



Case

STUDY

CELLWEB® TRP
69 Church Lane
Driveway



MARKET SECTOR:
Environmental



LOCATION:
69 Church Lane, Oakley,
Bedfordshire



CONTRACTOR:
Larkin Homes



CONSULTANT:
RGS Tree consultants

The BACKGROUND

In spring 2016 Geosynthetics Ltd were contacted by Robert Yates of RGS Arboricultural Consultants regarding a new driveway at a development in Oakley, Bedfordshire.

The proposed route for the drive passed through a wooded area and therefore through the root protection areas (RPAs) of numerous trees which were to be retained. In order to maintain the health of the retained trees a no dig drive would need to be constructed.

The Cellweb® Tree Root Protections system is specifically designed for the construction of new hard surfaces within RPAs. It is constructed on the existing ground surface, removing the requirement for excavation and preventing root severance.

Our Client's REQUIREMENTS

A driveway to a new development, passing through a wooded area.

The system allows continued water permeation and gas exchange by confining an open graded clean angular stone infill material.

The system is also extremely effective at spreading point loads and reducing the load that is applied to the soils beneath. This in turn minimises soil compaction maintaining an open soil structure which allows continued gas exchange, water permeation and migration.

Our Value Engineered SOLUTION

Geosynthetics Cellweb® TRP Technical Specifier met on site with Robert Yates of RGS Arboricultural Consultants and contractor, Warin Larkin of Larkin homes.

As can be seen in photo 1, most of the proposed route was over level ground which would lend itself to a relatively simple specification and installation, utilising a single layer of the Cellweb® Tree Root Protection system. Photo 2 shows what will become the entrance to the drive way where a section of the existing hedge will be removed, opening out onto the highway. It can be seen that this portion of the proposed driveway contains a significant fall in levels resulting in a large hollow. Within this hollow sits the RPAs of several retained Horse Chestnuts and a large yew. As a rule of thumb a single layer of the Cellweb® TRP system should not be laid on a gradient greater than one in ten.

The client had also requested that the driveway was to be level, and these factors combined meant that the hollow would need to be infilled. Due to the presence of RPAs this would need to be achieved using a technique whereby the Cellweb® TRP system would be stacked or layered in the hollow to achieve the required build up. During the site meeting Larkin Homes measured the depth of the hollow at its deepest point and the span of the hollow at its widest point. The remaining area of level driveway was measured and information on the proposed traffic loadings was obtained.

This information was then provided to Geosynthetics in-house engineering department so that they could prepare site specific recommendations for the driveway build up. The engineering team at Geosynthetics prepared two recommendations, one for the hollow section of the driveway and another for the remaining level section. Diagram 1 shows the recommended build up for the level section of the drive way. The 200mm depth Cellweb® was recommended based on the proposed traffic loadings which were provided and an assumed California Bearing Ratio (CBR) value of 1%. Actual CBR values for the site were unknown.

