

1936.
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.
SWAMP DRAINAGE.

REPORT FOR THE YEAR ENDED 31ST MARCH, 1936, TOGETHER WITH STATEMENTS OF ACCOUNTS.

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

Department of Lands and Survey,

Wellington, 1st July, 1936.

SIR,—

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.,

W. ROBERTSON,

Under-Secretary for Lands.

The Hon. Frank Langstone, Minister of Lands.

REPORT OF 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.

Maintenance of completed works was the only work undertaken during the year. Drains and stop-banks were kept cleared and repaired, and some stone-work carried out at the Spillway intake to correct scour by flood-waters. No new work was done in the area except for drainage of the Kaitaia small farms.

Rainfall.—Rainfall and river-gauge readings were taken throughout the year as shown on schedule hereunder:—

RAINFALL AND RIVER-GAUGE READINGS AT KAITAIA FOR YEAR ENDING 31ST MARCH, 1936.

Month.	Rainfall (Inches).	Wet Days.	Highest Rain- fall for Twenty-four Hours (Inches).	Kaitaia River-gauge, Wai- kuriki Bridge.	
				Highest.	Lowest.
1935.					
April	6.26	13	2.12	64.5	53.6
May	5.78	21	1.30	59.7	54.5
June	4.60	25	0.42	61.4	54.9
July	7.35	16	2.05	65.8	54.5
August	5.32	17	1.60	64.2	55.0
September	11.57	19	5.29	70.5	53.9
October	4.66	15	1.48	61.3	53.5
November	4.29	20	2.03	65.3	53.7
December	4.30	5	2.33	69.8	53.6
1936.					
January	12.08	14	2.59	70.5	53.0
February	6.13	11	4.56	70.8	53.1
March	2.08	8	0.79	59.7	52.6
Tota's	74.42	184			

Comparative rainfall for the past eighteen years during which records have been kept by this Department is as shown hereunder:—

Year.	Rainfall for Year.	Wettest Month.	Rainfall.
	In.		In.
1918-19	47·30	October, 1918	9·06
1919-20	31·71	July, 1919	7·37
1920-21	53·11	May and August., 1920 (each) ..	8·02
1921-22	49·42	March, 1922	5·84
1922-23	44·81	October, 1922	7·46
1923-24	49·23	October, 1923	7·92
1924-25	48·89	May, 1924	10·34
1925-26	57·90	May, 1925	10·43
1926-27	64·91	October, 1926	9·62
1927-28	55·97	July, 1927	11·35
1928-29	58·21	June, 1928	9·13
1929-30	51·11	May, 1929	6·30
1930-31	39·27	June, 1930	7·55
1931-32	41·43	July, 1931	5·88
1932-33	37·93	February, 1933	6·35
1933-34	40·62	July, 1933	7·37
1934-35	71·97	June, 1934	9·54
1935-36	74·42	January, 1936	12·08

The present year is the wettest recorded, as the rainfall is 74·42 in., compared with the average rainfall over eighteen years of 51·01 in. An unusual feature of this year's rainfall is that the heaviest falls occurred in midsummer, with consequent damage to pastures not caused by winter floods of same intensity.

The rainfall for January is the highest ever recorded for any one month, and as the falls in this month and in February occurred over short periods, extensive flooding was caused. Flood-control works which were able to deal with the average rainfall which might be expected from our records have proved inadequate for the much greater rainfall, and high rate of precipitation, recorded both in this and last year.

Kaitaia township and other low-lying land in the area was inundated on several occasions during the year, and parts of the lowest country about the Tangonge Basin were under water for a sufficiently long period to destroy some good pasture which had been established in recent years.

Increased channel-capacity is required to deal with the run-off following such rainfall and rate of precipitation as has been experienced this year, and although records have not been kept for a sufficiently long period to give reliable information it is indicated that similar conditions to those experienced this year may occur frequently enough to seriously hamper the development of the Kaitaia Flats in the present condition of the outlets provided for flood-waters.

Whangatane Spillway.—Repairs to the intake were carried out to correct scour caused by flood-waters passing through this channel, but control works of a comprehensive nature are urgently required to cope with the volume of water to be dealt with here during heavy rainfalls.

Drains.—Contracts were let in March for clearing 62 miles of drains, and approximately 28 miles had been completed by the end of March. All drains are cleared in the autumn and the balance of the clearing for this year will be completed in April.

Stop-banks.—Considerable damage was done to about 10 miles of stop-bank by an abnormal tide occurring on 26th March and this is being repaired as rapidly as possible. No work had been done on these banks for some years as they were well consolidated and mostly in grass, but they will now require extensive repairs to restore to former condition.

Kaitaia River.—Frequent overtaking of this channel above the Spillway intake caused erosion of the banks so that poplar and other trees planted close to the banks have fallen into the stream, causing serious blockage. A contract was let in March for clearing 3 miles of the channel of fallen trees and this work is now being carried on by the contractor.

Plant.—No plant was in use for drainage-works, but tools and plant which could be used on small-farm areas were transferred as required.

Proposals for Ensuing Year.—Maintenance of drains and repairs to stop-banks are works to be carried on next year, and the clearing of the Kaitaia River will be completed early in the period. Some further work will also be required at the Spillway intake pending erection of a permanent structure for regulating flow of flood-waters.

As a result of the severe floods experienced in this district, as well as other portions of the Northern Peninsula, a special report on the flood position is to be prepared by the District Engineer at Whangarei and myself.

Works Expenditure.—The total expenditure for the year was £1,812 7s. 1d.

Drainage Rates.—Rates struck amounted to £5,111 7s. 7d., and £1,436 15s. 1d. was collected. A rebate of £469 10s. 2d. was allowed off capital rates.

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

Rainfall.—The rain throughout the year has again been well in excess, both in quantity and in intensity, of that usually experienced. The year's total recorded at the Apotu Camp gauge being 81·27 in.

In common with the remainder of the Northern Peninsula, some severe floods have occurred in this area. In June the Jordan stage showed an elevation of 34·1 ft., and early in February the stage reached was 38·4 ft., the latter being the greatest for forty years. On this latter occasion rain was so intense that as much as 15 in. fell in some twenty hours on the 1st February.

Construction Work.—No developmental construction work, either by power excavator or by hand labour, has been carried out through the year.

Plant and Machinery, &c.—All plant and machinery is stored at the Apotu Camp. During the year certain items have been sold or transferred to other works under the control of this Department.

Relief Works.—No relief workers in the area have been directly under departmental control. A small gang has worked on a creek outlet near Hikurangi Mountain, but these men are on the rationed No. 5 scheme from Hikurangi.

Departmental Records.—All stores and office records have been kept up to date.

Maintenance.—Through the year ordinary maintenance was carried out on the hand-dug outlets of the area and also, where required, on the Ngararatunua Canal.

General.—The disastrous floods through the past two years, culminating in the peak visitation of early February, have resulted in the settlers petitioning that thorough investigation be made into the possibility of lessening the flood-menace by the completion of further developmental work. This investigation will take the form of a joint report compiled by the District Engineer at Whangarei and myself.

Works Expenditure.—The expenditure for the year was £989 3s. 8d.

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

The drainage outlets and stop-banks in this area were again maintained by the Department, improvements being carried out where desirable. The total length of drains maintained annually is 37 m. 73 ch., and contracts were advertised for this work. An additional length of 15 m. of canal and stream is maintained periodically as required. The foreshore and lower lengths of the canals were stop-banked as the canals were constructed, and seven flood-gates were placed under these banks. These works are also maintained by the Department.

The flax company, which leases the major portion of the unsettled swamp area in the district, recommenced milling during the year. There appears to be an ample supply of good millable flax on the area being worked.

Development work was proceeded with by the Department on the areas of surrendered flax-leaf west of the Wharere Canal, the total area grassed to date being 550 acres. Dairying was carried out on these fully equipped sections, and a further four sections were in course of preparation for dairying next season. Bullocks were grazed on this area to assist consolidation, and a small flock of sheep were run to control ragwort.

The expenditure for the year was £637 5s. 3d.

Drainage rates struck totalled £1,683 9s. 3d., whilst £481 17s. 10d. was collected.

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

The only work carried out during the year was the maintenance of the outlets. There has been considerable difficulty in obtaining suitable labour, and it appears to me that the control of this area should be taken over by the local office.

The expenditure for the year was £249 17s.

Rates struck amounted to £1,121 1s. 5d. (capital only), whilst £746 16s. 10d. was collected by the District Office at Napier.

I have, &c.,

R. G. MACMORRAN,

Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington.

SWAMP LAND DRAINAGE SCHEMES—continued.

POUKAWA DRAINAGE AREA.

Special Rate Account: Capital.

<i>Dr.</i>				<i>Cr.</i>			
	£	s.	d.		£	s.	d.
To Remissions	23	2	7	By Balance	215	1	3
Transfer to Reserve Fund	123	4	4	Rates levied	1,121	1	5
Interest charge	954	5	8	Penalty, 10 per cent. unpaid rates	44	10	4
Balance, 31st March, 1936	280	0	5				
	<hr/>				<hr/>		
	£1,380	13	0		£1,380	13	0
	<hr/>				<hr/>		

General Rate Account: Maintenance.

<i>Dr.</i>				<i>Cr.</i>			
	£	s.	d.		£	s.	d.
To Remissions	1	2	10	By Balance	290	10	9
Maintenance completed works	15	0	6				
Balance, 31st March, 1936	274	7	5				
	<hr/>				<hr/>		
	£290	10	9		£290	10	9
	<hr/>				<hr/>		

RECEIPTS AND PAYMENTS ACCOUNT FOR YEAR ENDED 31ST MARCH, 1936.

<i>Receipts.</i>				<i>Payments.</i>			
	Public Works Fund.		Consolidated Fund.		Public Works Fund.		Consolidated Fund.
	£	s.	d.		£	s.	d.
To Rents from national-endowment land in Waihi Drainage Area			520 18 1	By Kaitaia Drainage Area—			
Special rate for interest and sinking fund—				Drainage works, &c.	446	12	0
Waihi Drainage Area			135 18 9	Maintenance, completed works			1,132 19 8
Kaitaia Drainage Area			1,171 14 10	Waihi Drainage Area: Maintenance completed works			479 1 7
Poukawa Drainage Area			740 17 11	Poukawa Drainage Area—			
General rate for administration and maintenance—				Drainage works, &c.	236	11	6
Waihi Drainage Area			345 14 1	Maintenance, completed works			13 5 6
Kaitaia Drainage Area			504 18 11	Hikurangi Drainage Area—			
Poukawa Drainage Area			5 18 11	Drainage works, &c.	1,029	1	1
Rates paid in advance			0 4 6	Maintenance, completed works			278 19 9
Subsidy from Consolidated Fund:				Plant, &c. (general)	179	11	4
Maintenance, Kaitaia Drainage Area, balance, 1934-35			12 0 0	Transfer receipts to Treasury Adjustment Account			3,688 1 8
Thirds			145 14 7	Transfer, receipts to Public Works Fund	1,511	17	10
Sundry rents			12 6 6				
Miscellaneous			91 14 7				
Credits in reduction of expenditure	1,511	17	10				
Transfer, expenditure to Treasury Adjustment Account			1,904 6 6				
Transfer, expenditure to Public Works Fund	1,891	15	11				
	<hr/>				<hr/>		
	£3,403	13	9		£3,403	13	9
			£5,592 8 2				£5,592 8 2
	<hr/>				<hr/>		

SWAMP LAND DRAINAGE SCHEMES—continued.

BALANCE-SHEET AS AT 31ST MARCH, 1936.

Liabilities.				Assets.			
		£	s. d.			£	s. d.
Capital Account, Public Works Fund	..	689,645	4 2	Kaitaia Drainage Area—			
Reserve: Repayment capital costs—				Allocated cost of works on which			
Kaitaia Drainage Dis-				rates are levied—			
District—	£ s. d.	£ s. d.		Rural subdivision	60,000	0 0	
Rural subdivision	2,032 6 3			Town subdivision	8,200	0 0	
Town subdivision	277 15 0						68,200 0 0
		2,310	1 3	Excess cost of works not recover-			
Waihi Drainage Dis-				able	155,936	17 0	
District—				Interest Account: Proportion			
Pukehina subdivi-				chargeable to district	132,442	9 2	
sion	202 14 1						288,379 6 2
Kaikokopu subdivi-				Waihi Drainage Area—			
sion	304 1 2			Allocated cost of works on which			
		506	15 3	rates are levied—			
Poukawa Drainage District ..	466 18 0			Pukehina subdivision	5,000	0 0	
		3,283	14 6	Kaikokopu subdivision	7,500	0 0	
Rate Accounts—				Central subdivision	49,414	3 6	
Special Rate Accounts: Capital—							61,914 3 6
Kaitaia Drainage				Excess cost of works not recover-			
District—	£ s. d.			able	24,505	18 1	
Rural subdivi-				Interest Account: Proportion			
sion	1,077 15 2			chargeable to district	41,051	17 6	
Town subdivi-							65,557 15 7
sion	45 10 4			Poukawa Drainage Area—			
		1,123	5 6	Drainage works	16,024	10 8	
Waihi Drainage				Interest Account: Proportion			
District—				chargeable to district	2,568	11 2	
Pukehina subdivi-							18,593 1 10
sion	867 2 7			Hikurangi Drainage Area—			
Kaikokopu subdivi-				Drainage works	246,726	17 5	
sion	31 2 4			Interest Account: Proportion			
		898	4 11	chargeable to district	122,769	9 2	
Poukawa Drainage District ..	280 0 5						369,496 6 7
		2,301	10 10	Mangawai Drainage Area—			
General Rate Accounts: Mainten-				Drainage works	1,877	19 3	
ance—				Interest Account: Proportion			
Kaitaia Drainage Dis-				chargeable to district	1,308	7 3	
District—	£ s. d.						3,186 6 6
Town subdivision	75 11 4			Harihari Drainage Area—			
Rural subdivision	31 13 7			Drainage works	4,355	2 11	
		107	4 11	Interest Account: Proportion			
Waihi Drainage Dis-				chargeable to district	2,666	2 2	
District—							7,021 5 1
Pukehina subdivi-				Buildings			1,511 13 10
sion	833 12 3			Wharves			59 8 7
Kaikokopu subdivi-				Plant and machinery			27,724 5 7
sion	672 9 2			Loose tools			289 2 8
		1,506	1 5	Stores on hand			3,848 17 5
Poukawa Drainage District ..	274 7 5			Sundry debtors for rates—			
		1,887	13 9	Drainage District.	Capital.	Maintenance.	
Sundry creditors—				£ s. d.	£ s. d.		
Miscellaneous	382 17 11			Kaitaia	12,427 17 8	3,919 7 11	16,347 5 7
Departmental	0 3 0			Waihi	4,800 8 2	6,419 11 1	11,219 19 3
		383	0 11	Poukawa	2,021 9 11	169 7 3	2,190 17 2
Rents charged in advance				Sundry debtors—			
Payments in advance—				Rent under section 4 (2), Swamp			
Rent	0 3 0			Land Drainage Amendment Act,	£ s. d.		
Rates	0 8 3			1926	412 1 8		
		0	11 3	House-rent	28 15 10		
Suspense Account				Law-costs	484 14 10		
Writings-off in Suspense				Miscellaneous	41 0 6		
Treasury Adjustment Account ..		259,932	17 1	Departmental	585 16 6		
							1,552 9 4
		£958,505	1 11	Rate Account—			
				General Rate Account—Maintenance—			
				Waihi Drainage District: Central subdivision			43 10 7
				Maintenance-costs: Hikurangi			318 9 9
				Postponed rent			937 19 5
				Premiums on conversion			178 10 0
				Revenue Account—Waihi Drainage District:			
				Central ward			9,095 2 0
				Losses in Suspense			832 2 4
				Cash in transit from Post-office			7 3 2
							£958,505 1 11

W. ROBERTSON, Under-Secretary for Lands.
WM. E. SHAW, Chief Accountant.

I hereby certify that the Rate 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 comment that no charge for the cost of exchange on payments made in London is included in the Account.—J. H. FOWLER, Deputy Controller and Auditor-General.

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