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Ascerta

Landscape, Arboricultural & Ecological Solutions
for the Built Environment

Arboricultural Impact Assessment

Woodleigh Lodge
Woolton
L25 7TD

June 2016

Ascerta

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EXECUTIVE SUMMARY

A survey of the existing trees on and adjacent Woodleigh Lodge, Woolton, L25 7TD has been carried out by a suitably qualified and competent Arboriculturist in accordance with British Standard 5837: 2012 *Trees in relation to design, demolition and construction – Recommendations*.

The purpose of the survey and of this report is to identify the impact of the proposed development of the site on trees, both within and immediately adjacent the site, in accordance with the provisions of BS5837: 2012.

The development of the site will involve the construction of a double storey extension to the existing property, which will require the removal of one existing tree and which, in the absence of suitable controls, has the potential to have an indirect impact on a number of the trees proposed for retention.

Mitigation for the impact of the development can be provided in the form of the following:

- The erection of protective fencing in advance of the commencement of the development to safeguard the root systems of retained trees.

Compensation for the impact of the development can be achieved by way of the following:

- The planting of new trees and shrubs to replace the loss of T1 if considered necessary;
- The provision of a suitable root zone enhancement around the base of T2.

1.0 Introduction

- 1.1 Ascerta has been instructed by Mr Chris Hartley to carry out a survey of the trees within and immediately adjacent Woodleigh Lodge, Woolton, L25 7TD, and to assess the potential impact of the development as proposed on trees within / adjacent the site in accordance with British Standard 5837: 2012 *Trees in relation to design, demolition and construction – Recommendations*.
- 1.2 The site was visited on 7th June 2016 by Robert Armitage BSc (Hons), a competent and qualified arboriculturist with experience of the UK and European arboricultural and landscape industries within the context of the planning system. During the site visit, a survey was carried out of the trees growing both on and immediately adjacent the site to the standards contained within BS5837: 2012. This report presents the results of the survey, provides an assessment of the impact of the development and includes recommendations for further actions, where applicable, in order to mitigate any potentially negative effects of the development on tree cover within the local landscape.

2.0 Objectives

- 2.1 Our client's objective is to develop the site by the construction of a double storey extension to the existing property.
- 2.2 Our objectives are as follows:
- Identify what arboricultural features exist presently within and adjacent the site and to record and categorise them in a manner consistent with BS5837: 2012;
 - Identify what trees will need to be removed directly as a result of the proposed development of the site;
 - Identify any indirect impact from the proposed development on trees proposed for retention;
 - Provide an indication of what protection measures can be implemented as part of the development of the site to ensure the physical protection of retained trees;
 - Provide recommendations for mitigation and compensation in terms of new planting or enhancement of existing features of arboricultural, landscape or ecological interest or importance;
 - Provide any other recommendations to assist our clients in achieving their objectives whilst satisfying current legislation or policy guidance in relation to the woody vegetation on site.

3.0 Planning Policy & Relevant Legislation

- 3.1 The National Planning Policy Framework (March 2012) sets out the Government's planning policies for England and how these are expected to be applied. The Framework contains a presumption in favour of sustainable development, with sustainable development in the UK being defined under the UK Sustainable Development Strategy *Securing the Future*. This sets out five 'guiding principles' of sustainable development: living within the planet's environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly.
- 3.2 The Framework seeks to facilitate the approval, without delay, of developments that meet the objectives of up to date Local Plans. Where proposed developments involve net gains for nature and biodiversity, this is to be seen as a positive improvement in the quality of the natural environment and thus in compliance with the objectives of the Framework.
- 3.3 The site lies within the Liverpool City Council administrative area and is subject to policies HD22 & HD23 of the Liverpool Unitary Development Plan, both of which have been taken into consideration when writing this report.
- 3.4 Checks made with Liverpool Council on 8th June 2016 indicate that none of the trees within the site are subject to specific Tree Preservation Orders; however, the majority of the trees are statutorily protected by virtue of their location within a Conservation Area. In advance of the commencement of any works to trees within or adjacent the site, those instructing and proposing to carry out such works should satisfy themselves that all appropriate consents are in place to prevent potential breach of legislation.
- 3.5 British Standard 5837: 2012 *Trees in relation to design, demolition and construction – Recommendations* provides current recommendations and guidance on the relationship between trees and design, demolition and the construction processes. It sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.
- 3.6 Notwithstanding the aforementioned policies and legislation, consideration should also be given to any impacts from the proposed development in respect of the Hedgerow Regulations 1997 and the Forestry Act 1967 (and specifically the potential need for a felling licence), as well as existing UK and European legislation relating to wildlife and nature conservation.

4.0 Survey & Survey Methodology

- 4.1 We have been supplied with a digital copy of the Ordnance Survey map for the site. Features of arboricultural or landscape interest that have been excluded from the original plan (for example trees on or located off site but within a distance from the boundary of the site equal to or less than 12 times the stem diameter of that tree) have been added to the plan manually.
- 4.2 Our assessment of the soils within the site, based on local site conditions, geography, available soil maps and our own experience of soils across the United Kingdom, indicates that the soils on site are likely to contain a clay element, and that this will have a plasticity index in the low/medium range. Any further details or confirmation of the exact nature of soil conditions on site will require further, more rigorous sampling and analysis. It is not however anticipated that the clay content will cause specific issues relating to retention of trees given the impact of the development proposals, providing that consideration is given to this aspect in advance of and during the construction phase of the development. Provision will need to be made for the protection of soil structure in key areas during the construction phase and the repair of any damage post construction. Further details are provided throughout this report and final details can be secured via planning condition.
- 4.3 Our survey of the trees within and adjacent the site was carried out by a qualified and competent arboriculturist in accordance with sections 4.4 and 4.5 of BS5837: 2012 on 7th June 2016 during dry and sunny weather conditions. Those trees surveyed have been numbered sequentially, although for the purposes of this project they have not been tagged. The trees have also been categorised in accordance with section 4.5 and Table 1 of the Standard.
- 4.4 Where relevant and where the quality of shrub masses and hedges justifies recording, details have been recorded to the tree survey plan and tree data tables.
- 4.5 Where trees are surveyed that require immediate attention, for example to abate a nuisance, prevent a serious hazard to life or property, or are affected by a pathogen or pest that could cause widespread damage unless it is controlled, notification will be issued to the relevant person or organisation such that appropriate action can be taken.
- 4.6 Root Protection Areas for those trees surveyed have been calculated in accordance with the formulas within section 4.6 and Annex C of the Standard and can be found within the tree data tables that accompany this report. The tree data tables also contain a key to abbreviations used and the rationale for determining Root Protection Areas for groups of trees and woodlands (where applicable).

5.0 Survey Results & Impact Assessment

- 5.1 Existing Tree Cover:** Five individual trees, one group of trees and two hedges were recorded during our survey, the details of which can be found within Appendix 1 to this report and cross referenced with drawing P.711.16.01 *Tree Survey*.
- 5.2 Direct Impact on Trees:** The development of the site as proposed will directly require the removal of T1.
- 5.3 Indirect Impact on Trees:** In the absence of suitable controls, the development may well have an indirect impact on a number of trees on the site. Measures are therefore required during the construction phase, as described throughout this report, in order to safeguard retained trees for the long term benefit of the landscape.
- 5.4 Context in the Wider Landscape:** Surrounding areas of residential development contain a relatively high level of tree cover, with regular small sections of trees and individuals dispersed between houses. Considering the development only requires the removal of one relatively low value tree, which is to be replaced at the landscaping stage of the project alongside a number of other better quality new trees, the direct impact of the development is likely to have a negligible impact on the extent of canopy cover within the wider landscape.
- 5.5 Hedgerows:** In accordance with the Hedgerow Regulations 1997, 'important' hedgerows (in the context of the Regulations) should not be removed without a Hedgerow Removal Notice issued by the relevant Local Authority, unless that removal is subject to an appropriate consent under the Town and Country Planning Act 1990. In this instance however, no hedgerows are proposed for removal to accommodate the development proposals, therefore there are no arboricultural implications associated with such work.
- 5.6 Potential Mitigation for Development Impacts:** Mitigation of the impacts from the development of the site can be provided in the form of tree planting to replace T1 and the erection of protective fencing to an agreed specification in suitable locations in advance of the commencement of the development. Suitable protection measures to safeguard retained trees can be found throughout this report and are specified on Drawing P.711.16.02 *Tree Constraints & Draft Protection Drawing*.

5.0 Survey Results & Impact Assessment (Continued)

- 5.7 Potential for Shading & Nuisance:** We do not consider in this case that an excessive or problematic level of shade will be cast onto the proposed building, nor that any other ordinary circumstance arising from the presence of trees, for example from leaf or fruit drop, will constitute an unacceptable nuisance.
- 5.8 Boundary Screening:** The site is already bounded by established hedges that provide a strong screen to the site. If necessary, new trees can be planted alongside the existing hedges and trees to enhance the boundary and filter views into the surrounding landscape.
- 5.9 Long Term Spatial Constraints:** The proposed layout has been designed to meet the standards set by the local planning authority and is such that, where applicable, there should generally be adequate space between new buildings and trees to limit the potential for future pressure to remove trees.
- 5.10 Existing Areas of Hard Standing:** Although the removal of the paved area within the root protection area of T2 has the potential to cause damage to the root system of this retained tree, so long as excavations remain sensitive, are permitted no deeper than the existing sub-base of the surface and that any exposed roots are pruned cleanly back to the soil surface, the adverse impacts from such works should be limited as to not require any further means of protection. This area is marked on Drawing P.711.16.02 *Tree Constraints & Draft Protection Drawing* and our preliminary recommendations for the protection of the tree are provided.
- 5.11 Existing buildings/structures to be removed:** The front wall of the existing building is to be demolished to allow for the construction of the extension as is a small retaining wall lining the existing pathway; however, such works should not impact above or below ground structures of retained trees so long as a works are carried out carefully in line with the precautionary measures provided on Drawing P.711.16.02 *Tree Constraints & Draft Protection Drawing* and throughout this report.
- 5.12 Proposed Areas of Hard Standing:** The existing paved area to the front of the property is to be extended slightly into a greater proportion of the root protection of T2 and so, it is essential, in order to protect the root system of this tree, that any excavations are kept as shallow as possible and that any exposed roots are pruned cleanly back to the soil surface as soon as possible to avoid prolonged exposure. Considering it is only a small area of additional encroachment, we do not consider it necessary to install any specialised porous surfacing or geotextiles; careful construction methodologies alone should provide adequate root protection.

5.0 Survey Results & Impact Assessment (Continued)

- 5.13 **Proposed Buildings Located Adjacent / Within Root Protection Areas:** The new building extension encroaches into the root protection area of T2 and so suitable construction methodologies will have to be agreed to ensure that the root system is protected during the works. Considering the expansive and shallow rooting habit of Magnolias, even though the footprint of the building only slightly overlaps with the root protection area of T2, it is likely that roots will be exposed during the construction of the building foundations and so it will be essential that works are carried out carefully to avoid any excessive root damage. These should include sensitive excavations carried out by hand as far as is practically possible with any exposed roots pruned cleanly back to the soil surface as soon as possible. For such a small area of encroachment, we do not consider any specialised modifications to the foundation construction procedure will be required, but rather any root damage that is sustained, which should only be minor in any case, can be mitigated by enhancing certain areas of the remaining root zone with the application of a thick layer of mulch.
- 5.14 **Proposed Drainage & Domestic Services:** At the planning application stage of the project, details of proposed drainage arrangements and provision of utility services are generally not known. During the installation process however, general guidance can be obtained from the National Joint Utilities Group publication *Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Volume 4* such as to minimise the impact of works on retained trees.
- 5.15 **Working Space During the Construction Phase:** The site is of a size such that there will be adequate working space throughout the construction phase, with little if any potential impact on retained trees. However, it is essential that construction exclusion zones created to safeguard retained trees are not breached without prior consideration and implementation of control measures to limit any potentially negative impacts on trees.
- 5.16 **Access Facilitation Pruning:** The retention of T2 will see that the front elevation of the proposed building is close to the canopy of the retained tree and so a combination of branch removal and branch tip reduction work will be required in order to provide a suitable working space and an appropriate clearance between canopy and building. We anticipate that three side branches emanating from the closest main leading branch will need to be removed along with some minor branch tip reduction away from the proposed development working area; however, at the time of construction, changes can be made to such a pruning schedule once a more thorough understanding of the construction process and size of the required working area is established. Provided that any work is controlled and carried out to a minimum of the standards as contained within BS3998: 2010 *Tree work – Recommendations*, the visual impact of the work will be minimal and should not detract from the overall landscape value of the site.
- 5.17 **Protection of Planting Areas:** It is often desirable to fence off areas that are to be newly planted to protect the soil structure. In this case, parts of the site could be effectively excluded from construction activities to allow for new tree planting if considered necessary.

5.0 Survey Results & Impact Assessment (Continued)

- 5.18 Requirement for an Arboricultural Method Statement:** Provided that protective fencing is erected in advance of the commencement of the development and retained intact throughout the construction phase, there should be no specific requirement for an arboricultural method statement in this case. The erection of protective fencing in accordance with a suitable tree protection plan should however be subject to a suitably worded condition attached to the planning consent notice.

6.0 Tree Protection Measures

- 6.1** On the basis of the proposed layout and those trees proposed for retention, drawing P.711.16.02 *Tree Constraints & Draft Protection Drawing* shows our preliminary recommendations for the physical protection of retained trees throughout the construction phase. The plan indicates the location of protective barriers, as well as the specification for construction of the protective fencing in accordance with Figures 2 & 3 of the Standard. These barriers will form a construction exclusion zone around the retained trees. Provided that these measures are implemented in advance of, and retained intact throughout the course of the construction phase, there should be no specific requirement for a Tree Protection or Arboricultural Method Statement.

7.0 Summary of Impacts & Potential Mitigation Factors

- 7.1 Table 1 below summarises the impacts of the development as proposed on tree cover within and immediately adjacent the site. Comments are also provided on potential mitigation, compensation or special measures required in order to minimise the impact of the development and safeguard trees proposed for retention.

Table 1: Summary of the impacts of the development on trees within / adjacent the site.

Issue	Affecting	Mitigation / Compensation / Special Procedures
Trees / hedges to be removed	T1	Appropriate compensation can be provided by way of new / replacement planting at the landscape stage of the project. Biodiversity enhancements can also be achieved through the landscape proposals.
Indirect physical impact on retained trees	Retained trees	Tree protection fencing should be erected to an agreed specification in advance of the commencement of the development.
Removal of existing hard standing	T2	Existing hard standing should be removed with care and no excavations permitted deeper than existing sub-base without adequate precautionary measures to prevent unnecessary damage to retained trees.
Demolition / remediation works	T2	Buildings to be demolished carefully, removing the structures away from tree stems.
Construction of new buildings/structures	T2	Sections of foundations within root protection areas to be excavated sensitively, with machinery located outside of RPAs and roots pruned cleanly back to the soil surface when necessary.
Access Facilitation Pruning	T2	All pruning works should be carried out to a minimum of the standards contained within BS3998: 2010 <i>Tree work – Recommendations</i> .
Protection of proposed planting areas	NA	Areas of the garden can be effectively excluded from the construction zone by the tree protection fencing.
Protective Fencing	To be erected to an agreed specification in advance of the commencement of the development and retained in-situ throughout the course of the construction phase.	

7.0 Summary of Impacts & Potential Mitigation Factors (Continued)

- 7.2 On the basis of the above and the contents of this report, a Method Statement for Tree Protection is not considered necessary at this stage. The erection of tree protective fencing in advance of the commencement of the development, ensuring that it is retained in-situ throughout the construction phase, together with the implementation of the precautionary measures outlined within this report, there should be no particular adverse impact on trees from the proposed development.

8.0 Conclusions & Recommendations

- 8.1 The direct and indirect impacts on tree cover as a result of the development proposals are outlined within this report and mitigation proposed accordingly that seeks where possible to satisfy local and national planning guidance and policy. Where trees are proposed for removal, replacement planting should be undertaken as part of a landscape strategy for the site in line with local plan requirements and to integrate the development into the surrounding landscape. Arrangements for the safeguarding and physical protection of retained trees should be agreed and implemented in a manner consistent with current arboricultural management practices and such as to minimise any potentially negative effects on long term tree cover.
- 8.2 We recommend that tree protection measures are implemented in accordance with drawing P.711.16.02 *Tree Constraints & Draft Protection Drawing*.

9.0 References

Department for Communities and Local Government (March 2012) *National Planning Policy Framework*;

Liverpool Unitary Development Plan,;

British Standard 5837: 2012 *Trees in relation to design, demolition and construction – Recommendations*;

National Joint Utilities Group publication *Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Volume 4*.

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Appendix 1

Site: P.711.16 Woodleigh Lodge, Woolton, L25 7TD

Client: Chris Hartley

Brief: Tree Survey to BS5837:2012

Surveyor: Robert Armitage

Survey Date: June 7th, 2016

Survey Conditions: Dry, Sunny, Warm

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T. No	Species	Ht (m)	Stem DBH (mm)	RPA Radius (m)	Branch Spread				Ht Crown Clearance (m)	Age Class	P Condition	Structural Condition & General Comments	Preliminary Recommendations	Est. (yrs)	Cat
					N	S	E	W							
T1	Ash	8	380	4.56	4.5	6	6	4.5	2	Y/EM	F	Somewhat sparse canopy considering age. Past pruning. Some deadwood in canopy. Small element of dieback on some branches. Small bark inclusion at 1m. Poorly pruned dying back branch west side.	Remove and replace to accommodate development proposals.	30+	B2/C2
T2	Magnolia	6	230+190	3.58	4	4	5.5	4	1.5	EM/M	F	Past pruning. Two main leaders bifurcate into two at 1m. Sprawling, typical form will.	Remove three side branches from main leader nearest house to allow for adequate clearance between proposed building and canopy.	20	B2
G1	Mixed shrubs	4	70# ave	0.84	2	2	2	2	0	Y/EM	F	Mixed shrub planted section.	No works required at this stage.	10+	C2
T3	Tree of Heaven	9	360	4.32	4.5	5	6	5	2	EM	F	Minor damage on main stem. Immediately adjacent gravel driveway. Some small diameter deadwood.	No works required at this stage.	30+	B2
H1	Privet, Lilac, Yew, Camellia and Hydrangea	4	40# average	0.48	1	1	1	1	0	Y/EM	F	Predominantly 3m partly maintained privet hedge with occasional mixed shrubs in front.	No works required at this stage.	20+	B2/C2
T4	Pine	6.5	230	2.76	3	3	3	3	1.5	Y	F	Balanced canopy. No significant structural defects.	No works required at this stage.	40+	B2
T5	Cypress	6	260	3.12	2.5	2.5	2.5	2.5	1	Y/EM	F	Conical form.	No works required at this stage.	40+	B2/C2
H2	Privet, Holly and Elder	3.5	70#	0.84	1	1	1	1	0	Y/EM	F	Partly maintained established hedge.	No works required at this stage.	30+	B2/C2

NOTE: The Category Grade applied to trees surveyed is consistent with the recommendations within Table 1 of BS5837: 2012, however this does not necessarily correlate with the visual importance of a tree within the wider landscape, nor does it dictate which trees should be retained at the cost of quality development. Where trees are to be lost to accommodate a development, recommendations will be made such as to provide suitable mitigation and compensation, and to integrate the development into the wider landscape.

Key to Abbreviations & Headings

T. No.: Tree number. T = Tree, G = Group, W = Woodland, H = Hedge, Cpt. = Compartment)
Stem DBH (Diameter at Breast Height): Measured at 1.3m above ground level*

Ht Crown Clearance: Canopy ground clearance

Structural Condition: Description of any observed defects

Cat. Grade: Tree quality assessment in accordance with BS5837: 2012

Species: Common name used

Root Protection Area Radius: Foot Protection Area as per BS5837: 2012

Age Class: Y = Young, EM = Early Mature, M = Mature, OM = Over mature, D = Dead

Preliminary Recommendations: Made in respect of known / intended use of the site

* For groups of trees, the stem diameter of the largest tree in the group is generally used

Denotes estimated DBH where access was not possible

Ht: Approximate height of tree from ground level in metres

Branch Spread: Extent of canopy spread in metres to each of the four cardinal points

P (Physiological) Condition: G = Good, F = Fair, P = Poor, D = Dead

Est. (yrs): Estimated remaining contribution in years

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S:\All Jobs\711.16 Woodleigh Lodge, Woolton\711.16 Tree Data Table To BS Docx

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Appendix 2

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 ALL COORDINATES RELATED TO LOCAL GRID
 LOCATED TO OSING BY BEST FIT TO DETAIL
 EXTRACTED FROM OS DIGITAL DATA
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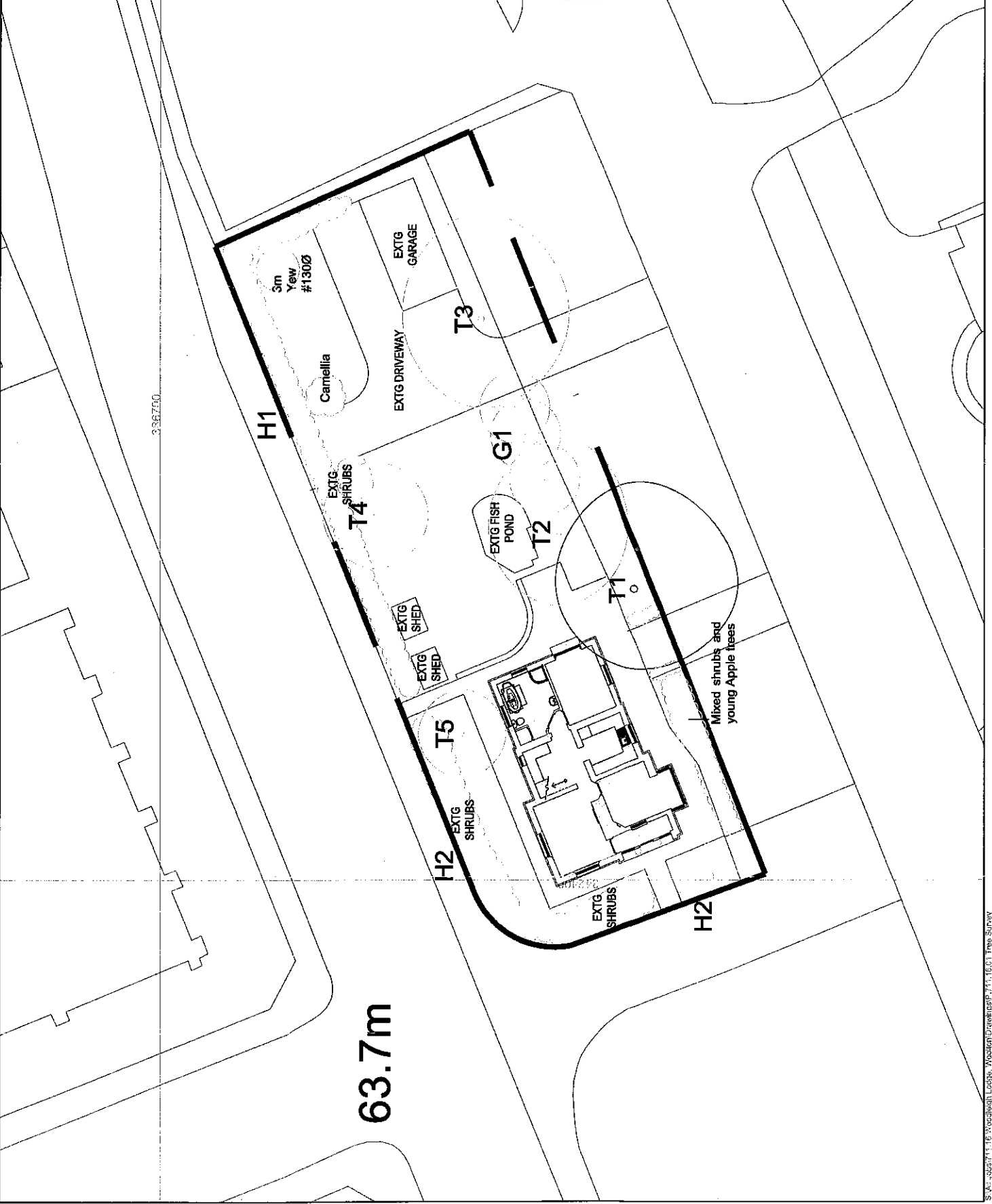
KEY



Existing tree to be retained



Existing tree to be removed



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CLIENT:
 Chris Hartley

PROJECT:
 Woodleigh Lodge, Woolton

DRAWING TITLE:
 Tree Survey

SCALE:
 1:200 @A3
 DATE:
 07/06/2016 AM P.711.16.01

DRAWN BY:
 CP
 CHECKED BY:
 AM

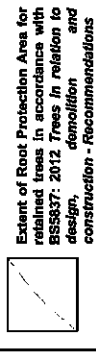
REV:

ALL COORDINATES RELATED TO LOCAL GRID
LOCATIONS OF TREES AND PROPOSED
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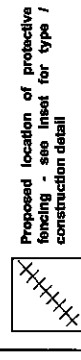
DO NOT SCALE



Existing tree to be retained



Extent of Root Protection Area for retained trees in accordance with BS5837: 2012. Trees in relation to design, demolition and construction - Recommendations



Proposed location of protective fencing - see inset for type / construction detail



Area for proposed mulching

General updates
REV DESCRIPTION
13/06/16 DATE

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CLIENT:
Mr Chris Hartley
PROJECT:
Woodleigh Lodge, Woolton, L25 7TD
DRAWING TITLE:
Tree constraints & Draft Protection Drawing

SCALE:
1:200 @A3
DATE
09/06/2016
DRAWN BY: DRAWING No:
P. 711.16.02
CHKD BY: P. 711.16.02
REV: A

We do not consider it necessary to exclude all trees, hedges and planted areas from the wider working area by erecting tree protection fencing around all RPAs, but do emphasise the importance of keeping all stored materials and machinery off the grass and other areas of soft landscaping to maintain soil structure and avoid unnecessary canopy damage.

