

## Advice relating to Trees and Development

### Overview

- This following information explains the minimum requirements of a tree report in relation to a proposed development site.
- This allows the correct information to be received from the planning applicant relating to planning applications where trees are a material constraint; typically sites with trees and /or hedges on or immediately adjacent to the proposed development site.
- A tree report in accordance with **BS5837:2012 Trees in relation to design, demolition and construction: Recommendations** is generally required if there are any trees on or immediately adjacent to the site that meets the following criteria:
- Any tree with a stem diameter of 75mm or greater, measured at 1.5m above highest adjacent ground level.
- Any tree with more than one stem at 1.5m above ground level that has combined stem diameters equaling 75mm or greater.

#### PLEASE NOTE:

*Annex C of BS5837:2012 should be referred to for other commonly encountered tree stems and how to carry out measurements.*

- A project arboriculturalist can be employed by the applicant to provide assistance where necessary throughout the development.
- The report can be included with a planning application so that the Pembrokeshire Coast National Park Authority can make an informed decision on the impact of the development on the surrounding Trees as well as the hard and soft Landscape.

*Reading through this advice note and ticking relevant issues (  ) that are specific to the proposed development can assist in ensuring that the correct material is provided as part of the planning application.*

### Typical Information required

- Arboricultural Implication Assessment (Note 5)
- Scale Tree Protection Plan of the site (Note 6)
- Details of any landscaping and new planting (Note 7)
- Any necessary Arboricultural Method statements (Note 8)
- Details of any pre-development tree work (Note 11)
- Any other information deemed relevant to the application

### Development feasibility considerations

#### Note 1 - Soil assessment

- Soil assessment should be considered if there are concerns regarding:
  - Root Protection Area of retained trees
  - Tree protection
  - New planting designs (suitable post development planting)
  - Foundation designs in relation to retained, removed and new trees.



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### Note 2 - Tree survey and categorization **BS5837:2012 (Clause 4.4.2.5.)**

- A tree survey carried out prior to specific site proposals and early in the process can ensure that any tree constraints can be taken into account prior to the initial design and layout of the site.
- The quality and value of each tree, group and hedgerow on and adjacent to the site should be categorized and recorded regardless of retention, or removal to facilitate the development by allocating it one of the four categories based upon **BS5837:2012 Table 1: Cascade chart for tree quality assessment:**
  - U** – Trees likely to have <10 years retention in current context
  - A** – High quality with life expectancy >40 years
  - B** – Moderate quality with a life expectancy > 20 years
  - C** – Low quality with a life expectancy >10 years or young trees with stem diameter < 150mm
- It can also be beneficial to the project arboriculturalist to have an idea of how the site is proposed to be developed.
- Site context can enable trees on site that could be intrinsic to the desired outcome of the development to be identified.
- For example the loss of a tree can affect screening, privacy, shade and site exposure as well as loss of environmental benefits that a tree can provide which may be of specific importance to the landowner.

### Note 3 - Root protection Area

- The root protection area for each tree should be calculated based upon **BS 5837:2012 Clause 4.6 and Annexes C and D** and centered on the base of the stem.
- Root morphology can be affected by external factors; however the adjustment of the Root Protection Area of a tree must only be amended if agreed with Pembrokeshire Coast National Park Authority following provision of a clear arboricultural assessment of likely root distribution based upon:
  - Past and present influence from site conditions
  - Topography and drainage
  - Soil type and drainage
  - Tree and root tolerance

### Note 3.1 - Pembrokeshire Hedgebanks

- Root morphology along Pembrokeshire style hedgebanks suggest that the majority of the roots will spread laterally along the embankment with only minor roots likely to spread beyond the hedge bank into the adjacent landscape.
- A Construction Exclusion Zone (CEZ) placed at a minimum distance of 1 metre from the base of the hedgebank should minimise the possibility of damage to the root system of the retained hedge during the development.
- This fencing will incorporate and segregate the hedge from the development areas preventing detrimental impacts on all flora associated with the specific hedgebank

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### Proposals: Conception and design considerations

#### Note 4 - Constraints posed by retained trees (BS 5837:2012 Clause 5.2 and 5.3)

- Constraints such as root spread and trees key to the concept of the development can be used to assist in informing the design and layout of the proposal.
- Although the Root Protection Areas represent below ground constraints there are also above ground constraints that can be both beneficial and detrimental to the site's social space and would require further investigation including:
  - Current and expected height of each retained tree
  - Current and expected spread of crown of each retained tree
  - Species characteristics – evergreen, fruit fall, shade, privacy, screening
  - Tree Preservation Orders or within Conservation Area
  - Space on site - during *and* post development
  - Proximity to infrastructure – buildings, cables, solar collectors, roads etc
  - Potential for new planting and mitigation planting.

#### Note 5 - Arboricultural Implication Assessment (BS 5837: 2012 Clause 5.4)

- An Arboricultural Impact Assessment will evaluate the direct and indirect effects of the proposed design and provide necessary mitigation.
- It should be based upon constraints posed by existing trees and the proximity of structures to trees and include:
  - Tree survey (see Note 2)
  - Tree Protection Plan (see Note 6)
  - Arboricultural Method Statements for any activities listed below (see Note 8)
- Details of any activities that could damage the tree mechanically above ground or chemically and physically below ground during the construction should also be provided; such as:
  - Temporary access that may be required into CEZ
  - Excavations or changed in levels (including any services)
  - Existing Landscape constraints – slopes
  - Storage and preparation and containment of contaminants such as Cement and cement mixing
  - Location of Site access, Parking, Site huts, Toilets etc
  - Demolition / deconstruction of any structures
  - Position of utilities (above and below ground)
  - Requirements for special operations access – cranes etc.
  - Additional precautions - Any other site specific information to take into account

#### PLEASE NOTE:

*The Arboricultural Impact Assessment should be read in accordance with the Tree Protection Plan (see Note 6) and should be available on site throughout the development.*

#### Note 6 - Tree Protection Plan (BS 5837: 2012 Clause 5.5)

- A scale Tree Protection Plan will allow an informed decision on the interaction of the development with the retained trees
- This should be superimposed on a layout plan based upon the topographical survey showing the finalized layout proposals along with the following information:
  - Scale of plan in relation to ISO paper size (i.e. 1:200 on A2)
  - North point
  - Retained trees clearly marked and labeled
  - Calculated Root Protection Areas of the trees categorized as A, B and C
  - Precise location of all Protective barriers and Ground protection

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- The Construction Exclusion Zone Location including any set-back position for barriers where temporary access into Construction Exclusion Zone is Required
- Location of Site access, contractor parking, site huts, toilets etc
- Storage and preparation areas
- Position of permanent and temporary hard landscaping including foundations, utilities, soakaways
- Areas where ground levels have changed
- Areas to be protected for any post-development landscaping
- This should be incorporated into the drawings for the proposed development so that the 'footprint' of the structure is seen in relation to the above information.

### **PLEASE NOTE:**

*The Tree Protection Plan should be read in accordance with the Arboricultural Impact Assessment (See Note 5) and should be available on site throughout the development.*

### **Note 7 - Landscaping and new planting (BS5837:2012 Clause 5.6)**

- Post-development landscaping should be provided for comment including the following information:
  - Species
  - Size – height when planted
  - Form - feathers, whips, standards etc
  - Numbers
  - Specific locations - either individual specimens or compositions of groups
  - Spacing - where relevant i.e. hedging, woodland planting
  - Local provenance - if known
  - Time of planting
  - Any other relevant information - bare-root, containerized

### **PLEASE NOTE:**

*Care should be taken that where possible, native species of local provenance are used on site to prevent establishment of non-native trees within the surrounding area.*

*A list of suitable native species is available on request along with an advice note on hedge planting*

*It will also be prudent to ensure that any species used are not listed in Schedule 9 of the Countryside and Wildlife Act 1981.*

## **Technical Design considerations**

### **Note 8 - Arboricultural Method Statements (BS 5837:2012 Clause 6.1)**

- Arboricultural Method Statements are required for the implementation or any aspect of the development that is within the calculated Root Protection Area or has the potential to result in loss of or damage to a retained tree including:
  - Removal of existing structures
  - Temporary Ground protection
  - Excavations
  - New hard surfacing
  - Specialist foundations
  - Retaining structures
  - Site preparation for planting
  - Arboricultural Site monitoring (Schedule of works)

### **PLEASE NOTE:**

*All Arboricultural Method Statements should also be available on site for the duration of the development.*

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### Note 9 - Barriers and Ground Protection (BS5837:2012 Clause 6.2 and Figures 2 and 3)

- The design details of the following will also need to be provided
  - Fencing and any other physical barriers used to prevent access into the defined Construction Exclusion Zone.
  - Ground protection suitable to prevent root damage where access is required within Root Protection Areas of retained trees.
- The implementation of these structures should prevent detrimental impact of the tree roots and soil structure of the retained trees and should be fit for purpose.

PLEASE NOTE:

*The details of the site specific ground protection and barriers should also be available on site for the duration of the development:*

### Note 10 - Demolition and Construction in proximity to trees (BS5837:2012 Clause 7)

- Specific attention and detailed method statements will also be required for any Demolition and Construction within the Root Protection Areas of the retained trees. (See Notes 3 & 8)

## Site works, landscape operations and management considerations

### Note 11 - Pre-development tree work

- Any pruning and / or removal of trees need to be highlighted and shown on the scale plan for either:
  - Good arboricultural management
  - To facilitate construction of the development and/or
  - Facilitate access to the development

PLEASE NOTE:

*Permission will be required from neighbouring landowners to carry out any tree surveys adjacent to the site.*

*Written permission will also need to be obtained from the owner(s) of the tree(s) for any work required.*

*For trees with bat potential please note – All bats and their roosting sites are protected by the 'Wildlife and Countryside Act 1981 as amended' and by the 'Conservation of Habitats and Species Regulations (2010)'. For advice please contact CCW or the Bat Conservation Trust.*

*The bird nesting season commences on the 1<sup>st</sup> of March – please refer to the 'Wildlife and Countryside Act 1981' and the 'Countryside and Rights of Way Act 2000'*

*It is advised that all required tree work is carried out by a qualified and insured professional in accordance with BS 3998:2010.*

### Note 12 - Invasive species

- If invasive species are present in the development area, treatment will be required to prevent the risk of it spreading both during and after construction.
- To ensure that it is not accidentally transferred during construction any area where it is present is to be fenced off. An invasive species that can occasionally be found on development sites is;
- Japanese Knotweed - The following link to the environmental agency provides information on dealing with Japanese Knotweed on development sites:  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296930/LIT\\_2695\\_df1209.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296930/LIT_2695_df1209.pdf)
- The following link provides information on other non- native invasive plants:  
<https://www.gov.uk/japanese-knotweed-giant-hogweed-and-other-invasive-plants>

## Reference documents

- *BS5837:2012 Trees in relation to design, demolition and construction: Recommendations – ISBN 978 0 580 69917 7 Published by BSI Standards Limited 2012*
- *BS 3998:2010 Tree Work – Recommendations – ISBN 978 0 580 52777 6 Published by BSI Standards Limited 2010*