

Attawapiskat Elementary School

Attawapiskat, Ontario, Canada



Plasti-Fab® GeoSpec® lightweight fill material speeds construction of new elementary school for Attawapiskat First Nation

In 2000, the J.R. Nakogee School in the isolated Attawapiskat First Nation community in Northern Ontario was closed due to unsafe conditions caused by a diesel fuel leak. Students were forced into cramped portable classrooms without facilities such as a gym or library. Despite numerous promises of a new school, it was over a decade before funding was finally authorized.

Construction of the new 19,056 sq. ft. Attawapiskat Elementary School began in April of 2012. In addition to providing a safe and permanent school to over 500 students, the building will also serve as community facility and flood evacuation point for the surrounding area. This required the design team at PBK Architects to elevate the school roughly 8 ft. above the surrounding grade in unstable soil conditions.

"The school is also a flood refuge for community, so it has to be above the flood plain," said Barry Martin, a Senior Civil Engineer and Architectural Project Manager at PBK Architects. "With such a short construction timeline, we couldn't take time for soil to settle."

Martin turned to Plasti-Fab's GeoSpec expanded polystyrene (EPS) geofoam as a structural lightweight fill material solution. GeoSpec lightweight fill material reduces the load on underlying soils, minimizing the amount of settlement and stabilizing the school's built-up foundation. GeoSpec is also 20 to 30 times lighter than other fill alternatives—a critical factor when materials need to be transported a great distance by barge.

"We took out about a foot of soil, placed gravel and sand, followed by roughly 4 ft. of GeoSpec lightweight fill material, more sand and gravel, and then the concrete slab," said Martin. "That way it doesn't overload the highly compressible soil."

The large blocks of GeoSpec fill material are easily handled and quickly installed without the need for heavy earth handling equipment, further speeding up the tight construction schedule.

"We are pleased that our GeoSpec EPS geofoam lightweight fill material was able to help speed construction of this much needed school for the Attawapiskat First Nation community," said Plasti-Fab Sales Representative Corey Bourne.