



## Site Guidance Note 8: Removing surfacing and structures in root protection areas

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## SGN 8: Summary guidance for site operatives

### Administration

1. **Unauthorised damage to protected trees is a criminal offence and could lead to enforcement action.**
2. **Work under the normal site risk assessment procedures and comply with the wider site safety rules.**
3. **Brief operatives entering root protection areas (RPAs) by the supervising arboriculturist before work starts.**

### Other relevant SGNs

4. **Monitor works in RPAs by the supervising arboriculturist (See SGN 1 Monitoring tree protection).**
5. **Design access to avoid soil compaction (See SGN 3 Ground protection).**
6. **Minimise excavation into original undisturbed soil (See SGN 7 Excavation in root protection areas).**

### Important reminders

7. **Manually break up and remove debris from the RPA using appropriate tools, e.g. pneumatic breaker, crow bar, sledgehammer, pick, mattock, shovel, spade, trowel, fork, and wheelbarrow. Have secateurs and a handsaw available to cut exposed roots to be removed.**
8. **Remove debris from the RPA without disturbing the adjacent rooting environment, e.g. lifting out with a machine located outside the RPA or manually carry out over ground protection.**

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9. Where appropriate, use machines with a long reach if they can work from outside RPAs, or from protected areas within RPAs without encroaching onto unprotected soil.
  
10. Where appropriate, leave below ground structures in place if their removal will cause excessive RPA disturbance.

## SGN 8: Explanatory notes and examples

### Purpose

SGN 8 describes the practical requirements for removing surfacing and structures in RPAs, based on the recommendations in BS 5837 (7.3).

### General principles and clarifications

For the purposes of this guidance, the following broad definitions apply:

- **Surfacing:** Any hard surfacing used as a vehicular road, parking, or pedestrian path, including tarmac, solid stone, crushed stone, compacted aggregate, concrete, and timber decking. This does not include compacted soil with no hard covering.
- **Structures:** Any man-made structure above or below ground including service pipes, walls, gate piers, buildings, and foundations. Typically, this would include drainage structures, car-ports, bin stores, and concrete slabs supporting buildings.

In principle, roots frequently grow adjacent to and beneath existing surfacing and structures, so great care is needed during access and demolition. Damage can occur through physical disturbance of roots and/or the compaction of soil around them from the weight of machinery or repeated pedestrian passage. This is not

generally a problem while surfacing and structures remain in place because they spread the load on the soil beneath and further protective measures are not normally necessary. However, once that protection is removed and the soil below is exposed, the potential for damage to roots becomes an issue.

Careful consideration should be given to retaining structures and surfacing in place, if that will result in less disturbance to retained roots. For example, if a new wall needs to be constructed on the footprint of an existing wall, it might be better to retain the original footing and build on that, rather than remove it and install a new footing.

In summary, there should be no vehicular or repeated pedestrian access unless existing ground protection is retained or new protective measures are installed. All exposed RPAs must be protected until there is no further risk of damage.

## SGN 8: Explanatory notes and examples

Machines with a long reach can be used to lift out heavy surfacing and structures if the machine sits outside the RPA and the exposed surface is protected before there is any further access.



Careful lifting of cemented-in sets round this tree allowed them to be re-laid on a permeable sand base, improving the water input into the soil around the trunk.



These trees had impermeable surfacing right up to their trunks, which had to be removed by hand before installing new structures.



## SGN 8: Explanatory notes and examples



This old concrete footing close to a large mature tree was retained, thus avoiding excessive disturbance of roots below it.

SGN 08-04



The RPAs for the retained trees around the boundary is protected by a combination of fencing and ground protection. The hard surfacing covering the remaining RPA was then removed using a pneumatic breaker before hand excavation of the soil beneath to install new footings.

SGN 08-05



If structures are firmly incorporated into roots, it may be best to leave them in place rather than attempt to remove them and irreversibly damage the tree.

SGN 8-06

## SGN 8: Explanatory notes and examples

### Technical reference

*Due to copyright restrictions, the relevant British Standard clauses are summarised, not quoted, as follows:*

1. **BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations:**

*Clause 7.3 (Tree protection during demolition) recommends:*

- *7.3.2 RPAs up to the edge of structures to be removed should be protected.*
- *7.3.3 Demolition plant should either operate outside the RPA or run on ground protection installed before work starts.*
- *7.3.4 Demolition of buildings near retained trees should be done inwards within the footprint of the existing building.*
- *7.3.5 Where possible, and after consultation with the supervising arboriculturist, it is preferable to leave redundant structures in RPAs to avoid damage to tree roots.*
- *7.3.6 Existing surfacing should be removed with care and any machine should work backwards over the area to prevent damage to any exposed RPA. It is preferable to leave any existing sub-base in situ if new surfacing is to be laid.*