

Stratfield Farm  
Kidlington

## **Arboricultural Impact Assessment**

Project Details	
<b>Client:</b>	Manor Oak Homes
<b>Project:</b>	Stratfield Farm, Kidlington
<b>Report Title:</b>	Arboricultural Impact Assessment
<b>Project Number:</b>	9407
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## Executive Summary

- i) **Introduction.** Aspect Arboriculture are commissioned by Manor Oak Homes to prepare an Arboricultural Survey and Impact Assessment relating to proposed development of land at Stratfield Farm, Kidlington.
- ii) **Proposals.** The proposals seek planning permission for the introduction of residential development with associated infrastructure and landscaping.
- iii) **Surveys.** The site was originally surveyed by Aspect in June 2017 but has been checked and validated to inform this application during February 2022. The tree survey followed the guidance contained within BS5837:2012 and copies of the data are available within appendices A and B.
- iv) **Statutory Designations.** Background checks reveal that the site does not occur within a conservation Area, and that there are no trees within influence of the site that are scheduled within a Tree Preservation Order.
- v) **Arboricultural Impact.** The arboricultural impact of the proposed development is described by net tree losses, totalling eighteen individual trees, an area of scrub, a single hedgerow, and the partial clearance of a further four parcels of scrub and three hedgerows. The scheme accommodates the site's principal trees including the high and moderate quality Oak, Horse Chestnut and Sycamore within the interior. The scheme provides consideration for the provision of replacement trees in response to tree losses. A preliminary tree protection drawing is appended to this document to demonstrate the deliverability of safeguarding measures. Conclusions drawn against Cherwell District Council's adopted Policies which relate to trees and the Framework, conclude that the development proposal is acceptable from the arboricultural perspective. This is subject to the implementation of a high quality scheme of tree planting and safeguards applied to retained trees during construction.

# 1 Introduction

## 1.1 Background & Proposals

- 1.1.1 Aspect Arboriculture are instructed by Manor Oak Homes to prepare an Arboricultural Survey and Impact Assessment relating to proposed development of land at Stratfield Field, Kiddlington.
- 1.1.2 The proposals seek planning permission for the introduction of residential development with associated infrastructure and landscaping.

## 1.2 Purpose of the Report

- 1.2.1 This report documents the methods and findings of the baseline arboricultural survey and desktop study carried out to establish the existing arboricultural interest of the site. To inform the planning balance, it provides an appraisal of the direct and any likely residual effects of the proposals, and provides a review of any mitigation and enhancement measures to safeguard any significant arboricultural interest. The baseline arboricultural survey can be reviewed at Appendix A and B.

## 1.3 Site Overview

- 1.3.1 The application area falls within the administrative control of Cherwell District Council, and comprises the curtilage of Stratfield Farm, Kidlington, and a number of adjoining fields. The fields are predominantly under pastoral use and are bound by native hedgerow, and parcels of trees and scrub.
- 1.3.2 The site's northern boundary abuts existing residential development associated with Croxford Gardens, South Avenue and South Close. The Oxford Canal abuts the western boundary and Stratfield Sports Ground lies immediately to the south although it is separate from the site by a lapsed hedgerow and scrub. Access is currently available via a gated entrance off Oxford Road which defines the site's eastern frontage.

## 1.4 Existing Tree Stock

- 1.4.1 There are one-hundred and thirty-three individual trees, eleven groups of trees and scrubs, and seven agricultural hedgerows within influence of the development proposal; they have all been considered in full during the design stages of the project in accordance with BS5837:2012 Trees in relation to design, demolition and construction – recommendations.
- 1.4.2 The existing species assemblage is diverse in structure and representative of the sites agricultural use. Native broadleaves define the extant field network, majoring as overgrown hedgerows with standards; these provide a robust edge to the site which separates the site from separation from existing development to the north and sports facilities to the south.
- 1.4.3 Outlying mature broadleaves are few and limited to the Farm House grounds. Where mature trees are present within pockets of continuous canopy, they are generally

enclosed by mature scrub encroachment. Of particular note are a mature Horse Chestnut, English Oak and Sycamore which occupy the Farm House grounds, along with an Outlying Oak within the north western extent of the site. They each possess large and complete crowns which make positive contributions to the amenity of the site. Accordingly, they are considered to represent good examples of their type and to warrant either BS5837:2012 category A or B, i.e. trees of high and moderate quality.

- 1.4.4 A linear collection of mature neglected Willow divides the western parcel of the site and provides appropriate transition with the canal further west. As is often typical for the species, the collection comprises mainly multi-stemmed trees with branch and stem failures occurring throughout. Whilst value is acknowledged in terms of their collective canopy coverage, they are of individually of low merit and have a poor future outlook owing to their structural condition.

## 2 Statutory Designations

### 2.1 Conservation Area

- 2.1.1 Background checks have confirmed that the site does not occur within a Conservation Area (Cherwell District Council, cited February 2022).

### 2.2 Tree Preservation Orders

- 2.2.1 Background checks have also confirmed that there are no trees within influence of the site which are subject to a Tree Preservation Order (Cherwell District Council, cited February 2022).

## 3 Policy Review

### 3.1 The National Planning Policy Framework

- 3.1.1 The NPPF (2021) provides planning policy guidance at a National level. Paragraph 131 of the Framework sets out aspirations to secure increased tree cover within new developments, comprising both new tree planting, and the retention of existing trees where possible: '*Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible*'.

- 3.1.2 Building upon paragraph 131, the Framework also considers that 'decisions should contribute to and enhance the natural and local environment by: 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' (para 174b).

- 3.1.3 In respect of Veteran Trees and Ancient Woodland, paragraph 180c requires that development proposals award particular consideration to these features; stating that '*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*'. For clarity, there are no veteran or ancient trees, or any designated areas of ancient woodland within influence of the site, against which the tests of paragraph 180c can be applied.
- 3.1.4 In addition, paragraph 180d also emphasises the benefit that can be secured through the provision of public access to, and resultant appreciation of, retained tree cover, stating: '*...opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can... enhance public access to nature where this is appropriate*'.

### 3.2 **Adopted Cherwell Local Plan 2011-2031 (Part 1)**

- 3.2.1 In terms of development control at a local level, Cherwell District Council has a statutory obligation to ensure adequate provision is made for the preservation of trees through Section 197 of the Town and Country Planning Act (1990). The Adopted Cherwell Local Plan Review (adopted July 2015) is the Council's current primary development control document; within this document, Policies ESD10, ESD13 and ESD15 are the tests considered relevant to trees in the context of development (relevant parts are reproduced below).
- 3.2.2 **POLICY ESD10:** Protection and Enhancement of Biodiversity and the Natural Environment

*'Protection and enhancement of biodiversity and the natural environment will be achieved by the following:*

- *The protection of trees will be encouraged, with an aim to increase the number of trees in the District*
- *If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted.'*

- 3.2.3 **POLICY ESD13:** Local Landscape Protection and Enhancement

*'Opportunities will be sought to secure the enhancement of the character and appearance of the landscape, particularly in urban fringe locations, through the restoration, management or enhancement of existing landscapes, features or habitats and where appropriate the creation of new ones, including the planting of woodlands, trees and hedgerows.'*

### 3.2.4 **POLICY ESD15:** The Character of the Built and Historic Environment

*'Successful design is founded upon an understanding and respect for an area's unique built, natural and cultural context. New development will be expected to complement and enhance the character of its context through sensitive siting, layout and high quality design. All new development will be required to meet high design standards. Where development is in the vicinity of any of the District's distinctive natural or historic assets, delivering high quality design that complements the asset will be essential.'*

*New development proposals should:*

- Contribute positively to an area's character and identity by creating or reinforcing local distinctiveness and respecting local topography and landscape features, including skylines, valley floors, significant trees, historic boundaries, landmarks, features or views, in particular within designated landscapes, within the Cherwell Valley and within conservation areas and their setting.'*

## 4 Arboricultural Impact

### 4.1 Net Tree Removals<sup>1</sup>

- 4.1.1 As shown at Table 1, the proposals necessitate the removal of eighteen individual trees, an area of scrub, a single hedgerow, and the partial clearance of a further four parcels of scrub and three hedgerows.

4.1.2 **Table 1:** Net Tree Removals by BS5837 Category.

Category A	Category B	Category C
None	None	<b>T1, T102</b> Hawthorn <b>T23, T24, T25</b> Walnut <b>T26, T27, T28, T29, T30,</b> <b>T31, T32, T33, T34,</b> <b>T35, T36, T37</b> Plum <b>T103</b> English Oak <b>G1+Δ, G7+Δ, G9+Δ, G11+Δ</b> <b>G2</b> Blackthorn <b>H3+, H4Δ</b> Hawthorn, <b>H5+Δ,</b> <b>H6Δ</b> Hawthorn

+ Denotes assemblage of two or more species (refer to appendix B)

Δ Denotes partial removal of hedgerow

- 4.1.3 Removals detailed within Table 1 are necessary and unavoidable to make efficient use of the site. They are however focussed on low quality trees and unmanaged scrub which are not important to the amenity of the site or the wider area. Subsequently, it

<sup>1</sup>All tree works should be timed to avoid the main nesting season for birds between 1st March and 31st August. If scheduled within this period it is recommended that an ecologist is present to advise on any necessary protective measures, and on hand to confirm that tree works are not likely to cause disturbance to nesting birds.

will be possible to mitigate for the necessary removals through the provision of replacement planting of a comparable scale and assemblage.

- 4.1.4 Category U trees [T63] Western Red Cedar, [T67] Horse Chestnut, [T77] Pear, [T79] Apple, [T96, T97, T117 & T129-T1132] Scots Pine, [T117] Goat Willow and [T127] Crack Willow, are recommended to be removed; however, this is on account of their diminished outlook in the existing use of the site and not as a direct result of the proposed development.
- 4.1.5 The site's valuable trees will be retained and integrated safely within the development, including the category A and B Oak, Horse Chestnut and Sycamore within the interior.

## 4.2 Vulnerable Trees

- 4.2.1 Consideration has been given as to how the proposed development will interact with the site's retained trees, especially where there is no alternative other than to encroach within root protection areas. For example, hard surface encroachment within RPAs has been reduced as far as design principles have allowed, and solutions have been developed to mitigate the effect on root systems where encroachment is unavoidable.
- 4.2.2 The extent and type of encroachment within retained trees RPAs is detailed within Table 2 below and is illustrated within the Tree Protection Plan provided within appendix C.

**Table 2:** RPA Encroachment by Type and Extent.

Supervised Excavation (m <sup>2</sup> /%)		
T2	52.5	16.1%
T3	11.3	3.9%
T99	2.6	0.5%
G3	10.1	n/a
G8	20.6	n/a
G10	25.2	n/a

- 4.2.4 With reference to Table 2, works to accommodate the introduction of a number of pedestrian footways and associated with internal access roads will incur excavation within the peripheries of T2, T3, T99, G3, G8 and G10. In all instances, the excavation works effect only a minor proportion of their total RPAs and occur on the edge of their RPAs where roots are predicted to be low diameter and where their natural turnover is anticipated to be highest. Adopting the principles of BS5837 concerning manual excavation techniques and root pruning (with the added precaution of arboricultural auditing), it will be acceptable to permit the limited degree of excavation to occur without undue concerns for their future health or vitality.

## 4.3 Pruning Works<sup>2</sup>

- 4.3.1 To provide sufficient clearance for the erection of scaffolding around plot 105 during construction, it will be necessary to selectively prune the interior canopy edge of tree group G10 by up to c.2m. These works are anticipated to amount to the shortening/removal of secondary branches only, and are considered to be achievable without a negative effect on amenity value, tree health or net canopy coverage.
- 4.3.2 Although not required to facilitate construction, it is also recommended that dead branches are removed from the canopies of retained trees. This will help mitigate the risk of future tree related hazards emerging and associated apprehension.
- 4.3.3 Pruning works should be undertaken in accordance with section 7.3 (for removal of deadwood) and section 7.8 (for selective pruning) of BS3998:2010, by a competent tree contractor, to ensure that cuts are performed correctly and positioned to avoid future structural defects or physiological issues, facilitate growth and maintain aesthetic value.

## 4.4 Protective Barriers

- 4.4.1 It will be important to protect retained trees' above-ground structures and underlying RPAs from damage during construction. To achieve this, tree protection barriers should be erected prior to the commencement of any works and consist of the default barrier specification provided in BS5837:2012, or a suitable alternative. The locations for default protective fencing are illustrated within the Tree Protection Plan (Appendix C) with a bold blue line.
- 4.4.2 It is expected that tree protection barriers will need to be relocated to a secondary position to facilitate the introduction of hard surfacing within RPAs. Where this is will be necessary secondary positions are illustrated within the Tree Protection Plan (Appendix C) with a dotted pink line.

## 4.5 Mitigation Replanting

- 4.5.1 The principle of tree removal generates a requirement for replacement planting, irrespective of condition or quality. This requirement has been recognised during design, and accordingly, the proposed scheme has been prepared to provide ample opportunities to incorporate new tree planting.
- 4.5.2 The layout provides opportunities to incorporate a significant number of new trees within areas of public open space and throughout residential areas of the site. The layout also capitalises on opportunities to strengthen and reinforce the extant assemblage and to introduce outlying large canopy trees within the interior, resulting in an increase in tree numbers, canopy area and associated amenity benefits. There are further opportunities to improve compatibility with existing residential

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<sup>2</sup> All tree works should be timed to avoid the main nesting season for birds between 1st March and 31st August. If scheduled within this period it is recommended that an ecologist is present to advise on any necessary protective measures, and on hand to confirm that tree works are not likely to cause disturbance to nesting birds.

development to the north, through the clearance of lapsed hedgerow and the introduction of planting more appropriate for a residential setting.

## 5 Conclusions

- 5.1.1 Pursuant to Cherwell District Council's Policy requirements, the proposals have been informed by a survey of the existing tree stock using the guidance provided at BS5837:2012.
- 5.1.2 The primary direct effect is the loss of eighteen individual trees, an area of scrub, a single hedgerow, and the partial clearance of a further four parcels of scrub and three hedgerows. The effect is necessary to provide an improved vehicular access and to deliver vehicular connectivity between development parcels within the interior. Tree Losses are focused on low quality trees and areas of unremarkable scrub whose loss it will be possible to mitigate for with replacement planting.
- 5.1.3 A preliminary scheme for safeguarding retained trees has been prepared which relies on the use of recognised construction methodologies; it is reinforced by precautionary reliance on arboricultural auditing where construction is proposed within influence of retained trees.
- 5.1.4 To inform the planning balance, the proposed development is considered to be acceptable from the arboricultural perspective, subject to ongoing arboricultural input and the adoption of safeguards for protecting retained trees during construction. It is our overall conclusion that the proposal can also be supported within the context of the Framework and Cherwell District Council's adopted Policies ESD10, ESD13 and ESD15.

## 6 Recommendations

- 6.1.1 A detailed Arboricultural Method Statement supported by 1:500 scale technical drawings should be prepared which expand on Appendix C. This could be secured by Condition. Details of proposed levels and service routes should be included; a scheme for auditing tree protection and subsequent reporting to the Council should feature explicitly throughout.

### Prepared By:

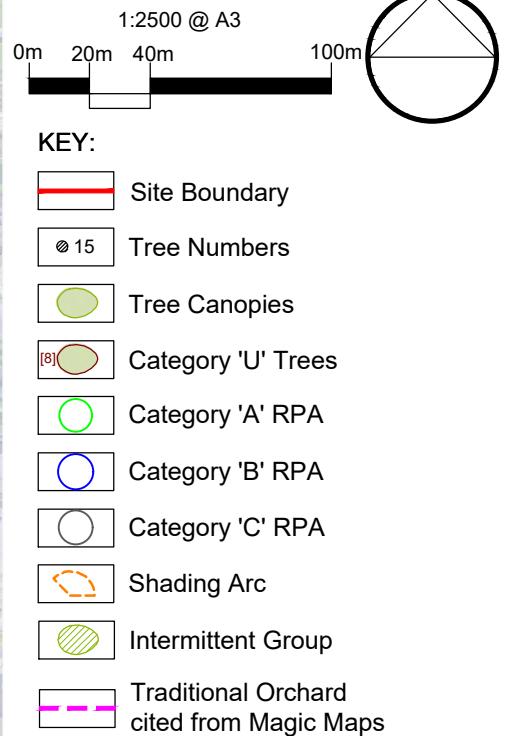
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## APPENDICES

**APPENDIX A**

**TREE CONSTRAINTS PLAN (9407 TCP 01 Rev B)**



Note: Trees 65, 66, 87, 94, 118, 129-133 and group G4 have been plotted using measurements onsite in conjunction with aerial imagery. Their locations were not recorded on the topographical survey of the site (drawing ref: 1215\_3047\_1A-2A.dwg).

Note: The RPA footprint for Trees 68, 93, 95, 99, 124-126 and group G10 have been displaced to allow for the effect of the adopted highway and existing building foundations. The surface area of the RPA has not been reduced.



REV	DATE	NOTE	Drawn	Chkd
REVISIONS				

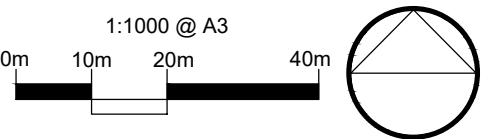
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**TITLE**  
Stratfield Farm, Kidlington  
Tree Constraints Plan

**CLIENT**  
Manor Oak Homes

SCALE	DATE	DRAWN
1:2500 @ A3	FEB 2022	JH
DRAWING NUMBER	REVISION	
9407 TCP 01 Rev B (Overview)	B	

Based on: 1215\_3047\_1A-2A.dwg



- KEY:**
- Site Boundary
  - Tree Numbers
  - Tree Canopies
  - Category 'U' Trees
  - Category 'A' RPA
  - Category 'B' RPA
  - Category 'C' RPA
  - Shading Arc
  - Intermittent Group
  - Traditional Orchard cited from Magic Maps

**Note:** Trees 65, 66, 87, 94, 118, 129-133 and group G4 have been plotted using measurements onsite in conjunction with aerial imagery. Their locations were not recorded on the topographical survey of the site (drawing ref: 1215\_3047\_1A-2A.dwg).

**Note:** The RPA footprint for Trees 68, 93, 95, 99, 124-126 and group G10 have been displaced to allow for the effect of the adopted highway and existing building foundations. The surface area of the RPA has not been reduced.





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**TITLE**  
Stratfield Farm, Kidlington  
Tree Constraints Plan

**CLIENT**  
Manor Oak Homes

SCALE	DATE	DRAWN
1:1000 @ A3	FEB 2022	JH
DRAWING NUMBER	REVISION	
9407 TCP 01 Rev B (2/3)	B	

Based on: 1215\_3047\_1A-2A.dwg



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**TITLE**  
Stratfield Farm, Kidlington  
Tree Constraints Plan

**CLIENT**  
Manor Oak Homes

SCALE	DATE	DRAWN
1:1000 @ A3	FEB 2022	JH
DRAWING NUMBER	REVISION	
9407 TCP 01 Rev B (3/3)	B	

Based on: 1215\_3047\_1A-2A.dwg

**APPENDIX B**

**TREE SURVEY SCHEDULE (9407 TS 01 Rev B)**



**BS 5837:2012 Tree Schedule: Stratfield Farm,  
Kidlington**

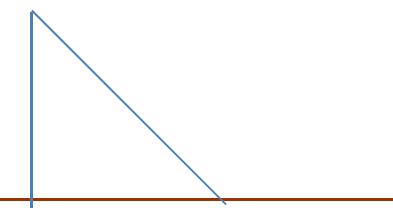
## BS5837:2012 Tree Survey: Explanation of Survey Criteria

Sequential reference number cited  
on all aspect drawing.

e.g.: young, semi-mature, early-mature,  
mature or over-mature

Area around tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of roots and soil structure is a priority. \*The RPA has been manipulated to allow for various site features, i.e. roads, structures or changes in levels. Please refer to the Tree Constraints Plan for these changes.

Height and Crown spread measured to the nearest half meter; # denotes where this is estimated.



Category prefix A-C denotes arboricultural quality, decreasing from A (high) to C (low); Subcategories 1, 2 and 3 highlight associated arboricultural (1), landscape (2) and ecological (3) qualities.

Category U trees are those in such a condition that they cannot be realistically retained as living trees in the current context for the long term.

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
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Measured to the nearest 10mm; # denotes estimated diameter where access is not possible.

e.g.: above-average, average, below average or dead

General observations, i.e. defects, preliminary management recommendation, presence of pests/disease, perceived significance.

Height of first significant branch and/or canopy

e.g.: good, indifferent, poor, or hazardous

Colour band key:

Category A	
Category B	
Category C	
Category U	

The following survey should not be interpreted as a report on tree health and safety. Aspect's opinion of tree condition and structural potential is valid for a limited period of 12 months from the date of inspection. Validity is assumed in the absence of inclement weather and no change to the trees existing setting.

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial							
1	Hawthorn	2*150 2*80#	5					2.75	0.5	0.5	Early Mature	Average	Indifferent	C12	3
2	English Oak	850	22	5	5.25	7	7		4.25	6#	Mature	Average	Indifferent	B2	10.2
3	Horse Chestnut	810	16	3.5	8.25	11	9.25		2.5	2	Mature	Average	Poor	B2	9.6
4	Horse Chestnut	415	11	2.5	5	4.5	5		2	2.5	Early Mature	Average	Indifferent	C1	5.1
5	English Oak	200	8					4	1.25	1	Semi Mature	Average	Indifferent	C12	2.4
6	Crack Willow	720	17	9.75	8	9#	6		2.5	1.5	Mature	Average	Indifferent	C1	8.7
7	Crack Willow	640	14	8	6.25	8#	5.5		2	7#	Early Mature	Below Average	Poor	C1	7.8
14	English Oak	2*240	7	2.75	4.5	4.5	4.5		1	1	Semi Mature	Average	Poor	C12	4.2
15	English Oak	1400	22	11.5	13	11.25	12.5		5	3	Mature	Average	Good	A12	15
16	English Oak	2*180	8					4	1	1	Semi Mature	Average	Indifferent	C12	3
22	English Oak	165	5					2.5	1.5	1.5	Semi Mature	Average	Indifferent	C12	2.1
23	Common Walnut	2*120	5					3	1	1.5	Semi Mature	Average	Poor	C12	2.1
24	Common Walnut	245	7					3.75	1.5	1.5	Semi Mature	Below Average	Indifferent	C12	3
25	Common Walnut	160	5.5					2.5	1.5	1	Semi Mature	Below Average	Indifferent	C12	1.8
26	Plum	205	4					2	1	1.5					2.4
27	Plum	230	3.5					2.5	1	1.75					2.7
28	Plum	170	4					1	1	1.5	Semi Mature to Early Mature	Below Average to Average	Poor to Indifferent	C12	2.1
29	Plum	290	3					1.75	1	1.5					
30	Plum	230	6					3	1	1.5					2.7
31	Plum	225	5					1.75	1.5	1.5					2.7

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)				First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W							
32	Plum	290	4.5				2.25	1	1.5					3.6
33	Plum	270	5				1.5	1.5	1.5					3.3
34	Plum	255	5				2.25	1	1.5					3
35	Plum	270	4				1.25	1.5	1.75					3.3
36	Plum	220	4.5				1.5	1	1.5					2.7
37	Plum	280	4				2.5	1	1					3.3
38	Plum	280	4				2.75	1	1					3.3
39	Plum	250	4.5				1.5	1	1					3
40	Plum	125	2				0.5	1.5	1.5					1.5
41	Plum	280	4.5				1.5	1	1.5	Semi Mature to Early Mature	Below Average to Average	Poor to Indifferent	C12	3.3
42	Plum	210	3				2	0.5	1					2.4
43	Plum	3*160	4				1.5	0.5	1.5					3.3
44	Plum	235	4				1.5	1	1					2.7
45	Plum	3*100	3.5				1	0.5	1.5					2.1
46	Plum	310	5				2.5	0.5	1.5					3.6
47	Plum	270	4.5				2	1	1.5					3.3
48	Plum	205	5.5				2.5	0.5	1					2.4
49	Plum	200	2.5				1	1.5	1.5					2.4
50	Plum	300	4				1.5	1	1.5					3.6
51	Plum	325	6				2.5	1	1.5					3.9

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial							
52	Plum	300	4					1	1.5	1.5					3.6
53	Plum	245	5					1.5	1	1.5					3
54	Plum	3*180 2*150 100	6					2	1	1.5					4.5
55	Plum	4*135	5	6	0	0	4		0	1.5	Semi Mature to Early Mature	Below Average to Average	Poor to Indifferent	C12	3.3
56	Plum	225 200 170 140 9*80	7					3.25	1	1					4.8
57	Plum	210	4					2	1	1.5					2.4
58	Plum	180	4					1.75	1	1.5					2.1
59	Hawthorn	245 oi	7	5.25	3.5	1.75	4.25		1.75	2	Early Mature	Average	Poor	C12	3
60	Holly	165 175	10	3	4	2#	1.75		2	1.5	Semi Mature	Average	Poor	C12	3
61	Horse Chestnut	545	14	6.5	5.5	4#	7		3	1.75	Early Mature	Average	Indifferent	C1	6.6
62	Laurel	200 150	5.5	7	3.5	0	3.25		1	1.75	Early Mature	Average	Poor	C12	3
63	Western Red Cedar	525 225 175 210	14	3	4	2	3.25		2.5	1	Early Mature	Below Average	Poor	U	N/A
64	Western Red Cedar	395 160	14	5.25	2.25	3#	3#		1	1	Early Mature	Average	Indifferent	C12	5.1
65	Horse Chestnut	230	10	3.75	0	2#	4.5		4	2	Semi Mature	Average	Indifferent	C12	2.7
66	Horse Chestnut	180 150	6#	3	1	2	4		1.5	2	Semi Mature	Average	Poor	C12	2.7
67	Horse Chestnut	1000#	5.5								Mature	Dead	Hazardous	U	N/A

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial							
68	Norway Maple	800	9	3.5	4.75	5.75	8.5		2.75	1.5	Mature	Average	Poor	C1	9.6
69	Apple	2*170	6					3.5	1.75	1.75	Semi Mature	Average	Indifferent	C12	3
70	Pear	400	10	5.5	3	2.75	5.25		3	3.5	Early Mature	Average	Indifferent	C12	4.8
71	Apple	320	5	5	3.75	4	7.5		0.5	1	Early Mature	Average	Poor	C12	3.9
72	Apple	250	5.5	3.5	3	3.25	5		0.5	1	Early Mature	Average	Poor	C12	3
73	Apple	355	7	4.25	3.25	3.5	3		2	1.5	Early Mature	Average	Poor	C12	4.2
74	Apple	370#	4	5.5	10	3.75	1		0.5	1.5	Early Mature	Average	Poor	C12	4.5
75	Pear	170#	3	4.5	3	1	2		0.5	0.5	Semi Mature	Average	Poor	C12	2.1
76	Apple	260	5	3.75	4	3	4.25		1.5	1.5	Early Mature	Average	Indifferent	C12	3
77	Pear	350	8	0	3	6.75	4.25		1.75	2	Early Mature	Below Average	Poor	U	N/A
78	Apple	240	3.5	5.5	4	1	3		0.5	1	Early Mature	Average	Poor	C12	3
79	Apple	300	5					1.5	1.75	1.75	Early Mature	Dead	Poor	U	N/A
80	Apple	255	6	4.75	3.75	5.5	4		2	1	Early Mature	Average	Indifferent	C12	3
81	Apple	260	4	2.5	3	4.5	3.5		1.5	1	Early Mature	Average	Indifferent	C12	3
82	Apple	310	6	4.5	2.25	5	3		1.25	1	Early Mature	Average	Indifferent	C12	3.6
83	Apple	290	6					2.75	1.5	1.5	Early Mature	Average	Indifferent	C12	3.6
84	Apple	80	2.5					1.5	1.5	1.5	Young	Average	Indifferent	C12	0.9
85	Apple	190	4.5	3.25	2.75	2.75	3.25		1	1	Semi Mature	Average	Indifferent	C12	2.4
86	Apple	620	4.5	3	2.75	2.75	4		2	1.5	Mature	Average	Poor	C12	7.5
87	Apple	185	5	2.75	2.75	2.5	3.5		1.75	1.5	Semi Mature	Average	Indifferent	C12	2.1

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial							
88	Apple	315	5	2.25	3	3	2.5		2	1.5	Early Mature	Average	Indifferent	C12	3.9
89	Apple	320	5	2.5	0	2.5	3.25		1.5	1	Early Mature	Average	Poor	C12	3.9
90	Apple	130	4	4.5	3	1.75	2.5		0.5	1.5	Semi Mature	Average	Poor	C12	1.5
91	Apple	95	4					2	1.5	1.5	Young	Average	Indifferent	C12	1.2
92	Apple	370	4.5	1.75	2.25	2.75	3		1.5	1.5	Early Mature	Average	Poor	C12	4.5
93	Pear	140	6	1.75	1.25	3.5	3		1.75	1.75	Semi Mature	Average	Indifferent	C12	1.8
94	Holly	185	6					2.5	1.5	1.5	Semi Mature	Average	Indifferent	C12	2.1
95	False Acacia	560 290 230	15.5	2.25	8.25	6	4		2	1.75	Early Mature	Below Average	Poor	C1	8.1
96	Scots Pine	355	13	1.75	5.5	1.5	1		11	11	Early Mature	Dead	Hazardous	U	N/A
97	Scots Pine	460	15.5	3	3.75	6	4.5		5	3	Early Mature	Dead	Hazardous	U	N/A
98	Scots Pine	460	13	1.5	2.75	3	2.5		5	1.75	Early Mature	Average	Indifferent	C1	5.4
99	Sycamore	970 355 330	19	10.75	8.75	7.5	11.75		1.5	2	Mature	Average	Indifferent	B2	12.9
100	Medlar	180	3	2.75	3	3.5	1#		1.5	0.5	Semi Mature	Average	Poor	C12	2.1
101	Pear	360	10	3.75	3.75	4.5	3		1.75	1.75	Early Mature	Average	Indifferent	C12	4.2
102	Hawthorn	100 80#	6					2.75	0.5	0.5	Semi Mature	Average	Indifferent	C12	1.5
103	English Oak	100	6					2	1.5	1.5	Young	Average	Indifferent	C12	1.2
104	Ash	390	13	9	6#	3.5#	5.5		3.25	3	Early Mature	Average	Poor	C1	4.8
105	Ash	570	14	7	7.75	5.75	9.5		2	2	Early Mature	Average	Poor	C1	6.9

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial							
106	Ash	335	14	7.75	5.75	2#	6		5.25	2	Early Mature	Average	Indifferent	C1	3.9
107	Ash	625	18.5	8	7.25	6#	7		5	2	Early Mature	Average	Poor	C1	7.5
108	Scots Pine	350	11	7.25	4.25	3.25	4		7	7.5	Early Mature	Average	Poor	C1	4.2
109	Scots Pine	510	12	4.25	3.5	4	4.75		4.5	4.5	Early Mature	Average	Poor	C1	6
110	Scots Pine	370	11	2	3.75	3.25	3.5		7	7.5	Early Mature	Average	Poor	C1	4.5
111	Ash	490	14	7.5	6	5	6#		4	4.5	Early Mature	Average	Poor	C1	6
112	Ash	370	14	4	9#	2.75	4.75		4.25	4	Early Mature	Average	Poor	C1	4.5
113	Ash	400 230 180 160	14	4.25	9#	6.75	5.25		4.25	4	Early Mature	Average	Poor	C1	6.3
114	Lombardy Poplar	675	19					2	3.5	4	Mature	Average	Poor	C1	8.1
115	Ash	490 160	12	6.25	8	6	7.25		4	3	Early Mature	Average	Poor	C1	6.3
116	Ash	395	16	10	7.75	2	6.25		4	2	Early Mature	Average	Poor	C1	4.8
117	Scots Pine	545	5	1#	0	1#	9		5.5	4	Early Mature	Below Average	Hazardous	U	N/A
118	Scots Pine	490	16	6	5.5	3#	1#		8#	7#	Early Mature	Average	Poor	C1	6
119	Scots Pine	450	16	5.5	6#	2#	0		8#	8#	Early Mature	Average	Poor	C1	5.4
120	English Oak	840	16	6.75	6	7#	8#		3.5	2	Mature	Average	Indifferent	B2	10.2
121	Ash	3*80	7	2.5	2.5	1.5	1.5		1.5	1.75	Semi Mature	Average	Poor	C12	1.8
122	Silver Birch	240 175	10	4	3.25	4	3.25		2.25	2	Semi Mature	Average	Indifferent	C12	3.6
124	Crack Willow	1200#	4					2	2	2	Mature	Average	Poor	C1	14.4

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial							
125	Crack Willow	1200# @ base	3.5					2	2	2	Mature	Average	Poor	C1	14.4
126	Crack Willow	1250#	3					2	1.75	1.75	Mature	Average	Poor	C1	15
127	Crack Willow	1200# @ base	20	7#	14	7.25	14		1.5#	1.5#	Mature	Below Average	Hazardous	U	N/A
128	Cherry	2*225 oi	8.5					3.75	1.75	3	Early Mature	Average	Indifferent	C12	3.9
129	Scots Pine	320#	11	7.75	6	1	0		7	7	Early Mature	Dead	Hazardous	U	N/A
130	Scots Pine	350#	5.5	7.75	12.5	0	0		2.5	0.5	Early Mature	Dead	Hazardous	U	N/A
131	Scots Pine	300#	9	5	10.5	3#	0		4	4	Early Mature	Dead	Hazardous	U	N/A
132	Scots Pine	320#	12	0	1.5#	4#	1.5#		9	9	Early Mature	Dead	Hazardous	U	N/A
133	Sycamore	410	13.5					4.5	2.5	4.5	Early Mature	Average	Indifferent	C1	4.8
G1	Norway Maple Field Maple Hawthorn Elder English Oak	360 oi max 100 av	11.5 max					6 max to east 4.5 av west into site	0.5 av	0.5 av	Semi Mature to Early Mature	Average	Indifferent	C12	4.2 max 1.2 av
G2	Blackthorn	80 max	3 av					1 av	0.5 av	0.5 av	Semi Mature	Average	Indifferent	C12	0.9
G3	Sycamore Elm Horse Chestnut Crack Willow Hornbeam Leyland Cypress Holly Elder Lime Cherry Ash Pear English Oak	475 max 200 av	17 max					6 av	1 to 3	0.5 to 2	Semi Mature to Early Mature	Below Average to Average	Poor to Indifferent	C12	5.7 max 2.4 av
G4	Hawthorn Ash Goat Willow English Oak	100# av	4 to 6					2 av	0.5 av	0.5 av	Young to Semi Mature	Average	Indifferent	C12	1.2

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)				First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)	
				N	E	S	W								
G5	Ash Hawthorn Elder Goat Willow Crack Willow	450 370# max 250# av	17 max 10 av					5.5 av	0.5 to 2	0.5 to 1	Semi Mature to Early Mature	Average	Poor to Indifferent	B2	6.9 max 3 av
G6	Crack Willow Hawthorn Elm Ash Holly Hazel Elder Dogwood Cherry	900# max	22 max					11 max	0.5 to 2	0.5 to 1	Semi Mature to Mature	Below Average to Average	Poor to Indifferent	C12	10.8 max 2.4 av
G7	Apple Pear Dogwood Cotoneaster Laurel Persian Ironwood	300# max	10 max					3.5 av	1 av	1 av	Semi Mature to Early Mature	Average	Poor to Indifferent	C12	3.6
G8	Horse Chestnut Hornbeam Elm Scots Pine Leyland Cypress Hawthorn Ash Blackthorn Plum Elder	370 max 200# av	10 max					5 max	0.5 av	0.5 av	Young to Early Mature	Below Average to Average	Poor to Indifferent	C12	4.5 max 2.4 av
G9	Blackthorn Hawthorn Field Maple English Oak	100# max	7 max					2 max	0.5 av	0.5 av	Young to Semi Mature	Average	Indifferent	C12	1.2
G10	Ash Field Maple Crack Willow Hawthorn Elder	550 max 250 av	5 to 19					12 max	0.5 to 4	0.5 to 2	Semi Mature to Early Mature	Average	Poor to Indifferent	B2	6.6 max 3 av
G11	Ash Hawthorn Elder Blackthorn Cherry	200 av	11 max					4 av	0.5 to 2.5	0.5 to 2.5	Young to Semi Mature	Below Average to Average	Poor to Indifferent	C12	2.4

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial							
H1	Hawthorn Hazel Goat Willow Field Maple Dogwood Blackthorn Ash Crack Willow English Oak	380 @ base max	11 max					6.25 max	0.5 av	0.5 av	Semi Mature to Early Mature	Average	Indifferent	C12	4.5
H2	Leyland Cypress	100# av	3 av					1 av	0.5 av	0.5 av	Young	Average	Indifferent	C12	1.2
H3	Blackthorn Hawthorn Dogwood Crack Willow Elm Goat Willow Elder	150 max	2 to 8.5					2 av	0.5 av	0.5 av	Young to Semi Mature	Average	Indifferent	C12	1.8
H4	Hawthorn	100 av	2 av					1 av	05 av	0.5 av	Semi Mature	Average	Indifferent	C12	1.2
H5	Hawthorn Blackthorn	80 av	2 av					1 av	0.5 av	0.5 av	Semi Mature	Average	Indifferent	C12	0.9
H6	Hawthorn	135 av	1.5 av					1 av	0.5 av	0.5 av	Semi Mature	Average	Indifferent	C12	1.5
H7	Hawthorn Hazel Ash Field Maple Elder	350# max	8 max					4 max	0.5 av	0.5 av	Young to Early Mature	Average	Indifferent	C12	4.2

**APPENDIX C**

**TREE PROTECTION PLAN (9407 TPP 01)**









**APPENDIX D**

**TREE SURVEY METHODOLOGY**

## Tree Survey Methodology

The tree survey is a form of Visual Tree Assessment undertaken originally during June 2017. This has since been checked and validated to inform this application during February 2022. Tree locations are identified via a topographical survey; locations of any trees excluded from the topographical survey were plotted on site. The purpose of the survey is to record information about trees on or adjacent to the site to inform design options. In keeping with clause 4.4 of BS5837: 2012 'Trees in Relation to Design, Construction and Demolition', the survey provides a record of the following parameters:

**Tree Numbers:** all individual trees are sequentially numbered. Groups of trees, woodlands and hedgerow are also sequentially numbered with a corresponding prefix relevant to their type e.g. G, W or H respectively; the identification of trees as woodland, groups of trees or within hedgerows is undertaken where appropriate. The identification of trees as individuals within collections has been made where it is considered sensible to make such a differentiation.

**Species:** listed by common name

**Stem Diameter:** given in millimetres and obtained by measuring single/multiple stems at 1.5m using a diameter tape in accordance with Annex C within BS5837:2012. Diameters of inaccessible trunks are estimated and provided with the suffix '#'.

**Tree Heights:** determined using a clinometer and measured to the nearest 500mm. Heights are estimated where specific triangulation is not achievable and by reference to measured trees nearby (provided with the suffix '#').

**Crown Spreads:** measured at cardinal points using a Leica Disto™ laser distance measurer. Measurements were recorded to the nearest 250mm. Inaccessible crown spreads are estimated based on measured canopies nearby and provided with the suffix '#'

**Crown Clearance:** The height of the first significant living branch and/or canopy (as appropriate) is recorded using a Leica Disto™ laser distance measurer to inform vertical ground clearance. Crown clearance may be higher or lower than the first significant branch. Estimated clearances are provided with the suffix '#'. Height of first significant branch will be provided where considered advantageous to make the distinction.

**Life Stage** – The age of trees, groups of trees, hedges and woodlands are defined as follows:

- Young (within the first 1/4<sup>th</sup> of life expectancy)
- Semi-mature (within the second 1/4<sup>th</sup> of life expectancy)
- Early Mature (within the third 1/4<sup>th</sup> of life expectancy)
- Mature (within the fourth 1/4<sup>th</sup> of life expectancy)
- Over Mature and Veteran (exceeding normal life expectancy)
- Veteran (significantly exceeding normal life expectancy)

**Physiological and structural condition:** physiological condition defined as follows; good, above average, average, below average, poor or dead. Structural condition is defined as: good, moderate, indifferent, poor or hazardous

**Comments:** further observations were recorded where necessary i.e. details regarding defects, preliminary management recommendations, presence of pest/disease and perceived significance.

**BS5837 Category:** pursuant to BS5837:2012 section 4.5 and cascade chart for tree quality assessment (refer to reproduced Table 1 overleaf). Trees qualifying under a given category (A-C and U) and any appropriate subheading (1-3) are considered to fall within the scope of that category's definition.

**Estimated Remaining Contribution.** Described` as a guideline only and in terms of years: <10, 10+, 20+ and 40+ relevant to category U, C, B and A respectively. This information is not provided on the tree schedule to avoid conclusions based upon 'life expectancy'.

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
<b>Trees unsuitable for retention (see Note)</b>			
<b>Category U</b>  Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> <li>• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>• Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>		
1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<b>Trees to be considered for retention</b>			
<b>Category A</b>  <b>Trees of high quality</b> with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
<b>Category B</b>  <b>Trees of moderate quality</b> with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
<b>Category C</b>  <b>Trees of low quality</b> with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

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