

Gateway South Coventry Geogrid Reinforced Platform Over Landfill

Coventry



TYPE OF PROJECT
Construction Over Voids

YEAR OF CONSTRUCTION
2021

CLIENT
Segro

CONTRACTOR
Buckingham Group
Contracting Ltd

DESIGNER
Maccaferri

PROD. RELATED
MonoAxial GeoGrids (Null)

Challenge

In early 2020, SEGRO, a leading Real Estate Investment Trust, acquired a 450-acre site adjacent to Coventry Airport to expand its UK logistics portfolio. The development, known as Gateway South Coventry, is strategically located near the A45 with direct access to major motorway networks including the M6, M69, M40, and M1. The project involves the construction of 3.7 million sq ft of industrial and warehouse space, with a total development value exceeding £400 million.

A major challenge within the project was the need to construct a new access road linking to the recently developed Rowley Road roundabout. The road alignment passed through a narrow corridor between the UK Battery Industrialisation Centre and Coventry Airport, significantly limiting available construction space.

Compounding this constraint, part of the road needed to be built over a former landfill site. Due to environmental and spatial limitations, excavation and removal of the landfill material were not viable options. This presented a high risk of differential settlement, which could lead to long-term structural instability of the road. To overcome this geotechnical challenge, a piled solution combined with a basally reinforced platform was proposed.



ParaLink® placed in anchorage trench to secure the bond



Placement of the granular fill to the basal platform.

Solution

Maccaferri was engaged in June 2020 by Buckingham Group Contracting Ltd to provide a high-performance geogrid solution for the basally reinforced platform. After evaluating the project requirements, Maccaferri recommended the use of ParaLink geogrids, a proven solution for load transfer platforms over weak or variable ground conditions such as landfill sites.

ParaLink geogrids are high-strength geosynthetics made from composite strips featuring high-tenacity polyester yarns encased in a durable polyethylene sheath. This design provides excellent tensile strength, durability, and resistance to chemical, biological, and environmental degradation, making it ideal for challenging ground engineering applications.

The geogrid system enabled efficient load distribution across the piled foundation, reducing settlement risks and ensuring long-term stability of the roadway. With a design life of up to 120 years, ParaLink offered a reliable and sustainable solution aligned with the project's performance requirements.

ParaLink geogrids were supplied in April 2021, with installation completed by Buckingham Group Contracting Ltd in July 2021. The system was installed within the reinforced platform, including anchorage trenches to secure the geogrid bond length and optimise performance.

This engineered solution allowed the successful construction of critical infrastructure over a former landfill site without the need for excavation, delivering both cost and programme efficiencies while ensuring structural integrity.



Placement of the transverse layer of ParaLink® with spreader



Drainage manhole rings required a gabion thrust block to



Transverse layer of ParaLink® being installed with a spreader bar.



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