

Carstairs West Embankment Retention & Slope Regrade Works



Leca LWA was specified for the Carstairs West Embankment Retention & Slope Regrade Works. This is part of a phased programme of investment in the key junction on the West Coast Main Line which will simplify and upgrade the track-layout to clear an existing bottleneck on the network and enable the separation of non-stop passenger and freight trains from those stopping at the station. The installation of new sections of track

and modern signalling will also speed up journeys between Glasgow and Edinburgh and will accommodate the longest freight trains on the network.

FACTS

Contractor: Story Contracting

Delivery Method: Walking Floor

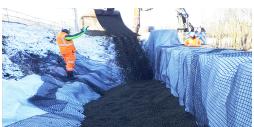
Product: 700m³ [Leca LWA \(10-20mm\)](#)

The existing embankment at the Carstairs Junction was directly affected by the proposed Carstairs Junction Rationalisation project - so the project required the existing west embankment to be modified on both embankments to suit the new track alignment. Part of the works included regrading embankments and this required the placement of Leca lightweight fill (Leca 10-20mm). The material was installed on the west of the embankment following piling works on the embankment.

700m³ of Leca LWA was delivered on walking floors from Garston, Liverpool – carrying 70m³ per delivery. This material was stockpiled near the works to provide a smooth delivery and installation – saving time, resource and minimising the environmental impact to the surrounding area. This is in comparison to type 1 fill material which due to its weight (Up to 4 times heavier) would require more trucks to accommodate the delivery.

Concerns were raised in stockpiling the material due to the potential of contamination, with the weather conditions affecting the works. But this concern was mitigated as the level of contamination potential is low with Leca LWA.

The site agents originally proposed arctic tippers, but following extensive consultation with the Leca geotechnical team, walking floors were selected due to the ability to carry up to 70 – 80m³ of material compared to 40-50m³ on arctic tippers per delivery.



The original selection of arctic tippers was also due to the local access routes where access was problematic.

Jim McCleary, programme manager at Network Rail said: “We’re now gearing up for the final construction of the new track layout, which includes 10 kilometres of track and 27 new sets of switches and crossings, which allow trains to move between tracks.

“One of the main challenges on the project is the integration of the different teams working on site given the sheer volume of activity happening within the limited work window that we have on Saturday nights.

“Access to the railway at this critical junction is very limited, but the team has worked hard with the wider industry to balance the needs of train operators with the longer-term benefits that will come from modernising the track, signalling and overhead line equipment.”

Liam Sumpter, Network Rail Scotland Route Director, said: “Carstairs Junction is coming to the end of its life cycle and with the volume of freight and passenger trains passing through each week it's important that we modernise this part of the network.

“By completing this crucial upgrade work we will improve the capabilities and reliability of this strategically important junction, providing better future journeys for passengers and more capacity for freight.”