

TREE SURVEY'S FOR PLANNING

Below is our brief guide to Trees in the Planning system, which includes an outline of how we can help you and your design team, through the often-complicated development process.



Even when the local authority may have separate guidance, the information relating to trees should meet with the requirement of British Standard **BS5837:2012 'Trees in relation to design, demolition & construction - Recommendations'**. This document provides a broad outline of the principals for Assessing, Categorizing and Protecting trees during the building process.

Both the British Standard and this overview broadly follow the sequence of events of the Architects Work Stages and whenever possible this is the preferred option. However, due to project sequencing or following requests for information regarding live applications it can result in us needing to tailor an assessment to your specific needs – if you need to discuss your project please feel free to contact us confidentially with no obligation.



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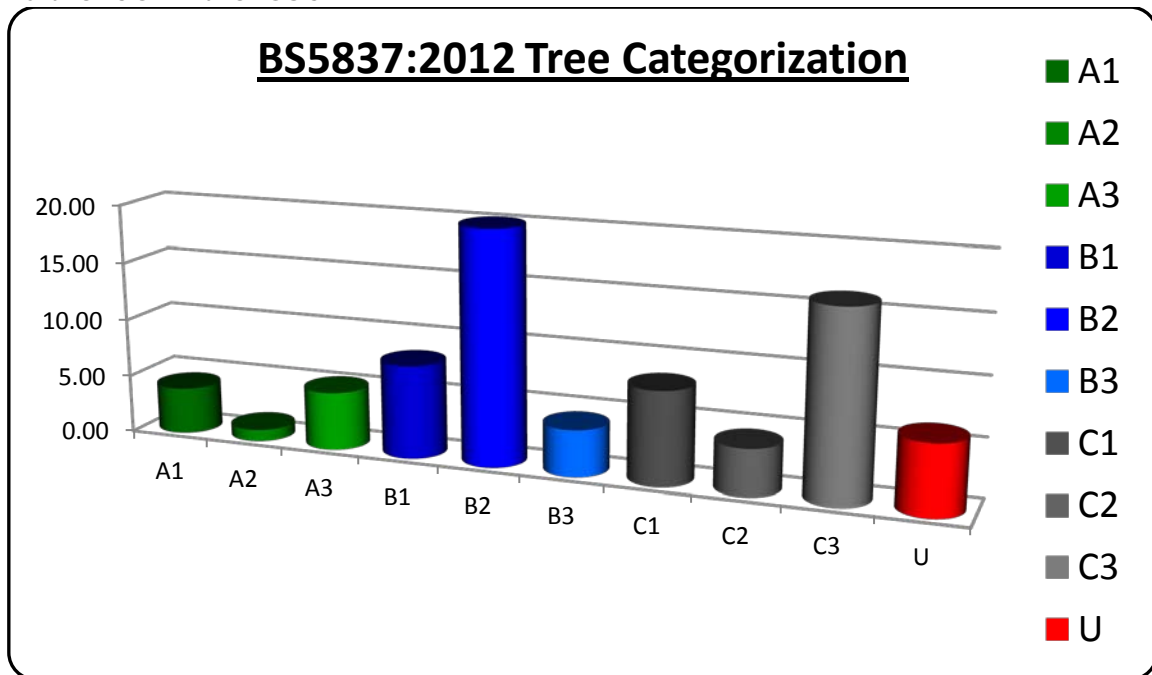
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Typical Sequence. The retention of trees on a development site is typically informed by the initial tree survey, which in addition to general dimensional information data is also collected on the trees health, condition and possible works.

In some cases this can be simplified to gain an overview of the underlying tree constraints, which can be particularly valuable when trying to understand the actual developable area of a wooded plot and in turn the value of the plot.

In general the feasibility & design need to be informed by the initial tree survey which categorizes the relative value of the trees, allowing high and low value trees to be readily identified on a plan. This allows the areas that are straightforward and those areas that are likely to require special engineering to enable development to be readily identified. This can offer significant savings in repeated re-designs and redrafting time and help avoid at best delays and at worst a withdrawal of the application further down the road.



PHASE 1 - THE TREE SURVEY - (BS5837:2012 'Tree Report / feasibility study) RIBA STAGE - A-B

Following receipt of a topographical survey or a plan depicting the extent of the site, we carry out the tree survey. If you do not have a digital plan - do not worry we can provide a digital version of the Ordnance Survey Plan on which to base our information.

The Arboricultural Consultant conducts a survey of site and surrounding area-assessing trees in line with BS5837 to provide a full understanding of the trees this includes; categorization, dimensions, vitality, life span, complete with general observations and recommendations.

In addition to this more general site, information is collected to provide a brief insight into the site and its land use, history and its relationship to the trees locally allowing the site to be viewed in context.

In addition to the tree information, we include to undertake an appraisal of soils to help provide a deeper understanding of the site and identify potential future management issues. A formal soil test can be provided at additional charge - please contact the consultant to discuss.

We can also identify the extent of current legislative protection, to ascertain whether or not the site and its trees are either covered by a Tree Preservation Order (TPO) or located within a conservation area. In addition to general background checks we can review local policies and their implications for planning where relevant.

Once the information has been collected we can then provide a 'Tree Survey Report' which provides details of our findings and provides general site management information in addition to recommendations for immediate management of trees or further tree inspection or assessment as required. The specific information displayed in a schedule detailing the individual trees, principal groups, hedges and large areas of shrubs.

BS5837 - Tree Survey

Site: The Old Rectory
 Client: Infrastructure & Environment LLP
 Date: 28th September 2012
 Reference: BA3779

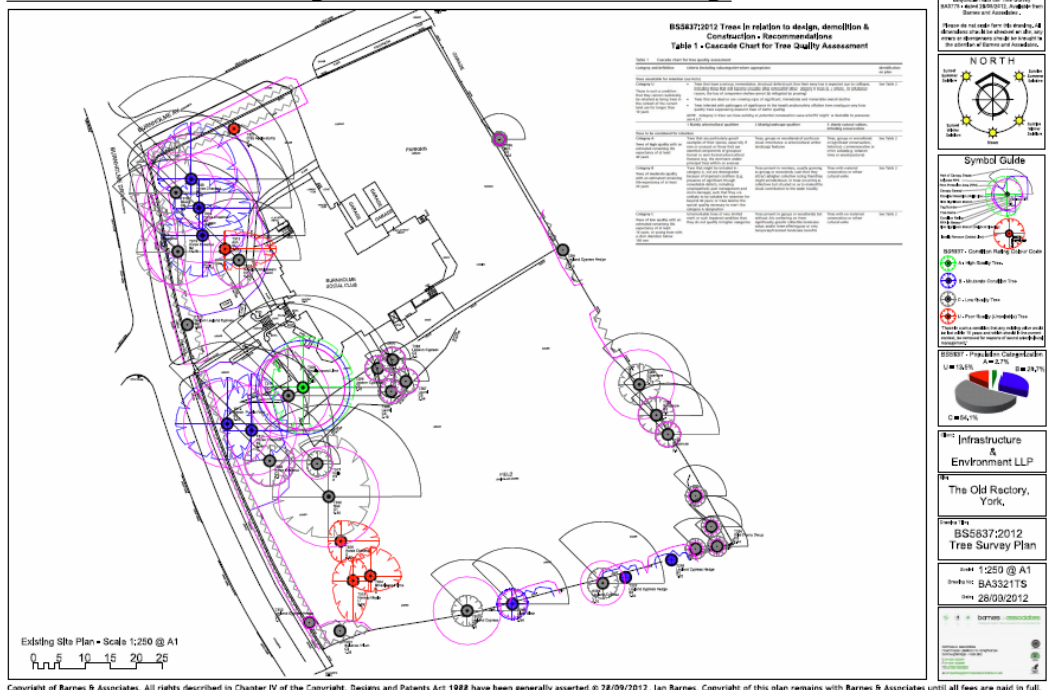
Prepared by Barnes & Associates
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Tree No.	Tree No. (TPO)	Species	Age	Height	Number of Canopies	DBH (cm)	Health	Form	Leaf Fall	Roots	Problems	Comments	Recommendations	Value (£1000)	Value (£1000)		
123	269	Sycamore	BM	9	2	3.5	3.5	3.5	Fair	10 or less	C2	300	1	Single stem with a slight lean. Growing close to fence. Ivy has developed high within the canopy. A poorly located tree likely to become a problem.	1	3.4	40.7
294		Sycamore	SM	10	2	2.5	2.5	2.5	Poor	10 to 20	C1	200	1	Growing close to fence. Ivy has started to develop on the main stem. A poorly developing tree.	1	1.44	4.5
295		Wild Cherry Group	Y	4	2	2	2	2	Good	20 to 40	C5	120	1	Growing within a Blackberry - no access.	1	1.92	11.4
296		Leyland Cypress Hedge	BM	3	0	1	1	1	Fair	10 to 20	B2	140	1	Growing on neighbouring land. Growing close to fence. A poorly developing hedge of limited value.	1	1.92	11.4
297		Leyland Cypress Hedge	BM	3	0	1	1	1	Fair	10 to 20	B2	140	1	Growing on neighbouring land. Growing close to fence. A poorly developing hedge.	1	4.32	38.4
298		Leyland Cypress	M	12	1	5	3	3	Good	40 or more	C1	360	1	A typical example of the species. A high potential for growth could complicate the trees management.	1	2.44	21.9
299		Silver Birch	BM	11	2	3	3	3	Good	20 to 40	C2	550	1	Growing on neighbouring land. Growing close to fence. Canopy has been reduced (topped) & rededged. Multiple attachments with high end loading throughout. A typical example of the species.	1	6.6	134.8
300		Leyland Cypress	M	10	2	3	3	3	Fair	20 to 40	C2	9100	1		1		

Prepared for Infrastructure & Environment LLP
 Prepared by Barnes & Associates

Reference: BA3779
 Printed Date: 04/11/2012

The Old Rectory, York - Tree Survey



From this information, we are able to produce site plans including the Tree Survey Plan & Tree Constraints Plan as standard, which includes information of the Root Protection Areas and the area of the site affected by shade. These constraint plans can be supplied in either AutoCAD, PDF or as a paper copy and follows the constraints guidelines outlined in BS5837:2012 'Trees in

relation to design, demolition & construction - Recommendations' constraints for site layouts.

PHASE 2 - THE DESIGN DEVELOPMENT RIBA STAGE – C

The Arboricultural Consultant and design team use the tree survey information to inform the layout of the scheme. Working together to develop a robust and defensible scheme that is both appropriate in Arboricultural and general planning terms.

Wherever possible the most straight forward and defensible designs should ideally be located outside the Root Protection Area. However, appropriate development can occur within the Root Protection Area providing appropriate design and engineering solutions which can be agreed to enable the continued functionality of tree roots. This can be achieved through the adoption of appropriate material and methods. Through this approach, we are able to help maximize the value of the site by helping achieve a defensible design to meet the constraints of the site.

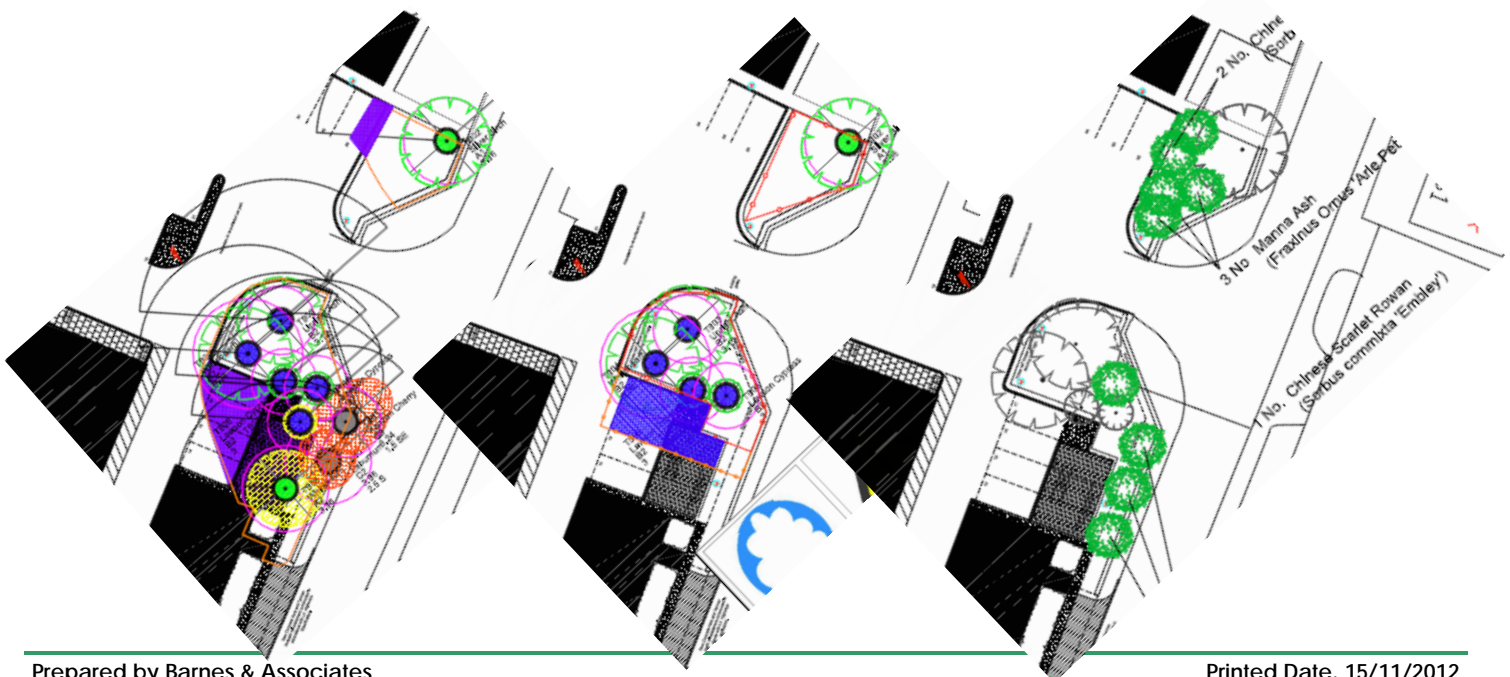
Phase 3 - THE ARBORICULTURAL IMPLICATION ASSESSMENT RIBA STAGE – D

The **Arboricultural Impact Assessment** is typically appended to the original planning submission to help demonstrate the feasibility and the design stages of the scheme along with the protection methodology. Alternatively it may be requested during the application assessment period by the Local Planning Authority to provide an improved level of evidence of the sustainability of the scheme.

Following receipt of the finalized scheme an **Arboricultural Impact Assessment** and plans addresses all tree protection issues relevant to the application, by providing a detailed appraisal of the potential risks offered by the proposal and the mitigation measures to be adopted.

Within this report, we differentiate between trees lost due to current poor condition or by being inappropriately located, in addition to trees lost and tree pruning works required to provide space to undertake the proposal.

In addition to this, we detail the outlined tree protection methodologies and differentiate between the design changes, materials substitution and the changes to installation methods. This information is presented in a formal report, accompanied by various plans to support the agreed scheme and demonstrate the robust nature of the application.



Typically, Both the report and plans in combination detail:-

- Plan showing, Tree retentions, Removals.
- Plan showing Tree protective fencing areas / above ground protection & Low impact construction methods, design solutions for above and below ground constraints. (Engineer liaison maybe required)
- Location of protective barriers and other physical protection, including ground protection marked on a plan, with dimensions.
- Design details of protection, drawings/descriptive text.
- Offset tree-planting plan. (This can be expanded to a full soft landscaping scheme if required.)

Report may also need to encompass the following:-

- Outline of tree surgery and remedial works. (Full tender pack preparation can be provided if required)
- Tree losses for development and replanting ratios.
- Assessment of end use of the space.
- Proximity of trees to structures, light and direct conflict issues. (Detailed shade studies can be provided)
- Large trees discussion on design issues and management.

PHASE 3 ARBORICULTURAL METHOD STATEMENT - RIBA STAGES E to L

This may be required as part of a conditional approval or very occasionally as part of the pre planning submission where the risk to retained trees and the Local planning Authority require additional information in relation in relation Tree Protection.

Such documents are highly site specific and can only be prepared with input from both the Arborist, the site manager and other members of the design team, please be aware that some companies may try to pass on generic documents though these are rarely accepted by the Planning Authority.

The Arboricultural Method Statement aims to discharge planning conditions and to ensure the best chance of retained trees of value surviving the development process.

The method statement aims to clearly define the areas of free access during the development phase and the area on none or restricted access in addition to defining areas of the site for storage or deliveries.

TREE STEM PROTECTION (EMERALD)

TPZ Incursion ref. 100

Nature of Incursion: Creation of the Tree Stem Protection Box.

Potential Risk: Very High Risk - The trees stem may be inoperably damaged through impact/damage.

Proposed Control: Establish a permanent barrier preventing access to the stem for the duration of the project.

Method:

1. Prior to the start of the fencing operation, the site agent & Project Arboriculturalist shall walk/inspect to identify locations where access facilitation is required.
2. Unexcuse ground to be protected with anti-compaction boarding during construction of fencing see Resection (A1).
3. Boxes shall not be tied directly to the tree stem with any kind of solid device. If they come there any solution movement could be transmitted directly to the tree which we are trying to avoid.
4. Boxes shall be supported and if possible anchored into the ground. Where boxes are on soft ground, partitions shall be constructed by pressure treated sleepers or the ground pressure point (e.g. below or above) running from outside the TPZ. The partitions shall be tied with an appropriate measure to protect tree roots in the adjacent soil from concrete encroachment.
5. On hard surfaces where anchorage is not possible, they need to be fixed with wire weight placed at the bottom edge (the usual control of fabric). Sleepers or another fixed bottom do show below in photograph 1). These must be secure before the tree box and be able to allow for some movement of the soil without pulling the tree. It is then fixed with 2x wire which connects the box with the bottom and any more it is necessary to be supported.
6. Where a high level of compact earth, the stem shall be supported with a compressible material such as rubber matting to absorb direct impact.
7. As an alternative to water that fabricates further protection can include in situ concrete bungs and the design is set out in alternative 1.



SOIL DECOMPACTION

TPZ Incursion ref. 100C

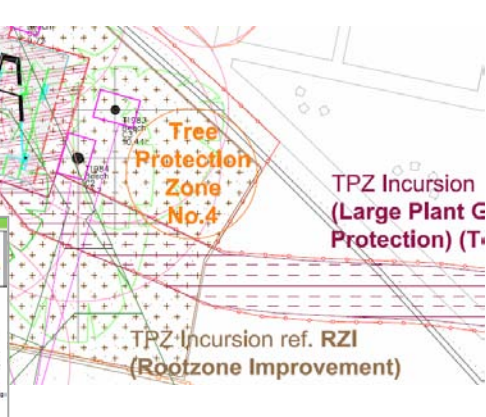
Nature of Incursion: Soil-Compaction.

Potential Risk: Moderate Risk - Trees may be inoperably damaged through soil compaction within the rootzone.

Proposed Control: Adopt the use of low impact excavation and the incorporation of additional organic material.

Method:

1. TPZ to remain in situ throughout.
2. Unexcuse ground to be protected with full-depth Protection during the process.
3. If for whatever reason there is a delay before the area is left exposed prior to creating a new surface, there is a temporary surface must be implemented over and along the area to be left.
4. De-compaction shall be undertaken using an Aggbox in areas that have previously been compacted or being previously compacted. This tool works by blowing a high speed, high volume jet of air into the ground, displacing the compacted material that is. The air blast penetrates any voids in the structure of the ground and separates any granular based material through the speed and expansion of the air stream.
5. The Aggbox is used to break up any areas of the existing environment considered appropriate, depending on the ground and nature of the compaction substrate, and the remediation required.
6. Additional Organic matter to be incorporated into the soil. A 50mm layer of organic matter, such as composted farmyard manure, will be incorporated existing, both and compact should be laid across the area. This will then be incorporated into the de-compacted area by means of an Aggbox.
7. Upon completion a final mulch of organic matter is applied in a 50mm thick layer to the surface of the soil. This allows the effects of protection traffic and helps to prevent compaction within the TPZ of the trees in the post construction and landscaping stages of a development.

LARGE PLANT GROUND PROTECTION (EMERALD)

TPZ Incursion ref. 100P1

Nature of Incursion: Temporary Vehicle Ground Protection within or close to TPZ.

Potential Risk: High Risk - The essential rootzone area of the trees may be inoperably damaged through compaction, excavation, soil level changes or contamination.

Proposed Control: Establish a temporary surface above the existing soil level to reduce compaction of the soil.

Method:

1. Type 1 TPZ to be installed in accordance with Tree Protection Plan.
2. To enable Vehicle Traffic within the TPZ the following methods must be adopted, with the agreement of the Project Arboriculturalist or JLR.
3. For overhead or overhead construction traffic, exceeding 20 gross weight a system of proprietary surface or precast reinforced concrete (see) to an engineering specification designed in conjunction with structural advice to accommodate the heavy loading to which it will be subjected to will need to be adopted.
4. For permanent structures, vehicle movement within the TPZ the installation of ground protection in the form of single thickness of non-removable boarding protection should be given the position or line of a compressible can set into a granular alternative. The use of a proprietary patented surface support system such as 'Trackless, Rotomould, Concrete, Concrete Slabs or similar shall be used as shown in photograph 1. Alternatively a cut out metal track road such as the 'Trackless, Access 1' or 'Trackless 2' shown in photograph 2, will need to be used to prevent localized compaction or erosion.
5. The position of the boardings shall be shown within the TPZ at the edge of the agreed working zone but the soil structure beyond the border to the edge of the TPZ should be protected with ground protection.
6. Each section of ground protection shall be constructed from a point supported by the previously installed surface and to the line of the access to the TPZ be shown.
7. Material within the ground shall be fixed to the gel pads to create a level surface and avoid the weight being transferred through a point stress.

Photograph 1



Photograph 2



Site visits may be required by the local planning authority to ensure the planned protection has been both installed and maintained in good order, typically such visits are restricted to key points in the development phases:-

- Attend site to inspect trees and their protection at key stages of the development.
- Attend site to supervise works at sensitive stages.
- Attend client review meetings to report on tree-related issues.

GENERAL ARBORICULTURAL PLANNING SUPPORT

We help support the design team in amendments and development of designs in response to Planner's comments and to co-ordinate tree-related responses.

Post-planning - Review implications of issues as they arise and amendments to scheme.

Whatever your tree related issues please feel free to call and discuss the matter all enquiries are dealt with in the strictest confidence.

In addition to these services, we can help with a wide range of tree related issues and we have included a brief summary of our other services below or for more information please visit our website.

<http://www.barnesassociates.co.uk>



Tree Surveys & Condition Reports

Tree Health & Safety Reports

Tree Risk Assessments

Tree Population Site Inventories

Estate Tree Management

Woodland Management

Tree Work Specification & Tenders

Insurance & Mortgage Reports

Decay Detection Specialist

Picus and Treetric Scans

Windload & Stability Assessments

Tree Valuation & Replacement Costing

TPO Objections & Appeals

Tree planting Schemes & Landscape Design

Orchard Design & Forest Gardens



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