

1911.  
NEW ZEALAND.

---

## DRAINAGE OPERATIONS IN RANGITAIKI PLAINS:

REPORT FOR THE YEAR ENDING 31ST MARCH, 1911; TOGETHER WITH STATEMENT  
OF ACCOUNTS.

*Presented to both Houses of the General Assembly pursuant to Section 10 of the Rangitaiki Land  
Drainage Act, 1910.*

---

SIR,—

Department of Lands, Wellington, 24th June, 1911.

I have the honour to forward herewith a report upon the drainage operations in the Rangitaiki Plains, carried out in pursuance of the provisions of the Rangitaiki Land Drainage Act, 1910, under your direction.

I have, &c.,

WM. C. KENSINGTON,

Under-Secretary of Lands.

The Right Hon. Sir J. G. Ward, Bart., P.C., K.C.M.G., Minister of Lands.

---

### REPORT.

---

THIS being the first report presented under the provisions of the Rangitaiki Land Drainage Act of last session, it may be well to briefly recapitulate the circumstances that led up to the passing of the Act and the management of the drainage operations by the Minister of Lands.

The usual practice, when lands held privately are desired to be drained, is for the ratepayers to form themselves into a Drainage Board under the provisions of the Land Drainage Act, 1908, and to raise loans for the carrying-out of the necessary drainage-works, repaying the same, and also paying the annual expenses of administration and interest on loans, from a rate to be levied on the value of lands within the district deriving benefit from the said works. This course was first followed by the settlers of the Rangitaiki Plains.

The Rangitaiki River Land Drainage District was constituted by Order in Council dated the 18th December, 1894, published in the *New Zealand Gazette* of the 20th December, 1894. It comprised lands situated roughly between the Tarawera, Rangitaiki, and Whakatane Rivers, and extended from a mile or two north of Te Teko to the Bay of Plenty. The land is largely rich alluvial or pumice soil, much subject to flooding from the Rangitaiki and Tarawera Rivers, which has greatly retarded the settlement of the district and the profitable utilization of the lands.

The total area of the land within the district is about 87,000 acres, held under various forms of tenure ranging from Native leaseholds to European freeholds, but a great part is still held under lease or license from the Crown. The following table gives approximately the respective areas of the several tenures:—

	Acres.
Private freehold lands ... ..	7,670
Native lands ... ..	31,500
Public reserves ... ..	800
Lands leased from the Crown ... ..	36,925
Unoccupied Crown lands (sandhills, &c.) ... ..	10,205
	<hr/>
	87,100

Of this area only a portion was affected by the Land Drainage Board's operations—namely, about 39,242 acres—valued at £88,280, owned or occupied by fifty-nine ratepayers. This com-

prised the European freehold land and the Crown leaseholds. Under the Act the whole of the area is liable for the cost of the drainage operations, if it can be shown that benefit is derived therefrom.

Between 1894 and 1910 the Rangitaiki Land Drainage Board endeavoured to grapple with the difficulties before them. After obtaining the advice of well-known engineers, schemes of drainage were devised and over £5,000 spent in carrying them out, but from various causes they were not very successful, and it was evident that the problem would have to be solved in a different manner.

Owing to the success of the Government drainage operations in the Hauraki Plains, which comprised somewhat similar country to the Rangitaiki Plains, the settlers and Drainage Board approached the Government with a view to the necessary works being undertaken by the Government. After consideration of their representations, it was decided to test the feeling of the settlers, and a public meeting of all residents was called at Te Teko on the 7th June, 1910, which was attended by the Under-Secretary of Lands on behalf of the Government. The position of affairs was explained by him to those present, and a resolution was then unanimously passed requesting the Government to pass a special Bill to enable Government officers to conduct the necessary drainage operations in place of the existing Board, and to strike a special rate on all property within the district to defray all expenditure. The Board also held a special meeting and passed a similar resolution, and a petition was circulated and signed by almost every ratepayer praying that the Rangitaiki Land Drainage Board should be abolished and the control of operations taken over by the Government.

As the result of the meeting and the expressed wish of the settlers, a special Bill was drafted and introduced into Parliament, and passed during the session of 1910. Its chief provisions are as follow:—

The Rangitaiki Land Drainage District is abolished, and the Board dissolved, as from the 1st August, 1910. From that date the Minister of Lands is to construct and carry on such works as he thinks fit for the drainage, reclamation, and roading of the land described in the Act. The land subject to the Act is identical with the former drainage district.

The Minister is authorized to raise not more than £50,000 for drainage purposes, and to levy a rate upon the settlers in the district to pay the interest thereon, as well as a sinking fund to pay off such loans. All lands are liable to rating except Native settlements not exceeding 50 acres in extent and lands deriving no benefit from the operations. To enable lands to be rated they have previously to be classified by two arbitrators, one appointed by the Minister and the other by the occupiers of land in the district; and in the event of their disagreement, an umpire, to be mutually chosen, is to decide such questions. Power to take land for necessary drainage and other purposes is given by the Act, and "thirds" accruing on Crown leaseholds in the district are to be paid to, and expended by, the Minister of Lands instead of by the Whakatahe County Council. These "thirds" are for the purpose of forming and constructing roads. Finally, it is enacted that a report on the administration of the Act is to be submitted to Parliament, together with a statement of accounts, within thirty days from the commencement of the next ensuing session after the 31st March in each year.

The preliminary steps undertaken were a thorough inspection of the district by the Under-Secretary of Lands, in company with Mr. J. B. Thompson, Engineer in charge of the Hauraki Plains drainage. As the result of this inspection, a general scheme of operations was drawn up, and is set forth in Appendix herewith. In order to carry on the operations satisfactorily, it was decided that Mr. Thompson (whose headquarters remain at the Hauraki Plains) should be the Consulting Engineer for the Rangitaiki drainage, and prepare the necessary plans and specifications from time to time and be responsible for the proper execution of the work, but that Mr. O. N. Campbell, an assistant surveyor of the Department of Lands, should be in local charge of the works and have his headquarters at the works. The first work of importance to be undertaken being the cutting through the Ohorero Bend of the Rangitaiki River to enable a straight cut to be made from the river to the sea, the office and headquarters were established there, and connected by telephone with Matata.

The first work to be undertaken was the taking of levels for various positions on the swamp and plains, and Messrs. J. B. Thompson and O. N. Campbell quickly obtained the desired particulars. The general scheme of drainage was then drawn up (as already stated), and it was decided that the cutting-through of the Ohorero Bend should take precedence. To enable the canal to be excavated promptly it was deemed best to keep the work distinct from the operations about to be carried out by the Department, and tenders were publicly invited for the contract. The tenders sent in, however, being far above the Engineer's estimate, none of them were accepted, and in January, 1911, it was decided to let the contract for excavation to Messrs. Rich and Jeffreys, civil engineers, of Auckland, for the sum of £11,123, the work to be completed within twenty months from commencement.

The ceremony of turning the first sod of the proposed excavation was performed by the Hon. Roderick McKenzie, Minister of Public Works, acting on behalf of the Right Hon. the Minister of Lands, early in March, 1911, in presence of a large attendance of the settlers, and the contractors have now started the work and are making steady progress.

By the end of the year ended 31st March last only preliminary work had been accomplished by the Department of Lands, but in next year's report the Land Drainage Engineer will be in a position to furnish particulars of the clearing of existing drains, the cutting of new drains, deviation of roads, snagging of the Rangitaiki River, and the many other operations that are needed to insure the proper and systematic draining of the Rangitaiki Plains. All this work is well in train, and there is every prospect of a successful year having been entered upon.

STATEMENT OF ACCOUNTS (as required by Section 10 of the Rangitaiki Land Drainage Act, 1910)  
for the Year ended 31st March, 1911.

1911.	Receipts.	£	s.	d.	1911.	Expenditure.	£	s.	d.
Mar. 31.	To Balances from Rangitaiki Drainage Board—				Mar. 31.	By Cash in Public Account ..	25,715	19	10
	Cash on hand ..	£4	14	3					
	Amount at credit, Union Bank of Australia, Whakatane ..	317	7	11					
	Rates received under section 7 of the Rangitaiki Land Drainage Act, 1910 ..		210	15	7				
	"Thirds," &c., received under section 9 of the Rangitaiki Land Drainage Act, 1910 ..		182	13	1				
	Advance made by the New Zealand State-guaranteed Advances Office ..	25,000	0	0					
		£25,715	10	10			£25,715	10	10

LOAN ACCOUNT.

1911.	£	s.	d.	1911.	£	s.	d.
Mar. 31. To Balance .. .. .	25,000	0	0	Feb. 15. By Advance made by the New Zealand State-guaranteed Advances Office under section 5 of the Rangitaiki Land Drainage Act, 1910	25,000	0	0
	<hr/>				<hr/>		
	£25,000	0	0		£25,000	0	0

## APPENDIX.

### RANGITAIKI DRAINAGE-WORKS.

#### GENERAL DESCRIPTION OF PROPOSED WORKS, AND ALLOCATION OF LOAN OF £50,000.

For general purposes the old styles of Tarawera and Rangitaiki Subdivisions have been adhered to, and the works in each will be treated separately in this description for convenience.

It is considered that the two heavy works—namely, Rangitaiki River diversion (outlet), £11,500, and Tarawera River improvements, £11,400—mutually benefit each subdivision, and may be taken as a set-off against each other.

#### TARAWERA SUBDIVISION.

The works proposed to be carried out on this area to obtain better drainage of same consist of a systematic series of arterial main drains; the tapping of lagoons; complete improvement of the Tarawera River by straightening same by means of dredging operations, whereby new channels will be cut, reinforced by a system of catchwater drains leading the headwaters of the Tarawera River into two lakes; the trapping of silt therein; and the subsequent creation of a defined channel across the Te Toko main road, the said channel being now in existence as an outlet from a lake, which channel will be duly dredged to the required width.

It is also proposed to erect groins, stop-banks, and other protective works wherever necessary on all rivers, and also to snag same, and destroy all willows which are considered a menace to a uniform flow of water.

Provision is also made for a contribution to the cost of a new bridge over the newly formed channel of the Tarawera River, where daily traffic passes, and it is proposed to pay out of allocation any *bona fide* existing liabilities left by the late Rangitaiki Drainage Board, or to which they have committed the ratepayers, as per minute-book or other documents.

The various works will be performed by contract and day-labour, &c., as may be deemed expedient by the Department of Lands.

All details of works proposed are shown on attached schedule, and also the estimated cost of same, but the figures in all cases are necessarily approximate and subject to revision. The purchase of necessary dredging-plant may also be paid for out of the allocation; in cases where the Department elects to do the work itself, all charges for plant, supplies, and engineering supervision will be paid out of the allocation.

The estimated allocation out of loan-money proposed to be spent on the Tarawera Subdivision is £23,100, as per details shown on schedule of proposed works and attached plan.

#### Rangitaiki Subdivision.

The works proposed to be carried out in this subdivision consist in the diversion of the Rangitaiki River, and is commonly known as "the Outlet"; the dredging of the Kopeopeo outfall; the diversion of the Mangaroa Stream into Te Rahu main drain, and the widening of the latter by dredging from bank; the cutting of a bend on Rangitaiki River; construction of groins, stop-banks, and general protective works; improvements and grassing Orini Stream; improvements to existing arterial drains, and construction of other drains as shown on the attached schedule.

It is also proposed to carry out river-snagging, and destruction of willows where necessary; and provision has been made for the erection of a new bridge over the proposed Mangaroa Stream diversion, and the renewal of Te Rahu drain bridge. The schedule also provides for the construction of a "ferry" over the Rangitaiki "Outlet," and the payment of compensation for certain buildings taken over in connection with "Outlet" scheme.

All the above works are more particularly described on the attached schedule of allocation of loan-money; and it is also proposed to pay out of same any liabilities left by the late Rangitaiki Drainage Board, be the same *bona fide* payments due or to which the ratepayers have been committed.

The various works will be performed by either contract or day-labour, &c., as may be deemed expedient by the Department of Lands.

The various estimated costs shown against each item in the attached schedule are necessarily approximate, and are subject to revision as the works progress.

The purchase of necessary dredging plant may also be provided out of the loan-money in cases where the Department elects to do certain work itself, and all costs of general plant, supplies, and engineering supervision shall also be a charge against the allocation of loan-money.

The allocation of loan-money proposed to be spent on the various works enumerated on the schedule and attached plan is estimated at £26,900.

The total amount of loan as per schedule is therefore £50,000, and it is intended that the works shall go on in harmony with each other, as one is largely dependent upon the other. Minor works will not be put in hand until served by the necessary major works which lead up to same.

#### PROPOSED ALLOCATION OF EXPENDITURE.

##### *Tarawera Subdivision.*

	£	£
Tarawera River: Improvement of same, dredging and straightening by new cuts, &c., from mouth to lakes, leading backwaters into same, and widening outlet from lakes to main river ... ..	11,400	
Awaiti River: General improvements and dredging same from mouth to Awaiti Paku Stream ... ..	750	
Omehu Stream drain from mouth at Awaiti Paku through lagoons to south-west corner of Section 126 ... ..	3,700	
Eastern adjunct to Omehu Drain (say) ... ..	800	
Tarawera western drain from junction of Awaiti Paku with Tarawera River south (350 chains) ... ..	1,000	
Awaiti Road Drain: New drain and widening (380 chains) ... ..	750	
Drain through Section 109, &c. (220 chains) ... ..	1,100	
Drain through Section 108, &c. (220 chains) ... ..	1,300	
Drain through Section 110, &c. (150 chains) ... ..	750	
Drains probably required west of Tarawera River, groins, stop-banks, &c. ...	1,000	
Willows: Cutting same west side of Rangitaiki River and other streams ...	250	
Tarawera Bridge: Contribution to same on account of new works, &c. ...	300	
		23,100

##### *Rangitaiki Subdivision.*

Rangitaiki River diversion: Outlet, and the necessary grassing of sand-dunes, &c. ... ..	11,500	
Kopeopeo outfall: Dredging (about 5 miles) ... ..	6,000	
Te Rahu drain widening, and Mangaroa Stream diversion as required ...	3,000	
Western drain: Improvements (about 6 miles) ... ..	720	
Eastern drain: Improvements (about 4 miles) ... ..	480	
Eastern-bound drain: Improvements (about 2½ miles) ... ..	400	
Catch-water drain to Rangitaiki River (3 miles) ... ..	950	
Orini Stream: General improvements to same, cutting willows, grassing, &c. ...	700	
Cutting bend on Rangitaiki River opposite to Awaiti Stream: groins, stop-banks, &c., in connection therewith ... ..	1,000	
Drains possibly required north of the Orini Stream ... ..	500	
Groins, stop-banks, &c., on Rangitaiki River ... ..	500	
Ferry across Rangitaiki River: Diversion ... ..	200	
Willows: Cutting same, east bank of Rangitaiki River ... ..	250	
Bridges over Mangaroa Stream diversion, and renewal of Te Rahu drain bridge at £300 ... ..	600	
Compensation to A. Thorne for buildings, &c., taken at outlet-works ...	100	
		26,900
Estimated total expenditure of loan ... ..		£50,000

*Approximate Cost of Paper.*—Preparation, not given; printing (1,500 copies, including plan), £11 17s. 6d.

By Authority: JOHN MACKAY, Government Printer, Wellington—1911.

Price 6d.]



