



BS5837:2012 Tree Survey
 Land off Vasey Close
 Bassingham
 Lincolnshire
 NGR SK91346 59663

Survey by
 Christopher Barker CEnv dipHort ACIEEM

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BS5837 Tree Survey, Land off Vasey Close, Bassingham

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1. Introduction

1.1 Site Description and Location

The site surveyed comprises the northern part of a larger arable field lying to the south of Vasey Close and Bassingham Surgery, centred at NGR SK91346 59663. The location of the site is shown on the plan within **Figure 1** and an aerial photograph has been provided within **Figure 2** to place the site in context.

The site lies within North Kesteven and is not within a designated Conservation Area. Assessment of the site area using the NKDC Aurora mapping system has not identified any Tree Preservation Orders in or immediately adjacent to the area being surveyed.

In order to facilitate an application to obtain permission to develop the area surveyed the Applicant has requested a BS5837 (2012) Tree Survey should be completed to assess the quality of the trees within and close to the boundary of the field and the impact any development may have on these. An inspection of the site was completed on 16 June 2021. A photographic record of the trees at the site is included within the report.

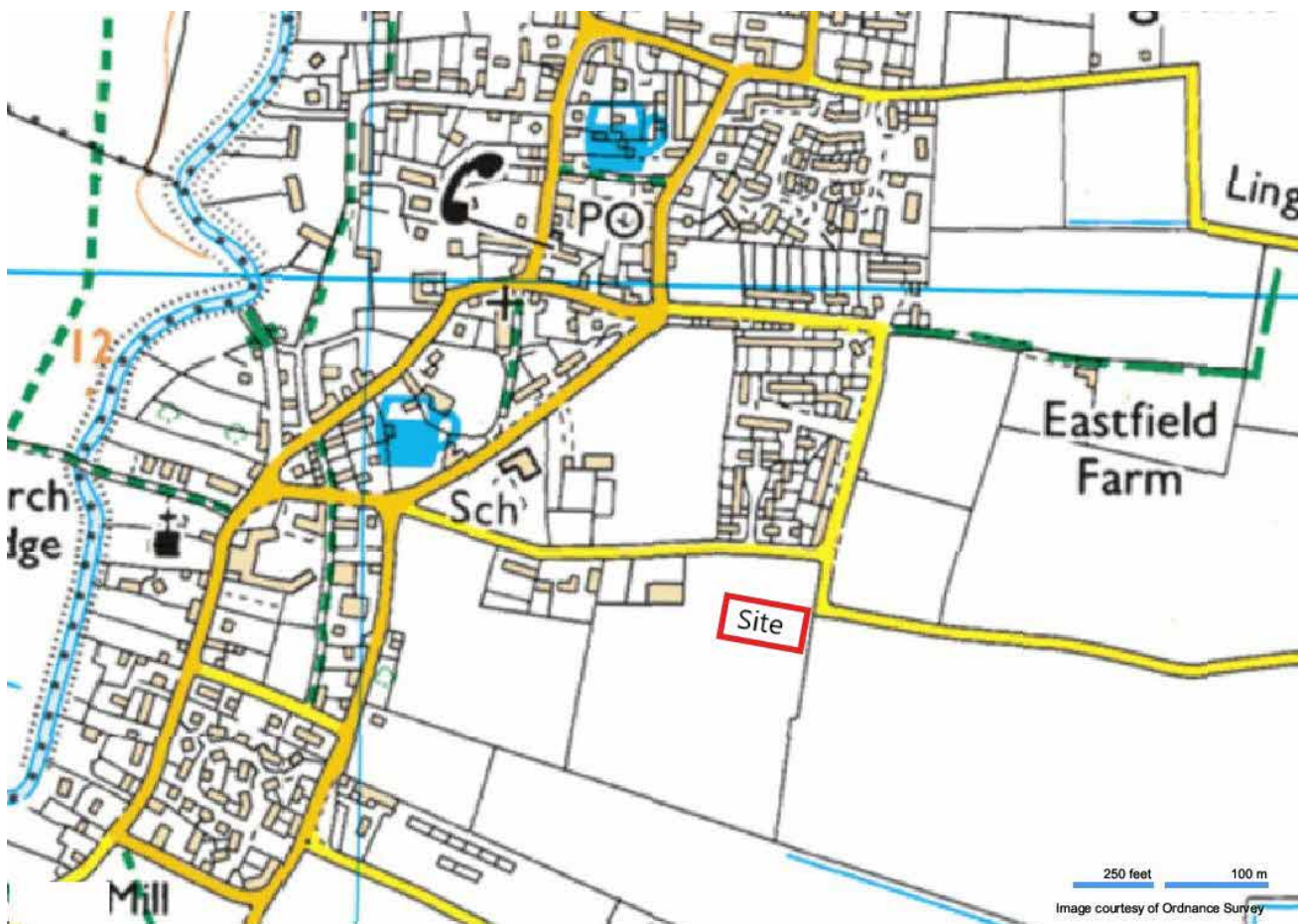


Figure 1: Site location.

Image copyright Microsoft Corporation 2021

1.2 Neighbouring Land Uses

The defined site area comprises part of an arable field situated on the south-eastern edge of the village of Bassingham in a rural location. There are recently constructed houses to the north and a new Surgery to the north-west. Land to the west, east and south is open arable land as can be seen within the aerial photograph below. There is very little mature tree canopy cover in the location surveyed.



Figure 2: Site Contextual Aerial Photograph

Image copyright Microsoft Corporation 2021

In undertaking the tree survey the assessment has been carried out in accordance with the specifications contained within BS 5837 Trees in Relation to Design, Development and Construction (2012). An inspection of the site and the immediate surrounding areas was completed by Christopher Barker, dipHort, CEnv, an experienced arboricultural consultant and licensed bat worker.

2. Tree Survey Appraisal Methodology

2.1 Survey Objectives

This tree survey has been carried out with the objective of:

Identifying the individual tree species present at the site by means of visual inspection;

To define the approximate age, condition and canopy spread of all individual mature and semi-mature trees identified and the value of these within the development context;

To identify any trees that present a risk to existing or proposed foundations or other structures that may be constructed on the site and recommend action to remove this risk; and

Recommend tree management / mitigation measures where appropriate.

The survey broadly assessed the condition and arboricultural value of the trees lying in or adjacent to the site area, paying attention to any mature individual trees present within or adjacent to the site area in order to prepare an assessment in accordance with BS 5837 Trees in Relation to Design, Development and Construction (2012).

2.2 Survey Methodology

The methodology set out below is a summary of the suggested approach to tree assessment as described in British Standard 5837:2012.

Trees have been broadly assessed based on guidance set out within the British Standard BS 5837:2012 'Trees in Relation to Design, Development and Construction'. This standard provides recommendations and guidance on the principles to be applied to achieve successful integration of development with trees, shrubs and hedgerows.

Trees on the site have been divided into one of four categories (based on the cascade chart for tree quality assessment). These are classed as A, B, C or U (Section 4 of BS 5837) within the table in Appendix 1. This gives an indication as to the tree's importance in relation to the site, the local landscape and, also, the value and quality of the existing trees on site.

Category (A): Trees whose retention is most desirable and are of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years).

Category (B): Trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years).

Category (C): Trees that could be retained and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 150 mm.

Category (U): Trees that are considered to have no significant landscape value but it is not presumed that there is any overriding need to remove these unless stated otherwise in the description and recommendations. These include any trees in such poor condition that they cannot be retained in the context of the current land use for more than 10 years. They are for this reason not considered as being significant within the planning process.

Species have been recorded by common and scientific name. Height has been estimated in metres and stem diameter measured in centimetres unless impractical, taken at a height of 1.5 m from the base of the tree.

The overall condition of any individual tree, or group of trees, has been referred to using one of the definitions listed below. A more detailed description of condition has been noted in the Tree Schedule.

- G **Good:** A sound tree or trees needing little, if any, attention
- F **Fair:** A tree or trees with minor but rectifiable defects or in the early stages of stress, from which it may recover
- P **Poor:** A tree or trees with major structural and physiological defects or stressed such that it would be very expensive and inappropriate to retain
- D **Dead:** A tree or trees no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or are becoming or have become dangerous

The survey was completed from ground level only. Aerial inspections were not undertaken. Evaluations of tree conditions given within this assessment apply to the date of survey and cannot be assumed to remain unchanged, and it may be necessary to review these within 24 months, in accordance with good arboricultural practice.

2.3 Site Plans & Tree schedules

The position of significant individual trees or groups of trees measured out on the site is shown on the Tree Location Plan **Figure 3**. Within the summary table (**Appendix 1**) a calculated corresponding radius of the circle for each RPA has been calculated. The Root Protection Areas are formulated to assist when designing layouts in relation to trees and the calculated RPAs in Appendix 1 should be used to inform the design layout of this site. After the survey was completed a development plan was prepared and this has been used to show the root protection areas within **Figure 4**.

3. Tree Survey Findings

3.1 Survey Details

The tree inspection took the form of a walkover inspection completed by Christopher Barker dipHort, CEnv. Each individual semi-mature or mature tree of significance that could be impacted by any proposed new development within the survey area was identified, visually inspected and classified. The character of the trees at the site is shown in photographs contained within this section.

3.2 Mature and Semi-Mature Trees

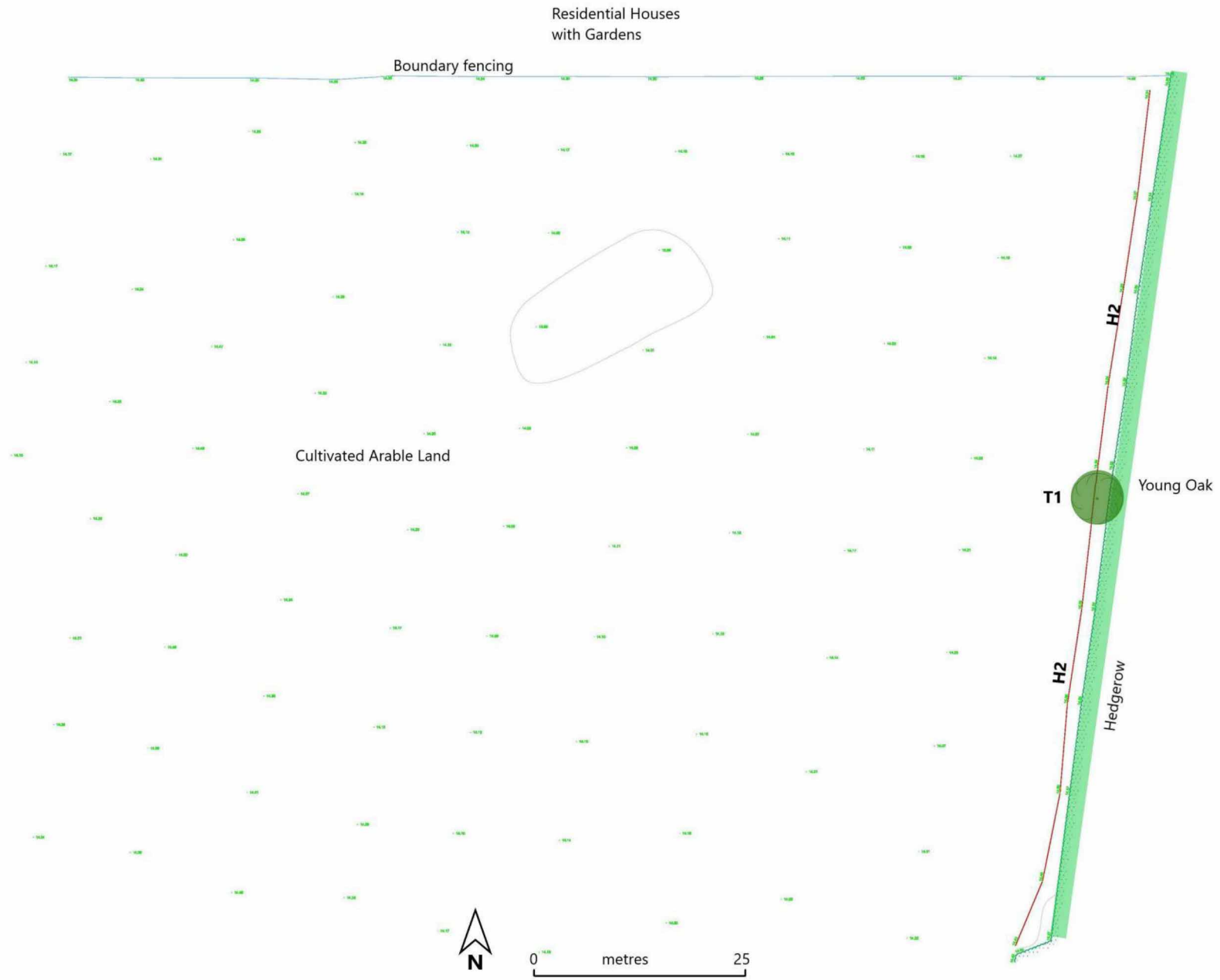
A total of one individual tree and one hedgerow have been identified and assessed as part of the tree survey.

Oak T1 and Hedgerow H2 are situated along the eastern boundary of the survey area. The Oak is a young specimen situated just inside the boundary hedgerow along the field margin. This has a small round canopy of good shape and currently has sufficient space to continue to develop although it is noted that the edge of the cultivation line is very close to the root bole of this tree. It has been placed into Category B2.

Hedgerow H2 is a box trimmed hedgerow that appears relatively young. The northern half is almost purely Hawthorn and there is a 1.6m gap from the edge of the cultivation line to the base of the hedge. The southern part of the hedge (south of T1) is still dominated by trimmed Hawthorn but there is occasional Field Rose also present. This hedgerow is placed into Category C2.



There are no other trees within the east boundary hedgerow or along the northern boundary where there are recently constructed houses. The nearest significant mature trees are three mature Lombardy Poplar trees of approximately 20-25m height situated on the field boundary 50m to the west of the edge of the proposed development land and these trees pose no constraint to the development area.





4. Tree Management

4.1 Initial Arboricultural Assessment

In the context of this site the proposed development will comprise 20 new semi-detached or terrace houses as shown within Figure 4 above with an entrance to the north off Vasey Close. The table below summarises the potential impact of the proposed development on the tree and hedgerow present within the area surveyed.

Ref	Tree	Category	Impact of development
T1	Oak	B2	<p>This tree lies only 7m from the edge of Plot 09. The construction of the parking bay on the eastern side of this house will cross into the calculated RPA of this tree but this is within the cultivation zone of the arable field so the impact of this on the tree should be negligible as it is only a young specimen.</p> <p>In the longer term the position of this tree close to the house and directly above the parking area may be a cause for concern and result in pressure being applied to have the tree removed.</p>
H2	Hedgerow	C2	<p>This hedgerow can be retained and with the exception of two small areas where roads are being constructed just inside the edge of the calculated RPA, this hedgerow will not be impacted. These two areas lie within the cultivation zone of the arable field so the impact, if any, should be negligible. This hedgerow will have to be maintained trimmed to <2m height.</p>

In terms of foundations, the hedgerow comprises Hawthorn and Field Rose and the tree has been identified as a young Oak.

The position of the Oak so close to Plot 9 is unfortunate. In the short term this tree could easily be retained and with some minor crown trimming / lifting would not present any immediate cause for concern or nuisance to the property. Being a young tree the impact of the construction of the parking bay on this should be minimal, particularly considering the parking bay is positioned within the existing cultivation zone where there should be few, if any, shallow roots to be impacted.

In the longer term this tree may begin to cause a nuisance so close to the house and extending over the parking bay. The edge of the house will be 7m from the base of the tree and the edge of the parking bay only 2m from the base of the tree. It would be prudent to consider planting replacement trees within the hedgerow in locations where these will not cause a problem in the future and they have space to mature.

4.2 General Recommendations

The hedgerow, and potentially Oak T1 along the eastern boundary of the site area will need to be adequately protected during any approved development works. As a general rule at this site, measures to protect trees should follow the best practice principles set out in BS5837: Trees in Relation to Design, Development and Construction (2012). Prior to any construction or development work proceeding, the RPAs of individual trees to be retained should be marked out using the distances provided in the table within Appendix 1.

Marking out should be completed by a person with arboricultural or horticultural expertise as individual trees will have root zones that may be affected by local conditions and allowances will need to be made to accommodate this. The best practice principles have been broadly summarised below.

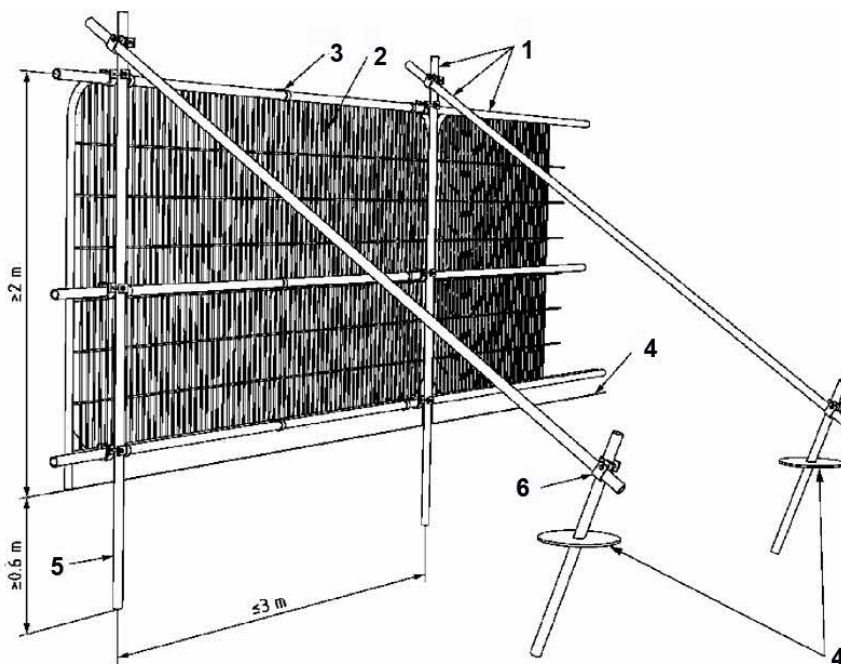
All trees retained adjacent to the site should be protected by barriers or ground protection around the calculated Root Protection Area (RPA) and as indicated on any Tree Constraints Plan (TCP) that may be produced in association with the assessment.

Any fencing required should be erected prior to commencement of construction and before demolition including erection of any temporary structures. Once set up fences should not be removed or altered without prior consultation with the arboricultural advisor.

Arrangements should be made for an arboriculturalist to supervise works and tree protection where trees are particularly vulnerable or sited close to access points.

All tree works should follow best practice procedures as set out in BS 3998 (2010). All trees should be maintained in good condition on site and be inspected annually (where overall condition requires) or every 2 years and after any major storm events, with safety a priority.

Fencing should be clearly visible and suitable for the location, type and proximity of construction activity.



1. Standard scaffold poles
2. Heavy Gauge 2m tall galvanised tube and weld mesh infill panels
3. Panels secured to uprights and cross members with wire ties
4. Ground Level
5. Uprights driven into ground until secure (up to 0.6m)
6. Standard scaffold clamps

It may be appropriate on some sites to use temporary site offices as components of the protection barriers.

Where it has been agreed and shown on a Tree Protection Plan, construction access may take place within the RPA if suitable ground protection measures are in place (e.g. existing surfaced car park areas). In other areas this may comprise single scaffold boards over a compressible layer laid onto geo-textile materials for pedestrian movements. Vehicular movements over the RPA will require the calculation of expected loading and may require the use of proprietary protection systems.

Once areas around trees have been protected by fencing, any works on the remaining site area may be commenced providing activities do not impinge on protected areas. Notices should be placed on fencing to indicate that operations are not permitted within

the fenced area.

- Wide or tall loads etc. should not come into contact with retained trees. Banksman should supervise transit of vehicles, jibs, booms etc. where this is in close proximity to retained trees.
- Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree bole. No concrete mixing should be done within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.
- No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.
- Notice boards, telephone cables or other services should not be attached to any part of a retained tree.
- Where it is deemed necessary to operate a wide or tall load, plant bearing booms, jibs and counterweights or other such equipment, as part of construction works, and such equipment would have potential to cause injurious contact with crown material i.e. low branches and limbs, of retained trees within the RPA fencing, it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obvious problem branches. This is classed as 'Facilitation Pruning' within BS 5837 (2012). Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturalist.
- It is advised that a Pre-Commencement Site Meeting is held with contractors who are responsible for operating machinery, as described above. To firstly highlight the potential for damage occurring to tree crowns and to ensure that extra care is applied when manoeuvring machinery during such operations within close proximity to retained trees to avoid any contact.
- In the event of having caused any such branch or limb damage to retained trees it is strongly recommended that suitable tree surgery be carried out, in accordance with BS 3998 (2010) Recommendations for Tree Work, to correct the damage, upon completion of development.



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Appendix 1: BS5837 Tree Schedule

Key:	Measurements	Age – Class	Overall Condition	BS 5837 2012 : Cascade Chart for Quality Assessment/Retention Category	Symbols:
	MS – Multi-stemmed	YNG-MAT-Young Mature	G – Good	A – High	< = less than
	Ht - Height in metres	SM – Semi-mature	F – Fair	B – Moderate	~ = approximately
	Stem – Stem Diameter at 1.5m in mm	Mat – Mature	P – Poor	C – Low	> = greater than
	Crown – Crown spread in metres	OM – Over mature	D – Dead	U – Trees of negligible significance	
	TD - Trunk division (height in metres)	Est Yrs – estimate of years remaining (>40 years; 20 –40 years; <20 years)		Sub-categories: 1 = mainly arboricultural values 2 = mainly landscape values 3 = mainly cultural values.	

RPA = Root protection area (equivalent to a circle with a radius 12 x the stem diameter for single stem trees and 10 x the basal diameter for trees with more than one stem arising below 1.5m above ground level).

Tree No	Species	Ht (m)	Stem Diam mm@ 1.5m	Canopy Spread (m)	Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Structural condition	Recommendations	BS 5837 Category	RPA Radius (m)
T1	Oak <i>Quercus petraea</i>	5	185	N-3 S-3 E-2 W-3	1	Y	20+	G	Single trunk supporting a lifted round balanced crown emerging from the trimmed hedgerow. Good shape with space to develop. No structural faults visible from ground level	Retain and protect.	B1	2.2
H2	Hedgerow	2	<150	N-1 S-1 E-1 W-1	0	Y	10+	G	Trimmed hedge comprising Hawthorn with occasional Field Rose. No structural faults visible from ground level	Retain and protect	C2	1.8