



HIGHWAYS



VAN ELLE
TOTAL FOUNDATION SOLUTIONS



Experts in delivering geotechnical and ground engineering solutions to the highways sector

- Full end to end capability, versatility and delivery which includes Modern Methods of Construction (MMC);**
 From ground investigation, design and temporary works through to all types of ground engineering and geotechnical solutions
- Owners of the UK's largest fleet of over 120 specialist rigs;**
 Offering a wide range of engineering techniques to suit a broad range of project requirements
- A 12-year track record of over 70 completed highways projects;**
 Supporting highways work across Smart Motorways, the Regional Development Programme (RDP), and local authorities. Our role can include ECI, design, manufacture, supply and installation
- We operate a directly employed, highly trained and experienced workforce and committed supply chain;**
 All our highway employees hold a National Highways Safety passport and attend the mandatory bespoke Van Elle highways safety training course. We deploy our workforce and plant right across the UK via our own FORS Silver registered fleet of specialist low loaders, haulage, and transit vans

Ground investigation

- A428 Black Cat to Caxton Gibbett upgrade and new alignment**
Client: Skanska
 Cable percussion, window sampling, trial pitting, laboratory testing and reporting
- M27 jcn 4 to 11 Smart Motorway**
Client: BAM Morgan Sindall JV
 Cable percussion, laboratory testing and reporting
- A590, Meathops**
Client: National Highways (as part of NH GI Framework)
 Cable percussion, window sampling and reporting
Rigs used: TEI drilling masts and JCB 220



Ground investigation for the A428 Black Cat to Caxton route improvements

Ground stabilisation and improvement

- M6 jcn 10 improvement**
Client: John Sisk & Son
 Drilling and grouting to stabilise historic mine workings
Rig used: Casagrande C6 drilling rig
 Works also included large rotary piling to bridge abutments and foundations to new gantries



A4440 Worcester Southern Link Road

Foundations piling to bridge abutments, piers, under/overpasses

- A4440 Worcester Southern Link Road**
Client: Alun Griffiths
 117 rotary bored piles (900mm - 1200mm diameter) to depths of 22m for the new Carrington Bridge.
Rig used: Soilmec SR-95
- M4 jcn 16 Wichelstowe, Swindon**
 Phase 1 works: 110 No rotary bored piles for new underpass
 Phase 2 works: Installation of contiguous pile retaining wall enabling new bypass ahead of new bridge installation.
- M49 Avonmouth**
Client: Galliford Try
 Contiguous piled walls for piers
Rigs used: Soilmec SR-95 and Hutte 207
- A46 Binley Junction, Coventry**
Client: Osborne Infrastructure Ltd
 94 rotary bored piles (900mm - 1200mm diameter) to depths of 20 metres for 3 new piers and 2 bridge abutments for the new Binley Flyover
Rig used: Soilmec SR-95



A46 Binley Junction, Coventry

Super, long and cantilever gantries and minor structures

- M27 jcn 4 to 11 Smart Motorway**
Client: BAM Morgan Sindall JV
 Piling to 3 x super span, 35 x long span, and 30 x MS4 cantilever structures, gantries and minor structures.
Rigs used: Soilmec SR-75, Hutte 207 and Klemm 709
- M1 jcn 13 to 16 Smart Motorway**
Client: Costain / Galliford Try JV
 Design, off site manufacture and installation of piles and grillages
Rigs used: Soilmec (Lorry mounted) STM 20, Hutte 207 and Klemm 709.
- M4 jcn 3 to 12 Smart Motorway**
Client: Balfour Beatty / Vinci JV
 Gantry bases and minor structures piling
Rigs used: Hutte 207, Soilmec STM 20, Colmar RRV
- M23 jcn 8 to 10 Smart Motorway**
Client: Kier
 Gantry bases and minor structures piling
Rigs used: Hutte 207, Colmar RRV
- M5 jcn 23 to 25**
Client: early design with Dyer & Butler, project switched to MJ Church for delivery.
 25 bored cast in place piles and pads to gantries and minor structures.
Rigs used: Hutte 207, Klemm mast and Colmar Wheeled excavator / RRV
- M40/42**
Client: BAM Morgan Sindall JV
 Early contractor involvement with design and methodology of the new gantry piles and grillages

Retaining walls

- A40, Llanegwad**
Client: Tarmac
 Sheet pile retaining wall and ground anchors
Rig and specialist equipment used: Casagrande C6 XP
- M5 jcn 23 to 24**
Client: MJ Church
 King post wall, bored cast in place gantry piles, L607 sheet piling to depths of 8m - 9m, and retaining structures. (temporary works and permanent works)
Rig and specialist equipment used: Hutte 207, Klemm drill mast, Colmar RRV

Piling and foundation solutions:

- Ground investigation
- Soil nailing and ground anchors
- Sheet piling
- Kingpost and CHS driven piling
- Secant and contiguous piled retaining walls
- Drilling & grouting
- Vibro and rigid inclusion ground improvement
- Continuous flight auger (CFA)
- Sectional flight auger (SFA)
- Screw piles
- Rotary drilling
- Bored cast in place (BCIP)
- Modular precast bases and foundation beams
- Pile Testing
- Helical piles and modular grillages



M27 jcn 4 to 11 Smart Motorway



Minor structures installation on the M23 jcn 8 to 10



Lorry mounted rigs on the M1 jcn 13 to 16



King Post installation on M4 jcn 3 to 12



M5 jcn 23 to 24



Helical piles and grillages on the M1

Regularly deployed rigs:

Multi-purpose, restricted access CFA, SFA & BCIP - 4No. Hutte 207 / 205



Weight	35 tonnes	PILE CAPABILITY
Length	8.0m	Depth:
Width	2.5m	BCIP - up to 12m
Mast	(height) 16.5m	SFA up to 20m (at 900 diameter)
Techniques	Rotary Roadside, BCIP, CFA and SFA	SFA up to 28m (at 750 diameter)
		SFA up to 30m (at 600 diameter)
		Diameter:
		1m diameter casing
		CFA - up to 900mm
		SFA - at 600mm, 750mm and 900mm

The Hutte 207 is our most versatile rig in the fleet, with high power, adaptability for changing between BCIP, CFA and SFA techniques and a minimal working area

Multi-purpose, restricted access, CFA, SFA & BCIP - 9No. Klemm 709



Weight	11.8 tonnes	PILE CAPABILITY
Length	5.4m	Depth:
Width	2.4m	CFA up to 7.5m
Mast	SFA (height) 5.0m	SFA & BCIP up to 27m
Techniques	BCIP, CFA, SFA and Rotary Piling	Rotary up to 30m BCIP
		Diameter:
		SFA/CFA, or Rotary modes up to 600mm

The Klemm 709 delivers up to 3.5 tonne metres of torque enabling this rig to install piles up to 600mm in diameter into some of the stiffest soils

Lorry mounted rotary bored piling 2No. Soilmec STM-20



Weight	20 tonnes	PILE CAPABILITY
Length	8.0m	Depth:
Width	(outriggers) 4.3m	Up to 24m
Mast	(height) 13.0m	Diameter:
Techniques	BCIP/Rotary	Up to - 1050mm

Commonly used on smart motorway schemes due to their efficient mobilisation and reduced temporary works requirements. Productivity is enhanced by relocations undertaken at the end of a shift, and additional low loader site traffic is avoided

BCIP rotary bored piling 3No. Soilmec SR-75 / SR-95



Weight	91 tonnes	PILE CAPABILITY
Length	11.0m	Depth:
Width	4.7m	CFA - up to 30m
Mast	(height) 26.0m	Rotary - up to 74m
Techniques	BCIP and CFA	Diameter:
		CFA - up to 1200mm
		Rotary - up to 2100mm

Although the Soilmec SR-95 is a multipurpose rig, it is best suited to BCIP piles and can install temporary casings up to 35m deep. Selection of a BCIP technique simplifies installation of deep reinforcement cages (over 21m) as concrete placement takes place after the installation of the cage

Regularly deployed rigs:

COLMAR road rail piling rigs
17No. and specialist attachments



Weight	32 tonnes	PILE CAPABILITY
Length	4m	Diameters & Lengths:
Width	2.5m	CHS tube up to 8m single section 762mm max diameter
Mast	Various 7m reach mast attachments and heavy lift, slew and height restricted applications	Bored cast in place up to 1200mm dia, 9m max depth
Techniques	BCIP, driven, screw piles, drilling and sheet piling	Sheet piles up to 13m length
		King Post wall H sections up to 13m length
		Drilled piles (with VESPA) up to 16m depth
		Screw piles up to 14m depth
		CFA - up to 9m depth and 450mm diameter

Minimal temporary works and fast inter-site moves provide maximum versatility.

Colmar RRV's can be equipped with bespoke, specialist masts according to project requirements, as below.



BSP Hammer

Up to 2.5T and up to 762mm diameter driven



Movax Side Grip Vibratory

Piling Hammer up to 762mm diameter



Deadong

Vibratory Rotary Hammer up to 1200mm casing



VESPA & Spirit Mast

CFA, Drilled and Screw/Helical piles



MOVAX Soil Drill TAD30s

BCIP up to 1200mm diameter up to 9m in length

CFA piling rigs
20No. Soilmec SR-30 up to SR-95 and Llamada P105 up to P160



Weight	38 to 104 tonnes	PILE CAPABILITY
Length	Up to 12.5m	Depth and Diameter:
Width	Up to 4.75m	33m depth at 1200mm diameter
Height	Max (height) 39.0m	35m depth at 1050mm diameter
Techniques	CFA	

The Llamada P160 has the capability to install 1050mm diameter CFA piles up to 35m providing significant programme and cost benefits over Bored Cast in Place piles.

TECHNICAL SERVICES

In addition to our range of engineering capabilities we offer end-to-end technical services tailored to early, collaborative involvement:

- 1 Ground Investigation** - specialist subsidiary STRATA Geotechnics provide an extensive portfolio of GI solutions
- 2 Design** - in-house engineering team experienced in undertaking complex geotechnical and structural design
- 3 Feasibility and cost planning** - technical and operational expertise to advise on value engineering, methods and techniques, logistics, productivity and pricing
- 4 Temporary works** - design and installation advice for working platforms, load test anchors and temporary propping
- 5 Testing** - in-house pile testing, vibration and noise monitoring

Supply chain sustainability school, Gold member

Currently supporting RDP works with their online sustainability reporting





Ground investigation

STRATA Geotechnics provide an extensive portfolio of ground investigation and testing solutions for the highways sector.

Specialist foundations

ScrewFast is the UK's leading helical pile and steel modular foundations specialists, with more than 15 years experience in the highways sector.



- Design
- Fabrication
- Installation
- Helical Piles
- Steel Modular Foundations

National Framework

In May 2020, Strata Geotechnics was appointed to National Highways ground investigation framework.

- Comprehensive range of in-house rigs
- Directly employed drilling and testing teams
- Innovative specialist plant for road/rail and restricted access requirements

DRILLING & SAMPLING

- Cable percussion
- Rotary open hole/coring
- Window sampling
- Sonic drilling and road/pavement coring

PILE TESTING

- Integrity testing
- Dynamic testing
- Static load testing
- TIP testing

REPORTING, DATA MANAGEMENT & MONITORING

- Gas monitoring
- Noise and vibration monitoring
- Laboratory testing
- Factual reporting & AGS data
- Use of Open Ground cloud-based data management software



Dedicated FORS Silver accredited transport fleet

Our rigs and plant are transported and collected from our project sites throughout the UK via our dedicated plant and logistic teams. Specifically designed beavertail rigid wagons allow us to access the most restricted of piling areas in the highways environment. Our teams are fully trained to National Highways Safety passport standards and are supported with additional training in topics such as load securing, abnormal loads and road user safety.

For more information please contact our specialist team;

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