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TREE PROTECTION METHOD STATEMENT

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1. Introduction

This Tree Protection Method Statement (TPMS) outlines the procedures and best practices for protecting trees during development. The primary goal is to protect tree roots, trunks, and canopies from damage, ensuring that trees continue to thrive and contribute to the environment. It is crucial that all personnel on-site understand the importance of these measures and strictly adhere to the guidelines provided. This document follows the guidance provided by British Standard BS5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations (BSI, 2012).

2. Objectives

The purpose of this statement is to implement protective strategies for trees situated near construction sites. The primary objectives of this TPMS are to:

- Safeguard trees from damage throughout the construction process.
- Ensure tree health and structural integrity during and after construction.
- Provide clear guidelines on the use of tree protection measures.

This statement applies to all site activities where trees are located in close proximity to development works.



IMAGE 1: EXAMPLE TREE PROTECTION SIGNAGE

3. Tree Protection Measures

3.1. Tree Protection Fencing

Tree protection fencing serves as the primary barrier to prevent accidental damage to tree roots, trunks, and canopies during development. According to BS5837:2012, temporary fencing should be erected around the Root Protection Area (RPA) before any site work begins and must remain in place for the duration of the construction.

- Fencing Type: The recommended fencing includes either Herras panels (image 2) or robust scaffold frameworks with bracing. This is specified in Section 6.2 of BS5837:2012, ensuring that the protection is durable and immovable.
- Location: Fencing must be installed at the perimeter of the RPA to avoid intrusion into areas critical for the tree's root system (BSI, 2012).
- Signage: Warning signs must be displayed on the fencing to indicate the restricted nature of the area (image 1).

(BSI, 2012)



IMAGE 2: EXAMPLE TREE PROTECTION FENCING, HERRAS TYPE

3.2. Ground Protection

Ground protection is essential in areas where site access within the RPA is unavoidable. Ground protection systems (image 3) help to distribute weight and avoid soil compaction, which can damage tree roots.

- Materials: Ground protection measures may include scaffold boards, metal road plates, or proprietary products such as CellWeb® cellular confinement systems. CellWeb is particularly useful for stabilizing ground above root systems without the need for excavation or soil compaction. This product is recommended for installation in accordance with BS5837:2012 guidelines, which also advise the use of temporary surfaces when construction access must cross RPAs (GreenBlue Urban, 2018).
- Installation: Ground protection should be put in place before construction work begins, especially where vehicles or machinery need to pass over RPAs. The type of system chosen will depend on the expected loads and site conditions.

(GreenBlue Urban, 2018)
(BSI, 2012)



IMAGE 3: MAT GROUND PROTECTION

3.3. CellWeb® and Similar Systems for Root Protection

CellWeb® and similar cellular confinement systems are designed to minimize the impact of construction activities above tree roots by preventing soil compaction and allowing water and air to reach the root zone.

- Purpose: Used in constructing roads, pathways, or parking areas over RPAs, these systems provide a stable, load-bearing surface that protects the tree's roots by distributing weight and maintaining the porosity of the soil (GreenBlue Urban, 2018).
- Installation: According to best practices outlined by BS5837:2012, the surface should be prepared without excavation, and the cellular structure should be filled with an appropriate substrate such as gravel or sand. No-dig methods ensure that tree roots are preserved.

(GreenBlue Urban, 2018)
(BSI, 2012)

3.4. Excavation and Roots

Excavation around trees must be carefully managed to avoid damaging roots. In many cases, hand-digging or the use of an air spade is recommended.

Use of the Air Spade for Root Excavation
An air spade uses compressed air to remove soil around tree roots without damaging them. It is an effective and non-invasive tool for excavating around RPAs when trenching, utility installation, or foundation work is necessary (Gilman, 2012).
Appropriate Uses: The air spade is ideal for exposing roots for inspection, determining root distribution, and avoiding root damage during necessary excavation. It is also useful for remedial work like root pruning or soil improvement, where disturbance must be minimized (Tree Council of Ireland, 2020).
Best Practices: When using an air spade, excavation must be supervised by a qualified arboricultural consultant to ensure that no major roots are damaged.
(Tree Council of Ireland. 2020)
(Gilman, E.F. 2012)

3.5. Storage and Material Handling

Materials and machinery must be stored outside RPAs to prevent compaction and physical damage to tree roots and trunks.

Best Practice: According to BS5837:2012, all materials and machinery should be kept well outside the RPAs (image 4). Fuels, chemicals, and other harmful substances should be stored safely away from trees to prevent soil contamination.

Spillage Containment: Site personnel should be trained to handle spillages, and appropriate spill kits must be readily available.

(BSI, 2012)

3.6. Best Practices for Utility Installation Around Trees

Utility installation near trees, such as water, gas, or electrical lines, poses a risk to tree roots. Therefore, adopting trenchless techniques is critical to prevent damage.

Trenchless Methods: Techniques like directional drilling, moling, and pipe bursting allow utilities to be installed beneath root systems without direct trenching (BSI, 2012). These methods are recommended for use within RPAs to minimize root disturbance.

Hand-Dug Trenches: Where trenching within the RPA is unavoidable, manual excavation with tools or an air spade / suction system should be employed to avoid damaging larger roots. Exposed roots must be covered with damp hessian to prevent desiccation (Tree Council of Ireland, 2020).

Supervision: Utility installation near trees should be overseen by an arboricultural consultant, ensuring that no damage occurs during the process.

(Tree Council of Ireland, 2020)

(BSI, 2012)



IMAGE 4: MATERIALS STORED OUTSIDE OF TREE PROTECTION FENCING

4. Arboricultural Supervision

Site supervision by a qualified arboricultural consultant is essential to ensure compliance with the TPMS. Key stages that require supervision include:
Installation of tree protection fencing and ground protection.
Excavation works within or near RPAs.
Utility installation near trees.
Regular site visits should be scheduled to monitor compliance and to ensure corrective actions are taken when necessary (BSI, 2012).

5. Monitoring and Reporting

Regular inspections should be conducted to verify compliance with tree protection measures. Inspection reports must detail the state of the RPAs, breaches of protection, and recommended corrective actions.

6. Completion and Final Inspection

Upon the completion of the project, the Arboricultural Consultant will conduct a final inspection to confirm that tree protection measures were followed and that the health of retained trees has been maintained.

7. Emergency Procedures

In the event of accidental damage to trees:
All construction work in the vicinity must cease immediately.
The Arboricultural Consultant should be contacted to assess the damage and recommend remedial actions, such as pruning or irrigation.

8. REFERENCES

GreenBlue Urban. (2018). RootSpace® and CellWeb® systems for tree root protection. GreenBlue Urban UK.

Gilman, E.F. (2012). Tree Root Systems and Compaction. International Society of Arboriculture (ISA).

Tree Council of Ireland. (2020). Tree Care & Management Guidelines.

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