

## **Simon Pryce Arboriculture**

### **Report**

**Client:** Mrs G Scardaccione

**Site:** 36 Elsworthy Road, London, NW3 3DL

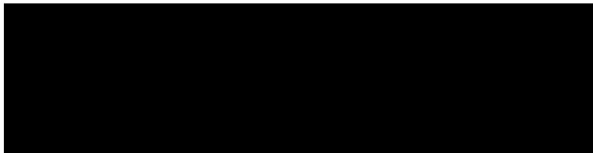
**Subject:** Deodar cedar and damage to garden wall

**Inspection date:** 13 July 2018

**Report date:** 8 August 2018

**Reference:** 18/037

**Author:** Simon Pryce, BSc, FArborA, RCarborA, CBiol, MICFor



## **I Introduction**

- 1.1 This report has been prepared for Mrs G Scardaccione of 36 Elsworthy Road, London, NW3 3DL.
- 1.2 I have been asked to inspect a deodar cedar tree growing in the rear garden, to assess its condition and effects on the side boundary wall and other structures nearby and to specify any necessary or appropriate work.
- 1.3 This report is based on a site visit and visual inspection of the tree and its surroundings on 13 July 2018. I have also referred to the online British Geological Survey (BGS).
- 1.4 Left and right are used as if facing the house from the road in front unless noted otherwise.

## **2 Background**

### **The site**

- 2.1 Number 36 is on the NW side of Elsworthy Road and is a three storey Victorian house with a lower ground floor opening onto the rear garden. The rear garden is level and about 16m long by 6m wide bounded by the gardens of no.38 to the left, no.34 to the right and the garden of 2 Lower Merton Rise to the rear. Camden Council's web site shows that the house and garden are in Elsworthy Conservation Area. The website does not have any specific information about tree preservation orders (TPOs), so that would need to be confirmed.
- 2.2 The garden of no.34 is slightly longer than that of no.36 and has a flat roofed single storey outbuilding occupying most of the width at the far end. This is evidently a later addition, but appears to have been present for a number of years. It could not be inspected in any detail but I am not aware of any problems with it. It is just behind the boundary wall and appears to be a completely independent structure, although there is flashing over the gap between it and the wall and the rainwater pipe has been routed along the top of the wall.
- 2.3 There is no record of any on site investigation of ground conditions, but the 1:50,000 scale British Geological Survey (BGS) shows that the local subsoil is London clay.

### **Damage**

- 2.4 The garden wall looks original, but has been maintained and repointed and is about 1.6m high by one brick length thick. The area of concern is in the rear right hand part of the garden. The upper section leans towards the garden of no.34 (photo 2) and there are two vertical cracks, one near the front corner of the outbuilding at no.34 and the other about 3.5m forward of that.
- 2.5 The crack near the outbuilding appeared in about April of this year and there has been no noticeable movement since then. It partly follows the joints between the bricks, but also goes through some of them indicating that it has been made with some force. It is wider at the top than at the base indicating that the wall has lifted at that point or possibly that the parts each side of the crack have dropped.
- 2.6 The right hand wall continues some way beyond the rear ones and there is a gap at the junction, which is also consistent with the side wall leaning to the right.

### **3 Trees**

- 3.1 The tree causing concern is a deodar cedar growing in the far right hand corner of the garden of no.36. This is about 16m high and has a single vertical trunk about 330mm in diameter at 1.5m, about 350mm just above the root flare at the base, which is not very pronounced. The base is about 170mm from the wall and the lower trunk leans slightly to the right, so the gap reduces to about 110mm at the top of the wall. This makes the trunk centre approximately 345mm from the wall at the base and 275mm at the top of the wall.
- 3.2 The first main branches start at about 4m and crown has a radial spread of about 4m. There is some minor dead wood but that is normal and the foliage is dense and healthy looking indicating good physiological condition.

#### **Other trees**

- 3.3 There are a well-established young birch and a flowering cherry to the right in the garden of no.34 and a recently reduced eucalyptus in the garden of 2 Lower Merton Rise to the rear.

### **4 Discussion**

#### **Current problems**

- 4.1 Roots of live trees can cause significant soil drying. Most clay soils shrink when dried and swell as they rehydrate, so this combination can cause subsidence in nearby structures if their foundations do not extend below the affected zone. This usually starts during dry summers and shows a seasonal cycle, with downward movement in summer followed by recovery through the winter when the weather is cooler and wetter and the vegetation inactive.
- 4.2 The small feeding and water absorbing roots extend through the soil with little force, but the main structural roots close to the base of the trunk can exert enough force to move substantial structures such as walls. Buildings are generally more robust, but can be affected if the roots or the base of the trunk are in direct contact.
- 4.3 Cedars and other conifers have more compact roots than broadleaved species, so the effects are more localised, but for the same reason the drying effect at close range can be more intense. The wall is well within the tree's likely zone of influence, but is also close enough to be affected by direct pressure from the main roots and base of the trunk expanding as the tree grows.
- 4.4 Soil shrinkage is usually greatest close to the tree concerned, but the crack widens with height, which indicates that the wall has been lifted there by a root growing beneath or that the sections each side the tree have dropped. In practice it is likely that the wall is being affected by both causes.
- 4.5 It is unlikely that the garden wall has been affected by the construction of the outbuilding, which has been present for a number of years while the crack is recent.

#### **Future problems**

- 4.6 The tree is relatively young, healthy and capable of growing much larger, with the size of the roots and its water uptake increasing in the process. Downward movement due to soil shrinkage will recover during the winter as the clay rehydrates, but distortion caused by direct pressure will increase progressively as the tree grows. If these problems are addressed the combination of seasonal and progressive damage will continue, increasing in amplitude as the tree grows.

- 4.7 The other problem is that the trunk and main roots will continue growing, potentially to at least double their current sizes. Unlike clay shrinkage this is progressive and would damage the wall severely as well as exerting significant lateral pressure on the foundations and wall of the outbuilding next door. That would probably be damaged and the tree's base would become deformed around it and weakened.

#### **Remedial / preventive options**

- 4.8 It is possible to control the growth and water uptake of some trees by reduction and regular pruning, ideally started at an early age, but conifers do not tolerate that kind of management as well as most broadleaved species. Growing this close to the wall the cedar would need to have been maintained as little more than a shrub and it has grown well beyond the stage at which it might have been possible to start such a regime. Therefore the only viable way to allow the current damage to be repaired and prevent worse problems in future is to remove it.
- 4.9 In some cases it is possible to rebuild walls with gaps or sections of railings to accommodate tree growth, but this wall forms the property boundary and, if anything, that would leave the building at no.34 more vulnerable.
- 4.10 Felling long established trees can lead to prolonged soil swelling and heave damage in nearby buildings. That could be investigated further if required, but the tree is relatively young and the damage started recently which indicates that felling it is unlikely to cause problems. The risk is certainly less than leaving it in situ.

#### **Restrictions**

- 4.11 As the garden in a conservation area Camden Council must be given six weeks notice of felling. They can allow that either by confirming that they do not object or by letting the six weeks lapse without making a tree preservation order (TPO). In that event or where trees are already TPO protected it is necessary to make a formal application for the work. If that is refused it is possible to appeal and in some cases to claim compensation for any consequent loss.

#### **Tree work**

- 4.12 Any treework should be carried out in accordance with BS 3998: 2010, Recommendations for Tree work. It is essential that the contractor doing the work has appropriate third party and public liability insurance. The Arboricultural Association has a list of approved contractors, published on their web site at [www.trees.org.uk](http://www.trees.org.uk).
- 4.13 Where any trees or other woody plants are removed it is advisable to remove the stumps and main roots. Cedars do not regrow from cut stumps like many other species but this avoids colonisation by honey fungus, which can spread and infect other vegetation nearby, either killing plants or decaying structural roots and making them unstable.

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## 5 Conclusions

- 5.1 The tree is growing very close to the boundary wall and is damaging it by a combination of direct pressure from growing roots and shrinkage of the clay soil.
- 5.2 The tree is healthy and capable of growing much larger, so these problems will become worse if it is retained. It could also affect the outbuilding in the adjacent garden.
- 5.3 Tree growth and water uptake can be managed by pruning, but cedars do not tolerate this as well as broadleaves and this one is well beyond the size and age at which it might have been possible to start doing that.
- 5.4 In view of these points the only viable way to allow the damage to be repaired and avoid ongoing problems is to fell the tree.
- 5.5 As the tree is in a conservation area the council must be given six weeks notice of proposed felling. If they make a tree preservation order and refuse consent they could be liable for compensation.



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## Photographs



1) View of the tree from near the back of the house.

2) View along the wall towards the tree showing lean in the wall and trunk. White structure is the outbuilding at no.34.



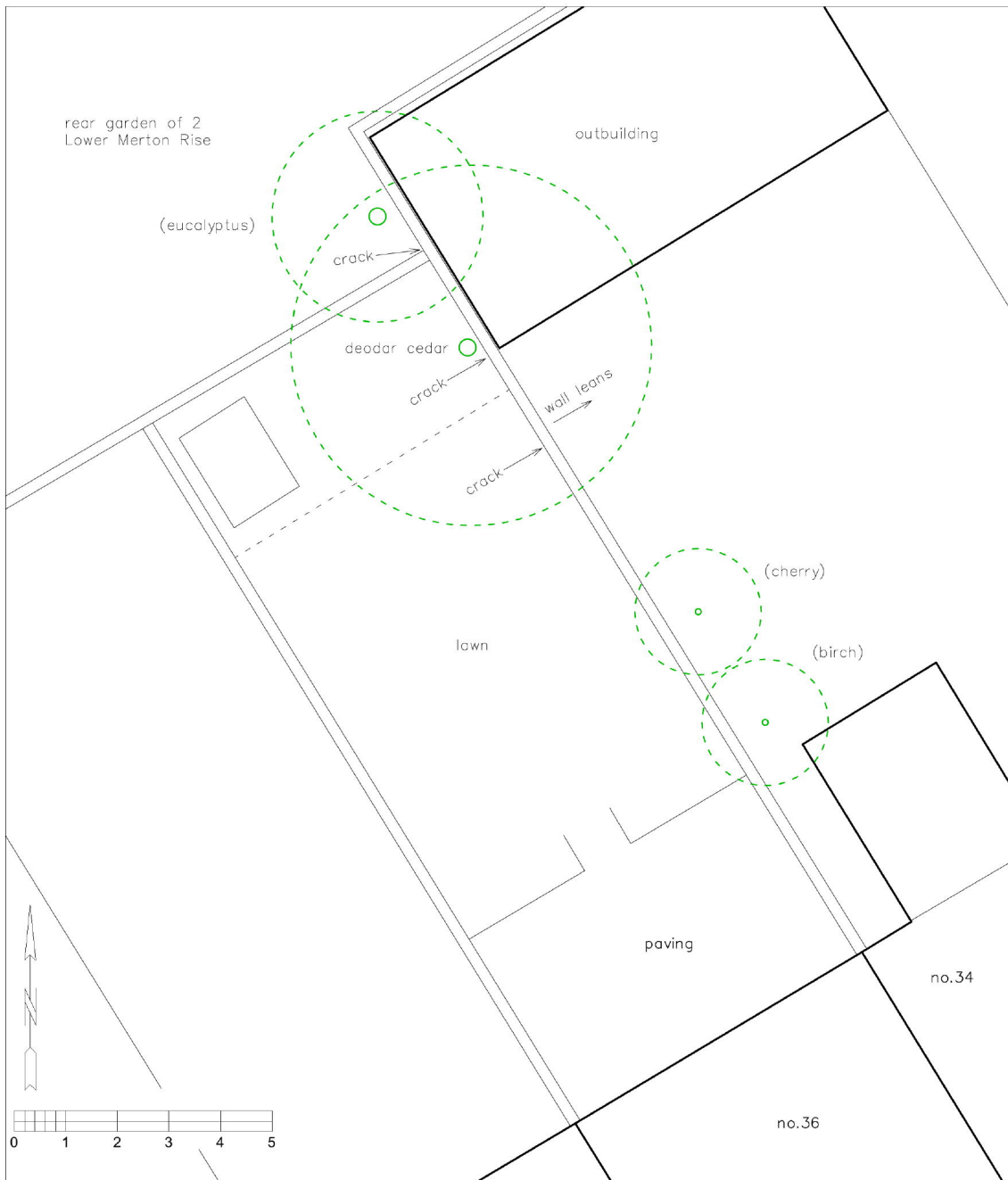




3) Crack in the wall near the outbuilding, trunk of the tree to the left.



4) & 5) Distances between the tree and the wall at base and at 1.6m.



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Client:  
Ms G Scardaccione

Site:  
36 Elsworth Road, London,  
NW3 3DL

Title:  
Tree and damage to wall

Date:  
13 July 2018

Ref:  
18/037

Rev:

Scale:  
1:100 at A4

Original drawing:  
Simon Pryce on  
OS base plan

Notes:

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