

BS5837:2012 Tree Survey
Land off Malting Lane
Donington
Lincolnshire
NGR TF20379 35180

Survey by
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BS5837 Tree Survey, Land at Malting Lane, Donington

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Introduction

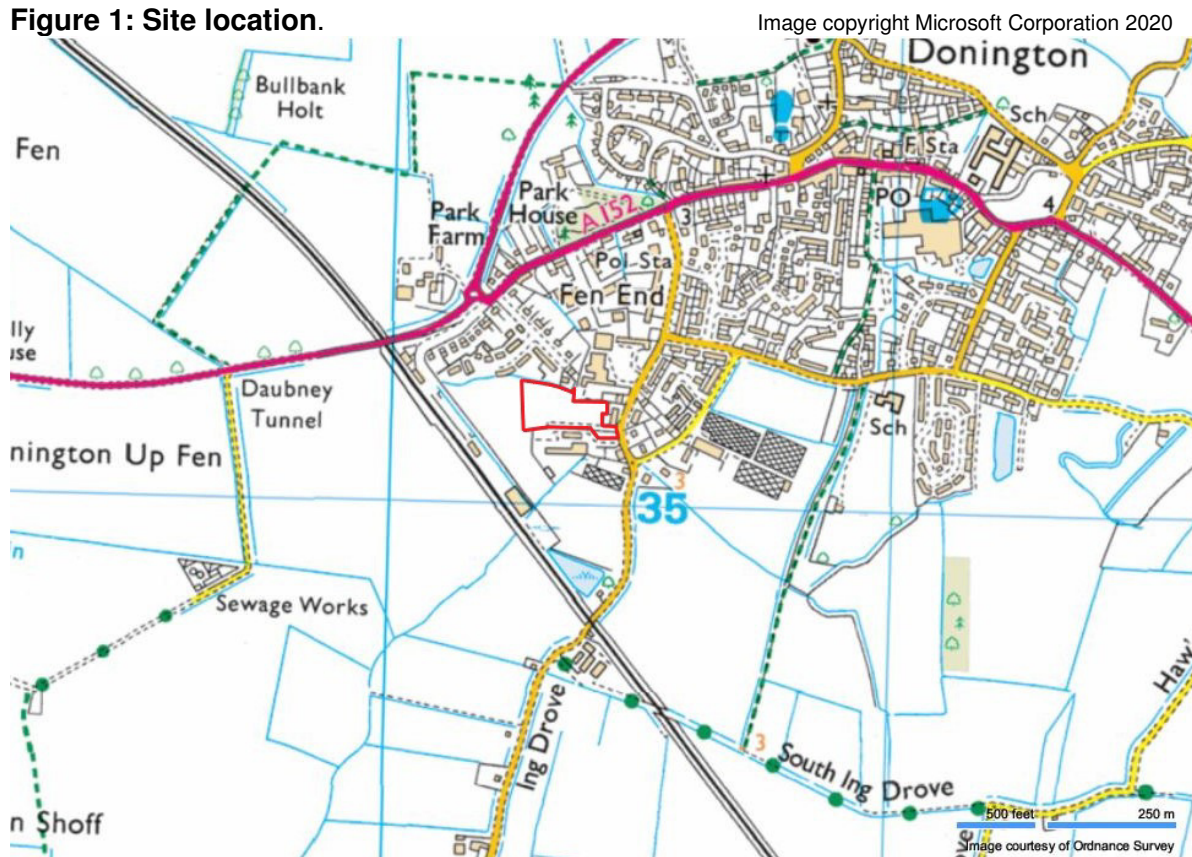
1.1 Site Description and Location

The site surveyed comprises an irregular parcel of land situated on the western side of Malting Lane, Donington, Lincolnshire centred at NGR TF20379 35180. 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 the District of South Holland and is not within a designated Conservation Area. Assessment of the site area using the publicly available South Holland District Council geographic information system has not identified any Tree Preservation Orders in this location.

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 29th January 2020. A photographic record of the trees at the site is included within the report.

Figure 1: Site location.



1.2 Neighbouring Land Uses

The defined site area comprises an area formerly used for arable production at the western end, open grassland in the central area and compacted ground at the eastern end. There was previously a building near the centre of the site area which has now been removed and a track runs along the southern boundary of the site area which was previously used for agricultural access. To the north, east and south are residential houses and some commercial buildings. To the west the open field extends a short distance to a large commercial building and parking area. An aerial photograph has been provided below.

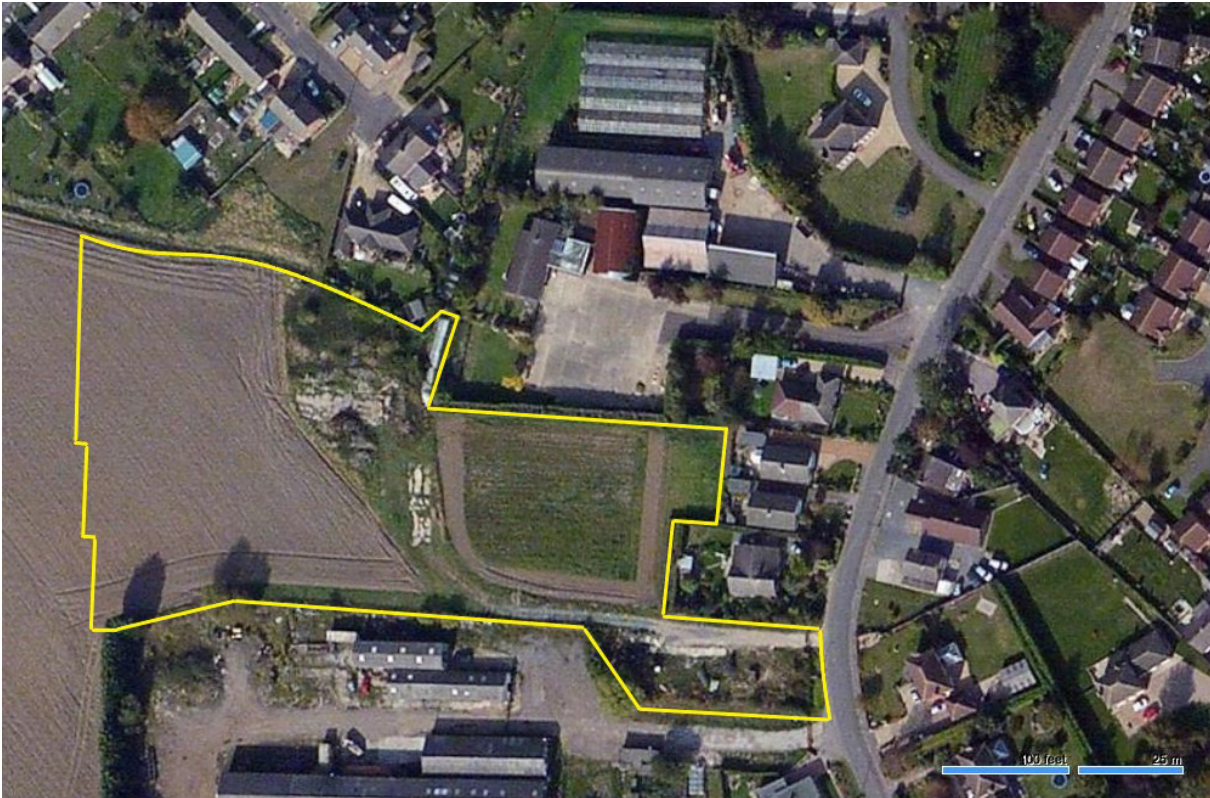


Figure 2: Site Contextual Aerial Photograph

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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. 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 RPA's in Appendix 1 should be used to inform the design layout of this site. **At the time this survey was completed a conceptual development plan was available. However, none of the trees within the site area are of high quality or significant landscape value so it is assumed that all of the trees will probably be removed and as a result a constraints plan has not been prepared at this stage.**

2.4 Potential for Protected Species

Potential bat roost locations are described within this report using the methodology as that recommended by the Bat Conservation Trust (BCT). Each tree of significant size assessed within this survey has also been assessed for the potential to provide roosts for bats and the table in Appendix 1 includes reference to this.

Potential	Field Signs
Roost confirmed	Confirmed bat roost in tree. Field evidence past or current presence of bats confirmed by droppings, staining or flight.
High roost potential	Splits or cracks in major limbs which develop upwards, smooth surfaces around potential entry points, dense ivy covering, woodpecker / rot holes, significant lifting bark, Artificial bat boxes. Ancient or over mature trees where the canopy cannot be fully inspected from the ground.
Medium roost potential	Some splits in branches, dense ivy covering, and small cavities visible, dense epicormic growth. Flies may be present around a potential entry point.
Low roost potential	Splits may be present in minor branches, sparse ivy cover, and some loose bark evident. Young healthy trees with good visibility to the canopy top.
No roost potential	Tree with a negligible potential to support bat roosts (not supporting any of the above features).

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 seven individual trees and two tree groups have been identified and assessed as part of the tree survey. None of the trees are of significant stature or high landscape value. The location and category of the trees is shown within the plan below.

Trees T1 -T3 are situated in a garden along the north eastern boundary of the site area. These are trees of small stature lying close to the existing site access road which comprises a concrete pad. Cherry T1 and Holly T2 are placed within Category C due to size and both are trees of reasonable quality providing screening to the garden. Oak T3 is a little larger and of sufficient size to be placed within Category B as it is in good condition and has sufficient space to continue to mature in this location.



Cherry T1 (foreground) and Holly T2



Oak T3

Group G4 comprises a line of semi-mature Birch trees situated in a garden adjacent to the northern boundary. The crown of the tree at the south end does extend past the site boundary and this group is placed within Category B,



Birch Group G4

Trees T5 – G7 are positioned close to the northern boundary but within the site area. These are small trees with limited space for development, crowded between a Leylandii hedgerow within the garden boundary to the north and a soil bund with scrub Hawthorn and Elder to the south. These are not trees of high quality of significant landscape value and they have been placed within Category C.



T5, Group 6 and T7



Group G6

Birch T8 and Willow T9 are situated in a garden adjacent to the north boundary. The position of these trees is quite hidden but these do provide screening to the garden and the Willow in particular is a tree of reasonable quality. Birch T8 has been severely pollarded and is placed within Category C and Willow T9 is placed within Category B.



Birch T8 (left) Willow T9 (right)

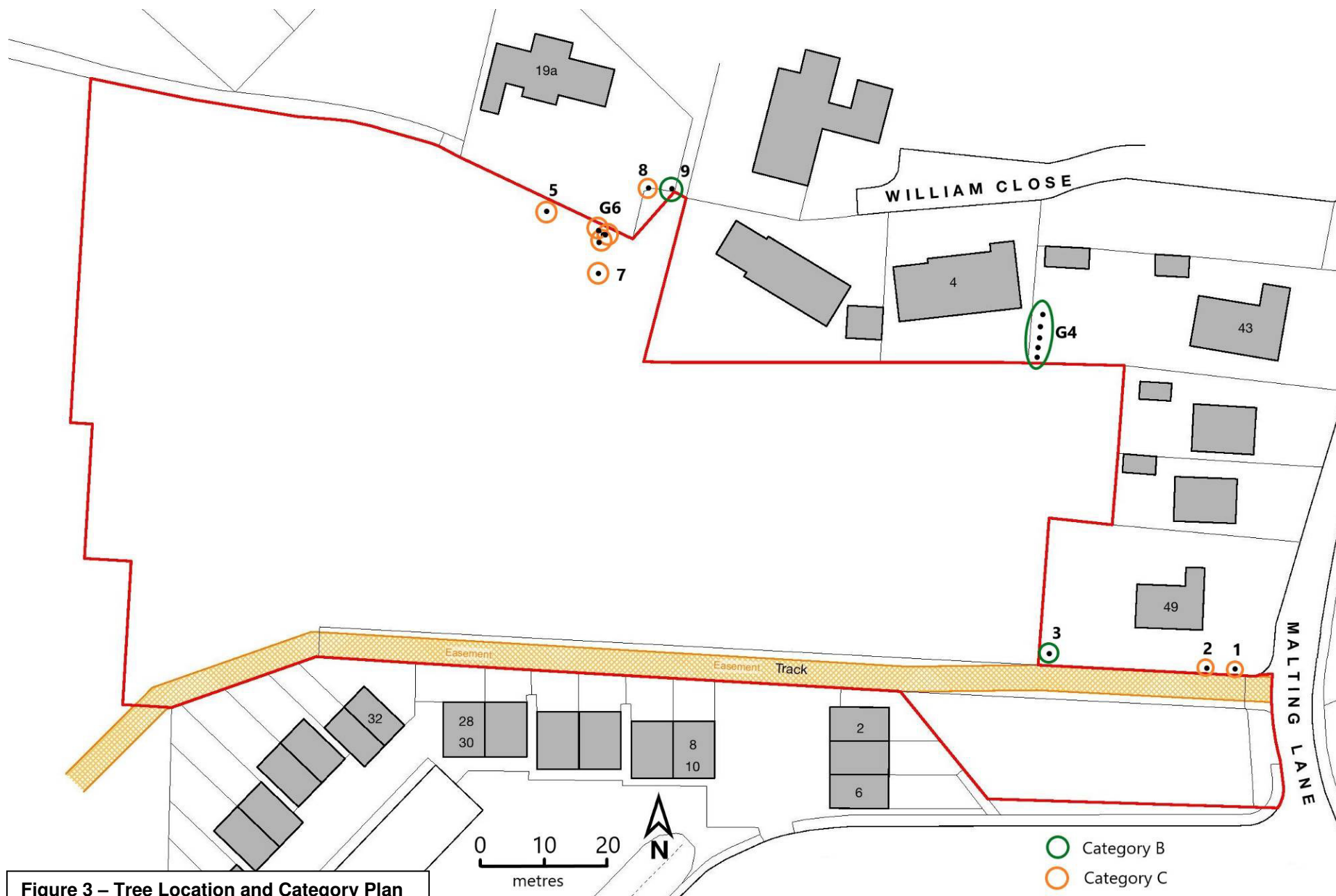


Figure 3 – Tree Location and Category Plan



4. Tree Management

4.1 Initial Arboricultural Assessment

In the context of this site the proposed development will comprise a new residential housing as shown within **Figure 4**. The development will utilise the existing access from Malting Lane and will not impact trees adjacent to the northern boundary. However, the provision of a buffer zone along the northern boundary to provide access for management of the drainage channel and rear garden fences is likely to require a small number of trees to be removed.

Tree	Category	Impact of development
T1 Cherry	C2	None. RPA is contained within boundary landscaping.
T2 Variegated Holly	C2	None. RPA is contained within boundary landscaping.
T3 Oak	B2	None. RPA is contained within boundary landscaping and the edge of the proposed access road pavement is positioned where there is an existing concrete pad.
G4 Birch	B2	None. RPA is contained within boundary landscaping.
T5 Cherry	C2	It is likely this tree will be removed to provide the open buffer zone for access along the northern boundary.
G6 3 x Cherry	C2	It is likely this tree will be removed to provide the open buffer zone for access along the northern boundary.
T7 Goat Willow	C2	It is likely this tree will be removed to provide the open buffer zone for access along the northern boundary.
T8 Birch	C2	None. RPA is contained within boundary landscaping.
T9 Contorted Willow	B2	None. RPA is contained within boundary landscaping.

The removal of trees T5, G6 and T7 within the buffer zone adjacent to the northern boundary of the site will have negligible impact on visual amenity and canopy cover within this area as these are trees of small stature in a position where they are not highly visible.

4.2 General Recommendations

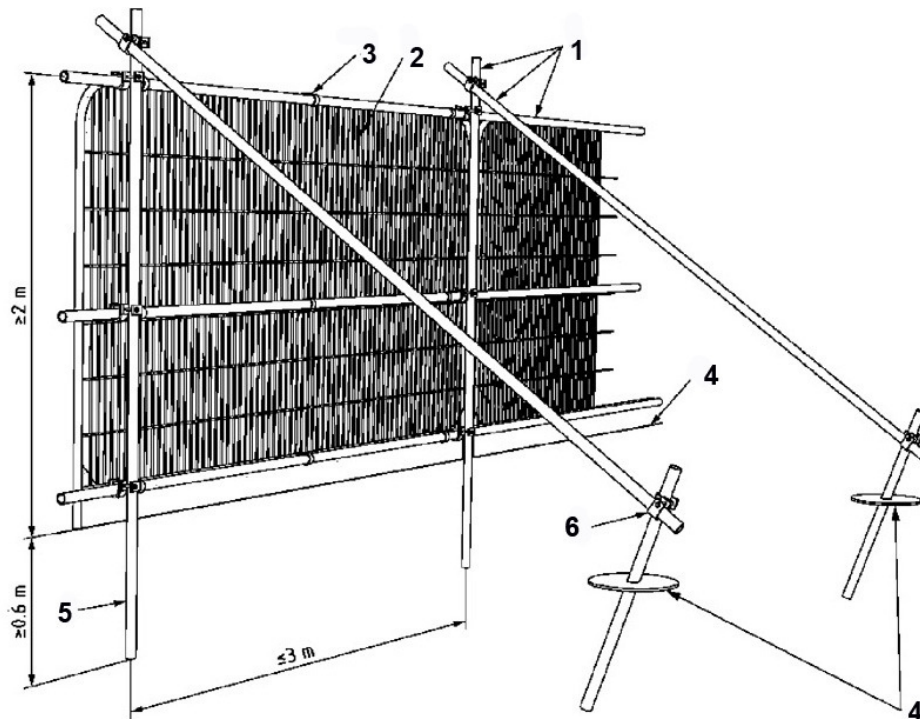
Measures to protect trees should follow the best practice principles set out in BS5837: Trees in Relation to Design, Development and Construction (2012). Prior to any construction or development work proceeding, the RPA's of individual trees to be retained should be marked out using the distances provided 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.

- Pre-development works may be undertaken prior to the installation of fencing with the agreement of the local planning authority.
- 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.



Christopher Barker CEnv dipHort

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	Cherry <i>Prunus avium</i>	5	165	N-2 S-2 E-2 W-2	2	SM	10	F	Single trunk. Irregular canopy extending east. Negligible roost potential. No structural faults visible from ground level	None	C2	1.9
T2	Variegated Holly <i>Ilex aquifolium variegatum</i>	5	155	N-2 S-2 E-2 W-2	1	Y	10	F	Single trunk. Round crown. Lifted on south over hedge. Negligible roost potential. No structural faults visible from ground level	None	C2	1.9
T3	Oak <i>Quercus petraea</i>	6	180	N-2 S-3 E-3 W-3	2	Y	20+	G	Single trunk. Broadly ascending balanced crown. Negligible roost potential. No structural faults visible from ground level	RPA will extend across the boundary 0.5m but there is an existing concrete pad in this location.	B2	2.1
G4	Birch <i>Betula pendula</i>	6-9	<200	N- S-3 E- W-	3	Y-SM	20	F	Line of merging Birch in garden. Nearest 1m back from site boundary. Negligible roost potential. No structural faults visible from ground level	None	B2	2.4
T5	Cherry <i>Prunus avium</i>	5	160	N-3 S-3 E-3 W-2	2	SM	10+	G	Single trunk. Broadly ascending canopy. Internally crowded. Negligible roost potential. No structural faults visible from ground level	Likely to be removed to create the access buffer zone along the northern boundary.	C2	1.9

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)
G6	3 x Cherry <i>Prunus avium</i>	5	<150	N-2 S-2 E-2 W-2	1	Y	10	F	Group of three broadly ascending cherry with merging canopies. Negligible roost potential. No structural faults visible from ground level	Likely to be removed to create the access buffer zone along the northern boundary.	C2	1.8
T7	Goat Willow <i>Salix caprea</i>	4	<150	N-2 S-2 E-2 W-2	0	Y	10	P	Coppice regeneration with dense round crown. Negligible roost potential. No structural faults visible from ground level	Likely to be removed to create the access buffer zone along the northern boundary.	C2	1.8
T8	Birch <i>Betula pendula</i>	4	200	N-2 S-2 E-2 W-2	1	SM	10	P	Single trunk pollarded with a very limited regenerative canopy. Negligible roost potential. No structural faults visible from ground level	None	C2	2.4
T9	Contorted Willow <i>Salix contorta</i>	8	245	N-3 S-2 E-2 W-3	2	SM	20	F	Single trunk. Upright irregular canopy. Negligible roost potential. No structural faults visible from ground level	None	B2	2.9