



Policyholder: Ivydown Limited

Subject Property Address:

18-18A Rona Road  
London  
NW3 2JA

**INSURANCE CLAIM**

**CONCERNING SUSPECTED SUBSIDENCE**

**ENGINEERING APPRAISAL REPORT**

This report is prepared on behalf of Zurich Commercial Broker 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: 09/02/2020





## INTRODUCTION

The technical aspects of this claim are being overseen by our Building Consultant Gavin Catheline MCIOB, in accordance with our Project Managed Service.

## DESCRIPTION OF BUILDING

The subject property is a semi detached house converted in to 2 self contained flats constructed in approximately 1900. To the left hand side of the original house is a two storey extension. The property is situated in a mature residential area on a site that is generally level.

The claim concerns damage to the front bay window affecting Flat 18A Rona Road.

## DISCOVERY OF DAMAGE

The joint policyholder and owner of flat 18A, Mr Hyam, first discovered the damage in summer 2017.

Repairs were undertaken in spring 2019 but the cracking re appeared during the summer 2019.

## NATURE AND EXTENT OF DAMAGE

### Description and Mechanism

The main area of damage is to the front two storey bay window and takes the form of vertical and diagonal tapered cracking.

This pattern of damage indicates a mechanism of downward movement towards the front.

### Significance

The level of damage is slight, and is classified as category 2 in accordance with BRE Digest 251 - Assessment of damage in low-rise buildings.

### Onset and Progression

The owner of flat 18A, Mr Hyam has advised that damage first commenced in the summer 2017 and re occurred shortly following repairs in the summer 2019.

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

## SITE INVESTIGATIONS

Site investigations were undertaken by CET Property Assurance Ltd on 2nd January 2020 and comprised the excavation of a trial pit and borehole adjacent to the front wall of the bay window, within the area of damage.

This has revealed that the foundations to the bay window consist of a crushed brick and clinker foundation with an overall founding depth of 800mm below ground level. The founding subsoil is described as stiff, mid brown, grey veined, silty CLAY with partings of orange silt and fine sand and occasional clay stone nodules. Roots up to 6mm in diameter were observed beneath the foundation.

The clay subsoil became very stiff and dry from 1.0m below ground level which was then seen to extend throughout the remainder of the borehole to a depth of 5.0m below ground level. Further live roots were found in the subsoil samples taken to a depth of 2.4m.

The subsoil samples retrieved from borehole 01 were sent to a laboratory for analysis. This has revealed that the clay subsoil is of very high plasticity index, meaning that the material is very susceptible to movement due to shrinkage and swelling with variations in moisture content. This is to say that if moisture is withdrawn from the subsoil, for example due the action of roots, then shrinkage i.e. a volumetric reduction will occur. Analysis of the subsoil moisture content and soil suction profiles indicate that the subsoil in borehole 01, within the area of damage has a slight moisture deficit at a depth of 2.0m below ground level. This indicates that the subsoil in borehole 01 has been affected by shrinkage due to the action of the roots found beneath the foundations.

The root samples retrieved were sent to the laboratory for analysis and they have been identified as *Fagus* – which include common beech and copper beech. These roots are undoubtedly from the beech hedge in the property front garden. Roots were also identified as *Hedera* and *Rosa* which most likely emanate from the local shrubs in the front garden. Roots were also identified as *Prunus* which are most likely from a previously removed Cherry tree in the neighbouring property garden.

#### MONITORING

We do not consider that monitoring is required.

#### 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 policyholder is responsible is contributing toward the cause of damage.

Based on the results of the site investigations and root identification we recommend that the following vegetation is removed:

Beech hedge – 2m high, 2m distance from the front bay window.

Group of mixed shrubs – 1.7m high, 0.2m distance from the front bay window.

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Removal of this vegetation will allow the clay subsoil to fully re-hydrate and stabilise and prevent re-occurrence of damage during dry weather conditions.

#### Repair

We have not yet decided on the final type of repair required, but have produced an outline of the most likely requirements. This involves undertaking superstructure repairs and redecoration. This decision has been taken based on our knowledge and experience of dealing with similar claims. In addition the results of the site investigation and laboratory testing have been taken into account.

For Sedgwick

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*Building Consultant*

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*Senior Claims Technician*