

part of the waterway pretty much for granted and are apt to forget the extensive work we have done upon it and the substantial expenditures that have been involved. Below Quebec, the limiting depth of dredged channel is 30 feet at low tide, which, with the average tidal range of 15 feet, affords ample depth for any vessel using the St. Lawrence route. Between Quebec and Montreal there were originally sections of the river which had a limiting depth of 10½ feet at low water, but as early as 1844 we commenced dredging operations to provide greater depth, and over the years, and at a cost of over \$300,000,000, we have developed the St. Lawrence ship channel which now has a minimum depth of 35 feet at low water. Even though we have made these substantial and costly improvements, we are continuing to do further dredging in order to widen the channel and improve it at a number of places in anticipation of the heavier volume of traffic which the seaway promises.

The part of the river between the Port of Montreal and Lake Ontario, which accounts for a rise of 223 feet, is the second step. This part of the waterway is navigable by means of the St. Lawrence canal system, composed of 6 separate canals, with a total of 22 locks, most of which are 270 feet long and 45 feet wide, with a limiting depth of 14 feet. In 1955 total traffic in these canals carried in 6,909 vessels amounted to nearly 11,000,000 tons. I shall come back to this part of the waterway presently.

The third and most spectacular step - 326 feet in height - is the Niagara Falls section, between Lake Ontario and Lake Erie, which is navigated by means of the Welland Ship Canal. Work on it was begun in 1913, interrupted in the autumn of 1916 by World War I and finally completed in 1932 at a cost of \$132,000,000. Seven of the present locks are 859 feet long, and the eighth, or guard lock, 1,380 feet; they are 80 feet in width and have 30 feet of water over the sills. The present available depth of the canal itself is 25 feet, although about 17 miles have been dredged to 27 feet. In order to bring the entire canal to a 27-foot depth and as a part of the Seaway programme, further dredging is to be undertaken by the St. Lawrence Seaway Authority at a cost of approximately \$24,000,000. Traffic over this canal amounted for 1955 to nearly 21,000,000 tons, carried in 9,333 vessels.

The fourth step is the Detroit-Lake St. Clair passage which leads from the western end of Lake Erie to Lake Huron. Over this 89-mile stretch there is only a gradual rise of 8 feet and, consequently, there are no canals or locks. The