channel where the first development took place. The river here is 1,100 ft. in width with a bay on the eastern side. Power was obtained by utilizing a head of 45 ft., acquired by the construction at different times of three dams of 250 ft., 75 ft., and 350 ft. length respectively.

In the present project for utilizing the entire flow of the river the erection is involved of a power house 457 the completion and pumping out of the cofferdams. The first was built on top of an old wooden crib dam previously constructed by the company, and dewatered the power house site from above. Considerable difficulty was experienced, however, in the construction of the lower cofferdam which extended across the tailrace at an average depth of about 20 ft. of water for a distance of

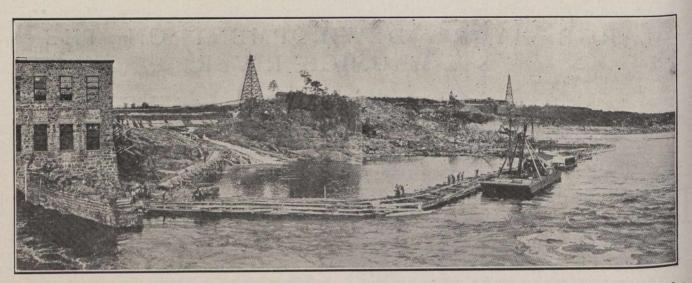


Fig. 2.—General View, Showing Present Power House and Dam, One of the Cable Towers, Cofferdam Under Construction, Main Island, Crushing and Mixing Plant, and the Main Channel of the St. Maurice.

ft. in length x 137 ft. in width, to extend diagonally across the west channel of the river at a point about 200 ft. farther downstream than the old site. A concrete spillway dam 1,700 ft. in length is to extend from the channel corner of the power house, through the island, across the east channel to the shore side of Bee Island, where it deflects at a sharp angle to the shore above. Its height varies from 65 ft. at the deepest point, near the power house, to 4 ft., at the shallowest, which is on the site of the large island. The construction of this dam for utilizing the entire flow of the river has necessitated cutting this island of Grand Mere down to water level in order to provide a sufficient length of spillway to control the water level above the falls during spring floods. A triangular area 400 ft. x 300 ft. with considerable depth, and constituting a mass of approximately 600 tons of solid rock, is being removed. The rugged pinnacle which gave the island its name is being carefully cut and conveyed to mainland, where it will be re-erected.

In the new development the natural fall of 45 ft. will be raised to a total effective head of 77 ft. When the cofferdam, which is now diverting the river during the construction of the power house, is removed, the water will be backed up the river for a distance of about 15 miles.

In addition to the dam and power house construction, a tract of land, previously used by the company as storage yards for logs, had to be raised through a height of 10 to 15 ft. in preparation for the new water level.

The consulting engineers for the company are the Geo. F. Hardy Company, New York, and the contractors, the H. E. Talbott Construction Company. Operations were commenced immediately after signing the contract in January, 1913. Preliminary work by the contractors included the organization of force and equipment, together with preparatory operations in connection with the cofferdam below the falls. This could not be built until after the spring floods. The early part of the season saw

about 600 ft. Wooden cribs, about 20 x 12 ft. in dimension, were filled with stone and sheeted with piling and canvas, thereby rendered watertight. These supported the dam. The placing of the cribs necessitated

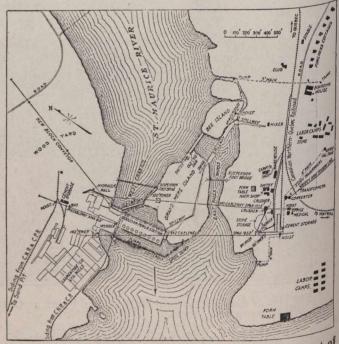


Fig. 3.—Contractor's Construction Camp, and Layout of Present and Proposed Development at Grand Mere.\*

considerable dredging as the rock-bottom was covered with layers of debris, including bark, timbers, boulders, etc. In addition the rock surface was very irregular. Fig. 2 shows the cofferdam under construction. It also

<sup>\*</sup>By courtesy of Engineering News.