



## PROJECT CASE STUDY

# Royal Arsenal Riverside Development

- Planning Architect: Lifschutz Davidson Sandilands
- Production Architect: Acanthus LW
- Structural Engineer: Waterman Transport & Development
- Groundworks Contractor: Byrne Brothers



The Royal Arsenal Riverside development in Woolwich is a Berkeley Homes development that will create up to 5000 homes on a 76 acre site. RIW advised on the waterproofing strategy for a substantial two storey basement car park in this unique location.



### The Challenge

This Berkeley Homes site is located next to the river Thames which obviously impacts on the water table, resulting in high risk of water ingress. The car park sits under the residential area (see photo above left: residential area is to the left of the Woolwich Crossrail box), with the basement slab supported on very deep pile caps and a reinforced concrete lining wall cast against contiguous piles. The tanking membrane needed to be placed between the piles and concrete lining wall and to continue beneath the basement slab and pile caps.

### The Solution

Due to very heavy construction techniques, a robust membrane was necessary. The waterproofing solution also had to become integral with concrete cast against it, so RIW recommended Structureseal; a 6mm thick sodium bentonite composite membrane ideally suited for fixing to irregular concrete piles and laying on blinding or a void former. Structureseal is an extremely strong composite membrane that can withstand a high level of construction trafficking. Due to a 'needle-punch' manufacturing process the membrane becomes integral with concrete cast directly against it.

### Featured Products

#### RIW Structureseal

A bentonite sheet waterproofing composite of high swelling Sodium Bentonite, encapsulated between a non-woven and woven geotextile. Typically used for:

- Basement tanking
- Sub-structures
- Boundary line construction
- Retaining walls
- Under slab ground floor DPM

Structureseal easily followed the contours of the piles whilst overlaps between rolls were self-sealing. Below the basement slab, Structureseal was overlaid onto the blinding. Once installed, the structural concrete was cast directly against the membrane. The sodium bentonite will continue to react with ground water throughout the life of the building to seal cracks/fissures as and when these may develop, forming a monolithic layer and thus protecting this high profile site from water ingress.

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