

Structural Drainage

Deckdrain, Reservoir Drainage, Hagbourne Hill, UK



CASE STUDY



Project Description

As part of the Didcot water supply system Thames Water constructed a new twin-celled covered service reservoir at their facility at Hagbourne Hill. Construction began in 2013 using prefabricated concrete elements and a liquid applied waterproofing system.

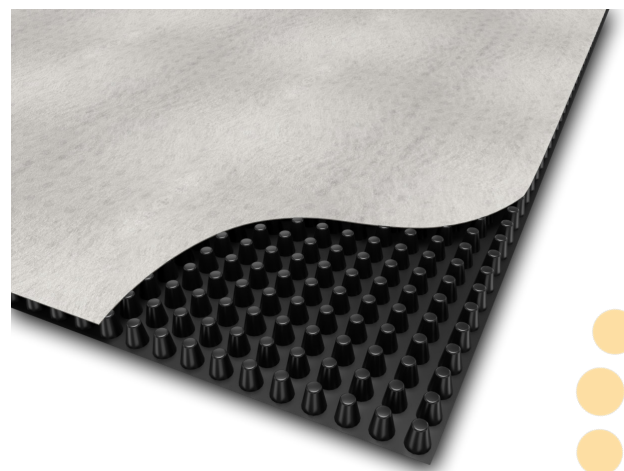
The Challenge

Traditional methods of construction require a protection board to be placed against the waterproofing before backfilling with clean no fines drainage stone to allow dissipation of hydrostatic pressure head against the structure. This method requires the stone to be imported from an external source which is often many miles away from the site. This makes the installation process both costly and time consuming. It also increases the site traffic dramatically. An alternative was required that would eliminate these issues.

A geocomposite drainage layer was considered as a possible design solution if it could be proven to provide adequate drainage capacity in all directions, sufficiently protect the waterproofing layer and reduce the dead load on the reservoir roof.

Project Information

Client	Thames Water
Contractor	Ward & Burke
Products	Deckdrain 1200S/NW8
Quantity	7,000 m ²
Benefits	<ul style="list-style-type: none">• High drainage capacity in all directions• Rapid installation• Significant cost saving• Protection to waterproofing system



Deckdrain 1200S/NW8

ABG LTD

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The Solution

The design team approved ABG Deckdrain to form a combined protection and drainage layer against the waterproofing. Deckdrain provides a continuous free flowing drainage void. The cusps are designed to support the geotextile which is thermally bonded to the drainage core to ensure that it doesn't deform into the drainage void under the pressure of the fill material. Unlike pipes, or other uni-directional methods Deckdrain allows flow in all directions. Deckdrain was used on both the walls and the roofs of the reservoir and allowed a significant reduction in both construction time and volume of materials imported to the site.

The ABG Service

ABG provided full specification and design support to aid the approval process.



Deckdrain geocomposite with integral geotextile overlaps to create continuous drainage layer



Deckdrain geocomposite on waterproofing membrane



Small Deckdrain rolls for easy installation

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