

Environmental Science & Engineering - [www.esemag.com](http://www.esemag.com) - May 2001

# First bolted steel tank for potable water built in Newfoundland



*Photo is taken inside the tank under construction. Completed tank appears in the background. Visible is the glass-fused-to-steel floor and top ring of steel along with the frame of the aluminum dome.*

With the development of a new groundwater system, the town of Stephenville, Newfoundland, required additional storage for potable water. This need was addressed with the construction of two bolted glass-fused-to-steel tanks, each covered with an aluminum geodesic dome. The contract for this construction project was awarded to Greatario Engineered Storage Systems of Innerkip, Ontario. BAE Newplan Group Ltd. designed and supervised the development of the Stephenville water system.

The work involved the manufacture, shipment, and installation of two 24 metre diameter by 10.5 metre tall Aquastore<sup>®</sup> Glass-fused-to-Steel Tanks and two 24 metre Temcor<sup>®</sup> Aluminum Domes. This equates to a total storage capacity of 9,000 cubic metres. Due to the remote location of the construction site, the bolt-together design of the tank and dome allowed the construction materials to be shipped by both truck and ferry. Once the tanks were delivered to site, both tanks were erected in six weeks.

Aquastore tanks are erected from ground level using a unique jacking system. A series of jacks are placed around the periphery of the tank interior and connected to a common drive. As one ring is completed, the entire tank is jacked, ready for the next ring of glass-fused-to-steel sheets.

The interior of the tank is treated with a special cold climate glass formulation which turns the interior tank colour cream. The exterior of tank is the standard cobalt blue colour.

For additional sheet protection, all of the sheet edges in the installation have been mechanically rounded and flame sprayed with a stainless steel alloy, the glass is then sprayed on the sheets in multiple steps and baked on to promote a chemical and physical bond with the steel.

*See our home page on how to order your subscription. We regret we can only accept orders from Canada and the United States.*