

A road-bridge which had been dismantled to enable the dredge to pass was re-erected and lengthened; also one access bridge to a severance was erected, necessitated by a bridge having been constructed previously at this spot by the owner of the land.

Owing to the excessive growth of weeds in the greater part of the canal, a gang of men has been employed in removing these obstructions to the free flow of the water. It appears that the maintenance of this canal, as well as other subsidiary channels now under construction, will necessitate the future purchase of a light mobile machine.

Mangahuru Stream Improvements.—Satisfactory arrangements having been made with the County Council with regard to the road-bridge on McLeod's Flat, the erection of Dredge No. 26, American steel dipper, was commenced at the point where the stream emerges from the railway-line. This dredge was transferred from the Waihi area, necessitating dismantling and re-erection at point mentioned. The proposed work consists of the straightening of the stream, and the enlarging of the existing channel wherever same is being followed. Following on the completion of the erection and overhaul, the machine commenced operations in November, and to date some 60 chains of the canal has been completed, the amount excavated being 37,570 cubic yards, at an actual cost of 2s. 3.55d. per yard, exclusive of erection charges, but inclusive of all working and overhead charges. The construction of this canal will not only prevent the flooding of a large area of very valuable farming-land, but will also relieve the main road from flooding.

Okarika Stream Improvement.—The work in this locality consists of a diversion of the existing stream through lower country. The first 20 chains of this diversion is through the high land along the river-bank, after which the land is at a lower level and swampy. A Bucyrus, working as a drag-line, is excavating the first section of the work, after which the Priestman will be employed in the swampy portion. The excavation was commenced late in the year, with an output to date of 12,750 cubic yards.

Plant and Machinery.—With the addition of the American steel dipper, the excavating plant on these works now consists of three Bucyrus caterpillar machines, convertible to either drag-line or steam-shovel, and two floating dredges; the above-mentioned dipper, and a Priestman grab dredge. As far as possible all repairs for the above machines have been carried out in the Department's shop on the works, but, of necessity, all heavy repairs have to be sent to private shops. All the smaller plant necessary on such an undertaking—air-compressors, oil-engines, pumps, locomotives, &c.—has been overhauled in rotation, and is all in good working-order.

Surveys.—Both land and engineering surveys have been carried out during the year as circumstances permitted. Land surveys were mainly required in order to obtain data in connection with claims for compensation where areas were severed by diversions of the main stream or its branches. Data was collected for the location of the Mangahuru and Okarika channels, and practically all the location of these works has been pegged on the ground. The preliminary surveys have also been extended to the Mangawhero Stream as far as the Hikurangi Township, as well as to the Waitutu Stream as far as the railway-line.

During the coming year it is proposed to complete the hydrographic survey of the river as far as the Whakapara Junction. In addition the investigation of further up-stream areas will be continued, with a view to the location and design of works in those areas.

Works Expenditure.—The expenditure recorded for the year totalled £20,259 12s. 4d., of which £10,307 18s. 7d. was paid in wages.

WAIHI DRAINAGE DISTRICT (20,237 ACRES), TAURANGA COUNTY.

During the previous year all preliminaries preparatory to the striking of rates on this area were completed, with the exception of the hearing of objections to the revaluations. This having been completed, rates were struck in February for the year 1927–28. In order to provide assistance for the settlers, provision was made on the estimates for a subsidy of 10s. in the pound, on both capital and maintenance rates.

The work carried out has consisted principally of the maintenance of existing works, the programme having been completed with the exception of the improvements to the Kaikokopu Stream between the main road and the railway, and the enlarging of certain drains in the Kaikokopu Ward. The former will be carried out as soon as a drag-line is available from the Rangitaiki works, probably towards the end of this year, whilst the drain improvements will be carried out as they are considered necessary.

Owing to the scope of the works having diminished, it has been found impossible to have an officer permanently stationed on the area, consequently the reading of the rain-gauge records has been discontinued. The works are now controlled from the Rangitaiki works, Mr. Innis being the officer in charge.

Dredges.—Formerly there were three floating dredges operating on the area, but these have now been transferred elsewhere. The Priestman was dismantled and shipped to Auckland, with a view to being used on other works, whilst one American steel dipper was dismantled and shipped to the Hikurangi works. The third machine, an American steel dipper, is still on hire to the Kaituna River Board. It will be possible to carry out all necessary future dredging-work by means of a walking drag-line.

Flood-gates.—The erection of a flood-gate which was under construction at the end of last year was completed, making four erected on the low-lying foreshore lands.

Maintenance.—This work consists of patrolling the stop-banks, with the flood-gates constructed therein, as well as the periodical cleaning of all drains.