

Engineers Conclusion Report – Site Investigations

63 Parliament Hill London NW3 2TB

Ref:QG1S1070545

Following the occurrence of vegetated related subsidence at this property which has resulted in crack damage and distortion a site investigation was undertaken on 6 November 2018.

Within this request, QuestGates Limited are to prove that:

1. On the balance of probabilities, there is sufficient evidence to demonstrate that the lime trees are influencing the ground conditions below the property;
2. The lime trees should be reduced in size.

Supporting Evidence

Nature and Extent of Damage

Externally, diagonal cracking was noted above the rear right hand ground floor window in two areas and also adjacent to the left hand side of the window and below with crack widths of 4-5 mm.

Further cracking was viewed between the first and second floor windows above the ground floor damage.

Internally, on the cross wall between the bathroom and rear right hand bedroom a diagonal crack 7mm in width was viewed extending through the wall.

Cracking continued within the rear right hand bedroom onto the flank ceiling line and rear wall.

The rear window frame was out of level.

Cracking was noted the entrance hall arch and the door to the front left hand lounge was difficult to open and close with disturbance to the plaster frieze above the door head.

The damage would be described as Category 3 using the BRE 251 Classification.

Trial Hole 1

A trial hole was excavated adjacent to the end wall of the rear addition and that revealed a shallow stepped brick foundation with the underside 900mm below ground level seated on brown fine to coarse gravelly silty clay.

A trial hole extended by hand auger revealed this material to continue to a depth of 3500mm below ground level where the trial hole was terminated.

Laboratory Analysis

Analysis of soil samples taken from Trial Hole 1 revealed clay of high plasticity that would be subject to volumetric change with changes in moisture content. The clay was on the verge of desiccation to a depth of 3000mm below ground level.

Roots found below the foundation were identified as Lime.

Trial Hole 2

A trial hole was excavated adjacent to the rear right hand corner of the rear elevation and that revealed a shallow stepped brick foundation with the underside 900mm below ground level seated on brown fine to coarse gravelly silty clay.

A trial hole extended by hand auger revealed this material to continue to a depth of 3000mm below ground level where the trial hole was terminated.

Laboratory Analysis

Analysis of soil samples taken from Trial Hole 2 revealed clay of very high plasticity that would be subject to volumetric change with changes in moisture content. The clay samples were on the verge of desiccation.

Roots found below the foundation were identified as predominantly Lime

Conclusion

Based on the above findings, we believe that the property has suffered an incident of Subsidence due to root induced clay shrinkage.

Next Steps

On the basis of the Site Investigation evidence we will instruct an Arboriculturist to inspect and provide recommendations on the extent of mitigation works required to the Lime trees in the rear garden.

It is hoped that you will act on the evidence currently available and take action in order to ensure that no further damage is caused.

We trust the above and enclosed is of assistance. In the meantime, should you have any queries, please do not hesitate to contact our office.