



Site Guidance Notes: A new approach to protecting trees during construction

Jeremy Barrell

TREE OF KNOWLEDGE

Site Guidance Notes: A new approach to protecting trees during construction

Barrell Tree Consultancy (www.barrelltreecare.co.uk) has been working to promote the importance of existing trees in planning for more than two decades, but what practical wisdom has emerged in the UK from more than 7,000 completed projects? In this article, Jeremy Barrell explores the subtleties of effective tree protection on construction sites, and shares a new approach showing promising signs of success. It seems that a cocktail of back-to-basics and images packaged as concise Site Guidance Notes is improving how site operatives deal with trees, and delivering a much-needed environmental windfall in the planning process.

Trends in urban tree canopy cover

I speak at tree conferences around the world and the speakers are invariably upbeat about how well they are doing and what great strides we are making in urban tree canopy cover management. To some extent, that is true when considering the management of publicly owned trees in streets, parks, and municipal properties. However, the reverse is often the case for privately owned trees, where many councils are failing to regulate what happens on private properties and uncontrolled development is destroying urban canopy cover faster than it is being replaced. Supporters of unregulated development often cry 'foul', saying if profit really is trumping sustainability, where is the evidence?

In 2008¹, I raised the alarm that, slowly but surely, UK urban canopy cover was declining without anyone realising the scale because it was scattered, which was hiding the cumulative impact. Of course, this was just my suspicion based on anecdotal evidence, and there was no formal research to prove it either way. A decade later, American research confirmed that urban tree canopy cover is declining generally across the USA², and specifically in Denver and Milwaukee³, although we still only have limited research validation that the trend is similar in the UK. This evidence should be a wakeup call for everyone; our urban tree canopy cover efforts are nothing like as effective as we are being told and yet politicians are still failing to grasp the urgent need for effective planning controls.

From the UK perspective, as the evidence mounted showing a net loss of urban trees, my attention as a practitioner was directed towards understanding why it was happening and what could be done about it. During the last ten years, I have written about the multiple reasons for tree loss including arborists prematurely condemning trees over safety concerns⁴, a presumption by highway managers not to replace felled trees⁵, poor planting practices resulting in high new tree failure rates⁶, a reluctance to factor tree value into built environment decision-

making⁸, and premature felling of healthy street trees to cut costs⁹. However, my dominant perception was that by far the greatest loss occurred on construction sites through inadequate protection of trees identified for retention that subsequently died or were removed.

Barriers to successful tree retention

In my quest to find a solution, I identified several practical and procedural barriers to successful tree retention:

- **Communication breakdown:** There is often poor communication between the planning and implementation stages of the development process, so it is common for the site operatives to be unaware of tree protection agreed with planners.
- **British Standard (BS) guidance¹⁰:** The BS guidance is copyrighted, which prevents its detail being easily reproduced to explain specific operations.
- **Weak planning conditions:** Poorly informed/inexperienced planners often write weak planning conditions, and so agreed tree protection cannot be enforced as intended.
- **Formal reports:** Although detailed reports are an essential part of describing a development proposal in the design and planning stage, once consent is issued, those reports are rarely found or used on site, i.e. site operatives meant to implement tree protection do not have easy access to information on how to do it.
- **Report aversion:** People on site are not engaged by complex or lengthy reports, which results in key personnel not understanding how to properly protect retained trees.
- **Ineffective enforcement:** Local planning authorities (LPAs) often struggle to enforce detailed tree protection requirements that are not clearly explained in the planning application documents.

On the bright side, I found that plans are a universally understood medium on site and their use is routine, so important information on plans has a better chance of being used than if it is buried in a report.

Evolution of the Site Guidance Note (SGN) concept

To make a real difference on tree survival, within our business we wanted to develop a solution to bridge the procedural gap between planning and implementation, i.e. assist the operatives doing the building to understand the tree protection proposals and how to execute them on site. Our early efforts focused around including the detail of site operations within our impact appraisal reports submitted with planning applications, but this resulted in lengthy documents making it difficult to pinpoint specific information. Although this approach



Figure 1: There are 12 individual Site guidance Notes covering all aspects of protecting trees during construction.

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Figure 2: QR Code links on the tree protection plan allow operatives to download relevant SGNs to their mobile devices, so no more excuses for not having access to the information!

contained all the technical information, it drew regular criticism from LPA as being too complex, generic, and not site specific. Our subsequent evolution illustrated the technical content with photographs of real examples from our thousands of projects, which was more effective at explaining, but still resulted in long reports, so was only partially successful. The report size issue was solved by the advent of improved internet storage of information and access to it. We took our lead from the UK government approach to storing generic guidance for planning online; if that was acceptable for government administration, then why not for tree protection as well?

Through this lengthy process of trial and error, the design priorities began to emerge to shape the concept of the SGN. Reports could be kept short and site specific by extracting and storing generic information online. That information needed to explain the principles of each individual tree protection operation in a way that made it easy for site operatives to understand and access. There needed to be a summary of the technical support references to add the necessary depth of detail and credibility. Photographs of tree protection operations were preferred to text explanations. Finally, the overview and detail of how to do each tree protection operation should be quickly and easily accessible through the tree protection plan.

That was the design process, and this is what we came up with. Twelve individual SGNs (Figure 1) covering the commonest tree protection issues, ranging from supervision, to fencing, to excavating in root protection areas. Each SGN starts with a concise bullet point summary of key information that site operatives should know, followed by images showing how it can be done, and concludes with a summary (not verbatim quotes) of the technical guidance. Each SGN can be downloaded free (www.barrelltreecare.co.uk/resources/technical-guidance/) and accessed directly on site using mobile devices to scan the QR Codes (Figure 2) on the tree protection plan.

Using SGNs

Anyone can access and use each SGN free, but the source must be acknowledged, and their format/content must not be altered. Their multiple benefits include:

- LPAs can link online to SGNs to publicise planning expectations to the public and professionals.
- Consultants can reference SGNs in their planning reports, either linking to the online source, or downloading them and inserting them directly into the report.
- Developers can use SGNs to specify tree protection for pricing and implementation.
- LPA planning officers can directly reference SGNs in planning conditions as a source of credible detail.
- LPA tree officers can use SGNs on site to explain tree protection expectations to developers.
- Site operatives can download SGNs to mobile devices on site as a quick reference when working near trees.
- When it all goes wrong, LPA enforcement officers can reference SGNs as clear examples of what was expected.

In short, SGNs provide a common standard for reasonable tree protection expectations during development.

Although SGNs have evolved in the UK planning system and are intended for use within it, the difficulties they have been designed to overcome apply around the world and there is increasing interest from other countries who have a similar desire to reverse the loss of urban canopy cover. We believe that there is great potential to customize the SGNs concept for use in New Zealand, and that it would be feasible to adapt the detail to suit local circumstances, e.g. using alternative New Zealand case studies with photos, and updating preferred technical references. Indeed, all the hard work has already been done, and the national adoption of SGNs as a practical implementation standard would be a quick and effective means of avoiding reinventing the wheel.

Adapted from an article published in the ARBmagazine in June 2018



Figure 3 caption: Jeremy Barrell is an author and Managing Director of Barrell Tree Consultancy.
barrelltreecare.co.uk
twitter.com/JeremyDBarrell
facebook.com/Heritage-Tree-Management

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