

Addendum Arboricultural Report

Subsidence Damage Investigation at:

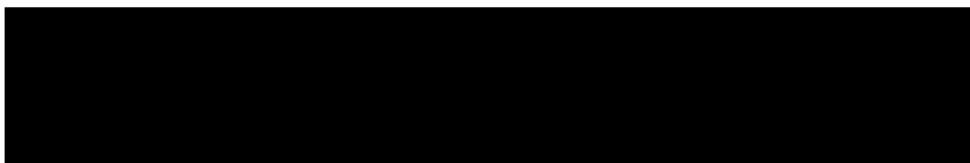
9 Willoughby Road
London
NW3 1RT



CLIENT:	Crawford & Company
CLIENT REF:	[REDACTED]
MWA REF:	[REDACTED]
MWA CONSULTANT:	Steve Swinburne
INITIAL REPORT DATE:	02/12/2019
REV01 REPORT DATE:	19/03/2020
REV02 REPORT DATE:	27/01/2021

SUMMARY

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



Introduction

This is an addendum to our previous reports to include site investigations results and level monitoring data.

Acting on instructions from Crawford & Company, the insured property was visited on 24/11/2019 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 comprises a 4-storey, end of terrace house built circa 1900. The property has been converted into four, self-contained flats. External areas comprise gardens to the front and left-hand side of the property.

The site is generally level with no adverse topographical features.

Damage Description & History

Damage relates to the front bay window where cracking indicates downward movement and the right-hand party wall of the insured dwelling and was initially noted in September 2019.

For a more detailed synopsis of the damage please refer to the building surveyor's technical report.

At the time of the engineer's inspection (04/11/2019) 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 07/05/2020 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.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP1	Concrete	1200

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	Very stiff silty CLAY	24 - 39	Medium

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	2000	Fraxinus spp.	Present

Fraxinus spp. include common ash.

Drains:

The drainage is remote from the area of current damage and trial pit/ borehole investigations did not reveal any suggestion that leakage from drainage is adversely affecting the property. As such, a drainage investigation was not warranted.

Monitoring:

Level monitoring is in progress with readings from 08/05/2020 to 15/12/2020 provided.



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 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 2.0m bgl in TP/BH1 and recovered samples have been positively identified (using anatomical analysis) as ash, the origin of which will be T1 confirming its influence on the soils below the foundations.

Level monitoring has recorded a pattern of building movement consistent with the influence of T1 on soil moisture and volumes below foundation level.

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 the ash T1.

If an arboricultural solution is to be implemented to mitigate the influence of the tree considered to be responsible for the damage we recommend that T1 is 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
T1	Ash	16*	650*	12*	2.5	Younger than Property	Policyholder
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
T2	Birch	7.5	300	9	4.5	Younger than Property	Policyholder
Management history		No recent management noted.					
Recommendation		Reduce height by 2m and crown radius by 1m leaving balanced crown. Prune on a triennial cycle to maintain at broadly reduced dimensions.					


Ms: multi-stemmed * Estimated value



Site Plan



Plan not to scale – indicative only


 Approximate areas of damage

Images



View of T2 and T1



Alternative view of T1 and T2

