Engineers Conclusion Report – Site Investigations

18 College Crescent London NW3 5LL

Following the occurrence of vegetated related subsidence at this property which has resulted in crack damage and distortion a site investigation was undertaken on 12 December 2018.

Within this request, QuestGates Limited are to prove that;

- On the balance of probabilities, there is sufficient evidence to demonstrate that the nearby trees and shrubs have influenced the ground conditions below the property.
- You are indemnified against any claim for heave as a result of the vegetation removal.

Supporting Evidence

The damage was isolated to the front external steps.

Externally, a 5mm wide diagonal crack was noted to the left hand side of the entrance door head to the lower ground floor flat on the return wall with the front external steps.

The asphalt above the crack was disturbed and the quarry tiles to the steps displayed a separation crack where the top riser met the top tread of 4-5 mm in width.

The stone copings to the step walls displayed minor cracking.

Internally, the wall plaster was disturbed at the junction of the cross wall to the cupboard under the front steps and the return wall of the steps from floor to ceiling.

The front external door had been difficult to open and close.

Minor damp patches were noted to the ceiling at the junction of the front steps and entrance hallway to the lower ground floor flat and also to the underside of the steps within the cupboard under the stairs.

The damage would be described as Category 2-3 using the BRE 251 Classification.

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Trial Hole 1

A trial hole was excavated adjacent to the front elevation within the light well and that revealed a shallow stepped brick footing with the underside 400 mm below ground level seated on brown fine to medium gravely slightly sandy silty clay.

A trial hole extended by hand auger revealed this material to continue to a depth of 2900mm below ground level where the trial hole terminated.

Laboratory Analysis

Analysis of soil samples taken from Trial Hole 1 revealed clay of very high plasticity that would be subject to volumetric change with changes in moisture content. The clay was not found to be desiccated below the foundation level.

Roots found within the trial hole were identified as predominantly from the silver birch tree although some shrub roots were also identified.

Trial Hole 2

A trial hole was excavated adjacent to the return wall of the front steps and that revealed a shallow single step brick footing with the underside 200 mm below ground level seated on brown fine to coarse gravely slightly sandy silty clay.

A trial hole extended by hand auger revealed this material to continue to a depth of 800mm below ground level where brown fine to medium gravely slightly sandy silty clay was noted to a depth of 3200 mm 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 was not found to be desiccated below the foundation level.

Roots found within the trial hole were identified as from the silver birch tree.

Conclusion

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

The Silver Birch tree is implicated in causation of damage.

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Next Steps
We will instruct an Arboriculturist to inspect and report on mitigation works required.
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.

The Subsidence Hub