Arboricultural Impact Assessment,

Method Statement For:

11 Elsworthy Terrace

Primrose Hill

NW3 3DR

Date: 20th February 2020

Client: Better PAD - Matthew Wheeler

By: Charles Green, Green Industree Ltd

Summary

This report forms part of an arboricultural survey carried out to support a planning application to construct a garden studio in the rear garden of the property.

The purpose of this report is to provide the local planning authority of Camden the necessary tree information.

The report gives information as required by BS 5837, Trees in relation to design, demolition and construction and assess the impact on the retained trees of the proposed development and construction phase.

Four individual trees were inspected and surveyed as part of this report. One category B2 young Magnolia tree and three neighbouring category C Lime trees.

The proposed construction and design will have very minimal impact on the trees. The new structure is to have pile type foundations and the footprint is marginally larger than that of the existing hard surfaced area.

As all of the proposed works are within the RPA of the trees, special tree protection measures are required. The site allows for adequate protective barriers to be erected to form an exclusion zone and ground protection for access into the construction zone.

An arboricultural method statement is included to show how the trees are to be protected during demolition and construction.

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1.0 Introduction

This report is only to assess tree related issues. No comment will be made regarding engineering or design and an appropriate expert should be consulted on these matters.

It has been produced in accordance with BS 5837 Trees in relation to design, demolition and construction.

The proposal is to construct a garden studio of approximately 18m^2 at the rear of the back garden.

A site visit by myself was carried out on the 15th February to assess the trees relative to the proposal.

The site is within a Conservation Area, no Tree Preservation Orders are registered at the property.

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2.0 Appraisal

The property is a three storey residential building, 11 Elsworthy Terrace is the ground floor flat. The property is located within the boundaries of a Conservation Area.

The soil type is typical London Clay, depth unknown. Clay soil structure is prone to compaction, especially when wet. Care must be taken to protect the soil during the construction phase to minimize this. More detail will be provided in the Arboricultural Method Statement.

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Photo 1: Raised area to be leveled off

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Photo 2: T1 close to boundary wall

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Photo 3: T1 Extensive cavity on main trunk

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Photo 4: T2 trunk against boundary wall

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Photo 5: T3 Large trunk pushing against boundary wall

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3.0 Arboricultural Impact Assessment

The proposed works are sited within the RPA of the three neighbouring Lime trees. However, BS:5837 does allow for up to 20% alteration of the RPA in one direction. No arboricultural evidence was found suggesting that any tree would not be able to cope with the proposal.

The soil level along the rear boundary wall is approximately 500mm higher than the neighbouring garden where the three Limes are located. In lowering the soil level by approximately 250mm to allow for a flat and level base for the proposed development it is unlikely that any significant roots would be encountered and therefore damaged. During my site visit, I hand dug a few trial pits of up to 200mm in depth and found no roots that could have been from the three Limes. There is an existing stump from a previously felled tree in the NW corner of the area and it is likely any large roots found in this area would originate from this tree and not the Limes.

The new structure will have a floor surface area of approximately 50% larger than the existing hard surfacing.

The impact of this can be mitigated using ground protection and protective barriers as indicated on the Tree Protection Plan, **Appendix 1**. And working with hand tools only in this area as detailed in the Arboricultural Method Statement (Page 7). A project arboriculturist to be appointed to oversee all operations detailed in the Arboricultural Method Statement.

Protective barriers and ground protection to be in place before demolition and construction phase begin.The use of ground protection and exclusion barriers as shown will help reduce any impact to any of the retained trees.

4.0 Arboricultural Method Statement

Areas to be protected: The tree protection plan shows all areas where protective measures are required. Tree protection is shown as barriers and/or ground protection. Any works within these areas will require arboricultural supervision and likely to require specialist techniques

No tree works are required.

Protective barriers: Tree protection barriers must be fit for the purpose of excluding site personnel and machinery. The default specification detailed within Section 6 of BS 5837 (see **Appendix 2**) is to be used unless a different specification has been agreed with the local planning authority.

Ground protection: Where the full extent of the RPA cannot be protected with barriers alone, ground protection is to be used (see **Appendix 3**). Ground protection will be fit for the purpose of preventing compaction of the soil structure and damage to roots. For this project, a geotextile membrane laid down, covered by a 100mm layer of woodchip, covered by ply-board sheets will suffice in protecting the soil structure from pedestrian traffic within the RPA during the demolition and construction phase.

Site set up: Protective barriers to be in place before site set happens. As the barriers are within the RPA care needs to be taken in putting up the fences.

Soil level changes: Soil levels should not be changed within the RPAs.But in this case the soil level is higher than at the base of the trees so careful hand excavation of the area is required.

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Demolition and removal of existing structures and hard surfaces: Specialist methods will be required to minimize impact on trees, roots and soil structure. Buildings within or adjacent to RPAs must be demolished by pulling inwards, away from the tree. Removal of foundations within RPAs must be undertaken from within the footprint of the building, away from the tree, with excavation on the tree side of the foundation kept to the strict minimum required to effect removal. This operation should be supervised by the appointed arboriculturist. If trenches left by removal of foundations are not to be reused as part of the development, they must be backfilled with topsoil suitable for root growth, where within RPAs. The use of conventional tracked and wheeled machinery causes damage to soil structure from compaction and damage to roots from excavation and must not be used within the RPA. All areas of hard surfacing requiring removal within an RPA will be broken up using a hand-held pneumatic drill or other hand tools. The broken rubble will then be removed by hand. The only exception to this is where the hard surface is of such a size as not to be reachable from outside the RPA. In this situation, a rubber tracked mini-digger will be used. The maximum working height of the machine must be less than the lowest branch of any overhanging trees. Removal of fences, sheds, garden structures, low walls etc., must be undertaken by hand where within RPAs.

Existing surfaces to be retained: Existing hard surfacing within RPAs will be retained and utilized wherever possible to protect soil structure beneath. If removed as part of the demolition process it will be necessary to replace with ground protection.

New structures within RPAs: During the design stage, every effort must be made to keep all new structures and services outside RPAs. Any excavations within RPAs will require supervision by the project arboriculturist. Foundation design that minimizes the impact on soil structure and roots is sometimes acceptable. Conventional strip or pile and beam construction are unlikely to be permissible. The use of piles supporting above-ground beams, or a raft is

more likely to be acceptable. It will also be necessary to allow for a space under the building floor to allow for gaseous exchange. It may also be necessary to direct rainfall beneath the slab depending on the percentage of the RPA affected and existing ground conditions.

New hard surfaces within RPAs: Any new hard surfacing within RPAs should not affect the soil structure and tree roots. The use of no-dig (a maximum of 50mm of vegetation debris can be removed), cellular confinement systems using porous sub-base and finished surface materials can be acceptable in some circumstances. This can affect the final levels though.

Removal of protection: Protective barriers and ground protection must remain in place until all construction activity is finished and there is no risk of damage to soil surfaces and tree roots.

Landscaping: Can damage tree roots and soils structure if not carried out properly. Protective barriers taken down to allow these works can allow others access into restricted areas.

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5.0 Conclusions

No trees require removal or tree surgery works to facilitate the proposal.

Minor intrusions (less than 20%) into the RPAs of the three Lime trees, on one side only. The Magnolia is to be fenced off.

Protection measures detailed in this report put into place can minimize the impact this will have on the long-term health of the trees. No further mitigation required.

6.0 Recommendations

The Arboricultural method statement and Tree Protection Plan to be followed during demolition and construction phase to have the minimum impact on the retained trees and soils structure.

A copy of this and the tree protection plan to be kept on site and become part of the site induction where possible.

Foundation design to reflect retained trees where possible.

Before works begin, all tree protection barriers and ground protection to be in place. These are to be inspected regularly. A laminated suitable sign to the effect of ‘TREE PROTECTION ZONE – NO UNAUTHORISED ENTRY’ to be placed on the barriers.

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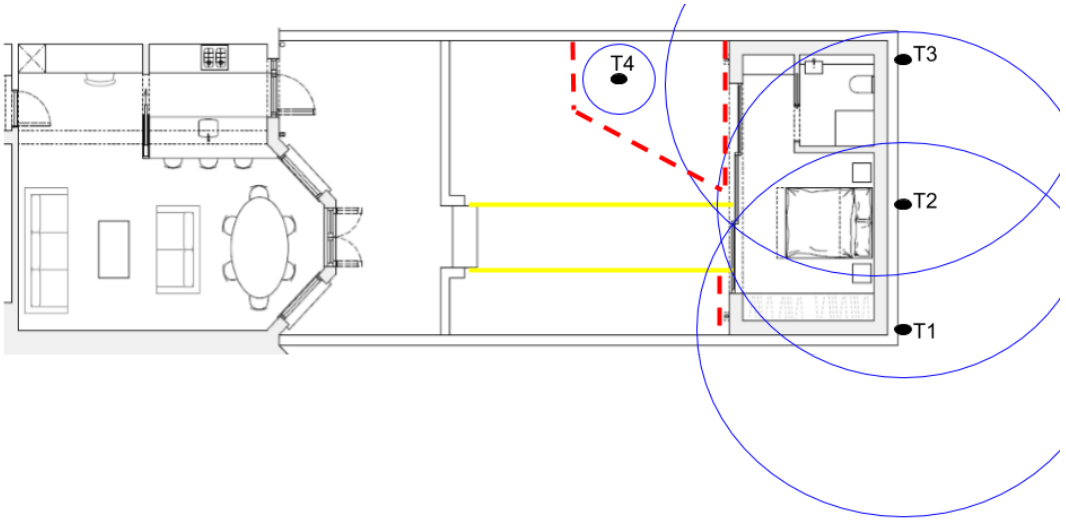
7.0 Appendices

Appendix 1: Tree Protection Plan

KEY
Tree protection fencing
Ground protection
Root protection area
Ground protection of a geotextile membrane, covered by 100mm of woodchip and covered with ply-board or scaffold planks to create a pedestrian walkway in the RPA
Construction exclusion zone, no unauthorised entry or storing of materials at any time
Protective barrier fencing to prevent intrusion into the RPA. See report for full specification.



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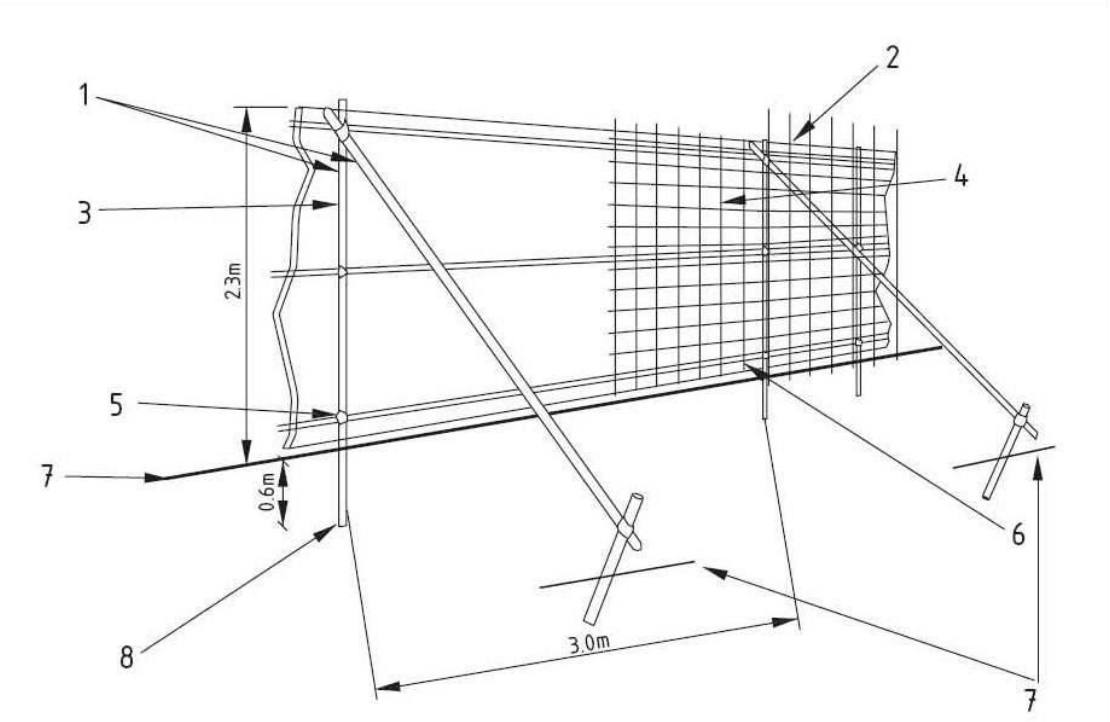
Appendix 2: Protective fencing



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary tandard 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. 0.6 m driven into the ground

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Appendix 3: Ground protection

Where it is not possible to put up protective barriers, ground protection must be used.

This must be fit for purpose in supporting construction traffic and not lead to the damage of the soil structure or tree roots.

For pedestrian movements, a walkway of scaffold boards can be laid on top of a layer of compression resistant material, e.g. woodchip of 100mm, to be laid on top of a geotextile fabric.

For plant up to 2t gross weight, inter-linked ground protection boards laid on top of a compression resistant material. e.g. woodchip of 150mm, to be laid on top of a geotextile fabric.

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BS 5837 Tree Survey Schedule

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Tree no.	Species	Height (m)	DBH (mm)	Spread (m)	Age Class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution	Category Grading
T1	*Tilia cordata* Lime	7	400	N1.5 E1.5 S1.5 W1.5	SM	Covered in dense Ivy. At 2m height large visible open cavity on the main trunk with poor residual wall thickness.	Weakened main union due to large cavity and poor attachment points	Low value tree, either remove and replace or reduce back to the recent pruning points as per general maintenance	<20	C3
T2	*Tilia cordata* Lime	7	370	N1 E1 S1 W1	SM	As above, Ivy clad and appears to be a similarly extensive cavity at the main trunk unions	Growing right up against the rear boundary wall with the main trunk already pushing against the wall.	Low value tree with no space for further trunk expansion. As above either remove and replace of maintain current pruning regime	<20	C3
T3	*Tilia cordata* Lime	7	500	N2 E2 S2 W2	SM	Covered in very dense Ivy. making it hard to assess for structural defects	Growing right up against the rear boundary wall with the main trunk already pushing against the wall.	Low value tree with no space for further trunk expansion. As above either remove and replace of maintain current pruning regime	<20	C3
T4	*Magnolia x soulangeana* Magnolia	4	120	N1.5 E1.5 S1 W1	Y	Good	Good	Retain	>20	B2

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Site: 11 Elsworthy Terrace NW3 3DR
Date: 15th February 2020
Inspected by: Charles Green