



Government of South Australia

Department for Infrastructure
and Transport

Three bridges, Adelaide Hills

In April 2018 Swart & Sons were contracted by the Department for Infrastructure and Transport (DIT) to carry out cleaning and protective treatment to structural steel components of three bridges in the Adelaide Hills. One of the bridges contained lead paint so strict WHS and environmental conditions needed to be adhered to, ensuring no lead residue affected Swart workers, members of the public or the environment.

Problem

These works were carried out on concrete/steel road bridges located over pedestrian walkways and creek beds. We needed to protect members of the public, the environment and the concrete elements of the bridge from the overspray of blasting and painting works.

Solution

Before commencing any work, containment was established to ensure all debris was captured.

This was facilitated by erecting scaffolding, around which we built timber framework, and lining the sides and floor with heavy-duty, geo-textile fabric.

Result

All work on the bridges was completed to the highest standards, on time and on budget, to the satisfaction of DIT and all stakeholders without any harm to the environment or members of the public.

The project scope

Initially we were contracted to carry out abrasive blast cleaning to the three bridges, plus application of a three-part protective coating system.

During the course of the project it was identified that additional works were required on two of the bridges, including repairs to steel bridge beams and concrete repairs to the sides and underside of the bridge deck.

Steel beam repairs encompassed welding steel plates to the existing beams whilst concrete remediation consisted of breaking out damaged concrete and applying a zinc rich primer to exposed reinforcement.

Larger repairs were formed-up and filled with repair mortar whilst smaller crack repairs were injected with an epoxy binder/adhesive.

These works were carried out subsequent to the initial blast and prior to the final application of the coating system.

Environmental monitoring

Due to the presence of lead on one of the bridges, monitoring was undertaken to ensure works did not impact the local environment.

This included recording baseline data before starting work, taking readings when blasting was undertaken and taking final readings when works were complete.

Results show that the works did not adversely impact the environment.



Bridge contained with dust extraction in place, enabling work to be carried out whilst protecting the surrounding area and creek underneath



Beams under the bridge after abrasive blasting, showing profile testing being carried out and containment in place



Concrete repairs carried out on the underside of the bridge located on Torrens Valley Road

Service checklist

These services were utilised in the planning and implementation of this project:

Passive fire protection

- Fire-rated sealouts
- Fire-rated ductwork
- Petrochemical fire-proofing
- Fire sprays

Concrete repairs

- Building maintenance
- Coating and protection for concrete structures
- Epoxy injection
- Slabjacking
- Concrete repair

Waterproofing

- Water seepage control
- Torch-on membranes
- Liquid membranes
- Water-reactive polyurethane injection
- Hyperlon membranes

Floor treatments

- Floor sealants
- Epoxy-based coatings

Other services

- Industrial grouting
- Abrasive blasting
- Specialty protective coatings
- Heritage restoration

120 Mooringe Avenue
North Plympton SA 5037
08 8262 6226

info@swartandsons.com.au

swartandsons.com.au

