

BS 3998:2010

Tree work - Recommendations
A concise guide



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BS 3998:2010 Tree work – Recommendations
A concise guide from Tree Life AC Ltd

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Introduction

This guide is a concise summary of the main components of the British Standard BS 3998:2010 Tree Work — Recommendations published by the British Standards Institution (BSI).

It is not the intention to replace or replicate the standard. **Particular care must be taken to ensure that it is not misinterpreted or misused as a substitute for the standard.** It remains the readers' responsibility to satisfy themselves that the recommendations contained in the standard are being implemented correctly and with good arboricultural understanding of:

- i) the specifications being implemented and;
- ii) the basis for carrying out the work.

Refer to the full version for commentary, explanation and general informative material that supports the recommendations.

The presentational conventions of BSI have been followed in this concise version, its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

The word "may" is used to express permissibility e.g. as an alternative to the primary recommendation, and the word "can" to express possibility e.g. the consequences of an action or an event.

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Specific guidance relating to the law affecting tree work is given in Annex A of the standard and should be referred to.

The importance of the decision-making process

The figures printed in brackets at the end of a heading refer to the corresponding section of the standard.

- The standard sets out a process for deciding whether any kind of action related to trees has been identified, but the work has not yet been specified.
- An overview of the decision-making process is provided in the standard in Figure 1 and the management objectives and typical pruning options are given in Table B.1.
- **An appropriate reason for tree work is assumed to exist** before any work is carried out.
- The work should ideally form part of a much wider programme of well-planned and co-ordinated management.
- Different options often exist, and the potential advantages and disadvantages of each course of action should be considered thoroughly by all concerned before a decision is reached about the most appropriate way to proceed.

Potential consequences of tree work (0.3)

- Decay fungi, diseases or pests can be provided with an entry to tree tissues or can activate latent fungi, giving rise to serious consequences as tissues are destroyed.
- Decay resulting from excessive or poor pruning timing or technique can eventually impair the structural integrity of the tree, reducing its expected life span.

Categories of tree work (04)

The main categories are:

- care of the rooting environment
- pruning
- restraint and support
- felling and related options.

Scope, references, terms and definitions (1, 2 & 3)

The standard gives guidance on:

- management options for established trees (including soil care) and overgrown hedges, but *not* on surveys and inspections or overall management of tree populations.

- the impact of work on an individual trees in relation to its neighbours, but not the management of tree populations.
- the link with the current BS5837: which is described as indispensable for the application of the BS 3998 standard.
- the various terms and definitions used in the standard.

Tree work safety and planning (4)

A competent person should prepare a tree work specification designed to:

- minimise the adverse effects on trees
- minimise the negative impact on the site, ecology, tree aesthetics and other trees in the surrounding area.
- Options other than tree work should be specified where appropriate — for example, move the target.
- Where specific seasonal problems exist (for workers and other people), work should be timed so that they are adequately protected.
- Measures should be taken to avoid transmitting pests and pathogens from tree to tree and site to site with extreme caution taken if tools have been used abroad.
- In the case of particularly high risk pathogens, disinfection should be carried out on anything that might come into contact with another tree e.g. tools, PPE, clothing and hands.
- The work should be conducted and completed in a manner that avoids or minimises the creation of new hazards, making problems worse or causing incidental damage.
- Trees should be clearly identified in work specifications and the work conducted so as to minimise any adverse effects on any tree.
- Contingency arrangements should be established in advance, in case modifications become necessary during the course of the work — for example, a serious defect noted in the tree or a protected species. (Annex A of the standard deals with legislation affecting tree work).

Scheduling tree work (5)

- Weather conditions should be taken into account before work begins.
- Ideally, when scheduling work, general principles include not pruning:
 - in periods of water stress
 - during spring growth (when sugar and starch reserves are depleted) until leaves have fully expanded and matured, or starch reserves have been replenished
 - until sufficient time has elapsed following major pruning or damage or adverse management for a tree to have recovered.

Pruning should be:

- timed to avoid exposing tree tissue to severe conditions, such as weather or the known seasonal presence of pathogens
- timed to periods when trees that produce a gum or resin as part of their defences (such as *Prunus* species and many conifers) are at their most active — June to August for *Prunus*, for example
- timed so as to limit their potential adverse effects on wildlife (see Annex A).
- Phasing work on a tree population or an individual tree where practicable should be used to assist the tree and/or wildlife to adjust, and reduce the adverse and visual impacts of the work.

Management of the rooting environment (6 see also

Annex B)

The cause of any problems should be established prior to any treatment being formulated.

Investigations should be undertaken in such a way as to minimise adverse effects on adjacent trees.

Mulching (6.2)

- Naturally toxic plant material (such as black walnut) or that containing pests or pathogens should be composted to render it harmless, if it is to be used for mulching.
- Depth should not normally exceed 80mm to 100mm, and should be replenished periodically so it does not become depleted.
- The mulch should not be in direct contact with the bark of the stem or of major roots since this might encourage infection by pathogens.

- The mulched area should extend over as much of the root system as possible, depending on site usage.

Aeration/decompaction (6.3)

Where this is required following investigation it is acceptable to use:

- mulch as a recommended method of improving soil physical conditions
- a soil auger
- localised cultivation — hand tools or air lance, backfilling with loose material
- compressed gas injection.
- Major roots (those of 25mm diameter or more) should be retained undamaged.
- Rotovating, ploughing or other extensive cultivation should be avoided within rooting zones.

Removal/replacement of soil (6.4)

Where the soil level has been altered within a rooting area, the following should be taken into account to determine whether any soil needs to be removed or replaced:

- the age, condition and species of tree and its tolerance to soil level changes
- how long ago levels were altered
- the nature and placement method of added material.
- Where roots have colonised the altered soil level, the material should be left in place.
- Where alteration of the level has led to impairment of aeration, the soil should be covered with organic mulch or mechanically decompacted.
- Exposed roots may be covered with a shallow layer of mulch after ensuring the tree is stable.

Irrigation/drainage (6.5)

- An established tree should be irrigated only when there is evidence that its root system is so short of water that the tree's survival is threatened.
- Irrigation should wet the greatest practicable proportion of the tree root volume over several hours, by means of a controlled delivery system that avoids flooding the soil surface.
- On waterlogged soil the excess water should be removed by installing drainage or dealing with the cause of the problem — by improving compacted soil, for example.