



[REDACTED]

Subject Property Address:

128 Greencroft Gardens
LONDON
NW6 3PJ

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.

Date: 20/09/2023

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INTRODUCTION

The technical aspects of this claim are being overseen by our Building Consultant Carol Whiteside-Law BA(Hons) PGDip Surv, in accordance with our project managed service.

The claim is primarily concerned with damage to the front entrance steps. All references to the property are as observed facing the front of the building.

DESCRIPTION OF BUILDING

The subject property is an end terrace house, which has been converted into four self-contained flats. The lower ground level flat has its own private front entrance door located to the left-hand elevation. The remaining 3 flats are all accessed via the main communal door, which is located at the top of the communal steps to the front elevation. The property is believed to have been constructed in circa 1900, in a residential estate on a plot that is level. The policyholder has also confirmed they believe the property is located within the South Hampstead Conservation Area.

CIRCUMSTANCES OF DISCOVERY OF DAMAGE

Policyholder noticed slight cracking to main entrance steps get progressively worse and reported damage to insurers following visit from a local builder

Insurers have requested for Sedgwick to confirm if current damage is subsidence related.

Insurers were notified on 31/07/2020.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism

The main area of damage is to the front entrance communal steps and takes the form of separation cracking above ground level and tapered cracking to brickwork to the underside of the steps (within the storage area located within the lower ground floor flat, directly below the steps). There was also evidence of cracking and deflection to the concrete underside of the steps.

Significance

The level of damage is moderate, and is classified as category 3 in accordance with BRE Digest 251 - Assessment of damage in low-rise buildings.

Onset and Progression

We consider that the damage has occurred recently. It is likely that movement will be of a cyclical nature with cracks opening in the summer and closing in the winter.

SITE INVESTIGATIONS

Reference to the geological survey map shows the anticipated subsoil as London Clay. The site investigation was arranged to help determine the cause of damage and was undertaken by CET Ltd on 1st September 2020. A second report was completed by CET on 3 April 2023.

For precise details of the trial pit and borehole location, together with test results, please refer to the attached CET 'Site Investigation Factual Report'.

A trial pit was excavated to the depth of 600mm to the left-hand side of the communal front entrance steps, which revealed a shallow brick corbel foundation to the entrance steps at a depth of 400mm bearing upon medium compact made ground with clay. A borehole was sunk within the trial pit to a depth of 1.60m, which also confirmed medium compact made ground with clay (0.60m – 1.50m) and very stiff clay (1.50m – 1.60m). The borehole was noted as being too gravelly to hand auger below the depth of 1.60m and dry and open on completion.

Report 2 - The second trial pit/borehole excavated in April 2023 reached a depth of 3.7m and located in the same area. The soils were identified as medium compacted made ground down to 1.6m and stiff grey veined brown clay down to 3.7m and dry and open on completion.

Roots ranging from 6mm to 10mm in diameter were noted to the underside of the foundations to the entrance steps and within the borehole, down to a depth of 1.60m. Seven roots were analysed and found to be alive and originate from *Tilia* spp. Such roots are considered to originate from the lime tree located within the front garden of neighbouring property No.130.

Report 2 - Roots were found ranging from 4mm to 15mm again they were identified as being from *Tilia* – Lime, also roots from *Hedera* or *Fatsia* – Ivy or closely related to ivy.

A CCTV drainage survey was undertaken to the drains located within proximity to the communal entrance steps and zone of damage. The survey revealed a Condition Grade B (cracks and fractures observed) and confirms that tree roots were observed within the drainage pipe work and that localised repairs including installation of a flexi liner to patch repair the pipe work is required. The survey also confirmed, that the chambers are relatively deep at 2.40m and the contractor will need to report back on further condition following completion of the survey, whilst following the required working in confined space procedures.

Our site investigations have confirmed the communal entrance steps (which appear to be an original feature to the property) are bearing upon made ground, however this made ground has a good bearing capacity and consist of London clay. Our site investigations have also positively identified lime tree roots to the underside of the foundations and within the borehole down to a depth of 3.4m, which has also been confirmed as being very stiff clay.

MONITORING

Level monitoring has been ongoing since 1 September 2020. A total of 18 readings have been taken. Last summer (2022) saw the greatest downward movement of 18mm. The readings are showing seasonal movement.

The wet weather this summer has caused a vast recovery of 17-18mm. This level of movement shows there is a strong influence from root invasion.

Monitoring points 3, 4 and 5 are showing the most movement. Points 3 and 4 are on the left side closest to the Lime trees. While point 5 is closer to the vegetation to the front of the property belonging to the policyholder.



CAUSE OF DAMAGE

Based on the information detailed above, we are of the opinion that damage has occurred due to clay shrinkage subsidence. This has been caused by moisture extraction by roots altering the moisture content of the clay subsoil, resulting in volume changes, which in turn have affected the foundations.

RECOMMENDATIONS

Mitigation

We consider the damage will not progress if appropriate measures are taken to remove the cause. In this instance it is likely that vegetation for which the adjoining private Third Party is responsible is contributing toward the cause of damage.

The drains in the vicinity of the damage to the steps have been repaired.

We would also recommend the removal of the vegetation to the front of the property belonging to the policyholder.

Repair

This involves undertaking superstructure strengthening, repairs and redecoration to the areas outlined below.

This decision has been taken based on our knowledge and experience of dealing with similar claims.

Externally

- Front entrance steps

REPAIRS

If the implicated Limes trees are removed then I consider that works including structural crack repair and redecoration at an approximate cost of £14,000 will be appropriate in order to repair the damage in this case.

If the trees are not removed 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 £70,000.

For Sedgwick

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