

Welcome to the second webinar in the series  
'how to make the ground work for you'

[www.roger-bullivant.co.uk](http://www.roger-bullivant.co.uk)

✉ [Info@roger-bullivant.co.uk](mailto:Info@roger-bullivant.co.uk)

☎ 0845 838 1801

**in** @rogerbullivantlimited



# A Guide to Wet Cast Displacement Piling

**Nicola Carr** *MSc BSc (Hons) GMICE*  
Senior Design/Estimating Engineer – Midlands

**Matt Walpole** *MEng (Hons) MBA CEng MICE*  
Area Manager – South East



# Contents

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**01** Our Business

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**02** Continuous Displacement Auger (CDA) Piles

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**03** Continuous Helical Displacement (CHD) Piles

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**04** Continuous Helical Auger Displacement (CHAD) Piles

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**05** Questions

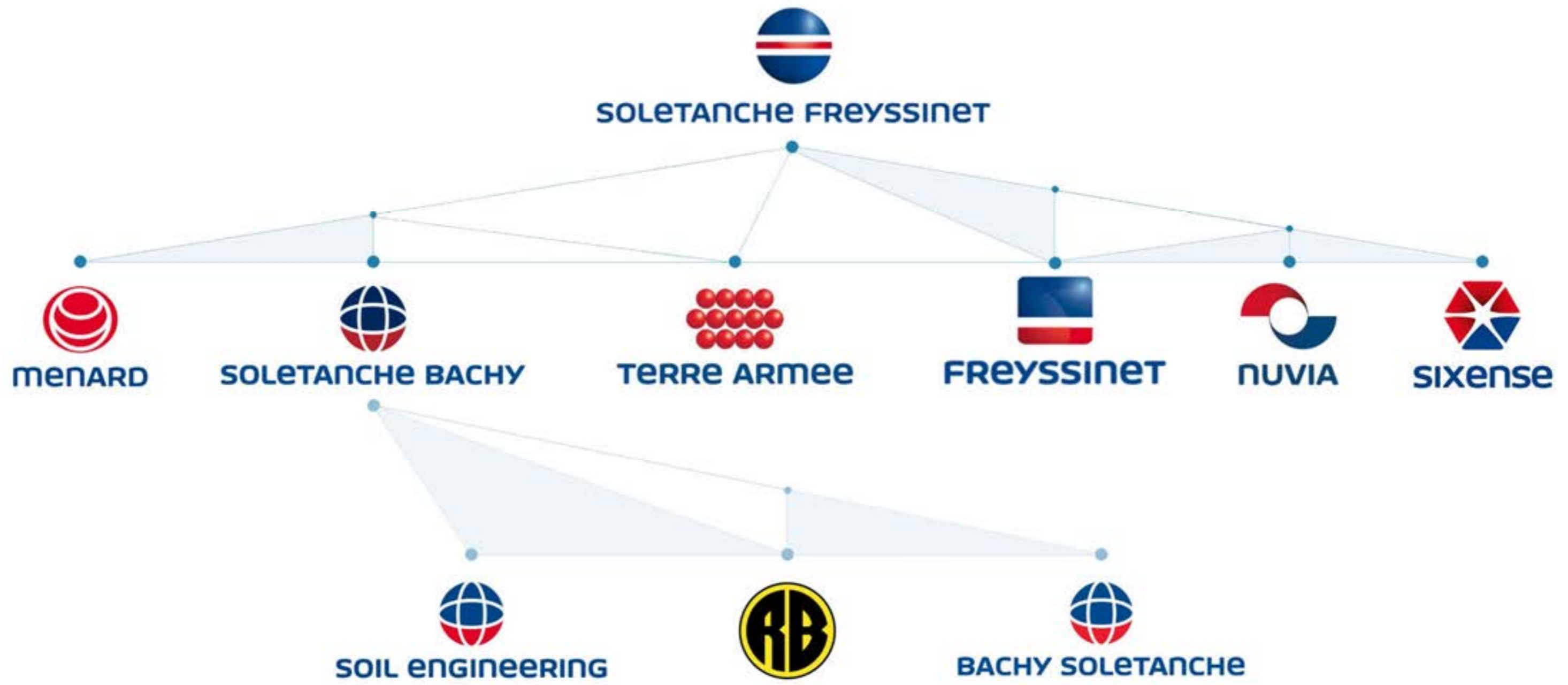
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01

# Our Business

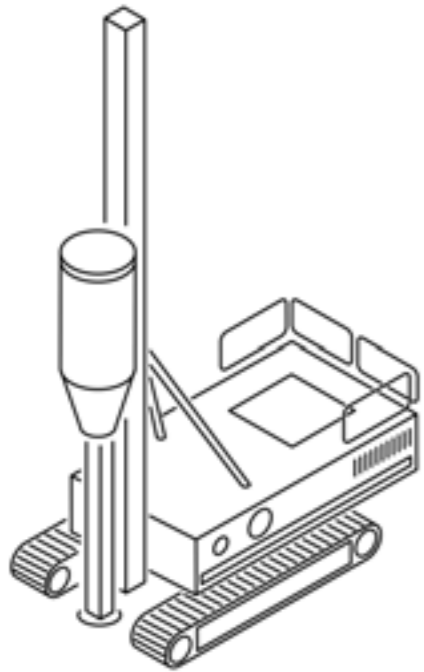




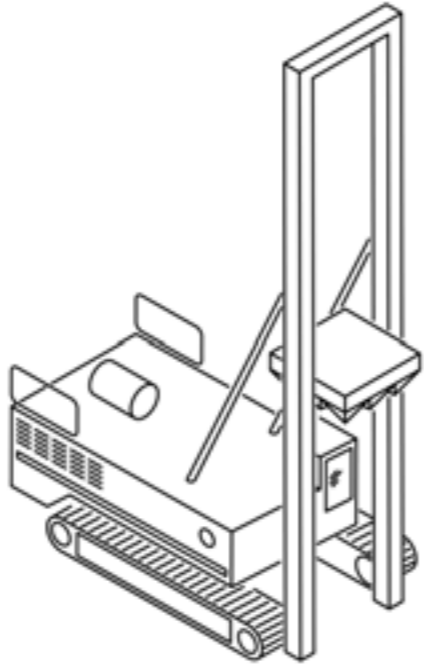
# About



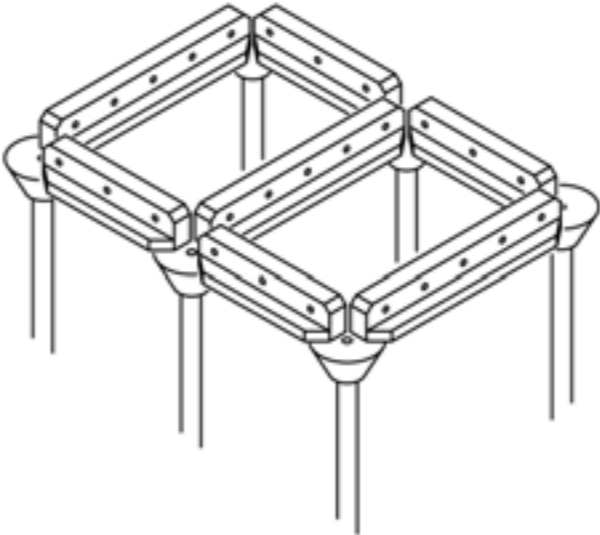
# Wealth of experience...



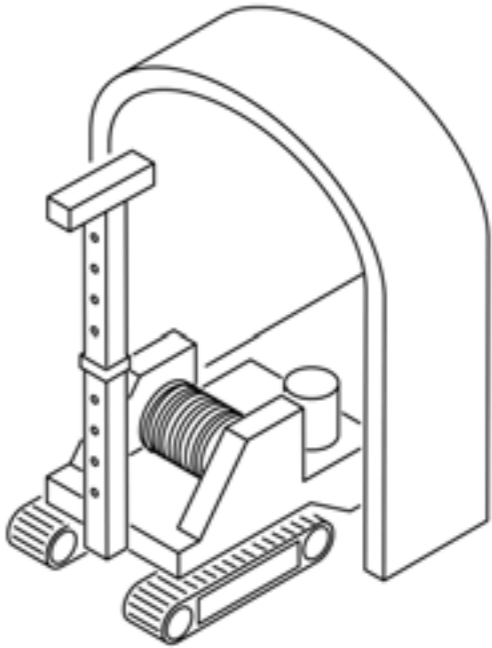
**PILING**



**GROUND  
IMPROVEMENT**



**FOUNDATIONS**



**RESTRICTED  
ACCESS**



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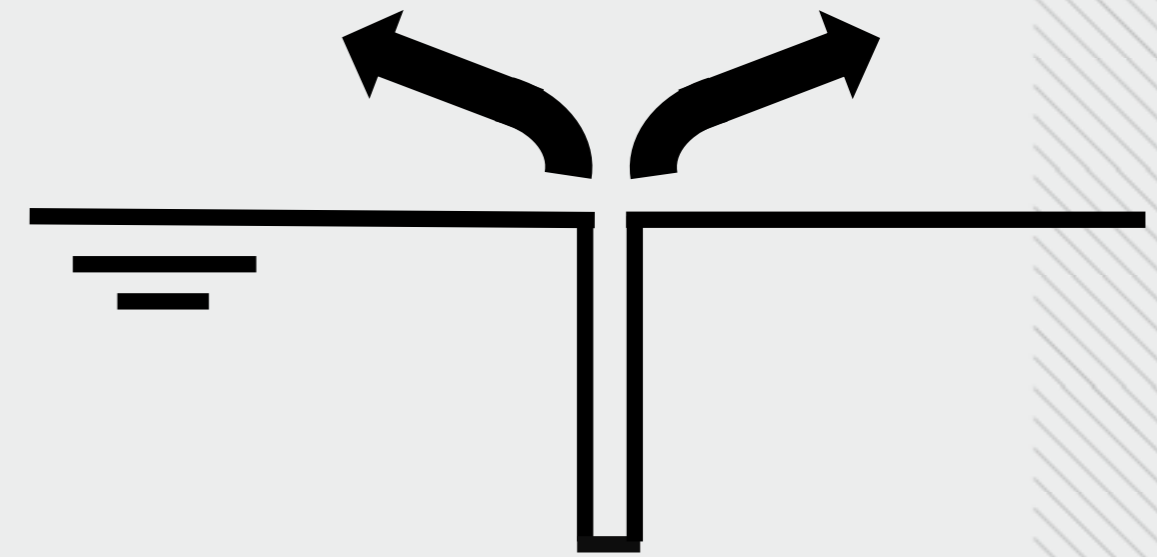






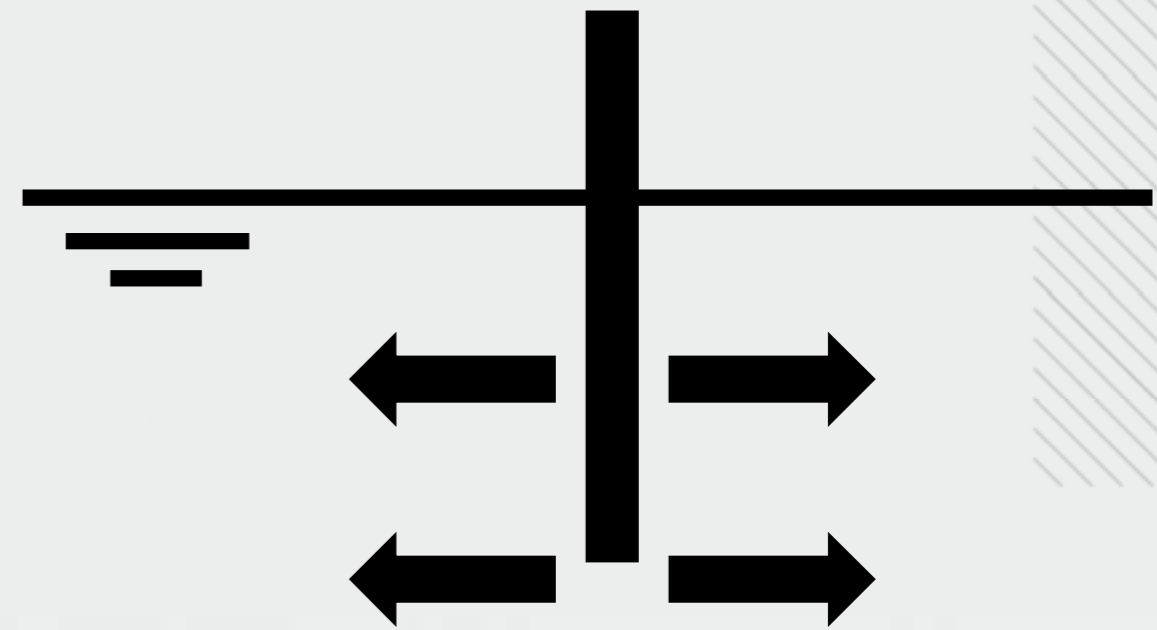
## Replacement Piles

- **Insitu Concrete**



## Displacement Piles

- **Preformed Steel or Concrete**
- **Insitu Concrete**

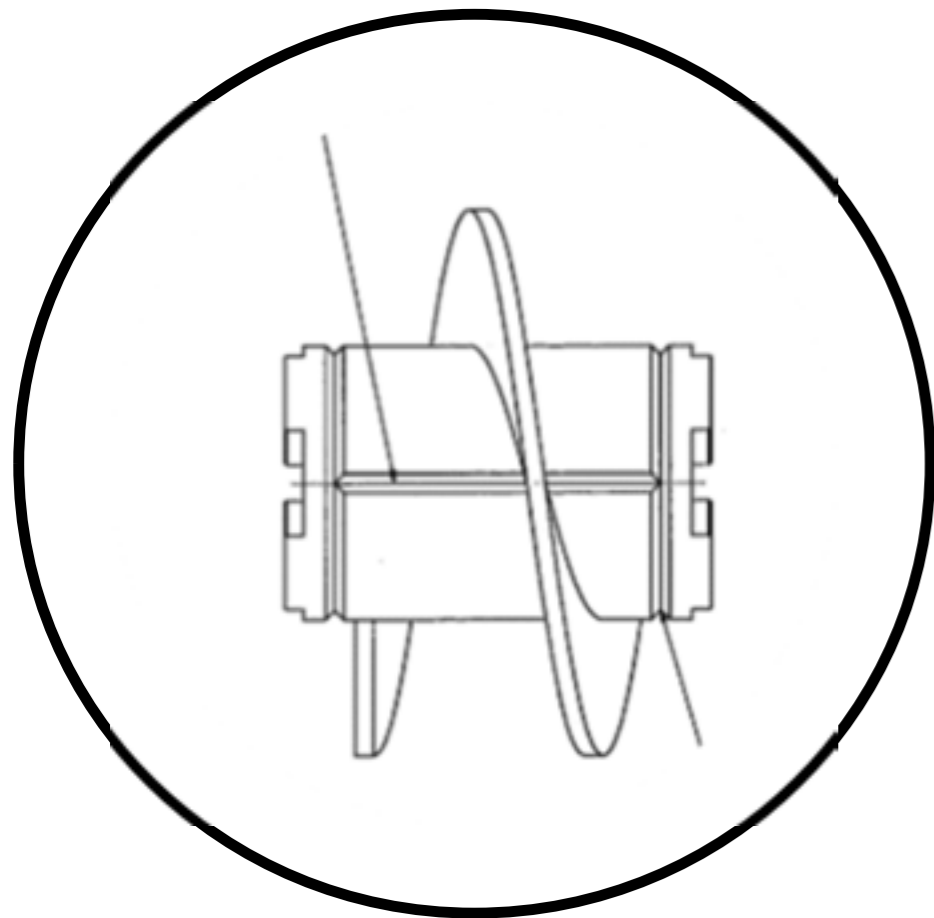


02

**Continuous Displacement**  
**Auger**  
**(CDA) Piles**



# Continuous Displacement Auger (CDA)



# Continuous Displacement Auger (CDA)

- Alternative to 300mm CFA
- Up to 500kN compression
- Overconsolidated Clay & Soft-Stiff Clay
- Loose to medium dense granular
- Chalk
- Beams, Caps, Slabs
- Lightly loaded Structures
- Mix with CFA for adjacent structures





## Case Study- Billeracy

Main Contractor – Morgan Sindall Construction

### Key issues/requirements

- 410 lightly loaded small dia. piles
- Trees on site
- Adjacent School building
- Programme and Cost drivers

### Project Solution

- 300mm CDA reduced muckaway
- Designed for heave
- CFA piles using same rig
- CDA 40% less concrete
- CDA 35% quicker programme

Value - £107k

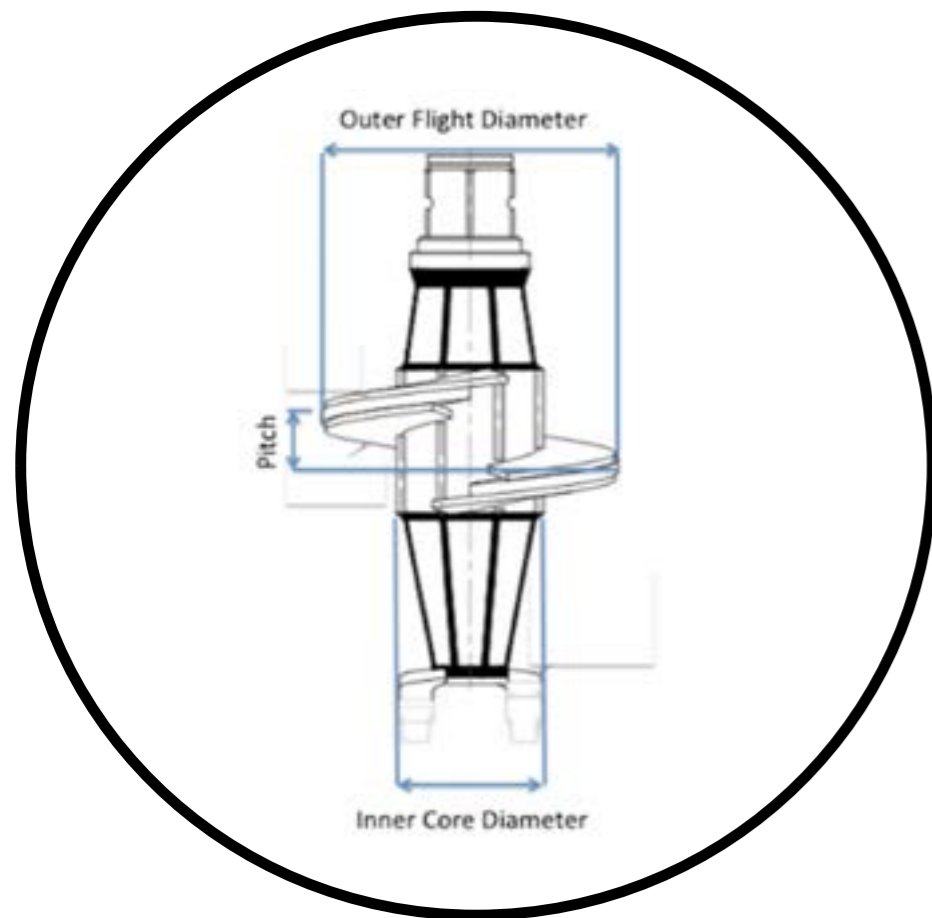


03

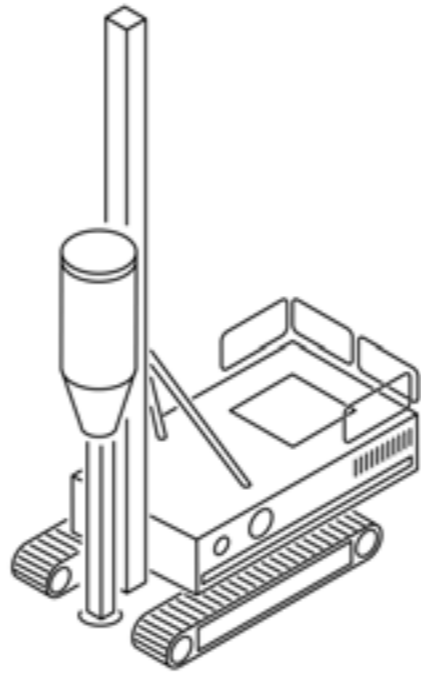
**Continuous Helical  
Displacement  
(CHD) Piles**



# Continuous Helical Displacement (CHD)



# CHD Video...



**PILING**





# Continuous Helical Displacement (CHD)

- \_\_\_ 2 sizes (300/600mm, 400/700mm)
- \_\_\_ Up to 1000kN compression
- \_\_\_ Similar soils to CDA
- \_\_\_ Minimum 5m exclusion zone
- \_\_\_ Below beams, caps, slabs
- \_\_\_ Contaminated arisings
- \_\_\_ All Sectors
- \_\_\_ Material and programme savings





## Case Study- Sevenoaks

### Berkeley Homes

#### Key issues/requirements

- Made Ground – minimise spoil
- Aquifer
- Railway
- Shear loadings (apartments)

#### Project Solution

- 1460 no. CHD Piles - displacement
- Efficient design – above aquifer
- Site specific Railway Method Statement
- 400/700mm piles for shear

Value - £775k

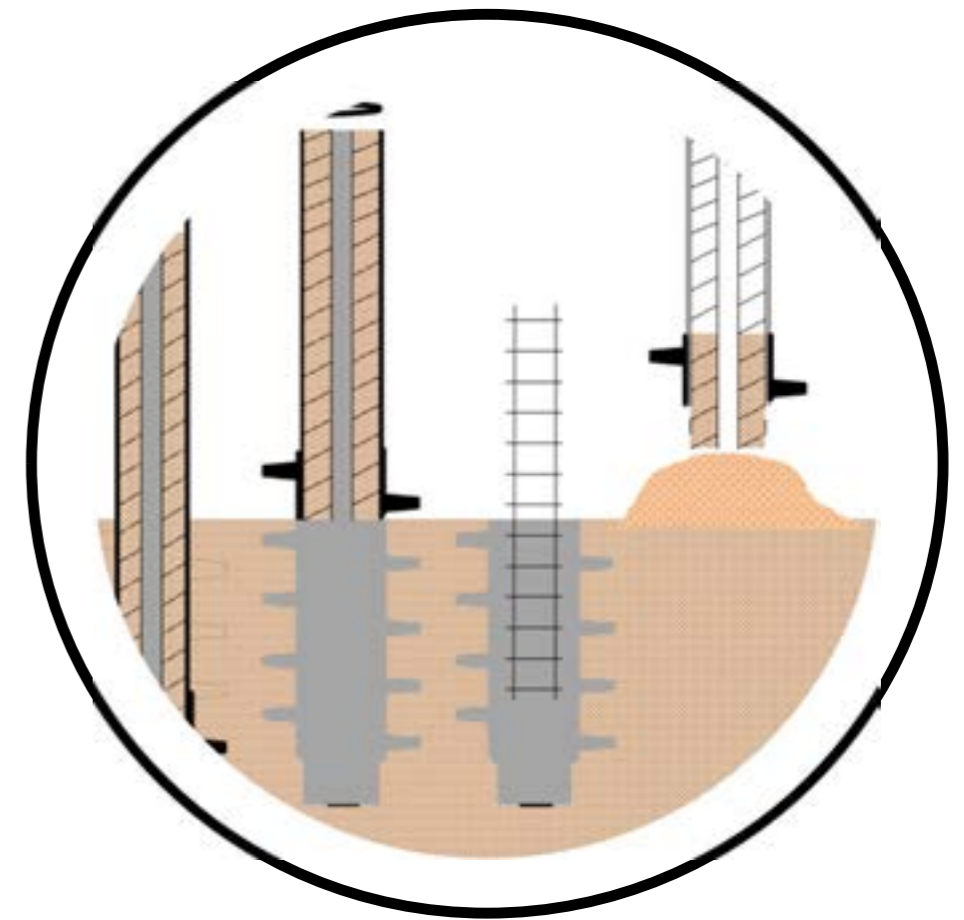
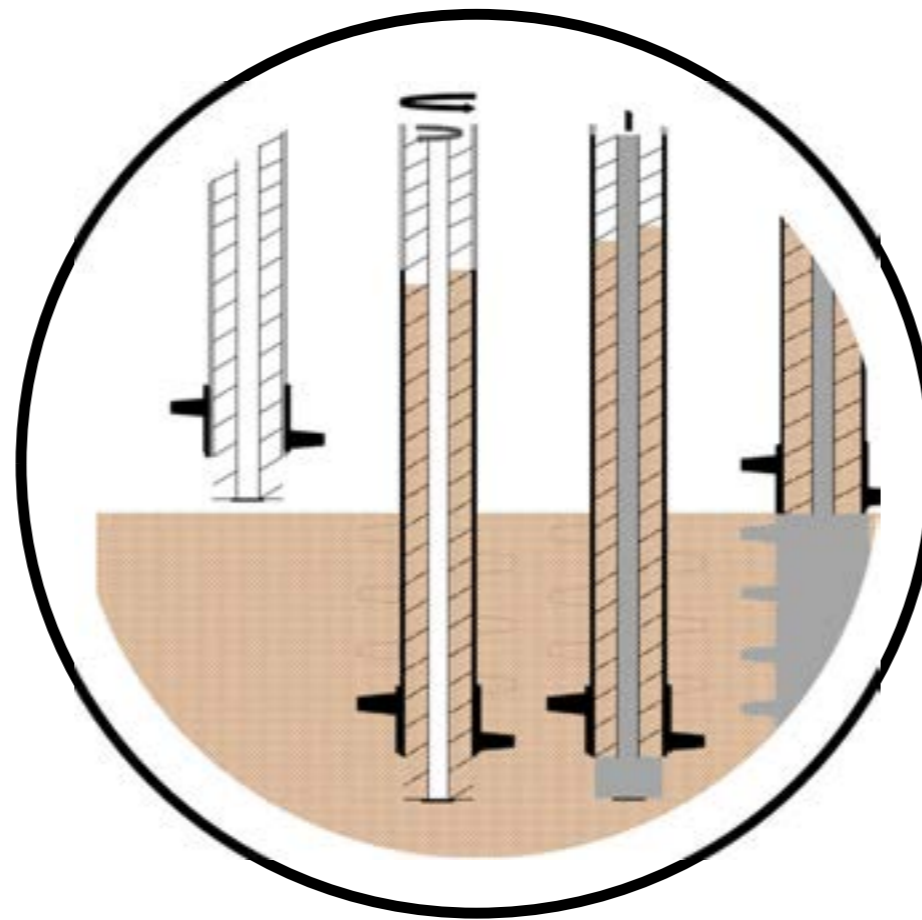


04

**Continuous Helical  
Displacement Auger  
(CHAD) Piles**

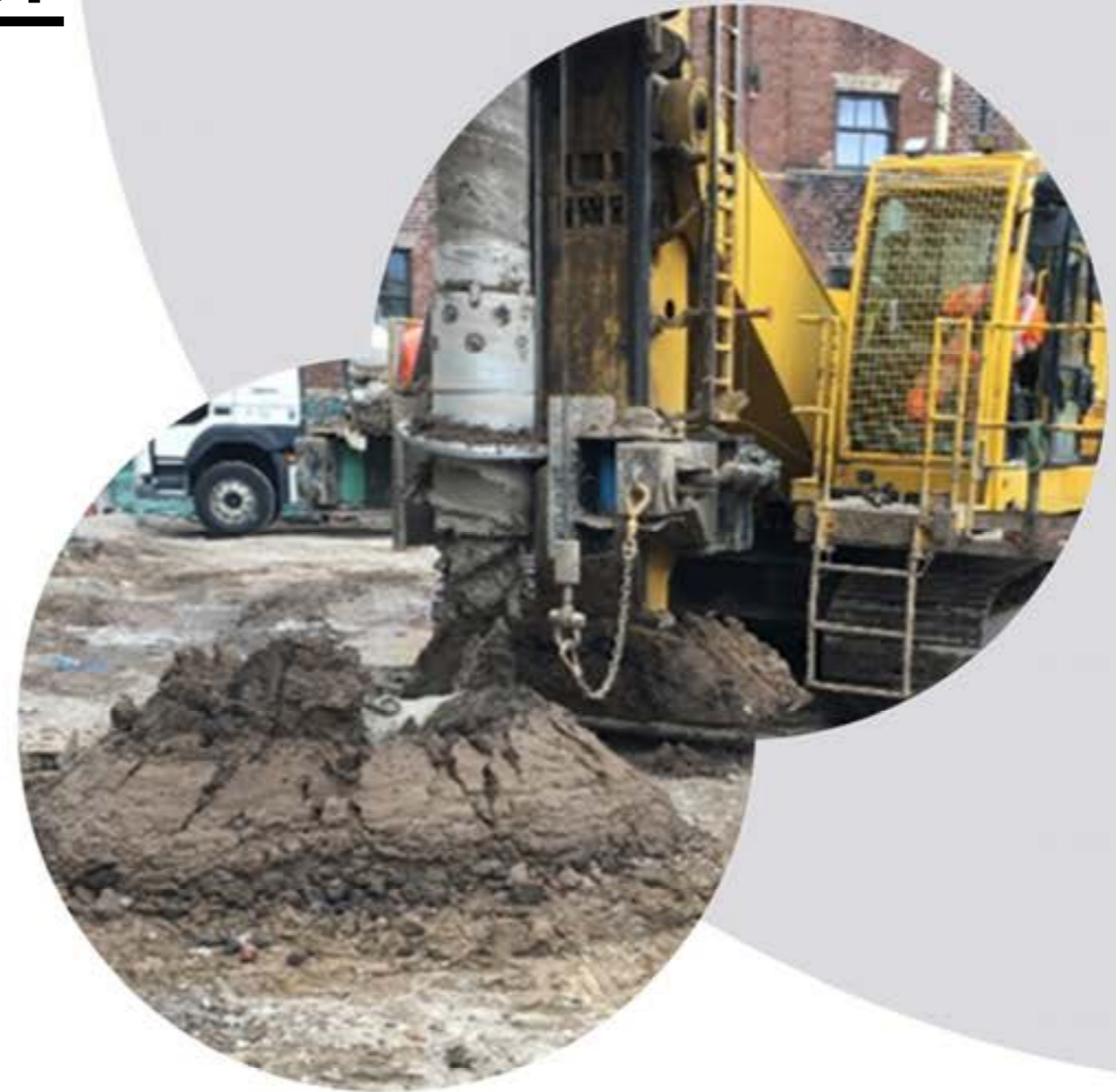


# Continuous Helical Auger Displacement (CHAD)



# Continuous Helical Auger Displacement (CHAD)

- \_\_\_ 450/750mm size
- \_\_\_ In excess of 1000kN compression
- \_\_\_ Variety of soil, including denser granular bands
- \_\_\_ Large Cores of Piles
- \_\_\_ Below beams, caps, slabs
- \_\_\_ All Sectors – high rise residential/commercial





## Case Study - CHAD

### Project- 7, 8, 9 Storey Development, Glasgow

#### Key issues/requirements

- Displacement System Required
- CFA not permitted
- Dense sand 3-8m depth
- 'Lock out' of CHD

#### Project Solution

- CHAD piles
- 700kN Compression, 400kN tension, 40kN shear



# SUMMARY



**CDA Pile**



**CHD Pile**



**CHAD Pile**



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