

ARBORICULTURAL SURVEY REPORT

Land off Osbaston
Road, Monmouth

September 2024



Barton Hyett Associates
Arboricultural Consultants

Summary table	
Site Name:	Land off Osbaston Road, Monmouth
Project reference:	6439
Site Address:	Osbaston Road, Osbaston, Monmouth
Nearest Postcode:	NP25 3PD
Central Grid reference:	<u>SO 50460 13902</u>
Local Planning Authority:	<u>Monmouthshire County Council</u>
Relevant planning policies:	<u>Monmouthshire County Council Adopted Local Development Plan:Policy S13 - Landscape, Green Infrastructure and the Natural Environment, Policy GI1 - Green Infrastructure, NE1 - Nature Conservation and Development</u>
Statutory Controls:	Tree Preservation Order
	Conservation Area
	No
Ancient trees/ woodlands?	None
Soil Type: (Source: BGS online soils map © NERC 2024)	Superficial/Drift
	Bedrock
	Alluvium - Clay, silt, sand and gravel
	St Maughans Formation - Argillaceous rocks and sandstone, interbedded
Topographical Survey:	3376 - T Monmouth 2D
Report author:	Joe Robson <i>BSc (Hons), MArborA</i>
Checked by:	Paul Barton <i>MSc, BSc (Hons), MArborA, RCArborA</i>
Date of issue:	04/10/2024

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1. INSTRUCTION

- 1.1. I am Joe Robson. I am an arboriculturist with 10 years of experience, and a Professional member of the Arboricultural Association.
- 1.2. Barton Hyett Associates Ltd have been instructed by TACP UK Ltd to survey trees located at land off Osbaston Road, Monmouth ('the site') in accordance with the recommendations of British Standard 5837:2012 'Trees in relation to design, demolition and construction - recommendations'.
- 1.3. The scope of the instruction was to inspect trees relevant to a planning application for a health centre at the site and provide written advice on how they inform feasibility and design options.
- 1.4. **This report is intended for use by the applicant and design team only and is not for submission to the Local Planning Authority (LPA).**

2. SITE DESCRIPTION

- 2.1. The site is located to the south of Osbaston, a suburb of Monmouth, and to the north of Monmouth town.
- 2.2. The site consists of a single irregularly shaped field with established hedgerows on the northern boundary and trees, tree groups and outgrown hedgerows on the remaining boundaries. There is a single open grown tree in the southeast of the site.



Figure 1: Approximate survey area shown in red.

- 2.3. Whilst the site is not open to the public, access can be gained to the site from Osbaston Road to the north of the site and also by various pedestrian cut throughs on the west and south of the site. One such cut through is marked on the Tree Survey and Constraints Plan with Target Note TN1.
- 2.4. Osbaston Church in Wales School is to the east of the site, residential properties and gardens are to the southwest separated from the site by a narrow water course and fields are located to the west.
- 2.5. The ground level slopes gently down from north to south towards Forge Road and the River Monnow which are off-site to the south.

3. TREE SURVEY FINDINGS

- 3.1. A total of 44 trees, groups of trees and hedgerows were surveyed. These are summarised in terms of their quality in accordance with the recommendations of BS5837 below, and shown in more detail in the Tree Survey and Constraints Plan (**Section 2**) and within the Tree Survey Schedule (**Section 3**).

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	17	3	2	11	1
Groups	11	-	9	2	-
Hedgerows	16	-	3	13	-
Total	44	3	14	26	1

4. CONSTRAINTS AND OPPORTUNITIES

- 4.1. No ancient or veteran trees or Ancient Semi-Natural Woodlands were recorded in the tree survey data.
- 4.2. No trees recorded in the survey data are protected by a Tree Preservation Order (TPO) and the site is not within a Conservation Area (confirmed by Monmouthshire County Council by email on the 26th September 2024).
- 4.3. It should be noted that the topographic survey provided was of limited use and lacking stem locations and crown spreads for the majority of arboricultural features recorded. Stems were therefore plotted using crown spreads where shown on the topographic survey and aerial imagery but are less accurate than they otherwise might have been. In instances where arboricultural features were not represented at all on the topographic survey, this is detailed in the comments section of the Tree Survey Schedule (**Section 3**) as appropriate.
- 4.4. A number of recorded arboricultural features are off site and located in private gardens. Measurements were estimated in these instances and this is detailed in the Tree Survey Schedule (**Section 3**).

- 4.5. The site already has an agricultural access from Osbaston Road. It's likely that any development would utilise this existing access, though hedgerows H11 and H15 (B2) may require partial removal or reduction to improve visibility splays.
- 4.6. The size of the site and nature of the proposal provides ample space for compensatory landscape planting on site in accordance with Monmouthshire County Council planning policy.
- 4.7. The survey was undertaken in accordance with BS 5837 (2012). As such, areas of dense herbaceous vegetation or woody vegetation with stem diameters below 75mm diameter were not recorded in the Tree Survey Schedule. They are, however, recorded on the Tree Survey and Constraints Plan with 'Out of Scope' polygons. These features do not pose arboricultural constraints but may pose ecological constraints and may also provide opportunities to focus landscape planting.
- 4.8. The majority of arboricultural features recorded are on site boundaries and so it is highly unlikely any proposal will impact them directly or on the Root Protection Areas (RPAs).
- 4.9. Ultimately, underground cable connections will be required. It appears likely that these can be installed with minimal arboricultural impact.

5. RECOMMENDATIONS AND CONCLUSION

- 5.1. The information contained within this report should be used in the preparation of design proposals for the site, in order to minimise negative arboricultural impacts.
- 5.2. The developable area of the site is focussed within the interior of an existing field and is relatively free from arboricultural constraints. On this basis the development of the site to provide a health centre is feasible from an arboricultural perspective.
- 5.3. It is likely that some hedgerow removal will be required to facilitate adequate visibility splays for vehicular access / egress to Osbaston Road. There is ample opportunity across the site to establish new trees and restore hedgerows to compensate for this loss.
- 5.4. I would be pleased to provide comments and advice on the emerging design proposals before drafts are finalised.

Joe Robs

Joe Robson *BSc (Hons), MArborA*
Arboriculturist



IMAGE 1: H11, H15 and existing site entrance. Photo taken from Osbaston Road facing south



IMAGE 2: H13, H14 and H15. Photo taken from site entrance facing northwest on to Osbaston Road.



IMAGE 3: H11, H13 and T17. Photo taken from site entrance facing east on to Osbaston Road.



IMAGE 4: H11 and H15. Photo taken from site facing north.



IMAGE 5: Various arboricultural features on the northwest of the site including high quality off-site feature T1. Photo taken from site facing west.



IMAGE 6: High quality oak T3 and G2 on western site boundary. Photo taken from site facing northwest.



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
- Target Note

Tree Ref	Species	Height (m)	LifeStage	RPA Radius (m)	RPA (m ²)
T1	Oak (English)	13	M	8.4	222
T2	Hazel (Common)	4	M	2.2	15
T3	Oak (English)	18	M	12.2	547
T4	Willow (Crack)	14	M	5.4	92
T5	Hazel (Common)	7	LM	2.9	26
T6	Hazel (Common)	7	LM	5.9	109
T7	Ash (Common)	22	M	14.6	872
T8	Hawthorn	6	M	1.8	10
T9	Willow (Grey)	8	EM	3.3	35
T10	Aspen	8	Y	1.3	5
T11	Aspen	8	Y	1.6	8
T12	Aspen	15	Y	3	28
T13	Aspen	9	Y	1.3	5
T14	Willow (Weeping)	15	M	5.4	92
T15	Oak (English)	3	Y	1.1	4
T16	Cypress (Lawson)	9	EM	3	28
T17	Ash (Common)	15	M	6	113

Group Ref	Species	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m ²)
G1	Hazel/elder	5-7	M	3	28
G2	Grey willow, hazel, common ash, field maple, elm	5-10	SM	2.4	18
G3	Common ash, hawthorn	10-12	EM	4.2	55
G4	Leyland cypress, hawthorn, hazel	13-20	M	6	113
G5	Common ash, sweet chestnut, silver birch, Lawson	5-17	M	6	113
G6	Hawthorn, hazel	6-10	EM	2.4	18
G7	Hawthorn, hazel	6-10	EM	2.4	18
G8	Hawthorn, crack willow	6-8	EM	2.4	18
G9	Aspen	15-20	M	9	254
G10	Crack willow	2-8	M	0.4	222
G11	Weeping willow, hazel, field maple, common ash	6-15	M	6	113

Hedge Ref	Species	Avg. Height (m)	Life Stage	RPA Radius (m)	RPA (m ²)
H1	Grey willow, hazel, hawthorn	6	M	1.8	10
H2	Grey willow, hazel, hawthorn	6	M	1.8	10
H3	Leyland cypress, hazel	8	EM	3	28
H4	Hawthorn, hazel, aspen	6	M	2.4	18
H5	Hawthorn, hazel, elder, elm	6	M	1.8	10
H6	Hazel, hawthorn	6	M	3.6	41
H7	Hazel, hawthorn	8	M	3.6	41
H8	Lawson cypress, laurel	6	EM	1.8	10
H9	Cotoneaster	2	EM	1	3
H10	Hawthorn, hazel	1.5	EM	1	3
H11	Hawthorn, dogwood, hazel, buddleia, blackthorn, dog	3	EM	1	3
H12	Hazel, hawthorn, dogwood, Leyland cypress	4	EM	1.8	10
H13	Leyland cypress	4	EM	1.8	10
H14	Lawson cypress	4	EM	1.8	10
H15	Grey willow, dogwood, hazel, dog rose	3	EM	1	3
H16	Laurel, hawthorn, ash	2	EM	1	3

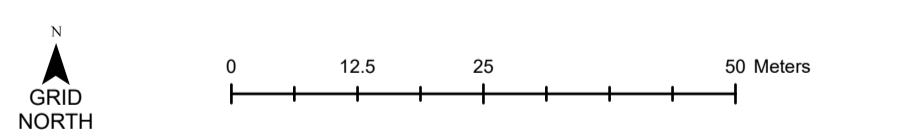
Tree Canopy Area	Tree Group Canopy Area	Hedgerow Canopy Area
Category	Category	Category
A	A	A
B	B	B
C	C	C
U		

Label	Description
OOS 1	Dense bramble and sub 75mm stems
OOS 2	Dense bramble
OOS 3	Dense bramble and vegetation
OOS 4	Dense bramble, sub 75mm stems and off site trees set back from site
OOS 5	Dense bramble
OOS 6	Dense bramble and sub 75mm stems
OOS 7	Dense bramble and sub 75mm stems

Label	Description
TN1	Informal position out through



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: Osbaston Road (6439)

DRAWING TITLE: Tree Survey Plan

SCALE: Scale: 1:750 @ A1 DRAWING NUMBER: BHA_6439_01

DRAWN BY: AT APPROVED BY: IH REVISION: - SHEET: - DATE: 27/09/2024

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

CLIENT: TACP

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DRAWING PRODUCED BY: **SUMMIT GEO**

INDIVIDUAL TREES

Ref	Species	On/off site	Top Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) E-S-W	N-	Avg. low crown height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T1	Oak (English)	Off	13.0	1	Yes	700	8.0-8.0-8.0-8.0		4.0	4.0	N	M	None	Set well back off site behind dense bramble. Measurements estimated. Not on topo.	Good	Good	40+	A1	8.4	222.0
T2	Hazel (Common)	Off	4.0	6	Yes	180	2.0-2.0-2.0-2.0		0.0	0.0	N	M	None	Growing in dense bramble. Measurements estimated. Not on topo.	Good	Fair	20+	C1	2.2	15.0
T3	Oak (English)	On	18.0	1	None	1100	8.0-8.0-8.0-8.0		2.0	5.0	N	M	None	Bifurcated at 2m. Dense bramble at base. Good quality tree.	Good	Good	40+	A1	13.2	547.0
T4	Willow (Crack)	Off	14.0	1	Yes	450	5.0-8.0-5.0-3.0		1.0	4.0	N	M	None	Lean east in to site. Dense ivy on stem and into crown. Off site in dense bramble. Measurements estimated. No stem point on topo.	Good	Fair	20+	C1	5.4	92.0
T5	Hazel (Common)	Off	7.0	6	Yes	240	4.0-4.0-4.0-5.0		0.0	0.0	W	LM	None	Off site hazel coppice with dense bramble at base. Measurements estimated. Not on topo.	Good	Fair	10+	C1	2.9	26.0
T6	Hazel (Common)	Off	7.0	6	Yes	490	5.0-5.0-5.0-5.0		0.0	0.0	W	LM	None	Ditch to north. Off site hazel coppice with dense bramble at base. Measurements estimated. Not on topo.	Good	Fair	10+	C1	5.9	109.0
T7	Ash (Common)	Off	22.0	6	Yes	1220	8.0-10.0-10.0-8.0		8.0	4.0	S	M	None	Separated from site by ditch. High quality off site tree. Not on topo. Measurements estimated.	Good	Good	40+	A1	14.6	673.0
T8	Hawthorn	Off	6.0	1	Yes	150	1.0-1.0-1.0-1.0		0.0	0.0	N	M	None	Dense ivy. Dead tree. Not on topo.	Poor	Poor	<10	U	1.8	10.0
T9	Willow (Grey)	On	8.0	10	Yes	280	3.0-4.0-3.0-3.0		0.0	0.0	E	EM	None	Multi stemmed at base. Dense bramble at base. Stem points not on topo.	Good	Fair	20+	C1	3.3	35.0
T10	Aspen	On	8.0	1	Yes	100	3.0-1.0-2.0-2.0		1.0	1.0	N	Y	None	Small self set tree. Not on topo.	Good	Good	40+	C1	1.3	5.0
T11	Aspen	On	8.0	1	None	130	3.0-3.0-2.0-2.0		1.0	1.0	N	Y	None	Establishing tree.	Good	Good	40+	C1	1.6	8.0
T12	Aspen	On	15.0	1	Yes	250	3.0-1.0-2.0-2.0		1.0	1.0	N	Y	None	Small self set tree. Not on topo. Dense ivy on stem.	Good	Good	40+	C1	3.0	28.0

Ref	Species	On/off site	Top Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) E-S-W	N-	Avg. low crown height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T13	Aspen	On	9.0	1	Yes	110	3.0-1.0-1.0-2.0		1.0	1.0	N	Y	None	Small self set tree.	Good	Good	40+	C1	1.3	5.0
T14	Willow (Weeping)	Off	15.0	1	Yes	450	7.0-7.0-7.0-7.0		0.0	3.0	N	M	None	Offsite tree; not on topo.	Good	Good	20+	B1	5.4	92.0
T15	Oak (English)	Off	3.0	1	Yes	90	3.0-3.0-3.0-3.0		1.0	0.5	S	Y	None	Establishing tree.	Good	Good	40+	C1	1.1	4.0
T16	Cypress (Lawson)	Off	9.0	1	Yes	250	4.0-4.0-4.0-4.0		2.0	1.0	E	EM	None	Off site roadside tree. Not on topo.	Good	Good	20+	C1	3.0	28.0
T17	Ash (Common)	Off	15.0	1	Yes	500	8.0-7.0-7.0-7.0		6.0	5.0	NE	M	None	Pollarded some time ago. Managed at c.8m over carriageway. Stem points unclear on topo.	Good	Fair	20+	B1	6.0	113.0

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. low crown height (m)	Life Stage	Special importance	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G1	Hazel; elder	Off	5-7	5	Yes	250.0	4.0	0.0	M	None	Scrub group growing in dense bramble. Not on topo.	Good	Fair	10+	C2	3.0
G2	Grey willow; hazel; common ash; field maple; elm; alder; dogwood	On	5-10	20	Yes	200.0	3.0	0.0	SM	None	Ash dieback and Dutch elm disease in group. Some dead stems. Extent of group unclear on topo due to dense bramble.	Fair	Fair	10+	C2	2.4
G3	Common ash; hawthorn	On	10-12	3	Yes	350.0	6.0	4.0	EM	None	Dense bramble at bases. Measurements estimated. Ivy on stems. Early signs of ash dieback. No stem locations on topo.	Fair	Good	20+	C2	4.2
G4	Leyland cypress; hawthorn; hazel	On	13-20	15	Yes	500.0	8.0	2.0	M	None	Ditch to north. Mature unmanaged leyland and understorey of hazel and hawthorn.	Good	Fair	20+	C2	6.0
G5	Common ash; sweet chestnut; silver birch; Lawson cypress; common alder; crack willow	Off	5-17	15	Yes	500.0	7.0	0.0	M	None	Separated from site by ditch. Varied age and quality. Lawson cypress has failed east into site.	Fair	Fair	10+	C2	6.0
G6	Hawthorn; hazel	Off	8-10	4	Yes	200.0	3.0	3.0	EM	None	Dense bramble. Not on topo.	Fair	Fair	10+	C2	2.4
G7	Hawthorn; hazel	Off	8-10	4	Yes	200.0	3.0	3.0	EM	None	Dense bramble. Not on topo.	Fair	Fair	10+	C2	2.4
G8	Hawthorn; crack willow	On	6-8	5	Yes	200.0	4.0	0.0	EM	None	Linear group on site boundary. Not on topo.	Fair	Fair	10+	C2	2.4
G9	Aspen	Off	15-20	20	Yes	750.0	8.0	8.0	M	None	Off site linear mature tree group. Not on topo. Watercourse to south. Off side road to the north.	Good	Good	20+	B2	9.0

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	Life Stage	Special importance	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G10	Crack willow	Off	2-8	2	Yes	700.0	6.0	4.0	M	None	Close grown off site mature trees. Deadwood and dieback in upper crown of northern tree. not on topo. Measurements estimated.	Fair	Fair	10+	C2	8.4
G11	Weeping willow; hazel; field maple; common ash	Off	6-15	20	Yes	500.0	6.0	0.0	M	None	Unmanaged boundary tree group with hazel understorey. Majority willow and f maple. Some early signs of ash dieback.	Good	Good	20+	B2	6.0

HEDGEROWS

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. low crown height (m)	Life Stage	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
H1	Grey willow; hazel; hawthorn	On	6.0	6	150	0.0	M	Dense bramble at bases. Some reduced vitality. Multi stemmed. Unmanaged hedgerow species.	Fair	Fair	20+	C2	1.8
H2	Grey willow; hazel; hawthorn	On	6.0	6	150	0.0	M	Dense bramble at bases. Some reduced vitality. Multi stemmed. Unmanaged hedgerow species.	Fair	Fair	20+	C2	1.8
H3	Leyland cypress; hazel	Off	8.0	7	250	0.0	EM	Ditch to north. No stem points on topo. Measurements estimated.	Good	Fair	10+	C2	3.0
H4	Hawthorn; hazel; aspen	On	6.0	6	200	0.0	M	Unmanaged scrub group.	Fair	Fair	10+	C2	2.4
H5	Hawthorn; hazel; elder; elm	Off	6.0	5	150	0.0	M	Linear unmanaged hedgerow species.	Fair	Fair	10+	C2	1.8
H6	Hazel; hawthorn	On	8.0	8	300	0.0	M	Unmanaged hedgerow species on field boundary. Predominantly mature hazel coppice stools.	Good	Fair	20+	B2	3.6
H7	Hazel; hawthorn	On	8.0	8	300	0.0	M	Unmanaged hedgerow species on field boundary. Predominantly mature hawthorn. Dense bramble and base and in crowns. Some dieback in crowns. Group extents not on topo.	Fair	Fair	10+	C2	3.6
H8	Lawson cypress; laurel	Off	6.0	4	150	0.0	EM	Managed roadside hedgerow.	Good	Fair	20+	C2	1.8
H9	Cotoneaster	Off	2.0	1	75	0.0	EM	Managed hedgerow.	Fair	Fair	20+	C2	1.0
H10	Hawthorn; hazel	Off	1.5	1	75	0.0	EM	Managed roadside hedgerow.	Fair	Fair	20+	C2	1.0
H11	Hawthorn; dogwood; hazel; buddleigh; blackthorn; dog rose	On	3.0	3	75	0.0	EM	Linear roadside hedgerow. Topo does not align with aerial imagery; topo has been used.	Good	Good	20+	B2	1.0
H12	Hazel; hawthorn; dogwood; Leyland cypress	Off	4.0	3	150	0.0	EM	Managed roadside hedgerow. Majority hazel.	Good	Good	20+	C2	1.8

Ref	Species	On/off site	Avg. Height (m)	Avg. width (m)	Avg. Stem diam (mm)	Avg. low crown height (m)	Life Stage	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
H13	Leyland cypress	Off	4.0	3	150	0.0	EM	Managed roadside hedgerow.	Good	Good	20+	C2	1.8
H14	Lawson cypress	Off	4.0	3	150	0.0	EM	Managed roadside hedgerow.	Good	Good	20+	C2	1.8
H15	Grey willow; dogwood; hazel; dog rose	On	3.0	3	75	0.0	EM	Linear roadside hedgerow. Topo does not align with aerial imagery; topo has been used.	Good	Good	20+	B2	1.0
H16	Laurel; hawthorn; ash	Off	2.0	2	75	0.0	EM	Managed hedgerow. Dense bramble throughout.	Fair	Fair	10+	C2	1.0

- 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 where 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

Paragraph 6.4.43 of the Planning Policy Wales - Edition 12, February 2024 (PPW) states in relation to Ancient Woodland:

'Ancient woodland, semi-natural woodlands, individual ancient, veteran and heritage trees and ancient hedgerows are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees, woodlands and hedgerows are to be afforded protection from development which would result in their loss or deterioration unless very exceptionally there are significant and clearly defined public benefits; this protection must prevent potentially damaging operations and their unnecessary loss¹³⁹. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory, work to improve its completeness and use it to ensure the protection of trees and woodland and identify opportunities for more planting as part of the Green Infrastructure Assessment, particularly in terms of canopy cover'.

The PPW goes on to state:

'The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally-specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs)¹⁴⁰. They should also be incorporated into Green Infrastructure Assessments and plans'.

STATUTORY CONTROLS

Statutory tree protection

Works to trees that 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 in 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.

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 of this report.

Trees that 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 of 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 the relevant Statutory Nature Conservation Organisation (SNCO): Natural England, Scottish Natural Heritage or Natural Resources Wales.

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 indicates 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	BS 5837:2012
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 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 relating to future tree growth and orientation.

Tree constraints

Root Protection Areas:

With reference to BS 5837:2012, 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”.**

BS 5837:2012 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 for England (included here as it is regarded as good practice):

‘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, appropriately 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 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 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 need to be recommended.

Recommended Buffer to development - similar to the Recommended 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 are 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 mature over time.