

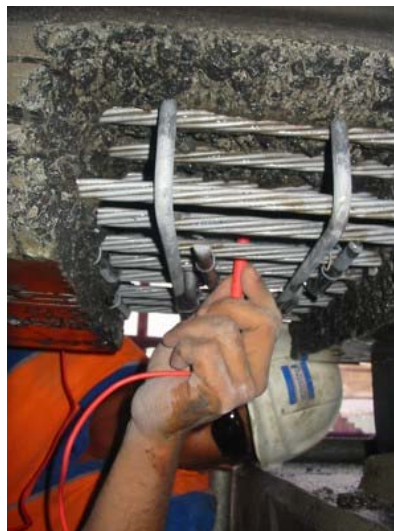
Owner : Royal New Zealand Navy
Engineering consultant : GHD Pty Ltd

Subsidiary(ies) : Freyssinet Australia

End of works : 03/2007

Description of the work :

The Calliope South Access Jetty is located at the Royal New Zealand Naval Base at Devonport, Auckland. It is an important structure which links the Naval Base to the main Calliope South Wharf. It is a seven span structure, with reinforced concrete piles and headstocks, prestressed precast concrete beams and a cast in-situ reinforced concrete deck over. While testing showed corrosion activity in other structural elements, the high risk and consequence of corrosion to the prestressed beams warranted these elements receiving urgent attention. Various diagnostic work led to the engagement of specialist consultant GHD Pty Ltd to undertake a Condition Assessment of the structure. This work included visual inspection, delamination and covermeter survey, concrete resistivity, electrical continuity and stray current testing. This work was aimed at providing information as to the suitability of impressed current cathodic protection system to provide for long term protection.



Freyssinet mission :

Freyssinet Freyssinet were invited to pre-qualify for these specialist wharf repair and cathodic protection works and were subsequently successful in the bid which was weighted based on price, experience and technical content. Given the location of the structure in the Waitemata Harbour, the influence of tides and the nearby ferry wash, the design of the scaffold platform was an important aspect of the project. Once on site an initial CP prototype was completed in order to prove the CP design and to test for various anode configurations. Given the congestion of strand in these beams, hydrodemolition was chosen in order to expose them for continuity testing and to provide continuity welding where required. This work was completed with no impact on the full operation of the structure. Approximately 7,000 lineal metres of Lida titanium anode were installed into a selection of concrete cuts and chases depending on the depth of cover to reinforcement. Progressive commissioning resulted in a smooth final commission and hand over.

