

## Indurent Park

Chippenham, Wiltshire

- The use of Vibro stone columns to improve the bearing capacity and settlement performance of the engineered made ground and underlying natural soils
- Large scale zone testing to validate the Vibro works as specified by Stantec



## The project

Bowmer and Kirkland secured the project to construct 4 No. industrial units. Two of the units were underlain by engineered upfill placed by Winvic in 2020 to achieve an external yard specification. To improve the bearing capacity and settlement performance of the made ground Vibro stone columns, with assisted pre-boring were installed.

## The challenge

5 No. zone tests were specified by Stantec to validate the floor slab settlement over a large area.

## The solution

1,132 No. Vibro stone columns were installed with assisted pre-boring to achieve 125kN/m<sup>2</sup> for the building foundations and 50kN/m<sup>2</sup> for the floor slabs of Units 4A and C. Plate load testing, dummy footing testing and 5 No. large scale zone tests were carried out to validate the Vibro Stone Column performance alongside design calculations. The zone tests were 3.0m x 3.0m on cast concrete slabs and loaded to 1.5x working load. Settlements were then monitored and modelled against the design calculations to validate the works

## Project facts

### Owner(s)

Indurent

### Keller business unit(s)

Keller UK

### Main contractor(s)

Bowmer & Kirkland

### Engineer(s)

Stantec

### Solutions

Bearing capacity / settlement control

### Markets

Commercial

### Techniques

Vibro stone columns

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