Arboricultural Consultancy for Aviva

Note(1): 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

Insured	Mrs H Megarry	**Address**	43 Woodsome Road, London, NW5 1SA		
Client	Infront Innovation	**Contact**	Dayna Riley	**Claim No.**	IFS-AVI-ROF-13-0046234
MT Ref	NL/1212131146/TP-REV1	**Consultant**	Thomas Peppiatt	**Contact No.**	08702 416 180
Report Date	10/01/2014 revised 17/11/2014				

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.

Please note: this is a revised report as engineers have requested we amend the prescriptions for T5 and TG1.

2. Property and Damage Description

The insured structure is a 2 storey mid-terrace house with a full basement. The property occupies a level site with no adverse topographical features.

Damage relates to the rear 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	☒	Drain Report	☒	Foundation Detail	☒
Root Analysis	☒	Borehole Log	☒	Engineers Report	☒

4. Action Plan

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

Tree Works	
Local Authority	Camden London Borough
TPO / Conservation Area / Planning Protection Searches	Insured: Conservation Area Third Party: Conservation Area
Additional Comments	
Awaiting Further Instructions.	

5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that Infront Innovation 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 on-going and long term stability allowing repairs to be undertaken.

Site Investigations indicate that the foundations to the property extend to a depth of 320mm in TP/BH1 and bear on to a substrate described as CLAY.

NHBC chapter 4.2 (2010) categorises the supporting subsoil as being of HIGH plasticity, i.e. capable of volumetric change potential in response to moisture content.

Atterberg testing for soils recovered in TP/BH1 record moisture values below plastic limit at 1.32m and 2.32m.

Roots recovered from TP/BH1 have been formally identified as Pomoideae gp. The most likely origin of the roots is the closest Apple to the rear of the property located in TG1 (Mixed species group)

Leguminoeae spp roots have also been found in TP/BH1. It was our original opinion that these roots could originate from T5 (False Acacia); however, it has since been brought to our attention that these roots could originate from a Wisteria climber not noted in our Arb report.

Such circumstances confirm the potential for the closest Apple tree located in TG1 (Mixed species group)to influence soil volumes and to contribute to the damage observed.

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.

There is currently no positive root identification to implicate T3 (Camellia), however based on our assessment on site we consider that the footings of the subject property fall within the anticipated rooting zone of this vegetation.

A survey of the property's drainage system has been undertaken and although defects were recorded, 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.

Given the above information, results of site investigations, and when considered on balance of probability, the identified vegetation is considered causal. A program of vegetation management is therefore appropriate with a view to restoring stable conditions.

In assessing the potential drying influence of the vegetation on site TG1 (Mixed species group) is considered the dominant feature and accordingly we have identified them as the principal cause of subsidence.

T3 (Camellia) is also considered to retain a contributory influence.

Please refer to Section 6 for management prescriptions.

Whilst we have given consideration to pruning as a means of mitigating the vegetative influence, this has been discounted.

Pruning is generally ineffective and in the context of the current claim we consider the above vegetation too large and close for pruning to be effective.

There is insufficient space to reasonably support a replacement planting at this exact location, although scope exists to replant elsewhere; an alternative location should be possible to find.

Species selection should be appropriate for the chosen site and ultimate tree height should not exceed 75% of the available distance to built structures.

We recommend the efficacy of the management recommendations be qualified by means of further monitoring to confirm stability.

At the time of our survey it was not possible to ascertain the exact ownership of all vegetation. Further consultation with those involved and/or Land Registry searches may therefore be required to identify exact ownership.

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

6.0 Recommendations (Revised)

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
TG1	Mixed species group (x2 Apple, x1 Bay).	1	5	2.2	C - Insured	Maintain as detailed	Remove closest Apple to rear of the insured property and manage stump to inhibit regrowth. Do not allow remaining Apple and Bay to exceed current dimensions. *Note – do not chemically treat stump due to translocation risk. Cover stump with dark or opaque plastic material or remove regrowth as it emerges.*
T3	Camellia	1	6	2	C - Insured	Remove	Remove and treat stump to inhibit regrowth.
Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property							

6.2 Table 2 - Future Risk Recommendations

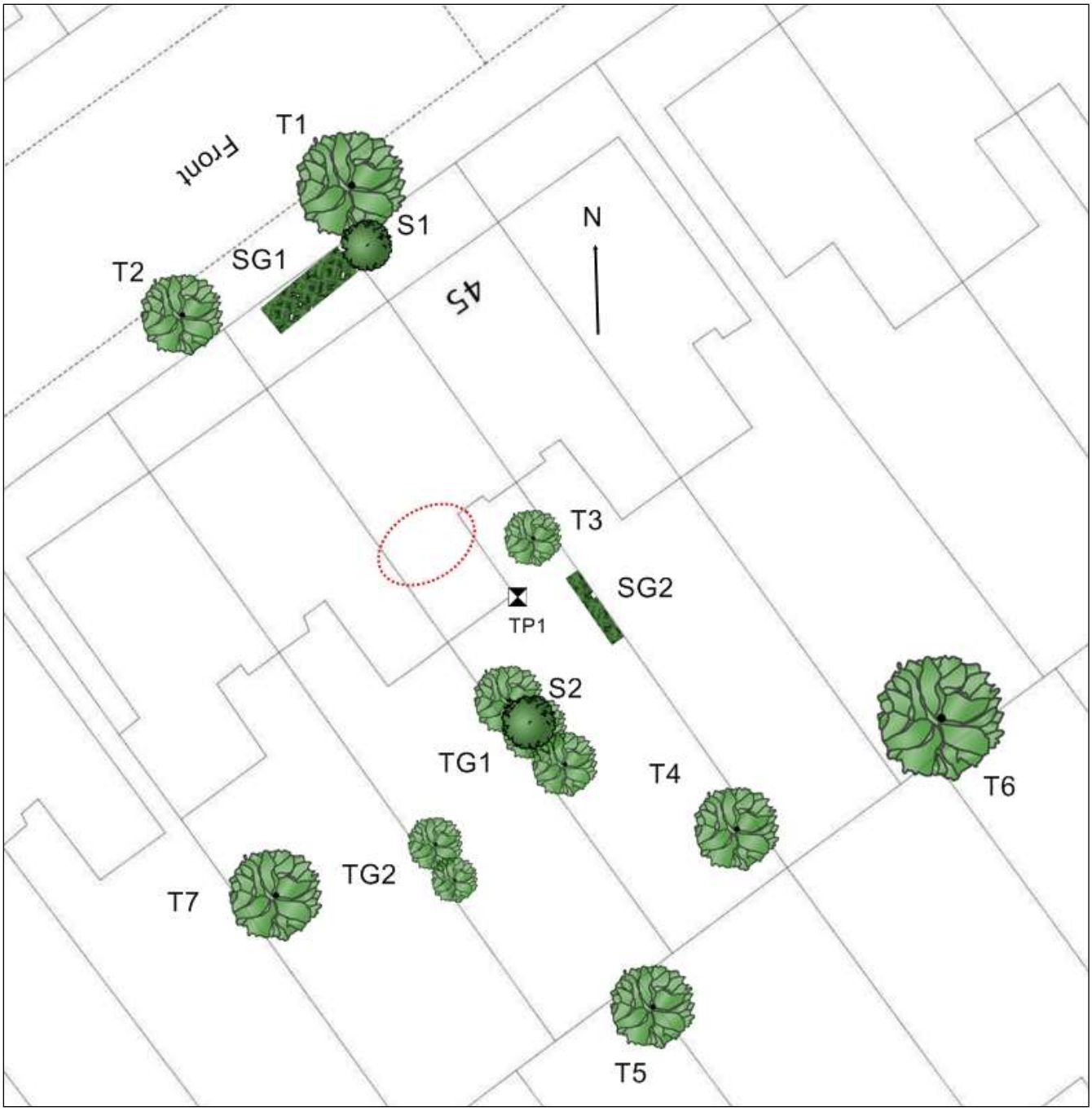
Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m)	Ownership	Action	Requirement
S1	Laurel	1	2.5	3	A - Third Party 45 Woodsome Road. London. NW5 1SA.	Action to avoid future risk	Do not allow to exceed current dimensions.
S2	Choisya	1	1.5	3.7	C - Insured	Action to avoid future risk	Do not allow to exceed current dimensions.
SG1	Mixed species group Including Bamboo and Rose.	1	1.5	1	C - Insured	Action to avoid future risk	Do not allow to exceed current dimensions.
SG2	Mixed species group Including Ceanothus, Jasmine and Viburnum.	1	1.5	2	C - Insured	Action to avoid future risk	Do not allow to exceed current dimensions.
T1	Sorbus	1	6.5	5.7	B - Local Authority	Action to avoid future risk	Remove
T2	Prunus	1	2.5	3.8	B - Local Authority	Action to avoid future risk	Do not allow to exceed current dimensions.
T4	Pear	1	8.5	10.5	C - Insured	Action to avoid future risk	Do not allow to exceed current dimensions.
T5	False Acacia	1	15	18*	D - Unknown	Action to avoid future risk	Do not allow to exceed current dimensions.
T6	Lime	1	13.5	16.5	A - Third Party 47 Woodsome Road. London. NW5 1SA.	Action to avoid future risk	Do not allow to exceed current dimensions.
T7	Pear	1	7.5	11.5	A - Third Party 39 Woodsome Road. London. NW5 1SA.	Action to avoid future risk	Do not allow to exceed current dimensions.

TG2	Mixed species group x1 Ceanothus, x1 Prunus.	1	4.5	6.6	A - Third Party 41 Woodsome Road. London. NW5 1SA.	Action to avoid future risk	Do not allow to exceed current dimensions.
Age Cat: 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

7. Site Plan



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

8. Photographs

T5 - False Acacia

SG2 - Mixed species group

T3 - Camellia

TG1 - Mixed species group

9. Tree Works Reserve - Does not include recommendations for future risk.

Insured Property Tree Works	£900
Third Party Tree Works	£0
Provisional Sum	£0

- The above prices are based on works being performed as separate operations.
- The above is a reserve estimate only.
- Ownerships are assumed to be correct and as per Section 6.
- A fixed charge is made for Tree Preservation Order/Conservation Area searches unless charged by the Local Authority in which case it is cost plus 25%.
- Should treeworks be prevented due to statutory protection then we will automatically proceed to seek consent for the works and Appeal to the Secretary of State if appropriate.
- All prices will be subject to V.A.T., which will be charged at the rate applying when the invoice is raised.
- Trees are removed as near as possible to ground level, stump and associated roots are not removed or included in the price.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future re-growth. Should this occur we would be pleased to provide advice to the insured on the best course of action available to them at that time. Where there is a risk to other trees of the same species due to root fusion, chemical control may not be appropriate.

10. Limitations

This report is an appraisal of vegetation influence on the property and is made on the understanding that that engineers suspect or have confirmed that vegetation is contributing to clay shrinkage subsidence, which is impacting upon the building. Recommendations for remedial tree works and future management are made to meet the primary objective of assisting in the restoration of stability to the property. In achieving this, it should be appreciated that recommendations may in some cases be contrary to best Arboricultural practice for tree pruning/management and is a necessary compromise between competing objectives.

Following tree surgery we recommended that the building be monitored to establish the effectiveness of the works in restoring stability.

The influence of trees on soils and building is dynamic and vegetation in close proximity to vulnerable structure should be inspected annually.

The presence of Tree Preservation Orders (TPO) or Conservation Area status must be determined prior to any tree works being implemented, failure to do so can result in fines in excess of £20,000.

Our flagging of a possible recovery action is based on a broad approach that assume all third parties with vegetation contributing to the current claim have the potential for a recovery action (including domestic third parties). This way opportunities do not “fall through the net”; it is understood that domestic third parties with no prior knowledge may be difficult to recover against but that decision will be fully determined by the client.

A legal Duty of Care requires that all works specified in this report should be performed by qualified, arboricultural contractors who have been competency tested to determine their suitability for such works in line with Health & Safety Executive Guidelines. Additionally all works should be carried out according to British Standard 3998:2010 *"Tree Work. Recommendations".*