

Continuous Flight Auger (CFA) Piles

Concrete pumped through a hollow auger as it is withdrawn; fast, quiet and low-vibration.

CAN BE CONSIDERED WHERE

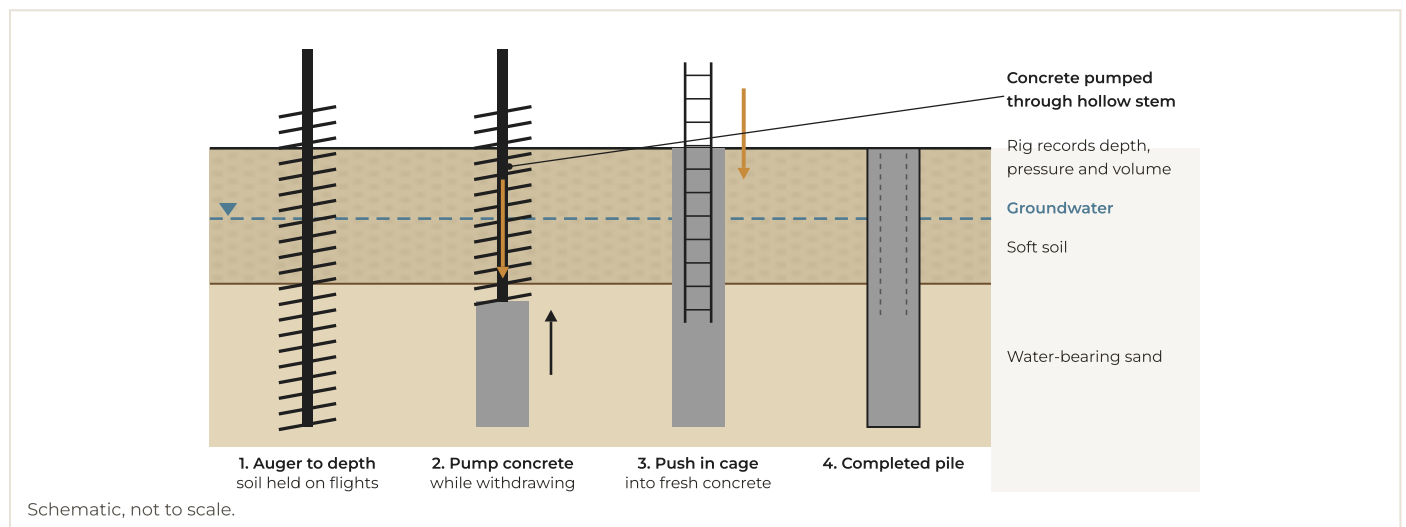
- Medium structural loads in a wide range of soils, including water-bearing sands.
- Projects that need high production rates.
- Work next to existing buildings, where low noise and vibration are needed.

LIMITATIONS

- Reinforcement cage length is limited because it is pushed into wet concrete.
- Diameter and depth are limited by the rig.
- Hard layers and boulders make drilling difficult.

HOW IT WORKS

The auger is screwed into the ground to the design depth, with the soil held on its flights.



DESIGN INPUTS

- Site investigation and groundwater.
- Loads and pile capacity design.
- Pile diameter and length.
- Concrete mix suitable for pumping.
- Reinforcement design.

EXECUTION CONTROLS

- Rig instrumentation: depth, rotation, extraction rate, concrete pressure and volume.
- Avoiding over-rotation, which loosens the soil.
- Concrete volume against theoretical volume.
- Cage installation level.
- Concrete samples and pile records.

VERIFICATION AND ACCEPTANCE

Design intent: What is required

Design loads and settlement criteria agreed with the consultant.

Production control: What was done

Rig records for every pile.

Acceptance: What was proven

Static or dynamic load tests, integrity tests and concrete strength tests.

DELIVERABLES

Method statement and risk assessment · Pile layout drawings · Rig records for every pile · Concrete test results · Load and integrity test reports · As-built records