

APPENDIX III.—LAND-DRAINAGE OPERATIONS.

(O. N. CAMPBELL, Chief Drainage Engineer.)

DRAINAGE operations have been steadily maintained during the past year, and several new propositions have come under view, the principal of these being the investigation of the possibilities of drainage of the swamps lying between Eureka, Ohaupo, Hamilton, and Taupiri, an area of approximately 100,000 acres. Many special reports and inspections have been made, among these being Aratapu Swamp, Hungahunga drainage area, Whakaki Swamp (Hawke's Bay), Lake Wairarapa district, Kohukohu Domain, Section 42, Block V, Opoe Survey District, Te Matai water-supply, Pye's Pa water-supply, Rotongaro outlet drain, Waipa drainage area, Strathvale and Allenby Settlements (Southland), Te Pu Kaharoa water-supply, &c. Works done by local authorities out of grants and subsidies have been examined and passed, and vouchers for the sum of £4,431 17s. 9d. have been passed for payment in respect thereof.

Separate reports, as required by statute, have been made on the Hauraki Plains area, Rangitaiki Swamp, and six areas administered under the Swamp Drainage Acts.

The following is a short report on general works carried out by the branch :—

Pakihi Lands (Westland).—At the end of last year an outfall drain was in the course of construction—16 chains being then completed—on the area at Kumara selected for purposes of experimental drainage. This construction was continued for another 11·80 chains, and about an acre of the area, isolated by the drain, stumped and left ready for experimental cultivation by the Agricultural Department. Unfortunately the area was not ready in time for winter ploughing, so the Agricultural Department postponed operations until the coming winter. The expenditure on the above was £201 13s. 6d.

Westland Surveys.—From the middle of October until the end of February a survey was conducted over the Bruce Bay district, and the possibilities of about 12,000 acres of bush and swamp land investigated. The plans of this are not fully completed, but nevertheless the results are disappointing, for the swamp areas are very scattered, and, while the smaller ones are usually a good class of swamp, the larger ones are of indifferent quality. There seems scant prospect of any development until the timber crop has been milled to allow of the bush country and the swamps being developed together.

At the beginning of March a survey was commenced of the Kongahu Swamp, near Karamea, Buller County; but so far the survey is not sufficiently advanced to give an authoritative opinion on the potentialities of this area. The area is practically all alienated land, the survey being undertaken with a view to laying a scheme of drainage before the settlers, and ascertaining their desire to avail themselves of the provisions of the Swamp Drainage Act. It is a good healthy-looking peat swamp of some 2,000 acres in extent, and, being adjacent to one of the finest dairying areas on the coast, is well worthy of a thorough investigation into the possibilities of drainage.

An inspection has also been made during the year of swamp areas at Barrytown, Rotomanu, and Lake Rotokino. On the two first mentioned areas drainage is fairly simple, and much is being done by the individual: outlets being easy of provision, especially when the settlers affected co-operate on their construction. Both these swamps are of very good quality, and should amply repay the settlers for their development.

The Rotokino Swamp is also a very fine area; but its drainage calls for a comprehensive scheme, and, as the settlers are not unanimous in their desire to avail themselves of the provisions of the Swamp Drainage Act, no active operations are being undertaken there at present.

The expenditure for the year was £286 10s.

Kahuwera Additional Loan Block.—The construction of a drain, 81 chains in length, through Section 4, Block IV, Totoro Survey District, was completed in May, 1923. This will provide an outlet for several sections, the occupiers of which were unable to improve the swamp portions of their holdings under the conditions prevailing prior to the construction of the drain. The total cost of the work was £298.

Reporoa Settlement.—The work on this area has been practically completed, and from now on the expenditure will be due to the necessity for maintaining the roads and drains, although the drains in some parts of the peat swamp will require further deepening as the country consolidates. During the winter very severe floods, the worst for many years, were experienced, and as a result some of the roads and drains were damaged, necessitating a fairly heavy expenditure in repairs. Since then the Waiotapu Stream has been dragged again by means of a horse-drawn harrow, so as to remove the growth of weeds. This effected a very big improvement in the carrying-capacity of the stream, and it is evident that this work must be carried out every year so as to keep the flood-level as low as possible. The construction of the Paeroa Road, at the back of the settlement, was completed. This necessitated the erection of several bridges and culverts, along with the necessary fillings. The expenditure on this area for the year was £1,239 18s.

Motutangi Swamp.—In February of this year a party commenced taking the necessary levels for the drainage of the above swamp, in the North Auckland District. Portions of the area are very promising, being covered with raupo, but no large scheme of drainage should be attempted unless provision is first made for the planting of the sand-drift areas on the outlet end of the area. The sand in this direction is encroaching rapidly, and if not taken in hand the Motutangi Stream will be completely blocked. Should the levels and peat-sounding prove that the drainage of the area is feasible, then it will be possible to call tenders for the construction of the main outfall. The expenditure to date is £71 10s. 5d.