

# GROVELY RESERVOIR

## PROJECT SUMMARY

Client: Queensland Urban Utilities

Location: North Brisbane

Duration: 3 weeks

Value: \$ 170,000

### Major Challenges Overcome:

- Timing



## GROVELY RESERVOIR – NORTH SIDE

### Project Scope

The project comprised of the following work:

- Repairing expansion joints
- Protection of joint straps – for puncturing
- Installation of vermin proofing
- Core drilling new drain holes
- Concrete repairs
- Installation of rubber flashing
- Application of a polyurea membrane over the entire roof

### The Project

Grovely Reservoir is a 9 ML reservoir on the north side of Brisbane near Keperra. The reservoir has a precast beam and double-T deck plan roof structure, which is covered by a 50mm thick cast in-situ topping slab.

Two water quality incidents were reported within a week and action was immediately taken. An inspection was done, which revealed that the roof structure was leaking in a few locations. A decision was made to apply a waterproof membrane on the entire roof, reseal expansion joints, core new drain holes and provide a flashing for runoff water.

The largest challenge faced was the short timeframe available to carry out the work. In addition, the work was to be done in February – Brisbane’s wettest month.

### Programme

The repair works commenced on the 8th February and was completed late on 23rd February to allow for cleaning, disinfection and re-filling by 1 March.

## Completed Works

The following work was successfully carried out:

### Test Panel:

A test panel was first done and tested using Epoxy Solutions equipment. The aim of the test work was to determine bond strengths and test various bond breaking systems.



### Repair of expansion Joints:

Doors and hatches re-sealed with a water potable polyurethane sealant



### Protection of joint straps

The roof slabs have jointing straps which need to be covered to avoid punching of the membrane



### Installation of vermin proofing

Some areas required vermin proofing replacement. This was done with aluminium perforated sheeting



### Core drilling drain holes

The existing drainage was thought to be insufficient. Epoxy Solutions cored new drain holes which were epoxy coated to protect the reinforcing.



### Concrete Repairs

Minor concrete repairs carried out



### Installation of rubber flashing

It was thought that dirty water may entering the reservoir through roof run-off past the vermin proofing. Epoxy Solutions installed a UV resistant rubber flashing to direct run-off past the vermin proofing



### Application of the polyurea membrane

The roof area of 1250 m<sup>2</sup> was primed and covered with a 2.5mm thick pure polyurea membrane

