Ash Sakula Architects

23 December 2020

Camden Planning
London Borough of Camden
5 Pancras Square
London N1C 4AG

Dear Camden

FELLING OF TWO PLANE TREES, 8 DOUGHTY STREET WC1, 2020/5587/T

Planning application 2020/5587/T seeks **permission to remove two of Bloomsbury's tallest and most beautiful trees. The trees are in close proximity to the back wall of 4 Doughty Mews, currently used as offices by the Egypt Exploration Society.**

At Ash Sakula Architects we have worked, lived, observed, and enjoyed the trees for 38 years from our home at 6 Doughty Mews, next door but one from 4 Doughty Mews. We have also carried out repair works to 4 Doughty Mews itself.

We consider there is a strong case to retain the trees, as set out in the next section. We also consider that removal of the trees is likely to cause damage to 4 Doughty Mews and to neighbouring buildings, including our own house. This view is supported by three structural engineers with whom we have consulted in connection with this objection.

Overview of our argument for retaining the trees

1. **The case for removal is badly motivated and is not proven in the engineer's report accompanying the application.**

2. **Three structural engineers state that removal of the trees is very likely to cause ground heave that will potentially damage not just 4 Doughty Mews but also neighbouring properties including our own property at 6 Doughty Mews.**

3. **At this stage of the growth of the trees it appears that 4 Doughty Mews is dependent on the trees, not only because (2) ground heave needs to be avoided but also, as mentioned by the applicant's structural engineer, the back wall at 4 Doughty Mews may be supported by the tree roots.**

4. **Thus, given (2) and (3), we believe the optimum course of action is to provide an engineering solution for 4 Doughty Mews that allows it to co-exist with the trees.**

5. **There appear to be two treatments, one short term to return the back wall of 4 Doughty Mews to its state as traditionally built, and one for the long term (a hundred years or more) where the tree trunks, whose growth is already limited by an ongoing programme of crown reduction, are given some space to grow by**

[redacted]

means of small bays setting back part of the back wall of 4 Doughty Mews.

6. As shown by the difference in measurements made by the applicant's structural engineer three years ago and late this year, there is a minimal amount of movement in the back wall of 4 Doughty Mews, and our recommendation is to institute the restoration of the back wall of the property along the lines suggested in the attached letter from structural engineer The Boydell Consultancy and initial advice from the ING Design Consultancy.

Each of these aguments is considered in turn in numbered sections below.

1. Application does not prove case for removal

The application relies on an engineer's report. This report itself states that it is:

1. Open to change in the light of further information; and

2. Incomplete, with further survey work needed. This incompleteness includes the following:

    a. the wall in question has not been surveyed on its exterior face, the tree side, where, on inspection, we have seen no cracking due to the trees;

    b. measurements have not been performed using standard monitoring techniques, see 3;

    c. that further surveys are needed including measuring cracks at greater precision using surveyor's tell-tales, with measurements being made fortnightly over a year; and

    d. that boreholes and trial pits need to be dug within the garden of 8 Doughty Street, the gardens of neighbouring properties, and under 4 Doughty Mews itself to ascertain the extent of tree roots.

With experience of restoring and converting our own building in the Mews, we consider that the severity of the cracks has been overstated. All buildings in the mews, including our own, suffer from movement, being founded on London clay. The cracks are listed by the applicant's engineer's report as being in severity category 3-4 (with 4 requiring structural work on the wall). However, what the applicant's report describes are hairline cracks (severity 0). The Boydell Consultancy, which has previously been retained by a potential purchaser to advise on the trees, and therefore has seen the site, estimates maximum severity at 3. It seems likely therefore that the cracks may be in category 0-3, requiring no structural work.

Additionally there has been minimal change to the wall between two surveys three years apart, and this suggests that there is no urgency in either removing the trees or instituting short or long term solutions.

Our judgement is that the reasons for removing the trees given on the application are not demonstrated; that the case for removal of the closer tree, Plane T1, is not proven; and that there is absolutely no reason given for removal of Plane T2.

[redacted]

The application's first reason for removal (application Form, section 5) that "Both trees [are] implicated in direct damage to East (main rear elevation wall of neighbouring building)" is in no way proven in respect of either tree, given the very partial survey that has been performed.

We dispute the remaining part of the reason for removal, "Unable to mitigate with trees retained" in section 5. On the contrary, on the basis of our discussions with engineers, there are various ways to ensure the future stability and longevity of the building with the trees retained in place, as we discuss below.

2. Ground heave and structural engineers' reports

4 Doughty Mews is built on heavy soil containing clay over a substrate of clay (the London Clay Formation). Removal of large trees from this formation is known to cause ground heave. In one study involving trees growing in similar ground conditions, there was 160mm ground heave over six years after removal of 20 to 25m high trees, similar to the height of the trees in question here. See Crilly, M. S., & Driscoll, R. M. C. (2000). The behaviour of lightly loaded piles in swelling ground and implications for their design. Proceedings of the Institution of Civil Engineers - Geotechnical Engineering, 143(1), 3–16. doi:10.1680/geng.2000.143.1.3.

This is similar to the view of three structural engineers we have consulted:

ING Design states

> **"Finally, from a structural engineering perspective I would have to caution against the removal of the trees as the London Clay substrate is well documented for considerable volume change potential in varying moisture conditions. The removal of the trees, having an impact on the natural moisture content of the ground, could well have a more damaging effect to the local surrounding properties than leaving the status quo."**

In an email to us, structural engineer Steven Webb states:

> **"... felling the trees may do significant damage to the adjacent buildings, not only on that site but on adjacent sites as the clay beneath rehydrates... This change will occur over a long period and cause ongoing problems in all of the properties."**

The Boydell Consultancy mentions:

> **"... likely resultant heave".**

3. An alternative view: 4 Doughty Mews depends on the trees

4 Doughty Mews is likely to depend on the continued existence of the trees for its future stability because of the need to avoid ground heave. An arboriculturalist we have consulted mentions that number 4's back wall may rest on and be partially supported by the tree roots. Besides heave, very long term damage from removing the trees means foundations will degrade with increased water and walls that are already damaged from heave, may be further affected by losing support from rotting roots.

We are concerned that the properties in the vicinity of the trees, including our own, will suffer from substantial clay heave if the trees are removed.

4. Moving forward to retain trees and building together

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Given the issue of heave if the trees were to removed, there is validity in the view that the trees should be retained with some work to enable future coexistence of trees and building. See (5) below for detail.

There are other significant advantages to retaining the trees. The local community (and we) are concerned with matters of:

- **Amenity. For visual amenity itself we note that the trees are widely beyond the urban block where they are sited. They are visible in surrounding streets, to workers and residents in taller blocks nearby, and from as far away as the London Eye.**

- **Reduction of pollution (toxins and particulates are absorbed by the trees), reduction of carbon dioxide, which in turn is a greenhouse gas that helps destroy the ozone layer.**

- **Generation of oxygen as a result of photosynthesis.**

- **Contribution to the local ecosystem, where local residents we have spoken to have identified 14 species of birds in the vicinity of the trees, including a Lesser Spotted Woodpecker (seen by the Hickmans, neighbours to the trees). This woodpecker "has been subject to dramatic decline in the UK and are ordered as Red Status on the IUCN list of endangered and threatened species." [National Geographic]. This bird may in turn cause some interest regarding ICUN protection of the trees, though this remains to be investigated.**

- **The retention of the trees as veteran trees in line with national, London, and borough policies: the National Planning Policy Framework, the London Plan and Camden Planning Guidance, Trees. These policies all provide strong guidance to retain irreplaceable veteran trees that once felled are gone forever.**

5. Engineering treatments for 4 Doughty Mews

We are not opposed to redevelopment of the mews houses, indeed, our own home is converted from a former commercial use. However, for the sake of the property itself and neighbouring properties the way forward is not to remove the trees together with the attendant risk of destabilisation. This would retain the trees with their attendant historic, environmental, air purifying and amenity advantages.

Our structural engineer consultants have suggested several schemes to make 4 Doughty Mews compatible with the trees going forward. We would be happy to share this advice with the owner of 4 Doughty Mews in the future.

The solutions, in brief, are:

- **Restore the back wall of 4 Doughty Mews to its original condition as a flexible wall that moves with seasonal movement in the soil. This would involve replacing cement repointing that we have seen from the garden of 8 Doughty St, and replastering internally with a flexible lime-based render.**

- **Longer term, when 4 Doughty St may be redeveloped for residential use, a solution to retain the trees can be instituted. We know that the owner of 2, 3 and 4 Doughty Mews has previously in 2018 had the properties on the market and, we assume,**

still seeks to sell them.

This long-term solution could be carried out when the building is refurbished. As Mr Grindey of ING states, the use of mini-piles would transfer load from the back wall to party walls, and a subsequent sympathetic treatment to the back wall would enable the trees and building to happily co-exist for the foreseeable future, while simultaneously ensuring that there is no risk of damage to other neighbouring properties.

6. There is no need for urgency

The applicant's engineer measured cracks three years ago and recently. Over three years one new long hairline crack appeared, and two very short ones. From his crack diagrams, 14% of the length of cracks increased in width by "up to 0.5mm". This is a very minimal change, and indicates that there is no need to rush to a solution.

Consequently, there is time for the owners to institute a programme of work to restore the back wall to its flexible state for the short and medium term. When the building together with 2 and 3 Doughty Mews is re-developed, then a longer-term solution can be applied as part of that re-development.

At that stage it would be appropriate, if not already catered for, for Camden to place a planning condition on the redevelopment to take account of the trees, to ensure that trees and building can coexist into the next century.

Summary

There is no need to rush, and there are many solid and irrefutable reasons to retain the trees, including for the avoidance of damage to 4 Doughty Mews and neighbouring buildings.

Simple restoration works in the short and medium term, and structural engineering solutions will enable the retention of the trees, improving the area's amenity and avoiding calamitous ground heave.

I trust you will refuse the application to fell these wonderful trees.

Yours sincerely

[redacted]

Robert Sakula

Enc 22 December 2020 letter from The Boydell Consultancy

Ash Sakula Architects [redacted]

Ash Sakula Architects

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Ms C Ash

6 Doughty Mews

London

WC1N 2PG

22nd December 2020

Dear Ms Ash

Proposed removal of plane trees at 8 Doughty Street, abutting rear wall of 4 Doughty Mews.

You have asked me to comment on the impact that the proposed removal of the 2 mature plane trees may have on the adjacent properties owned by you and your family.

You have directed me to the planning submission made to Camden Council by One Housing Group, who own 8 Doughty Street and the report by William J Marshall and Partners, prepared for the Egypt Exploration Society who occupy 2-4 Doughty Mews, WC1 2PG.

I do have some prior knowledge of the situation as I was approached by a potential purchaser of the mews property, within the last 2 years, who was eventually discouraged from proceeding due to the development risk associated with the trees.

As you are aware, I was a Partner and Director of Conisbee Consulting Civil and Structural Engineers for 35 years and during my career have had cause to investigate building/subsoil/tree interaction to many hundreds of properties in North London.

Your deeds will confirm the age of the mews properties, but it is certain they are more than 170 years old and from your knowledge are only shallowly founded with a few courses of stepped brick footings onto the near surface ground. The solid masonry walls would have been constructed in a lime mortar and, if plastered internally, the plaster would have been lime based also. This construction would have had a good tolerance to movement unlike modern mortars and plasters. Most of the Mews properties are likely to have been plastered in the last 50+ years in hard contemporary plaster and thus susceptible to cracking.

Marshall's have summarised the subsoil from the British Geological Survey mapping information as approximately 1m of made ground over Hackney Gravel to a depth of around 3.5m overlying London Clay to significant depth. Whilst this is not site specific it broadly concurs with my experience of the area.

The plane trees were almost certainly self-seeded and allowed to grow to their present state of maturity with little intervention until recent years. Their girths are 1.0m and one, identified as T1, is

in contact with the rear wall of No.4 Doughty Mews whilst T2 is only 0.5m away. They are in a conservation area and, by all accounts, are considered an important amenity by many in the area. An application to reduce the crowns by 30% was approved in October 2015. The current situation has therefore existed for some time and has been maintained by periodic crown reduction.

Marshall's visited 2-4 Doughty Mews in August 2017 and recorded a random pattern of internal plaster cracking to No.4 varying in thickness up to 5mm. In July 2020 they noted that additional light cracking was evident, and some existing cracks had increased by 0.5mm. The report is silent with respect to Nos. 2 & 3. The wall was noted to incline inwards in the vicinity of tree T1 but the degree of distortion has not been recorded. They refer to BRE Digest 251 which defines damage in 3 broad categories 'aesthetic', 'serviceability' and 'structural' with the later requiring attention or action as structural collapse may be imminent. Of the 6 damage categories they have noted the damage is currently in the serviceability categories 3 & 4. Certainly, internal plaster repairs and possibly external pointing will be necessary which are category 3 items, however the degree of distortion is not defined so it is unclear if any more substantial works are required to the masonry such as local rebuilding. Any remedial works should ideally be undertaken in materials that complement the original construction.

There have been no further investigations or monitoring undertaken and the degree of ongoing damage in the 3 years between their Marshall's visits is modest, despite no intervention to the trees in this period. However, Marshall's have concluded that it will be necessary to remove T1 in contact with the wall and possibly T2.

The interaction between the trees and the wall, and consequential cracking is a long standing issue which the Egypt Exploration Society appear to have tolerated until recently. There is no suggestion of structural instability but trees in such proximity to buildings necessitate regular maintenance from simple leaf collection, to prevent blocked gutters, to periodic crown reduction to limit growth.

I concur with the next step's Marshall's have outlined, which should be undertaken before any final decision is made with respect to the trees.

An Arboriculturist needs to advise. Firstly, on the general health and life expectancy of the trees and frequency of crown reduction needed to maintain the status quo. They should also advise on the locations of any bore and trial holes and given the opportunity to inspect the root interaction and samples recovered from within them.

A ground investigation should be undertaken to determine the foundation arrangements and subsoil profile to the mews properties within a distance that may be affected by the tree roots. Initially to the rear of Nos. 2-6 Doughty Mews, but possibly further. This will include assessing the makeup of the made ground, particularly for clay content, the thickness and profile of the Hackney Gravel and the condition of the London Clay with testing to determine if it is desiccated because of tree root action. If it is, then an estimate of the likely resultant heave should be provided as a consequence of tree removal.

The same group of buildings should be monitored by undertaking a periodic distortion survey of masonry, ideally over at least a one year cycle to determine if ground movements are taking place and the scale of them.

The verticality of the wall to No.4 in the vicinity of the tree should be determined.

The above work will need to be undertaken from the rear gardens of the properties on Doughty Street so will require agreement and permission from the owners.

Any decision on the trees should only be made after a thorough investigation to enable a proper understanding of the building/subsoil/tree interaction and the consequences of removing them.

I hope these thoughts are helpful.

Yours sincerely,

Christopher D Boydell

Chris Boydell

CEng, BSc, MICE, MIStructE