

New ferries for Halifax, Nova Scotia

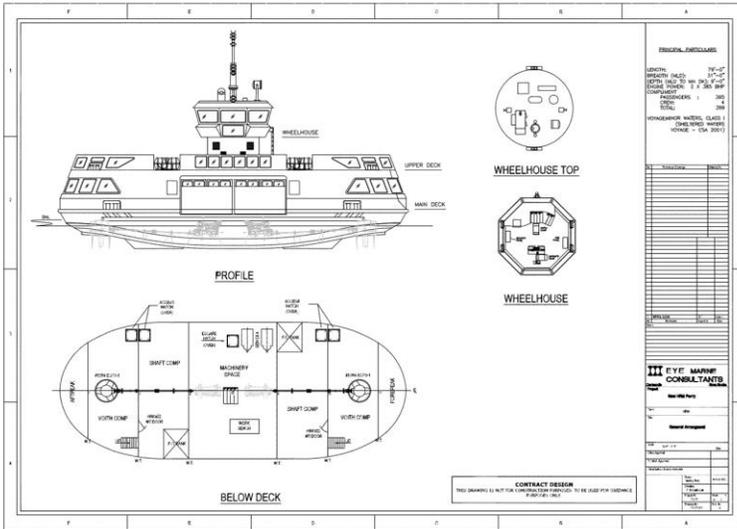


A common sight throughout the year in Halifax harbour, Nova Scotia, is the blue and white oval-shaped passenger ferries that ply back and forth between Halifax and Dartmouth, across 1.6 km of open water. Owned and operated by Halifax Transit, the fleet of four ferries is currently being replaced by new vessels, designed and constructed in Nova Scotia. So far, two of the new ferries have been built and are in service.

The *Christopher Stannix* and the *Craig Blake* are named after two Canadian servicemen who died in action overseas in the past 8 years. While the new vessels may look the same from a distance as the 20 year old ferries they're replacing, they incorporate many changes and improvements that today's technology makes possible, and which were identified as needed as a result of operational experience.

Design

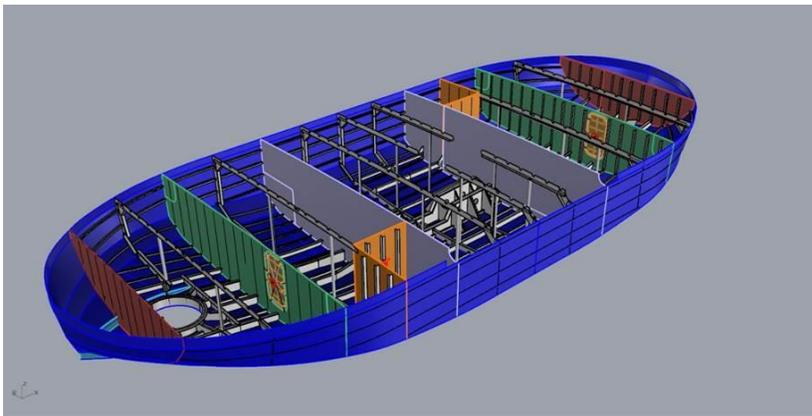
The ferries were designed to Transport Canada requirements by EYE Marine Consultants of Dartmouth, NS – the same firm that designed the first generation of this class of ferry almost 30 years ago, although they were then known as Evans, Yeatman & Endal. Based on operational experience with the original ferries, changes were identified for incorporating into the new design such as: better routing of exhaust piping, improved access below deck and to the wheelhouse, trim and heel control, uninterrupted power supply and propulsion control, and the addition of a crew washroom. Apart from being given a facelift, the shoreside docking facilities at the Halifax, Dartmouth, and Woodside terminals (just seaward of the Dartmouth terminal) were not changed, and so the new ferries had to be arranged to match them.



Construction

After a competitive tendering process, the contract to build three new ferries (with a possibility of a fourth) was awarded to A. F. Theriault & Son – Nova Scotia’s family-owned and largest boatbuilding company, located in picturesque Meteghan River on the southwest coast.

3D modelling of the hull and systems was first carried out in conjunction with the designer and Owner before construction began to optimize the layout of machinery, control systems, wheelhouse and passenger areas. The resulting files were used for cutting steel for the hull and superstructure.



Sub-assemblies were fabricated in AF Theriault’s steel shop, and then treated and painted before installation of the various systems could begin.

The wheelhouse was built and outfitted separately to the main hull and lifted on to the upper deck in the final stages of construction, when all cabling and other interface connections were made.

Machinery

The ferries are driven by two 12R4 Voith Schneider propellers, each coupled to a C12 Series Caterpillar engine via a GearEx 30 Toothed Gear coupling. Each engine is rated at 287kW at 1800rpm to give a cruising speed of 9 knots. Machining of the mounting flanges for each Voith unit was done in situ to achieve the tight tolerances required.

On-board electrical power is provided by two Caterpillar C4.4 single phase generator sets each rated at 44 kW.

Exhaust piping from the main engines and gensets was led to above the wheelhouse top in a single cluster to ensure fumes cleared the upper passenger deck – an issue that had been reported in the older ferries.

Hydraulic oil pumps are driven off the gearbox of each main engine to power the two passenger ramps and the anchor windlass. The bilge pump is driven via a clutched power take-off from one of the main engines, whereas the main fire pump is electrically driven from the vessel's 240 VAC, single phase, 60 Hz supply.

Outfit

An NMEA2000 Standard alarm and monitoring system was installed for the main engines, generators, navigation electronics, Voith drives, bilge system, tanks, and security system for door access/status throughout the vessel. The NMEA 2000 network is accessible to the ship's engineer via cellular phone so that he/she can view recorded vessel data at any time.

Care was taken to ensure that all interior linings and finish were dust-free. This was achieved by use of Ayres 2054 interior panels and Dampa suspended ceiling.

The lifesaving equipment comprises three 150 person inflatable rafts fitted with hydrostatic and quick release manual launching racks, and one single path inflatable slide installed on the upper deck on one side that incorporates one of the 150 man rafts.

The wheelhouse offers 360 degrees of uninterrupted vision and is heated and air conditioned. Passenger spaces are heated and ventilated.

Delivery and Operation

The new ferries were delivered by sailing them up the coast from the yard in Meteghan River to Halifax -

a distance of 200nm - at an average of speed of 9 kts. The two deliveries made to date have been uneventful and have proved the robustness of the new generation of Halifax ferry.

The hull shape and propulsion system allows each ferry to operate equally well in either direction – an essential feature for efficient operation on each of the passenger routes. In fact, the only way to tell which is the bow, is the anchor which is stowed at one end only.

Each of these new ferries takes about 13 months to build from start, and at a cost of \$4.25 Canadian, excluding the two Voith drive units.

The third ferry is due for delivery in the summer of 2016.

Principal Particulars

Length Overall: 24m

Beam: 9.45m

Depth: 2.89m

Draft: 1.40m

Gross Registered Tonnage: 260

Crew compliment: 5

Passenger capacity: 395

Voyage Classification: Minor Waters Class I

Main Engines: 2 x 385 BHP @1800RPM MCR

Propulsion: 2 Voith drives Model# 12R4 EC/75-1

Cruise speed: 9 kts

Max speed: 10 kts

Fuel capacity: 19,800 litres

Fresh Water capacity: 1,500 litres

For more information contact:

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