Arboricultural Appraisal Report

Subsidence Damage Investigation at:

21 Meadow Way
Earith
Huntingdon
PE28 3QJ



CLIENT:	[redacted]
CLIENT REF:	231193
MWA REF:	SUB230728-13874
MWA CONSULTANT:	Owen Hutchison BSc Hons, Dip Arb L4, MArborA
REPORT DATE:	04/09/2023

SUMMARY

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

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Introduction

Acting on instructions from Gateley Smithers Purslow, the insured property was visited on 29/08/2023 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.

This is an initial appraisal report and 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 single storey detached bungalow built in the 1980's. 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 right-hand side of the rear elevation with internal and external cracking present. 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

Site investigations were carried out by Smart Drain UK on, 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. A drains survey was also undertaken on 25/07/2023.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP1	Concrete	1300

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP1	Very gravelly very sandy very silty CLAY.	9	Low

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP1	1900	Sambucus spp.	Unknown

Sambucus species is elder.

Drains: The drains have been surveyed and defects identified, although leaking drains are concluded not to be a cause of the current damage.

Monitoring: No information available at the time of writing.

Discussion

Opinion and recommendations in this report are made on the understanding that Gateley Smithers Purslow 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 TP1 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 1.9m bgl in TP1 and recovered samples have been positively identified (using anatomical analysis) as *Sambucus* spp., the origin of which will be elder T3 confirming its influence on the soils below the foundations.

Irrespective of the identification of recovered root samples, the roots of pyracantha S1, maple T1 and oak T2 are also likely to be present below foundation level in proximity to the area of movement/ damage and influencing soil moisture and volumes.

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, T2 and T3 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 T1, T2 and T3 are removed.

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	Norway maple	7 *	180 Ms	9 *	2.7	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T2	Oak (English)	13 *	650 *	18 *	10	Older than Property	Third Party S J Hampton of 465 Newmarket Road, CB5 8JJ
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T3	Elder	4.5 *	70 Ms *	8 *	2.2	Younger than Property	Unknown - Pending First Registration
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

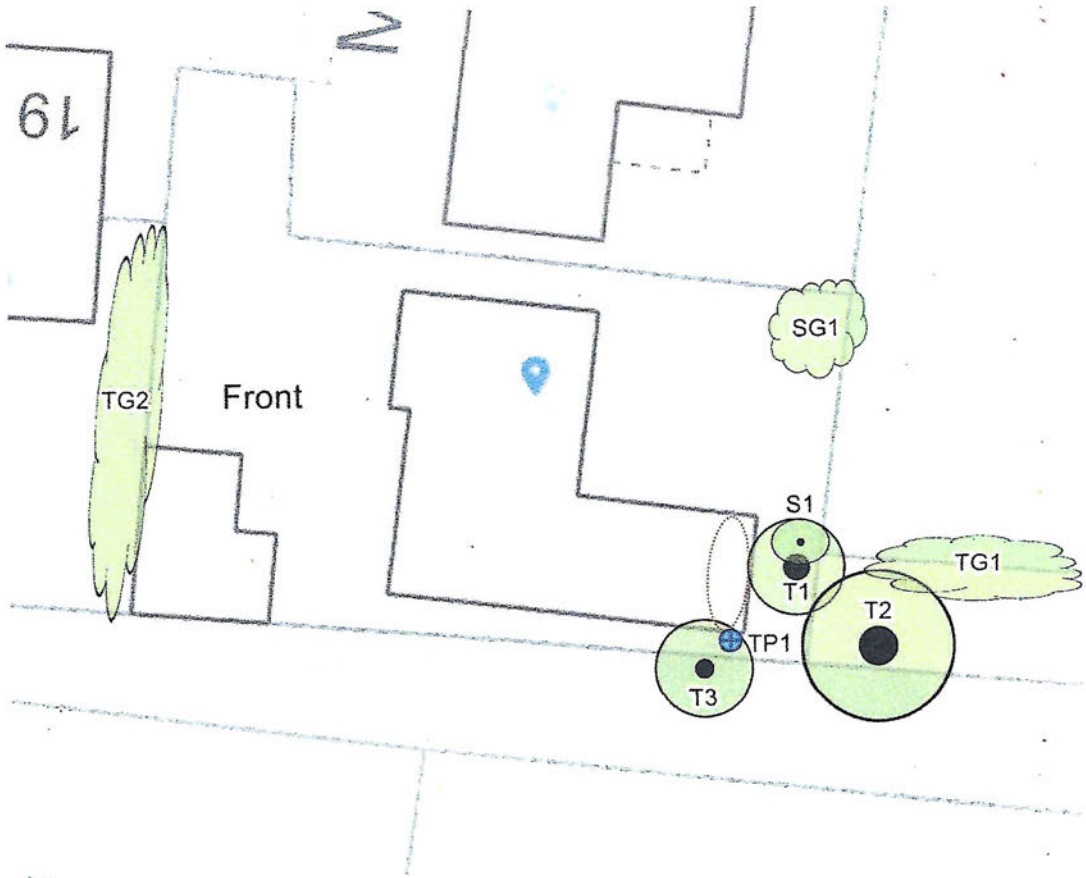
Ms: multi-stemmed * Estimated value

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

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
TG1	Hawthorn and bramble.	7 *	60 Ms *	7 *	10 *	Older than Property	Third Party S J Hampton of 465 Newmarket Road, CB5 8JJ
Management history		Part of old hedgerow. Subject to past management/pruning.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
TG2	Maple, Hawthorn, cypress, elder and bramble.	7 *	50 Ms *	4 *	14	Similar Age to Property	Third Party 19 Meadow Way PE28 3QJ
Management history		Subject to past management/pruning.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
SG1	Buddleia and berberis	2 *	40 Ms *	4 *	7.7	Younger than Property	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
S1	Pyracantha	2 *	10 Ms *	3 *	2.5	Younger than 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

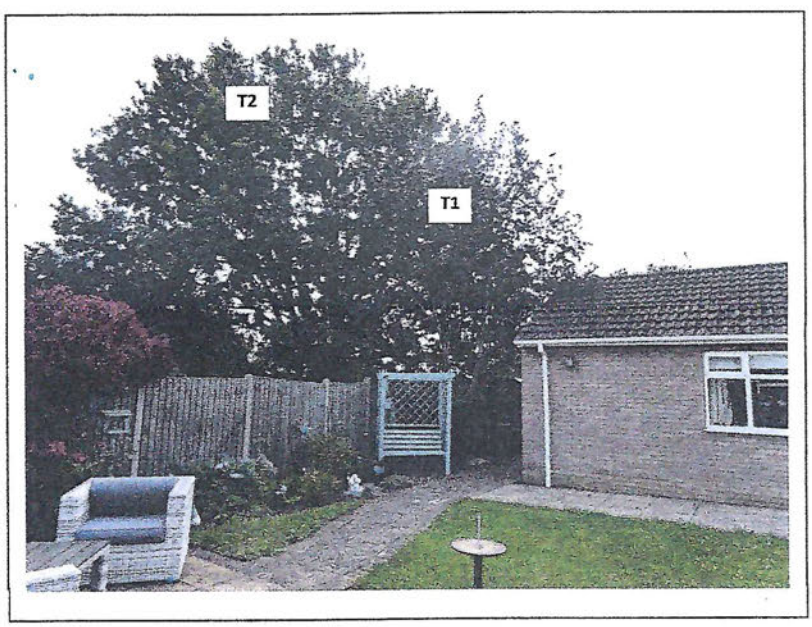
Approximate areas of damage

Property:	21 Meadow Way Earith, Huntingdon PE28 3QJ	Client Ref: MWA Ref:	231193 SUB230728-13874

Images



View of oak T2 and TG1 from over the rear fence.



View of maple T1 and oak T2 in relation to the rear elevation.



View of elder T3 in relation to the rear elevation.



View of along off-site TG2, at the front of the property.