



4 North Court, South Park Business Village, Maidstone, ME15 6JZ

Subject Property Address:

The Old Vicarage
Church Hill
Ramsey
HARWICH
Essex
CO12 5EU

INSURANCE CLAIM

CONCERNING SUBSIDENCE DAMAGE

ENGINEERING APPRAISAL REPORT

This report is prepared on behalf of _____ or 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: 01/12/2021

Our Ref: 8983764

INTRODUCTION

The technical aspects of this claim are being overseen by our Building Consultant Asif Rasheed, CEng in accordance with our project managed service.

All references to the property are as observed facing the front of the building.

DESCRIPTION OF BUILDING

The subject property is a Detached house constructed in 1850, located in a rural isolated plot that is gently sloping down from right to left. The land to the right side is the churchyard of St Michaels Church and this comes under the Diocese of Chelmsford.

To the rear right corner is an attached timber outbuilding that was re-built for your policyholder circa 2015. There is also a large garage workshop to the left side used by your policyholder for his steam railway locomotives.

The insured (John and Margaret Crossman) purchased the risk address in 1994.

In 1996 the insured employed Engineers (Richard Jackson plc) to investigate and monitor their house at their own expense. The mitigation involved removal of 2 trees (Yew and Bramley Apple) plus reduction of other vegetation. We are advised that insurers at the time were not involved and that this matter was declared to insurers in 2011, at inception.

Richard Jackson plc are still in operation and are used by Sedgwick on specialist investigation and expert witness work.

CIRCUMSTANCES OF DISCOVERY OF DAMAGE

Cracking appeared to rear wall (similar as that in 1996) in autumn of 2018. The insured sought further advices from Engineers and then notified Brokers. The claim was subsequently initiated to insurers under the subsidence section of the policy in July 2020.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism	The main area of damage is to the rear wall and takes the form of Tapering cracking up to 8mm with concurrent damage to hallway and rear right bedroom.
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 crack damage has occurred recently, but that distortions are historic. Movement is of a cyclical nature with cracks opening in the summer and closing in the winter.

SITE INVESTIGATION

The site investigation has been undertaken under the instruction of Richard Jackson Plc.

The results of the earlier ground investigation indicate that the foundation comprises of a corbelled brick footing at a depth of 1.04m below ground level bearing onto stiff clay.

A borehole investigation, adjacent to the rear right hand corner of the property, has confirmed CLAY subsoil to a depth of 5m with hair roots noted to a depth of 2.8m below ground level. Samples of root have been analysed and originate from an ACER (Maples, Sycamores) and QUERCUS (Oak) or the related CASTANEA (Sweet Chestnut).

No drainage investigations have been undertaken as the drains are a significant distance from the area of damage and the site investigation has shown the soil to be dry which suggests the drains have not adversely affected the soils.

MONITORING

Ground level monitoring has been undertaken by Ricard Jackson Plc with results up to and including September 2021.

Please note the level monitoring recommenced on the previously installed monitoring points and has revealed a seasonal movement pattern to the rear of the right-hand elevation. This culminated in 19mm of downward movement recorded in October 2020. The ground subsequently recovered over the start of 2021 and no downward movement has been recorded in the benign summer 2021. The monitoring has revealed a seasonal movement consistent with clay shrinkage subsidence.

Results of the crack width/level monitoring carried out to date are attached in table/graphical format together with a plan showing the location of the monitoring points within the insured property.

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 Sycamore and Oak located in the grounds of the adjacent church.

I base this view on the fact that the foundations of the property in the area of damage have been built at a reasonable depth, bearing onto shrinkable clay subsoil. The soil is susceptible to movement as a result of changes in volume of the clay with variations in moisture content and analysis of the site investigation results indicates that the soil has been affected by shrinkage. Tree roots are present in the clay subsoil beneath the foundations. In this case, I am satisfied that the damage has therefore been caused by clay shrinkage subsidence following moisture extraction by the Sycamore and oak tree adjacent to the righthand side.

RECOMMENDATIONS

Normally, in cases such as this, the damage will stabilise if appropriate measures are taken to remove the cause. We are in receipt of a report from our Arboricultural Consultant who makes specific recommendations in respect of the felling of the Oak and Sycamore. We recommend that these measures be carried out to mitigate against further damage.

HEAVE ASSESSMENT

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

The site investigation has been undertaken during the summer months with desiccation suggested by the moisture content. The amount of desiccation in my opinion, represents purely seasonal desiccation rather than a persistent soil moisture deficit. I have carried out a heave assessment in accordance with BRE Digest 412, and do not believe there is a substantial risk of heave occurring. I believe any upward movement will equate to ground recovery of the subsidence that has taken place this summer, rather than being true heave, and consequently I am not of the opinion that long term heave will result should the Oak and Sycamore be removed.

There is no evidence of significant tilt towards the tree having occurred to the house, or distortion within the property, as would be expected if a significant persistent soil moisture deficit had been set up, and where the tree would not have been effecting the subsoil under the house at the time of the built.

In summary, based on the site investigation results, the timing of the investigation and the nature and extent of 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 vegetation is removed, then I consider that works including structural crack repair and redecoration will be appropriate in order to repair the damage in this case, at a cost of £15,000. However, if the Oak and Sycamore 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 at a cost of £100,000. This decision has been taken based on our knowledge and experience of dealing with similar claims. In addition, the results of the Site Investigation, laboratory testing and monitoring being taken into account.

Asif Rasheed CEng
Building Consultant

