

BS 8545:2014



BSI Standards Publication

# Trees: from nursery to independence in the landscape – Recommendations

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## Foreword

### Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 28 February 2014. It was prepared by Technical Committee B/213, *Trees and tree work*. A list of organizations represented on this committee can be obtained on request to its secretary.

### Information about this document

BS 8545 is a new British Standard and is intended to assist people involved in planning, designing, resourcing, producing, planting and managing new trees in the landscape.

The purpose of this standard is to explain how new trees can be successfully grown and planted so that they flourish in the landscape without excessive maintenance. The standard promotes the principle that successful new tree planting relies on the integration of careful design, nursery production and planting site management, into one continuous process. All parts of the process are important and need careful consideration if new trees are to successfully achieve independence in the landscape.

The large amounts of research and anecdotal evidence on good practice throughout the breadth of preparing, planting and maintaining new trees, make it impossible to comprehensively list all that information within this standard. Instead, the standard seeks to distil the best of that information into discrete recommendations that summarize the process. It is structured so that users can access an overview of all parts of the process quickly and easily through the flowcharts and the body text. This is supplemented by more detailed discussion in the annexes, which is supported by technical referencing of relevant scientific research. The intention is for users to be able to easily identify the clauses that are relevant to their needs and, if necessary, then drill down into more detail in the annexes, and follow that up with accessible research references, if even more explanation is required.

The standard does not seek to be prescriptive or to provide a simple solution to cover all eventualities, recognizing that there is no single route to achieve its ends; but rather traces a series of good practice options, providing guidance and enabling an optimal route to be planned, defined by individual site constraints. It is for those involved in the process of achieving independence for young trees in the landscape to decide on which of the options outlined in the body of this standard are appropriate to their own requirements. These options will be conditioned by design and strategic intentions, individual site constraints and requirements, nursery availability and quality of tree stock, budget size and maintenance schedules.

This standard recognizes that each site is different, and its successful use depends on the depth and integrity of individual site assessment. Additionally, it recognizes that there is a wide range of experience, credentials and local knowledge of individual users, which could affect how recommendations are implemented. For example, local knowledge of, and familiarity with, the site conditions (as with the retrofitting of street trees) could dispense with the need for detailed site investigations. Conversely, designers working at a new location would clearly need detailed investigations to fill in the gaps in their knowledge and inform the decision-making process.

In most situations, a great diversity of information needs to be accumulated to inform the decision-making process, which requires skill, knowledge and experience to transform ideas on paper into successful results on the ground. This is an intellectual process that involves weighing the accumulated information to arrive at a balanced decision that has properly and fully accounted for all the relevant influencing factors. This process is technically difficult and intellectually challenging, but is absolutely necessary to consistently successfully deliver new trees that are independent in the landscape.

This standard recognizes that the word “establishment” can be taken as meaning the tree is present and alive, but those physical characteristics have very little bearing on whether the tree will survive and flourish. Indeed, trees can stay alive for decades, but remain moribund and make no significant contribution to the landscape. An obvious objective of all new planting is to reach the position as quickly as possible where a tree is healthy and has every prospect of achieving its full potential to deliver the benefits it was planted for, without any excessive or abnormal management input. It is for this reason that the phrase “independence in the landscape” is preferred in this standard to the word “establishment”.

### **Use of this document**

This British Standard takes the form of guidance and recommendations. It should not be quoted as if it was a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

### **Presentational conventions**

The provisions in this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

### **Contractual and legal considerations**

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**



## Introduction

It has been a widely recognized fact that a significant proportion of newly planted trees fail to survive to maturity. The *Trees in towns II* report [1] commissioned by the Department of Communities and Local Government highlighted that as much as 25% of all planting undertaken in the public sector actually fails. Although there has not been any comparable survey undertaken in the private sector, anecdotal evidence indicates that the failure rates are similar.

It is difficult to pinpoint the reason why the failure rate of new planting is so high, but one contributory factor is the present disjointed approach to production and planting. This standard seeks to define all the parts of the process as a continuous and joined-up sequence, rather than isolated parts that have no tangible connections.

An important objective of this standard is to assist practitioners in making balanced and informed tree planting decisions. Ideally, all newly planted trees need to be able to grow with vigour appropriate to the species and situation, in good health, and with minimal nuisance to achieve the desired planting objectives.

The standard sets out good practice in strategic and policy formation and then follows the whole transplanting process through to independence in the landscape, under the following clause headings:

- policy and strategy;
- site evaluation and constraints assessment;
- species selection;
- nursery production and procurement;
- handling and storage;
- planting;
- post-planting management and maintenance.

These clause headings are intended to be considered consecutively as illustrated in the flowchart in Figure 1 (see Clause 4). This flowchart cascades down to a separate flowchart for each of the separate clause headings (see Clause 5 to Clause 11). Each of these individual flowcharts is immediately followed by a series of recommendations relating to that particular subject. Each clause is cross-referenced to a series of annexes which explores each subject in greater depth, with figures and tables to add further clarification.

Each clause in this standard can be read independently from the others, but the combined clauses outline a process which is continuous. The whole process is only as strong as its weakest link; every part of the process needs to be given equal weight.

## 1 Scope

This British Standard gives recommendations for transplanting young trees successfully from the nursery, through to achieving their eventual independence in the landscape, specifically covering the issues of planning, design, production, planting and management.

This British Standard applies to trees where a distinct crown has been prepared in the nursery. It does not apply to whips, transplants and seedlings, or to other woody material.

*NOTE* Although this standard does not give specific recommendations for other woody material, many of its provisions can be applied to such material, e.g. to shrubs.