

Piling Equipment Specialists

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ABI Equipment Ltd were asked to supply a Mobilram TM 14/17 V rig and VDW8360 double auger head, plus mixing and pumping equipment, to Deep Soil Mixing Ltd (DSM) for use at their St Mary's Bay project site in Kent. This was to undertake wet soil mixing works in the spring/early summer of 2018.

The equipment was required to carry out site-wide ground improvement works providing foundational support for development and construction. Directly adjacent to the beach, this was a brown-field site formerly a military base and hotel, with the finished project being planned to contain housing and other residential facilities.

A technique was sought that would provide the necessary cohesive support for the new structures across the variable ground conditions, as well as improve and consolidate the existing coastal defences, and eliminate any differential settlement across the entire site. Time/cost benefits and environmental considerations were also of great importance.

Wet soil mixing is an alternative to conventional shoring or foundation methods, and consists of mixing cement grout with the soil in situ to treat large areas. A water/cement binding solution is used to create more stable columns or piles within the ground. The mechanical mixing process was carried out as a wet mix operation by low pressure injection of grout through the central shaft of the auger and into the rotary mixing head. To do this, DSM required the use of an STS Scheltzkhe MPS 510 Mixing & Pumping Unit, coupled with the VDW double auger head.

Wet Soil Mixing, Kent Coast :

Ground stabilisation as foundations

Client

Deep Soil Mixing Ltd

Equipment

ABI Mobilram TM 14/17 V

+ VDW8360 + Mixing & Pumping Equipment



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The VDW double rotary mixing head can be used for both column and mass mixing.

On this project the work consisted of the installation of Ø1500mm soil mixed columns up to 10m in depth, as well as a soil mixed mattress across the entire 11,000m² site.

Alternative solutions would have involved either piling each individual building, or the removal and disposal of large amounts of soil to landfill. This soil mixing technique is clearly far more efficient and environmentally friendly than either of these other activities.

DSM have reported delivering an overall time saving of 18 months on this part of the programme of works.

In addition to the obvious cost benefits from reducing the timeframe for the work, soil mixing is both quieter and vibration free, so there is limited impact in the surrounding area for either buildings or residents. The process also results in fewer bulk removals to/from the site.

