Arboricultural and Planning Impact Assessment Report: 19 Rona Road, London, NW3 2HY

Report Date: 20th May 2015

Ref: ASH/PW/0520:15

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Arboricultural Report

Location: 19 Rona Road, London, NW3 2HY
Ref: ASH/PW/5020:15
Client: Brandan Massam
Report Date: 20th May 2015
Date of Inspection: Tuesday 12th May 2015
Trial Pit Inspection: n/a
Prepared by: Philip Wood BSc(Hons)LAM.

Please note that abbreviations introduced in [Square brackets] *may be used throughout the report.*

Instructions

Issued by – Brandan Massam

TERMS OF REFERENCE – Ashmore Arboricultural Services Ltd. [AAS] were instructed to survey the subject trees within the garden area of the site and the adjoining gardens close to the proposed changes to the property, in order to assess their general condition and to provide a planning impact and integration statement for the extension set at basement, ground, first and second floor level, including re-configuration of the existing building. The new basement extension will open out onto a newly landscaped sunken terrace area, with enhanced planting, with the remaining rear garden being retained as the existing ground. The property is set within the Mansfield Conservation Area within the London Borough of Camden, North West London. The Local Authority give guidance related to development near trees and where there may be some tree related impact, the proposed development should be assessed by an arboricultural consultant to safeguard the long term health and well-being of the trees on the site or adjacent to the site for the future sustainability of the local area. Also where trees are affected or require removal by a proposed scheme the impact should be assessed in accordance with the current standard.

Executive Summary

The proposal for the site is to re-configure the existing property and create an extension set at basement, ground, first and second floor levels. The ground level will open onto a paved terrace area or elevated walk way over the basement terrace below, with the basement extension opening out onto a sunken terrace, with enhanced soft landscape planting to the retained garden. The retained section of garden at the rear will be retained at its current level and re-landscaped. The proposed scheme would require the removal of only one young tree, a Sycamore (T1) located within the rear garden, due to a slight incursion into the root protection area of the tree but primarily for the benefit of providing a better landscape proposal. Furthermore, this tree would require extensive cyclic crown reduction pruning or removal regardless of the development due to a very tight included trunk union, which would present a biomechanical weak point for the tree as it matures, rendering it of limited long term amenity value to the broader conservation area. It is recommended that the tree be removed and replaced with one or possibly two quality extra heavy standard nursery stock trees towards the rear boundary wall area of the back garden. There are no large trees located close to the proposed development in the gardens of the adjoining properties, there are only a number of small specimens which are shrub/trees and these would be retained, furthermore, the remaining shrub/trees on the adjacent site would be able to be retained and protected. The two other plants of notable size in the garden are two large poor condition Elderberries (T2 & T3), these are not considered to be trees and are specified as being shrubs which do not require a section 211 notification to the Local Planning Authority [LPA] for pruning or removal but have been included in the report for completeness. The remaining vegetation in the garden is dead and is completely engulfed in ivy.

Tree protection fencing is not considered essential to protect the roots if the shrub/trees in the garden of the property to the rear, as it is assumed that the roots will not have grown beyond the boundary wall's foundations. However, as no investigation has been carried out to assess the depth of the foundation of the boundary wall it is considered prudent, at this stage, to recommend the use of some tree protection fencing across the retained section of garden area to protect the Root Protection Areas [RPA's] of the trees on the adjoining site to the rear. Therefore, the trees identified for retention on and adjacent to the site would require protection in accordance with industry best practice and BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations, in order to ensure their longevity. As there is no significant incursions into the root protection areas of the retained trees in the neighbouring gardens they can be adequately protected and should be unaffected as long as the tree protection measures are followed, unless the proposed scheme changes and this would need to be re-assessed. Given that: the trees on the neighbouring land should be unaffected by the proposed scheme; there are no significant trees on site worthy of retention or the imposition of a Tree Preservation Order; the Sycamore (T1), which is proposed for removal to facilitate the development (which would require removal regardless of the development) is a young category C specimen of no substantial amenity value to the broader context of the conservation area, which can be more than adequately replaced by planting a semi-mature replacement specimen. There should be no tree related reasons for refusing the proposed scheme, subject to an appropriately worded condition being attached to any planning approval, the conditioning of the quality landscape scheme proposed and appropriate establishment maintenance schedule.

Documents Supplied

Peter Thomas & Robert Newman of 51% Studios supplied the following documents:

Supplied prior to site visit:

1.	Site Location Plan	Drawing No: 0001
2.	Existing Basement & Ground Floor Plan	Drawing No: 0002
3.	Existing First & Second Floor Plan	Drawing No: 0003
4.	Existing Third Floor & Roof Plan	Drawing No: 0004
5.	Existing Section AA	Drawing No: 0201
6.	Existing Section BB	Drawing No: 0202
7.	Existing Front Elevation	Drawing No: 0101
8.	Proposed Basement & Ground Floor Plan	Drawing No: 1001
9.	Proposed First & Second Floor Plan	Drawing No: 1002
10.	Proposed Third Floor & Roof Plan	Drawing No: 1003
11.	Proposed Section AA	Drawing No: 1201

1.0 Scope of Survey

1.1 The survey is concerned with the arboricultural aspects of the site only.

1.2 The planning status of the trees was not investigated in detail.

1.3 A qualified and trained Horticulturalist and Arboriculturist undertook the report and site visit and the contents of this report are based on this. Whilst reference may be made to built structures or soils, these are only opinions and confirmation should be obtained from a qualified expert as required.

1.4 Trees in third party properties were surveyed from within the subject property, therefore a detailed assessment was not possible and some (if not all) measurements were estimated.

1.5 Discussions took place between the surveyor and the architect, briefly, regarding the proposal.

1.6 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breleor (The body language of tree, DoE booklet Research for Amenity Trees No. 4, 1994)

1.7 The survey was undertaken in accord with British Standard 5837: 2012 Trees in relation to design, demolition and construction – recommendations

1.8 Pruning works will be required to be in accord with British Standard 3998:2010 (Tree work – Recommendations).

1.9 Underground statutory services near to trees will need to be installed in accord with the guidance given in BS5837 together with the National Joint Utilities Group Booklet 4: 2007 Guidelines for the planning, installation and maintenance of utility services in proximity to trees (NJUG4). Smaller subsidiary services shall be routed outside of retained tree(s) root protection area(s), where they are necessary within RPA's they will be subject of a detailed method statement for installation to be submitted to and approved by the Local Planning Authority (LPA) and on-site supervision.

1.10 Where hard surfacing may be required in close proximity to trees, BS5837: 2012, and the principles of Arboricultural Practice Note 12: Through the Trees to Development (AAIS) 2007 (APN12) with regards to "no dig" surfacing will be employed.

1.11 Reference is made to the National House Building Council Standards, 2003, chapter 4.2: Building near trees (NHBC).

1.12 The client's attention is drawn to the responsibilities under the Wildlife and Countryside Act (1981).

2.0 Survey Method

2.1 The survey was conducted from ground level with the aid of binoculars, where required.

2.2 No tissue samples were taken nor was any internal investigation of the subject trees undertaken.

2.3 No soil samples were taken.

2.4 The height of each subject tree was estimated using a clinometer.

2.5 The stem diameters were measured in line with the requirements set out in BS5837:2012 - Trees in relation to design, demolition and construction recommendations.

2.6 The crown spreads were measured with an electronic distometer and/or steel hand held tape measure. Where the crown radius was notably different in any direction this has been noted on the Tree Survey Plan (appendix A), or in the tree table (Appendix B).

2.7 The Root Protection Area [RPA] for each tree is included in the tree table, both as a radius of a circle, and as an area. The Theoretical Radial Root Protection Area is illustrated in **Pink** & The Site Specific Assessed Theoretical Root Protection Area is illustrated in **Orange (where appropriate)**.

2.8 All of the trees that were inspected during the site visit are detailed on the Tree Survey plan at Appendix A. Please note that the attached plans are for indicative purposes only, and that the trees are plotted at approximate positions based on the plan provided by the surveyor. The trees on this plan are categorised and shown in the following format: COLOUR CODING AND RATING OF TREES:
Category A – Trees of high quality with an estimated life expectancy of at least 40yrs. Colour = light **green** trunk or crown outline on plan.

Category B – Trees of moderate quality with an estimated life expectancy of at least 20yrs. Colour = mid **blue** trunk or crown outline on plan.

Category C – Trees of low quality with an estimated life expectancy of at least 10yrs. Colour = uncoloured **grey** trunk or crown outline on plan.

Category U – Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10years. Colour = **red** trunk or crown outline on plan.

The crowns and RPA's of those trees that are proposed for removal, or trees where the crown spread is deemed insignificant in relation to the proposed development are not always shown on the appended plan; however their stem locations are marked for reference.

All references to tree rating are made in accordance with British Standard 5837:2012 Tree in relation to design, demolition and construction – Recommendations Table 1.

3.0 The Site

3.1 The subject property is located on the western side of Rona Road in the London Borough of Camden, North West London. However, the primary trees of interest are located within the rear garden of the property with two small shrub/trees located in garden of the property adjacent at the rear. The young specimen in the rear garden is not visible from a public place nor is it visible beyond a few of the adjoining gardens screened by other larger trees in the distance. The property is known to be within the Mansfield Conservation Area.

3.2 The front garden is a small almost fully paved area bounded by a small front wall with the remnants of a number of large ivy climbers which had previously covered the garden and building. The rear garden is extensively soft landscaped with a small terrace area adjoining the house with the former

grass area now infested with ivy. There is currently insufficient hard surfacing at present for the garden to be used for any significant entertaining or socialising, particularly during periods of inclement weather. There is only one large impact landscape tree on site and it is a small young specimen with a significant structural biomechanical weak point.

3.3 Despite the very built up central London location the garden has a generally green feel provided by the trees in the gardens to the rear and beyond. The small specimen present has little or limited amenity value outside of the site or to the broader conservation area and due to the included union of the main fork it will be unable to attain significant dimensions greater than its current size. Due to the built up nature of the area it is recognised that trees are a valuable resource in the cityscape creating a much needed green lung for the area and some privacy screening. However, the tree on site proposed for removal is inconsequential, with a defect which limits the trees ability to form a large full size specimen and its loss would be negligible. Given the remaining open ground to be retained as part of the proposed quality landscape scheme, it would be possible to plant one or two replacement trees capable of enhancing the longer term amenity of the conservation area beyond that of the existing tree and provide greater replacement canopy cover in the long term, to compensate for the loss of the specimen proposed for removal.

4.0 The Subject Trees

4.1 The details of the subject trees are set out in the Schedule at Appendix B.

4.2 The quality of the tree stock is poor due to the included union of the main fork of the tree. Though the tree is tall it has very little canopy having been forced with a slender habit due to light competition with the large elderberries (T2 & T3) which are not technically trees. The broader amenity value of the young tree is limited due to its comparatively insignificant canopy size. The Pittosporum shrub/trees in the garden to the rear have grown with noticeable leans and are likely to be unable to grow much larger than their current dimensions without becoming unstable. The trees/shrubs are all either young/small specimens of poor form and health rendering the trees unworthy of the imposition of a Tree Preservation Order, or large shrubs not covered by planning restriction which means that only the 3rd party vegetation would need retention and protection during the development process.

4.3 Of the five trees/shrubs inspected on or close to the site, only one tree of significance is growing in the rear garden and the remaining four trees/shrubs are located in the rear garden of the property and that of the garden to the rear. Of the five trees/shrubs surveyed during the site inspection; only the Sycamore tree (T1) is has been assessed as BS5837 category C; the remaining four trees/shrubs have been assessed as BS5837 category U, but these are not technically considered trees for the purpose of this report.

5.0 The Proposal

5.1 The proposal for the site is for an extension set at basement, ground, first and second floor levels with re-landscaping enhancement work to the front and rear gardens. The first part of the rear garden is to be reduced to the basement level with the remaining part of the garden to be retained at its current level. The property will have a terrace/elevated walkway constructed to link the soft landscaped garden with the extended building.

5.2 There will also be a quality landscape scheme to enable the client to be able to move around the garden while still aiming to keep a soft natural feel to the remaining garden, similar to that already seen at the property, with one or possibly two replacement extra heavy nursery stock trees to compensate the loss of the existing crowns.

5.3 The proposed footprint of the above structures can be seen on the plans submitted as part of the main planning application.

6.0 Arboricultural Implication Assessment

TREE REMOVAL / RETENTION:

6.1 The proposed development layout will require the removal of just one young Category C specimen, Sycamore (T1). There are also two other plants shown on the plans Elderberries (T2 & T3) but these are large shrubs, not trees and therefore do not require to be fully assessed. For the young category C tree it is considered to be more beneficial to remove and replace the specimen with an extra heavy nursery stock tree or tree(s), which can be more appropriately located. Given the extent of the proposed work to the property it would be possible to plant a replacement tree(s) further back towards the rear boundary which would help to provide a more robust screening solution with better shape and form in the longer term. The Sycamore (T1) has a weak included union which is a biomechanical weak point that renders the tree unlikely to form a significant branch structure and crown without the potential of structure failure or requires the tree to be managed at a reduced size resulting in the tree being inconsequential to the broader amenity of the conservation area and its removal and replacement will have no notable impact within the broader landscape of the conservation area. There are also two Category U Pittosporum tree/shrubs (T4 & T5) growing in the rear garden of property adjacent to the site at the rear, these are growing close to the boundary walls and have already acquired moderate leans to their trunks, due to the presence of the boundary walls and the changes in levels between the site, the trees can be retained and protected. The Sycamore tree (T1) is not considered to be worthy of the imposition of a TPO and the other tree/shrub vegetation are not compliant for the imposition of a TPO. Therefore, the broader arboricultural landscape character of the site and its adjoining neighbours will be retained and in the longer term enhanced.

6.2 In relation to Large Impact Landscape Trees [LILT], in or close to the site, there is only one tree of note, which is in the rear garden. As noted above this tree is only a young specimen, which has grown with a tall slender habit due to the vegetation competition at shrub level. The specimen has a weak included union of the main fork and significantly limits the trees long term amenity. This tree is very young and can be compensated for with appropriate replacement planting. Therefore, the broader arboricultural landscape character of the site and its adjoining neighbours will be retained and in the longer term enhanced.

6.3 The tree/shrubs (T4 & T5) are not affected by the proposed work and should not be affected by the new development activity subject to appropriate tree protection measures. The Elderberries shown on the plan are not actually considered to be trees and can be removed without notification to the LPA as they are not of any material significance. The Sycamore (T1) is a young slender category C tree which can be compensated for, by planting one or possibly two extra heavy standard nursery stock replacement trees as part of the proposed landscape scheme. The loss of this specimen is not of significance to the scheme, or to the broader amenity and the tree is not worthy of the imposition of a TPO and thus should not be a material reason to refuse the scheme, subject to its conditioned replacement.

6.4 The Plan Dwg No: TSP1/ASH/PEW/REV1 in Appendix A and the schedule in Appendix B identify the tree removal recommendations, these works are not considered to be excessively detrimental, controversial or a reason to refuse the scheme.

TREE PRUNING TO ACCOMODATE THE PROPOSAL OR ACCESS TO THE SITE

6.5 No pruning works are required to implement this proposed scheme.

6.6 The tree schedule in Appendix B identifies the pruning recommendations. As there is no pruning recommended, these works are not considered to be detrimental or controversial.

ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

6.7 Section 4.6.3 of BS 5837: 2012 states that the Root Protection Area [RPA] of each tree should be assessed by an Arboriculturalist considering the likely morphology and disposition of the roots, when known to be influenced by past or existing site conditions.

6.8 Further to an assessment that has been made there is only one tree (the Sycamore T1) which has significant new structures within the theoretical RPA's of tree, however this tree is being removed. On the adjacent garden at the

rear of the site, trees (T4 & T5), are at sufficient distance from the proposed basement and sunken terrace to be unaffected by the scheme. Only the proposed landscaping of the rear element of the garden would be just within the theoretical radial root protection area, however it is considered unlikely that their roots will have managed to breach under the foundation of the boundary wall. It is intended that the excavation required for the basement will be vertically cut, meaning there will be no need to batter back for the excavation, with the foundation formed in situ. The distance from the proposed basement, extension and landscaping work (given the deflection of roots by underground obstructions) are sufficient enough that they will not have a dramatically detrimental effect on the retained Pittosporums (T4 & T5) in the adjoining garden. Appendix A identifies the location of the extension, basement and lowering of the rear garden terrace area. It also shows the Theoretical Radial RPA's (in **Pink**) of all of the retained trees that are relatively unaffected; therefore it should be possible to avoid all but the most minor encroachment into the theoretical radial RPA's of all of the retained trees.

6.9 Some of the trees on the adjoining sites have developed with a number of restrictions and constraints to their root zones, including boundary walls these would all have an influence. It could be possible to adjust the RPA of the tree/shrubs Pittosporums (T4 & T5) quite significantly, as it is assumed that the roots have been deflected by the presence of the foundations of the boundary wall. Given the immature nature of this vegetation it is not considered necessary, at this point in time to carry out any further investigations to prove this, but it is considered appropriate that the site specific theoretical root protection area can be adopted. It is concluded that there is likely to be little or no incursion into the reduced site specific adapted RPA.

6.10 Having undertaken an assessment with careful use of ground protection and tree protection on site there should be no material reason to use negative tree impact issue as a significant or material reason for refusal of the proposed application. No further excavations for this scheme are proposed within the RPA's notional or adjusted, beyond that proposed above.

6.11 The RPA's of trees T4 & T5 have been considered in relation to a more site specific assessment of their morphology and distribution for the main development works, this also concludes that there would be no incursion into their RPA's. These have not been illustrated on the plan as it is almost possible to achieve the basic radial RPA's on site at this point in time. The only incursion could be for landscape works, underpinning the boundary wall, which are believed to be at a level that would be below the root activity of the tree in the garden to the rear of the site, but the impact of this should be negligible if carried out sensitively and carefully in accordance with an appropriately detailed method statement.

6.12 The theoretical radial RPA's of the trees are shown in **Pink** have been illustrated on the Tree Survey & Theoretical Tree Root Protection Plan (Dwg No: TSP1/ASH/PEW/REV1) in Appendix A. The site specific adapted root protection area has been shown on the plan in Appendix A in **Orange** (where applicable) to demonstrate the area that will become the Root Protection Zone (RPZ) subject to planning approval, this identifies that the excavations and development work are to be carried out outside this adapted reduced site specific RPA.

6.13 It can be seen from the plans in Appendix A that some tree root ground protection measures could be used for the landscaping if discussed and detailed to the LPA, for their prior approval. If implemented with appropriate care, this should not be sufficiently detrimental (based on the theoretical assessment made) to withhold planning approval.

ASSESSMENT OF NEW HARD LANDSCAPING AND SURFACE WATER DRAINAGE ON ROOT PROTECTION.

6.14 Overall the rear garden is soft landscaped and will remain with a large section set aside for soft landscaping when re-developed. No landscape scheme has been presented to date, but there is opportunity to plant one or possibly two extra heavy standard nursery stock trees to mitigate the loss of the canopy cover of the removal of the young Sycamore (T1) and its associated amenity value. With the benefit of a newly prepared planting pit this will provide for a greater growing media to produce tree(s) of longer term benefit than that of the existing Sycamore (T1), which is considered to be limited and impaired. A new landscape scheme, when viewed from outside the site, will over time have the ability to both enhance the canopy cover and the verdant feel of this garden, especially given the retention and protection of the trees in the neighbouring garden as a back drop of foliage. The proposed landscaping and tree planting will provide a more sustainable long term amenity boost to the conservation area which is to be implemented outside the RPA's of the retained trees, therefore will not have any foreseeable impact on them. However, if this is altered any hard surfacing introduced this will need to be permeable and appropriately designed so that no surface excavation will be carried for the sub-base within the Radial RPA's. But, should there be any reason to disturb, excavate, remove or alter the soil level further than that agreed or to alter the proposed hard landscaped area within the RPA's beyond that approved as part of the planning permission. AAS's Arboricultural Consultant must be contacted prior to any works being planned or implemented. All surface water drainage will be position outside the Radial RPA's.

7.0 Post Development Pressure

FUTURE TREE AND STRUCTURE RELATIONSHIPS

7.1 The Pittosporums (T4 & T5) proposed for retention in the neighbouring garden will be unaffected by the development proposal and the trees/shrubs have been pruned in the past to address (it is assumed) the lean that both trees have developed due to the competition for light and the limited soil rooting media issues caused by the proximity of the boundary walls. All the retained trees/shrubs can continue with their current pruning and surgery regime. where required, as detailed in the schedule in Appendix B. Once the Sycamore (T1) has been removed and replaced, the new proposed tree(s) would add a longer term second generation of canopy cover providing an enhanced, sustainable visual and environmental benefit to the scheme. Therefore, subject to appropriate formative crown management (where being carried out or recommended) combined with formative establishment pruning of the proposed new tree(s) will be at a satisfactory distance from the proposed extension, that they are highly unlikely to give rise to any inconvenience.

7.2 The proposed alterations to the property and the removal of the Sycamore (T1), Elderberries (T2 & T3) and replacement with the tree(s) proposed will improve the current building to tree crown relationship. The Pittosporums (T4 & T5) have received crown reduction pruning in the past and any future pruning on the retained vegetation would only be as significant as those previously carried out and not objected to by the LPA. Therefore, any proposed pruning work of the retained trees/shrubs, would not have a significant impact on the health or amenity of these trees beyond that previously not objected to by the LPA.

7.3 The BS3998: 2010 – Recommendations for Tree Work discusses and endorses various methods of pruning can alleviate the minor inconveniences trees can cause, whilst retaining them in a healthy condition. Methods such as crown reductions (section 13.4) partial or whole, crown lifting (section 13.5) and crown thinning (section 13.6) can be used to both increase light to properties, as well as improve clearances from buildings. Trees in towns and cities are often sited in close proximity to buildings; however resident's concerns can be readily appeased with the implementation of regular, well-planned, sensitive pruning.

7.4 Regular inspections of the retained tree(s) by a suitably trained or experienced Arboriculturalist should be carried out. Subsequent remedial works will ensure that trees are maintained in a suitable manner to exist in harmony with the new structures and its occupants for many years to come.

REMEDIATION / REPLACEMENT PLANTING AND SOFT / HARD LANDSCAPING

7.5 As guidance, any new trees that are planted should be selected to ensure they do not become a nuisance and that the level of routine maintenance is low. The tree(s) to be proposed should provide a combination of both visual amenity, screening and sustainable environmental benefits. Also Providing an enhanced, more robust, species diversity, which will be more adapt to providing great volumetric crown cover to the site and conservation area in the longer term.

7.6 The soil type may require the guidance of NHBC as far the building foundations are concerned. Clearly the planting schedule must be available to assist with foundation design, but any potential for subsidence damage in the future will be designed out.

7.7 The specification for the planting of the proposed tree(s) should provide extensive planting pits and soil improvement within the landscape scheme to aid the long term establishment of the tree(s), to ensure the viability of the quality landscape scheme, aiming to provide an enhanced crown canopy cover on the site. It will then be capable of growing to provide a much needed longer term net gain to the broader amenity of the conservation area as they establish and flourish in the domestic family garden setting.

7.8 All new pathways and hard landscaping areas within the Root Protection Areas (RPA's) of the retained trees should be designed using no-dig, up and over construction and in close co-ordination with the retained Arboriculturalist using porous materials (where appropriate or practical as indicated in the landscape plan). Where hard surfaces or foundations are to be emplaced or removed within the RPA's; site specific method statement(s) should be produced with direct input from the retained Arboriculturalist and appropriately monitored with onsite supervision of the Arboriculturalist for tree/tree root sensitive stages.

8.0 Tree Protection Measures and Preliminary Method Statement for Development Works

8.1 TREE PRUNING / REMOVAL

A list of all tree works that are required is included in the tree table at Appendix B. Pruning / removal has only been specified for the following reasons:

- Where work is necessary to implement the proposed scheme.
- Where works are required for safety reasons.
- Where work is needed to mitigate a legal responsibility or duty.
- Where work is required to improve tree form, enhance the appearance of overgrown areas of the site, or improve the longer term health and management of the tree in its current surroundings.
- Where the client is considering making alternative improvements to the garden and are looking to open up new opportunities for alternative tree planting.
- Where the trees are not required by the client and they are not considered worthy of the imposition of a Tree Preservation Order.

Where any tree work is needed, this work will be in accordance with British Standard 3998: 2010 (Tree Work – Recommendations).

8.2 TREE PROTECTION BARRIERS

8.2.1 Given that none of the proposed work for the rear basement, extensions of the property or the sunken terrace are within the theoretical RPA's of the retained trees (T4 & T5) and the changes within the rear area are also predominantly outside the theoretical radial RPA's, the trees can be adequately protected using tree protection barriers/fencing. Therefore, Tree protection can be provided for both the theoretical radial root protection area and site specific adapted during the demolition, excavation and construction phases of the development and access will only be required during the final hard and soft landscaping of the site.

8.2.2 It is essential for the future health of the trees to be retained on or adjoining the site, that <u>all</u> development activity is undertaken outside root protection zone or the adjusted root protection zone of these trees, whenever this is practical. The fencing will be erected **prior** to any commencement of works on site and where soft stripping of the building is required in the close proximity of trees and removed only when all development activity is complete or unless agreed as part of a conditioned Arboricultural Method statement for the landscaping works. The protective fencing will be as that shown in BS5837 (See Appendix C).

The fence must be marked with a clear sign reading (or similar):

"TREE PROTECTION FENCING
Construction Exclusion Zone – No Access, Do Not Move".

8.3 GROUND PROTECTION / SCAFFOLDING WITHIN THE RPA

8.3.1 Given that none of the works requiring scaffolding for the proposed rear extension and basement of the property are within the theoretical RPA's of the retained trees (T4 & T5). These trees should not be affected by this part of the proposed development work and will not require protection from scaffolding. Some ground protection may be required during the landscaping work during periods of inclement weather or while moving large mature trees or shrubs around on site. At which point ground protection must be put in place for a temporary period to avoid compaction of the soil within the root protection areas of the Pittosporums (T4 & T5) or open ground soil areas which are intended for planting.

8.3.2 On a small site such as this, ground protection measures are considered to be acceptable and the use of them within the RPA for light weight construction activities and landscaping. If appropriately supervised and monitored this is not felt to be a reason to withhold planning consent.

8.3.3 Where protection has been put in place within RPA's of retained trees on or adjoining the site (including retained hard surfaces as ground protection). This ground protection/tree protection must still be treated as sensitive site zones. There can only be storage of clean lightweight materials, non-corrosive or hazardous liquids must still be kept away from the area(s) this includes corrosive powdered products, such as, cement, lime and plaster. Storage of cement, hydro-lime, plaster or similar powdered products is **not** acceptable. Mixing of these materials is also unacceptable within the RPA's of retained trees. But, should there be any reason to disturb, excavate, remove or alter the ground protection or retained hard surfacing other than that agreed, or to alter the proposed hard landscaped area within the RPA's beyond that approved as part of the planning permission AAS's Arboricultural Consultant must be contacted prior to any works being planned or implemented.

8.4 DELIVERY AND STORAGE OF BUILDING MATERIALS

Due to the limited on-site storage space, it may be necessary for bulk deliveries to be split into smaller deliveries. The use of a "just in time" delivery method can also be adopted to reduce the time materials are stored on site before use.

8.5 SITE HUTS, WELFARE FACILITIES AND STORAGE OF EQUIPMENT, MATERIALS AND CHEMICALS

All site huts will be positioned outside of the retained trees RPA's unless agreed with the LPA's arboricultural officer. It may be necessary to create a temporary raised storage platform within the RPA of retained trees, if this is the case the detailed specification will be discussed and approved by AAS prior to implementation or installation, including ordering of materials for its construction.

8.6 MIXING OF CONCRETE

All mixing of cement / concrete must be undertaken outside of the RPA of all of the retained trees. This includes the washing out of cement mixers and rendering tubs etc.

8.7 USE CRANES, RIGS AND BOOMS

Precautionary measures must be observed to avoid contact of any retained trees when manoeuvring cranes rigs or booms into position.

8.8 INCOMING SERVICES AND SOAKAWAYS

The existing drainage system and location for any proposed services is unknown at the time of preparing the report. Any new underground statutory services near to trees will however need to be installed in accord with the guidance given in BS5837 together with the National Joint Utilities Group Booklet 4: 2007 Guidelines for the planning, installation and maintenance of utility services in proximity to trees (NJUG4). Where works are proposed to, or for the creation of underground services all it must be fully demonstrated that all measures have been explored to install services outside of the RPA's of retained trees, only then can services be replaced or installed within the RPA of retained and protected trees on or adjacent to the site. When within the RPA of any retained tree, any new service trenches should be excavated using an airspade/airlance or pneumatic/hydraulic/percussion mole to avoid any damage to roots. Care must then be taken to ensure the new services are installed so as to avoid any roots present. Any proposal will be agreed with AAS prior to submission to the LPA Arboricultural Officer and where required by the LPA Arboricultural Officer any excavations or soil disturbance within the RPA's of retained trees will require appropriate supervision as detailed by the LPA's Arboricultural Officer.

8.9 ON SITE SUPERVISION

If required by the LPA's Arboricultural Officer, a detailed supervision programme could be devised by the developer/contractor/architect and retained Arboriculturalist AAS, ensuring that Arboricultural supervision is present at the appropriate periods during construction. It would therefore be deemed necessary for the retained Arboriculturalist to visit the site at the following critical points:

After commissioning or engagement of tree contractor/surgeon to agree the exact extent of the tree pruning specification and removal recommendation to make sure the correct trees are to be pruned and/or removed. **Date and time to be agreed, however once confirmed, these dates would be sent to the LPA's Arboricultural Officer.**

Erection of protective fencing to ensure it is constructed to the correct specification at the required proximity to ensure the healthy retention of the trees. **Date and time to be agreed, however once confirmed, these dates would be sent to the LPA's Arboricultural Officer.**

Installation of the tree root ground protection to ensure it is constructed to the correct specification at the required proximity (if applicable). **Date and time to be agreed, however once confirmed, these dates would be sent to the LPA's Arboricultural Officer.**

In addition to the above, an agreed number of random inspections or visits arrange at a set frequency (e.g. weekly, fortnightly, monthly) of the site may also be undertaken during construction to ensure the Arboricultural responsibilities are being fulfilled by the developer. A written site note assessment of each visit would be sent the Local Planning Authority and copied to the developer at the expense of the applicant/developer/contractor. Any issues relating to tree protection would subsequently be addressed immediately.

If required by the LPA's Arboricultural Officer and once a commencement date has been confirmed for works on site, a representative from the applicant will contact the relevant officer from the local planning authority to arrange a pre-start site meeting. During this meeting, future requirements for site supervision will be agreed.

8.10 OTHER TREE PROTECTION PRECAUTIONS

- No fires will be lit on site within 20 metres of any tree to be retained.
- No fuels, oils or substances damaging to the tree(s) shall be spilled, poured on site without the appropriate safety bunding or site specific environmental safety safeguard measures, but never within retained tree RPA's
- No storage of any materials within the root protections zone.

8.11 HARD / SOFT LANDSCAPING NEAR RETAINED TREES

All new pathways and hard landscaping areas within the Root Protection Areas (RPA's) of the retained trees should be designed using no-dig, up and over construction techniques, and be specified in close co-ordination with the retained Arboriculturalist. Porous materials should also be used when surfacing near the trees but the careful attention must be given to the pH of the material and guidance should be obtained from the retained Arboriculturalist prior to specification preparation and/or installation. No machinery will be used for this work, which must all be carried out by hand.

8.12 LEVEL CHANGES

No level changes should occur within the root protection area of any of the retained trees, beyond those proposed for the basement extension and sunken terrace and assessed as part of this report. To date no detail plans or cross-sections have been provided, but if there were any to be agreed in the RPA's of the trees, these would be carried out under strict arboricultural supervision.

8.13 DISMANTLING PROTECTIVE BARRIERS

Protective barriers must only be completely removed when all machinery, and equipment has left site. A minimum of seven days notice should be given to the local planning authority prior to dismantling works begin.

9.0 Conclusion

9.1 The loss of one young Sycamore (T1) will have little broader amenity impact to the local area. The Sycamore (T1) is a category C with significant inclusion of the main trunk union, which will limit its future growth potential, thus the tree can be adequately replaced with the an appropriate sized extra heavy standard nursery stock tree or trees for the longer term sustainable environmental amenity benefit of the conservation area. The Sycamore (T1) is a selfset specimen which has become tall and slender due to competition with other vegetation within the garden, but it is inconsequential within the broader context of the conservation area. This tree is not concluded to be worthy of the imposition of a Tree Preservation Order and is not of sufficient merit to warrant refusal of the scheme on detrimental tree impact grounds.

9.2 It is concluded that possible tree options should include: Midland Hawthorn (*Crataegus laevigata*); Manna Ash (*Fraxinus ornus*); Hop Hornbeam (*Ostrya japonica*); Mongolian Lime (*Tilia mongolica*) or similar.

9.3 The construction of the extensions, basement and sunken terrace area are all outside the retained trees RPA's on and adjacent to the site and subject to appropriate tree protection, should not be considered as a material reason to refuse planning consent for the proposed scheme, subject to appropriate conditions being attached to any approval.

9.4 The work within the rear garden (subject to the correct use of appropriate material, construction method and overall permeability) for the purposes of landscaping is negligible and should not have a foreseeable impact on the retained trees/shrubs on the adjoin property. Therefore, there is no sufficient impact on the retained trees/shrubs adjacent to the site to warrant refusal of the scheme on detrimental tree impact grounds.

9.5 Subject to precautionary measures as detailed above including tree protection fencing and root ground protection (where required), the proposal will not be excessively injurious to trees/shrubs to be retained on the adjoining property.

9.6 There will be no appreciable post development pressure, and certainly none that would oblige the council to give consent to inappropriate tree works.

9.7 Use of existing hard surfacing as ground protection measures is a reasonable way of maintaining root protection for the retained trees (where applicable) while maximising the available working room on site; subject to the approval of this report by the LPA.

9.8 Site supervision is outlined in this report and if the LPA approve the scheme subject to an Arboricultural Method Statement requiring site supervision. More details could be provided as part of a release of condition, detailing timing and scheduling, which can be guided by the LPA arboricultural officer's specific requirements.

10.0 Recommendations

10.1 The Planning approval should not be withheld and site works should progress as follows to ensure the healthy retention of the trees.

a. Tree works, in accordance with BS3998
b. Installation of all tree protection measures.
c. Construction.
d. Hard & Soft landscaping.

10.2 Site supervision – An individual e.g. the Site Agent or AAS's retained Arboricultural Consultant (if directed by the LPA within their detailed planning condition requiring arboricultural supervision), must be nominated to be responsible for all arboricultural matters on site. This person must:

a. Be present on the site throughout the project or at agreed times in any conditioned Arboricultural Method Statement.
b. Be aware of the arboricultural responsibilities.
c. Have the authority to stop any work that is, or has the potential to cause harm to any tree.
d. Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site and the consequences of the failure to observe those responsibilities.
e. Make immediate contact with the local authority and / or retained Arboriculturalist in the event of any related tree problems occurring whether actual or potential.

10.3 It is recommended, that to ensure a commitment from all parties to the healthy retention of the trees/shrubs, that details are passed by the architect or agent to any contractors and sub-contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.

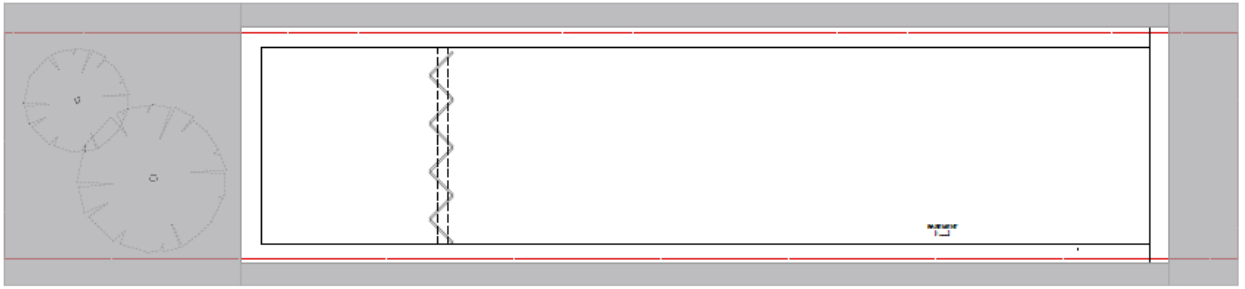
Report Date: 20th May 2015

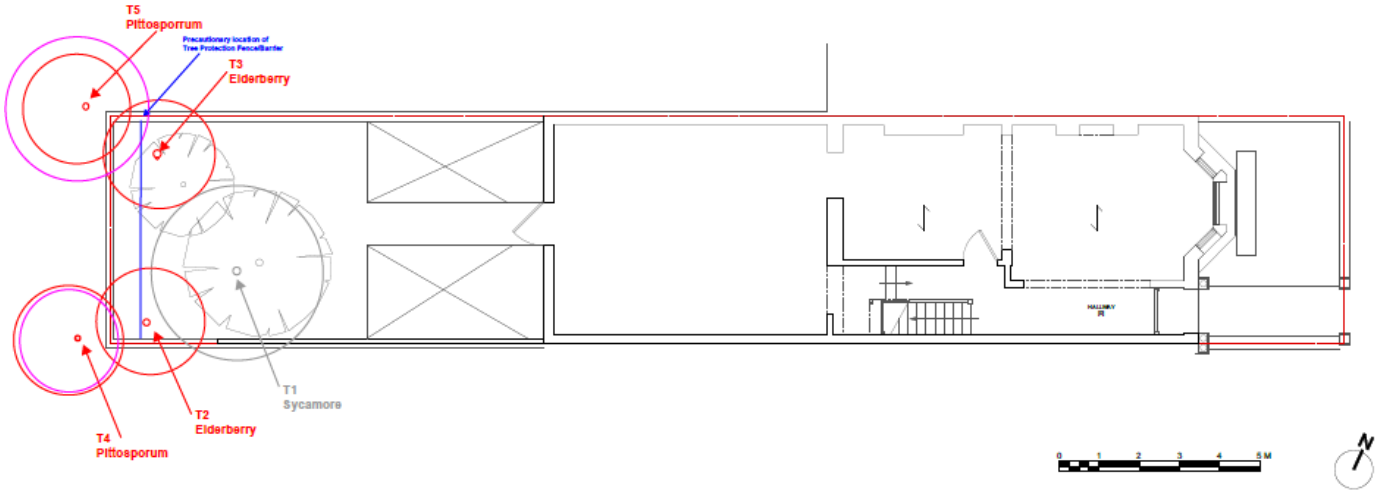
Mr Philip E Wood *BSc(Hons) LAM*
Principal Consultant
For and on behalf of
Ashmore Arboricultural Services Limited

Appendix A

Tree Survey with Theoretical Radial Root Protection Area Plan & Tree Protection Location Plan

Theoretical Radial Root Protection Areas Showing RPA of Retained Trees Only





NOTES:

T7 Tree Number

Tree Canopy Category C Tree

Tree Canopy Category U Tree

Radial Theoretical Root Protection Area

Location of Precautionary Tree Root Protection Barrier to Protect Root Protection Zone once Scheme is Approved

51%

19 Rona Road

Brandon Mascom
Flat 3, 1 Nethanal Gardens,
London, NW3 5RN

Pre-Planning

Proposed Basement and Ground Floor Plan

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1:50 @ A1

April 2015

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Appendix B

Tree No.	Tree species	Height (m)	Multi-stem? (Enter MS)	Trunk / stem count dia. (mm)	Radius of RPA if circle (m)	RPA -Root Protection Area sq.m.	Branch spread				Height of first significant branch (m)	Height of Crown Clearance (m)	Age class	Comments / Recommendations	Estimated remaining contribution	Assessed BS 5837: 2012 Value category
							N	E	S	W						
T1	Sycamore	8		190	2.28	15.80	2.5				3.0	3.0	Y	Tall slender young specimen with included union at main fork 1.8m AGL, biomechanical weak point. Overextended drawn slender tree of limited amenity and future growth potential. Ivy cover in upper crown. Weak slender specimen due to competition from other vegetation. Recommendations: Fell to ground level to facilitate development.	10-20	C1
T2	Elderberry (shrub)	4		190	2.28	15.80	1.5				n/a	0.5	O/M	Over mature poor quality large shrub which has formed as a small tree due to competition with other low level vegetation in the past. Does not require a section 211 notice as it is not technically a tree. Recommendations: Fell to ground level and grind stump to facilitate landscape scheme.	<10	U

Tree No.	Tree species	Height (m)	Multi-stem? (Enter MS)	Trunk / stem count dia. (mm)	Radius of RPA if circle (m)	RPA -Root Protection Area sq.m.	Branch spread				Height of first significant branch (m)	Height of Crown Clearance (m)	Age class	Comments/ Recommendations	Estimated remaining contribution	Assessed BS 5837: 2012 Value category
							N	E	S	W						
T3	Elderberry (Shrub)	4.0	MS	2 210 90	2.74	23.57	1.5				n/a	1.5	O/M	Over mature poor quality large shrub which has formed as a small tree due to competition with other low level vegetation in the past. Does not require a section 211 notice as it is not technically a tree. Recommendations: Fell to ground level and grind stump to facilitate landscape scheme.	<10	U
T4	Pittosporum (NT)	5.0		120	1.44	6.53	1.5				n/a	1.0	S/M	Poor quality large shrub which has formed as a small tree due to competition with other low level vegetation in the past. Specimen has lean away from the development site, resting on the neighbours wall. Crown is showing signs of thinning and stress. Recommendations: Neighbours should consider reducing the crown by 30%.	<10	U

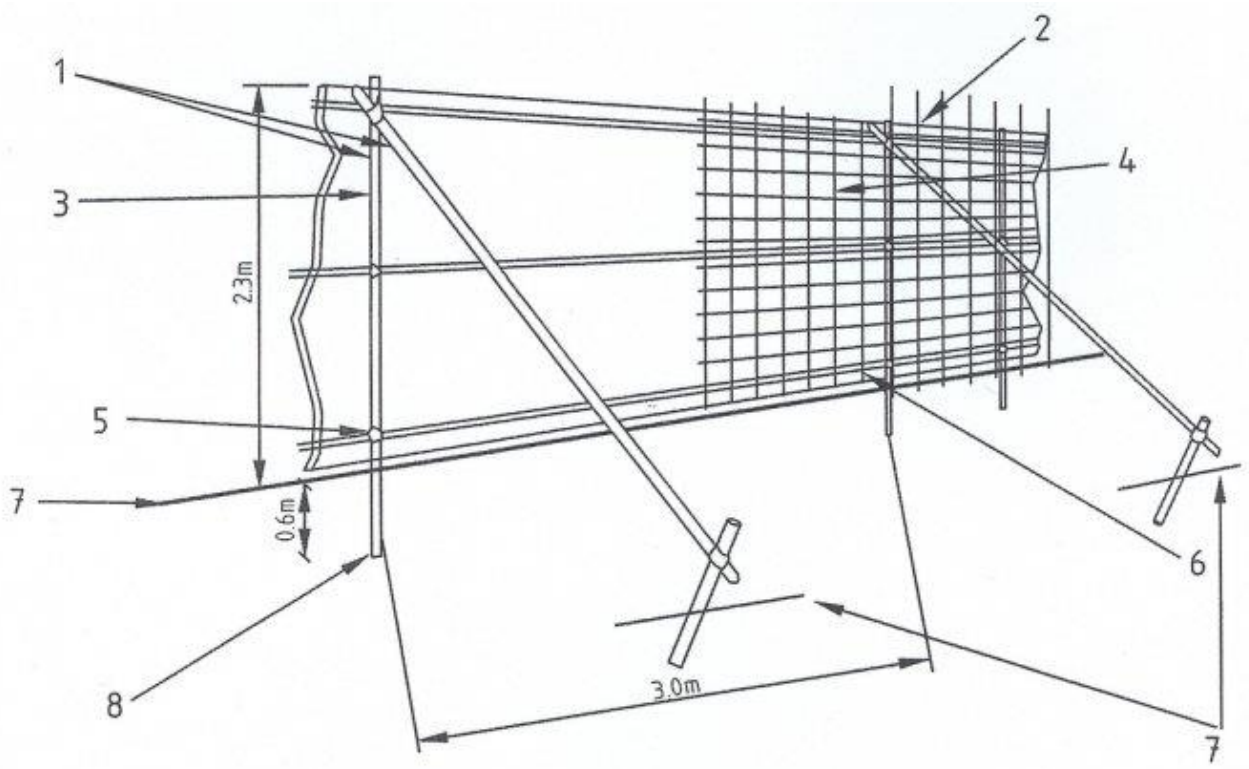
Tree No.	Tree species	Height (m)	Multi-stem? (Enter MS)	Trunk / stem count dia. (mm)	Radius of RPA if circle (m)	RPA -Root Protection Area sq.m.	Branch spread				Height of first significant branch (m)	Height of Crown Clearance (m)	Age class	Comments/ Recommendations	Estimated remaining contribution	Assessed BS 5837: 2012 Value category
							N	E	S	W						
T5	Pittosporum (NT)	6.0	MS	2 150 70	1.99	12.47	1.5				n/a	1.0	S/M	Poor quality large shrub which has formed as a small tree due to competition with other low level vegetation in the past. Specimen has lean away from the development site. Crown is showing signs of thinning and stress. Recommendations: Neighbours should consider reducing the crown by 30%.	<10	U

KEY:
Tree No: Tree number (T= individual tree, G= group of trees, W= woodland)
Crown = the leaf bearing part of the tree; TFD= To Facilitate Development Proposal (subject to confirming ownership)
Tree Species: Sp.= sub species or cultivar of main species; NT = Neighbours Tree (Tree on adjoining land)
GL = Ground Level; AGL = Above Ground Level; DWS = Deadwood and Stubs; NWR = No Work Required
Diameter: MS = Multi-stemmed; N/S = Not Surveyed (unable to inspect/restricted visibility or access)
Age class: Young (Y), Young Mature (Y/M), Semi Mature (S/M), Mature (M), Over mature (O/M), Veteran (V)
Height (Ht): Measured in metres +/- 1m

Appendix C

BS 5837: 2012

Tree Protection Barrier/Fencing



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Figure 2. – Protective fencing for RPA

End of Report