Product Performance Case Study: 10 year service

Client:	Council of City of Sydney
Project Statistics	
Location:	Glebe, Sydney (adjacent to Sydney Harbour)
Product:	Headingly 900mm high with plain spear picket.
Length:	350 m incl. three double gates and two single gates.
Installation Date	March 2004
Review date:	March 2014

The fencing after 10 years in 2014

The fencing shown in 2011 on the front page of *The Daily Telegraph.*

Project Description

In March 2004 Bluedog Fences was contracted to install powder coated tubular steel fencing around the perimeter of Jubilee Oval (Glebe). The fencing was finished with an anti-graffiti polyurethane (EasyClean®) powder coating supplied by Akzo Nobel.

Review Commentary

- The oval is low lying and is some 20 metres from Sydney Harbour. In the corner close to the Harbour there is a storm water drain. During 'king' tides and flooding water rises up through this drain and results in a about 100 metre section of the fencing being submerged (see the image above). This water obviously has a salt content that encourages corrosion of the steel materials.
- The powder coating has still retained much of its pearl white gloss.
- There is practically no deterioration in the integrity of the coating. There is some isolated pin holing but no chalking or cracking.
- There is very minimal delamination of the coating film across the materials on site.
- Where there has been delamination of the coating there has been minimal corrosion or undercutting to the film demonstrating the corrosion protection offered by the metal passivation process of pregalvanised steel.
- There has been minimal corrosion around the zinc plated shrouds used to secure the panels to the posts. Where these zinc plated shrouds have been submerged.
- The superior corrosion resistance of silicon bronze weld is apparent as there is virtually no corrosion around the weld.
- The durability of the coating is apparent from the every day wear and tear that the fence has been subject to over the 10 years.

The accumulation of grime under the rail suggests the fence has probably not been cleaned since installation.

After a good clean the gloss of the pearl white coating and film integrity is apparent.

This image shows a fence post and the impact of repeated grass cutting around the post. It demonstrates the durability of the coating and the corrosion resistance of the coating and steel.

This image shows a picket that has been seriously deformed by some means. It demonstrates the strength of the steel picket and weld that the picket is still held to the rail.

This image shows a close up of the coating (after cleaning) on the top of the rail. Some small pin holing is present however there is no evidence of cracking, chalking or delamination.

This image shows a close up of the coating (after cleaning) on the top of the rail. A small amount of corrosion is visible next to the silicon bronze weld.

This image (after cleaning) is representative of the condition of the zinc plated shrouds.

This image (after cleaning) is representative of the condition of the coating on the underside of the rail. The gloss is still apparent.

This image shows a close up of the coating (after cleaning) on the bottom of the rail. This is a section of fencing that is periodically submerged in tidal waters. The barrier corrosion protection of the powder coating and the sacrificial protection of the zinc coating on the steel is apparent.

This image shows a close up of the coating (after cleaning) on the bottom of the rail. It shows similar protection to the image at left.

This image shows the face of picket fencing prior to cleaning.

This image shows a close up of the face of the picket after cleaning. It demonstrates the color fastness of the coating and the integrity of the film adhesion to the metal substrate.

The panel (left) is a new replacement panel while the panel (right) is 10 years old.

This image shows the alloy picket top at a section in front of the grandstand. The limited extent of chipping of the coating from every day use demonstrates the durability of the coating.

This image shows the storm water drain that results in the fence being submerged during flooding and 'king' tides.

This is the front page of *The Daily Telegraph* (2011) showing the section of fencing in the image right submerged.