



SASKPOWER QESS & QE18 ASPEN RIDGE FOUNDATIONS

Large Diameter CIP Piles for Power Line Foundations

CANADA



Owner

SaskPower

Engineer

Public

General contractor

Soletanche Bachy Canada

Period of works

December 2017-January 2018

Main figures

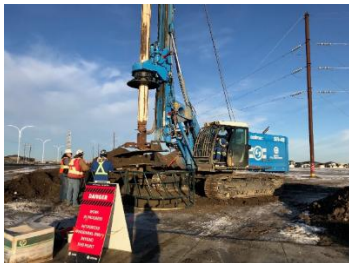
Geotechnical specialities

Construction of 18 bored concrete piles.



Project description

Soletanche Bachy Canada was contracted by SaskPower Corporation to construct large diameter bored concrete foundations for electrical transmission poles at two project sites in Saskatoon, Saskatchewan.



Ground conditions

QE18 Aspen Ridge Site

Organic clay topsoil with a thickness of 175 mm ± was encountered at the surface of one test hole while trace organics at surface was encountered at the remaining test holes. Clay fill was encountered at the surface of one borehole and extended to approximately 1.0 m. The topsoil and fill were underlain by clay to depths ranging from 2.0 m to 4.5 m, over a 2.0 m to 4.9m layer of glacial clay till underlain by sand. The sand extended to 18.3 m, the maximum depth advanced with our test holes at this site.

QESS Site

The soils at the QESS site generally consisted of sand and clay to depths of 5.8 m to 6.4 m below grade. The sand and clay were underlain by glacial clay till which extended to a depth of 13.2 m below grade, the maximum test hole depth drilled. Seepage and sloughing conditions were encountered within the upper clay stratum and within the glacial till stratum.

Solution

QE18 Aspen Ridge Site

The conditions at the Aspen Ridge site were favourable for straight drilling an uncased excavation and placing reinforcing and concrete infill under dry conditions. One structure at this site required working with the drill rig mast inside existing transmission lines.

QESS Site

The soft, sloughing soil conditions at the QESS site required installation of 1980 mm diameter temporary steel casing and 1830 mm diameter permanent steel casing. The QESS site is a live switching station and required special construction procedures including grounding equipment, temporary power outages and specialized personal protective equipment. Planning and coordinating the work with the SaskPower representative was a critical component of this portion of the contract.