

ANNS GROVE PRIMARY SCHOOL SPENCER ROAD, SHEFFIELD

RETAINING STRUCTURES

Product: MacWall

Problem

The recent development of Anns Grove Primary School, Sheffield remains one of the most sustainably designed schools in the UK. Maccaferri Ltd were approached by project architects White Design, well known in the architectural industry for their sustainable credentials, to develop a retaining wall solution on behalf of their client, Sheffield City Council.

The wall had to fit perfectly within the ethos of sustainable design which is apparent throughout the project. Furthermore, all materials on the exterior of the project and surrounding grounds had to be self-finishing and easily maintained throughout the life of the school, saving on resource use and maintenance costs.

Solution

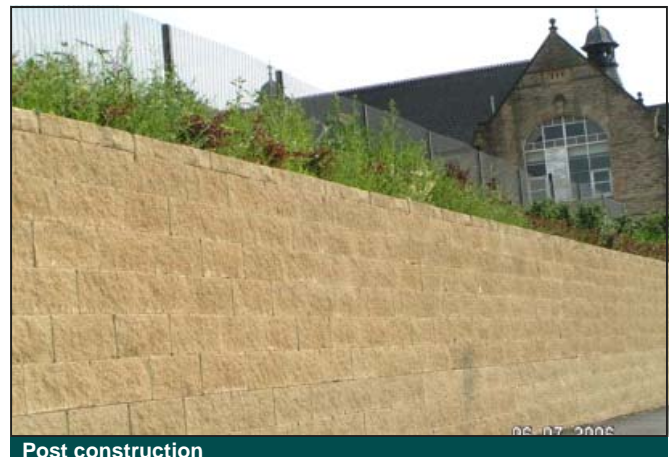
The chosen solution was MacWall, in a warm Cotswold buff colour. This colour enabled White Design and project landscape architect Fira Landscape Ltd, to blend the wall in with the surrounding historic sandstone buildings.

The school and its grounds were constructed upon previously demolished housing whose old basements had been backfilled with the demolition rubble. Consequently, the retaining structure also had to accommodate differential settlement. Being of mortarless construction, MacWall can accommodate greater differential settlement than traditional blockwork walls. As the environmentally innovative design for the school was a high priority, recycling of demolition waste as fill material on the site was important.

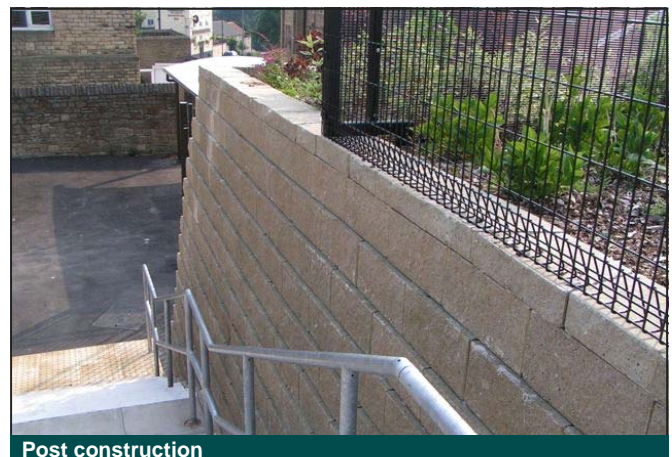
The flexibility of MacWall also enabled the designers to compliment the architectural features present in the school design with various curves and corners integrated into the wall design. It does not require



Post construction



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Retaining Wall Contractor:

PC CONSTRUCTION LTD

Main contractor name:

WILLMOTT DIXON LTD

Consulting Engineer:

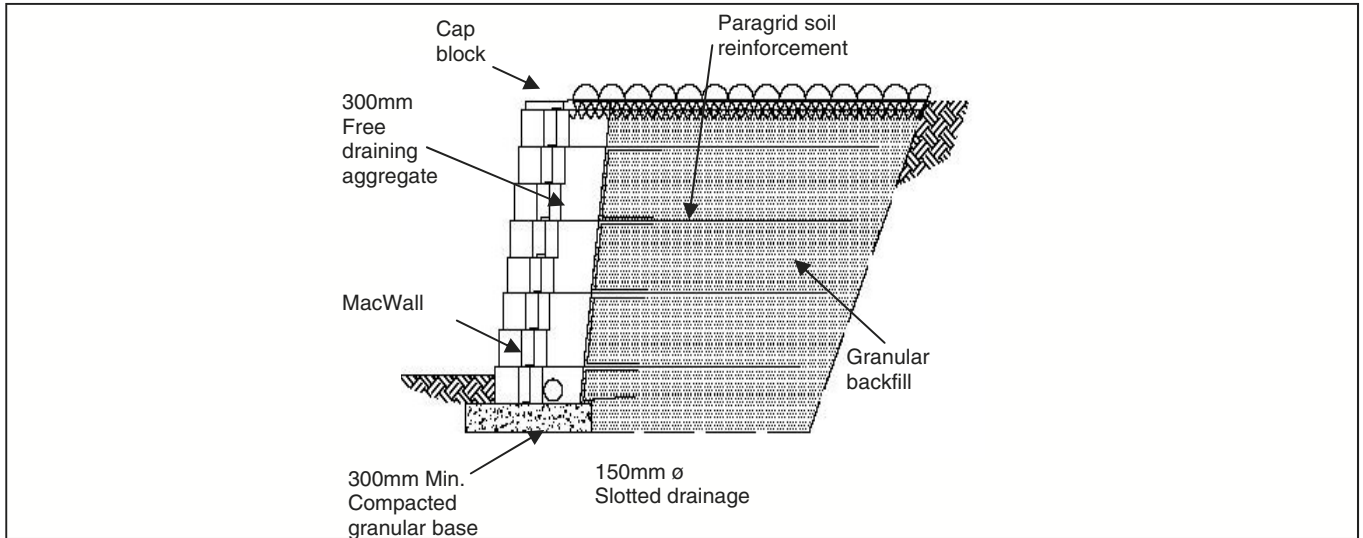
CARL BRO LTD, LEEDS

Product used:

MACWALL "VERTICA", PARAGRID

Construction date:

SUMMER 2005



Typical section

concrete foundations and requires no specialist labour, unlike traditional blockwork or concrete structures.

Another important consideration for the school was that the pupils would not be able to climb up or along the top of the wall. The 7° batter to the face of the MacWall would make climbing almost impossible. In addition a barrier was detailed at the crest of the wall to prevent children from falling from height. In some locations a 'cranked post' detail enabled the fence to finish flush with the face of the wall.

MacWall blocks are engineered durable concrete blocks that include a locator system that ensures accurate set-back and positioning of the blocks without setting out on each course.

The MacWall blocks formed a facing to a cost efficient and environmentally friendly geogrid reinforced soil block behind. The reinforced soil block consists of several layers of BBA certified Paragrid geogrid placed horizontally within compacted structural backfill

Approximately 350m² (face area) of MacWall was installed on this project, which resulted in a very satisfied client.



Post construction

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