TIM MOYA ASSOCIATES

Arboricultural Report

Assessment of trees in relation to development for planning purposes

Gondar Gardens
London
NW6 1QG

July 2018

170202-PD-11b

Project	170202-PD-11b – Gondar Gardens
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1 SUMMARY REPORT

1.1 This arboricultural report has been commissioned by Lifecare Residences Ltd. to provide information to assist all parties involved in the planning process to make balanced judgements with regard to arboricultural features in relation to the proposed development at Gondar Gardens, London, NW6 1QG.

1.2 The proposal is for the redevelopment of reservoir street frontage to provide 28 residential units in 2 blocks from lower ground to 3rd floors, following substantial demolition of roof and internal structure of reservoir and subsequent re-landscaping.

1.3 This report includes:

- an assessment of the trees, their quality and value and constraints to development posed by these;
- the site context;
- observations on the trees;
- planning policies relevant to the consideration of the trees on the site;
- the impact of the proposed development upon nearby trees;
- methods of reducing impacts on trees; and
- measures to be taken to protect trees during the proposed works.

1.4 My conclusions are that the proposed development is acceptable in both arboricultural terms and in relation to planning policy as it relates to trees.

1.5 The removal of low quality trees and shrubs will have an insignificant impact on the local area.

1.6 Tree protection measures have been specified in accordance with best practice and are sufficient to safeguard retained trees during the proposed works.

2 INTRODUCTION

Instructions

2.1 My name is Charles McCorkell; I am an arboricultural consultant dealing with trees in relation to all forms of human activity including the built environment. I am an Associate Member of the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association, and I have a BSc Honours Degree in Arboriculture from the University of Central Lancashire.

2.2 This arboricultural report has been commissioned to provide information to assist all parties involved in the planning process to make balanced judgements with regard to arboricultural features in relation to the proposed development.

Scope and limitations

2.3 The survey is not an assessment of health and safety of trees and no recommendations for works have been provided, however trees identified as imminently dangerous will have been highlighted in the tree schedule at Appendix B, where appropriate.

2.4 The contents of this report are copyright of Tim Moya Associates (TMA) and may not be distributed or copied without TMA's explicit permission. Tim Moya Associates Standard Limitations of Service apply to this report and all associated work relating to this site.

Background and documents provided

2.5 My report has been prepared with reference to the following supplied information:

- topographical survey; and
- architects proposed floor plans and elevations.

Methodology and guidance

2.6 I have referred to *British Standard 5837: Trees in relation to design, demolition and construction (2012)* which provides a methodology for the assessment of trees and other significant vegetation on development sites.

2.7 BS 5837 (2012) is intended to assist decision making with regard to existing and proposed trees and sets out the principles and procedures to be applied to achieve a

harmonious relationship between existing and new trees and structures that can be sustained for the long term.

2.8 The Building Research Establishment (BRE) has also produced several documents between 1998 and 2011 in relation to trees and site layout planning, sunlight, daylight, shading and urban cooling. These documents consider trees and their relationship with buildings and garden usage, including the benefits they bring in terms of welcome shade or urban cooling, advising a balanced approach to these issues in design.

3 OBSERVATIONS AND CONTEXT

Description of the site and local area

3.1 The proposed site is a former Thames Water PLC. reservoir located adjacent to Gondar Gardens in West Hampstead. The immediate surrounding area consists of terraced residential dwellings with large rear gardens. The site is bounded by the rear gardens along the northern, eastern and southern boundaries. The main access to the site is east off Gondar Gardens.

3.2 The wider local area is typical of an urban setting and predominantly consists of residential properties with local amenities. Hampstead cemetery and the University College Schools Sports Ground significantly contribute to the green space within the local area and are situated to the north of the site. To the south and west of the site is a railway line which connects West Hampstead Thameslink and Cricklewood station. Photo 1 below indicates the approximate site location within the local surroundings.

Photo 1 (Google Maps 2017): Aerial view of the site location and surrounding local area. The approximate site boundary is highlighted by the dashed red line and the existing site access is highlighted by an orange directional arrow.

Site visit

3.3 The site was first visited by Gavin Rees on the 10 February 2017, to survey on and off-site trees and vegetation which may be of significance to the proposed development. The site was revisited by Edward Cleverdon on the 18 July 2018 to carry out an updated tree survey.

3.4 The survey methodology has followed the recommendations of British Standard BS5837:2012 *Trees in relation to design, demolition and construction*.

Trees within the site and surrounding area

3.5 The main tree cover is located around the perimeter of the site and is made up of both onsite and offsite trees. The group of trees located along the western boundary, adjacent to the main site entrance off Gondar Gardens, contains a mixture of species, many of which are considered to have self-seeded.

3.6 The largest collection of trees is located along the eastern boundary of the site. The ground level in this area slopes down towards the adjacent rear gardens. There is approximately a 5m level change from the top of the bank to the boundary line where these trees are growing. Sycamores are the main overstorey tree within this area, while hawthorn, prunus species and willow make up the understorey planting.

3.7 The vegetation along the northern and southern boundaries of the site are mainly made up of offsite trees which are located within the rear gardens of the adjacent properties. The canopies of these trees overhang into the site due to their close proximity the site boundary line.

Soil conditions

3.8 The British Geological Survey on-line information suggests that the soils on the site are of London Clay Formation – Clay, Silt and Sand. No superficial deposits have been recorded.

3.9 Typically, trees have relatively shallow but widespread rooting systems and it is uncommon for roots to penetrate to depths greater than 2-3 metres, with around 80-90% found within the top 60 or 100cm of the soil profile (depending upon species and soil type).

3.10 Mixed loamy soils are suitable for the growth of a wide range of tree and shrub species. However, the clay content is likely to cause the soils to change in volume with changes

in moisture content and water absorption by tree roots at depth can result in building movement and possible damage.

3.11 For further specific details of local soil conditions reference should be made to the BGS website http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

Policy context

3.12 Planning policy at national level is set out in the government's National Planning Policy Framework (NPPF) which was updated in July 2018.

3.13 The purpose of the planning system is to contribute to the achievement of sustainable development. The objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs. To achieve sustainable development, the planning system has three overarching objectives (economic, social and environmental) which are interdependent and need to be pursued in mutually supportive ways.

3.14 Paragraph 170 of the NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.

3.15 Paragraph 175 of the NPPF states that to protect and enhance biodiversity and geodiversity, plans should apply the following principles:

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Spatial Planning Policy

3.16 Spatial planning policy consists of the London Plan adopted 2011 (with minor amendments up to 2016) and associated policy documents including the Climate

Change Adaptation Strategy (*Managing Risks and Increasing Resilience – October 2011*).

3.17 The London Plan (amendment 2015) defines "green infrastructure" as "an overarching term for a number of discreet elements (parks, street trees, green roofs etc.) that go to make up a functional network of green spaces and green features."

3.18 In relation to climate change adaptation the London Plan calls for the use of trees and other shading to *"increase green areas in the envelope of the building, including its roof and environs"*

3.19 The London Plan sets a target of a 5% increase in trees in parks, gardens and green spaces by 2025.

3.20 Policy 7.21 of the London Plan 2011 calls for trees and woodlands to be protected, maintained and enhanced. The policy requires that existing trees of value should be retained and that any loss as a result of development should be replaced in sustainable locations. The policy suggests that, where appropriate, large canopied species should be planted (rather than smaller ornamental species).

Local Planning Policy

3.21 The London Borough of Camden's policies are contained within the Local Plan which was adopted on 3 July 2017. Relevant policies to the consideration of trees and development include:

3.22 **Policy A3 Biodiversity - Trees and Vegetation**

The Council will protect, and seek to secure additional, trees and vegetation. We will:

j. *resist the loss of trees and vegetation of significant amenity, historic, cultural or ecological value including proposals which may threaten the continued wellbeing of such trees and vegetation;*

k. *require trees and vegetation which are to be retained to be satisfactorily protected during the demolition and construction phase of development in line with BS5837:2012 'Trees in relation to Design, Demolition and Construction' and positively integrated as part of the site layout;*

l. *expect replacement trees or vegetation to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development;*

m. *expect developments to incorporate additional trees and vegetation wherever possible.*

3.23 **Policy A5 Basements**

The siting, location, scale and design of basements must have minimal impact on, and be subordinate to, the host building and property. Basement development should:

m. *avoid the loss of garden space or trees of townscape or amenity value.*

The Council will require applicants to demonstrate that proposals for basements:

u. *do not prejudice the ability of the garden to support trees where they are part of the character of the area.*

3.24 **Policy D1 Design**

The Council will seek to secure high quality design in development. The Council will require that development:

k. *incorporates high quality landscape design (including public art, where appropriate) and maximises opportunities for greening for example through planting of trees and other soft landscaping.*

Legal Status

3.25 According to the London Borough of Camden's interactive mapping system, checked on the 24 July 2018, the site is not located within a conservation area.

3.26 TMA have not directly contacted the council to establish whether there are any Tree Preservation Orders (TPO) within the application boundary; however, it is understood that the trees along the eastern boundary are protected under Camden TPO C378 2003. The location of the TPO has been highlighted on the tree survey plan at Appendix A.

3.27 Due to the protection status of certain trees onsite, it is recommended that the Local Planning Authority is contacted prior to any tree works being carried out and the necessary approvals received.

4 TECHNICAL INFORMATION

Tree Data

4.1 The location of trees, tree groups, shrubs and hedgerows are shown on the tree survey drawing 170202-P-10-01/02a at Appendix A, this plan illustrates the location of trees and the extent of the spread of their crowns. Dimensions, comments and information for each tree are given in the tree schedule 170202-PD-10a at Appendix B.

Life Stage Analysis

4.2 Unlike age in numerical terms (years), this description is used to describe the physical form of a tree in relation to its typical life expectancy and varies between species; for example, an oak may have a young form after 20 years while a cherry tree will be middle-aged after 20 years and will have developed the appearance of a mature tree with a spreading rounded crown whilst the oak remains tall and slender with strong apical dominance.

4.3 Of the 61 separate survey entries, the majority (39) have been assessed as being early-mature. The remaining entries have been categorised as being semi-mature, mature and late-mature, see Figure 1 below for complete analysis.

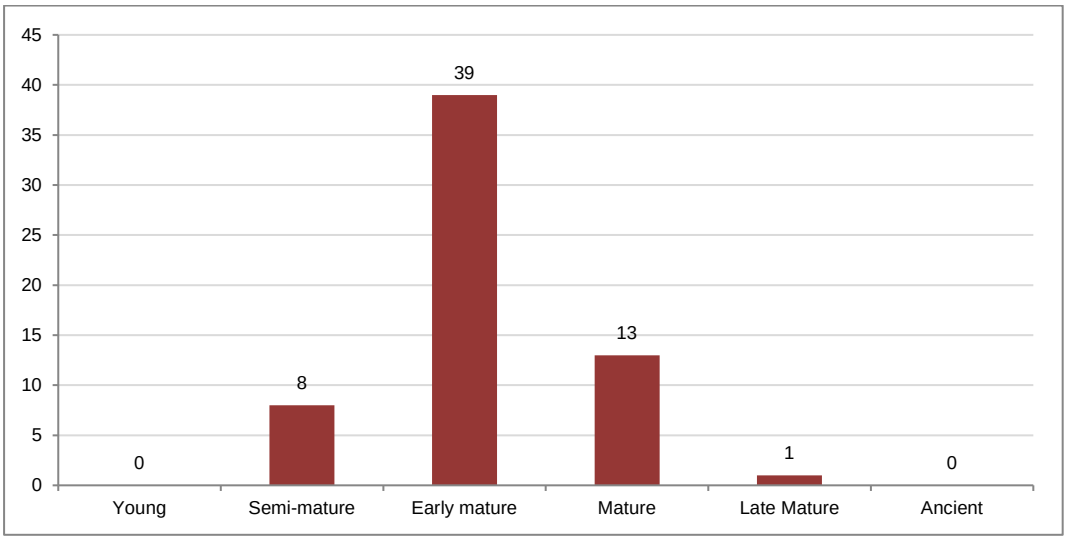


Figure 1 Analysis of life stage.

BS5837 (2012) category breakdown

4.4 The trees surveyed were assessed as being of varying quality with the majority being of low quality and value – see Figure 2 below. Further details of the trees surveyed can be found in the schedule at Appendix B and the tree survey plan at Appendix A.

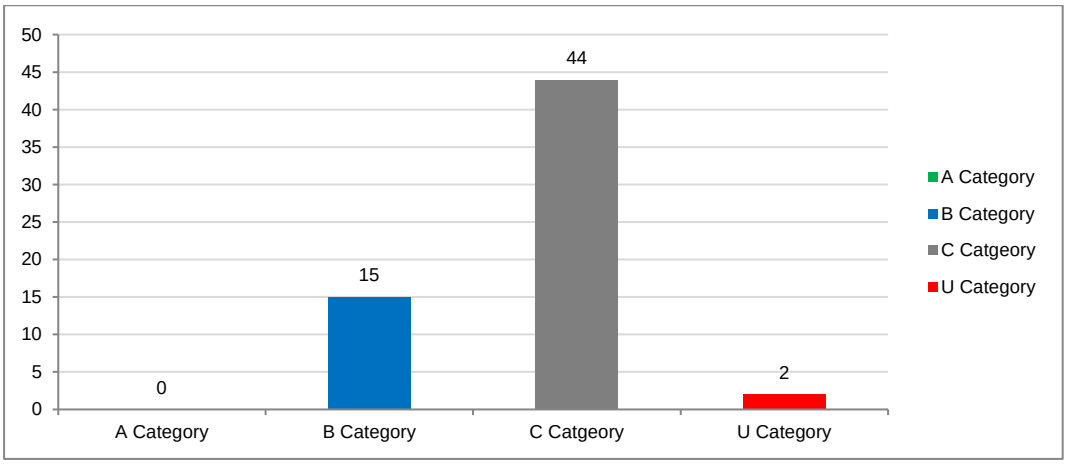


Figure 2 BS5837 retention categories for trees and trees in groups

Analysis of tree population

4.5 The tree population recorded an approximate 272 trees within the 61 entries surveyed. This includes individual trees and groups of trees. The results show that sycamore is the dominate species and accounts for 21%. This is followed by ash (17.5%), cherry plum (15%) and hawthorn (13%). Combined, the four species account for 66.5% of the overall tree population recorded. Refer to Figure 3 below for a complete analysis of the species distribution recorded within the survey area.

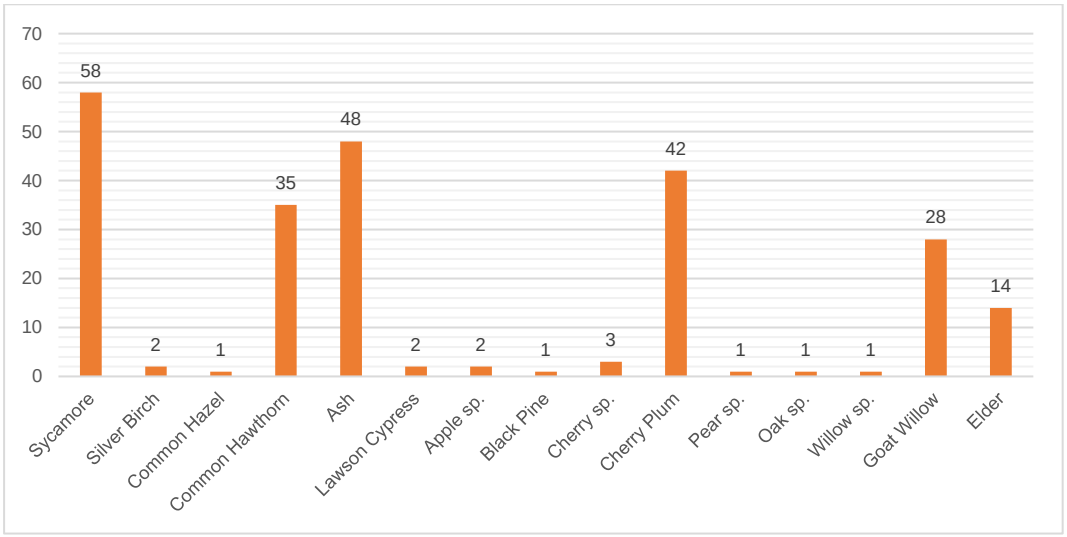
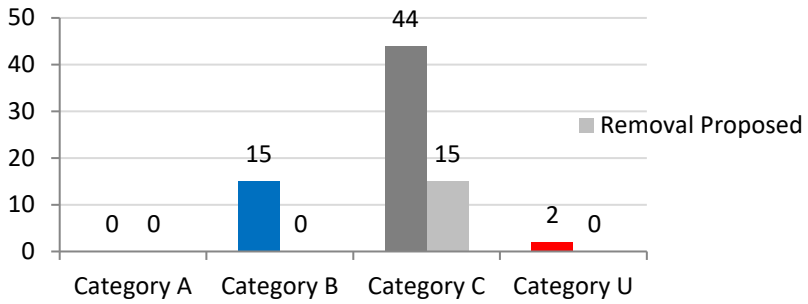


Figure 3 Species distribution for the 61 survey entries recorded.

5 ANALYSIS OF THE PROPOSAL IN RESPECT OF TREES

Arboricultural Impacts

5.1 The following arboricultural impacts have been considered in relation to the proposed development:

Impact	***Analysis***
Loss of trees	The proposed development will require the removal of 15 low quality and value (C Category) survey entries. These include, nine individual trees, three individual shrubs, two shrub groups and one tree group. No B Category trees are required to be removed as part of the proposal. Figure 4 below shows the quantity of removals compared with the recorded survey entries in accordance with their BS5837 category.  **Figure 4**: Proposed removals and their category in accordance to BS5837. The removal of trees and shrubs have mainly been restricted to the western boundary. The western boundary is located adjacent to Gondar Gardens and although these trees contribute to the existing streetscape due to their road side location, the species are not of notable quality and their removal will have an insignificant impact on the character of the local area. The proposed development will be constructed in line with the footprint of the adjacent properties. This will restrict replacement tree planting along this boundary; however, there is sufficient space internally within

	the site and along the other site boundaries to carry out new tree planting. A schedule of all proposed tree works with reasons for the works is attached at Appendix B.
Pruning to facilitate development	Some minor crown lifting works are required to retained trees. These works are considered to be minor and will not be detrimental to the health of the trees concerned or the character and appearance of the local area. Proposed tree pruning specifications are attached at Appendix B. All pruning works to offsite trees must be carried out from with the curtilage of the site boundary and pruning wounds are not permitted to extend beyond the site boundary line without written permission from the land owner.
Future growth of retained trees	The proposals have been designed to avoid future conflicts between retained trees and occupants. The proposals do not result in any significant concerns with regard to the need to unacceptably prune or remove retained trees.
Daylight and sunlight	Shading by trees is not considered a significant issue in relation to these proposals.
Construction operations	The construction of the main built element of the proposals will not require excavation or other works within the RPAs of retained trees. No special measures are therefore required to prevent root damage; however, it will be necessary to ensure that site operations do not cause damage to trees or the soil environment upon which they rely. Details of the measures to be taken to protect trees are included at Appendix A.
Hard surface installation	A new footpath is proposed within the RPA of retained trees T14; T15; T17. In order to ensure that damage does not occur to the roots of these trees or the structure and function of the soil in which they are growing, a no-dig design is proposed. This involves constructing the hard surface above existing ground level and ensuring that tree roots and the rooting environment remain undamaged and functional. Details of the proposed hard surface installation are shown on the Tree Protection Plan at Appendix A.

Installation of drainage	Considering the sites change of use, new drainage runs will be proposed. We do not currently have a drainage proposal; however, all new drainage runs should be located outside the RPAs of retained trees. If it is found to be necessary to locate new drainage runs within the RPAs of retained trees it is recommended that these works are carried out under arboricultural supervision. Methods of work should follow the recommendations in the NJUG guidance. BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances. See http://www.njug.org.uk/
Installation of services	New service runs will, where possible, be located outside the RPAs of retained trees. However, if it is necessary to locate services runs within the RPAs, BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances. See http://www.njug.org.uk/
Boundary treatments	The construction of boundary fencing will frequently require the excavation of pits for fence posts and the use of dry or liquid cement products which can be phytotoxic. We do not currently have details of the proposed boundary treatment but where these operations are to take place within the RPA of retained trees it will be necessary to seek arboricultural advice to avoid physical damage to roots and the phytotoxic effects of liquid cement products.
Landscaping operations	Landscaping operations will typically take place at the end of the construction period. These works will normally require the removal of protective fencing to facilitate access for works. There is a risk that plant and machinery may damage soil structure where tree roots are growing; however, these risks can be managed by maintaining good professional standards of work and working to a method statement. The principle of avoiding soil disturbance or changes in levels within the RPAs of retained trees should be followed unless arboricultural advice has been sought.

Arboricultural mitigation

5.2 A landscape design will form part of the overall development and will include new tree and shrub planting. There is a considerable amount of space across the site whereby new large canopied trees can be planted and will have sufficient rooting and canopy

space to grow through to maturity. Such trees will enhance the visual appearance of the site and have a positive impact on the character of the local landscape in the future.

6 DISCUSSION AND CONCLUSIONS

General Change

6.1 The proposed development does not require the removal of any notable, good quality or protected trees. It will be necessary; however, to remove low quality trees and vegetation located adjacent to Gondar Gardens. Although these trees have a degree of amenity value due to road side location, I believe their loss will have an insignificant impact on the character of the local area due to their low quality and value, and the opportunity the proposal provides to improve the overall landscape and biodiversity of the site with new high-quality tree planting.

6.2 The proposal has considered the constraints posed by trees and the building and basement footprints are located an acceptable distance from the canopies and rooting areas of onsite and offsite trees. Although tree loss is required, sufficient space has been allocated to carry out replacement tree planting.

How do the changes relate to planning policy?

Policy Ref	***Compliance***
NPPF	The proposals do not impact upon ancient woodland or veteran trees. The proposals are sustainable in landscape terms and therefore meet the criteria for sustainability in this respect. The proposals have been designed to provide a good standard of amenity for occupants and measures are proposed to enhance and protect natural features. Landscaping has been designed to respond to local character and contribute to a strong sense of place while integrating the proposed development into the natural environment.
Spatial policy (The London Plan)	The London Plan emphasises the importance of trees, green infrastructure and climate change resilience. By retaining existing trees of good quality, the proposals have responded to the London Plan.
Local policy	The proposed development complies with local planning policies as they relate to trees. Existing trees onsite have been surveyed in accordance with best practice and the proposal evaluated in respect of trees. There are no significant trees required to be removed in order to facilitate the development, only those of low quality. Tree protection has been proposed

	to safe guard all retained trees during construction works, and new landscaping which includes tree planting will form part of the development design.

Conclusions

6.3 The design of the proposal has properly considered the tree constraints.

6.4 The proposal complies with planning policies referenced within the report.

6.5 All retained trees can be adequately protected by following the recommendations in the method statement at Appendix A and controlled by suitably worded planning conditions.