Earth Retaining Solutions – Tyne & Wear Metro Extension 2001-2002

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BENEFITS TO CLIENT

Cost effective means of providing attractive earth retaining solutions for construction of new structures associated with the extension of the Tyne & Wear Metro into the Sunderland area.

THE PROBLEM

Requirement for various retaining walls to form access ramps and stairs at new Pallion and Millfield stations.

THE SOLUTION

Tensar TW_1 Standard and Link retaining walls.

Tensar Case Study

PROJECT DESCRIPTION

At Pallion Station (Fig 1 and front photograph) a TW_l 'link' wall system up to 4m high was constructed to form the access ramps and stairways from the main road to the westbound platform. This reinforced soil system consists of manhandleable dry laid facing blocks securely attached on site to Tensar RE uniaxial geogrids using simple high strength polymer connectors. Once the reinforced soil structures were complete, a red brick cladding was placed in front of the walls, the facing and the main structural components being 'linked' using stainless steel brick ties which slide up and down in specially designed slots within the TW_l modular block units so as to course in with the bricks forming the facade.

At Millfield Station (Fig 2), the similar TW_l 'standard' wall system was selected for the retaining walls up to 4.5m high, forming the access ramps and stairs from the main road to the eastbound platform. The method of construction is almost identical to the TW_l 'link' system but in this case, there is no skin placed in front of the structure. Consequently, a more aesthetically pleasing textured modular block is used to form the reinforced soil face.

Fig 1: TW_l Link Wall at Pallion

Fig 2: TW_l Standard Wall at Millfield Station

Tensar Case Study

CONTRACT DETAILS

Specified by:	Contractor:	Client:
Corus Rail Consultancy	Skanska UK Limited	Sunderland Direct/Railtrack

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TENSAR TW_l WALL SYSTEM FOR REINFORCED SOIL RETAINING WALLS AND BRIDGE ABUTMENTS