CSA environmental









ARBORICULTURAL IMPACT ASSESSMENT REPORT

High Street, Sutton Benger

Prepared by CSA Environmental
on behalf of
Gladman Developments Ltd

Report Ref: CSA/3324_06

June 2023

urban design | ecology | landscape | heritage

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Summary table		
Site Name:	Land off High Street, Sutton Benger	
Project reference:	5308	
Site Address:	High Street, Sutton Benger, Wiltshire	
Nearest Postcode:	SN15 4RR	
Central Grid reference:	ST 95021 78788	
Local Planning Authority:	Wiltshire Council	
Relevant planning policies:	Wiltshire Core Strategy: CP50 Biodiversity and geodiversity; CP51 Landscape; CP52 Green infrastructure; CP57 Ensuring high quality design and place shaping.	
Statutory Controls:	**Tree Preservation Order**	**Conservation Area**
	None	No - but adjacent to Site
Soil Type: (Source: BGS online soils map © NERC 2023)	**Superficial/Drift**	**Bedrock**
	River Terrace Deposits, 1 - Sand and gravel	Kellaways Sand Member - Sandstone and siltstone, interbedded
Topographical Survey:	2017-021_Topo_01-03_2d	
Report author:	Siobhan Dickenson *TechArborA*	
Checked by:	Paul Barton MSc, BSc (Hons), MArborA, RCArborA	
Date of first issue:	28th April 2023	

Barton Hyett Associates
Arboricultural Consultants

Arboricultural Association
Technician Member

TE9221

Institute of Chartered Foresters
registered

CHAS
Accredited Contractor
CHAS.co.uk

CSA environmental

Landscape Institute Registered Practice

QMS ISO 9001 : 2015 REGISTERED
Certificate No:366562021

CIEEM REGISTERED PRACTICE 2022-2023

Barton Hyett
Arboricultural Consultants

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SECTION 7: PRINCIPLES FOR TREE PROTECTION ON DEVELOPMENT SITES

Report reference	Date	Revision	Prepared by	Approved by	Comments
CSA/3324_06	28.04.2023	-	SD, Barton Hyett Associates Ltd	PB	First issue
CSA/3324_07	15.06.2023	A	PB, Barton Hyett Associates	RC	Amended site boundary

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1. Instruction

1.1. CSA Environmental was instructed by Gladman developments Limited to survey trees located at Land off High Street, Sutton Benger ('the Site') in accordance with BS 5837:2012 '*Trees in relation to design, demolition and construction - recommendations*'. This report has been prepared for CSA Environmental by Barton Hyett Associates Limited.

1.2. The objective of this report is to assess the condition of the significant trees and woody vegetation and to provide sufficient information to inform development design. It also includes an impact assessment to inform the planning decision in relation to an outline planning application for development of the Site.

2. Site description

2.1. The Site occupies an area of c. 3.64ha and is located around central grid reference ST 94990 78780. The Site is located on land to the north of B4069 within the village of Sutton Benger, which is approximately five miles northeast of Chippenham. The M4 junction 17 is located 3 miles northwest of the Site. Residential development is proposed at the Site, for which outline planning permission will be sought with all matters reserved other than the access.

2.2. The Site is located on the east edge of the Sutton Benger village and consists of a medium-sized agricultural field which has been sown to grass.

2.3. The character of the Site is mostly rural but is located on the edge of the village. The residential area is to the west of the Site and the surrounding boundary of the Site has not had any fundamental changes or construction works for at least 13 years (as informed by Google Street View).

2.4. Access to the Site is via a footpath from the west of the Site. This footpath continues straight through the Site, along the north boundary hedging and eventually linking back to the B4069 further along.

2.5. The Site's topography is level throughout, at about 57 metres above mean sea level. There are no watercourses present. There is a slope from the Site boundary along B4069 down to the road, with a barbed wire fence to indicate the boundary.

2.6. The four Site boundaries are split into two hedgerows, one barbed wire fence and one open field. The hedgerows are maintained by flailing to varying degrees, with the north hedgerow being maintained below a power line. The barbed wire fence boundary runs along the B4069 on top of a slope & the open field boundary is currently sown to grass.

2.7. The tree survey area includes a narrow track to the north, flanked by hedges, along which a drainage outfall may be proposed.

3. Statutory protection

3.1. An online check using the Wiltshire Council GIS mapping system has been made to ascertain if any trees on the Site are protected via legislation. This check was made on the 16th January 2023 and confirmed that no Tree Preservation Orders or conservation areas are present on this Site. It is worth noting that a conservation area does run along the western boundary. A map showing this has been included below for completeness.

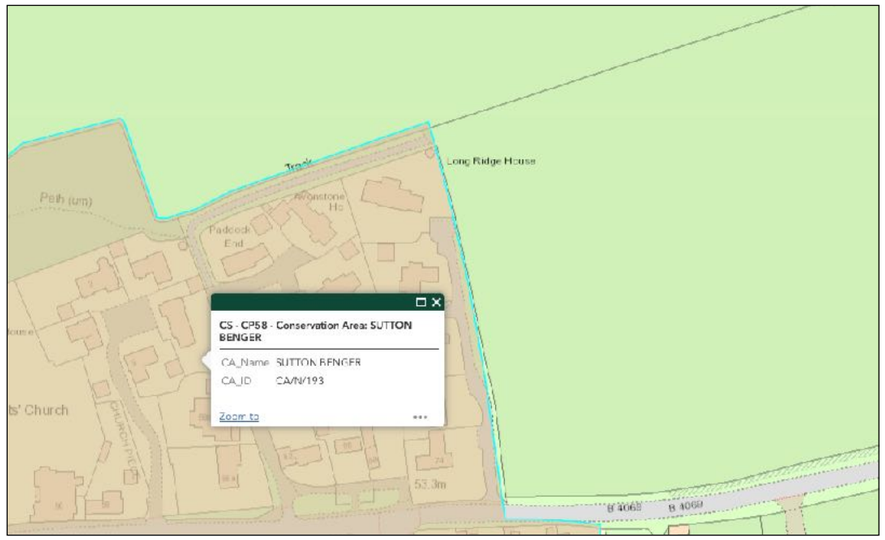

Figure 1: snapshot of the council's web mapping facility showing the adjacent Conservation Area.

4. Tree survey findings

4.1. The survey was not a tree safety inspection. It has been undertaken to inform the planning process. However, where clear and obvious hazards have been observed, these have been identified in the tree survey schedule in **section 4** and appropriate recommendations made.

4.2. A total of two trees, five groups of trees and ten hedgerows were surveyed. These are summarised in terms of their quality in accordance with the recommendations of BS5837 below. The survey data are shown in more detail on the tree survey and constraints plan BHA_5308_01 (**Section 2**) provided at 1:500 scale when printed at A1 size, and within the tree survey schedule (**Section 4**). Explanatory notes about the survey and categorisation process within BS 5837 are set out in **Section 5.**

Table 1. Summary of arboricultural categories present.

	Total	Category A - High quality trees whose retention is most desirable.	Category B - Moderate quality trees whose retention is desirable.	Category C - Low quality trees which could be retained but should not significantly constrain the proposal.	Category U - Very poor quality trees that should be removed unless they have high conservation value.
Trees	**2**	-	1	1	-
Groups	**5**	-	2	3	-
Hedgerows	**10**	-	5	5	-
Total	**17**	**0**	**8**	**9**	**0**

5. Arboricultural Considerations

5.1. No veteran or ancient trees were identified in the survey. The Site itself is quite limited with the number of trees/hedgerows present however some of the more visually significant arboricultural features include:

- Category B T2 field maple, located in the south-west corner of the Site. Ivy-clad, multi-stemmed and the only single-standing tree on Site.
- Category B G2 tree group, which is located within the eastern boundary hedgerow, includes an early mature apple & laburnum which are well presented for their age.

5.2. The hedgerows on the Site were a mix of Category B & C quality. Overall, they are maintained to various levels as expected of an agricultural field boundary.

6. Constraints and opportunities

6.1. Due to the peripheral location of the on-site and off-site trees, there should be a minimal arboricultural constraint to development within the Site. The retention and protection of these trees will serve to provide a level of maturity and maintain landscape and amenity values within the Site.

6.2. The retention of the hedgerows within green buffers around the periphery of the Site will help to minimise the impact of development on the future landscape value and maintains these features as part of the Site's green infrastructure.

7. Impact Assessment

7.1. The impact assessment considers the effects of any tree loss required to implement the proposed development as well as any reasonably foreseeable potentially damaging activities proposed in the vicinity of retained trees. This is undertaken with reference to BS 5837:2012 and considering the nature of the proposed development. Actual and potential impacts can include tree removal to facilitate the development, soil compaction in close proximity to trees, and direct impact damage to canopy and roots of retained trees from construction activities. A summary of anticipated impacts resulting from the proposed development is provided below.

7.2. This assessment considers the effect of the proposed access to the Site (i.e. the non-reserved matters). It also considers the potential impacts of the Development Framework Plan (the reserved matters). However, a further assessment of the reserved matters details will be required at the detailed planning stage. An indicative tree retention and removal plan is included in **section 4**.

7.3. The development proposal is an outline application for the erection of up to 60 dwellings with public open space, landscaping, community allotments and sustainable drainage system (SuDS) and vehicular access point from B4069, with all matters reserved except for access. The southern part of the Site would be dedicated to wildflower meadow and a pond for biodiversity enhancements.

7.4. The proposed access in to the Site from the B4069 will not impact any trees or hedgerows.

7.5. With regard to the reserved matters it is anticipated that no trees or hedges will need to be removed to implement the proposal. Existing boundary hedges and trees can be successfully retained along new residential boundaries, along the recreational route green corridor and adjacent to the new public open space in the west of the Site.

7.6. The Development Framework Plan has been designed to provide appropriate buffers to trees and tree groups. The proposed public open space in the west of the Site protects the most significant and prominent trees within it.

7.7. The Development Framework Plan indicates a potential to provide an increase in tree cover. This includes planting around a new central green and strengthening of the peripheral vegetation through new tree and hedge planting.

7.8. In summary, the Development Framework Plan demonstrates that a sustainable relationship between the proposed development parcels and retained trees and hedges can be achieved, and that an overall net gain in the arboricultural resource at the Site can be delivered.

8. Further recommendations and conclusions

8.1. The information contained within this report and should be used in the preparation of further more detailed design proposals for the Site, in order to minimise negative arboricultural impacts. At detailed planning and design stages, it will be necessary to produce a detailed Arboricultural Impact Assessment (AIA) which will evaluate the direct and indirect effects of the proposals and detail tree protection measures.

8.2. The Development Framework Plan shows a low impact from an arboricultural perspective, and demonstrates that a sustainable relationship between the proposed development parcels and retained trees and hedges can be achieved. An overall net gain in the arboricultural resource at the Site can be delivered.

8.3. The following is recommended to inform the next stages of the design/planning process of the proposed development, such that suitable arboricultural impact avoidance, mitigation and compensation measures may be adopted:

- Reserved matters detailed Arboricultural Impact Assessment in line with BS 5837:2012

Together with:

- A suitable Tree Protection Plan and Arboricultural Method Statement once the design is fixed at the advanced planning stage



Siobhan Dickenson *TechArborA*
Arboricultural Surveyor

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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

Ancient Tree / Woodland or Veteran Trees

- Ancient tree/woodland or Veteran tree: Important trees that require special consideration
- Ancient tree/woodland or Veteran tree buffer: As per published standing advice from Natural England and the Forestry Commission

Statutory Protection

Tree Preservation Order (TPO): Trees under statutory protection.
No tree works to be undertaken without specific consent or by relevant exception

The site may be within a designated Conservation Area which restricts tree works. Please see attached advice and guidance.

Tree Ref	Species	Height (m)	LifeStage	RPA (m2)	RPA Radius (m)
T1	Elm (English)	5.5	SM	7	1.5
T2	Maple (Field)	7	EM	152	7

Group Ref	Species	Height Range	LifeStage	RPA (m2)	RPA Radius (m)
G1	Crack willow; alder; hawthorn	3-12	EM	28	3
G2	Alder	10-12	M	72	4.8
G3	Ash; hawthorn	7-9	EM	38	3.5
G4	Apple; beech; laburnum	2-6	EM	38	3.5
G5	Field maple; bramble; ivy	1-3	Y	2	0.8

Hedge Ref	Species	Avg. Height (m)	Life Stage	RPA (m2)	RPA Radius (m)
H1	English elm; hawthorn; blackthorn; hazel;	1.5	EM	4	1.1
H2	English elm; hawthorn; blackthorn; hazel;	1.5	EM	4	1.1
H3	English elm; hawthorn; blackthorn; hazel;	1.5	EM	4	1.1
H4	English elm; hawthorn; blackthorn; hazel	1.5	EM	4	1.1
H5	English elm; hawthorn; blackthorn; hazel;	1.75	EM	4	1.1
H6	English elm; hawthorn; blackthorn; hazel;	1.5	EM	4	1.1
H7	Hawthorn; blackthorn; English elm; sycamore	5	SM	5	1.3
H8	English elm; hawthorn; blackthorn	1.5	SM	3	1
H9	Hazel; blackthorn; English elm; field maple;	2	SM	3	1
H10	Hawthorn; blackthorn; elder; English elm; crab apple	2	SM	3	1

INDEX MAP



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

N
GRID NORTH

0 15 30 60 Meters

PROJECT TITLE

Suttonn Benger (5308)

DRAWING TITLE

Tree Survey Plan

SCALE			DRAWING NUMBER	
Scale: 1:1,000 @ A1			BHA_5308_01	
DRAWN BY	APPROVED BY	REVISION	SHEET	DATE
TB	SD	-	-	25/04/2023

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

CLIENT: **CSA Environmental**

CREDITS

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394750

395000

179500

178750

G2 -B2

G1 -C2

H3 -C2

H2 -B2

H1 -B2

TN2

H6 -B2

H4 -B2

TN 1

H5 -B2

H7 -C2

H8 -C2

G3 -C2

H9 -B2

G4 -B2

H10 -B2

G5 -C2

T2 -B1

T1 -C1

KEY

Category A Tree - High quality
(Retention highly desirable)

Category A - Hedgerow, Group, Woodland - High quality
(Retention highly desirable)

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(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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(Mostly unsuitable for retention)

Category U - Hedgerow, Group, Woodland - Very low quality
(Mostly unsuitable for retention)

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Tree Preservation Order (TPO): Trees under statutory protection.
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The site may be within a designated Conservation Area which restricts tree works. Please see attached advice and guidance.

Development / Design Guidance

Recommended Development Area: Area considered appropriate for development in arboricultural terms having considered all arboricultural constraints

Recommended buffer to development: Appropriate offset from development having considered all arboricultural constraints

Photo images: Images of key arboricultural features at the site

Protection Measures

Target Note

Target Notes

Label	Description
TN 1	End of H5 may need pruning/removing to for drainage outfall
TN2	End of H2 may need pruning/removal for drainage outfall

INDEX MAP



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

N
GRID NORTH

0 12.5 25 50 Meters

PROJECT TITLE

High Street, Sutton Bengor (5308)

DRAWING TITLE

Tree Protection Plan

SCALE			DRAWING NUMBER
Scale: 1:750	@ A1		BHA_5308_03_A

DRAWN BY	APPROVED BY	REVISION	SHEET	DATE
TB	SD	-	-	08/06/2023

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

CLIENT: **CSA Environmental**

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TREE SURVEY SCHEDULE

LAND OFF HIGHT STREET, SUTTON BENGER

PROJECT NO: 5308

SURVEYOR: SIOBHAN DICKENSON

CLIENT: GLADMAN DEVELOPMENTS LTD

SURVEY DATE: 12/01/2023

Barton Hyett
Arboricultural Consultants

INDIVIDUAL TREES

Ref	Species	On / off site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T1	Elm (English)	Off	6	1	None	120.0	1.0-2.0-1.0-1.0	1.5	1.5	E	SM	None	Dying/dead elm; presume due to Dutch elm. Included as running along site boundary. Part of line of 3 (4 total)other elm in same condition.	Poor	Poor	<10	C1	2	7
T2	Maple (Field)	Off	7	7	None	580.0	5.0-5.0-4.0-3.0	0.5	1.5	N	EM	None	Multistem field maple at corner of site; 60% ivy cover; surrounded by bramble and saplings. Telephone pole to the SE. Undergone minimal/no tree work; no significant defects at time of inspection.	Good	Fair	40+	B1	7	152

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	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G1	Ash; hawthorn	Off	7-9	10	None	290	3.0	3.0	EM	None	Group of ash trees at the back of garden; a few overhang onto site by max 4m. Ash on south end of group previously topped; reactionary growth present.	Fair	Fair	20+	C2	3.5
G2	Apple; beech; laburnum	Off	2-6	8	None	290	3.0	2.0	EM	None	Early mature apple & laburnum joined together by a mixed hedge at 2m high. Typical for species and age. Hedge previously 1m high; currently left to outgrow. Young beech to the South of apple amongst hedgerow; currently at 5m high	Good	Good	40+	B2	3.5
G3	Field maple; bramble; ivy	On	1-3	10	None	60	1.0	1.0	Y	None	Predominantly ivy bush/tree group; left to outgrow.	Fair	Poor	20+	C2	0.8
G4	Apple; beech; laburnum	Off	2-6	8	None	290	3.0	2.0	EM	None	Early mature apple & laburnum joined together by a mixed hedge at 2m high. Typical for species and age. Hedge previously 1m high; currently left to outgrow. Young beech to the South of apple amongst hedgerow; currently at 5m high	Good	Good	40+	B2	3.5
G5	Field maple; bramble; ivy	On	1-3	10	None	60	1.0	1.0	Y	None	Predominantly ivy bush/tree group; left to outgrow.	Fair	Poor	20+	C2	0.8

HEDGES

TREE SURVEY SCHEDULE

LAND OFF HIGHT STREET, SUTTON BENGER

PROJECT NO: 5308

SURVEYOR: SIOBHAN DICKENSON

CLIENT: GLADMAN DEVELOPMENTS LTD

SURVEY DATE: 12/01/2023

Barton Hyett Arboricultural Consultants

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	English elm; hawthorn; blackthorn; hazel;	On	1.75	1.5	90.0	0.5	EM	Uniform maintained hedgerow along field boundary;aside from growth around power line poles.	Good	Good	40+	B2	1.1
H2	Hawthorn; blackthorn; English elm; sycamore	On	5	4.0	100.0	0.2	SM	Outgrown hedgerow with a sycamore and some elm establishing above hedge height. Elm are succumbing to DED	Fair	Fair	20+	C2	1.3
H3	English elm; hawthorn; blackthorn	Off	1.5	1.0	80.0	0.5	SM	Uniform maintained hedgerow along footpath/ field access with minimal gaps	Good	Fair	40+	C2	1.0
H4	Hazel; blackthorn; English elm; field maple;	On	2	2.0	80.0	0.5	SM	Previously trimmed to 1.5m high; new height of 2m maintained; as well as sides	Good	Good	40+	B2	1.0
H5	Hawthorn; blackthorn; elder; English elm; crab apple	On	2	1.5	80.0	1.0	SM	Previously trimmed to 1m high; new height of 2m maintained for hedgerow except 2x crab apple trees. Sides maintained on both sides. Crab apple 3-4m high;field side previously trimmed but now left to grow out.	Good	Good	40+	B2	1.0
H6	English elm; hawthorn; blackthorn; hazel;	Off	1.5	1.5	90.0	0.5	EM	Uniform maintained hedgerow along field boundary.	Good	Good	40+	B2	1.1
H7	Hawthorn; blackthorn; English elm; sycamore	On	5	4.0	100.0	0.2	SM	Outgrown hedgerow with a sycamore and some elm establishing above hedge height. Elm are succumbing to DED	Fair	Fair	20+	C2	1.3
H8	English elm; hawthorn; blackthorn	Off	1.5	1.0	80.0	0.5	SM	Uniform maintained hedgerow along footpath/ field access with minimal gaps	Good	Fair	40+	C2	1.0
H9	Hazel; blackthorn; English elm; field maple;	On	2	2.0	80.0	0.5	SM	Previously trimmed to 1.5m high; new height of 2m maintained; as well as sides	Good	Good	40+	B2	1.0
H10	Hawthorn; blackthorn; elder; English elm; crab apple	On	2	1.5	80.0	1.0	SM	Previously trimmed to 1m high; new height of 2m maintained for hedgerow except 2x crab apple trees. Sides maintained on both sides. Crab apple 3-4m high;field side previously trimmed but now left to grow out.	Good	Good	40+	B2	1.0

SELECT IMAGES FROM THE TREE SURVEY

LAND OFF HIGH STREET, SUTTON BENGER

PROJECT NO: 5308

SURVEYOR: SIOBHAN DICKENSON

CLIENT: GLADMAN DEVELOPMENTS LTD

Barton Hyett
Arboricultural Consultants



PHOTO 1: B4069 on the left, south-east corner of the Site on the right



PHOTO 2: B4069 on the right, south boundary with barbed wire fencing



PHOTO 3: South-east corner of the Site



PHOTO 4: Western boundary alongside residential area



PHOTO 5: Western boundary alongside residential area



PHOTO 6: North-west access point/footpath

SECTION 4

TREE SURVEY METHODOLOGY

- The tree survey was carried out with reference to the methodology set out in BS5837:2012 '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 (eg 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/woodlands were also surveyed as individuals
- The full tree survey findings are recorded in the following tree survey schedule.
- 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.

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 RPA.) "m-s" = Multi-stemmed.
- STEM DIAMETER (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. (A notional diameter may be estimated where measurement is not possible.)
- HEIGHT, are measured in metres. They are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- The CROWN SPREAD are taken at the four cardinal points to derive an accurate representation of the tree crown. They are 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 are expressed both as existing height above ground level of first significant branch along with its direction of growth (eg 2.5m-N), and also in terms of the overall canopy. 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, due to inaccessibility for example, 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 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 upon the local landscape & environment. Semi-Mature (still capable of being transplanted without preparation, up to 30cm 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 upon the local landscape & 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 & 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 of epicormic shoot growth)
Poor: Significant stress or disease noted; larger areas of dieback than above
Dead: (or Moribund)

STRUCTURAL CONDITION:
Defects affecting the structural stability of the tree, including decay, significant dead wood, 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 defect(s) likely to lead to actual failure in the medium to long-term
Dead: (or Moribund)

REMAINING USEFUL LIFE EXPECTANCY:
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.

QUALITY CATEGORY:
Trees are classed as category U, A, B or C, based on criteria given in BS5837:2012; summary definitions as follows (see BS5837 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:
(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 U: UNSUITABLE:
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. It may also include trees that should be removed irrespective of any development proposals.)

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 highly 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 numbers 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: MINOR VALUE:
Trees or groups of rather low quality, although potentially capable of retention for at least approx. 10 years. Also small trees with stems below 15cm diameter.
Potentially retainable, but not of sufficient value to be regarded as a significant planning constraint.
C1: Unremarkable trees of very limited merit or of 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 benefit.

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 stem diameter measured at 1.5m above ground level, but the shape of the RPA may be altered where Site conditions dictate that there are sound reasons to do so.

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 2021 (NPPF paragraph 180) 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 2021 of relevance to this report are:

Paragraph 131: '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.'

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 is 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 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 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 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.

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Ministry of Housing, Communities and Local Government, 2019 National Planning Policy Framework. London: Ministry of Housing, Communities and Local Government.

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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, teleporters, 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

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