

# Case Study

## Cellweb® TRP

### Optimising Connectivity



#### Location:

A591 Glebe Rd  
Bowness-On-Windermere  
LA23 3HB

#### Client:

Cumbria County Council



#### Contractor & Installer:

Casey Group

#### Consultant / Engineer:

Capita

#### Merchant:

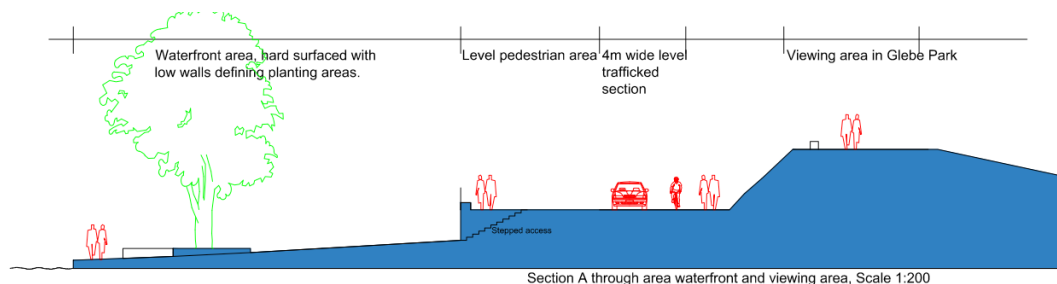
Jewson Ltd - Barrow in  
Furness

Cumbria county council had started on improvement works to Glebe Road and the public realm to either side of the highway including an area adjacent to the foreshore of Lake Windermere. A united utilities pipe was discovered leaking dirty water through their works and this pipe needed to be diverted into the highway drainage system.



Figure 1 – Plan view: Site and Tree Root Protection areas

Geosynthetics Ltd were approached by Capita for this scheme as they required an innovative solution due to the works being carried out in the root protection areas of several mature trees. There were a variety of issues on site regarding the tree root protection element but the main difficulty was a difference in levels for the footpath and how this could be achieved with a smooth transition.



Drawing reference Capita CAP-01-6000-DR-L-0003



**Geosynthetics**  
Engineered Solutions

Fleming Road  
Harrowbrook Industrial Estate  
Hinckley  
LE10 3DU  
Tel. 01455 617 139  
sales@geosyn.co.uk  
www.geosyn.co.uk

After reviewing all the information, our engineers produced site-specific calculations and drawings matching their requirements for a cost-efficient proposal. The design included the Cellweb® TRP system which is the only system on the market that has been independently tested and proven to reduce over-compaction of the sub-soils and roots.

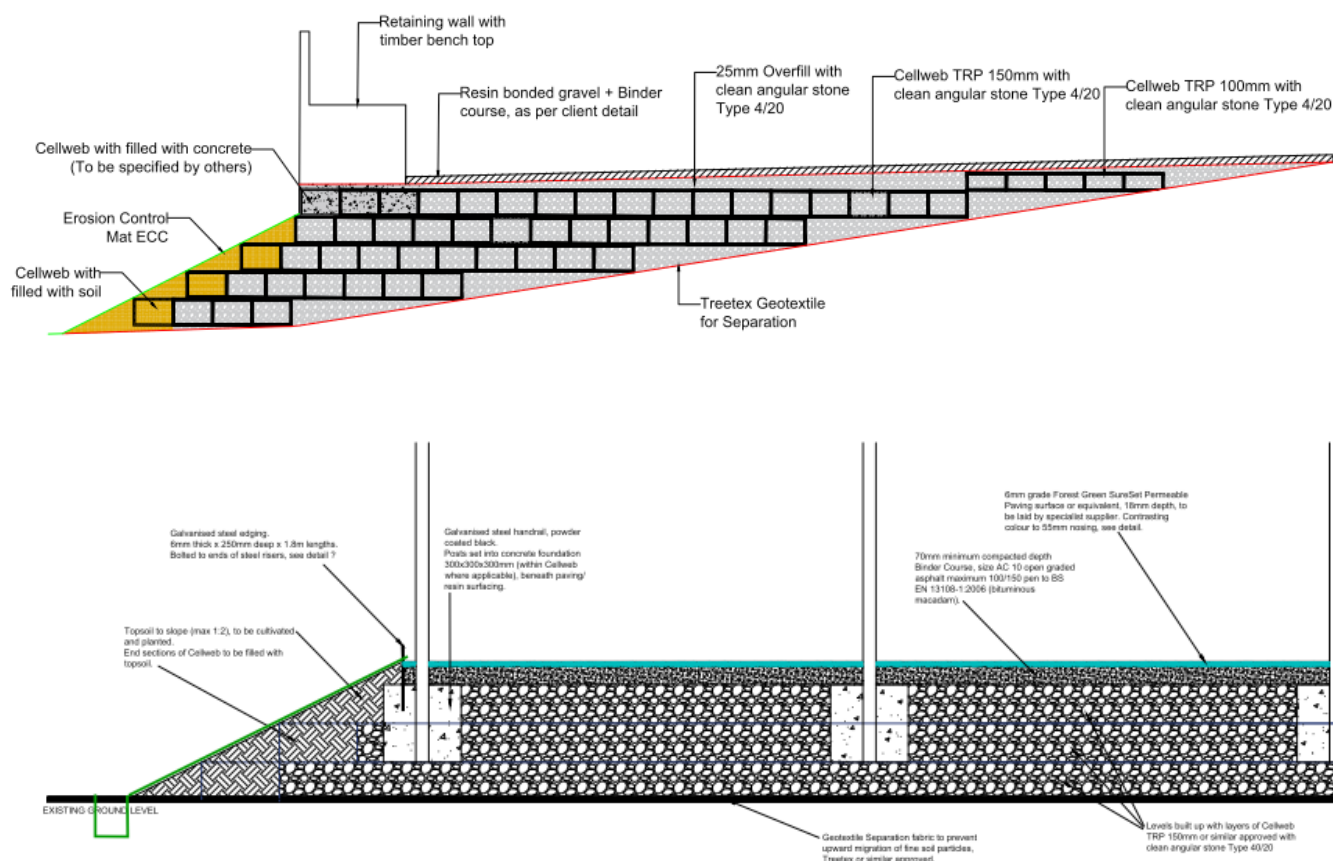
# Case Study

## Cellweb® TRP

### Optimising Connectivity



CROSS SECTION OF SECTION A-A



\*Drawing reference Capita CS078485-CAP-01-300-DR-L-3003

Based on the soil information, the calculations were based on a CBR of 1% for the existing ground and a maximum axle load of 20 kN/axle for the loading, considering some light traffic for maintenance.

For the levelled area, the solution consisted of one layer of 100mm Cellweb® installed on top of a subbase of 60mm using clean angular stone Type 4/20. The surface of the footpath was specified with resin bound gravel and a binder course. The slope and gradients were designed with staggered layers of Cellweb® TRP 150mm and 100mm to achieve the required levels in each section. The Cellweb® was then filled with the same clean angular stone Type 4/20.

When filled with clean angular stone Type 4/20, the system provides a stable structure to distribute the loads and reduce the pressure at the ground level. The system promotes the migration of water and nutrients, maintaining the soil bulk density required for the tree roots growth. The geotextile Treetex™ was used as part of the system for separation.

With careful thought and consideration we were able to comply with all the design requirements whilst satisfying the council's specifications and Capita's need for a guarantee. Cellweb® TRP is the only established product on the market available with a complimentary tree guarantee offering complete peace of mind to all parties involved.



## Case Study

# Cellweb® TRP

## Optimising Connectivity



The contractor Casey Group installed the Cellweb® TRP system following all the design and the installation guidelines.

By utilising our in house specialists we supported these remedial works from concept to completion. We liaised with both contractor and merchant to coordinate a next day delivery and provided onsite assistance and advice in regards to the installation.

