1940.

NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.

RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31ST MARCH, 1940, TOGETHER WITH STATEMENTS OF ACCOUNTS.

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

SIR,— Department of Lands and Survey, Wellington, 1st June, 1940.

I have the honour to submit herewith the report of the Chief Drainage Engineer on drainage operations on the Rangitaiki Plains for the year ended 31st March, 1940, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

I have, &c.,
R. G. MACMORRAN,
Under-Secretary for Lands.

The Hon. Frank Langstone, Minister of Lands.

REPORT OF THE CHIEF DRAINAGE ENGINEER.

SIR,—

In accordance with the provisions of the Rangitaiki Land Drainage Act, 1910, I have the honour to submit the report on the works carried out on the Rangitaiki Plains during the year ending 31st March, 1940.

The rainfall recorded at Thornton was 33·21 in. for the year 1939, and 39·19 in. for the fiscal year ending 31st March, 1940. Rain fell on 127 days. The wettest month was June, when the fall was 5·07 in., and the driest month March, with a fall of 1·6 in. The average rainfall at Thornton over a period of twenty-two years has been 52·27 in. The year under review has the lowest recorded rainfall, the highest being 1936, with a total fall of 68·35 in.

The low rainfall has not been injurious to production, and the general opinion of the settlers is that the results of the farming activities of the season have been exceptionally profitable. The Rangitaiki Dairy Co., which handles a large proportion of the dairy-produce of the district, manufactured 4,395 tons of butter during the period of twelve months ending 31st March, 1940, compared with 4,256 tons of butter during the same period in the preceding year. The actual increase in production for the season is, however, greater than these figures indicate, because production lagged in the spring and was exceptionally well maintained into the late autumn, and the output of butter for the dairy season ending 31st May, 1940, is expected to be a record for the district. Many farmers report increased production from smaller herds.

To carry into effect the recent legislation to restrict the construction of drains likely to endanger the Tarawera River improvement works, a survey has been carried out which reveals that drains have been and are being constructed on the river-banks which may be the cause of breaks in the river stop-banks.

The activities of the Department have been principally connected with the maintenance of canals and drains, and the only noteworthy constructional undertakings have been the completion of the Orini Stream flood-gate and the raising of the stop-banks on the right bank of the Tarawera River. More rapid progress on the last-mentioned work will be made possible in future by the employment of an additional excavator.

DREDGES.

The excavating-plant has now been increased to five drag-line machines by the recent arrival of a useful light machine of this type from Pongakawa. The total output of these machines was 200,000 cubic yards for the year.

No. 17 Monighan Drag-line excavator has been continuously employed deepening the Kopeopeo Canal. Working down-stream the machine reconditioned 3 miles 12 chains of canal, and at the end of the year had reached a point approximately 35 chains from the flood-gate at the outlet. Operating a 1-cubic-yard bucket the machine excavated approximately 90,000 cubic yards of material.

No. 28 Light Bay City Drag-line excavator has been used for crane work and driving sheet piling for the construction of the Orini flood-gate. It also excavated 15 chains of by-pass channel to connect with the flood-gate and repaired the Whakatane River stop-bank near the mouth of the Te Rahu Canal. The quantity of excavation was 16,000 cubic yards.

No. 30 Bay City Drag-line excavator has, except for interruptions due to breakdowns, been continuously employed enlarging the stop-bank on the right bank of the Tarawera River. This work has now been completed for a total distance of 3 miles upstream from the Railway Bridge, and 55,000 cubic yards of material was placed to complete 1 mile 22 chains of stop-bank during the year.

No. 31 Light Diesel Drag-line excavator is the recent addition to the plant. It is equipped with a 65-horse-power engine and operates a ½-cubic-yard bucket on 40 ft. boom. The machine was delivered in January, 1940, and after a complete overhaul commenced work in February, 1940, on the right bank of the Tarawera River near the Factory Road. Approximately 2,800 cubic yards of material was excavated from the river and placed on 5 chains of stop-bank.

No. 32 Light Diesel Drag-line excavator, after completing some repair work on the Maungaroa drain, commenced work early in the year on a drain-enlargement scheme involving 66,000 cubic yards of excavation from the Edgecumbe catchwater and Seccombes drains. This work is being carried out principally to provide drainage for an area of 6,700 acres of the Putauaki Block, which is being developed by the Native Department. Heavy reconstruction at the lower end of the Catchwater drain has now been completed for a distance of 1 mile 15 chains from the Rangitaiki River. The output of this machine for the year was 36,000 cubic yards.

No. 6 Priestman Dredge, which has been laid up for some years, sank in the Awaiti Canal and was raised and beached in a safe position.

Flood-gates.

The large flood-gate commenced last year near the mouth of the Orini Stream has been completed. This structure comprises three 5-ft.-diameter cast-iron automatic gates which will prevent tidal flow up the Orini Stream. As a protection against erosion of the sand under the base of this structure, the entire foundation was enclosed with steel-sheet piling. To avoid the difficulties of underwater construction, a site for the structure was chosen where it could be constructed in excavation, and though this site was over 300 ft. from open water, special methods had to be adopted to reduce the pressure of the percolating water before the concrete foundation slab could be laid. A new channel has been excavated to carry the stream-flow through the flood-gate, and the old channel will be closed next summer after allowing time for the banks of the new channel and filling to stabilize.

A small flood-gate and 3-ft.-diameter culvert was constructed on the Orini Stream and another of 4 ft. diameter completed on the Omeheu Canal.

The deepening of the Edgecumbe catchwater and Kopeopeo Canal necessitated alterations to two bridges, and a farm-access bridge was constructed on Central Drain.

Rangitaiki River.

River-channel-improvement work commenced some time ago has been continued. During the year the right bank of the river was cleared of willows for a distance of 86 chains upstream from the Edgecumbe Bridge. Bank-protection work has been assisted by the absence of severe floods in the river.

Tarawera River.

Freedom from floods and the temporary repair work carried out last year accounts for the fact that there were no breaks in the left bank stop-bank of the Tarawera River this year. It was pointed out in a previous report that the condition of this stop-bank is a menace to the district, and arrangements for the reconstruction and maintenance of this bank are matters of urgent necessity.

Some bank-protection work was carried out above the Whakatane-Tauranga State Highway bridge.

Maintenance.

The Department undertakes the maintenance of 158 miles of canals and drains. This work is carried out with mechanical excavators and weed-cutting launch in the canals and larger drains and by manual labour in the small drains.

The total length of the drains constructed by the Department to date is as follows:—

	Miles.	ch.
Dredged canals	68	43
Main drains	121	36
Road drains	30	46

Summary of work carried out during the Year:—

	Length. Miles.	ch.	Excavation. Cubic yd.
Drains and canals cleaned by manual labour	123	36	
Drains and canals widened and deepened by manual labour	4	74	6,600
Drains cleaned with weed-cutting launch	14	74	..
Drains and canals improved with excavator	5	60	126,000
New canals constructed with excavator	0	15	16,000
Stop-banks constructed or repaired with excavators	1	35	59,000
Stop-banks repaired with manual labour	0	8	350
			207,950

River-bank cleared of willows	1 mile 6 chains.
Flood-gates completed	Three.
Bridges erected	One.
Surveys carried out involved—	
Traverses	171 miles 25 chains.
Levels	23 miles 19 chains.

I have, &c.,
R. L. Innis,
Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington.

RANGITAIKI LAND DRAINAGE SCHEME.

RATE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1940.

Dr.	Capital. £ s. d.	Maintenance. £ s. d.	*Cr.*	Capital. £ s. d.	Maintenance. £ s. d.
Remissions	552 14 3	485 18 0	Balance as at 31st March, 1939	409 8 5	8,147 6 3
Transfer to Reserve Fund	1,242 10 0	..	Rates struck for 1939-40 year	10,463 10 2	7,032 10 1
Interest on capital cost	8,712 10 0	..	10-per-cent. penalty added to 1938-39 rates	131 12 5	161 10 3
Cost of maintenance	..	7,660 8 4	Subsidy on maintenance costs	..	2,553 9 5
Balance as at 31st March, 1940	500 13 5	9,750 13 11	Adjustment: Amount previously written off	3 16 10	2 4 3
	£11,008 7 8	£17,897 0 3		£11,008 7 8	£17,897 0 3

REVENUE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1940.

Dr.	£ s. d.	*Cr.*	£ s. d.
Losses written off	2,104 5 11	Accrued rent	195 9 4
Law-costs remitted	1 10 0	Interest on capital cost recoverable by rates	8,712 10 0
Interest on Public Works Fund capital	19,566 14 9	Balance, transferred to Drainage Works Account	12,764 11 4
	£21,672 10 8		£21,672 10 8

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1940.

Receipts.	Consolidated Fund. £ s. d.	*Payments.*	Consolidated Fund. £ s. d.
Rates	13,230 2 5	Maintenance completed works	10,388 1 3
Rents	197 6 8	Refund rates	87 14 0
Law-costs	92 12 1	Refund law-costs	0 1 6
Subsidy on maintenance costs	3,172 0 0	Refund rents	0 7 4
Sundries	1,544 19 1	Refund miscellaneous	0 11 6
Transfer of expenditure to Treasury Adjustment Account	10,388 1 3	Transfer net receipts to Treasury Adjustment Account	18,148 5 11
	£28,625 1 6		£28,625 1 6

BALANCE-SHEET AS AT 31ST MARCH, 1940.

Liabilities.	£ s. d.	*Assets.*	£ s. d.
Public Works Fund	489,168 12 7	Drainage works—	
Free capital from Employment Promotion Fund	890 19 0	Recoverable capital expenditure (section 11, Finance Act, 1927, No. 2)	205,000 0 0
Reserve Account for repayment of capital cost	1,242 10 0	Not recoverable: Capital expenditure and capitalized interest	551,552 17 0
Treasury Adjustment Account	293,281 18 8	Plant, machinery, and tools	1,934 10 6
Unpaid purchase-money for land taken	210 1 1	Buildings	1,439 6 5
Sundry creditors—		Sundry goods	1,186 18 4
Departmental (£1,249 1 5)		Sundry debtors—	
Miscellaneous (£295 6 2)	1,544 7 7	Rates — Capital (£17,562 5 10)	
Rate Account—		Rates — Maintenance (£13,630 15 10)	
Capital (£500 13 5)		Law-costs (£470 11 10)	
Maintenance (£9,750 13 11)	10,251 7 4	Rents (£5 0 0)	
Writings-off in Suspense	2,104 5 11	Miscellaneous (£85 15 0)	
Payments in advance: Rates	1 18 3	Departmental (£184 5 2)	31,938 13 8
		Cash in transit from Post-office	2,648 9 7
		Expenditure from Employment Promotion Fund	890 19 0
		Losses in Suspense	2,104 5 11
	£798,696 0 5		£798,696 0 5

R. G. MACMORRAN, Under-Secretary for Lands.
G. I. BEESON, Chief Accountant.

I hereby certify that the Rate and Revenue Accounts and Balance-sheet have been duly examined and compared with the relative books and documents submitted for audit, and correctly state the position as disclosed thereby, subject to the explanatory notes dealing with departmental accounts generally as appearing at commencement of parliamentary return B.–1 [Pt. IV].—CYRIL COLLINS, Controller and Auditor-General.

Approximate Cost of Paper.—Preparation, not given; printing (560 copies), £4 10s.

By Authority: E. V. PAUL, Government Printer, Wellington.—1940.

Price 3d.]