

Case Study

Lavarack Barracks – Stage 4



Background

The Lavarack Army Barracks is located on 400 hectares in Townsville, Queensland and was named after Lieutenant General Sir John Lavarack, an officer during both World Wars and Governor of Queensland. Lavarack Barracks is currently home to the Army's 3rd Brigade and supporting units.

The upgrade of the facilities commenced in 2000 involving the gradual removal of 1960's era accommodation and replacement with modern, well designed facilities to support around 600 Army personnel, incorporating more than 80 new and refitted buildings. Stage 4, completed in 2010, continued the tradition of award winning Lavarack Barracks designs utilising hot dip galvanizing.

Sustainable Design

Key elements of the winning design brief by BVN Architecture were the active promotion of passive climate control and the use of architectural strategies to reduce resource consumption. This included a focus on the materials that would be used in construction.

Far North Queensland's tropical conditions are renowned for turning on the weather,

so it was also vital to BVN that the buildings were fast and economical to construct. Those same conditions meant that the design had to be suitable for maximum off-site fabrication, minimal on-site disturbance, and very low ongoing maintenance.

The new accommodation units highlight the best in tropical architecture and the extensive use of prefabricated building components.

The ultimate design, incorporating extensive use of hot dip galvanizing, was selected due to its flexibility, economics, durability, and sustainability.

Defence has seen the redevelopment as a benchmark of excellence in the provision of facilities for working accommodation.



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The Advantages of Using Hot Dip Galvanizing

Hot-dip galvanized steel in both structural and general applications was seen as the optimum material because it could be pre-fabricated and protected, is durable, low maintenance and allows a greater speed of erection.

In essence, the use of hot-dip galvanized steel as one of the fundamental building elements means that the structures have a

low maintenance skeleton. Painted surfaces were kept to a minimum and were reserved for easily accessible and visible areas.

Hot-dip galvanizing provides a number of unique advantages for protection of steel, particularly in an environment like Townsville where nearly 1.2 metres of rain falls every year, delaying many construction projects.

Eight Reasons to Choose Hot Dip Galvanizing

1. No hold ups due to weather – steel can be galvanized in any weather conditions
2. Speed – modular design compatibility to speed up construction
3. Tough coating system – reduces transport damage & minimises on-site repairs
4. Inbuilt durability – minimises “barrack type” in-service damage
5. Withstands UV – the surface is immune to damage from the extreme Australian sun
6. Superior corrosion protection – provides initial and lifetime cost savings
7. Aesthetics – natural good looks
8. Sustainable – Zinc and steel are 100% recyclable



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Awards

The Lavarack Barracks 3rd Combat Engineering Regiment, 4th Field Regiment Precincts are multiple award winners for BVN and Troppo, including for BVN the 2011 RAIA Walter and Oliver Tunbridge Award for Building of the Year.



BVN Architecture has been responsible for the design of many stages of the Lavarack Barracks redevelopment since 2000; this latest honour takes the number of awards given to Lavarack buildings to 14, many of which feature hot-dip galvanizing as a key part of the architectural and design fabric.

The 2011 Awards Jury Director Malcolm Middleton OAM FRAIA said

This large-scale project made up of over 80 smaller and some more substantial buildings and adaptive reuse of existing structures is a consistently well-researched and environmentally and visually flexible suite of solutions to the individual building requirements.

The strict palette of materials builds on earlier stages and provides a comfortable and skilful delivery of many building types within the highly controlled financial, functional, and bureaucratic constraints of the armed services culture.

The buildings offer built form variety and environmental performance based on strong principles of cross ventilation and low maintenance. The end result is a successful complex of simple execution with the potential for further density and built form development from future stages.

Acknowledgements

Developer/Owner: Department of Defence
Architect: BVN Architecture / Troppo Architects
Specifier: MPN Consulting
Project Manager: Thiess
Main Contractor: Cairns Steel Fabrications
Hot Dip Galvanizer: Australian Professional Galvanizers
Photography: © Christopher Frederick Jones

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