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Arboricultural Impact Assessment

Land at
Land at
22 Bryn Estyn Road

Ref:
AIA/BER/05/24

Date:
14th May 2024

Commissioned by:
Mr G. Evans
of Cassidy & Ashton
on behalf of
Mr N. Copeland

Prepared by
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Arboricultural ASSOCIATION
Professional Member PRO1614

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Registered Consultant

Shields Arboricultural Consultancy
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22 Bryn Estyn Road

Wrexham

This Arboricultural Impact Assessment has been prepared in accordance with the protocols, standards and procedures set out in BS 5837: 2012 'Trees in relation to design, demolition and construction'.

Summary

Planning permission is being sought to develop the land to provide a residential development of apartments. The site currently benefits from extant planning permission for two dwellings.

The site is characterised by several groups and individual trees, the majority of which are of low quality or amenity value, however there are significant individual specimens along the road frontage and within the site.

All trees and hedgerows on and immediately adjacent to the site have been surveyed and assessed in accordance with the recommendations of BS5837: 2012. The survey recorded 6 individual trees, 2 groups of trees, 1 shrub group and 1hedgerow ranging in quality from medium (2) to low (5) and poor (3).

Under the proposed site layout a total of two individual trees, three groups of trees one group of shrubs and one section of hedgerow would be removed. Two trees on adjacent third party land have already been removed. Of the trees and hedgerows proposed for removal, all are category C or U. Except T1, none are particularly significant features in the landscape, being situated to the site of the property and only visible, to a few residents in neighbouring properties and having no special visual appeal or other amenity value. In the case of T1, the condition of the tree is such that it is no longer considered viable in the location

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Date	Revision	
14th May 2024		Issued for planning

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Instruction

1.1 Shields Arboricultural Consultancy received instructions from Mr G. Evans of Cassidy & Ashton on behalf of Mr N. Copeland to undertake and Arboricultural Impact Assessment at the above property. The client or their agents may copy and distribute this report as required for the purpose of applying for planning permission for or preparing any documents or plans for this or future applications at this site.

1.2 Planning permission is being sought to develop the land to provide a residential development of apartments. The site currently benefits from an extant planning permission for two dwellings.

Scope & Limitations

2.1 The purpose of the report is to assess the environmental and amenity values of all trees on or adjacent to the area affected by the proposed development and is based on a site assessment undertaken March 2024 by S. Shields, principal consultant Shields Arboricultural Consultancy. The report will assess the long-term contribution that the trees can make to the area and the arboricultural implications of retaining them and seek to find a satisfactory juxtaposition between the trees and the new development. The report will assess the potential impact that may arise as a result of the proposed construction works and make recommendations for protecting trees, hedges and shrubs where appropriate.

2.2 The report is prepared in accordance with the recommendations of the British Standard Document BS 5837: 2012 'Trees in Relation to Construction'.

2.3 This report is not an ecological assessment and does not identify habitats or constitute a protected species survey.

Statutory Controls & Obligations

3.1 Forestry Act; the felling of trees is controlled by the Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.

3.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers under the Town & Country Planning Act 1990 as amended, to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence (subject to any exemptions for which provision may be made by the act or order) to undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.

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3.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Site description

4.1 The site is currently supports a detached dwelling and private garden. Access to the site is off Bryn Estyn Road, which runs adjacent to the north boundary. The site also has boundaries with adjacent residential dwellings to the west and south and with agricultural land to the east.

4.2 The site is generally level, is at an elevation of 90m AOD and is reasonably sheltered. There are a number of trees on the site, although most are of low to moderate quality and value. The main arboricultural features are the mature ash, although this has structural issues and pine to the front of the site along the road frontage, and the pine in the rear garden.



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Soils

4.3 Soils appeared to be free draining, brown earths with no indications of waterlogging. No significant impediments to root development were identified during the survey. BGS geological maps indicate a sand and gravel drift over a sandstone, mudstone, conglomerate rock formation.

*NB. This soil assessment is undertaken in situ using visual and manual techniques and is **only** for the purpose of establishing the influence of site soils on tree growth. The assessment **must not** be relied upon to inform any engineering decisions.*

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Development Proposal

5.1 It is proposed to develop the site to provide a residential. Access to the site will be via a driveway off Bryn Estyn Road.



Tree Survey Methodology

6.1 All trees within and adjacent to the site have been assessed where they are within 15 m of any area that may be disturbed as a result of the proposed development and have a stem diameter over 75mm at 1.5 metres. Measurements have been taken in accordance with the procedures and protocols set out in BS 5837: 2012 and the Forest Mensuration Handbook. Height measurements are approximate unless otherwise stated. Trees have been assessed as individuals, groups or woodlands as appropriate. Where access to trees has been restricted, either as a result of their situation on private land or where vegetation or ground conditions are unfavourable, an estimation of trunk diameter has been made. This entails using a set of callipers to approximate the measurement. Estimates are rounded up to provide a margin. This technique has only been used where there is a sufficient buffer between the RPAs and any area disturbed by development. Where trees are in woodlands or groups only the outside edge trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees.

6.2 BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term

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viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality with an estimated life expectancy of at least 40 years.

1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.

2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.

3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated lifespan of at least 20 years.

1 Trees that might be included in a higher category but are downgraded because of impaired condition.

2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.

3 Trees with clearly identifiable conservation or other cultural benefits.

Category C: Trees of low quality with an estimated lifespan of at least 10 years or young trees with a stem diameter below 150mm.

1 Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.

2 Trees present in groups of woodlands, but without this conferring on them significantly greater collective landscape value; and/or tree offering low or only temporary/transient landscape benefits.

3 Trees with no material conservation or other cultural value.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

The most significant or valuable trees are placed in the categories, A & B. Site design should make provision to retain trees in these categories and most Local Planning Authorities will insist upon this (or in exceptional circumstances will require that significant compensation planting is incorporated into the design), whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as U are in a poor condition and should be removed prior to the commencement of work.

NB. Category U trees can have an existing of potential conservation value which it might be desirable to preserve.

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6.3 Where trees are to be retained, it is necessary to ensure that they are suitably protected to avoid damage during the construction phase of the development. It is also important to consider any long term implications, such as issues with shading or leaf litter that may arise as a result of tree retention.

6.4 To ensure that trees are not adversely affected by the construction works it is necessary to:

a. The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)

b. The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots

c. Preserve of the character of the soil, through the avoidance of any activity that would cause it to become compacted or otherwise disturbed or disrupted, and to avoid contamination by potentially harmful substances

d. To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere

e. To ensure adequate (but not excessive) water supply to the soil and hence to tree roots

This would normally be achieved by establishing an area, known as a construction exclusion zone (CEZ) around each tree. The CEZ is derived from the root protection area (RPA) and the crown spread of the tree. The RPA represents the area occupied by the tree's root system and is calculated for each tree based on its stem diameter and the ground conditions present taking account of and any impediment to rooting. The RPA should represent the most probable position of the tree's root system.

The CEZ must be considered sacrosanct and be maintained completely undisturbed. No construction should take place within this area and it should not be used for storage of materials or fuels. Access for vehicles machinery or personnel is prohibited and to ensure that it is not damaged by construction activity it must be suitably protected during the construction phase, using robust fencing or alternative ground protection methods, to prevent disturbance and damage occurring.

6.5 A rise or reduction in soil level can have major implications on the longevity and health of the trees. Minor changes (up to 100mm) can be tolerated in some cases, but is heavily dependent on tree species, condition and growing environment. Existing ground levels within RPAs should be respected as far as is reasonably practicable. The advice of the project arboriculturalist should be sought if level changes are required.

6.6 In addition to the implications that a new development may have for existing trees it is also important to assess any long-term issues or

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concerns that may arise as a result of retaining trees close to a new dwelling or structure. This can include problems associated with leaf litter and other debris that may fall from trees, the potential that a tree has to cause damage to a structure in the future, any on-going maintenance requirements that may arise and the level of shade that the tree may cast, it is particularly important to consider the effects of shading where trees are to the south of houses and gardens. Trees can also cause feelings of apprehension to the occupiers of nearby buildings and can have an over-bearing impact on a property if adequate space is not provided.

6.7 Buffer zones and structural stand-offs are advised for continuous canopy tree groups and woodlands along with trees and woodlands of high value. These zones are influenced by numerous factors beyond the provision of sufficient space for future growth. Depending on the development objectives these can include the provision of a safe falling distance for edge trees, prevention of overshadowing, provision of an ecological buffer zone, prevention of fragmentation of group/woodland compartments, and prevention of direct tree root or habitat damage. The following text is taken from the Standing Advice produced by the Forestry Commission and Natural England as included in the National Planning Policy Guidance:

'*A buffer zone's purpose is to protect ancient woodland and individual ancient or veteran trees. The size and type of buffer zone should vary depending on the scale, type and impact of the development'.*

Ancient woodland buffer

'For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, you're likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic'.

Ancient and veteran tree buffer

'A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter'.

6.8 The report assesses all trees with regard to their size, position and natural characteristics, and taking into account of their future growth makes provides recommendations as to their long-term suitability for retention.

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Arboricultural Assessment

7.1 Full details of the tree surveyed are provided in appendix A. and their relative positions, crown spreads, root protection areas are indicated on the attached plans.

7.2 No checks have been undertaken to establish the status of the trees with regards to Tree Preservation Orders or Conservation Areas, however all the trees will be subject to the Forestry Act (see section 3.1) and all hedges subject to the Hedgerow regulations (see section 3.3). No trees or hedges should be felled, lopped, topped or in otherwise removed or damaged without prior permission from the relevant authority.

7.3 The survey recorded 6 individual trees, 2 groups of trees 1 shrub group and 1 hedgerow which were categorised as follows:

Category	Quantity
Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)	**0**
Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)	**2**
Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.	**5**
Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.	**3**

Arboricultural merits and the significance of the trees in the landscape

7.4 There are a number of trees on this site, the majority are of low quality or amenity value, however the large ash and pine to the front of the site and pine in the rear garden, are significant individual specimens. Whilst the remainder of the trees and groups provide some level of tree cover for the area, they lack any form of management and are unlikely to be viable assets in the long term. Many are planted in close proximity to one another are developing poor form and growth as a result. The boundary hedge between the site and the agricultural land to the east is becoming overgrown, but could be brought back into management and would provide an attractive landscape feature and valuable habitat particularly the section to the front (north) of the site.

7.5 The site is situated in a residential area on the outskirts of the town of Wrexham and the area is characterised by garden and amenity plantings.

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Veteran Trees, Ancient Woodlands, Protected Trees

7.6 Trees that are particularly notable as high value trees such as ancient trees/woodland or veteran trees. Such trees may be regarded as the principal arboricultural features of a site and pose a significant constraint to potential development.

An ancient tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life-stage.

Veteran trees are often very old but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

An ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW).

7.7 A search of the ancient tree inventory https://ati.woodlandtrust.org.uk/ and the Lle database Lle - Ancient Woodland Inventory 2021 (gov.wales) indicate that there are no veteran trees or areas of ancient woodland recorded on or adjacent to the site.

Canopy Cover and Arboricultural resource Characteristics

7.8 The trees on the site make a small contribution to the canopy cover of the area, which is around 15%.

Pests and Diseases

7.9 Tree pests and diseases are part of a balanced ecosystem and dead, dying and diseased wood is a natural process providing an important contribution to habitat biodiversity. However, in recent years there have been an increasing number of new and serious pests and diseases affecting tree populations across the UK and regular monitoring is essential to check for their presence. Chalara dieback of Ash, Acute/Chronic Oak Decline, Horse Chestnut Bleeding Canker and Phytophthora, are now widely established. These diseases can kill or weaken trees quite rapidly and it will be important to carefully monitor them in order to inform management decisions over the coming years. It will also be important in relation to public safety where dead or dying trees are in proximity to road, footpaths and property. Early stages of ash dieback were noted on the large ash tree T1.

Policy Considerations

7.10 Section 6.4.24 – 6.4.26 of Planning Policy Wales states that:

'Trees, woodlands, copses and hedgerows are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make a valuable wider contribution to landscape character, sense of place, air quality, recreation and local

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climate moderation. They also play a vital role in tackling the climate emergency by locking up carbon, and can provide shade and shelter, a sustainable energy source and building materials. The particular role, siting and design requirements of urban trees in providing health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking.'

'Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Where woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting.'

'Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory.'

'The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.'

7.11 The Wrexham Unitary Development Plan Policy EC4 – Hedgerows, Trees and Woodland advises that

'Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.'

This policy should be considered with reference to Local Planning Guidance Note 17 'Trees & Development' Local Planning Guidance Note No 17 - Trees and Development (wrexham.gov.uk).

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Design Considerations

7.12 The site design should, where possible, seek to incorporate all significant trees and features, into the layout and provide space for the planting of new trees where required to mitigate the effects of the development. In this case the notable features are the pine trees to the front and rear of the site.

7.13 The starting point of Site Layout Design should be to avoid the RPA of retained trees and provide suitable clearance from above ground constraints [tree canopies]. Where possible building lines should be at least 2m outside the RPA to provide working space for construction. However, protection measures can be taken if such clearance is not achievable.

7.14 Where intrusion within the RPA is unavoidable then its impact on the tree can be mitigated by specialist measures such as foundations that avoid trenching e.g. screw piles, suspended floor slabs or casting at ground level for lightweight structures such as bin and cycle stores.

7.15 Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist. Cellular confinement systems and bridging systems that enable hard surfaces to be built above existing soil levels are acceptable methods subject to site-specific soil conditions.

7.16 Service runs should be routed outside RPAs of trees, where this cannot be achieved, a specialist method of installation can be used, for example, thrust boring, directional drilling, air excavation or hand digging. These operations often require supervision by the project arboriculturist.

7.17 Where tree loss is unavoidable, replacement planting can ensure the continuity of tree cover where tree removal is unavoidable or desirable. Off-site provision may be considered in some circumstances but this will require negotiation with the local planning authority.

7.18 In addition to ensuring that the trees are not damaged by the construction process, consideration should also be given to the future implications associated with the retention of the trees in terms of their influence on the new properties. To ensure a harmonious relationship between the trees and the proposed dwellings it is necessary to allow adequate separation so that the trees do not exert an overbearing influence, are so close as to promote worries about tree safety and avoid problems associated with leaf litter and shading.

7.19 It is particularly important to consider the effects of shading where trees are to the south of houses and gardens. Ideally the layout should take account of existing retained trees and any new planting, with consideration to their ultimate size and density of the foliage and that garden areas should be designed to meet the normal requirement for direct sunlight for at least part of the day. Building Research Establishment guide to good practice (BR209) Site Layout Planning for

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Daylight and Sunlight advises that, in order to appear reasonably sunlit a dwelling should have at least one main window wall that faces within 90° of due south and that on this wall, all points on a line 2m above ground level are within 4m of a point which receives at least a quarter of the annual probable sunlight hours. The guide also advises that for gardens to appear adequately sunlit, at least half the area should receive no less than 2 hrs sunlight on 21st March, although this recommendation is for shade cast by buildings and not that cast by trees, which can be less oppressive.

7.20 To ensure that trees do not become overbearing or exert a dominating effect on a property it is recommended that a structural stand-off is provided between retained trees, particularly where trees are large or in groups or woodlands and any dwelling. No occupied property should be sited within a distance equivalent to 50% of the mature height of a tree (see appendix A), which should be increased to 60% if the tree is directly to the south of a property. There should also be a distance of at least 1.5 metres from the edge of the crown to the building at the closest point, this must take account of the ultimate spread of the tree. No more than 40% of a garden area should be beneath the crown of a tree, and the remaining area should not be shaded by the tree.

Arboricultural Impact

Impact	Category A	Category B	Category C	Category U
Tree Removal			T1, G6, H7, S8, T9, G11	G3
Facilitative Pruning Required				
RPA Encroachment				
Potential Shading				
Proximity Issues				

7.21 Under the proposed site layout a total of two individual trees, three groups of trees one group of shrubs and one section of hedgerow would be removed. Two trees on adjacent third party land have already been removed. Of the trees and hedgerows proposed for removal, all are category C or U. Except T1, none are particularly significant features in the landscape, being situated to the site of the property and only visible, to a few residents in neighbouring properties and having no special visual appeal or other amenity value. The significant and attractive trees on the site will be retained and can be supplemented by new tree planting as part of the development.

7.22 In the case of T1, the condition of the tree is such that it is no longer considered viable in the location. Due to its poor condition, the tree has been downgraded from Category A to Category C/U. There is clear VTA evidence that there is extensive decay, caused by the decay fungus Inonotus hispidus, in the main stem and primary branches of

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the trees and that this has resulted in the recent failure of a large limb. There is also evidence that the tree is infected with Hymenoscyphus fraxineus, causing Chalara ash dieback, which further impacts the tree and reduces its ability to defend against the actions of the decay fungus known to be present. A QTRA assessment assigns a risk factor of 1:400 to the tree which significantly exceeds the broadly accepted risk of 1:10000.

7.23 Another consideration is whether any retained trees could negatively influence the proposed dwellings and interfere with future owners' reasonable enjoyment of their property. Guidance provided in the British Standard BS 5837: 2012, advises that:

"A realistic assessment of the probable impact of any proposed development on the trees and vice versa should take into account the characteristics and condition of the trees, with due allowance for space for their future growth and maintenance requirements."

and that the following factors are given consideration:

Shading

Privacy and Screening

Direct Damage

Future Pressure for Removal

Seasonal Nuisance

7.24 In this case T2 & T10 are mature specimens and unlikely to significantly increase in size, the trees are not enclosed within the proposed development and this is adequate space for their future management. The distance between the trees and the buildings ensures that they do not dominate the site or create an overbearing presence. There will be some needle fall, but as the trees are not directly over the proposed properties, this will be limited and will not create an unreasonable future maintenance requirement.

7.25 The trees are to the north and south of the proposed dwellings and T10 has some potential to shade part of the site, particularly during the late afternoon. The shading from T10 would only affect the rear of building during the late afternoon. A further consideration is that the type of shade cast by trees differs from that cast by buildings and solid objects in that some level of light passes through the crowns. Thus, the houses affected would receive dappled shade during the hottest part of the day which can be quite pleasant and advantageous.

Sustainability

7.26 In respect of trees, a sustainable development will be one whereby the total number, value or function provided by trees is maintained or increased or where the long-term prospects of the existing tree stock can be substantially improved. Key principles will include, the right tree

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species selection, providing beneficial conditions for healthy tree establishment and regular and appropriate management.

Arboricultural Operations

Permission to remove any tree must be obtained from the Local Planning Authority and must not be undertaken until all pre-commencement conditions have been discharged.

8.1 Tree removal and pruning will be required, subject to a grant of planning permission, to implement this development. It is recommended that the work should be undertaken by a suitably qualified person, holding public liability insurance for the sum of £5,000 000. All operators must hold relevant NPTC certificates. A site specific risk assessment must be prepared and operators must work to a health and safety method statement. The use of Arboricultural Association Approved Contractors www.trees.org.uk/find-a-professional/Directory-of-Tree-Surgeons is recommended.

8.2 The contractor undertaking the work is responsible for any loss or damage arising as a result of the operations and agrees to indemnify the owner against such occurrences.

8.3 All tree protection measure specified in the following section and shown on the accompanying TPP are to be fully installed prior to the commencement of the arboricultural works. Where access is required to the trees, then suitable ground protection must be used in lieu of the tree protection fences.

Arboricultural Method Statement

9.1 This arboricultural method statement (AMS) sets out the details of tree protection measures afforded to the retained trees on and adjacent to the site.

9.2 This document should be read in conjunction with the Tree Protection Plan ref: HCM/TPP/OL/09/23. The TPP indicates the construction exclusion zone (CEZ) that must be maintained around each retained tree. These areas must remain undisturbed during the construction process and must be protected using suitable fencing or ground protection as specified. A Precautionary Area (PA) is also indicated. Works within this area must be supervised.

9.3 Copies of the TPP & the AMS must be available on site and all tree protection requirements explained to all persons undertaking activities on the site during the site induction process.

9.4 All tree protection measures must be installed and inspected prior to bringing onto the site any plant, materials or equipment or undertaking any construction works or demolition or any arboricultural works. The LPA must be informed in writing once the tree protection measures are installed.

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9.5 The site is to be inspected by the consulting arboriculturalist in accordance with the schedule of inspections (see 9.17).

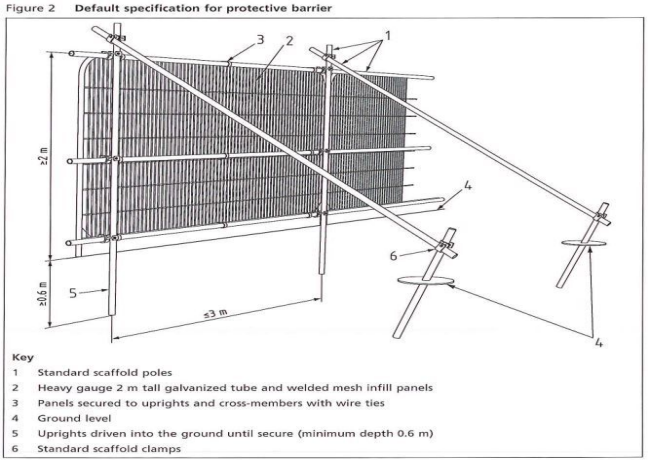
9.6 All measurements are given in metric using standard abbreviations.

Fencing and Ground Protection

9.7 The TPP indicates the position of all protective fences.

9.8 Protective fencing will comprise herras fencing or as agreed with the Local Planning Authority.

Figure 2 **Default specification for protective barrier**



9.9 Ground protection is not required for this development.

9.10 The protective fencing must be inspected on installation and will remain in place until completion of the construction phase and then only removed with the consent of the LPA.

9.11 Other than works approved in writing by the LPA, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

General Precautions

9.12 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10m of the trunk of a tree that is to be retained or within any part of the CEZ. Spills kits, suitable for the type fluids, fuels and chemicals stored on site must be available on site and site operatives must have training in their use.

9.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.

9.14 Storage and mixing areas, contactor parking and all site huts must be outside the CEZ.

9.15 Access to the work area is via the main site entrance and must not traverse the CEZ.

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9.16 All service and drainage routes, below or above ground must avoid the CEZ. All services are to be installed in accordance with NJUG volume 4 Guidelines.

9.17 To ensure that all tree protection measures are properly installed and maintained the site shall be monitored by Shields Arboricultural Consultancy to the following schedule. Details of the findings and photographic evidence of the site inspection visits will be reported to the LPA by email within 24 hrs of the visit. All tree protection measures must remain in place until development work is completed and only removed after receiving written confirmation from the LPA.

Schedule of Inspection

1. TBA

9.18 Prior to the commencement on site of any work, a competent person is to be appointed to monitor the day to day activities on site. In the case of a tree being damaged or where an unexpected event arises it will be for this person to contact Shields Arboricultural Consultancy to seek advice on contingency measures.

Conclusion

10.1 The proposed development will not have a significantly detrimental impact on the arboricultural resource or amenity of the area and is not contrary to national or local planning policy in respect of trees.

S.J.A. Shields

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14th May 2024

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Arboricultural Assessment

Ref. No.	Species	Top Height	Stem Dia mm	N	E	S	W	CC (FSB)	Age	Rem Cont.	Cat.	RPA m^2	Notes	AIA
T1	*Fraxinus excelsior* (Ash)	20	990	7	8.3	12.5	10	4	OM	<10	C/U	443	**Condition:** Poor **Notes:** The tree has been downgraded from category A owing to its poor condition. There is clear VTA evidence that there is extensive decay, caused by the decay fungus Inonotus hispidus, in the main stem and primary branches of the trees and that this has resulted in the recent failure of a large limb. There is also evidence that the tree is infected with Hymenoscyphus fraxineus, causing Chalara ash dieback, which further impacts the tree	T1 is a significant mature specimen in a prominent location, however its condition is significantly downgraded and it is at a high risk of failure. It is therefore recommended that the tree be removed on safety grounds.

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													and reduces its ability to defend against the actions of the decay fungus known to be present. A QTRA assessment assigns a risk factor of 1:400 to the tree which significantly exceeds the broadly accepted risk of 1:10000.	
T2	*Pinus sylvestris* (Scots Pine)	19	410	4.1	3.4	3.2	2.5		M	20+	B2	76	**Condition:** Good **Notes:** T2 is situated in a soft landscape area to the front of the site. The RPA is slightly constrained by the adjacent existing drive but there is additional rooting space to the east.	T2 provides a reasonable level of amenity to the site. The tree can be retained and protected to the required standard under the current site layout.
G3	*Chamaecyparis lawsoniana* (Lawson Cypress)	13	190	2	4	3.2	2.5	0	M	10+	U	16	**Condition:** Fair **Notes:** G3, a group of two trees, is growing adjacent to and	G3 has part failed and has little public amenity value. It is recommended that G3 be removed

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													moderately suppressed by T2. One tree has partly failed at the root plate.	and any loss of amenity can be replaced through a new planting scheme.
T4	*Ilex aquifolium* (Holly)										U		**Condition:** **Notes:** On third party land.	T4 has recently been removed.
T5	*Chamaecyparis lawsoniana* (Lawson Cypress)										U		**Condition:** **Notes:** On third party land.	T4 has recently been removed.
G6	*Chamaecyparis lawsoniana* (Lawson Cypress)	6	120 100	3	2	3	3	2	EM	20+	C2	11	**Condition:** Good **Notes:**	G6 are minor specimens with little public amenity value. This group will be removed to facilitate the development under the current indicative site layout. Any loss of amenity can be replaced through a new planting scheme.
H7	*Thuja plicata* (Western Red Cedar)	4	100					0	M	10+	C1	5	**Condition:** Fair **Notes:**	Hedgerow with minor public amenity value. Will be removed to facilitate the development. Any

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														loss of amenity can be replaced through a new planting scheme.
S8	*Prunus laurocerasus* (Cherry Laurel)	4	100					0	M	10+	C1	5	**Condition:** Fair **Notes:**	Shrub group with minor public amenity value. Will be removed to facilitate the development. Any loss of amenity can be replaced through a new planting scheme.
T9	*Chamaecyparis lawsoniana* (Lawson Cypress)	17	280	2	2	3	2.5	0	M	20+	C1	35	**Condition:** Fair **Notes:**	T9 is a minor specimen with little public amenity value. This tree will be removed to facilitate the development under the current indicative site layout. Any loss of amenity can be replaced through a new planting scheme.
T10	*Pinus strobus* (Weymouth Pine)	19	530	5.1	7.3	5.2	5	4	M	20+	B2	127	**Condition:** Good **Notes:**	T10 has a moderate amenity value, although this is mostly within the site. T10 is to the south

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														of the proposed property and will cast some level of shade. This has been assessed and details are provided within the main text of this report. It is considered that this tree can be retained and protected in accordance with the recommendations of BS 5837: 2012.
G11	Thuja plicata (Western Red Cedar)	14	350 230 230	4#	4#	4#	4#	0	M	10+	C1	104	**Condition:** Fair **Notes:** Group of three trees that have coalesced to form a linear group on the west boundary. The trees have outgrown their location and are impacting the existing garage.	G11 are minor specimens with a relatively low public amenity value. This group will be removed to facilitate the development. Any loss of amenity can be replaced through a new planting scheme.

Ultimate Heights of Main Species

Ash 20 Weymouth Pine 19 Scots Pine 19

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Notes

BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality with an estimated life expectancy of at least 40 years.

1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.
2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.
3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated lifespan of at least 20 years

1 Trees that might be included in a higher category but are downgraded because of impaired condition.
2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.
3 Trees with clearly identifiable conservation or other cultural benefits.

Category C: Trees of low quality with an estimated lifespan of at least 10 years or young trees with a stem diameter below 150mm.

Category U: Trees in such a condition that they cannot realistically be retained as living in the context of the current land use for longer than 10 years. *NB. Category U trees can have an existing of potential conservation value which it might be desirable to preserve.*

Where bat potential has been assessed this is in accordance with the guidance provided in BS 8596:2015 and is at the level of a non-specialist scoping survey. This assessment is for preliminary advice and does not negate the requirement for a specialist ecological survey

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Key

Tag No	Identification number for tree	**Species**	Species of tree
Top Height	Estimated height of tree	**Stem Dia.**	Diameter of stem at 1.5 metres
Stems	Number of stems	**N, E, S, W**	Crown spread at compass points
CC	Crown Clearance	**FSB**	Direction of first significant branch
Rem. Cont	Remaining safe life expectancy in years	**RPA**	Root protection area in m^2
Cat.	BS Category (see above)	**AIA**	Arboricultural Implication Assessment

Age	**Y -**	Young Trees
	SM	Semi Mature
	EM	Early Mature
	M	Mature
	LM	Late Mature exceeds normal life expectancy for species
	VET	Veteran Tree
Condition	**Good**	Relatively free from defects and / or major pests and diseases
	Fair	Some defects, which could be addressed through tree surgery or minor pests or early symptoms of diseases
	Poor	Substantial defects or terminal decline
	Dead	Dead
Abbreviations	*	Maximum
	#	Average
	e	estimate

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North

T1-C2

T2-B2

T4-U

G3-U

T5-U

G6-C2

T11-C1

H7-C1

S8-C1

T9-C1

T10-B2

22

CH

Shields Arboricultural Consultancy

Tree & Woodland Management Solutions

Tree Constraints Plan

22 Bryn Estyn Road
Wrexham

Key

- Tree Cat A
- Cat B Tree
- Cat C Tree
- Tree Cat U
- Canopy Spread
- Cat U Tree for Removal
- Hedgerow
- RPA
- RPA Cat C

Drawing No: BER/TCP/05/24

Drawn By: S. Shields

Scale: 1:150 @ A2

Date: 14th May 2024

Revision:

Do not scale from this drawing all dimensions to be checked on site
Drawing is colour coded and a monochrome copy should not be relied upon

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North

BRYN ESTYN Road

T1-C2

T2-B2

T4-U

G3-U

T5-U

G6-C2

T11-C1

H7-C1

S8-C1

T9-C1

T10-B2

39m

2.4m

22

CH

Proposed

Site Plan - Key

Retained Tree -
Root Protection Zone

Removed Tree -
Root Protection Zone

Approved Housing Scheme -
Building Footprint, 182 sqm

Existing House -
Building Footprint, 140 sqm

Site Parking and Access -
9 Parking Spaces

Site amenities area: 528 sqm

Proposed Building Footprint: 240 sqm

Shields Arboricultural Consultancy

Tree & Woodland Management Solutions

Tree Constraints Plan
Overlay
22 Bryn Estyn Road
Wrexham

Key

- Tree Cat A
- Cat B Tree
- Cat C Tree
- Tree Cat U
- Canopy Spread
- Cat U Tree for Removal
- Hedgerow
- RPA
- RPA Cat C

Drawing No: BER/TCP/OL/05/24

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North

BRYN ESTYN Road

T1-C2

T2-B2

T4-U

G3-U

T5-U

G6-C2

T11-C1

H7-C1

S8-C1

T9-C1

T10-B2

CH

22

29m

2.4m

Site Plan - Key

Retained Tree -
Root Protection Zone

Removed Tree -
Root Protection Zone

Approved Housing Scheme -
Building Footprint, 182 sqm

Existing House -
Building Footprint, 140 sqm

Site Parking and Access -
9 Parking Spaces

Site amenities area: 528 sqm

Proposed Building Footprint: 240 sqm

Proposed

Shields Arboricultural Consultancy

Tree & Woodland Management Solutions

Tree Protection Plan
Overlay
22 Bryn Estyn Road
Wrexham

Existing Cat B Tree

Existing Cat C Tree

Canopy

CEZ

Tree Protection Barrier

Drawing No: BER/TPP/OL/05/24

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