

Coed, Gwrychoedd a Choetiroedd Trees, Hedgerows and Woodland

Canllawiau Cynllunio Atodol
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Supplementary Planning Guidance
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Cyngor **Abertawe**
Swansea Council





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SPG Aims and Purpose

- 1.1 This Supplementary Planning Guidance (SPG) will be taken into account as a material consideration in the determination of planning applications. It has been produced to give basic information on how trees hedgerows and woodlands are dealt with in the planning system. The document provides clear and consistent guidance to applicants on the requirements of the Local Planning Authority (LPA) with respect to trees and development. For the avoidance of doubt, the guidance set out in this document relates to all trees, hedgerows and woodland, not just those which are protected.
- 1.2 The SPG sets out the steps that need to be considered at various planning and design stages, as well as during construction, to ensure that all significant existing and proposed trees are kept healthy and become an asset to a new development. Projects which do not require planning permission (such as highways and landscaping schemes on publicly owned land) fall outside of the scope of the SPG.
- 1.3 The references to 'trees' hereafter in the document should be considered an overarching term, which primarily encompasses the following:

- trees
- woodlands
- hedges
- hedgerows and
- large shrubs

The importance of Trees in the Development Process

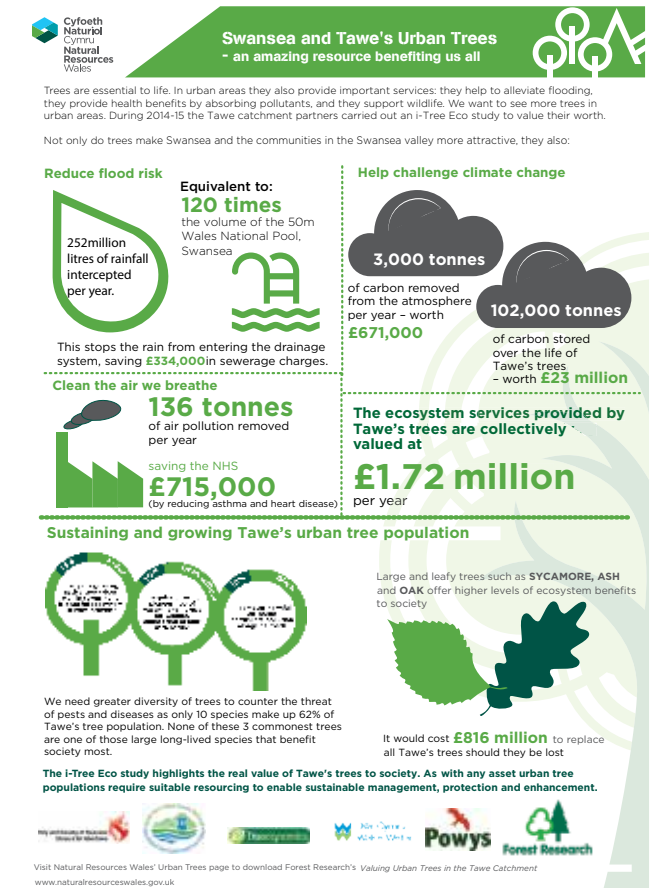
- 1.4 Trees provide habitat for protected species such as birds and bats that require consideration in the planning process and are protected by other legislation.
- 1.5 Trees are of vital importance to the landscape. It is now widely accepted that trees in and around towns and cities have a vital role to play in promoting sustainable communities and make a significant contribution to the cultural and heritage value in the context of a historic park, garden or designed landscape. Trees make a positive contribution to the scenic character, local distinctiveness and diversity of the landscape and are important in the creation of 'place'. They provide vital habitat for dependent plant, animal and fungal populations and substantial environmental benefits such as improving quality of life, attenuation of noise, flood alleviation, and improving the climate and air quality.
- 1.6 Trees can also help protect buildings from the elements, provide shade and assist in energy conservation. Trees can enhance the setting of new development, its character, sense of maturity and overall quality thus helping with the saleability and profitability of properties. Their positive effect on the environment also helps to attract businesses and visitors to an area, thereby boosting the economy.

- 1.7 The value of trees across Swansea, was established by an “I-Tree Eco assessment”. This was an NRW project, undertaken in partnership with Welsh Government, Dwr Cymru Welsh Water and Powys, Neath Port Talbot and Swansea Councils. The survey assessed the natural capital of urban trees in the Tawe catchment, the value of the ecosystem services they provide and the impact of trees on energy use in buildings. Key findings were the need to improve levels of diversity and resilience to disease, and maintain and enhance the overall age and size structure, of the Tawe catchment’s urban forest. See figure 1.1¹
- 1.8 In addition to legislative protection of trees and wildlife, the public’s awareness of environmental issues and the health benefits of being near or seeing trees is also increasing. Developers are therefore under increasing pressure to focus attention on trees and their role in providing a more pleasant and healthier environment.
- 1.9 A tree may take a century to reach maturity but it can be damaged or

felled in a few minutes. Such damage is frequently caused unwittingly because of a failure to appreciate the value and vulnerability of trees, particularly the root system, and how easily they can be damaged. Where trees are damaged during development of a site and subsequently decline and die, or where inappropriate or poor design leads to conflict, trees become a constant source of complaint and ultimately, any positive benefits are lost. Early erection of tree and landscape protection measures to form construction exclusion zones before work commences on site is essential (see Chapter 3).



Figure 1.1: Swansea I Tree Eco Assessment



Left: Example of the retention of existing and the planting of new trees © getmapping.com

1. see <https://cdn.cyfoethnaturiol.cymru/media/679646/engtawe-i-tree-infographic-v2.pdf?mode=pad&rnd=13147799501000000>

2.1 Section 197 of the Town and Country Planning Act 1990² places a duty on local planning authorities to ensure, wherever it is appropriate, that in granting planning permission for a development, adequate provision is made by the imposition of conditions, for the preservation or planting of trees. If it appears to a local planning authority that it is expedient in the interests of amenity to make provision for the preservation of trees or woodlands, Section 198 of the Act³ provides the power to make a Tree Preservation Order (TPO) for that purpose. Under Section 211 of the Act⁴, trees in conservation areas are subject to similar controls as trees to which a TPO applies.

2.2 This Guidance takes account of the most up to date legislative and strategic planning context that have arisen at both national and local level. This includes Future Wales:

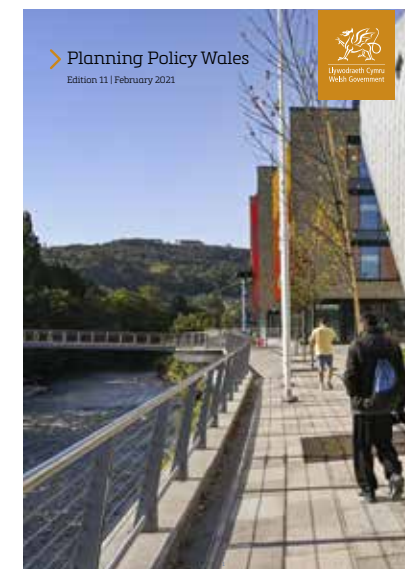
the National Plan 2040⁵, Planning Policy Wales (PPW)⁶ and the relevant supporting Technical Advice (TANS)⁷ produced by the Welsh Government, and the Swansea Local Development Plan⁸.

2.3 Future Wales Policy 14 emphasises the importance of retaining and enhancing woodland cover to build resilience of ecosystems and achieve WG targets of increasing woodland cover by at least 2,000 ha per annum from 2020. It recognises the wide range of benefits for society provided



by trees and woodland, and that they are therefore an essential part of the Green Infrastructure Network and delivering placemaking objectives.

2.4 Planning Policy Wales sets out the ecological value of trees and their importance for biodiversity, ecological connectivity, and climate change adaptation & mitigation.



2 <https://www.legislation.gov.uk/ukpga/1990/8/section/197/enacted>

3 <https://www.legislation.gov.uk/ukpga/1990/8/section/198/enacted>

4 <https://www.legislation.gov.uk/ukpga/1990/8/section/211/enacted>

5 <https://gov.wales/future-wales-national-plan-2040>

6 <https://gov.wales/planning-policy-wales>

7 <https://gov.wales/technical-advice-notes>

8 <https://swansea.gov.uk/ldp>

Figure 2.1: Extracts from Planning Policy Wales

PPW 6.4.24: “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 climate moderation. They also play a vital role in tackling climate change 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.”

6.4.25: Planning authorities should protect trees, hedgerows or groups of trees or 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 trees strategies or relevant SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Development will not normally be permitted which would result in the loss of Ancient woodland, Ancient woodland sites or Veteran trees which are an irreplaceable resource. Where woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting

6.4.26: 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.

6.4.27: 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.

2.5 Technical Advice Note (TAN) 10: Tree Preservation Orders supplements PPW and states that under the Town and Country Planning Act 1990 (section 198) LPAs are empowered, in the interests of amenity, to protect trees and woodlands by making TPOs. As such, any tree or woodland that has a TPO attached to it is legally protected from cutting down, uprooting, topping, lopping, wilful damage or destruction without consent from the LPA. It also states that TPOs should be considered where provision should be made for the preservation of trees or woodlands in the interest of amenity. TPOs should be made where the removal of trees and woodlands would have a significant impact on the environment and its enjoyment by the public. TPOs cannot be made on bushes, shrubs or hedgerows (however they can be made on trees within hedgerows).

2.6 The LPA will also have regard to any extant approved Swansea Local Tree Strategy, for guidance on the Council’s approach to interpreting TAN10, in relation to protecting trees, managing, maintaining and planting trees on land in Council ownership, and Council powers in relation to trees that are on land in private ownership.

2.7 Swansea Local Development Plan (LDP) Policy ER 11 states:

Development that would adversely affect trees, woodlands and hedgerows of public amenity or natural/cultural heritage value, or that provide important ecosystem services, will not normally be permitted.

Ancient Woodland, Ancient Woodland Sites, Ancient and Veteran Trees, merit specific protection and development will not normally be permitted that would result in:

- i. Fragmentation or loss of Ancient Woodland;
- ii. The loss of an Ancient or Veteran Tree;
- iii. Ground damage, loss of understorey or ground disturbance to an area of Ancient Woodland or Ancient or Veteran Tree’s root protection area;
- iv. A reduction in the area of other semi natural habitats adjoining Ancient Woodland;
- v. Significant alteration to the land use adjoining the Ancient Woodland;
- vi. An increase in the likely exposure of Ancient Woodland, Ancient or Veteran Tree to air, water or light

pollution from the surrounding area;

- vii. Alteration of the hydrology in a way that might impact on Ancient Woodland, Ancient and Veteran Trees;
- viii. Destruction of important connecting habitats relating to Ancient Woodland;
- ix. Destruction of Plantations on Ancient Woodland Sites (PAWS); and/or
- x. Development in close proximity to Ancient Woodland and Ancient and Veteran Trees.

Where necessary, planning applications for development proposals on sites containing, or adjacent to, trees will be required to provide: a tree survey; an arboricultural impact assessment; an arboricultural method statement; and/or a tree protection plan. Where trees are to be replaced a scheme for tree replacement must be agreed prior to the commencement of development, including detail of planting and aftercare.”

Other Legislation

2.8 The importance of trees is covered in a range of other legislation and LDP Policy, and associated SPG. The duties associated with the Environment (Wales) Act 2016 and the Well-being of Future Generations Act 2015 are particularly important as set out below.

Biodiversity

2.9 Retention and planting of trees can play a role in demonstrating how development delivers against the Council's duties under s6 of the Environment (Wales) Act 2016⁹, to ensure that development maintains and enhances biodiversity and ecosystem resilience. Section 7 of the Environment (Wales) Act 2016¹⁰ includes a list of woodland habitats and species that are considered to be a priority for conservation in Wales (see Biodiversity SPG)¹¹.

2.10 Trees may provide important habitat to protected species, particularly bats and birds. Applicants should refer

to the guidance in the Biodiversity SPG to establish the impact that development affecting trees will have on protected species and any relevant surveys, assessments or associated licences or permits may be required before commencing any works to trees. Particular regard should be had to the presence of Bats, which are a European Protected Species under Schedule 2 of the Habitats Regulations¹². It is illegal to disturb nesting birds, this includes all wild birds, their nests and eggs which are protected under; Schedule 1 of Wildlife and Countryside Act (1981) (as amended) by CROW Act 2000¹³; and section 7 species and habitats listed under the Environment (Wales) Act 2016.

- 2.11 An ecological survey for protected species may be required where development:
- Is residential development within 200m of a woodland, or listed buildings within 50m of woodland,

field hedgerows or lines of trees with connectivity to woodland or involves the felling, removal or lopping of:

- woodland;
- hedgerows and/or lines of trees with connectivity to woodland or water bodies ;
- old and veteran trees that are older than 100 years;
- mature trees with obvious holes, cracks or cavities (and also large dead trees).

Trees and creating healthy sustainable places

2.12 The role of trees on development sites in creating healthier and more sustainable places is well established, and recognised in Future Wales, and PPW. Ensuring that trees are well integrated into the design of a development will also deliver against several of the Well-being goals set out in the Well-being of Future Generations Act 2015.

9 <https://www.legislation.gov.uk/anaw/2016/3/section/6>

10 <https://www.legislation.gov.uk/anaw/2016/3/section/7>

11 www.swansea.gov.uk/spg

12 <https://www.legislation.gov.uk/ukxi/2017/1012/schedule/2/made>

13 <https://www.legislation.gov.uk/ukpga/1981/69/schedule/1/enacted>
<https://www.legislation.gov.uk/ukpga/1981/69>

2.13 This approach is supported by a number of detailed LDP Policies.

- **SD 2: Masterplanning Principles**
 - Requires the retention and integration of existing important trees and hedgerows as part of delivery of a sustainable neighbourhood on all sites of 100 homes or more.
- **SDA to SD L:** Specific requirements in Strategic Site Policies re “retaining trees and strengthening existing hedgerows as part of a site wide network of green infrastructure”.
- **Policy ER1: Climate Change**
 - Recognises the crucial role that trees and soils play in mitigating the effects of climate change at the local level and promotes that, “as far as practicable, trees should be retained and protected, with new trees and shrubs provided by developers wherever possible”
- **Policy ER 2 - Strategic Green Infrastructure Network:** Recognises the importance of



trees as part of the wider Green infrastructure network and sets out criteria to secure retention, mitigation and compensation for lost GI assets.

- **Policies ER6, ER8, ER9** – relating to the management of the biodiversity and ecosystem resilience value of trees.
- **Policy SI 1: Health and Well-Being:** This strategic policy sets the framework for considering the role of trees in development sites

in reducing health inequalities and encouraging healthy lifestyles and removing significant risk to life, human health or well-being, particularly in respect of air, noise, light, water and land pollution.

- **Policies HC1 & HC2:** relating to the management of trees and the historic environment. (i.e. listed buildings, registered parks and gardens, conservation areas, scheduled monuments)¹⁴.

¹⁴ <https://swansea.gov.uk/placemakingandheritage>

Introduction

- 3.1 LDP Policy ER 11 is clear that the principle of avoidance of development which affects trees should be applied in the first instance. A ‘stepwise process’ should then be followed from the earliest stage of the development process, which is informed by appropriate information in relation to identification and assessment of trees within and adjacent the site (see Figure 3.1).
- 3.2 Where it is demonstrated that development on sites containing trees cannot be avoided, the council will seek to mitigate the impact of development by maximising the number of appropriate trees to be retained on site and integrated into the design and layout.
- 3.3 Where trees cannot be retained, the council will seek appropriate compensatory planting. In the first instance replacement planting should be provided on site and integrated into the design of the proposal. Replacement trees should include large growing species chosen as part

of the design layout and not just an afterthought with trees chosen for any space left over.

- 3.4 Where replacement on site is not possible, or it is not possible to provide the full amount of compensatory planting on the site, the council will use Planning Obligations to secure a financial contribution to the planting of replacement trees off site on council land.
- 3.5 Section 5, and Appendix 1 provide further information of the process the Council will follow to calculate the number of trees that will be required, and in the case of off-site contributions, how financial contributions to off-site planting will be calculated.
- 3.6 The Council will regard *British Standard 5837:2012 - Trees in relation to design, demolition and construction – Recommendations*¹⁵, as the overriding document detailing the standard and guidance for a balanced approach on deciding
- Which trees are appropriate for retention;
 - The effect of trees on design considerations; and
 - The means of protecting these trees during development.

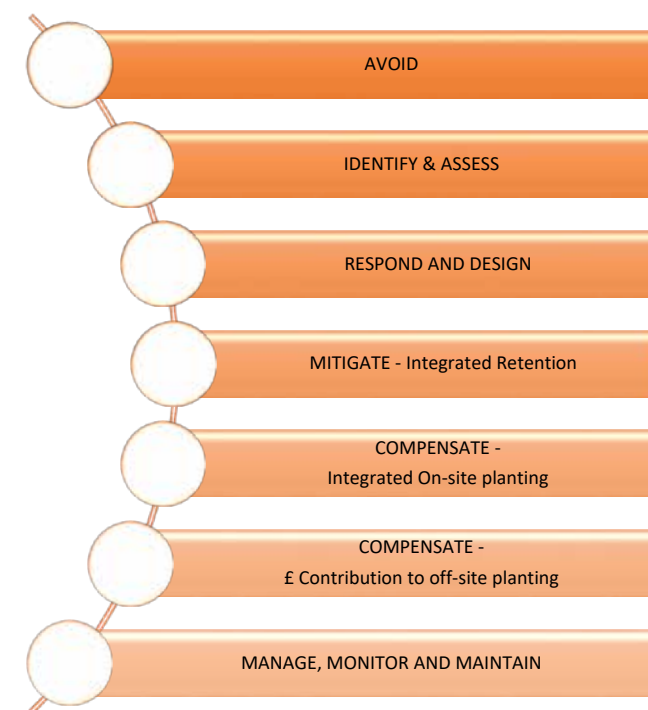


Figure 3.1: Stepwise approach to trees on development sites

- 3.7 Variation from the guidance in BS5837:2012, will require justification on a site specific basis. If BS5837:2012 is updated during the life of this SPG, the new guidance will be adopted.

¹⁵ See Appendix 2 – Easy Guide to BS5837:2012. Full version of BS5837:2012 can be purchased from BSi <https://shop.bsigroup.com/> or accessed by a Qualified Tree Professional.

Tree Surveys

- 3.8 Tree Surveys: A tree survey in accordance with BS5837:2012, provides important information to enable decisions to be made about which trees should be retained on the site and consequently the location of development on a site. For this reason a tree survey should be commissioned as early as possible in the process to inform the design. Early arboricultural advice in some cases will also highlight if a scheme is viable or not.
- 3.9 Appendix 2 provides a list of required contents of a BS5837:2012 compliant Tree Survey.
- 3.10 Using the British Standard tree categorisation set out in BS5837:2012, will ensure that when identifying trees for retention regard is taken of:
- their quality and condition,
 - their potential for future growth,
 - longevity, and
 - their value as a group (where applicable)



3.11 BS5837:2012 provides specific categories and definitions of trees which should be reported in any Tree survey.¹⁶ **Categories A, B and C** define trees to be considered for retention and take into account the

arboricultural, landscape and cultural and conservation value of both the individual tree and its role as part of a group or woodland. **Category U** defines trees unsuitable for retention.

¹⁶ See Appendix 2 for information on BS Standards re Tree Survey categories and/ contents.

3.12 The design and layout of the site will be expected to respond to the information contained in the BS5837:2012 tree survey as follows:

- **Retention of Category A and B Trees:** Where a (BS5837:2012) tree survey identifies Category A (high quality) and Category B (moderate quality) trees, the Council will expect them to be retained and incorporated into a layout wherever possible.
- **Retention of Category C Trees:** Where a tree survey identifies Category C trees these should be retained where the proposals do not require their removal.
- **Retention of Category C and U trees with significant biodiversity features:** Where these trees are identified which have significant biodiversity features, these should be retained wherever possible and where their retention will not be an unacceptable risk to people and/or property.

Ancient and Veteran Trees

3.13 The importance of Ancient and Veteran trees is emphasized in national planning policy and guidance and reflected in the detailed criteria of LDP Policy ER11. The Policy provides specific protection to Ancient Woodland, Ancient Woodlands Sites, Ancient and Veteran Trees and clearly states that development will not normally be permitted that would result in any of the impacts specified in criteria i-x.¹⁷

Definitions

- 3.14 **‘Ancient trees’** are trees in their third or final stages of life for the given species and are ‘old’ in comparison to trees of the same species.
- 3.15 A **‘Veteran Tree’** may not be old, but because of its environment or life experiences has developed the valuable features of an ancient tree.
- 3.16 Both classifications of trees are less capable of surviving tree surgery or root disturbance. Ancient trees are of

historic interest and a valuable part of our cultural heritage. Each individual tree is a survivor from the past and a relic of a former landscape. They are a living document of past management practices and ways of life, provide important ecosystem services and support important lichens, mosses, fungi, invertebrates, birds, bats, dormice and other fauna. Britain has some 80% of Europe’s ‘ancient’ trees.

- 3.17 If **veteran or ancient trees / woodland** are identified on site they must be considered carefully in relation to a development proposal and every attempt must be made to integrate the tree into a development proposal from an early stage to secure its long-term survival and retention.
- 3.18 **Integration of Ancient Trees into Public Open Space:** Ideally ancient trees would be retained within public open space to minimise future pressure from residents requiring the removal of the tree from within their curtilage. Veteran and ancient trees are given special consideration in the LDP.

¹⁷ See also “Planner’s manual for ancient woodland and veteran trees: <https://www.woodlandtrust.org.uk/publications/2019/06/planners-manual-for-ancient-woodland/> and Natural England standing advice: <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

3.19 **The RPA for ancient trees** will be considered in favourable site conditions to be a circle with a radius 15 x the diameter of the stem at 1.5m from ground level¹⁸. This is to take into account their intolerance of root disturbance.

3.20 **Ancient woodland** is defined as land that has had a continuous woodland cover since accurate maps were first produced. It is a valuable and irreplaceable resource. Ancient Woodland is given special consideration in the LDP. Further information regarding development within Ancient Woodland is available from NRW¹⁹ together with links to up to date mapping of ancient woodlands²⁰.

3.21 **Plantations on Ancient Woodland Sites (PAWS)** are sites believed to have been continuously wooded for over 400 years, but currently have a canopy cover of at least 50% non-native conifer tree species. They support Ancient Woodland soil systems and have the potential to be restored to an Ancient Woodland habitat. LDP Policy ER 11 (ix) provides specific

guidance on development that would result in the destruction of Plantations on Ancient Woodlands Sites (PAWS).

Hedgerows

3.22 Hedgerows on site should be assessed for their contribution to current and future amenity as well as ‘historic importance’, connectivity, biodiversity and contribution to navigation for protected species.

3.23 Hedgerows should undergo an assessment using the criteria set out in the *Hedgerow Regulations 1997*²¹ to see if the hedgerow is ‘important’.

3.24 The biodiversity that a hedgerow provides is also a key consideration. Further detail on how these matters should be considered is provided in separate SPG on Biodiversity and Development.

3.25 Trees within hedgerows will be considered as ‘trees’.



18 Veteran Trees: A guide to good management'. Helen Read. (2000). See www.woodlandtrust.org.uk download.

19 <https://naturalresources.wales/evidence-and-data/research-and-reports/ancient-woodland-inventory/?lang=en>

20 At the time of publication – Ancient Woodlands Inventory 2021. <http://lle.gov.wales/catalogue/item/AncientWoodlandInventory2021/?lang=en>

21 <https://www.legislation.gov.uk/uksi/1997/1160/contents/made>

Tree Constraints Plans and Tree Protection Plans

- 3.26 Depending on the characteristics and scale of a site, Tree Constraints Plans, or Tree Protection Plans may be required to be submitted. These are useful documents to inform the design of a scheme, and the siting of development in relation to issues such as shading, canopy size, root protection areas and likely restrictions during construction. See chapter 4 re specific application requirements.
- 3.27 Where a **Tree Constraints Plan**²² is required this should show the root protection areas and canopy spreads of the trees and this should be taken into account during the design stage.
- The RPA is the minimum area that a tree requires to ensure that it can continue to survive.
 - For a single stem tree this area is a circle with a radius of 12 x the stem diameter, measured 1.5m above ground level.
 - The RPA should be modified from a circle if the topography dictates or



if there is an obstruction preventing root growth in a particular direction. Tree roots can extend further than this area and at times should be protected beyond it (see below).

- 3.28 Any development, excavation or access within a RPA will not usually be permitted unless measures are taken to prevent damage to the tree(s) and agreed in writing by the LPA prior to commencement of the development.

- 3.29 Where a **Tree Protection plan** is required, this should provide the precise location and physical protection measures (including ground protection), for trees, woodlands or hedges present on, or immediately adjacent to, the development site, that are identified for retention and are likely to be affected either directly or indirectly by the development. The plan must be fit for purpose and have enough detail so that a contractor can install the measures.
- 3.30 The Tree Protection Plan shall take account of the RPA, areas of proposed structural landscaping, trees to be retained and removed and the precise location of protective barriers and their signage. Barriers shall be fit for the purpose of excluding construction activity and appropriate to the intensity and proximity of work taking place around trees selected for retention. In certain circumstances standard Heras, chestnut pale or orange barrier mesh fencing may be appropriate. However, deviation from the default British Standard will require justification.

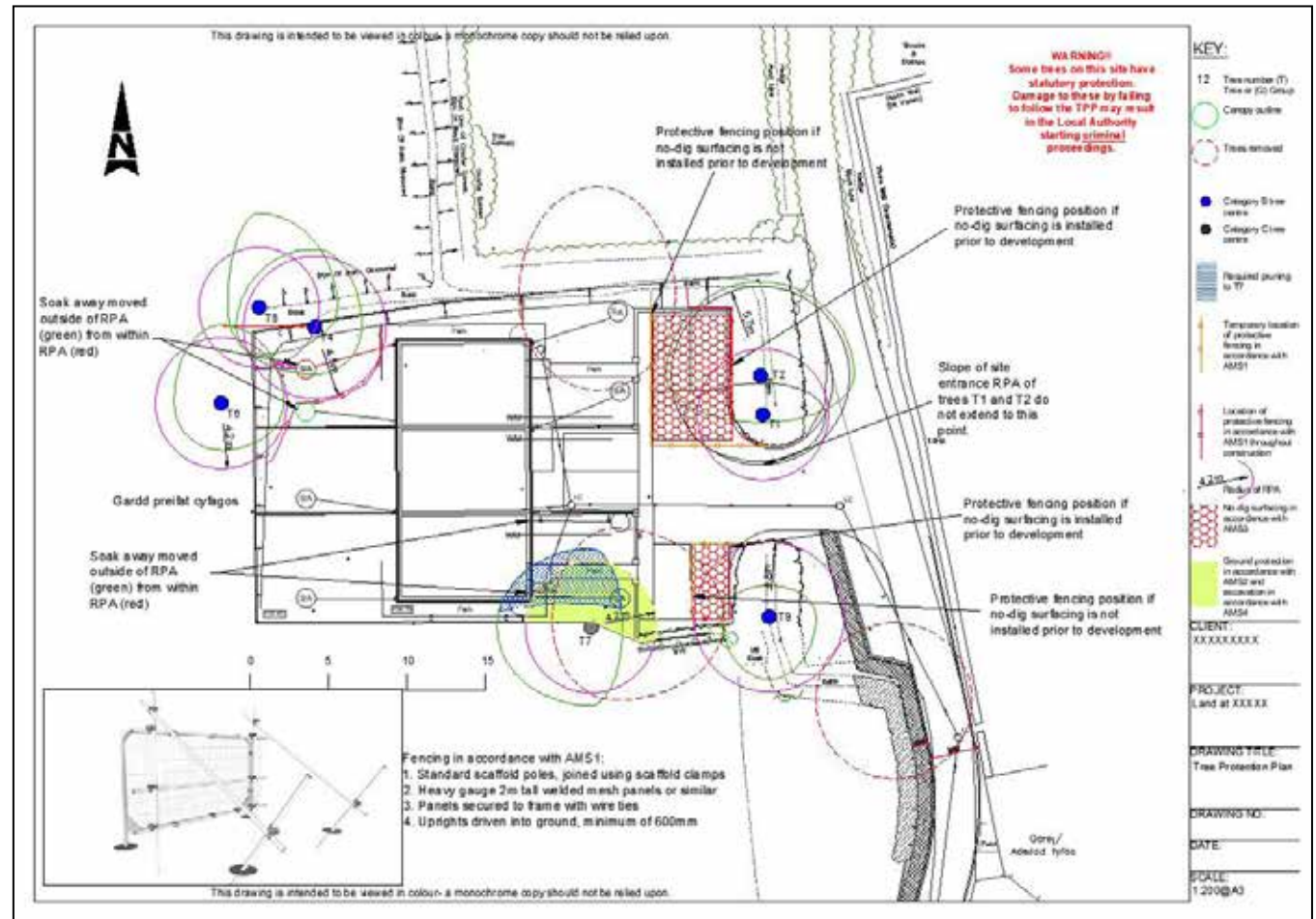
²² See Appendix 2 for information on BS Standards re Tree Constraints Plans.

3.31 Figure 3.2 provides guidance on the details to include in a TPP, and an example is provided at Figure 3.3. Further guidance on the information required to respond to householder and larger scale applications is provided in Chapter 4.

Figure 3.2: Tree Protection Plan Requirements

- The physical means of tree protection on site, indicated through drawings and/or descriptive text.
- The position of the tree protection fencing and any ground protection showing the actual position with dimensions from a fixed point.
- Dimensions of the exclusion zone and position and type of signage identifying them as an exclusion zone shall be noted on the Tree Protection Plan.
- The protective fencing requirements appropriate for the development should be identified within the Tree Protection Plan and approved in writing by the LPA prior to the commencement of work on site.
- Where approved work is detailed to occur within the RPA, details of the re-aligned position of fencing, along with specific ground protection details shall be supplied.
- The plan must be to a suitable scale, with a north point and scale bar.

Figure 3.3: Sample Tree Protection Plan



Preventing damage during construction

- 3.31 Where trees are adjacent to a development site, or trees have been identified for retention within the site, it is essential that the following guidance is followed to ensure that damage during construction is prevented.
- 3.32 **Parts of the Tree to consider:** In addition to the obvious parts of the tree (canopy, branches and stem), the hidden roots can also be damaged during construction. In general terms tree roots are found in the upper 600mm of soil, although root distribution can be deeper dependent on site conditions and tree species. They consist of structural roots which anchor the tree and a network of smaller roots that uptake water and nutrients.
- 3.33 **Maintaining soil structure:** An ideal soil for root growth and development contains about 50 percent pore space for water and air movement. Heavy construction equipment and/or repeated pedestrian movements can compact topsoil and subsoil dramatically reducing pore space. Compaction inhibits root growth, limits water penetration, and decreases oxygen needed for root survival (see above).
- 3.34 **Maintaining a healthy root structure:** Digging, grading, and trenching associated with construction and underground utility installation can be very damaging to roots. A tree's root system can extend horizontally at a distance one to three times greater than the height of a tree. Excavation in a tree's root protection area (RPA) can reduce tree vitality leading to premature death of the tree(s). Cutting roots close to the trunk can severely damage a tree and cause it to fail in high winds (see above).
- 3.35 **Maintaining original soil levels:** The majority of fine water-and- mineral-absorbing roots are in the upper 15 to 30 cm of soil where oxygen and moisture levels tend to be best suited for growth. Even a few centimetres of soil piled over the root system to change the grade can smother fine roots and eventually lead to larger root death and the loss of trees.
- 3.36 **Avoiding root / soil contamination:** Spillages of fuels, construction chemicals or uncontrolled cement run off can change soil pH or poison tree roots.
- 3.37 **Avoiding physical impact:** Construction equipment can injure the above-ground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal.
- 3.38 **Avoiding exposure:** Trees in a group grow as a community, protecting each other from the elements. Trees can grow tall with long, straight trunks and high canopies; removing neighbouring trees during construction exposes the remaining trees to increased sunlight and wind which may lead to sunscald or breakage of limbs and stems and potentially windthrow of remaining trees.

Tree Protective Fencing

- 3.39 **Tree protective fencing must be in place before any aspect of development starts** and maintained in this position throughout the lifetime of the development. Figure 3.4 shows typical detail of a Tree protection fence to BS5837.
- 3.40 The fencing must be in position prior to demolition, commencement of ground works, materials being brought onto site etc. The majority of damage to soil and trees on development sites occurs during these activities.
- 3.41 If alternative fencing layouts are needed for the various stages of demolition and construction these must be detailed on the Tree Protection Plan with a clear definition between layouts and 'phases

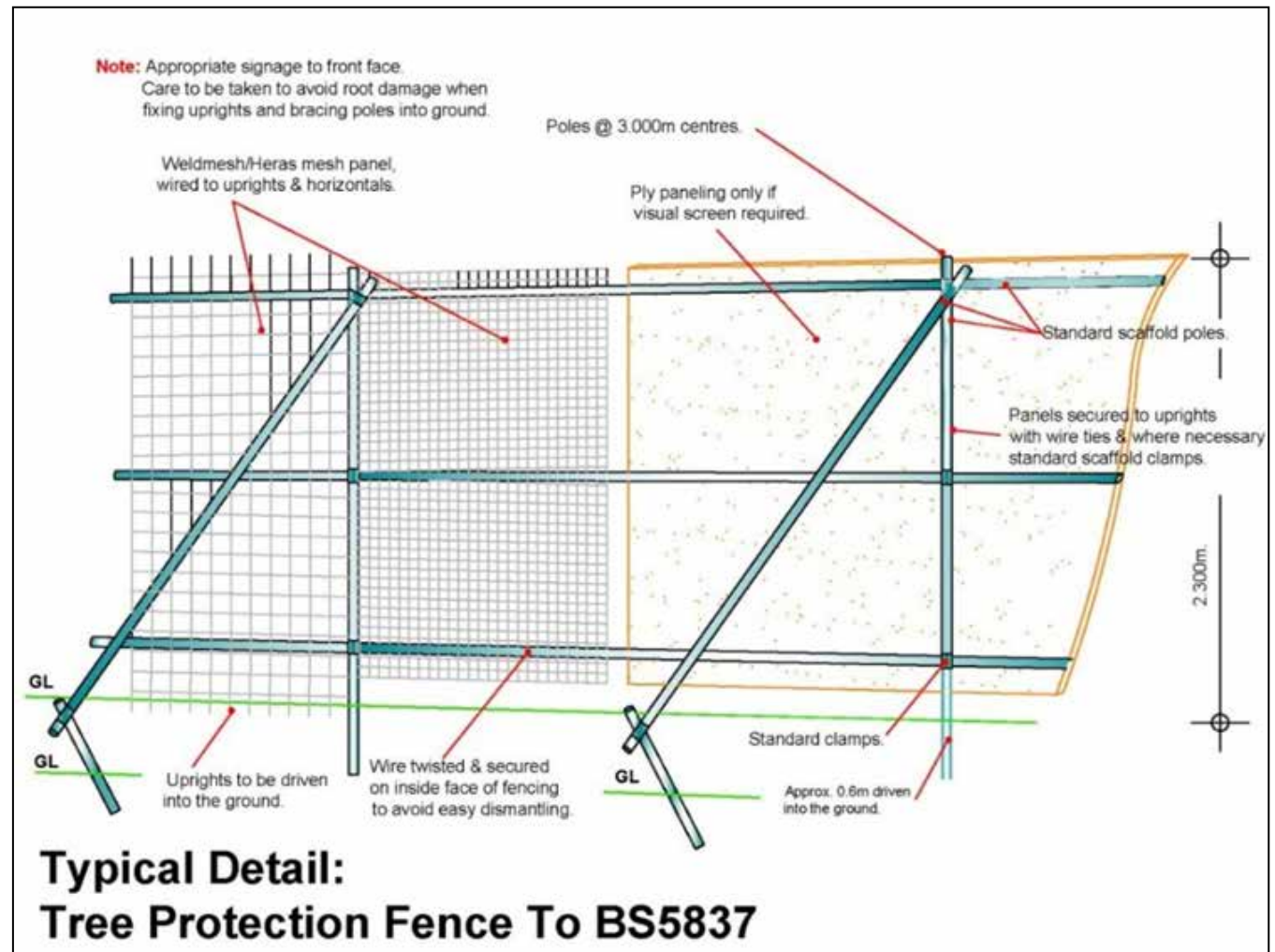


Figure 3.4: Typical Detail: Tree Protection Fence to BS5837

- 3.42 All operatives should be aware of all tree protection measures and a copy of the approved Tree Protection Plan, any Arboricultural Method Statements and a copy of the planning consent with conditions should be available for inspection on the site.
- 3.43 Figure 3.5 provide simple rules that **MUST** be adhered to throughout the demolition and construction phases of the development:



Rules for Demolition and Construction Phases

- Do not remove the protective fencing around a RPA for any reason without prior approval.
- Repair any damage to the protective fencing around a RPA immediately.
- Do not park or operate machinery and equipment near trees.
- Do not store materials within the RPA. Contaminants (fuel, oil and chemicals) must be stored at least 10m away from the protected area.
- Do not mix cement near trees (See below)
- Do not light fires within 10m of any tree and beware of flames drifting towards branches.
- Do not secure temporary overhead cables or floodlights to trees.
- Do not change the ground level or excavate within the branch spread of existing trees.

Figure 3.5: Rules for demolition and construction phases

Arboricultural Method Statements

- 3.44 An Arboricultural Method Statement (AMS) shall describe construction operations to be undertaken in proximity to trees as highlighted in the arboricultural impact assessment. The AMS shall make allowance for, and plan, all construction operations to be undertaken in proximity to trees.
- 3.45 Figure 3.6 provides some of the aspects that an AMS shall include, but is not limited to, the following aspects;²³

Arboricultural Method Statements: Recommended Content

- Site construction access;
 - The intensity and nature of the construction activity;
 - Special engineering solutions (foundations etc.) to protect trees;
 - Specification of no-dig surfacing details within tree RPAs and method statement;
 - Method for approved excavation in RPA's;
 - Contractors car parking and phasing of construction works;
 - Space required for foundation excavations and construction works;
 - The location and space required for any service runs, both underground and overhead, including: foul and surface water drains, land drains, soakaways, gas, oil, water, ground source heat systems, electricity, telephone, television or other communication cables;
 - All changes in ground levels including the location of retaining walls and steps, making adequate allowance for the foundations of such structures, drainage and back filling;
 - Space for cranes, plant, scaffolding and access during works;
 - Space for site huts, temporary toilets
- (including their drainage) and other temporary structures;
 - The type and extent of landscape works which will be needed within the protected area, and the affect these will have on the root systems;
 - Particular attention, where applicable, to be given to the height of storage of topsoils and subsoils that is to be reused and should be dealt with as per BS 3882:2015 and BS 8601:2013;
 - Measures for dealing with Japanese Knotweed / Himalayan Balsam etc.;
 - Any proposed arboricultural watching brief to monitor and confirm the implementation and maintenance of tree protection measures.
 - Tree surgery specification (in accordance with BS3998:2010 Tree work7 – Recommendations);
 - Method for mitigating any accidents or contravention of the Tree Protection Plan;
 - Method for avoiding negative impacts on biodiversity;
 - Space for storage (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete (including storage);
 - The effect of slope on the movement of potential harmful liquid spillages towards or into protected areas.

Figure 3.6: Arboricultural Method Statements

23 BS 3882:2015 Specification for Topsoil and BS 8601:2013 Specification for subsoil and requirements for use <https://shop.bsigroup.com>

- 3.46 Note that excavation within the RPA of tree(s) will need justification. The guidance contained in *Volume 4: Street Works UK Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2)* is **not considered adequate where planning control applies**
- 3.47 On sites where site clearance prior to construction will be on a large scale the method for the protection of trees will be required to cover this phase of works.



Factors to take into account during design stages

3.48 During the design and planning stages various factors must be taken into account. This should include, but is not limited to, the points in Figure 3.7 below²⁴



Figure 3.7: Design Stage Considerations

- Secured by design requirements and CCTV provision
- Mitigating conflicts between finished levels and existing trees.
- Where the site is affected by shrinkable/ expandable clay soils, attention shall be given to the design of building foundations, walls and pavements such that they are sufficient to avoid future problems of movement exacerbated by tree roots of existing trees and new tree planting.
- Routing of any underground services. It is unacceptable for underground services to be routed through the RPAs of existing trees.
- Soakaways should not be installed close to trees as tree roots may exploit such areas and feeder drains may become blocked.
- The principle of balancing tree, shrub and hedge removal with the quality of the proposed landscaping requires careful consideration at the outset and should not be considered as an afterthought. There is likely to be ongoing protection of any proposed tree planting by TPO to mitigate the loss of trees that may have been removed as part of the development process and in the creation of place. (See below.)
- Wherever possible retained trees should be included in public areas rather than private gardens.
- Trees and hedgerows should not be landlocked between residential properties and fenced off into unmanaged areas.
- Tree Preservation Orders (TPOs) / conservation area protection
- Biodiversity value including protected species. (See Future Wales, PPW and Biodiversity SPG)
- The effects of development proposals on the amenity value of trees (post design).
- Below ground constraints: root distribution, suitable RPAs taking into account root morphology.
- Above ground constraints: overbearing and large trees close to buildings/proposed development, shading to rooms and gardens, positions of infrastructural provisions that could impact upon, and be impacted by trees. Future growth of existing and proposed trees should also be taken into account. Design guidance to reduce solar shading can be sought from BRE “Site layout planning for daylight and sunlight: a guide to good practice (BR 209)”¹
- Change in hydrology – decreasing available water or waterlogging
- Design should minimise conflicts between highways, streetlights, advertisement and signage, kerbs/haunching, hard surfacing, soft landscaping treatments and existing trees.

²⁴ <https://www.bregroup.com/services/testing/indoor-environment-testing/natural-light/>

- 3.49 Whilst the tree survey shall inform the design process and ultimately the site layout, the LPA recognises the competing needs of development and that trees are only one factor requiring consideration. However, certain trees, woodlands and hedgerows are of such importance and sensitivity, as to prevent development occurring or substantially modify its design and layout. Early identification of trees within and adjacent the site is therefore a vital element of establishing the viability of a site.
- 3.50 Care shall also be taken to avoid layouts which introduce conflicts with retained trees, misplaced tree retention; attempting to retain too many low quality trees, unsuitable trees, or trees that are unlikely to survive the development process on a site. All of which may result in excessive pressure during and after the development work and subsequent demands for removal of retained trees.
- 3.51 Careful planning and expert arboricultural and/or landscape advice should be employed from the



- outset, to ensure that good quality placemaking is achieved, with a sufficient amount of trees of suitable type and providing sustainable tree cover is delivered and maintained.
- 3.52 Trees can impinge on many aspects of site development. Throughout the development process all members of the applicant's design team should give adequate consideration to the requirements of trees.
- 3.53 Even if trees are not present within the site, off site trees and areas for planting trees, where potentially affected, should be identified and plotted on the Tree Constraints Plan and protected from damage or compaction.
- 3.54 Detailed guidance on placemaking and the integration of retained and newly planted trees can be found in the Placemaking Guidance SPGs²⁵

25 <https://swansea.gov.uk/spg>

Introduction

4.1 The types of documents to be submitted with a planning application will depend on whether the scheme is permitted development, a householder application, or a full or outline application for larger developments.

Permitted Development

4.2 Building and other construction works carried out as permitted development do not require any documentation to be submitted to the LPA. However it will be generally in the best interests of a householder to consider trees on the development site using the guidance in this document. This is because permitted development rights do not allow damage to protected trees (including qualifying trees within a Conservation Area²⁶). A 'tree works' application will therefore be required if work is likely to affect protected trees. Construction will also need to comply with building regulations and foundation design should follow guidance at Section 4.2 of *'NHBC Standards, Building near trees'*²⁷.

4.3 Trees on neighbouring land potentially affected by permitted development should also be considered as action can be taken under common law if damage causes the death of the tree or harm to the neighbouring people or property. (See 4.2 above).

4.4 The impact of permitted development on the biodiversity, ecosystem resilience and historic environment value of trees should also be considered in accordance with relevant LDP policy and SPG.



26 <https://www.swansea.gov.uk/article/5899/Trees-in-conservation-areas>

27 <https://nhbc-standards.co.uk/4-foundations/4-2-building-near-trees/>

Householder Applications - (e.g. all works to a single dwelling, except house construction)

- 4.5 See figure 4.1 below for a list of information required for householder applications.
- 4.6 For many householder applications the expense of a tree survey may not be necessary if it is possible to show accurately on a block plan the positions of the trees in relation to the proposals. Trees (stems and canopy spreads) and hedges on site or within influencing distance (i.e. off-site) should be accurately plotted on a block plan which should show details of which trees are to be retained, removed and pruned. Ideally this plan should include an initial assessment of the root protection area.
- 4.7 The illustration in Figure 4.2 provides an example of a *Householder Tree Constraints Plan* that highlights how the potential 'development zone' should be informed by an accurate appraisal of the constraints associated

with trees and any other relevant issues on the site.

- 4.8 Where it is clear from the block plan with the trees plotted that there is a conflict between the proposals and trees, then a more detailed *Arboricultural Impact Assessment* may be required after consultation with the Councils Arboriculturalist /Tree Officer. Submitting this at the outset may reduce delays in processing the application.
- 4.9 Impacts on the biodiversity, ecosystem resilience and historic environment value of trees should also be considered. Trees may also be of historic importance where they are located for example within an historic landscape (e.g. a Registered Park and Garden), a conservation area, or the setting of a listed building. Impacts and subsequent response, mitigation and management should be considered in accordance with the relevant policy and guidance.

Householder Applications	
Trees & Hedges Plotted on Block and Site Layout Plans	✓
Indication of Services and Drainage	* (maybe required)
Land Survey/ Topographical Survey	X
BS 5837 Tree Survey	* (maybe required)
Arboricultural Impact Assessment (AIA)	* (maybe required)
Tree Protection Plan (TPP)	* (maybe required)
Arboricultural Method Statement (AMS)	* (maybe required)
Preliminary Ecological Assessment (PEA)	✓
Historic Environment/ Archaeological Survey	* (maybe required)

Figure 4.1: Householder Applications requirements

Full and Outline Applications

Larger Scale Development – (e.g. new build, mineral workings and waste development proposals)

4.10 Where trees are on or within influencing distance (i.e. off-site) of the proposed development site the following will be required

- a topographical Survey;
- a BS 5837 Tree Survey; and

4.11 An Arboricultural Impact Assessment is likely to be required.

4.12 The following may be required to demonstrate that development is feasible prior to approval:

- A Tree Protection Plan,
- an Arboricultural Method Statement
- and/or a Landscape Plan
- A Preliminary Ecological Appraisal
- Historic Environment Archaeology

Impacts on the biodiversity, ecosystem resilience and historic environment value of trees should also be considered.

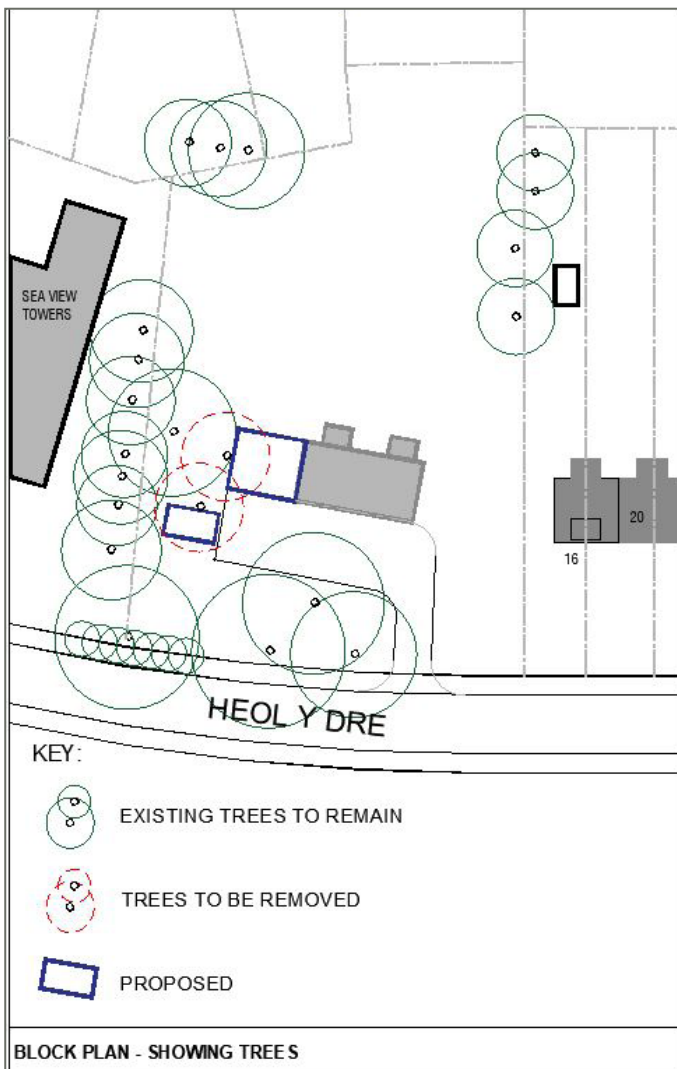


Figure 4.2: Example of Householder Tree Constraints Plan



Outline Applications

- 4.13 An application for outline permission will normally only require a tree survey. However, if the indicative layout or density shows development close to trees then an Arboricultural Impact Assessment is likely to be required / should also be submitted. This will evaluate future potential conflicts between the development and the final size of adjacent trees and hedgerows that are to remain. If the impacts are considered a threat to the trees then a Tree Protection Plan and an Arboricultural Method Statement may also be required.
- 4.14 A preliminary ecological assessment is likely to be required for large and outline applications. See para 2.10 and further guidance in the Development and Biodiversity SPG.
- 4.15 Where a Tree Replacement Scheme is required, Applicants may submit the Tree Replacement Assessment calculations (based on Appendix 1) with the application.

	Outline	Full
Trees & Hedges Plotted on Block and Site Layout Plans	✓	✓
Indication of Services and Drainage	* (maybe required)	✓
Land Survey/ Topographical Survey	✓	✓
BS 5837 Tree Survey	✓	✓
Arboricultural Impact Assessment (AIA)	✓ (if impacts to trees are foreseeable)	✓
Tree Protection Plan (TPP)	✓ (maybe required to show development is feasible or will be a reserved matter)	✓ (can be conditioned)
Arboricultural Method Statement (AMS)	✓ (maybe required to show development is feasible or will be a reserved matter)	✓ (can be conditioned)
Preliminary Ecological Assessment (PEA)	✓	✓
Tree Replacement Assessment	✓ (Required where tree replacement to be agreed) See Appendix 1	✓
Archaeology/Heritage Impact Statement	✓ (if impacts to historic environment value of trees are foreseeable)	✓

Figure 4.3: Full and Outline Application requirements

Introduction

- 5.1 The retention of trees required as part of proposed developments will be secured through appropriate planning conditions and or planning obligations, including TPOs where appropriate.
- 5.2 Where measures are proposed to protect trees within or adjacent to the site, these are more likely to be successfully implemented if submitted and approved as part of the planning application.

Conditions

- 5.3 Conditions will be attached to a planning permission to ensure that that the Root Protection Areas (RPAs) of retained trees are adequately fenced off for the duration of the demolition/construction phase of the development.
- 5.4 Developers will be required to notify the LPA prior to commencement of any works on site, including demolition or vegetation clearance. At this stage the Council may inspect the measures that have been put in place to protect trees during construction. Ad-hoc

visits will be made throughout the construction phase to check that tree protection measures are still in place. The LPA will exercise its powers of enforcement, where necessary, to ensure compliance.

- 5.5 The LPA will not only expect developers to obtain the appropriate professional advice during the application stage but may also attach a condition to ensure adequate supervision of the construction phase by an appropriately qualified Arboriculturist.
- 5.6 If difficulties are experienced at any time during the construction process in complying with conditions relating to trees (e.g. in maintaining the distances of protective fencing in accordance with the Tree Protection Plan) and it is desired that the terms of any conditions be modified, it will be necessary to consult with, and get written approval of the LPA, prior to carrying out any changes.
- 5.7 **Failure to comply with Planning Conditions:** Where a breach of any tree protection related planning

condition is identified, the LPA will take appropriate enforcement action. This may include serving a 'Stop Work Notice' on a construction site where a contravention has occurred, or the instigation of legal proceedings under Section 210 of The Town & Country Planning Act 1990.

- 5.8 Both newly planted trees and existing ones retained within a development should be cared for after the development is complete.
- 5.9 Conditions will normally be placed on planning consents to ensure that if any new tree included in a landscaping scheme of a development becomes unhealthy, or dies within a conditioned period of time of the completion of the development²⁸, it will be replaced by a new tree of like species, similar in age and size to the tree to be removed and at the same location.
- 5.10 The Council may consider making TPOs on the trees protected previously by condition at any time following point of discharge.

²⁸ 5 years is usually the period however the period will be discussed in each case

Tree Replacement Schemes and Swansea Tree Replacement Standard

5.11 In accordance with Policy ER 11, where trees are to be replaced, a scheme for tree replacement must be agreed prior to the commencement of development, including detail of planting and aftercare. The Tree Replacement Standard at Appendix 1 provides further detail of the triggers for obligations and how the detail of tree replacement schemes will be agreed, in terms of both calculating the number of replacement trees required, and calculating the cost of replacement of trees off-site.

The Swansea TRS is based upon principles established in national and local planning policy, and clarified within this SPG, namely, that:

- 1) Development that would adversely affect significant trees should be avoided in the first instance.

- 2) A BS 5837:2012 Tree Survey should be carried out to assess the impact of a proposed development on trees within and/or adjoining the site
- 3) Where development affecting trees cannot be avoided, the Council expects all A and B trees to be retained and integrated into the design and layout of the proposals, unless exceptional circumstances are sufficiently demonstrated to justify the removal of a particular tree.
- 4) Replacement trees should include large growing species (where appropriate), and where replacement is on site it should be chosen as part of the design layout
- 5) Mitigation should reflect the impact of loss of canopy cover, and not simply the number of tree stems lost.

5.12 Planning Obligations will be used to secure the planting and maintenance of off-site replacement trees.

Tree Preservation Orders

5.13 The LPA may serve TPOs on retained or newly planted trees located on private land within a development site where they are considered integral to meet placemaking requirements and form part of securing the wider sense of place of the development as whole. Trees on publicly owned land would not require TPO as these would be managed by the council and covered by any extant Council tree strategy. The TPO would be applied to the whole development at the point of discharge of condition.

6.1 Appropriate new tree, shrub and hedgerow planting, amongst other landscaping proposals, may be required on development sites to compensate for any loss of tree canopy cover. It may also be required to meet placemaking objectives, enhance amenity, create a sense of place, or maintain or enhance biodiversity.

Planting Standards and Selection

6.2 Planting should be carried out in accordance with British Standard BS 8545:2014 *'Trees: from nursery to independence in the landscape – Recommendations'*²⁹.

6.3 The choice of trees to be planted should consider the layout and design of the site, future use, soil and climatic conditions, biodiversity, local landscape character and contextual surroundings. Sufficient space must be planned within the layout to allow trees to reach their mature size.

6.4 Planted trees should be of a species that at maturity achieve a size and form compatible with the scale and structure of the development.

6.5 Where tree planting is proposed within hard surfaced areas (e.g. parking areas and footpaths) details of the drainage / irrigation (where necessary) and size of planting pits must be sufficient to provide an adequate volume of soil to support the eventual size of the planted tree(s)³⁰.

Integrating planting into design and layouts

6.6 Layouts should consider how trees can be integrated into the development taking into account other factors such as Sustainable Drainage Systems (SuDS) and Green Infrastructure (GI) requirements. Guidance on tree integration can be found in *"Trees in the Townscape: A Guide for Decision Makers"*³¹ and be delivered using guidance in *"Trees in Hard Landscapes: A Guide for Delivery"*³²

6.7 Where urban trees are proposed as part of a SUDs scheme, the specification of the tree pit (i.e. crate system, Stockholm pit etc) must be provided in the landscape plan. The Council has other SPG relating to Green Infrastructure that provides further details on the role of trees in reducing surface water run off as part of green infrastructure provision.

6.8 The RSPB have produced guidance on the role of Trees in relation to Green infrastructure and Biodiversity³³. The Council's Placemaking Guidance SPG's also provide detailed guidance on how to integrate planting into design as part of placemaking.



29 <https://shop.bsigroup.com>

30 Further advice on tree rooting volumes can be found in the titles in the Reference section.

31 <https://www.tdag.org.uk/trees-in-the-townscape.html>

32 <https://www.tdag.org.uk/trees-planning-and-development.html>

33 Sustainable Drainage Systems - Maximising the Potential for people and wildlife. A Guide for Local Authorities and Developers. RSPB. <https://www.rspb.org.uk>

Introduction

- 7.1 It is important to ensure that decision making in relation to trees, hedgerows and woodland on development sites is done having regard to full understanding of the legal and planning requirements that apply. In some instances seeking professional advice will be necessary to inform the process.
- 7.2 Fundamentally it is important to establish which of the following professionals you will need to employ.
- 7.3 **A Tree Consultant:** Will give professional advice on the health and/or safety of a tree; relationships with proposed or existing buildings and development sites or any other tree issue requiring a report.
- 7.4 **An Arboriculturalist** (e.g. an arboricultural Consultant) can help you prepare the necessary documentation required by the LPA in support of a planning application.

- 7.5 **A suitably qualified, experienced and resourced Landscape Architect:** Will give comprehensive advice on working with and the protection of the existing landscape, will design and 'make' great places and may give advice on existing tree issues. See links to the Landscape Institute (LI) in the Contacts page to see what a Landscape Architect can offer, the categories of membership of the LI and find a Practice with the skills and expertise you need.
- 7.6 **A qualified, competent and experienced tree surgeon / contractor:** will give a professional service including pruning, and removal and may give basic advice on tree condition and tree management operations as required.
- 7.7 **A suitably qualified ecologist:** Will give advice on protected species and provide guidance on the ecosystem services provided by single or groups of trees on the site. Advice can also be provided on any potential impacts on biodiversity especially on protected species, ecological connectivity and choice of species to plant.

- 7.8 **A suitably qualified Archaeologist:** All work should be undertaken either by a Registered Organisation (RO) with the CfA or by a MCIfA level member and be undertaken to the Standards and Guidance of the Chartered Institute for Archaeologists³⁴.
- 7.8 Please note that the LPA is unable to recommend who to employ but further guidance is set out in Section 9 to help inform the process of identifying a suitable candidate.



34 <https://www.archaeologists.net/codes/cifa>

Identifying a Suitably Qualified Professional

Tree Consultants

7.8 A tree survey should be undertaken by a suitably qualified and experienced arboriculturist (as required by BS5837). All reports must specify the qualifications held by the arboriculturist and all surveyors.

7.9 A professional providing this type of service should hold Professional Indemnity Insurance and one of the following qualifications or industry recognised standards:

- Certificate in Arboriculture level 3/4 (Tech Arbor A).
- Diploma in Arboriculture level 6 Dip Arb (RFS)
- BSc or MSc (Degree or Masters) in arboriculture.
- Professional Member or Fellow of the Institute of Chartered Foresters, attained by an arboricultural route / Chartered Arboriculturist (MICFor / FICFor)
- Fellow of the Arboricultural Association
Arboricultural Association Registered Consultant

Tree surgeon / contractor:

7.10 Picking the wrong tree surgeon/ contractor could lead to:

- Injury to people,
- Damage to property,
- Irrevocable damage to trees that have taken many years to grow.

7.11 Tree work operations (arboriculture) require a high degree of technical competence, supported by training and experience. For these reasons tree work should only be undertaken by well trained, suitably resourced, competent contractors who hold adequate insurance. Look for:

- Employers Liability and Public Liability Insurance (recommended min £5 million)
- NPTC Certificates of Competence
- Written quotations
- Membership of a professional organisation. (Membership does not guarantee work standards but does show a degree of commitment)
- References for similar work

- Planning Policy Wales <https://gov.wales/planning-policy-wales>
- Technical Advice Note (TAN) 10: Tree Preservation Orders (1997) <https://gov.wales/technical-advice-notes>
- City and County of Swansea Local Development Plan. Adopted February 2019. <https://swansea.gov.uk/ldp>
- City and County of Swansea Biodiversity SPG <https://www.swansea.gov.uk/biodiversityspg>
- City and County of Swansea GI Strategy - Central Area: Regenerating our City for Wellbeing and Wildlife <https://www.swansea.gov.uk/greeninfrastructurestrategy>
- British Standards: <https://shop.bsigroup.com>
- British Standard BS5837:2012 Trees in relation to design, demolition and construction - Recommendations
- British Standard BS3998:2010 Tree Work – Recommendations
- British Standard BS8545:2014 Trees: from nursery to independence in the landscape – Recommendations
- British Standard BS3882:2015 Specification for topsoil
- British Standard BS8601:2013 Specification for subsoil and requirements for use
- NHBC Standards, 4.2.3 Building near trees - NHBC Standards 2021 NHBC Standards 2021 <https://nhbc-standards.co.uk/4-foundations/4-2-building-near-trees/>
- ‘Veteran Trees: A guide to good management’. Helen Read. (2000). All ancient / veteran tree books are available from <https://www.woodlandtrust.org.uk/> as a free download.
- ‘Trees in the Townscape: A Guide for Decision Makers’. 2012. TDAG <https://www.tdag.org.uk/>
- ‘Trees in Hard Landscapes: A Guide for Delivery’. 2014. TDAG. Both TDAG books are available as a free download at <https://www.tdag.org.uk>
- Sustainable Drainage Systems - Maximising the Potential for people and wildlife. A Guide for Local Authorities and Developers. www.rspb.org.uk
- ‘Site layout planning for daylight and sunlight: a guide to good practice (BR 209)’ BRE. P. Littlefair
- ‘Tree Roots in the Built Environment’. (2006). Department for Communities and Local Government (DCLG)
- ‘Up by Roots’ - Healthy Soils and Trees in the Built Environment. James Urban. (ISA) (2008).
- ‘Urban Trees: A Practical Management Guide’. Steve Cox. (2011)
- ‘Ancient Tree Guides No. 3: Trees and Development.’
- ‘Ancient and other veteran trees: further guidance on management’. Lonsdale (2013)

- **Arboricultural Association (AA)**
The Malthouse, Stroud Green, Standish, Stonehouse, Gloucestershire, G40 3DL
Tel: 01242 522152
Email: admin@trees.org.uk
Web: www.trees.org.uk

Advice on trees and produces an annual directory of AA Registered Consultants
- **The Institute of Chartered Foresters,**
ICF Head Office, 59 George Street, Edinburgh, EH2 2JG
<https://www.charteredforesters.org/>
- **Consulting Arborist Society (CAS)**
Email: chairman@consultingarboristsociety.co.uk
Web: www.consultingarboristsociety.co.uk

Provides a list of CAS approved arboriculturalists
- **British Standards Institute**
Customer Services, 389 Chiswick High Road, W4 4AL
Tel: 020 8996 9001
Email: cservices@bsigroup.com
Web: www.bsi-global.com

Provision of British Standards
- **Chartered Institute of Ecology and Environmental Management (CIEEM)**
43 Southgate Street, Winchester. SO23 9EH
Tel: +44 (0)1962 868626
Web: <https://cieem.net>

Advice/guidance on ecological surveys and appointment of qualified ecologists/ecological consultants.
- **Landscape Institute (LI)**
107 Grays Inn Road, London, WC1X 8TX
Tel: 020 7685 2640
Web: <http://www.landscapeinstitute.org>
- **Arboricultural Advisory & Information Service**
Alice Holt Lodge, Wrecclesham, Farnham, Surrey, GU10 4LH
Tel: 09065 161147 (Premium Rate) or Administration: 01420 22022
Email: admin@treehelp.info
Web: www.treehelp.info/

Advice and guidance on tree care and issues related to trees on development sites
- **Planning and City Regeneration**
City and County of Swansea Council, Civic Centre, Oystermouth Road, Swansea, SA1 3SN
Tel: 01792 636000
Email: planning@swansea.gov.uk or protectedtrees@swansea.gov.uk
Web: www.swansea.gov.uk
- **Natural Resources Wales**
Tel: 0300 065 3000

Email: enquiries@naturalresourceswales.gov.uk
- **The Wildlife Trust of South and West Wales**
<https://www.welshwildlife.org/>
- **Chartered Institute for Archaeologists**
<https://www.archaeologists.net/codes/cifa>
- **Woodland Trust**
<https://www.woodlandtrust.org.uk/>

What is the TRS?

- A.1 The Swansea TRS supports the Council and the Applicant in the process of agreeing a Tree Replacement Scheme, to mitigate or compensate for the loss of individual and/or groups of Category A and/or B trees (as identified in a BS 5837:2012 Survey) as a result of development. This applies to both trees within and adjacent to the site.
- A.2 The TRS does not apply to
- Category C or U trees; or
 - trees of any category located within privately owned gardens
- A.3 **TRS and Woodland:** Where woodland is removed to facilitate a planning consent, the Council will have specific regard to the number of Category A or B trees identified in the BS Survey as being within the woodland area to be lost. It is important to note that application of the TRS does not substitute any requirement to undertake relevant parallel processes to establish appropriate integration, mitigation or compensation with regard

to impact on the ecological, historic or archaeological value of the whole woodland proposed to be removed.

How to apply the TRS

- A.4 Figure A.1 of the TRS provides a transparent method to calculate the number of replacement trees to be provided. The method seeks to mitigate the impact of loss of canopy cover, and not simply the number of tree stems lost.
- A.5 The TRS will be expected, in the first instance, to demonstrate how replacement trees will be integrated into design and layout of the proposal.
- A.6 In the exceptional circumstances where on-site provision cannot be achieved, Figures A.2 and A.3 of the TRS provide a transparent calculation of the financial contribution to be agreed, in order to secure the planting of appropriate off site replacement trees. The financial contribution will be used by the Council, to fund the planting of trees (by the Council or its contractors) to replace trees on Council owned land outside the

boundary of the development site. The calculations reflect the differing costs of planting trees in open ground (Fig.A.2) and planting trees in hard standing (Fig.A.3).


- A.7 Figure A.4 gives a worked/hypothetical example of how the TRS should be applied.
- A.8 Applicants will be expected to demonstrate how the TRS has been applied to their proposal by submitting information that addresses the following:
- The relevant calculations undertaken, to be completed in accordance with the method at Figure A.1. All calculations will reflect information related to the trees on or adjacent to the site provided in a BS 5837:2012 Tree Survey.
 - The number, location and specification of replacement trees to be provided on-site (as per Fig A.1).
 - The number of, and justification for any trees which must be provided off-site.

- The proposed species of replacement trees, which should include large growing species (where appropriate), and where replacement is on site should be chosen as part of the design layout

A.9 All calculations and information relating to the TRS should be provided within the appropriate documents supporting the application. For example within the DAS, or for larger applications, within a Landscaping Scheme, or Green Infrastructure Strategy.

Calculating the number of replacement trees required

A.10 Figure A.1 provides the method by which the number of replacement trees required should be calculated. This method applies to both replacement of Category A and/or B trees on and off site. Replacement calculation as part of their application.



Trunk Diameter of Category A and/or B Trees lost to development (measured in centimetres at 1.5 meters above ground level)	Number of Replacement Trees to be provided
Less than 15cm	0 - 1
15 - 19.9cm	1
20 - 29.9cm	2
30 - 39.9cm	3
40 - 49.9cm	4
50 - 59.9cm	5
60 - 69.9cm	6
70 - 79.9cm	7
80+cm	8

Figure A.1: Tree Replacement Calculation

Replacement Tree Planting – Off-Site

A.11 Where it has been demonstrated that replacement cannot be achieved on site, or where removal of trees adjacent the site is required to facilitate development – the council will request a financial contribution to secure the planting of an appropriate number of trees on council owned land. The number of trees required will be calculated in accordance with Figure A.1 above.

Trigger for Obligations for Financial Contributions

A.12 The obligation to provide financial contributions to off-site replacement tree planting will only be triggered

- Where trees qualify under categories A and B of BS 5837:2012, are felled as part of ‘major development’³⁵, and replacement planting is required on public land.

OR

35 Major Development is defined as the following: • The provision of 10 or more dwellinghouses; • Outline application on a site area of 0.5 hectares or more and where the proposed number of dwellings has not been specified; • The provision of a building or buildings where the floor space to be created by the development is 1,000 square meters or more; • Development carried out on a site having an area of 1 hectare or more.

- Where woodland is removed to facilitate a planning consent. In this instance appropriate compensatory replacement planting will be based on significant trees identified in the BS survey. NB: *The effects of the loss of the woodland as a whole will expected to be considered as a separate process where mitigation for loss of biodiversity should be the primary consideration.*

Location of Tree Planting

- A.13 All tree planting will be located on public land and undertaken by the Council in order to ensure a consistent approach and level of quality, and to reduce the likelihood of new tree stock failing to survive.
- A.14 Replacement tree planting will take place either
- On open ground; or
 - In areas of hard standing, such as pavements (where a tree pit will be required)

Calculating Level of Financial Contribution

- A.15 The number of trees calculated as required (as per Fig A.1) are multiplied the rates of financial contribution per tree as per Fig A.2 (re trees in open ground) and/or Fig A.3 (re trees in hard standing). A worked example is provided at Fig A.4.
- A.16 The contribution covers the cost of providing the tree pit (where appropriate), purchasing, planting, protecting, establishing and initially maintaining the new tree. Where planting can take place directly into open ground, the contribution will be lower than where the planting is in areas of hard standing. This is due to the need to plant trees located in areas of hard standing in an engineered tree pit.
- A.17 The figures provided at Figures A.2 and A.3 below are an estimate based upon the council’s recent contract costs. These figures provide a starting point for the purposes of establishing site viability and may be the subject of viability negotiations where appropriate. Individual sums will be index linked using RPI from the date they are formally agreed by the relevant parties to the date of payment.

Tree in open ground (no tree pit required)	
Amount	Criteria
<p>For 1 Replacement Tree: £1925</p>	<p>The “open ground” figure will apply in the following circumstances:</p> <p>a) Where development results in the loss of Category A and B, Council owned trees in open ground.</p>
	<p>b) Where development results in the loss of Category A and B trees on the development site, AND is unable to provide replacement tree planting <u>on site</u>, in numbers shown in <u>Figure A.1</u>.</p>
<p>For 5+ Replacement Trees – a reduction applies of -£625</p>	<p>In both these cases the Council will provide replacement tree planting in the nearest appropriate area of open space.</p>

Figure A.2: Replacement Costs for Trees in Open Ground

Tree in hard standing (tree pit required)	
	
Amount	Criteria
For 1 Replacement Tree: £3725	The “hard standing” figure will apply in the following circumstances: a) Where development results in the loss of Category A and B Council owned trees in areas of hard standing.
	In this case, the Council will locate replacement tree planting in areas of hard standing as close as reasonably practical to the development site.
For 5+ Replacement Trees – a reduction applies of -£625	b) Where new tree planting in hard standing is required to mitigate for the impact of development (for example removal of street trees required as part of highway improvements).
	In this case, the Council will implement tree planting in specific locations identified through the planning approval process.

Figure A.3: Replacement Costs for Trees in Hard Standing

Fig A.4 Worked Example:

The following is a hypothetical example:

A development proposal results in the loss of 2 Council owned Trees in Hardstanding which have trunk diameters of 27cm and 33cm respectively. No trees in open ground are lost.

On the basis of the “**Tree Replacement Calculation**” at Figure A.1:

The tree with the 27cm trunk will require **2** replacement trees and

The tree with the 33 cm trunk will require **3** replacement trees.

The obligation will require the provision of a **total of 5** replacement street trees (trees in hard standing).

The “hard standing” figure of **£3,318.88** per tree will apply. (as per Figure A.3)

Therefore the contribution will be:

Number of Replacement Trees (Fig.A1)	x	£ contribution per Trees	=	Total Contribution
5	x	£3,318.88	=	£16,594.40
		Tree in Hard Standing (Fig A3)		

Who are BS5837 surveys for?

This survey is for anyone planning or considering altering property or land which is close to, or contains trees. This covers construction, demolition, design and renovation. More common than not, this will concern large development companies, such as a residential developer. However, it can also include individual homeowners.

Tree surveys are important for the preservation of local wildlife but they also protect new developments by ensuring that large trees won't affect them once they're built. This avoids future situations where a tree's growth starts to impede the structural integrity of a building.

BS5837 Tree Survey Terms Explained:

The specific area that the survey needs to be done is technically within influencing distance of any tree, which can be up to 15m. The survey itself comes as a three stage process, and may vary very slightly from site to site.

Stage 1: Tree Survey Plan: This is simply a drawn plan showing the location of every single tree in the specified area to an exact scale.

Stage 2: Schedule: Each tree (in excess of 75mm in diameter or group of trees) is given

- A unique reference number.
- The scientific and/or common name of each species
- Height of every tree in meters (or range / average for a group).
- Stem Diameter (mm) measured at 1.5 above ground level.
- The 'branch spread' to North, South, East and West.
- existing height above ground level of: 1) first significant branch and direction of growth (e.g. 2.4-N); 2) canopy,
- Age class. Categorised as young, semi-mature, early mature, mature, over-mature;
- Physiological and structural condition – documenting health and any defects.
- Preliminary management recommendations.
- Estimated remaining contribution, in years
- Categorisation: U, A, B, or C

Stage 3 Tree Constraints Plan: This must show the following five things for each tree in the area:

- Accurate position and crown spread.
- Categorisation
- Root Protection Area
- Future Growth Potential (crown spread and height)
- Shade footprint throughout the day. Based on future growth potential

Easy Guide to BS5837 Categories

Category and definition

Criteria (including subcategories where appropriate)

TREES UNSUITABLE FOR RETENTION

Category U Those in such a condition that they cannot realistically be retained as living trees in the context or the current land use for longer than 10 years	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality Note: Category U trees can have existing or potential conservation value which it may be desirable to preserve
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TREES TO BE CONSIDERED FOR RETENTION

	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation
Category A Trees of high quality with an estimated life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual: or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	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 a wider locality	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category C Trees of low quality with an estimated remaining life expectancy or at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of a very limited merit or such an impaired condition that they so not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

ER 11: Trees, Hedgerows and Development

Development that would adversely affect trees, woodlands and hedgerows of public amenity or natural/cultural heritage value, or that provide important ecosystem services, will not normally be permitted.

Ancient Woodland, Ancient Woodland Sites, Ancient and Veteran Trees merit specific protection and development will not normally be permitted that would result in:

- i. Fragmentation or loss of Ancient Woodland;
- ii. The loss of an Ancient or Veteran Tree;
- iii. Ground damage, loss of understorey or ground disturbance to an area of Ancient Woodland or Ancient or Veteran Tree's root protection area;
- iv. A reduction in the area of other semi natural habitats adjoining Ancient Woodland;
- v. Significant alteration to the land use adjoining the Ancient Woodland;
- vi. An increase in the likely exposure of Ancient Woodland, Ancient or Veteran Tree to air, water or light pollution from the surrounding area;
- vii. Alteration of the hydrology in a way that might impact on Ancient Woodland, Ancient or Veteran Trees;
- viii. Destruction of important connecting habitats relating to Ancient Woodland;
- ix. Destruction of Plantations on Ancient Woodland Sites (PAWS); and/or
- x. Development in close proximity to Ancient Woodland and Ancient and Veteran Trees.

Where necessary, planning applications for development proposals on sites containing, or adjacent to, trees will be required to provide: a tree survey; an arboricultural impact assessment; an arboricultural method statement; and/or a tree protection plan. Where trees are to be replaced a scheme for tree replacement must be agreed prior to the commencement of development, including details of planting and aftercare.

2.9.67 National Planning Policy and Guidance⁶¹ provides for the protection of trees and woodlands. Throughout the County it is estimated that over 50,000 trees are protected by individual/group orders, area orders or woodland orders. This is in addition to trees in conservation areas whilst hedgerows are protected by separate legislation.⁶²

2.9.68 In recognition of the importance of trees to the County, the Plan seeks to ensure that suitable trees, whether they are protected by legislation or not, are retained and protected on any development site. Further information relating to the protection of trees on development sites is provided in SPG. NRW i-tree Eco assessment* provides useful information on the ecosystem services provided by trees. Where appropriate planning conditions or Tree Preservation Orders will be used to protect important trees and woodlands. The LPA will pursue appropriate enforcement action against unauthorised works to protected trees.

⁶¹ Planning Policy Wales and TAN 10: Tree Preservation Orders

⁶² Town and Country Planning Act 1990 (as amended), Town and Country Planning (Trees) Regulations 1999, Forestry Act 1967, Hedgerow Regulations 1997.

* i-Tree Eco is a software application to quantify the structure and environmental effects of urban trees, and calculate their value to society. Please see <https://www.forestresearch.gov.uk/research/i-tree-eco/> for further details.



- 2.9.69 The circumstances in which further information in support of a planning application will be required are outlined in the policy. This information must be in accordance with the current British Standard BS5837 and have regard to the long term impact of the proposed development on the trees as they grow and wherever possible seek to avoid future conflict, such as that caused by over-hanging branches, shading and dominance.
- 2.9.70 Planning Permission will normally only be granted where the trees on the site are fully protected in the long term, or appropriate replacement trees will be planted when the removal of a tree or trees is unavoidable. The removal of trees would only be acceptable where there is no other alternative location for the development; and the need for and benefits from the development outweighs the importance of the tree or trees.
- 2.9.71 Replacement trees will be planted in accordance with British Standard BS8545. Tree Preservation Orders (TPOs) will normally be placed on the replacement trees.
- 2.9.72 Planning Conditions, Article 4 Directions and/or *Planning Obligations* will be used to secure any necessary mitigation/compensation/enhancement measures in relation to trees and development proposals.
- 2.9.73 New tree or mitigation planting should be designed to achieve maturity and to ensure that there is an ongoing contribution to amenity with negligible negative impacts. New *landscape* schemes should follow the principles set out in "Trees in the Townscape: A Guide for Decision Makers"* and be delivered using guidance in "Trees in Hard Landscapes: A Guide for Delivery".*

* Trees in Hard Landscapes: A Guide for Delivery. Trees and Design Action Group (2014).

- 2.9.74 *Ancient woodland* is defined as land that has had a continuous woodland cover since accurate maps were first produced. It is a valuable and irreplaceable resource, having been present in the *landscape* over some time. *Ancient woodland* is rich in wildlife and more likely to support protected and priority species and to contain special features of importance for *biodiversity*. It is also more likely to contain features of historical and archaeological importance. Their rarity and importance means that these areas should be protected. Direct loss of *Ancient Woodland* must be avoided. A minimum buffer of 15 metres should be provided between *Ancient Woodland* and most forms of development.⁶³ This is necessary to provide essential root and understorey protection (as required in BS5837:2012) and to protect the important *Ancient Woodland* habitat from indirect damage, such as trampling, fly-tipping, encroachment of invasive features and vegetation clearance resulting from the new development. Ideally, the buffer should be planted with woodland edge species or left as natural grass to increase or maintain ecological connectivity and create a transitional habitat i.e. *ecotone*, providing resilience for this sensitive and highly valued habitat. Where possible, opportunities should be taken to restore plantations on *Ancient Woodland* sites to native tree cover. Plantations on Ancient Woodlands (PAWS) are sites believed to have been continuously wooded for over 400 years, but currently have a canopy cover of at least 50% non-native conifer tree species. Critically, such areas support *Ancient Woodland* soil systems and have the potential to be restored to an *Ancient Woodland* habitat.
- 2.9.75 All areas of *Ancient Woodland* known at the time of the Plan's preparation are shown on the Constraints and Issues Map. However this is only a provisional list and all development sites that support woodland will need to be assessed for *Ancient Woodland* status. NRW will be consulted on any proposals that may give rise to potentially damaging operations.

⁶³ The Woodland Trust Planner's Manual for Ancient Woodland and Veteran Trees – Woodland Trust 2017.



- 2.9.76 An *Ancient Tree* is one that has passed beyond maturity and is old or aged. A *Veteran Tree* may not be old but because of its environment or life experiences has developed the valuable features of an *Ancient Tree*. *Ancient* and *veteran trees* are of prime importance because of their rarity and function within an ecosystem. Individual *Ancient* and *veteran trees* often have local or national significance, due to their age, size or condition. They are also of importance to sustain a range of nationally and internationally *protected species*. In order to provide the necessary protection a buffer of 15x the diameter of the stem of *ancient* and *veteran trees* when measuring at 1.5m from ground level will be required for most forms of development, as endorsed by the Arboricultural Association.⁶⁴
- 2.9.77 There is currently no comprehensive inventory of *ancient* and *veteran trees* within Wales. The required tree survey in support of development proposals will detail whether a site contains or is adjacent to any trees which could be considered to be *Ancient* or *Veteran*.

⁶⁴ *Ancient and other Veteran Trees: Further Guidance and management* by D. Lonsdale (2013).



