

Structural Drainage

Reservoir Covered Roof, Pozidrain, Stillorgan, Dublin, Ireland



CASE STUDY



Project Description

The original Stillorgan open reservoir site was in service for over 150 years before it was modernised into a new covered facility as part of an €50M investment by Water Ireland to ensure a safer, more secure and sustainable water supply. This new reservoir stores some 160 million litres of treated water, serving over 200,000 people in south Dublin.

The Challenge

Treated drinking water was being left exposed to the elements, with consequent risk of contamination. It also meant losses were more pronounced during spells of warm weather.

The project involved draining down and decommissioning three existing reservoirs at the site, and construction of a new covered chamber within the footprint of the largest reservoir. The new storage reservoir roof covers a vast 31,000m² area and required a drainage solution beneath the soil and turf surface layers. Reservoir roof construction traditionally utilises a protection board against the waterproofing layer, before backfilling with no fines drainage stone to allow the dissipation of hydrostatic head from acting against the structure.

An aggregate drainage layer would involve the delivery of large volumes of carbon intensive crushed stone from an external source however, often many miles away from the site, plus additional weight loadings being placed onto the structure.

Project Information

Client	Irish Water
Distributor	Geoline
Product	Pozidrain 6S250/NW8
Quantity	31,680m ²
Benefits	<ul style="list-style-type: none">• Lightweight and quick to install, a cost effective solution compared to heavy and expensive stone layers with reduced vehicle movements• Geotextile pore size restricts soil from entering and clogging the drainage core• Combined drainage and protection to the waterproofing, minimises leakage onto the chamber to prevent structural damage• High in plane flows and equal drainage capacity in multiple directions



ABG Pozidrain 6S250/NW8

ABG LTD

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The Solution

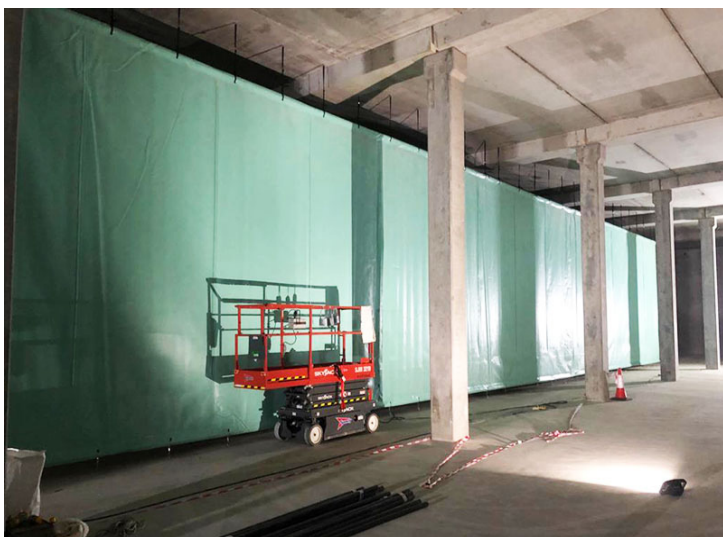
ABG proposed the 6mm **Pozidrain 6S250/NW8** product as opposed to a 50cm stone layer. The Pozidrain features an almost impermeable core with a filtration textile layer bonded at the top to allow water to seep through and collect into the drain. This connects into the surrounding reservoir to keep rainwater away from the roof's waterproof lining.

The ABG Service

Although service reservoir applications typically require an **ABG Deckdrain** solution, the client was more familiar with the **Pozidrain** specification and chose to propose this option to Irish Water. The large scale of the project also benefited from the wider **Pozidrain** product widths available, hence 4.4m wide rolls were supplied.



The original open water Stillorgan reservoir site



Inside the newly constructed reservoir with concrete pillars supporting the chamber roof



Placing of soil & growing media over the Pozidrain drainage layer

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