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ARBORICULTURAL SURVEY REPORT

TREE SURVEY SCHEDULE & TREE CONSTRAINTS PLAN

Twineham Court Farm

Bob Lane

Haywards Heath

West Sussex

RH17 5NH

Client: Telbridge Properties Ltd

March 2023

Abi St Aubyn

MICFor MARborA DipArb L6 (ABC) MEng(Hons)

Ref: StA 2078 AS Twineham Court Farm Rev -



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1. Introduction

1.1. Scope of report

- 1.1.1 St Aubyn Tree Consultancy are instructed to carry out a survey of Twineham Court Farm, Bob Lane, Haywards Heath, West Sussex RH17 5NH to provide the baseline tree constraints information to inform a planning application.
- 1.1.2 This report provides information about the site and the trees growing within and immediately adjacent to it. It includes a tree survey schedule, a table of root protection areas (RPAs) and a tree constraints plan.
- 1.1.3 This report complies with the planning policies of Mid Sussex District Council and with the recommendations of British Standard BS 5837: 2012, *Trees in relation to design, demolition and construction – Recommendations* (the British Standard).

1.2. Site description

- 1.2.1 The site is situated to the north of Bob Lane and abuts an access track to the east which leads to an electricity substation located to the north of the site as well as a farm and farm fields to the east. There is an area of mixed woodland to the west of the site.
- 1.2.2 The site is on predominantly level ground and is currently occupied by a number of dilapidated outbuildings and a Listed farmhouse.
- 1.2.3 The site has a number of ponds and small patches of deciduous wooded areas comprising Goat Willow, Field Maple, Ash, Elder and Hawthorn. There are also a number of fruit trees (Apple and Pear) as well as individual trees of mixed species growing within the site. There is a woodland area to the west of the site comprising mature Oak trees with an understorey of Hawthorn and Rhododendron. To the east and south of the site there are several mature boundary trees growing adjacent to Bob Lane and the access track for the electricity substation; these comprise mature Oak trees growing within boundary hedgerows.
- 1.2.4 A check of an online soil information resource¹ revealed the soils to be slowly permeable, seasonally wet and slightly acid but base-rich loamy and clayey soils.

1.3. Information provided

- 1.3.1 The following plan was used to aid the preparation of this report:

- Topo ref: SE Surveying 016 01 22

¹CRANFIELD SOIL AND AGRIFOOD INSTITUTE. (2021) Soil descriptions. [Online] Available from: www.landis.org.uk/soilscapes/ [Accessed: 17th March 2023]



1.4. Statutory protection

1.4.1 From information on Mid Sussex District Council's website, no trees within or adjacent to the boundaries of the site are shown to be the subject of a Tree Preservation Order (TPO).

1.4.2 The site is not in a Conservation Area.

1.5. Other designations

1.5.1 A check of 'MAGIC'² map showed that there are no areas of ancient semi-natural woodland (ASNW) within or adjacent to the site. Ancient semi-natural woodland is any area that's been continuously wooded since at least 1600 AD.

1.6. Limitations

1.6.1 This arboricultural survey report has been prepared as a design tool for a proposed development and planning application. This survey does not constitute a condition and safety survey.

1.6.2 The locations of trees are based on the topographical plan provided. Additional trees omitted from the topographical survey have been plotted using measurements taken on site.

1.6.3 The condition of trees can change significantly within short periods of time due to natural events or people led activities. If there are no changes within the site, this report is valid for a period of 2 years.

² The DEFRA MAGIC map website provides authoritative geographic information about the natural environment across government: www.magic.defra.gov.uk



2. Tree survey

2.1. Findings

- 2.1.1 The trees on the site were surveyed by Abi St Aubyn & Tom Wawman on the 20th March 2023. Information about the survey methodology and the tree data recorded can be found at [Appendix 1](#).
- 2.1.2 The root protection areas (RPAs) table and the tree constraints plan can be found at [Appendices 2 & 3](#) of this report respectively.
- 2.1.3 A total of 26 individual trees, 22 groups, 3 hedges and 1 woodland were surveyed. A summary of their British Standard categorisation is provided at [Table 1](#) below.

Tree category	Individual tree	Group	Hedge	Woodland
A	1	-	-	-
B	8	3	-	1
C	12	18	3	-
U	5	1	-	-
Totals	26	22	3	1

Table 1: Tree categorisation summary

- 2.1.4 The following structure has been considered to be a root barrier and the shapes of the root protection areas (RPAs) of the adjacent trees have been modified as shown on the tree constraints plan to reflect this:
- Bob Lane
- 2.1.5 In these cases, although the shapes of the trees' RPAs have been modified, their areas have been maintained.
- 2.1.6 The key arboricultural features of the site are:
- The off-site boundary Oak trees growing to the south and east of the site (G25, T26, T28, T30, T33, G46, G47, G48, G49 and T50).
 - The off-site woodland to the west of the site (W42).
- 2.1.7 These trees are readily visible in views from Bob Lane to the south and are in keeping with the character and appearance of this locality, which is characterised by farm land with fields surrounded by boundary hedgerows and mature trees and areas of woodland.



3. Next stages

3.1. Arboricultural impact assessment

- 3.1.1 This survey report provides the baseline arboricultural information to explain the arboricultural constraints at the site. The next stage is an iterative process - the emerging design is overlaid with the baseline arboricultural information. The direct and indirect arboricultural impacts of the evolving proposed design are assessed and where necessary mitigation measures are recommended. This is an informal impact assessment stage that informs the design process.
- 3.1.2 This impact assessment takes account of the effects of any tree loss required to implement the design, and any potentially damaging activities proposed in the vicinity of retained trees. Such activities might include the removal of existing structures and hard surfacing, the installation of new hard surfacing, the installation of services, and the location and dimensions of all proposed excavations or changes in ground level, including any that might arise from the implementation of the recommended mitigation measures. In addition to the impact of the permanent works, the buildability of the scheme in terms of access, adequate working space and space for storage of materials also needs to be considered.
- 3.1.3 Once the design has been finalised a formal impact assessment report, tree retention plan, arboricultural method statement and tree protection plan will be required to accompany the planning application.



Appendix 1: Tree survey methodology and schedule

Tree survey methodology

The site was surveyed on the 20th March 2023 by Abi St.Aubyn *DipArb L6 (ABC) MArborA MICFor* and Tom Wawman *CertArb L4 (ABC)*.

Weather conditions at the time were overcast with intermittent rain.

Trees were out of leaf. The trees within and adjacent to the site were surveyed using Visual Tree Assessment³ and following the recommendations of the British Standard⁴.

The survey information was recorded using *Axciscape* tree survey software. Heights and radial crown spreads were measured using a laser distometer or where inaccessible, these were estimated. Trunk diameters were measured using a diameter tape or where inaccessible, these were estimated.

Other tools used if needed were a nylon headed hammer to tap trunks to detect the difference in sound in degraded wood/cavities and a large screwdriver to determine the depth of cavities, within reach from ground level.

The assessment of the categories (A, B, C & U) for trees was carried out in accordance with the British Standard⁴.

Tree survey schedule key

No	Sequential reference number. Individual trees are recorded as T, groups as G, woodland as W and hedges as H.
Species	Common tree name.
Height	Measured/estimated in metres as access allows.
Trunk diameter	Measured/estimated in millimetres as access allows.
Crown clearance	Height between the existing ground level and the canopy of the tree. Estimated in metres.
Radial crown spread	Either an average or at four cardinal points. Measured/estimated as access allows.
Life stage	Young, semi mature, early mature, mature, over mature and ancient.
Physiology	Good, average, below average, poor, dead.
Structure	Good, average, below average, hazardous, dead.

³Visual Tree Assessment (VTA) is a tree survey methodology established by Mattheck & Breloer, outlined within the *Principles of Tree Hazard Assessment and Management* by Lonsdale, where external above ground visual signs of decay and of growth-related defects are recorded from ground level.

⁴BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* (the British Standard). The survey methodology follows the British Standard apart from sub-categories and the first significant branch and direction of growth have been omitted. In practice the omitted information is very rarely used to inform the design process or tree protection measures. However, if in a particular case this information is relevant, it will be included in the comments.



Landscape value	High, moderate, low.
Lifespan	<10 years, 10+ years, 20+ years, 40+ years
Comments	Presence of any decay and/or physical defects, and/or preliminary management recommendations. Whether a tree is considered to be a veteran tree ⁵ , irrespective of its age.
Category	<p>A – trees of high quality with an estimated remaining life expectancy of at least 40 years</p> <p>B – trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p> <p>C – trees of low quality with an estimated remaining life expectancy of at least 10 years, or young tree with a stem diameter below 150mm</p> <p>U – trees unsuitable for retention due to their condition</p>

Table 2: Tree survey schedule key

⁵ Whist veteran trees typically provide a range of niche habitats, they are especially valuable if ancient, due to their scarcity and high habitat values for associated species of fungi, lichens and saproxylic invertebrates, including some which are rare or endangered and occur only where such trees have been continuously present for centuries. These trees, where present, will be of high value, category 'A'.



Tree Survey Schedule

No.	Species	Height	Trunk Dia.	Crown Clearance	Radial Crown Spread N	Radial Crown Spread E	Radial Crown Spread S	Radial Crown Spread W	Life Stage	Physiology	Structure	Landscape Value	Life-span	Comments	Category
T1	Ash	14m	385mm, 380mm & 305mm	3.5m	8m	8m	8m	8m	Over mature	Poor	Hazardous	Low	<10	Large cavities at base and fungal fruiting body of <i>Inonotus hispidus</i> at base; at risk of collapse; extensive dieback; Ash dieback probably has had some part to play in its decline.	U
G2	Ash, Goat Willow	6.5m	45mm x4	1.5m	2m	2m	2m	2m	Young	Average	Average	Low	40+	Low quality self-seeded group.	C
G3	Goat Willow, Blackthorn & Field Maple	3.5m	95mm	0m	2m	2m	2m	2m	Mature	Average	Average	Low	20+	No access; mixed species thicket, Blackthorn component of c.10mm diameter stem; growing on banks of pond.	C
T4	Field Maple	8.5m	180mm x2	3m	3m	4m	4m	3m	Early mature	Average	Average	Low	40+	No access due to Blackthorn thicket; ivy growing into crown; growing adjacent to pond bank.	C
G5	Goat Willow & Field Maple	7m-10m	250mm	0m	3.5m	3.5m	3.5m	3.5m	Over mature	Below average	Below average	Low	20+	Goat willow have collapsed over the pond with regrowth and Field Maple have suppressed crowns; some dead individuals within the group.	C
T6	Oak	15m	550mm	5m	6.5m	6.5m	6.5m	6.5m	Early mature	Average	Average	Moderate	40+	Growing close to pond and track; severed ivy stems on trunk.	B
G7	Goat Willow, Elder & Blackthorn	7m	100mm	0m	3.5m	3.5m	3.5m	3.5m	Mature	Below average	Below average	Low	10+	Low quality mixed species group; mutually suppressed; mostly Elder which has been pruned back from track.	U

No.	Species	Height	Trunk Dia.	Crown Clearance	Radial Crown Spread N	Radial Crown Spread E	Radial Crown Spread S	Radial Crown Spread W	Life Stage	Physiology	Structure	Land-scape Value	Life-span	Comments	Category
T8	Goat Willow	7m	150mm x11	1m	8m	8m	8m	8m	Over mature	Below average	Hazardous	Low	<10	Multi-stemmed tree growing on pond bank; no access due to asbestos; dense ivy and several failed stems.	U
G9	Ash	10m	120mm	1.5m	3m	5m	3m	3m	Semi mature	Average	Average	Low	10+	Of short term potential only due to the threat of Ash dieback; no access due to asbestos; suppressed by T10.	C
T10	Field Maple	16.5m	1050mm	4.5m N 1.5m S	7.5m	7.5m	7.5m	7.5m	Mature	Average	Below average	Moderate	20+	Limited access to base due to asbestos - not possible to inspect base of tree; dense ivy on trunk and growing into the upper crown; broad crown; cavity on N side of trunk between 1m-2m - not possible to inspect; large limb on W side at 1.5m with strip cavity on underside.	B
G11	Elder	3.5m	45mm x3	1m	2.5m	2.5m	2.5m	2.5m	Mature	Average	Average	Low	20+	Two low quality self-seeded individuals.	C
G12	Ash	9m	150mm x2	1.5m	3.5m	3.5m	3.5m	3.5m	Semi mature	Average	Average	Low	10+	Growing adjacent to delapidated fence; historically topped at 2m; of short term potential only due to the threat of Ash dieback.	C
G13	Ash	3m-6.5m	45mm x4	1.5m	2m	2m	2m	2m	Young	Average	Average	Low	40+	Low quality self-seeded individuals of between 3m to 6.5m in height.	C
T14	White Willow	11m	950mm	0.5m	4.5m	4.5m	4.5m	4.5m	Over mature	Average	Hazardous	Low	<10	Limited access to base; significant storm damage in crown with main trunk snapped out at c. 7.5m; several cavities and torn limbs; of little potential.	U

No.	Species	Height	Trunk Dia.	Crown Clearance	Radial Crown Spread N	Radial Crown Spread E	Radial Crown Spread S	Radial Crown Spread W	Life Stage	Physiology	Structure	Landscape Value	Life-span	Comments	Category
T15	Dead	3m	350mm	0m	0m	0m	0m	0m	Mature	Dead	Dead	Low	<10	Dead trunk leaning against remaining trunk of T14; no live growth.	U
T16	Cherry	7m	150mm & 60mm	2m	1m	2m	3.5m	2m	Over mature	Below average	Below average	Low	10+	Small tree with dense ivy; crown biased to S.	C
G17	Blackthorn & Hawthorn	6m	50mm x2	1.5m	3m	3m	3m	3m	Mature	Average	Below average	Low	40+	Closely grown group; low quality and mutually suppressed.	C
G18	Cherry	6m	200mm	1.5m	3.5m	3.5m	3.5m	3.5m	Mature	Below average	Below average	Low	10+	Small low quality trees covered in dense ivy; no access to bases due to bramble; leaning trunks; mutually suppressed.	C
G19	Pear	7m	95mm	2m	2m	2m	2m	2m	Early mature	Average	Average	Low	20+	Small fruit trees.	C
T20	Pear	13m	435mm, 210mm & 530mm	2m	4.5m	6m	6m	6m	Mature	Average	Below average	Moderate	20+	Historically crown reduced; dense ivy-recently severed stems on trunk.	B
H21	Leyland Cypress	6m	50mm, 50mm & 100mm	0m	1m	1m	1m	1m	Semi mature	Below average	Below average	Low	40+	Section of evergreen conifer hedging which has been pruned back on its N side into older wood, from which no new green growth can develop; unsightly; of long term potential but of low quality and not in keeping with the local landscape character.	C

No.	Species	Height	Trunk Dia.	Crown Clearance	Radial Crown Spread N	Radial Crown Spread E	Radial Crown Spread S	Radial Crown Spread W	Life Stage	Physiology	Structure	Land-scape Value	Life-span	Comments	Category
T22	Portuguese Laurel	5m	205mm, 175mm, 150mm, 150mm, 150mm, 150mm & 150mm	1.5m	3m	3m	3m	3m	Mature	Average	Average	Low	20+	Evergreen hedge plant maintained as a small tree; common non-native hedge species; of low landscaoe value.	C
T23	Cider Gum	9.2m	75mm x12	3m	4m	4m	3m	3m	Early mature	Average	Below average	Low	20+	Historically pollarded at 1.5m resulting in unusual habit for species; non-native species out of character with the local landscape; due to past pruning practices, of low quality.	C
G24	Apple	4m	140mm	0.5m	3m	3m	3m	3m	Mature	Average	Below average	Low	10+	Small fruit trees.	C

Appendix 2: Table of root protection areas

The root protection area (RPA) table

The root protection area (RPA) of a tree is a layout design tool which shows the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

The British Standard provides calculations for both single and multi-stemmed trees, which are based on mathematical formulae using the trunk diameter of a tree.

For single stem trees, the RPA, is calculated as an area equivalent to a circle with a radius 12 times the stem diameter. This is capped at a circle of 15m diameter or 707m². For trees with 2-5 stems and 5+ stems more complex calculations are required in accordance with the methodology recommended within the British Standard.

The RPA radius and nominal RPA area for each tree is shown at **Table 3** below.

The root protection areas (RPA) for all trees are initially plotted on the tree constraints plan (**Appendix 3**) as a circle centred on the base of the stem/s. Where pre-existing site conditions (road, building foundations etc) or other factors (for example trenching) indicate that rooting has occurred asymmetrically, the standard circle has been modified to reflect the more likely root distribution. Although the shape of the RPA may have been modified, no change has been made to any of the overall areas of RPAs of on-site trees, up to a maximum distance of a 15m from the stem. Beyond this, marginal decreases in RPAs might result if there are no other areas suitable for rooting within the 15m radius.

The trees' RPAs are shown on the tree constraints plan in the colour of their corresponding categories.



No.	Species	Category	RPA Radius	RPA Area
T1	Ash	U	7.45m	174.39m ²
G2	Ash, Goat Willow	C	1.08m	3.66m ²
G3	Goat Willow, Blackthorn & Field Maple	C	1.14m	4.08m ²
T4	Field Maple	C	3.06m	29.42m ²
G5	Goat Willow & Field Maple	C	3m	28.28m ²
T6	Oak	B	6.6m	136.87m ²
G7	Goat Willow, Elder & Blackthorn	U	1.2m	4.52m ²
T8	Goat Willow	U	5.96m	111.61m ²
G9	Ash	C	1.44m	6.52m ²
T10	Field Maple	B	12.6m	498.82m ²
G11	Elder	C	0.94m	2.78m ²
G12	Ash	C	2.54m	20.27m ²
G13	Ash	C	1.08m	3.66m ²
T14	White Willow	U	11.4m	408.33m ²
T15	Dead	U	4.2m	55.42m ²
T16	Cherry	C	1.94m	11.83m ²
G17	Blackthorn & Hawthorn	C	0.85m	2.27m ²
G18	Cherry	C	2.4m	18.1m ²
G19	Pear	C	1.14m	4.08m ²
T20	Pear	B	8.6m	232.38m ²
H21	Leyland Cypress	C	1.46m	6.7m ²
T22	Portuguese Laurel	C	5.16m	83.66m ²
T23	Cider Gum	C	3.12m	30.59m ²
G24	Apple	C	1.68m	8.87m ²
G25	Oak	B	6.48m	131.93m ²
T26	Oak	C	6m	113.11m ²
T27	Oak	U	6.96m	152.2m ²
T28	Oak	A	10.2m	326.89m ²
T29	Horse Chestnut	C	5.83m	106.79m ²
T30	Oak	B	7.56m	179.58m ²
T31	Silver Birch	C	3.48m	38.05m ²
T32	Oak	C	5.64m	99.95m ²
T33	Oak	B	9.72m	296.85m ²
G34	Oak, Horse Chestnut, Ash & Hawthorn	C	3m	28.28m ²
T35	Oak	B	9.72m	296.85m ²

No.	Species	Category	RPA Radius	RPA Area
T36	Oak	B	7.04m	155.72m ²
G37	Oak & Ash	C	4.8m	72.39m ²
G38	Oak, Hawthorn & Horse Chestnut	C	3.6m	40.72m ²
G39	Hawthorn	C	1.92m	11.58m ²
T40	Sycamore	C	4.42m	61.38m ²
T41	Oak	C	3.84m	46.33m ²
W42	Ash, Oak, Hawthorn, Hazel, Goat Willow, Horse Chestnut & Lawson Cypress	B	4.8m	72.39m ²
T43	Ash	C	7.57m	180.05m ²
G44	Blackthorn	C	0.6m	1.13m ²
G45	Ash, Oak, Elder & Hawthorn	C	2.4m	18.1m ²
G46	Oak	B	3m	28.28m ²
G47	Oak	B	6m	113.11m ²
G48	Oak	C	9.6m	289.57m ²
T49	Oak	B	10.2m	326.89m ²
T50	Oak	C	9.6m	289.57m ²
H51	Blackthorn, Hawthorn & Field Maple	C	1.2m	4.52m ²
H52	Blackthorn, Field Maple & Hawthorn	C	0.6m	1.13m ²



Appendix 3: Tree constraints plan





