Addendum Arboricultural Report

Subsidence Damage Investigation at:

3 Somerset Terrace
East Bolden
NE36 0TE



CLIENT:	B Maule & Co Ltd
CLIENT REF:	54/20227843
MWA REF:	SUB230713-13700REV02
MWA CONSULTANT:	Owen Hutchison (B.Sc Hons, Dip Arb L4, MArborA) David Mahon MICFor
REPORT DATE:	18/02/2025

SUMMARY

Statutory Controls			Mitigation (Current claim tree works)	
TPO current claim	Yes – T1		Policy Holder	Yes
TPO future risk	Yes - T2		Domestic 3rd Party	No
Cons. Area	Yes		Local Authority	Yes
Trusts schemes	No		Other	No
Local Authority: -	South Tyneside Council			

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Introduction

This is an addendum tour initial report dated 08/08/2023 and revised report dated 10/10/2023 following receipt of level monitoring data to 27/01/2025.

Acting on instructions from B Maule & Co Ltd, the insured property was visited on 01/08/2023 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 is an end of terrace, three-bedroom, two storey dwelling, constructed circa mid 1920s. It is a brick-built structure, with a single storey extension to the rear. To the front is a small garden, containing one large sycamore (T1) and a number of small, well-maintained shrubs. Side access to the right of the house leads to a large rear garden, largely laid to lawn. To the right of the property is a small area of off-site woodland (W1), which surrounds a war memorial. Number 2 Somerset Terrace is located immediately to the left of the property.

Damage Description & History

Cracking of the partition wall between the kitchen and living room was first observed in summer 2022.

We have not been made aware of any previous claims.

Site Investigations

Site investigations were carried out by Bradgate Surveying Limited on 04/05/2023, when 2 trial pits were hand excavated to reveal the foundations, with a borehole sunk through the base of the trial pit to determine subsoil conditions. A drainage survey was also undertaken.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH1	Concrete	800
TP2	Brick and Concrete	800

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	Firm to stiff CLAY	8 - 35	Low - Medium

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	2500	*Acer spp.*	Present

Acer spp. Include sycamore and maples.

Drains: The drains have been surveyed and no significant defects identified.

Monitoring: Level monitoring readings from 04/05/2023 to 27/01/2025 available at the time of writing.

Discussion

Opinion and recommendations in this report are made on the understanding that B Maule & Co Ltd have identified clay shrinkage subsidence as a cause of building movement and damage.

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 suggests moisture depletion at the time of sampling in TP/BH1 at depths beyond normal ambient soil drying processes such as evaporation indicative of the soil drying effects of vegetation.

Roots were observed to a depth of 2.5m bgl in TP/BH1 and recovered samples have been positively identified (using anatomical analysis) as *Acer* spp., the potential origin of which will be sycamores located within woodland W1 and sycamore T1 confirming their influence on the soils below the foundations.

Level monitoring between 04/05/2023 and 27/01/2025 has recorded movement consistent with shrink/swell of the clay subsoil exacerbated by the soil drying effects of T1 and W1.

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 sycamores within W1 and sycamore T1 are the principal cause of or are materially contributing to the current subsidence damage.

If an arboricultural solution is to be implemented to mitigate the influence of the implicated trees/vegetation we recommend that sycamore T1 and sycamores in W1 located within 10-12m of the right flank of the house should be removed. Further tree removals may be necessary if movement persists. As a minimum this will include the first row of sycamores adjacent to the property boundary. 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.
- Level monitoring has recorded seasonal movement consistent with root induced clay shrinkage subsidence.
- 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	Sycamore	18 *	800	16 *	8	Similar Age to Property	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
W1	Sycamore	18 *	400 Ms *	12 *	8.5 *	Similar Age to Property	Local Authority
Management history		Area of woodland, located around neighbouring war memorial, adjacent to the right-hand property boundary. Comprising predominantly sycamore. No recent management noted.					
Recommendation		Remove all sycamore stems within 10-12m of the right-hand flank of the house. As a minimum, this will include the first row of trees which border and overhang the property boundary. Grind out stumps to prevent regeneration. Do not poison stumps, as roots may be fused with those of surrounding retained trees.					

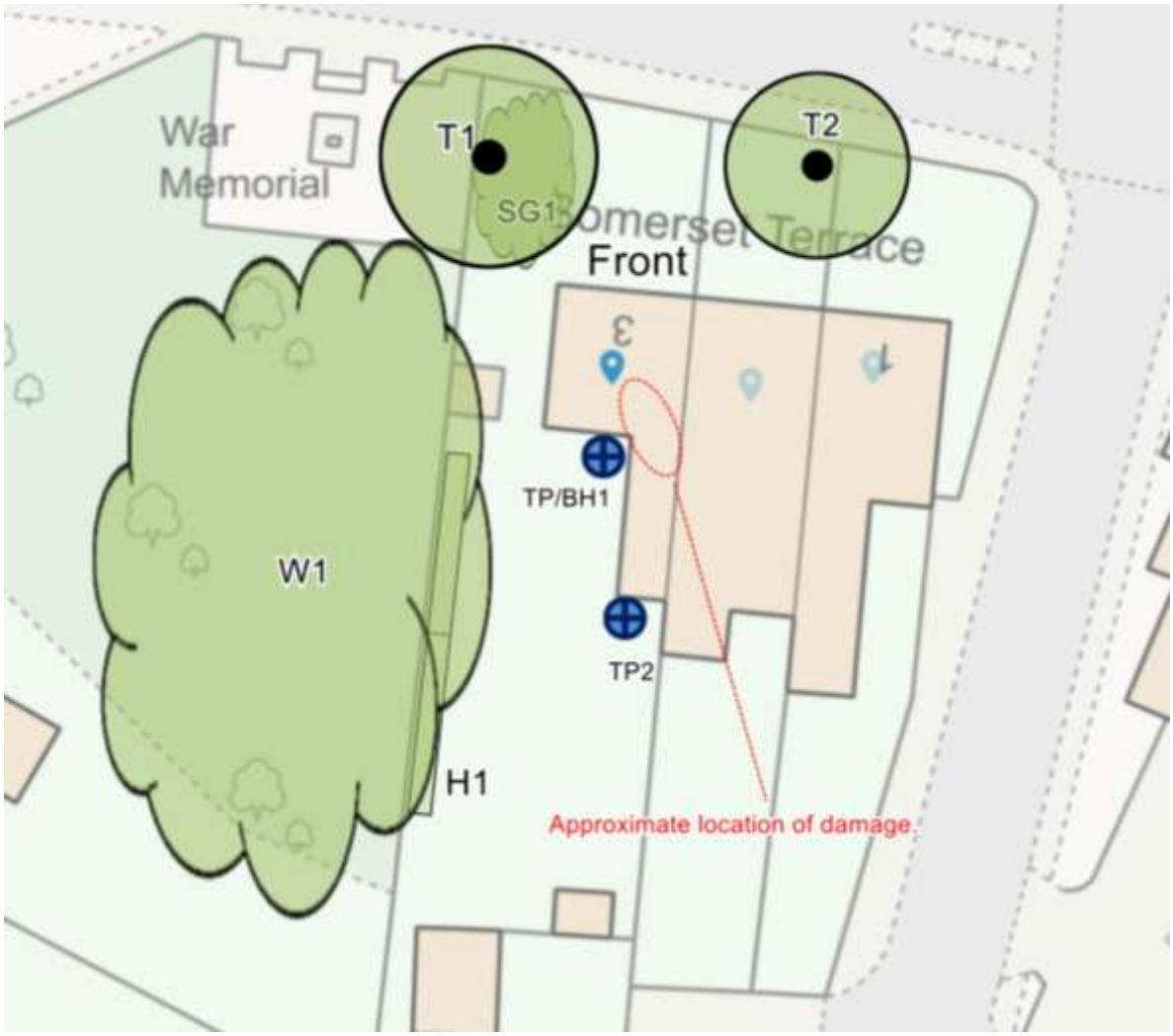
Ms: multi-stemmed * Estimated value

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

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T2	Sycamore	16 *	600 *	14 *	8	Similar Age to Property	Third Party 2 Somerset Terrace NE36 0TE
Management history		Subject to past management/pruning. Subject to past management/pruning.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
SG1	Privet, Elaeagnus and laurel	1.6 *	50 *	2	2.5 *	Younger than Property	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		Trim annually to maintain current dimensions.					
H1	Cypress	2.5 *	150 Ms *	1.5 *	5.5 *	Younger than Property	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		Trim annually to maintain current dimensions.					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only

Approximate areas of damage

Images



View of sycamore T1, located in the front garden.



View of off-site sycamore T2.



View of cypress hedge H1, with off-site woodland W1 beyond.



View of the rear of the house and extension in relation to surrounding implicated trees.