



Gosse Bridge to Undergo Major Repairs

By Maurice Rees

The other major bridge rehabilitation project in Cumberland, Colchester and Hants Counties in 2020-2021 fiscal year involves the Gosse Bridge in South Maitland. Construction of the box girder bridge began in 1977 and completed two years later in 1979. It's construction provided a direct connection improved the connection between Colchester and Hants counties, when previously motorists from East Hants areas along the Bay of Fundy shore, Maitland, Noel, Walton and Kennetcook areas had to travel to Shubenacadie, then make their way to Truro or other Colchester Communities. The opening of the bridge cut the travel time from over an hour to 30 minutes to go from Maitland to Truro.

After noticing the frequency engineers were studying the bridge many residents in East Hants were concerned when a rumour was circulating the bridge would be closed for 3-6 months. NSTIR has indicated majority of the work is expected to be accomplished using lane drops. Their statement did not qualify the bridge would not be closed, but it at least reduced the possible length of time for closure.

The Gosse bridge is somewhat unique, as shown by online research which revealed the following:

The Clarence L. Gosse Bridge spans the Shubenacadie River. The Shubenacadie is a tributary of the Bay of Fundy and the large tides and swift current for

which the Fundy is noted played a major role in determining the span lengths and type of construction for the bridge. The river Channel at the site is 420 m wide under high tide conditions and 91 m at low tide. The tidal range is 10 m with currents varying from 1.8 to 3.6 m/sec. In the winter ice floes, raft ice and shore ice build-up increase the construction problems.

A number of alternative structural Systems and variety of spans were analyzed. The most economic and feasible alternative proved to be a concrete hollow box, post tensioned girder using the free cantilever method of construction. The span lengths developed were 113.4 m; 213.4 m and 113.4 m providing a total length of bridge of 440.2 m.

At the time of construction and until 1983 the 213.4 m center span was the longest span in North America constructed using the free cantilever.

Those unfamiliar with the bridge or the largest tidal bore on the world's highest tides can experience the environment surrounding the bridge in a YouTube video found at: <https://www.youtube.com/watch?v=aA-XnXfleZk>

In an emailed statement, Marla MacInnis, Media Relations Advisor, Transportation and Infrastructure Renewal, said, "The Clarence Gosse Memorial Bridge will undergo rehabilitation work in the coming construction season. This includes some minor repairs to the deck and curb concrete as well as the re-

placement of items such as the bridge joints at the ends of the bridge and the joints and bearings at the middle of the bridge. The majority of the work is expected to be accomplished using lane drops. We anticipate work will be complete ahead of winter 2020".

Additional research found in a technical construction paper, "Structures in Canada, in 1984 by D. H. Franklin, provided additional information about the bridge and construction procedures, as outlined below:

Substructure: The abutments are conventional "U" shaped concrete walls founded on H piles carried to bedrock. The piers were designed to be constructed in the dry on bedrock within a steel sheet piled caisson. The piled caisson measured 21 m x 10.6 m in plan with the sheet piling designed to resist a 19.8 m head of water. Arbed HZ50 piling were used with internal bracing frames. The east pier was built on bedrock; however, the west pier required a design revision as the bedrock sloped quickly away from the pier Site. The re-design required that 184 H-piling be driven inside the sheet piled caisson, a 3.7 m tremie plug used and only then was the pier constructed in the dry as for the east pier. The pier stem is streamlined in plan and sloped in elevation to provide an ice breaker system. The nose of each pier is protected with 25 mm steel plate shaped to the streamline surface. The sides of the piers are covered with a 100 mm thick

sacrificial concrete jacket. This jacket provides protection to the structural concrete of the stem from the abrasive action of the river water and winter ice and can be repaired or replaced quite readily. In the substructure a total of 3975 m³ of 28 MPa concrete and 136 tonnes of reinforcing steel was used.

Superstructure: The free cantilever system chosen provided the means of constructing the superstructure without falsework using travelling forms to keep any work out of the River. The piers contained steel inserts on which the falsework for the pier table was erected. The pier table contained 354, 32 mm Dywidag deformed tendons which had a yield strength of 1034 MPa. Each tendon was stressed to 58 tonnes. The final sections cast at the centre Joint contained only 10 tendons, the other tendons being systematically terminated at given locations. The east half of the superstructure was erected during the winter and was completed within 6 months. Winter work complicated the placing of concrete as the travelling form had to be insulated and the concrete heated. The east half was completed 9 months ahead of the west half. The meeting of the two halves took place in late 1978. The dimensional param-

The Shoreline Tid-Bits Journal

Disappearance ruled a homicide

The disappearance of Peter Anthony Walsh is now being investigated as a homicide according to a press release issued by the RCMP on January 20th.

Walsh, known as "Tony" to his family and friends, was last seen on August 23, 2019 in Truro. His disappearance was being investigated as a missing persons file, however the evidence has now led the RCMP to rule the matter as a homicide.

The RCMP continues to ask members of the public to come forward if they have any information about this incident. Information can be provided directly to the investigators by calling the RCMP Northeast Nova Major Crimes Unit at 902-896-5060. Should you wish to remain anonymous, call Nova Scotia Crime Stoppers toll free at 1-800-222-TIPS (8477), submit a secure web tip at www.crimestoppers.ns.ca, or use the P3 Tips App.

Wellness Fair to be held April 18th

The 2nd Annual Wellness Fair will be held Saturday, April 18th from 10am-2pm at the West Colchester Consolidated School. If you are interested in a booth at this event, facilitating a workshop/demo, or supporting the planning of this event in any way please respond contact Mandy Moore at Ph: 902.890.4383; www.nshealth.ca

Journalism entries being accepted

The Atlantic Journalism online entry system is now open to accept entries for the 2019 news year. Go to www.AJAs.ca for entry details, category descriptions and judge's guidelines. The deadline for submissions is midnight Friday, February 7, 2020. For further information, contact the AJAs at office@ajAs.ca or 902-820-2115.

Entries are reviewed by panels of judges from coast to coast and three finalists from each category are announced in early April. The gold and silver winners will be presented at a gala event and awards show on Saturday, May 9, 2020 at the Halifax Marriott Harbourfront Hotel.

Farm Credit to contribute \$100,000

Farm Credit Canada (FCC) 4-H Club Fund will contribute \$100,000 in grants to 206 4-H clubs, districts and regions across Canada in 2020, supporting local clubs' initiatives, with the ultimate goal of empowering youth to be responsible, caring and contributing leaders that effect positive change in the world around them.

The FCC 4-H Club Fund awards up to \$500 to local 4-H clubs every year, towards developing their existing programs, covering the costs associated with local events and exchanges, supporting their volunteers or purchasing various resource materials.

The next application period for the FCC 4-H Club Fund opens in August 2020. For more information on the FCC 4-H Club Fund, please visit 4-h-canada.ca/clubfunds.

eters of the box girder was as follows: deck width overall: 10.62 m roadway width: 9.75 m box girder width: 6.10 m box girder depth: from 2.44 m to 10.7 m at the piers web thickness: constant 356 mm bottom slab: from 150 mm to 1.68 m only diaphragm occurred at the pier table the centre Joint was a hinged configuration. In

total, 5500 m³ of high strength concrete was used in the superstructure along with 664 tonnes of 32 mm tendons. The structure officially opened for traffic July 1979 and named after a prominent Nova Scotian and former Lieutenant Governor Doctor Clarence L. Gosse.



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