

# Arboricultural Consultancy for Ecclesiastical Insurance Group

Note<sup>(1)</sup>: This report is intended for use between the client, Marishal Thompson Group and any parties detailed within the report. It is based on the understanding at the time of visiting the property that Engineers are satisfied that damage is attributable to clay shrinkage subsidence exacerbated by vegetation.

## 1. Case Details

<b>Insured</b>	27 Arkwright Road RTM Co Ltd	<b>Address</b>	27 Arkwright Road, London, NW3 6BJ		
<b>Client</b>	Infront Innovation	<b>Contact</b>	Oliver Deakin	<b>Claim No.</b>	IFS-EIG-SUB-12-0039018
<b>MT Ref</b>	NL/1401131331/TP	<b>Consultant</b>	Thomas Peppiatt	<b>Contact No.</b>	08702 416 180
<b>Report Date</b>	24/01/2013				

**Scope of Report:** To survey the property and determine significant vegetation contributing to subsidence damage, make recommendation for remedial action and assess initial mitigation and recovery prospects. The survey does not make an assessment for decay or hazard evaluation.

## 2. Property and Damage Description

The insured structure is a 2 storey detached house. The property occupies a level site with no adverse topographical features.

Damage relates to the front left hand elevation of the insured dwelling. Please refer to the engineers report for a full description of the claim history and damage.

## 3. Technical Reports

In preparing our report we have had the benefit of the following technical investigations:

Soil Analysis	<input checked="" type="checkbox"/>	Drain Report	<input checked="" type="checkbox"/>	Foundation Detail	<input checked="" type="checkbox"/>
Root Analysis	<input checked="" type="checkbox"/>	Borehole Log	<input checked="" type="checkbox"/>	Engineers Report	<input checked="" type="checkbox"/>

## 4. Action Plan

Mitigation	
Insured Involved?	Yes
Local Authority involved?	No
Other third party Mitigation involved?	Yes
Recovery	
Is there a potential recovery action?	Yes

Tree Works	
Local Authority	Camden London Borough
TPO / Conservation Area / Planning Protection Searches	Insured: TPO and Conservation Area Third Party: TPO and Conservation Area
Additional Comments	
Awaiting Further Instructions.	
A potential recovery action has been identified.	
Engineers should consider focusing investigations to strengthen factual evidence for disclosure to third party tree owners.	

## 5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that Infront Innovation's engineers are satisfied that damage is due to clay shrinkage subsidence exacerbated by vegetation.

We have been instructed to advise on the causal vegetation and to deliver management proposals which will provide ongoing and long term stability allowing repairs to be undertaken.

The footings of the subject property fall within the anticipated rooting range of vegetation, all with the capacity to be influencing soil moisture values below foundation level.

Site Investigations indicate that the foundations to the property extend to a depth of 930mm below ground level in TP/BH1.

NHBC chapter 4.2 (2010) categorises the underlying subsoil as being of a very high plasticity CLAY, i.e. capable of significant volumetric change potential in response to moisture contents.

## Marishal Thompson Group

Clarendon House, Shenley Road, Borehamwood, Herts, WD6 1AG  
t: 08702 416180 f: 08702 414339 e: office@marishalthompson.co.uk w: www.marishalthompson.co.uk

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Atterberg testing showed the soil moisture content to be close to plastic limit throughout TP1/BH1 (within 2-3% of PL) down to 4.0m.

The above soil testing confirms the role of vegetation in the damage as moisture depletion at the depths identified is beyond that to which normal seasonal climatic variations can be influential and therefore points to an outside influence, in this case vegetation (trees).

A survey of the property's drainage system has been undertaken and minor defects were recorded, however moisture contents track consistently closer to plastic limit than liquid limit which suggests the soil is dry the load bearing capacity of the soil has not been compromised.

*Leguminosae* spp roots have been identified within TP/BH1 that confirm the influence of T2 (False Acacia) below foundation level.

Sample trial pits are generally small in size and the recovery of roots from such a small hole leads us to conclude that these will not be isolated roots. There is significant potential for multiple roots to be active at or below foundation level.

Given the above and based on our site investigations, it is our opinion that T2 (False Acacia) will be exerting the principal vegetative influence.

T3 (Prunus) and H1 (Euonymus) are also considered to be significant factors in the damage based on size and proximity.

In assessing the potential drying influence of the vegetation on site, the above vegetation is judged to be the dominant feature and accordingly we have identified them as the principal cause of the subsidence.

In order to mitigate the current damage and allow for soils beneath the property to recover to a position where effective repairs can be implemented we recommend the removal of vegetation as detailed within this report.

Pruning should not be considered as representing an effective or reliable long-term alternative solution given the size and proximity of the vegetation.

There is sufficient space to support replacement planting; species selection should be appropriate for the available space and ultimate height should not exceed 75% of the available distance to built structures.

Further monitoring should establish the efficacy of the prescribed works. A review of recommendations may be required if stability is not restored.

Is vegetation likely to be a contributory factor in the current damage?	Yes
Is vegetation management likely to contribute to the future stability of the property?	Yes
Is replacement planting considered appropriate?	See Above
Would DNA profiling be of assistance in this case?	No

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## 6.0 Recommendations

### 6.1 Table 1 - Current Claim Requirements

These recommendations may be subject to review following additional site investigations

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m)	Ownership	Action	Requirement
H1	Euonymus	1	2.3	0.9	A - Third Party No 27B Arkwright Road. London. NW36BJ.	Remove	Remove and treat stump to inhibit regrowth.
T2	False Acacia	1	11	3.8	A - Third Party No 27B Arkwright Road. London. NW36BJ.	Remove	Remove and treat stump to inhibit regrowth.
T3	Prunus	1	6.8	5	A - Third Party No 27B Arkwright Road. London. NW36BJ.	Remove	Remove and treat stump to inhibit regrowth.
<b>Age Cat:</b> 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property							

### 6.2 Table 2 - Future Risk Recommendations

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m)	Ownership	Action	Requirement
S1	Privet	1	3.6	6.7	A - Third Party No 27B Arkwright Road. London. NW36BJ.	Action to avoid future risk	Do not allow to exceed 4m height by way of regular pruning.
T1	Oak	1	5	6.2	C - Insured	Action to avoid future risk	Remove and treat stump to inhibit regrowth.
TG1	Mixed species group including Ash.	1	6.8	8	A - Third Party No 27B Arkwright Road. London. NW36BJ.	Action to avoid future risk	Do not allow to exceed current dimensions by way of regular pruning.
<b>Age Cat:</b> 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property							

\* Estimated

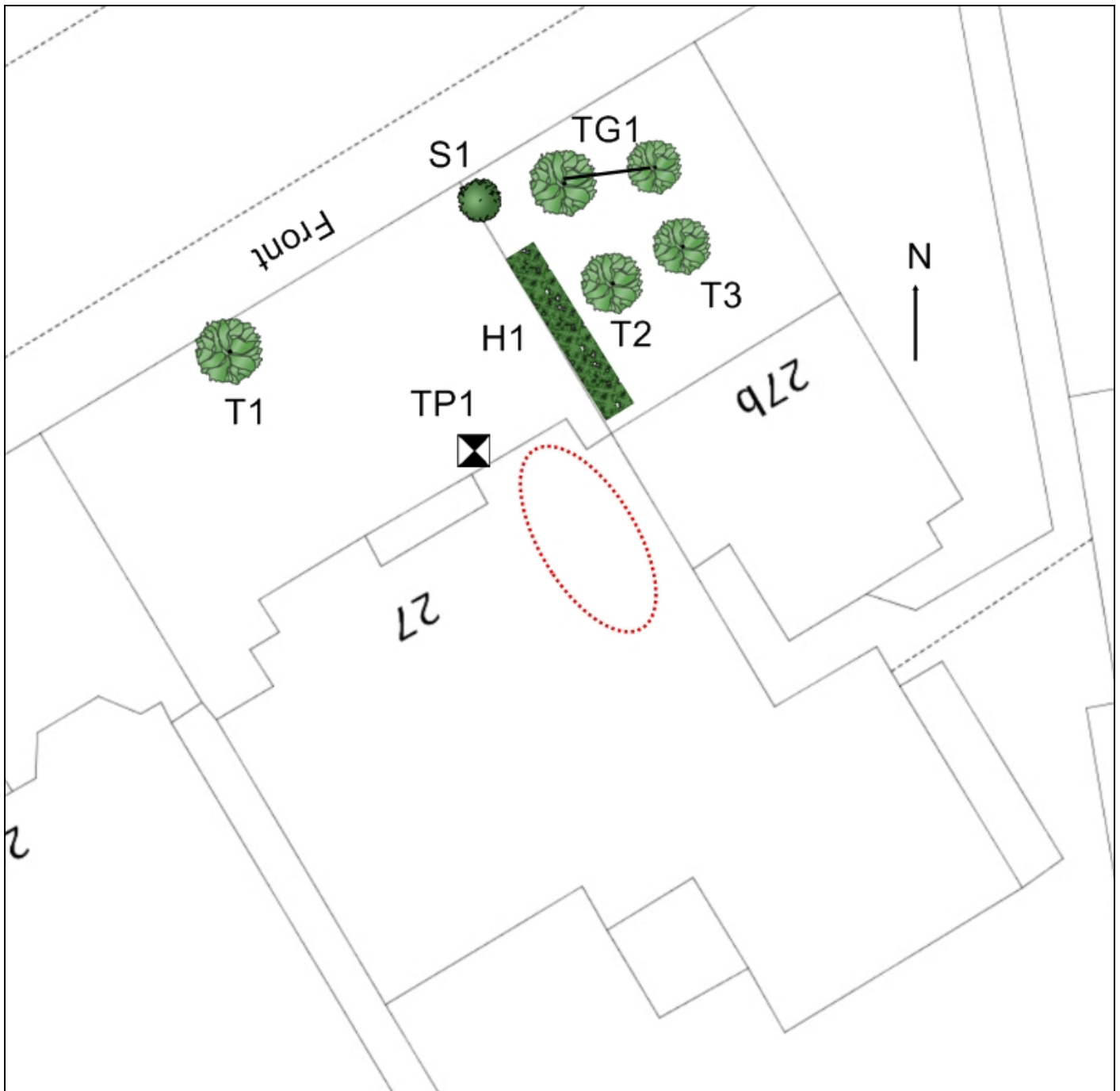
Third party property addresses should be treated as indicative only, should precise detail be required then Marishal Thompson can undertake Land Registry Searches

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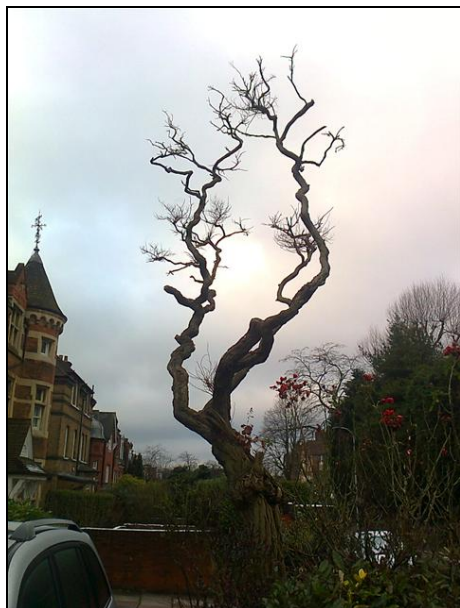
## 7. Site Plan



Please note that this plan is not to scale. OS Licence No. 100043218

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## 8. Photographs



T2 - False Acacia



S1 - Privet



H1 - Euonymus



T2 - False Acacia



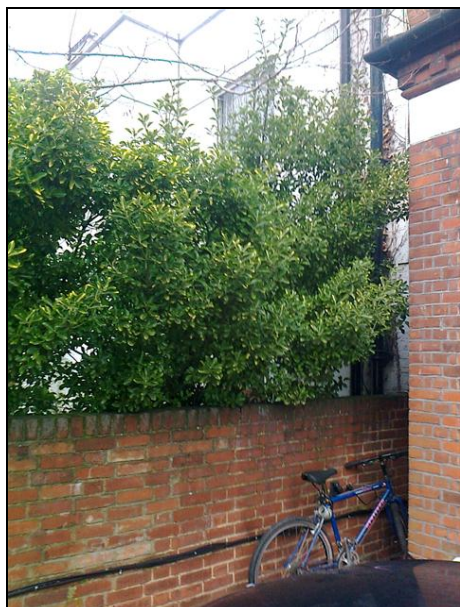
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T3 - Prunus



T2 - False Acacia



H1 - Euonymus