

# Draft Supplementary Guidance 31

## Protecting and Managing

### Trees on Development Sites







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#### Introduction

The value of trees in our environment is almost universally appreciated. However new developments can often prove extremely harmful to them, either through direct damage or by indirectly accelerating their decline and decay.

Trees make an important contribution to the wider environment and amenity of new developments, and add to property values. They must be recognised as an integral part of the design and site planning process. The purpose of this advice noteguidance is to encourage developers and town planners to manage trees on building sites successfully by protecting, retaining, retaining and planting trees of good quality and appropriate species. Trees make an important contribution to the wider environment and amenity of new developments, and add to property values. They must be recognised as an integral part of the design and site planning process;

- It sets out standards for information to accompany planning applications and will be used referred to when making development management decisions
- It is applicable to all proposed development sites that contain trees or where trees are growing on or just over their boundaries. As even small developments can adversely affect important trees some consideration needs to be given to these issues when developing householder or other small scale applications – although the expected level of supporting information will generally be less, although in all cases tree related reporting will be expected to conform to the requirements of BS5837:2005.

Contact details for individuals or organisations mentioned in this guidance are listed on the end.



## The Statutory Framework

The Town & Country Planning (Scotland) Act 1997, as amended by the Planning etc. (Scotland) Act 2006 and the Town & Country Planning (Tree preservation Order and Trees in Conservation Areas) (Scotland) Regulations 2010 (SSI 2010/434) give Local Planning Authorities the following duties:

- 'to ensure, whenever it is appropriate, that in granting planning permission for any development adequate
- provision is made by the imposition of conditions, for the preservation or planting of trees' (Section 159); and
- 'to make such (Tree Preservation) Orders under (Section 160) as appear to the authority to be necessary in
- connection with the grant of such permission, whether for giving effect to such conditions or otherwise.'

Scottish Planning Policy (SPP) confirms the importance of trees and woodlands and expects:

- existing woodland, especially ancient and semi-natural woods, and
- individual trees, groups of trees and hedgerows with high value for nature conservation or local amenity to be protected from adverse impacts resulting from development.

The Scottish Government's control of woodland removal policy sets out the criteria for determining the acceptability of woodland removal and these will be taken into account when deciding planning applications



## Planning for Trees on Development Sites

The notes below summarize minimum recommended standards of work and information required.

In the case of development proposals affecting trees of particular local importance - e.g. because of their qualities and/or numbers - the Council may should require full compliance with the recommendations in BS 5857:2005 (British Standard recommendations for trees in relation to construction). The BS is also a useful source of additional guidance to applicants or their agents, setting out clear advice on deciding which trees are appropriate for retention, the effects of trees on design considerations and the means of protecting these trees during development. Requirements to undertake a tree survey in accordance with BS 5837 should not be included with planning conditions. The tree survey must form an inclusive part of the information provided to inform the planning permission decision; compliance with the recommendations derived from BS 5837 may constitute planning conditions.





## Feasibility Stage

### Seek specialist advice:

Where trees are likely to be affected, specialist advice may avoid costly redesign at a later stage. Existing and new trees can add to the quality and value of a development, but those in poor condition or of inappropriate species can become a future burden. The Council's Tree Officer can provide a list of experienced Arboricultural Consultants and Contractors who operate locally.

### Check the legal status of existing trees:

Trees may already be legally protected by a Tree Preservation Order (TPO), Conservation Area status, conditions attached to planning permissions or Natural Heritage designations. Additionally, within a designated landscape (including those recorded in the inventory designated landscapes), areas of ancient or semi-natural woodland Green Belt, Stirling Council may be particularly concerned about the impact of either new planting or loss of trees.

The Council's planning staff (in particular the Tree Officer) will be able to advise on the legal status of a proposed development site and any trees within it, and the Council's Supplementary Guidance on "Trees and the Law" should be consulted. Advice on Natural Heritage designations may be obtained from Scottish Natural Heritage offices.

**Damage to protected trees:** Legislation allows for 'enforcement action' to be taken, and fines of up to £20,000 (or the amenity value of the tree) may be imposed for the unauthorised destruction of protected trees.



## Survey Information

A planning application must include sufficient information to enable the case officer to assess accurately the effects of the proposals on any trees growing on or close to the site. The level of detail required depends on the type of application.

### Householder Applications:

If any tree overhangs the proposed development or is closer to it than a distance equal to half the tree height, this must be shown on the plans. The tree species and approximate position of the trunk and branch spread must be indicated. The case officer will then assess if more detailed information is required.





All Other Applications with the potential to adversely affect existing trees are required to provide more detailed information as outlined below. Whilst the list may appear onerous, an experienced arboricultural consultant will be very familiar with the approach set out.

**Site Survey:** This should be at a recognised scale (e.g. 1:200 or 1:500), and show the relationship of the site to its surroundings. It should include the following information:

- existing topography, with accurate spot heights and contours preferably at 0.5 metre centres;
- existing features such as walls, fences, watercourses, structures, overhead and underground services;
- location of trees, shrubs and hedges, including the accurate shape of the crown spread of all trees. In the case of woodland, the location of the edge trees should be shown;

#### **Tree Survey:**

If there are trees on the application site or on neighbouring land within 125 metres of the application site, a detailed tree survey must be provided. A tree is defined as one with a stem diameter of 75mm or greater, measured at 1.5 metres above ground level. The tree survey should be in the form of a written statement relating to the land survey and must be undertaken by persons experienced in arboriculture. Trees should be clearly identifiable on site. Their location should be clearly marked on a plan. The Council will generally expect the following information:



- A record of species, height, stem diameter at 1.5m, crown spread, age class, physiological and structural condition and, future life expectancy of each tree.
- An assessment of tree quality as set out in Table 1 (based on criteria in BS 5837:2005)

Preliminary management rRecommendations (with appropriate reference to BS 3998: 2011 Recommendations for tree work), including further investigation of suspected defects and potential for wildlife habitat.

This information is an integral part of the site development assessment and will help determine the location, form and density of the proposals. Whilst trees are only one consideration in the design process certain trees are of such importance or sensitivity that they may preclude development from some areas or substantially modify its layout and design. Again, BS 5837:2005 is a good reference point, clearly setting out how tree constraints, arboricultural method statements and tree protection plans can be developed.





## Design Stage

The site and tree surveys will influence various design decisions such as:

- the location and size of buildings, roads, car parks and other development features;
- routes of new overhead and underground services, to avoid damaging roots and crowns of trees to be retained;
- the extent of landform changes that are feasible in the vicinity of existing trees;
- consideration of 'tree-friendly' engineering solutions where construction cannot completely avoid the 'Minimum Protected Area' around existing trees (see section on location and design of temporary fencing).

In addition, the potential effect of future tree growth on the proposals should be assessed. The Council wishes to avoid future problems of root damage, overhanging branches and loss of natural daylight, caused by inappropriate tree species being located planted too close to buildings.

### The Planning Application:

The proposals must be clearly overlaid on the site and tree survey, indicating all trees to be retained and those to be removed. Changes in landform and levels must also be clearly indicated. This will enable the Council to make an accurate assessment of the proposals in relation to all the relevant existing site information, and will save valuable time in the planning process.



### Method Statement:

Existing trees to be retained and any areas where new planting is proposed must be protected during the construction stage. A method statement should be provided demonstrating how this will be undertaken. It should include assurances written confirmation that any tree surgery will be undertaken in accordance with BS 3998 (19892010) (is this the most up to date version?), and a statement describing the proposed measures to be taken where excavation or construction work is necessary within one metre of the protected zone around trees to be retained.

The method statement must be submitted as part of the planning application, and will form part of the approval.





## Construction Stage

There are two main reasons why trees on development sites suffer damage:

- The development (eg. buildings, hard surfaces, walls, fences, service runs) has been sited too close to existing trees. A good survey to inform the design proposals will help to prevent this.
- There is inadequate tree protection during construction, allowing site traffic, materials and even setting of fires too close to existing trees - causing physical damage to trunks and branches and/or compaction of tree roots.

Visibly damaged trees may survive, but are frequently removed because of poor appearance. However most tree deaths are caused by 'invisible' damage to their root system. The majority of tree roots are generally within 600mm of ground level, extending outwards from the tree trunk for distances often in excess of the tree's height. Tree roots provide `anchorage, supply water and store energy. Consequently damaging the root system may kill or weaken the tree over several years, and in some instances cause it to fall.

Damage is principally caused by:

- changes in ground level (e.g. soil strip, trenches, mounds) resulting in ground water reduction, burying (asphyxiation) and cutting or physical removal of roots;
- soil contamination from storing or spilling fuel oil and other toxic materials (e.g. bags of cement) over or near the roots of trees. Liquid contaminants may enter the ground water system some distance away from the tree and subsequently cause damage. Certain herbicides may also damage tree roots if inappropriately used;
- changes to the ground water drainage pattern by surfacing previously 'soft'

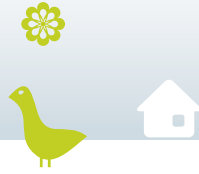


areas with impermeable materials such as asphalt, or by creating mounding that impedes ground water flow, which may result in anaerobic conditions and death;

- soil compaction usually caused by site traffic and storage of materials under the tree canopy. This is the most usual cause of tree death, destroying soil structure, causing waterlogging in wet weather and hard-baked soil in hot dry weather. Both conditions damage the tree's fibrous surface roots that reducing the ability for the tree to take up water and nutrients.

Compacted soil is also a frequent cause of death in new planting. Protecting areas to be planted during the construction stage will safeguard the soil structure, and enable more successful tree establishment.





## Tree Protection

It is advisable to consult the current edition of BS 5837 and the NJUG (National Joint Utilities Group) 'Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees' for details on standards of protection.

All trees to be retained must be protected by suitable protective fencing, located on or preferably outside the boundary of the root protection area identified as part of the design process and/or tree protection plan.

As a rough guide the undisturbed root protection zone should be equivalent in area to a circle with a radius

- 12 times the trunk diameter for single stem trees, measured 1.5m from ground level:
- 10 times basal diameter for trees with more than 1 stem, measured immediately above root flare.

In certain circumstances it may be possible to offset the protection zone slightly, but this is needs to be assessed on a tree by tree basis, taking account of the types and condition of the tree and the local environment. It is normally a decision for and experience professional arboricultural consultant. BS 5837:2005 provides further information.

- Location of protective fencing must be accurately shown on the plans submitted for detailed Planning Approval.
- Erection of protective fencing must be undertaken before any site works start, and remain in place and be maintained in good condition for the duration of the site works. It must not be breached.



The Developer and his staff must remain vigilant in ensuring that trees are adequately protected during the construction period - fencing alone does not guarantee protection. Red plastic visually demarcates the 'no-go' area, but will not stop machinery.

If work within a protected zone is unavoidable, a 'tree-friendly' method of working must be agreed in writing with the Planning Authority in advance. This may mean careful hand digging or the use of geotextiles, sand and temporary boarding to enable vehicles to cross the site without causing significant compaction to the tree root zone.





## Proximity of New Development to Trees

Although the 'Minimum Root Protection Area' indicates the distance that construction traffic and materials must be kept away from trees, new buildings may need to be considerably further away than this from both existing and newly planted trees.

To determine how close a new development should be to existing or new trees the following issues must be considered and assessed:

### Species of Tree:

Some trees (e.g. poplars, cherries, willows) have demanding and extensive root systems. These should be planted well away from buildings and hard surfacing, and as rule of thumb, no closer than their ultimate crown spread. Appendix A of BS 5837 (1991) gives some guidance on the growth and characteristics of various tree species, further guidance is given in NHBC Standards Chapter 4.2.

### Current and future size of tree:

It is important to plot accurately the crown spread of existing trees, and to estimate the future growth and crown spread of existing and new trees. If buildings and trees are too close to each other, there may be pressure to remove the trees in the future - it is much easier to address this problem at planning stage! As a guide, even a small tree when mature (e.g. rowan or crab apple) may occupy the same plan area as a small house.



### Age of Tree:

There is no point in designing a development around a feature tree if it has only a few years left in a healthy condition, as its removal may be difficult and costly. However if the tree is far away from the development, its condition may not impact on the proposals.

Woodland trees (e.g. beech, oak, sycamore) and some conifers are ultimately large and shade bearing and may cause problems in the long term if sited too close to buildings. Pruning large trees usually results in poorly shaped specimens.

### Environmental Factors:

Soil type, site slope, aspect and exposure together with the scale of the proposed building, building will all have a bearing on the appropriate distance a development should be from existing trees. Clay soils have particular problems –see NHBC Standards Chapter 4.2.

### Psychological Perception:

In addition to the actual physical safe distance of trees from buildings, the scale, use and orientation of the building may significantly affect the 'psychological' perception of risk by the occupiers. Family and Retirement housing are probably the areas where the perceived risk is greatest, and account should be taken of this.

Gaining advice at the outset from an expert on questions of tree species and their location in a development will save time and money in the long term!





## Enforcement

The Council will treat seriously any damage that occurs to trees in the following categories:

- Trees protected by a Tree Preservation Order or Conservation Area Designation: Felling or other damage to trees with the above protection is a criminal offence and could result in the offender being reported to the Procurator Fiscal and having to pay a substantial fine imposed in Court. Planning legislation also permits the Planning Authority to require the re-planting of a replacement tree(s) of equal amenity value to any felled..
- Trees on Development Sites: If not already afforded protection by virtue of a TPO, conditions may be imposed on the grant of planning permission requiring trees to be protected. Failure to comply could result in formal action by the Planning Authority, involving if necessary action to stop all workaction to stop all works on the site, until the matter is resolved. This could have serious financial implications for the developer.



## Monitoring and Management

As a requirement of Planning Permission, you will have to reach agreement with the Planning Authority on the long-term maintenance of any existing or new trees on the development site.

Developers will be expected to bring forward a management plan for ongoing maintenance of retained trees (and new planting), and confirm who will take on the legal and financial funding responsibility for its implementation. Within this maintenance agreement, a programme of annual inspections should be set up to monitor changes in the health of trees.

**Funding must be sufficient to deal with general maintenance, tree replacement and future tree management.**

Where new trees are planted in a development within individual gardens, the Council suggests that a

'Householder's Guide' is produced by the developer to instruct the householder on the care of these trees, and

their responsibilities in relation to Planning Conditions.

Further advice is contained within the Council's Development Advice Notes 'Trees and the Law' and 'Landscape Design in new Developments'





## Contacts

### The Tree & Landscape Officer

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Email: [kennedyh2@stirling.gov.uk](mailto:kennedyh2@stirling.gov.uk)

Advice on all tree issues and new tree planting .

The Arboricultural Association, Ullenwood Court, Ullenwood, Cheltenham, Glos.  
GL53 9QS

Telephone: 01242 522152 Fax: 01242 577766

Email: [admin@trees.org.uk](mailto:admin@trees.org.uk)

Advice on appointing a professional tree consultant or contractor, also produces a  
range of publications on tree care

### The Landscape Institute

Charles Darwin House, 12 Roger Street, London, WC1N 2JU

Tel: 020 7685 2640

Web address: [www.landscapeinstitute.org](http://www.landscapeinstitute.org) 7 738 9166

Provides a list of Registered Landscape Practices.

British Standards Institution, BSIBSI Scotland

389 Chiswick High Road, London, W4 4AL

Tel: 020 8996 9001

Web address: [www.bsigroup.com/en/standards-and-publications](http://www.bsigroup.com/en/standards-and-publications)

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## Useful Reading

- Arboricultural Association Leaflet No 9 Protection of Trees on Development Sites Part 1: Drawing Board: Obtaining Planning Permission  
Guidance Note 4: Visual amenity valuation of trees and woodlands
- Arboricultural Association Leaflet No 10 Protection of Trees on Development Sites Part 2: On Site: Implementing Planning Consent  
Guidance Note 7: Tree surveys: a guide to good practice
- BS 5837:20051991: Trees in Relation to Construction
- BS 3998:20101989: Recommendations for Tree Work
- NHBC Standards Chapter 4.2 Building near Trees: October 1992
- NJUG (National Joint Utilities Group) 'Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees' Vol 4 issue 2 (<http://www.njug.org.uk/category/3/pageid/5/>) Publication 10 (1995)





## Further Information

### **Please contact:**

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If you need help or this information  
supplied in an alternative format  
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