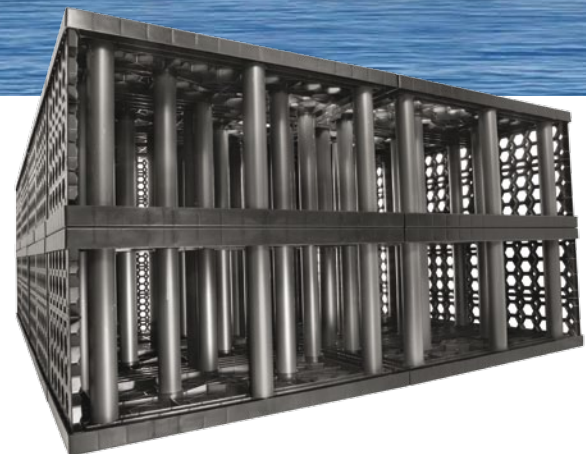


## StormTank plays a Quay role

*ACO StormTank's structural performance meets highways authority standards on prestigious south coast development.*

**Project:**

Centenary Quay, Southampton.

**Objective:**

Provision of a surface water attenuation tank with sufficient lateral strength to be located adjacent to an adopted highway.

**Brief:**

1. Provide detailed structural analysis of tank performance to meet all the adopting authority's requirements.
2. Within a restricted area, provide sufficient attenuation for a 100 year storm.
3. Configure the tank to accommodate off-line car parking bays.

**Solution:**

By working in close co-operation with project consulting engineers, ACO Design Services were able to provide a full in-situ structural analysis of ACO StormTank. The only UK supplier able to achieve the level of detail required by the adopting authority, ACO StormTank was the only product considered for selection on this landmark regeneration scheme.

**By providing a detailed analysis of its installed performance, ACO Water Management's cellular attenuation system, ACO StormTank, has been selected to provide surface water storage at Centenary Quay - Southampton's new landmark regeneration project.**

A key component of a sustainable drainage system serving the site's car parking and footway areas, the StormTank proposal, which positioned the tank next to a new Section 38 highway, is one of the first to be Category 'O' certified having met the adopting highways authority's strict structural performance criteria.

The £500 million Centenary Quay redevelopment will transform the former Vosper Thornycroft shipyard into a vibrant mix of new homes, leisure and community facilities, shops and offices. Funded through a partnership of the property developers Crest Nicholson Regeneration and South East England Development Agency (SEEDA), the scheme also includes a new Maritime and Marine Innovation Quarter.

Sized to attenuate the surface water run-off that would arise from a 1 in 100 year storm coinciding with a 1 in 200 year high tide – together with a 30% allowance for climate change – the tank would need to withstand the lateral and sheering loads exerted by passing traffic using the new adjacent highway. The challenge facing consulting engineers Capita Symonds was to find a tank manufacturer that could support the proposed scheme with a rigorous structural analysis of its in-situ performance.

**Quality of information**

“ACO was the only potential supplier who could provide the quality of information and level of detail we needed to satisfy the adopting highway authority,” says Robert Cooper, Principal Engineer at Capita Symonds. “The technical assessment compiled by ACO’s Design Services Team formed a vital part of the overall Section 38 submission which was subsequently fully approved.”

The 120 cubic metre ACO StormTank at Centenary Quay has a recessed edge profile along one side to avoid any direct vertical loading from a series of off-line parking bays on the highway. Configured to attenuate all the water it receives, the tank is encased in an impermeable welded geomembrane which is then wrapped in a protective outer fleece – a combination that achieves a fully watertight and stable installation. When tidal conditions permit, the tank discharges to the adjacent River Itchen through a conventional non-return valve outlet.

ACO StormTank’s innovative design uses high strength central pillars and side walls to provide load bearing capacity and structural integrity. A completed tank only requires side panels at its perimeter to provide lateral support. The result is a totally barrier free interior void that can be easily accessed, inspected and cleaned. The free flow of storm water entering the tank also avoids having to use expensive pipe manifolds and additional pipework to distribute flow evenly.



*The recesses formed on the roadside edge of the installed ACO StormTank accommodate the parking bays and avoid any direct, vertical loading.*



*The polypropylene fleece that forms the outer layer of the ACO StormTank installation protects the integrity of the inner waterproof liner.*



*Above: Centenary Quay will transform a former shipyard into a mix of new homes, leisure and community facilities, shops and offices.*

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