



Caroline Samsonova
7 Wedderburn Road
Hampstead,
NW3 5QS

28th November 2017

Dear Caroline,

Veteran Oak tree in Rear Garden of 7 Wedderburn Road

Background

As principal consultant at Treework Environment Practice I am involved in conservation arboriculture, ancient and veteran tree advice, consulting on tree risk management, advising on planning issues and on tree diseases, and acting as expert witness.

Following communications concerning the oak tree in the rear garden of No. 7 Wedderburn Road, I am writing to provide observations concerning the tree, its condition and management implications.

I outline my assessment of the tree below in the context of the recent notification of intent to remove the oak tree (18th September 2017). The notification of proposed tree works was based on reasons given by the submitting agent that the tree was displaying 'oak dieback' with dying upper branches and sparse live foliage¹. The submission, while unsupported by documentary evidence, referred to concern for the tree's condition due to disease or the likelihood of structural failure (Section 8, para. 1).

On 3rd November 2017, the London Borough of Camden applied a Tree Preservation Order on a provisional basis to the oak tree, identified as 'T1' (C1185 2017). The provisional order applies for six months, after which period it may be confirmed as permanent unless allowed to lapse, or is revoked by the council in the meantime. Representations and objections are considered up to 15 December 2017.

¹ London Borough of Camden Application for works to trees in a conservation area subject to a Planning Application 2017/5258/T

Services

Design Planning and Construction
Tree Risk Surveys and Management
Comprehensive Tree Management
Veteran Tree Surveys/Management
Expert Witness
TPO Advice
Static Load Test
Tree Work Contract Administration
MyTrees Tree Management Software
Tree Planting Plans
Tree Planting Audits
Tree Health Assessments
Tree Policies and Strategies
Home-buyers Reports
Structural Damage Reports
Soil Health Assessments
Grounds Maintenance Mapping



Considering this, I have been asked to provide my opinion on the quality and condition of the oak tree, its remediability and expected longevity and understand that this letter-report may be used to contribute to representations regarding the TPO.

Preliminary observations following the September notification

A preliminary inspection was undertaken in October by a colleague with veteran tree expertise experienced in managing trees in the borough and in public places, who considered that the oak had veteran characteristics and did not present symptoms of advanced or terminal ill-health nor obvious signs of Acute Oak Decline (AOD)². The tree was considered manageable and was not judged to be a current significant safety risk.

My November inspection of the tree

At the time of my site visit on 21st November 2017 autumn leaf fall was fairly advanced. I undertook a visual tree inspection from ground level, which did not involve taking soil or tree samples. My observations lead me to concur with the conclusions made in the preliminary October site visit. In this letter-report when I refer to measurements, these are approximate unless stated otherwise.

Setting of the tree

The position of the tree relative to the house and neighbouring properties can be seen in Figs 1 and 2. It is situated close to the rear boundary of the garden. The ground beyond the property to the south, behind the tree, is retained by a wall marking the boundary between 7 Wedderburn Road and 3 Lyndhurst Gardens. To the rear the ground is lower than the apparent base of the tree by an estimated 1.5 m.

Considerations of tree related risk

There are no public highways or footpaths within height falling range of the tree. The tree appears to be reasonably sheltered amongst buildings, trees and vegetation. There are no obvious signs of uprooting, crown breakage or other significant structural weakness. Sounding mallet used about the base and low trunk did not indicate obvious hollowing.

² <https://www.forestry.gov.uk/fr/acuteoakdecline>

The tree currently poses little risk of serious harm to Nos 7 and 9 Wedderburn Road (to west) where it is surrounded by gardens with characteristically low levels of use. On plan, T1 appears to be just within height range of the dwelling at 3 Lyndhurst Gardens (Figs 1 and 2). But this is in the context of a crown that has already been significantly reduced by past pruning with some upper die back (see Fig 3a). The tree also appears to have a slight weight bias to the north away from the property to the south. I conclude that the tree poses a low risk to its surroundings³ and that advised remedial pruning to invigorate the tree (see Management Recommendations) would serve to further reduce the current low level of risk.

Influences on tree condition

In the past the area of ground beneath the tree's crown within No. 7 has been altered. A rectangular raised bed has been constructed, extending approx. 4m into the garden and 11m across, retained by a low 0.3-0.5 m dry stone wall. The raising of the ground above the original base level of the tree could be in parts be as much as 0.6 m. Alterations to this area will have affected the northern aspect of the root zone of the oak. This landscape feature and associated flagstone path and seating form a 'garden room' with a wooden pergola separating the raised area about the tree from the more formal lawn and planting nearer the house.

I have seen no documentary information about this, but think it likely that the terrace was installed about a decade or so ago. Its construction would have disturbed the rooting environment through direct physical disruption, and changes to the soil composition in the preparation and ground works and from laying down of soil and other material. In addition to these direct effects, changes to the drainage pattern and quality of soil aeration necessary to healthy root function are likely to have affected the tree's subsequent growth and condition. Raising the ground level may also have affected living trunk tissue about the base of the tree.

A further feature of the landscaping around the tree is that the area was planted with trees and shrubs of mostly vigorous evergreen species (Portugal laurel, Aucuba, holly, yew *et al.*), which has more recently resulted in light and water competition to the oak. Now that these plants are becoming well-established, their competitive impacts are increasing year on year and the density is such that it is difficult to obtain direct physical access to the trunk. The laurel competition is particularly pronounced with some stems assuming young tree proportions, one of which (6 m height, 25 cm trunk diameter) is growing within 2 m from the trunk and threading through the lower crown of the oak tree.

³ See National Tree Safety Group (NTSG) (2011) *Common Sense Risk Management of Trees*

The planting around the tree will likely have compounded the impacts from the ground works, while competing for moisture and exploiting reduced levels of shade – circumstances that will have been further exacerbated by severe pruning of the oak tree. Managing the competition is critical to preventing the escalation of stresses that if unchecked could precipitate a spiral of decline in the oak. Any remedial intervention would need to avoid further sudden and comprehensive changes around the tree (see Recommendations).

I noted a buildup of moss in some areas of the raised terrace in vicinity of the tree, which may indicate poor aeration of soil or low pH. Intervention to improve soil condition would ideally be based on soil sampling and analysis.

Considering tree age

I have used a system to estimate tree age based on the measurement of trunk girth known as the 'John White method'⁴, which models the expected growth rates of different species under different growing conditions. Girth is measured according to this system at 1.3 m above ground level. In the case of T1, the girth measurement height is adjusted to account for the ground having been raised immediately surrounding the tree by some 50 cm. Modelled on 'average' growing conditions, the tree would be estimated to be considerably younger than anticipated, around 120 years old (see Table 1). In the case of T1, based on typical average growing conditions, estimates are likely to be conservative if we consider events likely to have influenced the growing conditions over the tree's lifespan.

The OS map shows the Belsize New Tunnel passing within some 10 m from the oak (Fig 2, Camden TPO accompanying map, 26/10/2017). This major construction in 1880 involved major ground changes close to the tree, which took place within twenty years of the construction of the original Belsize tunnel⁵, itself some 70 m distance from the oak tree.

When such events occur at a relatively young and vigorous stage, trees tend to recover and gradually adapt. In the case of the oak tree, occurring a century or so ago, such events will likely have impacted its physiology, root function and photosynthetic efficiency and resulted in a protracted period of reduced rates of growth (i.e. annual increment).

⁴ White, J. (1998) *Estimating the Age of Large and Veteran Trees in Britain*. Information Note, Forestry Commission, Edinburgh.

⁵ The first tunnel built 1865-7 was one mile long 'with massive strainer arches and heavy buttress cuttings' (Cheery, B. & Pevsner, N. 2002. *Buildings of London 4: North*. The Buildings Book Trust, London.

Table 1

Tree Species	Girth (cm)*	Site Category	Est. Tree Age (years)
Common oak	258	Average growing conditions	120
Common oak	258	Poor condition	135
Common oak	258	Poor light + water availability	225

Taking this into account, I have modelled the age estimate based on changes occurring at a time when the tree had become established and was in its maturing phase. I have assumed poor subsequent growth conditions. On this basis the tree is older than its measurement would initially suggest, probably exceeding 200 years age (see Table 1). Given that this relatively young tree survived these century-past impacts, whatever dieback and decline then occurred as a result, the tree appeared to have recovered and grown into relatively healthy maturity, until the more recent interventions referred to above took place.



Fig. 1: Oak T1 (TPO C1185 2017) at rear boundary of 7 Wedderburn Road

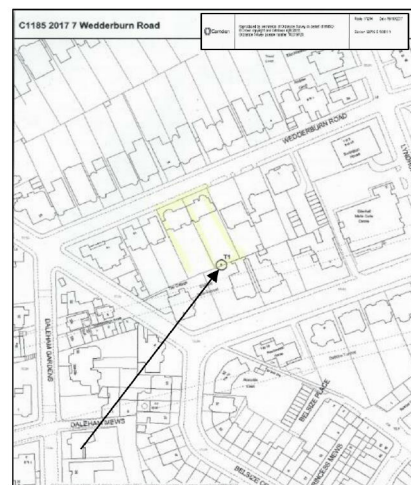


Fig. 2: TPO schedule map showing T1

Previous tree work and arboricultural implications

The 2005 Notice of Intent to carry out works to the oak tree proposed the removal of dead wood (2005/4760/T). As this did not refer to the proposed works being due to the condition of the tree or mention die back or decline, it is reasonable to conclude that, while dead wood may have been present, the extent of die back twelve years ago was not a matter of concern.

In 2010 a further notification was made to remove dead wood, which referred to 'a lot of dead wood' (Application 2010/5545/T). This may infer that in the five years since the 2010 notification, the amount of dead wood had increased. However, as before the notification did not draw attention to the tree's condition as a reason for carrying out works with respect to concerns due to disease or structural failure (Section 8, para. 1).

In 2013 submission to carry tree works identified an intention to *reduce* the oak tree by 10-15% (2013/5837/T). No reference was made to declining condition or structural breakage as a reason for carrying out such works (Section 8, para. 1). However, an objection was lodged to the proposed crown reduction on the basis that a previous reduction *had been carried out* in 2011, the extent of which was estimated to be considerably greater than the 15% referred to in the 2010 notification, committed to the reduction in terms of 'severe lopping' and that the reduction had been nearer 30% than 15%.



Fig 3a (LHS) and 3b (RHS) T1 viewed from north (November 2017)

Fig 3a shows areas of upper crown die back and past severe (not to current British Standard) pruning that has resulted in large diameter stubs.

Fig 3b shows zones of lower crown recovery and increasing vitality and suggests a future pruning outline.

I have not seen any records of the tree before and after this reduction took place. However, my recent 2017 inspection noted the presence of large diameter pruning wounds about the crown indicating that branches had been substantially reduced resulting in some pruning cuts with dead ‘stubs’ (see Fig. 5b) and occasional other live stubs that now support new live growth (see Figs. 4a and 4b).



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Fig 3b shows zones of lower crown recovery and increasing vitality and suggests a future pruning outline.

Discussion

The character of crown die back suggests that this is stress-induced rather than a reflection of naturally occurring ‘crown retrenchment’ that is an inherent part of the tree ageing process⁶. The signs of stress include areas of upper crown die back and local zones of declining vigour (see 3a, right of centre of upper crown).

Alterations due to landscaping that resulted in raising the ground level have disrupted drainage patterns and normal root function. The associated shrub and young tree planting, initially had relatively low impact but are now competing for water, nutrients and light. These compounding effects have become particularly apparent over the last five years.

⁶ Dujesjiefken, D., Fay, N., de Groot, J-W., de Berker, N. 2016. *Trees – a Lifespan Approach: Contributions to arboriculture from European practitioners*. Roads for Nature, Poland.



Fig. 4a (LHS) and Fig. 4b (RHS) (November 2017)

Illustrate scale of large diameter pruning wounds probably undertaken in 2010. Note Fig. 4b shows large live stub with substantial callus growth, a locally vigorous response.

The recent extensive pruning resulted in large-diameter wounds whose compartmentalisation has placed energy demands on the tree (Fig. 4a and 4b). Certain truncated branches have died (Fig. 5b) while others show recovery, including live stubs with reasonably vigorous callus growth (Fig. 4b).

There is new young growth in the crown that suggests the tree is in a recovery phase with a potentially viable future mid-crown (Fig. 3a). The tree is remediable through measures that address each of these issues. Remedial pruning is proposed to concentrate vitality in the mid, lower and inner crown. Fig 3b (RHS) suggests the context for a pruning strategy for the future branch architecture.

Management Recommendations

Remedial treatment is proposed for the tree to support areas of transition growth, rejuvenation within the crown and to enhance overall vitality. To optimize the trees continued recovery from impacts that have triggered the recent decline phase, treatment should adopt a long-term strategy to avoid rapid change - adopting 'slow-pruning methods' that are gradual and focused, responding to those areas expressing high natural recovery potential.

I suggest future intervention be based on an Individual Tree Management Plan (ITMP) applying the principles of conservation arboriculture⁷ with a phased treatment programme that spans two to three decades, and which typically includes return periods of 5-6 years. The elements of the Plan entail (a) specialist pruning, (b) management of competition, (c) improving biological condition of the root and crown systems and (d) monitoring, as follows:

(a) Specialist pruning by:

- Retaining maximum canopy volume for healthy recovery
- Using retrenchment ('slow pruning') techniques to concentrate vigour
- Adopting conventional BS 3998 pruning to reduce crown to compact form where appropriate, ensuring smallest possible diameter cuts
- Stabilizing dead wood to be stabilized and retained as feasible in the overall pruning programme



Fig. 5a (LHS) and Fig. 5b (RHS) (November 2017)

Fig. 5a shows numerous relatively large-diameter pruning cuts from thinning operations.
Fig. 5b illustrates large diameter stub (not to British Standard)

(b) Management of competition

- Cut 25 cm diameter laurel to 1 m height
- Thin remaining competition within 5 m of base of the tree by 30%
- Monitor and repeat thinning programme on three-yearly basis
- Chip arisings and store material for later application about the base of the tree

(c) Improving root and crown biological condition

- Take soil samples and analyzing soil biology and chemistry, assess pH and amend as appropriate

⁷ Lonsdale, D (Ed.) 2013. *Ancient and other veteran trees: further guidance on management*. The Tree Council.

- Fork over ground about the base of the tree
- Apply compost tea (as far as this is practicable) to the crown of the tree monthly during the growing season and to the ground within the dripline of the tree
- Subject to soil analysis apply compost tea to the ground
- Subject to soil analysis and the effects of competition management apply well weathered wood mulch

(d) Monitoring

- Monitor response to treatment annually for first two years
- Review monitoring likely five yearly consistent with ITMP

To optimize the tree's potential for recovery future remedial pruning and ground management should be undertaken by an appropriately competent specialist, such as a proven veteran tree expert practitioner.

Overall conclusion

The tree poses a low current risk to its surroundings from structural failure.

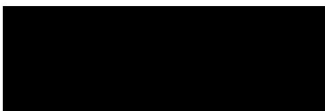
The tree has tolerated and adapted to impacts from urbanisation changes over its lifetime and the relatively recent local impacts within the garden from ground disturbance and from pruning intervention. Subject to a sympathetic long-term management programme the tree shows reasonable capacity for a life expectancy exceeding one to two human generations.

In my view the oak specimen contributes to the local amenity and is viable in the medium to long term⁸, subject to appropriate and sympathetic management and therefore in conclusion, it is reasonable to support the application for the TPO.

Please contact me if you need to discuss this further.

Kind regards,

Neville



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Principal Consultant : Treework Environmental practice
Chartered Arboriculturist

⁸ Medium to long term - one to two human generations

