

Policyholder:



Subject Property Address:

22 Green Road
READING
Berkshire
RG6 7BS

INSURANCE CLAIM

CONCERNING SUBSIDENCE DAMAGE

ENGINEERING APPRAISAL REPORT



This report is prepared on behalf of [REDACTED] for the purpose of investigating a claim for subsidence. It is not intended to cover any other aspect of structural inadequacy or building defect that may otherwise have been in existence at the time of inspection.

Continuation / 2 Our Ref: 9623476

Date: 05/06/2026

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INTRODUCTION

This report has been prepared by our Surveyor, Kulwinder Chana, and the matter is being investigated in accordance with our Project Managed Service procedures.

Unless otherwise stated, all directions refer to the orientation when standing outside the property facing the front door.

DESCRIPTION OF BUILDING

The subject property is a semi-detached house situated within a residential estate on a level plot. The overall layout and configuration of the property are shown on the site plan.

There are trees located within influencing distance of the property, and their positions are marked on the plan.

The property is served by a separate/combined drainage system, the details of which are illustrated on the accompanying plan.

The position of the water main/service pipe is also indicated on the plan.

CIRCUMSTANCES OF DISCOVERY OF DAMAGE

The policyholders and homeowners, [REDACTED], first became aware of the damage in July 2022.

At that time, the policyholders observed cracking to the property, which progressively worsened over the summer months. As the damage continued to develop, this prompted them to notify their Insurers and initiate a claim.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism

The principal damage takes the form of structural cracking affecting both the internal and external elements of the property.

Internal Damage:

Cracking is present to the internal walls within the area of the garage, bathroom, bedroom 1, office and WC. The cracks vary in severity and are indicative of movement consistent with seasonal progression.

External Damage:

There is cracking evident to the exterior walls, primarily affecting the the front elevation. The cracking pattern aligns with the internal defects and supports the identified movement pattern.

Significance

The level of damage is assessed as moderate and corresponds to Category 3 in accordance with BRE Digest 251 – Assessment of damage in low-rise buildings.

Category 3 damage typically includes cracks of 5–15 mm in width and may involve distortion, slight structural movement, and repairs requiring minor masonry stitching or strengthening.

The garage shows the most significant damage because it has the most pronounced cracking and provides the clearest evidence of movement towards the front of the property.

Onset and Progression

The policyholders, [REDACTED], advised that the damage first commenced in July 2022.

Based on the evidence observed, we consider the damage to be recent in nature.

The pattern of cracking suggests that the movement is cyclical, with cracks opening during the summer and closing during the winter, consistent with seasonal moisture variation.

SITE INVESTIGATIONS

Site investigations were carried out as part of a subsidence assessment. The investigations include an arboricultural report, and a factual site investigation report dated 18 April 2024, supported by trial pit, borehole, laboratory testing, and CCTV drainage surveys.

Drainage Findings and Repairs

The CCTV drainage survey identified multiple structural drainage defects across several runs, including open joints, displaced joints, broken pipe sections, and significant root ingress. These defects rendered key elements of the system unserviceable, with excavation, lining, and clearance works recommended.

The drainage system was fully repaired in early 2025, restoring serviceability and removing drainage defects as an active contributing factor.

Arboricultural Findings

The arboricultural survey (November 2025) identified several nearby trees and shrub groups within influencing distance, including oak, birch, holly, cypress, and mixed shrubs. The survey confirmed that vegetation is capable of affecting soil moisture beneath foundations and recommended removal of specific groups (SG1, STG1) and felling of T1 (Oak), noting that the oak is subject to a Tree Preservation Order.

Ground Investigation & Laboratory Testing

A trial pit and borehole excavated on 18 April 2024 revealed stiff, high-plasticity clay soils (CH) consistent with shrink–swell behaviour. Moisture content profiles and suction values support seasonal desiccation in the upper clay layers. No roots were found below 2.6 m, and water strike occurred at 4.4 m.

Root Identification

Root samples recovered to 2.6 m depth were identified as *Acer* spp. (maple/sycamore) and *Quercus* spp. (oak). The roots were very decayed but confirm that tree roots historically extended towards the property.

MONITORING

Level monitoring at 22 Green Road commenced in October 2023 and continued until January 2026, with twelve visits completed at approximately eight-week intervals. The readings demonstrate a clear pattern of subsidence-related movement affecting the front of the property. Monitoring points along the front elevation, particularly Points 1, 3, 4, 5, and 6, show a progressive downward movement over the monitoring period, with cumulative changes ranging from approximately, -7 mm to -12 mm, depending on the specific location.

Rather than showing a symmetrical seasonal rise and fall typical of normal clay behaviour, the monitoring results indicate persistent downward settlement at the front, with movements increasing across successive visits. The greatest changes are recorded through mid-2025 and late-2025, demonstrating continued loss of ground support beneath the front foundation line. This pattern is distinctly directional and not consistent with reversible seasonal fluctuation.

The recorded movement aligns with the earlier geotechnical findings, which confirmed tree roots from Private Third Party's vegetation - specifically oak and maple species - present to a depth of 2.6 m within the clay soils at the site.

The directional settlement shown in the monitoring data corresponds to the proximity and influence of these trees, supporting the conclusion that root-induced moisture extraction is the primary cause of the subsidence affecting the front elevation.

In summary, the level monitoring conclusively demonstrates ongoing, subsidence-related downward movement at the front of the property, consistent with root-driven desiccation from nearby Private Third Party trees. The movement is progressive, directional, and aligns directly with the identified mechanism of frontward settlement.

CAUSE OF DAMAGE

Taking an overview of all the site investigation results referred to above, it is my opinion that the cause of damage results from clay shrinkage subsidence brought about by the action of roots from the Private Third Party-owned tree located at the front of the property.

I base this view on the fact that the foundations in the area of damage have been constructed at a relatively shallow depth and bear directly onto high-plasticity, shrinkable clay subsoil, as confirmed by the trial pit, borehole and laboratory testing undertaken on 18 April 2024. The laboratory results classify the clay as high-plasticity (CH) with moisture content and suction values consistent with desiccation effects within the upper strata of the soil.

The root identification analysis conclusively identified oak (*Quercus* spp.) and maple (*Acer* spp.) roots to a depth of 2.6 m beneath the area of damage. These species correspond directly with the Private Third Party vegetation situated at the front of the property. The presence of these roots at depth confirms that they are capable of extracting significant moisture from the clay subsoil beneath the foundations.

The level monitoring results, recorded between October 2023 and January 2026, demonstrate clear subsidence-related downward movement along the front elevation, with cumulative downward displacement of approximately -7 mm to -12 mm, depending on the monitoring point. This movement is progressive and directional towards the front, and does not follow a simple seasonal rise-and-fall pattern. The magnitude and direction of movement align precisely with the influence of the Private Third Party tree and support a diagnosis of root-induced clay shrinkage subsidence.

Based on these combined findings, I am satisfied that the damage has been caused by clay shrinkage subsidence following moisture extraction by the Private Third Party tree at the front of the property.

I have also considered whether there could be any other influencing factors contributing to the damage.

The borehole records confirm consistent clay strata without signs of voiding or softening at depth, and no alternative mechanism capable of producing the directional settlement recorded has been identified.

General non-insured factors, such as thermal movement, minor plaster shrinkage, or age-related deterioration, were also considered. These mechanisms typically produce superficial cracking that is cosmetic in nature and not accompanied by coordinated structural displacement. They are not capable of explaining the progressive, measurable settlement recorded across multiple monitoring points at the front elevation.

Given the established presence of desiccation within the clay, the depth and type of roots identified, and the specific downward movement recorded in monitoring, these non-insured mechanisms are not consistent with the observed pattern of damage and have been dismissed.

In conclusion, I am satisfied that there is no factor, other than the moisture extraction by the Private Third Party tree at the front of the property, that is causing the damage. The combined evidence from the ground investigation, root analysis, and level monitoring fully supports the diagnosis of tree-related clay shrinkage subsidence.

RECOMMENDATIONS

It is recommended that the Private Third Party tree located at the front of the property and in close proximity to the foundations is reduced or removed in order to mitigate against further subsidence-related movement. This recommendation is based on the site investigation findings, including the identification of oak and maple roots to a depth of 2.6 m beneath the foundations and the subsidence-related downward movement recorded along the front elevation in the level monitoring results.

Sedgwick's Mitigation Centre will liaise directly with the PTP regarding the required vegetation management

HEAVE ASSESSMENT

I have assessed whether significant heave or ground recovery will occur should the vegetation referred to above be removed.

I conclude that this is not the case, as no desiccation has been found within the soil samples taken during the site investigation. The absence of desiccation indicates that the clay subsoil has rehydrated over the wetter winter months, such that any moisture deficit that may have existed during the preceding summer has now been replenished. As a result, the clay has returned to its equilibrium moisture content. Consequently, as there is no desiccated clay capable of re-expansion, there cannot be any significant heave or swelling of the clay subsoil.

In summary, based on the site investigation results, the timing of the investigation, and the nature and extent of the damage within the property, I have concluded that significant heave and/or ground recovery will not occur should the vegetation management described above be undertaken.

REPAIRS

If the street tree is reduced/removed then I consider that works including structural crack repair and redecoration at an approximate cost of £20,000 will be appropriate in order to repair the damage in this case.

If the street tree is not removed/reduced then it may be necessary to consider underpinning of the foundations of the property in the area of damage, in addition to structural crack repair and redecoration needed to repair the damage. The total cost of this option is estimated at £80,000.

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