

Nottingham Express Transit Phase 2 (NET P2), Area C03, ST C11e Retaining Wall - Ruddington Lane

Client: Nottingham Express Transit
Consultant: Mott MacDonald
Contractor: Taylor Woodrow/Alstom JV
Sub-Contractor: Caras UK Limited
Supply: 137No. MR3 Duckbill® ground anchors
Date: Installed April/May 2014

Requirements

During the second phase of the NET scheme, Taylor Woodrow/Alstom (TW/A) were required to install new rail lines through an industrial area opposite Ruddington Lane. It was determined that the soil slope created next to the industrial area as a result of the low level rail lines required stabilisation during the construction of the retaining wall (RW) works. The original proposal for this approximately 80m long structure comprised a modular retaining wall (Redi-rock) acting as a gravity structure to retain the slope material. However, due to space constraints at the site, an alternative solution was developed that combined a narrower modular wall section with ground anchors providing the slope retention. The modular wall section was therefore designed to act as a free standing fascia wall. Anchor Systems (Europe) Ltd (ASEL) were engaged to review the Soils Investigation and provide a solution to anchor the slope back to reduce the horizontal load burden on the Redi-roc Wall.



The Solution

ASEL reviewed the Soils Investigation (SI) data and proposed the use of the MR3 anchors. ASEL were then engaged to provide a Global Stability analysis of the structure and propose the anchor system of choice based on detailed design. To ensure the design of the anchors

could be translated into a practical solution a site test was carried out to install anchors along the proposed wall to ensure the design loads could be achieved at the stated depths. Results indicated that the MR3 anchor was more than adequate to create the designed solution. Mott MacDonald provided a CAT III check on the design and found no issues of concern. TW/A were pleased with the speed of installation of the Duckbill® systems and the net benefits provided to the project in time and cost. ASEL managed the complete process of design through to test anchoring and also assisted TW/A and nominated sub-contractors on site with education and training in the use of anchor systems plant. The project was a collaborative effort from design to installation between all parties concerned.



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