

Initial Customer Appraisal Report

SITE INVESTIGATION

We write in relation to your ongoing subsidence claim to provide an update. Following completion of site investigations, we are pleased to advise our findings below. Please also find enclosed a copy of the site investigation report for your information.

Trial Hole & Borehole 1

The trial hole was excavated to the front right corner of the building. This revealed the structure is founded on a 250mm thick concrete strip footing founded a depth of 0.7m below ground level. The trial pit was extended by hand augered borehole to refusal at 1.6m.

The underlying subsoil was a brown, slightly sandy fine to medium gravelly, silty CLAY, becoming medium gravelly with depth Shear vane tests indicated the clay subsoil encountered was stiff , increasing to very stiff over the depth of the borehole.

Roots were found immediately to the underside of the footing.

Trial Hole and Borehole 2

The trial hole was excavated to the rear right corner of the building and revealed the structure to be founded on a 500mm thick concrete strip footing founded at a depth of 1.1m below ground level. The trial pit was then extended by a hand augered borehole to refusal at 1.6m depth.

The underlying subsoil was a brown, slightly sandy fine to medium gravelly, silty CLAY. Shear vane tests indicated the clay subsoil encountered to be very stiff .

Roots were found to a depth of 1.1m below ground level.

Laboratory Analysis

Table of results

	Foundation	Material	NHBC Class	Roots?	Heave	Comment
TP/BH01 Front right	700mm below EGL	Sandy Gravelly clay	MVCP	700mm	Mod to High potential	Onset of desiccation at foundation
TP/BH02 Rear right	1100mm below EGL	Sandy Gravelly clay	MVCP	1100mm	Mod to Highpotential	Onset of desiccation at foundation

Analysis of soil samples indicates the clay to be of medium volume change potential.

There was evidence of desiccation immediately below the underside of the footings.

Desiccation is assessed using the Driscoll criteria as a guideline. The paper by Driscoll suggests that a London Clay soil is approaching desiccation when moisture content (MC) is at or below 50% of liquid limit (LL); desiccated when MC is at or less than 40% LL or plastic limit (PL) + 2. It should be noted that this is a rule of thumb only and other indicators are used to determine desiccation such as strength and consistency.

Root identification

Roots were identified as the family ACER, (Maples), HEDERA, (Ivy) and CUPRESSACEAR, (Cypress and Leylandii)

Drainage Survey

Two of the three lines surveyed (including the one alongside the right flank) were full of silt and debris with collapse which appeared to be the result of ground movement. Notwithstanding, trial pit and borehole investigations revealed no evidence to suggest this is contributing towards the cause of subsidence movement.

Conclusion

Based on the above findings, we believe that property damage has developed due to differential foundation movement caused by clay shrinkage due to moisture extraction by roots from nearby trees/vegetation. In particular:

- The clay is moderately shrinkable
- There is evidence of desiccation
- There are roots co-incident with the desiccation.

There are/are also defects to the drainage system. Whilst these are not the direct cause of subsidence, roots are hygroscopic and the additional moisture source is likely to encourage root growth to accumulate around the drainage runs and this focus the area of subsidence.

Fortunately, the cause of the problem (dehydration) is reversible. Clay soils will rehydrate in winter months, causing the clay to swell and the cracks to close. Provided the cause of movement is dealt with (in this case, vegetation), there should not be a recurrence of movement.

LIABILITY

It is recommended that liability be accepted in this instance.

ACTIONS/NEXT STEPS

We will appoint an arborist to advise on tree management and undertake statutory checks where necessary to ensure there are no restrictions for removing the vegetation.

If you have accidental damage cover then you may wish to contact your insurers to arrange for a new claim to be set up in relation to accidental damage to underground drainage services.