

### WHYBURN PRIMARY SCHOOL HUCKNALL, NOTTINGHAMSHIRE

#### RETAINING STRUCTURES

##### Product: MacWall

##### Problem

In 2005 the Nottinghamshire School Organisation Committee approved the amalgamation of Hucknall Spring Street and Whyburn Primary Schools to form a new community school. Combining the two schools required the construction of a large extension and remodelling of the existing Whyburn School building and grounds. The site topography required the construction of a 1.7m high retaining wall adjacent to the new extension building.

A brick faced cast in-situ reinforced concrete retaining wall was originally considered by Nottinghamshire County Council (NCC). NCC were keen to consider innovative modern methods of retaining wall construction to save time on a tight construction programme and reduce the overall budget costs whilst ensuring that a highly aesthetically pleasing appearance was maintained.

##### Solution

The MacWall Diamond system was specified by NCC after a preliminary costing exercise identified significant savings to programme and budget costs.

Anchor Diamond is a dry build mortarless segmental retaining wall system that combines a highly aesthetically pleasing facing with cost efficient geogrid reinforced soil. MacWall Diamond blocks are durable concrete products that connect together using a rear lip locator on the back of each block. The reinforced soil consists of horizontally layers of BBA certified geogrid (Paragrid 80/15s) placed within compacted granular material. The geogrids are frictionally connected to the Anchor Diamond facing blocks.

Unlike traditionally built reinforced concrete or masonry, an MacWall Diamond Retaining wall does not require a concrete foundation but a layer of compacted granular



Post construction



Post construction

Consulting Engineer:

BUNYAN MEYER LTD

Main contractor:

BODILL AND SONS CONTRACTORS LTD

Architect:

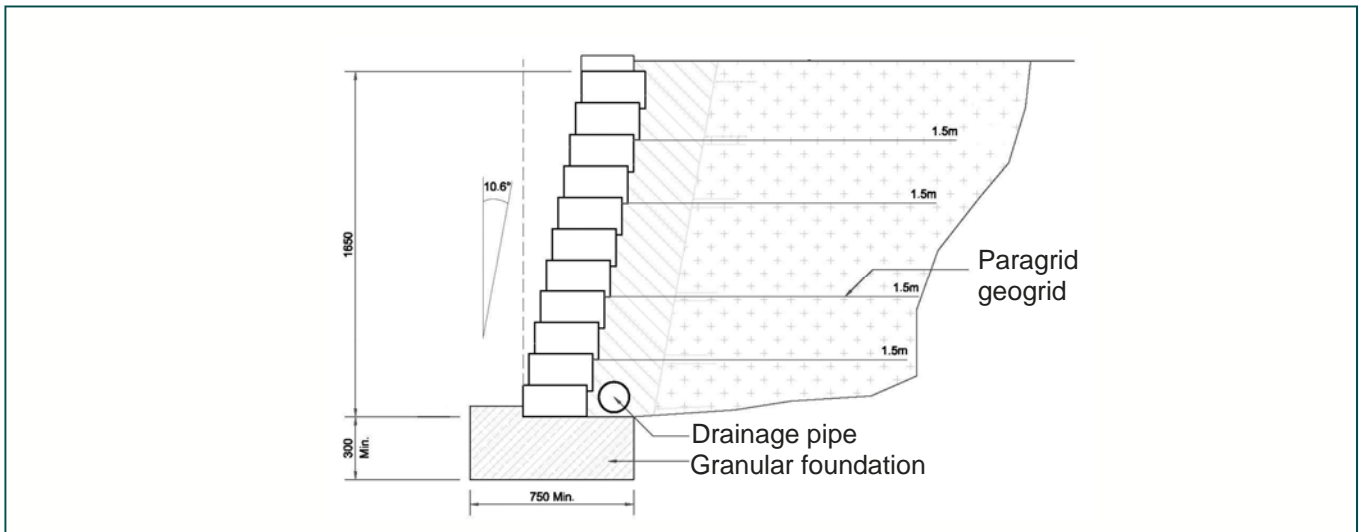
NOTTINGHAMSHIRE COUNTY COUNCIL

Product used:

MACWALL "DIAMOND", PARAGRID

Construction date:

SPRING 2006



**During construction**

material as a levelling pad. The dry joints of the blocks allow for some differential movement to occur without cracks appearing. The off-site manufacturing of the materials ensures careful quality control and the dry build “mortarless” construction does not require highly skilled labour such as bricklayers.

C&BR Construction Ltd installed the wall under sub-contact to the main contractor, Bodill Construction of Nottingham.

Due to the trapezoidal shape of the MacWall Diamond blocks gently sweeping internal and external curves were incorporated into the wall rather than sharp angles. The client selected block colour to compliment the new brickwork of the school building.

Julian Gladman of Nottingham County Council said, “We were extremely pleased with the product and it exceeded everybody’s expectations in terms of build programme and speed of construction.”

Additionally, an MacWall Vertica retaining wall system has been constructed for a new medical centre in Arnold also for Nottinghamshire County Council.



**During construction**