

The first 7-ft.-diameter pipe-line is well advanced and 350 ft. of the second one has been completed.

The power-house is complete except for minor finishing work, and erection of the first machine was well advanced by the end of March. The outdoor station and the tailrace are both complete.

The new Kaitawa weir, on the Waikaretaheke River near the power-house, is built, with two 50-ft.-long automatic regulating gates. In January the work of widening the canal leading to Lake Kaitawa was finished.

As the level of Lake Waikaremoana dropped during the year, two of the three siphons at the lake outlet were extended into deeper water in order that the supply of water to Tuai and Piripaua Stations could continue in full operation.

A grid of test holes was bored in the outlet barrier of the lake for the purpose of investigating the leakage area.

*Karapiro Development.*—Work on this scheme reached such a stage by the end of the year that the first machine was operating in April.

The major part of the excavation carried out during the year was the removal of the lower coffer-dam and some 70,000 cubic yards upstream of the intake and spillway sections of the dam. Up to 31st March a total of 685,000 cubic yards of spoil had been excavated.

All concreting has been completed except that round Nos. 2 and 3 machines. During the year 30,000 cubic yards were placed, making a total of 220,024 cubic yards to 31st March. All grouting is finished. With the completion of concreting, three batching plants have been dismantled.

Plastering of the power-house walls was completed, and interior finishing is complete except for plaster-board.

Sand blasting and painting of the three penstocks is under way, No. 1 penstock and spiral casing being completed. The scroll case for No. 2 machine has been assembled and welded, and the erection of No. 3 scroll case is in hand. No. 1 machine was completely concreted in, and the concreting of No. 2 machine is 80 per cent. complete.

All draught-tube gates were completed and sealed by December, allowing pumping at the downstream coffer-dam to be stopped.

The workshop and the outdoor station are complete.

Installation of the intake and spillway gates was 90 per cent. finished by 31st March.

The construction of a porous concrete-pipe drain and filter-bed on the Karapiro Stream side of the Tunakawa-Karapiro Ridge was completed in February. This work included 2,108 lineal feet of pipe and filter and 624 ft. of outlet drain.

Lakeside clearing has been almost completed; trees and scrub to 10 ft. below lake-level have been removed, and flats that would be submerged to not more than 30 ft. were cleared to provide feeding-grounds for trout.

A large amount of road construction has been necessary, both to provide access to the different parts of the work during building and when in operation and also to ensure that the Hamilton-Rotorua State Highway and county roads will be above the level of Karapiro Lake.

In the vicinity of the power-house the low-level road has been completed. This road required 82,600 cubic yards of excavation. A roadway has been constructed over the dam, and the left abutment approach has been completed.

The State highway deviation in the Maungatautari Gorge was opened to traffic on 16th March. The sides of fillings have been given a protective coating of rotten rock to stop erosion during wet weather, and a heavy base