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Arboricultural Report

BS 5837:2012 Tree Survey

& Arboricultural Impact Assessment

Land at:

Belle Vue, Level Mare Lane, Eastergate, W Sussex

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Date: 16th September 2024

(updated 29.09.2025)

Ref: AS/TH/0924 Rev. A

Contents

Validation Statement for Local Planning Authority (LPA) Registration

This report is intended to be submitted to Arun District Council in support of a planning application. The report contains tree information relevant to the proposed development. For LPA validation purposes, this report contains the following information:

- A full tree survey compliant to the requirements of BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations", undertaken by a competent and qualified arboriculturist.
- A suitably scaled plan with north point showing the site boundaries and the tree survey information.
- An assessment of the impacts of the proposed development on the existing trees, including recommendations of which trees should be removed/retained.

1. INTRODUCTION

1.1 **Instruction:** I am instructed to survey trees that could affect or be affected by the proposal at Belle Vue, Level Mare Lane, Eastergate. This report, in compliance with BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations" (herein referred to as BS5837) is required to accompany the submission of a planning application for residential development on site. My instruction is to prepare the following information:

- A schedule of the relevant trees and all tree data as required by BS5837.
- A Tree Survey Plan (TSP) & Tree Constraints Plan (TCP)
- An Arboricultural Impact Assessment (AIA)

1.2 **Information provided:** Drawings AS/TH/0924 TSP and TCP Rev. A are derived from the following drawings which were supplied to me by Knox Howell Architects:

- *WLS.HH.4 (topographical survey)* in DWG format.
- *24-106-010 P4 Proposed Site Plan* in DWG format.

1.3 **Purpose and scope of this advice:** The tree survey and report have been produced both to assist the design process and to support the planning application process. It is intended to demonstrate the site's arboricultural constraints and to make recommendations regarding the potential impact of the proposal on the trees and vice versa. It focuses on all trees that may affect or be affected by the development proposal, whether within the site boundary or off-site.

1.4 **Limitations:**

1.4.1 The survey was a preliminary assessment undertaken from ground level, and limited by boundaries, vegetation and other features on site. Observations have been made solely for the purposes of assessment relevant to the planning process, and the report is not a condition survey or safety inspection. Where obvious risks have been observed they have been highlighted in the "preliminary management recommendations" of the tree survey schedule, however potential hazards and their severity are likely to change over time. Binoculars, sounding mallet and probe have been used to aid tree assessment; no invasive or non-invasive internal decay detection equipment have been used in assessing the trees.

1.4.2 The recommendations and conclusions in this report relate only to the conditions found on site at the time of the inspection, as trees are dynamic organisms whose health and condition can change rapidly. The findings are valid for a period of 12 months from the date of report providing the site remains as it stands at present. Any significant changes to the site which may affect the trees (such as building works, changes in levels, hydrology etc.) would require a re-assessment of the trees.

1.4.3 This report is intended for use solely by the client and their agent if applicable, and not for the benefit of any third party. Anyone not directly involved with this site shall not have any rights in connection with it. No part may be reproduced in any form without the written consent of Woodside Tree Consultancy.

1.5 **Ecological Constraints:** The Wildlife and Countryside Act 1981 and amendments made within and subsequent to the Countryside and Rights of Way Act 2000 provides statutory protection to bats, birds and other species that inhabit or use trees. The protection afforded to such species could impose significant constraints on the use of a particular site, as well as restrict the timing of any works that may be necessary. Any such restrictions are outside the scope of this report.

1.6 **Status of the trees:** Having searched the Arun District Council TPO Map on 29th September 2025, it shows that there are no Tree Preservation Orders (TPO) or Conservation Area designations affecting the site or trees considered within this report.

2. SITE VISIT AND TREE SURVEY

2.1 **Site visit:** I visited the site on 5th September 2024, with the weather at the time of survey being changeable, but which in no way hindered my ability to view the trees satisfactorily. All observations were made from accessible points at ground level, with all measurements except stem diameter being estimated unless otherwise indicated in the Tree Survey Schedule and Notes.

2.2 **Site Description:** The site is an existing residential garden, bounded to the E & W by neighbouring curtilages, and to the S by paddock fields. The main tree cover is along the W boundary, consisting predominantly of larger ash trees, with some smaller garden landscaping trees in the internal lawn area. The proposed development would be within the rear garden, necessitating the removal of the smaller internal garden trees only. The site measures c.0.2ha as shown in Figure 1.

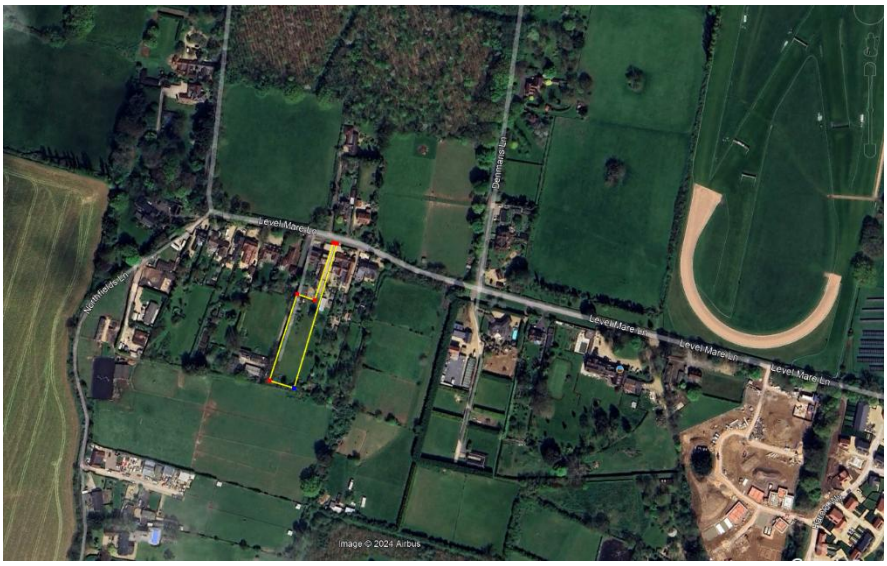

Figure 1. Aerial view showing the site covered within this survey (Google 2024)

2.3 **Data Collection:** Each relevant tree or group was inspected and allocated an identification number as indicated in the Tree Survey Schedule (Appendix 1) and tree survey plan (Appendix 4). They were allocated one of four categories (A, B, C or U) in line with BS5837 recommendations (see Appendix 3) as well as having the following important information collected:

- Species, Height (m) and stem diameter (mm)
- Average crown spread to the 4 cardinal points (m)
- Average canopy clearance; height and orientation of first significant branch
- Life stage, condition and preliminary management recommendations
- Remaining safe useful life expectancy; Root Protection Area calculations

2.4 **Root Protection Areas:**

2.4.1 In accordance with section 4.6 of BS5837, the stem diameter measurements have been used to calculate the Root Protection Area (RPA), both in terms of radial distance from the tree and as an area in m^2. The RPA is the area that should ideally remain free from disturbance by adjacent construction works, as it is deemed to be the minimum area around a tree required to maintain sufficient rooting volume to sustain the tree's vitality. Therefore the adequate protection of the roots and soil structure in this area must be treated as a priority.

2.4.2 The calculated extent of the RPA is used to identify any design constraints within the site, and is visually represented on the TCP (Appendix 5). The TCP shows the above-ground constraints (*i.e*. branch spread and relevant shading), and the below-ground constraints (the anticipated extent of significant root spread depicted as the calculated RPAs).

2.5 **Tree survey:** Sixteen individual trees were surveyed and assessed for their suitability for retention. Refer to appendices 1 & 4 for details of their identity, location and assessment. Please also refer to the Tree Survey Schedule Notes (Appendix 2) and BS5837 Cascade Chart (Appendix 3) for full details of the assessment criteria.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 **General observations:** The tree cover relevant to this proposal was situated predominantly alongside the W garden boundary and consisted of prominent larger ash trees. There were also smaller low value garden trees within the lawn area, which would need to be removed; however these have no wider public amenity value.

3.2 **Below ground constraints (Root Protection Areas):**

3.2.1 This section deals with tree roots, which can easily be overlooked during construction operations due to being hidden and often their importance, and that of the soil around them, is not fully understood. It is essential that the roots remain undamaged during the site preparation and construction phases, as they provide the structural stability as well as transporting water and nutrients throughout the tree. Crucially they cannot perform their functions effectively if the soil structure around them is also damaged, which is why the RPA must be adequately protected.

3.2.2 The TCP visually represents the required RPA for each tree as a magenta circle centred on its stem. However it is quite possible, depending on soil/ground conditions and tree species characteristics, that roots may extend beyond this zone or their spread may be altered by existing site features; therefore this area should be carefully protected during the planning and execution of site works.

3.2.3 As shown on the TCP, the scheme will avoid all significant impacts to the RPAs of retained trees. The revised scheme for a single dwelling will be situated outside the rooting areas, although there is a very small RPA overlap of T3 for the parking/turning area. This small area is highly unlikely to result in any adverse impact on the tree, however to ensure that it minimises arboricultural impacts, the surfacing in this area should be designed and installed in line with BS5837 recommendations, using a no-dig cellular confinement system. This includes avoiding any excavations into the soil to achieve desired levels, other than the removal (using hand tools only) of any turf layer or other surface vegetation. The surfacing in this area should also be permeable, for example having a gravel or block paved finish. Appendix 6 gives a visual example of this type of construction method suitable for vehicular use.

3.2.4 Details are shown for proposed new drainage connections, which show the foul and stormwater drains, as well as drainage field, will all be clear of retained RPAs. The planning of any other required subterranean services should take the TCP into account to avoid any damage to the tree roots. Given the location of retained trees away from the access drive and dwellings, it is however considered highly unlikely that service runs would need to overlap any RPAs.

3.2.5 To ensure all RPAs are adequately protected from potentially damaging actions such as storage of materials/plant, temporary site buildings, changes in levels etc., the full extent of the RPAs not covered by existing hard surfacing should have protective fencing and/or temporary ground protection erected in line with BS5837 for the duration of site works. Details pertaining to the placement of protective barriers will be required as a condition of any planning approval.

3.3 **Above ground constraints (branch spread and shading):**

3.3.1 Trees in close proximity to buildings can pose some constraints, both real and perceived. Actual constraints occur where branches can conflict with new elevations, either now or in future. For this reason newly planted trees as well as younger existing trees need to be fully accounted for in the design and layout planning. Other significant constraints that are often overlooked include shading, leaf litter and damage from falling branches. However it should also be remembered that a degree of shading can be desirable to reduce glare and provide comfort during hot weather.

3.3.2 The scheme will have ample crown clearance from the proposed dwelling, with the nearest corner having c.5m clearance from T10. The access drive and parking/turning areas would also be clear of canopy spread.

3.3.3 The largest tree cover is situated to the SW boundary of the site, and for information the TCP includes BS5837 shading constraints for this tree cover. This shows that the new dwelling would be clear of any significant tree shading. The rear corner (utility room) would be fractionally affected by some shading from T10, as would the W side of the rear garden alongside this tree line. However, the vast majority of the dwelling as well as approximately half of the rear garden would be clear of tree shading, with the area affected being limited to later in the day as the sun moves around to the west. Overall, taking account of the above factors, it is concluded that above-ground arboricultural constraints will not be a significant issue for this scheme.

3.4 **Trees to be retained:**

3.4.1 Access to the site during preparation and construction phases must be managed to protect the existing trees being retained. Sufficient space will be available on this site for construction plant and materials outside the RPAs of retained trees. However, if any conflicts are foreseen then alternative arrangements must be made, in consultation with the project arboriculturist and local authority.

3.4.2 Tree protection on development sites is of paramount importance if trees are to be retained successfully. The inevitable stress caused by development near existing trees can, if provision for adequate protection is not made, be a significant strain leading to severe damage and even death of a tree. It is important to note that although trees will appear healthy during and on completion of a development, the full effects of below ground damage may not become apparent for five years or more after the works have finished.

3.5 **Tree removals:** T4-9 will need to be removed for the development (although T6 is unsuitable for long term retention anyway due to excessive stem wounding and decay). As shown in Figure 2 below, all of these trees are very small garden plantings of low overall retention value (Category C), apart from T6 which is a Category U tree. They have no wider public amenity value, and therefore it is considered reasonable that these trees can be removed, and mitigated with replanting as part of a landscaping scheme for the development.

Figure 2. Views of small low value garden trees that would require removal for the proposed development

4. CONCLUSIONS & RECOMMENDATIONS

4.1 The design proposals for a single dwelling to the rear of Belle Vue, Level Mare Lane, Eastergate has been assessed in accordance with BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations". It is my opinion that the trees identified for retention can be afforded due respect and provided with adequate protection to ensure their safe and healthy retention during and following the development process.

4.2 All required tree removals should be mitigated via a suitable landscaping scheme for the development.

4.3 As long as an arboriculturally sensitive method for surfacing construction within RPAs is followed, and a robust scheme of tree protection provided to prevent conflict with below ground constraints; I believe that the trees can be retained without undue stress on their long-term health. Once the layout is agreed, the project arboriculturist can prepare a Tree Protection Plan and Method Statement to inform contractors of the necessary protective measures before any works commence.

Andrew Southcott
16th September 2024
(updated 29th September 2025)

Appendix 1 - BS5837: 2012 Tree Survey Schedule

Tree No.	Species	Height (m)	Stem Diameters (mm)								Branch Spread (m)				Crown Clearance (m)	Height & direction of 1st signif. limb	Age Class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	BS5837 Category Rating	Root Protection Radius (m)	RPA (m^2)
			Single Stem	2-5 stems					5> stems															
				Stem 1	stem 2	stem 3	stem 4	stem 5	Mean Dia.	No. Stems	N	E	S	W										
1	Ash	15		180	200	250					4	5	2	4	5	1r	SM	F	Boundary tree, overhanging outbuilding, deadwood (dwd)		20-40	B2	4.4	61
2	Ash	15	600 #								4	6	6	5	3	2r	M	F	Obscured access, ivy growth, dwd, overhanging outbuilding.		20-40	B2	7.2	162.9
3	Ash	11	370								5	4	4	4	0	2.5r	SM	F	Smaller garden tree, dwd, low crown.		20-40	B2	4.44	61.9
4	Olive	4	90								2	2	1	1	1	-	Y	F	V small garden tree, no wider value.		10-20	C2	1.08	3.7
5	Mullbery	5		170	150	150	120	120			3	3	3	3	1	-	SM	F	V small garden tree, no wider value.		10-20	C2	3.8	46.5
6	Fig	4		120	100						2	2.5	2.5	1.5	0.5	-	SM	P	v small garden tree, no wider value, large stem decay column.		<10	U	-	-
7	Fig	3		80	80	80					2.5	2.5	2.5	2.5	0.5	-	SM	F	V small garden tree, no wider value.		10-20	C2	1.7	8.7
8	Fig	3	80								2	1.5	1	1	0.5	-	SM	F	V small garden tree, no wider value.		10-20	C2	0.96	2.9
9	Fig	2.5		80	80						1	1.5	2	1	0.5	-	SM	F	V small garden tree, no wider value.		10-20	C2	1.4	5.8
10	Ash	12	530								6	4	4	7	4	2.5r	SM	F	Boundary tree, dwd, ivy.		20-40	B2	6.36	127.1
11	Ash	14	470								5	5	3	7	5	2e	SM	F	Minor crown dieback, dwd.		20-40	B2	5.64	99.9
12	Ash	14	300								4	1	2	6	6	6w	SM	F	Narrow, high crown, dwd.		10-20	C2	3.6	40.7
13	Ash	15		550	380	360 #					5	6	5	6	5	1s	M	F	Large spreading multi stem crown, visually obscured bole, dwd.		20-40	B2	9.1	260.8
14	Ash	16	1200 #								4	7	10	6	4	3r	M	F	V lge off-site tree, inaccessible & obscured, dwd, asymmetrical crown spread.		20-40	B2	14.4	651.4
15	Pear	8		280	260						4	2	3	4	1	1.5r	M	F	Off-site, co dominant stems, located in overgrown area.		10-20	C2	4.6	66
16	Cherry plum	6		150	80	80					4	3	2	2	1	0.5r	SM	F	Nearest of neighbouring trees, inaccessible, multi stem scrub.		10-20	C2	2.3	16

Appendix 2 - Tree Survey Explanatory Notes

1 **Height** describes the estimated height of the tree from ground level, to nearest 0.5m (nearest 1m where total height exceeds 10m). Where practicable a clinometer is used to aid accuracy.

2 **Stem diameter** is the diameter of the main stem(s) measured in millimetres (to nearest 10mm) at 1.5m above ground level in accordance with Annex C of BS 5837:2012. Stem diameter may be estimated where access is restricted or the trunk is covered in ivy. Estimated dimensions are suffixed with a hash (#).

3 **Branch spread** refers to the approximate crown radius in metres (rounded up to nearest 0.5m) from the centre of the trunk at the four cardinal points.

4 **Crown clearance** is the average height in metres (to nearest 0.5m) of crown clearance above adjacent ground level. Where access is restricted this may be estimated.

5 **Height & direction of first limb** in metres above ground level where relevant; section 4.4.2.5 of BS5837 states this should be recorded to fully inform on potential ground clearance issues.

6 **Age Class** is as follows: **Y** = young trees up to 10 years old; **SM** = semi-mature trees less than 1/3 life expectancy; **EM** = early-mature trees 1/3 to 2/3 life expectancy; **M** = mature trees over 2/3 life expectancy; **OM** = over-mature trees in decline; **V** = veteran tree possessing certain attributes relating to veteran trees.

7 **Physiological Condition** is either: **Good** (trees with only a few minor defects and in good overall health); **Fair** (trees with minor, but rectifiable, defects or in the early stages of stress from which it may recover); **Poor** (trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term); **Dead** (this could also apply to trees that are dying and unlikely to recover). This part of the assessment is essentially a snapshot of the trees' general health based on its appearance, vigour, and presence of any potential symptoms of poor health.

8 **Structural Condition** includes consideration of a range of factors including the presence of fungal fruiting bodies, cavities, decay and damage, condition/movement of soil around the tree base, growth habit, biomechanical related defects.

9 **Preliminary Management Recommendations** are focused on what is relevant in terms of the proposed development, as well as any obvious major issues that need addressing. The survey is not a condition or safety inspection so should not be relied upon as such.

10 **Estimated Remaining Contribution** is the approximate number of years the tree will continue to make a beneficial contribution without the need for oppressive arboricultural intervention, categorised as **<10**, **10-20**, **20-40** and **>40**.

11 **BS Category Rating** refers to BS 5837:2012 Table 1. This relates to tree/group quality and value, where **A** are trees of high quality with an estimated remaining life expectancy of at least 40 years, **B** are trees of moderate quality with an estimated remaining life expectancy of at least 20 years, **C** are trees of lower quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. Category **U** relates to trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. The sub-category refers to the value type, where **1** is mainly arboricultural, **2** is mainly landscape and **3** is mainly cultural including conservation, historic and commemorative.

12 **Root Protection Radius** is a radial distance measured from the trunk centre, giving the radius of an equivalent circle. It is calculated using the formulae described in paragraph 4.6.1 of BS 5837: 2012 and is indicative of the minimum rooting area that should remain undisturbed in order for a tree to be successfully retained.

13 **RPA** area is the minimum area in m² which should remain undisturbed (up to a maximum area equal to a circular radius of 15m).

Appendix 3 - BS5837 Cascade Chart for Tree Categorisation

Category & definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for >10yrs	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, Including those that will become unviable after removal of other category U trees; • Trees that are dead or showing signs of significant, immediate and irreversible decline; • Trees infected with significant pathogens affecting health or safety, or very low quality trees suppressing trees of better quality. ***NOTE**: these trees can have existing or potential conservation value making retention desirable*			**DARK RED**
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A Trees of **high quality** with an estimated remaining life expectancy of >40yrs	Particularly good examples of their species, esp. if rare or unusual. Those that are essential components of groups or formal or semi-formal arboricultural features (e.g. principal avenue trees)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).	**LIGHT GREEN**
Category B Trees of **moderate quality** with an estimated remaining life expectancy of >20yrs	Trees that might be included in category A but are downgraded because of impaired condition such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit category A designation.	Trees present in numbers, usually growing as groups or woodlands such that they attract a higher collective rating that they might as individuals. Trees occurring as collectives but situated so as to make little visual contribution to the area.	Trees with material conservation or other cultural value.	**MID BLUE**
Category C Trees of **low quality** with an estimated remaining life expectancy of >10 years, or young trees with a stem diameter <150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary landscape benefits.	Trees with no material conservation or other cultural value.	**GREY**

Appendix 4 - Tree Survey Plan

(please see attached plan - drawing no. AS/TH/0924 TSP)

Appendix 5 - Tree Constraints Plan

(please see attached plan - drawing no. AS/TH/0924 TCP Rev. A)

Appendix 6 - Example Specification for a 'No-Dig' Three-dimensional Cellular Confinement System (Terram Geocell)