

RIVER IMPROVEMENT AND PROTECTIVE WORKS AND DRAINAGE WORKS.

WAIHOU AND OHINEMURI RIVERS IMPROVEMENT.

During the year the work of raising and strengthening the Upper Waihou system of stop-banks has been continued, and is approaching completion. This work has been carried on with two large Ruston drag-lines. The sections Mangaiti-Tirohia, left bank, and Tirohia-Ngahina, right bank, are complete. The section Tirohia-Ngahina, left bank, is well advanced.

On the Lower Waihou River sags in the stop-banks due to settlements in the ground have been made good, and stop-banks brought up to final grade at all points.

On the Ohinemuri River substantial maintenance raising of the stop-banks has been carried out. The drainage system in the Rotokohu area has been much improved by drag-line operations, the work being done under agreement with the local Drainage Board.

General maintenance work, including repairs to fractured outlet culverts, repairs to stop-banks and cutting of noxious weeds, was carried out.

Plant has been overhauled and maintained in good condition.

KAIHU VALLEY DRAINAGE, NORTH AUCKLAND.

In cut No. 2A, extensive slips had occurred, and these were removed by power-operated winches during the period December to April. The bridge over the cutting has been repaired and restored to line and level, which were disturbed by slip. The spoil-banks were trimmed and left in good condition.

KUMETI DRAIN.

Protection work has been carried out in the deeply and widely eroded Kumeti Drain near Dannevirke. The protection work consists of a series of boulder and wire-net gabion weirs, constructed to retain and retard the travel of shingle which has been moving on a large scale. Material has been supplied to enable settlers to erect access bridges across the deteriorated creek.

RUAMAHANGA RIVER.

Considerable willow and fascine river-bank protection work has been carried out at the Tawaha and Ahiaruhe Settlements on the Ruamahanga River. The work has comprised 70 chains of bank-protection, a river-diversion cut and weir, and two pile groynes 100 ft. long each.

MARINE.

LIGHTHOUSES.

During the past year there has been less activity in the installation of new lights and the improvement of existing ones, due to the reduction in available finance, and several works which it was anticipated would be put in hand this year have had to stand over.

Akaroa Peninsula—East Head.—The apparatus for this light, which consists of an automatic open-flame flashing signal with a 75 litre burner in an 800 mm. catadioptric lens was received and duly erected. The light, which is fitted with a sun-valve for automatic operation should be of great assistance to shipmasters trading between southern and northern ports, and will supplement the Godley Head light, which is being altered to a more modern type.

Godley Head.—The necessary apparatus for converting this lighthouse from a fixed to a flashing characteristic has been received, and the work of installation is in hand. The range of this light is being slightly reduced since with the installation of the light on East Head that on Godley Head becomes more a harbour light and less a coastal light.

Baring Head.—This light, which is situated about three miles seaward of Pencarrow, is intended to take the place of the high-level light at the latter place, and being on a distinctive headland is more truly a coastal light. The necessary land has been acquired, an access road has been formed, and a bridge built across the Wainuiomata Stream. Arrangements were being made to order the apparatus and let a contract for the tower and necessary buildings, keepers' houses, &c., but it has been decided to defer the work until conditions improve. In the meantime shelter-belts and fencing are being completed.

Jackson's Head.—The range of this light, which is an automatic acetylene outfit, has been increased by providing a new burner which is twice the candle-power of the original.

Kahurangi Point.—The lens at this station, which was recently damaged by a secondary earthquake, was sent Home to England for repair, and has now been reinstated. It was anticipated that a new keeper's house would have been erected this year, but that has also had to stand over.

The Brothers.—Extensive repairs were carried out at this station, new foundations being put under the tower, a new crane and tramway erected, and all buildings were given a thorough overhaul.

A number of minor repairs have been effected at various stations, and the buildings, &c., have been well maintained at all stations during the period.

HARBOUR-WORKS.

Westport Harbour.—During the previous financial year an active policy of breakwater-construction was being proceeded with, but, unfortunately, early in the present period the drop in harbour revenue due to the general slackness in the shipping business and the industrial depression throughout the country necessitated the observance of rigid economy. In order to effect this, all breakwater-