

# Structural Drainage

## Waterproofing leak detection, Cavidrain S6U, Sydney Opera House



CASE STUDY



### Project Description

Buildings don't come much more iconic or prestigious than the Sydney Opera House, a UNESCO World Heritage site and an architectural masterpiece. A \$9M AUD tender from the Government of New South Wales commissioned the 'Western Waterproofing and Paving' project to upgrade the Opera House's forecourt.

### The Challenge

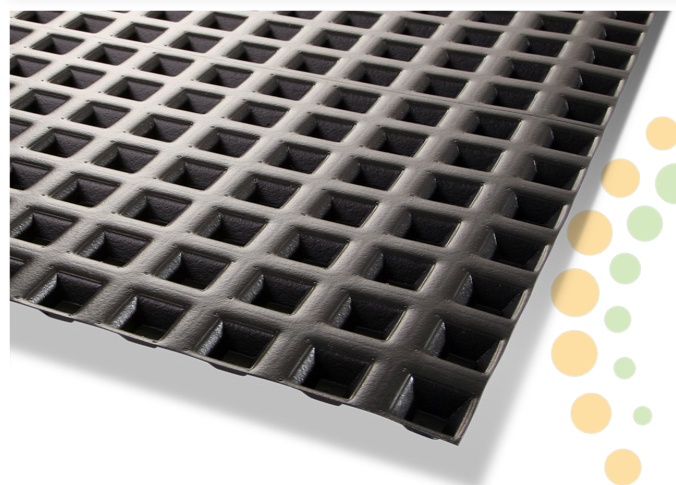
As part of the re-surfacing project works a comprehensive waterproofing solution was required, with infrastructure contractors Seymour Whyte appointed to implement the design. The Sydney Opera House's cultural significance and importance as one of the leading visitor attractions in Australia meant it was crucial to find a solution that was fast and easy to install, whilst delivering superior drainage.

### The Solution

ABG's Cavidrain® S6U Std drainage layer, a light-weight and easy to handle 6mm thick preformed cavity drainage system, was specified as the ideal solution to channel away any excess water from the membrane to a subsurface drain. Designed to create a drainage void space on both new and existing below ground structures, Cavidrain offers multiple benefits. The Cavidrain® S6U Std high-strength core withstands the compressive loads associated with wet concrete placement, and once the concrete is poured, it fills up the cusped HDPE cavities, making the final load capacity approximately equivalent to that of the concrete slab.

### Project Information

Client	New South Wales Government
Contractor	Seymour Whyte
Product	ABG Cavidrain S6U Std
Quantity	4,000m <sup>2</sup>
Benefits	<ul style="list-style-type: none"><li>• Easy to install and space saving solution</li><li>• High flow capacity provided in a 6mm layer to channel away excess water</li><li>• Carbon saving alternative to crushed stone</li></ul>



ABG Cavidrain® S6U Std Geocomposite

ABG LTD

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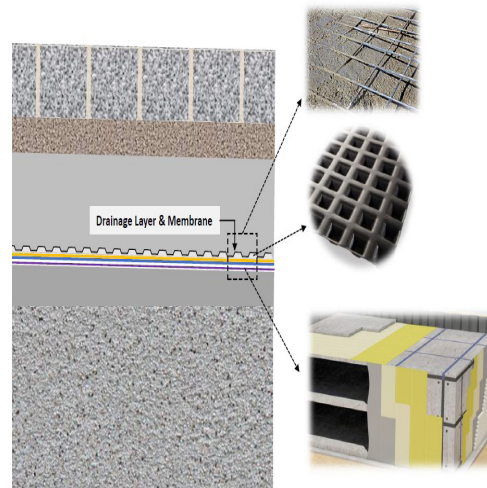


When compared to using traditional crushed stone layers, **Cavidrain** offers significantly increased drainage performance and a reduced construction depth.

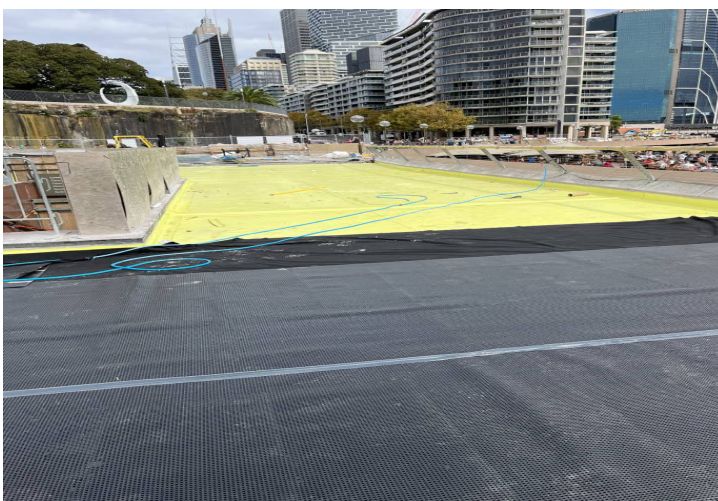
This in turn delivers large carbon savings, with a reduced number of site vehicle movements and fewer associated transport and removal journeys required. The Sydney Opera House Western Waterproofing and Paving project showcases the efficient performance provided by the **Cavidrain® S6U Std** system, ensuring the creation of an effective drainage void that is easy to handle, quick to install and sustainable.

### The ABG Service

ABG assisted with design details and facilitated a tight construction schedule, with a quick manufacturing turnaround and delivery service.



**Cavidrain S6U Std drainage void for relief of water pressure to underground structures**



**Cavidrain installed onto forecourt substructure**



**Cavidrain in position beneath concrete formwork**

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