

NSW GOVERNMENT SERVICES BUILDING

ARCHITECTURAL STEEL DESIGN AWARD 2010 (NSW + ACT) -

HIGHLY COMMENDED

Bates Smart, Northrop Engineers



Architectural merit

The NSW Government Service Centre at Queanbeyan is the prototype for multi agency centres, which the NSW Government aims to create in regional centres across the state. Each building will co-locate several government departments into a single structure, offering a one-stop shop for government services in NSW.

The QGSC building is approximately 7000 sqm in gross floor area built over 4 storeys with an additional level of basement parking. The brief required an open flexible floorplate, designed around NSW Government fitout standards. The building provides accommodation for 13 agencies, with shared meeting areas and staff breakout spaces are provided on each floor.

The design creates an open floorplate based on a long span structure of 13.5m x 6m which is derived from the modules of a standard government office fitout. The fitout consists of perimeter open plan work areas, with enclosed offices and shared services centrally located. Two diametrically opposed end cores maximise the uninterrupted floorspace. The cores create a 'public' end of the building on the street side opposite the lifts, which is used for meetings and reception and a 'private' end for breakouts overlooking the showgrounds.

The ground floor is setback from the street creating a colonnade that provides access to the shopfronts. This level extends out towards the showgrounds, creating a single storey that mitigates the scale of the building. The building has been expressed as two linear forms, each

with a folded roof plane that encapsulates the core and extends out in opposing directions to modulate the scale of the building and visually frame the showgrounds. The folded roof planes create a dramatic civic scaled entry forecourt. Each floor of the building is extended to create a deep shaded verandah-like space. A series of fine vertical columns supporting horizontal sunshading recalls the historic context of the verandahs along Monaro Street, as well as the showground buildings. Natural unfinished materials, such as off-form concrete and COR-TEN steel recall the rugged windswept Monaro Plains.

Innovation in the use of steel

Utilizing weathered steel cladding in a different application has reinforced the strong design cues conveyed by the dramatic folded roof plane and the office breakout spaces to the west of the building which helped in creating a striking identity for the QGSC. Beyond the use of the material, innovation extends to the design and construction detailing. In the past one of the main concerns with the use of weathering steel was staining of adjacent surfaces. In this project staining was addressed through design by locating the material away from high traffic areas and areas of immediate contact with adjacent surfaces. Run-off from the walls is collected in gravel spoon drains and disposed of separately whilst paving has been selected to minimize the appearance of any minor wind born corrosion. Other benefits of using weathering steel which has been left to oxidize naturally has meant the need for ongoing painting and the maintenance issues it brings has been eliminated.



Practicality in fabrication and erection

In the early design stage it was desired to use 3mm XLERPLATE HW350 panels for extended panel life and to reduce the possibility of the panels 'oil canning'. This raised a number of concerns in handling and construction due to the weight of the panels and requirement to weld horizontal joints. As the

design progressed the panel design was refined by standardizing the panel sizes and treating the cladding as a 'rain screen' with open joints. This allowed floor to floor height panels to be craned into position and screw fixed to the steel sub-frame. By standardizing the panel sizes and using an open joint, construction was simpler and quicker. Additionally by replacing the horizontal welds with a flashed opened joint eliminated the danger of welding at height.



Aesthetics and attention to detail

The QGSC presents a striking building design that has a number of strong visual cues, chiefly in the form of the dramatic folded roof plane that encapsulates the public forecourt to the east and the office breakout spaces to the west. The high roofed forecourt is constructed using a structural steel frame which has been clad externally in weathering steel panels, as used elsewhere on the building. Utilizing the natural ochre colours and texture of the weathering steel adjoining the crisp building interior enhances the impact of the building and of the forecourt space.

As described earlier, the attention to detail carries through from the selective use of the material to integrating the design of the cladding panels with availability of stock material and fixing methods, yet achieving a striking outcome. In addition to the cladding panels, custom designed sun shading was fabricated utilizing the same stock sheet. This not only allowed the same material to be used for the large cladding panels but to be used for the aesthetically finer elements required for the sun shades.

Attention to corrosion protection

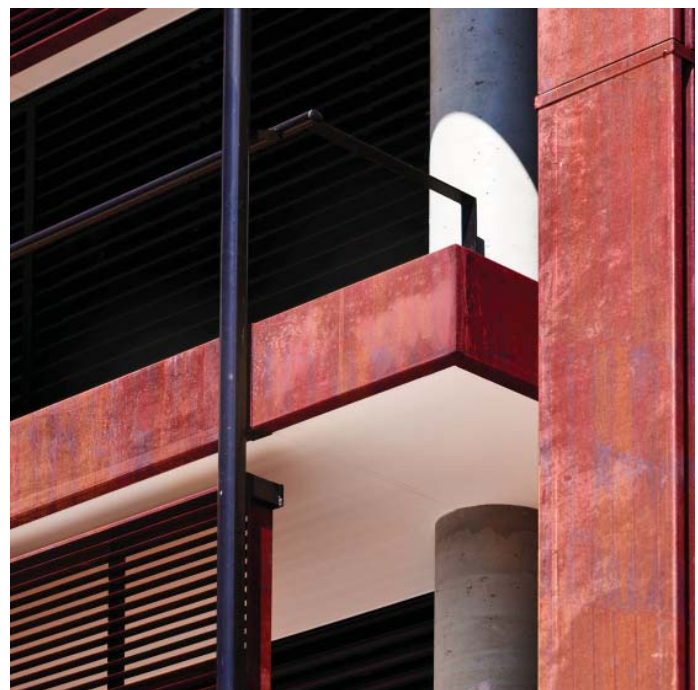
The location (Queanbeyan NSW) did not present an aggressive environment for the use of weathering steel.

Issues surrounding corrosion were minimized by designing the cladding to be installed following accepted construction guidelines. This included the separation to dissimilar materials, open joints to aid ventilation to the panels and minimizing areas where the steel could remain wet for extended periods of time. This allowed the panels to be left to oxidize naturally utilizing the corrosion protection inherent in the weathering steel without the need for ongoing painting of the panels.

Sustainability

The building has been designed to achieve 4.5 Star ABGR Rating.

The deep overhangs and slatted sunscreens provide shade and reduce heat gain to the north elevation, while the short east and west ends of the building are solid to minimize heat gain. The 'public' common areas and breakout spaces are mixed mode to allow natural ventilation. Floor to ceiling glass provides excellent natural light on the floor plate, while double glazing provides thermal resistance. Rainwater is collected and reused, and drought resistant plants are used in the landscape. In addition, the self-weathering properties of HW350 eliminate the need for paint products, and cleaning.



Summary

The QGSC was designed as a landmark building that was to be a positive contribution to the streetscape. The design provides a striking identity for the centre by the use of visual cues in the form of a dramatic roof expression and by the use of steel façade cladding. Weathering steel was used to recall the old brick used in its immediate area and the hues of the rugged windswept Monaro plains. It has also provided the building with a low

maintenance facade and makes the building instantly recognisable.

Project team

Architect:	Bates Smart
Structural Engineer:	Northrop Engineering
Head building contractor:	Richard Crookes Construction
Steel distributor:	Bluescope
Steel fabricator:	Dunsteel
Steel detailer:	Northrop / Dunsteel

