



SIKA AT WORK

PROSPECT RESERVOIR, JOINT REFURBISHMENT

Products:

Sikaflex® PRO-3 Purform®

Backing Tape

Sika® Injection-111

Sika® Injection-30

Sikadur-Combiflex® SG System

Sikadur®-31 AUS

BUILDING TRUST



PROJECT INFORMATION

Project Background

Replacement of failed joint sealant (unknown type) in a weir leading to a potable water channel. The area will experience intermittent fast moving & rapid water flow over the top of the joint when in use during peak periods of high-water demand. The original joint sealant was applied during construction in dry conditions however as the asset is now in service the joint repairs were required for both above and below the water level. For protection of the substructure, it was necessary to waterproof all joints.

Specifier: Arup

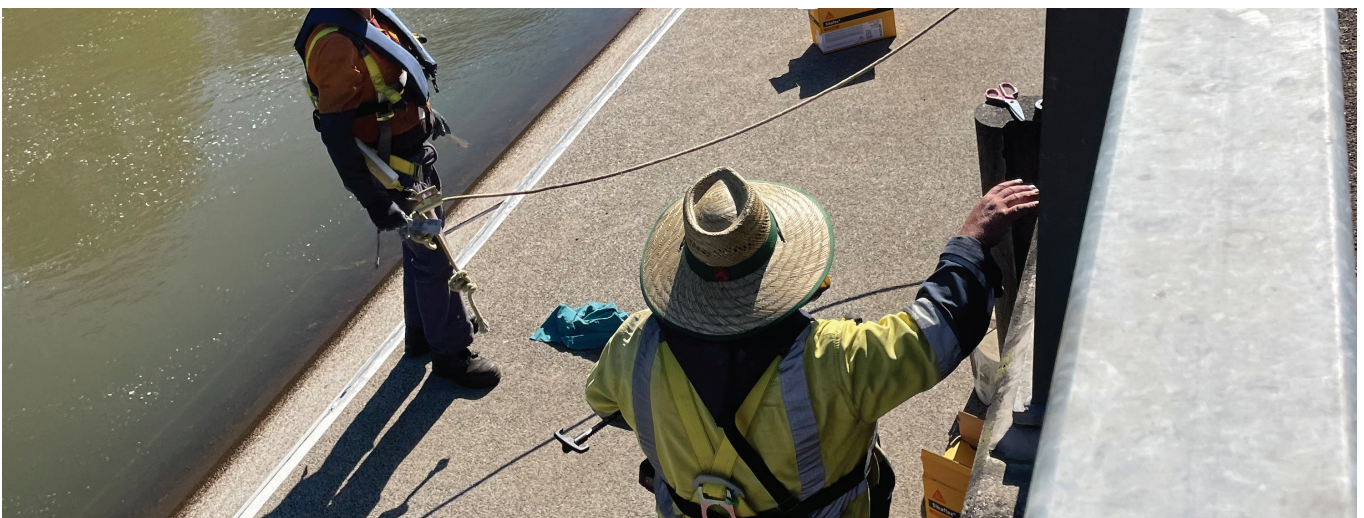
Owner: Sydney Water – channel, Water NSW – Prospect Reservoir

The area shown below will have live water flow across the weir from the reservoir into the water channel when in use. Sika was specified by the consulting engineer, Arup, in this instance the solution was selected with technical support and guidance from the Sika specification team. The design solution for these emergency repairs included a full Sika system for joint repairs above and below the water line.

Project Requirements

Joint waterproofing solutions were required for application above the water line and below the water line. All joints were up to 40 mm width, all existing sealants were to be completely removed. Due to the high abrasion conditions during water flow the engineer proposed to cover the joint repairs with a steel cover plate.

Due to different conditions a separate solution was required for below and above the water line. Above the water line a detail design including a high-performance joint sealant and waterproofing tape was proposed. Below the water line an injection system was selected due to the requirement to displace water out of the joint and allow placement of a joint waterproofing solution.



Sika Solution

Above the water line application: Removal of existing failed sealant from unknown source. Preparation and cleaning of the joint surface and application of Sikaflex® PRO-3 Purform®. The Sikaflex® PRO-3 Purform® joint will be later covered with Combiflex SG system, EPDM rubber and mechanically fixed steel cover plate. Underwater joints will be treated separately with Sika injection systems.

Below the water line application: This joint was required to be waterproof to prevent water ingress to the below substructure and it was necessary to apply the solution while the joint was fully immersed under the water. A cover plate was applied to allow the injection application of Sika® Injection-111 directly into the joint, the expanding urethane foam filled the joint and displaced the water. A second injection layer using Sika® Injection-306 acrylate resin provided the final seal of all voids to form a waterproof joint.

LOCATION	Sydney
PROJECT SIZE	50 metres
DATE COMPLETED	September 2023
SIKA REPRESENTATIVE	Karen Amery
PROJECT MANAGER	Water NSW
SIKA CUSTOMER / CONTRACTOR	Mainteck Services Pty Ltd

