St Modwens

Watling Street, Cannock

Arboricultural Assessment

March 2024

FPCR Environment and Design Ltd
Registered Office: Lockington Hall, Lockington, Derby DE74 2RH
Company No. 07128076. [T] 01509 672772 [F] 01509 674565 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

Rev	Issue Status	Prepared / Date	Approved/Date
-	Draft	HR / 11.11.22	TCB / 22.11.22
-	Final	HR / 29.11.22	TCB / 29.11.22
A	Final	HR / 23.12.22	TCB / 23.12.22
B	Final	HR / 07.03.24	TCB / 07.03.24
C	Final	HR 13.03.24	TCB / 14.03.24

CONTENTS

TABLES

PLANS

APPENDICES

1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of St Modwens to present the findings of an Arboricultural Assessment and survey of trees located at Watling Street, Cannock (hereafter referred to as the site), OS Grid Ref SK 022 065.

1.2 The survey was carried out on 18th November 2022.

Scope of Assessment

1.3 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.

1.4 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.

1.5 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.

1.6 This report has been produced to accompany a planning application for a commercial development and has included an assessment of any impact 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

1.7 The site is located south side of the A5 between Cannock and Lichfield, and comprised several field parcels of agricultural land. The Watling Street Business Park adjacent to the A5, Watling Street, forms the northern boundary, further field parcels form the eastern and southern boundaries with the Cannock Extension Canal forming the western boundary

Planning Policy

National Planning Policy Framework September 2023

1.8 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 December 2023.

1.9 Paragraphs 10 and 11 of the NPPF state that there is a presumption in favour of sustainable development and states that for decision making, the LPA should be '*c) approving development proposals that accord with an up-to-date development plan without delay'.*

1.10 In relation to arboriculture, the NPPF states that:

- *136 'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined (footnote 53), that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users'. (footnote 53: unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate)*
- *186 (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 (footnote 67) and a suitable compensation strategy exists'.*

  and provides specific guidance that:

- *186 (d) 'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.*

1.11 With reference to paragraph 186 (c), examples of what is deemed to be *'wholly exceptional'* are included within Footnote 67 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

1.12 Local authorities have a Duty under the Town and Country Planning Act to create Tree Preservation Orders (TPO) in order to protect and preserve specific trees and woodlands that bring significant amenity benefit to a particular site or location. Under a TPO it is a criminal offence to cut down, top, lop, uproot or wilfully destroy a tree protected by that Order, or to cause or permit such actions, if carried out without the prior written consent of the acting LPA. Anyone found guilty of such an offence is liable and in serious cases, may result in prosecution and incur an unlimited fine.

1.13 The presence of any Tree Preservation Orders or Conservation Area designations that may affect the site has yet to be confirmed by Cannock Chase Council. Once this information has been received, the report will be updated accordingly. Before any tree works are undertaken confirmation of the presence of the statutory constraints should be sought from the Local Authority.

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 arboriculturist 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, hedgerows or woodland 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.
- 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.
- For the purposes of this assessment woodland is described as a habitat where 'trees are the dominant plant form. The individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy'[1]. Woodlands however, are not just formed of trees and generally include a great variety of other plants. These will include 'mosses, ferns and lichens, as well as small flowering herbs, grasses and shrubs'[2].

2.3 An assessment of individual trees within groups, hedgerows or woodland 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.

Ancient and Veteran Trees

2.4 Veteran trees and Ancient Woodland 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.

2.5 Veteran Trees and Ancient Woodlands are material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2021, which defines the terms ancient or veteran tree as:

'A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.'[3]

2.6 Various published methodologies are currently available which, due to the complexity and subjectivity of the process of defining and assessing these trees, often have conflicting definitions. This assessment, and the criteria used for defining ancient/veteran trees and the

[1] http://www.countrysideinfo.co.uk/woodland_manage/whatis.htm
[2] http://www.countrysideinfo.co.uk/woodland_manage/whatis.htm
[3] Ministry of Housing, Communities and Local Government. (2019). *National Planning Policy Framework.* London: Ministry of Housing, Communities and Local Government.

identification of attributable ancient/veteran features, has been based on a range of currently published guidance and resources.

BS5837 Categories

2.7 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).

2.8 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.

2.9 **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.

2.10 **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.

2.11 **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.

2.12 **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.

Site Plans

2.13 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. 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.

2.14 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 Tree Constraints and Root Protection Areas

2.15 Below ground constraints to future development are represented by tree roots and the soil environment in which they grow which needs to be protected if the tree is to be retained. Tree rooting systems are essential for the uptake of water and nutrients, serving the storage of carbohydrates for the future growth and function of the tree, and form structural anchorage and support for the stem and crown. The perceived rooting area of the tree; referred to as the root protection area (RPA) needs to be protected if the tree is to be retained.

2.16 if the tree is to be retained.

2.17 The RPA is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. The RPA has been calculated in accordance with Annex C, D and Section 4.6 of BS5837:2012 and requires suitable protection in order for the tree to be successfully incorporated into any future scheme. As such, the RPA of existing trees is an important material consideration when considering site constraints and planning development activities.

2.18 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. 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.

2.19 Whilst it is generally accepted that a tree's roots may extend far greater distances than the notional RPA, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients), with roots predominantly located in the upper 1,000 mm of the soil horizon; the RPA offers an accepted protective buffer from development.

2.20 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

2.21 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.

2.22 The statements made in this report regarding the assessed trees does not take into account the effects of extreme / adverse weather conditions, changes in land use prior to the site's development, unforeseen accidents or anti-social behaviours, 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.

2.23 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.

2.24 Hedgerows are identified as a Habitat of Principal Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The tree survey conducted, 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.

2.25 It may be necessary during detailed design to undertake further assessment and accurate positioning of woody species within tree groups and hedgerows to assist structural calculations for foundation design of structures in accordance with current building regulations. 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 24 individual trees, 15 groups of trees and 2 woodlands were surveyed as part of the Arboricultural Assessment. Trees were surveyed as individual trees and groups of trees where examples are clearly present as per the description. Refer to the Tree Survey Plan and Appendix A – Tree Schedule for full details of the trees included in this assessment. The table below summarises the trees assessed.

Tree Schedule

3.2 Appendix A presents details of any individual trees, groups, hedgerows and woodlands found during the assessment including heights, diameters at 1.5m from ground level, 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.

3.3 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.

3.4 Several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

Results Summary

Table 1: Summary of Trees by Retention Category

	Individual Trees	Total	Groups of Trees	Total
Category U - Unsuitable	T2	1		0
Category A (High Quality / Value)	T5, T6, T9, T11, T12, T13, T14, T16, T17, T18, T22, T23, T24	13	W2	1
Category B (Moderate Quality / Value	T7, T8, T10, T15, T19, T20	6	G2, G3, G4, G5, G6, G7, G8, G10, G11, G12, G13, W1	12
Category C (Low Quality / Value)	T1, T3, T4, T21	4	G1, G9	2

3.5 During the Arboricultural Assessment of the site thirteen trees, one group of trees and one woodland were considered to be high in quality and category A. Six individual trees, twelve groups and one woodland were recorded as moderate quality, category B. One tree was considered unsuitable for retention, category U, and the remaining trees or groups of trees low in quality and retention category C.

3.6 The central field parcel was surrounded by groups G1, G2, G3 and G12. G1 was the lowest quality group, assessed as retention category C, formed mainly by elder *Sambucus nigra* and hawthorn *Crataegus monogyna* with a larger English oak tree located in the northern corner of

the group adjacent to the fence line. G2, G3 and G12 had moderate arboricultural quality, retention category B, comprising large, mature oak trees along with common lime *Tilia x europaea* and silver birch *Betula pendula*, with smaller forms of blackthorn *Prunus spinosa*, goat willow *Salix caprea*, hawthorn, hazel *Corylus avellana* and holly *Ilex aquifolium* forming the understory. For all of the groups the ground had been cultivated close to the stems, there were pruning wounds noted on some stems and the crowns had become interlocked in places.

3.7 Within G2 was T1, a twin stemmed mature English oak which exhibited poor form with limited future potential. A 'hazard beam' formation was present on one of the branches and there was heartwood exposed in minor bark wounds on the stem. T1 had therefore been assessed as retention category C for its reduced arboricultural quality and life expectancy.

3.8 To the south was the smallest field parcel with a common boundary of G3 along its northern edge. Groups G4, G5 and G6 formed the remaining western, southern and eastern boundaries respectively, with each group having similar form and species content to the above-mentioned groups and all assessed as having moderate quality, therefore retention category B.

3.9 Within G4 was T2, a twin stemmed mature ash *Fraxinus excelsior* in poor form with dieback of the crown observed and being in extensive decline. There were fungal brackets of *Inonotus hispidus* visible on some stems as well as woodpecker holes. T2 had been assessed as category U as it was deemed unsuitable for retention due to its condition. Within G6 were two English oak trees, T3 and T4, assessed as having reduced arboricultural quality due to their poor forms. Both trees had suffered minor bark wounds with broken branches, branch stubs and minor deadwood in the crown. T3 also had a heavily leaning stem.

3.10 In the westernmost part of the site adjacent to the canal were two woodland parcels of varying species composition, quality and condition. W1 comprised poor forms of blackthorn, crack willow *Salix fragilis*, English oak and goat willow all growing within a partially waterlogged area, which appeared boggy in places and would be likely to become waterlogged during heavy rainfall. Within the group trees had failed, there was storm damage present and some crowns had become sparse, possibly due to the poorer ground conditions. Due to the trees within the woodland having reduced arboricultural quality the woodland had been assessed as retention category C. W2, located outside the site, comprised English oak, goat willow and silver birch and were considered to have good forms and overall the woodland was subsequently of better quality and condition than W1, hence for its higher quality and future contribution to the local landscape W2 had been assessed as retention category A.

3.11 To the east were two further field parcels with the common boundary of G11 separating the two fields and G7 forming the southern boundary. Group G8 formed the eastern boundary with two further groups G9 and G10 forming the northern boundary. Group G9 was assessed as being the lowest quality group of the three as it appeared to be a group of self-seeded trees with interlocking and suppressed crowns and dense undergrowth at the bases. For its reduced arboricultural quality G9 had therefore been assessed as retention category C. The two other groups were again similar in condition, quality and composition to the majority of previous groups with English oak being the predominant species, and as before were therefore assessed as being retention category B for their moderate quality.

3.12 Within G7 was T5, and within G8 was T6, both large stemmed mature English oak with good forms and no major defects noted. Both trees had been assessed as retention category A for

their high arboricultural quality and considerable remaining life expectancy by virtue of the species.

3.13 The only tree located within a field parcel was T7, another large stemmed mature English oak, however there was evidence of fungal brackets observed on pruning wounds of *Laetiporus sulphureus* (Chicken of the Woods), and storm damage noted in the crown. Despite the presence of fungal brackets and storm damaged branch material T7 had would be regarded as having moderate quality and so retention category B.

3.14 Chicken of the woods *Laetiporus sulphureus* is a common and widespread fungus that affects a range of broadleaf and coniferous species, predominantly Oak Quercus spp. The fruit bodies consist of brackets and fronds with wavy margins. When fresh the bracket is bright, sulphur, yellow which later becomes a pale, white colour. In the early stages of decay, a yellow or red discoloration develops in the wood. In the later stages the wood develops to have a brown-cubical property, which cracks and is very brittle. This fungus is typically confined to the heartwood and enters the tree via old pruning wounds or broken branches. Eventually a large proportion may be degraded and leads to the increased likelihood of snapping and wind throw, usually on main limbs or along the stem of the tree.

Ancient and Veteran Trees

3.15 None of the assessed trees were considered as ancient or veteran trees in accordance with accepted methodologies and guidance.

4.0 ARBORICULTURAL IMPACT ASSESSMENT

4.1 The following paragraphs present a summary of the tree survey and 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 Site Layout as Proposed Option 3 and seeks to outline the relationship between the proposals and the existing trees and hedgerows. The drawing shows the proposals for a commercial development. An overlay of the layout has been incorporated in the Tree Retention Plan to assist in identifying the relationship and any potential conflicts between the proposals and the existing trees and hedgerows.

Table 2: Summary of Impact on Tree Stock

	Trees to be Retained	Total	Trees to be Removed in full or part	Total
Category U - Unsuitable		0	T2	1
Category A (High Quality / Value)	T5, T6, T9, T11, T12, T13, T14, T23, T24, W2	10	T16, T17, T18, T22	4
Category B (Moderate Quality / Value	T8, T10, T19, T20, G4, G5, G7, G8, G10, W1	10	T7, T15, G3, G6, G11, G12, G13	7
Category C (Low Quality / Value)	G1, G2	2	T3, T4, T21, G9	4

4.3 Having appraised the above plan for any arboricultural implications that may arise as a result of the layout it would appear that the layout is capable through its design to retain and incorporate a large proportion of the existing trees by virtue of their peripheral locations around the boundaries of the site.

4.4 Improvements to the existing access into the commercial units would require minor removals from G13. The large group of trees adjacent to the A5 would only require some minor facilitation pruning to the west of the existing junction for additional clearance.

4.5 To facilitate access into the site from the existing commercial units to the north, a portion of G9 would require removal. This was considered to be of low arboricultuiral value, category C group, due to its limited visibility and the condition of the trees that formed it.

4.6 T7 was a mature oak offset from the boundary to the south of G10. The mature tree could only considered to be a category B specimen due to the amount of dead wood and storm damage within its crown, along with the presence of Laetiporus sulphureus within its crown. This tree would require removal to facilitate the alignment of a road running through the site.

4.7 Further access through the site would require a portion of G11, a category B boundary group, along with individual trees T21 and T22. G11 was a dense boundary group consisting of oak, hawthorn and hazel graded as category B for its collective presence on the local landscape. Tree T21 was an oak considered to be in a poor physical condition due to its sparse thinning crown, leading it to be graded as category C. Whereas T22, was considered a high value category A specimen of oak due to its form and future life expectancy.

4.8 The alignment of the proposals and internal access throughout the site would directly impact upon trees T3, T4, T15, T16, T17, T18, G3, G6, along with a section of G2. Of these trees, the highest value specimens were T16, T17 and T18, category A specimens of oak located within the dense field boundary groups that formed the site.

4.9 For reasons discussed in paragraph 3.9, it would be recommended that remedial tree surgery to address the structural condition of T2 is carried out. This could potentially be in the form of monolithing the tree to provide habitat for the site and its local environment.

4.10 In summary, although four category A trees, seven category B trees and groups, and four category C trees and groups will require removal to facilitate the proposals, the majority of moderate to high quality trees located around the site can be retained and continue to develop.

This will go some way to softening the visual impact of the development on the local landscape and aid in its incorporation within the area.

Tree Management

4.11 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 arboriculturist or arborist to identify any potential public safety risks and to agree remedial works as required.

4.12 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.

4.13 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.

General Design Principles in Relation to Retained Trees

4.14 The routing of below ground services should also be considered with regard to the retained trees. As recommended by the guidance given in section 7.7 of BS5837 services, where possible, should not encroach within the Root Protection Areas of retained trees. If below-ground services are proposed within a Root Protection Area, modifications to the alignment of the service route may need to be made in order to minimise adverse effects on root stability and overall tree health.

4.15 Consideration may also need to be given to the potential for tree roots of newly planted trees and hedgerows to affect or compromise the future services. As far as feasible, it would be preferable that proposed services near both the existing and any new planting should be ducted for ease of access and maintenance and grouped together to minimise any future disturbance.

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. Furthermore, during the design process consultation should be made with the Local Planning Authority to obtain information on their tree strategy and

incorporate the planting proposals with any local policies and initiatives and/or Biodiversity Action Plans (BAP).

5.2 In line with the NPPF all schemes should aim to 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 deciding 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 Principal 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*
- *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 can, in the long term, provide a greater return on a schemes green investment and ensure trees remain healthy and grow to mature proportions. Healthy mature trees integrate well into the built environment; increase the maturity of the landscape; help

provide a natural green and leafy urban environment in which people would want to reside whilst also benefiting local wildlife.

5.9 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).

5.10 In a natural environment free from constraints to growth, it has been proven through research that root systems can extend up to three times the radius of the tree crown and although in an urban environment there is often insufficient space to accommodate the extent of the full potential for root growth, all efforts should be made to at least provide as much soil volume as possible. One researched method of calculating the minimum required soil volume is as follows:

Table 2: Example of calculating Soil Volume for New Tree Planting (Source: CIRIA C712 and Calculating Target Soil Volumes – Green Blue Urban)

Projected canopy area of mature tree (m) x depth 0.6m		
Calculation 1	Projected mature canopy diameter (metres)	= 3 (Diameter)
Calculation 2	Projected mature canopy area (square metres), (n x Radius^2)	= 7.1 (Area)
Calculation 3	Target soil volume (cubic metres), (Area x 0.6m)	= 4.24 (Volume)
	Target soil volume	= 4.24m^3

General Planting Recommendations

5.11 Wherever possible, following discussions with the developer and utility companies, common service trenches should be specified to minimise land take associated with underground service provision and facilitation access for future maintenance.

5.12 Tree planting should be avoided where they may obstruct overhead power lines or cables. Any underground apparatus should be ducted or otherwise protected at the time of construction to enable trees to be planted without resulting in future conflicts.

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 Arboriculturist.

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 Where it has been agreed, construction access may take place within the root protection area if suitable ground protection measures are in place. This may comprise single scaffold boards over a compressible layer laid onto a geo-textile membrane for pedestrian movements. Vehicular movements over the root protection area will require the calculation of expected loading and the use of proprietary protection systems.

6.6 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

6.7 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.

6.8 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.

6.9 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.

6.10 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

6.11 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.

6.12 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.

6.13 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.

6.14 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.

6.15 Fires on sites should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and the wind direction should be taken into account when determining its location, and it should be attended at all times until safe enough to leave.

6.16 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.

6.17 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

6.18 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.

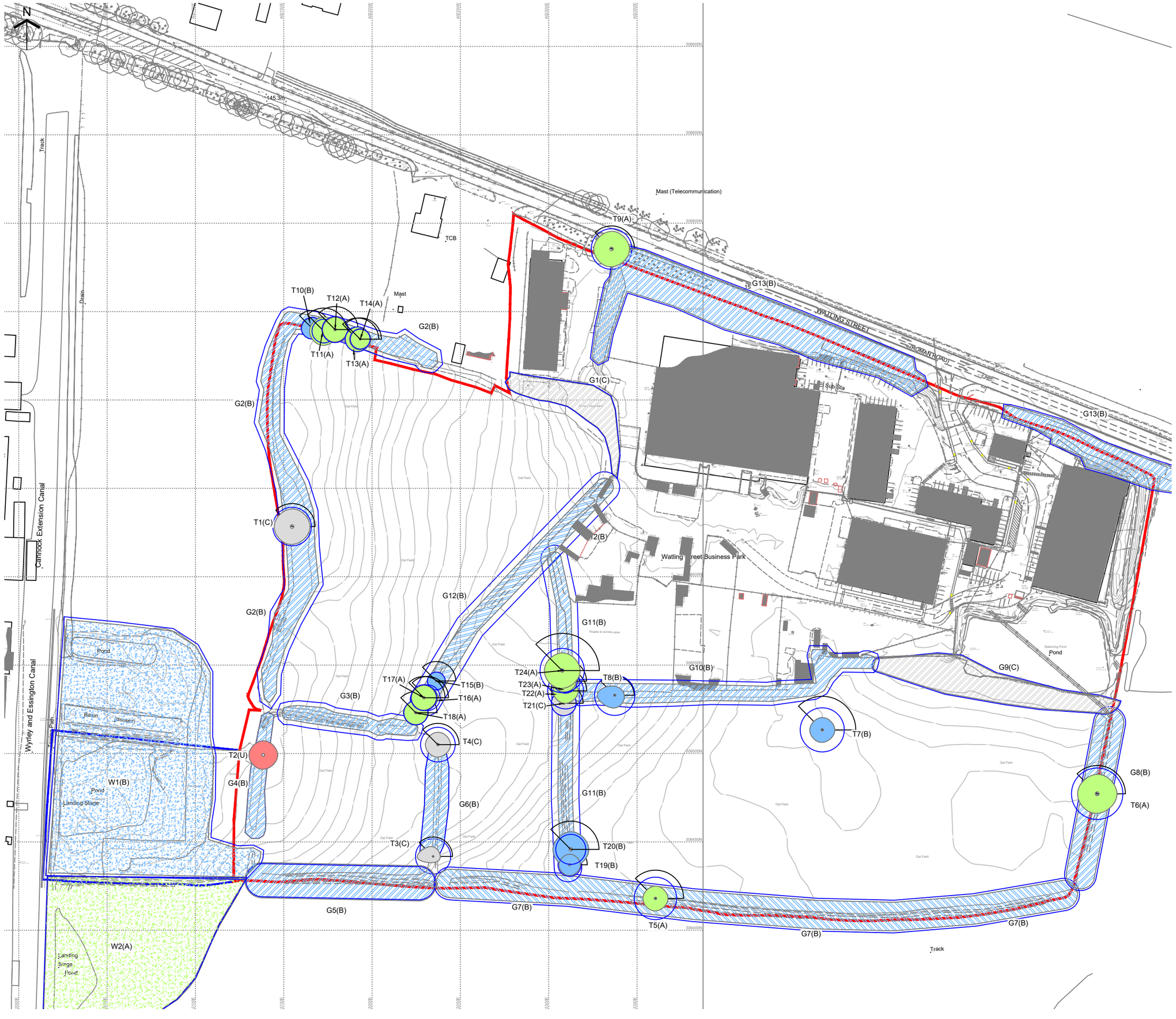
6.19 Any trees which are to be retained and whose Root Protection Areas may be affected by the development should be monitored, during and after construction, to identify any alterations in quality with time and to assess and undertake any remedial works required as a result.

Protection for Aerial Parts of Retained Trees

6.20 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 facilitation pruning’ within BS5837. Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturist.

6.21 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.

6.22 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.



KEY

- Category U - Trees / Groups Unsuitable for Retention (BS 5837:2012)
- 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)
- Root Protection Area (The RPA has been altered where appropriate to reflect underground constraints)
- T1 (A) G1 (A) — Individual / Group Number and BS5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
- Woodland (Colour Indicates BS5837:2012 Category)
- Site Boundary
- Other Land Under Control of the Applicant

Scale 1:2000 @ A3

0 50 100m

NOTES

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing has been produced in colour and is based on digital information in .dwg format, aerial images and/or GPS location where appropriate. A monochrome copy should not be relied upon. The exact position of individual trees or species included as part of a tree group, woodland or hedgerow 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.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the project Arboriculturalist should works commence 12 months after the date of this survey.

SOME TREES MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

rev	date	description	by
-	21.11.22	First Issue	HR
A	23.12.22	Updated Redline	HR
B	31.03.23	Updated Redline	JW

masterplanning
environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby DE74 2RH

t: 01509 672772
f: 01509 674565
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

client
St Modwens

project
Watling Street
Cannock

drawing title
TREE SURVEY PLAN

scale	drawn	date
1:2000 @ A3	HR	March 2023

drawing number
7578-T-01

rev
B

CAD file: J:\7500\7578\ARB\Plans\Tree Survey Plan Option 3 Area.dwg

N

KEY

- Tree/Group to be Retained
- Tree/Group proposed to be removed subject to relevant permissions
- Category U - Unsuitable for retention on arboricultural grounds
- Root Protection Area (Shown for retained trees only)
- T1 (A) G1 (A) — Individual / Group Number and BS Category
- T1 (A) G1 (A) — Individual / Group Number to be Removed and BS 5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
- Site Boundary
- Other Land Under Control of the Applicant

Scale 1:2000 @ A3

0 50 100m

NOTES

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing has been produced in colour and is based on digital information in .dwg format, aerial images and/or GPS location where appropriate. A monochrome copy should not be relied upon. The exact position of individual trees or species included as part of a tree group, woodland or hedgerow 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.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the project Arboriculturalist should works commence 12 months after the date of this survey.

SOME TREES MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

rev	date	description	by
-	22.11.22	First Issue	HR
A	23.12.22	Updated Redline	HR
B	31.03.23	Updated Layout	JW
C	07.03.24	Updated Layout	HR

fpcr

masterplanning
environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby DE74 2RH

t: 01509 672772
f: 01509 674565
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

client
St Modwens

project
Watling Street
Cannock

drawing title
TREE SURVEY PLAN

scale	drawn	date
1:2000 @ A3	HR	March 2024

drawing number
7578-T-02

rev
C

CAD file: J:\7500\7578\ARB\Plans\Tree Retention Plan 2022.dwg

Appendix A - Tree Schedule

Measurements	Age Classes	Quality Assessment of BS Category	ULE (relates to BS Category)
Height - Measured using a digital laser clinometer (m)	**YNG**: Establishing, typically with good vigour and fast growth rates and strong apical dominance; c. less than 1/3 life expectancy	**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.	<10 years
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	**SM:** Semi-mature trees less than 1/3 life expectancy	**Category A -** Trees of high quality with an estimated remaining life expectancy of at least 40 years.	40+ years
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	**EM:** Established, typically vigorous and increasing in apical height and lateral spread; 1/3 - 2/3 life expectancy. Offers landscape significance	**Category B -** Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	20-40 years
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	**M:** Fully established over 2/3 life expectancy, generally good vigour and achieving full height potential with crown still spreading	**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.	10-20 years
	OM: Fully mature, at the extremes of expected life expectancy, vigour decreasing, declining or moribund	Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value	
	V: biological, cultural or aesthetic value comprising niche saproxylic habitat. Individuals of large proportions (stem girth) in comparison to trees of the same species/surviving beyond the typical age range for their species.	**The BS category particular consideration has been given to the following:** • 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	

Structural Condition	Physiological Condition
Good - No significant structural defects	**Good -** No significant health problems
Fair - Structural defects that can be remediated	**Fair -** Symptoms of ill-health that can be remediated
Poor - Significant defects beyond remediation, present a risk of failure in the foreseeable future	**Poor -** Significant ill-health. Unlikely the tree will recover in the long term
Dead - Dead tree with structural integrity of tree severely compromised	**Advanced Decline / Dead -** Advanced state of decline and unlikely to recover or Dead

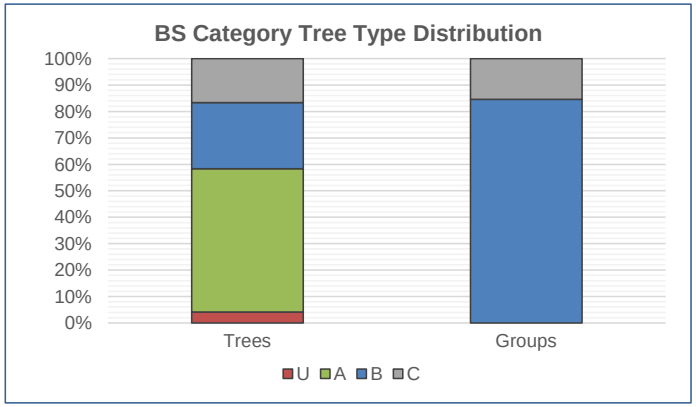
Root Protection Area (RPA)
• The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). • The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully 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.

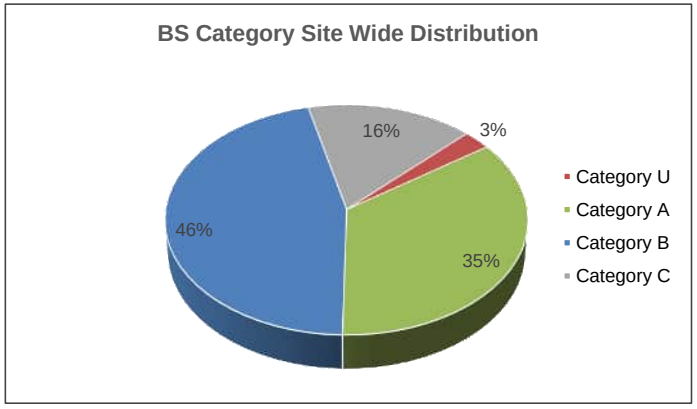
Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U	T2	1		0
Category A	T5, T6, T9, T11, T12, T13, T14, T16, T17, T18, T22, T23, T24	13	W2	1
Category B	T7, T8, T10, T15, T19, T20	6	G2, G3, G4, G5, G6, G7, G8, G10, G11, G12, G13, W1	12
Category C	T1, T3, T4, T21	4	G1, G9	2
	Total	24	**Total**	15

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

BS Category Site Wide Distribution shows the proportion of trees assessed in each category across the whole site which allows an interpretation of the site's overall quality.





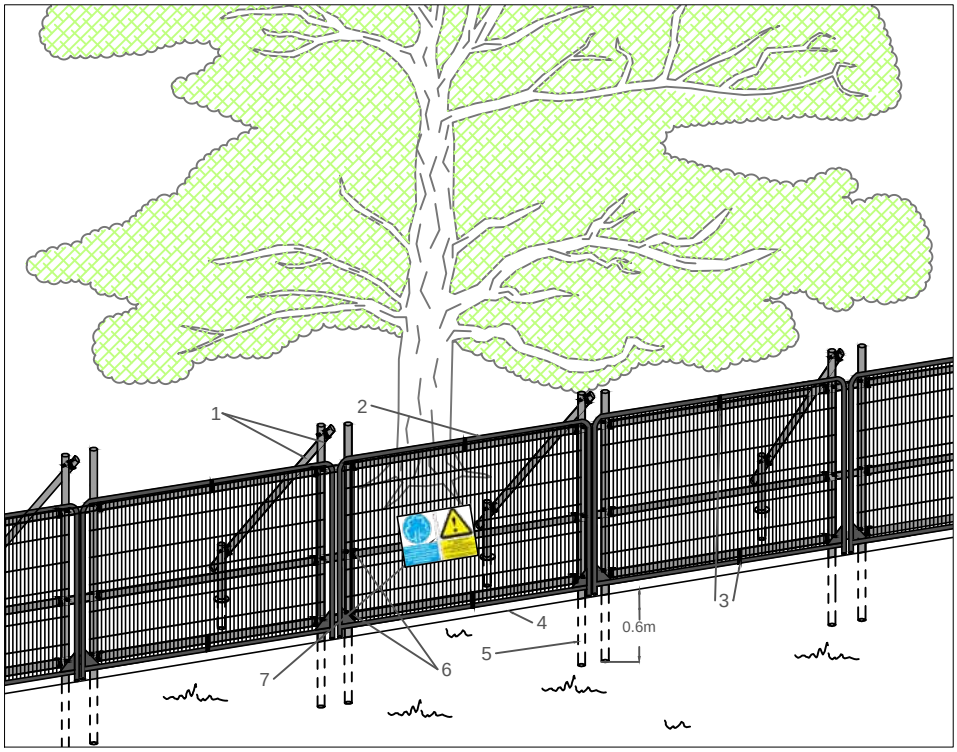
Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	English Oak Quercus robur	13	540 730	10	M	P	Bark wounds noted Broken branches evident Crossing and rubbing branches Dense undergrowth at the base Epicormic growth evident within the crown Hazard beam present Heartwood exposed Limited future potential Minor dead wood evident in the crown (<75mm) Twin stemmed from base	373	10.9	C (i)
T2	Ash Fraxinus excelsior	15	730 500	8	M	P	Branch socket cavities observed Close cultivation of the soil Dense undergrowth at the base Dieback of the crown observed Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Specimen in extensive decline Woodpecker holes observed "Inonotus hispidus Shaggy bracket"	N/A	N/A	U
T3	English Oak Quercus robur	11	830	N - 6 S - 3 E - 4 W - 9	EM	F	Bark wounds noted Basal cavity observed Basal suckers present Branch stubs evident Broken branches evident Close cultivation of the soil Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Heavily leaning stem	312	10.0	C (i)
T4	English Oak Quercus robur	12	810	6	M	F	Bark wounds noted Branch socket cavities observed Branch stubs evident Broken branches evident Close cultivation of the soil Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Typical crown form	297	9.7	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T5	English Oak Quercus robur	16	1000	7	M	G	Branch stubs evident Broken branches evident Close cultivation of the soil Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) No major defects were noted Typical crown form	452	12.0	A (i)
T6	English Oak Quercus robur	16	1210	11	M	G	Branch stubs evident Broken branches evident Close cultivation of the soil Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) No major defects were noted Typical crown form	662	14.5	A (i)
T7	English Oak Quercus robur	19	1040	7	M	F	Bark wounds noted Branch socket cavities observed Branch stubs evident Broken branches evident Close cultivation of the soil Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Pruning wounds noted Storm damage present Typical crown form Evidence of fungal brackets on pruning wounds on east and west side at 6m "Laetiporus sulphureus Chicken of the wood/Sulphur Polypore"	489	12.5	B (i)
T8	English Oak Quercus robur	11	950	N - 5 S - 7 E - 5 W - 10	M	F	Branch stubs evident Broken branches evident Close cultivation of the soil Crossing and rubbing branches Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Typical crown form	408	11.4	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T9	English Oak Quercus robur	13	960	10	M	F	Dense ivy cover on main stem Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Typical crown form Located in roadside verge	417	11.5	A (i)
T10	English Oak Quercus robur	10	510	6	EM	F	Bark wounds noted Branch stubs evident Broken branches evident Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Suppressed crown form	118	6.1	B (i)
T11	English Oak Quercus robur	13	560	8	M	F	Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form	142	6.7	A (i)
T12	English Oak Quercus robur	13	620	7	M	F	Bark wounds noted Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form	174	7.4	A (i)
T13	English Oak Quercus robur	12	580	7	M	F	Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form Close to T14	152	7.0	A (i)
T14	English Oak Quercus robur	12	470	6	M	F	Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form	100	5.6	A (i)

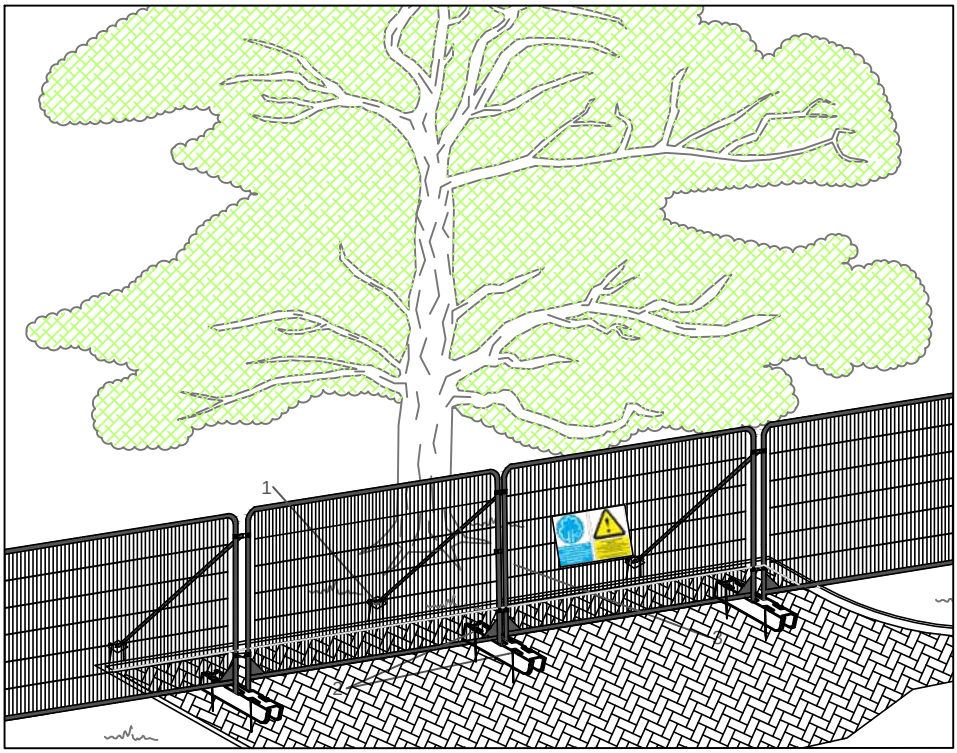
Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T15	English Oak Quercus robur	11	420	5	EM	F	Bark wounds noted Branch stubs evident Broken branches evident Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Suppressed crown form	80	5.0	B (i)
T16	English Oak Quercus robur	12	610	6	M	F	Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form	168	7.3	A (i)
T17	English Oak Quercus robur	12	610	7	M	F	Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form Exposed buttress roots	168	7.3	A (i)
T18	English Oak Quercus robur	12	570	6	M	F	Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form	147	6.8	A (i)
T19	English Oak Quercus robur	10	est 550	6	M	F	Basal suckers present Base obscured Close cultivation of the soil Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form Exposed buttress roots	137	6.6	B (i)
T20	Ash Fraxinus excelsior	16	710	10	M	F	Branch stubs evident Broken branches evident Characteristic for species Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted	228	8.5	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T21	English Oak Quercus robur	11	310 490	7	M	P	Branch stubs evident Broken branches evident Dieback of the crown observed Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	152	7.0	C (i)
T22	English Oak Quercus robur	12	est 850	7	M	F	Dense undergrowth at the base Epicormic growth evident within the crown Light ivy cover Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form	327	10.2	A (i)
T23	English Oak Quercus robur	12	570	6	M	F	Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Typical crown form	147	6.8	A (i)
T24	English Oak Quercus robur	21	1040	10	M	F	Close cultivation of the soil Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Pruning wounds noted Storm damage present Typical crown form	489	12.5	A (i)



Standard specification for protective 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



Above ground stabilising systems

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

Protective Fencing to be positioned to the specified dimensions in accordance with Figure 3 Tree Retention Plan

NOTES

masterplanning
environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby DE74 2RH

t: 01509 672772
f: 01509 674565
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

drawing title

APPENDIX B
PROTECTIVE FENCING SPECIFICATIONS

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