

TransCanada Grand Rapids Pipeline

JANUARY - MAY 2016

In five months, DFI designed, supplied, and installed 1,717 piles for the construction of five pumping stations across Northern Alberta. There were several design and construction challenges as well as impending delays throughout the project, which were quickly resolved by DFI's experienced engineers and manufacturing capabilities. The team's fast response and industry expertise ensured the foundation was completed on time and mechanical construction could move ahead on schedule.



PRIME CONTRACTOR

DFI's track record for dependability and industry expertise positioned the company to assume the role as prime contractor. To qualify, DFI demonstrated its keen ability of upholding the highest health and safety standards.



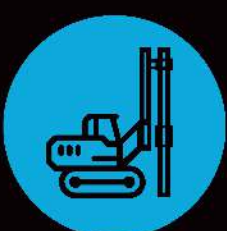
DESIGN



SUPPLY



SURVEY



INSTALL



CAP & WELD

Major Milestones

- DFI awarded the work for helical piles based on client's third-party direction
- Work begins on TransCanada's Grand Rapids Pipeline System at five locations across Northern Alberta
- DFI flags the potential challenge of using helical piles as they may not withstand tough, northern terrain
- To ensure deadlines are met, DFI deploys full teams to three sites, at once
- Design, manufacturing, surveying, and installation of initial helical piles is completed



First 20 Helical Piles Fail

It becomes clear the constructability does not line up with the design

- DFI jumps to action and re-engineers the entire project using driven piles

Rapidly responded to changes:

DFI's in-house expertise and manufacturing capabilities make it possible to completely re-engineer and manufacture the project in under two weeks.

Seamlessly switched gears:

DFI's experience of manufacturing and installing both helical and driven piles make it easy to provide a feasible solution.

- DFI's manufacturing facility goes into full force

Timelines maintained:

DFI quickly determines the number of salvageable helical piles and the number of new driven piles required.

Manufacturing output is increased in order to meet existing deadlines.

Non-standard pile lengths, made quickly:

DFI designs non-standard pile lengths to address the complex ground conditions.

To reduce waste, avoid lengthy lead times, and save the client money, DFI shop-welds existing piles to the required lengths.

- DFI's in-house Survey Team provides certainty by completing a secondary assessment of survey monuments prior to installation



Discrepancies with Initial Survey Results

It becomes clear the initial cut-off elevations provided are inaccurate

- DFI rapidly mobilizes pre-drilling rig to drill and drive piles into rocky and hard ground conditions
- DFI supplies and installs 1,717 piles
- DFI completes cutting and capping with field welding to the correct elevation
- DFI completes the contract on time and construction moves ahead on schedule