

Arboricultural Appraisal Report

Subsidence Damage Investigation at:

2 Ringwood Avenue
London
N2 9NS



CLIENT:	QuestGates
CLIENT REF:	QG1S1213503
MWA REF:	SUB230414-12922
MWA CONSULTANT:	Richard Percival (TechArborA)
REPORT DATE:	06/06/2023

SUMMARY

Statutory Controls		Mitigation (Current claim tree works)	
TPO current claim	Yes – T4	Policy Holder	No
TPO future risk	Yes – T3, TG1	Domestic 3 rd Party	Yes
Cons. Area	No	Local Authority	No
Trusts schemes	No	Other	No
Local Authority: -	London Borough of Haringey		

Introduction

Acting on instructions from QuestGates, the insured property was visited on 17/05/2023 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 two-storey detached house of traditional construction built C.1930. It has been extended with a single-storey addition to the rear built in 2008.

External areas comprise a paved driveway with shrub borders to the front with a large garden to rear.

The site is generally level with no adverse topographical features.

Damage Description & History

Damage has been observed internally in the right-hand portions of the house.

At the time of the engineer's inspection 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 GEOCORE on 31/01/2023, when 2 trial pits were hand excavated in an attempt to reveal the foundations however trial hole 2 was abandoned due to below ground services. A borehole was sunk through the base of the TP1 to determine subsoil conditions. A drains survey was also undertaken.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH1	Concrete	640
TP/BH2	Concrete	Unknown

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	Stiff becoming locally very stiff with depth fissured slightly sandy gravelly CLAY	20 - 23	Medium
TP/BH2	NA	NA	NA

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	2400	<i>Quercus</i>	Present
TP/BH2	No Roots Observed	NA	NA

Quercus is a genus of trees commonly referred to as oak (English/pedunculate, sessile, turkey, holm, etc.)

Drains: Defects were identified during the survey and recommendations for repairs are contained within the Site Investigations report.

Monitoring: No information available at the time of writing.

Discussion

Opinion and recommendations in this report are made on the understanding that QuestGates 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 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 2.4m bgl in TP/BH1 and recovered samples have been positively identified (using anatomical analysis) as *Quercus*, the origin of which will be T4 confirming its influence on the soils below the foundations.

Irrespective of the identification of recovered root samples, the roots of the remaining vegetation recorded in Table 1 (see below) 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 the trees detailed in Table 1 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 the works specified in Table 1 are carried out. 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.
- 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
T4	Oak	20 *	700 *	16	8	Older than Property	Third Party 53 Twyford Avenue N2 9NR
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T5	Hornbeam	11 *	200 *	7	2.6	Older than extension(s)	Third Party 51 Twyford Avenue N2 9NR
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T6	Pine (Scots)	14 *	280 *	6	3.2	Older than extension(s)	Third Party 51 Twyford Avenue N2 9NR
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
TG3	Cupressus family	17 *	500 Ms *	12	7 *	Older than extension(s)	Third Party 51 Twyford Avenue N2 9NR
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level.					

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	Prunus	5 *	340	8	15	Older than extension(s)	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		No works at present. Subject to review if movement persists.					
T2	Laurel	5 *	300 *	6	11.7	Older than extension(s)	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
T3	Oak	20	810	18	28	Older than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		No works at present. Subject to review if movement persists.					
T7	Tree of Heaven	15 *	300 *	10	12.5 *	Older than extension(s)	Third Party 51 Twyford Avenue N2 9NR
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
T8	Cherry	5.5 *	200 *	7	9	Older than extension(s)	Local Authority
Management history		Subject to past management/pruning.					
Recommendation		No works at present. Subject to review if movement persists.					

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
T9	Birch	3 *	30 *	1	4.4	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
TG1	Oak	24 *	500	12	22 *	Older than Property	Third Party 4 Ringwood Avenue N2 9NS
Management history		No recent management noted.					
Recommendation		No works at present. Subject to review if movement persists.					
TG2	Hornbeam	16 *	280	10	19	Older than extension(s)	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
SG1	Including philadelphus, photinia, choysia, pitosporum	5	80 Ms *	3	0.8	Older than extension(s)	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
SG2	Including magnolia, choysia	1	20 Ms *	1	2.2 *	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					

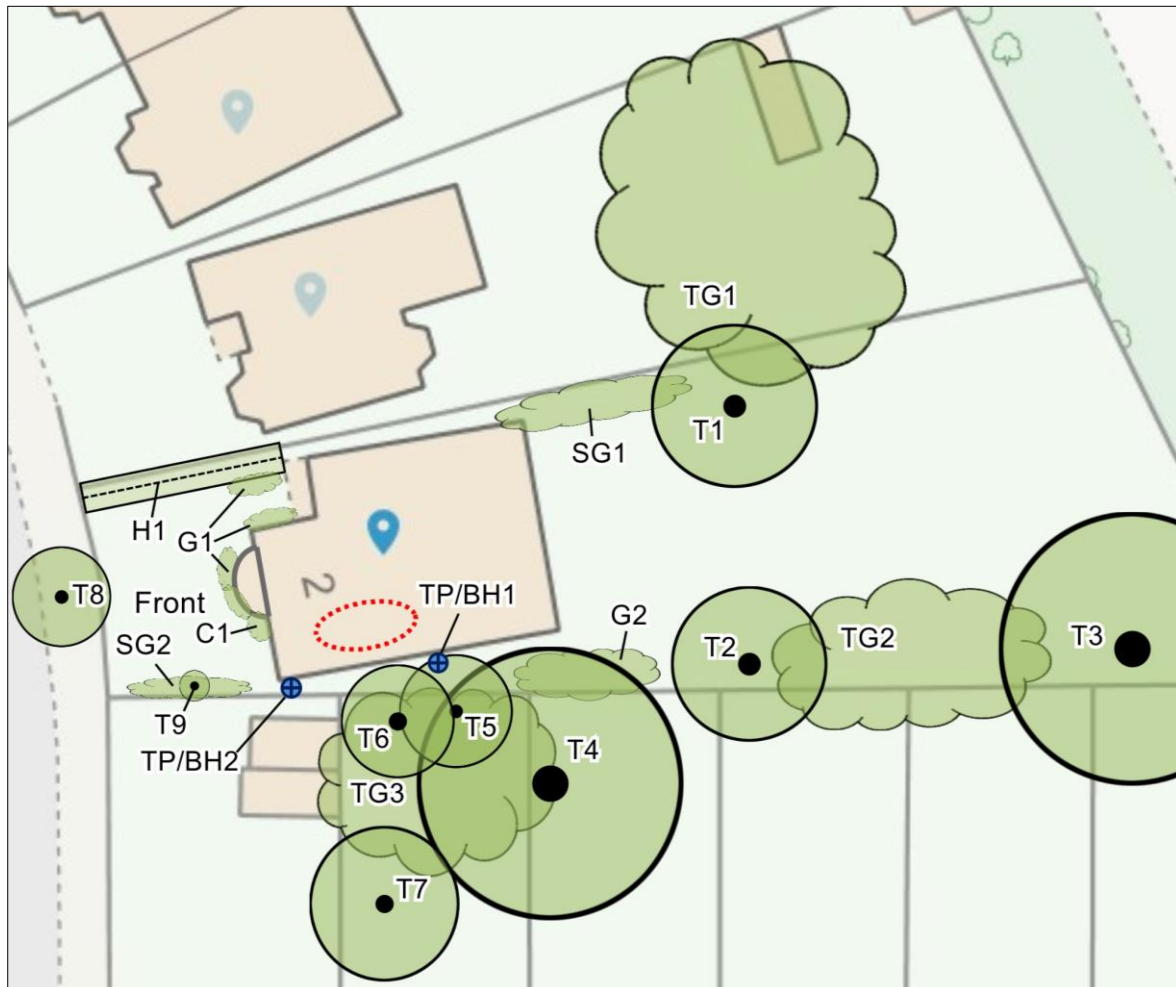
Ms: multi-stemmed * Estimated value

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
C1	Jasmine	3.2 *	20 Ms *	2	0.3	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
G1	Including rose, maple (japanese), weigelia, euonymus, philadelphus	1.2 *	25 Ms *	1 *	0.2	Younger than Property	Policy Holder
Management history		No past management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
G2	Including fatsia, choysia, bamboo	2 *	30 Ms *	2	1.5	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Do not allow to exceed current dimensions. Subject to review if movement persists.					
H1	Privet	2.6 *	30 Ms *	1.5	1.5	Younger than Property	Policy Holder
Management history		Regularly trimmed.					
Recommendation		Continue current pruning regime.					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only



Approximate areas of damage

Images



