finished in February, the works being done by contract in the usual way.

WATER RACES.

In accordance with the practice followed in previous years I enclose the Resident Engineer's report on the Westland Water-races in full. (Enclosure No. 3.)

It gives a clear and complete description of the various works executed and in progress, so it is unnecessary for me to enter at length into the subject. I will, however, supplement his information by giving the following statement, showing the direct results obtained from the Nelson Creek and Waimea races, constructed and worked entirely by the Government. The three last items are the averages for the last two years:—

Particulars.	Nelson Creek Race.	Waimea Race.	Total.
Cost up to 31st March, 1880	£89,265	£144,590	£233,855
Annual revenue, less cost of maintenance	£645	£2,515	£3,160
Number of miners constantly employed owing to construction of race	70	595	665
Annual yield of gold, in ounces, owing to construction of race	4,400	20,550	24,950

MISCELLANEOUS WORKS.

The only works of importance under this head for the past year are the building of the large dredge for Greymouth, already alluded to, the erection of a jetty and store at Catlin's River, and the manufacture of sundry articles of railway plant at the various centres.

BUILDINGS.

The total expenditure on public buildings in the Middle Island during the past financial year is as follows:—

	£	s.	d.
Customs
Judicial
Postal and Telegraph
Offices for Public Departments
Lunatic Asylums
Miscellaneous
Total

As it is unnecessary to consider each building in detail, I append a table (Enclosure No. 4) showing the state of the various works. This shows that upwards of fifty buildings have been in course of erection, or altered or repaired, during the year. The new buildings that have been actually in progress comprise 10 courthouses, 7 post and telegraph offices, 2 lunatic asylums, 1 building for public departments generally, and 6 smaller buildings of various kinds.

The courthouses at Christchurch, Waimate, and Invercargill, the lunatic asylums in Canterbury and Otago, and the public offices at Timaru, were designed by local architects, but carried out by the officers of this department. In all other cases the latter have done all the work from beginning to end.

The Christchurch and Waimate Courthouses are finished, and the Invercargill one is about half done. It will probably be completed in contract time.

The works done during the year at the Lyttelton Gaol are as follow:—Offices for gaolers, guards, reserve guards, and clerk, and kitchen and laundry. In the north wing the floor and doors have been completed, together with forty-two cells: the expenditure being about £3,200, out of a total of £9,500 proposed for the whole of the buildings.

The first contract for about £10,700 on the Sunnyside Asylum, Canterbury, is nearly completed, and a commencement has been made with the works on the second contract, which amounts to £19,200.

The temporary building at the Seacliff Asylum is finished, and the works on the first contract of the permanent building are about to be commenced. The amount of the contract is £20,700.

The public offices at Timaru are rapidly approaching completion; they are expected to be quite finished in June.

The above constitute the principal buildings that have been in progress during the year. There is nothing special to report with reference to the others enumerated in the Table. The finished works have been done satisfactorily, and those in hand are progressing favourably.

SURVEYS OF UNAUTHORIZED LINES.

General.—The surveys of the authorized lines of railway have all been referred to under their respective names, but it is necessary to state here what has been done on the proposed lines not yet authorized.

Westport-Inangahua.—Trial surveys have been made for a railway between Westport and Inangahua Junction. Two lines have been run. One, called the South line, crosses the Buller about 9 miles from Westport, and then follows generally the existing dray road to a junction with the Nelson-Greymouth line on the eastern bank of the Inangahua, that river being crossed a little above its confluence with the Buller. The other, called the North line, keeps on the Westport side of the Buller all the way to a point immediately above the Inangahua Junction. It then crosses, and terminates at the same place as the South line.

The two lines are almost exactly the same length, 27 miles, but preference is given to the northern one on account of its being somewhat easier to make.

The average inclination of the valley is easy, so it will not be necessary to make the ruling gradient steeper than 1 in 50. The trial survey has been made to seven-chain curves, but possibly it will be found advisable to make them sharper to avoid heavy works.

The surveys show the line to be much longer and the works more costly than at first anticipated. The bank of the river for a long distance is irregular and precipitous, consequently the earthworks are heavy. The tunnelling is, however, light. As determined by the trial survey, the railway from Westport to Inangahua Junction is estimated to cost approximately £12,000 a mile. It is quite possible, however, that a considerable reduction could be made on this amount by the adoption of sharper curves.

East and West Coast Railway.—A contract has recently been made with Mr. G. P. Williams, C.E., for a preliminary survey of the portion of this line between the Waimakariri Gorge Bridge and the Bealey River, a distance of about 40 miles. The amount of work yet done is not sufficient to give a correct idea of what the line is likely to be.

With reference to the general route of the railway between the two coasts, the Chief Surveyor of Westland has just sent in a report directing attention to the Whitecombe Pass route, one of his staff, who was lately over that line of country, having thought well of it. The subject has also caused some little discussion on the West Coast, so it is advisable that I should refer to it here. In his report, the

Chief Surveyor estimates the height to which it would be necessary to rise at 3,100 feet, and the amount of tunnelling required through the pass at $1\frac{1}{2}$ miles, and adds that, "this route as sketched out, if found practicable (Windwhistle House to Hokitika by Whitcombe Pass), will be about 25 miles shorter than any of the routes already explored and reported on."

So far as the altitude and length of tunnelling is concerned, the Whitcombe Pass route seems to be on a par with the others further north, but in the matter of distance there is no comparison between them. The Chief Surveyor is correct in stating that this route is 25 miles shorter than any of the others from Hokitika to the beginning of the Canterbury Plains at Windwhistle House, particularly if the Browning Pass route is not considered. But the connection of these two places by a railway is not the sole nor yet the principal object in view. What is wanted is the shortest and easiest route between the main coal supply at Brunnerton and the large markets on the East Coast. From this standpoint the Whitcombe Pass route is inferior to either the Taipo or Arthur's Pass routes. It is in reality 49 miles longer from Brunnerton to Christchurch by the Whitcombe Pass route than by Arthur's Pass. And the balance is on the same side even as regards Ashburton and other large centres south of Christchurch, the Arthur's Pass line being from 8 to 20 miles shorter, according to the line taken across the Canterbury Plains.

The only point for consideration in connection with this route is the possibility of getting better gradients on the western side of the range at the Whitcombe Pass than at the others. Although I fear any little advantage in this respect will be outweighed by the disadvantage of extra length, above referred to, it has been considered advisable to have an exploration made to put the matter beyond doubt; the season is, however, too far advanced to attempt it this year.

I may add that the question of adopting either this or the Browning's Pass route was somewhat fully considered before I sent in my general report, and that they were both rejected in favour of the routes further north. The information we had with reference to them was not complete, but it led to the conclusion that any slight advantage they may possess in minor points is far outweighed by the extra length.

Tapanui-Waikaka Line.—A contract has recently been made with Mr. H. P. Higginson, C.E., for the preliminary survey of a line of railway from the Waipahi-Heriot Burn line, near Kelso, to the Main Trunk Line or the Waimea line, near Gore. The survey is in progress, and the works are ascertained to be light, but the information is not yet sufficiently complete to enable a decided opinion to be given as to the best line for accommodating the country. At present the balance of advantages seems to be in favour of a line passing near the Waikaka Township, and joining the Waimea Plains Railway 5 or 6 miles from Gore. Some of the residents in the district are anxious that it should follow down the Waikaka Valley to the main line, but I do not think this would be so beneficial to the country at large, for the following reasons: The Waikaka Valley line approaches the main line at an acute angle, consequently a considerable portion runs through country that is already provided with railway communication. The line joining the Waimea Railway will accommodate the numerous settlers in the Otama and Chatton Districts, who are quite shut out from the Waikaka Valley one; at the same time there will be no place in the Waikaka Valley more than 5 or 6 miles from a railway.

Lumsden-Mararoa Railway.—A reconnaissance survey of this line has been made for the Department by Mr. D. L. Simpson, C.E., from the head of the Five-River Plains right round the Mararoa and Waiau Valleys to the Orawia, and on to Orepuki, joining in both cases the lines previously surveyed from Otautau and Riverton. It shows that a good workable railway can be made all the way at a moderate cost. The gradients at the dividing ridge between the Oreti and Waiau watersheds are taken as 1 in 40, but they could possibly be reduced to the standard of 1 in 50 when making the detailed surveys.

GENERAL REMARKS.

[Up till 30th June, 1880.]

Prices.—In consequence of the general commercial depression that has prevailed throughout the colony during the past year, the price of labour and materials for public works are considerably less than for some time previously, the fall being at least 20 per cent. For the same reason competition among tenderers is greater. Twenty tenders were received for the Waicola, and thirteen for the Puerua Contracts, lately advertised.

Number of Men engaged on Works.—The average number of men directly employed on the public works in the various districts of the Middle Island, for the twelve months ending 30th June, is as follows:—

District.	Employed by Contractors.	Government Labour, including Surveys.	Total.
Nelson and Marlborough ...	85	15	100
Westland ...	180	125	305
Canterbury ...	285	260	545
Otago ...	405	765	1,170
Southland ...	200	10	210
Totals ...	1,155	1,175	2,330

These numbers are exclusive of men employed on construction works and in erecting rolling-stock by or under the Working Railways Department, and of contractors' men engaged in shops or otherwise, apart from the works.

The "Unemployed."—Reference has already been made to the "unemployed," under the head of each railway on which work had been provided, but it is desirable to deal with the subject in a more general way.

The question of providing work for the "unemployed" is by no means a new one, it dates as far back as the decline of the Otago gold fields in 1864. Since that time it has revived at intervals in all the large centres, whenever the supply of labour became much greater than the demand.

Prior to the present one, the last agitation for labour of any magnitude in the Middle Island occurred in Otago, in 1876. In response to it the Government opened the Waikouaiti Section, 9½ miles, of the Main Trunk Line. It was opened in October, 1876, and finished in September, 1878. The greatest number of men employed on it at any time was about 165, and the average for the whole time about 125; the amount spent in labour being about £21,000. At one time this section was not sufficient to absorb all the labour that offered, so another was opened south of the Clutha, the Toiro Section, 4 miles long. This one was begun in July, 1877, and finished in January, 1879. The greatest number of men employed at any time was 105, and the average for the whole time about 75; the expenditure for labour being about £8,000. Employment was thus given to about 180 men for two years, at an expenditure of £29,000, equal to about £80 per annum per man.

The present agitation commenced at the beginning of last winter, and was general throughout the Island. Sections of railway were therefore opened to meet it as follows: The Paroa Section, on the Greymouth-Hokitika line, 3 miles, in May; the Weka Pass Section, on the main line in Canterbury, 9 miles, in June; the Albury Downs Section on the Albury Branch, Canterbury, 9¼ miles, in October; the Hindon Section, on the Otago Central Railway in Otago, 17¼ miles, in June; and the Windsor Section on the Livingstone Branch, Otago, 12 miles, in July.

Up till the 30th March, 1880, the approximate expenditure on those sections for labour and materials, including all other charges usual on contracts, was as follow:—

Paroa	...	...	...	...	£
Weka Pass	..	...	...	...	1,500
Albury Downs	...	...	...	...	15,000
Hindon	...	...	...	...	8,000
Windsor	...	...	...	...	35,350
					21,500
					£81,350

Although there has been a small number of men constantly employed on the Paroa Section since its commencement, the "unemployed" agitation has never assumed large proportions on the West Coast.

The greatest number of men to which employment was given at any one time in Otago during the past year was 1,220, and in Canterbury 580: making a total of 1,800. The numbers at present employed are: Otago, 710; Canterbury, 150: total, 860. As previously stated, the Canterbury works were stopped altogether during the harvest months, as was also the Windsor Section in Otago; but the Hindon Section had to be kept open all the year, about 300 men remaining on.

The cost of the earthworks on the Waikouaiti Section, including plant, was 13d. per cubic yard. The proportion due to plant on the sections now in progress cannot yet be ascertained exactly, but, as already stated, the average price paid for labour to 31st March is 8d. to 10d. The principle of giving piecework only, first commenced in connection with the Waikouaiti Section, has been rigidly adhered to. Out of a total of 700 men at one time employed on the Hindon Section, only 20 were on day work. In giving piecework the difficulty is to hit the exact price per yard at which men will earn the stipulated amount per day. At first this was somewhat of a difficulty, but it was soon got over. On keeping the time on the Hindon Section for some three months it was found that the earnings of the best men did not exceed 9d. per hour, the wages we wished to pay.

In March last the wages were reduced on the piecework sections to rates calculated to enable married men to earn 28s., and single men 21s., a week, and rations were provided by the Government at 1s. 3d. per day. The Windsor and Weka Pass Sections were reopened at that time. The former was soon filled, but the applicants for work in Canterbury were not numerous for the first month or two. They are, however, coming in such large numbers now that it has been found necessary to arrange for the opening of both the Albury Downs and Waimakariri Gorge Sections.

Departmental.—Although the number of large contracts entered into during the year is less, the work of the department has been fully as heavy as in previous years. About 110 regular contracts and a great number of small works were in progress, and contracts have been prepared for one or two sections on each of the authorized lines. The piecework sections have also caused a great amount of work to the department.

Maps.—Instead of the usual general map printed all in black lines, the one this year shows only the principal features, and the railway lines are shown in red. Detailed maps of each district are also given.

Enclosures.—The following enclosures accompany this report:—

- No. 1. Lengths of Railways Authorized, Constructed, and Surveyed, &c., Middle Island.
- „ 2. Statement of Works executed on Roads in Westland.
- „ 3. Annual Report on Water-races.
- „ 4. Statement of Works executed on Public Buildings.
- „ 5. Sketch Map of Middle Island.
- „ 6. Railway Maps, six sheets.

I have, &c.,
W. N. BLAIR,
Engineer in Charge, Middle Island.

Enclosure 2 in Appendix E.
ROADS in the WESTLAND DISTRICT.—STATEMENT of WORK DONE and in PROGRESS on each ROAD, under Public Works Acts, to and on 31st March, 1880.

Name of Road.	Length of Road Surveyed.	Length Cleared.	Length Horned.	Length Metalled.	Width of Formation.	Width of Metal.	Thickness of Metal.	Principal Bridge Works Executed on each.		State of Roads for Traffic.	Remarks.
								M. chs.	In.		
WESTPORT TO REEFTON :— At Ohika River	M. chs. 0 24	M. chs. 0 19	M. chs. 0 19	M. chs. 0 19	Ft. 17	Ft. 12	In. 12	1 bridge, total length 200 ft., consisting of 3 60-ft. spans, trussed, and 1 18-ft. span, trussed	Good	Very difficult river to bridge; rise of water in floods, 39 ft.	
GREYMOUTH TO REEFTON :— At Grey River Junction	0 50	0 39	0 39	0 39	17	12	12	1 bridge, 785 ft. long, consisting of 6 55-ft. spans, trussed; 1 47-ft. span, trussed; and 27 15-ft. spans, plain	Good	River very undefined; bad site for bridge.	
At Ahaura	0 41	0 29	0 29	0 29	17	12	12	1 bridge, 760 ft. long, consisting of 11 55-ft. spans, trussed, and 10 15-ft. spans, plain.	Good	Difficult river to bridge; mountain torrent; hard reef close below river bed.	
Stillwater to Maori Gully	1 11	0 68	0 68	0 68	17	12	12	2 bridges; total length, 1,545 ft. ... ..	...	Both rivers very liable to heavy floods; boulders large, and difficult to drive through; heavy masses of timber frequently coming down. Average country.
GREYMOUTH TO ARNOLD :— Grey mouth to Omotumotu	6 15	5 71	6 15	6 15	9½	5	8	4 bridges, total length 79 ft.; and 187 lin. ft. culvert covering ...	Just passable	Very heavy work.	
Omotumotu to Brunnerton	2 11	2 11	2 11	2 11	17	12	12	124 lin. ft. culvert covering, retaining walls, and 20,400 cub. yds. rocky cutting	Good	About 1½ miles very heavy work, remainder about average.	
Omotumotu to Brunnerton (deviation at WallSEND)	3 78	3 78	3 78	3 78	17	12	12	8 bridges, total length 206 ft.; and 233 lin. ft. culvert covering; also 10,000 cub. yds. rocky cutting	Good	Very heavy timber, steep sidling cuttings, partly rock, and high embankments in places at crossings of deep ravines.	
Brunnerton to Stillwater	0 34	0 34	0 34	0 34	17	12	12	13 lin. ft. culvert covering	Good	Work consisted of reconstructing and widening old road, with new culverts.	
Stillwater to Arnold	1 22	...	...	1 22	17	12	12	93 lin. ft. culvert covering	Good	Heavy embankment approaching Arnold River.
GREYMOUTH TO OKARITO :— Grey mouth to Marsden	0 68	0 68	0 68	0 68	17	12	12	1 bridge, 25 ft. long, and 50 lin. ft. culvert covering ...	Good	7 m. 31 ch. of new road along very difficult country, and reconstructing and widening old road for 1 m. 22 ch.; all now formed 17 ft. wide, with 12 ft. width of metal, 12 in. thick.	
Marsden to Hohou	8 53	7 31	7 31	8 53	17	12	12	9 bridges, total length 231 ft.; 513 lin. ft. culvert covering, and 30,400 cub. yds. rocky cutting	...	Average bush-felling.	
At Kumara	10 2	9 41	10 2	10 2	17	12	12	13 bridges, total length 848 ft.; and 560 lin. ft. culvert covering ...	Good	Average bush-clearing; very steep sidling ground throughout, necessitating heavy earthwork.	
Stafford to Arahura	7 17	7 17	7 17	7 17	17	12	12	6 bridges, total length 441 ft., four of them being lattice trusses, with 50-ft. spans and over; and 246 lin. ft. culvert covering	Good	River liable to heavy floods, and carrying large masses of timber.	
Hokitika to Kanieri	1 2	0 17	0 17	0 17	17	12	12	1 bridge, 590 ft. long, consisting of 9 55-ft. spans, trussed, and 6 15-ft. spans, plain	Good	Average class of work.	
At Kanieri	3 63	3 31	3 35	3 35	17	12	12	1 lattice bridge, 45-ft. span, and 251 lin. ft. culvert covering ...	Good	River liable to heavy floods, and carrying large masses of timber.	
	1 67	1 67	1 67	1 67	17	12	12	1 bridge, 45-ft. span, and 101 lin. ft. culvert covering ...	Good		
	0 25	0 12	0 12	0 12	17	12	12	1 bridge, 810 ft. long, consisting of 13 55-ft. spans, trussed, and 6 15-ft. spans, plain	Good		

Enclosure 2 in Appendix E—continued.
ROADS in the WESTLAND DISTRICT.—STATEMENT of WORK DONE and in PROGRESS on each ROAD, under Public Works Acts, to and on 31st March, 1880—continued.

Name of Road.	Length of Road Surveyed.		Length Cleared.		Length Formed.		Length Metalled.		Width of Formation.	Width of Metal.	Thickness of Metal.	Principal Bridge Works executed on each.		State of Roads for Traffic.	Remarks.
	M. chs.	Ft.	M. chs.	Ft.	M. chs.	Ft.	M. chs.	Ft.	Ft.	Ft.	In.				
GREYMOUTH TO OKARITO—continued.															
Kanieri to Ross ...	16 21	17	16 18	17	16 18	17	16 18	17	12	12	12	7 bridges, two of them being 34-ft. spans, lattice trusses; total length 295 ft.; also 468 lin. ft. culvert covering	Good	Average class of work.	
Bowen to Waitahi (Sections 1, 2, and 3, North end)	13 15	10	13 15	10	13 15	10	13 15	10	5	8	8	1 bridge, 45 ft. long, and 400 lin. ft. culvert covering	Good	Average clearing and forming.	
Waitahi to Wataroa (Sections 4 to 12, inclusive, North end)	30 33	10	30 32	10	30 32	10	30 32	10	5	8	8	1 bridge, 42 ft. long, and 883 lin. ft. culvert covering; also 223 lin. ft. 4-ft. culverts under banks	Good	Average clearing and forming.	
Wataroa to Okaito Forks (Sections 6 to 3, inclusive, South end)	10 34	10	10 34	10	10 34	10	10 34	10	5	8	8	130 lin. ft. culvert covering; also 1 bridge, 52 ft. long, in course of construction	Fair	Average clearing and forming.	
Okaito Forks to Okarito (Sections 1, 2, and 7, South end)	5 4	12	5 4	12	5 4	12	5 4	12	8	8	8	4 bridges, total length 139 ft.; and 55 lin. ft. culvert covering	Good	Heavy earthwork, moderate clearing.	
At Okarito River ...	0 4	10	0 4	10	0 4	10	0 4	10	5	8	8	1 bridge in course of construction, 1 span 52 ft. long, understrutted	Good	River liable to heavy floods, and full of large rocks. Causeway over a tidal creek; embankment heavily coated with stone.	
At Okarito Lagoon	0 6	10	0 6	10	0 6	10	0 6	10	5	8	8	1 bridge, consisting of 2 10-ft. spans, plain	Good	Heavy bush clearing and grubbing, and moderate earthwork. Of the total distances metalled, 39 m. 8 ch. is 12 ft. wide, 4 m. 78 ch. 8 ft. wide, and 53 m. 67 ch. 5 ft. wide. Two bridges long and difficult.	
Marsden to Paroa ...	99 43	...	97 73	...	97 73	...	97 73	...	...	...	...	39 bridges, total length 3,424 ft.; 3,094 lin. ft. culvert covering; and 223 lin. ft. 4-ft. culverts under banks	Good	Very heavy timber, average earthwork. Constructed on site of old track, which was partly cleared and formed.
Marsden to Maori Creek	0 77	15	0 77	15	0 77	15	0 77	15	10	12	12	47 lin. ft. culvert covering	Good	Average country.	
Pounamu to Lake Brunner	4 65	11½	4 65	11½	4 65	11½	4 65	11½	8	8	8	52 lin. ft. culvert covering	Fair	Easy country, average timber.	
Junction to Christchurch Road	0 2	8	0 2	8	0 2	8	0 2	8	5	12	12	176 lin. ft. culvert covering	Good	Plain bridge.	
Waimea—Right-hand Branch	4 46	12½	4 46	12½	4 46	12½	4 46	12½	8	8	8	74 lin. ft. culvert covering	Good	Easy country.	
Hokitika to Blue Spur	4 54	10	4 54	10	4 54	10	4 54	10	5	8	8	1 bridge, 113 ft. long	Good	Easy country.	
Kanieri Forks to Lake	0 4	12	0 4	12	0 4	12	0 4	12	...	...	...	1 bridge, 58-ft. span, lattice truss; and 344 lin. ft. culvert covering	Good	Average country.
Kanieri to Kokatahi	0 4	12	0 4	12	0 4	12	0 4	12	...	...	...	1 bridge, 41-ft. span, trussed; and 91 lin. ft. culvert covering	Good	Plain bridge.
South Creek—Branch to Main Line	0 37	17	0 37	17	0 37	17	0 37	17	...	...	...	1 bridge, 142 ft. long	Good	Average country.
Okarito Forks to Lake Mapourika	3 76	12	3 76	12	3 76	12	3 76	12	8	8	8	7 ft. culvert covering	Good	Average earthwork, heavy timber.	
Okarito to Haast Pass	6 11	5	4 72	5	3 60	5	0 69	5	3	6	6	1 bridge, 20-ft. span, and 89 lin. ft. culvert covering	Passable	Average country.	
Ahaura to Kopara Flats	12 22	5	5 66	5	5 66	5	5 66	5	3	8	8	Bridge in course of construction, 1 span, 97 ft., trussed, 6 ft. wide	Good	Average country, heavy clearing.	
HOKIKA TO CHRISTCHURCH:—															
Rangitiri to Arthur's Pass ...	31 miles,	18	main tenance only.	18	main tenance only.	18	main tenance only.	18	16	4 to 12	4 to 12	Maintenance only	Fair	Precipitous country; mountain torrents; very liable to slips and inundations.	

Enclosure 3 in Appendix E.

WESTLAND DISTRICT.—ANNUAL REPORT ON WATER-RACES.

SIR,—

Public Works Office, Hokitika, 31st March, 1880.

I have the honor to report on the water-races in this district with which the General Government are connected. They are as follow :—

Nelson South-West Gold Fields—

Four-Mile Water-race, Charleston District.

Nelson Creek Water-race, Grey Valley District.

Westland Gold Fields—

New River Water-race, Marsden District.

Hibernian Water-race, Marsden District.

Hohonu Water-race, Greenstone District.

Waimea Water-race, Waimea District.

Waimea Extension to Kumara, Kumara District.

Kanieri Lake Water-race, Kanieri District.

Mikonui Water-race, Totara District.

Four-Mile Water-race.—The only works in progress connected with this race during the year have been the completion of the pack track, and the maintenance of the Argyle Water-race. The length of the pack track is 4 miles 30 chains, and it is metalled for most of its length. The maintenance of the Argyle Race has, during the financial year, cost £510, and is carried on under the general supervision of this Department, but the cost is defrayed by the Gold Fields Department.

When the construction of this race was first projected, the complete scheme included (1) a supply race from the Four-Mile Creek, and (2) the enlargement and improvement of the existing Argyle Race. If this complete scheme were carried out, the supply of water on the gold field would be increased from 5 to about 14 heads, and the cost of the undertaking would be £12,000, in addition to the expenditure already incurred. It has, however, been considered that this outlay is greater than would be immediately justified by the prospects of the district. The construction of the supply race from the Four-Mile Creek has therefore been eliminated from the scheme, and the improvement and enlargement of the Argyle Water-race, with its reservoirs, &c., is all that it is at present proposed to undertake.

The capacity of the present Argyle Water-race is about 5 statute-heads, and the reservoir is well proportioned with regard to the capacity of the race; this being practically evidenced by the fact that water is seldom or never spilled over the bye-wash of the reservoir, while on the other hand the supply to the race seldom falls short of its full carrying capacity. This being so, it is evident that the drainage at present available is utilized so far as practicable, and it is also evident that, if the water-supply is to be increased, a larger watershed will have to be found. It is proposed to attain this object by constructing catch-water races along the sides of the ranges at such a level as will enable them to drain into the present reservoir. The present drainage area is about 340 acres, and the additional area which it is proposed to utilize, by means of catchment races, is about 210 acres. The water-supply which could be obtained from these united areas will probably be about 8 statute-heads. The expenditure required for catchment races, the enlargement of the reservoir, and the enlargement and improvement of the Argyle Water-race, will be about £4,500.

Nelson Creek Water-race.—Length, 16 miles 24 chains; capacity, 60 statute-heads. This work is now entirely under the control of the Gold Fields Department.

New River Water-race.—Length constructed, 6 miles 53 chains; capacity, 16 statute-heads. This is a work which was undertaken by a company in 1872, with a Government subsidy of £5,000, but the work has now been abandoned, and it is not probable that it will be again utilized by its present holders.

Hibernian Water-race.—Length, 5 miles 51 chains; capacity, 10 statute-heads. This also was undertaken by a company in 1872, with a Government subsidy of £2,000, but the work has now been abandoned, and it is not probable that it will be again utilized by its present holders.

Hohonu Water-race.—Length, 5 miles 41 chains; capacity, 50 statute-heads. The Government advanced a subsidy of £2,500 to the company who undertook this work, but it has now been entirely abandoned by them.

Waimea Water-race.—The main race extends from the Kawhaka Creek to Ballarat Hill. Length, 16 miles 4 chains; capacity, 40 statute-heads. There is also a branch race leaving the main race near Goldsbrough. Length, 59 chains; capacity, 30 statute-heads. The only work done during the year has been a length of about 9 chains of race, connecting the original head of the race with the head-works, which were completed just before the termination of last financial year.

Waimea Water-race (continued): Extension to Kumara.—The length of the main race is 3 miles 1 chain, and its capacity about 20 statute-heads. The lengths of the branch races amount in the aggregate to 4 miles 4 chains, and their capacities vary from 5 to 50 statute-heads. The supply race from Kawhaka Creek, which also comes under this heading, is 4 miles 60 chains in length, and its capacity is 30 statute-heads. These works have all been completed over two years, and sales of water have been made continuously since then.

The sludge channel at Kumara, which was undertaken with a view to the gold-bearing ground being worked on a large scale by sluicing, instead of being worked as hitherto in small claims by the method of paddocking, has been put in hand during the year. A contract was let for a length of 46 chains at the lower end of the sludge channel on the 26th September, 1879, for the sum of £5,330; but, although the contract has now been in full operation for six months, the length completed up to date is less than 9 chains. This slow progress is entirely owing to the difficulties which have been encountered in the progress of the work. It was at first intended that the whole of the tunnel should be driven from the lower end, but the very slow progress made induced the contractor to sink a shaft about midway on the contract in the hope that he would be able to drive the tunnel from this shaft, and thus hasten

the work ; but when the shaft was completed it was found that such large quantities of water were met with in it that steam-pumping machinery would be necessary in order to carry on the work, and the contractor is now making arrangements to obtain a steam-engine accordingly. Whether the steam-power which he will be able to provide, without incurring a ruinous expense, will be sufficient to overcome the water yet remains to be seen ; and until this aspect of the question is fully investigated it will be impossible to say with certainty whether the second section of the work, required to bring it up to its total length of 81 chains, can be proceeded with at present, as this section would have to be worked wholly from shafts, unless its construction is deferred until the present section is completed.

The dam in the Kapitea Valley, referred to in last year's report, has not yet been proceeded with. A careful estimate has, however, been made of the probable increase of supply derivable from it, with the result that a total supply of 28 heads would be attainable ; the supply from the present reservoirs being 15 heads. The cost of the dam would be £8,000 ; and the enlargement of the Kumara main race, and distribution races to carry the increased supply, would cost £1,000 ; making the total estimated cost of this addition £9,000.

Kanieri Lake Water-race.—Length, 12 miles 21 chains ; capacity, 60 statute-heads. This work was carried out by a private company in 1875, with the aid of a Government subsidy of £10,000, but it has now been entirely abandoned by the promoters, and the works are falling into a very dilapidated state.

Mikonui Water-race.—Length, 15 miles 13 chains ; proposed capacity, 40 statute-heads. The construction of this work, which was projected several years ago, has been commenced by the Government during the present year. Tenders were called on the 28th July, 1879, for the construction of 36 chains of tunnelling in six sections of 6 chains each. Tenders for four of these sections were accepted, and the two remaining sections were readvertised on the 4th September, 1879, and tenders for these latter sections were subsequently accepted. The first batch of four contracts has since been completed, but the other two are still in progress. All these sections have taken a considerably longer time to complete than was anticipated, owing to the hardness of the rock through which the tunnels had to be driven.

I have been directed to prepare further contracts for works on this race up to the balance of this year's vote, and the same are now in hand, and will be advertised in a few days.

The portion of the race upon which contracts already let, and the contracts about to be advertised, are located, is that from the lower end of the long tunnel to the termination of the main race. If, however, it is the intention of the Government to carry out the original scheme of deriving the water supply for this race from the Mikonui River, it would be advisable to commence the long tunnel at both ends as soon as possible, as it would probably take four or five years to complete it throughout.

The observations on the collateral advantages derived from the Waimea, Kumara, and Nelson Creek Races, instituted during the last financial year, have been continued during the present year, with the following results :—

Nelson Creek Race.—Number of men employed daily throughout the year, 67 ; number of ounces of gold obtained by them, 4,400.

Waimea and Kumara Races.—Number of men employed daily throughout the year, 570 ; number of ounces of gold obtained by them, 19,700.

The average annual income of each of the men so employed would therefore be about £146 per annum.

I have, &c.,

F. W. MARTIN,
Resident Engineer.

The Engineer in Charge, Middle Island, Dunedin.

Enclosure 4 in Appendix E.

PUBLIC BUILDINGS IN MIDDLE ISLAND, STATEMENT OF WORKS EXECUTED
DURING YEAR 1879-80.

NELSON DISTRICT.

JUDICIAL,—

Courthouse and Police Station, Picton	...	...	...	Finished.
Repairs, Picton Gaol	...	...	...	Tenders called for.
Lock-up, Blenheim	...	...	...	Finished.
Police Station, Collingwood (contract No. 2)	Finished.

MISCELLANEOUS,—

Sheep-dip and Quarantine Station, Port Nelson	Finished.
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WESTLAND DISTRICT.

JUDICIAL,—

Courthouse, Greymouth	Finished.
Police Quarters, Ahaura, additions	Finished.
Courthouse, Ross	...	...	...	Finished.
Warden's Residence, Westport, additions and alterations to	...	...	...	In progress.

POSTAL AND TELEGRAPH,—

Post and Telegraph Office, Kumara	...	...	...	Finished.
Post and Telegraph Office, Westport	In progress.

LUNATIC ASYLUM,—

Lunatic Asylum, Hokitika, additions	Finished.
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MISCELLANEOUS,—

Repairs to Government Cottage, Orawaiti Road	Finished.
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CANTERBURY DISTRICT.

JUDICIAL,—

Mortuary at Police Station, Christchurch	Finished.
Courthouse, Waimate	...	...	...	Finished.
Courthouse, Ashburton	...	...	...	Tenders called for.
Courthouse, Christchurch	...	...	...	Finished.
Courthouse, Akaroa	...	...	...	Finished.
Courthouse, Christchurch, additions	...	...	...	Tenders called for.
Lock-up, Addington	...	...	...	Finished.
Lock-up, Sydenham	...	...	...	Finished.
Lock-up, Bingsland	...	...	...	Tenders received.
Lock-up, Papanui	...	...	...	Tenders received.
Lyttelton Orphanage, drainage and repairs	...	...	...	In progress.
Burnham Industrial School, infirmary	...	...	...	Finished.
Burnham Industrial School, drainage	...	...	...	In progress.
Burnham Industrial School, additions	...	...	...	Plans being prepared.
Supreme Court, Christchurch, repairs	...	...	...	Finished.
Lyttelton Gaol, additions	...	...	...	In progress.
Addington Gaol	...	...	...	In progress.

POSTAL AND TELEGRAPH,—

Post and Telegraph Office, Devauchelle's Bay	Finished.
--	-----	-----	-----	-----------

OFFICES FOR PUBLIC DEPARTMENTS,—

Government Buildings, Christchurch, fittings for Post and Telegraph Offices	...	...	...	Finished.
Government Buildings, Christchurch, fittings for Deeds Office	...	...	...	Plans being prepared.
Government Buildings, Timaru	...	...	...	In progress.
Deeds Office, Christchurch, strong-room	...	...	...	Finished.

LUNATIC ASYLUMS,—

Sunnyside, Christchurch (contract No. 1)	...	...	...	Nearly finished.
Sunnyside, Christchurch (contract No. 2)	In progress.

HOSPITALS,—

Christchurch, minor repairs	Finished.
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OTAGO DISTRICT.

JUDICIAL,—

Fencing Police Reserve, Clyde	Finished.
Fencing Police Reserve, Cromwell	Finished.
Courthouse, Hyde, fittings, fencing, &c.	...	...	...	Finished.
Courthouse, Roxburgh	...	...	...	Finished.
Courthouse, Tapanui	...	...	...	Finished.
Courthouse, Alexandra, fencing	...	...	...	Finished.

POSTAL AND TELEGRAPH,—

Post and Telegraph Office, Catlin's River	...	...	...	Finished.
Post and Telegraph Office, Waitahuna	...	...	...	Finished.

LUNATIC ASYLUMS,—

Temporary Asylum, Seacliff	...	...	...	Finished.
Lunatic Asylum, Seacliff	...	...	...	In progress.

SOUTHLAND DISTRICT.

JUDICIAL,—

Courthouse, Invercargill	...	...	...	In progress.
Courthouse, Lumsden	...	...	...	Finished.
Courthouse and Police Station, Gore	...	...	...	Tenders invited.
Invercargill Gaol, additions	...	...	...	Plans being prepared.

POSTAL AND TELEGRAPH,—

Post and Telegraph Office, Gore	...	...	...	Finished.
Post and Telegraph Office, Wyndham	Finished.

NATIVE,—

House for Natives at Bluff	Work stopped.
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SURVEY,—

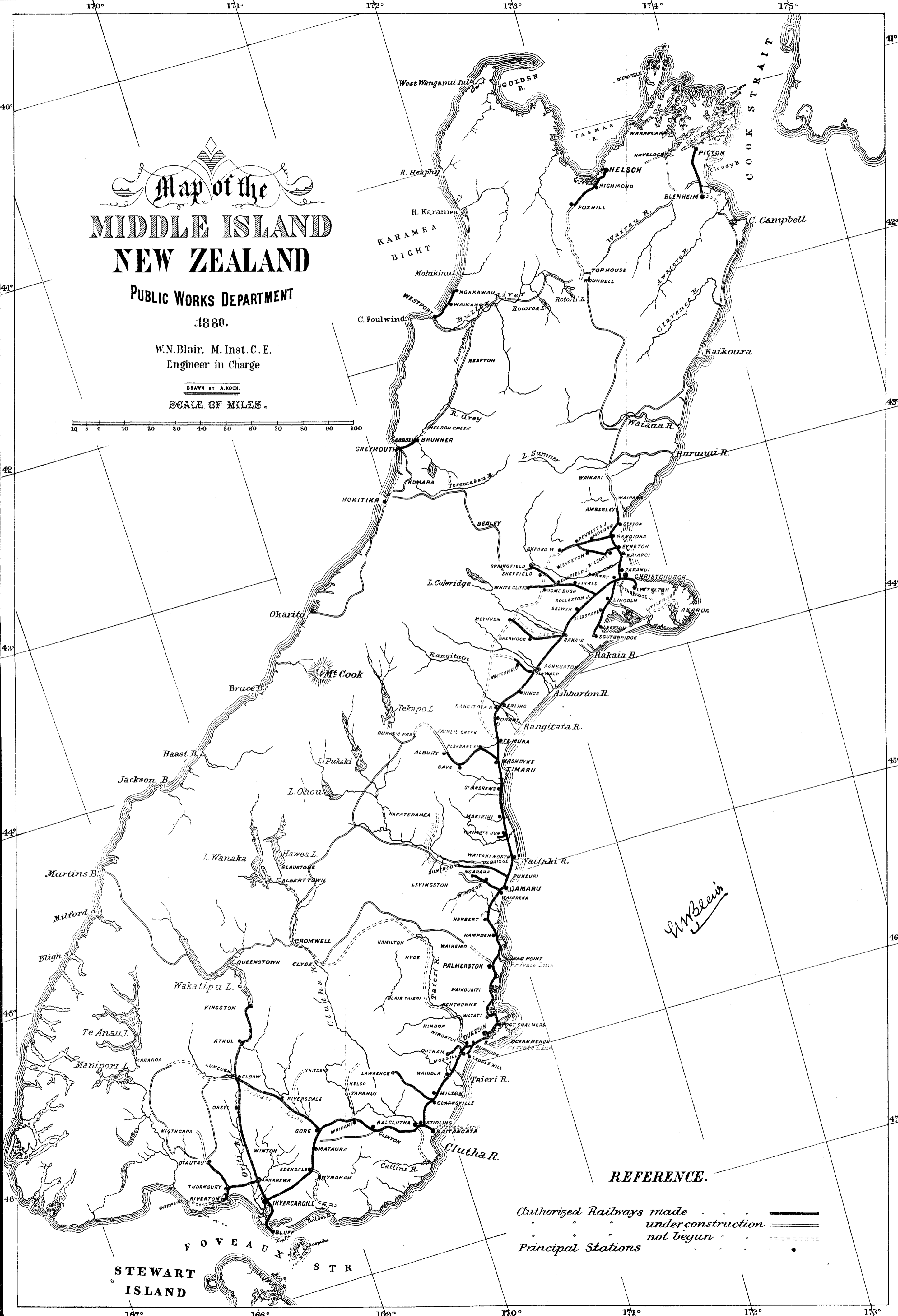
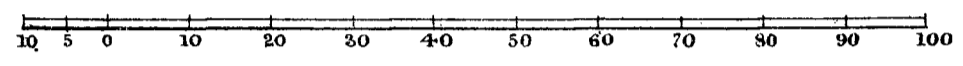
Strong-room, Invercargill	Finished.
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Map of the MIDDLE ISLAND NEW ZEALAND

PUBLIC WORKS DEPARTMENT
1880.

W.N. Blair, M. Inst. C. E.
Engineer in Charge

DRAWN BY A. KOCH.
SCALE OF MILES.

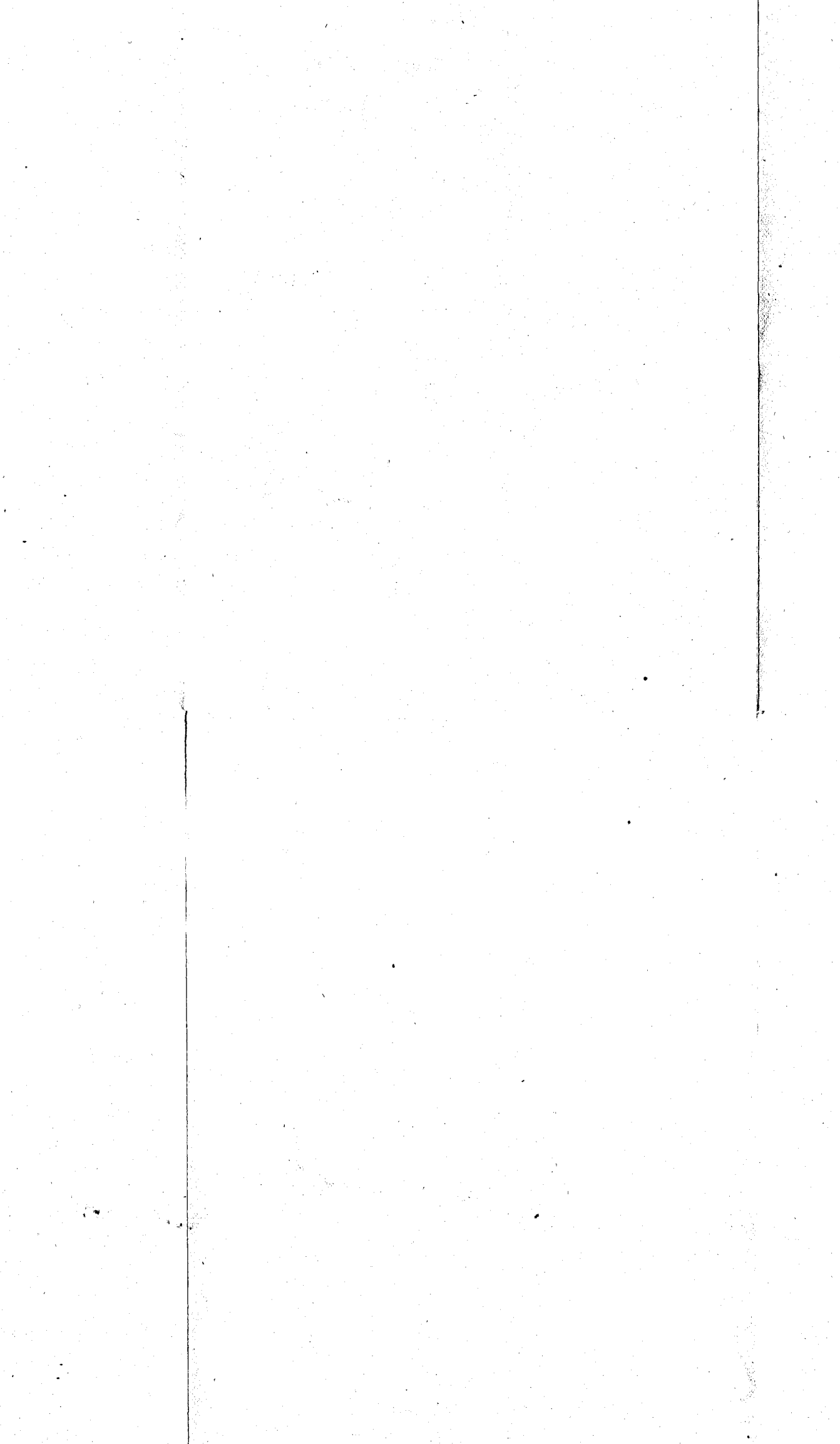


Ambley

REFERENCE.

Authorized Railways made under construction
 " " " " not begun
 Principal Stations

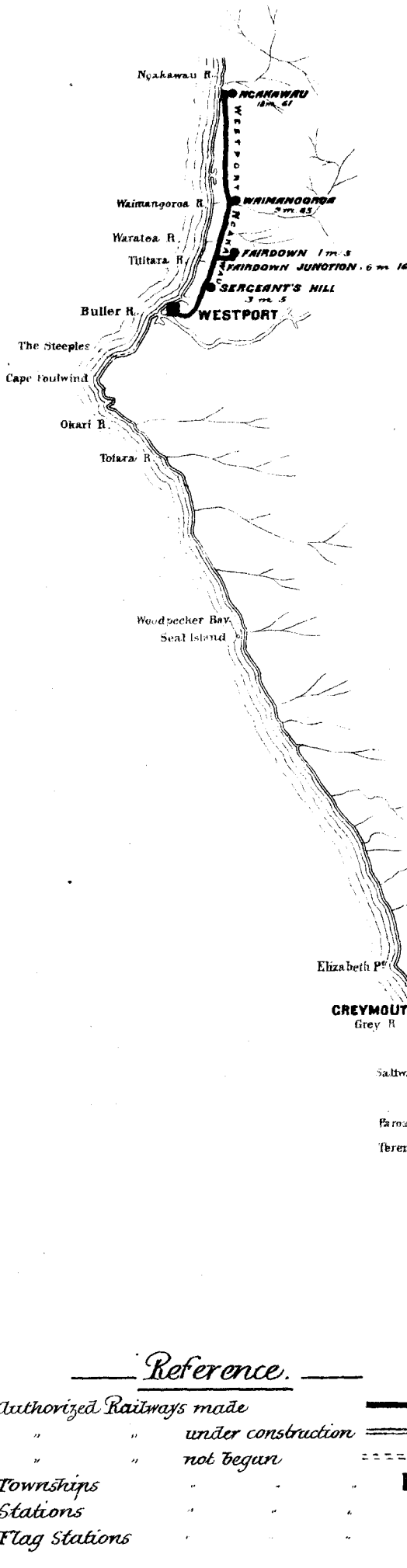
STEWART
ISLAND



Sketch Map OF THE

**NELSON TO GREYMOUTH (PORTION OF)
GREYMOUTH TO HOKITIKA & WESTPORT TO NGAKAWAU**

RAILWAYS
TO ACCOMPANY ANNUAL REPORT
OF THE
ENGINEER IN CHARGE
MIDDLE ISLAND
FOR
1879-1880.



W. Blair

Reference.

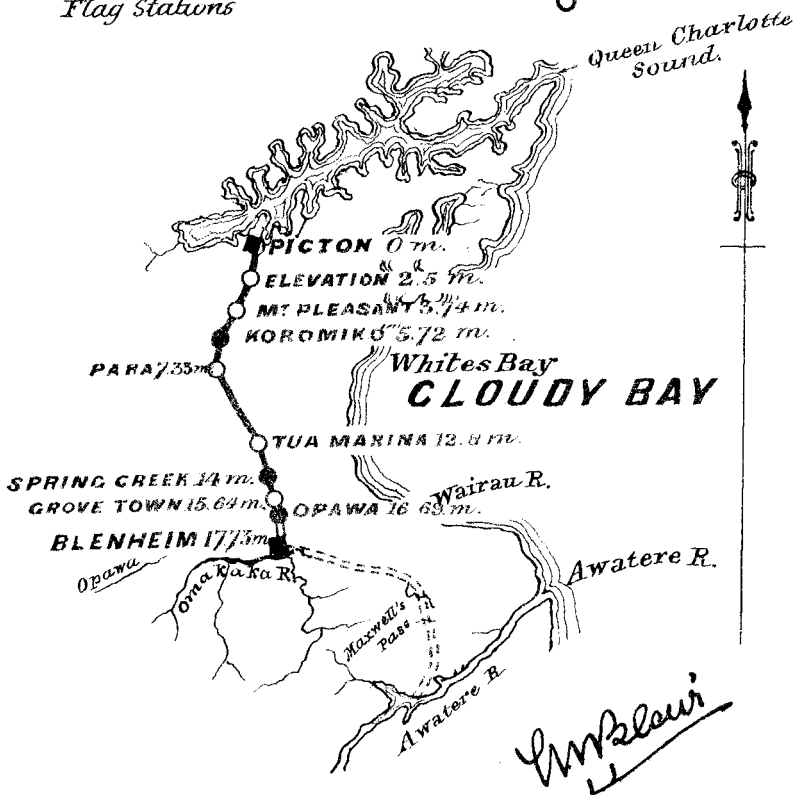
- Authorized Railways made
- " " under construction
- " " not begun
- Townships
- Stations
- Flag Stations

Sketch Map
 OF A
PORTION OF
PICTON-HURUNUI
RAILWAY
 TO ACCOMPANY ANNUAL REPORT
 OF THE
ENGINEER IN CHARGE
MIDDLE ISLAND
 FOR
1879-1880.









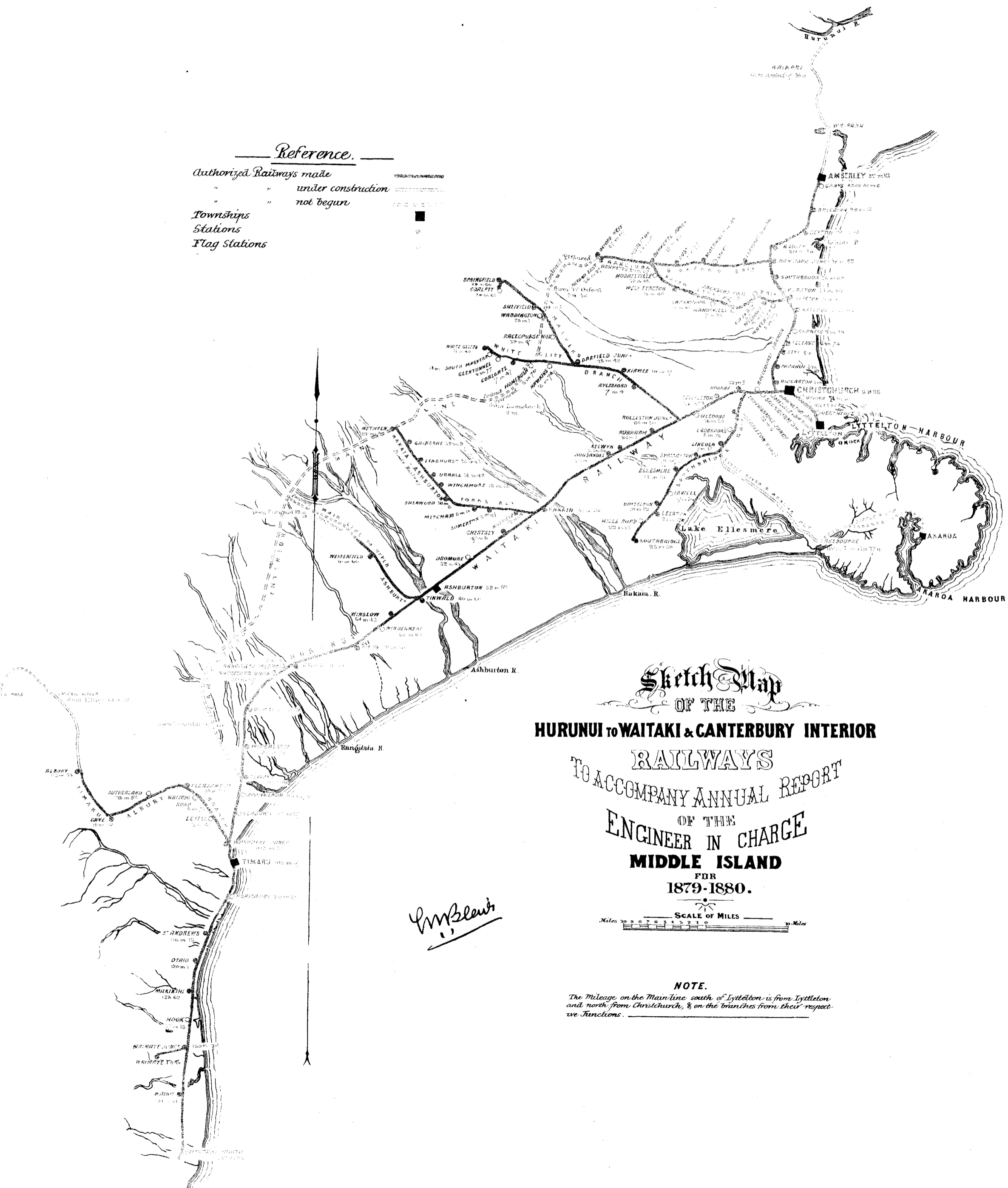
Reference.

- | | |
|------------------------------|-------|
| Authorized Railways made | ————— |
| " " under construction | ===== |
| " " not begun | ==== |
| Townships | ■ |
| Stations | ● |
| Flag Stations | ○ |



Reference.

- Authorized Railways made 
 " " under construction 
 " " not begun 
 Townships 
 Stations 
 Flag Stations 



Sketch Map
 OF THE
HURUNUI TO WAITAKI & CANTERBURY INTERIOR
RAILWAYS
 TO ACCOMPANY ANNUAL REPORT
 OF THE
ENGINEER IN CHARGE
MIDDLE ISLAND
 FOR
1879-1880.

Embley

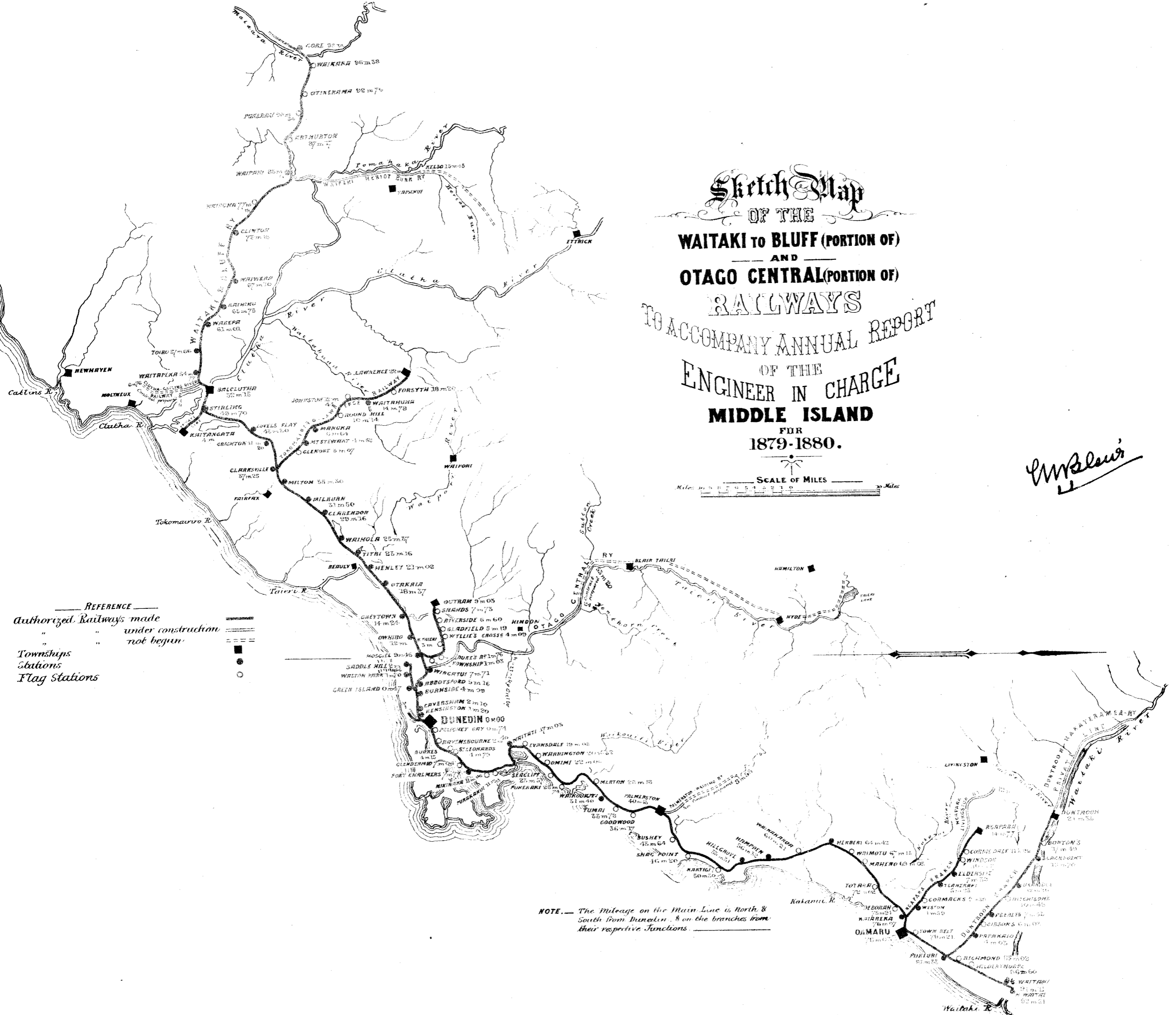


NOTE.
 The Mileage on the Main line south of Lyttelton is from Lyttelton and north from Christchurch, & on the branches from their respective Junctions.

Sketch Map
 OF THE
WAITAKI TO BLUFF (PORTION OF)
 AND
OTAGO CENTRAL (PORTION OF)
RAILWAYS
 TO ACCOMPANY ANNUAL REPORT
 OF THE
ENGINEER IN CHARGE
MIDDLE ISLAND
 FOR
1879-1880.

Wm Blair

SCALE OF MILES



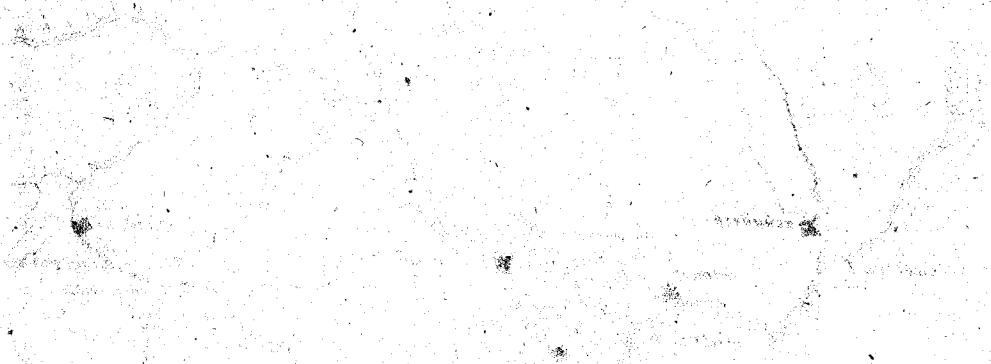
REFERENCE
 Authorized Railways made
 " " under construction
 " " not begun
 Townships
 Stations
 Flag Stations

NOTE.— The Mileage on the Main-Line is North & South from Dunedin, & on the branches from their respective Junctions.

THE
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D. C.

1954

1954



1954

1954

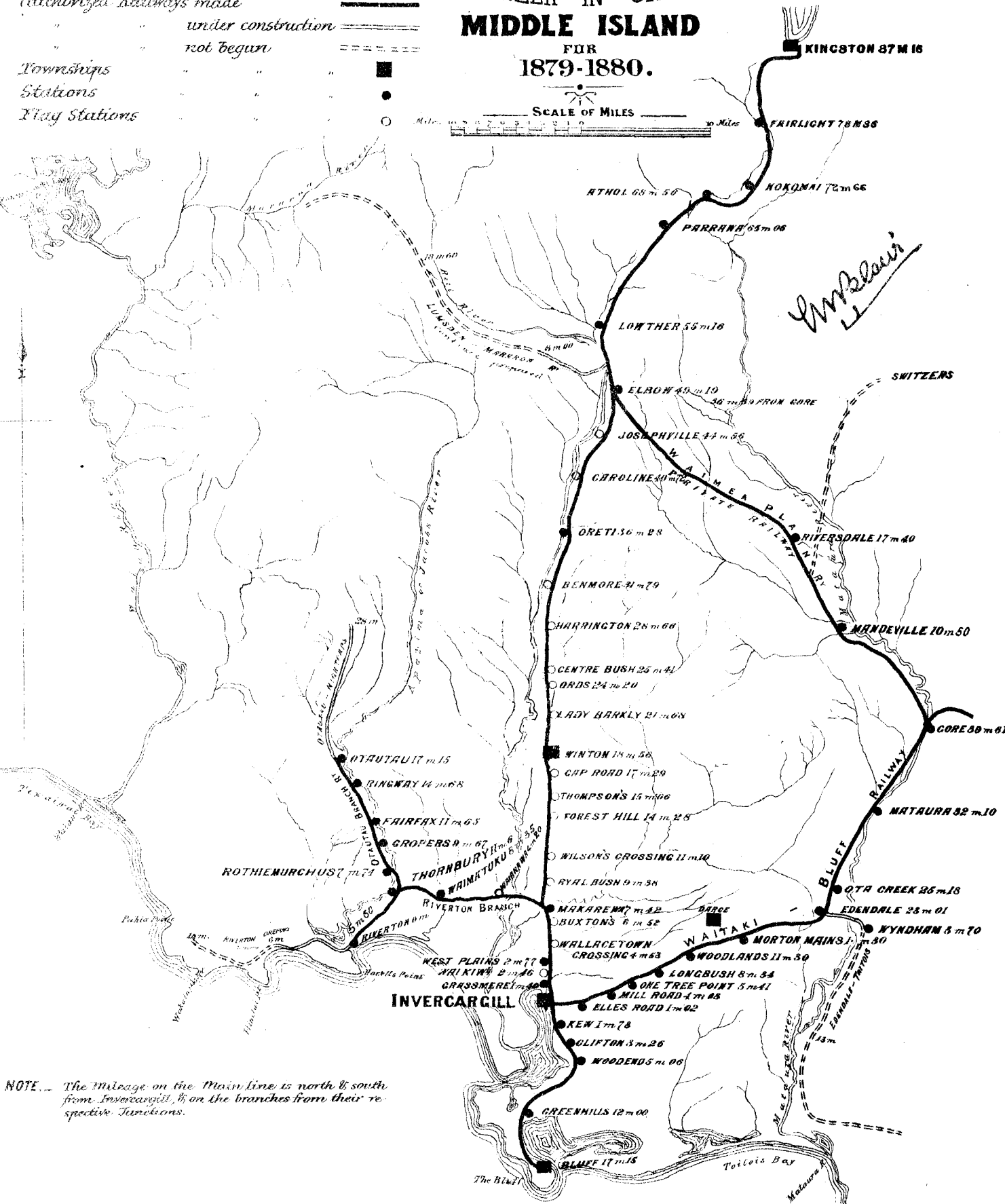
Sketch Map OF THE INVERCARGILL AND KINGSTON WESTERN PORTION OF WAITAKI-BLUFF & C.

RAILWAYS
TO ACCOMPANY ANNUAL REPORT
OF THE
ENGINEER IN CHARGE
MIDDLE ISLAND
FOR
1879-1880.

Reference.

- | | |
|--------------------------|--|
| Authorized Railways made | |
| " " under construction | |
| " " not begun | |
| Townships | |
| Stations | |
| Flag Stations | |

SCALE OF MILES



NOTE... The Mileage on the Main line is north & south from Invercargill, & on the branches from their respective Junctions.

APPENDIX F.
NORTH ISLAND.

SCHEDULE of RAILWAY CONTRACTS CURRENT on the 1st July, 1879, and CONTRACTS ENTERED INTO during the Nine Months ended 31st March, 1880.

Date of Contract.	Lines of Railway Branches.	Name of Contract.	Particulars	Length of Contract.	Length of Sidings in Contract.	Name of Contractor.	Contract to be Completed.	Date Contract was Completed.	Amount of Contract.	Remarks.
				M. ch. lk.	M. ch. lk.				£ s. d.	
June 19, 1879	Kawakawa	No. 14, Station Buildings	...	...	...	T. Constable	Aug. 23, 1879	July 26, 1879	292 0 0	Part of contract for 3 cranes.
Mar. 1, 1880	"	1 3-ton Steam Crane	Formation	1 0 0	...	Fraser and Tinne	Aug. 27, 1880	"	496 13 4	
Mar. 9, "	"	Tamarere	Formation	1 0 0	...	William Sims	Mar. 2, 1881	"	9,274 9 10	Part of contract, balance, viz., £1678 14s. 7d. charged to Miscellaneous Public Works.
Mar. 10, 1879	Whangarei to Kamo	Kamo	Formation	1 70 0	...	Thomas Jones	Oct. 31, 1879	"	2,257 9 11	
Jan. 15, 1880	"	Conveyance of Rails and Sleepers	...	...	...	M. Niccol	Mar. 23, 1880	"	...	At schedule rates.
Jan. 14, "	"	Cartage of Rails and Sleepers	...	...	...	W. S. Wraack	Not given	"	...	At schedule rates.
Mar. 1, "	"	1 3-ton Steam Crane	F. and P. L.	...	...	Fraser and Tinne	Dec. 27, 1880	"	496 13 4	Part of contract for 3 cranes.
Mar. 3, "	"	Whangarei	F. and P. L. and Bdg.	...	...	P. Lanigan	Mar. 1, 1881	"	12,054 0 0	
May 17, 1877	Kaipara to Waikato	Auckland	...	9 61 0	0 60 0	Larkins and O'Brien	May 11, 1879	"	16,933 0 0	Contract determined.
May 28, "	"	Helen'sville	F. and P. L.	0 43 0	0 70 0	Alex. Smith	Feb. 22, 1878	"	*1,127 10 8	*This amount has been paid to contractor in full of all demands.
Nov. 9, 1878	"	Ohapu	F. and P. L.	6 21 0	0 60 0	Daniel Fallon	Feb. 5, 1880	"	25,972 5 6	
Oct. 18, "	"	Rolling-stock, No. 2	...	...	...	Guthrie and Larnach Co.	1/2 Jan. 10, 1/2 Apr. 10, 1880	Jan. 6, 1880	5,931 9 2	
Jan. 7, 1879	"	No. 10, Station Buildings	...	...	...	John Duce	May 11, 1879	Feb. 16, "	2,927 15 0	
Feb. 7, "	"	Newcastle Wharf Extension	...	...	...	J. S. Smith	May 30, "	Dec. 15, 1879	2,707 4 11	
Feb. 8, "	"	Helen'sville Wharf and Permanent Way	...	...	...	Sheehan and Foughy	Oct. 30, "	"	10,104 16 4	
Feb. 11, "	"	Auckland Harbour Reclamation	F. and P. L. and Bdg.	12 64 0	1 45 0	James Dempsey	Dec. 3, 1880	"	32,710 5 0	Contract determined.
Mar. 21, "	"	Waitakeri	...	...	...	Taylor and Danaher	Sept. 11, "	"	36,601 5 2	
Mar. 24, "	"	No. 11, Station Buildings	...	...	...	William Cameron	June 16, 1879	June 25, 1879	797 0 0	
Mar. 31, "	"	No. 12, "	...	...	...	H. P. Kavanagh	July 29, "	July 15, "	245 0 0	
June 6, "	"	No. 13, "	...	...	...	Henry Shailer	Sept. 3, "	Oct. 31, "	489 16 6	
July 25, "	"	No. 16, "	...	...	...	D. Glendinning	Sept. 29, "	Sept. 26, "	1,045 17 4	
July 31, "	"	Wynyard Pier	...	...	...	Richard White	Oct. 29, "	Oct. 23, "	204 0 0	
Aug. 6, "	"	Cartage of Railway Material	...	...	...	Joseph Craig	July 1, 1880	"	...	At schedule rates.
Dec. 31, "	"	Workshops Site, Newmarket	...	...	...	William Blewden	Sept. 24, "	"	2,099 0 0	
Dec. 31, "	"	Newmarket Junction Station	...	...	...	Allen Maguire	Sept. 23, "	"	6,870 0 0	
Mar. 1, 1880	"	1 3-ton Steam Crane	...	...	...	Fraser and Tinne	Dec. 27, "	"	496 13 4	
Mar. 9, "	"	Te Awamutu Station Road	...	...	...	Bearsey and McConkey	April 27, "	"	171 14 6	Part of contract for 3 cranes.
Mar. 23, "	"	No. 17, Station Buildings	...	...	...	Scott and Coombes	July 19, "	"	1,889 0 0	
Mar. 30, "	"	Painting Bridges	...	...	...	James Gibson	June 25, "	"	365 5 2	
Jan. 22, 1880	Waikato	Waikato	F.	12 64 0	0	Hunt and White	Feb. 19, 1881	"	9,930 8 2	
Feb. 26, 1879	Hamilton to Te Aroha	Grahamstown Reclamation	...	...	...	W. B. Souler	Nov. 18, 1879	Feb. 13, 1880	7,538 13 0	
April 5, "	"	Shortland	F. and Reclamation	0 73 0	0	J. J. O'Brien	Dec. 25, "	"	8,393 1 4	
Oct. 1, "	"	Kauaeranga Bridge	...	...	...	Alexander Watson	Feb. 24, 1880	"	763 7 6	

SCHEDULE OF RAILWAY CONTRACTS CURRENT, &c.—*continued.*
NORTH ISLAND—*continued.*

Date of Contract.	Line of Railway.	Name of Contract.	Particulars.	Length of Contract.	Length of Sidings in Contract.	Name of Contractor.	Contract to be Completed.	Date Contract was Completed.	Amount of Contract.	Remarks.
				M. ch. lk.	M. ch. lk.				£ s. d.	
Jan. 26, 1878	<i>Wellington to Napier.</i>	Papatu Bridges (3) ...	F.	0 21 12	...	Proudfoot and McKay ...	July 15, 1879	Feb. 21, 1880	15,195 4 8	
Oct. 7, "	"	25 High-side Wagons	...	...	...	Campbell Bros.	Cannot be stated	Dec. 1, 1879	475 0 0	
Oct. 18, "	"	Rolling-stock, No. 4 ...	...	...	...	Guthrie and Larnach Co.	1/2 Jan. 10, 1880	Jan. 24, 1880	6,493 1 1	
Mar. 24, 1879	"	Carting and Stacking Sleepers...	...	...	...	William Ebbett	1/2 Apr. 1, 1880	...	368 15 0	Part of contract, re- mainder charged to Carlyle-Waitara Railway.
July 8, "	"	Napier Workshops ...	...	...	...	Alexander Reese	July 1, 1879	Jan. 28, 1880	3,795 0 0	
Feb. 14, 1880	"	No. 1, Station Buildings	...	...	...	Angus McKay	Oct. 25, "	...	1,656 0 0	
Jan. 5, "	"	Makatoko ...	P. L.	5 25 0	0 45 0	Wilkie and Crawford ...	Mar. 31, "	...	2,020 19 9	
April 6, 1878	<i>Wellington to Woodville</i>	Carterton ...	F. and P. L.	20 41 0	1 40 0	Contract being completed by Government	Oct. 10, 1878	Aug. 30, 1879	51,954 0 0	
April 12, "	"	Part of 200 sets Points and Crossings	...	...	...	Gilchrist and Waters ...	Oct. 10, 1878	...	620 0 0	
Oct. 18, "	"	Rolling-stock, No. 3 ...	...	...	...	Guthrie and Larnach Co.	1/2 Jan. 10, 1880	Jan. 17, 1880	8,088 1 3	
Mar. 19, 1879	"	Petone Workshops ...	...	...	...	W. J. Ridler ...	1/2 Apr. 10, "	Jan. 31, "	2,360 0 4	
Mar. 31, "	"	Railway Wharf ...	...	...	...	James Lockie	Nov. 14, 1879	...	16,758 17 5	
May 13, "	"	Petone Drain ...	...	...	...	Webber and Lenoury ...	Dec. 26, "	...	190 13 6	
June 3, "	"	No. 3, Station Buildings	...	...	...	Sranston and Nelson ...	Sept. 12, "	Sept. 1, 1879	810 0 0	
July 24, "	"	150 Tank Connections	...	...	...	R. S. Sparrow and Co. ...	Oct. 4, "	Oct. 4, "	55 0 0	
July 18, "	"	Railway Manager's House, Petone	...	...	...	Joseph Cross	Sept. 18, "	Aug. 22, "	850 0 0	
Sept. 30, "	"	Additions to Lower Hutt Station	...	...	...	W. J. Ridler ...	Nov. 11, "	Nov. 11, "	179 0 0	
Dec. 23, "	"	Office at Petone Workshops	...	...	...	W. F. Parsons	Nov. 26, "	Nov. 26, 1880	274 0 0	
Dec. 23, "	"	Water-tanks, Petone Workshops	...	...	...	W. W. Watson	Feb. 2, 1880	...	179 0 0	
Mar. 10, 1880	"	Fencing ...	...	...	...	William Strachan	Mar. 15, "	...	173 16 0	
Mar. 30, "	"	Wairarapa Station Buildings	...	...	...	Bishop and Hawkins	April 19, "	...	1,881 9 0	
Aug. 18, 1879	<i>Greytown Branch</i>	Greytown Branch ...	F.	2 72 50	...	Bennett and Potts	June 24, "	Jan. 10, 1880	760 6 3	
Feb. 23, 1880	"	Greytown Branch Station Build- ings	...	...	...	Ebenezer Gray	Nov. 11, 1879	...	1,183 14 10	
Mar. 27, "	"	Greytown Branch, Fencing	...	...	...	H. Stewart ...	April 19, 1880	...	500 0 0	
Sep. 15, 1879	<i>Wellington to Foxton.</i>	Freight on Rails, &c.	...	...	...	G. M. Kebbell	May 23, "	Dec. 13, 1879	140 13 0	
June 7, 1878	<i>Foxton to New Plymouth.</i>	Waitotara ...	F. and P. L.	12 70 0	0 65 0	E. W. Mills ...	8 weeks from receipt of ma- terial	Dec. 5, 1879	39,791 14 3	
April 12, "	"	Part of 200 sets Points and Crossings	...	...	...	Gilchrist and Waters ...	Oct. 10, 1878	Aug. 30, 1879	620 0 0	
Oct. 18, "	"	Rolling-stock, No. 5 ...	...	...	...	Guthrie and Larnach Co.	1/2 Jan. 10, 1880	Mar. 31, 1880	7,936 0 10	Part of contract only, balance of £4,500 to Car- lyle and Waitara Railway.
Mar. 14, 1879	"	Freight on Rails, &c.	...	...	...	W. Bishop ...	1/2 Apr. 10, "	Sept. 8, 1879	408 19 2	
April 17, "	"	Wanganui Wharf and Reclama- tion	...	...	...	J. Saunders ...	June 3, 1879	...	23,514 8 3	
June 11, "	"	Freight on 1 Locomotive, &c. ...	...	...	...	R. S. Martin ...	April 16, 1880	July 18, 1879	75 0 0	

SCHEDULE of RAILWAY CONTRACTS CURRENT, &c.—continued.
NORTH ISLAND—continued.

Date of Contract.	Line of Railway.	Name of Contract.	Particulars.	Length of Contract.	Length of Sidings in Contract.	Name of Contractor.	Contract to be Completed.	Date Contract was Completed.	Amount of Contract.	Remarks.
June 19, 1879	Forston to New Plymouth	Wanganui Workshops	...	M. ch. lk.	M. ch. lk.	Gibbs and Pinches	Nov. 16, 1879	Jan. 29, 1880	£ 1,436	
July 15, "	"	Freight on 2 Locomotives	...	"	"	R. S. Martin	6 weeks from receipt of material	Aug. 9, 1879	13 10	
Sept. 11, "	"	" Rails	...	"	"	G. M. Kebell	10 weeks "	Nov. 12, "	175	
Aug. 2, "	"	" " Aramoho, &c.	...	"	"	McIntyre and Co.	8 weeks "	Sept. 27, "	185	
Sept. 15, "	"	Coal Store at Aramoho, &c.	...	"	"	Alexander and McFarlane	Nov. 4, 1879	Nov. 4, "	136 5	
Oct. 10, "	"	Stationmaster's House, Waitotara	...	"	"	Henry Harris	Dec. 8, "	Dec. 10, "	319 9	
Oct. 16, "	"	Footway, Wanganui Bridge	...	"	"	Gibbs and Pinches	Feb. 6, 1880	Mar. 1, 1880	310 10 6	
Oct. 23, "	"	Additions to Marton Station	...	"	"	A. C. Riggs	Dec. 24, 1879	Jan. 7, "	218	
Jan. 5, 1880	"	Waverley ... Buildings	F. and P. L.	6 70	0	David Wilkie	Jan. 31, 1881	"	12,429 4	
Jan. 2, "	"	Waitotara Station Buildings	...	"	"	Robert McLean	May 1, 1880	"	1,780 16 3	
Jan. 15, "	"	No. 2, Wanganui Workshops	...	"	"	Thomson and McLean	May 5, "	"	420	
Jan. 21, "	"	Freight on Rails	...	"	"	McIntyre and Co.	10 weeks from receipt of material	Feb. 28, 1880	191 14	
Feb. 21, "	"	Stationmaster's House, Waverley	...	"	"	Robert McLean	April 18, 1880	"	373 11 6	
April 12, 1878	Carlyle to Waitara	Part of 200 sets Points and Crossings	...	"	"	Gilchrist and Waters	Oct. 10, 1878	Aug. 30, 1879	250	
Oct. 18, "	"	Rolling-stock, No. 5	...	"	"	Guthrie and Larnach Co.	1/2 Jan. 10, 1880	Mar. 31, 1880	4,500	
Jan. 23, 1879	"	Stratford ...	...	"	"	Hursthouse and Berry	1/2 Apr. 10, "	Feb. 14, 1880	16,446 13 7	
May 21, "	"	Freight on Rails, &c.	F. and P. L.	4 48	0	C. H. Ellaby	24 weeks from receipt of material	Oct. 3, 1879	1,519 11 0	Part of contract only, balance of £7,936 os. 10d. to Forston and Carlyle Railway.
Mar. 25, "	"	Three Sixth-class Stations	...	"	"	Hursthouse and Berry	May 2, 1879	July 12, "	255 18	
June 11, "	"	Freight on 12,300 Sleepers	...	"	"	C. E. Capper	24 weeks from receipt of material	Nov. 25, "	666 5 0	
Oct. 18, 1878	"	Rolling-stock, No. 4	...	"	"	Guthrie and Larnach Co.	1/2 Jan. 10, 1880	Feb. 10, 1880	1,345 3 1	Part of contract, balance charged to Napier and Woodville Railway.
Aug. 15, 1879	"	Freight on Carriage and Van	...	"	"	C. E. Capper	1/2 Apr. 10, " receipt of material	Sept. 11, 1879	85 10 0	
Aug. 2, "	"	" Rails	...	"	"	McIntyre and Co.	8 weeks "	Sept. 24, "	311 13 2	
Jan. 21, 1880	"	Sentry Hill Workshops	...	"	"	J. C. George	12 weeks "	Mar. 25, 1880	287 9 6	
Aug. 25, 1879	"	Additions to Engine-shed, New Plymouth	...	"	"	A. T. McGonagle	Jan. 21, 1880	Jan. 21, "	1,327 17 0	
Nov. 4, "	"	Mangawhero Sidings, Sentry Hill Workshops	...	"	"	W. G. Bassett	Nov. 5, 1880	Dec. 6, 1879	239 9 0	
Jan. 6, 1880	"	"	...	0 10	0	Bullock and Green	May 19, "	"	9,950 0 0	
Mar. 23, "	"	"	...	0 18	0	"	"	"	685 0 0	

SCHEDULE of RAILWAY CONTRACTS CURRENT, &c.—continued.
MIDDLE ISLAND.

Date of Contract.	Lines of Railway and Branches.	Name of Contract.	Particulars.	Length of Contract.	Length of Sidings in Contract.	Name of Contractor.	Contract to be Completed.	Date Contract was Completed.	Amount of Contract.	Remarks.
				M. ch. lk.	M. ch. lk.				£ s. d.	
June 26, 1879	Nelson to Greymouth.	No. 2, Port	P. L. Formation	0 81 50	...	William Patterson	Sept. 26, 1879	Oct. 11, 1879	1,762 18 6	
May 26, "	"	Belgrove	"	3 0 0	...	Peter Dey	May 26, 1880	"	8,459 0 0	
Feb. 13, 1880	"	Belgrove Station	"	"	...	D. Gorrie and Sons	Mar. 27, "	Mar. 27, 1880	129 19 0	
Feb. 13, "	"	Water Supply, Port Nelson	"	"	...	"	Mar. 19, "	Mar. 19, "	149 9 7	
Aug. 22, 1879	Greymouth to Nelson Creek	Stillwater	Formation	0 63 0	...	William Rowe	Nov. 18, "	"	12,234 0 0	
Feb. 16, 1880	Greymouth to Harbour Works	Dredge	"	"	...	Kincaid, McQueen, and Co.	Nov. 9, "	"	4,139 0 0	
Jan. 28, "	"	5-ton Steam Crane	"	"	...	Despatch Foundry Co.	April 7, "	"	574 0 0	
April 21, 1879	Greymouth to Hokitika	No. 1, Brunner Station Buildings	"	"	...	Seabrook Bros.	July 31, 1879	Aug. 28, 1879	626 10 0	
April 29, "	"	Greymouth	Formation	3 51 0	...	William Rowe	Feb. 23, 1880	"	8,440 0 0	
June 9, "	"	Hokitika	"	3 0 0	...	Jmes Morgan	Nov. 3, 1879	Feb. 21, 1880	3,601 2 10	
Jan. 7, "	Pictou to Haurunui.	Blenheim	F. and P.L.	1 22 46	1 0 0	Henderson and Fergus	Mar. 27, 1880	"	9,969 4 0	
Oct. 31, 1878	Haurunui to Waitaki.	Rolling-stock, No. 1	"	"	...	John Anderson	1/2 Jan. 10, 1880	"	6,685 12 6	Balance of contract, £6,685 12s. 6d., charged to Waitaki and Bluff Railway.
Feb. 19, 1880	"	Goods Shed, Dromore	"	"	...	Nelson and Coutts	Mar. 5, "	Mar. 5, 1880	466 18 0	
Mar. 26, 1879	"	Waipara	F, P.L., and Bds.	6 77 0	0 35 0	Peter McGrath	Dec. 18, 1879	"	21,493 1 0	
Feb. 28, 1880	"	Sawing about 100,000 feet Timber	"	"	...	Jagger and Parker	As Engineer may decide	"	0 7 9	Per 100 feet.
April 4, 1879	Springfield Branch	Springfield	F, P.L., and Bds.	6 45 0	0 40 0	F. Benham	Aug. 18, 1879	"	10,353 0 0	
April 18, "	Main Line to Upper Ashburton	Ashburton	F. and P.L.	10 60 0	0 30 0	John Fraser, assigned to Wood, Shand, and Co.	Jan. 16, 1880	"	9,858 17 6	
June 26, "	Little River to Akaroa	Ellesmere	Formation and Bridge	17 0 0	"	Peter McGrath	Mar. 23, "	Mar. 23, 1880	14,704 4 8	
June 2, "	Washdyke to Opawa	Albury	"	1 28 0	"	William Paisley	Feb. 29, "	"	7,878 15 0	
June 25, "	Canterbury and Interior Main Line.	Temuka Bridge	"	"	...	Henderson and Fergus	Feb. 23, "	Mar. 23, 1880	4,318 6 1	
June 25, "	"	Eyre Bridge	"	"	...	"	Feb. 23, "	"	3,788 10 0	
Oct. 31, 1878	"	Rolling-stock, No. 1	"	"	...	John Anderson	1/2 Jan. 10, "	"	6,685 12 6	Balance of contract, £6,685 12s. 6d., charged to Haurunui and Waitaki Railway.
Mar. 22, 1879	"	Cattle-pens, Clinton and Waivera	"	"	...	D. A. McLachlan	1/2 Apr. 10, "	July 10, 1879	609 18 9	
June 6, "	"	Removing Carriage-shed, &c., Dunedin Station	"	"	...	Mekie and Campbell	Aug. 4, "	Aug. 4, "	887 0 0	
June 14, "	"	Painting Clutha Bridge	"	"	...	J. M. Watson and Co.	Aug. 7, "	Nov. 7, "	250 0 0	
June 13, "	"	Painting Bridges	"	"	...	Smith and Smith	Sept. 11, "	Dec. 24, "	240 10 0	

SCHEDULE of RAILWAY CONTRACTS CURRENT, &c.—continued.
MIDDLE ISLAND—continued.

Date of Contract.	Line of Railway and Branches.	Name of Contract.	Particulars.	Length of Contract.	Length of Sidings in Contract.	Name of Contractor.	Contract to be Completed.	Date Contract was Completed.	Amount of Contract.	Remarks.
June 17, 1879	<i>Waitaki to Bluff</i> —continued.	Dunedin Station Reclamation ...	...	M. ch. lk.	M. ch. lk.	E. Pritchard and Co. ...	Mar. 11, 1882	Sept. 23, 1879	£ 58,487 10 0	
Aug. 8, "	"	Freight on Locomotive ...	...	"	"	G. M. Kebbell	4 weeks from receipt of material	"	99 0 0	
July 24, "	"	"	...	"	"	Kincaid, McQueen, and Co.	3 weeks ditto	Sept. 7, "	100 0 0	
Jan. 21, 1880	"	Delivery Valves and Tank Connections ...	...	"	"	"	Feb. 2, 1880	Feb. 2, 1880	195 17 0	
Mar. 15, "	"	Cattle-pens, Palmerston ...	...	"	"	P. Sutherland and Co. ...	June 11, "	"	146 17 6	
Mar. 18, "	"	Goods Shed, East Gore ...	...	"	"	D. A. McLachlan	June 11, "	"	318 19 1	
Jan. 19, "	"	100 sets Points and Crossings ...	...	"	"	R. S. Sparrow and Co. ...	April 22, "	"	1,400 0 0	
Oct. 9, 1879	Duntroon Branch ...	Freight on 11,000 Sleepers ...	...	"	"	Keith Ramsay	Dec. 27, 1879	Completed ...	538 10 10	
May 3, "	Port Chalmers Branch ...	Steamer Wharf and Reclamation, Port Chalmers ...	...	"	"	McGill and Forrest	July 24, 1880	"	26,698 7 8	
July 5, "	"	Port Chalmers Station ...	...	"	"	R. Martin	Dec. 30, 1879	Jan. 17, 1880	3,377 5 0	
Sept. 25, 1878	Brighton Road Branch ...	Green Island Railway Extension ...	F. and P. L.	0 40 50	0 6 0	James Innes ...	Mar. 21, "	July 19, 1879	1,990 16 1	
July 22, 1879	"	Station Buildings ...	Formation	3 0 0	"	Melkie and Campbell ...	Aug. 25, "	Oct. 29, "	310 4 8	
May '8, "	Palmerston to Waihemo ...	Inverthiel ...	"	2 40 0	"	Jesse Coates ...	Jan. 7, 1880	Feb. 28, 1880	4,622 9 4	
April 28, "	Marn Line to Catlin's River ...	Taparui ...	F. P. L., and Blgs.	15 40 0	"	George Mackie	Dec. 21, 1879	"	5,388 10 10	
July 30, 1878	Waipahi to Heriotburn ...	Wyndham ...	Formation	3 70 0	"	Prondford and McKay ...	May 30, 1880	"	61,500 0 0	
May 12, 1879	Edendale to Toitoto ...	Inspector's House, North Taieri ...	Formation	6 65 0	"	James Shirley	Jan. 6, "	"	9,723 9 0	
April 19, "	Otago Central ...	Wingatui ...	Formation	6 0 0	"	J. Hollick ...	July 5, 1879	July 12, 1879	466 13 0	
May 19, "	<i>Invercargill to Kingston.</i>	Lumsden ...	"	6 0 0	"	D. McKenzie ...	Jan. 16, 1881	"	48,839 7 10	
July 10, "	Lumsden to Mararoa ...	Lumsden Bridge ...	"	"	"	D. W. McArthur ...	Mar. 19, 1880	"	3,616 11 4	
Feb. 2, 1880	"	Wallacetown Branch ...	F. and P. L.	11 74 0	1 20 0	Thomas Fergus, assigned to J. M. Watson	Aug. 23, "	"	4,422 18 10	
Aug. 3, 1877	<i>Western Railways.</i> Makarewa to Riverton ...	No. 2, Station Buildings ...	"	"	"	Miller, Murray, and Walker	May 1, 1878	July 31, 1879	11,358 18 0	
Feb. 17, 1879	"	No. 4, Otautau Branch, No. 2 ...	F. and P. L.	10 75 0	0 30 0	Donald McLeod	April 1, 1879	July 31, "	600 0 0	
May 5, "	Riverton Branch to Otautau ...	No. 1, Wayside Station ...	"	"	"	D. Bonthron ...	June 14, "	July 30, "	687 15 6	
Dec. 5, 1878	"	Opio ...	Formation	3 10 0	"	D. Robertson ...	May 26, "	Dec. 13, "	10,600 0 0	
Oct. 2, 1879	"	Riverton ...	F. and P. L.	6 0 0	0 30 0	R. Burns ...	Nov. 26, "	Dec. 1, "	318 17 0	
Sept. 8, "	"	"	"	"	"	J. Campbell ...	Nov. 3, "	Nov. 3, "	570 0 6	
Oct. 2, "	"	"	"	"	"	R. Burns ...	Dec. 10, "	Jan. 4, 1880	630 3 9	
June 20, "	Otautau to Nightcaps... Riverton to Orepuki ...	"	Formation	3 10 0	"	James Innes, assigned to G. Mackie	Feb. 13, 1880	"	4,837 0 0	
" 23, "	"	"	F. and P. L.	6 0 0	0 30 0	D. Robertson	Feb. 27, "	"	21,700 0 0	

APPENDIX G.
SCHEDULE OF SLEEPER CONTRACTS and DELIVERIES CURRENT on the 1st July, 1879, and CONTRACTS ENTERED INTO during the Nine Months ending 31st March, 1880.
NORTH ISLAND.

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers Contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Rate per Month.	Date for Completion.	Total Delivered to Date.	Remarks.
14 March, 1879	F. Mander ...	Auckland ...	5,000 puriri	s. 3 d. 9½	Drury and Pokeno, for Waitato-Thames	One-eighth first two months, one-eighth each succeeding month	3 December, 1879	5,000	Completed.
9 June, "	Gibbons and Darrow ...	Grahamstown	100,000 kauri	2 5	Shortland, Kirikiri, and Puriri	One-tenth first six months, one-twentieth each succeeding month	3 June, 1881	14,150	Completed.
26 November, 1878	Thomas Hollywood	Pukekohe	500 puriri	3 9½	Pukekohe	..	..	500	Completed.
26 October, 1879	Hamlin and Keleher	Waikato	3,000 puriri	3 9½	Mercer	..	..	3,000	Completed.
1 May, "	J. B. Hay ...	Hunua	10,000 kauri	2 11	Hunua	..	..	983	..
1 "	Buckland and Shipley	Auckland	5,000 puriri	4 0	Mercer	..	..	4,083	..
1 "	William Thompson	Mauku	5,000 puriri	4 0	"	..	..	2,404	..
16 September, "	Elijah Hockin	Waikato	400 puriri	3 9½	Onehunga	..	..	365	Completed.
9 December, "	Bernard McCann	Pukekohe West	500 puriri	3 6	Pukekohe	..	..	500	Completed.
17 "	Vincent Walters	Waikato	1,000 puriri	3 6	"	..	..	445	..
20 January, 1880	George G. Walters	Mauku	200 puriri	3 6	Onehunga	..	..	200	Completed.
12 February, "	Robert McCracken	Pukekohe	150 puriri	3 6	Pukekohe	..	..	150	Completed.
20 "	William Stenson	"	400 puriri	3 6	"	..	..	400	Completed.
20 "	Francis Manders	Auckland	300 puriri	3 3	Drury	..	..	300	Completed.
17 December, 1879	John Wheeler ...	Mauku	400 puriri	3 6	Pukekohe	..	..	..	..
16 "	James Wright ...	Pukekohe	250 puriri	3 6	"	..	..	..	..
16 "	D. Fullerton	Mauku	200 puriri	3 6	"	..	..	..	..
16 "	"	"	500 kauri	2 9	"	..	..	..	..
16 "	John Hart	Pukekohe	200 puriri	3 6	"	..	..	..	..
19 January, 1880	Gustave Adolph	Mauku	600 puriri	3 6	"	..	..	..	..
20 "	Albert Walker...	Waikato	600 puriri	3 6	Onehunga	..	..	600	Completed.
20 "	"	"	400 puriri	3 3	"	..	..	..	..
19 "	John Moore	Patamahoe	800 puriri	3 6	Pukekohe	..	..	..	..
19 "	"	"	200 puriri	3 3	"	..	..	..	..
19 "	J. Matthews	Pukekohe	500 kauri	2 9	"	..	..	..	..
12 February, "	W. H. Trail	"	500 puriri	3 6	"	..	..	..	..
12 "	W. H. Reynolds	"	800 puriri	3 6	"	..	..	..	..
12 "	Hugh Kerns	"	300 puriri	3 6	"	..	..	..	..
16 "	W. Bailey	Waikato	1,000 puriri	3 6	"	..	..	..	..
20 "	F. Manders	Ramarama	300 puriri	3 3	Mercer	..	..	300	Completed.
24 "	William Howard	Mauku	1,000 puriri	3 6	Runciman's Sliding...	..	..	..	..
25 "	H. Hamilton	"	200 kauri	2 9	Onehunga	..	..	200	Completed.
25 "	"	"	100 puriri	3 6	Pukekohe	..	..	100	Completed.
25 "	A. Sherdim	Pukekohe	300 puriri	3 6	"	..	..	..	..

SCHEDULE of SLEEPER CONTRACTS CURRENT, &c.—continued.
NORTH ISLAND—continued.

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers Contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Rate per Month.	Date for Completion.	Total Delivered to Date.	Remarks.
AUCKLAND—continued.									
26 February, 1880	E. Hockin	Wainuku	500 puriri	s. 3 6	Onehunga	...	...	...	Completed.
26 "	C. Lorantz	"	1,000 puriri	3 3	Meruere	...	...	...	Completed.
29 March,	C. Kavanagh	Mauku	250 puriri	3 3	Pukekohe	...	...	250	Completed.
29 "	W. Morrow	Pukekohe	100 puriri	3 6	"	...	...	...	Completed.
29 "	S. Bradley	Onehunga	152 puriri	3 3	Onehunga	...	...	...	Completed.
29 "	"	"	201 puriri	3 6	"	...	...	...	Completed.
29 "	T. Patterson	Pukekohe	700 puriri	3 6	"	...	...	...	Completed.
29 "	J. Slaton	"	450 puriri	3 6	"	...	...	...	Completed.
NEW PLYMOUTH.									
26 April, 1879	David Wilkie	Inglewood	10,000 red pine	2 1	Between Waipuku and Stratford	One-fifth first month, one-fifth during each succeeding month	25 June, 1879	10,000	Completed.
Diversified from Wellington, Tasmanian hard wood, Waitara Wharf...									
Miscellaneous per M. O'Donnell									
R. W. Holmes									
		Normanby	278 matai...	1 3	Between Stratford and Normanby	...	17 December, 1879	15,816	Completed.
	R. Smith	"	85 matai...	1 3	Ditto	...	10 October, "	278	Completed.
	M. O'Donnell	"	1,020 matai...	1 3	"	...	15 November, "	85	Completed.
	R. Brown	"	116 matai...	1 3	"	...	27 January, 1880	1,020	Completed.
	W. Baker	"	170 matai...	1 3	"	...	19 "	116	Completed.
	W. L. Fitzgerald	"	107 matai...	1 3	"	...	30 "	170	Completed.
	W. Thompson	"	64 matai...	1 3	"	...	2 February, "	107	Completed.
	J. Caddy	"	49 matai...	1 3	"	...	2 "	64	Completed.
	R. Stewart	"	563 matai...	1 3	"	...	2 "	49	Completed.
		"			"	...	10 "	563	Completed.
WANGANUI.									
20 July, 1877	Richter Namestead & Co.	Palmerston North	23,000 totara and matai	2 7	Wanganui Railway Wharf	One-eighth of contract number each month	9 April, 1878	23,000	Completed.
8 December, 1879	"	"	791 totara	2 6	Palmerston North	...	...	987	Completed.
14 May, 1878	W. H. Lash	Halcombe	196 matai	1 9	Halcombe	One-eighth first two months, one-eighth each succeeding month	27 January, 1879	2,753	Contract determined.
13 March, 1879	Randolph and Walker	Palmerston North	30,000 totara	2 11	Halcombe	One-eighth first two months	8 December, "	600	Completed.
22 May, "	Bailey Bros.	Feilding	{ 300 totara 300 matai	2 11	Long Bush Station, Foxton-Wanganui Railway	...	22 October, "	3,000	Completed.
5 April, "	J. and C. Bull	Rangitikei	{ 3,000 totara 5,000 matai	2 9	Taunui Siding	One-eighth first month, one-eighth each succeeding month	13 December, "	17,937	Completed.
28 "	P. Bartholomew	Feilding	{ 20,000 totara 3,000 matai	2 10	Aorangi Siding and Greatford Station	...	23 January, 1880	5,405	Completed.

SCHEDULE of SLEEPER CONTRACTS CURRENT, &c.—continued.
NORTH ISLAND—continued.

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers Contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Rate per Month.	Date for Completion.	Total Delivered to Date.	Remarks.
3 May, 1879	G. M. Snelson	Palmerston North	10,000 matai	s. 2 d. 4	Between Awapuni, Palmerston North, and Bunnythorpe	1,500 per month	3 February, "	10,000	Completed.
18 November, "	"	"	800 matai	500 at 2 300 at 1	"	"	"	800	Completed.
10 May, "	G. Hansen	"	1,000 matai	2 4	Terrace End Siding	"	10 September, 1879	1,000	Completed.
3 June, "	Harvey and McCall	Feilding	3,000 totara	2 4	"	"	3 November, "	3,000	Completed.
3 May, "	Freeman and Wylde	Palmerston North	3,000 totara	2 9	Oroua Bridge Station	"	3 October, "	3,000	Completed.
6 "	Anders Jonsson	Foxton	1,000 totara	2 9	Terrace End Siding	"	6 August, "	1,000	Completed.
9 June, "	Edward Marsh	Palmerston North	2,000 totara	2 3	"	"	9 November, "	2,000	Completed.
12 "	N. Bergquist	"	600 matai	2 0	Awapuni Platform	"	12 September, "	600	Completed.
12 "	Max Voss	"	600 matai	2 0	Karere Station	"	12 "	600	Completed.
13 "	Thomas Pearce	Oroua Bridge	5,000 totara	2 0	Oroua Bridge	"	13 December, "	2,155	Completed.
14 "	A. Grammar	Palmerston North	{ 750 totara 750 matai }	2 9	Terrace End Siding	"	14 November, "	1,500	Completed.
9 May, "	Petter Anderson	"	2,000 totara	2 9	"	"	9 October, "	2,000	Completed.
13 "	A. F. Halcomb	Feilding	3,000 totara	2 9	"	"	13 "	1,100	Completed.
13 "	G. M. Snelson	Palmerston North	3,000 totara	2 9	Bunnythorpe and Palmerston	"	13 "	3,000	Completed.
13 "	Neils Peterson	"	1,000 matai	2 0	Palmerston Station	"	13 August, "	1,000	Completed.
16 "	Patrick Maxwell	"	{ 500 totara 500 matai }	2 9	Awapuni	"	16 "	"	"
13 June, "	G. Richardson	Palmerston North	{ 250 totara 250 matai }	2 6	Palmerston North	One-eighth first two months, one-eighth each succeeding month	3 December, "	500	Completed.
10 July, "	West and Cooper	"	100,000 totara	1 3½	Totara Reserve, Taonui Branch	4,000 first four months, 6,000 each succeeding month	17th July, 1881	3,570	Cutting only.
WANGANUI—continued.									
WELLINGTON.									
1 May, 1878	William Booth and Co.	Carterton	25,000 matai	{ 2s. 3d. & 2s. 6d. s. d.	Railway line, 57 m. 5 ch., near Featherston and Carterton Stations	One-third first six months, one-ninth every succeeding month	1 May, 1879	25,000	Completed.
11 June, "	W. W. Corpe	Taratahi	{ 10,000 matai 5,000 totara }	2 1 2 3	Railway crossing, Cemetery Road, Taratahi	One-third first six months, one-ninth every succeeding month	11 June, "	15,000	Completed.
3 March, 1879	J. Cotter and Co.	Greytown	10,000 black pine	2 9	Featherston Station	One-eighth first two months, one-eighth each succeeding month	3 December, "	10,000	Completed.
10 April, "	Price and Potts	Carterton	{ 15,000 totara 10,000 matai }	2 11 2 10	Featherston Station	About 3,000	7 January, 1880	14,200 totara 5,400 matai	
31 January, "	W. L. Crowther*	Tasmania	25,000 hardwood.	3 6 4 2	Wellington	"	31 "	20,638	

* W. L. Crowther to supply 50,000 Tasmanian hardwood sleepers—25,000 for P. W. D., North Island, and 25,000 to Working Railways, South Island.

SCHEDULE of SLEEPER CONTRACTS CURRENT, &c.—continued.
NORTH ISLAND—continued.

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers Contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Rate per Month.	Date for Completion.	Total Delivered to Date.	Remarks.
HAWKE'S BAY.									
1 July, 1879	George Ward	Kopua	229 totara	s. d. 2 0	On line near Kopua	...	31 July, 1879	229	Completed.
1 " "	George Hansen	"	1,500 totara	2 0	On line at 66 m. 44 ch.	...	31 October, "	1,500	Completed.
16 March, 1880	"	"	1,000 totara	2 0	"	...	21 April, 1880	...	Completed.
16 " "	"	"	500 totara	1 6	On line between 67 m. 2 ch. and 67 m. 40 ch.	...	21 " "	500	Completed.
16 " "	J. Barnes	"	600 totara	2 0	On line at 66 m. 30 ch.	...	21 " "	400	
16 " "	B. Billings	Makatoko	1,200 totara	1 6	At Makatoko Station	...	21 " "	400	
SOUTH ISLAND.									
PICTON-BLENHEIM RAILWAY.									
3 June, 1879	Bragge Bros.	Picton	{ 1,000 matai 4,000 b. birch	2 3 } 2 6 }	Blenheim	One-third first three months, one-third each succeeding month.	19 October, 1879	{ 888 3,880	
NELSON-GREYMOUTH RAILWAY.—NELSON-ROUNDELL.									
24 January, 1879	H. Baigent	Nelson	3,000 matai	2 3	Waitapu	...	...	3,060	Completed.
" "	"	"	2,000 totara	3 0	"	...	...	2,000	Completed.
14 July, "	C. H. Mills	Havelock	10,000 birch	3 3	Nelson	One-twentieth	14 July, 1881	{ 1,100* 3,179†	
25 " "	C. Holder and Co.	Greymouth	22 birch	4 10½	Public Works Office, Greymouth	...	...	22	Completed.
* Delivered at Lyttelton; sleepers being diverted. † Delivered at Nelson.									
GREYMOUETH-HOKITIKA.									
2 August, 1879	Henry Hearn	Hokitika	4,000 totara, kawhaka, matai, and silver pine	3 0	Gibson's Quay, Hokitika	One-twentieth during the first five months, and one-twentieth during each succeeding month	7 July, 1881	1,900	
HURUNUI-WAITAIKI.									
31 January, 1879	W. L. Crowther	Tasmania	6,080 hardwood	3 6 } 4 2 }	Lytelton	...	31 January, 1880	6,080	Completed.
WAITAKI-BLUFF, ETC.									
October, 1879	Thomas Paterson	Balclutha	1,231 blk. pine	2 3	Balclutha	...	...	1,231	Completed.
November, "	Findlay and Co.	Dunedin	869 blk. pine	3 2	Dunedin	...	...	869	Completed.
" "	T. Potter	Balclutha	1,007 blk. pine	2 3	Balclutha	...	...	1,007	Completed.
" "	Guthrie and Larnach	Dunedin	333 blk. pine	3 2	Dunedin	...	...	333	Completed.
October, "	Engineer in Charge, North Island	Wellington	12,472 blk. pine	...	Port Chalmers	...	...	12,472	Completed.
WESTERN RAILWAYS.									
13 September, 1877	John Murdock and Co.	Invercargill	10,000 matai or totara	1 11	Invercargill Railway Station	One-fifth first two months, remainder in equal monthly instalments	28 February, 1878	10,000	Completed.
30 April, 1879	F. Jack	Winton	{ 8,000 totara and matai }	3 0	Aparima Junction	One-fourth first month, one-fourth each succeeding month	21 August, 1879	8,000	Completed.
28 " "	Boyd and Edwards	Invercargill	2,000 totara	2 11½	"	One-fourth first month, one-fourth each succeeding month	21 " "	2,000	Completed.
7 July, 1879	John Murdock	"	60,000 black pine	3 5	Stacked alongside Mataura Railway and Bluff Harbour	One-twentieth to be delivered in five months, remainder in equal monthly instalments	7 July, 1881	13,816	
7 " "	D. and W. Lockhart	"	30,000 black pine	3 3	On trucks at Centre Bush Crossing, Invercargill-Kings-ton Railway	One-twentieth to be delivered in five months, remainder in equal monthly instalments	" "	11,531	

APPENDIX H.

SCHEDULE of CONTRACTS for ROADS and MISCELLANEOUS WORKS Current on the 1st July, 1879, and CONTRACTS entered into during the Financial Year ended 31st March, 1880.

NORTH ISLAND.

Date of Contract.	Line of Road or Work.	Name of Contract.	Name of Contractor.	Contract to be Completed.	Date Contract was Completed.	Amount of Contract.	Remarks.
No formal contract	Roads, North Island	No. 1 Whakatane, Te Teko Road	Rangi te Hika	...	...	£ 970 10 6	
No formal contract	"	Deviation, Te Teko Road	"	...	...	151 10 0	
No formal contract	"	No. 1 Side-cutting, Galatea-Opepe Road	Peraniko te Ngatimannu	...	...	500 0 0	
Dec. 10, 1879	"	No. 2, Patutahi Drainage	Edward Brennan	Feb. 10, 1880	Feb. 12, 1880	41 12 10	Balance of contract, £247 15s. 6d., changed to Miscellaneous Public Works.
Feb. 24, "	"	Opara Cart Bridge	Abbot and White	Aug. 24, 1879	Dec. 1, 1879	2450 0 0	
April 22, "	Roads, North of Auckland	Section 2, North Shore to Te Weiti Road	Erne Bond, and Co.	July 22, "	Aug. 20, "	170 0 0	
May 24, "	"	Matakohe Cart Bridge	Richard Smith	Nov. 3, "	Nov. 22, 1879	1,010 18 0	
May 21, "	"	Mangapai Wharf	McLean and Ormiston	Sept. 6, "	Dec. 20, "	548 0 0	
Aug. 23, "	"	Kaiwhaka Wharf	A. and K. Stewart	Dec. 4, "	Dec. 20, "	248 0 4	
March 4, 1880	"	Mangapai Wharf Approaches	David Miller	April 26, 1880	June 17, "	314 17 0	
March 23, "	"	Repairs, Road between Waivera and Orewa Rivers	William McElroy	June 23, "	June 23, "	294 0 0	
March 19, "	"	Section 3, North Shore to the Wade Road	Matthew Phillip	June 19, "	June 19, "	170 0 0	
Feb. 4, "	Roads and bridges in unsettled districts	No. 1, gravelling Waingouoro River	Daniel Hughes	Mar. 9, "	Mar. 30, 1880	144 0 0	
Feb. 4, "	Roads and bridges in unsettled districts	No. 2, "	"	Mar. 10, "	Mar. 30, "	169 0 0	
Feb. 4, "	Roads and bridges in unsettled districts	No. 3, "	"	Mar. 9, "	Mar. 30, "	184 0 0	
March 8, "	Roads and bridges in unsettled districts	No. 4, "	Gordon and Vincent	April 15, "	April 15, "	448 7 0	
Feb. 28, "	Roads and bridges in unsettled districts	No. 5, "	Dingle Brothers	April 10, "	April 10, "	416 10 0	
Mar. 30, "	Roads and bridges in unsettled districts	No. 4, gravelling Mountain Road	Joseph Mulree	May 6, "	May 6, "	446 12 6	
April 14, 1879	Roads to open up lands before sale	Section 1, Purua Road	David Cleary	July 14, 1879	July 23, 1879	200 0 0	
April 14, "	"	Section 2, Purua Road	Finlayson and Campbell	July 21, "	July 23, "	415 0 0	
April 9, "	"	Section 1, Herd's Point to Takahue	William McElroy	Aug. 9, "	Sept. 6, "	425 0 0	
April 16, "	"	Falling and Clearing Road-lines Nos. 2 and 5, Kairanga District	Symons and Cribb	July 12, "	April 27, 1880	563 10 0	
April 15, "	"	Falling and Clearing Road-lines No. 4, Kairanga District	Bickle and Stevens	July 12, "	Oct. 18, 1879	234 10 6	
April 15, "	"	Falling and Clearing Road-lines No. 6, Kairanga District	Calvey and Co.	July 12, "	Sept. 21, "	330 0 0	
July 2, "	"	Section 1, Bridle Track, Tangihau No. 2 Block	William McDonald	Nov. 2, "	Dec. 12, "	281 13 6	
July 2, "	"	Section 2, Bridle Track, Tangihau No. 2 Block	"	Nov. 2, "	Nov. 29, "	186 18 0	
Aug. 14, "	"	Section 2, Herd's Point to Takahue	Nui Hare	Jan. 28, 1880	Completed	600 16 0	
Aug. 21, "	"	Mangonui Cart Bridge	Brown, Roberts, and Tooke	Feb. 13, 1880	Feb. 19, 1880	689 0 0	
May 27, "	"	Bridle Track, Hangaroa Village to Morris's Track	Malcolm McLeod	Sept. 2, 1879	Aug. 29, 1879	334 10 0	
April 28, "	"	No. 2, Clearing Bush Road	Edward Harding	July 21, "	Aug. 25, "	392 10 0	

SCHEDULE of CONTRACTS CURRENT—continued.
NORTH ISLAND—continued.

Date of Contract.	Line of Road or Work.	Name of Contract.	Name of Contractor.	Contract to be Completed	Date Contract was Completed.	Amount of Contract.	Remarks.
April 10, 1879	Roads to open up lands before sale	No. 1, Road Formation, Waitara Block ...	Parker and Higgs	July 17, 1879	Nov. 3, 1879	£ 337 0 0	
Aug. 23, "	"	No. 1, Bridle Road, Karapitiki to Mangone	Te Winitana	Nov. 15, "	Completed	300 0 0	
Feb. "	"	No. 2, Mangone Stream to Waiau Road	D. A. Poole	July 19, 1880	"	1,029 8 6	
March 1, "	"	Section 1, Bridle Road, Churchill to Block VII, Awaroa	Henrich Lührs	June 1, "	"	496 17 4	
March 20, "	"	No. 1, Drainage, Te Aroha Block	H. H. Adams	Sept. 10, "	"	615 0 0	
March 20, "	"	No. 2, Drainage, Te Aroha Block	"	Sept. 10, "	"	955 0 0	
Jan. 7, 1879	Miscellaneous Public Works	No. 1, Patutahi Drainage	Edward Brennan	May 4, 1879	Nov. 1, 1879	954 19 0	
Jan. 13, "	"	Matakana Wharves	D. J. Cruikshank	May 7, 1879	Aug. 21, "	480 0 0	
Feb. 5, "	"	Repairs, Panmure Bridge	J. and M. McLean	June 3, "	July 7, "	1,308 0 0	
March 10, "	"	Kamo, formation for railway	Thomas Jones	Oct. 31, "	"	1,678 14 7	
Aug. 25, "	"	Ahuriri Bridge	Briton and Glendinning	Aug. 13, 1880	"	11,200 0 0	Balance of contract, £2,257 9s. 11d., charged to Whangarei-Kamo contract.
July 14, "	"	Opaki Bridge, Ruamahunga River	William Alexander	May 1, "	"	5,500 0 0	
Nov. 4, "	"	Mangere Bridge, repairs	D. Henderson	Mar. 28, "	"	1,485 5 6	
Dec. 10, "	"	No. 2, Patutahi Drainage	Edward Brennan	Feb. 19, "	Feb. 12, 1880	247 15 6	
March 28, "	Provincial Liabilities	Forming streets on reclamation	R. Duignan	July 26, 1879	"	1,250 0 0	£41 12s. 10d., charged to roads, North Island.
June 23, "	"	Forming footpaths on reclamation	Thomas Stevens	Aug. 23, "	Oct. 20, 1879	500 0 0	
March 30, 1880	"	Motoa Swamp Drainage	William Leangley	July 30, 1880	"	456 0 0	
March 8, "	"	Painting Manawatu Gorge Bridge	R. and E. Tingey	"	"	147 0 0	
MIDDLE ISLAND.							
Sept. 9, 1879	Roads to open up land before sale	Seaward Forest and Coast-line Road	Alfred Springfield	Mar. 4, 1880	Feb. 28, 1880	1,485 0 0	
"	New River Water-race	Subsidy	New River Water-race Company	"	"	377 12 0	
Aug. 21, 1879	Mikonoii Water-race	Section 9-2	Stewart and Webster	Dec. 18, 1879	Jan. 26, 1880	579 13 6	
Sept. 2, "	"	Section 9-3	Martin and Dowling	Dec. 18, "	"	579 13 6	
Aug. 25, "	"	Section 9-4	Scott and Neilson	Dec. 22, "	"	563 6 5	
Sept. 29, "	"	Section 10-2	Martin Cashman	Dec. 19, "	Feb. 24, "	507 4 0	
Oct. 3, "	"	Section 9-1	John McQuilkin	Jan. 24, 1880	"	514 16 0	
Sept. 30, "	Waimea Water-race	Section 10-1	James Scott	Jan. 24, "	"	547 16 0	
June 24, 1878	Miscellaneous Public Works	Teremakau Bridge	John Maher	Sept. 26, "	"	5,830 0 0	
July 11, "	"	Hokitika Bridge	Edward Blake	Mar. 10, 1879	Sept. 12, 1879	7,303 0 0	
July 4, "	"	Alaura Bridge	W. Smith	Mar. 10, "	Aug. 25, "	6,804 4 8	
Nov. 27, "	"	Waioa Cart Bridge	M. O'Connor	Mar. 10, "	Oct. 14, "	7,983 0 0	
Nov. 2, "	"	Maruwahenua Railway Bridge	F. Freeman	Sept. 22, "	Oct. 4, "	3,228 10 0	
Feb. 10, 1879	"	Ohikanui Bridge	Allan and Stumbles	Mar. 28, "	July 29, "	2,077 5 11	
May 9, "	"	Jetty and Goods Shed at Catlin's River	Henry Daulby	June 10, "	Oct. 25, "	1,998 10 0	
Jan. 3, 1880	"	Wakamarina Cart Bridge	William McPhee	July 9, "	Oct. 10, "	419 0 0	
Jan. 20, "	"	River Wills Bridge	J. Gilbertson	July 30, 1880	"	1,673 13 4	
March 3, "	"	No. 2, Tophouse to Tarndale Road	Gifford and Foot	April 13, "	"	546 13 4	
March 3, "	"	No. 3, "	John McCulloch	April 28, "	"	130 0 0	
March 3, "	"	No. 4, "	Robert Christian	April 28, "	"	155 0 0	
March 3, "	"	No. 5, "	Robert Carter	April 28, "	"	150 0 0	
March 3, "	"	No. 6, "	Robert Carter	April 28, "	"	55 0 0	

APPENDIX I.

ANNUAL REPORT ON LIGHTHOUSE WORKS BY THE MARINE ENGINEER.

The MARINE ENGINEER to the SECRETARY, Marine Department.

SIR,—

Marine Office, Wellington, 31st March, 1880.

I have the honor to forward, for the information of the Minister having charge of the Marine Department, the annual report on works executed for new lighthouses, &c., during the year, viz. :—
Hokitika Harbour Light.—This has been completed since last report. The light was first exhibited on the 22nd September, 1879. It is a fifth-order fixed light, the illuminant being gas. It will be maintained by the Harbour Board, Hokitika.

Akaroa.—These works were satisfactorily completed, and the light was shown for the first time on the 1st January, 1880. The light is a second-order flashing light, showing a flash every ten seconds.

Cape Saunders.—The works here have also been completed in a satisfactory manner, and the light was first shown on 1st January, 1880. It is a second-order revolving light, attaining its greatest brilliancy once a minute.

Marine Store and Shed.—These buildings, which were very much needed for the use of the department, have been erected on the Thorndon reclaimed land, near Pipitea Point, Wellington, and are now in use.

I have, &c.,

JOHN BLACKETT,

Marine Engineer.

The Secretary, Marine Department.

APPENDIX J.

ANNUAL REPORT BY THE CHIEF INSPECTOR OF MACHINERY.

The CHIEF INSPECTOR of MACHINERY to the Hon. the MINISTER for PUBLIC WORKS.

Office of the Chief Inspector of Machinery,

Wellington, 27th May, 1880.

SIR,—

I have the honor to forward for your information a report for the past nine months ending 31st March, 1880, being the sixth report of the inspection of Machinery Department.

As anticipated in my last annual report, a steady increase has taken place in the number of boilers inspected during that time as compared with the corresponding period of last year. This is, no doubt, in consequence of the imposition of an import duty on timber, which has induced saw-millers and others to continue working machinery which otherwise would have remained idle, and I am sanguine that still greater results may be shown in the future.

The number of inspections from 1st July, 1879, to 31st March, 1880, were 837. Of this number, 5 have been condemned and 82 were found defective, and notices were accordingly given to the owners to have necessary repairs effected. It is satisfactory to state that the Inspector's instructions have, in all cases, been promptly carried out, and the boilers put in good working order.

It is still found necessary for the protection of the employés in the different works where machinery is used to enforce the provisions of the Act with reference to fencing, or otherwise protecting the machinery.

Only seventeen of such notices have been issued during the past nine months, but as many as forty-eight had to be given for the previous twelve months. I hope it will be found that the number will decrease year by year, in consequence of the desire of owners to make their machinery and works perfectly safe without waiting for instructions from the Inspectors to do so.

I am glad to be able to state that, where fencing has been ordered, the work has been done to the satisfaction of the Inspectors without any delay.

The number of machines of various kinds at work in the colony, using steam-power, is 730, and it has been found necessary to import gauge-testers from England to enable the Inspectors to carry out their duties in connection therewith in a more efficient manner. It has also been found, from tests that have already been made, that there exists a great need for such instruments.

I have much pleasure in stating that although there are so many different kinds of boilers in use, yet no explosion has taken place during the past nine months, which I think may be taken as satisfactory evidence that the department is doing good work.

The only accident that has occurred during the period, attended with serious results, was a case where a lad, employed in the Union Sash and Door Company's Works at Auckland, was drawn round a shaft (which he had no business near), and killed.

In this case the machinery was fully protected as far as could be, and the accident was caused solely by the fault of the sufferer.

Three slight injuries to persons have been reported by the Inspectors.

The tables annexed will show the number of boilers inspected, and all particulars connected therewith.

I append tables also of the income and expenditure for the nine months ended the 31st March, 1880.

I have, &c.,

The Hon. the Minister for Public Works,
Wellington.

J. NANCARROW,
Chief Inspector of Machinery.

Enclosure No. 1 in Appendix J.

STATEMENT showing the AMOUNT of FEES Collected in the INSPECTION of MACHINERY DEPARTMENT during the Nine Months ended 31st March, 1880.

Name of District.	Amount Collected.
Otago	£401 0 0
Canterbury	346 0 0
Auckland... ..	377 0 0
Wellington	287 0 0
Marlborough ... ..	...
Taranaki	38 0 0
Nelson North ... ..	...
Nelson South ... ..	...
Westland	26 0 0
Hawke's Bay	84 0 0
Total	£1,559 0 0

Enclosure No. 2 in Appendix J.

STATEMENT showing the COST of WORKING the INSPECTION of MACHINERY DEPARTMENT during the Nine Months ended 31st March, 1880.

Nature of Expenditure.	Amount Expended.
Salaries	£1,020 0 0
Travelling expenses	326 9 3
Sundries	42 15 6
Total	£1,389 4 9

Enclosure No. 3 in Appendix J.

STATEMENT showing the NUMBER of BOILERS INSPECTED during the Nine Months ended 31st March, 1880.

Name of Districts.	Number of Portable Boilers.			Number of Stationary Boilers.			Total.
	Under 5 H.P.	5 to 10 H.P.	Over 10 H.P.	Under 5 H.P.	5 to 10 H.P.	Over 10 H.P.	
Otago	15	45	10	77	28	53	228
Canterbury	5	110	4	46	8	19	192
Auckland	12	20	17	48	28	75	200
Wellington	13	27	13	25	26	41	145
Marlborough ... ..	...	...	...	...	...	...	...
Taranaki	1	4	...	1	5	3	14
Nelson North ... ..	...	...	...	...	...	...	...
Nelson South ... ..	...	...	...	...	...	...	...
Westland	1	...	...	8	3	4	16
Hawke's Bay ... ..	...	21	4	8	5	4	42
Total	47	227	48	213	103	199	837

Enclosure No. 4 in Appendix J.

STATEMENT showing the NUMBER of ACCIDENTS to PERSONS that have occurred with MACHINERY, as reported to Inspectors, during the Nine Months ended 31st March, 1880.

Date.	District.	Nature of Machine, and Name of Owner.	Remarks.
1879. Aug. 20	Dunedin ...	Planing machine; Findlay and Co...	Man named W. Robertson had two fingers injured, which had to be amputated.
Dec. 31	Timaru ...	Flour-mill; William Parr ...	James Black, scalded, not serious.
1880. March —	Auckland ...	Union Sash and Door Company ...	Henry Bennett, injured by a piece of wood being thrown from a saw.
„ —	Auckland ...	Union Sash and Door Company ...	Harry Jeffery, killed, by being drawn round a shaft he had no business near.

APPENDIX K.

ANNUAL REPORT ON WORKING RAILWAYS, BY THE COMMISSIONER OF RAILWAYS, NORTH ISLAND.

The COMMISSIONER of RAILWAYS, North Island, to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Wellington, 30th April, 1880.

I have the honor to submit the following remarks and statistics bearing on the working of the North Island Railways for the nine months ending 31st March, 1880.

A change having been made in the ending of the financial period (from 30th June to 31st March), the nine corresponding months of the previous year will be taken for purposes of comparison; and, as far as practicable, I will adopt the same order, and continue the statistics, &c, embodied in my last report.

The following table shows the progress of railway extension in the North Island to date, and also the lines now in course of construction, and likely to be opened for traffic during the current financial year.

Section.	30th June, 1877.		Mileage Open for Traffic on 30th June, 1878.		30th June, 1879.		31st March, 1880.		Now under Construction.	
	M.	ch.	M.	ch.	M.	ch.	M.	ch.	M.	ch.
Kaipara ...	15	68	15	68	15	68	15	68	0	43
Auckland ...	45	42	96	29	96	29	106	16	20	1
Napier ...	58	21	64	4	64	4	64	4	5	14
Wellington ...	19	44	27	7	44	79	44	79	23	48
Wanganui ...	59	3	85	27	94	57	94	57	20	70
New Plymouth	11	13	19	73	19	73	33	16	4	0
Total ...	209	31	308	48	335	70	359	0	74	16

Of the lines under construction, 43 miles are likely to be opened before the end of August of the current year.

The extension of the line from Featherston to Greytown and Masterton (24 miles) will open up the principal part of the Wairarapa Plain, and connect its chief centres of population with Wellington. Seven miles of this will be opened about the middle of May, and the remainder in August next. Another important extension of the northern trunk line, Kai Iwi to Waitotara (13 miles), will be ready for opening about the end of August; and a further length to Waverley (8 miles) in the early part of next year, connecting Wanganui with 33 miles of the fine country northward of that town, and making it an easy day's journey thence to New Plymouth by rail and coach. A short length of 6 miles at the southern extremity of the Waikato Section will also be ready in July next. These extensions will, I have no doubt, prove fairly remunerative; but with regard to the remaining 23 miles likely to be opened during the current financial year, I fear they will barely pay working expenses for some time to come.

By your instructions the train mileage has been considerably reduced, and expenditure in other directions curtailed. These changes have not, however, been long enough in force to materially effect the results to date.

The reduction in train mileage already effected is at the rate of about 170,000 miles per annum, representing a considerable saving in working expenses; and still further reductions are under consideration.

Landslips, floods, and other similar casualties have, as usual, occurred, swelling the maintenance cost, as well as interrupting communication and stopping traffic.

The frequent recurrence of these, and the costly nature of maintenance incidental to light and cheaply-constructed railways, make it impossible, even with the most rigid economy in other directions, to compare favourably, in our percentages of expenditure to receipts, with some of the

other Australasian Colonies. Not only is the maintenance of the road costly, but, from the character of the grades and curves, the wear and tear of the rolling-stock is also excessive, and, as will be shown by the statement below, the percentages under these two heads bear an undue proportion to the gross expenditure.

For Period ending	Miles Open for Traffic.	Train Mileage.	Maintenance.		Locomotive, Carriage, and Wagon Repairs.		Total Maintenance, Locomotive, Carriage, and Wagon Repairs.		Gross Expenditure.		Percentage of Expenditure to Receipts.	
			Average Cost per Mile of Railway per Annum.	Cost per Train Mile.	Average Cost per Mile of Railway per Annum.	Cost per Train Mile.	Average Cost per Mile of Railway per Annum.	Cost per Train Mile.	Average Cost per Mile of Railway per Annum.	Cost per Train Mile.	On Maintenance, Locomotive, Carriage, and Wagon Repairs.	On Gross Expenditure.
			£	d.	£	d.	£	d.	£	d.	£	£
12 months, June 30, 1877 ...	210	320,575	112'23	14'84	23'79	3'15	136'02	17'99	311'71	41'21	35'20	80'54
12 months, June 30, 1878 ...	309	484,607	114'38	15'01	40'95	5'38	155'33	20'39	311'31	40'86	41'28	81'81
12 months, June 30, 1879 ...	336	712,327	129'28	14'16	44'60	4'88	173'88	19'04	359'66	39'38	36'04	74'53
9 months, Mar. 31, 1880 ...	359	519,260	121'79	14'94	40'65	4'99	162'44	19'93	344'53	42'26	34'35	72'87

The North Island lines are comparatively new (the average age of the 359 miles open to 31st March, 1880, being only three years and ten months); and, notwithstanding the light train-mileage and traffic, it will be seen that the maintenance is increasing, and no doubt the time is not far distant when extensive repairs and renewals will be necessary.

To meet this prospective liability, I fear that it will be necessary to resort to higher tariff charges, unless traffic increases very much, notwithstanding our efforts to curtail expenditure.

Since the discussion in the Houses of Parliament last session on the subject of increased rates, as a means of making the lines pay a higher percentage of interest on the construction-cost, I have made an effort to compile a comparative statement of tariff charges on the railways of the Australasian Colonies, which I now submit (see Table A). The table is defective in some respects, owing to the difficulty of getting exact conditions, placing all on the same footing; still I think it may be accepted as a tolerably close approximation for the present purpose.

Only the principal descriptions of traffic in the classification have been dealt with, and these, in turn, have been grouped so as to include kindred items, as shown on the following page:—

ANALYSIS OF TABLES A AND B.

Colony.	Agricultural Produce. *				Wool. †				Minerals, &c. ‡				General Merchandise. §																			
	Tariff for				Tariff for				Tariff for				Tariff for																			
	10 Miles.	50 Miles.	100 Miles.	150 Miles.	10 Miles.	50 Miles.	100 Miles.	150 Miles.	10 Miles.	50 Miles.	100 Miles.	150 Miles.	10 Miles.	50 Miles.	100 Miles.	150 Miles.																
New Zealand ...	s. 5	d. 10	s. 19	d. 31	s. 8	d. 41	s. 2	d. 0	s. 4	d. 27	s. 4	d. 9	s. 1	d. 10	s. 7	d. 3	s. 10	d. 4	s. 12	d. 8	s. 6	d. 22	s. 1	d. 35	s. 8	d. 46	s. 5	d. 5				
Victoria ...	s. 8	d. 1	s. 17	d. 6	s. 34	d. 45	s. 0	d. 1	s. 2	d. 45	s. 0	d. 6	s. 8	d. 6	s. 6	d. 6	s. 7	d. 6	s. 14	d. 5	s. 21	d. 9	s. 8	d. 0	s. 17	d. 11	s. 35	d. 8	s. 53	d. 2		
New South Wales ...	s. 5	d. 4	s. 16	d. 5	s. 32	d. 44	s. 6	d. 8	s. 2	d. 6	s. 5	d. 0	s. 6	d. 7	s. 4	d. 2	s. 7	d. 6	s. 12	d. 4	s. 17	d. 11	s. 7	d. 22	s. 7	d. 44	s. 7	d. 64	s. 7	d. 64		
South Australia ...	s. 4	d. 8	s. 16	d. 7	s. 31	d. 24	s. 5	d. 9	s. 1	d. 0	s. 3	d. 6	s. 6	d. 0	s. 7	d. 9	s. 2	d. 1	s. 10	d. 5	s. 20	d. 10	s. 31	d. 3	s. 5	d. 4	s. 19	d. 0	s. 36	d. 3	s. 53	d. 3
Queensland ...	s. 3	d. 10	s. 17	d. 6	s. 28	d. 54	s. 0	d. 6	...	...	...	...	...	...	s. 2	d. 3	s. 7	d. 2	s. 13	d. 5	s. 20	d. 5	s. 6	d. 9	s. 13	d. 7	s. 58	d. 11	s. 84	d. 6
Average of Colonial Railways (including New Zealand)	s. 5	d. 6½	s. 17	d. 5	s. 31	d. 74	s. 0	d. 1	s. 4½	d. 3	s. 9	d. 6	s. 2½	d. 7	s. 2	d. 10½	s. 7	d. 9½	s. 14	d. 3	s. 20	d. 9½	s. 6	d. 8	s. 18	d. 10	s. 42	d. 2½	s. 60	d. 4½		
Average of Colonial Railways (excluding New Zealand)	s. 5	d. 6	s. 17	d. 0	s. 31	d. 74	s. 0	d. 1	s. 6	d. 3	s. 7	d. 5	s. 10	d. 7	s. 3	d. 3	s. 4	d. 7	s. 11	d. 15	s. 3	d. 22	s. 10	d. 6	s. 10	d. 18	s. 34	d. 3	s. 43	d. 10	s. 63	d. 10
Average of Principal English Railways	s. 8	d. 4	s. 15	d. 11	s. 23	d. 5	s. 29	d. 7	s. 1	d. 10	s. 3	d. 8	s. 5	d. 4	s. 6	d. 6	s. 4	d. 1	s. 8	d. 10	s. 10	d. 8	s. 16	d. 10	s. 8	d. 8	s. 16	d. 6	s. 24	d. 6	s. 30	d. 10
New Zealand compared with the average of Colonial Railways.	Higher (including New Zealand)	s. 0	d. 3½	s. 1	d. 9	s. 0	d. 1	...	...	s. 0	d. 5	s. 1	d. 1½	s. 1	d. 7½	...	...	...	...	...	...	...	...	s. 2	d. 3	...	...	...	...
	Higher (excluding New Zealand)	s. 0	d. 4	s. 2	d. 2	s. 0	d. 1	...	...	s. 0	d. 7	s. 1	d. 6	s. 2	d. 2	...	...	...	...	...	...	...	...	s. 2	d. 10	...	...	...	...
	Lower (including New Zealand)	...	...	...	...	s. 3	d. 10	s. 0	d. 4½	...	...	...	...	s. 1	d. 0½	s. 0	d. 6½	s. 3	d. 11	s. 8	d. 1½	s. 0	d. 6	...	...	s. 6	d. 6½	s. 13	d. 11½	
	Lower (excluding New Zealand)	...	...	...	...	s. 4	d. 10	s. 6	...	...	...	...	...	s. 1	d. 6	s. 0	d. 8	s. 4	d. 11	s. 10	d. 2	s. 0	d. 8	...	...	s. 8	d. 2	s. 17	d. 5	

This statement indicates a lower scale of charges generally on the New Zealand railways, so that, upon this ground, there is a justification for increasing our charges to meet the contingency referred to, should you deem it desirable.

Since the comparison of colonial tariff charges (Table A) was printed, I have been favoured by the General Manager of the Manchester, Sheffield, and Lincolnshire Railway Company (one of the leading English lines) with a similar statement of charges (Table B) applicable between non-competing points on the principal railways at Home.

In connection with the analysis of Table A, it will be observed that there exists a considerable difference in the comparison of rates for long distances. Our tariff has been framed upon a scale calculated to aid in promoting and developing settlement and production up-country; and I am of opinion that the principle of "decreasing scale for distance" is essential in a new colony, and would not, therefore, advocate any changes in this respect.

I have recently submitted to you a suggestion whereby the railway net revenue of the colony might be increased by upwards of £80,000 (equivalent to 1 per cent. on construction-cost), by adding a small percentage on the current charges for all distances.

In addition to this, I have also pointed out that on non-paying sections, and on lines passing through country of an exceptional character, an additional mileage, beyond the actual distances, might reasonably be imposed.

The net revenue for the nine months has fallen short of the estimate by £2,324, but, notwithstanding the exceptionally-depressed state of trade during this period, the result shows a clear profit, over working expenses, of £34,046, being equal to 1.66 per cent. per annum on £2,563,000, the approximate cost of opened lines to date.

Looking at the railways of the colony in relation to population and traffic (see Table 10) it appears that, with a population of 414,216 on the 3rd March, 1878, there were—

	Year ending 30th June, 1878.	Year ending 30th June, 1879.	Percentage of Difference between the two Years.
Miles of railway open ...	1,060	1,144	7.92
Inhabitants to every mile ...	391	362	...
Miles to each 1,000 of population ...	2.56	2.76	...
Tonnage carried ...	866,914	1,135,780	31.01
Tonnage to each 100 of population ...	209	274	...
Passengers carried ...	1,542,695	2,722,740	76.49
Passengers to each 100 of inhabitants ...	372	657	...

* Comprises grain, root crops, agricultural and vegetable seeds, dairy produce, hams and bacon, cheese, fat and tallow fresh fruit, preserved meats, and vegetables.

† Wool only.

‡ Coal, stone, bones, bricks, clay, lime, and road metal.

§ Hardware, drapery, glassware, sugar, beer, and the general run of merchandise not included in *.

NOTE.—The Queensland wool tariff is omitted owing to a doubt as to quantity, for which rates given in Table A are applicable.

As a striking contrast to some of these figures the following results (taken from a report of the Commissioner of Railways, Victoria) make it apparent that New Zealand stands high in the railway accommodation afforded to its population:—

	1877. New South Wales.	1877. Victoria.	1876. United States.	1876. Great Britain.
Inhabitants to every mile ...	1,108	924	580	1,961
Miles to each 1,000 of population	0·90	1·08	1·72	0·51

The sparse population of New Zealand, and ample mileage of its railways, taken in connection with the results achieved hitherto, augurs well for the future, and clearly indicates that commensurate population is all that is wanted.

The following comparative statement of receipts, &c., shows the financial progress of the North Island railways since 1874–75:—

Period.	Length Open for Traffic. Miles.	Total Train Mileage. Miles.	Gross Receipts	Total	Net Receipts. £	Percentage of Expenditure to Receipts. Per cent.
			from all Sources. £	Working Expenses. £		
12 months ending June 30, 1875	73	87,569	18,683	17,025	1,658	91·12
" " " 1876	146	236,342	58,606	49,321	9,285	84·16
" " " 1877	210	320,575	69,722	56,156	13,566	80·54
" " " 1878	309	484,607	102,582	83,925	18,657	81·81
" " " 1879	336	712,327	156,815	116,880	39,935	74·53
9 months ending March 31, 1878	290	360,896	73,076	60,620	12,456	82·94
" " " 1879	330	547,092	120,106	87,098	33,008	72·51
" " " 1880	352	519,260	125,486	91,440	34,046	72·87

For the purpose of exact comparison the figures for the years ending June, 1878, and 1879, shown above, are commuted to correspond with the nine months ending March, 1880, and the following results are based thereon:—

Nine Months ending	Average per Mile for Nine Months of Railway Opened.			Per Train Mile.		
	Receipts.	Expenditure.	Net Profit.	Receipts.	Expenditure.	Net Profit.
	£	£	£	d.	d.	d.
31st March, 1878 ...	283	235	48	54	45	9
" 1879 ...	371	269	102	53	38	15
" 1880 ...	364	265	99	58	42	16

Similarly, and for the same periods, I append the tonnage and number of passengers:—

	Wool.	Timber.	Grain.	Merchandise.	Minerals.	Firewood.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
9 months ending March 31, 1878	2,779	4,659	1,091	5,214	3,558	1,100	18,401
" " " 1879	5,271	34,272	6,147	42,908	24,521	17,630	130,749
" " " 1880	5,883	32,356	8,178	36,981	38,112	25,560	147,070
				First-class.	Second-class.	Total Passengers.	
9 months ending March 31, 1878	...	...	...	15,973	40,625	56,598	
" " " 1879	...	...	...	115,643	422,643	538,286	
" " " 1880	...	...	...	133,669	481,934	615,603	

The experiments with native coal for locomotive and other purposes have resulted favourably, and led to the acceptance of tenders altogether excluding importation from New South Wales since the 1st January, 1880.

The consumption of fuel on the North Island railways during the last twelve months was as follows:—

Section.	Tons.	Latest Tenders for			
		Native Coal.		Imported Coal.	
		s.	d.	s.	d.
Auckland ...	3,601	7	5	37	0
Napier ...	1,356	34	9	35	0
Wellington ...	2,833	31	6	33	9
Wanganui ...	1,526	32	6	39	6
Foxton ...	400	35	9	42	9
New Plymouth ...	436	36	9	No tender.	
Total ...	10,152				

The present average cost of native coal is 23s. 10d. per ton, against 36s. 5d. for imported coal, on equal conditions as to delivery, leaving an ample margin for difference in quality.

The North Island lines are now supplied with native coal as follows: Auckland Section, from Waikato mines; other sections, from West Coast mines of Middle Island.

Since my last report it has been arranged to credit the railways for the postal mail service, and on this account the sum of £1,504 has been included in the receipts for a portion of the past nine months, being at the rate of £10 per mile per annum; and you have now under consideration a proposition to increase the allowance for haulage of construction-material from 50 to 75 per cent. of the ordinary tariff charges, the latter being the estimated cost to this department.

As some consideration is likely to be given to the labour question, consequent on the existing state of "supply and demand" in the colony, I believe your wishes will be anticipated by the following information in relation to the pay of the North Island railway employes:—

Description.	Maximum.			Minimum.			Average.			
	£	s.	d.	£	s.	d.	£	s.	d.	
Stationmasters ...	175	0	0	100	0	0	127	0	0	per annum.
Clerical Assistants ...	156	0	0	100	0	0	123	0	0	"
Smiths ...	0	12	0	0	9	0	0	10	9	per day.
Fitters and Turners ...	0	12	0	0	9	0	0	10	6	"
Carpenters ...	0	10	0	0	10	0	0	10	0	"
Engine-drivers ...	0	13	0	0	9	0	0	11	9	"
Firemen ...	0	10	0	0	7	0	0	8	0	"
Guards ...	0	9	7	0	7	0	0	7	9	"
Porters ...	0	8	11	0	7	0	0	7	8	"
Gangers ...	0	9	0	0	7	6	0	8	4	"
Platelayers ...	0	7	6	0	6	6	0	6	9	"

The additions to rolling-stock since 30th June, 1879, have been as follows; and the averages given indicate how far provision has been made for extension of lines:—

	Locomotives.		Carriages.		Wagons.	
	Number on Hand.	Average per Mile.	Number on Hand.	Average per Mile.	Number on Hand.	Average per Mile.
30th June, 1879 (miles open 336) ...	54	0·16	117	0·35	844	2·51
31st March, 1880 (miles open 359) ...	61	0·17	121	0·34	1,254	3·49
Additions during nine months ending 31st March, 1880	7	...	4	...	410	...

The locomotives belonging to the department in the North Island are, in number and description, as follow:—

4	Class A,	8-in. cylinder,	4-wheels coupled,	8 tons.	
6	"	C, 9½	"	4	12 "
4	"	D, 9½	"	4	12 "
4	"	E, 10	"	8	28 "
20	"	F, 10½	"	6	17 "
4	"	H, 14	"	4	32 "
9	"	L, 10½	"	4	17 "
10	"	R, 12	"	6	29 "

Total 61

Of these, 4 are used on the 2½ miles of 1 in 15 incline, and 6 for construction-purposes, leaving 51 in use for ordinary traffic.

The following is a *précis* of the reports I have received from Managers of the respective sections, which will inform you as to the condition of the lines, and other matters appertaining to the working of the North Island Railways during the past nine months; and I take this opportunity of expressing my thanks to the Managers and employes generally for their hearty co-operation in the efforts to economize and curtail expenditure rendered necessary by the existing depression. I have also much pleasure in bearing testimony to their zeal and ability in the safe and efficient working of the railways.

KAIKARA SECTION (15 miles 68 chains).

The total receipts for the nine months amount to £4,166, being an increase of £306 over the receipts for the corresponding period of last year; expenditure, £3,871, as compared with £3,647 for the previous period.

Maintenance.—The road has been maintained in good order, and steady progress has been made in various works calculated to permanently improve the railway. Among these may be mentioned bank-raising and widening, bridge repairs and renewals, ballasting, and many minor works. Exceptionally large expenditure has been incurred, especially in repairing bridges, and the outlay in this direction will continue during a portion of next financial year.

Locomotive.—The two locomotives have been maintained in good running order, and have cost little in repairs.

The carriages and wagons have been maintained in good repair.

Wharves.—The wharf at Riverhead has received various repairs during the period; but the Manager urges speedy action in the promised new structure; otherwise very heavy expenditure will have to be incurred in patching up the present one to maintain it in a workable condition.

AUCKLAND SECTION (106 miles 16 chains).

The total receipts for the nine months embraced by this report amounted to £45,736, showing an increase of £6,103 over the corresponding period of last year; expenditure, £30,277, as against £32,058 for the previous and corresponding period: that is, the revenue has increased 16 per cent., while the expenditure has decreased 3 per cent. In my last report I had occasion to remark that the increase in revenue had been absorbed by equally increased working and other expenditure of an exceptional character, chargeable against revenue; but that a contrary state of things has resulted

this year is shown by the figures given above. Every effort has been made in all departments to curtail expenditure. Trains which failed to produce sufficient receipts to cover the cost of running, and other charges, have been discontinued, and further reductions of train-mileage will be made. The expenditure is at a minimum, while the traffic is slowly but steadily increasing. It may be mentioned that the depression of trade, which has pervaded the colony, has affected this line in a comparatively small and unappreciable degree.

Maintenance.—The line has been maintained in fair running order in spite of the fact that where the line crosses swamps great difficulty is experienced in keeping the road in an efficient state. Topham's Swamp, Ohaupo, alluded to in my last report as a source of considerable anxiety and cost, still gives very great trouble.

Road approaches have been made to five platforms and sidings; ten passenger platforms have been lengthened from forty to a hundred feet, as was most suitable for the public convenience.

Cattle-loading pens have been erected at five stations, and crush pens added to the cattle accommodation already provided at Ngaruawahia, Hamilton, and Ohaupo. The site of Pukete Station has been changed from 77 miles 69 chains to 76 miles 67 chains.

The exceptional cost still continues very heavy in this branch of expenditure.

Locomotive.—The engines, carriages, and wagons in this district have been maintained in a state of efficiency, and are in good order. Two single-boiler Fairlie engines have been added to the stock. It will be remembered that numerous complaints were received last year of fires caused by locomotives, especially on the Auckland line, where light native fuel is consumed. Owing, however, to improvements effected by the staff in the apparatus for the arresting of sparks, last season, which was moreover very dry, was marked by an absence of such complaints.

The carriages and wagons are in fair running order. There being no shed accommodation the former class of stock suffers considerably, while the painting and varnishing is a source of considerable cost. For the large and increasing coal traffic it is contemplated to provide wagons fitted with boxes to facilitate deliveries of shipping orders.

Traffic.—The General Manager reports that "Timber and general merchandise is looking up, and the traffic generally is not only improving, but, what I think is more to the point, is spreading over the line and not between a few points."

The Newmarket branch line, 8 miles 66 chains in length, was opened for traffic on the 29th March, or two days before the close of the financial period. It cannot be expected that the revenue from this branch will be large for some time to come. This, with the Hamilton branch, 1 mile 1 chain, makes a total addition to the mileage of 9 miles 67 chains.

NAPIER SECTION (64 miles 4 chains).

The total receipts for the year on this line amounted to £20,337, showing a decrease of £2,095, as compared with the corresponding period last year; expenditure, £13,402, showing a decrease of £1,222, as compared with the corresponding period of 1879.

Of all our lines the greatest sufferer by trade and general business depression has been this section.

Maintenance.—The line has been well maintained: bridges and culverts carefully inspected and repaired, and buildings kept in good condition. Forty-one rails have been taken out of the main line and replaced with new rails, and 1,465 sleepers have been renewed.

Locomotives.—All rolling-stock has been maintained in a state of thorough repair. One class F engine has received a general overhaul. As in Auckland so here, the carriage stock is injured through the absence of shed accommodation.

New workshops have been erected, and the machinery is in course of erection. A large saving in repairs will result.

Traffic.—The traffic has been maintained with regularity. An increase in the tonnage of minerals has occurred, but the timber traffic has fallen off here as elsewhere on account of the excess of supply over demand. Mills at Hampden and Waipawa have been idle during the last eight months for want of orders, whilst the traffic afforded by the saw-mills at Kopua and Takapau has been small.

The General Manager writes: "I am of opinion that an alteration of the tariff, an increase in most cases being made, would be advantageous. The population of the Hawke's Bay District is small and the holdings are so large that a tariff that may suit a railway-line in Otago or Canterbury is less applicable here, where the traffic is of such a different nature. In part illustration of this, I would point out that the 65 miles of open line here pass through (exclusive of town sections and Maori occupations) but twenty-eight or thirty holdings, six of which are respectively, in round numbers, 7 miles, 6 miles, 5 miles, 5 miles, 4 miles, and 4 miles in extent, while nearly all are confined to pastoral uses, the growth of cereals being almost nil. When this is taken into consideration, I think it must be allowed that the railway returns for this district are very fair indeed."

WELLINGTON SECTION (44 miles 79 chains).

The total receipts for the period amount to £22,708, being a decrease of £631 as compared with the corresponding period of last year. Expenditure, £19,690, as against £15,874 for corresponding term of year. This unsatisfactory state of things is readily accounted for by the unusual commercial depression.

Maintenance.—The frequent recurrence of slips and of other damage by floods and rains has had the effect of withdrawing platelayers from their regular lengths. The period under reference has been marked by exceptionally heavy expenditure, chargeable to maintenance: The most serious slips were—first, on 20th November, when the Pakuratahi cutting was completely blocked with rock; on 28th February, 1880, when the mouth of the summit tunnel was blocked; and on 20th March, when traffic was suspended beyond Upper Hutt for four days. As far as can be ascertained, the cost of repairing these slips has been £950, or 4½ per cent. of the total earnings of the line, not to mention a loss of traffic of at least £250.

On this subject the Manager says: "I have always felt that a large proportion of these expenses ought to be borne by the Construction Department. They are a part of the cost of construction of the line; or at least they should be divided over some years, and shown in the returns separated from the cost of maintenance."

In the view expressed by the Manager I entirely concur; but on this point I have more fully remarked elsewhere.

All renewals of 40-lb. rails are being effected with 52-lb.; the old 40-lb. rails which are serviceable being used in places where the traffic is lightest.

Locomotive.—The stock has been maintained in thorough repair. The following additions have been made: 1 Fairlie, class R; 1, class C; 4 6-wheel composite carriages; 20 cattle-trucks; 25 high-side wagons; 25 low-side wagons; 30 timber-trucks.

The workshops at Petone will be completed about the end of May.

Offices for the Manager and staff have also been erected at Petone. Frequent supervision on the Manager's part over the work done in the workshops necessitated his location at Petone instead of Wellington. A Manager's residence was completed about the end of the year, and is now occupied.

Traffic.—The receipts, as already shown, have been less than those of the last corresponding period. An increase of tonnage has taken place in wool, minerals, and firewood, but a falling off in timber, grain, general merchandise, and live stock.

To cover the heavy expenditure incurred in working the incline, an addition of 5 miles to passenger and goods rates has been made, dating from the 2nd January last. It is expected that the receipts will thereby be increased to the extent of £2,200 per annum.

The new railway wharf at Wellington has been completed, and the erection of a station will shortly be commenced.

WANGANUI SECTION (94 miles 57 chains).

The total receipts for the nine months amounted to £27,105, being an increase of £1,083 over the corresponding period of last year; expenditure, £19,305, as compared with £16,704 for a similar period in 1879, being an increase of £2,601. The proportion of working expenses to receipts has been 71·22 per cent.

Maintenance.—The road is laid with 9 miles of 53-lb. steel rails, 54 miles of 52-lb. iron rails, and 31 miles of 40-lb. iron rails. During this period 3 miles 20 chains have been relaid with 52-lb. iron rails in place of 30-lb.

In November heavy floods and slips occurred on the Kai Iwi section. During December the Rangitikei District was visited with heavy storms and consequent damage to the permanent way.

In March most severe floods were experienced in the Manawatu; the rails between Karere and Oroua Bridge being covered with water for about 4½ miles to a depth of 7 feet 6 inches. In places the permanent way was lifted bodily from the formation and turned over into the side drain. Ordinary traffic was suspended from the 20th March to the 3rd April; but communication for passenger traffic was in part kept up between the trains by canoe and other means. With the exception of recently-flooded portions, the line is in good order.

Locomotive.—The following additional stock has been placed on the line during the period embraced by this report: 3 single Fairlies, Class R; 30 timber-trucks; 20 cattle-trucks; 50 high-side wagons; 50 low-side wagons.

The locomotives have been maintained in very fair order. Seven engines have received a thorough overhaul. The carriages and wagons have been kept in fair order; but the General Manager complains of the want of shed accommodation to protect carriages from the weather.

The erection of workshops at East Town is in progress.

Traffic.—The traffic has been maintained with fair regularity. Interruptions to traffic occurred on the 3rd December on Kai Iwi section, and on the 22nd March between Karere and Oroua Bridge; but these have already been alluded to under the heading of "Maintenance."

On the 17th December a daily train and coach service was established between Wanganui and New Plymouth.

The depression elsewhere felt has affected the traffic on this line. A reference to the tonnage returns will show a large total without proportionally high receipts. This arises from the fact that a large quantity of material is carried at half-rates for the Public Works Department. In the face of falling revenue, every effort has been made by the General Manager to curtail expenditure, and the staff is now as small as efficiency permits.

NEW PLYMOUTH (33 miles 16 chains).

The total receipts on this section amount to £5,434, being an increase of £616 over a corresponding period of 1878-79; expenditure, £4,895, being an increase of £706 over a similar period of last year.

On the 17th December the line was extended from Inglewood to Stratford, a distance of 13 miles 23 chains. The same date marked the establishment of a daily train and coach service between New Plymouth and Wanganui.

Maintenance.—During the past nine months, in addition to the ordinary maintenance, about 2 miles of the formation has been made up to 12 feet in width. Portions of the line have been relaid with 40-lb. rails, the 30-lb. laid down originally being found wholly inadequate for the traffic.

All station buildings between New Plymouth and Waitara have been painted.

Locomotive.—The locomotives, four in number, have been kept in fair running order.

The following additional rolling-stock has been received: 1 first-class 4-wheel carriage, 1 goods brake van, 6 timber-trucks, 4 cattle-trucks, 5 low-side wagons.

Traffic has been maintained with regularity during the period, and no accidents of any kind have occurred.

The Managers' reports in each case contain an estimate of exceptional expenditure on maintenance, which I have omitted in this report, as it is very difficult to draw a distinction between the class of expenditure named and ordinary maintenance, since, if the railways were substantially constructed in the first instance, the maintenance labour-cost, which now averages nearly a man a mile, would be much less; and consequently it may be asserted that a portion of this labour-charge is due to exceptional expenditure necessary on light and cheaply-constructed lines, and should be added to whatever may be directly defined as exceptional maintenance.

Attached hereto please find the following tables:—

Statement of Classified Receipts and Expenditure ...	...	...	Table 1
„ Passenger and Goods Traffic ...	...	...	„ 2
„ Accounts for Sections ...	...	...	„ 3
General Statement of Accounts for Northern Lines...	...	...	„ 4
Return of Accidents ...	...	...	„ 5
„ Locomotives and Rolling-stock ...	...	...	„ 6
„ Miscellaneous Stock ...	...	...	„ 7
Statement of Receipts, Expenditure, &c., for each Year since 1876-77 ...	...	...	„ 8
„ Dates of Opening Lines ...	...	...	„ 9
New Zealand Railways in relation to Population and Traffic ...	...	...	„ 10

I have, &c.,

JOHN LAWSON,
Commissioner of Railways, North Island.

TABLE NO. 1--APPENDIX K.
NORTH ISLAND.

COMPARATIVE CLASSIFIED STATEMENT showing RECEIPTS and EXPENDITURE, and Proportion of each Class of Expenditure to MILEAGE and RECEIPTS, for the Nine Months ending 31st March, 1880.

Section.	Mileage.		Receipts.			Classified Expenditure.										Proportion of each Class of Expenditure to Mileage and Receipts.																																															
	Length Open for Traffic.	Train Mileage.	Total.	Per Mile of Railway per Annum.		Repairs of Carriages and Wagons.	Locomotive Power.	Maintenance of Way.	Traffic Expenses.	General Charges.	Sundries.	Total.	Total for Year.			Maintenance.		Locomotive.		Carriage and Wagon Repairs.		Traffic Expenses.		General Charges.		Sundries.																																					
				£	s. d.								Per Cent. of Receipts.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.	Per Train Mile.	Per Mile of Railway per Annum.																													
1879-80.	16	13,687	4,166	8	3,338	10	46	1	1,855	10	5	616	6	6	175	1	1	844	19	0	375	7	4	3	16	6	3,871	0	10	92	91	314	52	67	88	150	7	6	32	54	50	08	10	81	14	22	3	07	68	65	14	81	30	50	6	58	0	31	0	07			
Auckland	107	156,554	45,736	2	2,007	15	95	10	10,555	9	5	8,301	16	2	1,914	0	10	7,396	14	8	1,997	11	1	1	21	11	13,927	3	3	66	20	4	28	35	46	42	140	27	16	19	111	53	12	87	25	44	2	93	98	20	1	34	26	54	3	06	0	29	0	03			
Napier	65	80,577	20,337	0	10,406	14	95	04	5,103	16	11	3,781	15	11	681	15	7	2,943	16	8	890	15	5	13,402	0	6	95	90	2	68	04	39	92	102	08	15	20	75	04	11	27	13	63	2	03	58	88	8	77	17	81	2	65			
Wellington	45	108,005	22,708	2	11,656	0	24	24	6,090	14	7	8,061	16	6	1,090	5	3	3,626	0	7	810	8	6	10	15	2	19,690	0	7	86	71	5	68	82	4	37	5	17	59	13	53	23	2	90	17	92	31	50	2	42	10	47	5	80	6	23	4	1	80	0	31	0	02
Wanganui	93	128,601	27,104	17	5,370	18	24	24	6,880	0	10	7,034	1	6	544	8	5	3,628	6	6	1,156	7	5	31	8	4	19,304	13	0	71	22	2	64	17	3	05	94	15	12	06	96	53	13	16	7	45	1	02	49	79	6	79	15	82	2	94	0	43	0	06			
New Plymouth	33	31,836	5,433	17	1,273	16	03	44	1,838	4	7	1,602	3	11	73	2	5	889	6	3	427	3	5	4	17	6	4,894	18	1	90	08	24	0	64	36	90	92	02	18	86	83	70	12	53	3	68	0	55	44	51	67	0	21	52	3	22	0	75	0	04			
Totals ...	361	519,260	125,486	8	8,472	16	24	10	32,323	16	9	29,568	0	6	4,478	13	7	19,339	3	8	5,657	13	2	72	8	791,439	16	3	72	87	344	53	42	26	121	79	14	94	111	41	13	67	16	87	2	07	72	87	8	94	21	32	2	61	0	27	0	03					
1878-79.	16	11,168	3,860	18	2,313	14	06	10	1,735	6	9	571	5	0	170	4	0	781	9	1	380	8	4	9	5	3,647	18	7	94	48	296	39	78	39	141	00	37	29	46	41	12	28	13	83	3	66	63	49	30	91	8	17	0	75	0	20							
Auckland	97	225,521	39,633	14	9,531	3	43	6	12,033	9	9	9,407	19	9	1,806	14	10	6,921	13	4	1,790	14	2	37	9	332,258	1	1	80	89	429	04	34	12	161	27	12	81	126	89	10	08	24	22	1	92	92	76	7	37	24	00	1	90	0	50	0	04					
Napier	65	74,584	22,432	4	5,448	12	106	04	5,623	7	1	4,042	15	4	893	1	3	3,181	16	8	871	18	3	11	0	014,623	18	7	165	19	202	47	75	18	10	80	85	13	01	17	86	2	87	63	63	10	24	17	44	2	80	0	22	0	03								
Wellington	45	91,882	23,339	14	2,794	5	75	04	4,009	8	4	6,909	9	1	1,193	15	2	3,001	13	5	749	1	5	10	16	415,874	3	9	68	01	540	22	41	16	136	45	10	47	235	14	18	05	40	62	3	12	102	15	7	84	25	49	1	95	0	37	0	03					
Wanganui	86	115,033	26,021	3	6,393	6	94	64	6,607	9	11	5,375	4	1	654	9	7	3,079	7	11	961	1	1	26	18	016,704	10	7	164	20	252	51	34	88	99	88	13	78	81	25	11	21	9	89	1	37	46	55	6	42	14	53	2	01	0	41	0	06					
New Plymouth	21	28,904	4,817	16	8,298	5	03	4	1,784	14	2	1,060	2	0	52	13	3	867	16	7	423	18	6	4,189	4	6	80	95	259	33	34	78	110	48	14	82	65	63	8	80	3	26	0	44	53	72	7	20	26	24	3	52							
Totals ...	330	547,092	120,105	11	8,483	2	04	43	31,793	16	0	27,426	15	3	4,770	18	1	17,833	17	0	5,177	1	9	95	9	087,997	17	1	172	52	359	33	38	21	127	88	13	95	110	33	12	03	10	19	2	09	71	73	7	83	20	82	2	27	0	38	0	04					

TABLE No. 3.—APPENDIX K.

NEW ZEALAND RAILWAYS (NORTH ISLAND).

STATEMENT of ACCOUNTS for the Nine Months ending 31st March, 1880.

KAIPARA SECTION.

DR.	£	s.	d.	CR.	£	s.	d.
To Cash in hand and outstanding, 1st July, 1879	97	3	8	By Payments into Public Account, 31st March, 1880	4,109	8	2
Passengers, Parcels, Goods, &c., 31st March, 1880	4,161	19	5	Cash in hand and outstanding, 31st March, 1880	149	14	11
	<u>£4,259</u>	<u>3</u>	<u>1</u>		<u>£4,259</u>	<u>3</u>	<u>1</u>
To Amount paid into Public Account, 31st March, 1880	4,109	8	2	By Expenditure, 31st March, 1880 ...	3,871	0	10
Less Cash in hand and outstanding, 1st July, 1879	97	3	8	Balance towards payment of Interest ...	295	7	5
	<u>4,012</u>	<u>4</u>	<u>6</u>		<u>£4,166</u>	<u>8</u>	<u>3</u>
Cash in hand and outstanding, 31st March, 1880	149	14	11		<u>£4,166</u>	<u>8</u>	<u>3</u>
Recoveries to Vote					4,161	19	5
					4	8	10
	<u>£4,166</u>	<u>8</u>	<u>3</u>		<u>£4,166</u>	<u>8</u>	<u>3</u>

AUCKLAND SECTION.

DR.	£	s.	d.	CR.	£	s.	d.
To Cash in hand and outstanding, 1st July, 1879	785	15	7	By Amount paid into Public Account, 31st March, 1880	45,955	9	7
Less Amount of Transfer Vouchers in Treasury Books, but not entered in Railway Departmental Accounts	13	2	0	Less Refunds of Revenue	1,046	4	8
	<u>772</u>	<u>13</u>	<u>7</u>	Cash in hand and outstanding, 31st March, 1880	44,909	4	11
Passengers, Parcels, Goods, &c., 31st March, 1880	45,736	2	2		<u>£46,508</u>	<u>15</u>	<u>9</u>
	<u>£46,508</u>	<u>15</u>	<u>9</u>	By Expenditure, 31st March, 1880 ...	30,277	3	3
To Amount paid into Public Account, 31st March, 1880	44,909	4	11	Balance towards payment of Interest ...	15,458	18	11
Less Cash in hand and outstanding, 1st July, 1879	772	13	7		<u>£45,736</u>	<u>2</u>	<u>2</u>
	<u>44,136</u>	<u>11</u>	<u>4</u>		<u>£45,736</u>	<u>2</u>	<u>2</u>
Cash in hand and outstanding, 31st March, 1880	1,599	10	10		<u>£45,736</u>	<u>2</u>	<u>2</u>
	<u>£45,736</u>	<u>2</u>	<u>2</u>		<u>£45,736</u>	<u>2</u>	<u>2</u>

NAPIER SECTION.

DR.	£	s.	d.	CR.	£	s.	d.
To Cash in hand and outstanding, 1st July, 1879	530	6	4	By Payments into Public Account, 31st March, 1880	20,363	13	10
Less amount of Transfer Vouchers in Treasury Books, but not entered in Railway Departmental Account	13	0	7	Cash in hand and outstanding, 31st March, 1880	480	2	9
	<u>517</u>	<u>5</u>	<u>9</u>		<u>£20,843</u>	<u>16</u>	<u>7</u>
Passengers, Parcels, Goods, &c., 31st March, 1880	20,326	10	10	By Expenditure, 31st March, 1880 ...	13,402	0	6
	<u>£20,843</u>	<u>16</u>	<u>7</u>	Balance towards payment of Interest ...	6,935	0	4
To Amount paid into Public Account, 31st March, 1880	20,363	13	10		<u>£20,337</u>	<u>0</u>	<u>10</u>
Less Cash in hand and outstanding, 1st July, 1879	517	5	9		<u>£20,337</u>	<u>0</u>	<u>10</u>
	<u>19,846</u>	<u>8</u>	<u>1</u>		<u>£20,337</u>	<u>0</u>	<u>10</u>
Cash in hand and outstanding, 31st March, 1880	480	2	9		<u>£20,337</u>	<u>0</u>	<u>10</u>
Recoveries to Vote					20,326	10	10
					10	10	0
	<u>£20,337</u>	<u>0</u>	<u>10</u>		<u>£20,337</u>	<u>0</u>	<u>10</u>

WELLINGTON SECTION.

DR.			CR.		
	£	s. d.		£	s. d.
To Cash in hand and outstanding, 1st July, 1879	462	8 7	By Payments into Public Account, 31st March, 1880	22,946	18 3
Passengers, Parcels, Goods, &c., 31st March, 1880	22,708	2 11	Less Refund of Revenue	0	7 6
			Cash in hand and outstanding, 31st March, 1880	...	224 0 9
					<u>£23,170 11 6</u>
			By Expenditure, 31st March, 1880	19,690	0 7
			Balance towards payment of Interest	3,018	2 4
To Amount paid into Public Account, 31st March, 1880	22,946	10 9			
Less Cash in hand and outstanding, 1st July, 1879	462	8 7			
Cash in hand and outstanding, 31st March, 1880	...	224 0 9			
					<u>£22,708 2 11</u>
					<u>£23,170 11 6</u>

WANGANUI SECTION.

DR.				CR.				
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
To Cash in hand and outstanding, 1st July, 1879	504	3 10			By Payments into Public Account, 31st March, 1880	27,532	10 5	
Less amount of Transfer Vouchers in Treasury Books, but not entered in Railway Departmental Accounts	20	3 8			Less Refunds of Revenue	477	14 2	
Passengers, Parcels, Goods, &c., 31st March, 1880	...	484 0 2			Cash in hand and outstanding, 31st March, 1880	...	534 1 4	
							<u>£27,588 17 7</u>	
To Amount paid into Public Account, 31st March, 1880	27,054	16 3			By Expenditure, 31st March, 1880	19,304	13 0	
Less Cash in hand and outstanding, 1st July, 1879	484	0 2			Balance towards payment of Interest	7,800	4 5	
Cash in hand and outstanding, 31st March, 1880	...	534 1 4						
							<u>£27,104 17 5</u>	
							<u>£27,588 17 7</u>	

NEW PLYMOUTH SECTION.

DR.			CR.		
	£	s. d.		£	s. d.
To Cash in hand and outstanding, 1st July, 1879	110	9 9	By Payments into Public Account, 31st March, 1880	5,244	16 5
Passengers, Parcels, Goods, &c., 31st March, 1880	5,433	17 1	Cash in hand and outstanding, 31st March, 1880	...	299 10 5
					<u>£5,544 6 10</u>
To Amount paid into Public Account, 31st March, 1880	5,244	16 5	By Expenditure, 31st March, 1880	4,894	18 1
Less Cash in hand and outstanding, 1st July, 1879	110	9 9	Balance towards payment of Interest	538	19 0
Cash in hand and outstanding, 31st March, 1880	...	299 10 5			
					<u>£5,433 17 1</u>
					<u>£5,433 17 1</u>

TABLE No. 7.—APPENDIX K.

STATEMENT showing QUANTITY and STATE of MISCELLANEOUS STOCK on the Railways Open for Traffic in the North Island on 31st March, 1880.

NAME OF SECTION.	TURN-TABLES.				CRANES.				WEIGH-BRIDGES.		WEIGHING MACHINES.																					
	Wagon Traversers.	15-feet.	16-feet.	13-feet.	11-feet.	10-ton Workshop Overhead Travelling.	10-ton Hand Wharf.	2-ton Hand Wharf.	5-ton Breakdown.	2-ton, with Vertical Boiler in Trolley.	1½-ton Warehouse.	Railway Wagon, 12-tons.	Cart, 7-tons.	Cart, 3-tons.	20-cwt.	15-cwt.	12-cwt.	10-cwt.	8-cwt.	6-cwt.	5-cwt.	4-cwt.	3-cwt.	2-tons 10-cwt.	Platform Trucks.	Platelayers' Trolleys.	Rail Presses.	Wheel Presses.	Drilling Machines.	Wheel Lathes.	Lathes.	
KAIPARA.																																
In good order				1						3																1	3	4			1	
Undergoing heavy repairs																																
Undergoing light repairs																																
AUCKLAND.																																
In good order	1	1	2	2	1	1	1	1	1	1	1	3	2	2	2	9	11								31	26	2	1	2	1	7	
Undergoing heavy repairs																																
Undergoing light repairs																																
In course of erection																										1						1
NAPIER.																																
In good order				5			1	1			1				1		2				6		5		13	10			1	4	1	2
Undergoing heavy repairs											1																3					
Undergoing light repairs								1																								
In hands of Engineer																																
In course of erection				2																												
WELLINGTON.																																
In good order								2	1	1	3		1	1			2								14	8	1	1	3	1	2	
Undergoing heavy repairs																																
Undergoing light repairs																										1						
WANGANUI.																																
In good order				1				2	2		6				2	2	2	1	3	5	2	5			26	17	1		5	1	2	
Undergoing heavy repairs																																
Undergoing light repairs																																
In course of erection																																
NEW PLYMOUTH.																																
In good order			1	1			1	1									1					5	1		14	3				1	1	1
Undergoing heavy repairs																																
Undergoing light repairs																																
Totals	1	1	1	1	3	1	1	6	7	4	10	3	4	3	5	2	8	3	7	24	6	20	1	104	72	5	4	16	5	15		

TABLE NO. 8.—APPENDIX K.
NORTH ISLAND SECTIONS.

COMPARATIVE STATEMENT of REVENUE and EXPENDITURE for the Years 1876-77, 1877-78, 1878-79, and 1879-80*.

1879-80*.

Section.	Receipts.			Expenditure.			Expenditure per cent. of Receipts per Annum.
	£	s.	d.	£	s.	d.	
Kaipara	4,168	8	3	3,871	0	10	92·91
Auckland	45,736	2	2	30,277	3	3	66·20
Napier	20,337	0	10	13,402	0	6	65·90
Wellington	22,708	2	11	19,690	0	7	86·71
Wanganui	27,104	17	5	19,394	13	0	71·22
New Plymouth	5,433	17	1	4,894	18	1	90·08
Total	125,486	8	8	91,439	16	3	72·87

1878-79.

Kaipara	4,992	17	4	4,995	18	10	99·26
Auckland	52,477	18	2	41,521	16	1	79·12
Napier	27,593	15	8	19,255	19	10	70·01
Wellington	30,401	6	5	22,919	11	7	75·39
Wanganui	35,171	16	1	22,614	2	7	64·30
New Plymouth	6,267	8	5	5,612	7	0	89·55
Total	156,815	2	1	116,879	15	11	74·53

1877-78.

Kaipara	3,925	3	10	4,765	4	1	121·40
Auckland	37,321	10	6	29,133	15	4	78·06
Napier	25,263	13	11	18,216	10	2	72·10
Wellington	16,100	3	9	11,718	15	4	72·78
Wanganui	15,040	19	1	15,015	14	6	99·83
New Plymouth	4,930	7	3	5,075	3	2	102·93
Total	102,581	18	4	83,925	2	7	81·81

1876-77.

Kaipara	3,778	4	5	4,296	11	6	113·72
Auckland	21,868	3	9	17,663	8	10	80·77
Napier	21,374	13	10	13,239	19	2	61·94
Wellington	11,518	18	3	9,893	19	2	85·89
Foxton	8,364	12	2	7,378	13	2	88·21
Wanganui	175	9	6	412	14	4	235·19
New Plymouth	2,641	19	1	3,271	2	2	123·81
Total	69,722	1	0	56,156	8	4	80·54

* Nine months from 1st July, 1879, to 31st March, 1880.

TABLE No. 9.—APPENDIX K.
NEW ZEALAND RAILWAYS.—NORTH ISLAND.
STATEMENT of LENGTHS of SECTIONS OPEN for TRAFFIC, 31st March, 1880.

Section.	Opened for Traffic.			Total Opened
	Subsection.	Date.	M. ch.	M. ch.
Kaipara ...	River Wharf (old) to Riverhead ...	October 29, 1875 ...	15 68	15 68
Auckland ...	Auckland to Onehunga ...	December 24, 1873 ...	8 0	
	Penrose to Mercer ...	May 20, 1875 ...	37 27	106 16
	Mercer to Ngaruawahia ...	August 13, 1877 ...	31 2	
	Ngaruawahia to Hamilton ...	December 19, 1877 ...	10 33	
	Hamilton to Ohaupo ...	June 4, 1878 ...	9 27	
	Onehunga Wharf ...	November 28, 1878 ...	0 20	
	Hamilton Branch ...	October 20, 1879 ...	1 1	
	Newmarket to Waikomiti ...	March 29, 1880 ...	8 66	
Napier ...	Napier to Hastings ...	October 12, 1874 ...	12 0	64 4
	Spit to Napier ...	November 25, 1874 ...	2 0	
	Hastings to Pakipaki ...	January 1, 1875 ...	4 13	
	Pakipaki to Kaikoura ...	February 17, 1876 ...	10 10	
	Kaikoura to Waipawa ...	August 28, 1876 ...	12 16	
	Waipawa to Waipukurau ...	September 1, 1876 ...	4 63	
	Waipukurau to Takapau ...	March 12, 1877 ...	12 79	
	Takapau to Kopua ...	January 25, 1878 ...	5 63	
Wellington ...	Wellington to Lower Hutt ...	April 14, 1874 ...	8 9	44 79
	Lower Hutt to Silverstream ...	December 15, 1875 ...	8 0	
	Silverstream to Upper Hutt ...	February 1, 1876 ...	3 35	
	Upper Hutt to Kaitoke ...	January 1, 1878 ...	7 43	
	Kaitoke to Featherston ...	October 17, 1878 ...	17 72	
Wanganui ...	Foxton to Palmerston ...	April 27, 1876 ...	23 30	94 57
	Palmerston to Feilding ...	October 20, 1876 ...	11 28	
	Aramoho to Turakina ...	May 17, 1877 ...	20 21	
	Wanganui to Aramoho ...	January 21, 1878 ...	2 60	
	Turakina to Marton ...	February 4, 1878 ...	9 18	
	Halcombe to Feilding ...	April 22, 1878 ...	7 76	
	Marton to Halcombe ...	May 20, 1878 ...	10 49	
	Aramoho to Kai Iwi ...	June 28, 1879 ...	9 15	
New Plymouth ...	New Plymouth to Waitara ...	October 14, 1875 ...	11 13	33 16
	Sentry Hill to Inglewood ...	November 30, 1877 ...	8 60	
	Inglewood to Stratford ...	December 17, 1879 ...	13 23	
				359 0

TABLE No. 10.—APPENDIX K.
NEW ZEALAND RAILWAYS in Relation to POPULATION and TRAFFIC.

	North Island.	Middle Island.	Total.
Population on 3rd March, 1878, exclusive of Maoris ...	158,208	256,008	414,216
Percentage of total population in each Island ...	38	62	...
Miles of railway open for traffic on 30th June, 1878 ...	309	751	1,060
Number of inhabitants to every mile open ...	512	341	391
Percentage of miles of railway in each Island to total mileage ...	29	71	...
Number of miles of railway to each 1,000 of population ...	1'95	2'93	2'56
Tonnage carried over the railways for year ending 30th June, 1878 ...	123,529	743,385	866,914
Amount of tonnage carried over the railways to 100 of population ...	78	290	209
Passengers carried over the railways for year ending 30th June, 1878 ...	383,548	1,159,147	1,542,695
Number of passengers carried over the railways to 100 of population ...	242	452	372

APPENDIX L.

ANNUAL REPORT ON WORKING RAILWAYS BY THE COMMISSIONER OF RAILWAYS FOR THE MIDDLE ISLAND.

The COMMISSIONER of RAILWAYS, Middle Island, to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Dunedin, 10th May, 1880.

I have the honor to submit the following report on the working of this department during the nine months ending 31st March, 1880, together with particulars of revenue and expenditure for the same period.

The total length of line open for traffic on the 1st of April is as follows:—

Section.	M.	ch.
Amberley to Kingston	754	15
Nelson to Foxhill	19	10
Picton to Blenheim	17	10
Greymouth to Brunner	7	50
Westport	10	0
Total	808	5

There has been added during the nine months 20 miles 27 chains, as follows:—

Section.	M.	ch.
Sheffield to Springfield	6	45
Shag Point	1	67
Walton Park	0	40
Otautau Branch	11	35
Total	20	27

The Moeraki line, 1 mile 43 chains, has been taken up; and 9 miles 19 chains at Westport is closed for traffic: total closed, 10 miles 62 chains.

The receipts and expenditure and the percentage of expenditure on receipts were as follow:—

Section.	Receipts.	Expenditure.	Percentage.
Dunedin, Christchurch, and Invercargill	£430,623 15 3	£324,383 15 3	75·09
Greymouth	7,683 2 6	3,619 4 9	47·11
Westport	2,377 16 2	2,879 0 11	121·07
Nelson	5,872 0 11	4,592 17 2	78·22
Picton	3,545 9 8	3,369 8 2	95·03
Total	£450,102 4 6	£338,844 6 3	75·28

The percentage of expenditure on the aggregate receipts of the nine months for the entire system of railways, Middle Island, was 75·28, against 71·28 for the previous twelve months.

The past nine months have been of a very exceptional character, and, much as I may regret that no better result is exhibited, I cannot say that anything more favourable was to be anticipated. Not only has there been a great falling-off in the amount of business done, consequent upon the general commercial depression, but we entered upon the period under great disadvantages owing to the severe floods which occurred in June and July last. Traffic was suspended from this cause on 114 miles of line between the Waitaki and Selwyn, a portion of the line north of Christchurch was wrecked, and

between Dunedin and Clinton a prolonged interruption of the traffic took place, and the Outram branch was not reopened until after a lapse of two months. The result was, a considerable loss of revenue, and a heavy expenditure in repairing and making good the damaged portions of the line and works. Breaches in the embankments had to be made up, ballast which had been washed away to be replaced, new piles for bridges to be driven, and new culverts to be erected. All this has been accomplished in a substantial manner, with a view to place the line and works in a condition of greater security for the future.

As before mentioned, the depression of trade which unhappily exists in the colony has operated prejudicially upon the business of the railways, and, seeing how intimate is the alliance between the railways and the commerce of the country, this cannot well be a cause of surprise. The receipts, as compared with the previous corresponding nine months, have decreased 10d. per train-mile, and this, calculated upon the total train-miles run during the nine months, amounts to £61,717 14s. 2d. As a striking instance of the extent to which the department has suffered from the slackness of trade, I may refer to the Port Lyttelton line. The receipts on this short but important line fell off, as compared with the corresponding period of the previous year, at the rate of £583 per week for twenty-four weeks, making a total of £13,992.

The alteration in the termination of the financial period has operated prejudicially to the department as regards the comparative results of the working of the period, inasmuch as the business of our three best months, and the heaviest portion of the grain traffic, have been, as a matter of account, lost to us so far as this period is concerned. It is true we take this traffic to account subsequently, but it is for the benefit of the accounts of the succeeding year.

With a view to give effect to your urgent instructions that the strictest economy compatible with safety and efficiency should be practised, and every possible retrenchment of expenditure effected, many alterations (all having that object in view) have been and are still being made in the arrangements. The staff has been reduced in number; some offices have been abolished, and the duties of others amalgamated; the train-mileage has been reduced to the extent of 200,000 miles per annum; the speed of the trains has been diminished—a measure which will result in a saving on the wear and tear of the rolling-stock, and on maintenance of way. The effect of these reforms will be more advantageously felt when the operations of the department resume their normal condition.

I am afraid that it must be admitted that, in the past, too much has been expected from, and attempted by, the department in respect of the facilities for travelling offered to the public. Many influential members of the community are familiar with the frequent train-service of the Old Country; and pressure has been brought to bear with a view to obtaining somewhat similar facilities in this country.

It may not be amiss here to direct attention to the position of New Zealand in respect of miles of railway opened, as compared with the position of Europe, America, and the neighbouring colonies. The population of a country I take to be the true criterion of its ability to maintain a system of railways, and that its mileage of railways (if the railways are to be a success) should bear a certain proportion to its population. That New Zealand should contrast unfavourably in this respect with the United Kingdom and Europe generally, might fairly be expected; but the following table will show a result perhaps not altogether anticipated:—

Country.	Year.	Population.	Miles open.	No. of Inhabitants per Mile of Railway.
New Zealand, Middle Island	1878	256,008	751	341
Queensland	1877	203,085	359	566
United States	1876	45,627,900	78,654	580
Canada	1876	*4,000,000	6,412	624
South Australia	1877	236,864	302	784
Victoria	1877	860,787	931	924
New South Wales	1877	662,212	598	1,108
Great Britain	1876	33,093,439	16,872	1,961
France	1876	36,905,788	12,723	2,900

* Approximate.

It will thus be seen that New Zealand (Middle Island) stands lowest in the scale; that, while the United Kingdom, with its network of railways, has 1,961 souls to employ and feed each mile of its railways, and New South Wales, Victoria, and South Australia, 1,108, 924, and 784 souls respectively, we must look for the support of our railways to the traffic which 341 persons per mile can create. The conclusion which I would draw from this—and I submit that I have sound reason on my side—is, that New Zealand, so far as the financial results of the working of its railways are concerned, cannot be expected for the present to take a high place in the scale, and that disappointment cannot reasonably be felt at the results which have been accomplished.

I am still further strengthened in this view by official statistics which I have obtained of the results of the working of the New South Wales railways. I append the figures (an annual statement of mileage, earnings, and interest on expenditure from 1855 to 1878), and it will be seen that in the fourteenth year of working only 1·973 per cent. of interest was earned; that, up to that date, the highest rate of interest was no more than 2·236 per cent.; and that, although in four exceptional years (out of twenty-four) the interest did exceed 4 per cent., in 1878, the twenty-fourth year, the interest

earned was no more than 3·741 per cent. This is the latest year of which I have any record, but I am credibly informed that for the period of depression through which we have been and are passing such results will be shown by the New South Wales accounts as would be considered alarming in New Zealand.

NEW SOUTH WALES RAILWAYS.

Year.	Miles.	Total Earnings. £	Interest on Capital per cent.	Year.	Miles.	Total Earnings. £	Interest on Capital per cent.
1855	14	9,249	·638	1867	204	189,072	2·185
1856	23	32,283	1·536	1868	247	224,359	1·973
1857	40	43,387	1·176	1869	318	264,975	1·892
1858	55	62,309	1·492	1870	339	307,142	1·817
1859	55	61,760	1·107	1871	358	355,322	2·688
1860	70	62,269	·832	1872	398	424,989	3·397
1861	73	75,004	·899	1873	403	484,236	3·653
1862	97	103,871	1·842	1874	403	536,575	4·074
1863	124	123,941	1·097	1875	473	614,648	4·396
1864	143	147,653	1·669	1876	509	693,225	4·428
1865	143	166,032	2·079	1877	598	815,920	4·468
1866	143	168,535	2·236	1878	688½	902,989	3·741

Fuel.—The question of fuel, which is so important an item in our expenditure, has long engaged my attention. It had been my anxious desire to replace the Newcastle coal which we were uniformly consuming in our engines by the native article, the primary consideration being the much smaller cost of the latter, but other inducements to effect this improvement were not wanting. After many efforts, disappointments, and difficulties, this important reform has been accomplished, and the native coal is now used with marked success on the Dunedin, Oamaru, and Christchurch Sections. The tenders accepted for the supply of coal for locomotive purposes, with the exception of that for Invercargill, are for native coal only. Southland possesses an abundant supply of excellent fuel, but, unfortunately, for want of the means of access it is not yet available for railway use. By the adoption of native coal we not only conduct our business at a clear annual saving of £8,500, but retain in the colony a large sum of money, and give profitable and much-needed employment to labour.

Early in the year, at your suggestion, the plan of keeping a separate account against each section and branch was introduced. The preparation of the sectional and branch statistics causes additional labour and some expense, but the information thus obtained is valuable. Each section, with its branches, is under the charge of a separate manager, and the four-weekly sectional accounts represent the comparative financial results of the management and working of each section. Emulation is thus created, unnecessary or extravagant expenditure can be at once detected and localized, and unprofitable branches are easily ascertained. Already excellent results in respect of economy and restriction of expenditure have followed the introduction of this system.

In February last the headquarters office was removed from Christchurch to Dunedin, and, from its more central position, there can be no doubt that already the change has been productive of benefit in respect of the administration of the southern sections, while at the same time the office is not so remote from the other extremity of the line as to be disadvantageous to the northern section. The cashier and accountant still remain in Christchurch, and their separation from my office is a very objectionable arrangement, causing much inconvenience and extra work, and actually obviating many of the advantages which would otherwise result from the centre of administration being placed in Dunedin.

MAINTENANCE OF WAY AND WORKS.

Amberley to Kingston.

Since the date of my last report the way and works department has been entirely reorganized. The maintenance of the line, instead of being separated into two sections under separate engineers, has been placed under one head, and the result so far has been eminently satisfactory both in respect of efficiency and economy.

The total expenditure for maintenance of way and works and repairs of damages during the nine months was £117,719 9s. 7d., being at the rate of £158 4s. 1d. per average mile open, or at the rate of £205·67 per mile per annum.

The main line and branches have been maintained in good running order during the nine months, 24 miles 33 chains of road having been relaid, and 50,471 sleepers having been replaced. A large number of Oregon bridge-beams have been renewed with the more durable ironbark. Four engines, with gangs of men, have been constantly employed in ballasting, removing slips, widening embankments, &c.

I have already referred to the serious damage caused by the floods which occurred about the close of the last financial period. On the 1st July extensive portions of the line in Canterbury and Otago were wrecked, and the traffic stopped. At Greytown the flood rose 15 inches above the railway platform. The embankments which have been raised to protect the agricultural lands from the overflow of the Taieri River confine the mass of floodwater until it reaches Greytown, where it is precipitated directly upon the unprotected railway works, breaching the embankments, washing away the ballast, and otherwise seriously damaging the works, and necessarily impeding or altogether stopping the traffic.

A new 80-foot span has been added to the Taieri Bridge on the Outram branch, and 6,000 cubic yards of earth and 1,800 cubic yards of rubble have been used in making up and protecting the embankments. The cost of the repairs and protective works on this branch amounted to £1,510 5s. 2d.

Considerable trouble has been caused by heavy slips on the line between Dunedin and Palmerston, no less than 10,000 cubic yards of material deposited on the line having been removed. On this section some of the large embankments which are laid on the slope of hilly ground are slowly but surely moving, and require constant attention and considerable expenditure.

The south-east gale which occurred about the beginning of July last denuded the beach to the north of Timaru of shingle, leaving the friable clay beneath exposed to the action of the water. The heavy seas cut into the clay, and caused such damage to the foundations of the Whale's Creek Bridge as to render a suspension of the traffic for some days necessary. A new masonry abutment has been built at the south end of the bridge, and 5,200 tons of rock have been deposited on the shore, to replace the shingle and protect the clay bluffs from further erosion. This work has cost, to date, about £3,000, and the expenditure cannot be expected to stop here, inasmuch as it will be necessary to continue the protective work northward, with a view to prevent an encroachment of the sea in that direction.

In my last annual report I drew attention to the circumstance that the flooding of the Waimakariri had, during the preceding year, on five different occasions caused a suspension of the traffic; but I added that I had a confidence that the protective works then in course of construction would prove thoroughly effective, an opinion which the experience of the last nine months has borne out, no interruption of the traffic having occurred from that cause during the period.

The protective works executed on the Rakaia, Rangitata, and Ashburton Rivers have also successfully stood the test of heavy floods, two of such floods being higher than the one which carried away the piers of the Rangitata Bridge during the previous year.

On the Invercargill Section the line has been ballasted, and the exposed embankments on the Winton-Kingston line have been pitched and protected.

The Addington workshops are now approaching completion.

Signal apparatus on the most improved principle has been completed at several of the principal stations, and the traffic at these stations is now protected and rendered safe.

LOCOMOTIVE DEPARTMENT.

Section, Amberley to Palmerston.

The locomotive engines employed on this section are 55 in number. They have been maintained in good working condition during the past nine months: 11 of them have been thoroughly repaired, 2 have had the fire-boxes repaired, 10 have been examined and undergone partial repairs, 18 have been painted, and 14 cleaned and varnished.

Ten new engines have been received and erected—4 of Class J, and 6 of the American "consolidation" engines, classed as "T." The 4 "J" engines and 2 of the "consolidation" are at work on this section, the latter between Oamaru and Palmerston; and 4 of the "consolidation" have been transferred to the Dunedin Section.

I have already referred in this report to the attempts which have been made to use native coal in the engines, and to the success which has at last crowned our efforts. Much of the credit of this is due to the Locomotive Engineers, who, by dint of careful experiment, at last solved the "spark difficulty," which was the great obstacle to the use of the native fuel. How complete the success has been will be evident from the following facts: Last year, when the great bulk of the coal consumed was Newcastle, no fewer than 200 fires were reported, while in the period under review, with all the engines burning the native coal, only two fires have occurred.

It is absolutely necessary that moderate stocks of coal should be maintained at various points on the line. But native coal on exposure to the weather is liable to disintegrate and deteriorate; it is therefore highly desirable that sheds should be provided for the protection of the stacks of coal from the weather.

The annual saving by the use of the native coal in this section is £5,500.

Additional engine-shed accommodation is urgently required, there being a larger number of engines than can be housed at night. Proper sheds, with pits, for the examination and cleaning of the engines, should be provided.

A considerable saving has been effected by the substitution of wind-power for manual labour in raising water for locomotive purposes. There are now seven windmills at work in this section; and every mill erected, with proper storage accommodation, represents the saving of a pumper's wages—in other words, very soon recoups its own cost. I hope ere long to see every one of our water services supplied by a power which may almost be termed automatic.

Good water is of vital importance in locomotive-working. The inferior quality of the Oamaru water has necessitated the haulage for use there of 3,600 gallons daily from the Waitaki River—a considerable expense to the department, but effecting in the long run an immense saving in respect of the condition and cost of repair of the engines.

Carriages.—The passenger stock has received its proper meed of attention, and is in excellent working condition. Heavy repairs have been done to 33 carriages, 6 brake-vans, and 9 horse-boxes; and 76 carriages and 27 brake-vans have been lifted and undergone light repairs. Eight of the ordinary six-wheeled carriages have been converted to the double-bogie principle, and we have now 16 carriages and mail-vans altered in this way. The alteration is generally satisfactory, the carriages being more comfortable to travel in, and the wear and tear of both vehicle and road much diminished.

An addition to the passenger stock has been made of 10 new carriages of American make (from New York), 6 first-class and 4 second-class. They are of good material and workmanship, and, being beyond dispute the easiest-running of our vehicles, are much appreciated by the public. These carriages when received were found to be too large for our tunnels, notwithstanding that the precaution had been taken of sending with the order a drawing to scale of our smallest tunnel. The New York agent accepts without reserve the responsibility of the error, and proposes to pay the cost of altering the carriages, which the Locomotive Engineer reports at £10 3s. 11d. each.

Wagons.—The condition of the wagon stock has been well maintained, 964 wagons having undergone more or less extensive repairs during the nine months. The following additions have been made to the stock—294 high-side and 25 low-side wagons erected in the Government workshops—at a cost, including timber, of £10 11s. 7d. each—and 80 low-side wagons built under contract by Messrs. Anderson, of Christchurch.

The whole of the carriage and wagon repairs of this section are now being carried on at Addington. The completion of the works, and consequent removal of the machinery and entire establishment thither, is an event much to be desired, as the work will then be carried on more economically, and a considerable saving will result.

The steam-cranes at Lyttelton have been kept in good order, and, with the exception of one, all have been altered to the narrow gauge. Two new steam-cranes have been put to work, and native coal is now used in all.

Section, Palmerston to Kingston.

Owing to the stock of locomotives in this section up to August last being very inadequate for the work required of them, the small number at command were much overtaxed, and many were kept at work when they ought to have been in the repairing-shop. Subsequent additions to the stock set these at liberty for much-needed renovation; but the cost of repairs has, in consequence of this, been heavy.

There are now 55 engines upon this section, and repairs have been done to 42 during the nine months.

New tires have been fitted to 11 engines. The small mileage made on this section by the engines with a rigid wheel-base before the tires require to be re-turned, indicates the desirability, in the interests of economy, of having bogie-engines only. It is not only that the tires cut away rapidly at the flange, but the rails, on sharp curves, suffer considerably. I am bound here to state that the quality of the tires received from England must bear some share of the blame of this rapid wear. Some of these so-called steel tires have turned out very bad indeed, soft in texture and inferior in quality: "soft as cheese" is an expression which has been applied to them, and it not inaptly describes their quality. I may inform you that some of the six-coupled engines have had to be sent to the shops to have the tires turned up after running only 3,000 miles. I attach tracing of the tire of an engine employed on the Lawrence branch, after doing 2,598 miles.

Native coal is now used on this section except in Southland, where, however, I hope ere long to be able to adopt it.

In my remarks on the Christchurch Section I have referred to the efforts which were made by the Locomotive Engineers to design a spark-catcher which would obviate the tendency of the native fuel, from its lightness, to throw out live sparks; and I think it right to repeat here that the credit of accomplishing this belongs equally to the Locomotive Engineer of this section.

The carriage stock has been maintained in a condition of efficiency, 136 carriages and 36 brake-vans having received repairs.

Six new horse-boxes and 6 brake-vans have been built, the whole of the ironwork for both vans and horse-boxes, with the exception of wheels and axles, having been made in the railway shops.

I gather from a paper which was laid on the table of the House that the average cost of imported horse-boxes is £159 each, while those built at Hillside cost £154, and are certainly superior to the former. The imported brake-vans cost £201 each, while those built at Hillside cost £216; but the latter have been specially built for service on the heavy grades, and weigh 8 tons 10 cwt., and are in every respect superior to the imported ones.

The wagons have received careful attention, 894 having been repaired in the nine months, and 105 new wagons built.

The brass-moulder's shop has been well employed, having turned out 63 cwt. 2 qr. 21 lb. of castings in the period under review.

The Hillside shops are quite inadequate to meet the demands which are made upon them in respect of construction work and of the repair of the several kinds of stock: they are badly arranged, and scantily supplied with tools, and the work carried on in them costs much more than it would in commodious and well-lighted shops. I may here take the opportunity of mentioning that the shops at Invercargill are also very small and incomplete: they were originally provided for the Bluff and Winton lines only, and the work has altogether outgrown their capabilities.

As in Christchurch and Oamaru, the want of adequate engine-shed accommodation is felt both in Dunedin and Invercargill. In Invercargill the shed will not contain a fourth part of the engines requiring accommodation, and it is impossible that justice can be done to an engine which is cleaned at night and in the open air. Both engines and men suffer from the insufficient accommodation.

The Port Chalmers Dock workshop is useful as an auxiliary to the Hillside shops, but is out of the way, inconvenient, and expensive. The forge was not largely employed during the nine months.

Crank-shafts were made for the s.s. "Albion" and the p.s. "Iron Age;" also several smaller shafts.

For the department, buffers, buffer-plates, engine-axles, &c., were turned out, together with 16 tons of fish-plates.

At the present moment a new furnace is in course of construction which will enable us to consume native coal in the forge, instead of the expensive Newcastle coal; and it is anticipated that the saving thus effected will recoup the cost of the furnace in the course of one year's operations.

TRAFFIC DEPARTMENT.

Section, Amberley to Temuka.

Since the date of my last report an important change has been made in the organization of this department. The opening of the through line, and the increase of business consequent upon that event, very much extended the respective jurisdictions of the Traffic Managers of the Christchurch and

Dunedin Sections, and increased their duties; and, it was found in practice, and became a ground of complaint, that the Timaru and Oamaru District, being remote from either centre, did not, especially in the busy season, get an adequate share of consideration.

A new section, therefore, made up of the southern portion of the Christchurch Section and the northern portion of the Dunedin Section, and extending from Temuka to Palmerston, was created, and placed under the charge, for traffic purposes, of a separate Manager. This arrangement has worked well, and given general satisfaction; and it may not be amiss to state that the creation of a new office has not added to the expenditure, but, on the contrary, has resulted in a considerable saving.

The sections now stand thus: Amberley to Temuka, 247·4 miles; Temuka to Palmerston, 170·2 miles; Palmerston to Clinton, 148·5 miles; and Clinton to Kingston, 198·75 miles—each section including the branches appertaining to it.

The only mileage added to the Christchurch Section was from Sheffield to Springfield (6 miles 45 chains), opened on the 5th January. This extension opens up the Springfield coal mine, which brings a considerable traffic to the department, and supplies a fuel of fair quality for the use of the engines.

The Customs examination of goods has been transferred from Christchurch to Lyttelton—an arrangement which, obviating in many cases the double handling of goods, produces a saving of labour, and works well. The examination is carried on in the commodious sheds of the Harbour Board, which have been so altered and arranged that vessels lying alongside the Gladstone Pier can deliver their cargoes direct into the sheds.

As we are now in the midst of the grain season, I cannot state the number of tons carried, as was done in my last report; but the number of tons handled at Lyttelton, exclusive of materials for the use of the department, amounted to 225,235, and 57,536 tons were dealt with in the Christchurch Goods Department.

By the last-named station 120,075 tickets were issued; and by Lyttelton, 58,593 tickets.

Section, Temuka to Palmerston.

Although the period at which the sections were separated for accounting and statistical purposes is so recent as to preclude me from presenting anything like a comparison between this and any former period, indications are not wanting that the Timaru and Oamaru Section has shared in the effects of the general depression in respect of its traffic. This is sufficiently shown by a comparison instituted by the Manager, between the period under notice and the preceding one, in respect of the traffic of the two chief stations on the section, Timaru and Oamaru, which exhibits a falling-off in the passengers booked of 11 per cent., and in tonnage of goods of 22 per cent. I am glad to observe, however, that there are indications of a revival of trade and of improving traffic.

Extensive reductions have been effected in the staff of this section; and I believe I am justified in saying that the staff now stands at the lowest possible point consistent with efficiency.

Some important improvements have been effected at stations on this section. Semaphore signals have been erected in the Oamaru Station yard, and the traffic of that station has been placed in a reasonable condition of security. Telegraph communication also has been opened up with several of the stations. Much, however, remains to be done, both in respect of protection by signal and telegraph communication. The traffic cannot be considered as *absolutely* safe until every station is protected by signals. To provide signals for every station would, however, be attended with considerable expense; but every large and important station should be so protected, and I cannot too strongly urge that this should be done.

As regards telegraphing, I should be glad to see a very large extension of the block system, which works admirably wherever it has been introduced on our railways, and which enables us to work the traffic not only with safety, but with economy.

The Ngapara branch, which was a source of so much trouble last year from the lightness of the rails, and its consequent inability to carry any but the very lightest engines, has since been relaid with 40-lb. rails up to Teaneraki. An extension of the relaying, up to Ngapara, is much to be desired.

Sidings have been put in at Corriedale and Whitstone, and the siding at Teaneraki has been considerably lengthened.

The Timaru-Oamaru Section contains many of the elements of a large carrying business—namely, extensive coal fields, which produce a fuel of fair quality, for which there will be a large demand; an unlimited supply of building stone, of a quality which is every day coming more into use; and great facilities for grazing, which are rapidly developing a stock-carrying traffic which bids fair to become an important one. There is every reason to expect that at no distant period the section will occupy an important position in respect of the traffic of this system of railways.

Section, Palmerston to Clinton.

The working of the traffic of this section presents results of a favourable character as compared with other sections of the railway. Taking the figures of the nine months under review, against those of the corresponding period of the previous year, the passenger traffic exhibits an increase of 44 per cent., and the inwards and outwards goods traffic an increase of 6 per cent.

This is the more gratifying that it has occurred during a period when the traffic on other parts of the line has been so injuriously affected by the business and financial depression which has prevailed as to show a large falling-off in the revenue. This section, moreover, has had to contend with the drawback of a suspension of traffic consequent on the floods which I have referred to elsewhere. An inadequate supply of rolling-stock in the early part of the period also proved a hindrance to the traffic. Taking all these circumstances into consideration, I submit that the returns of this section are highly satisfactory.

The expenditure has been restricted to what was found to be absolutely necessary for the efficient working of the business.

The Manager draws attention to the inadequacy of the accommodation afforded by the present Dunedin Station and yard. He states—and I fully concur with him—that if more extended facilities

are not soon given, the traffic will inevitably become unmanageable; and I cannot refrain from saying that much credit is due to that officer for having accomplished so much with means so inadequate.

To enable us to do justice to the traffic of this section, many additions and improvements are required at the stations; and I would recommend an early consideration of the question.

The railway telegraph has proved an important adjunct in working the traffic, and I would be glad to see it extended to all the chief stations. Especially desirable is a more general adoption of the block system of signalling. On no section is this so much required as on this, where the many tunnels, curves, and grades, and the irregular surface so much circumscribe the view.

Section, Clinton to Kingston.

The traffic of this section, although sharing with that of the others the effects of the depression of commerce, was, on the whole, not unsatisfactory. The timber trade forms an important item of the traffic, and some difficulty is experienced in carrying it on, owing to the inadequate supply of timber-wagons. Messrs. Anderson and Co. are building a hundred of this description of truck, and I shall therefore soon be in a position to meet the want.

The discontinuance of the express train between Clinton and Invercargill does not seem to have caused much inconvenience to the public, while, as a matter of economy, it has been a benefit to the department.

Here also the railway telegraph, although its operations are very limited, has done good service; and an extension of it to all the principal stations is much desired.

Greymouth Section.

The passenger traffic on this line is light, only 34,746 passengers having been carried during the nine months. The mineral traffic, which is considerable, keeps the line in a good position as to the percentage the working expenses bear to the gross revenue, and gives proof of what can be done on a New Zealand light narrow-gauge railway if a fair amount of traffic can be secured.

The line carried during the nine months 37,192 tons of goods and minerals, the earnings being at the rate of £1,248 per mile per annum; and the working expenses have been brought down to 47·11 per cent. of the receipts.

The line has been fairly maintained, and is now in good running order. Over 50 rails have been exchanged—that is, the damaged rails have been lifted from the main line and relaid in the sidings, the sound rails from the sidings taking the place of those removed from the main line; and 25 sleepers have been renewed during the period. The retaining-walls have been thoroughly repaired, and are now in good condition.

The timber bridges are showing signs of decay, and will shortly require repairs. The General Manager again refers to “Ibbotson’s patent clip-joint” in condemnatory terms, and states that, “had the rails been fitted with long four-bolt fish-plates, a far better and more economical road to maintain would have been the result.”

The two locomotives have been in regular work, and are kept in good order, both having recently received considerable repairs. A more powerful engine is required, and is now about to be sent from the Dunedin Section. A small workshop would be of great convenience: the engine and necessary tools are already provided.

The carriages, four in number, are in good running order, and are now being painted and varnished. Ninety-seven wagons have received a thorough overhaul, and are now in first-class order.

The steam-cranes, shoots, and wharves are in fair condition, a new set of shoots having been supplied. Further coal-wharf accommodation is urgently needed. Proper station accommodation at Greymouth, and further siding accommodation at Brunner, are much required, the work being retarded and the expenditure increased for want of proper facilities.

Westport Section.

The traffic over this line still continues to be very light, the receipts being insufficient to meet the working expenses. The portion of line extending from Waimangaroa to Ngakawau is still closed.

I mentioned in my last annual report that the Westport and Koranui Companies were carrying on operations to open out their respective mines, and stated that if they got into successful work the revenue would show a marked improvement. I believe the Westport Company is now about to commence operations, and, with the moderately good bar and extensive accommodation for loading already provided, a large business should result.

Fifteen thousand two hundred and eighteen passengers and 5,167 tons of goods and minerals have been carried during the nine months. The receipts have been at the rate of £309 per mile per annum, and the working expenses 121·07 per cent. of the receipts.

The line has been maintained in fair working condition during the past period: it has not been necessary to renew either rails or sleepers, the traffic being so light.

The two locomotives are in good order, and the carriages and wagons have been fairly maintained. The strictest economy is being practised, so far as the safe and efficient working will allow.

Nelson Section.

The traffic on this section is light, the earnings being at the rate of £382 per mile per annum, and the percentage of working expenses to receipts 78·22. The passenger receipts show an increase of about £100, and the revenue for the carriage of goods has increased £259 as compared with the corresponding nine months of the previous period, 53,193 passengers and 8,128 tons of goods having been carried.

The line has been well maintained, and is in good working order. Two rails and 70 sleepers have been renewed. One and a quarter miles of embankment has been widened to 13 feet, and well ballasted.

A new siding has been provided at Wakefield, and the Nelson Station yard partially relaid in order to meet the working of the new port extension.

An additional engine was supplied in this section in December last, and the three are now in excellent working order.

The carriages have been thoroughly repaired, restuffed, painted, and varnished. The wagons have also been repaired and painted. The new extension to the port is expected to be opened this month, and will, no doubt, help the revenue.

The workshop tools have been usefully employed, the heavy portion of the Picton work, as the turning of wheels, &c., being done in Nelson.

Picton Section.

The traffic on this section is also very light: 20,107 passengers and 9,858 tons of goods have been carried during the past nine months, the receipts being at the rate of £256 per mile per annum, and the working expenses 95·03 per cent. of the receipts.

The line has been well maintained, and is in good order. The large timber viaduct near Picton has been thoroughly repaired and painted. The embankments have been made wider and ballasted.

An additional engine was also supplied to this section in December last, bringing the complement up to three, and all are now in good condition.

The carriages and wagons have been carefully attended to, properly repaired, painted, and varnished, and are in good order.

GENERAL.

The rules and regulations for the guidance of the staff in conducting the traffic have been most carefully revised, and are now in the hands of the printer. The work has necessarily been some months in hand.

I am also preparing conditions of employment, which, as soon as ready, will be submitted for your approval. The object aimed at in the proposed conditions is a complete reorganization of the staff with a view to secure the safe and efficient conduct of the business of the department. It is intended that the employes of the three departments—locomotive, maintenance, and traffic—shall be separately classified, with minimum and maximum rates of pay for each class, rising by reasonable increment; permanency of employment, advance of pay, and promotion being made entirely subject to good behaviour and competency. It is further proposed that every man shall, on entering the service, pass a medical examination, be perfect in sight and hearing; that all, except maintenance-of-way labourers, shall be able to read and write; and that a certain limit of age shall be fixed. I have it in view to propose that a Board of Inquiry shall be formed, consisting of three representatives from the class of officers—one from each of the departments—and one man selected from the grade to which the accused person belongs; in order that, in cases of imputed misconduct, neglect, or incompetency, the individual may have a fair and impartial hearing, and not be subject to dismissal through the will or caprice of a subordinate officer of the department.

A few slight reductions have been made in the tariff, the tendency being to secure increased business for long distances.

I propose to submit also for your consideration a readjustment of the passenger fares, to the extent of the entire abolition of return tickets and a commensurate reduction on single fares. The usual inducement to grant return fares—viz., competing lines—is wanting here, and I cannot see any ground for the concession. The change of system would, I believe, lead to the convenience of the public, for, without much increasing the cost, it would enable a passenger to make his return journey at any time that suited his business or his pleasure. It would at the same time be a saving to the department—the several kinds of tickets kept in stock would be reduced by one-half, and the frauds which are known to be practised with the Saturday single-fare return tickets would be entirely frustrated.

The railway telegraph service, as I have already stated in this report, has been of great assistance to the department. There are now fourteen absolute block stations, which render the working of the dangerous parts of our single line of railway perfectly safe.

The stores department has received careful attention during the period, the accounting portion having been reconstructed. I propose laying before you shortly further proposals in regard to the more economical working of this department. The stores contracts are incomplete, and require careful revision, many articles being in frequent demand that are not provided for. I beg to attach Stores Manager's report. The several officers have given me hearty assistance in carrying out retrenchment, and I have to acknowledge the zeal and efficiency of the staff generally.

RECAPITULATION.

The following is a summary of the results of working during the past nine months:—

The miles of line open for traffic on the 31st March were 808 miles 5 chains.

The train-miles run were 1,481,225, and the gross earnings £450,102 4s. 6d.

The working expenses were £338,844 6s. 3d., and the net earnings £111,257 18s. 3d., the working expenses being 75·28 per cent. of the receipts.

The earnings per average mile of line open were £557, and the actual earnings per train-mile 73d. The total expenses per mile have been £419, and 55d. per train-mile.

The total cost of constructing the lines open for traffic has been £6,066,402, the net earnings being equal to 2·44 per cent. per annum on the cost of construction.

The number of passengers carried was 1,697,565, and 658,616 tons of goods were carried.

The total amount paid for claims for loss and damage has been £871 12s. 8d.

The rolling-stock consisted of 124 locomotives, 284 coaching and 4,089 goods vehicles.

The amount paid for wages was £223,477, and the number of employes 2,383.

Attached hereto please find the following tables :—

Comparative Statement of Receipts and Expenditure	Table	A.
Comparative Statement of the Goods and Passenger Traffic	"	B.
Statement of Accounts of the different Sections, Middle Island Railways	"	C.
Summary of Accounts, Middle Island Railways	"	D.
Return of Accidents " "	"	E.
Return of Rolling-stock " "	"	F.
Return of Weighing Machines, &c., Middle Island Railways	"	G.
Return of Cranes " "	"	H.
Return of Pumps " "	"	I.
Return of Traversers, Turntables, and Weighbridges, Middle Island Railways	"	K.
Return of Number of Vessels Loaded at Lyttelton	"	L.
Return of Tonnage Handled at Lyttelton	"	M.
Statement of Cost of Working Locomotives, &c., Middle Island Railways	"	N.
Return of Number of Vessels and nature of Loading Discharged at Lyttelton	"	O.
Return of Revenue and Expenditure at each Station, Middle Island Railways	"	P.
Statement of Expenditure on Maintenance, &c., Amberley-Bluff Railway	"	Q.
Statement of Mileage Open and under Maintenance, &c., Amberley-Bluff Railway	"	R.
Statement of Mileage Open for Traffic, Amberley-Bluff Railway	"	S.
Statement of probable Cost of future Renewals, &c., Amberley-Bluff Railway	"	T.
Return of Sleepers and Rails Relaid	"	U.
Statement of Expenditure: Casualties, Additions, &c.	"	V.
Statement of Sectional Expenditure for Maintenance, Amberley-Bluff Railway	"	W.
Classified Expenditure for Maintenance, Amberley-Palmerston Line for the Years 1877-80	"	X.

I have, &c.,
 WM. CONYERS,
 Commissioner of Railways, Middle Island.

The Hon. the Minister for Public Works.

NELSON SECTION.

Dr.	£	s.	d.	Cr.	£	s.	d.	
To Cash in hand and outstanding, July 1, 1879		21	3	3	By Payments into Public Account to March 31, 1880	5,820	19	11
Passengers, Parcels, Goods, &c., March 31, 1880	5,872	0	11	Cash in hand and outstanding, March 31, 1880		72	4	3
	<u>£5,893</u>	4	2			<u>£5,893</u>	4	2
To Amount paid into Public Account, March 31, 1880	£5,820	19	11	By Expenditure to March 31, 1870...	4,592	17	2	
Less Cash in hand and outstanding, July 1, 1879		21	3	Balance towards payment of Interest	1,279	3	9	
			8					
Cash in hand and outstanding, March 31, 1880		72	4					
	<u>£5,872</u>	0	11			<u>£5,872</u>	0	11

PICTON SECTION.

Dr.	£	s.	d.	Cr.	£	s.	d.	
To Cash in hand and outstanding, July 1, 1879		37	11	0	By Payments into Public Account to March 31, 1880	3,553	15	7
Passengers, Parcels, Goods, &c., to March 31, 1880	3,545	9	8	Cash in hand and outstanding, March 31, 1880		29	5	1
	<u>£3,583</u>	0	8			<u>£3,583</u>	0	8
To Amount paid into Public Account, March 31, 1880	£3,553	15	7	By Expenditure to March 31, 1880...	3,369	8	2	
Less Cash in hand and outstanding, July 1, 1879...		37	11	Balance towards payment of Interest	176	1	6	
			7					
Cash in hand and outstanding, March 31, 1880		29	5					
	<u>£3,545</u>	9	8			<u>£3,545</u>	9	8

TABLE D.—APPENDIX L.

MIDDLE ISLAND SECTIONS.

SUMMARY OF ACCOUNTS for the Nine Months ending 31st March, 1880.

Dr.	£	s.	d.	Cr.	£	s.	d.	
To Earnings,—				By Payments into Public Account to March 31, 1880	472,749	12	2	
Cash in hand and outstanding, July 1, 1879 ...	18,301	6	10	Less Refunds for Wharves, &c. ...	40,171	11	2	
Less Transfer Vouchers in Treasury Books, but not entered in Departmental Accounts	96	17	9					
Passengers, Parcels, Goods, &c., to March 31, 1880			18,204	9	432,578	1	0	
				Cash in hand and outstanding, March 31, 1880		34,562	17	10
			448,936	9				
			<u>£467,140</u>	18	10			
To Amount paid into Public Account, Mar. 31, 1880	£432,578	1	0	By Expenditure to March 31, 1880...	338,844	6	3	
Less Cash in hand and outstanding, July 1, 1879		18,204	9	Balance towards Payment of Interest	111,257	18	3	
			414,373	11				
Cash in hand and outstanding, March 31, 1880								
			34,562	17				
			448,936	9				
Recoveries to Vote			1,165	14				
			<u>£450,102</u>	4				
						<u>£450,102</u>	4	6

TABLE G.—APPENDIX L.
WEIGHING MACHINES.

Sections.	Weighing Machines.															
	26 cwt.	22 cwt.	20 cwt.	16 cwt.	15 cwt.	14 cwt.	13 cwt.	12 cwt.	11 cwt.	10 cwt.	8 cwt.	7 cwt.	6 cwt.	5 cwt.	4 cwt.	3 cwt.
Christchurch ...	2	1	11	2	1	1	2	17	16	6	2	...	4	6	...	...
Oamaru ...	...	...	...	6	2	...	...	...	5	1	...	...	1	3	1	...
Dunedin ...	...	2	...	...	4	...	...	...	1	3	...	1	7	11	2	5
Invercargill ...	...	...	...	...	...	...	...	...	...	5	...	...	...	7	...	1
Greymouth ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Westport ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Nelson ...	...	...	...	...	1	...	...	...	...	...	...	...	...	4	...	2
Picton ...	...	...	...	...	...	...	...	...	...	2	...	...	...	4	...	...
Total ...	2	3	11	8	8	1	2	17	22	17	2	1	12	35	3	13

TABLE H.—APPENDIX L.
CRANES.

Section.	Stationary.											Travelling.											Total.		
	Steam.						Hand.					Steam.						Hand.							
	12 tons.	10 tons.	5 tons.	3 tons.	2 tons.	1½ tons.	10 tons.	5 tons.	3 tons.	2 tons.	1½ tons.	1 ton.	12 tons.	10 tons.	5 tons.	3 tons.	2 tons.	1½ tons.	10 tons.	5 tons.	3 tons.	2 tons.		1½ tons.	15 cwt.
Christchurch	5	2	1	...	...	...	...	...	5	4	4	...	2	...	...	...	...	...	23
Oamaru	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	3
Dunedin	1	...	1	...	...	4	...	...	...	2	...	...	1	...	...	...	...	...	9
Invercargill	1	...	...	4	...	...	1	...	...	...	1	...	...	...	...	...	3
Greymouth	2	...	1	...	...	2	...	...	...	1	...	1	...	...	...	7
Westport	1	...	1	...	...	...	1	...	...	...	1	...	1	...	...	...	5
Nelson	2	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	4
Picton	2	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	4
Total	1	6	3	2	7	5	2	...	5	10	4	...	8	1	3	1	...	...	58

TABLE I.—APPENDIX L.
RETURN OF PUMPS.

Section.	Steam Pumps.	Hand Pumps.	Windmill Pumps.	Hot-air Pumps.	Total.
Christchurch ...	4	32	8	...	44
Dunedin ...	...	12	1	1	14
Invercargill ...	1	17	...	...	18
Total ...	5	61	9	1	76

TABLE N.—APPENDIX L.

STATEMENT of Cost, &c., of WORKING LOCOMOTIVES, for the Nine Months ending 31st March, 1880.

Engine No.	Class.	Total Engine Mileage.	Tons Hauled, r Mile.	Fuel Consumed, in Cwts.	Cost of Repairs.		Cost of Working.		Cost per Mile in Pence.	Cost per Ton-Mile in Pence.	Total Cost of Engine.					
					£	s. d.	£	s. d.			£	s. d.				
1	O	25,048	1,180,648	4,305	87	3	2	762	7	2	8	13	17	849	10	4
2	O	29,439	2,038,931	4,945	110	8	3	789	1	11	7	33	10	899	10	2
3	M	25,045	1,608,494	4,950	49	19	10	827	7	0	8	40	13	877	6	10
4	M	18,043	1,425,404	4,015½	98	10	11	505	3	5	8	83	11	663	14	4
5	A	6,318	Shunting	677	127	1	1	196	5	6	12	28	...	323	6	7
6	A	4,163	Shunting	470	3	16	7	124	17	5	7	41	...	128	14	0
7	O	29,797	1,928,190	5,483	107	19	3	896	8	9	8	09	12	1,004	8	0
8	O	26,217	1,619,111	4,981	130	7	1	784	19	10	8	34	13	915	6	11
9	O	20,840	799,368	3,456	86	14	9	626	6	0	8	21	21	713	0	9
10	O	17,848	766,952	3,951	94	7	11	590	6	8	9	20	21	684	14	7
11	F	7,681	322,040	1,413	50	10	8	258	1	1	9	64	22	308	11	9
12	F	13,304	320,286	2,436	63	10	8	457	2	3	9	39	36	520	12	11
13	F	20,869	520,567	3,253	154	3	3	578	2	5	9	22	33	732	5	8
14	F	12,098	284,757	1,852	132	3	6	493	2	8	10	61	45	535	6	2
15	D	2,854	142,701	508	9	4	6	88	1	2	8	18	16	97	5	8
16	D	23,176	1,392,208	3,755	21	5	1	702	9	0	7	23	12	723	14	1
17	D	1,735	57,947	351½	47	6	2	82	3	5	17	91	53	129	9	7
18	D	13,858	407,183	2,081	14	1	6	440	8	7	7	80	23	454	10	1
19	O	22,357	530,442	4,085½	160	1	0	662	7	6	8	83	37	822	8	6
20	O	18,243	708,560	3,234½	175	4	5	546	5	3	8	99	24	721	9	8
21	O	18,928	821,332	3,885	63	13	6	583	19	0	8	14	18	647	12	6
22	R	17,890	1,126,161	5,747½	72	17	1	546	17	0	8	31	13	619	14	1
23	E	11,472	1,053,167	3,576½	311	19	7	571	19	7	18	49	20	883	19	2
24	E	17,508	1,442,740	5,496½	175	18	10	792	1	5	13	21	16	968	0	3
25	E	10,269	863,124	3,383	219	13	3	510	7	1	17	06	20	730	0	4
26	B	4,040	340,843	1,225½	354	13	3	182	16	1	31	92	37	537	9	4
27	B	20,166	449,778	4,616½	189	14	1	663	18	5	10	15	45	853	12	6
28	R	20,072	1,339,107	5,139	204	13	7	603	0	4	9	66	14	807	13	11
29	R	23,545	1,524,502	5,826½	123	15	3	653	8	0	7	92	12	777	3	3
30	R	22,650	1,506,974	6,517½	141	18	6	691	7	7	8	82	13	833	6	1
31	R	20,555	1,319,800	5,647	172	14	5	658	7	7	9	70	15	831	2	0
32	R	19,736	1,373,491	5,796½	93	8	7	593	13	8	8	35	12	687	2	3
33	R	16,746	1,106,531	5,869½	72	11	6	503	3	6	9	11	13	635	15	0
34	F	10,773	336,193	1,930	109	8	1	350	12	6	10	24	32	460	0	7
35	F	16,682	406,736	2,853½	99	0	4	551	16	8	9	36	38	650	17	0
36	*F	4,433	196,662	791½	38	2	5	131	13	6	9	19	20	169	15	11
37	F	17,370	51,682	2,721½	153	10	6	556	8	8	9	80	3	709	19	2
38	F	15,081	516,449	3,470½	130	6	0	526	3	8	10	44	30	656	9	8
39	O	20,807	696,563	3,641½	115	5	6	643	15	5	8	75	26	759	0	11
40	O	19,275	963,427	3,234½	263	17	2	543	3	2	10	04	20	807	0	4
41	O	22,661	533,642	3,707	84	14	3	661	0	0	7	89	33	745	14	3
42	O	18,273	599,144	3,483½	144	15	9	574	6	6	9	44	28	719	2	3
43	O	23,194	809,890	3,640½	99	4	9	675	17	2	8	02	22	775	1	11
44	O	22,052	629,582	3,451½	153	11	6	645	12	4	8	69	30	799	3	5
45	O	22,739	926,619	3,640½	87	16	0	652	3	7	7	82	19	740	19	7
46	D	17,947	719,952	2,844½	46	4	2	419	11	11	6	24	15	465	16	1
47	D	24,220	1,289,900	4,658	50	1	8	613	11	3	6	56	12	663	12	11
48	D	22,818	1,311,813	4,415½	50	3	1	599	17	1	6	83	11	650	0	2
49	D	20,626	758,112	3,226½	77	17	8	478	16	3	6	47	17	556	13	11
50	D	20,454	604,535	2,239½	49	0	6	465	13	3	5	75	20	514	13	9
51	D	19,249	655,504	3,255	167	12	3	437	19	3	7	55	22	605	11	6
52	S	11,950	Shunting	1,662	42	1	5	245	7	1	5	76	...	287	8	6
53	C	10,434	214,801	2,139	399	18	8	301	11	1	16	13	78	701	9	9
54	P	9,752	59,867	1,610½	115	1	6	344	8	11	11	30	1	459	10	5
55	G	20,604	1,276,998	5,516½	83	9	10	512	18	2	6	94	11	596	8	0
56	G	14,909	797,417	3,375	404	17	1	398	14	5	12	92	27	803	11	6
57	G	23,036	1,084,321	5,110½	104	19	11	547	15	8	6	79	14	652	15	7
58	P	19,430	925,573	4,709½	214	16	4	479	11	9	8	57	18	694	8	1
59	G	8,613	Shunting	967½	124	13	3	305	19	5	11	99	...	430	12	8
60	A	14,099	279,368	1,726	39	7	8	392	14	6	7	35	37	432	2	2
61	A	15,824	258,280	1,357	55	5	7	346	14	7	6	09	37	402	0	2
62	A	11,577	180,745	1,646	150	8	10	356	1	8	10	50	67	506	10	6
63	A	17,357	420,077	1,997	57	5	2	439	9	5	6	86	28	496	14	7
64	A	13,810	52,298	1,942½	37	3	11	493	13	4	7	66	2	440	17	3
65	A	14,095	52,419	1,621	280	8	6	362	13	5	10	95	2	643	1	11
66	A	19,340	662,719	1,845	256	9	3	406	15	10	8	23	2	663	5	1
67	A	13,793	216,937	1,641½	42	8	0	388	1	2	7	48	47	430	9	2
68	A	15,721	149,810	1,449½	68	11	10	368	11	10	6	67	70	437	3	8
69	A	25,291	1,039,253	3,144½	56	5	2	534	0	1	5	60	13	590	5	3
70	A	9,863	170,563	1,694½	265	13	3	244	2	2	12	40	71	509	15	5
71	A	14,939	129,294	1,523	32	8	1	386	18	10	6	73	77	419	6	11
72	O	20,262	977,150	3,332	103	6	9	485	18	9	6	98	14	589	5	6
73	O	18,687	647,475	3,731	251	9	3	439	10	8	8	87	25	690	19	11
74	O	21,762	848,423	3,917	69	7	9	508	17	8	6	37	16	578	5	5
75	F	22,511	638,555	3,043	68	17	10	528	15	5	6	37	22	597	13	3

* Employed by Public Works Department.

TABLE N.—APPENDIX L.—continued.

STATEMENT of Cost, &c., of WORKING LOCOMOTIVES for the Nine Months ending 31st March, 1880—continued.

Engine No.	Class.	Total Engine Mileage.	Tons Hauled, r Mile.	Fuel Consumed in Cwts.	Cost of Repairs.	Cost of Working.	Cost per Mile in Pence.	Cost per Ton-Mile in Pence.	Total Cost of Engine.
					£ s. d.	£ s. d.			£ s. d.
	Brought forward ...	...	...	...		
76	F	15,889	441,041	2,614	300 18 6	382 17 2	10'32	'37	683 15 8
77	F	17,679	880,932	2,876	290 15 7	408 17 10	9'49	'19	699 13 5
78	F	21,813	1,061,897	3,628	126 0 5	447 12 11	6'31	'12	573 13 4
79	F	19,713	941,252	3,918	326 17 2	426 4 8	9'16	'19	753 1 10
80	O	18,100	491,791	3,203½	218 7 9	578 9 5	10'56	'38	796 17 2
81	J	21,785	2,113,215	6,989	295 13 10	618 6 9	10'06	'10	914 0 7
82	J	24,525	2,840,210	8,288½	160 5 2	755 15 3	8'96	'07	916 0 5
83	J	21,762	2,060,784	8,745½	92 1 2	691 6 5	8'63	'09	783 7 7
84	J	18,303	2,089,512	6,578	431 13 9	559 16 1	13'00	'11	991 9 10
85	J	25,523	2,872,921	8,273½	124 0 2	762 4 4	8'33	'07	886 4 6
86	J	13,938	1,612,339	4,401	555 14 10	462 0 2	17'52	'15	1,017 15 0
87	K	27,751	1,364,186	7,269	106 9 6	669 6 6	6'70	'13	775 16 0
88	K	28,556	1,476,119	7,628	112 5 2	679 17 9	6'65	'12	792 2 11
89	M	18,425	1,251,139	4,459½	68 7 3	636 6 3	9'17	'13	704 13 6
90	M	18,888	1,482,385	4,608½	80 3 0	600 7 9	8'64	'11	680 10 9
91	L	18,538	377,958	4,133½	79 1 3	506 11 4	7'57	'37	585 12 7
92	K	28,324	1,465,185	6,162	87 14 4	653 4 0	6'27	'12	740 18 4
93	K	26,842	1,541,309	6,584	52 17 6	691 5 7	6'65	'11	744 3 1
94	K	27,924	1,033,141	6,006	53 0 0	674 8 4	6'25	'10	727 8 4
95	K	25,384	1,423,227	6,129½	178 8 9	818 7 10	9'42	'16	996 16 7
96	K	25,747	1,238,641	4,859	74 16 10	762 4 6	7'80	'16	837 1 4
97	K	16,744	769,956	3,803½	156 11 9	530 15 1	9'85	'21	687 7 5
98	F	26,588	1,291,552	3,927½	63 11 7	521 8 9	5'28	'10	585 0 4
99	F	22,415	853,196	3,196½	48 11 8	554 18 2	6'46	'17	603 9 10
100	F	19,741	911,539	4,220	73 6 10	467 10 3	9'81	'14	540 17 1
101	T	3,061	351,169	1,725	29 2 8	114 8 9	11'25	'12	143 11 5
102	T	3,306	441,709	1,756	24 17 8	121 16 9	10'65	'07	146 14 5
103	T	3,868	337,136	1,673½	58 19 2	161 19 5	13'70	'15	220 18 7
104	T	4,977	465,712	2,013½	66 0 2	221 0 3	13'84	'14	287 0 5
105	T	344	21,204	179	75 2 7	15 9 6	6'321	'02	90 12 1
106	T	2,959	308,169	1,308	35 4 0	127 19 9	13'23	'18	163 3 9
107	J	12,751	1,296,931	3,427	32 17 5	364 13 4	7'48	'07	397 10 9
108	J	11,716	1,206,107	3,535	34 7 3	350 17 4	7'89	'07	385 4 7
109	J	10,619	895,903	3,538	31 4 8	304 10 5	7'59	'08	335 15 1
110	J	12,592	1,228,289	4,144	26 15 11	339 7 6	6'98	'07	366 3 5
111	O	18,103	956,909	3,220½	53 1 11	498 1 5	7'30	'13	551 3 4
112	R	15,044	931,452	4,883½	66 6 0	453 19 1	8'29	'13	520 5 1
113	O	2,394	76,050	418	44 7 6	73 13 2	11'41	'37	118 0 8
		1,941,454	96,472,471	404,251	14,002 17 11	55,261 14 0	8'55	'17	69,165 12 3

Engines K and T are American.

TABLE O.—APPENDIX L.

RETURN of the NUMBER of VESSELS, and NATURE of LOADING, DISCHARGED at LYTTELTON, for the Nine Months ending 31st March, 1880.

Month.	Home and Foreign.	Intercolonial or Coastwise.	Total.	General Cargo.	Timber.	Coal.	Firewood.	Sundries.	Total.
1879.	No.	No.	No.						
July ...	1	71	72	27	12	9	17	7	72
August ...	7	71	78	38	11	11	14	4	78
September ...	3	82	85	39	16	10	14	6	85
October ...	4	92	96	47	24	8	10	7	96
November ...	2	90	92	41	30	4	13	4	92
December ...	4	84	88	42	28	11	5	2	88
1880.									
January ...	2	90	92	42	31	5	8	6	92
February ...	4	94	98	42	36	6	8	6	98
March ...	7	82	89	42	22	11	9	5	89
Total ...	34	756	790	360	210	75	98	47	790

TABLE P.—APPENDIX L.

REVENUE and EXPENDITURE of each STATION for the Nine Months ending 31st March, 1880.

Stations.	Hours Open.	Number of Hands Employed.	Total Expenditure.		Number of Tickets Issued.	Goods.		Receipts.		Total.			
			£	s. d.		Tons Outwards.	Tons Inwards.	£	s. d.		£	s. d.	
Amberley ...	11½	5	452	14 2	8,419	2,492	7,164	2,081	12 5	1,927	14 3	4,009	6 8
Balcairn ...	11½	1	95	19 3	2,600	382	565	489	18 7	190	7 5	680	6 0
Sefton ...	10½	2	142	11 11	2,852	1,202	745	399	1 3	401	15 3	800	16 6
Ashley ...	11	1	106	8 10	3,111	1,037	1,510	414	19 4	304	14 8	719	14 0
Rangiora Junction ...	11½	6	696	1 0	12,020	2,006	3,896	2,040	13 11	773	2 4	2,813	16 3
Southbrook ...	12½	1	90	17 11	1,923	786	1,238	284	3 4	278	4 1	562	7 5
Kaiapoi ...	12	6	707	3 6	14,002	6,090	4,689	1,804	3 4	2,087	16 4	3,891	19 8
Belfast ...	13½	1	96	12 0	1,268	1,057	508	102	12 6	351	14 9	454	7 3
Styx ...	13	1	117	7 3	2,040	1,147	756	113	9 2	341	15 8	455	4 10
Papanui ...	14	2	174	4 5	4,750	652	949	720	10 8	244	15 8	965	6 4
Riccarton ...	14	1	150	10 4	858	2,049	3,829	166	2 0	677	13 10	843	15 10
Addington Junction	15	8	885	14 7	6,886	4,515	9,141	1,497	15 10	1,895	15 3	3,393	11 1
Christchurch ...	15½	*100	14,932	3 11	151,570	29,340	102,580	32,694	8 0	14,238	3 2	46,932	11 2
" (Accountants)	...	...	...	...	1,395	...	...	645	15 4	...	...	645	15 4
Opawa ...	13½	1	36	6 3	4,137	...	...	190	18 10	...	...	190	18 10
Heathcote ...	14½	5	542	11 5	8,157	7,826	3,423	405	8 10	1,485	8 3	1,890	17 1
Lytelton ...	14½	100	13,976	5 0	58,408	150,674	99,016	4,772	16 0	32,202	11 1	36,975	7 1
Hornby Junction ...	14½	4	392	8 10	4,436	8,707	730	657	2 3	919	3 11	1,576	6 2
Templeton ...	14	1	130	4 2	2,174	904	410	260	16 11	241	15 9	502	12 8
Rollleston Junction ...	13½	3	329	7 9	4,101	393	295	881	17 7	158	13 0	1,040	10 7
Burnham ...	13½	1	99	16 10	1,253	555	383	242	6 9	196	10 10	438	17 7
Selwyn ...	12½	2	174	14 1	1,321	646	154	261	1 6	275	19 2	537	0 8
Dunsandel ...	12½	2	226	17 0	3,334	1,596	1,039	903	10 9	750	8 2	1,653	18 11
Rakaia ...	12	6	580	13 6	6,452	5,889	8,385	2,106	1 2	3,248	1 10	5,354	3 0
Chertsey ...	12½	3	321	11 11	2,749	5,283	1,727	675	3 4	2,900	0 1	3,575	3 5
Ashburton ...	13½	15	1,799	1 8	18,323	6,607	10,489	6,339	2 8	4,076	13 2	10,415	15 10
Tinwald ...	13	1	130	0 7	1,999	1,643	2,658	172	5 11	1,165	17 4	1,338	3 3
Winslow ...	12½	2	178	19 11	1,773	877	1,192	322	13 11	828	16 1	1,151	10 0
Hinds ...	12½	2	194	4 3	1,259	451	621	242	18 5	406	17 5	649	15 10
Faling ...	11	1	86	2 6	639	149	218	179	7 8	160	7 7	339	15 3
Rangitata ...	11½	2	173	15 1	1,523	1,302	356	391	14 9	890	17 3	1,282	12 0
Orari ...	12½	2	198	4 9	3,788	894	818	1,158	16 10	624	19 5	1,783	16 3
Winchester ...	12	3	214	9 4	4,697	1,102	768	743	7 8	747	4 10	1,490	12 6
Temuka ...	13	3	296	10 3	11,784	2,027	3,687	2,626	11 3	1,562	13 1	4,189	4 4
Fernside ...	...	...	51	18 4	447	44	98	63	5 7	25	3 4	88	8 11
Moeraki ...	11½	1	89	0 0	890	332	241	151	9 8	202	5 1	353	14 9
Cust ...	11½	1	160	16 9	2,267	334	716	444	15 2	163	1 3	607	16 5
Bennett's Junction ...	12½	1	122	14 8	1,431	372	180	190	11 9	225	1 6	415	13 3
Oxford East ...	14½	1	114	17 3	2,286	998	311	549	11 11	285	18 0	835	9 11
Oxford West ...	14½	5	514	10 8	6,158	7,280	854	892	14 1	2,327	0 0	3,219	14 1
Prebbleton ...	10½	1	121	7 4	2,736	968	307	257	12 6	305	0 10	562	13 4
Lincoln ...	10	1	194	8 6	3,707	2,328	1,926	488	6 9	704	17 7	1,193	4 4
Springston ...	9½	1	107	19 6	1,481	482	432	229	15 2	178	3 11	407	19 1
Ellesmere ...	10	1	159	0 11	2,061	2,149	399	437	6 9	839	9 6	1,276	16 3
Doyleston ...	10½	1	123	3 11	2,350	1,183	417	470	0 5	541	0 9	1,011	1 2
Leeston ...	11	3	262	4 10	3,210	1,243	1,200	700	17 10	665	11 10	1,366	9 8
Southbridge ...	11½	4	375	14 6	4,698	2,248	1,264	1,015	13 7	1,284	10 0	2,300	3 7
Aylesbury ...	10½	1	99	0 10	507	672	345	89	16 2	264	6 2	354	2 4
Kirwee ...	11	1	128	13 9	2,086	719	993	464	9 6	371	2 11	835	12 5
Darfield Junction ...	12	4	375	10 7	4,184	5,234	1,924	1,081	9 7	1,813	2 6	2,894	12 1
Sheffield ...	13½	2	230	3 9	3,013	2,861	1,502	906	1 9	1,104	11 4	2,010	13 1
Springfield ...	14	3	123	4 6	851	704	384	271	4 9	430	4 9	701	9 6
Coalgate ...	13½	1	111	15 10	2,056	662	995	618	18 7	668	6 2	1,287	4 9
Washdyke Junction	13	1	132	12 3	3,026	179	632	257	16 6	190	3 5	447	19 11
Timaru ...	14	†27	2,865	16 9	34,417	9,971	12,491	11,459	17 7	4,812	6 10	16,272	4 5
St. Andrews ...	11	2	232	19 9	4,519	955	1,550	795	3 11	683	4 8	1,478	8 7
Otaio ...	11	1	97	13 10	1,064	757	453	163	11 3	517	6 7	680	17 10
Makikihi ...	10	1	115	6 6	2,131	1,628	590	411	13 6	793	0 7	1,204	14 1
Waimate Junction ...	10	2	233	17 5	2,035	1,117	208	336	17 11	809	1 3	1,145	19 2
Waihao ...	10	1	113	15 6	902	633	362	156	4 6	403	0 7	559	5 1
Waitaki ...	11	2	337	8 1	873	899	951	174	4 4	561	14 6	735	18 10
Pukeuri ...	14	2	173	16 7	3,221	2,677	1,391	360	0 8	959	6 9	1,319	7 5
Oamaru ...	20	37	4,117	5 11	47,385	33,752	41,407	11,658	19 7	4,631	19 2	16,290	18 9
Waiareka Junction ...	14	2	208	9 2	747	4,721	1,856	65	14 8	2,081	15 11	2,147	10 7
Maheno ...	13	2	137	9 3	3,507	2,986	2,443	583	0 9	1,542	3 2	2,125	3 11
Herbert ...	12½	1	130	2 3	3,040	760	938	611	14 1	399	11 2	1,011	5 3
Hampden ...	11½	1	127	5 10	2,113	925	274	504	15 0	291	18 6	796	13 6
Hillgrove ...	11	1	116	8 0	1,692	169	230	127	2 2	27	2 2	467	2 4
Shag Point Junction	10	1	180	14 4	...	10,459	306	2	10 0	2,905	16 3	2,908	6 3
Pleasant Point ...	12	2	232	0 5	5,021	1,754	1,114	695	11 2	772	12 9	1,468	3 11
Cave ...	10½	1	108	10 11	1,260	289	201	224	19 1	107	17 3	332	16 4
Albury ...	10	2	225	6 5	4,059	1,284	3,650	1,131	1 4	1,012	8 0	2,143	9 4
Waimate ...	11	4	437	3 3	7,513	8,361	2,242	2,618	7 2	3,246	2 1	5,864	9 3
Dunroon ...	9	2	209	15 11	2,443	1,510	2,734	804	8 9	1,255	2 3	2,059	11 0
Ngapara ...	9	1	125	5 3	2,841	751	1,193	470	3 6	375	19 1	846	2 7
Carried forward	...	423	52,956	4 2	536,139	367,720	365,763	110,140	5 7	117,435	1 3	227,575	6 10

* Includes Guards.

† Two Guards included.

TABLE P.—APPENDIX L.—continued.

REVENUE and EXPENDITURE of each STATION for the Nine Months ending 31st March, 1880—
continued.

Stations.	Hours Open.	Number of Hands Employed.	Total Expenditure.		Number of Tickets Issued.	Goods.		Receipts.				Total.					
						Tons Outwards.	Tons Inwards.	Coaching.		Goods.							
			£	s.	d.			£	s.	d.	£	s.	d.	£	s.	d.	
Brought forward...	...	423	52,056	4	2	536,139	367,720	365,763	110,140	5	7	117,435	1	3	227,575	6	10
Palmerston ...	14	6	732	5	2	12,645	3,015	6,176	3,077	17	9	2,172	4	3	5,250	2	0
Waikouaiti ...	14	3	248	9	6	4,302	2,025	2,034	1,042	2	1	644	3	11	1,686	6	0
Seacliff ...	14	1	28	9	9	777	...	...	106	7	4	...	...	...	106	7	4
Waitati ...	14	2	152	9	2	4,912	3,499	572	768	8	7	719	6	7	1,487	15	2
Port Chalmers, Upper	14	1	110	4	7	7,707	473	...	1,026	16	2	64	18	9	1,091	14	11
Glendernid Junction	17	2	232	5	9	4,880	228	518	389	8	1	58	5	1	447	13	2
Port Chalmers ...	17	25	3,080	17	11	37,889	48,817	19,244	3,497	9	7	13,645	12	3	17,143	1	10
Ravensbourne ...	17	2	150	12	5	16,007	25	422	821	8	9	18	16	0	840	4	9
Pelichet Bay ...	17	2	265	19	6	16,918	1,394	5,500	1,581	3	9	111	18	4	1,693	2	1
Dunedin ...	21	*116	12,742	17	6	139,948	35,913	95,033	37,852	10	5	22,475	18	8	60,328	9	1
Caversham ...	14	2	150	13	1	14,388	178	2,777	968	0	1	108	8	2	1,076	8	3
Burnside Junction ...	...	...	32	14	11	1,646	...	...	63	16	11	...	...	...	63	16	11
†Abbotsford ...	15	†5	368	4	6	12,485	21,808	1,464	856	15	4	2,204	12	0	3,061	7	4
Mosgiel Junction ...	15	4	356	12	11	18,455	2,523	5,309	2,047	11	0	652	8	6	2,699	19	6
Greytown ...	13	2	261	3	7	6,773	919	710	1,045	15	10	347	9	7	1,393	5	5
Waihola ...	13	1	218	10	11	3,325	687	648	667	15	0	208	11	8	876	6	8
Milburn ...	13	1	124	6	3	2,046	1,729	1,161	317	10	3	871	11	4	1,189	1	7
Milton ...	13	4	394	1	11	9,948	2,902	4,729	2,285	9	4	1,685	15	7	3,971	4	11
Clarkeville Junction	11	2	222	6	9	3,671	161	186	602	7	11	86	17	9	689	5	8
Lovell's Flat ...	11½	1	141	17	9	1,600	3,024	424	286	9	7	829	12	11	1,116	2	6
Stirling ...	12	3	367	1	8	4,566	17,230	953	1,014	2	6	4,860	4	3	5,874	6	9
Balclutha ...	12½	4	365	3	0	7,830	542	2,137	2,233	11	9	544	15	4	2,778	7	1
Waitapeka ...	14	1	140	10	0	581	930	700	133	4	2	699	17	9	833	1	11
Warepa ...	13	1	115	7	11	1,344	767	363	252	2	7	687	19	8	940	2	3
Clinton ...	15	5	620	8	1	12,157	945	1,609	2,109	15	4	932	0	7	3,101	15	11
†Green Island ...	...	...	54	6	2	824	8,092	3,077	39	9	11	931	15	4	971	5	3
Outram ...	10	2	298	15	1	10,002	1,733	3,767	1,138	4	2	745	4	2	1,883	8	4
Monnt Stuart ...	13	1	93	9	10	1,571	340	259	230	16	7	96	2	11	326	19	6
Manuka ...	13	1	81	9	0	844	67	123	116	18	11	28	4	5	145	3	4
Waitahuna ...	13	2	193	9	11	4,222	638	2,000	678	0	2	387	8	11	1,065	9	1
Lawrence ...	14	4	645	13	6	8,566	1,752	4,794	2,470	13	1	1,957	17	4	4,428	10	5
Waipahi ...	14	3	297	2	10	2,466	2,273	2,976	967	9	7	2,952	16	6	3,020	6	1
Gore ...	12	3	438	9	8	5,862	2,008	5,626	2,276	9	1	1,611	1	9	3,887	10	10
Mataura ...	11	2	282	13	8	2,918	1,322	1,361	903	1	9	840	1	4	1,743	3	1
Edendale ...	10	3	339	14	2	4,985	1,609	2,468	1,408	16	3	1,514	3	10	2,923	0	1
Woodlands ...	11	2	217	11	9	3,825	6,579	1,395	699	14	9	2,583	16	11	3,283	11	8
Invercargill ...	13	†30	3,463	4	7	60,273	20,467	14,787	14,393	6	5	8,682	18	6	22,986	4	11
Bluff ...	10	7	866	9	8	4,524	9,064	16,926	930	19	7	1,620	2	7	2,551	2	2
Makarewa Junction	11	2	223	5	0	4,963	8,582	740	526	6	1	1,479	13	8	2,005	19	9
Winton ...	9	3	318	18	10	5,848	3,260	1,155	1,007	19	0	1,693	13	5	2,791	12	5
Oreti ...	9	1	178	15	9	2,145	2,111	956	604	6	3	571	5	10	1,175	12	1
Elbow ...	13	3	294	12	7	10,658	891	4,815	1,990	11	6	1,127	5	1	3,117	16	7
Kingston ...	9	2	224	12	0	1,168	1,381	1,918	957	4	10	1,810	16	2	2,768	1	0
§Aparima Junction...	11	2	89	5	6	2,022	664	609	254	17	3	206	6	1	461	3	4
Riverton ...	12	3	325	16	9	15,365	1,170	3,367	2,415	19	7	511	2	11	2,927	2	6
Otautau ...	13	3	165	4	11	2,034	889	888	386	3	5	597	3	9	983	7	2
Goodwood ...	14	1	82	7	2	866	214	91	134	8	11	82	11	9	217	0	8
Burke's ...	17	1	162	15	8	270	1	31	13	17	1	0	5	2	14	2	3
Totals ...	...	699	83,018	2	8	1,038,260	592,561	592,561	209,793	19	10	203,198	8	6	412,992	8	4

* Includes Guards.

† Joint staff.

‡ Includes seven Guards.

§ Now Thornbury.

TABLE Q.—APPENDIX L.
STATEMENT showing CLASSIFICATION OF EXPENDITURE ON MAINTENANCE OF WAY AND WORKS, AMBERLEY and BLUFF RAILWAY, for the Financial Period of Nine Months ended 31st March, 1880.

Classification of Works.	Christchurch Section.				Oamaru Section.				Amberley to Palmerston.				Dunedin Section.				Invercargill Section.				Total Amberley and Bluff with Branches.				Proportion of each item to the whole.	Comparative Rates per mile for the Period.															
	£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.			Christchurch.	Oamaru.	Dunedin.	Invercargill.	Total.											
Supervision ...	1,403	15	1		969	11	10		2,373	6	11		1,754	7	0		318	14	8		4,446	8	7		£	6	0		£	5	7		£	11	8		£	6	0		
Repairs, Permanent Way	13,840	11	9		10,444	18	3		24,285	10	0		17,379	4	6		9,317	15	6		50,982	10	0		59	7	61	5	48	6	68	7	11	7	11	17	0	43	11	59	7
Ballasting ...	816	8	2		1,308	11	1		2,124	19	3		3,821	8	10		2,111	10	8		7,857	18	9		3	5	7	7	11	0	10	6	6	65	3	3	1	6	65	3	
Sidings and Turntables	74	6	7		49	11	4		123	17	2		460	17	6		407	5	7		992	1	0		0	3	0	3	1	2	1	2	1	2	1	2	1	2	1	2	
Grading ...	239	14	6		1,318	14	8		1,558	9	2		1,316	2	11		1,600	11	0		4,475	3	1		3	7	8	9	8	3	1	0	7	8	9	3	7	8	9	3	
Permanent Way, New Materials	3,781	19	1		4,079	5	2		7,861	4	3		4,348	0	7		1,084	14	7		13,293	19	5		13	2	24	0	5	6	17	9	2	29	3	11	25	16	3		
Roads, Approaches ...	293	4	3		189	13	2		482	17	5		282	0	4		176	19	3		941	17	0		1	1	9	5	1	1	1	1	1	1	1	1	1	1	1		
Bridges and Culverts ...	2,818	16	11		1,617	9	6		4,436	6	5		1,637	16	5		855	11	10		6,929	14	8		12	1	9	5	11	0	9	3	9	3	8	6	5	8	6		
Fences, Cattle-stops, &c.	697	0	0		273	19	1		4,970	19	1		954	0	7		280	1	4		2,205	1	0		2	0	1	6	5	1	5	1	6	5	1	6	5	1	6		
Cranes and Weighbridges	200	8	1		26	12	0		227	0	1		15	9	8		1	16	9		244	6	6		1	16	9	8	3	9	0	7	0	2	0	2	0	2			
Pumping Apparatus ...	43	10	7		20	14	10		64	5	5		22	10	1		2	8	3		1,018	4	0		104	14	10	4	0	0	7	2	4	1	4	0	7	2	4		
Telegraphs ...	1,493	0	2		817	12	2		2,310	12	4		19	6	1		228	0	2		19	6	1		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stations and Buildings	615	14	7		859	14	6		1,475	9	1		461	12	2		259	11	11		2,196	13	2		3,193	18	11	2	7	0	4	4	4	4	4	4	4	4	4	4	
Tools and Implements	183	14	4		...	...	...		183	14	4		97	18	10		229	0	1		460	13	3		4	0	0	7	5	1	4	0	7	5	1	4	0	7	5	
Workshop Commission	27,008	18	2		23,225	3	6		49,234	1	8		33,134	1	1		16,978	16	5		99,346	19	2		99	346	19	2	84	0	0	0	0	0	0	0	0	0	0	0	
Totals	36,888	1	10		25,371	8	7		62,259	10	5		37,654	18	2		18,348	1	10		118,282	10	5		118	282	10	5	100	0	0	0	0	0	0	0	0	0	0	0	
Mileage under Maintenance	232	miles			170	miles			402	miles			148	miles			192	miles			742	miles		

TABLE R.—APPENDIX L.
STATEMENT showing MILEAGE OPEN FOR TRAFFIC AND UNDER MAINTENANCE, on 30th June, 1879, and 31st March, 1880, with Lengths Opened and Closed during that Financial Period, and Equivalent of Mileage under Maintenance, reduced according to date of opening.

Traffic Section.	Mileage Open for Traffic on 30th June, 1879.	Additional Length Opened for Traffic during Financial Period.		Reduced Mileage equivalent for whole Period.		Lengths Closed during Period.		Net Addition to Mileage Open for Traffic.	Net Addition to Mileage under Maintenance.	Total Mileage Open for Traffic on 31st March, 1880.	Total Mileage under Maintenance, 1st July, 1879, to 31st March, 1880.
		Line Opened.	Date of Opening.	Length Opened.	M. chs.	M. chs.	Line.					Length.
Christchurch Section	M. chs. 230 10	Sheffield to Springfield	5th Jan., 1880	M. chs. 6 45	M. chs. 2 15	Moeraki Pt. Branch	1 43	M. chs. 6 45	M. chs. 2 15	M. chs. 236 55	M. chs. 232 25
Oamaru Section	169 77	Shag Point Branch	18th August, 1879	1 67	1 50	...	...	0 24	0 7	170 21	170 4
Dunedin Section	148 0	Walton Park Branch	24th Sept., "	0 40	0 31	...	...	0 40	0 31	148 40	148 31
Invercargill Section	187 24	Ohautau Branch ...	15th Dec., "	11 35	4 36	...	...	11 85	4 36	198 59	191 60
Totals	735 31	...	...	20 27	8 52	...	...	18 64	7 9	754 15	742 40

TABLE S.—APPENDIX L.

STATEMENT showing the LENGTHS of RAILWAY and SIDINGS Open for Traffic on 31st March, 1880, on the AMBERLEY and BLUFF RAILWAY.

Line of Railway.	Main Line.			Branches.		Total Railway.	Equivalent of Single Track.
	Single.	Double.	Sidings.	Single.	Sidings.		
CHRISTCHURCH SECTION :—	M. chs.	M. chs.	M. chs.	M. chs.	M. chs.	M. chs.	M. chs.
Lyttelton to Temuka	94 40	7 60	33 43	...	...	...	135 63
Addington to Amberley	32 21	...	3 75	...	...	...	36 16
Rangiora to Oxford ... ..	...	...	...	22 7	1 64	...	23 71
Eyreton Junction to Bennett's ... ..	...	...	...	20 7	1 40	...	21 47
Hornby to Southbridge ... ..	...	...	...	25 39	2 24	...	27 63
Rolleston to Malvern and Sheffield ... ..	...	...	...	24 5	1 68	...	25 73
Sheffield to Springfield Mine ... ..	...	...	...	6 56	...	...	6 56
Darfield to White Cliffs ... ..	...	...	...	11 40	1 7	...	12 47
Total—Christchurch Section ...	126 61	7 60	37 38	109 74	8 43	236 55	
OAMARU SECTION :—							
Temuka to Waitaki	50 13	...	6 10	...	...	...	56 23
Albury Branch ... ..	...	...	...	25 54	1 40	...	27 14
Waimate Branch ... ..	...	...	...	4 46	0 47	...	5 13
Waitaki to Palmerston	50 67	...	5 7	...	...	...	55 74
Dunroon Branch ... ..	...	...	...	21 33	0 50	...	22 3
Waiareka Branch ... ..	...	...	...	14 77	0 72	...	15 69
Shag Point Branch ... ..	...	...	...	1 67	0 11	...	1 78
Oamaru Breakwater ... ..	...	...	...	0 64	0 10	...	0 74
Total—Oamaru Section ...	101 0	...	11 17	69 21	3 70	170 21	
DUNEDIN SECTION :—							
Palmerston to Dunedin	40 43	...	16 40	...	Not returned.	...	130 21
Dunedin to Clinton	73 18	...	...	...	...	...	1 9
Glendernid to Port Chalmers... ..	...	...	...	1 9	...	...	2 47
Walton Park Branch ... ..	...	...	...	2 47	...	...	9 3
Mosgiel to Outram ... ..	...	...	...	9 3	...	...	22 0
Lawrence Branch ... ..	...	...	...	22 0	...	...	...
Total—Dunedin Section ...	113 61	...	16 40	34 59	...	148 40	
INVERCARGILL SECTION :—							
Clinton to Invercargill	65 43	...	11 40	...	Not returned.	...	94 3
Invercargill to Bluff	17 0	...	...	...	...	...	87 16
Invercargill to Kingston ... ..	...	...	...	87 16	...	...	17 45
Makarewa Junction to Riverton ... ..	...	...	...	17 45	...	...	11 35
Aparima Junction to Otautau... ..	...	...	...	11 35	...	...	...
Total—Invercargill Section ...	82 43	...	11 40	116 16	...	198 59	
Grand Total	424 5	7 60	76 55	330 10	12 33	754 15	851 3

TABLE T.—APPENDIX L.

STATEMENT showing APPROXIMATE PROBABLE COST of future RENEWALS of PERMANENT WAY and STRUCTURES, reduced to an Annual Rate, for the Amberley and Kingston Railway. (Length, 763 Miles.)

Basis of Computation.			Renewals.		
Particulars.	Assumed Duration of Work in Years.		Miles to be Renewed Yearly.	Value of Yearly Renewals.	
PERMANENT WAY :—	Years.		Miles.	£	
Cost per mile of renewal of way, 53-lb. steel rails, &c.	14	£800	54.5	49,595	
Labour laying same		110			
Jarrah sleepers... ..	7	400	109	55,590	
Labour laying same, packing, and ballasting		110			
Total cost per mile		£1,420			
BRIDGES AND CULVERTS :—					
Cost of works as per schedule		£568,945			
Deduct for permanent structures		163,945			
Balance subject to renewal	25	£400,000	...	16,000	
STATIONS AND BUILDINGS :—					
Cost as per schedule, all subject to renewal... ..	25	£465,279	...	18,611	
FENCING :—					
Cost as per schedule, all subject to renewal... ..	10	£113,534	...	11,353	
Total estimated cost of future renewals in 25 years of age of railway yearly ...	...	...	...	£151,149	

TABLE U.—APPENDIX L.

RETURN of SLEEPERS and RAILS RELAID during the Nine Months from 1st July, 1879, to 31st March, 1880.

NEW SLEEPERS RELAID.										
Section of Railway.	Black Pine.	Totara.	Birch.	Blue Gum.	Matai.	Kauri.	Jarrah.	Kauri or Black Birch.	Red Pine.	Totals.
Christchurch ...	1,746	539	9,140	1,624	...	...	...	...	...	13,049
Oamaru ...	...	1,141	70	6,703	1,909	26	2,708	...	...	12,557
Dunedin ...	...	...	...	...	...	...	...	...	...	19,563
Invercargill ...	1,519	1,286	...	...	...	...	...	2,425	72	5,302
Totals ...	3,265	2,966	9,210	8,327	1,909	26	2,708	2,425	72	50,471

RAILS RELAID.										
Section of Railway.	28 lbs.	30 lbs.	40 lbs.	52 lbs.	53 lbs.	56 lbs.	64 lbs.	70 lbs.	55 lbs.	Totals.
Christchurch ...	...	480	461	99	2,622	102	63	21	...	3,848
Oamaru ...	...	...	754	...	198	...	...	...	...	952
Dunedin ...	...	...	255	499	3,840	...	...	...	271	4,865
Invercargill ...	282	...	1,250	...	...	...	...	2	...	1,534
Totals ...	282	480	2,720	598	6,660	102	63	23	271	11,199

TABLE V.—APPENDIX L.

STATEMENT of EXPENDITURE under CASUALTIES, ADDITIONS, and ALTERATIONS, from 1st July, 1879, to 31st March, 1880.

	£	s.	d.		£	s.	d.
DAMAGES BY FLOODS AND CASUALTIES.				ADDITIONS TO PERMANENT WAY AND WORKS—continued.			
<i>Repairing Damages by Floods, 1879-80,—</i>				Brought forward ...	1,025	5	6
Repairing damages by flood June 29, 1879, Christchurch-Temuka and Branches ...	1,615	4	5	Improvements to Level Crossing, Albury Branch, &c. ...	114	16	10
Repairing ditto Temuka-Palmerston and Branches ...	543	5	8	Level Crossing for Mr. W. L. Gray ...	4	4	11
Repairing breaches at Otaio ...	64	6	11	Temporary Crossing for Mr. Archer, Timaru ...	5	10	0
Repairing structures damaged by flood 29th June, 1879 ...	152	8	2	Level Crossing for Mr. Edwards, Ngapara ...	6	11	0
Repairs to roads, &c., damaged by floods ...	627	12	6	Dismantling Port Moeraki Branch (permanent way) ...	66	10	11
Repairs to bridge at Washdyke, damaged by floods ...	76	9	3	Dismantling ditto (structures) ...	800	6	7
Three 11-ft. openings at 73m. 30chs. (new structure) ...	223	15	5	Ballasting Kaiapoi-Bennett's, and Rangiora-Oxford Branches ...	646	16	0
Repairs, Whales Creek Bridge ...	33	17	3	Fitting up three rail presses ...	31	3	2
	£3,336	19	7	Fixing turntable, Evan's Store, Timaru ...	50	18	3
<i>Various.—</i>				Widening bank at Rangitata Island ...	478	9	5
Raising banks, Addington-Amberley Line	950	7	10	Lightening slopes 191m., Pukeviti ...	83	18	1
Additional spans to south end Waimakariri Bridge ...	158	5	6	Painting bolts in Ashley Bridge ...	60	7	11
Repairs, Rangitata Bridge North ...	1,065	2	8	Driving raking piles, Waimakariri Bridge ...	39	13	10
Repairing damages to line, Bankside ...	14	2	10	Thirty-six new raking piles for Rakaia Bridge	559	6	0
Sundries ...	22	0	10	Stone for Rakaia Bridge ...	44	9	2
	2,209	19	8	Widening crossings on Rakaia Bridge ...	30	7	6
Total casualties ...	£5,546	19	3	Stone for Ashburton Bridge ...	99	7	6
				Stone protection for bridges, Timaru District	148	2	3
ADDITIONS TO PERMANENT WAY AND WORKS.				Heavy stone, north end Waitaki Bridge ...	65	3	10
Relaying 53-lb. steel rails south from Selwyn	524	8	3	Strengthening Waiareka Bridge ...	156	10	6
Relaying ditto south from Rakaia Bridge ...	148	2	6	Extra bracing Shag River Bridge ...	15	17	2
Renewal of permanent way, Main Line, Oamaru to Palmerston ...	62	3	4	Brick culvert at mouth of Lyttelton Tunnel	260	3	7
Relaying Ngapara Branch with 40-lb. old rails ...	25	8	6	Completion of water openings between Ashburton and Orari ...	103	5	6
Relaying Ngapara Branch with 40-lb. steel rails ...	87	19	3	Concrete culvert at 83m. 27chs., South Rangitata and Orari ...	44	19	7
Ballast Pit Roads at Mandeville and Burnham ...	69	13	3	Lowering Jackson's Creek Culvert, Opawa ...	117	13	0
Points and crossings for Branch Line, Tinwald ...	51	8	1	12-inch pipe across District Road at 191½m. Pukeviti ...	7	16	1
Level Crossing at 10m. 44chs., Whitecliffs Branch ...	16	4	6	Minor drainage works, Christchurch District	13	13	11
Footpaths at Level Crossing, Colombo Street, Christchurch ...	34	1	4	Improvements to culverts, Oamaru District	10	11	9
Level Crossing at Adam Street, Kaiapoi ...	5	16	6	Shifting fence through Mr. Stalker's land ...	11	4	6
	£1,025	5	6	Erecting barrier fence, edge of cutting, South Waitaki ...	9	5	6
Carried forward ...				Gates at McLean's crossing ...	8	6	3
				Gate at Maheno for Waitaki County Council	32	15	0
				Erecting gate instead of level crossing at 156m. ...	6	17	1
				Removing two gatekeepers' houses ...	164	3	5
				Removing platelayer's cottage from Waimakariri Bridge ...	48	16	2
				Carried forward ...	£5,373	7	8

TABLE V.—APPENDIX L—continued.

STATEMENT of EXPENDITURE under CASUALTIES, ADDITIONS, and ALTERATIONS—continued.

		£	s.	d.			£	s.	d.
ADDITIONS TO PERMANENT WAY AND WORKS—continued.					ADDITIONS AND IMPROVEMENTS TO STATIONS—continued.				
Brought forward ...	...	5,373	7	8	Brought forward ...	...	867	15	0
Removal of platelayers' houses, necessitated by extension of lengths ...	...	95	19	1	Filling hole opposite Quill's Hotel, Ashburton ...	...	16	0	0
Fitting up 2-ton B G travelling crane ...	...	41	5	5	Water-supply well at Ashburton Bridge ...	...	14	6	8
Picking up boulders between Heathcote and Addington ...	...	54	1	3	Additions at Rangitata for telegraph ...	...	34	10	7
		<u>£5,564</u>	<u>13</u>	<u>5</u>	Lathe room, Timaru ...	...	16	8	6
ADDITIONS AND IMPROVEMENTS TO STATIONS.					Shifting goods shed, Pleasant Point ...				
Earth-filling, drain, and crossing, Christchurch ...	...	31	10	11	Drain, Stationmaster's house, Cave ...	...	5	2	8
Connecting Crane Road with Shed A., Christchurch ...	...	18	11	0	Pump houses, St. Andrew's and Pukeuri Junction ...	...	31	7	0
Fencing stores yard, Christchurch ...	...	10	11	6	Shifting cattle-stop, &c., Hook Station ...	...	15	18	4
Fence, Gasworks Road, Christchurch ...	...	11	11	0	Making up earthwork alongside dummy siding, Makikihi ...	...	87	15	9
Erecting two loading gauges, Christchurch yard ...	...	33	8	11	Shifting coal stage, Waimate Junction to Oamaru ...	...	5	1	3
Completion of signals, Rolleston and Addington ...	...	70	8	5	Additional siding accommodation, Oamaru to Waimate Junction ...	...	19	0	0
Private sidings ...	...	91	19	4	Office, Traffic Manager, Oamaru ...	...	49	19	8
Constructing ticket office at Opawa ...	...	92	19	3	Gravelling approach, road to Papakaio ...	...	13	13	11
Repairs to floor of shed in Lyttelton ...	...	38	19	0	Connecting points with lever, Waiareka Junction ...	...	45	1	1
Rough flooring Cunningham's shed, Lyttelton ...	...	86	4	7	Water-service at Peebles ...	...	30	18	6
Painting roof of engine shed, Lyttelton ...	...	26	7	3	Six additional tanks at Hampden ...	...	36	10	1
Fencing approach to well, Rangiora ...	...	11	16	7	Water-service at Maheno ...	...	30	4	9
New road, &c., at Rolleston ...	...	127	7	8	Furniture for Shag Point Junction ...	...	7	9	11
Shifting fence at Rolleston ...	...	52	9	3	Two signal-boxes for telegraph purposes ...	...	54	15	10
Removing Stationmaster's house, Chertsey ...	...	65	7	7	Minor telegraph additions ...	...	49	5	5
Room at Winchester for telegraph purposes ...	...	69	16	10	Improvements to Stationmasters' houses ...	...	61	15	4
Water-supply pump, Ashburton ...	...	28	5	11	Minor improvements to station buildings ...	...	32	17	5
					Heightening goods-shed doors ...	...	26	17	0
					Sundries ...	...	262	5	10
Carried forward ...	...	£867	15	0	Grand total ...	...	£13,025	8	9

TABLE W.—APPENDIX L.

STATEMENT of SECTIONAL EXPENDITURE, showing COST of MAINTENANCE of the various TRAFFIC SECTIONS of MAIN LINE and BRANCHES, AMBERLEY and BLUFF RAILWAY.

Line of Railway.	Mileage.		Expenditure for Ten Periods up to 31st March, 1880.	Average per Four-weekly Period.		Rate per Mile for Nine Months ended 31st March, 1880.
	Actual Mileage.	Reduced Mileage.		Expenditure.	Rate per Mile.	
CHRISTCHURCH SECTION:—						
Main Line, Amberley and Lyttelton to Temuka ...	126 61	126 61	£ 28,632 2 0	£ 2,863	22·54	£ 225·45
Rangiora to Oxford ...	22 7	22 7	1,543 11 7	154	7·00	70·18
Eyreton to Bennett's ...	20 7	20 7	2,032 7 7	203	10·15	101·60
Horaby to Southbridge ...	25 39	25 39	2,395 15 6	240	9·60	95·84
Rolleston to Springfield Mine ...	30 61	26 31	1,528 12 6	153	5·88	58·81
Darfield to Whitecliffs ...	11 40	11 40	755 12 8	76	6·33	63·00
Total—Christchurch Section ...	236 55	232 25	36,888 1 10	3,689	15·90	159·00
OAMARU SECTION:—						
Main Line, Temuka to Oamaru ...	63 40	63 40	8,355 9 1	836	13·06	130·55
Oamaru to Palmerston ...	37 40	37 40	11,135 6 5	1,114	29·32	293·03
Washdyke to Albury ...	25 54	25 54	1,781 18 4	178	6·84	68·54
Waimate Junction to Waimate ...	4 46	4 46	295 19 11	29	5·80	59·20
Pukeuri Junction to Duntroon ...	21 33	21 33	1,414 1 11	142	6·76	67·33
Waiareka Junction to Ngapara ...	14 77	14 77	2,066 11 8	206	13·73	137·80
Oamaru to Breakwater ...	0 64	0 64	102 7 9	10	10·00	102·00
Shag Point Branch ...	1 67	1 50	219 13 6	22	11·00	110·00
Total—Oamaru Section ...	170 21	170 4	25,371 8 7	2,537	14·92	149·24
DUNEDIN SECTION:—						
Main Line, Palmerston to Dunedin ...	40 43	40 43	} Not classified under sections.			
Dunedin to Clinton ...	73 18	73 18				
Glendermid to Port Chalmers ...	1 9	1 9				
Walton Park Branch ...	2 47	2 38				
Mosgiel to Outram ...	9 3	9 3				
Lawrence Branch ...	22 0	22 0				
Total—Dunedin Section ...	148 40	148 31	37,654 18 2	3,765	25·44	253·60
INVERCARGILL SECTION:—						
Main Line, Clinton to Invercargill ...	65 43	65 43	} Not classified under sections.			
Invercargill to Bluff ...	17 0	17 0				
Invercargill to Kingston ...	87 16	87 16				
Makarewa to Riverton ...	17 45	17 45				
Aparima Junction to Otautau ...	11 35	4 36				
Total—Invercargill Section ...	198 59	191 60	18,348 1 10	1,835	9·56	95·56
Grand Total ...	754 15	742 40	118,262 10 5	11,826	15·92	159·27

TABLE X.—APPENDIX L.

SHewing a COMPARISON of the CLASSIFIED EXPENDITURE for MAINTENANCE of the AMBERLEY to PALMERSTON LINE, for the Three Years, 1877 to 1880.

	Rates per Mile per Annum.			Proportion of each Item to the whole Expenditure.		
	1877-78.	1878-79.	1879-80.	1877-78.	1878-79.	1879-80.
	£	£	£	per cent.	per cent.	per cent.
Supervision	6·2	6·7	7·8	4·0	3·4	3·82
Repairs, Permanent-way	86·4	81·8	80·5	55·0	41·2	39·01
Ballasting	1·8	4·9	7·1	1·0	2·4	3·41
Sidings and Turntables	0·8	0·6	0·4	0·5	0·3	0·20
Gradings	1·4	5·2	5·2	1·0	2·6	2·50
Permanent-way and New Material	9·1	17·5	26·2	6·0	8·9	12·63
Roads, Approaches	2·2	0·8	1·6	2·0	0·4	0·77
Bridges and Culverts	16·2	15·4	14·7	10·5	7·8	7·13
Fences, Cattlestops, &c.	3·7	7·8	3·2	2·0	3·9	1·56
Signals	1·3	1·0	0·8	1·0	0·5	0·37
Cranes and Weighbridges	0·7	0·6	0·1	0·5	0·3	0·10
Pumping Apparatus	2·1	3·5	2·7	1·5	1·8	1·29
Stations and Buildings	11·5	10·4	7·7	7·0	5·2	3·71
Tools and Implements	2·8	4·9	4·9	2·0	2·5	2·37
Workshop Commission	0·7	0·6	0·4	0·5	0·3	0·22
Total Maintenance, without Casualties and Additions	146·9	161·7	163·3	94·5	81·5	79·09
Casualties	5·8	16·8	18·4	4·0	8·5	8·90
Additions and Alterations	2·3	19·8	24·8	1·5	10·0	12·01
Totals	155·0	198·3	206·5	100·0	100·0	100·00
Mileage	382 miles	400 miles	402 miles	...	...	...

APPENDIX M.

REPORT ON THE CLEARING OF THE UPPER THAMES RIVER FROM SNAGS AND RAPIDS.

J. C. FIRTH, Esq., to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Matamata, Auckland, 24th February, 1880.

I have the honor to report, for your information, that the Upper Thames River, from the Ohinemuri Junction to Pakopako, now called Stanley, a distance of about 70 miles by the river, was, before the commencement of snagging and blasting operations, only available for canoes, the river being filled with logs and rocks.

1. Seven years ago snagging operations were commenced, and the worst obstructions removed between Ohinemuri and Omahu. Further operations were abandoned owing to great excitement amongst the river Natives, arising from the murder of Sullivan in the Waikato District.

2. Two years ago operations were recommenced. A steam-launch and punt were built for the purpose. The work was proceeding when the river Natives insisted on the stoppage of operations. Negotiations with the Natives, though somewhat difficult and costly, were, at length, successful, and their objections to clearing the river south of Omahu were finally removed. A second steam-launch was purchased, and two more punts were built.

3. Subsequently a third iron steamer was built, of light draft and great power, fitted with a steam-winch and various mechanical appliances. The operations have been continued to the present time. Large quantities of dynamite have been used with very good results. Groins, to narrow the stream and deepen the channel at certain points, have been built; innumerable snags have been removed (one of the largest being 120 feet long and 5 feet diameter at the butt); shallows have been dredged; and many impassable rapids and falls (formed by masses of conglomerate rocks) have been removed by dynamite.

4. The operations have been so far successful that all serious impediments from Omaha to Stanley, a distance of about 45 miles, have been cleared, and the river rendered navigable for steamers drawing not more than 3 feet. The steamer "Kotuku," 82 feet long and 20 feet beam, now running on the river, carries, on a 3-foot draft, 35 tons of cargo during six months in summer, and 50 tons during the remaining six months of the year.

5. There still remain some obstructions between Omaha and the Ohinemuri Junction, which, as soon as the Maori opposition is removed, will be cleared.

6. The total cost to the 1st January last of all labour, material, and appliances amounts to the sum of £7,442 4s. 5d.

7. The result of the operations is that the clearing of the navigation of this beautiful river has opened a very large area of valuable lands owned by Government and private individuals for advantageous settlement, and provided a cheap means of transit for agricultural and other produce, without transhipment, from Stanley, the head of the navigation, to the Port of Auckland.

I have, &c.,

J. C. FIRTH.

The first part of the document
 discusses the importance of
 maintaining accurate records
 and the role of the
 committee in this regard.
 It also outlines the
 procedures for handling
 confidential information
 and the responsibilities of
 the staff involved.

Continued on page 101

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