

To Alistair Wilson, Green Space Manager, Cambridge City Council,

**Re: Alexandra Gardens – London Plane trees and alleged damage to a neighbouring property.**

Thank you for the opportunity to comment on your report: Alexandra Gardens – London Plane trees and alleged damage to a neighbouring property. I note that the property in question is 13, Holland Street, referred to in your report (Sections 3.2, 3.3. and 3.5).

You have included reports from GAB Robins, structural engineers, as instructed by the City Council, Dr P.G. Biddle, arboricultural consultant, recommendations requested by GAB Robins, as well as a report by local residents, primarily written by Dr Adrian Hill – ‘13 Holland St.: Analysis of the problems leading to a claim against the Cambridge City Council and a refutation of the claim.’

You will be aware that the residents’ reports, presented by the Alexandra Gardens Trees Group, were circulated in a document pack to all Cambridge City Councillors but you have omitted two documents from your report, a report by David Brown Landscaping Design – ‘Arboricultural consultant’s notes’, and a letter from Richard Buxton, Environment and Public Law, regarding Alexandra Gardens.

**Report conclusion**

Your report states (Section 5.1 and 5.2) that there is evidence (citing Peter Dann Associates and GAB Robins) to link the trees as the causative agent or prime cause for the cracking and that the claimant has provided information that could successfully make the case that the trees are causing nuisance. However, Peter Dann Associates and GAB Robins have *not properly analysed* all the available data, including the original survey data provided by Geo-Serve and Mat Lab, and *have not demonstrated* that the trees are the causative agent, prime cause, or are causing a nuisance.

Furthermore, your report (Section 5.1) again notes that the evidence from Peter Dann Associates and GAB Robins claims the trees are a contributory factor in seasonal movement (the annual fall and rise of clay soils subject to yearly shrinkage and rehydration according to the drier summer/autumn and the wetter winter/spring, irrespective of the presence of trees), rather than subsidence – the basis of the claim (GAB Robins report p. 1) Subsidence – Alleged tree root trespass).

**Report recommendation**

As previously noted, your recommendation (Report Section 6.1 – 6.3), is “To avoid liability for underpinning it is essential the Council carry out tree management, to detail to the insurer that the Council does not believe underpinning is necessary, and to ask the claimants insurers to continue monitoring to confirm efficiency of tree works.” The tree works consist of shortening all of the main branch structure, removing all of the foliage to create a significantly smaller crown size for trees 2, 3 and 4 (referred to as trees 1, 2 and 3 in your report in order to match the captions on Dr Biddle’s photographs). Ongoing maintenance is required to maintain the reduced crown size.

## Submission conclusions

A detailed analysis of all the evidence, including all the Geo-Serve and Mat Lab data, *does not* 'on the balance of probability' show the trees to be the prime cause of nuisance/structural cracking in the property concerned. The London Tree Officers Association (LTOA) *A Risk Limitation Strategy for Tree Root Claims, 3<sup>rd</sup> Ed., 2008* state that "...tree officers require appropriate evidence that corroborates the view that the tree is the material cause of the problem and that other factors have been eliminated as potential influences" (6. Levels of Evidence).

The LTOA go on to note that amongst 'Levels of Evidence' "Insufficient foundation design for structures that are ancillary to the main superstructure of the property, resulting in the differential movements between the two e.g. garages, conservatories, late addition extensions, porch, steps and bay structures..." are rated 4<sup>th</sup> from a list of 14 (Dr Hill's report, p. 18, ref. 14).

The 'terms of reference' for GAB Robins were simply to 'carry out a review of the claim, reports and evidence and advise on potential solutions' and for Dr Biddle 'recommendations on the management of Plane trees growing in the park', therefore precluding challenging analysis of the existing data and presuming that the Plane trees were implicated.

As a result, the evidence provided by Dr Biddle and GAB Robins, essentially repeats the partial analysis of Geo-Serve and Mat Lab data presented by Peter Dann Associates and Infront Innovation, without *challenging or fully analyzing all the data available*. However, Dr Hill and Dr Brown demonstrate a persuasive and evidence-based analysis of all the available data and show that 13, Holland Street is subject to seasonal movement (the annual fall and rise of clay soils subject to yearly shrinkage and rehydration according to the drier summer/autumn and the wetter winter/spring, irrespective of the presence of trees), rather than subsidence.

Furthermore, Dr Hill analyses all available data to show that the building is moving up and down in three articulated sections according to differential movements. The rigid central section with concrete foundations is moving vertically but relatively evenly, and to a limited degree, like a flat horizontal plate. The outer sections with shallow foundations move far more unevenly and to a far greater extent as they respond flexibly to the seasonal movement of the ground.

Dr Hill has noted that the points of greatest stress match the distribution of cracks, with 91% of the cracking relating to the left hand rear gable wall and house rear wall where the flexible old house and projection has been fixed to the extended central section built with rigid, concrete foundations.

Dr Hill also points out that the extent and strength of the Alexandra Gardens London Plane tree root systems are dictated by the fact that normal root growth will extend into the park, where open access to water and air is self-evident, whilst extending roots under pavements, tarmac and buildings whilst also contending with sewers and utilities, results in a poorly developed root system (Dr Hill's report, p. 5-6). Dr Brown confirms that tree roots 'would preferentially exploit the soils of the open space rather than those beneath impermeable hard surfaces' (Dr Brown's report, p. 3).

Guidance on the probability of root damage from Plane trees (Kew Root Study/Building Research Establishment Digest (BRE) 298), states that the distance within which 90% of root damage occurs is 10 metres. Tree 2 is 18 metres, tree 3 14.5 metres, and tree 4 16 metres away from the property in question and well beyond the likely zone of influence. There is *no analysis* by GAB Robins or Dr Biddle of either the extent or otherwise of the root system, the activity levels, given that the trees are 40 years past maturity, or of factors relating to the proximity/distance from the property of the trees.

The residents' survey of reported settlement and cracking related to properties built in the same period as 13, Holland Street, including many with rear extensions added, should be noted. This survey of properties around Alexandra Gardens and the wider area, all built upon high-plasticity clay soils over the site of a former brickworks and associated pits, shows no correlation with the proximity of trees (Dr Hill's report, p. 5).

Although the 'high amenity value' of the trees is recognized, there is *no assessment* of the Capital Asset Value for Amenity Trees (CAVAT) value of the trees against verbally estimated costs that may be claimed against the Council and *no assessment* of the public interest against alleged nuisance through the investigation and costing of any remedial work against the significant amenity loss were severe crown reduction to be undertaken.

The Council should undertake a full assessment of the CAVAT values equating to £345,000 – £420,000 for the three trees (plus uncalculated collective amenity value) against the costs that may be claimed of £60,000 reportedly estimated for underpinning the property and £20,000 reportedly estimated for re-housing the occupants whilst building works were undertaken at 13, Holland Street.

The Council has only one recommendation, tree works that shorten all of the main branch structure, removing all of the foliage to create a significantly smaller crown size for trees 2, 3 and 4 (referred to as trees 1, 2 and 3 in your report in order to match the captions on Dr Biddle's photographs), and to continue to maintain the reduced crown size.

The Council should assess other alternatives, including negotiations with the claimants' insurers if necessary over other building solutions. As previously noted, the damage to the building is classified as 'slight' (BRE Digest 251 'Assessment of damage in low-rise buildings') and underpinning is not considered necessary in these circumstances.

The Council should undertake its current tree management commitments but *not proceed with the recommendation stated in the report* (Section 6), which is based upon the partial and flawed analysis presented by GAB Robins and Dr Biddle.

The Council should present a *full and thorough analysis of all the available evidence to its insurers*. The evidence 'on the balance of probability' *does not* implicate the Alexandra Gardens trees and therefore the Council's insurers should be instructed to contest any claim against the Council and not accept liability.

Yours sincerely,

Cllr Mike Todd-Jones,  
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Cambridge City Council