



PHASE 1

Alaska Highway Major Storm Sewer Relief

OWNER

City of Fort St. John

DESIGNER

Urban Systems

LOCATION

Fort St. John, BC

The Challenge

There were several challenges encountered on the project. The job location proved challenging, with low cover availability along several sections of the pipe route. The project also had a very tight construction window; therefore, installation had to proceed as quickly as possible. Finally, the proposed solution needed to provide both durability and maximum service life.



TECHNICAL DETAILS

DuroMaxx® SRPE pipe: 874 m of 2438 mm (96 in) and 155 m of 2134 mm (84 in) nominal diameter

The Solution

Armtec proposed the installation of 874 metres of 2438 mm (96 in) and 155 metres of 2134 mm (84 in) nominal diameter DuroMaxx® Steel Reinforced Polyethylene (SRPE) pipe to provide storm sewer relief to the city's existing system which was undersized for peak storm events.

The low available cover required a relief sewer design optimized for both size and hydraulic capacity. The wall thickness of 2438 mm Duromaxx pipe is approximately 15% less than the thickness of equivalent concrete pipe with the same internal diameter. This feature allowed Duromaxx to fit within the vertical profile available, where other pipe types would not.

In order to accelerate installation, the pipe was welded from the interior allowing the contractor to backfill ahead of the welding crew. The long Duromaxx pipe lengths also reduced the number of joint connections compared to concrete pipe, allowing construction to proceed quickly and efficiently. Finally, DuroMaxx pipe's lighter weight made it easier to handle with less heavy equipment and labour costs.



DuroMaxx was also selected for its durability and resistance to chemical attack. The galvanized steel component is completely encased in High Density Polyethylene (HDPE) which protects the steel from corrosion. Additionally, HDPE has a documented history of performance against corrosion and chemical attack. *The Ministry of Ontario's "Gravity Pipe Design Guidelines", April 2014 confirms a design service life of 75 years for HDPE pipe.* DuroMaxx SRPE pipe possesses the same chemical corrosion resistant properties of HDPE, outperforming other pipe materials on the market.

Installation of the new relief storm sewer proceeded smoothly with minimal disruption to local road users. The project was successfully completed in the fall of 2014.

Find out how **DuroMaxx® SRPE pipe** can be used on your next project!

Contact us today.



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