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NEW GOVERNMENT DRY DOCK AT LAUZON, QUE.

DETAILS OF DESIGN, INCLUDING CAISSON STOPS, APPROACH, AND PUMPING EQUIPMENT, NOW UNDER CONSTRUCTION FOR THE DEPARTMENT OF PUBLIC WORKS.

THE new dry dock which the Department of Public Works of the Dominion Government has under construction at the village of Lauzon, two miles east of Levis, on the St. Lawrence River, opposite Quebec, will possess many features that will place it among the foremost of such structures. The proposed dry dock is to supplant one already in service at this point. The relative locations of the old and contemplated structures may be noted in Fig. 1, which shows also the general layout of the later development, including the approach slip to be built in conjunction with it.

The work has been under way since last season. The contract for the construction of the dock was let in July,

to be able to use the mid-caisson stop for smaller vessels. A steel rolling caisson, details of which are shown in Fig. 5, will be used to close the outer entrance, while a steel floating caisson, plan and sections of which are shown in Fig. 6, will be used to close the inner entrance, or, in cases of emergency, the outer entrance also.

Fig. 1 also shows the approach channel which is to be dredged to a depth of 30 ft. and to be guarded at the entrance to the dock by concrete walls supported by timber cribs. Between these guide piers and the rolling caisson a sill for the floating caisson is provided. It will be located 20 ft. from the face of the former and will enable it to be unwatered when repairs are necessary.

As shown in Fig. 3, the dry dock will be 144 ft. wide at the top of the coping and 120 ft. in width at the caisson seats. The width will be 120 ft. at the bottom. The depth is approximately 40 ft. below high-water at ordinary spring tide, the fluctuation being 18 ft. between tide levels. The cross-section shows the two solid concrete

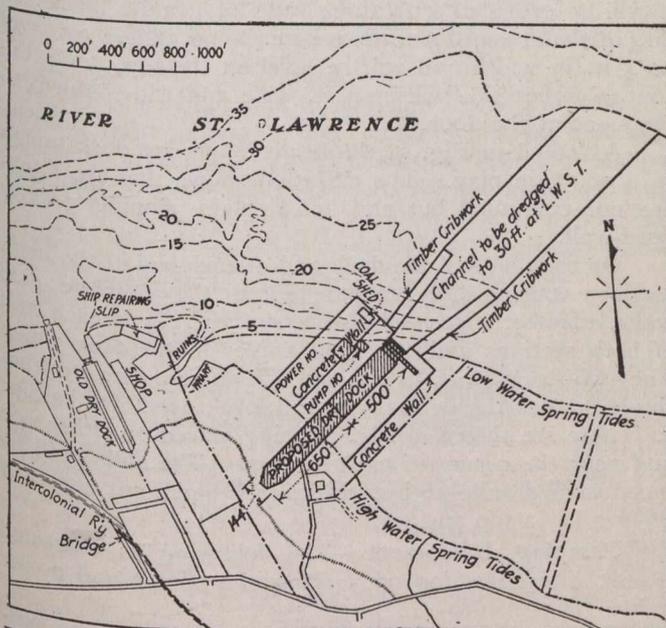


Fig. 1.—Location of the New and Old Government Dry Docks at Lauzon, Quebec.

1913, to the firm of Messrs. M. P. and J. T. Davis, the contract price being \$2,721,116. On October 24, 1913, Premier Borden dedicated the work. Since that time the contractors have been pursuing the excavation work for the dry dock proper. This excavation, as will be noted from Fig. 2, is almost entirely in rock. Very little earth removal is required and this applies also to the amount of dredging necessary.

The dock will be 1,150 ft. in length from headwall to caisson stop. The width of the entrance is to be 120 ft., while the depth on the sill at ordinary high-water spring tide will be 40 ft. The dock will be divided into two parts, as shown in Fig. 3, general plan, the object of which is

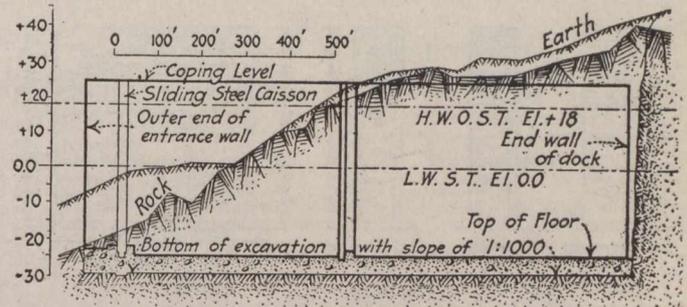


Fig. 2.—Profile Showing Excavation Necessary.

side walls integrally connected to the floor, which is also of concrete. The footings are on solid rock.

The excavation is being carried to a depth of 28½ ft. below the level of low-water spring tide, which is used as the datum line. This is the depth required at the inner end of the dock, the depth of rock varying, as shown in Fig. 1. The bottom of the excavation will have a slope of 1:1,000. It will be 122 ft. in width, sloping up to ground level on a 1:2½ batter. The slope of 1:1,000 mentioned above brings the forward end of the cutting approximately 29½ ft. below datum.

The solid concrete side walls of the dry dock are to be of gravity type in places where they have to support earth fill, such as at the entrance, where the rock bottom recedes considerably, otherwise, the concrete walls will line the rock face of the excavation, retaining on their inner face the same profile as the gravity walls. Where stepped, they will have an average wall thickness of about