

Press Release
October 26th 2020

Marshalls CPM blocks praised for smart motorways role

Redi-Rock modular blocks manufactured by Marshalls CPM have proved their worth for retaining walls on smart motorway schemes and earned an Innovation Award for Highways England.

On smart motorways, there is a requirement to construct retaining wall solutions at locations where the verge needs to be widened for gantry bases, technology sites or emergency areas but the verge is not flat ground and is either an embankment or a cutting.

On the M20 J3-5 & M23 J8-10 smart motorway schemes, Kier Highways had 2.9km of verge that needed to be retained in cuttings and it would have been easy to use tried and tested retaining wall methods (including bored piles, sheet piles or gabion baskets) but Kier was determined to find a better, more innovative method.



The contractors investigated various retaining options including Redi-Rock™ modular blocks, which gained Highway Authorities Product Approval Scheme certification for use on UK highways in 2018, and it was chosen as their preferred solution. The Redi-Rock™ modular blocks have realised verified efficiencies of over £16m for Highways England compared to conventional retaining wall solutions. Installation is simple, as the blocks slot together similar to Lego and the safety, quality, environmental, programme, logistical and commercial benefits they bring make a compelling case for using modular blocks.

The prefabricated concrete Redi-Rock™ blocks are stacked to form a gravity wall and are precast with domes and grooves which lock together forming a mechanical key. Blocks typically weigh a tonne and are craned into position using a cast in lifting loop. They are non-grouted, dry placed, and rely on gravity for stability. The units decrease in depth higher up the wall whilst the front block face remains the same size. The units with a design life of 120 years are BBA approved, CE Marked, are British Kitemarked by PAS 68 certification and have approval from the Highway Authorities Product Approval Scheme (HAPAS) for use on UK highways.

Following the initial research reports generated collaboratively during early contractor involvement with Highways England's designer Jacob Atkins Joint Venture, it was clear that if delivered well, the Redi-Rock™ modular blocks would deliver many benefits but as they had not been used previously on Highways England's network there was still a lot of work to be done. This collaborative approach continued with their supplier Marshalls CPM to develop the product into a solution that met all client and designer requirements.

By thinking innovatively and working collaboratively, their team delivered a product that is new to the Strategic Road Network, pleasing to look at, and will form an attractive, less industrial roadside feature than other retaining options while ticking all the boxes for client Highways England.

Highlights:

- Redi Rock Modular Block Retaining Walls have delivered independently verified efficiencies of over £16m on the M20 J3-5 and M23 J8-10 smart motorway schemes.
- Redi Rock blocks have many environmental benefits. The blocks are made of 25% recycled material, they are laid dry without cement products, they require minimal foundations and walls can be de-mounted, with blocks used again in a different configuration, meaning they do not need to be disposed of.
- The M23 J8-10 SMP has an AFR of zero and has currently worked over 1.5 million hours without a Lost Time Incident and there have been no near misses or incidents related to the Modular Block Wall operations.

About the Innovation Award:

Innovation is widely recognised as the critical factor for increased and sustained productivity and growth. It demonstrates an organisation's confidence, capacity and appetite for improved performance and productivity gains. Innovation is most effective as a holistic approach that identifies both demand and ideas and is most successful when supported by collaboration between customers and the supply chain.

Ends

Marshalls CPM

Tel: 01179 814500

Email: sales@cpm-group.com

Web: <https://www.cpm-group.com>