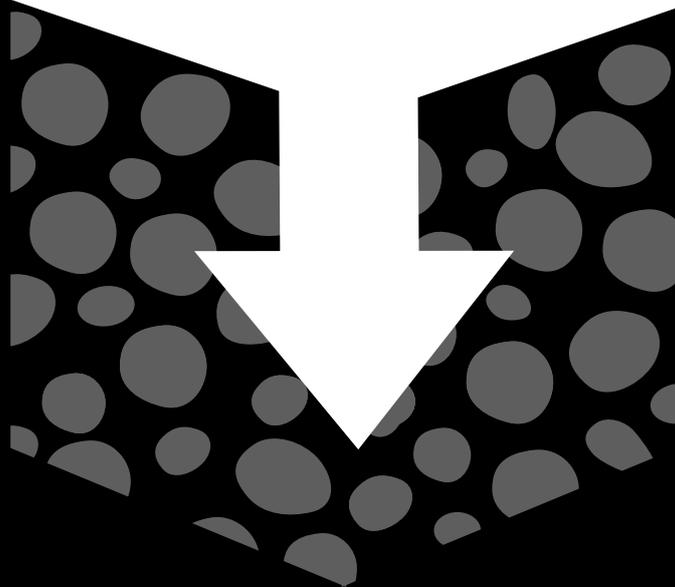




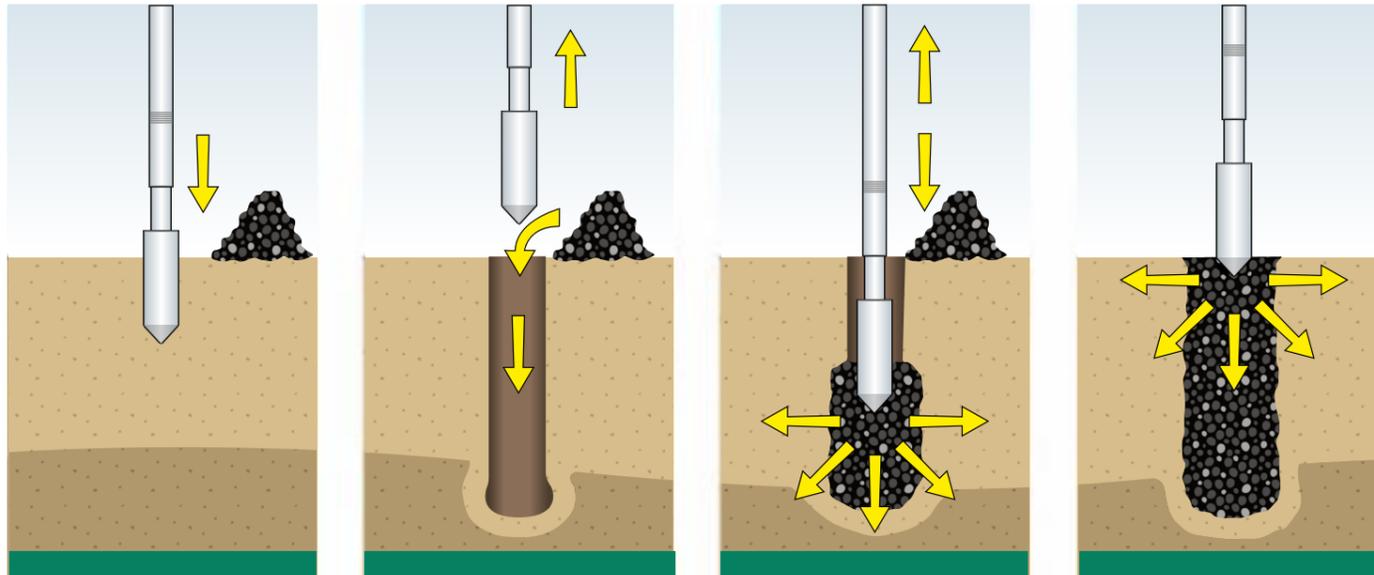
Vibro Stone Column Specialists



Roxborough Ground Improvement is a Ground Improvement Company based in Northern Ireland which specialises in the installation of Vibro Stone Columns. Our aim is to provide a sustainable, economical and time saving method of ground improvement safely and efficiently, creating strong relationships with clients, across the UK and Ireland, who have 100% satisfaction in our service.

Vibro Stone Columns

Vibro stone columns (VSC's) are a ground improvement technique which improves weak soils with the installation of densely compacted columns made from stone or aggregate via vibration.



The vibrating vibroflot on the purpose built rig penetrates the ground until reaching the required design depth for the columns.

The vibroflot is then raised out of the hole and aggregate is poured in via a hopper on the rig.

The vibroflot is then lowered again compacting the stone within the soils around it. This process is repeated until there is a densely compacted column created.

The stone columns and the confining soils form an integrated foundation support system having low compressibility, improved load bearing capacity and decreased settlement. In cohesive soils the columns act as reinforcement and provide a drainage path for excess pore water.

Advantages of Vibro Stone Columns:

- ✓ A **very versatile** Ground Improvement method that can be adjusted to a wide variety of soil conditions and foundation requirements.
- ✓ A **time and cost-effective** solution when dealing with poor ground. As there is no spoil this ensures there is no expensive waste to landfill. The method enables the contractor to utilise standard shallow footings which, in turn, leads to additional savings.
- ✓ Vibro Stone Columns require no cement, concrete or steel, along with being spoil free, this considerably reduces the carbon footprint to make Vibro Stone Columns a very **sustainable ground improvement solution**. Recycled aggregates can also be used for installation when available.
- ✓ **Lower noise and vibration** compared to traditional piling methods makes it an ideal method for works near existing buildings or environments.



Data Logger

All Columns are installed with our data logger which records the Depth and Pressure exerted of each Individual Column, this ensures the integrity of the Columns as they are being installed. This data can be viewed and sent immediately from site as a report, which will be labelled for each column.



PROJECT :	NWP GLENSIDE	RIG :	ROX V1	ACTIVE TIME :	84.550
DATE :	2020-12-08	COMPUTER :	DL001M	MAX DEPTH :	1.71
PILE ID :	614	OPERATOR :	P HUGHES	TIME TO DEPTH :	9
START TIME :	08:41:19	TOOL :	FLOT 1	BUILD TIME :	75.5
FINISH TIME :	08:42:44	PROCESS :	DRY BOTTOM	MAX PRESSURE :	108

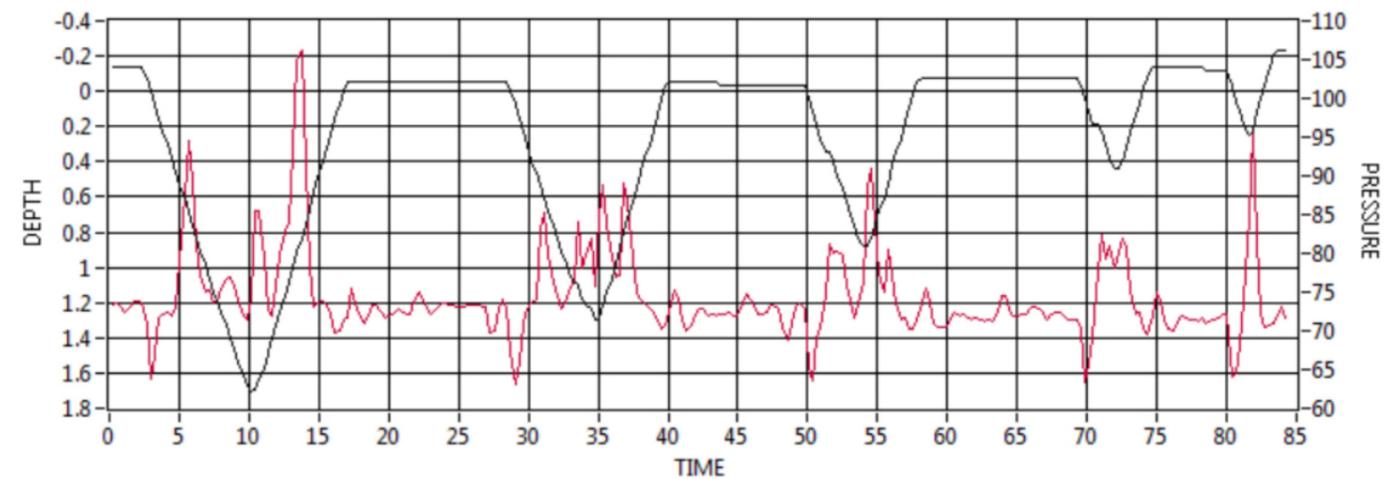


Plate Testing

Roxborough Ground Improvement also provide a plate testing service, using an advanced GPS data logger, this enables us to determine Results immediately which can be emailed in a report from site to ensure they meet the requirements of the contractor and engineer. This report includes settlement figures, CBR values and a graph showing different loading points and pressures. By providing this service, this enables us to get a better understanding of sites before our design process while also allowing us to see immediate results of our ground improvement technique.



TEST REPORT DETERMINATION OF PLATE BEARING CAPACITY

Project Client	DERRYS MECHANICAL SHED MDK	Test No:	3
		Lab Ref No:	TEST 3
		Date Tested	
Technician	PH	Date Reported	
		Weather Conditions	Dry
Location	CHARLESTOWN ROAD	Plate Dia (mm)	600
GPS Coord's	W 6° 25' 21.0", N 54° 27' 28.6"	m to excavation wall	
Material Type	STONE	Depth (m)	0
No Cycles	1	Reaction Type	13T

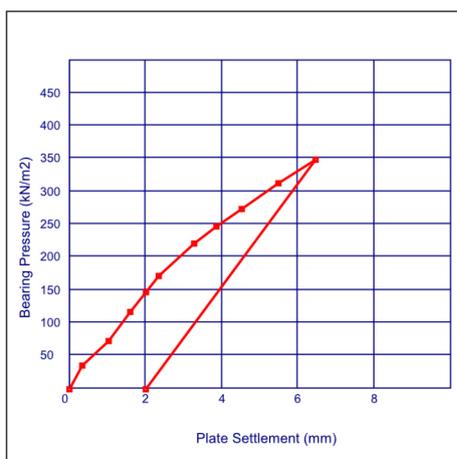


Plate Settlement (mm)	Bearing Pressure (kN/m2)
0.00	0.0
0.34	36.1
1.02	73.6
1.59	117.8
2.01	148.1
2.34	172.7
3.27	222.1
3.85	248.1
4.52	274.8
5.48	314.0
6.45	349.9
2.00	0.0

Maximum Applied Pressure (kPa):
Maximum deformation (mm):
Modulus of subgrade reaction K (MN/m3):
K762 (MN/m3):
Estimated CBR (%):

Cycle 1
350
6.45
72.9
58.7
11

Comments:

Approved Signature
Roxborough Construction
 Peter Hughes

Plate Load - Tested in accordance with BS 1377 : Part 9 C
 Moisture Content - Tested in accordance with BS 1377 : P
Opinions and interpolations expressed herein are outside the scope of UKAS accreditation



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