

# The Indian Arm Dam and Causeway Proposal

Researched and written by: [Ralph Drew](#), Belcarra, BC, September 2022.

In June 1965, the 'National Harbours Board' retained 'Swan Wooster Engineering Company' to make a case for a hydraulic model of Vancouver Harbour: <sup>(1)</sup>

"The [NHB] Development Committee had asked that a hydraulic model be set-up so that planners can determine in advance what the effect of harbour projects would be on harbour tidal currents." – **Vancouver Sun, 11 June 1965.**

In March 1966, the 'National Harbours Board' unveiled a huge sand and concrete model — located on the second floor of the Ballantyne Pier Shed #3 — which would play a key role in the future development of Vancouver Harbour: <sup>(2)</sup>

"The 5,000-square-foot [465 m<sup>2</sup>], \$40,000 model [about \$350,000 today] duplicates the harbour from English Bay to Port Moody, including Indian Arm. The model is 160 feet [49m] long, an average of 20 feet [6m] in width and stands three feet [1 m] high. It weighs about 600 tons [544 tonnes]." – **Vancouver Sun, 30 March 1966.**

The hydraulic model was built by 'LaSalle Hydraulic Laboratory' of North Vancouver and enabled the 'National Harbours Board' to ask the question: <sup>(3)</sup>

"What would happen if a causeway were built across the mouth of Indian Arm, cutting-off at least one-third of the tidal water east of the First Narrows? Such a project has been advocated for 65 years, but there has never been any way of telling whether it would benefit Vancouver Harbour ... The model proves that if there were a causeway across Indian Arm, it would cut-down the tidal flow through the First and Second Narrows by at least a third during peak periods." – **Vancouver Province, 31 March 1966.**

In October 1966, as a result of further study by engineer Fred Parkinson, manager of 'Lasalle Hydraulic Laboratory', Parkinson reported a different solution to the high velocity tides in the Second Narrows: <sup>(4)</sup>

"...a simple dredging operation would reduce the maximum tide velocity through Second Narrows to roughly to half the present rate." – **Vancouver Sun, 11 October 1966.**

In March 1967, the 'Foundation of Canada Engineering Corp.' (Fenco) announced that the company was undertaking a feasibility study of the 'Indian Arm' causeway proposal on behalf of a number of firms including CNR, CPR, PGE and others. <sup>(5)(6)</sup>

"Construction of a causeway, discussed in harbour circles for many years, would permit direct rail entry to the industrial area of the North Shore waterfront and also reduce tidal currents through the Second Narrows." – **Vancouver Sun, 11 March 1967.**

Tom Phillips, development manager of 'Vancouver Wharves' and president of the 'North Vancouver Chamber of Commerce', was quoted as stating: <sup>(7)</sup>

"The Indian Arm crossing should really be encouraged ... It would give us another rail and road route, which is something the North Shore really needs. A new route would be a great boon to our economy. The more approach routes to our community, the more they will assist in our growth. There is no question that a new link would have a considerable effect on our future development." – **Vancouver Province, 29 July 1967.**

In September 1967, Fenco announced its proposal to build a nearly mile-long (1.6 km long) earth-filled dam and causeway across the mouth of Indian Arm. The cost was estimated at \$15 million (about \$123 million today) with the estimated additional cost of a double-track railway from Port Moody to the Second Narrows in North Vancouver at \$8 million (about \$66 million today), and the cost of a four-lane highway between North Vancouver and Port Moody estimated at \$6 million (about \$49 million today) — see photograph and map below: <sup>(8)(9)(10)</sup>

“The causeway would create a 12-mile [20 km] lake of virtually fresh water for recreational use. Access would be gained by means of locks, while a fishway would provide an entrance for spawning salmon.” – **Vancouver Province, 15 September 1967.**

The benefits of the plan developed by Fenco engineers — as the company’s independent Canadian Centennial project — were described as four-fold: <sup>(9)</sup>

- The damming of Indian Arm would reduce the currents in the harbour, particularly at the First and Second Narrows.
- It would provide additional railway access by the CPR from Port Moody to the greatly expanding North Shore industries and bulk loading terminals. <sup>(11)(12)</sup>
- It would provide a new highway link from the Fraser Valley to North Vancouver, relieving congestion on the Second Narrows Bridge.
- The dam and causeway would create a lake of virtually fresh water for recreational use.

In November 1967, the proposed causeway across the mouth of Indian Arm was given support by the ‘Port of Vancouver Development Committee’: <sup>(13)(14)</sup>

“The harbour group backed a resolution by Capt. N. P. Smith [manager ‘Canadian Blue Star Line Ltd.’] requesting the ‘National Harbours Board’ to consider the construction of a causeway at Indian Arm, and to take existing feasibility studies into consideration when analyzing the different Burrard Inlet crossing proposals.”

– **Vancouver Province, 15 November 1967.**

In December 1967, the proposed dam and causeway across Indian Arm was strongly opposed by residents of North Vancouver: <sup>(15)</sup>

“A proposed causeway across Indian Arm for road and rail traffic came under heavy attack from candidates and residents at a North Vancouver District municipal election rally ... sponsored by the Deep Cove and Dollarton ratepayer associations.”

– **Vancouver Sun, 1 December 1967.**

In October 1969, the ‘District of North Vancouver’ rejected participation in the causeway study being promoted by the ‘Port of Vancouver Development Committee’: <sup>(16)</sup>

“North Vancouver district council, in a split decision, has rejected a request it participate in studying the feasibility and cost of construction of a causeway across Indian Arm at Dollarton.” – **Vancouver Sun, 29 October 1969.**

In February 1972, lawyer Alan Campney told the ‘Canadian Industrial Traffic League’ convention in Vancouver that a causeway across the south end of Indian Arm should be built to control the tidal flows: <sup>(17)</sup>

“Alan Campney said a scheme would reduce the tidal flow in the inner harbour by two-thirds ... There have been Japanese companies who have refused to let their ships go to certain berths because of what they consider to be very strong high tides.”

– **Vancouver Sun, 26 February 1972.**

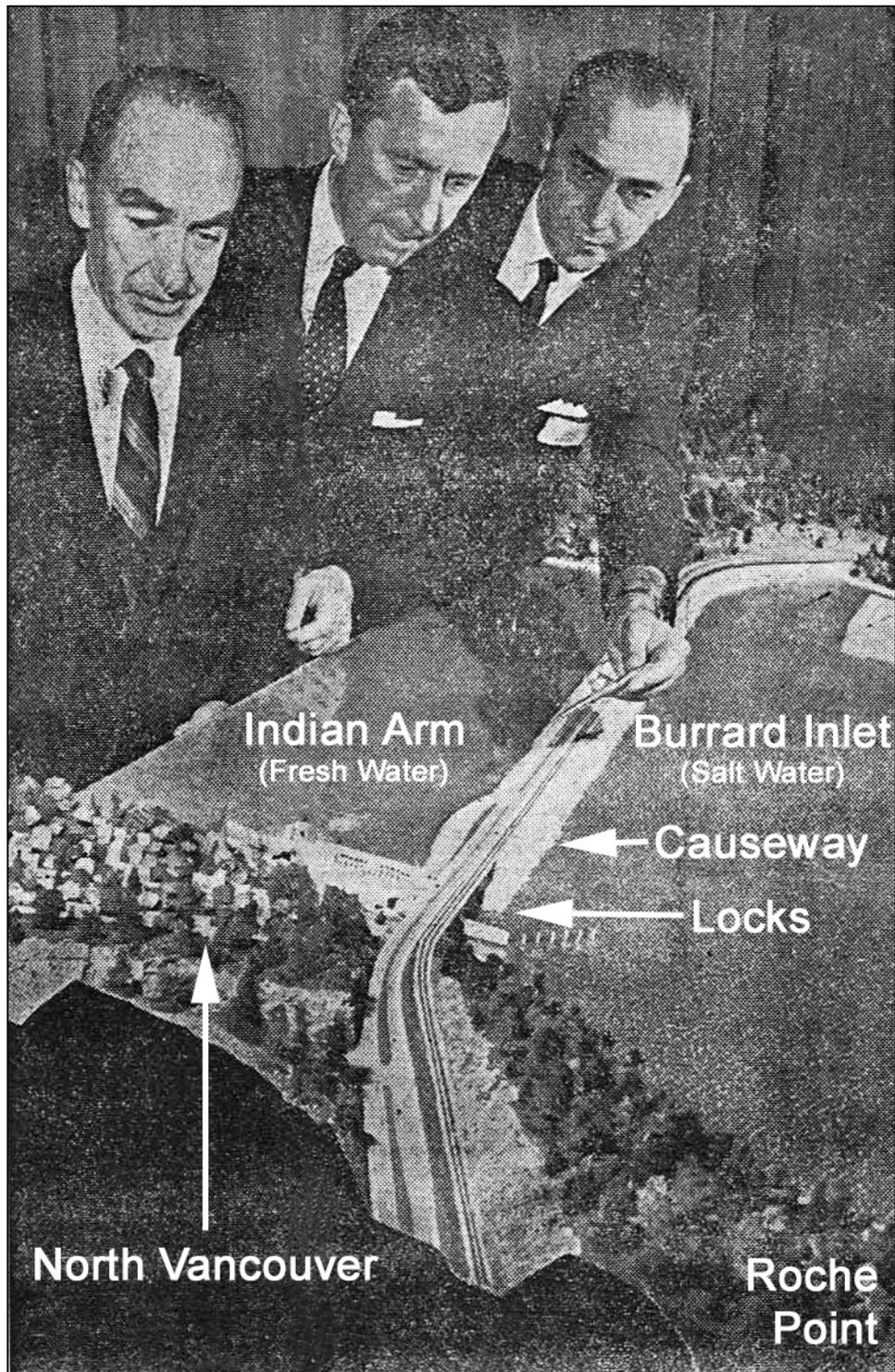
Fortunately, the Indian Arm dam and causeway proposal never came to fruition which prevented an environmental disaster for the most southern deep-water fjord on Canada’s Pacific Coast that is today protected as a Class ‘A’ Provincial Park.

## **References:**

- (1) "Firm Studies Worth of Harbour Model", [Vancouver Sun, Friday, June 11<sup>th</sup>, 1965, page 17.](#)
  - (2) "Harbour Model Helps Board to Plan Port Development", [Vancouver Sun, Wednesday, March 30<sup>th</sup>, 1966, page 3.](#)
  - (3) "Confetti Game Aids Harbour", [Vancouver Province, Thursday, March 31<sup>st</sup>, 1966, page 23.](#)
  - (4) "Expert Dredges Up Plan to Curb Tides", [Vancouver Sun, Tuesday, October 11<sup>th</sup>, 1966, page 17.](#)
  - (5) "Hydraulic Model for Port", [Vancouver Province, Thursday, February 25<sup>th</sup>, 1965, page 15.](#)
  - (6) "Feasibility Study Starts on Indian Arm Causeway", [Vancouver Sun, Saturday, March 10<sup>th</sup>, 1967, page 31.](#)
  - (7) "Indian Arm Causeway", [Vancouver Province, Saturday, March 11<sup>th</sup>, 1967, page 30.](#)
  - (8) "Causeway Idea Called a boon to North Shore", [Vancouver Province, Saturday, July 29<sup>th</sup>, 1967, page 10.](#)
  - (9) "Causeway Plan Revealed", [Vancouver Province, Friday, September 15<sup>th</sup>, 1967, page 31.](#)
  - (10) "\$29 Million Causeway Urged for Indian Arm", [Vancouver Sun, Friday, September 15<sup>th</sup>, 1967, page 37.](#)
  - (11) "CPR Eying Use of Inlet Causeway", [Vancouver Sun, Tuesday, September 26<sup>th</sup>, 1967, page 2.](#)
  - (12) "CPR Shows Interest in Causeway Project", [Vancouver Province, Wednesday, September 27<sup>th</sup>, 1967, page 22.](#)
  - (13) "Causeway Backed", [Vancouver Sun, Tuesday, November 14<sup>th</sup>, 1967, page 2.](#)
  - (14) "Port Group Supports Indian Arm Causeway", [Vancouver Province, Wednesday, November 15<sup>th</sup>, 1967, page 24.](#)
  - (15) "Candidates, Residents Attack Causeway Proposal", [Vancouver Sun, Friday, December 1<sup>st</sup>, 1967, page 10.](#)
  - (16) "District Rejects Causeway Study", [Vancouver Sun, Wednesday, October 29<sup>th</sup>, 1969, p. 8.](#)
  - (17) "Indian Arm Causeway Urged to Control Tide", [Vancouver Sun, Saturday, February 26<sup>th</sup>, 1972, page 31.](#)
  - (18) Foundation of Canada Engineering Corp. Ltd., Engineering Study, September 14<sup>th</sup>, 1967.
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## **About the Author:**

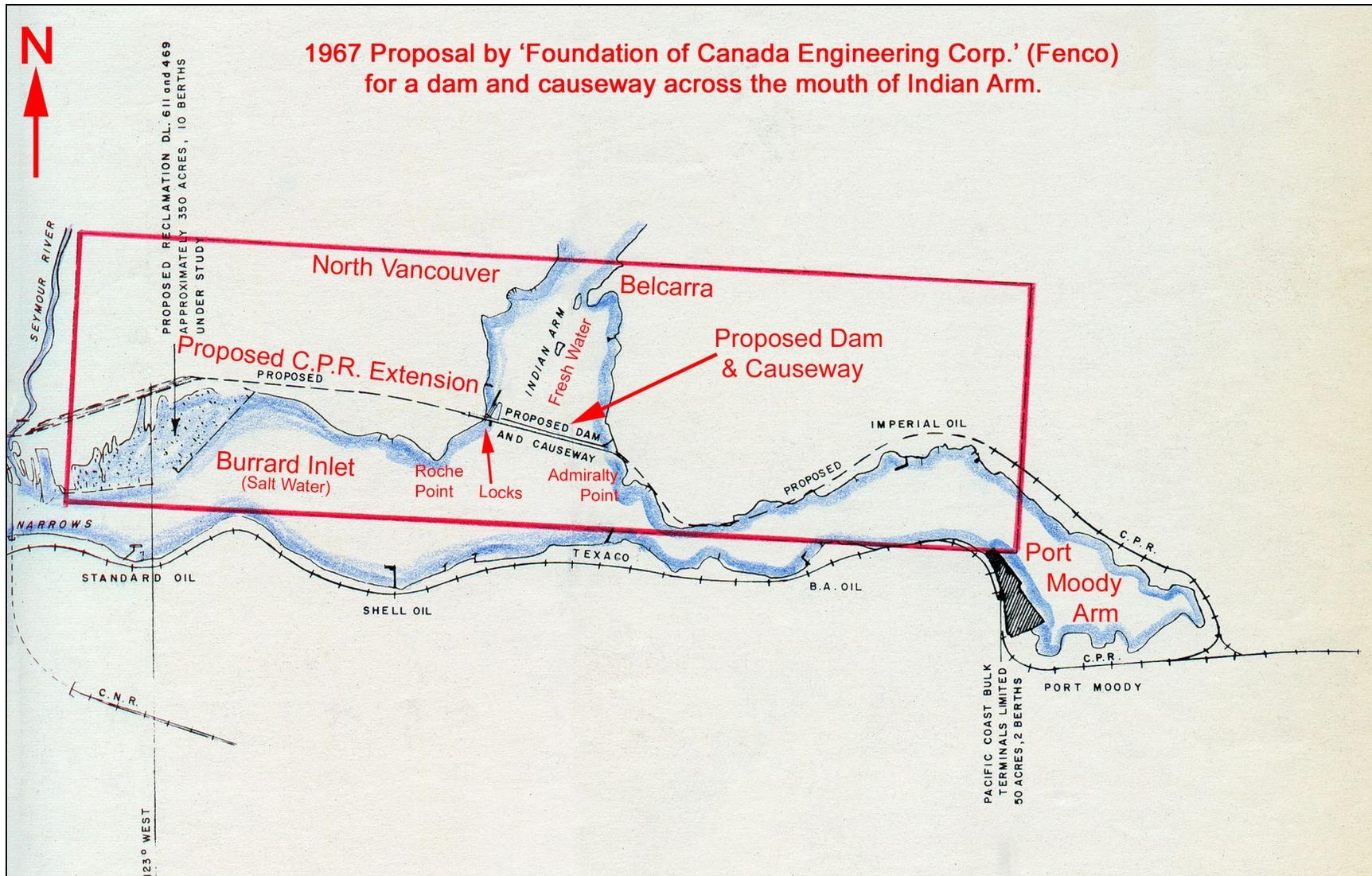
[Ralph Drew](#) is a local historian and self-publishing author who lives in the Tri-Cities community of Belcarra. In 2014, Ralph was awarded first prize in the [B.C. Historical Federation](#) annual book competition, receiving the [Lieutenant-Governor's Gold Medal](#) for historical writing for his self-published history, [Forest & Fjord: The History of Belcarra](#). In 2016, Ralph was awarded second prize in the [B.C. Historical Federation](#) annual book competition for his book titled: [Ferries & Fjord: The History of Indian Arm](#). In 2017, Ralph published his third book titled: [Townsite Tales: The History of loco](#). Ralph's fourth and most recent book was published in October 2018, titled: [Coquitlam Chronicles: Historical Crossroads on the Fraser River](#).



Source: *Vancouver Province*, September 15<sup>th</sup>, 1967, page 23.

Annotated by Ralph Drew.

**Fenco engineers (L to R), L.R. Marengo, P.F. Anderson and I.R. Ronalds pose with a model of the proposed Indian Arm dam and causeway. <sup>(9)</sup>**



Source: Foundation of Canada Engineering Corp. Ltd., Engineering Study, September 14<sup>th</sup>, 1967.

Map annotated by Ralph Drew.

**1967 map showing the proposed dam and causeway across the mouth of 'Indian Arm'. (18)**