

1915.
NEW ZEALAND.

PUBLIC WORKS STATEMENT,

BY THE HON. WILLIAM FRASER, MINISTER OF PUBLIC WORKS.

MR. SPEAKER,—

When I delivered the Public Works Statement last year the general impression was that the war would not last much more than one year. At present who will venture to predict when the war will terminate? It is a somewhat extraordinary fact that, notwithstanding the thousands of workers who have joined the Expeditionary Forces, some 5,000 men still require to be engaged on public works to prevent the cry of unemployment being heard. This in some measure is explainable during the winter months, but not so during summer and autumn, when shearing, harvesting, and the other operations incidental to the primary industries will require a considerable amount of labour. These primary industries must be considered, or the country as a whole will suffer. That this labour may have to be provided for by slackening off work on railways, roads, and bridges during summer and autumn is very probable. There is no intention to exploit labour on behalf of those carrying on such industries, but employment on public works cannot be found for those to whom work at fair rates is offered elsewhere. It is generally recognized that it will not be wise during the continuance of the war to expend more borrowed money than is absolutely necessary.

The expenditure during the financial year ended 31st March, 1914—£2,949,992—constituted a record, but the similar expenditure for 1914-15 was actually larger—viz., £2,953,368—made up of £2,835,692 under the Public Works Fund and allied special accounts, and £117,676 under the Consolidated Fund.

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The following table shows the brief particulars of the expenditure of the year* and also the total under each class of work from the inauguration of the public-works policy up to the 31st March last :—

TOTAL EXPENDITURE.

Class of Work.	Expenditure.	
	Expenditure for Year ended 31st March, 1915.	Total Expenditure to 31st March, 1915.
Railways—	£	£
New construction	646,878	*24,187,621
Additions to open lines	499,875	8,851,741
Roads	514,430	10,615,759
Public buildings	†432,000	6,288,791
Immigration	33,219	2,321,739
Purchase of Native lands ... ..	...	2,063,803
Lighthouses, harbour-works, and harbour-defences	17,131	1,122,635
Tourist and health resorts... ..	8,232	252,748
Telegraph-extension	288,395	2,958,168
Development of goldfields	2,384	884,820
Defence-works (general)	15,222	989,616
Departmental	100,719	951,464
Development of water-power ... ..	...	18,451
Irrigation and water-supply ... ..	...	4,356
Payment to Midland Railway bondholders ... ..	...	150,000
Lands-improvement	13,810	134,565
Minor works and services ... ..	...	312,607
Cost and discount, raising loans, &c.	35,495	1,253,030
	2,607,790	63,361,914
Wellington-Hutt Railway improvement ... ..	...	228,373
New Hutt Road	368	101,516
Railways Improvement Account	9,024	641,605
Opening up Crown Lands for Settlement Account	92,975	788,373
National Endowment Account	9,151	33,271
Waikou and Ohineuuri Rivers Account	10,004	32,960
Aid to Water-power Works Account	74,291	252,129
Irrigation and Water-supply Account	32,089	80,380
Totals	2,835,692	65,520,521

* Includes expenditure under Wellington-Manawatu Railway Purchase Account. † Includes £15,000 expended under section 104 of the Reserves and Other Lands Disposal and Public Bodies Empowering Act, 1914.

WAYS AND MEANS.

On the 1st April, 1914, the available ways and means for public-works purposes were	£	1,178,584
And further funds were received as under :—		
Under the Aid to Public Works and Land Settlement Act, 1913	217,778	
Under the Aid to Public Works and Land Settlement Act, 1914	1,525,000	
Under the New Zealand Loans Act, 1908.. .. .	26,114	
Premium on sale of 4-per-cent. debentures	8,750	
Transfer from revenue	350,000	
Other receipts	9,422	
Making a gross total of	£3,315,648	

The ordinary expenditure of the year amounted to £2,557,295, charges and expenses in respect of raising loans £35,495, redemption of debentures £11,800, and other expenditure £15,296, thus bringing the total disbursements up to £2,619,886, and leaving a credit balance at the end of the year of £695,762.

For the current year it is proposed to provide additional funds as under :—

	£
Balance of authorized loan-moneys	1,476,100
Proposed new loan	2,000,000

The above, with the balance brought forward, gives a gross total of £4,171,862. The estimated expenditure for public works for the current year (excluding separate accounts having their own ways and means) amounts to £2,803,550, leaving an estimated balance of £1,368,312 to be carried forward to next year (1916-17).

In addition to the above we have authority to raise, outside the Public Works Fund, the undermentioned sums :—

	£
Under the Aid to Water-power Works Act, 1910 ..	245,000
Under the Irrigation and Water-supply Act, 1913 ..	29,900
Under the Waihou and Ohinemuri Rivers Improvement Act, 1910	50,000

RAILWAY-CONSTRUCTION.

The following sections of railway were completed and opened for traffic during the last financial year :—

	M.	ch.	
Otiria to Kaikohe	16	25	.. May, 1914.
Kaihu to Tarawhati	2	35	.. June, 1914.
Cronadun to Inangahua	13	0	.. June, 1914.
Cass to Arthur's Pass	14	65	.. July, 1914.
Pohokura to Whangamomona	6	13	.. July, 1914.
Kaiwaka to Otamatea	2	45	.. August, 1914.
Otoko to Matawai	12	50	.. November, 1914.
Big Hill to Beaumont	5	36	.. December, 1914.
Houipapa to Tahakopa	17	56	.. February, 1915.
Total	91	5	

The following lengths are practically completed, but have not yet been handed over to the Railway authorities for traffic :—

	M.	ch.
Otamatea to Maungaturoto	4	10
Maunganui to Te Puke	13	4
Mount Egmont Branch	2	77
Whangamomona to Kohuratahi	4	54
Ward to Mills	7	76

The total expenditure on railway-construction and improvement work during last financial year amounted to £1,155,776, as under :—

	£
Construction of new lines	646,878
Additions to open lines	499,875
Railways Improvement Account	9,023

KAIHU VALLEY EXTENSION.

In November last construction-work was commenced on the extension from Tarawhati Station to the proposed terminus at Donnelly's Crossing, four miles and a half in length. Heavy work on the first mile is almost finished, and the balance, being lighter formation, will probably be completed during the current year. A temporary service line has been laid to a quarry near Tarawhati, where metal for ballast and concrete culverts is being crushed.

KAWAKAWA-HOKIANGA.

Formation-work has been completed for two miles and a half beyond Kaikohe, and the next 60 chains, which includes the Tahuna Tunnel, 7 chains long, is being carried out under contract. Progress on this length is rather slow, and will delay the laying of rails up to and beyond the tunnel. Formation is in progress up to a point four miles and a half from Kaikohe, and the line has been located and pegged

to one mile past the Okaihau—Ohaeawai Road crossing. A new road from Okaihau to Kaikohe to give access to the railway was formed during the year and partly metalled.

WHANGAREI—NORTH AUCKLAND.

The first four miles of formation-work on this line is being carried out under contract, but the contract time, which expires in January next, is likely to be exceeded. The next length of nearly four miles to Oakleigh is being formed by co-operative labour, and machinery will be used to take out one or two big cuttings. A contract has been let for erecting a railway wharf at Mangapai and dredging the river alongside. Lighter formation-work on the next seven miles to Tauraroa is well in hand, and rails will be laid over this section as early as possible in order to utilize a ballast-pit at its far end. The line has been located for its whole length from Kioreroa to the point where it joins the North Auckland Main Trunk Railway, and formation-work will shortly be commenced from the junction northwards.

WAIPU BRANCH.

This line was authorized last year, but no sum was appropriated for it. The survey will shortly be completed, and £2,000 is asked for it to provide for initial expenditure.

NORTH AUCKLAND MAIN TRUNK.

Formation has been completed, rails laid, and the line partly ballasted from Otamatea, through the Bickerstaffe and Maungaturoto tunnels, to a point half a mile past Maungaturoto Station. The country traversed is liable to slip, and gives a good deal of trouble before stability is secured in the larger cuttings and banks. A temporary goods and passenger service is carried on between Otamatea and Maungaturoto pending the final completion and opening of the section. Earthworks are finished for one mile past the railhead, and are in progress up to the next station at Huarau, but a mile farther on a tunnel $13\frac{1}{2}$ chains in length, which has just been commenced, will delay further platelaying for some time.

Construction-work on a new section of this line, starting from Kirikopuni, on the Wairoa River, and working southwards, was commenced in April last, and is being steadily pushed on over a length of three miles and a half, of which a tunnel 25 chains long is the only heavy feature.

HUNTLY—AWAROA.

An important section of this railway, from Huntly to the point where the coal from the Pukemiro Collieries will come in for transport by rail, is practically finished, and the survey of a farther three miles of the route to Burnt Bridge has been undertaken. An addition to the combined bridge over the Waikato River at Huntly was completed early in the year.

WAIUKU BRANCH.

Formation-work at Paerata Junction and along the first seven miles of the branch line has been in progress throughout the year, under three small contracts and on the co-operative system. Satisfactory progress has been made, and earthworks over the first three miles are approaching completion.

EAST COAST MAIN TRUNK.

The Public Works Department still retains control of the completed length of over thirteen miles between Maunganui and Te Puke, on which a regular train service is run, carrying passengers, goods, and metal for the Department's own purposes and for use by local bodies in the district. There has, as was anticipated, been considerable subsidence in the pumice banks which constitute much of the formation along the length, and maintenance parties using steam navvy, locomotive, and earth-wagons are kept busy building up the banks where required. Earthworks between Te Puke and Paengaroa have been finished, but the large steel bridge over the Kaituna River, which is being built under contract, will not be finished

till about the middle of next year, when through communication by rail from Maunganui to Paengaroa, possibly to Pongakawa, will be established. The stone-crushing plants at Moturiki and Te Puke have maintained a steady output since their installation. Beyond Pongakawa formation-work by co-operative contract is in hand, and good progress has been made up to Otaramakau, thirty miles from the starting-point at Maunganui. Farther on still a little work towards Matata is being done, mostly by horse teams.

A contract has been let for the supply of steel rods for reinforced-concrete cylinders of the important steel bridge which is to carry the line across Tauranga Harbour near the town, and tenders are being invited for the supply of structural steel for the bridge itself, which will be erected by the Department's Engineers.

On the short section commencing near Waihi satisfactory progress has been made with the rock cuttings under small contracts and by co-operative labour. Two out of six contracts were completed, and the others are well in hand.

At the Gisborne end the section between Otoko and Matawai, $12\frac{3}{4}$ miles in length, was cleared of slips and handed over for regular traffic early in November. Beyond Matawai some rock cuttings and banks have been completed and the rails laid for a distance of four miles. Bushfelling and preliminary work over another mile is well forward, but the nature of the country traversed does not permit of very rapid progress.

On the Gisborne-Napier line the erection of a steel bridge over the Waipaoa River is in progress, and four temporary bridges have been built to permit of the transport by rail of plant and heavy material where the roads are not good. A quarry some distance off the line near Repongaere has been opened up, a temporary line laid into it, and crushing plant installed. Earthworks and the excavation of a short tunnel are in progress up to a point fourteen miles from the junction at Makaraka, and the route ahead has been fixed as far as the Hangaroa Township site. Surveys have also been made near Wairoa, and two miles of the route located on either side of the town, with a view to construction-work being started at that point in the near future.

From Napier northwards no construction-work has been in hand during the year, but a start has recently been made with the erection of the reinforced-concrete bridge which is to carry the line across the Inner Harbour. The embankment forming approaches at either end of the bridge is being constructed, under arrangement, by the Napier Harbour Board.

Three new sections of this line will be included in the current year's Railways Authorization Act—the first from Athenree to the end of the authorized length at the Wairoa River, the second from Tancatua to Opotiki, and the third from Hangaroa right through to the limit of the present authorization at the Napier end, including a branch line to the port of Wairoa.

STRATFORD - MAIN TRUNK.

Since the opening of the line to Whangamomona construction-work has been in progress over nine miles and a half between the terminus and Tahora. The work comprises two tunnels, road and stream diversions, and several small bridges, besides usual earthworks and culverts. One tunnel 23 chains long is finished, the other is being widened out, most of the bridges are built, and the minor works are well in hand over the whole length. Rails have been laid and the line partly ballasted as far as Kohuratahi, four miles and a half from the terminus of the open line, and a tramway has been laid from that point to the second tunnel to transport plant, material, and stores to the works, in preference to hauling over the longer and steeper route by road. Ballast material for this section of the line is brought by train from Mount Egmont.

At the eastern end the contractor for the Okahu Tunnel was unable to carry on the work owing to financial difficulties; and in April last the contract, with the Department's consent, was assigned to Messrs. Dillon (Limited), a company in which most of the parties to the original contract retain an interest. The new contractors have experienced much bad weather since they took over the work, but there is every prospect of better progress being made during the spring and summer. The contract covers two miles and a half of formation, including the

tunnel, 75 chains long. A contract has just been let for the erection of the steel superstructure of a combined road and railway bridge over the Ongarue River where the railway leaves the Main Trunk line at Okahukura. The piers will be built by the Department. Six small contracts for formation beyond the tunnel are approaching completion, and the work is well in hand up to Matiere Township, ten miles from the junction-point. A tramway three miles in length is being laid into Matiere to facilitate the transport of construction material and to keep heavy traffic off the Ohura Road. Settlers' stores will be hauled over the tram-line.

MOUNT EGMONT BRANCH.

Owing to alterations in design of incline and in proposed methods of operating the quarry on the mountain, construction-work on this line has been suspended during the greater part of the past year.

OPUNAKE BRANCH.

The line has been located from Te Roti to Opunake, twenty-three miles distant, and construction-work is in hand by contract and co-operative parties over the first seven miles to Kapuni Station. Bridges of substantial design will be required to carry the line over the Waingongoro and Mangatoki Rivers on the first section. Materials for concrete piers are being brought to the bridge-sites.

OHAKUNE-RAETIHI BRANCH.

Formation-work is completed for seven miles, and is in hand over the remaining 1 mile 50 chains. All the culverts are in place and piers for most of the bridges built. Steelwork for bridge superstructure is slow in coming to hand. Platelaying is in progress, and ballasting will follow in a month or two.

RANGITIKEI RIVER BRANCH.

In the Railways Authorization Act of last year was included a new branch line from Greatford to a point in the Rangitikei River bed, from which a supply of metal could be obtained for use by the Government and by local bodies in south Taranaki. Since the passing of the Act negotiations have been in progress between the Government and the Rangitikei County Council, who have a somewhat similar scheme in contemplation, as to the manner in which the metal-deposit could be worked to the greatest advantage. Pending a definite arrangement of terms and conditions of supply no construction-work has been done on the line.

FEATHERSTON-MARTINBOROUGH.

No construction-work was undertaken on this line during the year, and only £70 on account of survey-work came to charge against the vote.

SOUTH ISLAND MAIN TRUNK.

Platelaying and ballasting over a length of eight miles terminating at Mills Station is approaching completion under contract, and with a little trimming and finishing work this section will be ready for opening. Formation-work, mostly of a light nature, is proceeding at a moderate rate on the section beyond Mills. The country traversed here is bare and sandy, and extensive plantations of marram-grass have to be made to protect the railway banks and cuttings from drifting sand. A further length of thirteen miles, from Kekerangu to the Clarence River, will be included in this year's Railways Authorization Bill.

MIDLAND.

At the Nelson end construction-work beyond Glenhope was resumed in November last, and is well advanced for two out of three miles, which will carry the line to Kawatiri.

The works on this length are fairly heavy, and rapid progress cannot be expected.

The only other section of the Midland line on which construction-work was in progress during the year was the Arthur's Pass Tunnel, the excavation of which was continued steadily at both the Otira and Bealey ends under the direction of the Department's Engineers. At the Otira end the work is carried on by day labour—three shifts per day, with an average of thirty-seven workmen per shift.

During the twelve months ended June last the bottom heading at the Otira end advanced 23·19 chains, and the excavation and lining 24·17 chains. The face is now 2 miles 50 chains from the Otira portal. At the Bealey end the work is being carried on by co-operative contract, with an average of seventeen men per shift; the heading during the twelve months advanced 16·19 chains, and the excavation and lining 19·82 chains. The respective faces are now distant from the tunnel portals at either end—Otira, 2 miles 50 chains; Bealey, 54 chains. The distance between the two headings is 1 mile 64·45 chains, and between the limits of fully excavated and lined tunnel 2 miles 17·06 chains. The rock encountered at the headings has mostly been very wet, requiring heavy timbering practically all the way.

No works have been in progress on the Reefton-Inangahua Section since June, 1914, but a considerable amount of the expenditure on this section came to charge during the late financial year.

WESTPORT—INANGAHUA.

Three contracts for short tunnels and rock cuttings along the Buller River bank have yet to be completed, after which it is not proposed to put further work in hand for the present.

GREYMOUTH—POINT ELIZABETH.

There was a vote on last year's appropriations to cover expenditure in connection with the extension of this line to the Liverpool State Coal-mine, out of which there was an expenditure during the financial year of £864. Some small items of expenditure are still expected to come to charge, and these are provided for on the estimates.

CULVERDEN—WAI AU.

Six small contracts for formation-work on this line have been let. The work is completed for the first six miles, and is in varying stages of progress over the remainder of the route. Platelaying is in hand, and some buildings have been provided. The current year will probably see the completion of the line to Wai au.

WAIMATE BRANCH EXTENSION.

Formation-work is in progress over the first four miles from Waihao Downs Station. Some protection-work has been done where the line comes close to the Waihao River.

LAWRENCE—ROXBURGH.

The section from Big Hill to Beaumont Station, five miles and a half in length, was handed over to the Railway Department in December last for regular traffic. The authorization of the further fifteen-mile section to Miller's Flat will be provided for in the current year's Railways Authorization Bill.

The expenditure on the railway during the past financial year was £14,886, and contingent liabilities to the extent of £4,000 are provided for on the estimates.

OTAGO CENTRAL.

The extension from Clyde to Cromwell, 12½ miles in length, was located and construction-work commenced in July of last year. Good progress has been made, and the work is now in hand right up to the Cromwell Station site. The formation on this section is of lighter and less expensive character than the standard of recent years. Rails are laid for four miles, and ballasting completed over the first three miles.

CATLIN'S—WAIMAHAKA.

Platelaying and ballasting were completed, and station buildings erected at the far end of the seventeen-mile section from Houipapa to Tahakopa, which was opened for traffic on the 1st February last. The terminus will remain at Tahakopa for the present.

BALCLUTHA—TUAPEKA MOUTH.

Survey-work to locate the best route for this proposed branch railway was interrupted during the year, and no construction-work was undertaken.

WINTON—HEDDON BUSH.

No construction-work on this line was undertaken during the year, but there was an expenditure of £170 on surveys and preliminary work.

OREPUKI—WAIAMAU EXTENSION.

The route was located to Orawia, nearly ten miles from the present terminus, and construction-work has commenced at Tuatapere end. The extension will serve a large area of fertile agricultural land lately subdivided into small holdings.

TOTAL APPROPRIATIONS FOR RAILWAY-CONSTRUCTION.

In addition to the votes already mentioned, an appropriation of £1,000 is required to provide for old land-claims and other liabilities on Construction Account, £5,000 for surveys of projected new lines of railway, and £100,000 for permanent-way materials. The total vote proposed this year for railway-construction amounts to £700,000.

OTHER RAILWAY-WORKS.

The expenditure during the financial year out of the vote for additions to open lines amounted to £524,391, and out of this sum £307,385 was spent on rolling-stock, tarpaulins, workshops, machinery, Westinghouse brake equipment and petrol electric car. The balance of £217,006 covered expenditure on improvements to wharves, water-services, station accommodation and yards, engine depots, Parnell Tunnel duplication, installation of tablet, telegraph, and telephone facilities, also signalling and interlocking plant.

Grade-improvement works on the North Island Main Trunk line involved an expenditure of £29,854, and the Mechanics Bay reclamation accounted for £37,999. This latter work forms an integral part of the new Auckland Station rearrangements and railway scheme.

The Dunedin-Mosgies duplicated line was opened for traffic on 1st June, 1914, and the expenditure incurred in this work during the year was £5,273.

The vote proposed for the current year amounts to £500,000.

ROADS AND BRIDGES.

The total amount provided on last financial year's appropriations under all votes and accounts (including the Consolidated Fund Vote for Maintenance, but excluding the Land for Settlement Account—loading) was £1,070,300. The amount authorized for expenditure under the same votes and accounts during the year, added to the unexpended balance of authorities at 31st March, 1914, totalled £1,197,401. The expenditure for the twelve months amounted to £666,237, leaving an unexpended balance at 31st March last of £531,164.

In regard to expenditure on road, &c., works under the Land for Settlements Account, the money is, of course, provided by special loan raised on the security of each block of land, and is not shown on the appropriations. Under this head the amount placed at the disposal of this Department by the Minister of Lands for expenditure during the year (including the unspent balance at 31st March, 1914) amounted to £17,360, whilst the expenditure for twelve months amounted to £8,536.

For the current year the provision made for roads and bridges has not been limited on account of prevailing conditions, but it must of course be understood that the authorization of expenditure will be dependent upon the Government's ability to raise the necessary loan for public-works purposes. Moreover, it is not intended that the ways and means provided shall be expended by 31st March, 1915, but they are expected to suffice till 31st December, 1916, or even, if necessary, to 31st March, 1917.

ROADS ON GOLDFIELDS (MINES DEPARTMENT).

The total allocation under this head last year amounted to £72,409, on account of which a vote of £53,300 was taken. The expenditure during the year was £30,065.

The sum proposed to be authorized for the current year is £63,511, on account of which a vote of £40,000 is asked for.

TOTAL APPROPRIATIONS FOR ROADWORKS.

The appropriations last year were as under:—		£
Roads, &c. . . . .	.. .. .	557,700
Backblock roads, &c. . . . .	.. .. .	201,000
Goldfields roads, &c. . . . .	.. .. .	53,300
Improved-farm-settlement roads	.. .. .	10,000
Opening up Crown Lands for Settlement Account	.. .. .	173,300
National Endowment Account	.. .. .	40,000
Maintenance of roads (Consolidated Fund)	.. .. .	45,000
		<hr/>
Total	.. .. .	£1,080,300
The provision for the current year is as under:—		£
Roads, &c. . . . .	.. .. .	300,000
Backblock roads, &c. . . . .	.. .. .	160,000
Roads on goldfields	.. .. .	40,000
Improved-farm settlements	.. .. .	5,610
Land for Settlements Account	.. .. .	130,000
National Endowment Account	.. .. .	40,000
New Hutt Road	.. .. .	250
Maintenance of roads (Consolidated Fund)	.. .. .	50,000
		<hr/>
Total	.. .. .	£725,860

DEVELOPMENT OF MINING.

The value of the mineral output for the year amounted to £2,752,730, being a decrease as compared with the output of the previous year. This was only to be expected, however, in view of the prohibition of the export of certain minerals during the term of the war.

The output of coal was the highest yet recorded, being 2,275,593 tons, an increase of 387,588 tons over the output of the previous year.

Splendid marble is being produced from the Nelson District, and to aid in the development of this industry assistance is being granted by way of loan to enable the stone to be economically transported to the port of shipment.

The expenditure under the heading of mining development during last year was £2,384, and a vote of £10,000 is proposed to be taken this year.

PUBLIC BUILDINGS.

The total expenditure on public buildings during the last financial year amounted to £596,562, made up as follows:—

	£
New buildings (Class XXIII, Public Works Fund)	417,000
Sites for Government Stores, &c., Wellington	15,000
Maintenance-works (Class V, Consolidated Fund)	65,387
Maintenance-works, schools (Class XV, Consolidated Fund)	99,175
Total	£596,562

For the current year the following appropriations are proposed:—

	£
New buildings (Public Works Fund)	427,050
Maintenance-works (Consolidated Fund)	70,350
Maintenance-works, schools (Consolidated Fund)	102,150
Total	£599,550

GENERAL.

The new Parliament Buildings again absorbed the largest item of expenditure under this heading, but the work has been delayed owing to difficulty in obtaining suitable marble. This difficulty has now been overcome, and as the marble will soon be in Wellington, it is hoped that the work will then be carried on with more expedition than has hitherto been possible. The new Departmental Buildings at Gisborne were completed and occupied during the year. One substantial addition was made to the Government Printing Office, and another one is in progress.

The proposed vote for the current year includes items for the Parliament Buildings and Printing Office additions.

JUDICIAL.

Courthouses.—During the past year buildings were erected at Wyndham and Motueka, and additions were made to the Lawrence Courthouse, and the extensions to the Wellington Supreme Court were completed.

Gaols.—The principal expenditure last year was in connection with buildings at Waikeria, Invercargill, Auckland, Templeton, and Picton. The erection of a prison at Waikeria will be continued.

Police-stations.—New stations were erected at Ahaura, Charleston, Coalgate, Kaitangata, Martinborough, Ngāruawahia, Northcote, Patutahi, Raurimu, Tokomaru Bay, and Whangamomona. Properties were also purchased at Mount Eden, Hamilton, and Mount Roskill, and police residences were built at Dunedin, and Opotiki. New police headquarters and police-stations in Wellington are in progress.

POST AND TELEGRAPH.

The expenditure on buildings for Post and Telegraph purposes last year amounted to £72,861, being £60,838 for new buildings and £12,023 for maintenance of existing ones.

MENTAL HOSPITALS.

The erection of one unit at Tokanui to accommodate forty patients was completed early in the year, and a second unit of approximately the same size is now well in hand. Male and female auxiliary buildings at Avondale were completed under contract. Day rooms were added at Porirua, and a receiving ward at the same place is approaching completion. A similar ward is being added to Sunnyside, and a cottage for men is being built at Seacliff.

The current year's estimates include substantial votes for continuing the works at each of the principal institutions mentioned.

HOSPITALS.

An expenditure of £979 out of last year's vote was incurred in providing accommodation for special cases at various general hospitals. On the current year's estimates a vote appears for the same purpose.

AGRICULTURE.

On account of the conditions existing as a result of the war some works of importance, but not urgent, were held over. It has, however, been decided to provide additional accommodation for learners at both the Moumahaki and Weraroa Experimental Farms, to install a water-supply at Moumahaki, and to provide additional buildings at the Moumahaki and Tauranga Experimental Farms, also to continue the land-drainage operations at Ruakura Farm of Instruction.

SCHOOL BUILDINGS.

The expenditure out of the Public Works Fund on school buildings during the year was £122,940, of which about £117,500 was paid in grants to Education Boards and other governing bodies for public schools, teachers' residences, training colleges, technical and secondary schools, and university colleges.

The works represented by the balance, over £5,000, were for services directly under the control of the Education Department and comprised buildings and allied work at Native, industrial, and special schools.

The extension of the buildings at Otekaike connected with the institution for feeble-minded boys, involving expenditure of about £2,245, is approaching completion. An instalment of a similar institution at Richmond for feeble-minded girls is also nearing completion.

Demands for school accommodation must necessarily be met without delay as they arise, and consequently there is always a large outstanding liability on this account which must be provided for in the estimates of the year. The total amount of this liability fluctuates according to the time occupied in the prosecution of the various works authorized, and to meet this liability it is proposed to vote £120,000 for the current year.

WORKERS' DWELLINGS.

The expenditure authorized last year, for some two hundred dwellings, was £100,000. Of this amount £68,275 was paid during the year, and the balance of the expenditure appears in this year's accounts. In response to further applications the erection of an additional hundred dwellings has been decided upon, for which the estimated expenditure is £50,000.

DEVELOPMENT OF WATER-POWER.

In November last the plant for the development at Lake Coleridge of electrical energy on a large scale was formally opened, but it was not until March of this year that the continuous service started, since when it has been in full operation. The plant has worked smoothly and efficiently, without serious interruption, and the country will learn with satisfaction that this important commercial venture on the part of the Government shows every promise of becoming a financial as well as an engineering success. The three units of generating plant now installed are capable of an output equal to 6,000 horse-power; and the present demand, added to that in prospect, for which contracts have already been arranged, calls for the immediate installation of a fourth unit of 2,000 horse-power, and there are indications that two further units of generating plant will have to be provided in the not-distant future. The tunnel and headworks already constructed are sufficient to provide for probable expansion during the next six or seven years, when it is expected that the output will adequately supply the district which can be economically served from the Lake Coleridge scheme. The existing pipe-lines are of sufficient capacity to drive the fourth unit of machinery now on order, and the power-house can accommodate this unit without additions.

Feeder-lines have been extended to Lyttelton, Sunnyside, and Tai Tapu districts, and further extensions are under consideration. Negotiations are proceeding with different borough authorities in South Canterbury as far as Timaru, and, provided satisfactory arrangements are made, a transmission-line will be erected between the power-house at Lake Coleridge and Timaru, from which the whole of South Canterbury will be supplied.

■ The demand for electrical energy by power-users throughout Canterbury is most encouraging, ranging from the electric tramways, local bodies, and larger industrial concerns to small farmers, who find that by utilizing a local organization such as a dairy-factory company they can with advantage bring the current on to every farm for lighting and machine-driving purposes.

The total expenditure on this scheme from its inception to the 31st March last was £262,034, and the installation of the fourth unit is expected to place the business on a footing where interest on capital, maintenance, depreciation, and working-expenses will all be defrayed out of revenue. Subsequent additions of plant to satisfy a growing demand should increase the margin of profit.

The rapid developments at Lake Coleridge have monopolized the efforts of the Government's Electrical Engineers during the past year; but now that this scheme has reached a practical stage, attention will be directed to investigations to decide the best means of providing an adequate supply of electrical energy to serve the North Island.

Numerous water-power licenses have been granted during the year to local authorities wishing to develop local sources of power.

IRRIGATION.

At the Otekaike Settlement the construction of six miles of distributing-race to serve settlers on the eastern side of the stream was completed under contract, and additional races of a total length of two miles and a half were laid out. The settlers will be able to take advantage of the supply during the coming summer.

The development of the important scheme to irrigate the Ida Valley, in Central Otago, was appreciably advanced during the summer months. The large concrete dam at Manorburn was almost finished when work was stopped by heavy frosts in April, and this part of the scheme will be completed during the ensuing spring. The excavation of the main races along either side of the valley proceeded steadily while weather-conditions permitted, and it is hoped that these races will be out of hand before the end of next summer. The construction of the Poolburn dam and some concrete-work at the Moa Creek weir remains to be done, also some widening and lining of the old Bonanza Race, which is to be incorporated in the scheme. Water was supplied to settlers in the valley during a limited period in the middle of last summer, and a temporary supply on the same conditions will be available next summer.

Contracts were prepared for part of the work of bringing in the Manuherikia River water to irrigate the lands lying between Clyde, Alexandra, and Chatto Creek. After some delay, owing to unsatisfactory tenders, two sections were let.

The intake of this race from the Manuherikia River requiring particular attention in construction, it was decided to employ day labour, but it was found to be almost impossible to obtain men suitable for this class of work, and more especially was difficulty found in securing the services of a competent overseer, owing to so many having gone to the war. A gang has, however, now been put on to do the necessary rock-excavation, and as soon as the weather permits the concrete-work will be undertaken.

WAIHOU AND OHINEMURI RIVERS IMPROVEMENT.

The recently completed channels in the Waihou River and the stop-banks along the right bank of the Ohinemuri River were tested by a flood following a heavy rainfall in the district in March last, and proved quite effective, no appreciable damage being done, and there being no overflow into the Paeroa Township. Surveys have been continued with the object of constructing further stop-banks along the

Waihou, and the destruction of willows which impeded the free flow of the water between Te Aroha and Netherton has been carried on whenever weather-conditions permitted. The dredge specially designed and built for the work is now at work deepening the canals, the excavated material being used for the extension of stop-banks where required. A large amount of preliminary survey-work is necessary in connection with this canal and stop-bank work, which has been attended to during the year when qualified members of the staff were available.

Tenders will be invited shortly for extending the stop-bank along the right bank of the Ohinemuri and the Waihou from the railway-station at Paeroa down to and below the Netherton Bridge, and also along the left bank of the Waihou in the vicinity of Tirohia, to join the stop-bank formed out of material obtained from the Ngararahi cut. When this is completed the lands to the westward will be protected from Tirohia downward.

A contract has been let for the construction of a new wharf below the Netherton Bridge, so as to avoid the necessity for steamers passing through the bridge to reach the existing wharves above.

TOURIST AND HEALTH RESORTS.

The expenditure under this heading amounted to £8,232, compared with £14,989 for the previous year. The sum of £2,971 was spent in completing and furnishing the new hostel at the Hermitage, where the Chief Guide's cottage was also completed. Improvements at Helensville and to electrical works at Rotorua accounted for £720 and £570 respectively. Additions to the Rotorua Sanatorium cost £671, and improvements at Waitomo Caves £588. The expenditure on the proposed New Sanatorium at Hammer and drainage-works at Rotorua was held over.

TELEGRAPH EXTENSION.

The expenditure on telegraph and telephone extension during the year amounted to £288,395.

Among the larger works undertaken may be mentioned the construction of the following land lines—viz., Opotiki—Cape Runaway, Cambridge—Rotorua, Taumarunui—Ohura metallic circuit, Pahiatua—Palmerston North metallic circuit, Palmerston North—Waipawa telephone-line, Waitara—Stratford, Waitara—New Plymouth, New Plymouth telephone service, Wellington—Masterton metallic circuit, Waikaia—Waiata, and Sockburn—Christchurch underground.

No less than twelve new exchanges were opened, and the number of exchange-connections increased by 4,846.

Three hundred and ninety miles of pole-line and 2,136 miles of wire were added to the telegraph and inter-urban telephone system, and 515 miles of pole-line and 34,325 miles of wire to the telephone-exchange local systems.

One thousand six hundred and thirty-seven miles of telegraph and inter-urban telephone lines were overhauled and reconstructed.

During the year forty-six coin-in-slot telephones were installed, making a total of 139 slot telephones open for public use.

Motor-lorries, suitably fitted up, were obtained and are now being used for general construction-work.

The substitution of underground cable for aerial cable and the conversion of earth-working exchanges for the metallic circuit system are proceeding steadily.

On account of the abnormal conditions caused by the war some delay has been experienced in obtaining equipment for automatic telephone exchanges, but the provision of suitable building accommodation and underground cable equipment has been steadily proceeded with.

The necessary apparatus and material for the re-erection of the wireless station at Samoa were sent forward with the first Expeditionary Force. This station has been reconstructed, and is now being operated by officers of the Department who accompanied the Forces.

The proposed vote for the current year amounts to £327,000, made up as under :—

Automatic installations	£	110,000
Submarine cables	1,000	
New lines	30,000	
New exchanges and connecting new subscribers ..	50,000	
Material	136,000	
	<hr/>	
Total	£327,000	

LIGHTHOUSES, HARBOUR-WORKS, AND HARBOUR-DEFENCES.

LIGHTHOUSES.

The works undertaken during the year were—Completion of lighthouse on Channel Islet, Hauraki Gulf; the new Marine Department store at Pipitea Point; the continuation of the erection of the tower for the automatic light on Karori Rock, which is now almost finished; and the improvement of the road to Godley Head Lighthouse.

The estimated amount required for the carrying-out and completion of the works already authorized is £2,595, including an additional amount for the construction of an automatic light on Flat Rock, and the cost of a heavy crane for the Marine Department store.

HARBOUR-WORKS.

The principal works undertaken during the year were—The construction of a retaining-wall at Kohukohu, Hokianga; improving navigation of Taheke River (Hokianga), Waipapakauri River, Wade River, and Waikato River; construction of wharves at Dargaville (extension), Tokatoka, Silverdale, Marakopa, and Lake Wanaka; reclamation at Mangonui Wharf; harbour-improvements at Wairau and Karamea; sea protective works at Hokitika; and improvements to the landing for fishing-boats at Nugget Bay.

CONCLUSION.

In conclusion, the ability to give effect to the proposals set forth in the Statement will depend on the response of the public to the loan proposals of the Minister of Finance.

The great importance of developing the resources of the Dominion by constructing roads, bridges, and railways will certainly not be lost sight of, but it is necessary to emphasize the fact that some reduction in the rate of expenditure on such works must be expected under the very trying conditions consequent on the war.

PUBLIC WORKS STATEMENT, 1915.

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TABLE NO. 1.

SUMMARY SHOWING THE TOTAL EXPENDITURE ON PUBLIC WORKS AND OTHER SERVICES OUT OF PUBLIC WORKS FUND TO 31ST MARCH, 1915, AND THE LIABILITIES ON THAT DATE.

Number of Table containing Details.	Works.	Total Net Expenditure to 31st March, 1914.	Expenditure during Twelve Months ended 31st March, 1915.	Recoveries on Account of Services of Previous Years.	Total Net Expenditure to 31st March, 1915.	Liabilities on 31st March, 1915.	Total Net Expenditure and Liabilities.	Works.
		£	£	£	£	£	£	
3*	Railways ..	31,898,631†	1,146,753	6,023	33,639,362	417,718	33,457,080	Railways.
	Roads ..	10,161,329	514,430	..	10,615,759	250,195	10,865,954	Roads.
	Development of goldfields ..	832,691	2,384	255	834,820	500	835,320	Development of goldfields.
	Telegraphs ..	2,669,773	288,395	..	2,958,168	247,114	3,205,282	Telegraphs.
	Public buildings ..	5,856,825	432,600‡	34	6,288,791	175,041	6,463,832	Public buildings.
	Lighthouses, harbour-works, and harbour-defences ..	1,105,504	17,131	..	1,122,635	134	1,122,769	Lighthouses, harbour-works, and harbour-defences.
	Departmental ..	850,745	100,719§	..	951,464	1,930	953,394	Departmental.
18 of 1878	Development of water-power||	18,451	..	..	18,451	..	18,451	Development of water-power.
11 of 1877	Coal-exploration and mine-development ..	10,835	..	..	10,835	..	10,835	Coal-exploration and mine-development.
	Aiding works on Thames goldfields ..	50,000	..	..	50,000	..	50,000	Aiding works on Thames goldfields.
	Immigration ..	2,288,520	33,219	..	2,321,739	..	2,321,739	Immigration.
	Purchase of Native lands ..	2,064,863	..	1,060	2,063,803	..	2,063,803	Purchase of Native lands.
	Defence ..	974,395	15,221	..	989,616	288	989,904	Defence.
	Charges and expenses of raising loans ..	1,252,400	630	..	1,253,030	..	1,253,030	Charges and expenses of raising loans.
	Interest and sinking fund ..	218,500	..	..	218,500	..	218,500	Interest and sinking fund.
	Rates on Native lands ..	68,672	..	..	68,672	..	68,672	Rates on Native lands.
	Thermal springs ..	14,600	..	..	14,600	..	14,600	Thermal springs.
	Tourist and health resorts ..	244,528	8,232	12	252,748	1,642	254,390	Tourist and health resorts.
	Lands improvement ..	121,277	13,810	522	134,565	399	134,964	Lands improvement.
	Payment to Midland Railway bond-holders ..	150,000	..	..	150,000	..	150,000	Payment to Midland Railway bond-holders.
	Irrigation and water-supply||	4,356	..	..	4,356	..	4,356	Irrigation and water-supply.
	Totals ..	60,796,895	2,572,924	7,905	63,361,914	1,094,961	64,456,875	Totals.

* Table 3 also includes Hutt Railway and Road Improvement, and Railways Improvement Accounts.
 † Includes £15,000 under section 104 of the Reserves and other Lands Disposal and Public Bodies Empowering Act, 1914.
 ‡ Includes £94 charged to "Unauthorized" Expenditure subsequent to 1911-12 is under separate special accounts.

Does not include expenditure on Hutt Railway and Road Improvement, and Railways Improvement Accounts.

TABLE NO. 2.

GENERAL SUMMARY.

Showing NET YEARLY EXPENDITURE out of PUBLIC WORKS FUND, 1893-94 to 1914-15.

N.B.—The figures in italics, prefixed by "Cr.," are either recoveries on account of services of previous years or receipts-in-aid applied in reduction of expenditure. The totals from 1892-93 to 1896-97, inclusive, include expenditure under Native Lands Purchase Account; and from 1894-95 to 1896-97, inclusive, expenditure under Lands Improvement Account.

Description of Services.	Total Net Expenditure to 31st March, 1893.	Expenditure.												
		1893-94.	1894-95.	1895-96.	1896-97.	1-97-98.	1898-99.	1899-1900.	1900-1.	1901-2.	1902-3.	1903-4.		
Immigration	£ 2,146,210	£ 343	£ 101	£ Cr. 70	£ 301	£ 70	£ 105	£ 385	£ 214	£ 139	£ 142	£ Cr. 7		
Public Works (Departmental)	367,755	8,406	8,680	14,892	9,689	10,090	12,572	12,932	17,771	13,949	16,088			
Development of Water-power .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Irrigation and Water-supply .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Railways	14,478,723	176,304	247,545	197,105	207,231	351,600	374,192	417,937	717,723	1,333,940	759,752	828,704		
Payment to Midland Railway Bondholders .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	150,000
Roads:—														
Miscellaneous Roads and Bridges	3,535,567	127,281	50,544	45,261	15,691	241,209	248,934	237,351	267,374	354,687	230,349	316,248		
Roads on Goldfields	203,249	Cr. 1,030	Cr. 7,050	Cr. 573	Cr. 365	Cr. 365	Cr. 365	Cr. 347	48,417	47,573	51,690	45,594		
Development of Thermal Springs and Natural Scenery .. .. .	.. .. .	20,387	17,577	21,513	32,578	49,569	46,550	48,039	.. .. .	.. .. .	.. .. .	.. .. .
Lands Improvement Account .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Total, Roads	3,738,816	146,638	150,278	174,369	167,482	290,413	295,119	285,043	315,791	402,260	282,039	361,842		
Development of Goldfields	567,169	5,272	5,865	9,345	10,508	33,117	17,355	21,815	15,907	15,326	24,213	16,278		
Purchase of Native Lands	1,295,625	4,320	349	.. .. .	Cr. 37	61,503	53,182	32,025	28,688	18,261	15,782	5,352	
Native Lands Purchase Account	19,575	Cr. 2,428	Cr. 12	163,411	129,000	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Total, Land Purchases	1,315,200	80,877	101,346	163,411	128,963	61,503	52,957	32,025	28,688	18,261	15,782	5,352		
Telegraph Extension	663,666	16,127	19,229	35,538	36,791	29,384	28,551	26,771	50,101	31,729	68,578	47,228		

Continued on page 4.

TABLE NO. 2—continued.
GENERAL SUMMARY—continued.
Showing NET YEARLY EXPENDITURE out of PUBLIC WORKS FUND, 1893-94 to 1914-15—continued.

Description of Services.	Total Net Expenditure to date March, 1893.	Expenditure.										
		1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1.	1901-2.	1902-3.	1903-4.
Public Buildings :—	£ 195,737	£ 621	£ 2,551	£ 3,724	£ 8,178	£ 14,797	£ 8,764	£ 3,957	£ 5,594	£ 12,513	£ 9,031	£ 10,964
General (including Miscellaneous)
Parliamentary	..	13,962	6,822	9	466	466	20,636	9,883	3,039	4,424	1,503	602
Judicial	..	278,083	11,487	14,806	12,727	11,109	19,682	13,483	29,630	28,728	33,224	25,978
Post and Telegraph..	..	151,438	3,134	6,194	7,504	5,888	5,168	107	20,984	40,361	74,686	53,918
Customs	12	647	16	385	..	..	..	2,066	6,630	8,719
Quarantine-stations..	306	..	..	..	..	..	2,607	424	..	..
Mental Hospitals	..	330,542	13,633	10,935	16,404	14,130	17,667	17,712	18,872	16,743	40,167	15,812
Public Health	6,315
Hospitals and Charitable Institutions	700	..	..	..	899	5,141	1,200	3,540	4,291
School Buildings	..	827,014	15,000	20,000	22,143	23,864	43,403	49,256	33,681	38,606	57,790	87,089
Agricultural	837	1,127	819	1,328	520	447	971	535	883	2,504
Workers' Dwellings..
Total, Public Buildings	..	1,846,678	44,032	76,529	70,579	73,585	107,267	115,426	121,364	145,600	197,454	216,192
Lighthouses, Harbour-works, and Harbour-defences :—
Lighthouses	..	126,208	..	234	6,067	2,180	3,727	3,333	1,017	2,060	6,082	6,206
Harbour-works	..	310,107	650	3,861	866	568	1,777	365	1,540	3,421	1,373	1,773
Harbour-defences	..	464,056	3,976	3,314	4,667	2,547	10,158	5,328	3,960	6,678	6,126	2,885
Total, Lighthouses, &c.	..	900,371	6,588	7,409	11,600	5,295	15,662	9,026	6,517	12,159	13,581	10,864
Rates on Native Lands	..	60,658	415	340	332	156	347	744	673	571	471	666
Contingent Defence	..	429,719	..	5,000	10,554	10,360	13,867	42,810	37,650	146,875	37,005	38,723
Tourist and Health Resorts	11,260	10,949	15,643
Lands Improvement*	1,741	2,349	2,019
Charges and Expenses of raising Loans	..	1,026,828	..	..	943	5	224	28,322	1,460	5,620	88,180	87,249
Interest and Sinking Funds	..	218,500	..	..	..	..	..	..	..	..	..	..
Coal-exploration and Mine-development	..	10,835	..	..	..	..	..	..	..	..	..	..
Thermal Springs	..	14,600	..	..	..	..	..	..	..	..	..	..
Total Ways and Means Credits	..	3,458	7,062	573	705	370	590	347	..	576	..	7
Grand Total—Net Expenditure	..	27,785,728	485,002	683,336	659,836	865,172	915,736	992,876	1,309,020	2,142,736	1,514,444	1,796,841

* For previous expenditure see Roads Class.

Continued on page 5.

TABLE NO. 2—continued.
GENERAL SUMMARY—continued.
Showing NET YEARLY EXPENDITURE OUT OF PUBLIC WORKS FUND, 1893-94 to 1914-15—continued.

Description of Services.	Expenditure.											Total Net Expenditure to 31st March, 1915.
	1904-5.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15	
Immigration	£ 6,481	£ 8,753	£ 14,353	£ 9,132	£ 15,075	£ 17,003	£ 9,441	£ 11,681	£ 14,694	£ 33,914	£ 33,219	£ 2,321,739
Public Works (Departmental)	12,814	13,517	16,710	18,219	24,512	41,176	42,733	49,864	57,426	66,650	*100,719	951,464
Development of Water-power	468	2,901	4,664	315	..	..	1,021	9,082	‡	‡	‡	18,451
Irrigation and Water-supply† .. .. .	..	..	..	..	..	..	1,562	2,794	§	§	§	4,356
Railways	779,891	1,021,265	1,227,880	1,093,535	1,116,184	1,128,400	1,104,071	1,125,905	1,148,832	1,104,897	2,146,753	33,039,362
Payment to Midland Railway Bondholders .. .. .	..	..	..	..	..	..	Cr. 652	Cr. 6,987	Cr. 29,528	Cr. 5,485	Cr. 6,022	150,000
Roads:—												
Miscellaneous Roads and Bridges	202,850	306,065	308,500	285,248	422,174	297,932	229,537	383,511	337,584	(353,836)	484,365	..
Roads on Goldfields	26,112	45,139	38,970	38,494	47,375	40,830	25,626	41,067	36,761	24,143	30,065	..
Development of Thermal Springs and Natural Scenery .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Lands Improvement Account .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Total, Roads	228,962	351,204	347,470	323,742	469,549	338,762	255,163	424,578	374,345	377,464	514,430	10,615,759
Development of Goldfields	6,258	18,533	11,064	8,633	32,859	18,597	10,845	21,244	10,644	4,889	2,384	884,820
Purchase of Native Lands	6,281	13,777	9,135	2,190	2,099	30,567	2,976	Cr. 2,466	Cr. 917	Cr. 857	Cr. 1,060	..
Native Lands Purchase Account .. .. .	..	..	..	..	..	..	Cr. 2,286	..	..	..	..	..
Total, Land Purchases	6,281	13,777	9,135	2,190	2,099	30,567	690	Cr. 2,466	Cr. 917	Cr. 857	Cr. 1,060	2,063,803
Telegraph Extension	79,298	77,186	114,068	155,491	163,033	123,423	111,867	147,692	251,375	392,648	288,395	2,958,168

* Includes "Unauthorized," £94.
 † Previously included under Lands Improvement.
 ‡ Expenditure from 1912-13 is under the Aid to Water-power Works Account.
 § Expenditure from 1912-13 is under the Irrigation and Water-supply Account.
 || Includes £1,000,000 expended 1908-9 and 1909-10 under Wellington-Manawatu Railway Purchase Account.

TABLE NO. 2—continued.
GENERAL SUMMARY—continued.

Showing NET YEARLY EXPENDITURE out of PUBLIC WORKS FUND, 1893-94 to 1914-15—continued.

Description of Services.	Expenditure.											Total Net Expenditure to 31st March, 1915.			
	1904-5.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.				
Public Buildings :—															
General (including Miscellaneous)	9,021	2,231	14,216	16,260	39,635	41,964	44,044	34,721	44,719	43,199	52,239	43,199	52,239	43,199	52,239
Parliamentary	697	71	1,047	4,119	5,172	3,137	2,004	2,004	18,806	23,612	31,478	23,612	31,478	23,612	31,478
Judicial	13,083	15,899	35,192	28,938	37,211	31,606	22,295	44,133	45,431	28,445	38,808	28,445	38,808	28,445	38,808
Post and Telegraph	16,008	38,419	43,918	43,724	62,262	68,574	117,815	130,815	122,999	78,815	60,838	78,815	60,838	78,815	60,838
Customs	13,018	7,903	414	47	2,507	233	..	..	..	..	..	..	..	..	..
Quarantine-stations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mental Hospitals	15,949	16,235	8,049	7,987	15,296	19,839	12,707	8,809	46,181	26,001	53,996	26,001	53,996	26,001	53,996
Public Health	4,265	7,926	1,765	7,497	4,402	319	..	..	376	..	..	..	..	..	..
Hospitals and Charitable Institutions	1,204	4,786	10,259	15,576	11,153	7,259	1,484	12,745	8,750	1,435	998	1,435	998	1,435	998
School Buildings	42,721	69,223	109,459	100,197	102,340	98,103	124,926	90,535	105,000	121,954	122,940	121,954	122,940	121,954	122,940
Agricultural	1,362	2,618	2,707	1,690	5,543	6,103	1,160	3,684	6,475	4,398	2,428	4,398	2,428	4,398	2,428
Workers' Dwellings	..	..	..	..	..	..	..	22,644	46,455	41,741	68,275	41,741	68,275	41,741	68,275
Total, Public Buildings	117,328	165,311	227,026	226,035	285,521	277,137	324,668	350,090	445,192	369,600	431,966	369,600	431,966	369,600	431,966
Lighthouses, Harbour-works, and Harbour-defences :—															
Lighthouses	2,167	962	..	1,417	7,481	6,762	1,470	5,428	9,031	5,174	3,887	5,174	3,887	5,174	3,887
Harbour-works	1,308	2,684	2,963	2,867	4,439	4,548	4,092	6,004	7,415	3,346	12,563	3,346	12,563	3,346	12,563
Harbour-defences	2,515	1,300	1,541	2,579	7,297	5,372	2,865	1,144	339	Cr. 1,462	681	Cr. 1,462	681	Cr. 1,462	681
Total, Lighthouses, &c.	5,990	4,946	4,504	6,863	19,217	16,682	8,427	12,576	16,785	7,297	17,131	7,297	17,131	7,297	17,131
Rates on Native Lands	631	548	695	837	27	..	..	..	..	..	..	..	..	..	..
Contingent Defence	46,588	35,569	14,874	18,574	10,766	4,977	6,071	10,437	23,790	30,186	15,221	30,186	15,221	30,186	15,221
Tourist and Health Resorts	17,508	15,888	42,271	45,048	24,286	14,507	5,912	13,361	12,906	14,989	8,232	14,989	8,232	14,989	8,232
Total, Tourist and Health Resorts	17,508	15,888	42,271	45,048	24,286	14,507	5,912	13,361	12,906	14,989	8,232	14,989	8,232	14,989	8,232
Lands Improvement	2,248	1,052	5,605	9,561	19,542	6,910	11,125	20,394	22,550	16,996	13,810	22,550	16,996	13,810	13,810
Charges and Expenses of raising Loans	10,764	236	Cr. 5,775	Cr. 8,487	575	Cr. 12,000	66,367	67,470	72,950	105,449	35,495	72,950	105,449	35,495	35,495
Interest and Sinking Funds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coal-exploration and Mine-development	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thermal Springs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Ways and Means Credits	1,321,510	1,730,086	2,035,144	8,487	2,183,245	2,022,876	1,891,918	2,190,731	2,347,965	2,421,464	43,400	2,347,965	2,421,464	2,347,965	2,421,464
Grand Total—Net Expenditure	1,321,510	1,730,086	2,035,144	8,487	2,183,245	2,022,876	1,891,918	2,190,731	2,347,965	2,421,464	43,400	2,347,965	2,421,464	2,347,965	2,421,464

* Includes £15,000 under Section 104 of the Reserves and other Lands Disposal Public Bodies Empowering Act, 1914.

TABLE NO. 3.

EXPENDITURE ON RAILWAYS TO 31ST MARCH, 1915, AND LIABILITIES ON THAT DATE.

Lines of Railway.	Expenditure out of Public Works Fund during Year 1914-15.				Recoveries on Account of Expenditure of Previous Years.	Total Expenditure by General Government to 31st March, 1914.		Total Expenditure by General Government to 31st March, 1915.	Valuation of Works constructed by Provincial and Midland Railway Company.*	Liabilities.	Total Expenditure and Liabilities, 31st March, 1915.	
	New Works.		Works on Open Lines.	Land Claims and other Old Liabilities.		Expenditure under Special Acts during Year 1914-15.	Amounts previously charged to "Special Acts" in previous years, charged to Individual Lines.					Total Expenditure by General Government to 31st March, 1915.
	Construction and Surveys.	Permanent way.											Total New Works.
Kaihu Valley ..	£ 6,686	£ ..	£ 6,686	£ ..	£ ..	£ 90,954	£ 1,093	£ 92,047	£ ..	£ 92,047		
Opua to Hokiangā ..	17,829	1,754	19,583	..	..	169,413	12,607	182,020	..	182,020
Opua Wharf to Whangarei and Onerahi ..	16,121	..	16,121	..	..	521,795	..	521,795	..	521,795
Whangarei to North Auckland Main Trunk ..	57,447	Cr. 6,312	51,135	..	..	19,352	19,598	38,950	..	38,950
Helensville Northwards ..	17,505	728	18,233	..	..	736,979	4,755	741,734	..	741,734
Helensville to Te Awamutu ..	38,866	Cr. 2,820	36,046	..	..	1,841,528	..	1,841,528	..	1,841,528
Waikuku Branch ..	..	..	..	..	..	19,487	3,426	22,913	..	22,913
Huntly to Awaroa ..	..	..	..	..	..	85,224	7,031	92,255	..	92,255
Cambridge Branch ..	..	..	..	..	..	51,384	..	51,384	..	51,384
Waikato to Thames—	..	..	..	..	..	..	..	..	..	..
Frankton to Te Aroha ..	..	..	..	..	..	151,713	..	151,713	..	151,713
Te Aroha to Thames ..	..	..	..	..	..	206,263	..	206,263	..	206,263
Paeoa to Waiki and Tauranga ..	10,149	..	10,149	..	..	162,398	4,890	167,288	..	167,288
Thames Valley to Rotorua—	..	..	..	..	..	..	..	..	..	..
Morrinsville to Litchfield ..	..	..	..	..	..	166,682	..	166,682	..	166,682
Putaruru to Rotorua ..	..	..	..	..	..	199,636	..	199,636	..	199,636
Marton to Te Awamutu ..	..	..	..	..	1,854	2,713,450	..	2,713,450	..	2,713,450
Raetihi to Ohakune ..	23,115	..	23,115	..	..	30,948	1,131	32,079	..	32,079
Tauranga to Taneatua ..	46,268	2,287	48,555	..	..	194,459	10,569	205,028	..	205,028
Gisborne to Motu ..	30,629	3,785	34,414	..	..	596,092	4,110	600,202	..	600,202
Gisborne to Ormond Tramway ..	..	..	..	..	..	4,975	..	4,975	..	4,975
Napier to Gisborne—	..	..	..	..	..	..	..	..	..	..
Gisborne Southwards ..	45,968	6,894	52,862	..	..	114,136	9,217	123,353	..	123,353
Napier Northwards ..	1,959	..	1,959	..	..	16,675	22	16,697	..	16,697
Wellington to Napier—	..	..	..	..	..	..	..	..	..	..
Napier to Woodville and Palmerston North ..	..	..	..	..	..	..	..	..	..	..
Wellington to Woodville, including Te Aro Extension ..	..	..	..	..	..	..	..	..	..	..
Wellington to Martonborough ..	70	..	70	..	..	398	1	399	..	399
Wellington to Waitara—	..	..	..	..	..	..	..	..	..	..
Wellington to Longburn ..	..	..	..	..	25	978,021	..	978,021	..	978,021
Poxton to Waitara ..	..	..	..	..	4,034	1,543,736	..	1,543,736	..	1,543,736
Mount Egmont Branch ..	3,996	195	4,191	..	..	72,333	..	72,333	..	72,333
Opunake Branch ..	4,339	..	4,339	..	..	6,112	..	6,112	..	6,112
Rangitikei River Quarry line ..	206	..	206	..	..	206	..	206	..	206
Bangitikei to Okahakura (East End) ..	47,752	..	47,752	..	..	95,828	79,318	175,146	..	175,146
Stratford to Okahakura (West End) ..	567,127	..	567,127	..	..	624,470	2,570	627,040	..	627,040
Nelson to Roundell ..	198,256	..	198,256	..	..	199,117	..	199,117	..	199,117

* Also includes value for £150,000 paid to debenture-holders under the Midland Railway Petitions Settlement Act Amendment Act, 1903

TABLE NO. 3—continued.
EXPENDITURE ON RAILWAYS TO 31ST MARCH, 1915, AND LIABILITIES ON THAT DATE—continued.

Lines of Railway.	Total Expenditure by General Government to 31st March, 1914.		Recoveries on Account of Expenditure of Previous Years.		Expenditure out of Public Works Fund during Year 1914-15.				Expenditure under Special Acts during Year 1914-15.	Amounts previously charged to "Surveys of New Lines" now charged to Individual Lines.	Total Expenditure by General Government to 31st March, 1915.	Valuation of Works constructed by Provinces and Midland Railway Company.*	Liabilities.	Total Expenditure and Liabilities, 31st March, 1915.	
	New Works.		Works on Open Lines.		Land Claims and other Old Liabilities.	Construction and Surveys.	Permanent way.	Total New Works.							
	£	£	£	£											£
Midland Railway—															
Belgrave to Inangahua ..	248,495	2,765	..	..	235	..	..	..	..	..	251,495	78,307	400	330,202
Sallwater to Inangahua ..	199,909	3,264	..	..	..	..	..	..	..	..	203,460	543,574	87	1,395,165
Brunnerton to Bealey ..	571,500	72,458	..	..	..	..	..	..	..	..	644,240	61,579	3,804	804,535
Springfield to Bealey ..	736,851	4,704	..	..	..	..	..	..	..	..	742,801	..	155	188,009
Westport to Ngakawau ..	188,009	..	..	..	..	..	..	..	..	..	188,009	..	..	144,988
Westport to Inangahua ..	132,097	11,288	..	..	..	..	..	..	..	..	143,385	..	1,603	147,537
Ngahere to Blackball ..	147,537	..	..	..	..	..	..	..	..	..	147,537	..	..	254,980
Greyhound to Point Elizabeth ..	254,116	864	..	..	..	..	..	..	..	..	254,989	..	..	150,543
Greyhound to Brunerton ..	150,543	..	..	..	..	..	..	..	..	..	150,543	..	..	337,473
Greyhound to Ross and Mikonui ..	336,873	..	..	..	..	..	..	..	..	..	337,473	..	..	630,305
Pictou to Waipara—															
Pictou Southwards ..	600,207	8,737	14,490	23,227	2,110	..	..	..	..	..	625,544	..	4,761	373,907
Waipara Northwards ..	373,623	284	..	284	..	..	..	..	..	..	373,907	..	..	3,834
Culverden to Hammer (motor-cars and sheds) ..	3,834	..	..	..	..	..	..	..	..	..	3,834	..	..	840
Culverden to Waiau ..	659	2,902	..	2,902	..	..	..	..	..	..	3,561	..	..	2,150,460
Hurunui to Waitaki—															
Main Line (Culverden-Waitaki) ..	1,813,622	..	..	..	..	..	..	..	..	..	1,834,325	316,135	..	51,467
Oxford Branch ..	51,467	..	..	..	..	..	..	..	..	..	51,467	..	..	44,277
Eyreton Branch ..	44,277	..	..	..	..	..	..	..	..	..	44,277	..	..	421,408
Lytelton Branch ..	80,908	..	..	..	..	..	..	..	..	..	80,908	..	..	89,524
Southbridge Branch ..	89,524	..	..	..	..	..	..	..	..	..	89,524	..	..	95,860
Springfield and Whitecliffs Branches ..	95,384	..	..	..	..	..	..	..	..	..	95,860	..	..	67,237
Springfield and Whitecliffs Branches ..	67,039	..	..	..	..	..	..	..	..	..	67,237	..	..	59,191
Fairlie Creek Branch ..	67,039	..	..	..	..	..	..	..	..	..	67,039	..	..	74,610
Waimate Branch ..	50,158	9,033	..	9,033	..	..	..	..	..	..	59,191	..	929	60,120
Ashburton Forks (Methven) Branch ..	74,610	..	..	..	..	..	..	..	..	..	74,610	..	..	61,639
Upper Ashburton (Springburn) Branch ..	61,639	..	..	..	..	..	..	..	..	..	61,639	..	..	108,349
Little River Branch ..	108,113	..	..	..	..	..	..	..	..	..	108,349	..	..	53,649
Canterbury Interior Main Line—															
Oxford to Malvern ..	53,649	..	..	..	..	..	..	..	..	..	53,649	..	..	542
Whitecliffs to Rakaiia ..	542	..	..	..	..	..	..	..	..	..	542	..	..	5,152
Temuka to Rangitata ..	5,152	..	..	..	..	..	..	..	..	..	5,152	..	..	3,253,408
Waitaki to Bluff—															
Main Line, including Port Chalmers Branch ..	3,253,408	..	..	..	..	..	..	..	..	..	3,270,321	82,259	..	3,352,580
Dunroon Branch ..	97,099	..	..	..	..	..	..	..	..	..	97,099	37,500	..	134,599
Ngapara Branch ..	26,090	..	..	..	..	..	..	..	..	..	26,090	58,009	..	84,099

* Also includes value for £150,000 paid to debenture-holders under the Midland Railway Petitions Settlement Act Amendment Act, 1903.
 † Expenditure under Railways Improvement Authorization Act Account.

TABLE NO. 3—continued.

EXPENDITURE ON RAILWAYS TO 31ST MARCH, 1915, AND LIABILITIES ON THAT DATE—continued.

Lines of Railway.	Total Expenditure by General Government to 31st March, 1914.	Recoveries on Account of Expenditure of Previous Years.	Expenditure out of Public Works Fund during Year 1914-15.				Expenditure under Special Acts during Year 1914-15.	Amounts previously charged to "Surveys of New Lines," now charged to Individual Lines.	Total Expenditure by General Government to 31st March, 1915.	Valuation of Works constructed by Provinces and Midland Railway Company.*	Liabilities.	Total Expenditure and Liabilities, 31st March, 1915.
			New Works.		Works on Open Lines.	Land Claims and other Old Liabilities.						
			Construction and Surveys.	Permanent-way.									Total New Works.
Waikato to Bluff—continued.	£ 1,415	£ ..	£ ..	£ ..	£ ..	£ ..	£ ..	£ 1,415	£ ..	£ ..	£ 1,415	
Fernhill Railway Purchase	6,474	..	..	..	..	..	..	6,474	..	..	19,303
Brighton Road Branch	11,951	..	..	..	..	..	..	11,951	..	..	41,642
Ouaran Branch	289,285	..	..	..	..	..	..	304,293	..	..	304,734
Lawrence Branch	82,785	..	14,886	122	15,008	..	..	82,785	..	441	82,785
Livingstone Branch	33,191	..	..	..	..	..	..	33,191	..	..	33,191
Waihemo Branch	..	..	..	..	..	..	..	..	..	..	..
Balelutha—Tuapeka Mouth	426,190	..	643	643	643	..	..	1,217	..	..	1,217
Catlin's River Branch	123,231	..	28,926	5,978	34,904	303	..	461,397	..	477	461,874	
Heriotburn Branch	67,821	..	..	..	..	225	..	123,456	..	..	123,456
Waikaka Branch	111,966	..	..	..	..	..	..	67,821	..	..	67,821
Waimea Plains (Gore-Lumsden) Branch	52,743	..	..	..	..	..	..	111,966	..	..	111,966
Toitais (Edendale—Glenham) Branch	81,562	..	..	..	..	..	..	52,743	..	..	52,743
Riversdale to Switzer's	..	..	..	..	..	..	506	82,058	..	..	82,058
Kelso to Gore	184,889	..	8	..	8	..	..	602	..	..	602
Seaward Bush to Catlin's	1,280,641	..	10,345	1,625	11,970	1,179	..	184,881	..	..	184,881
Otago Central	351,598	..	..	..	..	6,956†	..	1,293,790	..	1,658	1,295,448
Invercargill to Kingston—	27,217	..	..	..	..	..	..	91,937	..	..	450,491
Main Line	61	..	170	..	170	..	..	27,217	..	..	27,217
Mararoa Branch	..	..	..	..	..	..	..	231	..	..	231
Winton to Heddon Bush	329,455	..	327	..	327	268	..	330,038	..	67	390,402	
Makarewa to Orepuki and Waian	22,984	..	..	..	..	..	..	22,984	..	..	22,984
Thorbury to Wairoa	10,337	..	..	..	..	..	..	10,337	..	..	10,337
Forest Hill	..	..	..	..	..	..	..	..	..	..	..
Expenses of Railway Commissions and other Expenditure not chargeable to Individual Lines	..	..	..	..	..	..	..	..	..	..	..
Surveys of New Lines—	..	..	..	..	..	..	..	..	..	..	..
North Island	31,558	..	2,810	..	2,810	..	..	34,368	..	186	34,554
Middle Island	6,129	..	197	..	197	..	..	5,752	..	..	5,752
Rolling-stock	5,703,443	..	..	..	..	271,764	..	5,975,207	..	182,314	6,157,521
Stock of Permanent-way Materials, 31st March, 1914	83,601	..	..	..	..	..	..	..	..	..	..
Stock of Permanent-way increased by £14,991	32,763,335	..	..	..	..	..	..	..	..	..	..
Stock of Permanent-way Materials, 31st March, 1915	..	..	..	..	..	..	..	98,592	..	58,651	157,243
Total	32,778,326	9,772	597,913	32,866	630,773	499,875	1,108	33,909,340	1,787,741	417,718	36,114,799	

* Also includes value for £150,000 paid to debenture-holders under the Midland Railway Petitions Settlement Act Amendment Act, 1903. † Includes £1,072 expended on Slipway, Lake Whakatipu.

APPENDICES TO THE PUBLIC WORKS STATEMENT, 1915.

APPENDIX A.

AUDITED STATEMENT OF EXPENDITURE ON PUBLIC WORKS
OUT OF THE PUBLIC WORKS FUND FOR THE YEAR 1914-15.*Prepared in compliance with Section 8 of the Public Works Act, 1908.*

SIR,— Public Works Department, Wellington, 10th June, 1915.
In compliance with the 8th section of the Public Works Act, 1908, I enclose a statement of the expenditure during the preceding financial year on all works and services chargeable to the Public Works Fund.

I have, &c.,

W. FRASER,
Minister of Public Works.

The Controller and Auditor-General, Wellington.

STATEMENT OF NET EXPENDITURE ON ALL WORKS AND SERVICES CHARGEABLE TO THE PUBLIC
WORKS FUND FOR THE YEAR 1914-15.

Class.	Votes.	Summary.	Appropriation.	Expenditure.	Credits.	Net Expenditure.
PUBLIC WORKS FUND.						
			£	£ s. d.	£ s. d.	£ s. d.
XVI	87	Public Works, Departmental ..	96,525	101,551 1 6	926 13 3	100,624 8 3
XVII	88-89	Railways	1,460,000	1,159,566 10 6	12,813 4 7	1,146,753 5 11
XVIII	90-97	Public Buildings	551,175	425,853 17 0	8,854 0 7	416,999 16 5
XIX	98-100	Lighthouses, Harbour-works, and Harbour-defences	26,258	17,150 14 3	19 12 5	17,131 1 10
XX	101	Tourist and Health Resorts ..	22,246	8,257 3 4	25 1 0	8,232 2 4
XXI	102	Immigration	36,000	59,327 6 1	26,108 4 2	33,219 1 11
XXII	103-105	Roads, Bridges, and other Public Works	812,000	535,939 10 11	21,509 11 2	514,429 19 9
XXIII	106	Development of Goldfields ..	4,600	2,436 6 11	52 7 0	2,383 19 11
XXIV	107	Telegraph Extension	410,000	328,512 0 9	40,116 15 2	288,395 5 7
XXV	108	Contingent Defence	50,000	15,716 4 3	494 11 6	15,221 12 9
XXVI	109-110	Lands Improvement	23,390	16,625 5 11	2,815 9 11	13,809 16 0
		Unauthorized .. .. .	..	325 7 11	231 3 0	94 4 11
		Total Public Works Fund ..	3,492,194	2,671,261 9 4	113,966 13 9	2,557,294 15 7

CHAS. E. BENNETT,
Accountant.

H. J. H. BLOW,
Under-Secretary.

Examined and found correct.

ROBERT J. COLLINS,
Controller and Auditor-General.

NOTE.—Charges and expenses of raising loans not included in above figures.
(Details on next page.)

APPENDIX A—continued.

	Name of Vote.	Appropriation.	Expenditure.		Credits.		Net Expenditure		
		£	£	s. d.	£	s. d.	£	s. d.	
	PUBLIC WORKS FUND.								
	Public Works, Departmental—								
87	Public Works, Departmental	96,525	101,551	1 6	926 13 3		100,624	8 3	
	Railways—								
	Railway-construction—								
	Kaihu Railway Extension	10,000	6,708	12 8	22 2 3		6,686	10 5	
	Kawakawa-Hokianga	25,000	18,298	8 3	469 14 7		17,828	13 8	
	North Auckland Main Trunk—								
	Kirikopuni, Southwards	15,000							
	Kaiwaka, Northwards	60,000	57,689	11 3	242 6 1		57,447	5 2	
	Whangarei - North Auckland Main Trunk	35,000	16,120	13 0			16,120	13 0	
	Waiuku Branch	25,000	17,519	7 1	14 14 3		17,504	12 10	
	Huntly-Awaroa	30,000	38,877	1 9	11 1 5		38,866	0 4	
	Raetihi - Main Trunk	30,000	23,117	11 9	2 11 11		23,114	19 10	
	East Coast Main Trunk—								
	Waihi-Tauranga	25,000	10,149	2 6			10,149	2 6	
	Tauranga - Te Maunga	20,000	4,964	16 1	5 11 10		4,959	4 3	
	Maunganui-Taneatua	50,000	43,074	12 3	1,765 16 8		41,308	15 7	
	Gisborne-Motu	30,000	33,031	11 11	2,402 5 5		30,629	6 6	
	Napier-Gisborne—								
	North End	45,000	45,979	9 11	11 10 9		45,967	19 2	
	South End	20,000	2,067	15 7	108 15 10		1,958	19 9	
	Mount Egmont Branch	7,500	3,999	13 4	4 4 2		3,995	9 2	
	Stratford - Main Trunk	100,000	103,902	7 9	1,736 13 0		102,165	14 9	
	Opunake Branch	40,000	4,348	10 9	9 12 1		4,338	18 8	
88	Stone Quarry Line, Rangitikei River ..	7,500	206	4 0			206	4 0	
	Featherston-Martinborough	15,000	70	0 4			70	0 4	
	South Island Main Trunk	26,000	9,533	12 6	512 16 9		9,020	15 9	
	Midland Railway—								
	Nelson End	20,000	2,855	19 9	90 12 10		2,765	6 11	
	Reefton End	4,000	3,372	0 6	107 10 9		3,264	9 9	
	Otira-Bealey	70,000	73,952	12 5	1,495 4 9		72,457	7 8	
	Broken River - Bealey	10,000	5,596	6 0	892 10 9		4,703	15 3	
	Westport-Inangahua	18,000	11,346	5 5	57 12 6		11,288	12 11	
	Greymouth - Point Elizabeth	3,000	895	17 7	32 8 1		863	9 6	
	Culverden-Waiatu	25,000	2,902	3 11			2,902	3 11	
	Waimate Branch Extension	15,000	9,033	9 5			9,033	9 5	
	Lawrence-Roxburgh	15,000	15,101	4 7	215 7 7		14,885	17 0	
	Otago Central	20,000	10,346	8 4	1 2 6		10,345	5 10	
	Balclutha - Tuapeka Mouth	10,000	653	9 5	10 10 0		642	19 5	
	Catlin's-Wainahaka	20,000	30,463	1 7	1,545 11 4		28,917	10 3	
	Winton - Heddon Bush	8,000	169	11 4			169	11 4	
	Orepuki - Waiatu Extension	10,000	326	18 5			326	18 5	
	Land Claims, &c.	1,000	1,118	1 6	10 0 0		1,108	1 6	
	Surveys, New Lines of Railway	5,000	3,007	16 10	0 15 6		3,007	1 4	
	Permanent-way Materials	90,000	48,115	6 11	258 3 11		47,857	3 0	
	Total Vote, Railway-construction ..	960,000	658,915	16 7	12,037 7 6		646,878	9 1	
89	Additions to Open Lines	500,000	500,650	13 11	775 17 1		499,874	16 10	
	Public Buildings—								
90	General	105,500	75,715	0 9	6,998 7 4		68,716	13 5	
91	Judicial	47,350	38,862	18 9	55 3 6		38,807	15 3	
92	Postal and Telegraph	116,325	61,991	19 9	1,153 7 4		60,838	12 5	
93	Agricultural	5,000	2,428	2 5			2,428	2 5	
94	Mental Hospitals	50,000	54,242	10 8	247 0 0		53,995	10 8	
95	Hospitals and Charitable Institutions ..	6,000	997	19 6			997	19 6	
96	School Buildings	129,000	123,274	3 5	333 17 5		122,940	6 0	
97	Workers' Dwellings	92,000	68,341	1 9	66 5 0		68,274	16 9	
	Lighthouses, Harbour-works, and Harbour-defences—								
98	Lighthouses	4,758	3,897	8 7	10 3 8		3,887	4 11	
99	Harbour-works	20,500	12,563	5 7	0 0 6		12,563	5 1	
100	Harbour-defences	1,000	690	0 1	9 8 3		680	11 10	
	Tourist and Health Resorts—								
101	Tourist and Health Resorts	22,246	8,257	3 4	25 1 0		8,232	2 4	
	Immigration—								
102	Immigration	36,000	59,327	6 1	26,108 4 2		33,219	1 11	
	Construction and Maintenance of Roads, Bridges, and other Public Works—								
103	Roads, &c.	557,700	369,633	16 8	20,378 9 5		349,255	7 3	
104	Backblocks Roads, &c.	201,000	136,001	10 3	891 13 4		135,109	16 11	
105	Road and other Works on Goldfields and Mineral Lands	53,300	30,304	4 0	239 8 5		30,064	15 7	
	Development of Goldfields—								
106	Development of Goldfields	4,600	2,436	6 11	52 7 0		2,383	19 11	
	Telegraph Extension—								
107	Telegraph Extension	410,000	328,512	0 9	40,116 15 2		288,395	5 7	
	Contingent-defence—								
108	Contingent Defence	50,000	15,716	4 3	494 11 6		15,221	12 9	
	Lands Improvement—								
109	Improved-farm Settlements	16,000	14,950	2 9	2,815 9 11		12,134	12 10	
110	Lands, Miscellaneous	7,390	1,675	3 2			1,675	3 2	
	Unauthorized—								
	Services not provided for		325	7 11	231 3 0		94	4 11	
	Total Public Works Fund	3,492,194	2,671,261	9 4	113,966 13 9		2,557,294	15 7	

APPENDIX B.

ANNUAL REPORT ON PUBLIC WORKS BY THE ENGINEER-IN-CHIEF.

(1ST JULY, 1914, TO 30TH JUNE, 1915.)

The ENGINEER-IN-CHIEF to the Hon. the MINISTER OF PUBLIC WORKS.

SIR,—

Public Works Office, Wellington, 30th June, 1915.

I have the honour to submit the following report on the various works completed and in progress throughout the Dominion during the past year:—

RAILWAYS.

ABSTRACT.

The following table shows the expenditure and liabilities on Government railways in New Zealand up to the 31st March, 1915:—

Name of Railway.	Total Length of Railway or Section.	Open for Traffic.	Expenditure to 31st March, 1915.	Liabilities on 31st March, 1915.
	M. ch.	M. ch.	£	£
Kaihu Valley	24 30	19 58	90,954	1,093
Kawakawa-Hokianga	45 25	16 25	169,413	12,607
Opua Wharf - Grahamtown (Onerahi)	58 6	58 6	521,795	..
Whangarei southward	19 77	..	19,352	19,598
North Auckland Main Trunk Railway (from Helensville)	86 22	47 77	736,979	4,755
Helensville - Te Awamutu, with Branches	162 6	151 1	1,997,623	10,457
Hamilton-Thames, with Branches	116 18	75 18	520,374	4,890
Thames Valley - Rotorua	69 33	69 33	366,318	..
Tauranga-Opotiki, with Branches	87 27	..	194,459	10,569
Gisborne-Motu	92 56	44 34	596,092	4,110
Napier-Gisborne	157 35	..	130,811	9,239
Wellington-Napier and Palmerston North (including Te Aro Extension and Greytown and Martinborough Branches)	249 44	233 12	2,521,645	1
Wellington-Waitara, with Branches	347 50	285 59	2,600,408	1,007
Stratford - Okahukara	101 27	37 53	720,298	81,888
North Island Main Trunk (Marton - Te Awamutu), including Raetihi Branch	218 42	209 69	2,744,398	1,131
Picton-Waipara (South Island Main Trunk Railway)—				
Picton southwards	92 38	48 10	625,544	4,761
Waipara northwards	90 45	44 14	373,907	..
Nelson-Belgrove	22 73	22 73	199,117	..
Midland Railway*	239 75	166 53	1,841,996	4,446
Westport-Ngakawau	19 56	19 56	188,009	..
Westport-Ngakawau Extension to Mokihinui†	7 12	7 12	..	..
Mokihinui Colliery Line‡	3 69	3 69	..	..
Westport-Inangahua	26 0	5 74	143,385	1,603
Ngahere-Blackball	3 40	3 40	147,537	..
Greymouth-Coal Creek	8 70	8 70	254,980	..
Greymouth-Brunner	7 51	7 51	150,543	..
Greymouth-Mikonui	41 0	38 68	337,473	..
Culverden-Hammer Motor-cars and Sheds .. .. .	..	..	3,834	..
Hurunui-Waitaki, with Branches	501 52	443 8	2,570,848	1,769
Canterbury Interior Main Line—Oxford-Temuka	83 0	11 44	59,343	..
Waitaki-Bluff, with Branches	598 11	546 16	4,919,860	918
Otago Central	182 56	134 78	1,293,790	1,658
Invercargill-Kingston, with Mararoa Branch	117 4	97 44	386,002	..
Forest Hill Railway—Winton-Hedgehope§	12 40	12 40	22,984	..
Western Railways	91 8	70 31	330,038	67
Preliminary Surveys .. .. .	..	..	40,120	186
Miscellaneous .. .. .	..	..	10,337	..
Stock of Permanent-way on hand .. .. .	..	..	98,592	58,651
Rolling-stock .. .. .	..	..	5,975,207	182,314
Total	3,985 78	2,942 16	||33,904,365	417,718
PROVINCIAL GOVERNMENT LINES, ETC.				
Canterbury (lengths included above) .. .. .	..	..	731,759	..
Otago and Southland .. .. .	..	..	372,522	..
Gisborne to Ormond Tramway .. .. .	..	..	4,975	..
Midland Railway, valuation of works constructed by company .. .. .	..	..	¶683,460	..
Grand total	3,985 78	2,942 16	35,697,081	417,718

* The amount shown as expenditure represents the net amount charged against the Dominion.

† The funds for this extension—namely, £35,501 2s. 11d.—were provided by the Westport Harbour Board.

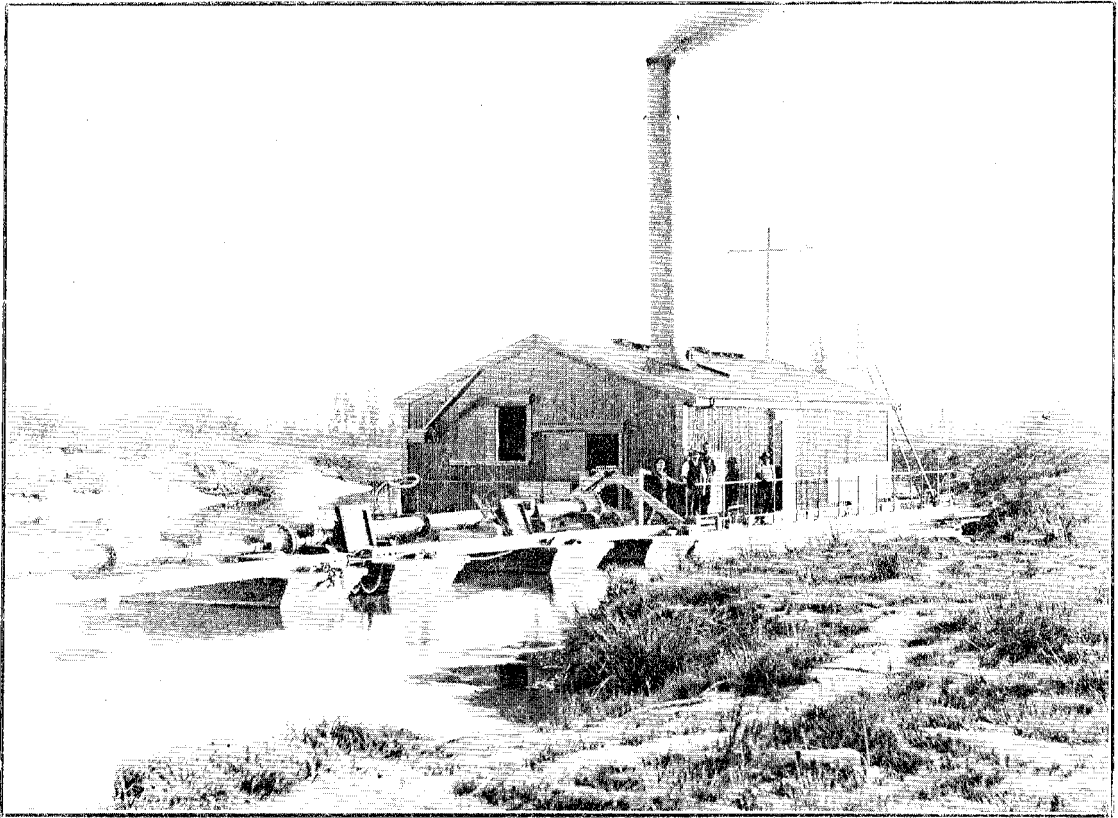
‡ The funds for purchase of this line, £15,745, were provided by the Westport Harbour Board.

§ The expenditure on this line as a tramway was made by the Lands Department.

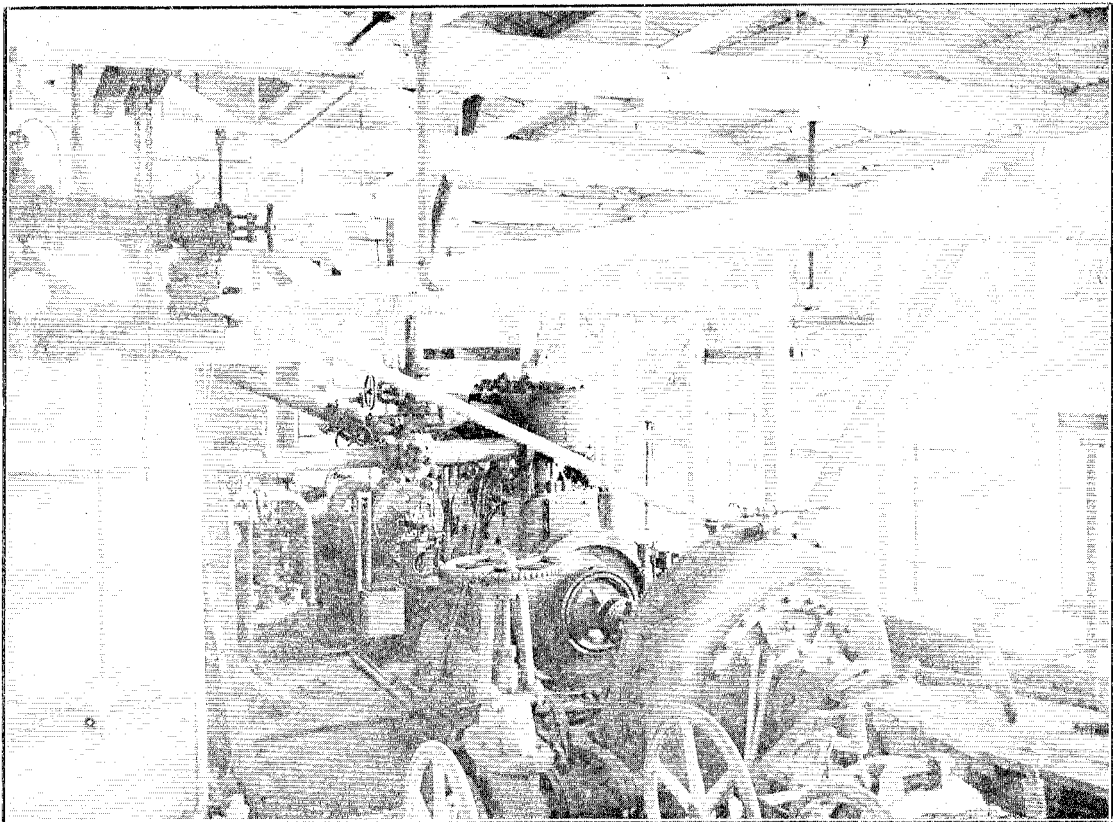
¶ Includes expenditure on railways under Hutt Road and Railway Improvement, Railway Improvement Authorization Act, and Wellington-Manawatu Railway Purchase Act Accounts.

|| Includes value for £150,000 paid to debenture-holders under the Midland Railway Petitions Settlement Act Amendment Act, 1903.

WAIHOE AND OHINEMURI RIVERS IMPROVEMENT WORKS.



WAIHOË DREDGE. — STERN VIEW SHOWING JUNCTION WITH FLOATING PIPE LINE.

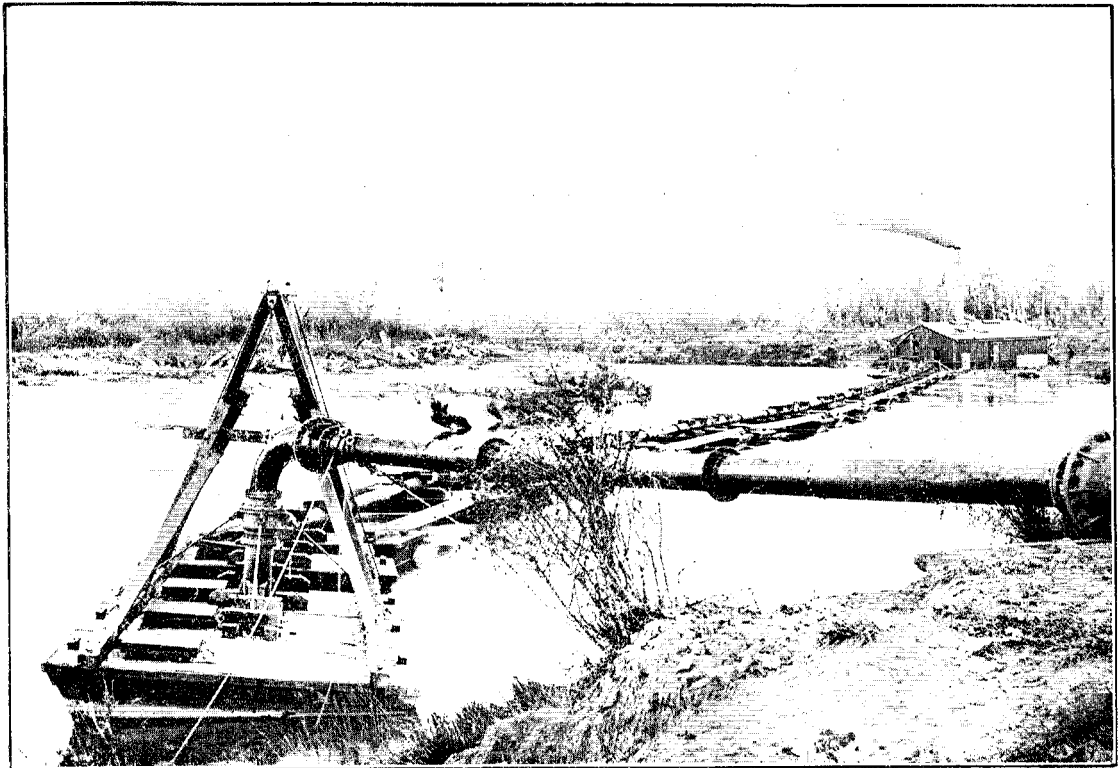


WAIHOË DREDGE (UNDER CONSTRUCTION). — PART VIEW OF ENGINE ROOM INTERIOR.

WAIHOU AND OHINEMURI RIVERS IMPROVEMENT WORKS.



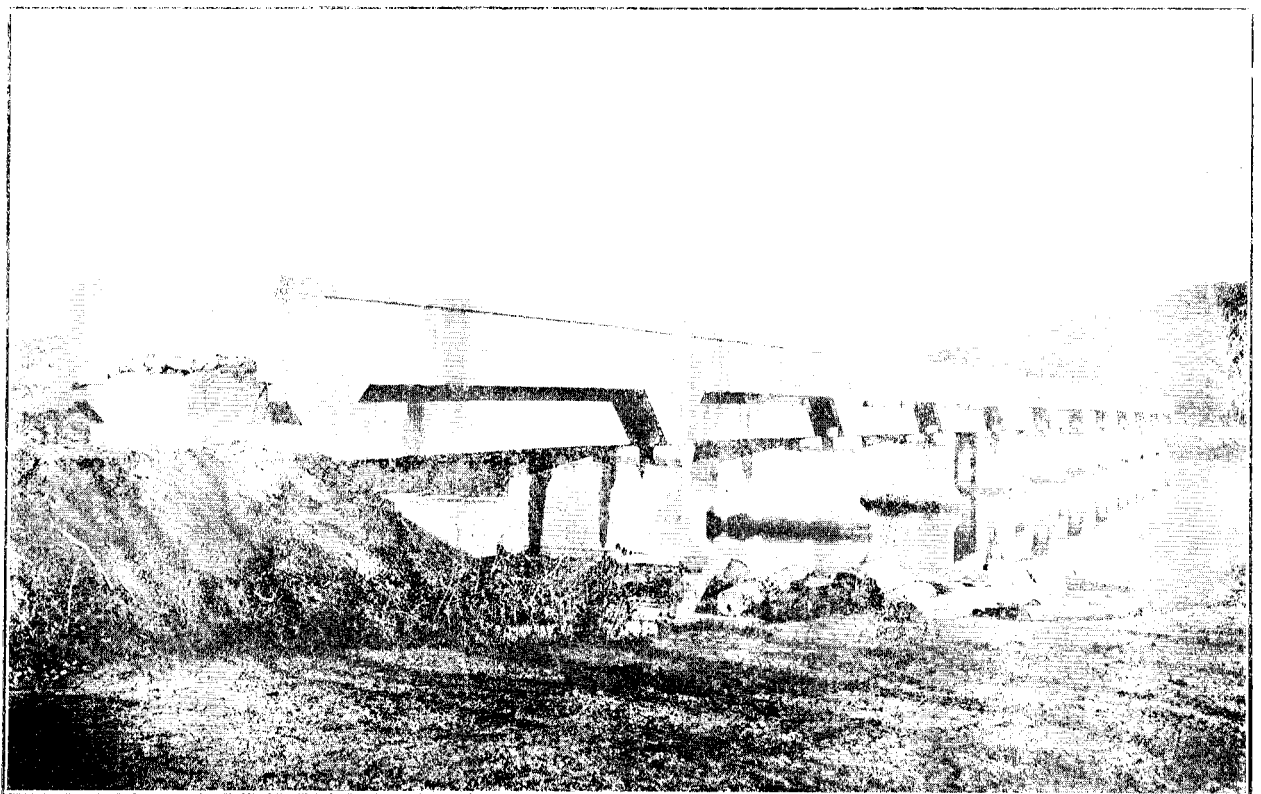
WAIHOU DREDGE. OUTLET END OF DISCHARGE PIPE.



WAIHOU DREDGE AT HEAD OF KOUTU CUT, LOOKING TOWARDS DREDGE FROM LANDING END OF FLOATING DISCHARGE PIPE.



ROAD BRIDGE OVER WAIWA RIVER, TAURANGA COUNTY. GENERAL VIEW

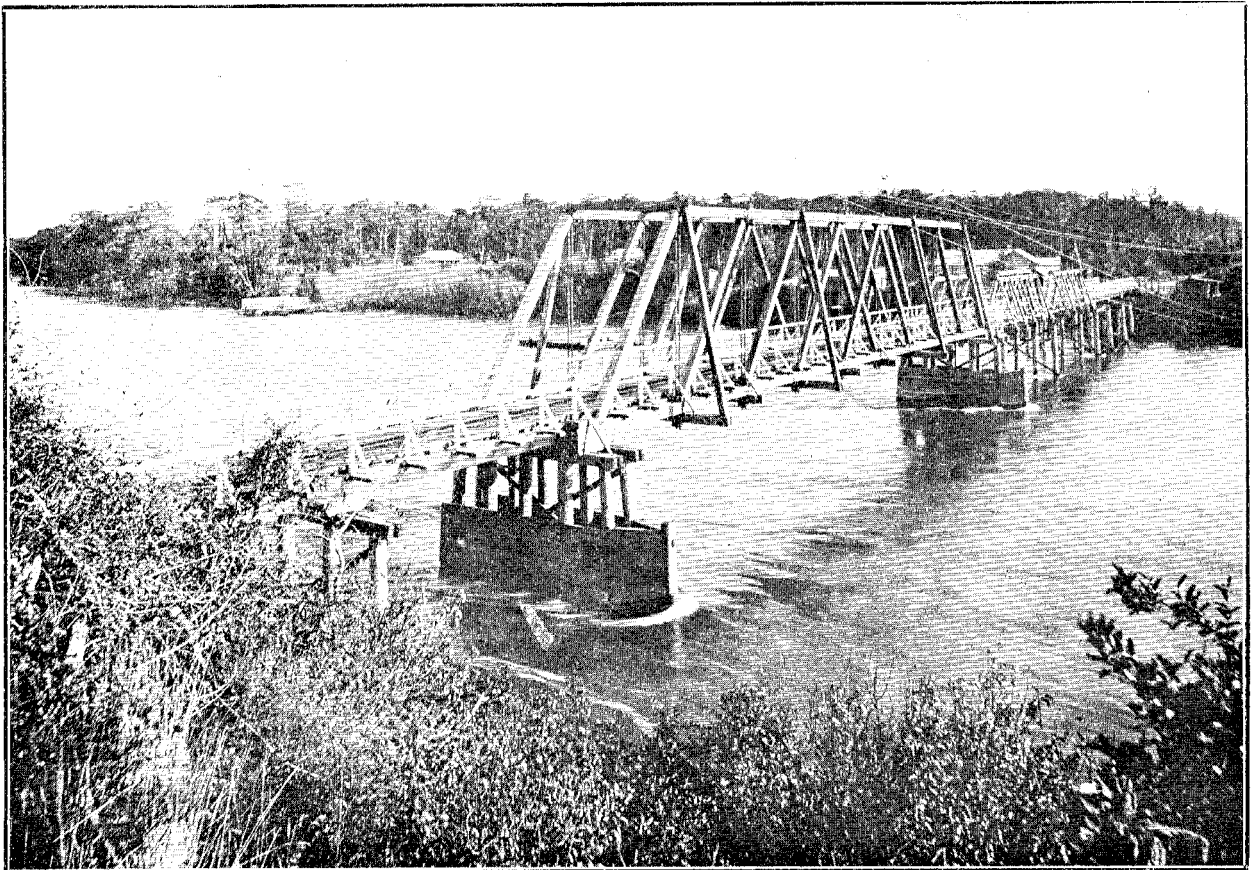


ROAD BRIDGE OVER WAIWA RIVER, TAURANGA COUNTY
Elevation of 1011. Total Length, 196 ft. Width between Wheel guards, 12 ft. Piers, Abutments, and Superstructure
of Reinforced Concrete.



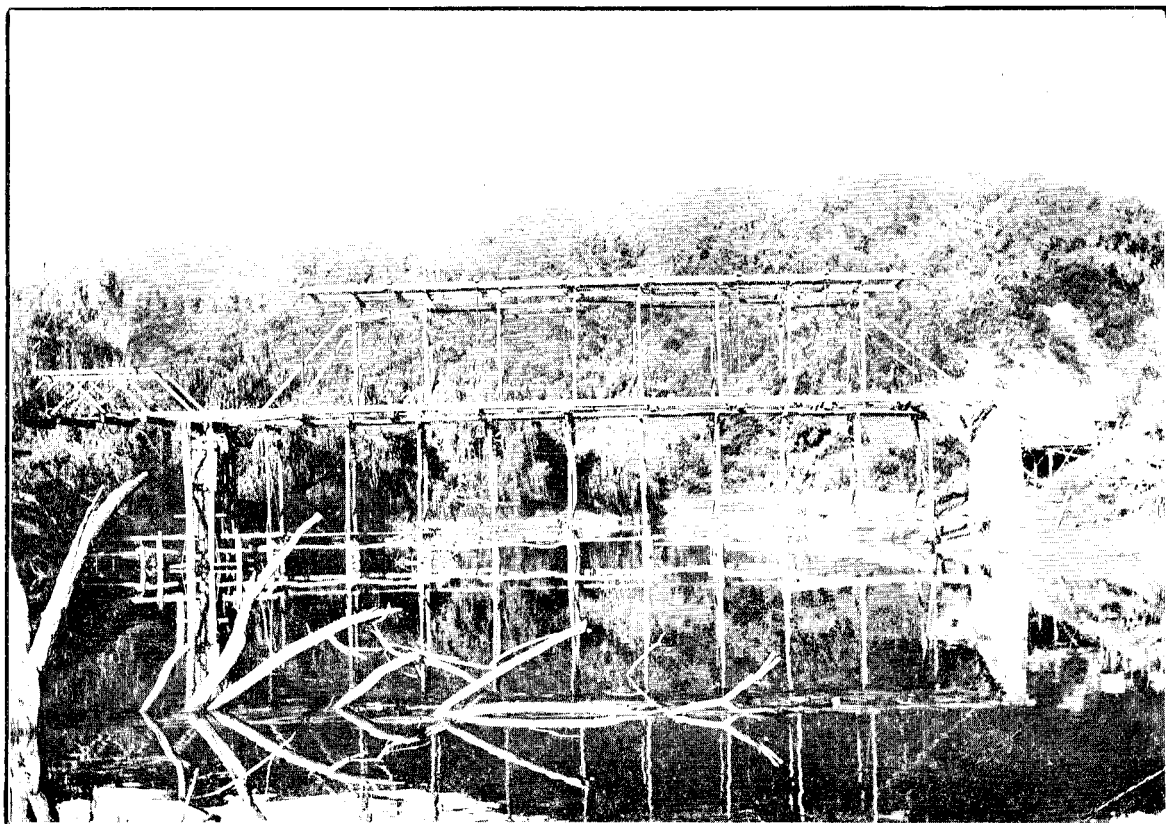
ROAD BRIDGE OVER HAPUKA RIVER, KAIKOURA COUNTY.

Six Spans of 100 ft. 6 in. Total Length, 603 ft. Width between Wheel guards, 12 ft. Cast-iron Cylinder Piers and Concrete Abutments. Superstructure of Mixed Australian Hardwoods.

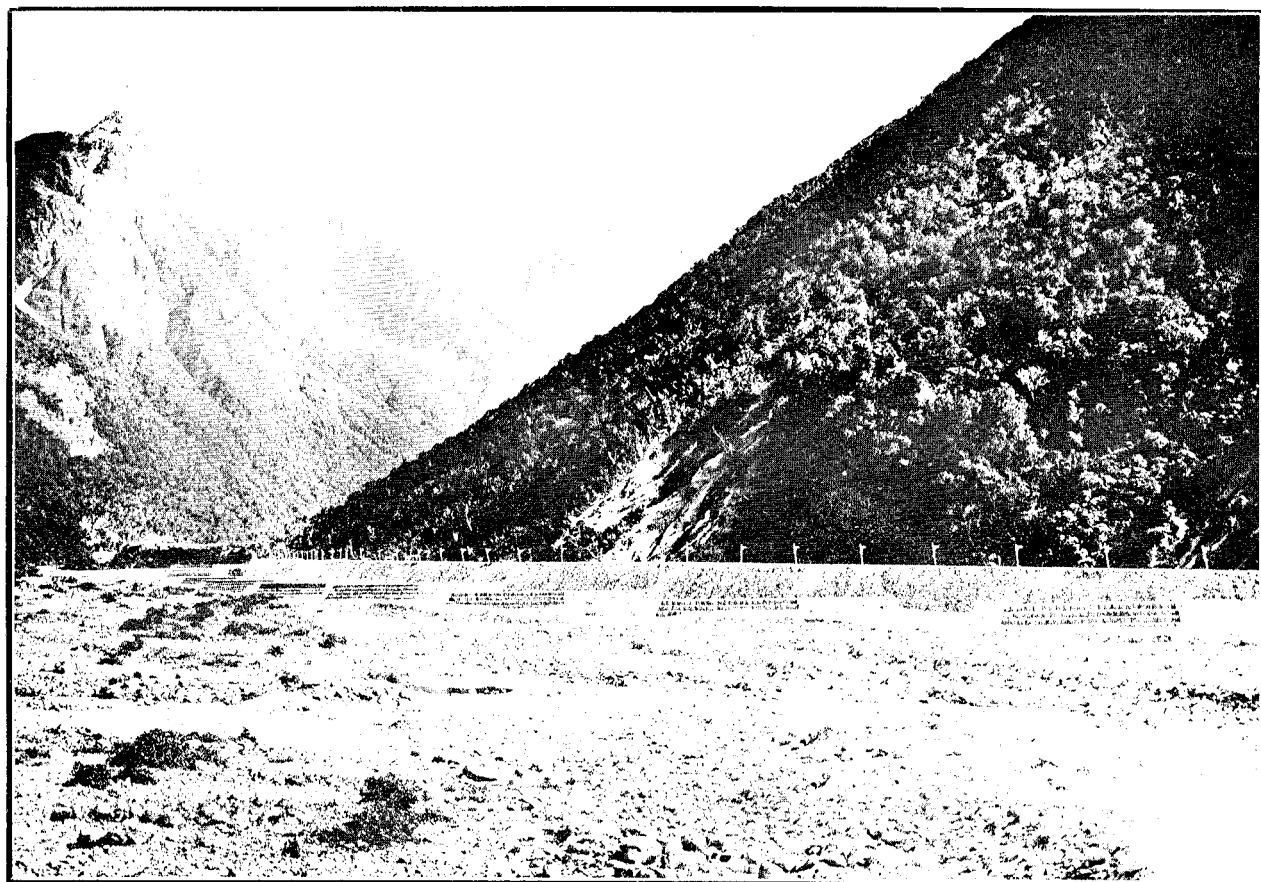


TUATAPERE ROAD BRIDGE OVER WAIAU RIVER, WALLACE COUNTY, SOUTHLAND.

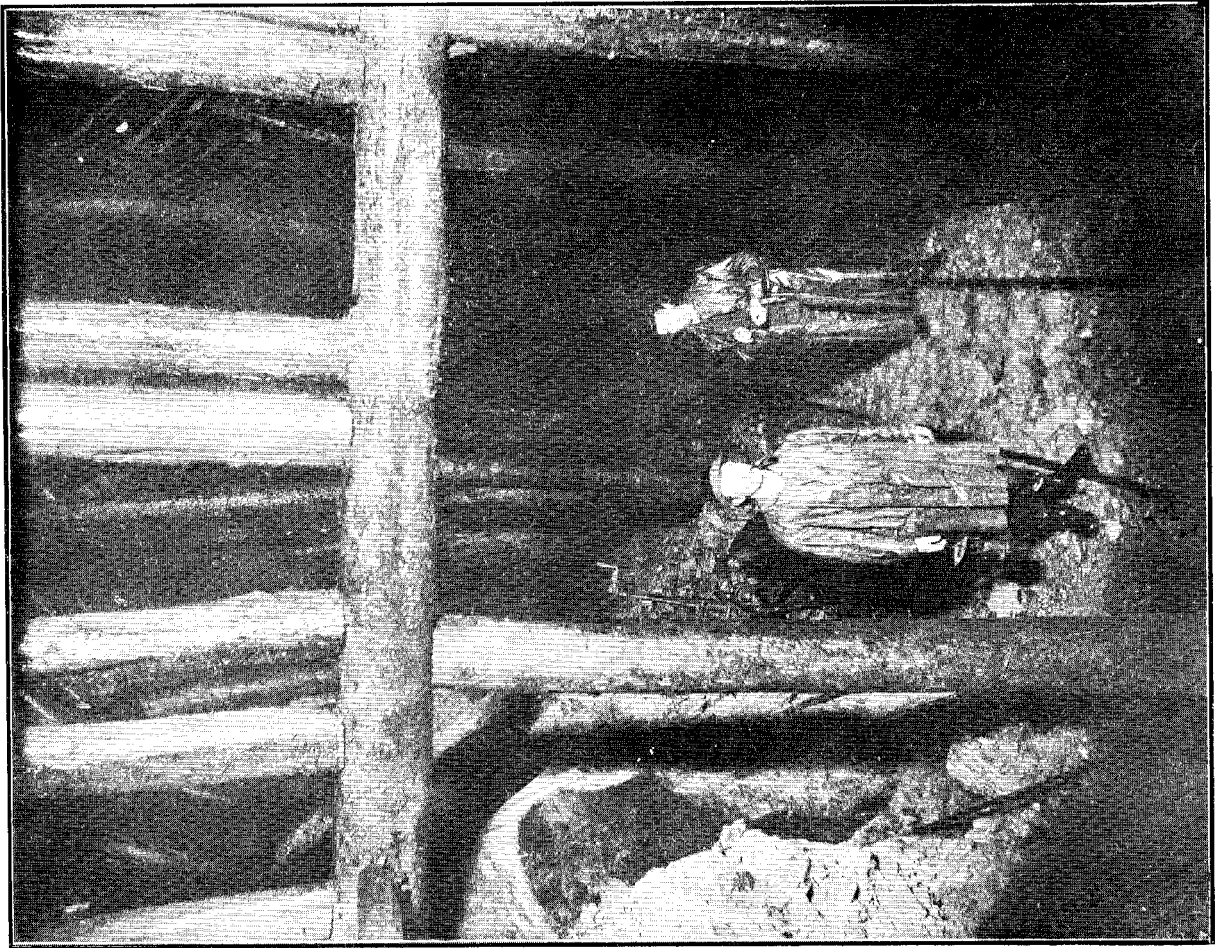
One Span of 151 ft., Two Spans of 61 ft. 3 in., and Six Spans of 30 ft. Total Length, 453 ft. 6 in. Width between Wheel-guards, 12 ft. Piers and One Abutment Ironbark Timber, One Abutment Concrete. Superstructure of Australian Hardwoods.



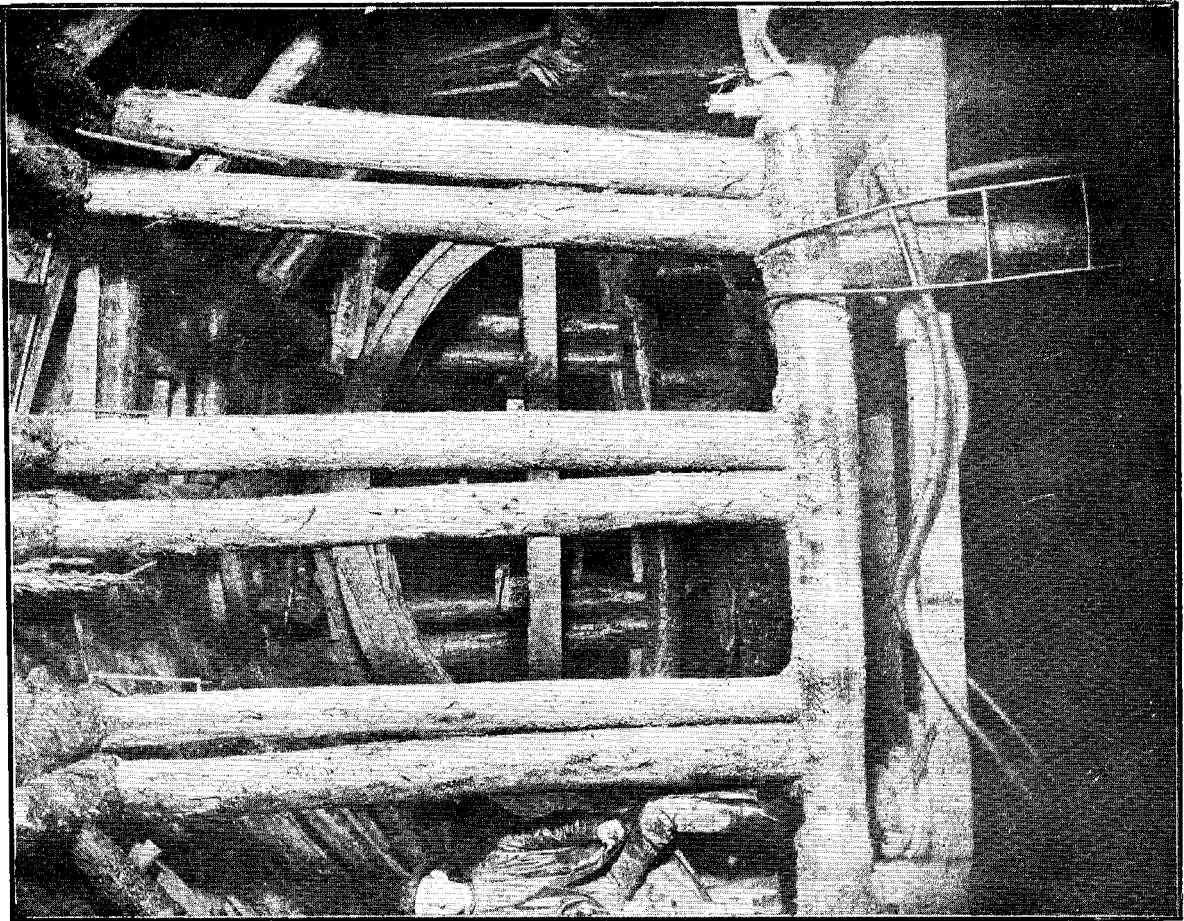
THE REINGA FALLS ROAD BRIDGE OVER WAIROA RIVER, WAIROA COUNTY.
One Span of 151 ft., Two Spans of 41 ft., One Span of 20 ft., and One Span of 15 ft., Total Length 268 ft., Width between Wheel guards, 12 ft., Concrete and Timber Piers and Abutments, Superstructure of Mixed Australian Hardwoods.



MIDLAND RAILWAY. PROTECTIVE GROYNES, OTERA AND ROLLESTON RIVERS.



ARTHUR'S PASS TUNNEL.—VIEW SHOWING TIMBERING.



ARTHUR'S PASS TUNNEL.—VIEW SHOWING TIMBERING.

During the year a total length of 53 miles 12 chains of railway, as shown in the following table, was handed over to the Railway Department for general traffic:—

Plan Mileage.		Railway.	Section.	Length.	Date.
M. ch.	M. ch.			M. ch.	
81 30	to 83 75	North Auckland Main Trunk	Otamatea	2 45	1 Aug., 1914.
31 25	„ 43 75	East Coast Main Trunk (Gisborne-Motu)	Rakauroa and Matawai ..	12 50	2 Nov., 1914.
27 40	„ 42 25	Midland	Cass to Arthur's Pass ..	14 65	1 July, 1914.
29 33	„ 34 69	Lawrence-Roxburgh ..	Beaumont	5 36	15 Dec., 1914.
24 8	„ 41 64	Catlin's-Waimahaka ..	{ Puketiro Papatowai (Tahakopa)	17 56	1 Feb., 1915.

KAIHU VALLEY RAILWAY.

The construction of the extension of this railway beyond 19 m. 22 ch. to 23 m. 70 ch.—4 miles 48 chains in length—was commenced last November; formation-work is now in hand up to 21 m. A quarry has been opened up at 19 m. 47 ch. to supply stone for concrete and ballasting. Rails have been laid up to 19 m. 38 ch.

KAWAKAWA-HOKIANGA RAILWAY.

Okaihau Section (16 m. 25 ch. to 25 m.).—The formation of service-road between Kaikohe and Okaihau was completed and 2½ miles of metalling done. The formation of railway has been completed up to 18 m. 64 ch. under the co-operative system. A contract is in progress for the formation, including tunnel, of the line between 18 m. 64 ch. and 19 m. 44 ch. Beyond this point the work has been put in hand as far as 21 m.

WHANGAREI - NORTH AUCKLAND MAIN TRUNK RAILWAY.

Kioreroa Contract (0 m. to 4 m.).—A contract was let for formation-work and construction of bridges on the first 4 miles of this line. All the culverts are in, but there still remains a good deal of earthwork to do, principally on the long banks. Some of the material for the bridges is on the site, and a start has been made on the construction of one of them.

Oakleigh Section (4 m. to 7 m. 60 ch.).—Co-operative contract parties are at work on the formation of this length, including the Oakleigh Station yard, which is almost completed.

A contract has been let for the erection of a wharf opposite Oakleigh Station, to enable rails, sleepers, &c., to be delivered on the works. Most of the material for wharf is now on the ground. Two platelayers' cottages and the permanent goods-shed have been erected at Oakleigh Station.

Tauraroa Section (7 m. 60 ch. to 15 m. 0 ch.).—The whole of the earthwork is now in hand, and should be completed by the end of January next. It is expected that platelaying will be started before Christmas.

The formation is in hand of Mangapai and Tauraroa station-yards, also a siding from Tauraroa Station into the ballast-quarry close by. This quarry was tested, and found to contain a large quantity of good stone, so a crushing plant is to be installed.

A platelayer's cottage is now being erected at Tauraroa Station.

NORTH AUCKLAND MAIN TRUNK RAILWAY

Kirikopuni Section (118 m. 40 ch. to 115 m.).—A start has recently been made on the section of the North Auckland Railway, starting at Pukehuia Station, where the line strikes the Wairoa River, and working southwards. The clearing and formation-work are now in hand from 118 m. 40 ch. to 117 m. 15 ch., including the forming of Pukehuia Station yard. A service tram-line is shortly to be laid to 115 m. 72 ch. to permit of the construction of the 25-chain tunnel at this point being undertaken.

Otamatea Section (81 m. 30 ch. to 83 m. 75 ch.).—This section was completed and handed over to the Railway Department on the 1st August, 1914.

Bickerstaffe Section (83 m. 75 ch. to 88 m. 40 ch.).—The formation, including the Bickerstaffe and Maungaturoto tunnels, has been completed. Extensive slips in banks at 86 m. 17 ch. and 86 m. 37 ch. delayed platelaying for some time, but now the railhead is at 88 m. 40 ch. just beyond Maungaturoto Station yard.

On account of the treacherous nature of the country it was found necessary to strengthen the north end of Bickerstaffe Tunnel.

Metal for concrete and ballast has been constantly supplied from the Hoteo quarry. The ballasting is completed to north end of Bickerstaffe Station, and the first lift has been put on up to Maungaturoto Station.

Station buildings have been erected at Bickerstaffe, and tenders are being called for those at Huarau and Maungaturoto.

Paparoa Section (88 m. 40 ch. to 92 m. 16 ch.).—Most of the earthworks are in a forward state up to 90 m. 30 ch. Extensive slips have occurred in several of the cuttings, and are proving troublesome at the approach cutting to Huarau Tunnel. These cuttings are now in hand, and a drive has been commenced at south end of tunnel.

The formation of Paparoa Station yard is in progress.

A contract is in hand for manufacture of steelwork for bridges on this section.

Mareretu Section (92 m. 16 ch. to 96 m. 38 ch.).—Some of the small culverts have been built, and several of the cuttings opened up on this section.

HUNTLY-AWAROA RAILWAY.

The extension of the Huntly Bridge to form a subway across the Main South Road was completed early in the year. All formation-work and bridges are complete up to 7 m. 22·5 ch., with the exception of a single-span bridge at 2 m. 65 ch. and an overbridge at 6 m. 5 ch. Within a month or so the line should be completed to 7 m. 22·5 ch.

WAIKURU BRANCH RAILWAY (Length, 12 miles 25 chains).

The formation of the first three miles of this line is being carried out by small contracts, whilst further earthworks, culverts, and fencing are in hand under the co-operative system up to 7 m. 23 ch.

The formation of the existing main line from 27 m. 66 ch. to 28 m. 20 ch. has been widened, and rails have been laid and ballasting completed to carry the branch line to Paerata Station. The concrete piers for the bridge at 0 m. 11 ch. have been erected; the steel superstructure is being manufactured in Auckland.

Two platelayers' cottages have been erected at Paerata Junction.

EAST COAST MAIN TRUNK RAILWAY.

Waiki-Tauranga.

Athegree Section (0 m. to 12 m. 35 ch.).—Two piers of the Victoria Street bridge subway in Waiki have been built, and the roadway has been lowered the full width to give the required headroom. Between 4 m. and 6 m. contracts for the earthworks only are in progress. From 6 m. to 8 m. cuttings, stream and road diversions are in hand. A contract for the manufacture of the steelwork for bridges on this section is in hand in Auckland.

Tauranga-Opotiki.

Te Maunga Section (41 m. to 45 m.).—The earthworks on this section have been put in hand up to the harbour-front, and a start made with the long embankment across the foreshore forming the approach to the bridge across the harbour. Rails have been laid round triangle at junction and to high-water mark. Ballasting has been done on a small portion.

Plans have been made of the bridge across Tauranga Harbour, and one contract let for the supply of portion of the steel; and offers are now being invited for the supply of the remainder.

Maunganui-Te Puke Section (Maunganui, 0 m. to 4 m. 27 ch.; Te Puke, 45 m. to 54 m.).—Considerable subsidence still takes place on the banks on this section, so a steam-navvy has been erected in a suitable position to obtain material for maintaining them. This has so far worked very well. Quarrying and crushing has been continued at Moturiki quarry; a crane has been erected, and everything put in order for procuring stone for the protective work on the long bank across the harbour. Te Puke quarry was opened up and two crushers installed, and a further larger crusher, with elevator, screens, &c., is now being erected.

A considerable amount of traffic has taken place on this section during the past twelve months.

Te Puke - Paengaroa Section (54 m. to 59 m. 65 ch.).—All earthworks have been completed, but the long Kaituna bank gives trouble through subsidence: it is now being made up with stripping from the Te Puke quarry. The bridges are complete, except the Kaituna, for which a contract has been let: the ironbark timber is now on the ground, but no work has so far been done towards erection. Most of the bridges have been erected by the Department's own staff, and the steelwork manufactured in the Department's workshop at Tauranga. Rails have been laid throughout, and the line, including station-yard, completely ballasted, with the exception of the Kaituna bank.

Stockyards and goods-shed have been erected at Paengaroa.

Paengaroa-Pongakawa Section (59 m. 65 ch. to 64 m. 10 ch.).—Nine small contracts were let for earthworks; they have been satisfactorily completed, though subsidence still occurs on many of the banks. Bridges have been erected at 60 m. 76 ch., 61 m. 3·50 ch., and 61 m. 55 ch. The rails have been laid to 62 m. 10 ch., and ballasting is in hand to 61 m. 55 ch.

A contract has been let for the erection of station buildings at Rangiaru, Maniatutu, Paengaroa, and Pongakawa stations.

Pongakawa-Otamarakau Section (64 m. 10 ch. to 71 m. 5 ch.).—Most of the formation-work is complete, except some of the banks and cuttings which have been made narrow: in these cases it will be more advantageous to complete with steam-navvy, locomotive, and trucks.

Otamarakau-Matata Section (71 m. 5 ch. to 80 m. 45 ch.).—A fair amount of earthwork has been done on this section, including side drains and road-diversions.

Gisborne-Motu.

Rakauroa Section (31 m. 25 ch. to 38 m. 25 ch.).—Slips on various parts of this section were very troublesome, therefore a considerable amount of drainage work had to be undertaken before the section was safe for traffic. It was handed over to the Railway Department on the 2nd November, 1914.

Matawai Section (38 m. 25 ch. to 43 m. 75 ch.).—This section also suffered a great deal from slips during the earlier part of the year, and a large gang of men with locomotive and trucks were employed for several months clearing these slips. This section was handed over, together with the Rakauroa Section, to the Railway Department on the 2nd November, 1914.

Motu Section (43 m. 75 ch. to 49 m. 8 ch.).—Most of the earthworks, except the formation of Kowhai Road Station yard, are complete. The rock from several of the big cuttings was utilized for concrete and metalling roads. A contract has been let for the erection of a bridge over the Motu River. Platelaying is complete to 48 m. 20 ch. near the site of the above bridge. The line is completely ballasted to 47 m. 55 ch.

Gisborne-Napier (North End).

Ngatapa Section (0 m. to 10 m. 29 ch.).—The formation is completed, and the remainder of the works on the section are well advanced. Tenders have been called for the manufacture of steelwork for several of the bridges on this length. A quarry has been opened up near Repongaere Station yard, and a branch line has been laid into it from that station, and a crushing plant installed.

All the piers of the Waipaoa Bridge have been erected. Considerable difficulty was experienced with the sinking of the cylinders on account of the large quantity of timber encountered. Most of the steelwork superstructure is at the site and is now being assembled in position.

Four cottages have been erected at Repongaere Station by day labour, and two more cottages, goods-shed, and platform-front at Ngatapa. Rails, including all sidings, have been laid throughout the section, and the first lift of ballast put on the whole length.

Mangatoetoe and Waikura Sections (10 m. 29 ch. to 22 m.).—The earthworks are fully manned up to 14 m., and several culverts have been constructed. The bottom heading in the tunnel at 13 m. 15 ch. has been driven 150 ft.

Gisborne-Napier (South End).

Eskdale Section (0 m. to 10 m.).—An amended centre-line has been pegged across the Inner Harbour, leaving the present Napier-Spit Railway at a point near the recreation-ground, thus allowing more room for harbour area. The Harbour Board has undertaken to construct the earthworks, culverts, fencing, &c., from the junction to a point near Westshore, and has now built a bucket dredge with conveyer for the work. The Westshore Bridge across the Inner Harbour will be built by the Department's own staff, and a start has been made with the preliminary work. All the reinforcing steel has now arrived at Napier, and is being stacked on the site.

STRATFORD—MAIN TRUNK RAILWAY.

West End.

Whangamomona Section (31 m. 40 ch. to 37 m. 53 ch.).—Though handed over to the Railway Department in the previous year there were several unfinished works on the section. These have since been completed.

Tahora Section (37 m. 53 ch. to 47 m. 25 ch.).—The whole of the earthworks are complete up to and including Kohuratahi Station yard, and good progress has been made beyond this point to No. 2 tunnel at Tahora saddle. Earthworks are in hand beyond No. 2 tunnel, principally road and stream diversions, side ditches, and water-drives. A service tramway is being laid from the end of present line to enable construction to be put in hand up to Rakohua Station yard at 47 m. No. 1 tunnel was completed for 15½ chains during the year; 17 lineal yards are still uncompleted. The bottom heading of No. 2 tunnel is through, and enlarging and lining have commenced.

All bridges up to Kohuratahi are complete. In the workshops fifty-four spans of 20 ft. rolled-steel joists were strengthened. Materials for road-bridges at Rakohua Station yard are now being delivered.

The permanent rails have been laid into Kohuratahi Station yard, and the line up to this point partially ballasted.

All station buildings have been erected at the above-mentioned station.

East End.

Matiere Section (0 m. to 11 m.).—Plans for bridge over the Ongarue River at 0 m. 7 ch. have been completed, and tenders are now being called for the manufacture and erection of the steel superstructure. The piers are to be constructed by the Department's staff, and preparatory work is in hand. The formation is practically complete to 1 m. 40 ch., except cutting at 1 m. 29 ch., which has again slipped badly.

The contractor for the Okahu contract (1 m. 40 ch. to 4 m.), which includes the construction of a tunnel 75 chains long, made very poor progress, and finally surrendered his contract in February last. Messrs. Dillon Limited took over the contract, and are now at work widening and timbering headings.

Earthworks are complete between 1 m. 40 ch. and 2 m. 19 ch., except for cutting at 1 m. 50 ch. The bottom heading of tunnel has been driven from eastern end to 2 m. 46 ch., and from western end to 2 m. 76 ch., leaving a gap of 30 chains. Earthworks between 3 m. 20 ch. and 4 m. are in an incomplete state. From 4 m. to 5 m. 53 ch. several contracts were let for formation-work, and fair progress has been made. Beyond 5 m. 53 ch. formation is well in hand to 10 m. at Matiere Township. A bottom heading has been driven through the tunnel at 7 m. 55 ch., and heading through tunnel at 8 m. 55 ch. is almost complete.

A tramway is now being laid from the brickworks at 7 m. into Matiere Township to serve for cartage of construction materials and for haulage of settlers' goods. All culvert-work is practically complete to Matiere.

The erection of a plant for the manufacture of bricks from papa by the semi-dry press method is almost complete, and making and burning of bricks is to begin at once.

NORTH ISLAND MAIN TRUNK RAILWAY.

Raetihi Branch (0 m. 8 ch. to 8 m. 5½ ch.).—The whole of the earthworks and culverts are in hand, the formation being almost complete to 7 m. Bridge-piers are complete at 1 m. 23 ch. and 1 m. 60 ch., and those at 4 m. 77 ch. are in course of construction. The steelwork for these bridges is being manufactured by contract. Rails have been laid to 1 m. 20 ch. It is expected that the ballasting of line will be put in hand by September.

OPUNAKE BRANCH RAILWAY.

Kapuni Section (0 m. 0 ch. to 7 m. 0 ch.).—This section has been cleared throughout. A small contract was let for the formation of Matapu Station yard. All cuttings up to 5 m. are in hand, and 2 m. 5 ch. of light earthwork has already been formed. A steam-navvy is being assembled at 1 m. 5 ch. to take out long cutting at this point.

The duplication of the main line from Te Roti Station to the junction with branch line is now being done by the Railway Department.

Plans are now complete for the bridge over the Waingongoro River near Te Roti. A start has been made with the delivery of gravel for bridges ahead of this.

Two platelayers' cottages have been erected at Kapuni Station.

SOUTH ISLAND MAIN TRUNK RAILWAY.

North End.

Mirza and Mills Sections (51 m. 45 ch. to 56 m. 6 ch.).—A contract was let for the completion of earthworks, platelaying, and ballasting to 56 m. 6 ch., the end of the Mills Section. All earthworks have been completed and the rails laid throughout. The main-line ballasting is complete, and the station-yards are nearing completion. A contract for the erection of station buildings on this section is in hand.

Kekerangu Section (56 m. 6 ch. to 60 m.).—Several culverts and an 18 ft. arched concrete bridge have been constructed. Earthworks are in hand between 56 m. 6 ch. and 57 m. 59 ch. Large areas of drifting sand lying between the railway-line and the sea-coast are being planted with marram-grass with great success.

MIDLAND RAILWAY.

Nelson—Westland Section (North End).

Kawatiri Section (59 m. 17 ch. to 63 m. 10 ch.).—Construction-work was resumed on this section in November, 1914. The earthworks are completed from 59 m. 20 ch. to 60 m., and partly so from that point to 62 m. The culvert-work is also in hand, and plans for the bridges are almost ready.

Arthur's Pass Tunnel.

At the Otira end of tunnel all work has been carried out by day labour. Better progress has been made this year than last. This end is practically all wet, and heavy timbering has been necessary. At the Bealey end work has continued under the co-operative system: here also an improvement in progress has been made. Since November last the bottom heading has been in wet ground.

The total length of heading driven during the year (both ends) is 39·38 chains, and the length of tunnel completed 43·99 chains. The distance between the ends of the headings is now 1 mile 64·45 chains, and between the completed portions 2 miles 17·06 chains, the length of the tunnel being 5 m. 25 ch. 12 ft.

CULVERDEN—WAIU RAILWAY (Length, 13 miles).

Contracts have been let for formation-work for the whole length, and good progress is now being made. The earthworks are complete to 5 m. 66 ch., and in various stages of progress up to 13 m. Fencing is complete to 5 m. 24 ch. All culverts and bridges (except for stringers) are finished up to 6 m.

Two cottages were removed from the South Island Main Trunk Railway and re-erected at Waiu Station yard. Platelaying has commenced at Culverden Station.

WESTPORT—INANGAHUA RAILWAY.

Cascade Section (5 m. 7½ ch. to 10 m.).—The earthworks on this section are being carried out under the small-contract system. Several of these contracts have been completed during the year, and there now remain practically only three to complete.

WAIMATE BRANCH RAILWAY EXTENSION (Length, 4 miles 60 chains).

The formation of this extension was commenced during the year, and the earthworks and culverting are now in hand up to 4 m. Crushed stone has been delivered at the various bridge-sites. A considerable amount of wire-netting protective work has been completed at 0 m. 58 ch., where the river is close to the railway.

LAWRENCE—ROXBURGH RAILWAY.

Beaumont Section (29 m. 33 ch. to 34 m. 69 ch.).—This section was completed and handed over to the Railway Department on the 15th December, 1914.

CATLIN'S-WAIMAHAKA RAILWAY.

Catlin's End.

Puketiro, Papatowai, and Tahakopa Sections (24 m. 8 ch. to 41 m. 64 ch.).—The whole line was completed and handed over to the Railway Department on the 1st February, 1915.

OTAGO CENTRAL RAILWAY.

The construction of the extension of this railway from Clyde to Cromwell (12 miles 28 chains) was commenced in July, 1914, and very good progress has since been made. The earthworks are all in hand up to Cromwell. The first bridge, at 47 m. 20 ch., has been erected, and it is hoped to have the others in hand shortly. Rails have been laid to 47 m. 51 ch., and ballasting has been completed to 47 m. 27 ch.

OREPUKI-WAIAU RAILWAY.

Orawia Section (48 m. 23 ch. to 53 m.).—Construction-work has started on this section beyond Tuatapere, and some of the earthworks are now in hand. A contract for the erection of two platelayers' cottages at Tuatapere is in progress.

SURVEYS OF RAILWAYS UNDER CONSTRUCTION, NEW LINES OF RAILWAYS, LAND PLANS, ETC.

KAWAKAWA-HOKIANGA RAILWAY.

A land-plan survey was completed during the year from 16 m. 60 ch. to 19 m. 44 ch., and tenders are now being called for land plans up to 25 m. Exploration surveys were completed beyond the Hokianga River. The permanent line has now been pegged to 26 m.

WHANGAREI SOUTHWARDS RAILWAY.

The plans of the permanent line from 15 m. to 19 m. 78 ch. where it junctions with the main line were completed during the year. Land-plan surveys have been made from 0 m. to 14 m.

MANGAPAI-WAIPU SURVEY.

Four miles of permanent-line pegging has been done.

KAIKOHE TO OHAEAWAI.

A trial line survey was completed during the year.

NORTH AUCKLAND MAIN TRUNK RAILWAY.

The permanent line has been surveyed from 93 m. 70 ch. right through to Kirikopuni at 122 m. Reconnaissance surveys were made from Kaiwaka to Waipu, and from Māreretu to Waipu. Land-plan surveys of the Paparoa Section of railway and the access road to the Paparoa Station have been carried out.

WAIUKU BRANCH RAILWAY.

Surveys of the permanent line were made from 9 m. 40 ch. to 12 m. 20 ch. A land-plan survey contract of the first 4 miles is in progress.

HUNTLY-AWAROA RAILWAY.

A survey of a further 3 miles of this line to Burnt Bridge is in hand. Land-plan surveys are complete to 7 m. 22 ch.

EAST COAST MAIN TRUNK RAILWAY.

Tauranga-Opotiki.—A trial survey was made from 92 m. 71 ch. to 100 m. 40 ch., and permanent survey will now be put in hand.

Gisborne-Motu.—Land-plan survey is in hand from Matawai to 49 m. 10 ch.

Gisborne-Napier.—From the Gisborne end the permanent survey has been extended to 34 m. at Hangaroa Township. A trial survey of a deviation from 14 m. to near 20 m. is to be put in hand. About 2 miles of line both north and south of Wairoa have been permanently pegged.

TE ROTI-OPUNAKE-MOTUROA RAILWAY (Length, 58 miles 74 chains).

Te Roti-Opunake.—The permanent survey has been completed to 23 m. at Opunake.

Opunake-Moturoa.—The permanent-line survey has been extended from 35 m. to 38 m. 60 ch. From 38 m. 60 ch. to Moturoa various trial lines aggregating altogether 56½ miles have been run.

Manaiā Branch.—The permanent line has been pegged from 0 m. at Kapuni Station to 5 m. 50 ch. at Manaiā.

WELLINGTON-PAEKAKARIKI RAILWAY.

Last November this Department took over from the Railway Department surveys for the relocation and duplication of the railway between Wellington and Paekakariki. The surveys for six different routes between Wellington and Tawa Flat were completed, and information obtained for duplication between Tawa Flat and Plimmerton. Between Plimmerton and Paekakariki two routes have been surveyed.

WELLINGTON-WAIRARAPA RAILWAY.

Surveys for a deviation through the Rimutaka Range were put in hand during last autumn, and a trial line has been run from the Wainui-o-mata Stream to Pigeon Bush, via the Wairongo-mai Stream. Work is now in hand between Wainui-o-mata and Petone.

SOUTH ISLAND MAIN TRUNK RAILWAY.

Kekerangu Section.—A survey of a deviation between 60 m. and 61 m. 22 ch. is nearly finished. This was necessary on account of large slips near 61 m.

MIDLAND RAILWAY (NELSON—WESTLAND SECTION).

Kawatiri Section.—The permanent survey was completed to 63 m., and is now being continued to 65 m.

WAIMATE BRANCH RAILWAY EXTENSION

The permanent survey of line to 4 m. 60 ch. has been completed.

BALCLUTHA—TUAPEKA MOUTH RAILWAY.

A trial line about 23 miles long was completed early in the year, and about 6 miles 70 chains have been permanently pegged.

OTAGO CENTRAL RAILWAY.

The survey work from Clyde to Cromwell was completed in December, 1914.

WYNDHAM—MOKORETA RAILWAY.

Trial surveys of this proposed railway have been made.

OREPUKI—WAIKOU RAILWAY.

Trial surveys have been made to Orawia, and the permanent line has been pegged to 53 m.

ROADS, BRIDGES, ETC.

Exclusive of the usual road-formation, metalling, and maintenance works carried out, the following are some of the more important works which call for special mention:—

The Motu—Opotiki Main Road has now advanced so far towards completion as to allow of limited wheeled traffic.

On the Mangapoike Road, 1 mile 15 chains of dray-road and 4 miles 48 chains of bridle-track have been completed, leaving about 7 miles of bridle-track to widen in order to complete as a dray-road from Gisborne to Wairoa.

Over 9 miles of metalling were completed on the Napier—Wairoa Road; the whole road has been maintained, and straightened and widened at some of the sharp bends.

On the Te Kuiti—Mokau Road about 5½ miles of metalling has been done, besides ditching and maintenance. Two miles of Awakino Valley (Lower) Road have been formed into a dray-road, and 1 mile of ditching done, and a tunnel is in hand.

On the Ohura Road a considerable amount of metalling has been done, besides maintenance-work and various improvements. The erection of a bridge over the Tangarakau River (top crossing) is nearing completion.

On the Rotoaira—Waimarino Road a good deal of widening and pumicing has been done, and two bridges have been built. Thirty-eight prison buildings were built at the prison-camp site and 4½ miles of telephone-line erected.

About 14½ miles of the Main Kohatu—Westport—Reefton Road have been metalled, besides several miles of patching. Several bridges have been repaired, and the new bridges over Blackwater Creek and Orowaiti overflow are almost finished.

The main road between Arthur's Pass and Waiho has been maintained and 39½ miles metalled, besides several miles of metal patching and re-forming.

The work of improving the Kaikoura to Conway River main road so as to make a first-class coach-road was commenced during the year: already about 18 miles have been widened and improved and 1½ miles metalled.

A few of the principal bridges, protective works, &c., are mentioned briefly below:—

Tokatoka Swamp Stop-banks, Drainage, and Tramway.—The 15½ chains of tram-line required to complete have been constructed by the Department. Fourteen miles of stop-banks have been maintained during the year. Owing to serious tidal encroachments along the foreshore about 21 chains of stone protection-work were constructed.

Mangere Bridge.—The erection of a ferro-concrete bridge 808 ft. long and 38 ft. wide to carry a roadway and double line of tramway over the Manukau Harbour between Mangere and Onehunga has been carried out by the Mangere Road Board under Government subsidy.

Waikato River Bridge (Rangiriri).—A contract has been let for the erection of a bridge 438 ft. long over the Waikato River at Rangiriri.

Waihou River Bridge.—The erection of the bridge with approaches over the Waihou River at Puke, on the Paeroa—Netherton Road, has been completed. It has been provided with an opening span, and dolphins have been erected to prevent passing vessels from damaging the bridge.

Wairoa River Bridge.—A ferro-concrete bridge, consisting of eleven spans of 45 ft. each, has been constructed across the Wairoa River on the Tauranga to Waihi Road, about 5½ miles from Tauranga.

Rangitaiki River Bridge (Te Teko).—The erection of this ferro-concrete bridge is being carried out by the Department. It is situated on the main road between Rotorua and Whakatane, and consists of seven spans of 45 ft. each.

Ongarue River Bridge.—A bridge has been erected across the Ongarue River near Taringamotu Station, which will give access to the Irawhata Block,

Waipawa River Bridge.—A bridge 880 ft. long with 29 chains of approaches, including protection-work, has been erected by the Waipawa County Council between Ongaonga and Tikokino.

Taramakau River Bridge.—The spans washed away in 1913 have been restored, and additional spans have been constructed.

Buller River Bridge (Gowan Road).—This bridge, consisting of one 144 ft. truss, one 60 ft. truss, and three 20 ft. stringer spans, has been completed, with approaches.

Opawa River Bridge.—A start was made with the erection of this bridge, a ferro-concrete structure 560 ft. long. All plant, buildings, and staging are complete, and 120 concrete piles have been made and seventy driven.

Hapuku River Bridge and Approaches.—This bridge, consisting of six 100 ft. trusses on cylinder piers and concrete abutments, was completed in February last.

Kowhai River Bridge.—A timber bridge of fourteen 25 ft. spans on ironbark pile piers was completed during the year.

Conway River Bridge and Hundalce River Bridge and Approaches.—A contract has been let for the erection of these bridges, and some of the material has been obtained.

Clutha River Bridge (Luggate).—Cylinders were sunk and the 100 ft., 200 ft., and 40 ft. spans erected. The approaches are nearing completion.

Balclutha Traffic Bridge.—A contract for lengthening this bridge has been satisfactorily completed. The bridge was also raised at fairway to a height of 2 ft. 6 in. to allow sufficient clearance for river-steamers.

Lower Shotover Bridge.—This bridge was finished and opened for traffic in April last.

Waiau River Bridge (Tuatapere).—This bridge has now been completed.

Balclutha Protective Works.—Good progress has been made with this work. The old protective work has been raised and widened, and below traffic bridge a new bank has been formed as far as Greenock Street. A contract has been let for a further 24½ chains. A considerable amount of grassing and fencing has been done.

Mataura River Protective Works (Waipounamu).—Groynes have been built at various points, and in Section 6, where the river had cut into an old channel, a strong wall of stone and wire netting was built which has successfully deflected the stream into the right channel.

IRRIGATION.

OTEKAIKE SETTLEMENT.

The contract for cutting 6 miles of race on the eastern side of river was finished, as well as fixing distributing-weir at junction with main race. All the siphons were placed, and flumes in several places had to be added. A further length of 65 chains of race was cut beyond 6 miles, and an offer to cut a further 145 chains has been accepted. A report was made on the advisability of cleaning out the present race on the western side of river.

IDA VALLEY SCHEME.

A small amount of excavation was done at the Manorburn dam at end on right side of creek. In January a double shift was worked at the concreting until the wall narrowed to 4 ft. or 5 ft. During the season 3,987 cubic yards of concrete were placed, bringing the wall to within 9½ ft. of the top. The valve-tower was built to the same height, including steps inside and cantilevers for valve-rods. At the end of April severe frosts stopped all work at the dam. A month's work next season should complete this work.

Concreting was started on Moa Creek weir and the whole wall was built, except cross-wall carrying gates and straight-section over race-outlet. A few days' work will finish the concreting.

On Black's No. 3 race, on the left-hand side of the valley, all the race has been cut from the weir to the end at 10 m. 65 ch. There still remain to be done on this race two flumes, one over Alexandra Road, and another one half-way along the race.

On the right side work on the German Hill race is in hand from 0 m. 25 ch. to 3 m. From 3 m. 10 ch. to 4 m. 15 ch. the race is complete.

The Bonanza race has been widened and deepened from intake to 1 m. 1 ch. From this point to 3 m. 65 ch. the race has been widened and walls built on low side. Work is in hand up to 6 m. 76 ch; beyond this the new race has been cut for a further 74½ chains.

The work for next season will include masonry walls on low side of race, small intake-weir, fluming, and some concrete-work.

Three lines for a dam at the upper site, Poolburn, have been pegged, and a number of bores put down to rock. Further information will be necessary before finally deciding on site.

During the irrigation period water was sold to various irrigators in the valley.

MANUHERIKIA—ALEXANDRA—CLYDE SCHEME.

Survey work was continued until the end of October, the work done being chiefly surveying and levelling long distributary-race lines from various points in the main race.

A deviation of the Orlig race, about 3 miles long, was surveyed.

A water-gauge was erected in the Manuherikia River just below the road-bridge at Ophir, and arrangements made for regular readings; also a rain-gauge at the Post-office, Ophir.

Two contracts have been let for race-construction, and work on these is now in hand. On No. 1 contract nearly 16 chains of race have been cut, including settling-basin, and on No. 2 about 3½ chains cut.

OTEKAIKE SPECIAL SCHOOL.

Plantation, Clearing, Felling, Sawmilling, Roadmaking, &c.—This work was originally being carried out by a private contractor, but was eventually taken over by the Department. An improved sawmilling plant was installed and worked. Some 8 acres of plantation have been cleared, and are already built upon. Up to the end of June 262,030 ft. of timber has been cut. Roadmaking is also in hand to join the main road and the road passing the cottage homes.

WAIHOU AND OHINEMURI RIVERS IMPROVEMENT.

A survey has been made of 4 miles 68 chains of stop-bank on the Upper Waihou between Tirohia and Ngararahi. On the Lower Waihou about 12 miles of survey work has been plotted. A party of men have been employed between Te Aroha and Netherton destroying willows and working on maintenance generally. The dredge has been completed, and has commenced work deepening the surface canals. A slipway for the dredge has been finished, and a workshop erected on the slip reserve.

TRAMWAYS.

Auckland.—During the year all cars were altered to comply with the provisions of the Tramways Act, 1913. The Tramway Company has submitted plans of the apparatus for the magnetic control of points at the junction of Wellesley and Queen Streets.

Napier.—Two new cars were inspected and passed for traffic.

Wanganui.—The extension of the tramway from Dublin Street Bridge to Eastown Station, a distance of 1 mile, was completed during the year; also the Aramohe extension to Quick Avenue, a distance of 1 m. 39 chains.

New Plymouth.—The construction of this tramway is in hand.

Wellington.—A loop has been put in at Ohiro Road and portion of the Kilbirnie route duplicated. Work is in hand on the extension of the Constable Street line over the hill into Kilbirnie. Several new cars have been inspected and passed for traffic.

Christchurch.—All centre poles have been removed and span-wire construction substituted, except in Moorhouse Avenue. The Burwood to New Brighton route has been electrified. Duplications have been made on the Sumner and New Brighton routes, and a short extension of the Fendalton route has been opened for traffic.

MARINE.

Kohukohu Reclamation.—Separate contracts were let for the pile-driving, supply of timber, and supply of ironwork. The whole of the timber retaining-walls are finished, and there now remains only a few weeks' work to complete the filling. The repairs to wharf and the erection of a wharf-shed are complete.

Mangamuka and Orira Rivers.—These rivers were cleared and snagged, and are now safe for launch navigation.

Channel Island Light.—The erection of trestle, wire rope, winch, and pedestal has been satisfactorily carried out. The apparatus has been placed in position and the light exhibited.

Howick Wharf.—Repairs to this wharf have been carried out.

Netherton Wharf and Goods-shed.—A tender has been accepted for the erection of a wharf and goods-shed on the Waihou River at Puke, and the work is now in progress.

Narrows Rock Beacon.—A tender has been accepted for the manufacture of a beacon light for Hokianga Harbour.

Hauraki Gulf Beaches.—A land-plan survey of the above has been completed.

Rangiriri Wharf.—This wharf has been erected by the Waikato County Council.

Waikato River Snagging.—Some useful work consisting of blasting out stumps has been done during the summer months between Rangiriri and Huntly.

Miranda Wharf.—A new wharf has been erected by the Department to replace the old wharf, which had become dangerous.

Mokau Ferry.—A new cottage has been erected.

Taiaroa Heads.—A landing shed has just been finished.

Karori Rock Beacon.—The construction of this beacon is now nearing completion.

Karamea Harbour.—The T end of the wharf has been extended 10 ft. up-stream and 10 ft. down-stream, and the dolphins have been repaired. The whole of the training-wall has had piles driven along the back and walings attached thereto. Another 160 ft. length has been added to the wall. During the year an attempt was made to cut a new channel, but was not very successful. A flood immediately afterwards, however, cut a new channel in the desired position, and also seriously damaged three bays of the training-wall then under construction.

Miscellaneous.—Proposals submitted by local authorities have been examined, and various surveys made and reports furnished by the district officers of the Department.

DEFENCE WORKS.

Various buildings, &c., have been constructed, and repairs and improvements carried out in connection with Defence works throughout the Dominion.

The Hon. the Minister of Public Works.

I have, &c.,
R. W. HOLMES, Engineer-in-Chief.

TABLE OF LENGTHS OF GOVERNMENT LINES AUTHORIZED, CONSTRUCTED, AND SURVEYED UP TO 31ST MARCH, 1915—continued.
NORTH ISLAND—continued.

Appropriation.	Division.	Mileage	Section.	Main Line.	Siding	Total.	State of Line.													
							Surveyed.			Under Formation.			Under Plate-laying.			Opened.			Total.	
							M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.		M. ch.
Date.													Total.							
1910-11 1911-12 1912-13 1913-14 1914-15																				
1	Kaipara-Waikato	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
		M. ch. 35 73		M. ch. 35 73	M. ch. 6 66	M. ch. 42 59	M. ch. 4 63	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..	M. ch. ..
		2 73	Helsensville-Newmarket Penrose - Onehunga Wharf	2 73	1 70	4 63	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		100 13	Auckland-Waikato .. Auckland-Penrose— Deviation via Beach Auckland City Branch —Kingsland Station to Auckland Station via Western Park and Freeman's Bay Waikato Branch Rly. Huntly-Awaroa .. Paeroa-Pokeno .. Waikato-Thames ..	100 13	16 66	116 79	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		6 50	Deviation via Beach	6 50	..	6 50	6 50	..	..	..	..	..	..	..	..	..	..	..	..	..
		2 60	Auckland City Branch	2 60	..	2 60	2 60	Prelim.	..	..	..	..	..	..	..	..	..	..	..	..
		12 5	Paerata-Waikato ..	12 5	..	12 5	12 5	..	..	..	..	..	..	..	..	..	..	..	..	..
		9 0	Huntly-Awaroa ..	9 0	..	9 0	1 57	7 23	..	..	..	..	..	..	..	..	..	..	..	..
		40 15	Paeroa-Pokeno ..	40 15	..	40 15	40 15	..	..	..	..	..	..	..	..	..	..	..	..	..
		62 58	Frankton Junction- Thames	62 58	10 17	72 75	..	..	..	..	..	..	..	..	..	..	..	..	..	62 58
		12 40	Paeroa-Waihi ..	12 40	1 30	13 70	..	..	..	9 Nov., 1905	..	..	..	..	..	..	..	..	..	12 40
		124 0	Waihi - Opotiki, or East Coast Railway via Matata	41 0	..	41 0	7 0 27 0*	7 0	..	..	..	..	..	..	..	..	..	..	..	..
		4 0	Tauranga-Te Maunga Junction	4 0	..	4 0	..	..	3 15	..	..	..	..	..	..	..	..	..	..	..
		9 0	Te Maunga Junction- Te Puke	9 0	1 15	10 15	..	..	10 15†	..	..	..	..	..	..	..	..	..	..	..
		5 65	Te Puke-Paengaroa..	5 65	1 4	71 4	1 38 0†	1 29	6 69	..	..	..	..	..	..	..	..	..	..	..
		64 15	Paengaroa-Opotiki ..	64 15	..	64 15	9 62*	11 0	8 0	..	..	..	..	..	..	..	..	..	..	..
		4 27	Mount Maunganui - Te Maunga Junction	4 27	0 47	4 74	..	..	4 74	..	..	..	..	..	..	..	..	..	..	..
		12 2	Ruakura Junction- Cambridge	12 2	3 14	15 16	..	..	..	..	..	..	..	..	..	..	..	..	..	12 2
		69 33	Thames Valley-Roto- rua	69 33	5 27	74 60	..	..	..	..	..	..	..	..	..	..	..	..	..	+69 33

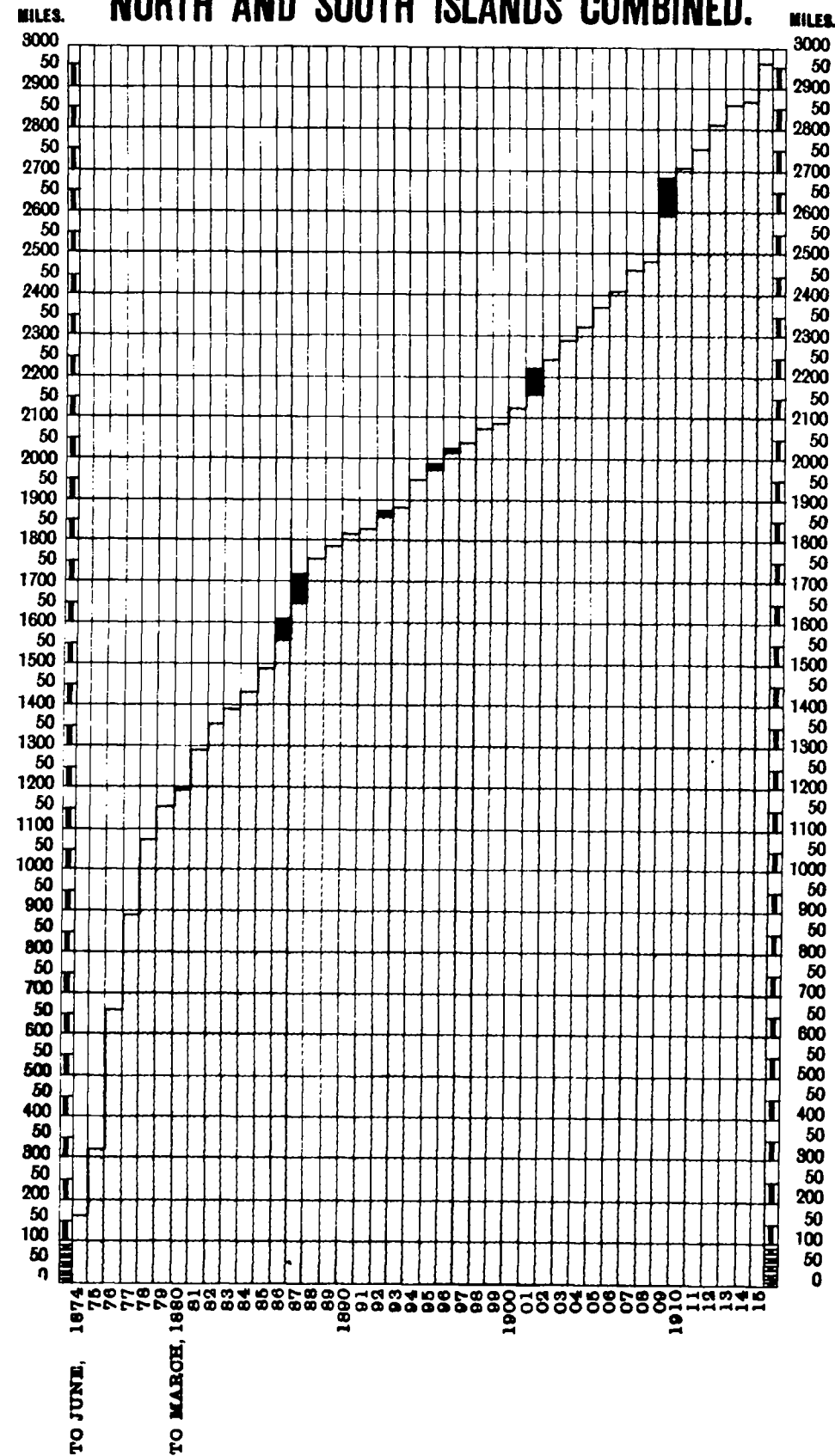
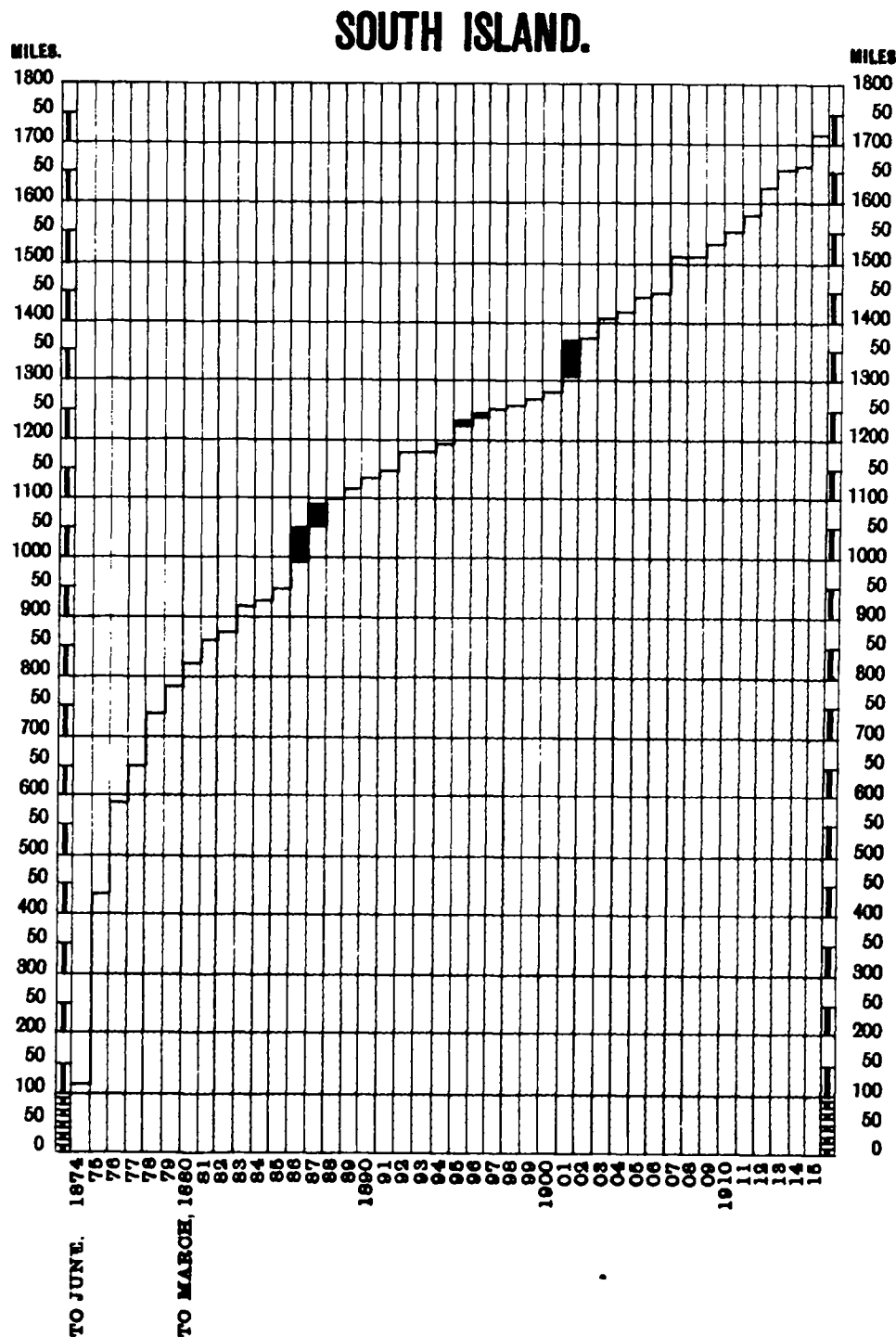
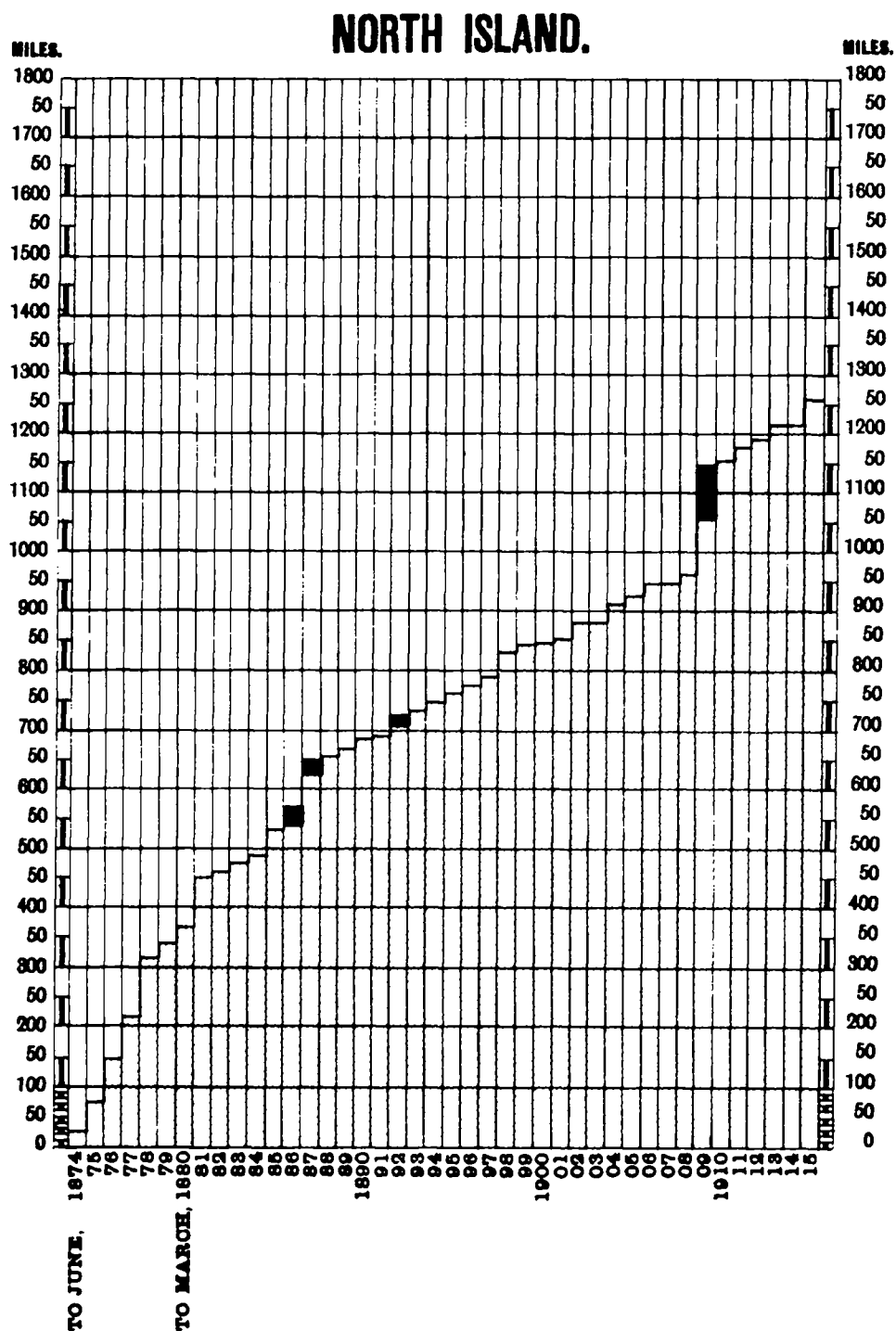
* Trial survey. † Completed all but Te Maunga Yard. ‡ Permanent survey.

NUMBER OF MILES OPEN
OF
GOVERNMENT LINES.

NUMBER OF MILES OPEN
OF
GOVERNMENT LINES.

NUMBER OF MILES OPEN
OF
GOVERNMENT LINES.

NORTH AND SOUTH ISLANDS COMBINED.



PRIVATE RAILWAYS ACQUIRED BY THE GOVERNMENT SHOWN [Solid Black Bar]

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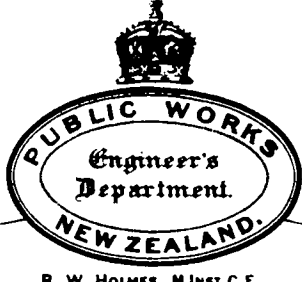
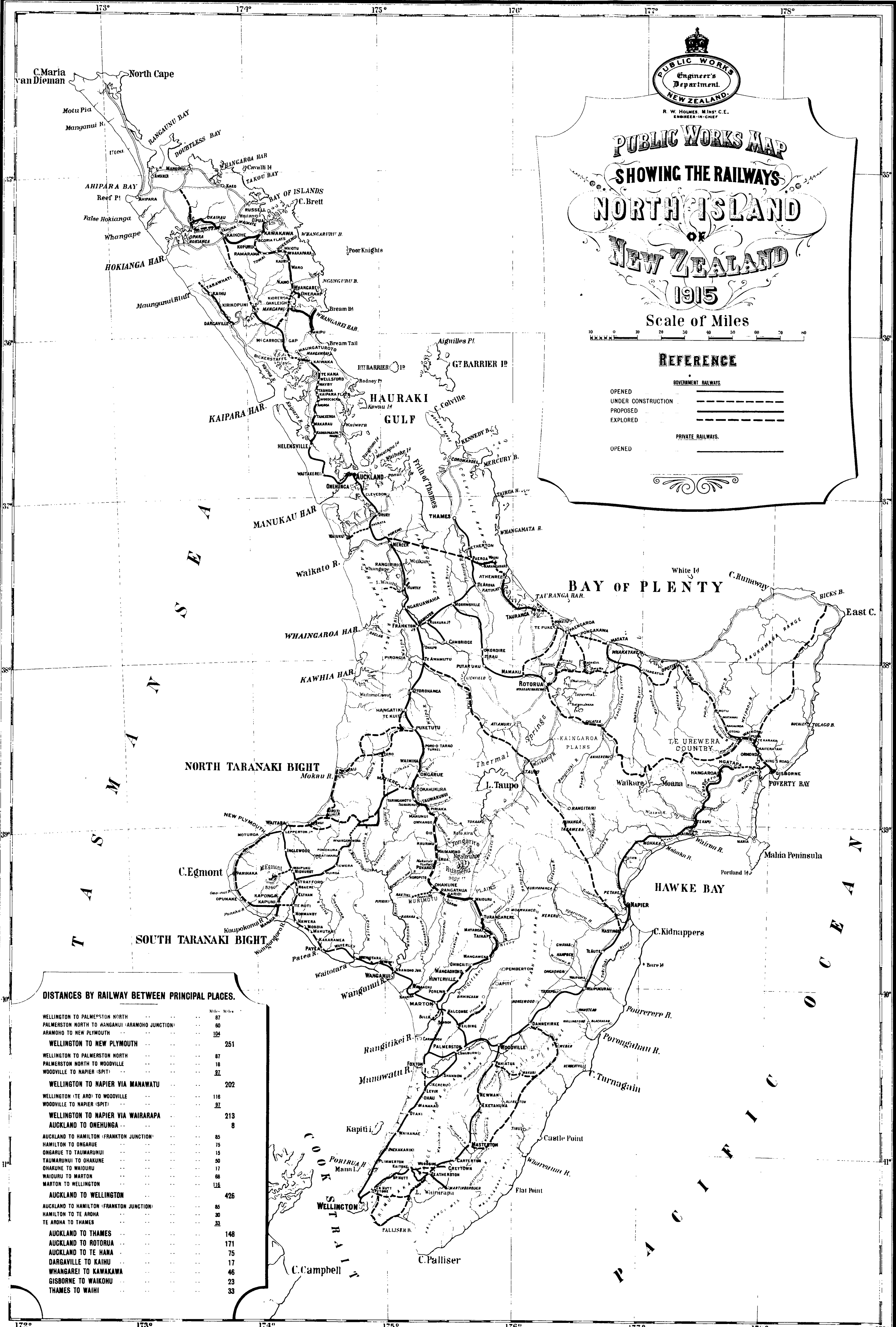
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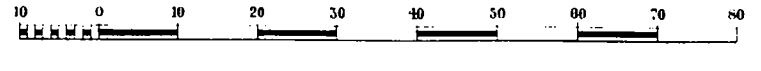
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1951



R. W. HOLMES, M. Inst. C.E.
ENGINEER-IN-CHIEF

PUBLIC WORKS MAP
SHOWING THE RAILWAYS
NORTH ISLAND
OF
NEW ZEALAND
1915

Scale of Miles



REFERENCE

- GOVERNMENT RAILWAYS
- OPENED
- UNDER CONSTRUCTION
- PROPOSED
- EXPLORED
- PRIVATE RAILWAYS
- OPENED

DISTANCES BY RAILWAY BETWEEN PRINCIPAL PLACES.

Route	Miles	Stiles
WELLINGTON TO PALMERSTON NORTH	87	
PALMERSTON NORTH TO HANGANUI (ARAMOHO JUNCTION)	80	
ARAMOHO TO NEW PLYMOUTH	104	
WELLINGTON TO NEW PLYMOUTH	251	
WELLINGTON TO PALMERSTON NORTH	87	
PALMERSTON NORTH TO WOODVILLE	18	
WOODVILLE TO NAPIER (SPIT)	92	
WELLINGTON TO NAPIER VIA MANAWATU	202	
WELLINGTON (TE ARO) TO WOODVILLE	116	
WOODVILLE TO NAPIER (SPIT)	92	
WELLINGTON TO NAPIER VIA WAIRARAPA	213	
AUCKLAND TO ONEHUNGA	8	
AUCKLAND TO HAMILTON (FRANKTON JUNCTION)	85	
HAMILTON TO ONGARUE	75	
ONGARUE TO TAUMARUNUI	15	
TAUMARUNUI TO OHAKUNE	50	
OHAKUNE TO WAIOURU	17	
WAIOURU TO MARTON	66	
MARTON TO WELLINGTON	116	
AUCKLAND TO WELLINGTON	426	
AUCKLAND TO HAMILTON (FRANKTON JUNCTION)	85	
HAMILTON TO TE AROHA	30	
TE AROHA TO THAMES	33	
AUCKLAND TO THAMES	148	
AUCKLAND TO ROTORUA	171	
AUCKLAND TO TE HANA	75	
DARGAVILLE TO KAIHU	17	
WHANGAREI TO KAWAKAWA	46	
GISBORNE TO WAIKOHU	23	
THAMES TO WAIHI	33	



ROYAUME DE FRANCE
LE 15 JANVIER 1789

PAR LE ROI

LE SEIGNEUR

LE CHANCELIER

LE COMTE

LE BARON

LE CHEVALIER

LE SEIGNEUR

LE CHEVALIER

LE SEIGNEUR

LE CHEVALIER

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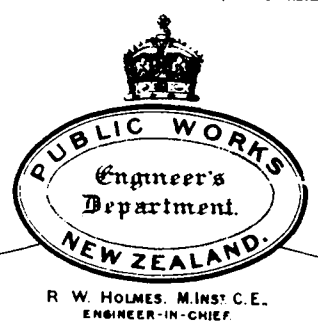
LE SEIGNEUR

LE CHEVALIER

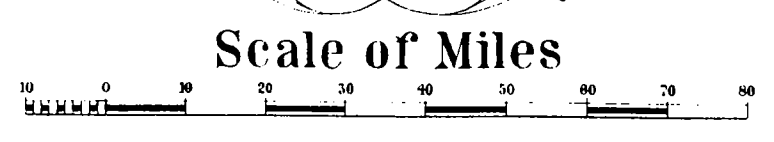
LE SEIGNEUR

LE CHEVALIER

LE SEIGNEUR

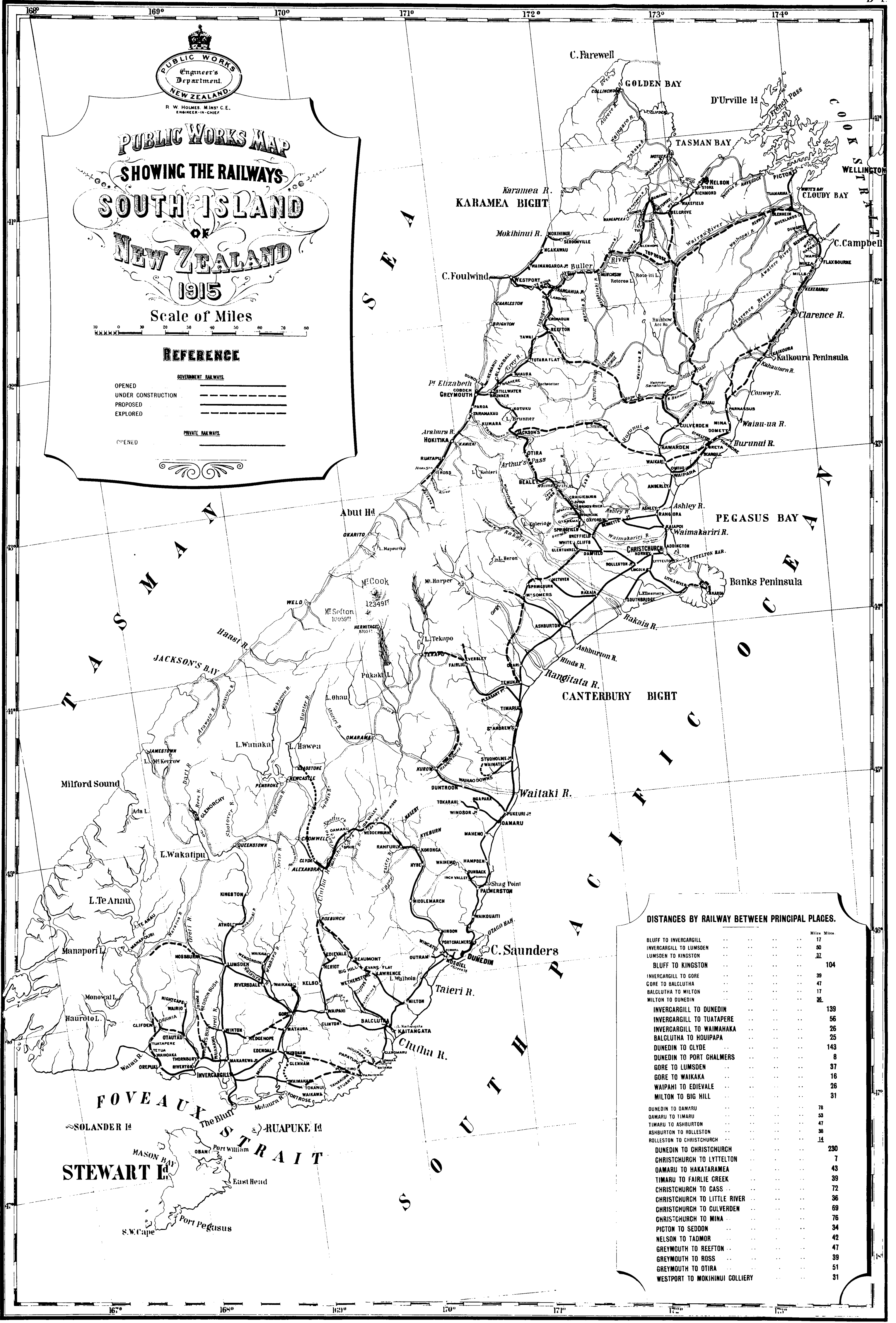


PUBLIC WORKS MAP SHOWING THE RAILWAYS SOUTH ISLAND OF NEW ZEALAND 1915



REFERENCE

GOVERNMENT RAILWAYS	
OPENED	—————
UNDER CONSTRUCTION	- - - - -
PROPOSED	.....
EXPLORED	.....
PRIVATE RAILWAYS	
OPENED	—————



DISTANCES BY RAILWAY BETWEEN PRINCIPAL PLACES.

	Miles	Stones
BLUFF TO INVERCARGILL	17	
INVERCARGILL TO LUMSDEN	30	
LUMSDEN TO KINGSTON	31	
BLUFF TO KINGSTON	104	
INVERCARGILL TO GORE	39	
GORE TO BALCLUTHA	47	
BALCLUTHA TO MILTON	17	
MILTON TO DUNEDIN	38	
INVERCARGILL TO DUNEDIN	139	
INVERCARGILL TO TUATAPERE	56	
INVERCARGILL TO WAIMAHAKA	26	
BALCLUTHA TO HOUIPAPA	25	
DUNEDIN TO CLYDE	143	
DUNEDIN TO PORT CHALMERS	8	
GORE TO LUMSDEN	37	
GORE TO WAIKAKA	16	
WAIKAKA TO EDIEVALE	26	
MILTON TO BIG HILL	31	
DUNEDIN TO DAMARU	78	
DAMARU TO TIMARU	53	
TIMARU TO ASHBURTON	47	
ASHBURTON TO ROLLESTON	38	
ROLLESTON TO CHRISTCHURCH	14	
DUNEDIN TO CHRISTCHURCH	230	
CHRISTCHURCH TO LYTTELTON	7	
DAMARU TO HAKATARAMEA	43	
TIMARU TO FAIRLIE CREEK	39	
CHRISTCHURCH TO CASS	72	
CHRISTCHURCH TO LITTLE RIVER	36	
CHRISTCHURCH TO CULVERDEN	69	
CHRISTCHURCH TO MINA	76	
PICTON TO SEDDON	34	
NELSON TO TADMOR	42	
GREYMOUTH TO REEFTON	47	
GREYMOUTH TO ROSS	39	
GREYMOUTH TO OTIRA	51	
WESTPORT TO MOKIHINUI COLLIERY	31	

TABLE OF LENGTHS OF GOVERNMENT LINES AUTHORIZED, CONSTRUCTED, AND SURVEYED UP TO 31ST MARCH, 1915—continued.
SOUTH ISLAND—continued.

Appropriation.	Division.	Mileage.	Section.	Main Line.	State of Line.													Total.					
					Sidings.		Total.	Sur-veyed.	Under For-mation.	Under Plate-laying.	Opened.												
					M. ch.	M. ch.					M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.		M. ch.	M. ch.	M. ch.	M. ch.	M. ch.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Waitaki-Bluff and Branches—contd.	Branches—contd.	M. ch.		M. ch.																			
	Inch Valley Railway	2 29	Inch Valley-Lime Kiln.	2 29	0 23	2 52																	
	Port Chalmers..	1 9	Glendermid - Port Chalmers	1 9	3 40	4 49																	
	Green Island ..	2 44	Burnside-Saddle Hill	2 44	0 52	3 16																	
	Green Island to Brighton	4 65	Surveyed ..	4 65		4 65																	
	Fernhill Colliery Line	1 60	Abbotsford to Fernhill Colliery	1 60	0 24	2 4																	
	Kaikorai Valley Railway	2 60	Surveyed ..	2 60		2 60																	
	Outram ..	8 78	Mosgiel-Outram		0 68	9 66																	
	Lawrence ..	21 76	Clarksville-Lawrence		2 2	23 78																	
	Lawrence-Roxburgh	37 10	Lawrence-Big Hill		0 44	7 77					1 Aug., 1910												
						0 45	6 1				15 Dec., 1914												
	Balclutha - Tuapeka Mouth	22 0	Surveyed ..		7 0	7 0																	
	Balclutha-Appleby Junction, or Catlin's - Seaward Bush	105 49	Trial Survey		15 0	15 0																	
						1 63	21 3																
						0 30	3 68				1 Aug., 1904												
						0 9	2 39				17 Dec., 1909												
						0 43	7 54				1 Feb., 1915												
						0 59	6 8				1 Feb., 1915												
						0 38	5 57				1 Feb., 1915												
							23 63				Prelim.												
						6 0	6 0																
					0 64	9 11							8 27										
					1 50	26 22																	
Waipahi - Heriot Burn	20 3	Waipahi-Heriot		20 3	2 8	22 6																	
Heriot Extension	6 20	Heriot-Edievale		6 20	0 45	6 65																	
Extension to Roxburgh, via Rae's Junction and Ettrick	28 10	Surveyed		28 10		28 10				15 Feb., 1905													
Via Spylaw	25 70	Surveyed		25 70		25 70																	
Waimea Plains District Ry.	36 39	Gore-Lumsden		36 39	1 34	37 73																	
Kelso-Gore ..	24 0	Surveyed		24 0		24 0																	
						9 58																	
						14 22																	
						14 22																	

APPENDIX C.

ANNUAL REPORT ON BUILDINGS BY THE GOVERNMENT ARCHITECT.

The GOVERNMENT ARCHITECT to the Hon. the MINISTER OF PUBLIC WORKS.

SIR,—

Public Works Office, Wellington, 1st July, 1915.

I have the honour to submit the following report on the various building-works throughout the Dominion carried out by the Department during the year ended the 30th June last:—

NEW PARLIAMENT BUILDINGS.

The contractors have carried the whole of the walls up to the limit of the Coromandel granite facing, all of which is in place except entrance steps and side walls thereto. Brickwork is in progress for most of the second story, but there has been delay in obtaining the marble specified for facing the walls of the two upper stories. The laying of concrete floors and staircase is in hand, and most of the steel framing required is on the site. Marble is now being quarried at Sandy Bay, and the rough blocks should be coming on the site during the next month or two.

A bronze statue of the late Right Hon. Mr. Seddon has been erected on a pedestal opposite the main entrance to the new building.

GENERAL.

Government House, Wellington.—Renovations and repairs to small detached buildings, fences, and grounds were the only works undertaken during the year.

Government House, Auckland.—Additions and alterations to repair damage caused by the fire of last year were carried out, and the electric wiring overhauled.

Departmental Buildings, Auckland.—Internal alterations to permit of the more convenient allocation of rooms were carried out, and fittings supplied. An electric elevator was installed in the building.

Mount Albert Industrial School.—The dining-room and veranda are being extended under contract now in progress.

Motuihi Island.—Various improvements have been effected in the main quarantine buildings, a cottage for the caretaker erected, and dog-kennels provided.

Tauranga Departmental Buildings.—Plans have been prepared and tenders invited for substantial additions to the existing buildings.

Gisborne Departmental Buildings.—A fine block of buildings in brick was completed under contract, and fittings supplied.

Taumarunui Engineer's Residence.—A wooden building within the Railway Reserve was erected.

Wellington Departmental Buildings.—Additions of no great importance were made to some of the detached buildings during the year.

Government Printing Office.—One contract for additions was completed early in the year, and another contract for more extensive additions on the Featherston Street side has been let. The work is in progress.

Public Works Store, Pipitea.—The new store was completed and occupied during the year.

Nelson Departmental Buildings.—Various repairs and improvements have been carried out during the year.

Special School for Girls, Richmond.—A contract has been let for the erection of cottage homes, and the work is in progress.

Westport School of Mines.—An extension of the building was completed and occupied.

Christchurch Departmental Buildings.—Fittings for various Government Departments were provided and fixed in the new building.

Provincial Buildings, Christchurch.—A contract was let for additions, in brick, to the strong-rooms.

Mount Cook Hostel.—A house for the Chief Guide was built, and quarters for the other guides are in course of construction. The old hermitage has been dismantled.

Chatham Islands.—A building comprising Courthouse and Post-office is in course of erection at Waitangi, also a residence for the Magistrate.

Otekaieke Special School.—A contract has been let for the erection of special school buildings. Some of the timber is being cut from plantations on the estate, and the work is well in hand.

Invercargill Departmental Buildings.—Minor alterations have been carried out, and sanitary drainage installed.

POST-OFFICES.

Hikurangi.—A wooden building was erected under contract, and equipped.

Kawakawa.—Extensive alterations to the old post-office building were carried out.

Whangarei.—Small additions were made, and the whole building renovated.

Dargaville.—A new building in brick was completed early in the year.

Auckland.—Water-service was installed, lighting and pneumatic-tube installations overhauled, a small lift put in, and minor alterations carried out.

Auckland (Old Post-office).—Gas and electric lighting services were overhauled, and partitions built to facilitate letting portions of the premises.

Mount Eden.—An automatic telephone exchange in concrete and brick is being erected under contract.

Remuera.—A handsome two-story building in brick was completed under contract. An automatic telephone exchange is being erected under another contract.

Ponsonby.—The erection of an automatic telephone exchange in concrete and brick is proceeding under contract.

- Bombay*.—The erection of a wooden building was completed during the year.
- Matakana*.—A small wooden building was completed in October last.
- Raglan*.—A two-story brick building was completed under contract.
- Hamilton*.—A contract for extensive additions and alterations was let in March, and the work is in progress. Another contract for the erection of an automatic telephone exchange in brick was let later, and the work is just being started.
- Otorohanga*.—Additions in wood were completed in February.
- Mamaku*.—A contract has been let for the erection of a building containing offices and quarters.
- Rotorua*.—A new building of special design was completed under contract, and the Seddon memorial clock, purchased by the citizens, installed in the tower.
- Tologa Bay*.—Substantial additions to the quarters were carried out under contract.
- Ngatapa*.—A small wooden building was erected.
- Ormondville*.—A small building of wood was erected under contract.
- Waipukurau*.—A new building in brick, consisting of office, quarters, and store, was completed under contract.
- Taumarunui*.—Extensive alterations were carried out by contract.
- Manunui*.—A wooden building, with quarters, was erected under contract.
- Kakahi*.—A wooden building, with quarters, was completed under contract.
- Raurimu*.—A building comprising office and quarters was erected and furnished.
- Matiere*.—A wooden office, with quarters, was erected.
- Ohakune Junction*.—A building was altered to serve as a post-office.
- Ohingaiti*.—A small wooden building was erected.
- Wanganui*.—Extensive alterations to brick building were carried to completion.
- St. John's*.—A wooden building was erected under contract.
- Urenui*.—Substantial additions were carried out.
- Kaponga*.—Extensive additions and alterations are in progress under contract.
- Okaiawa*.—A wooden building was erected.
- Glen Oroua*.—A small office building was erected.
- Hinakura*.—A small wooden building was erected.
- Masterton*.—A brick building for use as an automatic telephone exchange was erected.
- General Post Office, Wellington*.—Various finishing works and minor alterations were carried out during the year.
- Bulk Store, Wellington*.—Electric lifts have been installed, gas fires and water-supply laid on.
- Courtenay Place, Wellington*.—A new building to accommodate the automatic telephone exchange was erected.
- Wellington South*.—A considerable addition was made to accommodate the automatic telephone exchange.
- Blenheim*.—A contract has been let for the erection in brick of an automatic telephone exchange.
- Port (Nelson)*.—A new brick building has been erected, and portion of the old structure removed to another site.
- Nelson*.—The old post-office building is being altered for the accommodation of departmental officers.
- Motueka*.—A Postmaster's residence was completed under contract.
- Murchison*.—A cottage for the lineman was erected.
- Reefton*.—The new brick building was completed during the year.
- Ross*.—A new building on the original site has been erected under contract.
- Oxford*.—A new office has been built and fitted up.
- Akaroa*.—The new brick office was finished and occupied.
- Methven*.—A new office, with quarters, was erected and fitted up.
- Arrowtown*.—A contract for the erection of a new building was let in December last.
- Cromwell*.—Additions were completed, and new store built in January.
- Louburn Ferry*.—A small building was erected under contract.
- South Dunedin*.—A brick building of two stories was completed under contract.

COURTHOUSES.

- Hikurangi*.—The Courthouse was practically rebuilt under contract.
- Waipu*.—A new building was erected, and another room added later.
- Whangarei*.—Substantial additions were made, and renovations carried out.
- Auckland Magistrate's Court*.—A motor-garage, and cottage for the caretaker, have been erected. The old Courthouse is being altered to accommodate the Lands and Deeds Registry Department.
- Rotorua*.—A Native Land Court office was erected by day labour.
- Wellington Supreme Court*.—Additions in brick were completed.
- Motueka*.—A wooden building was erected, and fittings supplied.
- Dunedin*.—Electric light was installed in the law-courts, and a store-room provided. Interior alterations are in hand.
- Balclutha*.—A contract was let for the erection of a brick building.
- Invercargill*.—Sanitary drainage has been installed, and new outbuildings provided.

POLICE-STATIONS.

- Northcote*.—A wooden building was completed in February.
- Takapuna*.—Lock-up and stables were built, and repairs carried out.
- Trakau*.—Lock-up and office were completed during the year.
- Hamilton*.—A two-story building of wood, with rough-cast finish, is being erected under contract.
- Opotiki*.—The old post-office building was converted into a police-station.

Port Awanui.—Renovations and repair of damage caused by earthquake were carried out.
Waipiro Bay.—Repair of earthquake damage was carried out.
Tokomaru Bay.—The erection of station and residence by day labour was completed.
Raurimu.—A residence, with office, was erected under contract.
Kaponga.—A contract was let for the erection of station and lock-up.
Martinborough.—A wooden building was completed under contract.
Police Headquarters, Wellington.—The foundations were put in by day labour, and a contract let for the erection of a four-story brick building with steel framing.
Wellington (Taranaki Street).—The erection of a station in brick is being carried out by day labour. The work is well advanced.
Ahaura.—A new station (of wood) was erected.
Charleston.—A residence and lock-up were erected under contract.
Darfield.—A contract was let for the erection of a new station.
Coalgate.—A new residence has been erected.
Ashburton.—A new lock-up is being built under contract.
Geraldine.—A contract was let for the erection of a sergeant's residence.
North Dunedin.—A sergeant's residence was completed under contract.
Kaitangata.—A residence, office, and lock-up were completed under contract.

PRISONS.

Auckland.—The erection by prison labour of a new wing in stone has been in progress throughout the year. Electric lighting is being installed. An additional warder's cottage was erected.
Waikeria.—The main wing, kitchen, power-house, and one cottage are being built under the direction of the Gaoler. One cottage and official quarters are finished.
Gisborne.—A store was built, repairs effected, and grounds set out.
Picton.—The erection of a police-gaol, also a lock-up, was completed under contract in March last.
Addington.—A warder's cottage was erected.
Invercargill.—The main building (in three stories) is being extended by 132 ft., a boundary-wall in concrete blocks constructed, and a warder's cottage erected.

MENTAL HOSPITALS.

Avondale.—The contract for the erection of female auxiliary No. 2 was completed in September. No. 3 male auxiliary was completed under contract in February.
Tokanui.—The erection of No. 1 unit was completed by day labour in March last. No. 2 unit is just being started.
Porirua.—The erection of additional day-rooms has been completed under contract. A receiving-ward is being built in brick by day labour, good progress being made.
Sunnyside.—The portion of the female wing destroyed by fire has been restored, and a large receiving-block is being erected. Additions have been made to the dining-hall.
Seacliff.—A cottage for men is being erected.

MILITARY BUILDINGS.

Devonport.—Huts, cookhouse, and offices are being built by day labour at the Maori Military Camp at Narrow Neck.
Thames.—A drill-hall, with orderly-rooms and outbuildings, is approaching completion.
Morrinsville.—A drill-hall of wood and iron is being erected by contract.
Cambridge.—A drill-hall was erected under contract.
Hamilton.—Defence offices, with strong-room, are being built under contract.
Opotiki.—A drill-hall was erected, and lighting installed.
Gisborne.—Outhouses were provided, and drainage carried out.
Waitara.—Additions and alterations to the drill-hall were carried out.
Featherston.—A drill-hall is being erected under contract.
Trentham Camp.—At the time of writing fifty hutments for men and fourteen for officers have been completed, besides five cookhouses, latrines, and ablution-stands. Electric lighting and drainage-works on a large scale have also been attended to.
Trentham Hospital.—A contract was let for the erection of a building in wood and plaster, which is approaching completion.
Somes Island.—Considerable repair works to old buildings to accommodate prisoners of war were carried out. A caretaker's cottage was erected.
King Edward Barracks, Christchurch.—Signal Corps' rooms damaged by fire were restored, orderly-rooms rebuilt, and alterations to quarters carried out.
St. Kilda Artillery Depot.—Drainage and other minor works were completed.

Besides the works mentioned in the foregoing report, a large number of minor works, consisting of small buildings, additions, alterations, installation of lighting, water, and drainage services, have been carried out by petty contract, day labour, or by the Department's artisans. Renovations, maintenance-work, painting, and repairs to buildings throughout the Dominion owned by the Government have been attended to as required, and fittings and furniture have been supplied mostly from the Department's workshops in the principal centres.

I have, &c.,
 JOHN CAMPBELL,
 Government Architect.

The Hon. the Minister of Public Works.

APPENDIX D.

ANNUAL REPORT ON ELECTRICAL WORK AND POWER-SUPPLY UNDERTAKINGS BY
THE CHIEF ELECTRICAL ENGINEER.

The CHIEF ELECTRICAL ENGINEER to the MINISTER OF PUBLIC WORKS.

SIR,— Public Works Department, Wellington, 5th July, 1915.

I have the honour to submit the following report respecting the development of water-power and the erection of electric lines.

LAKE COLERIDGE WORKS.

This plant was officially opened on the 25th November last, and duly put into service. The head-works, however, were not quite completed, and in consequence we were unable to give a continuous service until the 1st March, since when the plant has been in full operation.

The following consumers are already being supplied :—

	Present Load. Horse-power.
City Council	1,400
Riccarton Flour-mill	75
Central Dairy Company	75
Wright-Stephenson Seed-cleaning Works	50
Christchurch Brick Company	50
Sunnyside Mental Hospital	30
Cashmere Sanatorium	20
Sharp's Works	8
Winsor's Woodworking Works	12
Retail customers—thirty	20
Total	1,740

Contracts have been entered into with the following, and supply will be given as soon as the consumers have installed the necessary plant :—

	Horse-power.
Christchurch Tramway Board	1,600
Lyttelton Harbour Board	220
Tai Tapu Dairy Company's reticulation	150
Canterbury Seed Company	33
G. L. Bowron	50
Canterbury Jockey Club	40
Prison Camp, Yaldhurst	20
Lincoln Agricultural College	20
Retail customers (about a hundred additional)	50
	2,183

Negotiations are also in hand with several other large power-consumers, amounting to about an additional 1,000 h.p. in immediate prospect. This includes two new freezing-works which it is proposed should be established in North Canterbury, and which will take substantial quantities of power, including a large proportion of all-night running; and also with several of the local authorities outside the city area for bulk supply for domestic purposes.

The supply within the city is only given through the City Council, whose load is rapidly increasing, and may be expected to reach 5,000 to 6,000 h.p. in course of a few years. Within the suburban boroughs, pending negotiations for the supply by the local authorities, a supply is given by the Department to retail consumers on the basis of a fixed rate per lamp, which is proving very popular and returning a reasonable revenue. This form of tariff dispenses with the need for meters and with the attendant cost of renewals, repairs, and meter-reading. Arrangements have been made with the local authorities for collecting the revenue accruing for the sale of electrical energy in their respective districts on a percentage basis, so as to obviate the necessity of creating a collecting and clerical staff.

The most interesting development is perhaps the retail reticulation of an adjoining farming district by the Tai Tapu Dairy Company. This company has taken out a license for reticulation within an area of 60 square miles, including Tai Tapu, Halswell, and Lincoln, which is entirely a farming and dairying district where the majority of the farmers are shareholders of the company. Owing to the widely spread nature of the district the number of consumers is only three to four per mile of line, which renders the problem of reticulation exceedingly difficult. As it has an existing organization in the centre of this district, the Tai Tapu Company is in a better position to undertake this work than any other authority, and has been very successful in arranging contracts for retail supplies with practically every farm or house on its distributor routes, amounting to about nine miles and a half.

Numerous inquiries are coming to hand from the Kaiapoi, Rangiora, Cust, Oxford, Sheffield, and Springfield districts, which will justify a loop line in the early future connecting with the main transmission-line at Coalgate and passing round via Sheffield, Waimakariri Gorge, Oxford, Cust, and Rangiora, joining up with the existing northern distributor at Kaiapoi, and thus considerably improving the general reliability of the whole system.

Negotiations are in hand with the Timaru Borough Council and other local authorities and power-users in South Canterbury. It is estimated that there is a load in sight of 1,000 to 2,000 h.p. in this district at rates which will prove remunerative to the Department and advantageous to the consumers. This line, if constructed, will have a length of 100 miles, and will thus exceed any other transmission-line in the Southern Hemisphere.

The present load, together with the contracts entered into, amount to 4,000 h.p., and allowing 1,000 h.p. for the ordinary development of the City of Christchurch, a total of 5,000 h.p. has to be provided for within a year's time. Inasmuch as the sales-capacity of our present plant is only 4,000 h.p., it became necessary to procure an addition to the generating plant, and an order has been placed for a 2,000 h.p. turbine and generator, which will increase the plant-capacity for the supply of power, leaving one unit of 2,000 h.p. as stand-by.

Regarding the future, it is evident that a further addition to the generating plant will shortly become necessary to provide for the normal growth of the existing consumers and the requirements of the new customers.

The following is a statement of the expenditure up to the 1st March, together with an estimate of future expenditure upon generating plant and distribution up to the limit of the present headworks, also the approximate order of expenditure:—

	3	4	5	6
Number of units of generator plant				
Date of attaining each stage ..	1915	1917	1919	1921
Total capacity of power-house plant	6,000 h.p.	8,000 h.p.	12,000 h.p.	16,000 h.p.
Available capacity of plant ..	4,000 h.p.	6,000 h.p.	8,000 h.p.	12,000 h.p.
Capital investment	£289,980	£335,850	£367,620	£397,920
Additional for South Canterbury ..	..	£20,000	£40,000	£62,000
Total	£289,980	£355,850	£407,620	£459,920

It will be seen that the capital expenditure and commitments up to the 31st March last amounted to £289,980, and that a further expenditure of £169,940, spread over six years, is required in order to fully utilize the present headworks and to adequately supply the district within reach of the power-station at Lake Coleridge. The present headworks and buildings at Lake Coleridge have a capacity of 16,000 h.p., the pipe-lines of 8,000 h.p., and the turbines and generating machinery have a capacity of 6,000 h.p., whilst the transforming-apparatus and transmission-lines have a capacity of 12,000 h.p.

The present sales-capacity of the generating plant is 4,000 h.p., after providing one unit as stand-by, whilst the ultimate sales-capacity is 12,000 h.p.

The present stage is obviously a preliminary and immature stage, and no profits can be expected. It is anticipated, however, that with the installation of the fourth unit the plant will earn working-expenses and pay interest charges, and possibly leave a small surplus. It is confidently anticipated that the fifth-unit stage, with a sales-capacity of 8,000 h.p., will meet all working-expenses, pay all capital charges, and leave a small surplus after contributing to a depreciation fund. The sixth-unit stage, with a sales-capacity of 12,000 h.p., will yield a substantial surplus, which will be employed towards paying off interest paid out of capital during construction, also losses on working during the preliminary stages, after which the surplus can be applied towards making a reduction in the charges for electricity.

Comparing the expenditure to date with the estimated revenue, the original estimate at the present stage of development of the works was £259,220, compared with an actual expenditure of £289,980, showing an excess of £30,760. The two expenditures, however, are not directly comparable, because, for reasons connected with the design of the plant and continuity of supply, double the capacity of transformers originally estimated on have been installed, whilst the actual expenditure also includes interest paid out of capital, and a debit balance against operation.

Comparing the actual expenditure with the estimates on the *pro rata* basis, I am glad to state that the original estimate has been fully borne out, and indications point to the business being more profitable than originally anticipated.

The operation of the plant up to the present has been extremely satisfactory, and I can confidently assert that no power plant of the kind when first put into operation encountered fewer troubles and difficulties. There has been no trouble or hitch other than a few interruptions on the transmission-line, mostly due to malicious damage. A certain amount of interruption is anticipated on long transmission-lines until the weak links in the chain have been eliminated. Since going into continuous service on the 1st March there has been one failure, when the plant was shut down from 8 o'clock at night until 6 or 7 o'clock the next morning. This was due to a fault in one of the transmission-lines; whilst the delay in restoring power on the line is accounted for by the fact that the second line was under repair at the time. Four other failures have since occurred, but these were of short duration, the interruptions varying from half a minute to fifteen minutes on one occasion.

We have been very successful in organizing the staff, and very fortunate in our choice of men. The normal operation of the staff is now under full control, and the arrangement for dealing with a failure of the transmission-line is now complete, and the organization is gradually being brought to a state of perfection. Great credit is due to the staff for the manner in which they have carried out their duties, and particularly for the way in which they have responded in cases of emergency, such as the breakdown of the transmission-line. Three members of the power-house staff at Lake Coleridge have resigned in order to join the Expeditionary Forces, whilst two others have retired to take up positions elsewhere.

I am now in a position to state that the Lake Coleridge development is already an assured success from a financial point of view. I may confess that I had some misgivings when I first faced the problem, because of the comparative sparseness of the population to be served. As a general rule, water-power has to be developed on a large scale in order to be a financial success. The usual order at the present day is over 100,000 h.p., compared with our 12,000 h.p. at Lake Coleridge. Of course, there is the other point of view that the development of water-power, like railways, helps to develop the country, which is a justifiable end in itself; but I have not, however, taken advantage of this aspect of the case, but endeavoured to conduct the development on strictly economical lines. As regards development of industries, there are definite indications of new activities in the direction of electro-chemical industries in the neighbourhood of Christchurch. The staff has instructions to co-operate with the promoters of such industries, and I am recommending that power for experimental purposes should be given free, provided that the supply does not interfere with the operation of the plant.

I am in communication with the Board of Agriculture with a view to providing power for grinding phosphate rock on a large scale, so as to take the place of basic slag, the supply of which has been cut off owing to the war.

ELECTRICITY-SUPPLY IN THE NORTH ISLAND.

Inquiry into the best means of adequately providing the North Island with a supply of cheap electricity is now actively proceeding. Very little has hitherto been done owing to a lack of organization and staff. Mr. Kissel was, however, transferred to the Head Office on completion of his duties at Lake Coleridge at the beginning of April, and he is now engaged on surveys and estimates. No adequate progress, however, can be made without the assistance of a larger staff devoted entirely to this work. A good deal of work already done has to be revised in view of the observations made of the flow of the rivers during the present year. These are lower than any record hitherto obtained, due to a succession of phenomenally dry seasons, and previous estimates of power, &c., must be considerably discounted.

WATER-POWER LICENSES.

Water-power licenses have been issued to the following: Tauranga Borough Council; Waverley Town Board; Kaponga Town Board; C. F. Murray, Wharanui; E. Parker, Blenheim; J. Barnett, Leeston.

ELECTRIC LIGHT AND POWER LICENSES.

Licenses under the Public Works Act have been issued to the following local authorities and companies: Gisborne Borough Council (amending license); Heathcote County Council; Wellington City Corporation; New Plymouth Borough Council (amending regulations); Christchurch Tramway Board; Tauranga Borough Council; Wanganui Borough Council; Whangarei Borough Council; Waverley Town Board (amendments); Tokomaru Farmers' Co-operative Company; Tokomaru Sheep-farmers' Freezing Company; Tamaki West Road Board; J. F. Pettie, Waipiro Bay; Stevenson and Cook (Limited), Port Chalmers; F. J. Mansell, Bull's; Napier Borough Council (extensions); Invercargill Borough Council (extensions); Kaponga Town Board; J. O'Dowd, Tapanui; C. F. Murray, Wharanui; Miramar Borough Council; Auckland City Council (amendments); E. Parker, Blenheim; Ellis and Burnand, Mananui; J. Barnett, Leeston.

The following are under consideration: Patea Borough Council; Stratford Electric Light Company; Robert Ellis, Brightwater (extensions); Ross Goldfields (Limited); A. J. Cameron, Makuri; J. M. Gilbert, Hundalee; New Zealand Coal and Oil Company and Otago Charitable Aid Board, Kaitangata; Tai Tapu Dairy Company; H. J. Hodgson, Murchison; Christchurch Tramway Board (two); Redwood Bros., Blenheim; Wellington City Corporation.

The following installations have been inspected during the year: Opotiki Borough Council; Napier Borough Council; Wellington City Council (Denhard Bakeries and Public Hospital); Wanganui Borough Council (George and Kersley); Silverstream Mines, Maratoto; Ohakune Borough Council; Wellington City Council; Feilding Borough Council; Winton Borough Council; Waipiro Bay; Hastings Borough Council; Invercargill Borough Council; Bluff Borough Council; New Plymouth Borough Council; Waitara Borough Council; Inglewood Borough Council; Stratford Electric Light Company; Eltham Bacon Company; Hawera Electric Light Company; Patea Borough Council; Havelock North Town Board; Devonport Borough Council.

The standard of work carried out under licenses issued to local authorities and others for overhead lines is steadily improving, whilst the departmental regulations have also contributed to assist towards uniformity in electrical apparatus, which has the effect of cheapening the apparatus throughout the country and enabling licensees to assist each other with material when required.

General regulations were issued and gazetted on the 29th April, 1915, which are applicable to the whole of the Dominion, and cover every class of electrical work. A standard form of license has also been adopted, and this, together with the issue of the regulations, has expedited the issue of licenses and greatly reduced the labour and work connected with the same.

I have, &c.,
E. PARRY,
Chief Electrical Engineer.