

# Historic House Re-supported with Teretek®

## INDUSTRY

Residential

## STRUCTURE

Historic house

## PROBLEM

Weak ground

## LOCATION

South West England, UK

## DURATION / YEAR

1 day / May 2017

## TECHNOLOGY

Teretek®

## BUSINESS UNIT

Mainmark UK



## Summary

A leaking pipe caused the washout of the soils underlying the historic heavyweight stone house. As the pipeline was being replaced, significant voids and cavities were encountered.

If left untreated, there was a risk of further voiding and structural instability. Voids were identified at ground level under the garage slab, and also at basement level under the stone paving slabs and behind the basement walls.

Mainmark was contracted to address the weak ground. Mainmark's Teretek® resin injection was identified as the optimum solution for this project.

## Objectives

Mainmark needed to void fill the foundation ground and re-support the building using a quick, non-invasive method that would not require demolition or excavation.

It was important that the residents of the property were not disturbed by the works, and that the treatment and application was fast and reliable.

The proposed methodology must allow for the cluster of power, gas, water and drainage services entering the building within the treatment zone.

## Solution

In a process similar to keyhole surgery, Mainmark technicians drilled a number of very small injection points

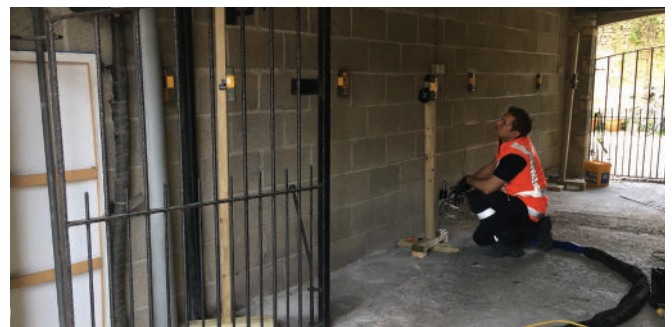
at various depths before injecting the Teretek® expanding polyurethane resin mix through injector tubes. Injection took place from within the building, at basement level, and from within the garage, at ground level.

The material expands on delivery to the target depth, strengthening the ground and filling the voids with minimal disruption. Injection continued until voids were filled and structural elements supported, as confirmed by a sustained increment of lift along the treatment zone.

All resin mixing and power generation equipment was contained in works vehicles, allowing for efficient and tidy site operations.

The project was successfully completed in just one day.

Mainmark's methods ensured that neither the tenants or owners were inconvenienced and the structure was fully supported, removing the risk of future damage.



Mainmark Technician injecting Teretek® engineered resin while monitoring the lift using a laser-receiver