PROJECT SHEET

Picton Main St Pump Station

2023

ABOUT THIS PROJECT:

Market Segment:
Wastewater Collection & Treatment

Location:
Picton, ON, Canada

Ready-Mix Provider:
Lafarge Canada

Owner/Developer:
Prince Edward County

General Contractor:
BGL Contractors Corp, Lewis Straus Construction

Engineer:
RV Anderson and Associates

Products Used:
Xypex Admix C-500

On September 1, 2024, the County of Prince Edward completed the construction of a new wastewater pump station in Picton, Ontario. This critical infrastructure project was designed to enhance the municipality's wastewater collection and treatment capabilities. Located near Lake Ontario, the project presented unique waterproofing challenges that demanded innovative solutions.

The construction of the below-grade wet well, and associated structures faced significant obstacles due to high groundwater levels in the area and the operational requirement to contain pressurized wastewater within the facility.

The execution of the project necessitated a waterproofing approach that would ensure long-term structural integrity and protect against both external groundwater intrusion and internal hydrostatic pressure.

Traditional waterproofing methods, such as external membranes and surface-applied coatings, were deemed unsuitable due to their vulnerability to construction damage, limited durability, and ongoing maintenance requirements.

The project team sought a reliable and permanent waterproofing solution that would protect the critical concrete infrastructure without the need for future intervention.

In collaboration with the engineering consultant R.V. Anderson & Associates and general contractors BGL Contractors Corp and Lewis Straus Construction, the project team selected Xypex Admix C-500 for its exceptional performance and proven track record in demanding wastewater applications.

The selected solution, Xypex Admix C-500, is incorporated directly into the concrete mix during batching. Xypex's crystalline waterproofing technology reacts with moisture and unhydrated cement particles to generate insoluble crystals. These crystals grow within the concrete capillary pores, and micro-cracks, effectively blocking the passage of water from all directions.

Xypex Admix C-500 ensures permanent waterproofing throughout the concrete matrix, safeguarding the wet well and associated structures from water infiltration and moisture-related damage or deterioration. Approximately 350 m^3 of Xypex-treated concrete was used to construct critical below-grade components.

The successful completion of the waterproofing using Xypex Admix C-500 marks a significant achievement in municipal infrastructure development. The County of Prince Edward can rest assured that this essential wastewater facility has been significantly waterproofed and protected with the use of Xypex Admix C-500 as integral waterproofing admixture, reducing future maintenance costs, extending the service life of the infrastructure, and protecting sensitive local water systems in the surrounding environment.