Merewood
Arboricultural Consultancy Services

Arboricultural Implications Assessment for a proposed development at Mount Tyndal The Cottage Spaniards Road London NW3 7JH

Client: HP Architects
4 Wiggenhall Road
Watford
Herts
WD18 0AL

Prepared by
Simon Hawkins Dip Arb L6 (ABC) N.D Arbor M. Arbor. A.

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Merewood.
Gregory Road, Hedgerley, Bucks. SL2 3XW
M. 07784 915944 T. 01753 647236
E. s_imon.hawkins@hotmail.co.uk
VAT No: 990 9313 9

1.0 Introduction

1.1 Instruction

1.1.1 I am instructed by HP Architects on behalf of Mr. and Mrs. Kershen to undertake an Arboricultural Survey at Mount Tyndall, The Cottage, Spaniards Road, London NW3 7JH. I am also instructed to assess the likely impact of development proposals.

1.1.2 The proposals are for the landscaping of the site, the details of which are required as under planning condition 4 (landscaping) of planning permission 2022/0815/P dated 18/09/2023 for: (Erection of 1st floor side extension above existing garage; part 2-storey rear extension; replacement windows, insulated rendering system to external fabric, and enclosure for ASHP.)

1.2 The Site

1.2.1 The Cottage a two storey detached property served by a single driveway entrance off Spaniards Road. The property once formed part of the larger Mount Tyndall estate, a former convent.

1.2.2 The site is located to the northwest edge of Hampstead Heath in a residential area. To the northwest of the site is Spaniards Road; to the south side is Mount Tyndal and to the east side, Hampstead Heath.

1.2.3 The topography of the site is irregular with a fall in levels at the rear of the house from northwest to southeast.

1.2.4 It has not been possible at the present time to confirm whether or not the trees at or adjacent to the site are protected by a Preservation Order or by their location within a Conservation Area.

1.3 Survey date

1.3.1 The trees at Mount Tyndall, The Cottage, Spaniards Road, London NW3 7JH were surveyed on Friday, February 16th, 2024.

1.4 Scope and Purpose of the report

1.4.1 The tree survey and assessment of existing trees has been carried out in accordance with guidance contained within British Standard B.S. 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' (hereafter referred to as B.S. 5837). The guidelines set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.

1.4.2 The purpose of this report therefore is therefore to firstly, present the results of an assessment of the existing trees' arboricultural value, based on their

current condition and quality and to secondly, provide an assessment of impact arising from the development of the site.

1.4.3 The report is designed to support a planning application for development proposals at the above site. The survey has therefore focused on any trees present within or bordering the site that may potentially be affected by the future proposals or will pose a constraint to any proposed development

1.5 Documents referred to

1.5.1 The tree survey and this report have been prepared with reference to the following documents:

The proposed site layout plan
The schedule of tree constraints (appendix 2)
The plan of tree constraints (appendix 3)
Impact Assessment Plan (appendix 4)

2.0 Results

2.1 Results summary

2.1.1 Appendix 2 presents details of the individual trees and groups found during the assessment including heights, stem diameters and root protection areas (RPA's), crown spread (normally measured to cardinal points unless otherwise indicated), an indication of physiological and structural condition, age class, any appropriate management recommendations, estimated life expectancy and a BS5837 category of quality.

2.1.2 The survey has revealed that that of the 5 trees surveyed, 1 is category 'A' 1 is category 'B'; 3 are category 'C' and 0 are category 'U'.

3.0 Arboricultural Impact Assessment

3.1 Overview

Development activity	Potential impact	Consequence	Mitigation
Delivery of materials to the site Plant machinery accessing the site	Soil compaction and erosion	Root damage and die back limiting the ability of the tree to take up water and nutrients	Create construction exclusion zones (CEZ's) by the erection of barrier fencing Provide viable ground protection to prevent compaction and erosion of soil
Storage of materials on the site	Leachate from chemical based products contaminating soil	Roots die back and soil becomes contaminated inhibiting future root recovery	Provide a dedicated area for the storage of materials following delivery away from root protection areas.
Distribution of materials about the site	Damage to branches or bark due to careless handling	Wounding of the bark can lead to infection from wood	Ensure protective fencing takes account of the crown spreads

		decay pathogens	of trees. Preventative pruning of low branches
Foundation excavations	Severing of roots	Root damage and die back limiting the ability of the tree to take up water and nutrients. Crown die back Death of the tree	Use specialized foundation techniques that minimise soil disturbance and leaching of chemicals into the surrounding soil.
Mixing of cement, plaster, etc.	Leachate from chemical based products contaminating soil	Roots die back and soil becomes contaminated inhibiting future root recovery	Provide a dedicated area for mortar mixing (etc.) with a suitably thick plastic (impermeable) membrane to prevent chemicals contaminating the surrounding soil Provide a spare reservoir of water close by to wash away spillages

3.2 Proposed tree works

3.2.1 The proposals do not include any tree felling, nor is any pruning proposed to facilitate the implementation of the landscaping scheme.

3.3 Changes to soil levels

3.3.1 There are no changes to soil levels proposed within the RPA's of retained trees to be retained.

3.4 The Impact of Accessing the Site

3.4.1 Site access is unencumbered by overhanging branches and therefore no facilitation pruning will be required.

3.4.2 The movement of machinery (and pedestrians) around a site has the potential to impact on soil.

3.4.3 Healthy soil is made up of different sized particles with air spaces between those particles. It is these air spaces that help with drainage of rainwater through the soil, removing carbon dioxide and replenishing oxygen thereby allowing roots to breathe. Fine roots are able to grow into these voids, gradually expanding over time as they grow larger, but where soil has become compacted growth is inhibited and roots can die.

3.4.4 Machinery accessing the site will compact soil and destroy the layered structure, especially of topsoil. Other potential site activities include pedestrian movements, which can also contribute to soil erosion and compaction.

3.4.5 In order to ensure that trees which are to be retained maintain enough volume of soil around their roots to stay healthy (the calculated RPA), protective fence barriers must be erected.

3.4.6 The fenced off areas will create Construction Exclusion Zones (CEZ's) which should be considered sacrosanct. Activity within the CEZ is to be forbidden unless previously agreed with the Consulting Arboriculturist and in agreement with the Local Planning Authority.

3.4.7 Where it is not possible to avoid working within the root protection area, particularly during landscaping works, ground protection measures will need to be installed and exposed/ vulnerable tree stems should be protected either with a shield of barrier fencing or a proprietary tree stem wrapping.

3.5 The Impact of Excavations

3.5.1 The footprint of the proposed extension lies within the RPA of the Lucombe oak (T2). There will therefore be some potential impact arising from the construction of the extension (and the installation of the decking).

3.5.2 The extension therefore is to be built onto screw piles (supporting a ring beam) to minimise any impact from providing a foundation for the extension. British Standard 5837:2012 offers guidance as to the use of specialised foundations. The Standard states at 7.5.1 that

> '*The use of traditional strip foundations can result in extensive root loss and should be avoided. The insertion of specially engineered structures within RPA's may be justified if this enables retention of a good quality tree that would otherwise be lost (usually categories A or B). Designs for foundations that would minimize adverse impact on trees should include particular attention to existing level, proposed finished levels and cross sectional details. In order to arrive at a suitable solution, site specific and specialist advice regarding foundation design should be sought from the project arboriculturist and an engineer.'*

3.5.3 The Standard goes on to state at 7.5.2 that '*Root damage may be minimised by using:*

> *'piles, with site investigation used to determine their optimal location whilst avoiding damage to roots important for the stability of the tree, by means of hand tools…'*

3.5.4 The ring beam itself will also be used in part to help support the proposed decking. On the outer edges, the decking will also be supported by mini piles.

3.5.5 The retaining brick wall to the rear of the decking has the potential to impact on the Lucombe oak (T2), as the foundation lies within its' RPA. Again, the use of precast screw piles is proposed to overcome this, using a lintel across the top of the piles to create a suitable layer for the brickwork to be laid onto.

3.5.6 The steps leading down from the raised decking to existing ground level are to be suspended off the adjacent metal posts that are to be erected to also support the slatted timber fence panels along the side boundary.

3.5.7 The air source heat pump at the front of the building will be placed adjacent to the existing retaining wall within the RPA of the Lawson cypress (T1). The enclosure for this has the potential to impact onto the roots of the cypress, as the structure would sit within the RPA of this tree.

3.5.8 However, it is considered that this impact will not be so great as the tree is positioned on a higher level than the foundations of the structure would be and there is already a retaining wall here. Root growth where the foundations for the enclosure would be dug is likely to be quite limited therefore, and the tree will not be significantly harmed by excavating the foundations here.

3.5.9 Other landscaping works proposed include the creation of new flower beds and laying turf. Such activity will be undertaken by hand and can be considered minor causing no significant harm to the retained trees.

3.6 The Impact of Construction Site Activities

3.6.1 The installation of plies using a piling rig will require the ground to be protected during the operation. It is recommended therefore that the existing patio remains in situ whilst the piles are inserted.

3.6.2 Once the piles are ready, the existing patio slabs are to be removed by hand to allow for the installation of the timber decking. Scaffolding for the construction of the extension is to be placed onto the new decking. In order to prevent loose mortar, etc. falling onto the soil between decking slats, the decking is to be covered by an impermeable sheet (PVC or similar) for the duration of the construction work.

3.6.3 Deliveries will be made by means of the existing entrance off Spaniards Road. Materials are to be set down at the front of the house where they can either remain in situ until needed, moved to a more appropriate area or be brought under cover if necessary.

3.6.4 The hard standing area at the front of the house is to be used for the storage of cement and plaster bags hazardous chemicals and petrochemical products and will also provide a suitable area for mortar mixing in line with COSHH regulations to ensure there is no detrimental effect on trees.

3.6.5 Any materials required for the landscaping of the rear garden (for example bricks, gravel, turf or topsoil) shall be brought to the front of the house and thereafter distributed by wheelbarrow where needed.

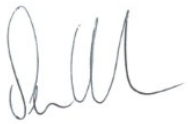
3.7 Issues to be addressed by the Method Statement

3.7.1 The Method Statement will address the following issues

- Installation of protective fencing
- Installation of the piles
- Construction of the decking
- Building site activities
- Cement mixing

3.8 Summary

3.8.1 The proposed new landscaping has the potential to impact on the trees at the site, specifically the Lucombe oak (T2). Only by the proper adherence to an arboricultural method statement provision can proper provision be made for the protection of all trees to remain in order to ensure their continued viability following the completion of construction.



Simon Hawkins Dip Arb L6 (ABC), ND Arb, MArborA

Appendix 1 - Tree Survey Methodology

1. The ground level survey of the trees has been carried out in accordance with the criteria set out in Chapter 4 of B.S 5837. The survey has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence on the proposals.
2. The purpose of this report is to modify the recommendation found in the tree constraints schedule for the future use of this site. Where applicable, trees with significant defects have been highlighted and appropriate remedial works have been recommended. However, this report should not be seen as a substitute for a full *Safety Survey* or *Management Plan* which are specifically designed to minimise risk and liability associated with the responsibility for trees. No climbed inspections or specialist decay detection were undertaken.
3. Evaluation of tree condition within the assessment applies to the date of survey and cannot be assumed to remain unchanged. It may be necessary to review these within 12 months in accordance with sound arboricultural practice as recommended by the National Trees Safety Group guidance 'Common Sense Risk Management for Trees'.
4. Trees have been divided into one of four categories based on Table 1 of B.S.5837, '*Cascade chart for tree quality assessment'*. For a tree to qualify under any given category it should fall within the scope of that category's definition.

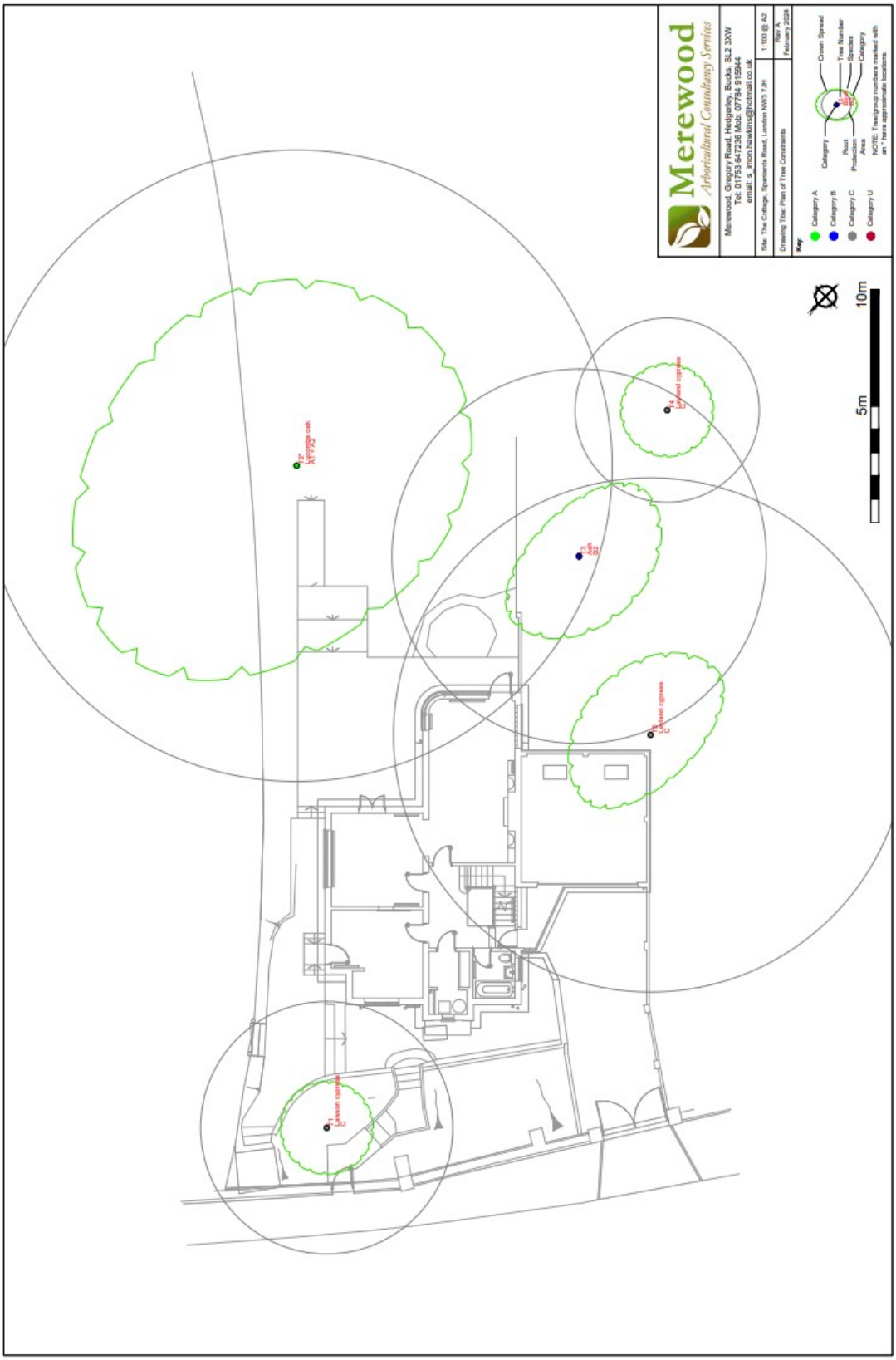
Category U - Red	Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
Category A - Green	**Those trees of the highest quality and value**: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
Category B - Blue	**Trees of moderate to high quality and value**: in such a condition as to be able to make a significant contribution (a minimum of 20 years is suggested).
Category C - Grey	**Trees of low quality and value**: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter of below 150mm
Subcategory 1 concerns mainly arboricultural values, how good a specimen is in terms of form and physiological condition; the value of a tree as a component in a group or in a formal or semi-formal arboricultural feature such as an avenue.	
Subcategory 2 concerns mainly landscape values and considers the importance of a tree or group of trees as an arboricultural or landscape feature. Trees present in larger numbers, such as woodlands for example may attract a higher rating than they would as individuals because of their collective value.	
Subcategory 3 concerns mainly cultural values including conservation, historical, commemorative, or other value such as veteran or wood pasture.	

5. RPA's of single stemmed trees are calculated according to the following formula:
   RPA radius = 12 x stem diameter (measured at 1.5m above ground level)
6. Where a tree has more than one stem, the equivalent single stem diameter is usually recorded. This is calculated by adding the squares of the stems and then finding the square root of the total. The radius of the RPA is then calculated by multiplying the equivalent stem diameter by 12 (ref B.S. 5837:2012 para 4.6.1). Where access is restricted an estimate of the stem diameter is provided and this is indicated in the appropriate column.

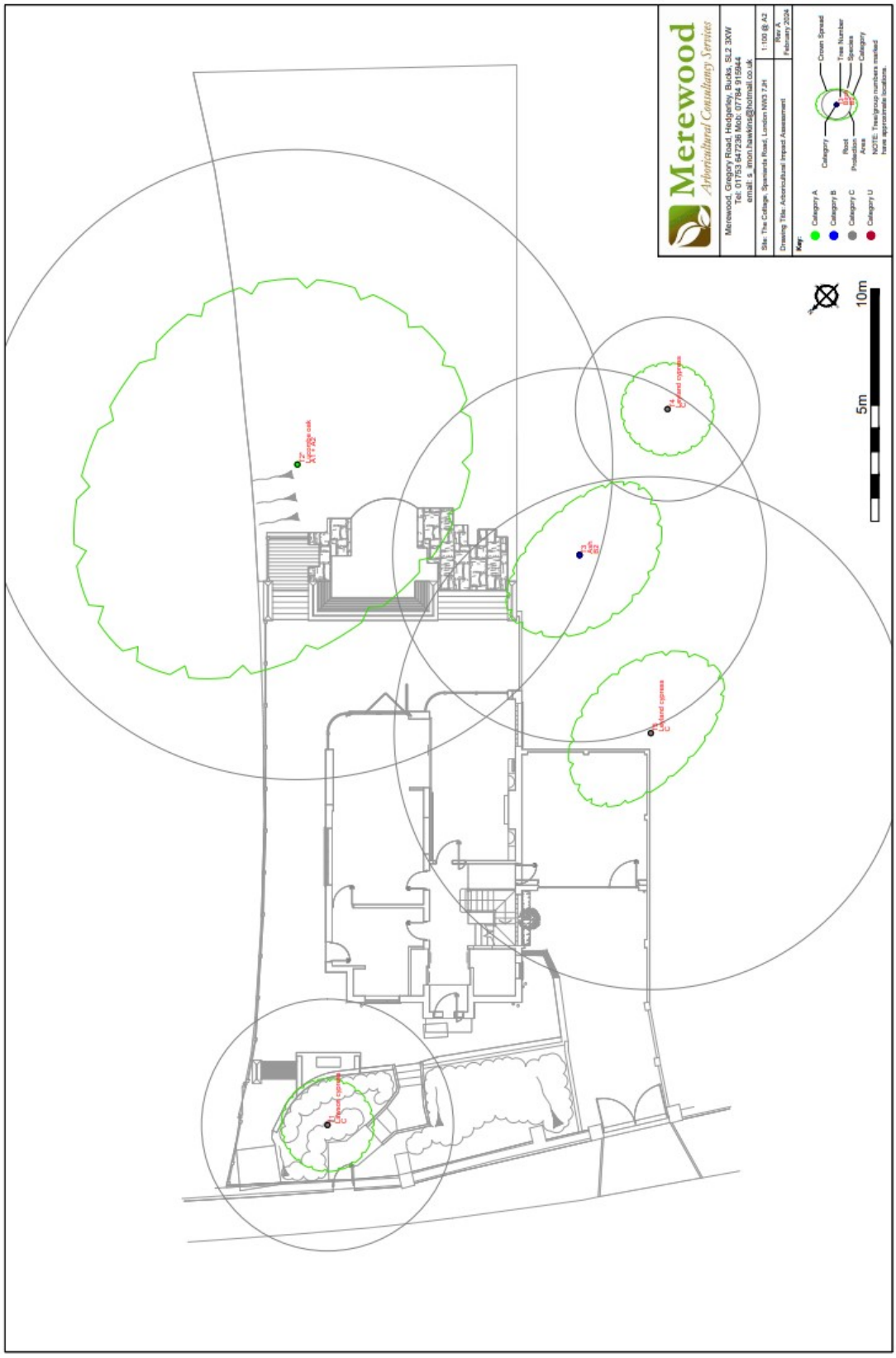
Appendix 2
Schedule of tree constraints

Tree no	Species	Height	Stem diameter	Crown spread				Height to1st main branch	Height of canopy	Age	General observations	Life expectancy	Category
				North	South	East	West						
T1	Lawson cypress	18	400 210	2	2	2	2	F	F	M		20 - 40	C
T2	Lucombe oak	20	1130	11	8	8	7	G	G	M	Crown spread biased towards north. Some ivy on the main stem	40+	A1 + A2
T3	Ash	18	670 (est)	4	4	2	3	G	F	M	No sign of Chalara die back noted	40+	B2
T4	Leyland cypress	19	330 (est)	2	2	2	2	G	G	M	Part of a row od screening trees	40+	C
T5	Leyland cypress	18	920 (est)	4	4	3	2	G	G	M		40+	C

Appendix 3
Plan of Tree Constraints



Appendix 4
Impact Assessment Plan



Appendix 5
Qualifications and experience

- I am Simon Hawkins, proprietor of Merewood Arboricultural Consultancy Services.

- I hold the Level 6 Professional Diploma in Arboriculture. This is the highest level of award in the industry.

- I hold the National Diploma in Arboriculture which I attained in 1987. I have studied and practised Arboriculture for over 40 years, during which time I have been involved with both the private and public sector.

- I hold the LANTRA award for professional tree inspections

- I hold professional member status of the Arboricultural Association (M. Arbor A.), recognised as a higher vocational level within the industry.

- I have undertaken an intensive course in the principles and application of VTA Visual Tree Assessment. I have been assessed and found to have attained the advanced level of technical competence of a VTA Practitioner with Elite Training.

- I have over 18 years' experience working in the public sector, during which time I have dealt with all aspects of trees and development in the town planning context, within the inner city; in a greater London Borough; and in the Green Belt. Typically, I have worked with planners, developers, architects and other professionals in the construction industry in which I provide advice and assistance in dealing with arboricultural matters.

- I have appeared at numerous appeals, informal hearings and public enquiries to make formal representations. I have also appeared as an expert witness in court with regard to breaches of a Tree Preservations Order.