



[REDACTED]

Subject Property Address:

19 Willoughby Road
London
NW3 1RT

INSURANCE CLAIM

CONCERNING SUSPECTED SUBSIDENCE

ENGINEERING APPRAISAL REPORT

This report is prepared on behalf of Zurich Personal Lines 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: 17/06/2019

[REDACTED]

[REDACTED]

INTRODUCTION

The technical aspects of this claim are being overseen by our Building Consultants in accordance with our Project Managed Service.

DESCRIPTION OF BUILDING

The subject property is an end terrace house.

DISCOVERY OF DAMAGE

The policyholder and homeowner [REDACTED] first discovered the damage in Summer 2017.

The policyholder noticed slight cracking in the summer of 2017. Over the summer of 2018, the cracking began to get worse. Following this, the policyholder decided to inform her buildings insurer.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism

The main area of damage is to the left elevation internal and external and takes the form of diagonal cracking of up to 2.5mm in width.

This pattern of damage indicates a mechanism of downwards movement of the left section of the building.

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

[REDACTED] advised that damage first commenced in Summer 2018.

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

Trial Pit 1 was located to the left elevation of the property.

The foundations for the left elevation are brick and concrete strip to a depth of 900mm below ground level. The foundations sit on a band of very stiff silty clay to a depth of 3500mm at which point the trial pit was terminated.

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Shear vane readings were taken at 500mm intervals. The results progressively increased from 110Kpa at the underside of the foundations to 140 Kpa at a depth of 3500mm indicating that the soil has a good bearing capacity.

The soil was noted to be of a high plasticity from the underside of the foundations at 900mm depth to 3500mm depth indicating that the soil is susceptible to volumetric changes in relation to moisture levels.

Roots were found to a depth of 1500mm.

Botanical identification of the roots confirmed that they were:

CUPRESSACEAE (cypresses ('macrocarpa', 'Leylandii' etc.), Thuja (Western Red Cedar)

TAXODIACEAE (Sequoias, Redwoods, Swamp Cypress)

A CCTV investigation of the drainage system revealed defects to lines 1 and 2. These included displaced joints, root intrusion and a broken gully.

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.

The in situ site tests clearly show that the drain defects are not the cause of the subsidence movement.

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 and other private owners are responsible is contributing toward the cause of damage.

Separate drain repairs are recommended to the left side of the house:

Line 1 – Excavate and replace CWG and upto 1m of 100mm pipework, at a depth of 1m through the paving flagstones.

Line 2 – Install a 100mm patch liner at approximately 1.1m upstream from MH1.

Minor building crack repairs are required.