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TREE CONSULTANCY

Arboricultural Impact Appraisal and Method Statement

1 Frognal Gardens, London

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Validation statement for Local Planning Authority (LPA) registration of this report

In accordance with the *Department for Communities and Local Government Circular 02/2008* and its guidance document *Validation of Planning Applications*, this report fulfils the recommended national list criteria for tree survey/arboricultural information. More specifically, it contains the following:

- A full tree survey compliant to the requirements of *BS5837: (2005) Trees in Relation to Construction – Recommendations* undertaken by a qualified arboriculturist
- A plan to a suitable scale with a north point and showing tree survey information, retention categorisation and root protection areas
- An assessment of the arboricultural implications of development detailing trees to be retained/removed and appropriate protection measures
- An arboricultural method statement detailing the means of tree protection, implementation and phasing of works

Summary

USING THIS REPORT

For ease of use, this report is organised with the most frequently used information at the front and the less frequently used, but equally as important administrative and background information, towards the back, as follows:

- **Section 1** is an arboricultural impact appraisal, which describes the impact of the development proposal on trees
- **Section 2** is an arboricultural method statement, which describes the proposed tree management and protection measures
- **Section 3** is the Appendices, where other useful information such as illustrative specifications can be referenced

Important Note: Appendices 1 and 2 in Section 3 must be reviewed before relying on the analysis in Sections 1 and 2.

BACKGROUND TO THE PROPOSAL

The development proposal is to convert the existing 3 flat residential building into single dwelling house and 1 x 1-bed flat, the enlargement of the existing basement under the rear garden and additions and alterations to include the installation of 3 x dormer windows to the south, north and west (rear) roof slopes, following part demolition of the existing building. All the trees that could be affected were inspected and their details are listed in Appendix 5.

IMPACT OF THE PROPOSAL ON TREES

This proposal will result in the loss of a small number of trees that are all low category because of their poor condition or small size. Their loss will have no significant impact on the present character of the area. There is space for tree planting and a comprehensive new landscape scheme is included as part of the proposal, under a separate cover. The size of these new trees and their future growth will significantly enhance the contribution of this site to local amenity and more than compensate for the loss of existing trees. The proposed changes may affect further trees if appropriate protective measures are not taken. However, if adequate precautions to protect the retained trees are specified and implemented through the arboricultural method statement included in this report, the development proposal will have no significant impact on the contribution of trees to amenity or character in the wider setting. Indeed, the new sustainable planting proposals will increase the potential of the site to contribute to local amenity well beyond the short term.

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Section 1

Arboricultural impact appraisal

This arboricultural impact appraisal describes our assessment of how the proposal will affect trees and any impact this will have on local amenity and character. The impact on trees is summarised at the beginning in 1.1, more detailed explanation of this analysis is set out in 1.2 and the proposed mitigation measures are described in 1.3.

Section 1: Arboricultural impact appraisal

1.1 SUMMARY OF THE IMPACT ON TREES

Development proposals can impact on trees by causing them to be removed either immediately or in the future, by adversely affecting their potential for retention through disturbance in root protection areas (RPAs) or through the need for pruning. Our assessment of the impact of this proposal on trees is summarised in table 1.

Table 1: Summary of trees that may be affected by the proposal

Impact	Reason	A	B	C
Trees to be removed	Building construction, new surfacing and/or proximity	-	-	G1, 2, 4, H6
Retained trees that may be affected through disturbance to RPAs	Removal of existing surfacing/structures/ landscaping and/or installation of new surfacing/structures/ landscaping	-	3, 5	-

Abbreviations: G = group; H = hedge

1.2 DETAILED IMPACT APPRAISAL

1.2.1 Category A and B trees to be removed

No category A / or B trees will be removed.

1.2.2 Category B trees that may be affected through RPA disturbance

Two category B trees (3, 5) may be affected through disturbance to their RPAs. These are important trees that provide a good level of visual amenity to the locality so any impacts on them should be minimised. Removal of existing surfacing and structures is proposed within RPAs to be replaced with new surfacing, structures and landscaping. These changes may cause harm if not carried out with care. I have reviewed the situation carefully and my experience is that these trees could be successfully retained without any adverse impact if appropriate protective measures are properly specified and controlled through a detailed arboricultural method statement.

1.2.3 Category C trees to be lost

One group (G1), two individual trees (2, 4) and one hedge (H6) to be removed are category C because they are either in poor condition, unsustainable or so small that they are not worthy of influencing any layout. They are not important in the overall planning context and their loss should not influence the determination of this application.

1.3 PROPOSALS TO MITIGATE ANY IMPACT

1.3.1 Protection of retained trees

The successful retention of trees depends on the quality of the protection and the administrative procedures to ensure those protective measures remain in place whilst there is an unacceptable risk of damage. An effective means of doing this is through an arboricultural method statement that can be specifically referred to in a planning condition. An arboricultural method statement for this site is set out in Section 2 of this report.

1.3.2 New tree planting

To mitigate the loss of trees, a comprehensive new landscaping scheme is proposed which will include new tree planting. The landscape plan will be submitted under a separate cover.

1.4 SUMMARY OF THE IMPACT ON LOCAL AMENITY AND CHARACTER

This proposal will result in the loss of a small number of trees that are all low category because of their poor condition or small size. Their loss will have no significant impact on the present character of the area. There is space for tree planting and a comprehensive new landscape scheme is included as part of the proposal, under a separate cover. The size of these new trees and their future growth will significantly enhance the contribution of this site to local amenity and more than compensate for the loss of existing trees. The proposed changes may affect further trees if appropriate protective measures are not taken. However, if adequate precautions to protect the retained trees are specified and implemented through the arboricultural method statement included in this report, the development proposal will have no significant impact on the contribution of trees to amenity or character in the wider setting. Indeed, the new sustainable planting proposals will increase the potential of the site to contribute to local amenity well beyond the short term.

Section 2
Arboricultural method statement

This arboricultural method statement describes the proposed tree management and protection measures. It is divided into two subsections, in order of their priority for application to this site.

Subsection 2.1 identifies the specific issues that apply to this site and cross-references the types of precautions detailed in Section 3 that are feasible to ensure successful tree protection. It covers the project management of the tree issues first, i.e. the supervision and timing of works. These administrative aspects are followed by the practical operations, listed in the sequence that they are likely to occur on site, i.e. tree works first, then the installation of protective measures, then any special precautions for identified areas and, finally, provision for new tree planting.

Subsection 2.2 describes how the planning framework and technical guidance applies to trees on all sites, including this one. It discusses the principles behind all tree management and protection, and cross-references them with the more detailed explanations in Section 3.

Section 2: Arboricultural method statement

2.1 SPECIFIC PROPOSALS FOR THIS SITE

2.1.1 Arboricultural advice and supervision

All operations that could affect trees must be factored into the wider project management of the site. This can only be done effectively if an arboricultural consultant is appointed as part of the management team. An arboricultural consultant must be appointed by the developer to advise on the tree management for the site and to attend:

1. the pre-commencement meeting before any work starts;
2. regular supervision visits every two to four weeks, or as otherwise agreed; and
3. as needed to oversee any specific works that could affect trees.

Additionally, the consultant must have a supervisory input into the following operations:

- Site preparation, including tree works and any demolition requirements
- Installation, maintenance and removal of barriers
- Installation, maintenance and removal of ground protection
- Removal of surfacing
- Removal of structures
- Installation of new surfacing
- Installation of new structures
- Installation of services

2.1.2 Project management of tree issues

Successful tree retention relies on careful integration of the tree protection proposals into the programme of works for the whole development project. It is essential that the tree protection measures and any activities that may affect trees are project managed by an appointed arboricultural consultant who is part of the project team. All arboricultural supervision must be recorded and formally confirmed to the developer and the LPA. A programme for the actions needed at different phases of development, from start to finish, is set out in table 2.

Section 2: Arboricultural method statement

Table 2: Phased project management of tree issues throughout development

Finalising tree management details after consent, but before work starts	
Action	**Arboricultural input**
Review of tree protection and any emerging design issues that may affect trees with the construction team	• Meeting/discussion with relevant members of the developer's team to explain the extent of the tree constraints • Review working space requirements to consider barrier and ground protection adjustments to improve site functionality • Review drainage proposals and identify potential conflicts with RPAs • Review any post-consent layout changes that may affect trees • Review all works within RPAs that may affect trees • Identify any potential conflicts and work towards resolutions • Preparation of working drawings, if necessary
Review consented tree protection proposals for discussion at pre-commencement meeting	If necessary: • prepare revised plans and specifications • liaise with LPA to discuss modifications
Briefing landscape architect on restrictions imposed on new landscape design by RPAs	• Advise landscape architect of the RPA locations, the restrictions to landscaping activity that applies and the details of agreed new tree planting • Review the final landscaping proposals to identify any conflicts between tree protection and landscaping
Pre-commencement site meeting with supervising arboriculturist, site manager and the LPA representative (if appropriate)	• Meeting on site • Agree detail of supervision requirements, i.e. frequency of visits and reporting • Review any updated proposals • Review tree protection, if already installed
Site operations before demolition/construction starts on site	
Action	**Arboricultural input**
Tree works carried out	• Review the site requirements with the tree work contractor
Installation of tree protection for agreement by the LPA	• If appropriate, preparation of any revised plans and specifications for agreement by the LPA • Photographs showing relevant aspect of installed tree protective measures • Liaise with the contractor installing protection until satisfactorily completed
Demolition	• Liaise with the demolition contractor about tree protection
Operations that could affect trees during construction	
Action	**Arboricultural input**
Installation of new special surfacing within RPAs	• Meeting with contractor for briefing before installation, with further supervision visits as necessary at the discretion of the arboricultural consultant
Removal of existing structures and/or surfacing within RPAs, to be replaced with ground protection or new special surfacing	• Meeting with contractor for briefing before work starts, with further supervision visits as necessary at the discretion of the arboricultural consultant
Installation of new structures	• Meeting with contractor for briefing before work starts, with further visits as necessary at the discretion of the arboricultural consultant
Removal of surfacing retained as ground protection within RPAs to be replaced with soft landscaping	• Meeting with contractor for briefing before work starts, with further visits as necessary at the discretion of the arboricultural consultant • **NOTE:** This should only be authorised once there is no risk of RPA damage from the construction activity
Removal of ground protection	• Meeting with contractor for briefing before work starts, with further visits as necessary at the discretion of the arboricultural consultant • **NOTE:** This should only be authorised once there is no risk of RPA damage from the construction activity
Installation of new services	• Meeting with contractor for briefing before work starts, with further visits as necessary at the discretion of the arboricultural consultant

2.1.3 Tree works

Tree works, based on our assessment of the proposal and the original site inspection, are set out in the work recommendations column of the tree schedule in Appendix 5. Any

trees to be removed are highlighted with red text in the schedule. The location of each tree by number is shown on the plan and any to be removed are indicated with a red dashed crown outline.

2.1.4 Ground protection

Once the tree works are finished, the installation of the primary tree protection measures, i.e. the ground protection, can be completed. Ground protection must be installed over all the unprotected soil surfaces within RPAs. This ground protection must remain in place until there is no further risk of damage to RPAs, i.e. until the end of development or it is replaced by other protective surfacing or structures.

2.1.5 Summary of precautionary measures in Area 1

Area 1 is shown on the plan with the yellow shading. It is within the RPAs of one retained tree (5). All work operations in this area must be strictly controlled to protect RPAs from damaging disturbance for the duration of the development activity, as set out in Appendix 8. More specifically, the precautions required include:

1. **Ground protection:** All the unprotected soil surfaces within the shaded area must be protected by ground protection as illustrated in Appendix 7 until there is no risk of disturbance from the development activity. When the existing hard surfacing is removed it must be replaced by ground protection so that at no time is any exposed RPA unprotected.
2. **Removal of existing surfacing/structures and replacement with new surfacing:** I have carefully reviewed the levels in these areas and it would be feasible to install custom designed no-dig specification surfacing (footpaths) without causing any significant disturbance to the RPA. From our previous experience at installing such surfacing (www.barrelltreecare.co.uk/case-studies/SurfacingNearTrees.pdf), I am confident that this can be implemented without significant harm to the tree, with the detail to be agreed as part of a planning condition. This surfacing solution is within the advice set out in BS 5837 (11.8.1) and would be appropriate in this situation. Any impact should be minimised by following the guidance set out in Appendix 8. Illustrative specifications for special surfacing are included as Appendix 9.
3. **Removal of existing surfacing/structures and replacement with new landscaping:** Tree 5 may be affected by the removal of the existing landscaping and installation of the new. Any impact should be minimised by following the general guidance set out in Appendix 8.
4. **Installation of new bin store and hard landscaping:** Tree 5 may be affected by the installation of the new bin store and hard landscaping. Any impact should be minimised by following the guidance set out in Appendix 8. I am confident that this can be implemented without significant harm to the tree, with the detail to be agreed as part of a planning condition.

2.1.7 Summary of precautionary measures in Area 2

Area 2 is shown on the plan with the blue shading. It is within the RPAs of one retained tree (3). All work operations in this area must be strictly controlled to protect the RPA from disturbance for the duration of the development activity, as set out in Appendix 8. More specifically, the precautions required include:

1. **Ground protection:** All the unprotected soil surfaces within the shaded area must be protected by ground protection as illustrated in Appendix 7 until there is no risk of disturbance from the development activity.
2. **Removal of existing structures and replacement with new structures:** Tree 3 may be affected by the removal of the existing structures and installation of the new one. Any impact should be minimised by following the guidance set out in Appendix 8. I am confident that this can be implemented without significant harm to the tree, with the detail to be agreed as part of a planning condition.
3. **Removal of existing structures and replacement with new soft landscaping:** Tree 3 may be affected by the installation of new soft landscaping. Any impact should be minimised by following the general guidance set out in Appendix 8.

2.2 GENERAL TREE PROTECTION PRINCIPLES THAT ALSO APPLY TO THIS SITE

2.2.1 The feasibility of proposals and detail that can be conditioned

The ground conditions on development sites are often so variable and complex that it is not practical or necessary to know about every detail in order to make reliable decisions. This often applies to trees, where unexpected obstacles below ground or levels are not accurately recorded on standard land surveys, and yet can have a significant impact on the way operations are carried out on site. For that reason, our analysis of the issues is focused on establishing that operations can be carried out in principle, with the detail to be agreed on site through careful liaison between the tree consultant and the operatives who actually do the work, once the precise site conditions are known. If an operation is accepted as being feasible by the LPA, then the detail is a matter to be enforced through planning conditions, and it is not usually necessary to provide it before consent is given.

For example, BS 5837 acknowledges that special surfacing can be used in RPAs and there is an increasing body of practical examples where it has been successfully installed. If such surfacing is proposed, it would only be necessary to demonstrate that the ground levels will allow it to be installed without any significant excavation. This could reasonably involve the provision of cross-sections showing that it is feasible, but it would not normally extend to the provision of detailed engineering specifications for the product. Provided that the planning submission adequately demonstrates that the solution is feasible, then the detail would normally be a matter to be conditioned for agreement before works commence.

2.2.2 Illustrative specifications

Some of the Appendices in this report provide examples of products we believe may be suitable for use within RPAs. As set out in BS 5837, all products and protective measures must be fit for purpose, rather than be of any specific make or brand. For that reason, our specifications are illustrative in that they show a means of achieving the desired objective, but there may well be other ways and products capable of delivering the same result. Our role as tree consultants is to identify if an end result is feasible and illustrate how it can be achieved. That role does not extend to specifying detail on the installation of individual products, which is a matter for the technical expertise of the appropriate specialist.

2.2.3 Arboricultural supervision

BS 5837 confirms (Section 3 and Annex A4.5) that arboricultural supervision is necessary where there is a risk to retained trees. An effective means of doing this is for all operations that could affect trees to be project managed by an arboricultural consultant appointed as part of the development team (BS 5837, 3.2.5). Specialist supervision is a means of facilitating any conditioned tree protection being effectively implemented on site by operatives who may not be familiar with the practical requirements for successful tree retention. Effective arboricultural supervision must include provision for the following:

- **Pre-commencement meeting:** A pre-commencement meeting should be held on site before any of the site clearance and construction work begins. This would normally be attended by the site manager, the arboricultural consultant and a LPA representative. If a LPA representative is not present, the arboricultural consultant should inform the LPA in writing of the details of the meeting. All tree protection measures detailed in this document should be fully discussed so that all aspects of their implementation and sequencing are understood by all the parties. Any agreed clarifications or modifications to the consented details should be recorded and circulated to all parties in writing. This meeting is where the details of the programme of tree protection will be agreed and finalised by all parties, which will then form the basis of any supervision arrangements between the arboricultural consultant and the developer.

- **General site management:** It is the developer's responsibility to ensure that the details of this arboricultural method statement and any agreed amendments are known and understood by all site personnel. Copies of the agreed documents should be available on site and the site manager should brief all personnel who could have an impact on trees on the specific tree protection requirements. This should be a part of the site induction procedures and written into appropriate site management documents.

- **Ongoing supervision of operations that could affect trees:** Once the site is active, the arboricultural consultant should visit at an interval agreed at the pre-commencement site meeting. This would normally be every two to four weeks for general supervision, but could be at a longer interval if agreed between the

parties. The supervision arrangement should be sufficiently flexible to allow the supervision of all sensitive works as they occur. The arboricultural consultant's initial role is to liaise with developer and LPA to ensure that protective measures that are fit for purpose are in place before any works start on site. Once the site is working, that role will switch to monitoring compliance with arboricultural planning conditions and advising on any tree problems that arise or modifications that become necessary.

- **Proof of compliance to help refute liability and facilitate the discharge of planning conditions:** All supervisory visits will be formally confirmed in writing and circulated to all relevant parties, including the LPA. The purpose of these written records is firstly to provide proof of compliance that will allow the developer to robustly demonstrate adherence to best practice in the event of any disputes, and secondly to help the LPA efficiently discharged the relevant planning conditions.

2.2.4 Ground protection of RPAs

Where it is not practical to protect RPAs by the use of fencing barriers, BS 5837 allows for the fencing to be set back and the soil protected by ground protection. A range of methods can be used including retaining existing hard surfacing or structures that already protect the soil, installing new materials or a combination of both. Illustrative specifications are included as Appendix 7. Whatever the choice of method, the end result must be that the underlying soil (rooting environment) remains undisturbed and retains the capacity to support existing and new roots. Throughout this report, there is a presumption that all RPAs identified for protection on the plan outside barriers will be protected from soil degradation at all times during any demolition and construction. This applies to all the shaded precautionary areas shown on the plan at all times during the development while there is a risk of damage to the RPAs of retained trees.

2.2.5 Control of activities within RPAs

Where activities have been authorised within RPAs through a planning consent, sufficient care must be taken to ensure that any impact on retained trees is minimised. This specifically applies to excavation, but also covers all other development operations with the potential to adversely affect trees. **All activities within RPAs must be carried out in accordance with the detailed guidance set out in Appendix 8 and be supervised by an arboricultural consultant.**

2.2.6 Control of activities near RPAs

Any risk to trees from activities outside RPAs, but close enough to have a knock-on impact, must be assessed and appropriate precautions put in place to reduce that risk. For example, all cement mixing and washing points for equipment and vehicles must be outside RPAs, but the contours of the site may create a risk of polluted water running off into RPAs. An appropriate precautionary measure would be to use heavy-duty plastic sheeting and sandbags to contain spillages and prevent contamination.

Section 3
Appendices

Appendix 1: Relevant background and administrative information

1 Instruction

We are instructed by KSR Architects to inspect the significant trees that could be affected by the development proposal at 1 Frognal Gardens, London, and to prepare the following information to accompany their planning submission:

- a schedule of the relevant trees to include basic data and a condition assessment
- an appraisal of the impact of the proposal on trees and any resulting impact that has on local amenity
- an arboricultural method statement dealing with the protection and management of the trees to be retained

2 Documents provided

Plan BT1 is derived from the following provided information:

- Land survey, drawing number 10/1485 received by email on 20 July 2010
- Layout, drawing number FGG-PL-090 and FGG-PL-100, received by email on 20 July 2010.

3 Technical references

This report is based on our interpretation of the following primary technical references:

- British Standards Institution (2005) BS 5837: *Trees in relation to construction – Recommendations*
- National Joint Utilities Group (2007) Volume 4, Issue 1: *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*

4 Limitations of this report

The following limitations apply to this report:

- **Statutory protection:** The existence of tree preservation order or conservation area protection does not automatically mean trees are worthy of being a material constraint in a planning context. Trees can be formally protected, but be in poor structural condition or in declining health, which means that they are unsuitable for retention or influencing the future use of the site. Furthermore, a planning consent automatically takes precedent over these forms of protection, which makes them of secondary importance. For these reasons, we do not check statutory protection as a matter of course in the process of preparing this report. However, if any tree works are proposed before a planning consent is given, then the existence of any statutory protection must be checked with the LPA.
- **Ecology and archaeology:** Although trees can be valuable ecological habitat and can grow in archeologically sensitive locations, we have no specialist expertise in these disciplines and this report does not consider those aspects.

Appendix 1: Relevant background and administrative information

5 Qualifications and experience

This report is based on my site observations and the provided information, interpreted in the context of my experience. I have experience and qualifications in arboriculture and enclose a summary in Appendix 3.