

# Addendum Arboricultural Report

## Subsidence Damage Investigation at:

25 Kingston Hill  
Kingston Upon Thames  
KT2 7PW



CLIENT:	Claims Consortium Group
CLIENT REF:	287492
MWA REF:	SUB230119-12061Rev01
MWA CONSULTANT:	██████████ BSc (Hons) MSc
REPORT DATE:	08/03/2024

## SUMMARY

Statutory Controls		Mitigation (Current claim tree works)	
TPO current claim	No	Policy Holder	Yes
TPO future risk	No	Domestic 3 <sup>rd</sup> Party	Yes
Cons. Area	Yes	Local Authority	No
Trusts schemes	No	Other	No
Local Authority: -	Royal Borough of Kingston upon Thames		

## Introduction

**This is an addendum to our initial report dated 02/04/2023 following receipt of a second site investigation report.**

Acting on instructions from Claims Consortium Group, the insured property was visited on 30/03/2023 to assess the potential role of vegetation in respect of subsidence damage.

We are instructed to provide opinion on whether moisture abstraction by vegetation is a causal factor in the damage to the property and give recommendations on what vegetation management, if any, may be carried out with a view to restoring stability to the property. The scope of our assessment includes opinion relating to mitigation of future risk. Vegetation not recorded is considered not to be significant to the current damage or pose a significant risk in the foreseeable future.

Recommendations are made with reference to the technical reports and information currently available and may be subject to review upon receipt of additional site investigation data, monitoring, engineering opinion or other information.

This report does not include a detailed assessment of tree condition or safety. Where indications of poor condition or health in accessible trees are observed, this will be indicated within the report. Assessment of the condition and safety of third-party trees is excluded and third-party owners are advised to seek their own advice on tree health and stability of trees under their control.

## Property Description

The property comprises a four-storey detached house built circa 1873. It has been extended with a single-storey addition to the rear added circa 2000.

External areas comprise gardens to the front and rear.

The site is generally level with no adverse topographical features.

## Damage Description & History

Damage relates to the rear extension where cracking indicates downward movement.

At the time of the engineer's inspection (24/11/2022) the structural significance of the damage was found to fall within Category 3 (moderate) of Table 1 of BRE Digest 251. For a more detailed synopsis of the damage please refer to the surveyor's technical report.

We have not been made aware of any previous claims.

## Site Investigations

Initial site investigations were carried out by FASTRACK on 03/01/2023, when a single trial pit was excavated to reveal the foundations, with a borehole sunk through the base of the trial pit to determine subsoil conditions.

### Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH1	Brick	740

### Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	Dark brown silty sandy CLAY	26 - 46	Medium-High

### Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	740	<i>Sambucus spp.</i>	Present
TP/BH1	1500	<i>Sambucus spp.</i>	Present
TP/BH1	2000	<i>Sambucus spp.</i>	Present

*Sambucus spp. are elders.*

**Drains:** No information available at the time of writing.

**Monitoring:** No information available at the time of writing.

## Site Investigations

A second site investigations was carried out by FASTRACK on 24/08/2023, when a single trial pit was excavated to reveal the foundations, with a borehole sunk through the base of the trial pit to determine subsoil conditions.

### Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH3	Concrete	1030

### Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH3	CLAY containing gravel and sand pockets to 1.8m SAND & GRAVEL to 2.3m	26 - 36	Medium

### Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH3	Foundation level	<i>Eucalyptus spp.</i>	Present

*Eucalyptus spp. are gum trees*

**Drains:** A drains survey identified root ingress. Leaking drains are not thought to be a cause of damage.

**Monitoring:** No information available at the time of writing.

## Discussion

Opinion and recommendations are made on the understanding that Claims Consortium Group are satisfied that the current building movement and the associated damage is the result of clay shrinkage subsidence and that other possible causal factors have been discounted.

Site investigations and soil test results have confirmed a plastic clay subsoil susceptible to undergoing volumetric change in relation to changes in soil moisture. A comparison between moisture content and the plastic and liquid limits suggested moisture depletion in TP/BH1 in January 2023.

The initial ground investigation recorded roots to a depth of 2000m bgl in TP/BH1 and recovered samples were positively identified (using anatomical analysis) as *Sambucus spp.*, the origin of which will be the Elderberry (T1).

Irrespective of the identification of recovered root samples, the roots of the bay tree (T2) and eucalyptus (TG1) were considered likely to be present below foundation level in proximity to the area of movement/damage and influencing soil moisture and volumes. The second investigation recovered eucalyptus roots confirming our initial opinion. These roots will originate from TG1.

Based on the technical reports currently available, engineering opinion and our own site assessment we conclude the damage is consistent with shrinkage of the clay subsoil related to moisture abstraction by vegetation. Having considered the information currently available, it is our opinion that T1 and T2 are the principal cause of the damage with a secondary influence from TG1.

If an arboricultural solution is to be implemented to mitigate the influence of the implicated trees/vegetation we recommend that T1, T2 and both trees in TG1 are removed.

Other vegetation recorded presents a potential future risk to building stability and management is therefore recommended.

Consideration has been given to pruning alone as a means of mitigating the vegetative influence, however in this case, this is not considered to offer a viable long-term solution due to the proximity of the responsible vegetation.

Recommended tree works may be subject to change upon receipt of additional information.

## Conclusions

- Conditions necessary for clay shrinkage subsidence to occur related to moisture abstraction by vegetation have been confirmed by site investigations and the testing of soil and root samples.
- Engineering opinion is that the damage is related to clay shrinkage subsidence.
- There is significant vegetation present with the potential to influence soil moisture and volumes below foundation level.
- Roots have been observed underside of foundations and identified samples correspond to vegetation identified on site.
- Replacement planting may be considered subject to species choice and planting location.

**Table 1 Current Claim - Tree Details & Recommendations**

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T1	Elderberry	8	200 Ms *	5	2.5	Younger than Property	Third Party 23 Kingston Hill KT2 7PW
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T2	Bay	9	250 *	5	2.5	Younger than Property	Third Party 23 Kingston Hill KT2 7PW
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
TG1	Eucalyptus	16.5	500	8	16	Older than the extension	Policy Holder
Management history		2 trees previously topped at around 10m.					
Recommendation		Remove both trees.					

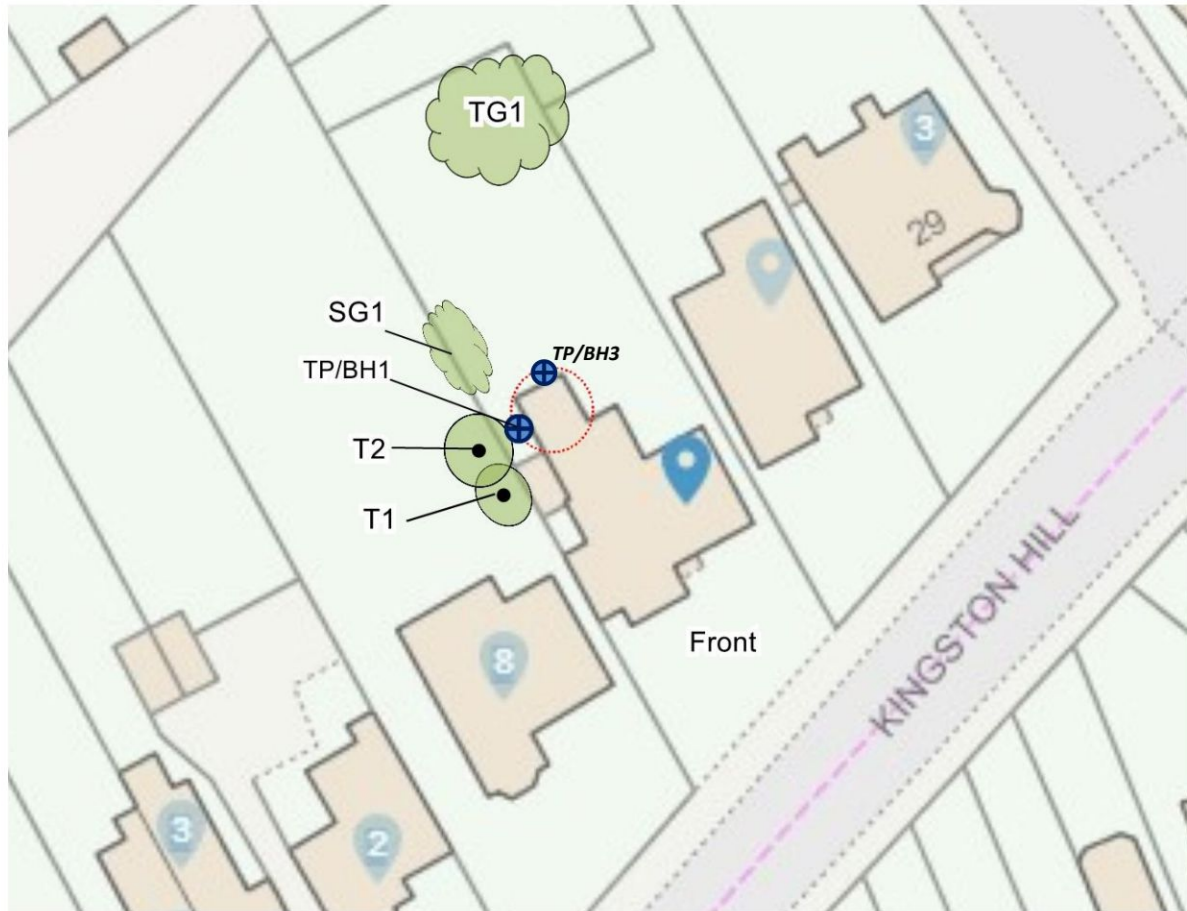
Ms: multi-stemmed \* Estimated value

**Table 2 Future Risk - Tree Details & Recommendations**


Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
SG1	Shrubs including Forsythia	2	25 Ms *	2	2.7	Younger than the property	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					

Ms: multi-stemmed \* Estimated value

Site Plan

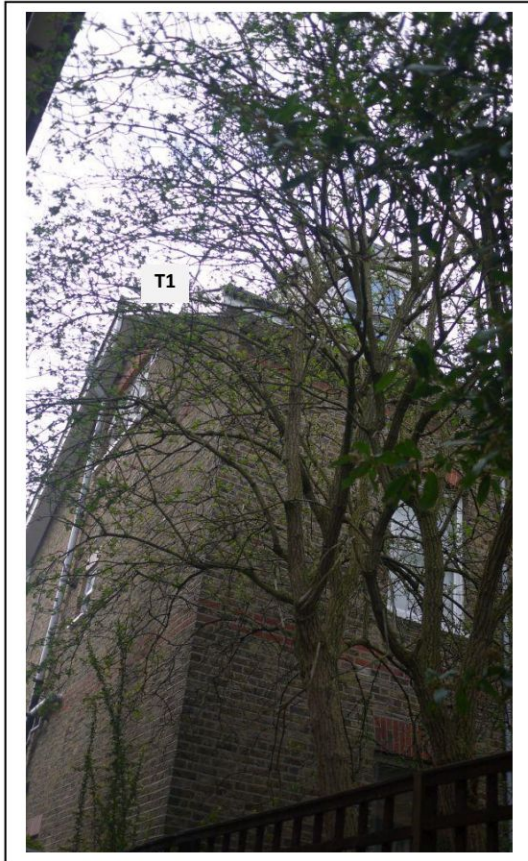


Plan not to scale – indicative only

 Approximate areas of damage



Images



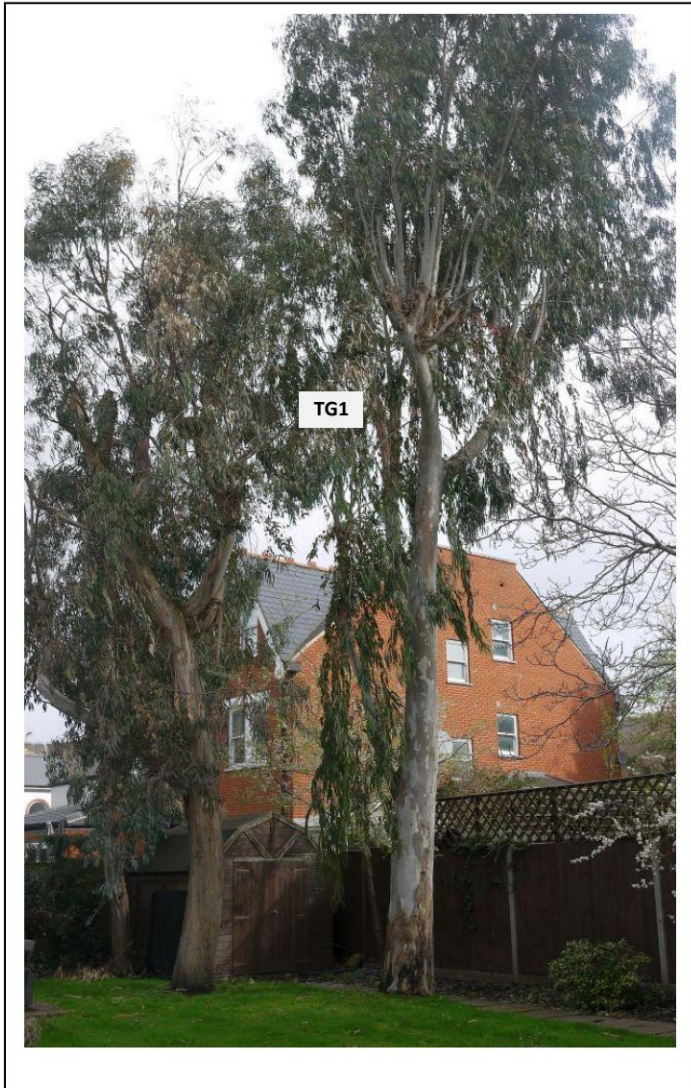
View of T1



View of T2



View of SG1



View of TG1