



PROJECT AT A GLANCE

Application

Parking for new visitors centre

Location

Twycross Zoo, Leicestershire

Installation Date

Early 2010

Client

Kier Marriott Construction Ltd (Nottingham) - appointed design and build contractor for Twycross Zoo.

Sub Contract Installer-Melfort Construction Services Ltd of Alfreton, Derbyshire.

About Gridforce

Gridforce is part of the Corden Group of companies. Based at Calverton, near Nottingham, the group supplies a range of products which in addition to Gridforce includes waterproofing and gas protection systems, expansion joint fillers, fencing and other products for the construction industry.

Gridforce offers a unique and revolutionary paver system which provides permeable ground reinforcement solutions across an extremely wide range of applications. The Gridforce range possesses an unequalled combination of highly engineered design, choice of 5 paver options and manufacture in low density polyethylene. LDPE not only produces high compressive strength but also gives the pavers a flexibility and resilience which enables the system to satisfy all client requirements from footpaths to car parks, emergency fire access routes and HGV overrun. It also offers significant advantages over pavers manufactured from high density polyethylene (HDPE) which are more susceptible over time to brittleness and fracture.

Gridforce is normally laid on a free draining stone base, eliminating the requirement for drainage pipe work and returning storm water to the water table, thereby relieving pressure on sewers. Depending on ground conditions we may also be able to offer a reduced dig or no dig solution.



Providing Car Parking for Visitors Centre at Twycross Zoo, Leicestershire



The Challenge

Continuing its policy of expansion, Twycross Zoo commenced construction of its new £7,000,000 Himalaya Visitor Welcome Centre in March 2009. Himalaya was designed to emerge naturally from the landscape, and the use of local sustainable materials, ground source heating and landscaping to attract biodiversity were considered fundamental to the development.

Design and construction of Himalaya was entrusted to Kier Marriott Construction Ltd, through its Nottingham office. Various options were considered for the car parking, but bearing in mind that materials used on the previous car parking areas had not always been an unqualified success, the Gridforce ground reinforcement system was selected and approved. After a 12 month construction period, the Himalaya Centre opened to visitors in March 2010.

Gridforce - the ultimate in ground reinforcement



Gridforce Solution

Working for Kier Marriott, Melfort Construction Services Ltd installed 2060m² of Gridforce GF40 pavers in black, manufactured from 100% recycled plastic.



Construction Details

Base: 300mm of crushed stone on a layer of geotextile
 Blinding Layer: 20mm of coarse grid sand
 Surface material: Gridforce GF40 pavers (unit size 500x500x40mm but delivered pre-connected in 1m² = 4 pavers per panel). Pavers filled with 10mm angular granite.

Client Benefits

- Gridforce units weigh only 1.4kg each (5.6kg/m²), well within safe manual handling limits
- Gridforce is manufactured from 100% recycled plastic
- Gridforce's patented lug and slot connection aids line and level accuracy and facilitates fast installation
- Local materials used in construction of the car park base and stone used in filling Gridforce
- Permeable surface means no drainage infrastructure required and no storm water run off issues
- Rainwater returned to the water table, ensuring no further burden on existing sewer system and alleviating risk of flooding
- Carl Ellis of Melfort Construction commented that 'the pavers were easy to lay, enabling us to complete installation on time. We were also very pleased with the level of support on site from the Gridforce representative and I know that Twycross Zoo are very happy with the appearance of the car parking area'



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