

Revised
Arboricultural Appraisal Report

Subsidence Damage Investigation at:

59 Pearson Park
 Hull
 HU5 2TQ



CLIENT:	Crawford & Company
CLIENT REF:	SU1903936
MWA REF:	SUB200127-6652Rev01
MWA CONSULTANT:	John Graham B.Sc. Hons PhD
REPORT DATE:	20/02/2020
REVISED REPORT DATE:	08/07/2020

SUMMARY

Statutory Controls		Mitigation (Current claim tree works)	
TPO current claim	Yes – T2, T3 (Prov), T4	Policy Holder	Yes
TPO future risk	Yes – T1	Domestic 3 rd Party	Yes
Cons. Area	Yes	Local Authority	No
Trusts schemes	No	Other	No
Local Authority: -	Hull City Council		

Introduction

This is a revision of our original report following the serving of a provisional TPO on T3 on 23.06.20.

Acting on instructions from Crawford & Company, the insured property was visited on 30/01/2020 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 detached 3 storey apartment block, built in circa 1970. External areas comprise gardens to the front and garages to the rear. The site is generally level with no adverse topographical features.

Damage Description & History

The current damage affects the front right corner and was first noticed in ~ mid-2019. Cracking is evident in the lounge and adjacent bedroom of flat 4 & lounge and master bedroom of flat 10 with external cracks to the front elevation. For a more detailed synopsis of the damage please refer to the building surveyor's technical report.

At the time of the building surveyor's inspection (08/10/2019) the structural significance of the damage was found to fall within Category 4 (severe) of Table 1 of BRE Digest 251. We have not been made aware of any previous claims.

Site Investigations

Site investigations were carried out by Auger on 22/10/2019, 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. 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. A comparison between moisture content and the plastic limits suggests moisture depletion at the time of sampling in TP/BH1 & 2 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 500mm bgl in TP/BH1 and recovered samples have been positively identified (using anatomical analysis) as *Acer* (Maple), the origin of which will be T4 (Sycamore – Maple). Roots were observed to a depth of 1,000 and 1,500mm bgl in TP/BH2 and recovered samples have been positively identified as Cupressaceae (Cypress) and Salicaceae (Willow family), the origin of which will be T2 (Cypress) and T3 (Weeping Willow) respectively, confirming the influence of T2, T3 and T4 on the soils below the foundations. Irrespective of the identification of recovered root samples, the roots of S1 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 T2, T3, T4 and S1 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 T2, T3, T4 and S1 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.

Table 1 Current Claim - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T2	Cypress	8	350 Ms *	4	4	Similar Age to Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level.					
T3	Willow (Weeping)	12 *	450 *	12 *	12 *	Similar Age to Property	Third Party 60 Pearson Park HU5 2TQ
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T4	Sycamore	18	770	14	9	Older than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
S1	Buddleia	5	150 Ms *	3	3	Younger than Property	Third Party 60 Pearson Park HU5 2TQ
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

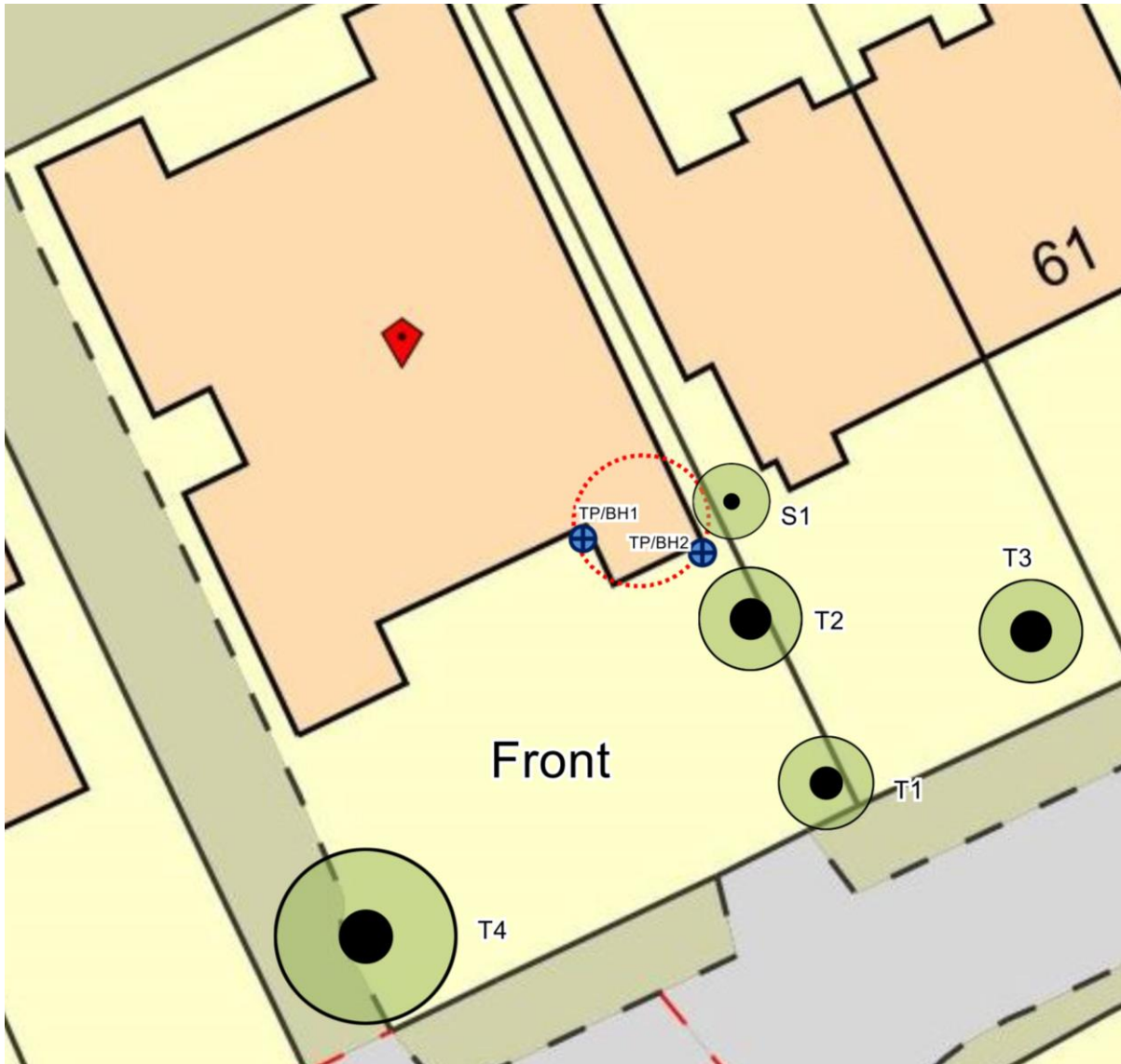
Ms: multi-stemmed * Estimated value

Table 2 Future Risk - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T1	Cypress	8	350 Ms *	3	11	Similar Age to Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions.					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only



Approximate areas of damage

Images



View of T1, T2 and T3.



View of S1



View of T4



View of T1, T2 and T3