



Delivering sustainable ground reinforcement for sensitive garden landscaping

# The Hydons Tree Root Protection



 **Client:** Roger Young

 Cedarwood, 9 The Hydons, Surrey GU8 4DD

 **Sector:** Landscaping & Tree Root Protection

## Project Overview

Discover how Geosynthetic Ltd engineered a lightweight, environmentally responsible solution for raising ground levels within a Root Protection Area (RPA) at The Hydons, Hydestile, Surrey.

The project required a no-dig approach to protect mature trees while creating a level garden space for improved aesthetics and usability.

## Challenge

- **Root Protection Area Constraints:** The garden required raising levels by 400mm without damaging tree roots.
- **Weight Reduction:** Original specification using 4/20 clean angular stone was too heavy; a lighter solution was needed to reduce compaction.
- **Environmental Sensitivity:** The design had to maintain water and oxygen movement for healthy root growth while improving drainage and aeration.



## Innovative Solutions:

Geosynthetics Ltd provided an in-house engineered design using multiple layers of 75mm Cellweb® TRP, filled with foamed glass aggregate.

- ◆ **Load Reduction:** Foamed glass aggregate reduced loading within the RPA by approximately 85% compared to standard infill—from 1.8 tonnes/m<sup>3</sup> to just 270 kg/m<sup>3</sup>.
- ◆ **Structural Integrity:** A capping layer of 4/20 mm clean angular stone or soil was applied as the wearing course subbase or root zone, ensuring strength and permeability.
- ◆ **Enhanced Root Environment:** Up to 20% soil mixed with foamed glass improved aeration and symbiosis within the root zone. Removal of the Treetex geotextile layer allowed unrestricted root movement and gaseous exchange.
- ◆ **Sustainable Landscaping:** Lightweight aggregates and recycled edging materials aligned with eco-friendly objectives.



## Key Benefits Delivered:

1

### Tree Health Protection:

Maintained water and oxygen flow, preventing root rot and compaction.

3

### Significant Load Reduction:

85% lighter infill minimised stress on roots.

2

### Improved Drainage & Aeration:

The foamed glass porous structure supports healthy root growth.

4

### Environmental Sustainability:

Reduced aggregate weight and incorporated reusable materials.

## Client Testimonial

*"The Cellweb® Tree Root Protection system worked extremely well and integrated seamlessly with our design."*

*Geosynthetics provided exceptional technical support and ensured a smooth installation. Their professionalism and expertise were truly impressive."*

— Craig Deeley, Site Manager, Bushy Business Gardens

For more information on how Geosynthetics Ltd can support your Tree Root Protection requirements, please contact our technical team for a consultation on your project requirements.

