

1939.
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.
SWAMP DRAINAGE.

REPORT FOR THE YEAR ENDED 31st MARCH, 1939, TOGETHER WITH STATEMENTS OF ACCOUNTS.

*Presented to both Houses of the General Assembly pursuant to Section 13 of the
Swamp Drainage Act, 1915.*

Sir,—
Department of Lands and Survey,
Wellington, 1st July, 1939.

In pursuance of section 13 of the Swamp Drainage Act, 1915, I have the honour to forward the report of the Chief Drainage Engineer covering operations on lands proclaimed under the Swamp Drainage Act and amendments.

I have, &c.,
R. G. MACMORRAN,
Under-Secretary for Lands.
The Hon. Frank Langstone, Minister of Lands.

REPORT OF THE CHIEF DRAINAGE ENGINEER.

Sir,—
I have the honour to submit my annual report on the areas proclaimed under the Swamp Drainage Act, 1915, and its amendments.

KAITAIA DRAINAGE AREA (61,430 ACRES), MANGONUI COUNTY.

The maintenance of completed works together with the widening and deepening of Puckey's drain, protection of the bank at the Whangatane Spillway, and construction of approximately 60 chains of improvements to the Waipapakauri outlet were the main features of the year's work.

The rainfall for the year amounted to 52 in., showing an advance of 11 in. over the previous year, July being the wettest month, with a fall of 11·31 in. Records, including river-gauge readings for the year, are shown hereunder:—

Rainfall and River-gauge Readings for Year ending 31st March, 1939.

| Month. | | | | Rainfall (Inches). | Wet Days in Month. | Highest Rain- fall for Twenty-four Hours (Inches). | Kaitaia River-gauge, Wai- kuriki Bridge. | |
|-----------|----|----|----|-----------------------|-----------------------|--|---|---------|
| | | | | | | | Highest. | Lowest. |
| 1938. | | | | | | | | |
| April | .. | .. | .. | 3.97 | 11 | 2.03 | 57.7 | 52.2 |
| May | .. | .. | .. | 5.58 | 13 | 1.58 | 71.4 | 52.4 |
| June | .. | .. | .. | 4.81 | 12 | 1.29 | 59.6 | 53.2 |
| July | .. | .. | .. | 11.31 | 19 | 2.81 | 65.5 | 53.5 |
| August | .. | .. | .. | 8.43 | 18 | 3.40 | 69.6 | 54.1 |
| September | .. | .. | .. | 2.92 | 18 | 0.47 | 58.7 | 54.1 |
| October | .. | .. | .. | 2.17 | 9 | 0.57 | 55.4 | 52.9 |
| November | .. | .. | .. | 3.76 | 16 | 1.32 | 57.9 | 52.3 |
| December | .. | .. | .. | 3.66 | 11 | 0.93 | 59.0 | 52.8 |
| 1939. | | | | | | | | |
| January | .. | .. | .. | 3.22 | 7 | 1.06 | 58.2 | 52.2 |
| February | .. | .. | .. | 2.03 | 4 | 1.25 | 60.3 | 52.2 |
| March.. | .. | .. | .. | 0.15 | 3 | 0.06 | 52.2 | 52.2 |
| Totals | | | | .. | .. | 52.01 | 141 | |

Drains. Sixty one chains of drains were cleaned and the shingle in the bed of the Pukepoto Stream removed, the fall being taken up from the outfall to the metal trap. This work was done on wages, horse scoops being employed to remove the shingle where practicable.

A contract for the deepening of the Pukepoto outfall was let in February, and the contractor has this work in hand at present. The widening and deepening of Puckey's outlet drain was completed by contract early in June, benefiting the surrounding farms by giving better drainage.

Stop-banks. Further repairs to stop-banks were found necessary, owing to erosion caused by an exceptional high spring tide which overflowed the banks in several places.

Whangatane Spillway. The bank erosion at the spillway has been checked by the driving of rickers from the Puriri bush backed with walings, fascines, and other scrub timber.

Waipapakauri Outlet.—Excavation work in connection with the enlargement of this outlet was commenced in September, the Monighan Dredge (No. 18) being refitted and assembled at the mouth of the outlet for this work. The swampy nature of the ground necessitated the preparation of a track to support the dredge, and a certain amount of delay was occasioned on this account. A distance of 60 chains of the improved channel has been completed to date.

Works Expenditure.—The net maintenance expenditure for the year was £2,205 18s. 6d.

Drainage Rates. The following schedule shows the position of the rates struck and collected in the two wards:

| | Capital. | | | | | | Maintenance. | | | | | |
|---------------|----------|----|----|------------|----|----|--------------|----|----|------------|----|----|
| | Struck. | | | Collected. | | | Struck. | | | Collected. | | |
| | £ | s. | d. | £ | s. | d. | £ | s. | d. | £ | s. | d. |
| Town | 406 | 19 | 1 | 343 | 17 | 3 | 199 | 4 | 3 | 173 | 8 | 7 |
| Rural | 3,005 | 4 | 7 | 674 | 5 | 6 | 1,456 | 19 | 2 | 358 | 7 | 5 |

HIKURANGI DRAINAGE AREA (50,000 ACRES), WHANGAREI COUNTY.

No work was carried out on this area during the year. The only expenditure incurred was in connection with the overhaul and disposal of plant by the caretaker at Apotu, amounting to £286 12s. 10d.

WAIHI DRAINAGE AREA (20,000 ACRES), TAURANGA COUNTY.

Maintenance work on outlets, stop-banks, and flood-gates in this area was continued during the year, the bulk of the drain-cleaning being carried out by contract.

A new Ruston Bucyrus dredge was hired from the Public Works Department in June, and it has been working almost continuously on the Wharere Canal. The building of a stop-bank, which in places is 6 ft. high and from 16 ft. to 18 ft. wide on top with a total length of 68 chains, was completed in three months. The stop-bank runs from the site of the flood-pump to the outlet of the Wharere Canal. On completion of this work the dredge was moved to the junction of the Waerenga and Kaikokopu Roads to work down the Kaikokopu Stream to its junction with the Wharere at the outlet into the Waihi Estuary. The Kaikokopu Stream has been widened to about one and a half times its original width and deepened to twice its former depth. The spoil from this work has been formed into a stop-bank and road, the bank being 4 ft. high and 30 ft. wide with an approximate length of 122 chains.

The total length of stop-bank completed since the dredge went into operation is thus 190 chains, and it is now possible to obtain vehicular access right round the northern block of the Wharere small-farm area. The main benefit, however, will be apparent when the wet season approaches and the more rapid dispersal of flood-water will prove the value of this work.

The development work on the Wharere Extension Block, commenced during the year, rendered imperative the deepening of the Waihi outlets in that area. To date this work has been undertaken in the Wharere Road East and Central drains and approximately 2 ft. of additional fall has been obtained. The Eastern drain remains to be done, and this work will be undertaken as soon as labour is available in the coming year. The maintenance of these outlets is essential to the efficiency of the drainage system as a whole, and, while the Department will obtain greatest value from this work, its effect on the upper reaches of the district will be beneficial.

POUKAWA DRAINAGE AREA (15,567 ACRES), HAWKE'S BAY.

Maintenance of completed works was carried out during the year, and I am indebted to the Commissioner of Crown Lands, Napier, for carrying out the inspections of the cleaning contracts. Pipes were laid under a culvert by the Railways Department at 93m. 8ch., and this Department contributed £40 towards the cost.

The maintenance expenditure during the year was £196 19s. 1d.

Rates struck: Capital, £1,164 12s. 4d.; maintenance, £125 4s. 7d.

Rates collected in cash: Capital, £386 2s. 3d.; maintenance, £18 9s.

I have, &c.,

R. L. INNS,

Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington, C. I.

SWAMP LAND DRAINAGE SCHEME.

RATE ACCOUNTS FOR YEAR ENDED 31ST MARCH, 1939.

KAITAIA DRAINAGE AREA.

Special Rate Accounts : Capital.

| <i>Dr.</i> | Rural Subdivision. £ s. d. | Town Subdivision. £ s. d. | <i>Cr.</i> | Rural Subdivision. £ s. d. | Town Subdivision. £ s. d. |
|---------------------------------------|----------------------------------|---------------------------------|--------------------|----------------------------------|---------------------------------|
| Transfer to Reserve | 427 9 7 | 58 8 6 | Balance | 1,356 16 3 | 59 16 8 |
| Interest charges | 2,392 10 5 | 351 11 6 | Rates levied | 3,685 2 3 | |
| Remissions | 136 8 1 | 2 13 0 | Less rebate | 179 17 7 | |
| Adjustment of overcharged rates | | 0 11 8 | | 3,505 4 8 | 445 12 8 |
| Balance, 31st March, 1939 | 1,905 12 10 | 92 4 8 | | | |
| | £4,862 0 11 | £505 9 4 | | £4,862 0 11 | £505 9 4 |

General Rate Accounts : Maintenance.

| <i>Dr.</i> | Rural Subdivision. £ s. d. | Town Subdivision. £ s. d. | <i>Cr.</i> | Rural Subdivision. £ s. d. | Town Subdivision. £ s. d. |
|---------------------------------------|----------------------------------|---------------------------------|--------------------|----------------------------------|---------------------------------|
| Cost of maintenance | 1,756 12 5 | 250 0 0 | Balance | 590 6 11 | 134 14 9 |
| Remissions | 50 6 4 | 0 19 11 | Rates levied | 1,704 13 9 | 218 2 7 |
| Adjustment of overcharged rates | | 0 5 8 | | | |
| Balance, 31st March, 1939 | 488 1 11 | 101 11 9 | | | |
| | £2,295 0 8 | £352 17 4 | | £2,295 0 8 | £352 17 4 |

WAIHI DRAINAGE AREA.

Special Rate Accounts : Capital.

| <i>Dr.</i> | Pukehina Ward. £ s. d. | Kaikokopu Ward. £ s. d. | <i>Cr.</i> | Pukehina Ward. £ s. d. | Kaikokopu Ward. £ s. d. |
|---------------------------------|------------------------------|-------------------------------|---|------------------------------|-------------------------------|
| Transfer to Reserve | 41 18 0 | 62 16 6 | Balance | 224 3 7 | 110 15 5 |
| Interest charges | 212 14 7 | 319 2 2 | Rates levied | 319 17 8 | 432 5 7 |
| Remissions | | 13 7 9 | Penalty, 10 per cent., on unpaid rates .. | 8 19 1 | 21 1 2 |
| Balance, 31st March, 1939 | 298 7 9 | 168 15 9 | | | |
| | £553 0 4 | £564 2 2 | | £553 0 4 | £564 2 2 |

General Rate Accounts : Maintenance.

| <i>Dr.</i> | Pukehina Ward. £ s. d. | Kaikokopu Ward. £ s. d. | Central Ward. £ s. d. | <i>Cr.</i> | Pukehina Ward. £ s. d. | Kaikokopu Ward. £ s. d. | Central Ward. £ s. d. |
|---------------------------------|------------------------------|-------------------------------|-----------------------------|---|------------------------------|-------------------------------|-----------------------------|
| Balance | | | 1,843 13 3 | Balance | 90 5 9 | 246 13 0 | |
| Maintenance costs | 85 1 0 | 534 8 0 | 261 3 0 | Rates levied | 177 0 2 | 508 0 9 | 670 7 2 |
| Remissions | | 27 5 2 | | Penalty, 10 per cent., on unpaid rates | 5 0 4 | 11 18 11 | 11 15 1 |
| Balance, 31st March, 1939 | 187 5 3 | 204 19 6 | | Balance, 31st March, 1939 | | | 1,422 14 0 |
| | £272 6 3 | £766 12 8 | £2,104 16 3 | | £272 6 3 | £766 12 8 | £2,104 16 3 |

POUKAWA DRAINAGE AREA.

Special Rate Account : Capital.

| <i>Dr.</i> | <i>Cr.</i> | £ s. d. | <i>Cr.</i> | £ s. d. |
|---------------------------------|---|------------|------------|------------|
| Penalties written back | Balance | 226 8 6 | | 410 8 9 |
| Remissions | Rates levied | 23 10 8 | | 1,121 1 5 |
| Transfer to Reserve | Penalty, 10 per cent., on unpaid rates .. | 140 12 2 | | 43 10 11 |
| Interest charges | | 936 17 10 | | |
| Balance, 31st March, 1939 | | 247 11 11 | | |
| | | £1,575 1 1 | | £1,575 1 1 |

General Rate Account : Maintenance.

| <i>Dr.</i> | <i>Cr.</i> | £ s. d. | <i>Cr.</i> | £ s. d. |
|------------------------------|---------------------------------|-----------|------------|-----------|
| Penalties written back | Balance | 15 9 0 | | 90 12 9 |
| Remissions | Rates levied | 3 6 4 | | 125 4 7 |
| Maintenance costs | Balance, 31st March, 1939 | 199 9 7 | | 2 7 7 |
| | | £218 4 11 | | £218 4 11 |

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1939.

| <i>Receipts.</i> | Public Works Fund. £ s. d. | Consolidated Fund. £ s. d. | <i>Payments.</i> | Public Works Fund. £ s. d. | Consolidated Fund. £ s. d. |
|--|----------------------------------|----------------------------------|---|----------------------------------|----------------------------------|
| Rents from national-endowment land in Waihi Drainage Area | | 406 5 10 | Kaitaia Drainage Area : Maintenance, completed works | | 1,721 18 6 |
| Special rate for interest and sinking fund— | | | Waihi Drainage Area : Maintenance, completed works | | 880 13 0 |
| Waihi Drainage Area | | 462 5 11 | Poukawa Drainage Area— | | |
| Kaitaia Drainage Area | | 1,339 9 5 | Maintenance, completed works | | 139 9 7 |
| Poukawa Drainage Area | | 978 8 7 | Drainage works, &c. | 40 0 0 | |
| General rate for administration and maintenance— | | | Hikurangi Drainage Area : Drainage works, &c. | 286 12 10 | |
| Waihi Drainage Area | | 1,451 10 4 | Plant, &c. (general) | 144 4 11 | |
| Kaitaia Drainage Area | | 673 8 10 | Transfer receipts to Treasury Adjust- ment Account | | 5,648 9 0 |
| Poukawa Drainage Area | | 51 9 1 | Transfer receipts to Public Works Fund Account | 3,912 1 2 | |
| Thirds | | 157 18 3 | | | |
| Sundry rents | | 37 0 0 | | | |
| Miscellaneous | | 90 12 9 | | | |
| Credits in reduction of expenditure.. | 3,912 1 2 | | | | |
| Transfer of expenditure to Treasury Adjustment Account | | 2,742 1 1 | | | |
| Transfer of expenditure to Public Works Fund Account | 470 17 9 | | | | |
| | £4,382 18 11 | £8,390 10 1 | | £4,382 18 11 | £8,390 10 1 |

