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## THE ST. LAWRENCE SEAWAY

An address by the Minister of Transport, Mr. Lionel Chevrier, delivered to the Canadian Association of Real Estate Boards, at Toronto, October 6, 1952.

... The question of deepening the St. Lawrence is not a new one. It has been agitating public opinion for at least a century. During the last fifty years, it has been the subject of negotiations between Canada and the United States. These negotiations culminated in the signing of an Agreement between our two countries in 1941.

The boundary line between Canada and the United States follows the 45th parallel of latitude until it strikes the St. Lawrence River at the point where the boundary of the Province of Quebec meets the boundary of the Province of Ontario, a few miles east of the City of Cornwall; thence, for a distance of 115 miles, it runs westerly through the middle of the river in what is known as the International Rapids Section. Hence, in order to develop the St. Lawrence, it is necessary to seek the concurrence of the United States.

### What is the proposed Great Lakes-St. Lawrence Seaway?

It is a 1,200-mile channel 27 feet or more in depth, extending from Montreal to the head of the Great Lakes. Together with the St. Lawrence Ship Channel, already provided by Canada, it will create a 2,000-mile route from the Atlantic Ocean to the heart of the North American continent. Its proponents seek the deepening of the present channel in order to allow 25-foot craft to carry their cargoes through the St. Lawrence River up to the Great Lakes and, conversely, to permit large Great Lakes freighters to reach Montreal. Coupled with this is the development, on a joint basis, of 2,200,000 h.p. in the International Section of the St. Lawrence River, with the power equally divided between the two countries.

The Great Lakes-St. Lawrence Seaway should be distinguished from the St. Lawrence Ship Channel, which is a channel extending from Montreal easterly to a point 30 miles below Quebec. This channel was deepened by the Federal Government for the purpose of providing safe navigation for ocean-going vessels from deep water to Montreal. It has a depth of 32.5 feet at extreme low water and it will provide a link with the Great Lakes-St. Lawrence Seaway when the latter is completed.

The Great-Lakes-St. Lawrence Seaway is but a small part of what is known as the Great Lakes-St. Lawrence Basin. This is a vast drainage system covering an area of 678,000 square miles, 493,000 of which are in Canada and 185,000 in the United States. It includes Lake Superior, Lake Michigan, Lake Huron, Lake St. Clair, Lake Erie and Lake Ontario, together

with all the tributary rivers and streams, the most important of which are the St. Lawrence River, the Ottawa River, the St. Maurice River and the Saguenay River. The height of land in Canada at the northern limit of this drainage area averages about 1,800 feet above sea level.

You will therefore immediately appreciate the economic significance of this vast drainage basin comprising a potential waterway, together with a potential reservoir of white power in an area of Canada where no coal or black power is available.

What does the Great Lakes-St. Lawrence Seaway consist of?

It consists of five steps which are its chief assets and its chief liabilities.

Chief assets, because they contain 9 million horsepower of electrical energy, most of which is undeveloped. Chief liabilities, because these steps have to be levelled out in order to permit 25-foot craft to ply from one end of the Seaway to the other. The five steps are:

- 1 - St. Mary's Falls lying between Lake Superior and Lake Huron -- where there is a drop of 21 feet.
- 2 - The St. Clair-Detroit passage joining Lake Huron and Lake Erie -- where there is a drop of 8 feet.
- 3 - Niagara Falls which separates Lake Erie from Lake Ontario and which has a drop of 326 feet.
- 4 - The St. Lawrence River Section, which includes the International Rapids Section, the Lake St. Francis and the Soulanges Section, and the Lachine Section, where the drop is 225 feet.
- 5 - Montreal to the sea -- the portion which lies wholly in Canadian territory and in which there is a drop of 20 feet.

These five steps will, it is estimated, develop approximately 9 million horsepower divided as follows:

At Niagara .....	3,600,000 h.p.
In the International Rapids Section .....	2,200,000 h.p.
In the Beauharnois or Soulanges Section .....	2,000,000 h.p.
In the Lachine Section .....	1,200,000 h.p.

All of this power is Canadian, with the exception of 1,800,000 horsepower at Niagara and the American share of 1,100,000 horsepower in the International Rapids Section.

To what extent have these potentialities been developed?

For navigation, Canada has already spent \$300,000,000 to provide a dredged channel of 35 feet to Montreal; a 14-foot canal system between Montreal and Lake Ontario; a 25-foot channel between Lake Ontario and Lake Erie, and a lock at the Sault. The United States has provided locks at the Sault and dredged channels between Lake Huron and Lake Erie.

Canada has spent \$300,000,000 upon these potentialities to enable wheat from the Prairies to move from the head of the Lakes by water to the sea, a distance of 2,000 miles. Thus, Canada's wheat crop was able to reach the European market and

there compete favourably with the wheat of other countries. Again, these sums were spent to provide an alternate route for Canadian wheat exported to European countries vis-a-vis that provided by the United States through the Erie Canal and the Hudson River to New York City. The completion of the Welland Canal permitted our wheat, along with other products, to flow through this natural course down the Lakes into the St. Lawrence River and on to the British market. The completion of the Great Lakes-St. Lawrence Seaway to a full depth of 27 feet would guarantee forever an all-water route for our commodities at a substantially reduced transportation cost, through the elimination of transshipment at such points as Prescott, Port Colborne and Port McNicoll.

From a power point of view, 100,000 horsepower have been developed at the Sault; 1,800,000 horsepower at Niagara, 93,000 horsepower at Massena, N.Y., and 1,000,000 horsepower at Beauharnois. Therefore, out of a total potential of 9,000,000 horsepower, barely 3,000,000 horsepower have been developed, or approximately one-third.

Why is the project necessary from a power standpoint?

As a result of the rapid postwar expansion of industry in Canada, together with a constantly rising consumption of domestic power, the Province of Ontario has been, for the past few years, faced with an acute shortage of power to meet demands. This is further accentuated by the present increasing activity in defence production. The International Rapids Section with its 2,200,000 horsepower potential -- one-half of which belongs to Canada -- constitutes the remaining large block of undeveloped hydro power available to Ontario in the southern portion of the province.

Insofar as the Province of Quebec is concerned, with the increased output at Beauharnois to be available in the near future, the power situation in the large industrial area adjacent to Montreal will be satisfactory for but a few years. I am credibly informed that some of the power will be required from the Lachine Section fairly soon if the present rate of growth in power demand continues.

Why is the project necessary from a navigational standpoint?

The Seaway as it now stands has a depth of 32.5 feet from Montreal to the sea, 25 feet from Prescott to Lake Erie, 21 feet downbound and 25 feet upbound from Lake Erie to the head of the Lakes and only 14 feet from Prescott to Montreal. It is therefore clear that the Seaway has been largely completed on both sides of the St. Lawrence River Section. This is the bottleneck which must be removed to allow deep sea vessels to ply between the ocean and the Great Lakes.

The newly discovered iron ore fields of northern Quebec and Labrador can be most speedily exploited only when the St. Lawrence Seaway is completed. For years the backbone of the steel industry in the United States has been high-grade iron ores of the Mesabi Range to the south of Lake Superior. The high-grade ores from these fields are being rapidly depleted, and that factor accounts for the interest in the fields of Quebec and Labrador, where upwards of 400,000,000 tons of high-grade ores have been proven already.

What, then is the Present Position?

After more than eleven years, the United States Congress has failed to approve the 1941 Agreement. The growing urgency for the project has led Canada to advance the alternative of an all-Canadian Seaway. Co-operation from the United States is required for the basic power development in the International Section of the St. Lawrence, but Canada will build the navigation canals in Canadian territory.

The new approach has been pressed with vigour and with notable success to date. In saying that I do not mean to imply that the last obstacle has been overcome, for it has not. But a big step forwards was made last June 30th when, at our instance, United States joined Canada in requesting the International Joint Commission to approve the construction of works for the development of power in the International Rapids Section of the St. Lawrence River. The approval of the Commission is required if such works are to be undertaken by other than the two federal governments.

The Commission has held hearings on the reference in Rochester, Toronto, Ogdensburg, Cornwall, Albany, Watertown, and Montreal. The Commission is sitting in executive session today in Montreal to consider the engineering aspects. The vast majority of submissions received so far have favoured the project. A final hearing is to be held in Washington on October 20 and it is to be expected that some opposing witnesses will be heard there. However, I wish to emphasize that we have had full co-operation from the Administration in Washington, not only in the preparation of the reference to the International Joint Commission but in the hearings before that body. We are most grateful for that co-operation.

How will the project affect the area in the International Section of the river?

It will change the whole front on both sides of the international boundary line, for a distance of fifty miles. The project approved of is what engineers term the 238-242 controlled single stage project. It consists of:

- 1 - A dam in the Long Sault Rapids and two power-houses a short distance below this, one on the Canadian side, one on the American side, each capable of developing 1,100,000 horsepower. This dam will flood communities on both sides of the River and on the Canadian side for a distance of approximately thirty miles by a width of one to three or four miles.
- 2 - A control dam in the vicinity of Iroquois Point, the object of which will be to control the level of the pool and to protect the down river interests at Montreal.
- 3 - A side canal to carry navigation past the Long Sault Dam and a side canal to circumnavigate the control dam at Iroquois.
- 4 - Dikes where necessary.

The 238-242 single-stage project means that, after its completion, it will be 238 to 242 feet above sea level. The average elevation along the front from Cornwall to Prescott is 220 feet. It is easy then to visualize that, upon completion,

communities such as Mille Roches, Moulinette, Wales, Dickinson's Landing, Farran's Point, Aultsville, Iroquois and one half of Morrisburg, will in some cases be from 18 to 22 feet under water. All along the front, for a distance of thirty miles, communities will be submerged. Farmhouses, schools, churches, cemeteries and homes will disappear. These, it is hoped, will rise again on the new shore line, where modern and up-to-date communities will relocate.

What are the regional implications of the Project?

From a human interest point of view one may think first of what it means to the communities that I have just mentioned and the rebuilt communities that may be expected to take their place. One may think too of the magnificent opportunity for parks and landscaping to enhance the scenic beauty of the new shore, and the opportunities for recreational facilities to enthrall residents and tourists alike. It is a great challenge to planning on an unprecedented scale. If the project proceeds on the present basis, with the Canadian power works built by Ontario Hydro, I appreciate that the initiative in this field will be with the provincial authorities. I have no doubt that they will take full advantage of the situation.

One may think too of the impact of the Project on the river-front area during the construction period alone. The basic power development is expected to cost more than \$400,000,000, and the Canadian part of this work will lie entirely within Ontario. The navigation works from Montreal to Lake Erie will cost at least another \$250,000,000 and of this not less than \$110,000,000 will be for works in Ontario. These are large expenditures to be focussed on a comparatively small region. I have outlined to you what they mean in physical works. I leave it to you to picture what they will mean directly and indirectly to the near-by communities.

Looking a little wider afield and a little further into the future, I have no need to emphasize to a group such as yours what this Project will mean to southern-Ontario and particularly to southeastern Ontario. Above all there is the importance of this new reserve of low-cost power. Much of it may come to be used in the eastern part of the province nearer the development site. But at the same time it will relieve the pressure on other power sources and hence release ample reserve supplies throughout the southern hydro-system. Existing and prospective power supplies are important factors in determining the location of many industrial plants, and so is access to low-cost water transportation.

Toronto may expect to benefit on both counts, but perhaps mainly from the assurance of additional supplies of power to meet rapidly growing needs. It is already established as a major industrial centre and as a mass market. The new reserves of power will reinforce this and other advantages offering a great attraction to industry.

The Toronto harbour already is a busy one. Vessel arrivals and departures totalled 4,506 last year, with a record volume of nearly 4,600,000 tons of cargo passing over the wharves and docks. Overseas shipments accounted for 43,000 tons, and the entries and clearances of vessels engaged in the overseas-package freight traffic numbered 236. Port growth should be accelerated with the new traffic that will

enter the Seaway. I know that you are planning for the future now, and I am sure that the future will be right.

The Toronto area is by no means the only one that may be expected to benefit. The benefits will not be confined to one centre or even one region. I might mention the lusty competition of nearby Hamilton, or the gratifying prospect for Montreal and other river cities. I would draw your attention also to the whole waterfront area from Cornwall to Prescott. It will be near to the new source of power, it will have low-cost water transportation at its door, and it is close to the two mass-markets of Toronto and Montreal. There are other factors than these three that influence industrial location, but these are enough to warrant the suggestion that eastern Ontario can look for a very considerable expansion.

Is the project urgent from the point of view of defence?

From the point of view of national defence, I believe that the development of the St. Lawrence deep waterway is of the greatest importance. Without the construction of the Seaway, the large deposits of high-grade iron ore in Labrador cannot be moved economically and expeditiously to the Great Lakes steel centres. Shipbuilding and ship repair could not be increased advantageously in the relatively well protected Great Lakes shipyards and no relief could be afforded in times of emergency to land transportation between Montreal and the head of the Lakes.

Look at the map of North America, and you will find that the Great Lakes-St. Lawrence Seaway lies almost in the centre of the five physiographic regions of the North American continent. The upper end of the Seaway links the Canadian West to the Atlantic seaboard and the American West to the Port of New York. It joins the wheat fields of Western Canada to the United Kingdom market.

When one realizes that more yearly tonnage passes through one of the bottlenecks in the Upper Lakes region, namely the locks at Sault Ste. Marie, than through the Panama, Suez, Manchester and Kiel Canals put together, this gives some idea of the tonnage that is likely to come through when the development is completed. The building of the Panama Canal through the Isthmus of Panama, the construction of the Suez canal linking the Mediterranean with the Red Sea, were logical projects. They were the inevitable and the right thing to do, no matter at what cost. On the proposal to construct the deep waterway in the St. Lawrence River to link the Great Lakes to the Atlantic Ocean, the verdict will be the same. If you were to draw a circle having a radius of 75 miles around the Long Sault Rapids, you would have within this circle no less than 6 million horsepower of electrical energy, most of which has been undeveloped. What this will mean to the Provinces of Ontario and Quebec and the State of New York, I need hardly explain to an audience such as this.

We are indeed a fortunate country. Not only have we vast natural resources but nature has given us great rivers and streams surging with undeveloped water power. We have in Canada a potential of 55 million horsepower. About one-third of this is to be found in the Great Lakes-St. Lawrence basin and 6 million of it is within this radius of 75 miles. The production of electrical energy is not an end in itself. But it is a means to an end. It supplies services and facilitates production. The true significances of electric power lies in

its relationship to the general economy of Canada. Some two-thirds of the total national production of electricity is absorbed by our manufacturing industries and of these, five major industries use over half of the total power generated for consumption. These are pulp and paper, primary iron and steel, abrasives, electro-chemicals and the smelting and refining of non-ferrous metals. When one realizes that these five industries are both directly and indirectly responsible for approximately one-third of the gross value of our manufactured goods, then the importance of low-cost power to an industrial machine is clearly evident.

The prosperity of Canada is to a very large extent dependent upon industrial production and the latter is impossible without power. Hence, the benefits of this great Project to both Canada and the United States, are incalculable.

The friendly relations existing between Canada and the United States for well over a century have been greatly enhanced by two world wars. These wars, and particularly the last one, have brought us together more than ever before. They have shown that on many problems not only do we think alike but frequently we act together. Such was the case of Ogdensburg, on the Permanent Joint Board on Defence, at Hyde Park, on the Alaska Highway, in the Northwest Passage and perhaps more particularly in the air by means of our trans-border services. Our governments think alike on the development of the St. Lawrence Waterway. I believe the vast majority of our people think alike, but we must translate this thinking into action. We must act together upon it so that, to use the words of a great British statesman, in the days to come the Canadian and the American peoples will, for their own safety and the good of all, walk together in majesty, in justice, and in peace.