

Arboricultural Appraisal Report

Subsidence Damage Investigation at:

Cufos Building
Alexandra Palace
London
N22 7AY



CLIENT:	Graham High Group Ltd
CLIENT REF:	L/2022/73106/S
MWA REF:	SUB221206-11595
MWA CONSULTANT:	Andy Clark
REPORT DATE:	30/01/2023

SUMMARY

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

Introduction

Acting on instructions from Graham High Group Ltd, the insured property was visited on 19/01/2023 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 single storey Grade II listed detached building of traditional construction, originally built C.1900 as the Alexandra Palace railway station, and since converted to a community hall during the late 1980's.

External areas comprise gardens to the front and rear.

The front of the site is generally level, however beyond the rear of the building the site drops down to what was previously the railway line.

Damage Description & History

Damage relates to the front left-hand corner of the building, with crack damage first observed during August 2022.

At the time of the engineer's inspection (21/09/2022) the structural significance of the damage was found to fall within Category 3 (Moderate) 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 FASTRACK on 02/11/2022, when a single trial pit was hand excavated to reveal the foundations, with a borehole sunk through the base of the trial pit to determine subsoil conditions. A control borehole was also excavated beyond the right-hand flank.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH1	Brick corbel	1450

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	MADEGROUND: Mid brown silty clay containing brick & gravel to 2900mm, becoming mid brown CLAY containing grey mottle below	32 – 45	Medium – High
CBH	MADEGROUND: Mid brown silty clay containing brick to 2900mm, becoming mid brown silty CLAY containing grey mottle below	23 – 40	Medium – High

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	2000	Populus spp.	Present
CBH	No roots observed		

Populus spp. are poplars and aspens.

Drains: No information available at the time of writing.

Monitoring: No information available at the time of writing.

Discussion

Opinion and recommendations are made on the understanding that Graham High Group Ltd 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 at depths beyond normal ambient soil drying processes, such as evaporation, which is 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 *Populus* spp.; the origin of which will be the large T1 Poplar within the adjacent W1 woodland, confirming its influence on the soils below the foundations.

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.

If an arboricultural solution is to be implemented to mitigate the influence of the implicated trees/vegetation we recommend that T1 Poplar is removed. Other vegetation recorded presents a potential future risk to building stability and management is therefore recommended. Recommended tree works may however be subject to change upon receipt of additional information.

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.

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
T1	Poplar	22.0	800 Ms *	24.5	23.6	Younger than Property	Policy Holder
Management history		No significant past management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

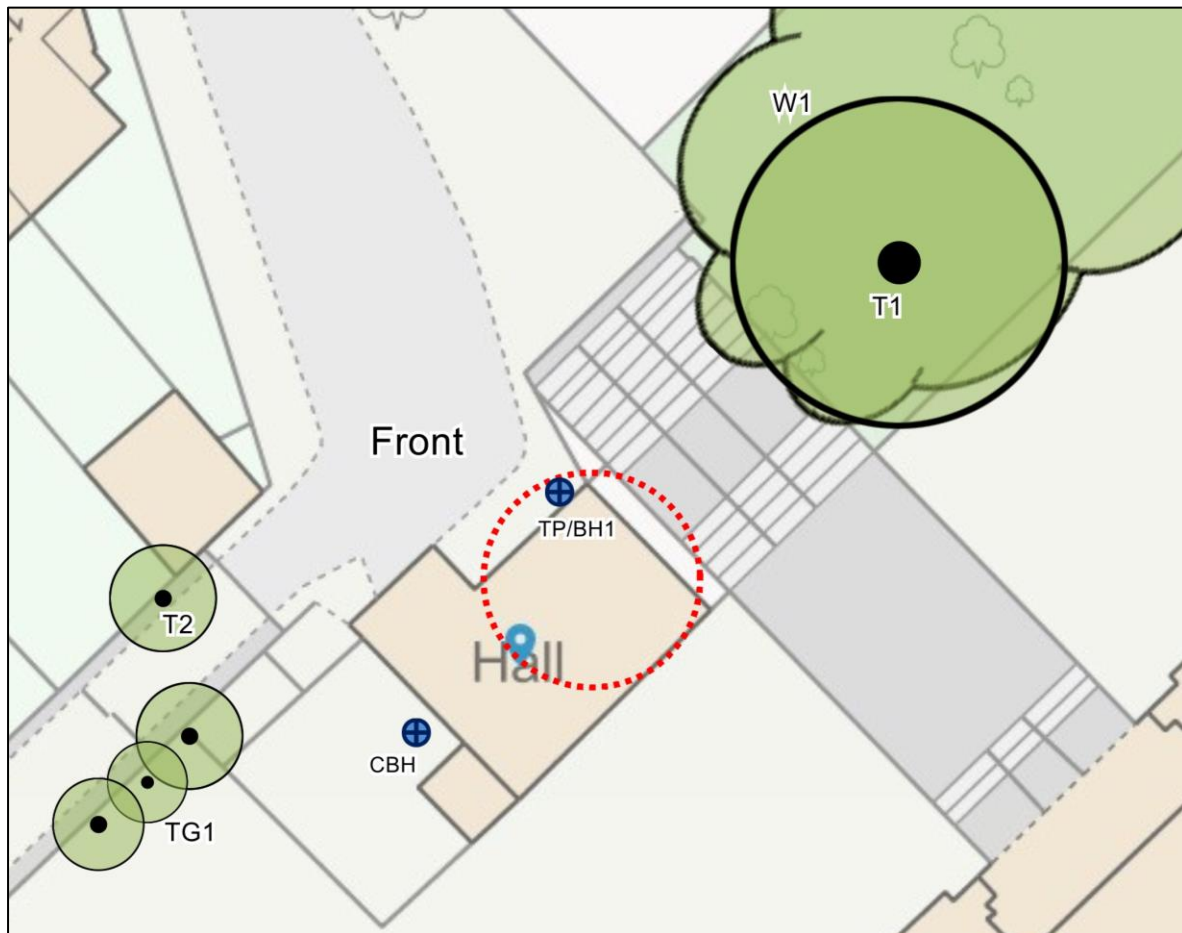
Ms: multi-stemmed * Estimated value

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	Sycamore	9.5	300 Ms *	7.0	11.5	Younger than Property	Third Party Pacific Properties Limited of 24-26 Baltic Street West, EC1Y 0RP c/o Ince Gordon Dadds LLP, Aldgate Tower, 2 Leman Street, EC1 8QN
Management history		Subject to past management/pruning - previously pollarded at approx. 7.0m.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
TG1	Sycamore group	9.5	240 Ms *	8.5	10.8	Younger than Property	Policy Holder
Management history		No significant past management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
W1	Mixed spp. woodland of mostly Sycamore with scrub understorey	15.5	400 Ms *	10.5 *	12.0	Younger than Property	Policy Holder
Management history		No significant past management noted.					
Recommendation		No works required at present (subject to review if movement persists).					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only



Approximate areas of damage

Images



View from frontage of T1 Poplar within W1 mixed spp. woodland



View from rear of T1 Poplar within W1 mixed spp. woodland

Property: Cufos Building
Alexandra Palace
London
N22 7AY

Client Ref: L/2022/73106/S
MWA Ref: SUB221206-11595



View of TG1 Sycamore group beyond right-hand flank