

APPENDIX III.—LAND-DRAINAGE OPERATIONS.

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The main operations during the year have been confined to the major land-drainage schemes, and, as laid down by statute, separate reports have been furnished on the following drainage areas: Hauraki Plains, Rangitaiki, Kaitaia, Hikurangi, Waihi, and Poukawa.

Inspections and reports on general drainage matters have been made in several cases, the principal being Mangaone Stream, Ngaere Swamp, Kaikino, and Te Kopuru drainage.

Works carried out by local bodies under subsidies and grants have been supervised and inspected, and a total expenditure of £10,619 has been passed for payment in this connection.

Hereunder is a short summary of general work carried out by this Branch:—

Koremoa Settlement.—The stop-banking and drainage on soldier settlers' holdings were proceeded with, and 1 mile 23 chains of new drain and stop-bank were constructed, 16 chains of old stop-bank raised, and 6 flood-gates installed. The works carried out should materially improve the drainage, provided the interested settlers take full advantage of and systematically maintain the same.

Flax-planting, Hauraki Plains.—As a means of providing relief for unemployment, the work of flax-planting on a low-lying area near Kaihere, on Piako River, was undertaken last winter. The area selected was formerly in use for summer grazing, but is too low-lying to be economically protected from periodical flooding. The flax-plants were mainly procured from adjacent swamp areas on which there was a natural growth of flax. The work comprised draining, clearing scrub, and the gathering, distributing, and planting of flax-plants, and was mainly carried out on a co-operative contract basis. The area dealt with was 568 acres, and, excluding fire-breaks, drains, &c., the actual area put down in flax was 501 acres. It is interesting to note that the costs were as follows: Procuring plants, 18s. 3d. per acre; transporting and distributing plants, including transport by launch and tramway, 18s. 6d. per acre; planting flax, including setting out work and clearing fly-lines, £1 16s. per acre. Taking all costs of drains, fences, fire-breaks, cutting blackberry, planting, &c., the total cost was £5 6s. per acre. At present the flax is well established, there have been few losses, and new fans are developing on many of the plants. The success of cultivated flax on areas such as this, that cannot economically be drained for farming purposes, will closely affect the future of a large portion of the Hauraki Plains that is still held by the Crown.

Motutangi Block.—Further drains covering 2 miles 3 chains were constructed during the year on the Motutangi Swamp. Ample fall is available on most of the drains opened. The peaty nature of the country precludes to a large extent the growth of weeds, but maintenance work will shortly be required on portion of the new outfall in order to ensure continued efficiency. This work should be carried out by the Mangonui County Council, as the settlers have formed a drainage district under the provisions of the Counties Act, 1920.

Ngaere Swamp.—An engineering survey was carried out on this area near Eltham, comprising 250 chains pegging, 400 chains levels, and twenty-four deep peat soundings. Plans and report were prepared, and samples of peat listed for loss of weight and volume after drying.

Ngatea-Kaihere Road—Metalling (Hauraki Plains).—As this Branch possessed the necessary plant and machinery, arrangements were made to carry out the re-forming and metalling of the unmetalled gap in the road along the Puhanga Canal and Piako River, from the Puhanga Canal Bridge to the Kaihere Landing, a distance of 3 miles 30 chains. Two-thirds of the cost is being furnished from the Public Works Fund, and the remaining one-third by the Hauraki Plains County Council. A good metalling season enabled work to be expeditiously carried out, and at the end of March some 2 miles 58 chains of road had been re-formed preparatory to metalling, 1 mile 77 chains re-formed and metalled with 4,711 cubic yards of metal delivered. The work is being pushed on, and it is anticipated that an all-weather road between Kaihere and Ngatea will be provided before winter sets in.

Orewa Beach Township.—Certain work was carried out on Crown land in this vicinity, comprising the construction of new drains and the enlarging of existing ones.

Patetonga Riding—Metalling (Hauraki Plains).—This work comprises the metalling of 8 miles 20 chains of roads and the widening and improvement, where necessary, of the existing formation. Approximately four-fifth of the cost is being found from the Public Works Fund and the balance by the Hauraki Plains County Council. A contract for the supply and delivery of some 14,000 cubic yards of metal was let. This contract, however, extends over three metalling seasons, and involves the installation of a crushing plant and opening up a new quarry. At the end of the period only 552 cubic yards had been delivered by the contractor, but before winter sufficient metal should be supplied to lay first course on the unmetalled gap on the Morrinsville-Patetonga Road.

Tangowahine Settlement.—A day-labour party was engaged for a portion of the year in cleaning and grading of stop-bank drain, enlarging old drain, and construction of new ones. The flood-gates also received attention when necessary. Some 17 chains of new drain was constructed, 52 chains widened and deepened, and 4 miles 20 chains of drain cleaned.

Orongo Settlement.—During the year some 10 miles 30 chains of drains were cleaned and 77 chains of existing drains widened and deepened, also necessary repairs to flood-gates. At the approach to the Hauraki Bridge 6 chains of new drain were constructed, and 77 chains were also constructed on the western boundaries of Sections 37s and 38s. The Orongo Ferry roadside drain was also considerably enlarged by the Hauraki United Drainage Board, with financial assistance from the Public Works Fund.

Kairara Stream Diversion.—Drainage-work and the diversion of the stream were carried out in this locality in order to reduce the risk of flooding of low-lying farm-lands. Very heavy timber was met with in the work of 35 chains of widening and deepening, 9 chains new drain, and 7 chains of stream-diversion.