

Sika AT WORK

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Repair of Heritage Structure ANNANDALE SEWER AQUEDUCTS, SYDNEY



These 1896 aqueducts were the first structures in Australia to incorporate reinforced concrete using the Monier patent. They were designed by W. Baltzer to carry the Northern main sewer across Johnston's and White's Creeks. This new form of construction was investigated by a Royal Commission and the contractor Carter Gummow & Co. was required to guarantee the structures for three years. The success of the work pioneered the use of reinforced concrete in Australia. Over the last 100 years the aqueduct has been subjected to carbonation and pollutants, resulting in the gradual corrosion of the reinforcement steel.

In November 1996 the AWT awarded the concrete repair and protection contract to Metropolitan Restorations. The heritage listed aqueduct required extensive repairs to maintain its structural integrity and heritage appearance, and the specification included Sika's repair and protection products.

Refurbishment of the arches involved cutting

back carbonated concrete to a level behind the reinforcing steel, applying **Sika MonoTop®-610** as a protective coating to the steel and as a bonding bridge for the subsequent spray



▲ Spraying **SikaCrete-Gunite-103** onto the arches.

◀ Before and after.

application of the repair mortar, **SikaCrete-Gunite-103**.

Sika MonoTop®-620 fairing mortar was applied to the cured gunite substrate to provide a smooth finished surface.

Elsewhere on the structure, patching was done using the **Sika MonoTop System** including the patch repair mortar, **Sika MonoTop®-615 HB**. A fine render was then placed over the sides of the aqueduct using **SikaCem-830**, which was then coated with **Sikagard-680S**.

The result of Metropolitan Restoration's repair work on the structure has left the aqueduct in a protected state whilst keeping its heritage character.



**CONCRETE
REPAIR AND
PROTECTION**

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