# Pell Frischmann

Former Hazel Grove School Playing Fields Site, Filbert Close Hatfield

Arboricultural Survey Report

August 2019 RE70091V002B Ð

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#### **Revision Record**

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Rev	Description	Date	Originator	Checker	Approver	
А	Initial Issue	31/08/17	C Gilby	S Humphreys	S Wooster	
В	Updated Masterplan	13/08/19	C Gilby	S Humphreys	C Gilby	

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## Contents

1	Introduction	.1
1.1	Objectives and Scope	.1
1.2	Site Location and Description	.1
1.3	Proposed Development	.2
2	National Policy and Legislation	.3
3	Methodology	.4
3.1	Principal Trees: Age Classification	.4
3.2	Tree Survey and Tree Condition	.4
3.3	Categories for Tree Constraints Plan	.4
3.4	Root protection Area	.5
3.5	Key for the Tree Survey Schedule	.6
4	Survey Results	.7
4.1	General Site Description	.7
4.2	Recorded Trees	.7
4.3	Classification	.8
4.4	Individual Trees	.8
4.4.1	Category A	.8
4.4.2	Category B	.8
4.4.3	Category C	.9
4.5	Groups of Trees	.9
4.5.1	Category C	.9
5	Likely Impacts	10
5.1	Arboricultural Impacts	10
5.2	Ecological Impacts in Relation to Trees	10
6	Recommendations	11
6.1	Protection of Retained Trees	11
6.2	Tree Planting	11
6.3	Breeding Birds	11
7	Tree Protection Measures	12
7.1	Construction Exclusion Zone (CEZ)	12
7.2	Protection Measures for Retained Trees	13
7.3	Measures to Protect Roots of Retained Trees	14
7.4	Other Protection Measures	14
8	Summary1	15
9	Arboricultural Report Limitations1	6
10	References1	17

Appendices Appendix A Masterplan Appendix B Tree Survey Schedule Appendix C Tree Constraints Plan Appendix D Draft Tree Protection Plan

## 1 Introduction

Pell Frischmann have been commissioned by Hertfordshire County Council (HCC) to undertake an Arboricultural Assessment of land at the former Hazel Grove School playing fields site, Filbert Close, Hatfield.

The requirement for the assessment arises from HCC interest in creating a residential development on the land. This report aims to inform the proposed design scheme regarding impacts on trees.

This report has been updated following receipt of an updated masterplan in August 2019, Baseline surveys undertaken in 2017 have not been updated at this stage; it is considered that these baseline surveys are still accurate for their purpose with only minimal tree growth likely within this time.

#### 1.1 **Objectives and Scope**

The objectives of this assessment are to evaluate the overall condition of the trees on and adjacent to the site. We have considered the arboricultural impacts of both the construction and operational phases of the scheme. We have also considered potential impacts to trees which may be affected by construction or access works which may be located some distance from the actual site boundary.

A Tree Constraints Plan has been produced to inform the Proposed Development. A full impact assessment and Tree Protection Plan can be produced once a finalised development and construction plan has been issued.

The arboricultural assessment aims to assess the following:

- the suitability of trees for retention as categorised in accordance with BS 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations';
- the constraints presented by the trees;
- impacts of the scheme development in relation to any retained trees;
- the arboricultural impacts of the proposed scheme; and
- the requirements for tree management where appropriate.

British Standard (BS) 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations' requires that information on the constraints associated with retained trees be sent to the project designers. This information is detailed in a Tree Constraints Plan. The constraints, which are covered by BS 5837, are associated with issues relating to retained trees both above and below ground, and the necessary measures to ensure their safe retention.

## **1.2** Site Location and Description

The proposed development plot (approximately 0.95 ha), hereafter referred to as the Site, is located on the former Hazel Grove School playing fields on the south-western edge of the urban area of Hatfield.

The National Grid Reference of the approx. centre of the Site is TL 217 066. The Site location is shown in Figure 1.

The Site is adjacent to residential properties to the north, east and west. The southern boundary of the Site is a tree line leading to a park with areas of broadleaf woodland. These woodland areas form a continuous tree belt along the A1. The A1 road is approximately 120m to the south of the Site and separates the park from open fields.

## **1.3 Proposed Development**

A residential development is proposed for the Site of a character which is in keeping with the surrounding area (attached in Appendix A).



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Ordnance Survey Maps - License Number 100004912

## 2 National Policy and Legislation

Information obtained from the Welwyn Hatfield Council Interactive Website indicates that there are no tree preservation orders within, or immediately adjacent to the Site. The Site is not within a Conservation Area. This information can found online at:

http://www.welhat.gov.uk/index.aspx?articleid=2075.

Tree work or tree removal will give rise to ecological impacts which may be constrained by current legislation including: The Conservation Regulations (2010), the Wildlife and Countryside Act (1981), the NERC act (2006) and the Countryside and Rights of Way Act (2000). Further specialist surveys may be required if works are likely to impact trees of ecological importance.

## 3 Methodology

The arboricultural survey was undertaken by a suitably qualified member of staff from Pell Frischmann on the 13<sup>th</sup> July 2017. The weather was fine and visibility was good.

The survey area is shown above in Figure 1. Several trees which are adjacent to the site may also be affected by the proposed development and have also been considered. Access to measure these trees has not always been possible.

Trees were photographed and measured for height, crown spread, and stem diameter. The physical and structural condition of each tree, or group of trees, was noted and recommendations made for tree work or on-going maintenance requirements are detailed in the Tree Survey Schedule presented in Appendix B. Trees were recorded using Otiss BS5837 software. Survey data is shown on the Tree Survey Schedule (Appendix B) and Tree Constraints Plan (Appendix C).

## 3.1 **Principal Trees: Age Classification**

The following classification has been employed:

- 1. Young: Saplings and young trees under 10 years of age.
- 2. Middle Aged: Trees older than 10 years but less than one third of the life expectancy of their species, normally making substantial extension growth.
- 3. Mature: Trees between one third and two thirds of the life expectancy of their species. Approximately full height and girth, increasing only slowly over time.
- 4. Over mature: Trees beyond two thirds of the life expectancy of their species. No significant extension growth. Crown starting to break up and decrease in size.
- 5. Veteran Trees are beyond the over mature stage but because of their size and age are significant features within the landscape and which can be rejuvenated and conserved by appropriate management.

## **3.2** Tree Survey and Tree Condition

The surveyor assessed the individual condition of the trees identified within the area. The assessment of condition is based on a visual inspection only. Each tree was assessed by consideration of the following:

- a) any visible structural defects,
- b) the size and form and the suitability of its position,
- c) the location with regard to the position of other relevant features.

## 3.3 Categories for Tree Constraints Plan

Individual trees are assessed and then placed into one of four categories as detailed below. For tree numbers please refer to the appended Tree Constraints Plan in Appendix C.

• **Category A** (marked Green on the Tree Constraints Plan). Trees which are significant and which must be retained, wherever possible, within the layout. Category A trees which

are particularly good examples of their species, or are essential components of a group (e.g. the dominant and/or principal trees within an avenue).

- **Category B** (marked Mid Blue on the Tree Constraints Plan). These trees should be retained, wherever possible, within any development proposals. These trees have been downgraded due to impaired condition, such that they are unlikely to be suitable for retention beyond 40 years.
- **Category C** (marked in Grey on the Tree Constraints Plan). Trees which do not have sufficient arboricultural merit to constrain development proposals.
- **Category U** (marked in Red on Tree Constraints Plan). Trees which will not remain safe features beyond the short term and should be removed as part of any development proposals.

BS5837 requires that trees are further identified according to any particular merits defined as:

- Arboricultural specimens sub division 1
- Trees of landscape importance sub division 2
- Trees with ecological, historical or cultural significance sub division 3

The design layout should allow for the retention of Category A and B trees where possible. Category C trees should only be retained in locations where they will not over constrain development proposals or present additional amenity issues.

Mitigation will be required for the loss of any trees, or groups of trees, which have been classified as Category A or B.

#### 3.4 Root protection Area

BS5837 defines the Root Protection Area (RPA) as a "layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority"

For each tree the RPA has been calculated. For single stems trees, the RPA is calculated as an area equivalent to a circle with a radius 12 times the stem diameter. For trees with more than one stem, the RPA has been calculated using the Helliwell Method with each stem being measures at 1.5m above ground level to calculate the basal area in m<sup>2</sup>. The shape and position of the RPA may be adjusted by the arboriculturalist to take into consideration site factors such as soil type and depth, prevailing wind, slope and drainage or built structures such as roads or footings. The overall size of the RPA cannot be changed.

## 3.5 Key for the Tree Survey Schedule

Table 1: Key for the Tree Survey Schedule								
Height	Measured with clinometer in metres							
Stem Diameter	Diameter measured at 1.5 m from ground level with tape in mm							
Spread area (N,S,E,W))	Crown spread measured in metres at the points on the compass							
Height of Crown Clearance	In metres to inform on ground clearance, shading and crown to stem ratio.							
Age Class	Y-Young, SM – Semi-mature, M-Mature, OM- Over mature, V-Veteran							
Physiological Conditions	Good, Fair, Poor, Dead							
Structural Condition	Visual evidence of the presence of decay or danger of collapse							
Category Grading	A-good, B-Moderate, C-Poor, U-Dead or dangerous							

## 4 Survey Results

The survey results are shown in the Tree Survey Schedule presented in Appendix B. The layout and root protection areas are shown in the Tree Constraints Plan presented in Appendix C. Trees have been assessed individually or in groups where several similar trees form a single management unit.

## 4.1 General Site Description

The Site is a former school playing field extending to approximately 0.95 ha with tree planting to the south. Individual trees have clearly been planted but not well managed. This has developed into a transitional woodland made up of cherry suckers and a range of vigorous self-seeded trees including ash and sycamore.

#### 4.2 Recorded Trees

Thirty-nine individual trees and eight groups of trees were recorded during the survey. Thirteen species of tree were recorded including:

- Ash Fraxinus excelsior
- Dogwood
  Cornus sanguinea
- English oak
  Quercus robur
- Field maple Acer campestre
- Hawthorn
  Crataegus monogyna
- Hazel
  Corylus avellana
- Holly Illex spp.
- Hornbeam
  Carpinus Betulus
- Norway maple
  Acer platanoides
- Plum
  Prunus spp.
- Red oak
  Quercus rubra
- Silver birch
  Betula pendula
- Wild cherry
  Prunus avium

A selection of photographs taken during the walkover survey are included in Figure 2. .

#### Figure 2: Site Survey Photographs





Category B red oak T10



G49 and T09 cherry suckers

G01 is a hedgerow forming the boundary between the eastern edge of the Site and residential gardens



Row of Category A and Category B off-site trees adjacent to the southern boundary of the Site

#### 4.3 Classification

Of the individual trees, eleven have been placed in Category A, eight in Category B, twenty in Category C and none in Category U. Of the Groups of trees, all have been placed in Category C.

#### 4.4 Individual Trees

#### 4.4.1 Category A

Eleven off-site Category A trees have recorded growing within the park to the south of the Site. These trees are of good structure and are providing a visual screening between the Site and the park. Many of these trees have branches that overhang the Site and the RPA of several also cross the scheme boundary.

#### 4.4.2 Category B

Trees in this Category are of good condition and should be retained where possible within the design plans.

T10 (red oak) has been placed into this category due to its arboricultural merits and is the only example of its species within the Site. One broken limb has been identified that may be of value to roosting bats.

T36, T42 and T47 are off-site trees within proximity to the southern boundary of the Site.

The remainder of individual trees within this Category have been identified as notable trees within a larger group of trees and should be avoided retained where possible within the Proposed Development.

#### 4.4.3 Category C

Twenty individual trees have been placed into Category C and, except for T38 which is an offsite tree, have all been identified as notable trees within a larger group of trees. Two horse chestnut trees T06 and T16 are currently affected by Horse chestnut leaf miner.

#### 4.5 **Groups of Trees**

The term 'Group' is intended to identify any trees that form cohesive arboricultural features, either aerodynamically, visually or culturally (including for biodiversity). A number of groups of even aged trees were identified which should also be managed as a single unit.

No groups of trees have been placed into Category A, Category B or Category U.

#### 4.5.1 Category C

Eight groups of trees were recorded and placed into Category C. There are two hawthorn dominant hedgerows which provide a boundary between the western and eastern edges of the Site, and one overgrown hedgerow made up of hawthorn, Norway maple and ash dissecting through the centre of the Site.

G14, G22, and G49 are mixed species groups generally dominated by cherry suckers, field maple, ash, and dogwood. Individual trees of note within these groups have been outlined above in Section 4.4.

In general, the groups of trees recorded were of poor structural quality, however they do form a landscape feature and screen the Site from the adjacent park. These groups also provide part of a continuous linear feature which has the potential to be important for foraging bats and breeding birds.

## 5 Likely Impacts

An outline development proposal includes residential properties with associated roadways, gardens, parking areas and landscaping and has been included in Appendix A. A SuDS area is being considered within the southern section of the Site.

The arboricultural survey has identified trees and groups of trees of ecological and landscape value within the Site, and immediately adjacent to the southern boundary.

The impact assessment will be updated once detailed development plans are available.

#### 5.1 Arboricultural Impacts

Development within the Site has the potential to impact on individual and groups of trees during construction. Off-site trees within the park and the adjacent garden may be impacted within their RPA. The Tree Constraints Plan (Appendix C) has been used to inform the scheme and to avoid impacts to tree wherever possible.

It is likely that Category B trees T04 and T29 will be removed to create the SuDS area within the south-east section of the Site. Suitable mitigation will be required for the replacement of these trees.

Category B T07 will require removal to facilitate construction of Units 6 and 7.

It should be noted that most of the trees recorded as being "notable" are located on adjoining land (both public and privately owned). The branches and roots of these trees extend into the Scheme site, so the proposed development has the potential to adversely affect these trees. Root or branch damage during construction can lead to decay infection. Buildings placed too close to established trees can lead to long term safety and nuisance issues. Many tree species are sensitive to minor changes in water levels which can lead to root decay. Steps should be taken to avoid adverse impacts to these trees.

#### 5.2 Ecological Impacts in Relation to Trees

All trees and groups of trees have the potential to support breeding birds. Bird activity was recorded throughout the Site and therefore nesting birds are presumed present within the breeding birds season (March - September) which would be impacted on if trees are removed during this season. All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).

Impacts to the loss of breeding bird habitat are outlined in the Preliminary Ecological Appraisal (Pell Frischmann RE70084V001).

## 6 Recommendations

### 6.1 **Protection of Retained Trees**

BS5837:2012 requires that Category A and B trees are retained and protected where possible within, and adjacent to, the Site. If this is not possible, suitable mitigation must be provided for the loss of trees and groups of trees which have been assessed as being in Category A or B.

Tree protection fencing will need to be erected to protect the RPA of all retained trees both on and off the site. The fencing should be inspected by the project arboriculturalist to ensure that they are in the correct position and adequately secured. This will should also aim to provide protection to trees from high sided construction vehicles within the construction compound.

Where required, all remedial tree works should be undertaken to BS 3998: 2010 Tree Work – Recommendations. This will be determined once the final tree protection plan is produced.

#### 6.2 **Tree Planting**

Any Category A or B trees which are removed should be replaced within the Scheme Landscape Plan. It is essential that trees are replaced with species of comparable life span and size at maturity. This will require sufficient space being made available within the Scheme layout to be able to retain any new trees through to maturity. In time, species such as beech, oak, ash etc. will require a minimum growth space of 500 square metres.

Category B trees which are removed may be mitigated for within the SuDS area. Details of replacement tree planting will be finalised upon receipt of the completed design plans and will be incorporated within the landscape plan. Species suitable for planting within residential development should be considered, and native species used where possible, and include hazel, small leaved lime hornbeam, rowan and field maple. Fastigiate oak and beech would also be suitable for this Site.

#### 6.3 Breeding Birds

Trees have the potential to support breeding birds. Any construction or clearance works impacting on these areas should be completed outside of the breeding bird season (March-September).

If this is not possible then the works will require an ecological watching brief to ensure that the trees and shrubs are clear of nests. If any active nests are located, then works will be required to stop until a 5m radius around the nest has been screened off from construction. Any works within this area will only be permitted to continue after the chicks have fledged.

## 7 Tree Protection Measures

BS 5837 specifies that a Tree Protection Plan (TPP) should be prepared to show the impact of the proposed development on existing trees at the site. This will be prepared once detailed development plans are available.

The TPP will be prepared when the design layout has been finalised and an accurate Construction Exclusion Zone (CEZ) can be calculated. Other areas of land; where soil will need to be protected from compaction or contamination, will also be identified. A Draft Tree Protection Plan can be found in Appendix D. This shows the indicative location of Tree Protection Fencing to protect the notable trees on or adjacent to the site. This plan has been produced to inform the design process only. The final position and length of the fencing is likely to change and additional trees may also be retained and protected.

Information from the completed TPP should be incorporated into subsequent drawings and method statements to ensure that all interested parties are fully aware of the areas in which access and works may and may not take place. The final TPP will be produced following the completion of detailed designs for the site.

The following protection measures are recommended for all construction works where excavation or other activities could impact on retained trees.

## 7.1 Construction Exclusion Zone (CEZ)

During construction, care must be taken to ensure that the existing ground levels around trees are maintained as trees are sensitive to any changes in water level or factors which alter the aeration of the root system.

As a general guide, the full root protection area (RPA) should be observed, and BS 5837 adhered to (see the Tree Constraints Plan in Appendix C).

BS 5837 states that all retained trees or groups of trees should be protected by RPAs marked by the erection of a protective barrier. The Tree Constraints Plan and the Tree Survey Schedule shows the RPA for each tree or group of trees.

BS 5837 specifies the minimum RPA in square metres rather than a radial distance; the final barrier position will be shown on the TPP, which will be produced once the development layout has been finalised.

BS 5837 enables the professional arborist to make small changes to the shape (but not the area) of the RPA to fit with local conditions.

The TPP should also detail routes for services and site facilities.

If services need to pass through the CEZ, directional drilling or thrust boring techniques must be employed at a suitable depth ( $\geq$  1 metre) under the trees. This will minimise damage to tree roots. Any works which need to take place within the CEZ must be notified to the project arborist in advance. The project arborist should produce a suitable arboricultural method statement for the works and may recommend that the work is undertaken under a professional watching brief.

#### 7.2 **Protection Measures for Retained Trees**

Retained trees will require ground protection around their RPA using a combination of barriers and ground protection.

All barriers should conform to the standard specified in BS 5837:2012 and are shown in Figure 3 below.





The protective barriers should comprise a scaffold frame from which "heras" type fencing (or similar) should be firmly attached. The barrier must be strong enough to protect the trees from the expected level of construction activity and should be constructed so that it cannot be easily moved.

Once the exclusion zone has been protected by barriers and/or ground protection, construction work can commence. All weather notices must be erected on the barriers stating "Construction Exclusion Zone KEEP OUT". It is recommended that the protective fencing is erected under the supervision of an arborist to ensure that adequate protection is provided.

The location of protective barriers will need to be shown on the TPP. Once the protective fencing is in place it should be inspected by the project arborist, who should then inform the local authority tree officer that the erection work has been completed.

#### 7.3 Measures to Protect Roots of Retained Trees

It may be possible to incorporate walkways alongside existing trees by using "no-dig" construction techniques such as cellular confinement systems. It is possible for these systems to occupy up to 20% of the total area of a Root Protection Area of a retained tree.

Paving and other permanent surfaces should be laid onto a flexible base to allow movement and to facilitate re-laying if distortion becomes excessive. Cellular containment systems such as "Cellweb" or similar aggregate retaining products allow for root plate movement. These should be laid under the guidance of an experienced arborist to ensure that roots are fully protected. Cellular confinement systems are laid over the existing ground surface and no prior excavation should be undertaken.

It is essential that the block paving or other surfaces which are proposed are fully porous to allow water and air to reach the roots of retained trees.

Full arboricultural method statements should be produced for this type of activity and a suitably experienced arborist should be on site to supervise key operations.

## 7.4 Other Protection Measures

Other protection measures to be considered during construction include:

- Material which will contaminate the soil, such as concrete mixings, diesel and vehicle washings, should not be discharged within 10 metres of the tree stem.
- Notice boards, telephone cables or other services should not be attached to any part of the tree.
- Fires should not be lit within 5 metres of any tree trunk, branch or foliage.
- No materials or rubbish should be left within the CEZ.

## 8 Summary

The survey results are shown in the Tree Survey Schedule in Appendix B. The layout and root protection areas are shown in the Tree Constraints Plan in Appendix C.

Forty individual trees and eight groups of trees were recorded during the survey. Of the individual trees, eleven have been placed in Category A, eight in Category B, twenty-one in Category C and none in Category U. Of the Groups of trees, all have been placed in Category C.

An outline development proposal includes residential properties with associated roadways, gardens, parking areas and landscaping. A SuDS area is being considered within the southern section of the Site.

A preliminary assessment has been made of potential arboricultural impacts. General recommendations have been made for tree and root protection and mitigation for trees which will need to be removed.

Construction on site should avoid impacts to Category A and B trees wherever possible.

Trees within the adjacent park are of high arboricultural and landscape quality. Their branches and roots extend into the proposed development site, so care must be taken to avoid impacts wherever possible.

A draft Tree Protection Plan has been produced to help further inform the detailed layout design.

On completion of the layout design, a final Tree Protection Plan will be required to provide details of all the trees due for removal, and the protection measures for all of the retained trees.

## **9** Arboricultural Report Limitations

The information reported is based only on the interpretation of data collected during the survey undertaken on site. The condition and size of the trees is likely to change with time.

This report has been prepared by Pell Frischmann with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client.

This report does not seek to address the specific area of subsidence risk. Any discussion of soil characteristics is included only where they may affect tree or root growth. Queries regarding subsidence will require a separate specialist report to be commissioned.

This report has been prepared solely for the use of Hertfordshire County Council and may not be relied upon by other parties without written consent from Pell Frischmann. In addition, it must be understood that this report does not constitute legal advice.

Pell Frischmann disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

## **10** References

BS 5837: 2012 'Trees in relation to design, demolition and construction - Recommendations'

BS 3998: 2010 'Tree Work - Recommendations'

National Joint Utilities Group (NJUG) Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Volume 4, issue 2. London:

Lonsdale D. Principles of Tree Hazard Assessment and Management. TSO London 1999

## Appendix A Masterplan



# Appendix B

Tree Survey Schedule

Ref	Common Name	Botanical Name	Height (m)	Num. Stems	Stem Diam (mm)	Multiple Stem diam (mm)	RPA	North	South	East	West	Crown Clearance (m)	Lowest Branch (m)	Life Stage	General Observations	Retention Category
G01	Mixed species	Mixed species	8	1			Area: 212.96 sq m.	2	2	2	2				Mixed species hedge along boundary fence. Elder, hawthorn, hedge bindweed, forming boundary of gardens to the east.	С
G05	Mixed species	Mixed species		1			Area: 169.1 sq m.								Off site elder, hawthorn, bindweed, nettles, holly, Norway maple,	С
G11	Hawthorn, Common	Crataegus monogyna	1.5	1			Area: 176.7 sq m.								Hedge along western fence boundary	С
G13	Mixed species	Mixed species		1			Area: 882.11 sq m.								Norway maple, hawthorn	С
G14	Mixed species	Mixed species		1			Area: 437.2 sq m.								Oak, field maple, plum, blackbird, dogwood, hazel, cherry, Silver birch	C2
G22	Mixed species	Mixed species		1			Area: 1537.71 sq m.								Cherry suckers, maple, hawthorn	C2,3
G28	Hornbeam	Carpinus betulus		1	240		Area: 117.83 sq m.								3 Hornbeam trees. Average DBH 240mm	C2
G49	Mixed species	Mixed species		1			Area: 796.32 sq m.								Cherry suckers, ah and sycamore saplings	С
т02	Maple, Field	Acer campestre	18	1	750		Radius: 9.0m. Area: 254 sq m.	8	8	8	8	2	3	Mature	Birds nest present. Low hanging branches, large fork with evidence of weaping	С
т03	Beech, Common	Fagus sylvatica	20	1	800		Radius: 9.6m. Area: 290 sq m.	7	7	7	7				Off site tree. DBH approx 800mm	В
т04	Maple, Field	Acer campestre	11	1	420		Radius: 5.0m. Area: 79 sq m.	5	5	5	5	3		Semi Mature		В
т06	Chestnut, Horse	Aesculus hippocastanum	12	1	280		none - due to Retention Category of U.	3	3	3	3			Young		С
т07	Maple, Field	Acer campestre	11	1	500		Radius: 6.0m. Area: 113 sq m.	5	5	5	5			Mature		В
т09	Cherry, wild	Prunus avium	18	1	610		Radius: 7.3m. Area: 167 sq m.								Large area of suckers creating group	С
T10	Oak, Red	Quercus rubra	22	1	750		Radius: 9.0m. Area: 254 sq m.	9	9	9	9	3			Some broken branches. Possible habitat for foorsting bats.	B1
T12	Ash	Fraxinus sp.	18	7	400		Radius: 12.7m. Area: 507 sq m.	8	8	8	8	1	1	Mature		C2
T15	Maple, Field	Acer campestre	15	5		100, 100, 120, 120, 230,	Radius: 3.8m. Area: 45 sq m.	4	4	4	4	1	2	Semi Mature		С

Ref	Common Name	Botanical Name	Height (m)	Num. Stems	Stem Diam (mm)	Multiple Stem diam (mm)	RPA	North	South	East	West	Crown Clearance (m)	Lowest Branch (m)	Life Stage	General Observations	Retention Category
T16	Cherry, wild	Prunus avium	11	2		290, 140,	Radius: 3.9m. Area: 48 sq m.									С
T17	Maple, Field	Acer campestre	15	7		120, 150, 120, 200, 150, 120, 120,	Radius: 4.5m. Area: 64 sq m.	9	9	9	9	0.5	0.5	Mature		С
T18	Cherry, wild	Prunus avium	10	1	340		Radius: 4.1m. Area: 53 sq m.									С
T19	Cherry, wild	Prunus avium		1	370		Radius: 4.4m. Area: 61 sq m.							Mature		С
T20	Maple, Field	Acer campestre	12	5		120, 120, 80, 100, 80,	Radius: 2.7m. Area: 23 sq m.									С
T21	Maple, Norway	Acer platanoides	12	3		80, 120, 250,	Radius: 3.5m. Area: 38 sq m.	4	4	2	4					С
T23	Maple, Norway	Acer platanoides	12	1	300		Radius: 3.6m. Area: 41 sq m.	5	5	5	5	1	2	Mature		С
T24	Cherry, wild	Prunus avium	9	2		210, 230,	Radius: 3.7m. Area: 43 sq m.	2	2	2	2			Semi Mature		С
T25	Cherry, wild	Prunus avium		10	100		Radius: 3.8m. Area: 45 sq m.									С
T26	Ash, Common	Fraxinus excelsior	15	1	350		Radius: 4.2m. Area: 55 sq m.	4	4	4	4			Mature		С
T27	Ash, Common	Fraxinus excelsior	12	1	260		Radius: 3.1m. Area: 30 sq m.							Mature		С
T29	Oak, pedunculate	Quercus robur	15	1	800		Radius: 9.6m. Area: 290 sq m.									В
T30	Oak, pedunculate	Quercus robur	9	1	250		Radius: 3.0m. Area: 28 sq m.									C2
T31	Ash, Common	Fraxinus excelsior	8	1	190		Radius: 2.3m. Area: 17 sq m.							Young		C2
Т32	Chestnut, Horse	Aesculus hippocastanum	15	11	160		Radius: 6.4m. Area: 129 sq m.									С

Ref	Common Name	Botanical Name	Height (m)	Num. Stems	Stem Diam (mm)	Multiple Stem diam (mm)	RPA	North	South	East	West	Crown Clearance (m)	Lowest Branch (m)	Life Stage	General Observations	Retention Category
Т33	Maple, Norway	Acer platanoides	15	1	430		Radius: 5.2m. Area: 85 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T34	Hornbeam	Carpinus betulus	12	1	280		Radius: 3.4m. Area: 36 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T35	Ash, Common	Fraxinus excelsior	15	1	470		Radius: 5.6m. Area: 99 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
Т36	Ash, Common	Fraxinus excelsior	9	3		170, 70, 240, 130	Radius: 3.9m. Area: 48 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	B2
T37	Hawthorn, Common	Crataegus monogyna	9	1	370		Radius: 4.4m. Area: 61 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T38	Ash, Common	Fraxinus excelsior	10	5		210, 230, 220, 230, 80,	Radius: 5.4m. Area: 92 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	с
Т39	Sycamore	Acer pseudoplatanus	10	1	430		Radius: 5.2m. Area: 85 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T40	Sycamore	Acer pseudoplatanus	12	1	450		Radius: 5.4m. Area: 92 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T41	Maple, Norway	Acer platanoides	15	1	440		Radius: 5.3m. Area: 88 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T42	Hawthorn, Common	Crataegus monogyna	9	1	260		Radius: 3.1m. Area: 30 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	B2
T43	Maple, Norway	Acer platanoides	15	1	350		Radius: 4.2m. Area: 55 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T44	Ash, Common	Fraxinus excelsior	17	1	390		Radius: 4.7m. Area: 69 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T45	Maple, Norway	Acer platanoides	10	1	320		Radius: 3.8m. Area: 45 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T46	Ash, Common	Fraxinus excelsior	15	1	440		Radius: 5.3m. Area: 88 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	A2
T47	Sycamore	Acer pseudoplatanus	10	1	330		Radius: 4.0m. Area: 50 sq m.								In adjacent park to the south. RPA slightly wihtin the Site and overhanging branches	B2

## Appendix C Tree Constraints Plan



## Appendix D Draft Tree Protection Plan



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