

SWIFT UNLIMITED

Garden Rooms / Living Annexes / Extensions

Method Statement – 53 Brook Road RH12 5FS

Installation of Ground Screw Foundations Adjacent to Protected Oak Tree (Located on Adjoining Council Land)

1. Background

The proposed development comprises the installation of a lightweight garden room structure supported on ground screw foundations.

A mature protected oak tree is located on adjoining council-owned land, approximately 3.0 metres from the nearest proposed ground screw position.

No excavation, trenching, or strip foundations are proposed as part of the development.

2. Arboricultural Context

The exact Root Protection Area (RPA) radius will be confirmed subject to measurement of the tree's stem diameter at 1.5m above ground level. However, due to the proximity of the tree, it is acknowledged that the proposed works may fall partially within the theoretical RPA.

BS5837:2012 (Trees in Relation to Design, Demolition and Construction) recognises that construction within the RPA is not automatically precluded, provided that the design and methodology demonstrably minimise impact on roots and soil structure.

The foundation solution has therefore been specifically selected to minimise below-ground disturbance and safeguard retained tree roots.

3. Justification for Foundation Type

Ground screw foundations are considered appropriate in proximity to retained trees for the following reasons:

- No excavation or soil removal is required
- Installation is achieved through rotational displacement rather than augering
- There is minimal disturbance to surrounding soil structure

- No trenching or strip foundations are required
- The finished structure remains raised and permeable
- The system is fully reversible
- No concrete is introduced into the ground

This solution represents a low-impact alternative to traditional foundations and is consistent with the intent of BS5837:2012.

4. Access and Ground Protection

- Installation will be undertaken using hand-held or lightweight electric equipment only.
- No excavators, piling rigs, or heavy machinery will be used in proximity to the tree.
- No materials will be stored near the tree.
- There will be no alteration of existing soil levels.
- Measures will be taken to avoid soil compaction.

5. Installation Methodology

1. Ground screw positions will be set out and marked prior to start of works.
2. Each proposed location will first be carefully investigated using hand-held equipment, including a manual probing rod and/or hand-held drill/auger, to identify the presence of significant roots prior to installation of the main screw.
3. A small-diameter pilot hole will be formed using a hand-held drill (large hand-operated drill/auger only). This will:
 - Confirm the presence or absence of roots
 - Reduce installation torque
 - Minimise soil displacement during screw installation
4. If roots are encountered during probing or pilot drilling:
 - Works will cease immediately at that location
 - The screw position will be adjusted to avoid root conflict
 - No roots greater than 25mm in diameter will be cut under any circumstances
5. Ground screws will then be installed using a torque-controlled, hand-held hydraulic or electric driver.
6. If significant resistance indicative of a structural root is encountered:
 - The screw will be withdrawn
 - The position relocated slightly
 - No forceful advancement will take place
7. No spoil will be generated and no open excavations will remain.

6. Protection of Tree Roots and Soil

- No excavation, trenching, or soil stripping is proposed.
- No reduction in soil levels will occur.
- No services trenches are proposed within the vicinity of the tree.
- No concrete will be introduced into the soil.
- The lightweight structure will be raised above ground level, maintaining natural drainage and soil permeability.

The methodology prioritises retention of soil structure, aeration, and root integrity.

7. Monitoring and Contingency

Should unexpected root density or significant roots be encountered during the installation process, works will pause and arboricultural advice will be sought before proceeding.

8. Conclusion

While the proposed development may fall partially within the theoretical Root Protection Area of the protected oak, the foundation system and installation methodology have been specifically selected to minimise any potential impact.

The works involve:

- No excavation
- No soil removal
- No trenching
- No compaction from heavy machinery
- No severance of significant roots

Installation is controlled, manually undertaken, and includes proactive probing and pilot drilling to identify and avoid root conflict.

The proposed methodology accords with the principles and intent of BS5837:2012. Given the lightweight nature of the structure, the absence of traditional foundations, and the reversible nature of the system, no demonstrable harm to the retained tree is anticipated.