

Arboricultural Appraisal Report

Subsidence Damage Investigation at:

Tasma, 16 Second Avenue
Frinton-on-Sea
CO13 9ER



CLIENT:	Crawford & Company
CLIENT REF:	SU2004458
MWA REF:	SUB201223-8114
MWA CONSULTANT:	Mark Johnson (FdSc; MArborA)
REPORT DATE:	27/01/2021

SUMMARY

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

Introduction

Acting on instructions from Crawford & Company, the insured property was visited on 14/01/2021 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 2 storey detached house built in 1904. It has been extended with a two-storey addition and single-storey extension to the rear built over thirty years ago and further extended with an orangery to the right-flank built in 2006.

External areas comprise gardens to the front and rear.

The property occupies a site that slopes gently uphill from front to rear.

Damage Description & History

Damage relates to the rear extensions where cracking indicates downward movement and was first noticed on 28/09/2020.

Tapered cracking is evident externally at the junction of the addition and extension on the right-side wall of the rear extension. There is diagonal cracking at high level on the left side wall of the addition. There are a number of vertical hairline cracks below the ground floor window of the rear elevation.

At the time of the engineer's inspection (12/10/2020) the structural significance of the damage was found to fall within Category 2 (slight) 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

Site investigations were carried out by CET on 11/11/2020, 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. The underside of foundations were not found. Please refer to the Site Investigation report for further details.

Discussion

Opinion and recommendations are made on the understanding that Crawford & Company 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.

Roots were observed to a depth of 1600mm bgl in TP/BH1 and 1400mm bgl in TP/BH2 and recovered samples have been positively identified (using anatomical analysis) as Cupressaceae spp., and Aesculus spp., the origin of which will be T2 (cypress) and T1 (horse chestnut) confirming they are within influencing distance of the building with a current potential to influence soil volumes below foundation level.

Irrespective of the identification of recovered root samples, the roots of T3 (bay) 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 appears 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 will be a contributory cause of the damage assuming this is related to clay shrinkage.

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. 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.
- 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	Horse Chestnut	9	500	8	5	Older than extension(s)	Policy Holder
Management history		Subject to past pruning. No significant recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T2	Cypress	7	440	9	4.5	Older than extension(s)	Third Party 17 Third Avenue CO13 9EQ
Management history		Recently reduced/pruned.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T3	Bay	3.5	100	2	1.75	Younger than Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

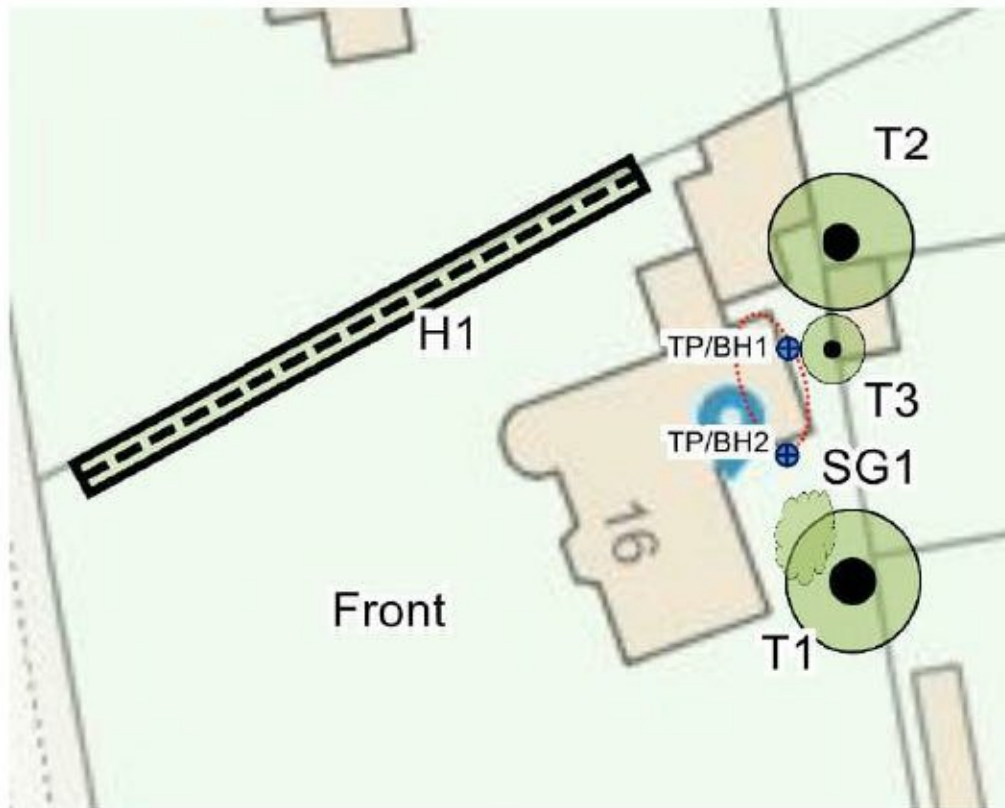
Ms: multi-stemmed * Estimated value

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

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
SG1	Aucuba\photinia	2	Ms	3	2.5	Younger than Property	Policy Holder
Management history		Subject to past management/pruning - appears regularly trimmed.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
H1	Bay\photinia	5	Ms	15	2	Younger than Property	Policy Holder
Management history		Subject to past management/pruning - appears regularly trimmed.					
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 T3 and T1



View of T2