

ARBORICULTURAL IMPACT ASSESSMENT

Land at Ratby Lane,
Markfield

June 2025



Barton Hyett Associates
Arboricultural Consultants

In association with

CSA
environmental

Summary table		
Site Name:	Land at Ratby Lane, Markfield	
Project reference:	4237	
Site Address:	Ratby Lane, Markfield, Hinckley, Leicester	
Nearest Postcode:	LE67 9RJ	
Central Grid reference:	SK 49580 09505	
Local Planning Authority:	Hinckley and Bosworth Borough Council	
Statutory Controls:	Tree Preservation Order	Conservation Area
	None.	No
Soil Type: (Source: BGS online soils map © NERC 2025)	Superficial/Drift	Bedrock
	Deep loam to clayey loam over Oadby Member - Diamicton and shallow loam to sandy loam	South Charnwood Diorites - Diorite
Topographical Survey:	301538 Topo Survey - 294804 T01	
Site Layout:	Illustrative Masterplan 2550_118_P	
Report author:	Ian Monger <i>BSc (Hons), MSc, MICFor, MArborA</i>	
Date of issue:	04.07.2025 - Revision D.	

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1. INSTRUCTION

- 1.1. Barton Hyett Associates Ltd have been instructed by CSA Environmental, on behalf of Taylor Wimpey UK Limited, to survey trees located at Land at Ratby Lane, Markfield ('the site') in accordance with the recommendations of British Standard 5837:2012 '*Trees in relation to design, demolition and construction - Recommendations*'.
- 1.2. The scope of the instruction was to inspect trees relevant to a planning application at the site and provide written advice on how they inform feasibility and design options for the site. The instruction also required an assessment of the potential impact (the arboricultural impact assessment) of the proposed development on the site's arboricultural resource to be undertaken.

2. SITE DESCRIPTION

- 2.1. The site is located to the southeast of the village of Markfield. The M1 motorway is located to the west of the site, and the city of Leicester is approximately 7 miles to the southwest of the site.
- 2.2. The site is 6.39 hectares in size. The boundaries are defined by a mixture of fences and hedgerows to the northeastern edge of the site, at the rear of adjacent residential gardens. There is a mix of tree groups and hedgerows to the southeast of the site, a linear group of trees to the southwest and hedgerows to the northwest.



Figure 1: aerial photo (Google Maps) of the site with approximate application boundary shown in red.

- 2.3. Access to the site is from a gated entrance to the southwestern corner of the site from Ratby Lane.
- 2.4. Public footpath R21/6 runs east-west from Ratby Lane along a tree-lined path to the south of the site, beyond the site boundary.
- 2.5. The local landscape contains residential dwellings to the north and west, a small wooded area and arable farmland to the east and south. There are small settlements and individual properties to the south.
- 2.6. The highest point of the site is to the northwest, at about 180m AOD, with a gradual slope down towards the southeast to about 173m.

3. TREE SURVEY FINDINGS

- 3.1. A total of 84 trees, 11 groups of trees and eight hedgerows were surveyed. These are summarised in terms of their quality in accordance with the recommendations of BS5837 below, and shown in more detail on the Tree Survey and Constraints Plan (**Section 2**) and within the Tree Survey Schedule (**Section 4**).
- 3.2. The initial tree survey was carried out in April 2021. The survey was then updated in April 2025, and additional trees were surveyed along the proposed drainage outfall route.
- 3.3. None of the trees within or adjacent to the site are protected by Tree Preservation Order (TPO), and the site is not within a Conservation Area.

Table 1: Summary of arboricultural features of each BS5837 quality category

	Total	A - High quality trees whose retention is most desirable.	B - Moderate quality trees whose retention is desirable.	C - Low quality trees which could be retained but should not significantly constrain the proposal.	U - Very poor quality trees that should be removed unless they have high conservation value.
Trees	65	2	15	46	2
Groups	11	-	4	7	-
Hedgerows	8	-	3	5	-
Total	84	2	22	58	2

4. KEY ARBORICULTURAL FEATURES

- 4.1. No ancient or veteran trees were identified in the survey. There is no ancient woodland affecting the site.
- 4.2. The site's arboricultural resource is confined to the boundaries, which provides an open developable area within the site where boundary and offsite trees can be retained.
- 4.3. The site includes two high-quality oak trees: T8 located in the northeastern corner of the site, and T12 located along the public footpath in the southwestern corner.

- 4.4. The shading potential from English oak T8 (A1) and holly G2 (C2) to the southeast of the site and common ashes T10 and T11 (C2), English oak T12 (A1) and mixed groups G7 (B2) and G8 (C2) to the southwest of the site should be considered in site layout design.
- 4.5. There will be an opportunity to enhance the arboricultural value of the site through well-considered tree planting within the new development. The diversity of species could be increased to improve biodiversity and amenity value.
- 4.6. There are several trees within a grassed verge located to the east of the site and adjacent to Ratby Lane. These off-site trees should be considered in relation to potential new access (both permanent and for construction) to ensure that they are not negatively impacted.

5. DEVELOPMENT PROPOSAL

- 5.1. The proposal is an Outline planning application with all matters except access reserved, for the erection of up to 135 dwellings, amenity space, areas for outdoor play, landscaping and all associated infrastructure.
- 5.2. The indicative site layout is shown on the Illustrative Masterplan 2550_118_P, which is for illustrative purposes only (also shown on the Tree Retention and Removal Plan (TRR) in **Section 3**). The draft Drainage Strategy is also shown on the plan.

6. IMPACT ASSESSMENT

- 6.1. This assessment considers the effect of the proposed access to the site (the non-reserved matters). It also considers the potential impacts of the Illustrative Masterplan (the reserved matters). However, a further assessment of the reserved matters will be required at the detailed planning stage.

Site access

- 6.2. The new access road from Ratby Lane will require the removal of a section of hedgerow H1, a regularly flailed boundary hedgerow in two sections and containing hawthorn, blackthorn, common ash and holly. A length of approximately 13 metres will need to be removed to accommodate the width of the new road and adjacent footways.
- 6.3. No further trees or hedges will need to be removed in order to achieve the necessary visibility splays for the road junction.

Indicative site layout

- 6.4. With regard to the reserved matters, existing boundary hedgerows and trees can be successfully retained along new residential boundaries, along the recreational route green corridor and adjacent to the new public open spaces and the attenuation basins in the south of the site.
- 6.5. A pumping station is proposed in the southwestern corner of the site. This would be accessed via the existing tarmac vehicle crossover from Ratby Lane, and so the impacts on the off-site trees T16 and T17 are negligible. However, a slight widening of the gated field access will require the removal of a short length of hedgerow H1.
- 6.6. The outfall pipe from the western attenuation basin will need to connect to a suitable existing stream/ditch, which is located along the southern boundary of the field to the south of the site, beyond the public

footpath. Installation of the pipe will require the removal of short sections of outgrown hawthorn, blackthorn and hazel group G8 as well as five semi-mature pines (T27, T28, T50, T52 & T54) and three semi-mature field maples (T29, T51 & T53) and undergrowth within plantation group G10. All of the individual trees are of low individual quality and have stem diameters well below 30cm (16cm to 28 cm). Removal of these trees and shrubs is required to provide working space for the pipe installation, and the impact of adjacent retained trees of semi-mature age would be low.

- 6.7. The Development Framework Plan has been designed to provide appropriate buffers to trees and tree groups. The green buffer along the eastern site boundary and proposed public open spaces in the west and south of the site protect the most significant and prominent trees within it.
- 6.8. The Development Framework Plan indicates a potential to provide a significant net gain in tree canopy cover and species diversity at the site. This includes tree-lined streets in accordance with paragraph 136 of the National Planning Policy Framework (NPPF), new tree and native woodland planting along existing boundary features to enhance and strengthen them, and new tree planting within the proposed public open spaces.

7. HEADS OF TERMS FOR AN ARBORICULTURAL METHOD STATEMENT (AMS)

- 7.1. BS5837:2012 (Figure 1) recommends that the detailed/technical design of tree protection and arboricultural methodologies should be resolved and finalised following the approval of the feasibility of a scheme by the Local Planning Authority.
- 7.2. Annex B and Table B.1 of BS5837:2012, an informative document, advises that arboricultural method statement heads of terms are a sufficient level of information in order to deliver tree-related information into the planning system. The table also advises that a detailed arboricultural method statement might reasonably be required as a 'reserved matter' or planning condition.
- 7.3. In relation to the site, it is anticipated that arboricultural working methods are likely to be quite straightforward. A brief summary of the principles of tree protection on development sites is included in section 7. A draft, 'heads of terms' for an arboricultural method statement is set out below:
 - Project arboriculturist – schedule of monitoring and supervision to be agreed with the applicant and LPA
 - Pre-commencement site meeting - to be attended by the project arboriculturist, client, site manager and other relevant parties. Project arboriculturist to ensure that all parties have copies of the tree protection plan and this report.
 - Tree and hedgerow removals - as shown on the finalised Tree Retention and Removal Plan (TRR)
 - Erection of tree protection barriers as shown on the finalised Tree Protection Plan (TPP)
 - Installation of the drainage outfall pipe through groups G8 and G10, including protection barriers that allow passage along the public footpath.
 - Site preparation and ground works - no access for any machinery within the fenced tree protection areas.
 - Main construction phase - all tree protection measures shall remain in situ and intact for the duration of the construction phase

- Removal of tree protection barriers - only to occur following approval of site conditions by the project arboriculturist.
- Final landscaping, including tree planting and construction of the path link at oak T12.

8. CONCLUSION AND RECOMMENDATIONS

- 8.1. Subject to the implementation of the advice contained within this report, the proposed development would have a low impact from an arboricultural perspective. The hedgerow section removals for the new site access, pumping station access and drainage outfall installation would have a low impact. No other trees are required to be removed or would be impacted, and the Development Framework Plan indicates a potential to provide a significant net gain in tree canopy cover and species diversity at the site.
- 8.2. A further Impact Assessment of the detailed development proposals would accompany a reserved matters planning application.
- 8.3. A detailed Arboricultural Method Statement and finalised Tree Protection Plan will need to be produced, which takes into account detailed drainage, site levels and construction access requirements. Where the feasibility of a scheme has been agreed by the Local Planning Authority, this detail can be agreed and submitted at a later date as part of a reserved matters application or to comply with a pre-commencement planning condition (by agreement with the applicant).



Ian Monger *BSc (Hons), MSc, MICFor, MArborA*
Senior Arboriculturist



IMAGE 1: H1 to the northwest of the site, a well maintained field boundary hedgerow. Image taken looking north-east.



IMAGE 2: T8, English oak, an offsite tree to the southeast of the site. Image is taken looking east.



IMAGE 3: G5 to the southeast of the site, a linear group of trees on the site boundary. Image is taken looking east.



IMAGE 4: G6 and G7 in the southeast corner of the site. Both groups are on the boundary of the site. Image is taken looking south.



IMAGE 5: G10 to the southwest of the site. The surface water drainage outfall is proposed through this linear group. Image is taken looking north-east.



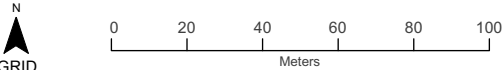
IMAGE 6: Looking southwest past at the section of H1 that would be removed for the new access road.



Ref	Species	Height (m)	Life Stage	RPA Radius (m)	RPA (m2)
T1	Ornamental cherry	5.0	SM	1.3	5
T2	Rowan	3.0	SM	1	3
T3	Common ash	13.0	M	6.1	118
T4	Apple	5.0	M	5.4	92
T5	English oak	7.0	EM	5.9	109
T6	Common ash	9.0	EM	5.8	104
T7	Field maple	4.0	EM	4.5	65
T8	English oak	14.0	M	7.3	168
T9	English oak	9.0	EM	4.3	59
T10	Common ash	13.0	EM	4.4	62
T11	Common ash	12.0	EM	4.7	69
T12	English oak	13.0	M	12.1	462
T13	Common ash	12.0	EM	3.7	43
T14	Common ash	12.0	EM	4.7	69
T15	Common ash	9.0	EM	3.6	41
T16	Wild cherry	10.0	EM	5.2	84
T17	Common ash	10.0	EM	5.2	84
T18	Common ash	9.0	EM	3	28
T19	Common ash	9.0	EM	2.9	26
T20	Common ash	10.0	EM	3.7	43
T21	Common ash	10.0	EM	3.8	46
T22	Common ash	9.0	EM	3.2	33
T23	Maple (Field)	9.0	SM	3.7	43
T24	Pine (Scots)	10.0	SM	2.5	20
T25	Pine (Scots)	10.0	SM	2.6	22
T26	Pine (Scots)	10.0	SM	2.4	18
T27	Pine (Scots)	10.0	SM	2.5	20
T28	Pine (Scots)	12.0	SM	2.6	22
T29	Maple (Field)	8.0	SM	3.3	35
T30	Maple (Field)	8.0	SM	2.5	20
T31	Maple (Field)	8.0	SM	2.2	15
T32	Maple (Field)	8.0	SM	1.7	9
T33	Ash (Common)	10.0	SM	2.8	24
T34	Hazel (Common)	3.0	EM	2.6	22
T35	Maple (Field)	9.0	SM	3	28
T36	Pine (Scots)	12.0	SM	3.1	31
T37	Oak (English)	9.0	Y	2	12
T38	Oak (English)	11.0	Y	2.5	20
T39	Ash (Common)	7.0	Y	1.8	10
T40	Cherry (Wild)	8.0	Y	2	12
T41	Ash (Common)	6.0	Y	2	12
T42	Maple (Field)	4.0	Y	1.3	5
T43	Pine (Scots)	8.0	Y	1.3	5
T44	Pine (Scots)	9.0	Y	1.8	10
T45	Pine (Scots)	11.0	SM	2	12
T46	Pine (Scots)	9.0	Y	1.3	5
T47	Pine (Scots)	10.0	SM	2.5	20
T48	Pine (Scots)	10.0	SM	2.9	26
T49	Pine (Scots)	8.0	SM	1.8	10
T50	Pine (Scots)	12.0	SM	2.9	26
T51	Maple (Field)	8.0	SM	3.2	33
T52	Pine (Scots)	11.0	SM	2	12
T53	Maple (Field)	8.0	SM	2.5	20
T54	Pine (Scots)	12.0	SM	2.6	22
T55	Pine (Scots)	11.0	SM	2.6	22
T56	Pine (Scots)	12.0	SM	2.6	22
T57	Pine (Scots)	11.0	SM	2.6	22
T58	Maple (Field)	8.0	SM	3	28
T59	Pine (Scots)	12.0	SM	2.4	18
T60	Pine (Scots)	11.0	SM	1.7	9
T61	Maple (Field)	8.0	SM	3.6	41
T62	Pine (Scots)	10.0	SM	2	13
T63	Maple (Field)	8.0	SM	3.6	41
T64	Maple (Field)	8.0	SM	3	28
T65	Hawthorn	3.0	M	5.8	104
G1	Hawthorn, blackthorn	7	SM	2.2	-
G2	Holly	9	SM	2	-
G3	Hawthorn, hazel	5-6	SM	1.3	-
G4	Hawthorn, English oak	3-7	EM	2.5	-
G5	English oak	8	EM	2.9	-
G6	Elder	2-4	SM	0.8	-
G7	Holly, hawthorn, elder, hazel, blackthorn	7-9	EM	2.2	-
G8	Hawthorn, blackthorn, hazel	3-5	SM	1.5	-
G9	Common ash, elder	3-5	SM	1.3	-
G10	Common ash, Scots pine, aspen, hazel, elder, hawthorn, goat willow, dogwood, field maple,	3-12	SM	1.7	-
G11	Common ash, wild cherry, Himalayan birch, English oak	7-10	EM	3.8	-
H1	Hawthorn, common ash, holly, blackthorn	2.5	M	1.1	-
H2	beech, common ash,	2.0	SM	0.6	-
H3	Lawson cypress	1.5	SM	0.6	-
H4	Lawson cypress	2.0	SM	0.6	-
H5	Holly, hawthorn	2.5	SM	0.8	-
H6	Lawson cypress	2.0	SM	0.6	-
H7	Holly, hawthorn,	2.0	EM	0.8	-
H8	Hawthorn	2.0	EM	0.8	-

- KEY**
- Category A Tree - High quality (Retention highly desirable)
 - Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)
 - Category B Tree - Moderate quality (Retention desirable)
 - Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)
 - Category C Tree - Low quality (May be retained but should not constrain development)
 - Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
 - Category U Tree - Very low quality (Mostly unsuitable for retention)
 - Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention)
 - Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
 - Shrub mass/offsite tree/out of scope (OOS)
 - Tree/Group/Hedgerow not on topographical survey. Location given is an estimate

Note: The original of this drawing was produced in colour – a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice



PROJECT TITLE
Land at Ratby Lane, Markfield

DRAWING TITLE
Tree Survey & Constraints Plan

SCALE		DRAWING NUMBER	
1:1500 @ A3		BHA_1105_01	
DRAWN BY	APPROVED BY	REVISION	SHEET
IM	EB	A	-
DATE			
07/05/2025			

LAYOUT USED WITHIN DRAWING **xxxxxxxxxx**

CLIENT **CSA Environmental**

COORDINATE SYSTEM / DATUM **British National Grid / Newlyn Datum (AOD)**

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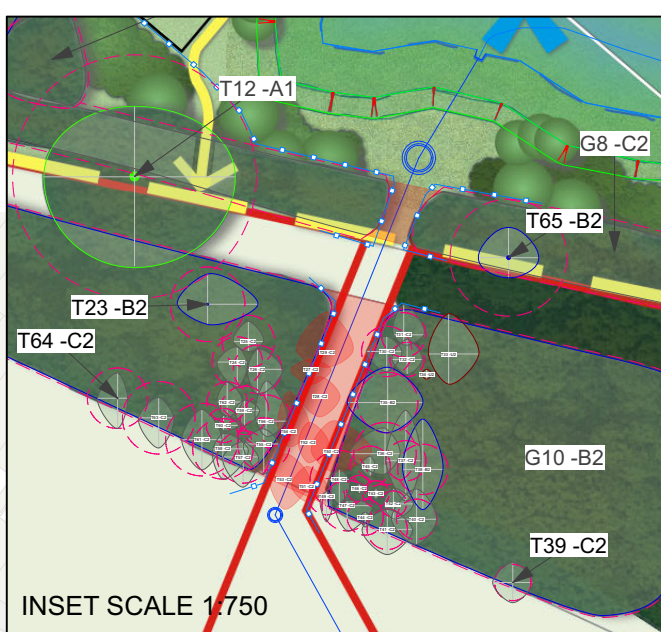


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In association with
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environmental



KEY

	Category A Tree - High quality (Retention highly desirable)
	Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)
	Category B Tree - Moderate quality (Retention desirable)
	Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)
	Category C Tree - Low quality (May be retained but should not constrain development)
	Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
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	Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
	Shrub mass/offsite tree/out of scope (OOS)
	Tree/Group/Hedgerow not on topographical survey. Location given is an estimate
	Tree / Hedgerow / Group to be removed
	Tree Protection Barrier

GENERAL SITE RULES FOR TREE PROTECTION

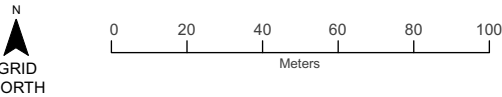
Do not independently carry out any activity that is at odds with the site Scheme of Tree Protection.

In simple terms: do not carry out any work within the CEZ without prior liaison with the Project Arboriculturist and written authorisation from the Local Planning Authority.

Within the CEZ:

- No excavation of any description.
- No storage, disposal of soil, rubble or materials of any other description.
- No alterations to existing levels or ground conditions.
- No use of any tracked or wheeled machinery of any description.
- No tree works, without the written consent of the Local Planning Authority's Development Management service.
- No erection of temporary structures of any description.
- No fixtures or fittings of any description, security lighting, signage etc shall be attached to any part of a tree.
- No fires shall be light within 10 metres of the canopies of any tree or spread of any hedge.
- No materials, equipment, vehicles or any other description to be stored or disposed of within close proximity to or drained towards into protection areas.

Note: The original of this drawing was produced in colour – a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice



PROJECT TITLE	Land at Ratby Lane, Markfield
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DRAWING TITLE

Tree Retention, Removal & Protection Plan

SCALE 1:1500 @ A3			DRAWING NUMBER BHA_1105_02	
DRAWN BY IM	APPROVED BY RH	REVISION E	SHEET -	DATE 02/06/2025

LAYOUT USED WITHIN DRAWING

CLIENT	CSA Environmental
COORDINATE SYSTEM / DATUM	British National Grid / Newlyn Datum (AOD)

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INDIVIDUAL TREES

Ref	Species	On / off site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) E-S-W	N-	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T1	Ornamental cherry	Off	5.0	1	Yes	110	1.0-1.0-1.0-1.0		2.0	1	S	SM	Ornamental garden tree.	Good	Good	10+	C2	1.3	5
T2	Rowan	Off	3.0	1	Yes	80	1.0-1.0-1.0-1.0		1.5	2	S	SM	Ornamental garden tree.	Good	Good	10+	C2	1.0	3
T3	Common ash	Off	13.0	1	Yes	510	7.0-7.0-6.0-7.0		4.0	5	SE	M	Previous limb removal over boundary to south west. Previous limb failure in upper canopy to south west. Average form for species.	Good	Fair	20+	B2	6.1	118
T4	Apple	Off	5.0	1	Yes	450	4.0-4.0-4.0-3.0		2.5	1	N	M	Dense crown with good vitality. Crown overhangs site by 1.5m.	Good	Good	20+	B2	5.4	92
T5	English oak	Off	7.0	1	Yes	490	3.5-3.0-3.5-3.5		2.5	2.5	NE	EM	Tree has been heavily reduced. Epicormic growth on all structural branches. Good bud density.	Fair	Fair	10+	C2	5.9	109
T6	Common ash	Off	9.0	1	Yes	480	1.5-3.5-1.0-1.5		4.0	5	NE	EM	Tree has been heavily reduced back to structural branches. Good regrowth. Poor form.	Fair	Fair	10+	C2	5.8	104
T7	Field maple	Off	4.0	1	Yes	380	3.5-3.5-3.5-3.0		2.5	1.5	W	EM	Tree has been heavily reduced in height. Average form for species.	Fair	Fair	10+	C2	4.5	65
T8	English oak	Off	14.0	1	Yes	610	9.0-8.0-9.0-9.0		4.0	2.5	NE	M	Crown overhangs boundary by 5m. Crown has been lifted. Good form. Minor deadwood throughout crown.	Good	Good	20+	A1	7.3	168
T9	English oak	On	9.0	3	Yes	360	4.0-5.0-5.0-4.0		4.0	2	S	EM	In line with old field boundary hedgerow. Lower crown has been flailed to the western side	Good	Good	20+	B2	4.3	59
T10	Common ash	On	13.0	4	Yes	370	6.0-6.0-6.0-6.0		5.0	4	S	EM	Multi-stemmed tree within linear boundary group. Average form for species. Basal unions indicate tree may have been part of an old hedgerow.	Good	Fair	10+	C2	4.4	62
T11	Common ash	On	12.0	3	-	390	6.0-6.0-7.0-7.0		5.0	3	W	EM	Multi-stemmed tree within linear boundary group. Average form for species. Basal unions indicate tree may have been part of an old hedgerow.	Good	Fair	10+	C2	4.7	69
T12	English oak	On	13.0	3	-	1010	7.0-10.0-9.0-9.0		4.0	2.5	E	M	Attractive spreading trees on site boundary. Major deadwood within crown. Ivy on several structural limbs. Good condition and good landscape value.	Good	Good	40+	A1	12.1	462
T13	Common ash	On	12.0	2	-	310	7.0-6.0-2.0-6.0		4.0	2.5	NW	EM	Twin-stemmed tree in corner of site. Suppressed by adjacent tree.	Fair	Fair	10+	C2	3.7	43

Ref	Species	On / off site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) E-S-W	N-	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T14	Common ash	Off	12.0	3	-	390	3.0-7.0-6.0-6.0		4.0	2.5	E	EM	Multi-stemmed tree adjacent to public footpath gate. Deadwood within crown.	Fair	Fair	10+	C2	4.7	69
T15	Common ash	Off	9.0	1	-	300	3.5-4.5-4.0-3.0		3.5	2	SW	EM	Within grassed area, snapped branches in lower crown. Deadwood within crown.	Good	Good	20+	B2	3.6	41
T16	Wild cherry	Off	10.0	1	-	430	7.0-6.0-4.5-6.0		3.0	2	W	EM	Attractive tree in grassed area. Snapped branches in lower crown to eastern side.	Good	Good	20+	B1	5.2	84
T17	Common ash	Off	10.0	1	-	430	3.5-5.0-4.0-4.5		4.0	2	S	EM	Within grassed area. Minor deadwood throughout crown.	Good	Good	20+	B2	5.2	84
T18	Common ash	Off	9.0	1	-	250	4.0-2.0-2.0-4.0		3.0	2	S	EM	Within grassed area. Minor deadwood throughout crown.	Good	Good	20+	B2	3.0	28
T19	Common ash	Off	9.0	1	-	240	5.5-6.0-5.0-4.0		2.5	2	NW	EM	Within grassed area. Minor deadwood throughout crown.	Good	Good	20+	B2	2.9	26
T20	Common ash	Off	10.0	1	-	310	4.0-5.0-5.0-5.0		4.0	2.5	W	EM	Within grassed area. Minor deadwood throughout crown.	Good	Good	20+	B2	3.7	43
T21	Common ash	Off	10.0	1	-	320	5.0-5.5-5.0-5.0		3.5	2	W	EM	Within grassed area. Minor deadwood throughout crown.	Good	Good	20+	B2	3.8	46
T22	Common ash	Off	9.0	1	-	270	5.0-4.0-4.5-4.0		3.0	2	E	EM	Within grassed area. Minor deadwood throughout crown.	Good	Good	20+	B2	3.2	33
T23	Maple (Field)	Off	9.0	3	-	310	3.0-5.0-2.0-3.0		2.5	1	S	SM	Tree located on northern edge of group; good form and vitality.	Good	Good	20+	B2	3.7	43
T24	Pine (Scots)	Off	10.0	1	-	210	1.5-1.0-2.5-2.0		5.0	5	SW	SM	Cohesive canopy formed with adjacent trees of the same species.	Good	Fair	10+	C2	2.5	20
T25	Pine (Scots)	Off	10.0	1	-	220	2.0-1.5-1.0-1.5		4.0	4	N	SM	Cohesive canopy formed with adjacent trees of the same species.	Good	Fair	10+	C2	2.6	22
T26	Pine (Scots)	Off	10.0	1	-	200	2.0-2.5-2.5-1.0		5.0	5	NE	SM	Cohesive canopy formed with adjacent trees of the same species.	Good	Fair	10+	C2	2.4	18
T27	Pine (Scots)	Off	10.0	1	-	210	1.0-2.0-1.5-2.0		6.0	5	W	SM	Cohesive canopy formed with adjacent trees of the same species.	Good	Fair	10+	C2	2.5	20
T28	Pine (Scots)	Off	12.0	1	-	220	2.0-2.0-2.0-2.0		6.0	5	S	SM	Cohesive canopy formed with adjacent trees of the same species. Stem marked with yellow paint.	Good	Fair	10+	C2	2.6	22
T29	Maple (Field)	Off	8.0	5	-	280	4.0-2.5-1.5-3.0		2.5	2.5	N	SM	Tree located on northern edge of group; slight asymmetric form due to proximity to other trees.	Good	Good	20+	C2	3.3	35

Ref	Species	On / off site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) E-S-W	N-	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T30	Maple (Field)	Off	8.0	3	-	210	1.5-1.5-2.0-2.0		3.0	2.5	N	SM	Tree located on northern edge of group; slight asymmetric form due to proximity to other trees.	Good	Good	20+	C2	2.5	20
T31	Maple (Field)	Off	8.0	1	-	180	3.0-2.0-1.0-1.0		4.0	2.5	N	SM	Tree located on northern edge of group; slight asymmetric form due to proximity to other trees.	Good	Good	20+	C2	2.2	15
T32	Maple (Field)	Off	8.0	1	-	140	2.0-1.5-1.5-1.5		3.0	2.5	N	SM	Tree located on northern edge of group. The canopy is slightly sparse with some epicormic growth on stem and branches.	Fair	Fair	20+	C2	1.7	9
T33	Ash (Common)	Off	10.0	1	-	230	4.0-3.0-3.0-2.0		5.0	4	N	SM	declining condition due to ash due back infection.	Poor	Fair	<10	U	2.8	24
T34	Hazel (Common)	Off	3.0	6	-	220	0.5-0.5-0.5-0.5		0.5	1	SW	EM	Poor quality tree with most stems showing decline.	Poor	Fair	<10	U	2.6	22
T35	Maple (Field)	Off	9.0	2	-	250	3.5-3.5-3.0-4.0		4.0	1.5	SW	SM	Dominates its location over smaller trees with an evenly formed canopy. A tree with potential.	Good	Good	20+	B2	3.0	28
T36	Pine (Scots)	Off	12.0	1	-	260	2.5-1.5-2.0-3.5		6.0	5	SW	SM	Cohesive canopy formed with adjacent trees of the same species. One of the larger pines within the broader group. Marked with yellow paint.	Good	Fair	10+	C2	3.1	31
T37	Oak (English)	Off	9.0	1	-	160	5.0-1.5-4.0-2.0		5.0	2.5	S	Y	Slender; drawn up tree with asymmetric form. Ivy to stem. Poor structural form. Marked with yellow paint.	Good	Fair	10+	C2	2.0	12
T38	Oak (English)	Off	11.0	1	-	210	5.0-2.0-4.0-2.0		5.0	2.5	N	Y	Dominant tree with this group. Good structural formation. The tree has long term value. Marked with yellow paint.	Good	Good	20+	B2	2.5	20
T39	Ash (Common)	Off	7.0	2	-	150	2.0-2.0-2.0-2.0		3.0	2.5	S	Y	Unremarkable self set twin stemmed tree.	Fair	Fair	10+	C2	1.8	10
T40	Cherry (Wild)	Off	8.0	1	-	160	3.0-2.0-2.5-2.5		4.0	2.5	W	Y	Unremarkable tree located near southern edge of the group. Marked with yellow paint.	Good	Fair	10+	C2	2.0	12
T41	Ash (Common)	Off	6.0	1	-	160	2.0-2.5-2.5-2.5		4.0	2	W	Y	Boundary tree with negligible quality.	Good	Fair	10+	C2	2.0	12
T42	Maple (Field)	Off	4.0	2	-	110	1.5-2.0-1.5-1.0		0.5	0.5	SE	Y	Small tree occupying lower canopy within the group. Marked with yellow paint.	Good	Good	10+	C2	1.3	5
T43	Pine (Scots)	Off	8.0	1	-	100	0.5-0.5-0.5-0.5		6.0	6	S	Y	Slender drawn up stem; suppressed by larger trees. Marked with yellow paint.	Fair	Fair	10+	C2	1.3	5

Ref	Species	On / off site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) E-S-W	N-	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T44	Pine (Scots)	Off	9.0	1	Yes	150	0.5-0.5-1.0-0.5		5.0	4	S	Y	Slender drawn up stem; suppressed by larger trees. Dense undergrowth prevented accurate stem measurement.	Fair	Fair	10+	C2	1.8	10
T45	Pine (Scots)	Off	11.0	1	-	160	1.0-0.5-1.0-1.0		7.0	5	S	SM	Cohesive canopy formed with adjacent trees of the same species. Slender drawn up stem. Marked with yellow paint.	Good	Fair	10+	C2	2.0	12
T46	Pine (Scots)	Off	9.0	1	-	110	0.5-0.5-0.5-0.5		6.0	6	S	Y	Slender drawn up stem; suppressed by larger trees. Marked with yellow paint. Blackthorn tree growing concurrently with this tree.	Fair	Fair	10+	C2	1.3	5
T47	Pine (Scots)	Off	10.0	1	Yes	210	0.5-2.5-2.5-1.0		4.0	3	S	SM	Located in southern boundary; asymmetric form to the south. Dense undergrowth prevented accurate stem measurement.	Good	Fair	10+	C2	2.5	20
T48	Pine (Scots)	Off	10.0	1	-	240	1.0-1.0-2.5-1.0		6.0	5	NE	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.9	26
T49	Pine (Scots)	Off	8.0	1	Yes	150	0.5-0.5-2.5-0.5		6.0	4	S	SM	Located in southern boundary; asymmetric form to the south. Dense undergrowth prevented accurate stem measurements.	Good	Fair	10+	C2	1.8	10
T50	Pine (Scots)	Off	12.0	1	-	240	3.0-4.0-2.0-2.0		5.0	4	E	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.9	26
T51	Maple (Field)	Off	8.0	2	-	270	2.0-2.0-1.5-1.5		2.0	1	N	SM	Boundary tree; Ivy to stem. Lower canopy has been cut back on field side.	Good	Good	10+	C2	3.2	33
T52	Pine (Scots)	Off	11.0	1	-	160	2.0-2.0-2.0-1.0		5.0	4	S	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.0	12
T53	Maple (Field)	Off	8.0	2	-	210	2.5-2.5-3.0-1.5		2.0	1	N	SM	Boundary tree; Ivy to stem. Lower canopy has been cut back on field side.	Good	Good	10+	C2	2.5	20
T54	Pine (Scots)	Off	12.0	1	-	220	4.0-2.0-1.5-1.0		5.0	4	N	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.6	22
T55	Pine (Scots)	Off	11.0	1	-	220	1.5-1.5-3.0-2.0		4.0	3	S	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.6	22
T56	Pine (Scots)	Off	12.0	1	-	220	4.0-2.0-1.5-1.0		5.0	4	N	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.6	22
T57	Pine (Scots)	Off	11.0	1	-	220	1.5-1.5-3.0-2.0		4.0	3	S	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.6	22

Ref	Species	On / off site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) E-S-W	N-	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T58	Maple (Field)	Off	8.0	4	-	250	1.5-2.5-3.0-1.0		2.0	1	N	SM	Boundary tree; Ivy to stem. Lower canopy has been cut back on field side. Marked with yellow paint.	Good	Good	10+	C2	3.0	28
T59	Pine (Scots)	Off	12.0	1	-	200	1.0-1.5-1.5-1.0		5.0	4	W	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.4	18
T60	Pine (Scots)	Off	11.0	1	-	140	1.0-1.5-0.5-0.5		8.0	8	N	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	1.7	9
T61	Maple (Field)	Off	8.0	3	-	300	3.0-2.0-3.0-2.0		2.0	1	N	SM	Boundary tree; Ivy to stem. Lower canopy has been cut back on field side. Marked with yellow paint.	Good	Good	10+	C2	3.6	41
T62	Pine (Scots)	Off	10.0	1	-	170	2.0-1.5-1.5-1.0		5.0	4	N	SM	Drawn up form; associated with dense plantations. Marked with yellow paint.	Good	Fair	10+	C2	2.0	13
T63	Maple (Field)	Off	8.0	3	-	300	2.0-1.5-3.0-2.0		2.0	1	N	SM	Boundary tree; Ivy to stem. Lower canopy has been cut back on field side. Marked with yellow paint.	Good	Good	10+	C2	3.6	41
T64	Maple (Field)	Off	8.0	2	Yes	250	2.5-1.0-3.0-2.0		2.0	1	N	SM	Boundary tree; Ivy to stem. Lower canopy has been cut back on field side. Marked with yellow paint. Dense vegetation prevented accurate stem measurement.	Good	Good	10+	C2	3.0	28
T65	Hawthorn	On	3.0	3	Yes	480	3.0-3.0-2.5-3.0		0.0	0	-	M	Typical hedgerow hawthorn.	Hoog	Good	20+	B2	5.8	104

GROUPS OF TREES

Ref	Species	On / off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G1	Hawthorn, blackthorn	On	7	9	Yes	180	1.5	0.0	SM	Linear group of trees on site boundary, appears to have been a laid hedge in the past. Flailed to western side.	Good	Fair	10+	C2	2.2
G2	Holly	On	9	11	Yes	170	2	0.0	SM	Linear group of trees on site boundary. Flailed on western side to 4m.	Good	Fair	10+	C2	2.0
G3	Hawthorn, hazel	On	5-6	9	Yes	110	1	0.5	SM	Linear group of trees on site boundary. Flailed on western side. Part of an old laid hedge.	Good	Fair	10+	C2	1.3
G4	Hawthorn, English oak	On	3-7	12	Yes	210	1.5	0.0	EM	Linear group of trees on site boundary. Flailed on western side. Part of an old laid hedge. Oak tree has an estimated diameter of 460mm it has been reduced to 2m in height.	Good	Fair	10+	C2	2.5
G5	English oak	On	8	4	-	240	3	3.5	EM	Linear group of trees on site boundary. Lower canopy flailed to western side. Minor deadwood throughout canopies.	Good	Fair	20+	B2	2.9
G6	Elder	On	2-4	7	Yes	70	1	0.0	SM	Bramble and ivy covering stems in several sections.	Fair	Fair	10+	C2	0.8
G7	Holly, hawthorn, elder, hazel, blackthorn	On	7-9	100	Yes	180	1.5	0.0	EM	Linear group of trees along site boundary. Dense holly. Trees flailed on northern side. Likely part of an old, now unmaintained, hedgerow.	Good	Fair	20+	B2	2.2
G8	Hawthorn, blackthorn, hazel	On	3-5	54	Yes	120	1	0.5	SM	Linear group of trees along site boundary. Trees flailed on northern side. Likely part of an old, now unmaintained, hedgerow. Sparse with gaps in places.	Good	Fair	10+	C2	1.5
G9	Common ash, elder	On	3-5	5	Yes	100	1	0.5	SM	Small group of self set trees surrounded in bramble.	Good	Fair	10+	C2	1.3
G10	Common ash, Scots pine, aspen, hazel, elder, hawthorn, goat willow, dogwood, field maple,	Off	3-12	100	-	140	1.5	1.0	SM	Linear tree belt. Several failures within the group. Understory of hawthorn, hazel and dogwood between individually planted trees.	Good	Fair	20+	B2	1.7
G11	Common ash, wild cherry, Himalayan birch, English oak	Off	7-10	26	-	320	3.5	3.0	EM	Group of trees planted in three lines adjacent to footway on grassed area.	Good	Good	20+	B2	3.8

HEDGEROWS

Ref	Species	On / off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
H1	Hawthorn, common ash, holly, blackthorn	On	2.5	2.5	90	0.3	M	Well maintained field boundary hedgerow. Ivy covering stems in several sections.	Good	Good	20+	B2	1.1
H2	Pyracantha, honeysuckle, beech, common ash, holly	Off	2.0	1	50	0.3	SM	Domestic garden hedgerow, several gaps.	Good	Good	10+	C2	0.6
H3	Lawson cypress	Off	1.5	1	50	0.3	SM	Well maintained domestic garden hedgerow	Good	Good	10+	C2	0.6
H4	Lawson cypress	Off	2.0	1	50	0.3	SM	Well maintained domestic garden hedgerow	Good	Good	10+	C2	0.6
H5	Holly, hawthorn	Off	2.5	2	60	0.0	SM	Well maintained boundary hedgerow.	Good	Good	10+	C2	0.8
H6	Lawson cypress	Off	2.0	1.0	40	0.5	SM	Domestic garden hedgerow, several gaps.	Good	Good	10+	C2	0.6
H7	Holly, hawthorn,	On	2.0	1.5	60	0.0	EM	Well maintained field boundary hedgerow.	Good	Good	20+	B2	0.8
H8	Hawthorn	On	2.0	2.0	70	0.0	EM	Well maintained field boundary hedgerow	Good	Good	20+	B2	0.8

- The tree survey was carried out with reference to the methodology set out in BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups and/or woodlands were also surveyed as individuals.
- Within the tree survey schedule, each surveyed TREE (T), GROUP (G), HEDGEROW (H), WOODLAND (W) or SHRUB MASS on or adjacent to the site is given a reference number which refers to its position on the tree survey and constraints plan.
- TREE SPECIES are listed by common name.
- OOS: The recorded Out Of Scope trees and features refer to either a dead-standing or failed tree; a stump or minor shrubs; where trees are inaccessible or located off-site and unlikely to be affected by the development or, it is found that the trees are undersized according to BS 5837:2012, which stipulates a minimum recordable diameter of 75mm.

The **DIMENSIONS** taken are:

- STEM-No. indicates the number of main stems (i.e. whether the trunk divides at or below 1.5m; (used in the calculation of root protection area (RPA)) "m-s" = Multi-stemmed.
- STEM DIAMETER (measured in millimetres), obtained from the girth measured at approx. 1.5m. For trees with 2 to 5 sub-stems, a notional figure is derived from the sum of their cross-sectional areas. For multi-stemmed trees, the notional diameter may be estimated on the basis of the average stem size x the number of stems. Note: a notional diameter may be estimated where measurement is not possible.
- HEIGHT (measured in metres), recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- The CROWN SPREAD, taken at the four cardinal points to derive an accurate representation of the tree crown, recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over 10m.
- CROWN CLEARANCES, expressed both as the existing height above ground level of the first significant branch along with its direction of growth (e.g., 2.5m-N) and also in terms of the overall crown e.g., the average height of the crown above ground level. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- ESTIMATES: where any measurement has had to be estimated, e.g., due to inaccessibility, this is indicated by a "#" suffix to the measurement as shown in the Tree Survey Schedule.

LIFE STAGE is defined as follows:

- Y Young: Normally stake dependent, establishing trees. Should be growing fast, usually primarily increasing in height more than spread but as yet making a limited impact upon the landscape.
- SM Semi-mature: Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment. Semi-mature are still capable of being transplanted without preparation, up to 300mm girth and not yet sexually mature.

- EM Early-mature: Not yet having reached 75% of expected mature size. Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment.
- M Mature: Well-established trees, still growing with some vigour but tending to fill out and increase spread. Bark may be beginning to crack and fissure. In the middle half of their safe, useful life expectancies.
- LM Late-mature: In full maturity but possibly beyond mature and in a state of natural decline. Still retaining some vigour but any growth is slowing.
- A Ancient: A tree that has passed beyond maturity and is old/aged compared with other trees of the same species. Typically having a very wide trunk and a small canopy.

PHYSIOLOGICAL CONDITION (HEALTH & VITALITY):

Essentially a snapshot of the general health of the tree based upon its general appearance, its apparent vigour and the presence or absence of symptoms associated with poor health, physiological stress etc. (fungal infections may be recorded here but decay giving rise to structural weakness would be recorded under 'Structural Condition' – see next parameter):

- Good: No significant health issues.
- Fair: Indications of slight stress or minor disease (e.g., the presence of minor dieback/deadwood or epicormic shoot growth).
- Poor: Significant stress or disease noted; larger areas of dieback than above.
- Dead: (or Moribund).

STRUCTURAL CONDITION:

Features affecting the structural stability of the tree include decay, significant deadwood, root-plate instability or significant damage to structural roots, weak forks (e.g. those where bark is included between the members) etc. Classified as:

- Good: No obvious structural defects: basically sound.
- Fair: Minor, potential or incipient defects.
- Poor: Significant feature(s) likely to lead to actual failure in the medium- to long-term.
- Dead: (or Moribund).

ESTIMATED REMAINING CONTRIBUTION:

An estimate of the length of time in years that a tree might be expected to continue to make a useful contribution to the locality at an acceptable level of risk (based on an assumption of continued routine maintenance):

- Less than 10 years
- 10+ years
- 20+ years
- 40+ years

SPECIAL IMPORTANCE:

Trees that are particularly notable as high-value trees such as ancient trees/woodland or veteran trees. Such trees may be regarded as the principal arboricultural features of a site and pose a significant constraint to potential development.

An **ancient** tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life stage. **Veteran** trees are often very old but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

The term '*notable*' carries no weight within the National Planning Policy Framework (NPPF), but is a term that recognises a mature tree which may stand out in the local environment because it is large in comparison with other trees around it.

Ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW).

QUALITY CATEGORY:

Trees are classed as category U, A, B or C, based on criteria given in BS 5837:2012; summary definitions as follows (see BS 5837 for further details). Categories A, B and C are further characterised by the use of sub-categories, which attempt to identify what aspect of the tree is the main source of its perceived value, These are:

- (1) arboricultural qualities
- (2) landscape qualities, and
- (3) cultural, historic or ecological/conservation qualities.

Examples of these qualities for each of the three categories are given below, although these are indicative only.

Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

CATEGORY A: HIGH QUALITY:

Trees or groups whose retention should be given a particularly high priority within the design process. Normally with an expected useful life expectancy of at least 40 years.

- A1: Notably fine specimens; rare or unusual specimens; essential component trees within groups, semi-formal or formal plantings (e.g., dominant trees within an avenue etc.).
- A2: Trees, groups or woodlands of particular visual importance as landscape features.
- A3: Trees, groups or woodlands of particular significance by virtue of their conservation, historical, commemorative or other value (e.g., veteran trees or wood pasture).

CATEGORY B: MODERATE QUALITY

Trees or groups of some importance with a likely useful life expectancy in excess of 20 years. Their retention would be desirable; selective removal of certain individuals may be acceptable but only after full consideration of all alternative courses of action.

- B1: Fair quality but not exceptional; good specimens showing some impairment (e.g., remediable defects, minor storm damage or poor past management).
- B2: Acceptable trees situated such as to have little visual impact within the wider locality. Also the number of trees, perhaps in groups or woodlands, whose value as landscape features is greater collectively than would warrant as individuals (such that the selective removal of an individual would not impact greatly upon the trees' overall, collective value).
- B3: Trees, groups or woodlands with clearly identifiable conservation or other cultural benefits.

CATEGORY C: LOW QUALITY:

Trees or groups of rather low quality, although potentially capable of retention for at least approx. 10 years. Also small trees with stems below 150mm diameter.

Potentially retainable, but not of sufficient value to be regarded as a significant planning constraint.

- C1: Unremarkable trees of very limited merit or significantly impaired condition.
- C2: Trees offering only low- or short-term landscape benefits; also secondary specimens within groups or woodlands whose loss would not significantly diminish their landscape value.
- C3: Trees with extremely limited conservation or other cultural benefits.

CATEGORY U: VERY LOW QUALITY

Trees likely to prove to be unsuitable for retention for longer than 10 years should any significant increase in site usage arise as a result of development. E.g., dead or moribund trees; those at risk of collapse or in terminal decline; trees that will be left unstable by other essential works such as the removal of nearby category U trees; trees infected by pathogens that could materially affect other trees; low-quality trees that are suppressing better specimens. (Category U trees may have conservation values that it might be desirable to preserve. This category may also include trees that should be removed irrespective of any development proposals.)

ROOT PROTECTION AREA (RPA):

These are normally represented as a circle centred on the base of each tree stem with a radius of 12 times the stem diameter, measured at 1.5m above ground level. The shape of the RPA may be altered where site conditions dictate that there are sound reasons to do so.

VETERAN OR ANCIENT TREE BUFFER (VTB/ATB)

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone (in metres) around an ancient or veteran tree that should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's stem diameter.

ANCIENT WOODLAND BUFFER (FOR ASNW, PAWS OR ARW)

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, a larger buffer zone may be required.

THE IMPORTANCE OF TREES

Wider benefits:

There is a growing body of evidence that trees bring a wide range of benefits to the places people live.

Some *Economic* benefits of trees include:

- Trees can increase property values
- As trees grow larger, the lift they give to property values grows proportionately
- They can improve the environmental performance of buildings by reducing heating and cooling costs, thereby cutting bills
- Mature landscapes with trees can be worth more as development sites
- Trees create a positive perception of a place for potential property buyers
- Urban trees improve the health of local populations, reducing healthcare costs

Some *Social* benefits of trees include:

- Trees help create a sense of place and local identity
- They benefit communities by increasing pride in the local area
- They can create focal points and landmarks
- They have a positive impact on people's physical and mental health
- They can have a positive impact on crime reduction

Some *Environmental* benefits of trees include:

- Urban trees reduce the 'urban heat island effect' of localised temperature extremes
- They provide shade, making streets and buildings cooler in summer
- They help remove dust and particulates from the air
- They help to reduce traffic noise by absorbing and deflecting sound
- They help to reduce wind speeds
- By providing food and shelter for wildlife they help increase biodiversity
- They can reduce the effects of flash flooding by slowing the rate at which rainfall reaches the ground
- They can help remediate contaminated soil

On new development sites:

Trees bring many benefits to new development. Where retained successfully they can form important and sustainable elements of green infrastructure, contribute to urban cooling and reduce energy demands in buildings. Their importance is acknowledged in relation to adaptation to the effects of climate change. Other benefits brought by trees include:

- increasing property values;
- visual amenity
- softening, complementing and adding maturity to built form
- displaying seasonal change
- increasing wildlife opportunities in built-up areas
- contributing to screening and shade
- reducing wind speed and turbulence

NATIONAL PLANNING POLICY

The National Planning Policy Framework February 2025 (NPPF) paragraph 193 states that, when determining planning applications, local planning authorities should apply the following principle:

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

In this respect, the following definitions apply:

'Ancient woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)', and

'Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life stage.'

Note: Further information from the National Planning Policy Guidance Suite and Standing Advice is provided in the design guidance section.

Other paragraphs of the NPPF 2025 of relevance to this report are:

Paragraph 136: '*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. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.'

Paragraph 187: *'Planning policies and decisions should contribute to and enhance the natural and local environment by:*

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

STATUTORY CONTROLS

Statutory tree protection

Works to trees which are covered by Tree Preservation Orders (TPOs) or are within a Conservation Area (CA) require permission or consent from the Local Planning Authority. Where information is available on any Statutory designations such as this they are identified within the summary table in Section 1 and on the Tree Survey and Constraints Plan at Section 2.

Notwithstanding specific exceptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of protected trees or woodlands without the prior written consent of the LPA.

Penalties for contravention of a TPO tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £20,000 if convicted in a Magistrates' Court, or an unlimited fine if the matter is determined by the Crown Court.

Similarly, and again notwithstanding specific exceptions, it is an offence to carry out any works to a tree in a Conservation Area with a trunk diameter greater than 75mm diameter at 1.5 height without having first provided the LPA with 6 weeks written notification of intent to carry out the works.

On many non-residential sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with the statutory controls outlined. Therefore, we recommend that a further check is made with the LPA before any tree works are carried out.

Statutory Wildlife Protection

Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside of the scope for this report.

Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for protected species such as bats in addition to birds and small mammals. It is advised that in some instances specialist ecological advice may be required. This may result in tree works being carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the site manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by the appointed Ecologist or Natural England.

It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. This time period only provides an indication of likely nesting times and as such diligence is required when undertaking tree works at all times.

Irrespective of the time of year and other than any actions approved under General Licence, it is an offence to intentionally kill, injure or take any wild bird or to intentionally take, damage or destroy the nest or eggs of any wild bird. Ideally, tree operations should be avoided during the likely bird nesting period. However, any tree works should always only be carried out following a preliminary visual check of the vegetation.

For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in England and Wales. A different legislative framework applies in Scotland and Northern Ireland.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with any relevant statutory controls, outlined above.

DESIGN GUIDANCE

Approach

The approach adopts the guidelines set out in the British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. The process is broken down to coordinate with the key elements within both the RIBA Plan of Work (2013) and British Standard 5837:2012 as set out in the table below:

Information Stage	RIBA Stage	BS5837:2012
Stage A – Tree Survey	2: Concept	4: Feasibility
Stage B – Arboricultural Impact Assessment	3: Developed design	5: Proposals
Stage C – Arboricultural Method Statement	4: Technical design	6: Technical Design
Stage D – Arboricultural Site Supervision	5: Construction	7: Demolition and construction

A hierarchical approach is adopted in order to achieve optimum use of the site and location of built structures. This is set out below:

Avoid

The starting point of Site layout design should be to avoid the RPA of retained trees and provide suitable clearance from above ground constraints [tree canopies]. Where possible building lines should be at least 2m outside the RPA to provide working space for construction. However, protection measures can be taken if such clearance is not achievable.

Mitigate

Where intrusion within the RPA is unavoidable then its impact on the tree can be mitigated by specialist measures:

Foundations that avoid trenching e.g. screw piles, suspended floor slabs or casting at ground level for lightweight structures such as bin and cycle stores.

Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist. Cellular confinement systems that enable hard surfaces to be built above existing soil levels are acceptable methods subject to site-specific soil conditions.

Service runs that cannot be routed outside the RPA(s) can be installed by, for example, thrust boring, directional drilling, air excavation or hand digging. These operations often require supervision by the project arboriculturist.

Compensate

Replacement planting can ensure the continuity of tree cover where tree removal is unavoidable or desirable. Off-site provision may be considered in some circumstances but this will require negotiation with the local planning authority.

Considerations:

For proposed residential developments, consideration must be given to numerous factors future tree growth and orientation.

Tree constraints

Root Protection Areas:

With reference to BS5837:2012, a root protection area (RPA) is defined 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 should be treated as a priority”. **“The default position [when considering design layout in relation to RPAs] should be that structures are located outside the RPAs of trees to be retained”.**

BS5837:2012 states (4.6.2) that, “where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced.” The BS goes on to state that, “modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution,” and that any deviation from the original circular plot should take into account:

- Morphology and disposition of roots;
- topography and drainage;
- soil type and structure;
- the likely tolerance of the tree to root damage/disturbance.

Additional buffer zones beyond the RPA:

The following text is taken from the Standing Advice produced by the Forestry Commission and Natural England as included in the National Planning Policy Guidance:

‘A buffer zone’s purpose is to protect ancient woodland and individual ancient or veteran trees. The size and type of buffer zone should vary depending on the scale, type and impact of the development’.

Ancient woodland buffer:

‘For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, you’re likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic’.

Ancient and veteran tree buffer:

'A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter'.

Above ground:

Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments; usually post occupancy. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

Shade:

Adverse shading and blocked views from windows raise concerns for incoming residents, which may lead to pressure to fell or remove trees in the future. Wherever possible it is advisable to arrange fenestration away from tree canopies to lessen the conflict, or increase window size to accommodate ambient light.

Conversely, appropriate designed development can use existing or new trees to create necessary and welcome shade and screening.

As part of the adopted approach the above considerations and constraints are assessed cumulatively in order to provide clear and site-specific advice on the areas of a site most suitable for the location of development.

Dependent on the site and nature of the proposed development, the Tree Survey and Constraints Plans may show the following:

Recommended Developable area - an advisory area defined in order to minimise arboricultural impacts using standard approaches to construction. Restricting proposed development to this area will limit the risk of harm to retained trees and of the Local Planning Authority objecting to the proposed development. It may be possible to propose development outside of this area but specific 'low impact' construction techniques may be needed recommended.

Recommended Buffer to development - similar to the Recommend Developable Area but defined as a line marking a suitable buffer to retained trees. More commonly used on large sites or sites where the presence of trees is localised.

Tree Opportunities

Depending on the scale of developments existing trees can often provide opportunities to enhance the existing arboricultural resource of a site by bringing it into good management or by putting in place remedial measures e.g. soil amelioration.

Appropriately designed new tree planting is extremely important in maintaining healthy and sustainable tree populations. For the reasons highlighted, new trees can bring many benefits to new developments. It is critical to the establishment of new tree planting that the locations, species and specification of new trees is appropriate. Subsequently the sourcing of high-quality stock, suitable planting and the provision of post planting maintenance are essential to allow new trees to establish and to allow them to mature.

HOW TREE DAMAGE CAN OCCUR

Above the ground

Damage can occur as a result of knocks and scuffs, breakages of branches and/or tree trunks. This is often but not always associated with machine operations, groundworks excavations, tele handlers, high sided vehicles and crane use. Other forms of above ground damage include fixings to trunk and unauthorised cutting back of branches. Wounds will harm a tree's health and shorten its life by letting in disease-causing organisms.

Below the ground

It is often not appreciated that the majority of most tree roots are generally located within the top 600mm of the ground. On this basis it needs to be understood that damage to roots can occur in three ways:

- Root severance can occur as a result of, for example, soil stripping during site clearance or excavations.
- Root dieback and death can result from compaction of the soil. Compaction can occur as a result of vehicle weight, weight of stored materials or increased pedestrian access. Compaction crushes out soil pore space and prevents tree respiration from occurring (respiration requires gas exchange between the ground and the atmosphere). Compacted soil is denser and therefore inhibits/prevents any further new root growth.
- Pollution of the soil with chemicals such as oil or cement washings can destroy the soil environment, making it inhospitable for the tree cause causing it stress.

The effects of these impacts can be disfiguring to a tree's appearance and also weaken a tree making it more liable to attack by pest and diseases. In addition, root damage or death results in corresponding decline above the ground with dieback occurring within the tree crown.

The effects of damage to trees generally take some time to become fully apparent. In many cases, damaged trees decline slowly after the completion of a new development, until they eventually need to be removed due to ill health.

Tree protection barriers and load distributing 'no-dig' paths are specified in order to prevent soil compaction from taking place.

GENERAL SITE RULES FOR TREE PROTECTION

Do not independently carry out any activity that is at odds with the site scheme of tree protection. This is contained within an approved Arboricultural Method Statement (AMS) and accompanying Tree Protection Plan.

In simple terms: do not carry out any work within any Construction Exclusion Zone (CEZ) without prior liaison with the Project Arboriculturist and written authorisation from the Local Planning Authority.

Within the CEZ:

- No mixing of cement
- No soil/turf stripping, raising/lowering of ground levels (unless advised), deposit or excavation of soil or rubble
- No excavations for services or installation of services
- No storage of materials, machinery fuel, chemicals or other materials of any other description
- No parking/use of tracked or wheeled machinery
- No siting of temporary structures including hard standing areas, portaloos, site huts
- No lighting of fires or disposal of liquids
- Fires on site should be avoided if possible. Where they are unavoidable, they must not be lit in a position where heat could damage foliage or branches. Fires must be a minimum of 20m from the trunk of any retained tree or the centre line of any hedgerow to be retained
- No signs, cables, fixtures or fittings of any other description shall be attached to any part of a retained tree.