



Hallam Land Management Ltd

Oxford Road, Banbury (Land at Bankside)

Arboricultural Assessment

May 2019

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1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Hallam Land Management Ltd to present the findings of an arboricultural assessment and survey of trees located at Oxford Road, Banbury (Land at Bankside) (hereafter referred to as the site), OS Grid Ref SP 47005 37613. The original tree survey was carried out on 16th September 2014 and an updated survey was carried out on the 16th August 2018.
- 1.2 The tree survey and assessment of existing trees has been carried out in accordance with guidance contained within British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter referred to as BS5837). The guidelines set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.
- 1.3 The guidance also provides recommendations for considering the relationship between existing trees and how those trees may integrate into designs for development; demolition operations and future construction processes so that a harmonious and sustainable relationship between any retained trees and built structures can be achieved.
- 1.4 The purpose of the report is therefore to firstly, present the results of an assessment of the existing trees arboricultural value, based on their current condition and quality and to secondly, provide an assessment of impact arising from the proposed development of the site.
- 1.5 This report has been produced to accompany a planning application for residential development and has included an assessment of any impact arising to the tree cover. The survey has therefore focused on any trees present within or bordering the site that may potentially be affected by the future proposals or will pose a constraint to any proposed development.

Site description

- 1.6 The site is situated to the north side of Oxford Road, Banbury and consists of four large arable field parcels. The town of Banbury is to the north and the small settlement of Bodicote is situated to the west. The M40 lies beyond the eastern extent and to the south are further arable fields. The grounds of Banbury RUFC and a Health Club adjoin with part of the site's western boundary.
- 1.7 At the time of assessment the field parcels are all under intensive arable cultivation and operated from an existing farm complex positioned off-site beyond the south east corner of the assessment area. Throughout the site the working compartments are bounded by field hedgerows and there are a number of farm vehicle tracks that bisect the site.
- 1.8 Due to the nature of the land use the majority of tree cover was positioned along the boundaries of the field parcels with central areas being largely devoid of trees. A significant planted boundary was recorded and a small number of individual trees were recorded with the field hedgerows and along the farm vehicle tracks that bisect the site.

Planning Policy

National Planning Policy Framework 2019

- 1.9 National Planning Policy is defined by the National Planning Policy Framework (NPPF). This sets out the Government's most current and up to date planning policies for England and how these should be applied. The current NPPF is dated February 2019.
- 1.10 Paragraph 11 of the NPPF states that there is a presumption in favour of sustainable development and states that for decision making, the LPA should be *‘approving development proposals that accord with an up-to-date development plan without delay’*. In the absence of a development plan or the development plan is out of date, the acting LPA should grant planning consent so far as the development proposals do not breach the policies and guidance outlined in the NPPF.
- 1.11 In relation to arboriculture, the NPPF also states that:
- *175(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’;*
and provides specific guidance that:
 - *175(d) ‘development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity’.*
- 1.12 Examples of what is deemed to be *‘wholly exceptional’* are included within Footnote 58 and provides the examples of *‘infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat’*.

Statutory Considerations

- 1.13 Following consultation with the Local Planning Authority, Cherwell District Council, there are two Tree Preservation Orders which apply to trees within close proximity to the site. The first TPO no. 13 of 2014 entitled College Farm House, Oxford Road, Bodicote applies to a single horse chestnut. The second TPO no. 12 of 2014 also entitled College Farm House, Oxford Road, Bodicote applies to a beech and an oak. These trees are all situated within the grounds of College House beyond the site western boundary and were not recorded within this assessment not being within influencing distance of the site.

2.0 SURVEY METHODOLOGY

- 2.1 The survey of trees has been carried out in accordance with the criteria set out in Chapter 4 of BS5837. The survey has been undertaken by a suitably qualified and experienced arboriculturalist and has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence to any proposals. Trees were assessed for their arboricultural quality and benefits within the context of the proposed development in a transparent, understandable and systematic way.
- 2.2 Trees have been assessed as groups or hedgerows where it has been determined appropriate. The term group has been applied where trees form cohesive arboricultural features either aerodynamically, visually or culturally including biodiversity or habitat potential for example parkland or wood pasture.
- 2.3 For the purposes of this assessment, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base and are managed under a regular pruning regime. A tree survey in accordance with BS5837 does not assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, and is outside the scope of this assessment.
- 2.4 An assessment of individual trees within groups or hedgerows has been made where a clear need to differentiate between them, for example, in order to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

Veteran Trees

- 2.5 Veteran trees are important components of the landscape, their importance can be for a number of reasons including that of their ecological, social, cultural and historic value. Veteran Trees are material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework 2018.
- 2.6 This assessment, and the criteria for identification veteran features, is based on currently available industry guidance and resources including the Level 2 and 3 of the *Specialist Survey Methodology (SSM)* and as detailed within *Ancient and other Veteran Trees: Further Guidance on Management (Lonsdale, D (ed.) (2013). The Tree Council & Ancient Tree Forum.*
- 2.7 For the purpose of affording these trees greater protection the RPA calculation has been calculated in accordance with the guidelines detailed within *Ancient and other Veteran Trees: Further Guidance on Management (Lonsdale, D (ed.) (2013). The Tree Council & Ancient Tree Forum.* The RPA is defined as a distance equal to 15 times the trees stem diameter, or five metres beyond the canopy, whichever is the greater (Read, 2000).
- 2.8 Where this assessment has identified veteran trees, further survey work of those trees and their communities will be required. From an ecological perspective veteran trees provide a rare and specialist niche habitat and therefore preservation of this habitat is considered highly important. Veteran trees and many of their associated specialised species are becoming increasingly rare within the landscape and therefore some veteran tree landscapes and their associated species are now protected, both nationally and Europe wide through the Natura 2000 Directive.

BS5837 Categories

- 2.9 Trees have been divided into one of four categories based on Table 1 of BS5837, '*Cascade chart for tree quality assessment*'. For a tree to qualify under any given category it should fall within the scope of that category's definition (see below).
- 2.10 Category U trees are those which would be lost in the short term for reasons connected with their physiology or structural condition. They are, for this reason not considered in the planning process on arboricultural grounds. Categories A, B and C are applied to trees that should be of material considerations in the development process. Each category also having one of three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural or conservation values accordingly.
- 2.11 **Category (U) – (Red):** Trees which are unsuitable for retention and are 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. Trees within this category are:
- Trees that have a serious irremediable structural defect such that their early loss is expected due to collapse and includes trees that will become unviable after removal of other category U trees.
 - Trees that are dead or are showing signs of significant, immediate or irreversible overall decline.
 - Trees that are infected with pathogens of significance to the health and/ or safety of other nearby trees or are very low quality trees suppressing adjacent trees of better quality.
 - Certain category U trees can have existing or potential conservation value which may make it desirable to preserve.
- 2.12 **Category (A) – (Green):** Trees that are considered for retention and are of high quality with an estimated remaining life expectancy of at least 40 years with potential to make a lasting contribution. Such trees may comprise:
- Sub category (i) trees that are particularly good examples of their species, especially if rare or unusual, or are essential components of groups such as formal or semi-formal arboricultural features for example the dominant and/or principal trees within an avenue.
 - Sub category (ii) trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.
 - Sub category (iii) trees, groups or woodlands of significant conservation, historical, commemorative or other value for example veteran or wood pasture.
- 2.13 **Category (B) – (Blue):** Trees that are considered for retention and are of moderate quality with an estimated remaining life expectancy of at least 20 years with potential to make a significant contribution. Such trees may comprise:
- Sub category (i) trees that might be included in category A but are downgraded because of impaired condition for example the presence of significant though remediable defects, including unsympathetic past management and storm damage.

- Sub category (ii) trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.
 - Sub category (iii) trees with material conservation or other cultural value.
- 2.14 **Category (C) – (Grey):** Trees that are considered for retention and are of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm. Such trees may comprise:
- Sub category (i) unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
 - Sub category (ii) trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value or trees offering low or only temporary / transient screening benefits.
 - Sub category (iii) trees with no material conservation or other cultural value.

Tree Schedule

- 2.15 Appendix A presents details of any individual trees, groups and hedgerows found during the assessment including heights, diameters at breast height, crown spread (given as a radial measurement from the stem), age class, comments as to the overall condition at the time of inspection, BS5837 category of quality and suitability for retention and the root protection area.
- 2.16 General observations particularly of structural and physiological condition for example the presence of any decay and physical defect and preliminary management recommendations have also been recorded where appropriate.

Site Plans

- 2.17 The individual positions of trees and groups have been shown on the Tree Survey Plan. The positions of trees are based on a topographical / land survey, as far as possible, supplied by the client.
- 2.18 Where topographical information has not identified the position of trees these have been plotted using a global positioning system and aerial photography to provide approximate locations. The crown spread, root protection area and shade pattern (where appropriate) are also indicated on this plan.
- 2.19 As part of this assessment, a Tree Retention Plan has been prepared to show the proposed layout in relation to the existing tree cover allowing an assessment of any potential conflicts. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.

Tree Constraints and Root Protection Areas

- 2.20 Below ground constraints to future development are represented by the area surrounding the tree containing sufficient rooting volume for the specimen to have the best chance of survival in the long term which is identified as the root protection area (RPA). The RPA has been calculated in accordance with section 4.6 of BS5837 and requires suitable protection in order for the tree to be successfully incorporated into any future scheme.
- 2.21 Where applicable the shape of the Root Protection Area has been modified to consider the presence of any nearby obstacles (existing or past) which may have restricted root growth and the likely root distribution i.e. the presence of hard standing, structures and underground apparatus.
- 2.22 Where groups of trees have been assessed, the Root Protection Area has been shown based on the maximum sized tree in any one group and so may exceed the Root Protection Area required for some of the individual specimens within the group. Further detailed inspection of the individual trees forming a group may be required where development impacts upon the group.
- 2.23 Above ground constraints such as the current crown spread of the trees and an illustration of the shade pattern (where appropriate) have been considered and identified within the Tree Survey Plan and Tree Retention Plan indicates their potential area of shading influence.

Considerations and Limitations of the Tree Survey

- 2.24 The survey was completed from ground level only and from within the boundary of the site. Aerial tree inspections or an assessment of the internal condition of the stem/s or branches were not undertaken at this stage as this level of survey is beyond the scope of the initial assessment.
- 2.25 The statements made in this report regarding defects in assessed trees does not take into account the effects of extreme / adverse weather conditions, changes in land use prior to the site's development as detailed within Section 4.0, unforeseen accidents or anti-social behaviors, such as vandalism, which occur since the date of the survey. As such, the assessment of tree condition given within applies to the date of survey and cannot be assumed to remain unchanged.
- 2.26 It will be necessary to review all comments and observations made within this report, in accordance with sound arboricultural practice, within two years of the date of survey (unless explicitly stated elsewhere within this report). Further review may also be necessary where site conditions change or works to trees are carried out which have not been specified in detail within this report.
- 2.27 It may be necessary during detailed design to undertake further assessment and accurate positioning of woody species within tree groups to assist structural calculations for foundation design of structures in accordance with current building regulations.
- 2.28 The exact position of individual trees or species included as part of a tree group should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths in accordance with NHBC Chapter 4.2 Building near Trees.

3.0 RESULTS

3.1 A total of twenty individual trees, fourteen groups of trees, and nine hedgerows were surveyed as part of the Arboricultural Assessment. Refer to the Tree Survey Plan and Appendix A . Tree Schedule for full details of the trees included in this assessment.

Results Summary

3.2 The arable landscape featured a small number of trees around the perimeters of the working field compartments however due to the nature of the land use, the amount of tree cover associated with the site would only be considered as moderate. Those trees that were present formed integral features of the local landscape giving it character and form. The boundaries of the field compartments were often supporting native species hedgerows. Species most commonly represented are common ash *Fraxinus excelsior* and English oak *Quercus robur* within the open field compartments. Hedgerows largely comprised of native species. The table below summarises the trees assessed, several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

Table 1: Summary of Trees by Retention Category

	Individual Trees	Total	Groups of Trees	Total
Category U - Unsuitable		0		0
Category A (High Quality / Value)	T1, T11	2		0
Category B (Moderate Quality / Value)	T5, T6, T7, T8, T9, T10, T12, T16	8	G1, G2, G3, G4, G5, G6, G7, G8, G10, G11, G12, H1	12
Category C (Low Quality / Value)	T2, T3, T4, T13, T14, T15, T17, T18, T19, T20	10	G9, G13, G14, H2, H3, H4, H5, H6, H7, H8, H9	11

Individual Trees

3.3 Across the site, there were two category A individual trees, eight category B trees and ten category C trees. As expected with trees in this kind of agricultural environment, individual trees often displayed evidence of storm damaged branch material, dead wood and occasional branch failures and therefore in certain circumstances, would require remedial tree surgery in view of the potential for public to be in close proximity to retained trees.

3.4 T1 was a large and visually prominent, by virtue of its physical proportions, mature English Oak approximately 17m in height and supporting a stem diameter of 1400mm, situated along the eastern boundary of the site. The specimen showed signs of dead wood and broken branches throughout the crown, along with occasional storm damaged crown sections which would typically be expected of such a mature specimen within the open landscape. Due to its large dimensions and numerous qualifying characteristics, T1 was recorded as a veteran specimen based upon the *Level 2 and 3 of the Specialist Survey Methodology (SSM)* and *Ancient and other Veteran Trees: Further Guidance on Management (Lonsdale, D (ed.) (2013))*. These veteran attributes and justification for its veteran classification has been provided in Appendix B . Veteran Tree Schedule.

- 3.5 T11 was a further mature English Oak approximately 14m in height, located in the north-western corner of site. The specimen had deadwood present throughout the crown but no major defects were noted at the time of the survey. The specimen was therefore also considered to be of high arboricultural quality and greatly contributed to the overall amenity. For this reason and for its considerable remaining future life expectancy by virtue of its species, T11 was considered to be retention category A.
- 3.6 T12 was another mature English Oak approximately 16m in height, located within an internal hedgerow. The specimen had major deadwood and broken branches present throughout the crown. At the time of the assessment several fruiting bodies of Chicken of the woods *Laetiporus sulphureus* was observed on the main stem at approximately 8m above ground level. Chicken of the woods is a bracket fungus which is typically confined to the heartwood causing hollowing and over time increases the likelihood of failure. T12 was assessed using the *Level 2 and 3 of the Specialist Survey Methodology (SSM)* and did not currently have enough veteran attributes to be recorded as a true veteran tree as detailed in Appendix B . Veteran Tree Schedule. The tree was instead recorded as a transitional veteran and may develop into a veteran tree over time so was recorded as category Biii for its conservation value.

Groups of Trees

- 3.7 A small plantation G2 which comprised of Leyland cypress x *Cupressocyparis leylandii*; elder *Sambucus nigra*; wild cherry *Prunus avium*; red oak *Quercus rubra*; sweet chestnut *Castanea sativa* and European larch *Larix decidua* stood beyond the north eastern corner of the site. Due to its elevated position and supporting evergreen species around the perimeter it formed a prominent feature in the local landscape and was considered retention category B.
- 3.8 G4 an early mature group of mixed broadleaved species positioned half way along an internal hedgerow. Collectively the group formed a reasonably notable local landscape feature and for this reason was considered as being retention category B. If retained, the group would benefit from management to remediate the areas of damage to crowns and to clear the dead trees. Other work would be to raise the level of the crown growth to improve overall future forms and aesthetical appearance.
- 3.9 G5, a linear group of ash along an internal field boundary hedgerow was a prominent landscape feature within the site by virtue of the uniform spacing of trees along the length of the hedgerow. Gaps were evident within the group where it was apparent that trees had previously failed or been removed however this did not greatly deduct from the groups landscape value and despite its relatively young age the group was categorised as retention category B.
- 3.10 G6, G7 and G8 made up an extensive planted buffer around the edge of the health club and rugby club along the southern boundary. Comprising of early mature trees of a diverse range of broadleaved species up to 16m in height, the groups all stood beyond the site boundary within the health club and Banbury Rugby Club. Many of the specimens were of multi leadered forms and minor/major deadwood and occasional broken branches were evident. However, generally the trees were in good health with relatively few defects of concern. The group formed an effective screen and due to the mix of species gave interest and variety not only visually but also high value to local wildlife.

- 3.11 G11 a mixed species group within the site contained five European larch *Larix decidua* that were in poor condition brought about by heavily leaning stems and the past failure of branches likely as a result of adverse weather conditions. It would be recommended that these trees are removed in the interests of safety on arboricultural grounds and not retained as part of the development proposals.

Hedgerows

- 3.12 H1 was a mature hedgerow supporting a number of native broadleaf species, approximately 3m high and situated along the northern boundary. The hedgerow has been subjected to regular maintenance and was considered to be retention category B for its amenity value to the local landscape.
- 3.13 The remaining eight hedgerows were regarded as being of low arboricultural value and retention category C due to their limited landscape contribution by virtue of their small overall proportions.

4.0 ARBORICULTURAL IMPACT ASSESSMENT

- 4.1 The following paragraphs present a summary of the tree survey and offers discussion of particular trees and groups recorded in the context of any proposed development in the form of an Arboricultural Impact Assessment in accordance with section 5.4 of BS5837. Any final tree retentions will need to be reconciled with the advice contained within this report.
- 4.2 The AIA has been based upon the Parameters and seeks to outline the potential impact that the proposals would have on the existing trees and hedgerows. The proposals are for an outline development of up to 850 residential units which also includes provisions for a secondary school, football stadium and allotments.
- 4.3 The proposals have in principle, followed the guidance within *British Standard 5837 (2012) – Trees in Relation to Design, Demolition and Construction - Recommendations*, retaining almost all the sites tree cover seeing its incorporation within the proposals. The only loss of tree cover to the development proposals would be to facilitate the necessary opening for the principal means of vehicular access and between existing field parcels to provide necessary links.

Arboricultural Impacts

- 4.4 Two proposed points of access will be taken from the existing development to the west. The southernmost of these two access point will be provided through G5 a linear group of early mature ash along an internal field boundary hedgerow. To provide a gap wide enough to allow for the construction of a standard road width and associated footpath will require the removal of a single tree from within tree group G5.
- 4.5 G5 was regarded as being retention category B for its collective landscape value from an arboricultural perspective with the group forming a prominent landscape feature along his boundary. The removal of an individual tree from G5 would not be arboricultural significant or greatly deduct from the overall landscape value of the group. The group contained a number of gaps where trees had previous been removed or had failed and not been replaced so the creation of a further gap would not be visually significant.

- 4.6 A second tree is also shown to be removed from G5, at this outline stage, to provide a link between existing field parcels. Again, the removal of this tree from G5 would not be significant nor should it raise an objection from an arboricultural perspective.
- 4.7 The proposals will retain the remainder of G5 as an arboricultural feature within a green corridor through the site. The development of the site provides an ideal opportunity to secure future management for this tree cover which should be considered a positive aspect of the development. A future detailed layout should provide this group with sufficient space to allow the trees to reach mature proportions without the need for continuous management.
- 4.8 To provide links between the existing field parcels and allow for a feasible internal road layout to be achieved would also require the removal of two approximately 15m sections of hedgerow H2. H2 was considered as being of low arboricultural value and as such, the removal of these two small sections should not raise any objections from an arboricultural perspective and could be mitigated for through new tree and hedgerow planting.
- 4.9 A third access point is proposed from the south of the site and Oxford Road. To facilitate this, an approximately 21m section of hedgerow H9 would need to be removed along with two individual ash trees, T17 and T18. Both trees were of early mature proportions and of low arboricultural quality (retention category C) due to their multi-stemmed forms, deadwood in the crown, branch socket cavities and close cultivation of land within 1.5m of the base of the trees. Both trees could be mitigated for through new tree planting.
- 4.10 Mitigation for the abovementioned trees and hedgerow losses will include the planting of areas of new tree cover as well as hedgerow and tree cover as part buffer groups. New native broadleaved trees will be planted across the project, and the Parameters Plan has illustrated new tree planting which would more than adequately mitigate for the losses required to facilitate the development.

Retained Tree Management

- 4.11 Trees have where possible been shown to be retained in generous landscape buffers around the residential and other built elements. However, it will be necessary to pay close attention to layouts at the appropriate stages in the detailed design process so that root protection areas of those trees can be fully accommodated. This will enable successful integration of any retained specimens into the scheme to ensure their survival in the future.
- 4.12 From an arboricultural perspective, it is recommended that at the detailed design stages the built infrastructure is respectful of the higher quality and veteran trees on site and should be informed by a subsequent Arboricultural Assessment.
- 4.13 T1 the only veteran tree on site is shown to be retained with a generous buffer strip proposed between a residential parcel and land provisionally set aside for a secondary school, to arable land to the east of the site. No infrastructure is shown within close proximity to the extended RPA of this tree and the change in land use should have minimal impact on this tree based upon the Parameters Plan. This should remain the position in any future Reserved Matters application. It is advised that further survey work of T1 be carried out at the appropriate stage of the planning process to properly inform the future management of this important tree.

- 4.14 T12 recorded as a transition veteran will also need to be given due consideration with a future detailed layout. The tree provided some veteran habitat which from an ecological perspective is a rare and specialist niche habitat and therefore preservation of this tree and its habitat highly important. The presence of the bracket fungus *Laetiporus sulphureus* which typically causing hollowing and over time increases the likelihood of failure would not allow for this tree to be safely retained within close proximity to build infrastructure and T12 should be retained within an expanse of open space.
- 4.15 A future detailed layout and its supporting landscaping scheme should consider providing a greenlink between T12, the transitional veteran and T1 the true veteran through the planting of English oaks within the buffer / POS corridor to connect the two habitats. This should be informed by further survey work and follow the guidance contained within *Ancient and other Veteran Trees: Further Guidance on Management* (Lonsdale, D (ed.) (2013).

General Design Principles in Relation to Retained Trees

- 4.16 The detailed residential layout should take into account the presence of mature trees when considering the position of dwellings in a subsequent reserve matters application. Where possible trees should be retained within areas of greenspace to reduce the pressure to prune trees from the new occupants particularly where large trees are to be retained and their presence would be possibly considered as overbearing by the new occupants in close proximity.
- 4.17 All retained trees should be subjected to sound arboricultural management as recommended within section 8.8.3 of BS5837 *Post Development Management of Existing Trees*, where there is a potential for public access in order to satisfy the landowner's duty of care. Additionally, inspections annually and following major storms should be carried out by an experienced arboriculturalist or arborist to identify any potential public safety risks and to agree remedial works as required.
- 4.18 All tree works undertaken should comply with British Standard 3998:2010 and should therefore be carried out by skilled tree surgeons. It would be recommended that quotations for such work be obtained from Arboricultural Association Approved Contractors as this is the recognised authority for certification of tree work contractors.
- 4.19 All vegetation and, particularly, woody vegetation proposed for clearance should be removed outside of the bird-breeding season (March - September inclusive) as all birds are protected under the Wildlife and Countryside Act, 1981 (as amended) whilst on the nest. Where this is not possible, vegetation should be checked for the presence of nesting birds prior to removal by an experienced ecologist.

5.0 NEW TREE AND HEDGEROW PLANTING

Trees

- 5.1 The landscaping scheme should consider the use of both native tree species (for their low maintenance requirements and nature conservation value) and ornamental species (for their contribution to urban design and amenity value). Species choices should be selected on the basis of their suitability for the final site use.

- 5.2 In line with the NPPF all schemes should aim achieve a net gain in biodiversity value. Nationally recognised biodiversity metrics allow for the inclusion of, not limited to, newly planted scattered trees, woodlands and hedgerows as a means of compensating for loss of habitat as part of the development. Tree and shrub planting can therefore be used to contribute to this biodiversity gain.
- 5.3 To maximise biodiversity value (and contribution to net gain) native species or varieties should be specified. Such provisions can be incorporated into both the hard and soft landscaping of the scheme. It is recommended that tree and hedgerow specifications are made following consultation with guidance published by the Local Planning Authority.
- 5.4 When designing upon suitable tree species, careful consideration would need to be given to the following: ultimate height and canopy spread, form, habit, density of crown, potential shading effect, colour, water demand, soil type and maintenance requirements in relation to both the built form of the new development and existing properties.
- 5.5 Through careful species selection, the landscape scheme shall reduce the risk of trees being removed in the future on the grounds of nuisance. Nuisance can be perceived in a number of ways and vary from person to person however most commonly, within the context of trees, low overhanging branches, excessive shading, seasonal leaf fall and the misinformed perception that trees close to buildings cause damage.

Hedgerows

- 5.6 Hedgerows are identified as a Habitat of Principle Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Consequently, it is important that the proposed scheme delivers a net gain in terms of linear hedgerows through new planting to compensate for any losses. Species should be native, and characteristic of the locality.
- 5.7 Recommended species for native hedgerow planting are as follows:
- *Crataegus monogyna*
 - *Prunus spinosa*
 - *Cornus sanguinea*
 - *Corylus avellana*
 - *Acer campestre*
 - *Quercus robur*
 - *Euonymus europaeus*

Rooting Environment and Soil Volumes

- 5.8 The success of any landscaping scheme relies on an adequate provision of a high-quality rooting environment within which trees can thrive and reach their full potential. Planting trees with due care and consideration will, in the long term, provide a greater return on a schemes green investment and ensure trees remain healthy and grow to mature proportions.

- 5.9 Healthy mature trees integrate well into the built environment; increase the maturity of the landscape to provide a natural green and leafy urban environment in which people would want to reside whilst also benefiting local wildlife.
- 5.10 The planting of trees within confined urban environments should consider the use of appropriately designed planting pits specifically engineered to promote tree health and longevity. Crucially the aim will be to provide an adequate volume of quality soil for roots to suitably develop by calculating the amount of available soil volumes needed and selecting species whose mature size is compatible with the site. This is an integral component of the planning stage (Lindsey & Bassuk, 1991).

6.0 TREE PROTECTION MEASURES

- 6.1 Retained trees will be adequately protected during works ensuring that the calculated root protection area for all retained trees can be appropriately protected through the erection of the requisite tree protection barriers. Measures to protect trees should follow the guidance in BS5837 and will be applied where necessary for the purpose of protecting trees within the site whilst allowing sufficient access for the implementation of the proposed layout. These have been broadly summarised below.

General Information and Recommendations

- 6.2 All trees retained on site will be protected by suitable barriers or ground protection measures around the calculated RPA, crown spread of the tree or other defined constraints of this assessment as detailed by section 6 and 7 of BS5837.
- 6.3 Barriers will be erected prior to commencement of any construction work and before demolition including erection of any temporary structures. Once installed, the area protected by fencing or other barriers will be regarded as a construction exclusion zone. Fencing and barriers will not be removed or altered without prior consultation with the Project Arboriculturalist.
- 6.4 Any trees that are not to be retained as part of the proposals should be felled prior to the erection of protective barriers. Particular attention needs to be given by site contractors to minimise damage or disturbance to retained specimens.
- 6.5 Confirmation that tree protective fencing or other barriers have been set out correctly should be gained prior to the commencement of site activity.

Tree Protection Barriers

- 6.6 Tree protection fencing should be fit for the purpose of excluding any type of construction activity and suitable for the degree and proximity of works to retained trees. Barriers must be maintained to ensure that they remain rigid and complete for the duration of construction activities on site.
- 6.7 In most situations, fencing should comprise typical construction fencing panels attached to scaffold poles driven vertically into the ground. For particular areas where construction activity is anticipated to be of a more intense nature, supporting struts, acting as a brace should be added and fixed into position through the application of metal pins driven into the ground to offer additional resistance against impacts.

- 6.8 Where site circumstances and the risk to retained trees do not necessitate the default level of protection an alternative will be specified appropriate to the level / nature of anticipated construction activity. The recommended methods of fencing specifications for this site have been illustrated in Appendix B.
- 6.9 It may be appropriate on some sites to use temporary site offices, hoardings and lower level barrier protection as components of the tree protection barriers. Details of the specific protection barriers for the site can be provided should the application be approved, as part of a site specific Arboricultural Method Statement for a Reserved Matters application and in accordance with the guidance contained within BS5837.

Protection outside the exclusion zone

- 6.10 Once the areas around trees have been protected by the barriers, any works on the remaining site area may be commenced providing activities do not impinge on protected areas.
- 6.11 All weather notices should be attached to the protective fencing to indicate that construction activities are not permitted within the fenced area. The area within the protective barriers will then remain a construction exclusion zone throughout the duration of the construction phase of the proposed development. Protection fencing signs can be provided upon request.
- 6.12 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles where they are in close proximity to retained trees.
- 6.13 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree stem. No concrete should be mixed within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.
- 6.14 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.
- 6.15 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.
- 6.16 Any trees which need to be felled adjacent to or are present within a continuous canopy of retained trees, must be removed with due care (it may be necessary to remove such trees in sections).

Protection of Trees Close to the Site

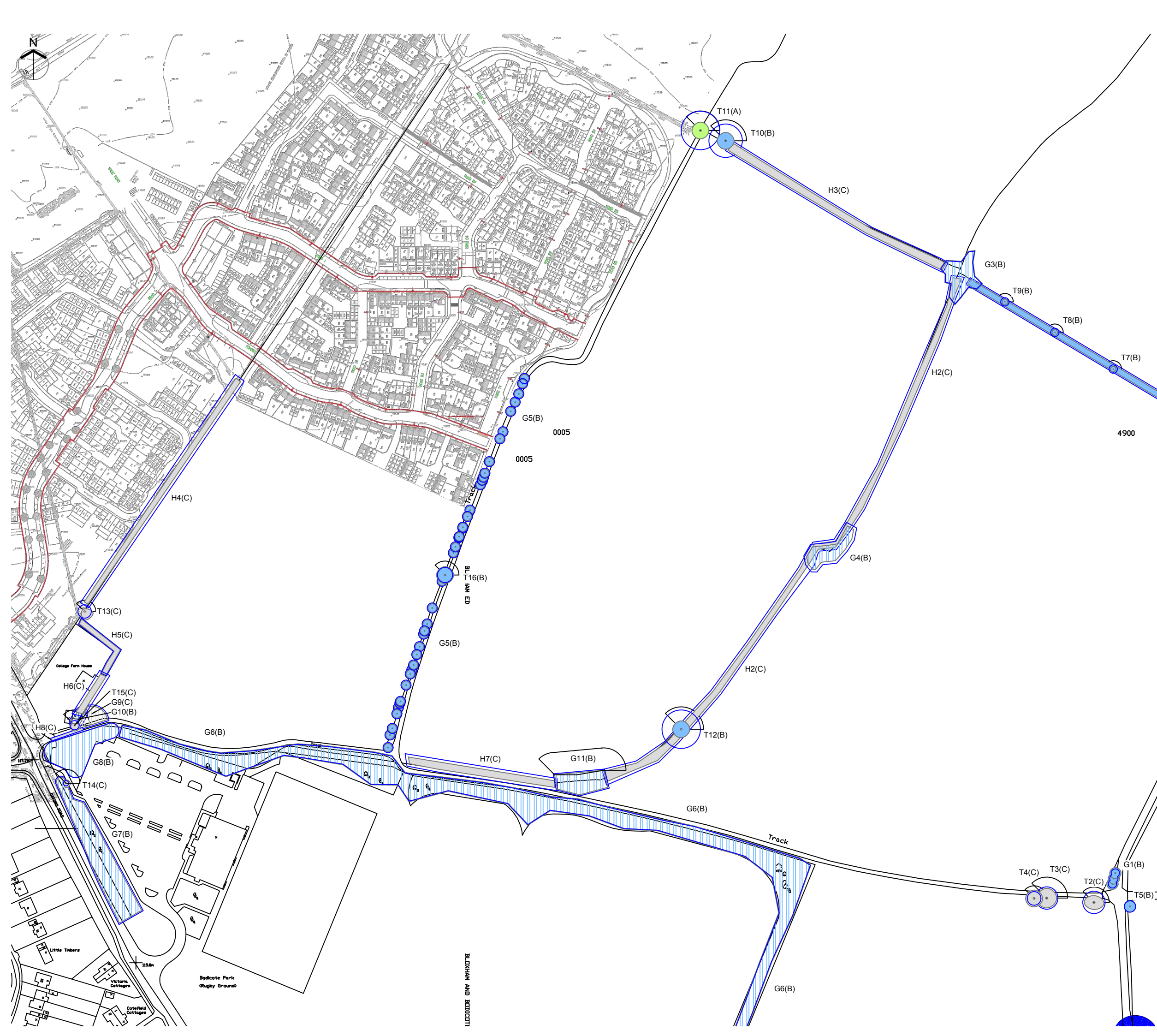
- 6.17 A number of trees were located on the boundaries of the site and therefore the root protection area and crown spread of these trees will need to be protected in the same way as all the retained trees within the site. All trees located outside the boundaries of the assessment site yet within close proximity to works should be adequately protected during the course of the development by barriers or ground protection around the calculated root protection area.
- 6.18 Any trees which are to be retained and whose Root Protection Areas may be affected by the development should be monitored, during and after construction, to identify any alterations in quality with time and to assess and undertake any remedial works required as a result.

Protection for Aerial Parts of Retained Trees









- 6.19 Where it is deemed necessary to operate wide or tall plant within close proximity to trees it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obstructive branches as any such equipment would have potential to cause damage to parts of the crown material, i.e. low branches and limbs, of retained trees within the protective barriers. This is termed as ~~access~~ access facilitation pruning within BS5837. Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturalist.
- 6.20 A pre-commencement site meeting with contractors who are responsible for operating machinery is advised 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.
- 6.21 In the event of having caused any branch or limb damage to retained trees it is strongly recommended that suitable tree surgery be carried out, in accordance with British Standard 3998:2010 and in agreement with the Local Planning Authority prior to correcting the damage, upon completion of development.

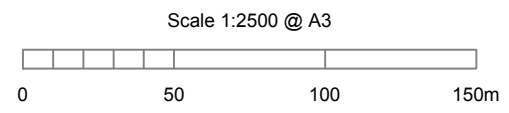
7.0 CONCLUSION

- 7.1 The Parameters Plan has, through its design has allowed for the retention of a large proportion of the existing tree cover and has retained much of this tree cover within proposed public open space or landscape buffer strips both centrally and around the extents of the site. This includes the retention of all high quality trees including T1, the only veteran tree recorded on site.
- 7.2 Some minor tree and hedgerow loss will inevitably be required to facilitate the change in land use from arable to residential but the trees and hedgerow loss shown would not be considered significant and could be mitigated for through new tree and hedgerow planting.
- 7.3 The Parameters Plan has illustrated extensive areas of new tree and hedgerow which would more than adequately mitigate for the small number of trees and several short sections of hedgerow being removed. As well as increase tree cover on the site and provide trees of high quality for future generations.
- 7.4 Overall, the development would not be considered as having an adverse effect on the local tree population as losses would be minimal. The development would provide extensive areas of new broadleaved tree planting which would improve and enhance the current tree population thereby ensuring continuation of tree cover in the local landscape for the future.



KEY

-  Category A - Trees / Groups of High Quality (BS 5837:2012)
-  Category B - Trees / Groups of Moderate Quality (BS 5837:2012)
-  Category C - Trees / Groups of Low Quality (BS 5837:2012)
-  Hedgerow (Colour indicates BS5837:2012 Category)
-  Root Protection Area (The RPA has been altered where appropriate to reflect underground constraints)
-  Veteran Tree Root Protection Area (in accordance with Ancient and Other Veteran Trees: Further Guidance on Management)
-  Individual / Group Number and BS5837:2012 Category
-  Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)



NOTES

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TREE SURVEY PLAN

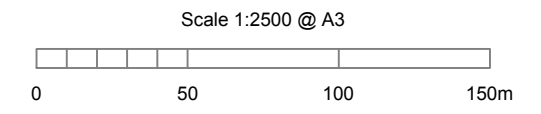
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- T1 (A) / T61 (A) Individual / Group Number and BS5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)



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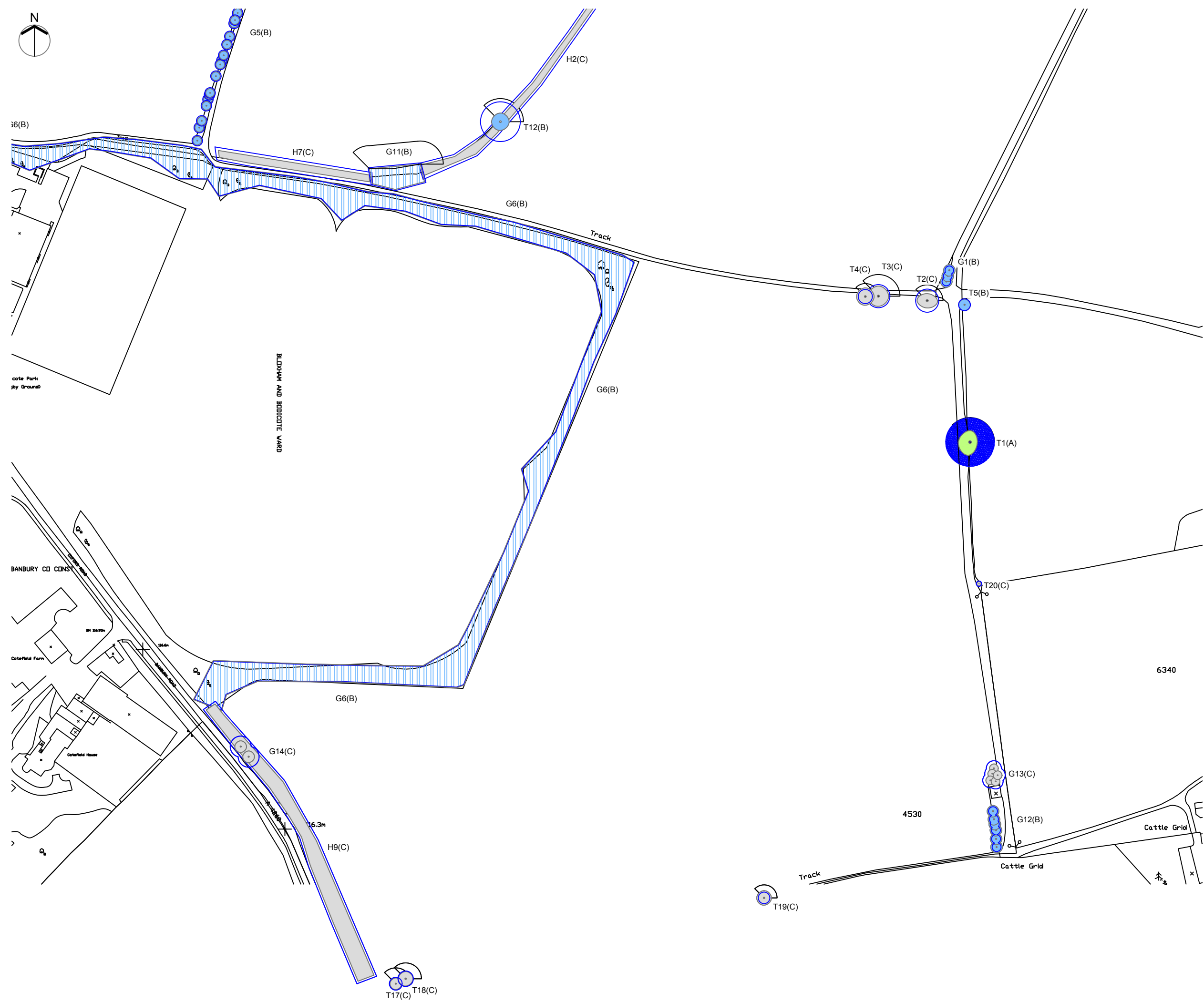
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
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KEY

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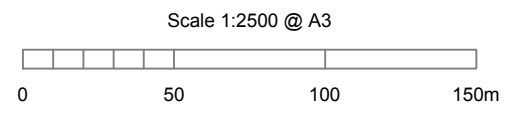
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KEY

- Tree/Group to be Retained
- Tree/Group to be removed to facilitate the proposals
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
- Root Protection Area (Shown for retained trees only)
- Veteran Tree Root Protection Area (in accordance with Ancient and Other Veteran Trees: Further Guidance on Management)
- T1 (A)
TG1 (A) Individual / Group Number and BS Category
- Indicative Shade Pattern (where appropriate)



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TREE RETENTION PLAN

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May 2019

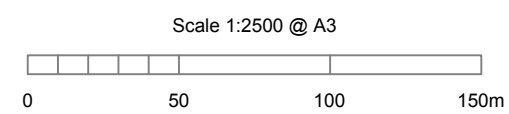
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KEY

- Tree/Group to be Retained
- Tree/Group to be removed to facilitate the proposals
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- Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
- Root Protection Area (Shown for retained trees only)
- Veteran Tree Root Protection Area (in accordance with Ancient and Other Veteran Trees: Further Guidance on Management)
- Individual / Group Number and BS Category
- Indicative Shade Pattern (where appropriate)



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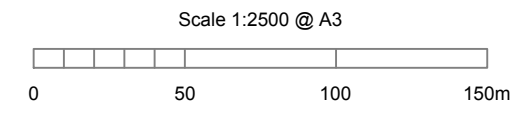
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- KEY**
- Tree/Group to be Retained
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Appendix A - Tree Schedule

Measurements	Age Class	Overall Condition	Root Protection Area (RPA)
Height - Measured using a digital laser clinometer (m)	YNG: Young trees up to ten years of age	G - Good: Trees with only a few minor defects and in good overall health needing little, if any attention	" The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). " The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected. " Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	SM: Semi-mature trees less than 1/3 life expectancy	F - Fair: Trees with minor rectifiable defects or in the early stages of stress from which it may recover	
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	EM: Early mature trees 1/3 - 2/3 life expectancy	P - Poor: Trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term	
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	M: Mature trees over 2/3 life expectancy	D - Dead: This could also apply to trees in an advanced state of decline and unlikely to recover	
	OM: Over mature declining or moribund trees of low vigour	The BS category particular consideration has been given to the following " The health, vigour and condition of each tree " The presence of any structural defects in each tree/group and its future life expectancy " The size and form of each tree/group and its suitability within the context of a proposed development " The location of each tree relative to existing site features e.g. its screening value or landscape features " Age class and life expectancy	
	V: Veteran tree possessing certain attributes relating to veteran trees		

Structural Condition
The following is an example of considerations when inspecting structural condition: <ul style="list-style-type: none"> • The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay • Soil cracks and any heaving of the soil around the base • Any abrupt bends in branches and limbs resulting from past pruning • Tight or weak Δ/qshaped forks and co-dominant stems • Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994) • Cavities as a result of limb losses or past pruning • Broken branches or storm damage • Damage to roots • Basal, stem or branch / limb cavities

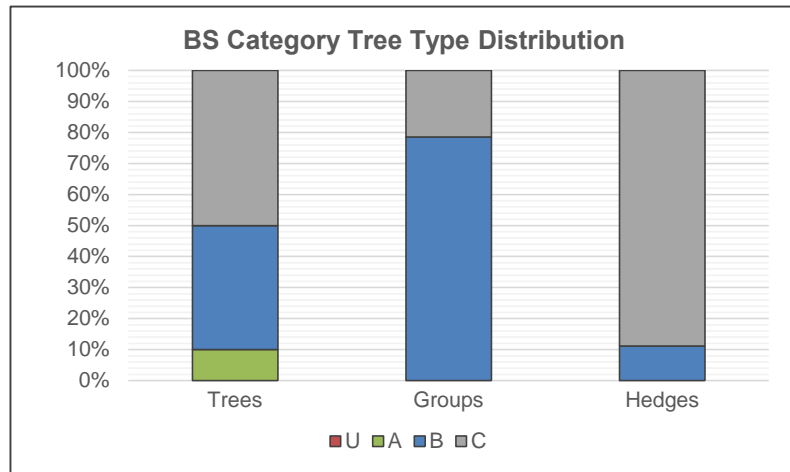
Quality Assessment of BS Category
Category U - Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
Category C - Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.
Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value

Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U		0		0
Category A	T1, T11	2		0
Category B	T5, T6, T7, T8, T9, T10, T12, T16	8	G1, G2, G3, G4, G5, G6, G7, G8, G10, G11, G12, H1	12
Category C	T2, T3, T4, T13, T14, T15, T17, T18, T19, T20	10	G9, G13, G14, H2, H3, H4, H5, H6, H7, H8, H9	11
	Total	20	Total	23

BS Category Tree Type Distribution displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.

Age Distribution of Tree Stock shows the number of trees in each age category across the tree stock allowing assessment of their longevity to be made.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	English Oak Quercus robur	17	1400	N - 8 S - 9 E - 5 W - 8	V	F	Delaminating bark Branch stubs and several broken branches visible within the crown Past pruning wounds Crossing and rubbing branches also noted Epicormic growth evident within the crown Major and minor dead wood evident in the crown Small elm specimen located in close proximity to the south side of the tree Storm damage evident in crown, which would be typically expected of a specimen of such age in this growing environment	887	16.8	A (iii)
T2	Ash Fraxinus excelsior	11	320 390 440	N - 5 S - 5 E - 7 W - 7	M	F	Branch socket cavities observed from past branch detachments Minor dead wood evident in the crown Multi stemmed form from the base having possibly been coppiced in the past	203	8.0	C (i)
T3	Ash Fraxinus excelsior	15	250 330 340 310 240	7	EM	F	Branch socket cavities observed from past branch detachments Minor dead wood evident in the crown Multi stemmed form from the base having possibly been coppiced in the past	199	8.0	C (i)
T4	Ash Fraxinus excelsior	9	410	6	EM	F	Basal suckers present Branch socket cavities observed from past branch detachments Minor dead wood evident in the crown Single stemmed form from the base with multiple basal suckers having possibly been coppiced in the past Cultivated land adjacent to tree within 1.5m either side, including a vehicular access track	76	4.9	C (i)
T5	Wild Cherry Prunus avium	8	up to 340	4	EM	G	No major defects were noted Multi-leadered form	52	4.1	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T6	Field Maple Acer campestre	6	up to 250	2	EM	G	No major defects were noted Typical crown form	28	3.0	B (i)
T7	Field Maple Acer campestre	6	up to 250	2	EM	G	No major defects were noted Typical crown form	28	3.0	B (i)
T8	Field Maple Acer campestre	6	up to 250	2	EM	G	No major defects were noted Typical crown form	28	3.0	B (i)
T9	Field Maple Acer campestre	6	up to 250	2	EM	G	No major defects were noted Typical crown form	28	3.0	B (i)
T10	English Oak Quercus robur	15	est 1000	6	M	F	Branch socket cavities observed from branch detachment points Epicormic growth Retrenchment Branch stubs and several broken branches evident Major and minor dead wood evident in the crown	452	12.0	B (ii)
T11	English Oak Quercus robur	14	est 1150	6	M	G	Major and minor dead wood evident in the crown No other major defects were noted Epicormic growth Branch stubs Pruning wounds	598	13.8	A (i)
T12	English Oak Quercus robur	16	1150	6	OM	G	Branch socket cavities observed from branch detachment points Branch stubs and several broken branches evident Major and minor dead wood evident in the crown Several fruiting bodies present of <i>Laetiporus sulphureus</i> Chicken of the wood/Sulphur Polypore Delaminating bark Main leader felled at 12m	598	13.8	B (iii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T13	Sycamore Acer pseudoplatanus	8	est 400	N - 2 S - 6 E - 6 W - 2	M	P	Basal suckers present Limited future potential Foliage heavily affected by the leaf disease <i>Rhytisma acerinum</i> Tar Spot of Sycamore, although this is largely an aesthetic problem and often does not have a major impact on tree health Significant lean in the main stem off vertical, approximately 30 degrees to the south east, as a result the crown is asymmetrical Positioned off site within the adjoining development area	72	4.8	C (i)
T14	Silver Birch Betula pendula	10	160	N - 2 S - 3 E - 3 W - 1	EM	F	No major defects were noted	12	1.9	C (ii)
T15	Laburnum Laburnum anagyroides	11	120 110 170 90 120	N - 0 S - 4 E - 4 W - 2	M	F	Compacted ground at the base Etiolated form and leaning to the east Multi leadered form	35	3.3	C (ii)
T16	English Oak Quercus robur	10	450	6	EM	F	Flail damage Minor deadwood evident within the crown Epicormic growth Broken branches Branch stubs	92	5.4	B (i)
T17	Ash Fraxinus excelsior	11	est 370	4	EM	F	Basal suckers present Minor dead wood evident in the crown Single stemmed form with multiple basal growth present Cultivated land adjacent to tree within 1.5m either side, including a vehicular access track	62	4.4	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T18	Ash Fraxinus excelsior	11	est 440	5	EM	F	Branch socket cavities observed from past branch detachment points Minor dead wood evident in the crown Multi stemmed from base, possibly being previously coppiced Cultivated land adjacent to tree within 1.5m either side, including a vehicular access track	88	5.3	C (i)
T19	Ash Fraxinus excelsior	9	est 330	5	EM	F	Branch socket cavities observed from past branch detachment points Multi stemmed from base, possibly being previously coppiced Cultivated land adjacent to tree within 1.5m either side, including a vehicular access track Minor farm machinery damage to the lower stem	49	4.0	C (i)
T20	Field Maple Acer campestre	4	up to 150	1.5	SM	P	Mechanical damage at base up to 1m Included bark at the base of the union Tree in harsh conditions which has limited its growth potential Cultivated land adjacent to tree within 1.5m either side, including a vehicular access track	10	1.8	C (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Elder Sambucus nigra Wild Cherry Prunus avium Crab Apple Malus sylvestris Rowan Sorbus aucuparia	7	upto 250	4	EM	G	Small collection of mixed species semi mature broadleaves planted at the side of the farm track No major defects and all generally typically characteristic in form for their respective species	28	3.0	B (ii)
G2	Leyland Cypress x Cupressocyparis leylandii Elder Sambucus nigra Wild Cherry Prunus avium Red Oak Quercus rubra Sweet Chestnut Castanea sativa European Larch Larix decidua	10	upto 550	3	M	F	A mixed plantation group with leyland cypress forming the outermost edges around a broadleaved species centre Visible were some minor dead wood evident in the crowns and several of the larger cypress were multi leaedered in form Generally there were no major defects noted Fairly prominent feature within the landscape by virtue of the evergreen element and elevated position In terms of arboricultural quality, the plantation was deemed to be moderate	137	6.6	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G3	Wild Cherry Prunus avium English Elm Ulmus procera Turkey Oak Quercus cerris	9	upto 300	4	EM	G	A small group of early mature trees at the junction of hedgerows All examples were relatively characteristic for their respective species and did not show any major defects Low crown forms	41	3.6	B (i)
G4	Norway Spruce Picea abies Ash Fraxinus excelsior Elder Sambucus nigra Hawthorn Crataegus monogyna Wild Cherry Prunus avium Turkey Oak Quercus cerris	10	upto 490	4	EM	G	A collection of individual specimens centrally positioned along the hedgerow dividing two large field parcels Each specimen was typically characteristic for its respective species although due to close planting distances the forms were more etiolated than spreading Those specimens on the outer edges formed more lateral branch developments Noted throughout were branch stubs from localised storm damage effects Generally, due to the absence of management crowns had formed low to the ground Minor and major dead wood visible within crowns A small number of examples were dead and leaning Generally major defects were noted in those healthy examples A reasonably notable local landscape feature	109	5.9	B (ii)
G5	Ash Fraxinus excelsior	7	upto 300	3	EM	F	A linear group of individual ash specimens and an occasional whitebeam Many possessed basal sucker growth as would be typical Minor dead wood evident in the crown and overall no major defects were noted Some of the specimens exhibited sparse crowns	41	3.6	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G6	Ash Fraxinus excelsior Blackthorn Prunus spinosa Common Lime Tilia x europaea Elder Sambucus nigra English Oak Quercus robur European Larch Larix decidua Field Maple Acer campestre Goat Willow Salix caprea Norway Maple Acer platanoides Silver Birch Betula pendula Sycamore Acer pseudoplatanus Alder Alnus glutinosa Aspen Populus tremula English Elm Ulmus procera	14	avg 300	4	EM	F	<p>Large boundary group situated off site to the south within the grounds of the adjacent Rugby Club and Health Club Belt of trees extended along the entire length of the boundary of the site with the two club grounds Separated by a public right of way Planting had been closely spaced which had created a well-established and effective multi-species screen / buffer Noted throughout was evidence of minor bark wounds, basal suckers, branch socket cavities, minor branch stubs and occasional minor broken branches, major and minor dead wood, multi leaved forms, some past pruning wounds noted also where branches had been removed to clear the public footpath Generally the planting was in good condition and developing well</p> <p>Additional species present throughout the group: Hazel Corylus avellana Holly Ilex aquifolium Hornbeam Carpinus betulus Swedish Whitebeam Sorbus intermedia Sweet Chestnut Castanea sativa Turkey Oak Quercus cerris</p>	41	3.6	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G7	Blackthorn Prunus spinosa Common Lime Tilia x europaea Field Maple Acer campestre Hawthorn Crataegus monogyna Silver Birch Betula pendula Alder Alnus glutinosa Aspen Populus tremula Rowan Sorbus aucuparia	15	upto 320	3	EM,M	G	Roadside position and also forms a belt of planting around car park Individual trees are densely spaced and stems are overcrowded Understory of hawthorn, blackthorn and field maple Would need thinning of overall numbers to improve individual tree development and future management Average stem diameter 180mm Bark wounds noted of a minor nature from mechanical damage Basal suckers present on some examples Broken branches evident of a minor nature Characteristic for species represented Etiolated forms due to close spacing with little lateral branch development other than for those specimens on the outer edges Interlocking crowns Minor dead wood evident in the crown Multi stemmed and single stem forms	46	3.8	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G8	Beech Fagus sylvatica Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Norway Maple Acer platanoides Silver Birch Betula pendula Wild Cherry Prunus avium Alder Alnus glutinosa Aspen Populus tremula Hazel Corylus avellana Bird Cherry Prunus padus	16	upto 340	4	EM,M	G	Group forms the planting around car park and is an extension to TG6 Dense planting with approximately 1.5m intervals between individual stems Average stem diameter of 160mm Broken branches evident of a minor nature Characteristic for species represented Crossing and rubbing branches Etiolated forms due to close spacing with little lateral branch development other than for those specimens on the outer edges Interlocking crowns Minor dead wood evident in the crown Multi stemmed and single stem forms No major defects were noted	52	4.1	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G9	Ash Fraxinus excelsior Blackthorn Prunus spinosa Field Maple Acer campestre Lilac Syringa vulgaris	14	6x 170	4	M	F	Characteristic for species Dense ivy cover on main stem Dense undergrowth at the base Multi stemmed from base Stem measurement given for field maple	78	5.0	C (ii)
G10	Lawson Cypress Chamaecyparis lawsoniana	14	upto 380	3	M	G	Situated offsite in garden two specimens other 160mm dbh Single stem forms Base obscured Even crown form characteristic for species Interlocking crowns No major defects were noted	65	4.6	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G11	Common Larch Larix decidua Sycamore Acer pseudoplatanus	16	570	6	M	F	Basal suckers Interlocking crowns Etiolated forms Minor deadwood present within the crown Single larch have developed with suppressed, poor form	147	6.8	B (ii)
G12	English Oak Quercus robur Norway Maple Acer platanoides Hornbeam Carpinus betulus Rowan Sorbus aucuparia Silver Maple Acer saccharinum Swedish Whitebeam Sorbus intermedia	8	upto 260	4	SM	F	Small collection of mixed species semi mature broadleaves planted at the side of the farm track, closest to the farm buildings No major defects and all generally typically characteristic in form for their respective species	31	3.1	B (i)
G13	Leyland Cypress x Cupressocyparis leylandii Field Maple Acer campestre Wild Cherry Prunus avium	12	upto 430	3	M	F	Collection of large sized conifer with a small number of mixed semi mature broadleaved species amongst the planting Several of the conifer specimens have leaning stems Broadleaved examples are generally small and suppressed in form due to the presence of the more dominant conifer Purpose of the planting is likely to have been for screening purposes and possible wind abatement to protect farm shed adjacent	84	5.2	C (i)
G14	Sycamore Acer pseudoplatanus	9	est 350 350 350	4	EM	F	Multi stemmed from base Situated within the hedgerow adjacent to the A4260, Oxford Road No major defects were noted Typically characteristic for the species	166	7.3	C (i)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
HEDGEROWS										
H1	Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Hawthorn Crataegus monogyna Wild Cherry Prunus avium	3	est 90 90 90	1	M	G	Maintained hedgerow No major defects were noted Four tree standards (field maples) along its length	11	1.9	B (i)
H2	Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	2	upto 170	0.5	EM	G	Maintained hedgerow No major defects were noted	13	2.0	C (ii)
H3	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	3	70 80 90	0.5	EM	F	Maintained hedgerow Multi leadered forms from base Approximately 10 old large coppice stools present within the hedge up to 600mm diameter, 4m high and 1m spread	9	1.7	C (i)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H4	Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Sycamore Acer pseudoplatanus English Elm Ulmus procera	1.5	upto 200	0.5	EM	F	Maintained hedgerow No major defects were noted Signs of hedge laying	18	2.4	C (i)
H5	Field Maple Acer campestre Privet Ligustrum ovalifolium	2	est 50 50 50	0.5	EM	F	Maintained hedgerow No major defects were noted	3	1.0	C (i)
H6	Leyland Cypress x Cupressocyparis leylandii	4	upto 200	0.5	EM	F	Maintained hedgerow around the property boundary Topped form	18	2.4	C (i)
H7	Ash Fraxinus excelsior Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	3	est 250	1.5	M	F	This hedgerow is predominantly comprised of Elder bush forms Limited future potential as many are sparse in growth and lacking structure Multi leaded forms Generally considered of low arboricultural value	28	3.0	C (i)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H8	Lawson Cypress Chamaecyparis lawsoniana Holly Ilex aquifolium	3	upto 80	1	M	G	Maintained hedgerow No major defects were noted	3	1.0	C (ii)
H9	Ash Fraxinus excelsior Elder Sambucus nigra Field Maple Acer campestre Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus English Elm Ulmus procera	3	est 100 110 130	1	EM	F	Maintained hedgerow along the length of the boundary with the A4260, Oxford Road Multi leadered forms from base No major defects were noted Some standards tree forms of early mature age, most likely self-seeded origin, present along the length	18	2.4	C (i)

Appendix B - Veteran Tree Schedule

Key	Dimensions and Habitat Features		Associated Wildlife	Aesthetics
Tree considered Veteran	DBH (mm) - Stem diameter measured at 1.5m above ground level in mm	Major trunk cavities - Cavity to exceed 30% of stem diameter or to be progressively developing	Crevices sheltered from rainfall Dry, potential invertebrate habitat	An old look or Aesthetic value - Striking form or particularly gnarled
Tree considered Future Veteran	Large girth for species - as described by the Veteran Tree Initiative	Large quantities of dead wood in canopy - More than 50% of crown dead or dying back	Evidence of independent wildlife species - Droppings, nests, pellets	Cultural/historic value - Parkland tree, field or road marker
		Physical damage to trunk - Often as a result of storm damage	Fungi - Polypores or Basidiomycetes on or around tree	Prominent Position - Visually prominent in its landscape
		Decay Holes - Branch socket cavities on limbs or main stem	Epiphytes or Hemiparasites - lichen, liverworts, ivy, mistletoe	
		Epicormic Growth - Strong vigorous epicormic growth present about the tree		
		Bark Loss - Bark missing from main stem in large quantities		
		Sap Runs - Either from cracks in bark or cavities		

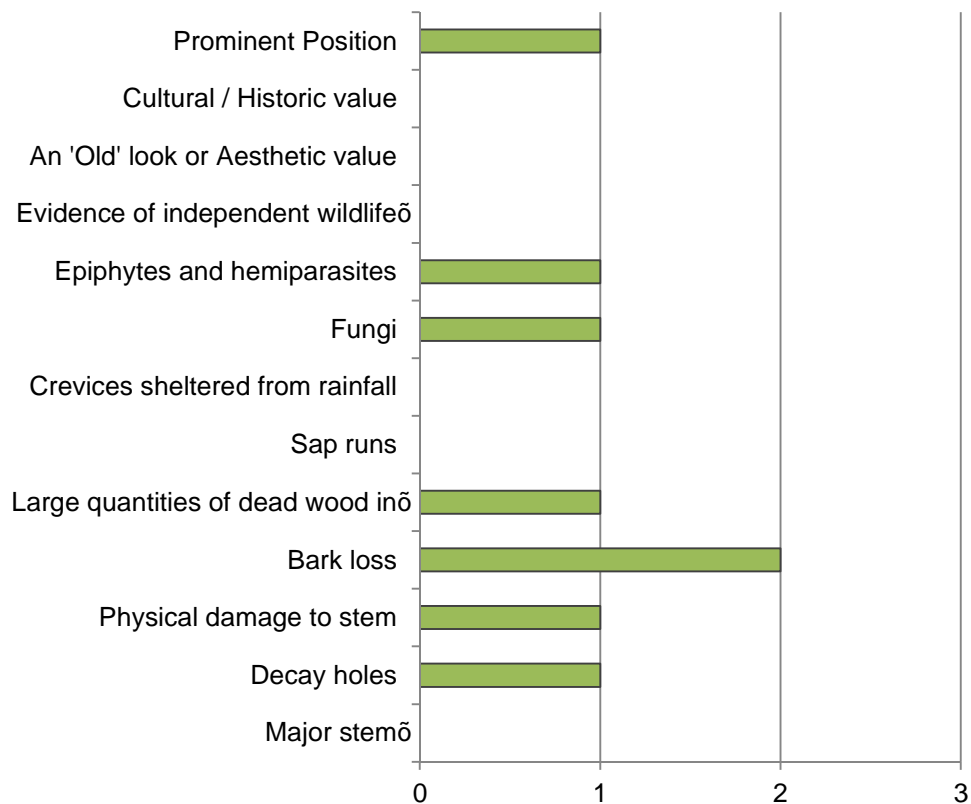
This document should be read in conjunction with the Arboricultural Assessment. The National Planning Policy Framework, a key government policy document, stresses the importance of Ancient and Veteran trees. From an ecological perspective veteran trees provide a rare and very specialist niche habitat and therefore preservation of this habitat is considered highly important. It would therefore be recommended that a detailed assesment be undertaken of the veteran habitat and this schedule should only be used as a guide to the presence of veteran trees on the site.

Distribution of Habitat Features - Displays the total of each habitat feature present in the surveyed tree cover. The proportion of trees with these features can be used to determine the condition and risks to the veteran tree stock.

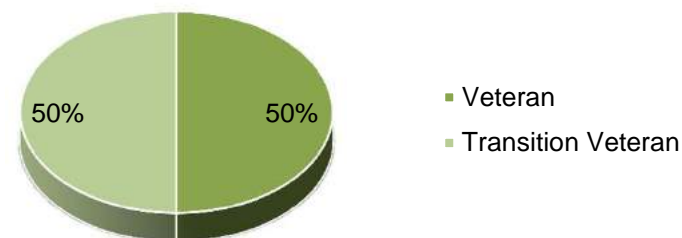
Veteran Population - Provides the mix of Veteran/Future Veteran and non-veteran specimens across the surveyed tree stock.

Species Distribution - Shows the proportion of Veteran and Future Veterans for each species found during the assessment.

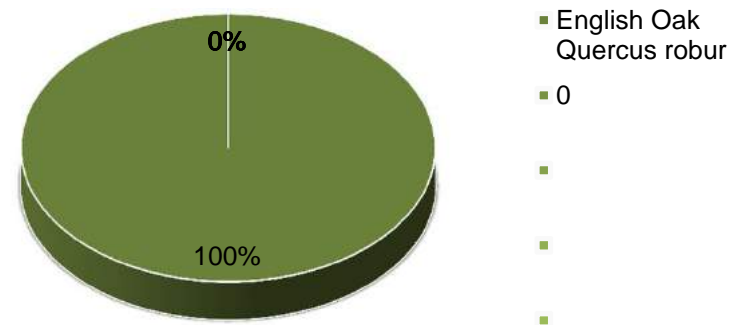
Distribution of Habitat Features



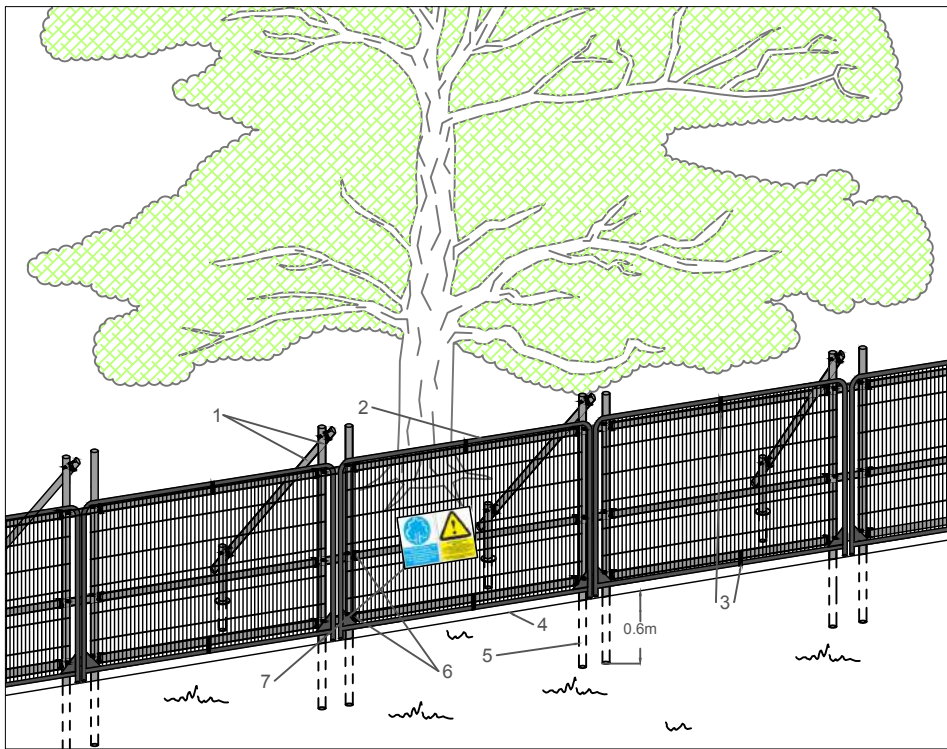
Veteran Population



Species Distribution



Identification		Dimensions				Habitat Features							Associated Wildlife				Aesthetics		
Tree No	Species	Large girth for species	Girth (cm)	Measurement height (m)	Form	Major stem cavities / hollowing	Decay holes	Physical damage to stem	Bark loss	Epicormic Growth	Large quantities of dead wood in canopy	Sap runs	Crevices sheltered from rainfall	Fungi	Epiphytes and hemiparasites	Evidence of independent wildlife species	An 'Old' look or Aesthetic value	Cultural / Historic value	Prominent Position
T1	English Oak Quercus robur	Yes	439.8	1.5	M		✓	✓	✓		✓				✓				✓
T12	English Oak Quercus robur	Yes	361.3	1.5	M				✓					✓					



Specification for High Intensity Protection Barrier

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs



Specification for Low Intensity Protection Barrier

1. Stabiliser strut with base plate secured with ground pins
2. Feet blocks secured with ground pins
3. Construction Exclusion Zone signs

NOTES

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APPENDIX C PROTECTIVE FENCING SPECIFICATION

CAD file: S:\Arb resources\Basic Templates\Tree Protection\Appendix B - Protective Fencing A4.dwg