Welcome to the second webinar in the series 'Displacement Restricted Access Piling'

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## **Restricted Access Driven Piling**

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<u>01</u>

# Our Business















## Wealth of experience...



PILING



GROUND IMPROVEMENT

FOUNDATIONS



RESTRICTED ACCESS

## **Restricted Access Driven Piling**

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### Top Driven Pre-cast Concrete



Top Driven Steel Tube



### Bottom Driven Steel Tube







# Top Driven Pre-cast Concrete





### **Pre-Cast Concrete**

- Manufactured by RB
- Midlands Distribution centre
- Large stock of piles
- Variety of sizes, lengths, reinforcement and joint details



## **Pre-Cast Installation**





## Pre-Cast Concrete

- 175mm & 200mm square
- 200KN 250KN
- No Spoil
- Low waste
- No necking or bulging
- Immediate follow on construction







### Case Study- South West

### Key issues/requirements

- Headroom restrictions on access road to site
- Keen programme requirements
- Loose fill overlying Dense Sands
- Undulating soils
- Residential pile loadings Circa 200KN

### **Project Solution**

- 56 No. 200mm2 Pre-cast piles
- Tailored lengths of 2m and 3m to reduce waste
- Immediate start for follow on trades
- No spoil created





## **Top Driven Steel Tube**





## Thick Wall Steel

- Used casing from the oil industry
- Minimum grade API 5CT L80 (552 MPa Yield Strength)
- Large stock quantities
- Open or closed ended
- Variety of lengths and diameters available.
- Wall thickness 8mm 13mm





## Thick Wall Steel

- 140mm & 178mm
- 250KN
- Brownfield sites/ Hard driving
- Low displacement
- Recycled Steel
- Tube acts as the structural pile element.





# • • •

### **Case Study - Scotland**

### Key issues/requirements

- Brownfield site
- Constrained working area
- Hard band overlying softer soils before rock
- Piles required to carry tensile loads

### **Project Solution**

- 178mm Thick wall steel to 12.0m
- Concrete filled with central bar
- 3.0m lengths
- Dynamically tested whilst rig on site





# Bottom Driven Steel Tube



## **Bottom Driven Steel**

- Thin wall casing
- Crimped end with collar (Starter casing)
- Open end with collar (Follower Casing)
- Various diameters, generally 2m section length.





# **Bottom Driven Steel**





## Bottom Driven Steel Tube

- 100mm diameter to 323mm diameter
- 50kN to 400kN
- Compact rigs and minimal equipment required
- Internally driven ideal for restricted headroom projects
- Minimal vibration
- Electric rig





## **Grundomat Piles**









### Case Study- South East

### Key issues/requirements

- Weight limit on bridge into site
- Low noise and vibration required
- Limited deliveries
- Poor Ground conditions

### **Project Solution**

- 88 No. 220mm dia. piles to 14.0m
- Piles driven through soft ground into chalk
- Deliveries scheduled for off peak times
- Noise and vibration kept to a minimum





### **Presentations**

### **Upcoming**

• 21<sup>st</sup> April - Specialist Restricted Access

### **Previous**

- An Introduction to Driven Piling
- Wet Displacement Piling
- Foundations You Can Build On
- Ground Improvement
- Rotary Restricted Access Piling

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