

### Engineers Addendum 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 Name</b>       | Mr Andrew Hunnibal                                                                                                                                                                                                                                                                                                                                  | <b>Date of discovery</b>               | 01/08/2020                    |
| <b>Risk Address</b>            | Longacre<br>Long Copse Lane<br>EMSWORTH<br>PO10 7UR                                                                                                                                                                                                                                                                                                 | <b>Our Ref</b>                         | IFS-LBG-SUB-20-0089388        |
| <b>Location of damage</b>      | Front entrance porch structure and conservatory.                                                                                                                                                                                                                                                                                                    | <b>Date of relevant construction</b>   | Circa 1950                    |
| <b>Nature of Damage</b>        | Various cracks/fractures.                                                                                                                                                                                                                                                                                                                           | <b>Property Type</b>                   | Two storey detached house     |
| <b>Crack Widths</b>            | 3 and would be classified as moderate.                                                                                                                                                                                                                                                                                                              | <b>Indicated mechanism of movement</b> | Downward/rotational movement. |
| <b>Occupiers' Observations</b> | Following the appearance of cracking the policyholder considered it prudent to contact insurers.                                                                                                                                                                                                                                                    | <b>BRE Classification</b>              | Category 3                    |
| <b>Comments</b>                | There is internal and external cracking/separation at junctions between the conservatory and main house. There is cracking/separation at junctions between the front porch/canopy structure and main house. The pattern and location of the damage is consistent of a downward/rotational movement of the conservatory and porch due to subsidence. |                                        |                               |

#### Investigation Evidence

|                                             |                                                                                                                                                                                                                     |                                             |                                         |                                         |                                         |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
| <b>Examination by Building Professional</b> | <input checked="" type="checkbox"/> Yes                                                                                                                                                                             | John Morrison                               |                                         | BSc (Hons), MCIQB, AssocRICS, Cert CILA |                                         |
| <b>Trial Hole/Bore Hole Excavations</b>     | <input checked="" type="checkbox"/> Yes                                                                                                                                                                             | Report Ref.: CS8519G26267                   |                                         | <b>Date of related SI</b>               | 11/01/2021                              |
| <b>CCTV Drainage survey</b>                 | <input type="checkbox"/> No                                                                                                                                                                                         | The drains are not implicated in the damage |                                         | <b>Date of Drain survey</b>             | N.A.                                    |
| <b>Soil Laboratory Testing</b>              | <input checked="" type="checkbox"/> Yes                                                                                                                                                                             | Shrinkable soils                            | <input checked="" type="checkbox"/> Yes | Desiccated soils                        | <input checked="" type="checkbox"/> Yes |
| <b>Root Analysis</b>                        | <input checked="" type="checkbox"/> Yes                                                                                                                                                                             | Report Ref.: R39608                         |                                         | <b>Date of related SI</b>               | 29/01/2021                              |
| <b>Arboriculture Assessment</b>             | <input checked="" type="checkbox"/> Yes                                                                                                                                                                             | Report Ref.: SA-247622                      |                                         | <b>Date of related SI</b>               | 21/01/2021                              |
| <b>Heave Risk after tree removal</b>        | <input type="checkbox"/> No                                                                                                                                                                                         | <b>Assesed By</b>                           | John Morrison                           | john.morrison@innovation.group          |                                         |
| <b>Building Monitoring</b>                  | <input checked="" type="checkbox"/> Yes                                                                                                                                                                             | <b>Crack Width</b>                          | <input type="checkbox"/> No             | <b>Level/Distortion</b>                 | <input checked="" type="checkbox"/> Yes |
| <b>Monitoring to date confirms</b>          | In the areas of concern, generally upward movement over the autumn/winter period and downward movement during the spring/summer.                                                                                    |                                             |                                         |                                         |                                         |
| <b>Supporting Comments</b>                  | Founding subsoil is shrinkable. There is an oak tree that is within influencing distance of the property. Positive root identification for the species Quercus spp. (which are oaks) @ 1.2-3.1m below ground level. |                                             |                                         |                                         |                                         |

#### Repair Scope

|                                     |                                                                                                                                                |                                       |             |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------|
| <b>If prompt vegetation removal</b> | Only Superstructure repairs required                                                                                                           | <b>Initial likely cost of repairs</b> | £ 10,000.00 |
| <b>If NO vegetation is removed</b>  | Piling or other appropriate stabilisation scheme.                                                                                              | <b>Potential additional costs</b>     | £ 25,000.00 |
| <b>Supporting Comments</b>          | Failure to remove vegetation influencing stability resulting in consequential damage to the property will necessitate a form of stabilisation. |                                       |             |

#### Conclusions & Recommendations

Based on the geotechnical investigation and arborist's assessment, the most likely cause of the movement/damage to the porch structure and conservatory is root induced clay shrinkage subsidence. The porch foundation comprised of a brick wall to 200mm below ground level (bgl), bearing on concrete to an estimated depth of 1200mm bgl, with a total projection of 270mm from the elevation. The underside of the foundation (USF) was estimated by pushing a probe, approximately 160mm back from the face of the foundation, at an angle with no apparent contact with the face of the foundation beyond the estimated depth. The conservatory foundation comprised of a brick & blockwork wall to 500mm bgl, bearing on concrete to an estimated depth of 1400mm bgl, with a total projection of 390mm from the elevation. The underside of the foundation (USF) was estimated by pushing a probe, approximately 100mm back from the face of the foundation, at an angle with no apparent contact with the face of the foundation beyond the estimated depth. The foundations are supported on clay of high shrinkability with roots down to a depth of 3100mm bgl. Roots encountered from below the porch foundation have been identified (using anatomical analysis) as having emanated from the species Quercus (which are oaks) or Castanea (which include sweet chestnut). Roots encountered from below the conservatory foundation have been identified (using anatomical analysis) as having emanated from the species Populus (which are poplars and aspens). The prunus (T3) and poplar (T4) were removed on 02/06/21.

The monitoring results to date indicate that in the area(s) of concern, generally upward movement over the autumn/winter period and downward movement during the spring/summer period has been recorded. This is characteristic of the seasonal pattern of foundation movement where vegetation is involved.

Given the above factual evidence we conclude that the protected oak tree (T7) is the principal cause of the damage to the porch structure, and we require its removal to arrest the current episode of subsidence.