

# WEST KIMBERLEY REGIONAL PRISON

Located 6km out of Derby in the remote North of Western Australia, Cooper and Oxley Builders have constructed a prison specifically designed with consideration to the cultural needs and values of local Indigenous people.

WESTERN AUSTRALIA / COOPER & OXLEY BUILDERS



**Main Image** Inside the grounds of the new West Kimberley Regional Prison.



**In a project that will deliver many firsts across Australia , Cooper and Oxley Builders have constructed a prison specifically designed with consideration to the cultural needs and values of local Indigenous people.** The West Kimberley Regional Prison (WKRK) represents a landmark in the correctional system, and was designed and constructed with input from the Indigenous groups of the Kimberley region.

Located 6km out of Derby in the remote North of Western Australia, the facility is designed to house 120 males and 30 female prisoners.

The construction task comprised 22 housing units, ranging from low through to maximum security, with a specific women's section, each unit supplied with their own kitchen and laundry facilities to maximise the opportunity for offenders to practice basic independent living skills. While most inmates will be sleeping in cells in the housing units, some also feature sleep-outs enclosed with crimsafe mesh.

The housing units are arranged in six clusters to recognise the cultural ties of the different tribal groups that will be occupying the facility.

Cooper and Oxley also constructed 23 facilities buildings, including the gatehouse, medical centre, court, library, family visit facilities, spiritual centre, gymnasium and workshops. The masterplan for the facility by project architects TAG Architects and Iredale Pedersen Hook Architects in Association set all the buildings at considerable distance from each other where practical, with an oval in the centre irrigated with on-site recycled water.

As cyclones are fact of life in the region, everything has been constructed with strength and durability in mind. The structures have

lightweight, fully-welded steel frames with Colourbond and CFCS cladding.

Being in a remote location with heavy rainfall for only part of the year, making the facility water-efficient was a priority. The WKRK has a connection to the Derby town water supply, plus its own on-site sewerage system and treatment plant, which feeds a sub-soil irrigation system for the landscaping. Native vegetation has been retained over 30% of the site's landscape, with seed collected locally used for replanting disturbed open areas. Initially, the site was supplied only with bore water, with Cooper and Oxley carting in potable water supplies for use by the workforce during construction.

Power efficiency has also been built in, with a massive photovoltaic system installed, plus solar hot water. All buildings are heavily insulated to cope with the extreme heat, with efficient air-conditioning for every housing unit and facility building.

To manage the construction task effectively, Cooper and Oxley had a team of five site managers, led by Laurie Morris, plus four labourers and project manager Paul Connelly on site throughout. A 56 room mess camp was constructed and equipped for the convenience of both Cooper and Oxley staff and subcontractor labour, which included 54 different subcontractors and a peak daily workforce of over 200.

Cooper and Oxley teamed up with a Kimberley-based Indigenous training group to provide work and experience opportunities for local indigenous labour, with a number of trades apprentices including plumbing, electrical and building working on the project at various points.

"The design was relatively simple, being based on the community houses which are familiar to the local Indigenous people," said Cooper and Oxley Project manager, Paul Connelly.

"The challenges included the two wet seasons we worked through, with both the 2010/11 and the 2011/12 wet seasons delivering twice the usual annual wet season rainfall. We also had a lighting strike hit the site earlier this year, which damaged a large proportion of infrastructure beyond repair, including the security system, so we had a logistical task to obtain replacements and get them installed.

"The civil works on this project were also massive, with extensive roading across the project.

"The hard environmental conditions up here require us to vary the usual working practices. The summer daytime temperature at ground level regularly reaches over 38 degrees Celsius, and the temperature on the roofing to over 40 degrees, which will burn anyone who touches it, and the humidity is frequently 100 per cent. So we have done a lot of night shifts when it is cooler. We also had to implement measures like using chilled water in the concrete batching plant, as concreting in temperatures over 34.4 degrees is not best practice."

In completing the WKRK project, Cooper and Oxley and their team will have made a major contribution to the future of Western Australian corrective services and its commitment to addressing Aboriginal disadvantage within and outside its prisons' walls.

**For more information contact Cooper & Oxley Builders**, 9 Bishop Street Jolimont WA 6014, phone 08 9387 9000, website: [www.cooperoxley.com.au](http://www.cooperoxley.com.au).







**Below** Marshall Beattie was responsible for the supply and installation of the “sally port” doors, the prisoner reception and the vehicle and personnel gates for all persons and vehicles in and out of the prison.

**Absolute reliability, strength and durability for the gates and doors are a consummate requirement for a project like the West Kimberley Regional Correctional Facility.** Marshall Beattie Automation successfully delivered the goods again, supplying and installing the “sally port” doors for the main gatehouse, the prisoner reception and the vehicle and personnel gates for all persons and vehicles in and out of the prison.

In addition to supplying all of the actual doors and gates, the company supplied and installed all associated electrical, electronic and mechanical interfaces.

A lengthy design and approval process was required, followed by three months of manufacture and twelve weeks on site installing the products. Around ten Marshall Beattie Automation staff worked on the project.

The challenges were not only the remoteness of the site, but also the weather conditions associated with the Kimberley. Cyclone design requirements meant that all the gates and doors had to be twice the usual size, and able to withstand severe punishment from cyclonic conditions.

Marshall Beattie Automation specialise in automation of commercial doors, gates and physical security barriers to private, commercial, mining and government organisations. They are also licensed Security Agents, licensed Electrical Contractors, licensed Security Consultants and licensed Security Installers. They take pride in being able to meet the needs of even the most difficult projects successfully.

The company can design, manufacture and install sliding gates, swing gates, boom gates, traffic bollards, parking systems, automatic doors, turnstiles, cable gates, intercoms and accessories. Because so many of their projects require an extremely high level of reliability due to security requirements or remoteness from major centres, only the best components and electrical equipment are used for their products. Finishes on the products such as gates and turnstiles include hot dip galvanised, powder coated and stainless steel.

Within all the automated lines, the systems include a variety of features depending on end-user needs, such as automatic lock in or lock out in case of power failure; remote operation; anti-crush devices, manual

overrides, and either visible or concealed automation equipment.

Marshall Beattie are direct partners with Landert Moteren, Switzerland. Landert are the manufacturers of the internationally renowned Tormax automatic door systems and the Servax motor systems that are used in West Australian prisons for the sally ports, sliding hatches and anti ram barriers and numerous commercial, industrial and mining projects across Australia.

The dedication to product excellence is backed up by a 24/7 maintenance service for all their clients, and the expertise and equipment to fix any problem fast.

The company has been operating since 2000, and has a staff of 24. Other recent major projects have included Perth District Courts sally ports, Casuarina Prison automated grills, multiple anti ram barriers for the WA Prisons Service, Curtin University, and Perth Domestic and International Airports parking systems. In addition, their gates, turnstiles, parking systems and intercoms have been used for high-end residential projects, commercial projects and recreational facilities.

“We love the “you can’t do that” or “that’s never been done” motivation,” said Marshall Beattie Directors, Frank Marshall and Clive Beattie.

“We have grown a reputation for being able to consult, design, manufacture and install the entire project. We work closely with the client to ensure they receive the product to a high standard on time and on budget.

“We service all of Western Australia and have completed many large industrial projects here and in the Northern Territory which we still maintain, with 11 vehicles on the road servicing the state.

“Working with Paul Connelly, Kurt Sivalops and, of course, Laurie Morris (thanks for the onsite assistance Laurie) from Cooper and Oxley on the West Kimberley Regional Correctional Facility was fantastic.”

**For more information contact Marshall Beattie Automation**, 80 Cleaver Terrace Belmont WA 6104, phone 08 9355 5600, fax 08 9355 5992, email: [info@marshallbeattie.com.au](mailto:info@marshallbeattie.com.au), website: [www.marshallbeattie.com.au](http://www.marshallbeattie.com.au). **Sales**, phone 08 9355 5600, fax 08 9355 5992, email: [sales@marshallbeattie.com.au](mailto:sales@marshallbeattie.com.au). **Service**, phone 08 9355 5600.





**Below** Greg Wheeler Contracting were responsible for the installation of all the high security fencing for the outback project.



**Below** Leading Civil and Structural engineering consultants, Pritchard Francis undertook the design of the West Kimberley Regional Prison.



**Despite the West Kimberley Correctional Centre being surrounded by vast tracts of sparsely populated and harsh country, it is still a place where security is paramount.** Greg Wheeler Contracting has followed on from their successful remote work on the Broome Regional Prison and Christmas Island immigration detention centre, by installing all the high security fencing for the outback project.

Work has taken many months, with a total project area exceeding 30ha and challenging conditions including extreme heat and cyclone season. A skilled and cohesive Wheeler Contracting fencing crew remained on site throughout the installation period, starting September 2010 to completion May 2011. The fencing designed for cyclonic condition included 650t of steel and measured 3.6km.

The company are specialists in high to maximum-security fencing, and have been completing projects across Australia and the Territories since 1980. Other major projects in Australia and its territories have included Northam Immigration Detention centre, Broome Regional Prison, Christmas Island Detention Centre, Kempsey Prison, Mullawa Prison, Wellington Prison, Nowra Prison, South Coast Correctional centre, Dubbo Juvenile Detention Centre, Grafton Juvenile Detention Centre,

Canberra Juvenile Detention Centre and many major infrastructure projects where security is integral including airports, substation fencing and Commonwealth property.

Wheeler Contracting is committed to delivering reliable, durable and superior fencing, and materials are SCEC endorsed by T4 (ASIO) for Federal security projects. The high quality materials they supply for projects include electric fencing and electric gates, with all materials right down to fasteners and ground anchors meeting the applicable British Australian and ENA standards.

Wheeler Contracting are the only Australian company to provide all three of the fencing types endorsed by T4 (ASIO) for inclusion in the SCEC catalogue, which specifies materials for Federal projects. Because of this, their 358 welded mesh fences, expanded mesh fences and security palisade fences are the most secure option available for any project, whether the potential safety risks lie inside or outside the fence line.

**For more information contact Greg Wheeler Contracting,** PO Box 2207 Yokine South LPO Yokine WA 6060, phone 0407 061 312, email: gwheeler@wheelercontracting.net.au.

**Pritchard Francis is one of Western Australia's leading Civil and Structural engineering consultancies.** With a strong regional and government project portfolio we were well placed to undertake design of the West Kimberley Regional Prison.

Additionally, with a regional office in the Kimberley town of Broome we could provide the Department of Corrective Services and the project architects with the high level of service needed to supervise these unique and complex works.

The new 150 bed mixed security, mixed gender prison facility located near Derby presented challenging issues for the structural engineering team, including the presence of collapsible Pindan soils, cyclonic wind loadings and unique security requirements. The solutions adopted were efficient lightweight steel framed structures that were designed with consideration to the available local trades and construction techniques.

Civil infrastructure for the 25 ha site was designed to maximise the integration of the housing units with the native Kimberley wooded grassland, an important cultural design aspect for the end user. Further to this there was a strong emphasis on revegetation to

stabilise stormwater swales that move cyclonic rainfall via overland flow under the perimeter security system and away from the site.

Wherever possible, local materials were sourced for the construction of 4.2 km of access roads, car parking and foundations. Utilising local expertise was equally important to understand the natural environment to produce an efficiently constructible design satisfying the project brief.

The West Kimberley Regional Prison is a proud accomplishment for Pritchard Francis and has been fundamental to increasing our impressive portfolio of projects in the North West of Western Australia.

With projects currently underway throughout the Kimberley, Pilbara and Gascoyne regions, Pritchard Francis is continuing its high level of service to projects through all of Western Australia.

**For more information contact Pritchard Francis Pty Ltd,** Level 1, 430 Roberts Road Subiaco WA 6008, phone 08 9382 5111, fax 08 9382 5199, website: www.pfeng.com.au.



**Below** Town and Park Furniture supplied 30 purpose-made Metro Benches, incorporating certified sustainably sourced timber.



**Town and Park Furniture (T&P) has vast experience in the design, fabrication and delivery of high quality outdoor furniture across the whole of Australia.** As part of the West Kimberley Regional Prison T&P supplied 30 purpose-made Metro Benches, incorporating certified sustainably sourced timber. Each of the 30 2m long benches were manufactured at the company's Frenchs Forest Factory and shipped fully assembled using removalists, complete with blanket wrapping, in late 2011.

"Our products bear the Australian Made logo and we were the first Australian street furniture manufacturer to supply FSC Certified Timber in its products. One of the key selection criteria for the prison benches was that they were to incorporate timber selected from responsible sources and FSC Certified Timber is just that," said T&P General Manager, Scott Freeman.

"We have worked extremely hard to gain both Australian Made and FSC Certification and this exciting project reinforced our belief that sourcing extremely high quality, sustainable timber and making it available to our market would in turn educate the market about the impact of their decisions. As in the West Kimberly project, clients and specifiers alike have come on board and now acknowledge the importance of the work that the FSC continues to do."

Town and Park was established in 1988 by Bruce Mackenzie, a Fellow of the Australian Institute of Landscape Architects, who was Chairman of the Environment Committee for three years, assisting with the development of the Institute's Environment Policies. Bruce was instrumental in the design, prototyping and production of

attractive, robust, functional street furniture, which has been designed with people in mind. Since then, our furniture has been supplied to customers across Australia and also exported to the USA. Town and Park became part of Adshel in 2008, adding a new dimension to Adshel's business of advertising-funded street furniture.

T&P products are used across all market sectors where outdoor furniture needs to be aesthetically pleasing, high quality, fit for purpose, vandal-resistant and deliver on lower whole of life costs. Key market sectors include Local Government, Education, Healthcare and projects for private builders and landscapers. One-off bespoke furniture is part of their repertoire, with recent projects including fabrication, supply and installation of stainless steel seats along with stainless steel and timber benches for La Perouse Coastal Walk (client – KK Civil).

"Our approach to meeting client needs is grounded in understanding their brief and delivering on their expectations. We will not sell a client an item of furniture that we feel does not meet their performance requirements. Leveraging off our 24 years of industry experience we consult with clients on all aspects of furniture design and delivery, ensuring that clients are making informed decisions on their furniture purchase," said Scott.

## TOWN&PARK

URBAN FURNITURE SPECIALIST

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