

### Engineering Final Report

This report sets out in concise terms the nature of the evidence collected and the consultant's conclusions and recommendations

#### Policyholder, Property & Event Details

<b>Policyholder</b>	Mr David Payne	<b>Date of Discovery</b>	23/10/2024
<b>Risk Address</b>	85C Green Lane, Northwood,	<b>Our Ref</b>	IFS-LBG-SUB-25-0115754
	HA6 1AH	<b>Date Affected Area(s) Constructed</b>	1970 <span style="margin-left: 100px;">1970</span>
<b>Location of Damage</b>	Front of property / Garage	<small>Addition/Conservatory</small>	<small>Main House/Original Building</small>
<b>Nature of Damage</b>	Tapering, diagonal and stepped cracking, with floor slab cracking.	<b>Property Type</b>	Single Storey Detached Bungalow
<b>Crack Widths</b>	Cat 3, 5mm to 15mm - moderate.	<b>Indicated Mechanism of Movement</b>	Downward movement due to root induced clay shrinkage from nearby vegetation.
<b>Occupiers' Observations</b>	As per triage Cracking was reported to some cracking to the external and externals of the garage.	<b>BRE Classification</b>	Category 3
<b>Comments</b>	The movement and damage recorded at the property along with site investigations and monitoring carried out so far, show clear signs of property damage due to clay shrinkage from vegetation influence.		
<b>Previous Relevant Movement</b>	None		

#### Site Investigation & Monitoring Evidence

<b>Examination by Building Professional</b>	<input type="checkbox"/> Yes	Gary Hoban ACABE, DipSurv, CertCii, BDMA Ins Tech							
<b>Arboriculture Assessment</b>	<input type="checkbox"/> Yes	<b>Report Ref(s):</b>	SA255654	<b>Date(s)</b>	02/05/2025				
<b>Geotechnical TP/BH Logs &amp; Pens</b>	<input type="checkbox"/> Yes	<b>Report Ref(s):</b>	C80588G35263	<b>Date(s)</b>	24/02/2025				
<b>Soil Laboratory Testing</b>	<input type="checkbox"/> Yes	<b>Ref:</b>	L28731	<b>Plasticity</b>	Very High	<b>Desiccated?</b>	<input type="checkbox"/> Yes	<b>Date(s)</b>	06/03/2025
<b>Root Analysis</b>	<input type="checkbox"/> Yes	<b>Report Ref(s):</b>	R59979	Quercus spp. are oaks		<b>Date(s)</b>	06/03/2025		
<b>Drainage Survey</b>	<input type="checkbox"/> No	<b>Ref(s):</b>	NA	NA	<b>Date(s)</b>	NA			
<b>Heave Risk after Tree Removal</b>	<input type="checkbox"/> Low/None	<b>Assessed By</b>	Gary Hoban ACABE, DipSurv, CertCii, BDMA Ins Tech						
<b>Building Monitoring</b>	<input type="checkbox"/> Level	<b>Crack Width (+/- mm)</b>	<input type="checkbox"/> 40mm	<b>Level/Dist (+/- mm)</b>	<input type="checkbox"/> 40mm	<b>Date of last reading</b>	<input type="checkbox"/> 08/2025 and ongoing		
<b>Monitoring Confirms</b>	High amplitude of downwards trend over the summer periods during monitoring as apposed to the level monitoring during the wetter months recorded.								
<b>Supporting Comments</b>	We have obtained all necessary evidence to confirm causality, demonstrate property damage and implicate the outlined vegetation without a reasonable doubt. Seasonal movement can only be caused by the effect of moisture extraction and rehydration within Clay soils.								

#### Mitigation Actions / Scope of Repair

<b>Previous Mitigation?</b>	<input type="checkbox"/> Yes	<b>Ownership</b>	DTP	<b>Species</b>	Cypress	<b>Label</b>		<b>Action</b>		<b>Date Completed</b>		<b>Date Drain Repairs Completed/ Defects Confirmed:</b>	<input type="checkbox"/> No	<input type="checkbox"/> NA
<b>If Effective Mitigation is REFUSED or Is a Root Barrier Possible?</b> <small>(All Estimated &amp; Subject to Feasibility Study)</small>	<input type="checkbox"/> No	<b>Location</b>	na	<b>Estimated Depth (m)</b>	na	<b>Length (m)</b>	na	<b>Estimate</b>	N/A	<b>'Stabilisation' costs (excl. Superstructure)</b>	£ 76,032.00	<b>Ongoing Seasonal Movement?</b>	<input type="checkbox"/> Yes	
<b>Mitigation Statement</b>	Should the effective mitigation, or the funding/installation of a root barrier be refused, we will have no other option but to stabilise the building with a scheme of traditional mass concrete underpinning (stabilisation), and pursue the local authority for a recovery of these significant costs as noted above.													

#### Conclusion & Recommendations

The site investigation has confirmed that the cause of the subsidence is clay shrinkage. The foundations are 1000mm deep and bear on a clay soil with adequate bearing capacity. The clay soil is desiccated to a depth of 3500mm with roots to a depth of 2900mm. The roots were identified as emanating from Oak tree, which we are aware to be the protected tree affecting the risk address.

In order to prevent any further progressive damage to the building, we now require you to mitigate the effects that your vegetation is having on our insured's property. Should you ignore this letter or fail to mitigate the cause of the ongoing property damage, we will have no other option but to stabilise the building using a traditional underpinning scheme and pursue a recovery of these costs from you by legal means.

No drainage investigations have been carried out as these are remote from the area of damage.

Monitoring has evidenced ongoing seasonal movement.

Given the above factual evidence we conclude that the protected tree is the cause of the property damage and we require its mitigation to arrest the current episode of subsidence.