



Sustainable tree root protection for touring park development

Ladycross Lodge & Touring Park



 Client: Kieran Robinson

 Sector: Equestrian, Sports & Leisure

 Ladycross Lodge & Touring Park, Egton, Whitby, North Yorkshire YO21 1UA

Project Overview

Ladycross Lodge & Touring Park, nestled in 95 acres of mature woodland just 5 miles from Whitby on the North Yorkshire Moors, faced a complex environmental and engineering challenge.

The family-owned site contacted Geosynthetic Ltd in November 2021 with specific requirements for tree root protection combined with high load-bearing surfaces designed for maximum longevity.

Challenge

Environmental constraints: The area was designated woodland with planning approval secured from National Parks authorities. This presented strict requirements for protecting the existing ecosystem whilst enabling commercial development.

Tree root protection requirements: The mature woodland featured extensive tree root systems requiring a solution that would prevent soil and root compaction whilst maintaining essential water and oxygen movement.

Load-bearing demands: The park needed durable surfaces capable of supporting heavy loads including vehicles and foot traffic without compromising the underlying tree root systems.

Sustainability objectives: The project aimed to use environmentally friendly materials, aligning with the park's commitment to environmental sustainability.

Innovative Solutions:

Geosynthetics Ltd provided a comprehensive tree root protection system combining innovative cellular confinement technology with sustainable materials:

◆ Cellweb® TRP (Tree Root Protection):

A cellular confinement system specifically engineered for tree root protection. The system distributes loads laterally, preventing soil and root compaction whilst using perforated cell walls and clean angular stone infill to facilitate water and oxygen movement, ensuring continuous nutrient supply to tree roots.

◆ TTE™ surfaces:

High-performance surfaces designed to provide durable, high load-bearing capacity. These surfaces work seamlessly with Cellweb® TRP to create stable, long-lasting pathways and parking areas.

◆ Recycled plastic edging:

Our in-house engineering team incorporated environmentally friendly recycled plastic edging, providing durability and flexibility whilst supporting the park's sustainability commitments.



Key Achievements:

1

Environmental protection:

Complete preservation of mature woodland ecosystem within National Parks guidelines. Zero impact on existing tree health through innovative perforated cell design

2

Engineering excellence:

High load-bearing surfaces supporting both vehicular and pedestrian traffic with long-term durability meeting the client's maximum longevity requirements

3

Sustainability advantages:

Sustainable landscaping solution with minimal environmental footprint. Compatibility between all system components for integrated performance



Impact

The solution enables Ladycross Lodge & Touring Park to offer visitors:

- Spacious pitches with protected woodland setting
- Over two miles of woodland walks leading to secluded pond areas
- 4 acres of open field space for families and pets
- Modern amenities including shower blocks, laundrette, shop, and dog wash facilities
- Nature trails with Wi-Fi connectivity and recreational activities

For expert advice on permeable car park design with tree root protection, contact Geosynthetics Ltd's technical team today to discuss how our combined Cellweb® and Golpla™ systems can deliver sustainable, high-quality surfacing solutions for your project.

Client testimonial

"We are very happy with the outcome of the project at Ladycross Lodge & Touring Park. The solutions provided by Geosynthetics, including the Cellweb® TRP and TTE™ surfaces, have exceeded our expectations."

Kieran Robinson, Client