Euroa Bridge

Euroa Bridge, Victoria

Service Focus

Euroa Bridge Upgrade

Client: Vic Roads

Contractor: DC Projects

Project Manager: Mark McCarthy Contract Type Upgrade existing safety railing on the Euroa Bridge to meet Australian Standards Project **Date:** Feb 2011

Scope of Works:
Saw-cutting 31 opening pockets 400mm (H) x 450mm (L) x 320mm (W) into the existing bridge beam kerbing. Super City used a WX15 track saw to make two vertical cuts 320mm apart followed by one horizontal cut 450mm long to form each opening.

Project Completed Ahead of Schedule:
The schedule provided for 12 working days and was completed in 9. Throughout the upgrade works, several agency inspectors visited the site to ensure safety and work procedures were being followed.

- Having risks assessments, safe work method statements and traffic management plans in place prior to commencement of works ensured the job ran smoothly to finish ahead of schedule.

Maintaining the Bridge's Structural Integrity:
Installing points for a new railing on the bridge involved using concrete sawing and drilling equipment to cut through existing sections of the rail bridge. The more traditional approach of percussion hammering would have caused structural damage to other areas of the bridge.

Safety Plan: Traffic Control:

The Euroa rail bridge with its narrow two-lane approach required a well-designed traffic control plan. The restrictive environment required us to complete sawing and drilling works on one side of the bridge at a time. To protect operators and equipment from traffic incidents, we erected barricades and closed one lane on the bridge.

Safety Plan: Managing Access Restrictions:

Due to access restrictions on the bridge deck, the horizontal cut for each opening hadEuroa Bridgeto be made from the external side of the bridge beams. This presented a few challenges that we worked through with the client during the tender stages. As the rail lines beneath the bridge were very active, we established safety measures and procedures to minimise the potential of train strikes during operations. A vehicle access platform was hired by DC projects to provide access for Super City operators and equipment to suspend them over the train lines and complete their sawing tasks. Two train signal men were positioned 1km down the lines t provide advance warning when a train was

approaching. Once radio contact was received the works were suspended with operators and equipment removed from the suspended platforms.

Concrete Removal:
Several sections of bridge kerbing were 1200mm wide and required removal to be flush against the existing bridge deck. **Super City supplied a WX15 electric diamond wire saw** to complete these cuts, enabling the sections to be removed. As part of the subcontract included removal of the concrete sections, Super City provided one of their crane trucks to support and remove the various concrete blocks on completion of the sawing works.

Drilling Access Holes:
The final part of the contract required access holes for the new bridge posts to be drilled through the bridge deck. Super City supplied three DK32 core drills to core 200 holes x 28mm diameter through the 150mm thick bridge deck..

Euroa Bridge

“We faced many technical difficulties while executing this work and Jason demonstrated his resolve, experience and ingenuity in helping to overcome these challenges as they arose. I would be pleased to use Super City Concrete Cutting again where major concrete removal work is required.”

B. Kerrison, Project Manager,
The Engineering Company

Purpose:

The structural integrity of the concrete jetty has been monitored over a number of years with vulnerable areas being fitted with Cathodic Protection to enhance the asset’s serve life.A recent survey of the jetty indicated further Cathodic Protection was required to ensure the structural integrity of the jetty.Super City was subcontracted to cut a slot 10mm wide and 50mm deep to the underside of the jetty surface.

What is Cathodic Protection:

Cathodic Protection (CP) is a technique used to control the corrosion of a metal surface by making it the cathode of an electrochemical cell.
The simplest method to apply CP is by con- necting the metal to be protected with another more easily corroded “sacrificial metal” to act as the anode of the electrochemical cell.An- other method of protection impresses a small direct current on a structure Cathodic Protec- tion Systems are used to protect a wide range of metallic structures in various environments..

Procedure:

Super City Concrete Cutting supplied a WX15 track saw and a custom built blade manu- factured by Tyrolit Australia to complete the works.

- A series of 10mm wide x 50mm deep slots were cut using the track saw system to provide access for the cathodic protection.
- 280 lineal meters of inverted sawing 10mm wide x 50mm deep was completed on the jetty so the cathodic protection could be installed.
- The start of the jetty structure from waters edge proved most challenging as the ac- cess area to the underside of the jetty was only 650mm high.
- Operators worked their way through setting up the track in very tight areas, suc- cessfully aligning the track so all specified tolerances were achieved.

Safety:

Due to the restricted work area safety blade guards that are normally fitted to the unit could

not be fitted This safety issue was identified prior to work commencing and a safe work method statement was complied and present- ed to the client for approval.The ability to re- mote control the track saw from a safe working distance reinforced our capabilities to maintain a safe work environment for this section of the work.

Project Completion:

The inverted sawing took 4 days to complete, providing the client with sufficient time to install the cathodic protection and grout in the electrical knes.
Wolpers Grahl had not before seen a track saw used in this type of application and was very pleased with its versatility and production rates.
Stage 2 of this project will take place in the near future and we are looking forward to working together on the next phase of the upgrade.