## 1935. NEW ZEALAND.

## DEPARTMENT OF LANDS AND SURVEY.

## RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31st MARCH, 1935, TOGETHER WITH STATEMENTS OF ACCOUNTS.

Presented to both Houses of the General Assembly in pursuance of Section 10 of the Rangitaiki Land Drainage Act, 1910.

Department of Lands and Survey, Wellington, 1st July, 1935. SIR,--I have the honour to submit herewith the report of the Chief Drainage Engineer on drainage operations in the Rangitaiki Plains for the year ended 31st March, 1935, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

I have, &c., W. Robertson,

Under-Secretary for Lands.

The Hon. Sir E. A. Ransom, Minister of Lands.

## REPORT OF CHIEF DRAINAGE ENGINEER.

SIR ---

In accordance with the provisions of the Rangitaiki Land Drainage Act, 1910, I have the honour to submit report on the Rangitaiki drainage works for the year ending 31st March, 1935.

The maintenance and improvement of the existing scheme of drainage was carried out in this area. As in the past few years, expenditure was kept as low as was safely possible. A small walking plant was employed on the smaller canals and in deepening low-level hand drains. As previously forecasted, the time is now opportune for the employment of further plant on canalmaintenance to ensure the main outfalls, in particular, from deteriorating beyond the margin of safety.

Additional expenditure on repair work was necessary following fairly severe flooding from the rivers. On this area the scheme of drainage and protection was not designed to provide complete immunity from flooding from the Whakatane and Rangitaiki Rivers. A certain amount of work has been done to lessen overflow, and a considerable amount of work to minimize the effects of overflow in the event of an exceptional flood in the rivers. The success of this work has been clearly demonstrated over the past few years. For various reasons it has been considered that works designed to eliminate overflow cannot be considered as part and parcel of the drainage scheme. In the case of the Whakatane River the remedy is undoubtedly the straightening of the channel at a point outside the drainage area, and the possible effect of this work on the harbour adjoining would have to be very seriously considered. With the Rangitaiki River, experience has shown that the expenditure involved in a complete scheme of stop-banking would be in excess of the benefits to the drainage area. An extension of the channel-improvement works carried out in previous years is a very desirable work and one from which the benefit would bear comparison with the expenditure. This refers particularly to further removal of willows from the channel in order to increase the flood-carrying capacity of the

Daily water-level readings taken on the Tarawera River over the past ten years indicate that the channel is maintaining a satisfactory gradient. The outlet of this river has remained stable during the The protection of the east bank stop-bank has been given attention as required, but the raising of this bank where settlement has taken place will require to be taken in hand within the next year or