



# ROTERRA PILING<sup>LTD</sup>

A Name You Can **Build On**



# CFA PILING

CFA piles are also commonly known as auger-cast piles or auger-cast-in-place piles. They are constructed by drilling a slender hole into the ground utilizing a hollow stem auger, then pressure pumping grout or concrete through the hollow stem of the auger as it is slowly being retracted. If required, a reinforcing cage or centre bar can be installed immediately after the auger is fully withdrawn.



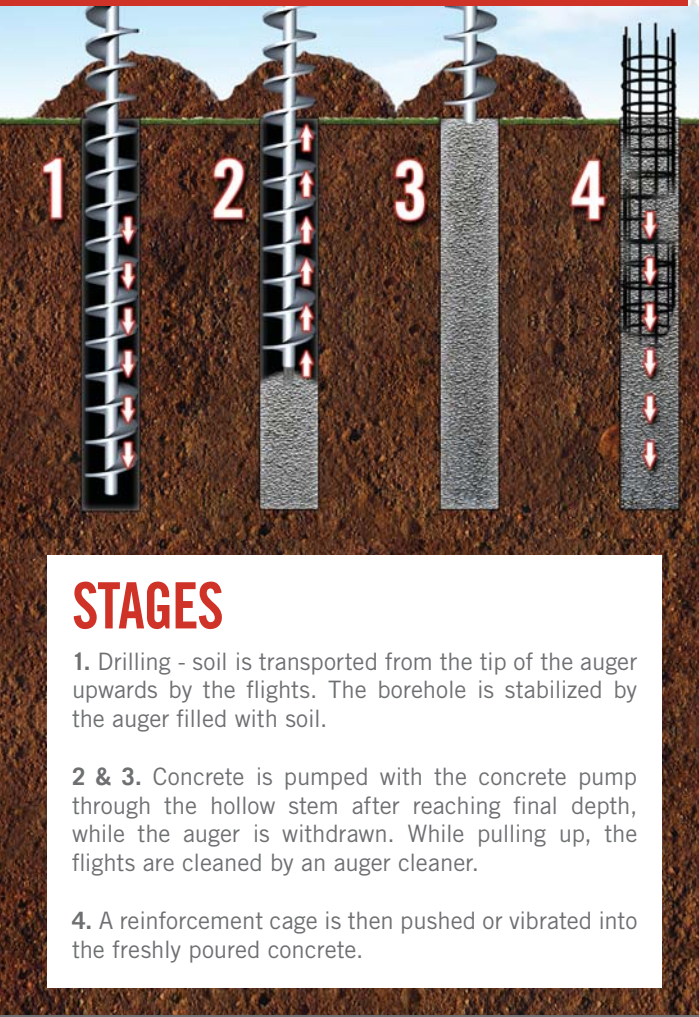
CFA piles are suitable for most soil types, but are particularly suited to collapsible soils with high water tables. This system offers two distinct advantages: there is no need for temporary casing, and the productivity rates are extremely high in comparison to standard bored piles.

**Contact Roterra Piling** today for all of your foundation needs. Our experts can help you with pile feasibility, design, budgets, execution plans, load testing, pile analysis, fabrication, and installation. Roterra's team are dedicated to assisting you in a timely manner.



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## CFA PILE ADVANTAGES

- ➔ Good side shear bond in cemented materials
- ➔ Can be installed in very long lengths
- ➔ Low noise / vibration
- ➔ Easy construction in cohesive soils
- ➔ Faster productivity than bored piles
- ➔ No need for casing due to sloughing/seepage as you do with bored piles
- ➔ Partial soil removal during construction increases lateral compression and bearing capacity

## DISADVANTAGES

- ➔ Cold weather temperature limit on installation
- ➔ Spoils are generated that need to be handled, adding costs
- ➔ A higher waste of concrete as a percentage than traditional bored piles
- ➔ Difficulty drilling through very hard bearing layers

## STAGES

1. Drilling - soil is transported from the tip of the auger upwards by the flights. The borehole is stabilized by the auger filled with soil.

2 & 3. Concrete is pumped with the concrete pump through the hollow stem after reaching final depth, while the auger is withdrawn. While pulling up, the flights are cleaned by an auger cleaner.

4. A reinforcement cage is then pushed or vibrated into the freshly poured concrete.

## APPLICATIONS

Continuous flight auger (CFA) piles have been used for more than three decades globally but are a relatively new locally to Canada. CFA piles are constructed with a hollow stemmed continuous flight auger that is rotated into the ground to the required depth. As the auger is withdrawn, concrete is pumped down the hollow stem under balancing pressure forming a shaft of liquid concrete to ground level. A reinforcing cage is then inserted manually, with equipment, or a vibrator. CFA piles are suitable for most construction projects in commercial, institutional or light/medium industrial applications as well as for excavation support (tangent or secant walls).

