OW.

2. **Welland Ship Canal** (cont'd)

Estimated benefit to commerce - 40 cents per ton.
  On 7½ million tons - $3,000,000

Cost of Operation.
  Interest 4½% on $161,000,000 - $7,800,000
  Amortization ½% $161,000,000 -   805,000
  Operation & Maintenance :
          1½% $115,000,000 -   1,725,000
                                          9,330,000
  Annual deficit standing alone over $6,000,000

Note. Rates for Amortization, Operation and Maintenance
  based on figures given by U.S. Board of Engineers
  for Oswego-Hudson.   Interest at rate actually
  being paid by the Canadian Government.

3. **Traffic.**

(a) Annual Movement Great Lakes to Atlantic Seaboard
        over 250,000,000 short tons.
        Presently interested in Waterway 15-30,000,000 tons.

   In 1919 Railways south of Lakes incapable of
   handling traffic - relinquishment of Government
   control - more satisfactory conditions - margin
   of capacity still extremely small.   In Canada
   railway development is still in advance of
   population and production.
      Traffic is seasonal - waterway suitable for
   carrying peak loads - Cost of facilities by rail
   many times greater than Waterway and cost of
   transit higher in about ratio of 150-20.

(b) **Capacity required.**

   Initial at least 25,000,000 tons - must be
   capable of large increase later.

4. **Dimensions of a ship canal to serve area in question.**

   Initial depth 25 feet preferably 27 feet and ultimate
   30 feet. Length of locks 860 feet.
   27½ feet will admit 87% of merchant tonnage afloat,
   and will only exclude large ocean liners and special
   purpose transports which would not use waterway in
   any event.
   Channel width in cuts 220 feet, in submerged sections
   450 feet. No curves less than ¾ mile are permissible
   and at least 1 mile radius should be provided.   No
   reverse curvature.

5. **Alternative Routes.**

(a) **Georgian Bay Ship Canal.**

   22 foot project 1908 estimated cost $100,000,000
   27 locks - 28 miles canal - 66 miles dredging - 116
   curves of which 39 are of about ¾ mile radius - 2 reverse
   curves. Length 440 miles - rise to summit 659 feet thence
   fall to Lake Huron 98 feet.
      "Amable du Fond" Watershed limits capacity to
   10,000,000 tons per annum - could be increased at great
   expense by about ⅓.