



Project Title: Geotechnical Investigation and Design
for the new Petitcodiac Bridge No. 3 (Gunningsville)

Client: New Brunswick Department of Transportation (NBDOT)

Project Description:

The Petitcodiac Bridge No. 3 is a new four-lane, 9-span-structure constructed as a replacement to the Gunningsville Bridge in Moncton, New Brunswick. GEMTEC Limited was retained by NBDOT to undertake a geotechnical investigation and provide geotechnical recommendations with respect to: 1) approach embankments, 2) foundation design, and 3) cofferdams.

The approach embankments to the new Petitcodiac Bridge were constructed in a tidal flat area. The tidal deposit consists of up to 9 metres of laminated fine and coarse silt. The only field equipment that could be expected to yield meaningful results was the CPT, and in the laboratory the test chosen was triaxial shear on samples obtained with the Borros 50 mm diameter stationary piston sampler.

The shear strength parameters were determined to be $c = 5$ to 10 kPa and $\Phi = 29^\circ$ to 31° from the triaxial tests and $c = 3$ to 5 kPa and $\Phi = 29^\circ$ to 31° from the three CPTu tests.

