

Revised Arboricultural Report

Subsidence Damage Investigation at:

22 Russet Glade
Emmer Green
Reading
RG4 8UJ



CLIENT:	Crawford & Company
CLIENT REF:	SU1901097
MWA REF:	SUB190402-4095Rev03
MWA CONSULTANT:	Steve Swinburne / Mark Bisley BSc (Hons)
INITIAL REPORT DATE:	21/06/2019
REVISION DATE: Rev 01	07/10/2019
Rev 02	20/11/2019
Rev 03	02/01/2024

SUMMARY

Statutory Controls		Mitigation (Current claim tree works)	
TPO current claim	Yes (T2 & Oak and Cherry within TG2)	Policy Holder	Yes
TPO future risk	Yes (T4, T5, T6 & T7)	Domestic 3 rd Party	Yes
Cons. Area	No	Local Authority	No
Trusts schemes	No	Other	No
Local Authority: -	Reading Borough Council		

Introduction

This is a revision to our revised report of 20/11/2019 and has been produced to clarify trees identified in TG2. The first addendum to our initial report was made following receipt of the CET site investigation report dated 16/06/2019 and the Knight Associates level monitoring from 24/04/2019 25/06/2019. The second revision was made to include additional species detail within TG2.

Acting on instructions from Crawford & Company, the insured property was visited on 09/05/2019 to assess the potential role of vegetation in respect of subsidence damage. A second visit was made on 14/11/2019 to gain additional detail for trees within TG2.

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 detached 2 storey house, built in 1982. There is a single storey extension to the left-hand side of the property which was constructed prior to the purchase by the policyholder, however it is believed that it was built in the late 1980s.

The site upon which the property sits is generally level, however the rear garden is terraced with the upper terrace situated approximately 2.5m above the ground level of the house.

Damage Description & History

The current damage affects the junction of the main house and the extension to the rear and was first noticed in January 2019. 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 (25/03/2019) the structural significance of the damage was found to fall within Category 3 (moderate) 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 CET on 13/06/2019 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 further borehole was sunk in the front garden.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP1	Concrete	650

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
BH1	Stiff red grey silty sandy CLAY.	38-45	Medium - High
BH2	Stiff brown-grey silty sandy CLAY.	30-35	Medium

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
BH1	2600	Quercus	Present

Drains: No information available at the time of writing.

Monitoring: Level monitoring is in progress with initial readings showing downward movement (subsidence) to the rear left corner of the property.

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 of medium to high volume change potential (NHBC Classification) susceptible to undergoing volumetric change in relation to changes in soil moisture. Quercus roots were observed to a depth of 2.6m in BH1; it is our opinion that the roots are most likely to originate from the Oak within TG2. Irrespective of the root identification, the roots of T1, TG1, other elements of TG2 and possibly T2 will be present below the foundations.

If an arboricultural solution is to be implemented to mitigate the influence of the implicated trees, we recommend that T1 is removed and TG1, TG2 and T2 are managed according to the recommendations within Table 1.

The recommendations are made with a view to reducing the overall moisture uptake across the rear of the site. Should further movement occur following remedial tree works it may be necessary to carry out additional tree works.

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.

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
TG1	Cypress	4.5	Ave 150	2	0.5	Younger than extension	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) all stems within 3m of the building; maintain the remaining trees at no more than their current dimensions by periodic pruning.					
TG2	Mixed species group including Prunus, Acer, Oak	Ave 16*	Ave 200*	6	Ave 6.5	Older than property	3 rd Party: 24 Russet Glade RG4 8UJ
Management history		No recent management noted. A = cherry B = oak C = oak D = oak E = sycamore					
Recommendation		Remove (fell) to near ground level. Owner to physically remove any regrowth (no chemical treatment due to translocation risk).					
T1	Ash	6	150*	4*	2.5*	Younger than extension	3 rd Party: 24 Russet Glade RG4 8UJ
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T2	Oak	18.5*	750*	18*	22*	Older than property	3 rd Party: 23-26 Tower Close RG4 8UU
Management history		No recent management noted.					
Recommendation		Reduce crown by 30%. Prune on a triennial cycle to maintain at broadly reduced dimensions.					

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
H1	Cypress	1.75	Ms	2.5	5	Younger than property	3 rd Party: 20 Russet Glade RG4 8UJ
Management history		Subject to past reduction/pruning.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
H2	Cypress	6	Ms	2.5	5.5	Younger than property	3 rd Party: 20 Russet Glade RG4 8UJ
Management history		Subject to past reduction/pruning.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
T3	Oak	15*	540	8*	20*	Older than property	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
T4	Oak	18*	830	4*	18*	Older than property	Policy Holder
Management history		No recent management noted.					
Recommendation		None at this time.					
T5	Oak	18*	710	10*	18*	Older than property	Policy Holder
Management history		No recent management noted.					
Recommendation		None at this time.					

Ms: multi-stemmed

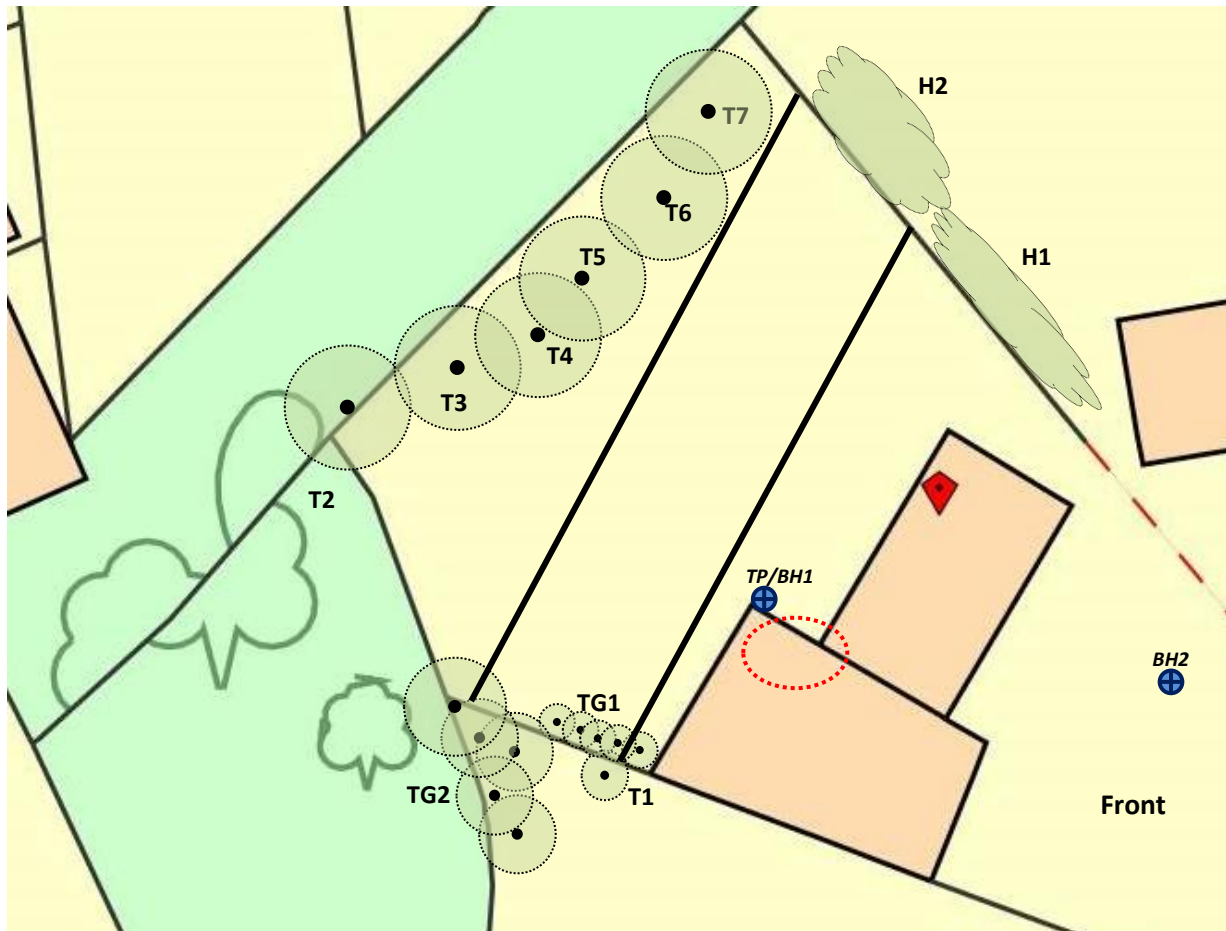
* Estimated value

Table 2 **Future Risk - Tree Details & Recommendations cont'd**

Tree No.	Species	Ht. (m)	Dia. (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T6	Beech	8*	360	11*	17*	Older than property	Policy Holder
Management history		No recent management noted.					
Recommendation		None at this time.					
T7	Oak	18*	560	12*	18*	Older than property	Policy Holder
Management history		No recent management noted.					
Recommendation		None at this time.					

Ms: multi-stemmed * Estimated value

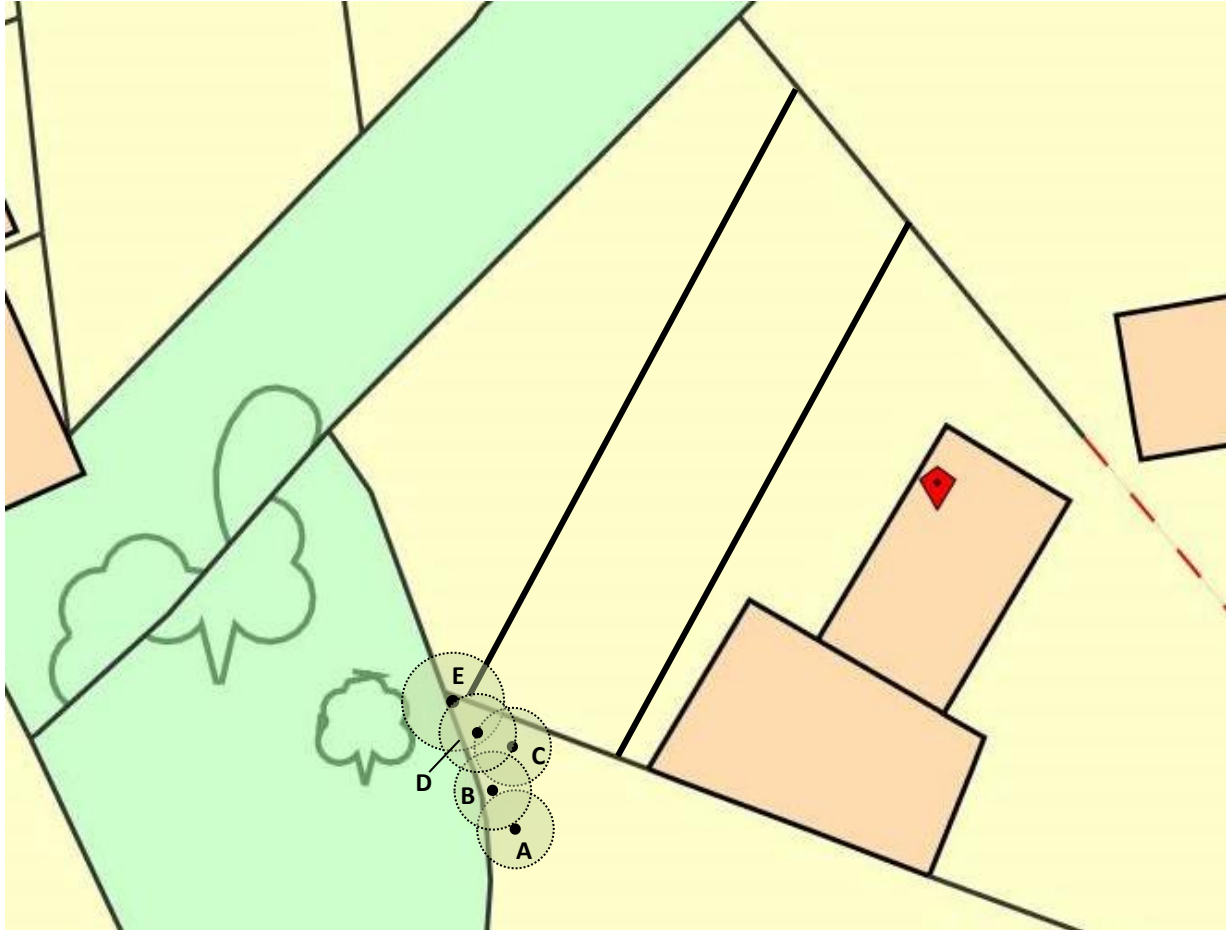
Site Plan



Plan not to scale – indicative only

 Approximate areas of damage

Site Plan – TG2 breakdown



Plan not to scale – indicative only

Approximate areas of damage

- A = Cherry identified as T8 in TPO
- B = Oak not believed to be in TPO as smaller than 3
- C = Oak identified as T7 in TPO
- D = Oak not believed to be in TPO as smaller than 3
- E = Sycamore – no Sycamore in TPO

IMAGES



View of TG1 and TG2



View of trees on upper terrace



View of H1 and H2 from upper terrace



View of the trees growing on the upper terrace from the front of the property.



View of TG2