



# Tree Technical Note

**Client:** WYG

**Site Address:** Suffolk House, Cardiff

**Statement by:** James Pinder Tech Cert (Arbor A)

**Date:** 24.4.18

This technical note has been written to help explain why it is prudent for tree removals at Suffolk House, based on the need for a safe environment and for the site owner to fulfil their duty of care under the Occupiers Liability Act 1957/84, Health and Safety at Work Act 1974 and relevant sections of the Highways Act. My comments are not based on overall site design and layouts but the relationship of the current tree stock to existing site features only.

The original tree survey, undertaken by Steve Ambler and Sons, categorised trees under BS5837 2012 – The British Standard for trees in relation to demolition, design and construction. This document allows the arboriculturist to use a standardised categorisation process of trees for the planning process. The data recorded allows the trees rooting area needs and obvious management work to be made clear – this is to help provide advice on future design layouts and management needs.

The tree stock at Suffolk House is varied in species and fairly typical of the species chosen at the time of planting for the locality. This would have also been based on what was commercially available at the time. The trees have then been part of the local landscape since planting and have developed as they need to within the confines of Suffolk House.

Claus Mattheck defines a tree as a self-optimising living organism. This means that given time and resources, a tree can slowly react to external influences such as wind/weight, soil features like oxygen, nutrients and water along with sunlight or wounds/injury through pruning or biological agents. A trees response to items listed will bring a reaction from the tree as it self-optimises against the change – it continues to grow, develop and adjust itself.

At Suffolk House the trees are mature and their ability to react to change reducing. Most were categorised as moderately high categories in the tree report yet this category grade is for the tree specifically and not necessarily in conjunction with adjacent landscape features.

In an ideal world BS 5837 2012 would benefit from a further grading feature that allows the arboriculturist to detail other relevant factors in a simple way. As this section does not exist, other notable information is often provided using photos and descriptions as Mr Ambler has done in his report.

Mr Amblers report clearly identifies general minor tree defects that can be improved by the use of pruning as found with most tree when subjected to assessment by an arboriculturist. (He also shows trees that are hazardous as U category under BS 5837 2012 and therefore require removal as they cannot be suitably categorised under BS 5837 2012, where a tree is not itself dead, dying or dangerous U should not be used). Trees 4, 5 & 6 are not in the dead, dying or dangerous category but crucially they do affect the wall structure. Essential work to the wall is highly likely put them into the dead, dying and dangerous category however due to levels of rooting area changes that exceed the tolerance the trees could withstand.

Trees 4, 5 & 6 are conspicuous trees on the Romilly Road boundary. They were categorised as B category trees with landscape value which I agree with. Mr Ambler however does make it clear that these trees are forcing the wall towards the road from combined physical root pressure and displacement of the surrounding soils and structures. As the trees have increased in root mass they have moved the retaining wall to the point of collapse.

Trees 4, 5 & 6 are not in physiological decline. They are compromised by the loss of structural support from the boundary wall.

I visited the site in 2017 to look at the relationship of the wall and the trees. I found that the only structure that appeared to be holding the wall up above pedestrians and the highway was a plastic waste bin anchored into the pavement by bolts. The bin was under a high loading from the wall. I had concerns over the safety of the wall in relation to the public. These concerns are also supported by a structural engineer – the wall poses a significant risk to the public walking past, stood at the bus stop or on the main highway in vehicles. If total tree failure came after wall collapse then the houses on the far side of Romilly Road are also potentially at risk from the failure.

Trees rely on fairly consistent conditions in order to survive, both in terms of what they need to obtain from soils to fuel their life processes but also from the support that soils provide around the root plate. The combined root mass of these trees has developed incrementally over the decades to such a mass that it is capable of levering the wall apart. It is understood that eventually the walls structural integrity will be completely lost causing its collapse. In order to prevent this the professional recommendation is that the wall is dismantled and re constructed.

Options to retain the trees have been investigated, such as guying options for trees medium term to ensure they could not fail. However, the engineering solution to provide suitable restraint is not practical in this location. I also believe the false support would exacerbate the issues and not resolve them; trees will rely solely on the false support and reduce structural roots but increase feeding/storage roots. Following the necessary wall dismantling the wall footings will also require replacement. This would need to take place whilst the trees balance

above unsupported with machines removing structural roots from the trees which is not safe, viable or appropriate.

I looked at pruning solution to remove crown sail area, weight and leverage. This was not suitable due to the volume of crown that would be required to be removed. The pruning would be excessive and not in accordance with BS3998 2010 – British Standard for Tree Work. Excessive pruning is highly likely to kill or start a spiral of decline in mature trees meaning within a few years the trees would need to be removed purely on health concerns (if they have not already fallen over).

The circumstances around the relationship of the wall and the trees can be summarised as follows:

1. Loss of support to the trees by a failing wall.
2. Change in oxygen levels.
3. Root severance/injury.
4. Loss of stored energy in the form of starches within the roots which trees need to survive.
5. Intolerance to hard pruning.
6. High risk to tree stability short and longer term.
7. High risk to human life/injury.
8. Toxic substances being exposed to trees that are likely to kill retained trees.
9. Conflict of duty of care.

It is essential the wall is made safe on public safety grounds yet work to the wall will render trees unsuitable for retention. Whilst regrettable, it is therefore necessary for tree removal in order to allow an appropriate repair to the wall at Suffolk House. Other trees highlighted for removal or in conflict with the highway such as G3 should also be undertaken along with other agreed remedial work to trees on site.

Without the proposed works there is a clear public safety risk. The planning proposals identify the need for a strong replacement re planting scheme and development proposals provide an opportunity to mitigate the loss on the site that will work for decades to come. Safety has to be an overriding factor in this matter. The removal of trees is not a decision taken lightly and the intention is to ensure that long term the local tree scape is preserved as much as possible and appropriate to the residential use of the site.