

UP, UP AND AWAY

The \$185.6M upgrade of the RAAF Base East Sale will improve functionality and capability for the future and includes training facilities, accommodation and an air traffic control centre.

CLIENT : The Department of Defence
MANAGING CONTRACTOR : Leighton Contractors
PMCA : Aurecon Group
STRUCTURAL ENGINEER : Bonacci Group
PROJECT VALUE : \$185.6 million



The Department of Defence, Aurecon and Leighton Contractors (formerly Thiess) have collaborated to deliver a \$185.6m upgrade of the RAAF Base East Sale, replacing ageing infrastructure with a world-class air base featuring state-of-the-art training facilities. The upgrade has installed a large number of new amenities and operational facilities including 180 accommodation units (6 x 2 storey blocks), physical fitness training facility, air traffic control facility, flightline maintenance, chapel and community support building, commercial facilities (2 buildings), School of Air Warfare, environmental stormwater works, 25m firing range, new bore water treatment plant and a new fuel farm.

The collaborative working environment from all involved assisted in successfully delivering the project. All project stakeholders worked together to develop and deliver state-of-the-art facilities for the RAAF.

Leighton Contractors operated as managing contractor for client Commonwealth of Australia Department of Defence, Estate and Infrastructure Group and Project Manager/Contract Administrator, Aurecon. Leighton Contractors was engaged as the Managing Contractor in December 2009 and managed the design development of the project from a Strategic Business Case developed by Defence and Aurecon, along with assistance for the presentation of the project to the Parliamentary Standing Committee on Public Works. Following Government approval, Leighton Contractors completed the design and undertook all of the construction works.

Along with 25 of their own employees working on the upgrade, Leighton Contractors engaged over 1000 subcontractors from neighbouring communities in a significant boost for the local economy. Having a procurement strategy to maximise local content, surrounding Gippsland subcontractors and suppliers played a critical role in the successful delivery of the project.

The Assistant Minister for Defence and Federal Member for Gippsland Darren Chester also acknowledged the economic benefit to region. He has said, "As the local Member, I have had great personal satisfaction in witnessing the local construction industry directly benefiting from this extensive project."

RAAF Base East Sale remained operational throughout the duration of the upgrade. With infrastructure works encompassing the entire Base, a significant challenge for Leighton Contractors was to deliver the works whilst not impacting on the RAAF's training requirements. This was achieved via very close collaboration between all project stakeholders, particularly those at the Base level.

Constructing a new air traffic control tower in a live airfield environment proved equally challenging. Sighting was undertaken to ensure the most appropriate location for visibility of the airfield but also so that the new facility could be built whilst not interrupting the ongoing flying requirement of the RAAF. Collaboration with the RAAF and utilisation of their 360° simulator overcame this challenge,

however potential risks to the project team working in a live airfield environment remained a challenge.

Leighton's solution was to provide a design so that they could prefabricate the roof structure on the ground. Having installed all roof and wall cladding, permanent handrails and roof access, and also the framing for the 38mm thick glazing panels, the entire structure could then be lifted up in one go. This approach significantly reduced hazards to both the project team and the RAAF.

A success for both the RAAF and the local community, the upgrade has also delivered benefits to the surrounding environment, having invested in upgrading environmental controls that will ensure the ongoing and future protection of the downstream RAMSAR listed wetlands. This includes erosion control and multiple stormwater quality improvement devices.

"These new and improved facilities will serve the Air Force and our dedicated men and women for many years to come," states Chief of Air Force, Air Marshal Leo Davies AO

Leighton Contractors deliver infrastructure projects including roads, railways, tunnels, airports, buildings, social infrastructure, water, energy and resources. Current projects include CityLink Tulla Widening; Bulla Road to Power Street, New Royal Adelaide Hospital and the Melbourne Water Capital Works Program.

JML Engineered Façades was awarded the subcontract to design, detail, install and certify the cabin glazing to very stringent standards and requirements. The job required very close collaboration between the JML Engineered Façades team along with the client and of course the Thiess project team.

A key design issue was the movement of the roof structure which is only supported on the central column, meaning the outer edges move up and down in certain weather conditions.

This required the actual glass wall panels to be installed and supported independently from the roof structure, which was achieved by designing custom aluminium extrusions for the top and bottom edges of the glass, with the top section being made such that when joined at each facet using custom connector plates, it effectively formed a continuous and therefore ridged ring which was then temporarily supported from the roof frame. Once all glass was installed it was disconnected allowing the glass walls to be completely independent of the roof structure.

This was a successful project that is testament to the ingenuity of the JML Engineered Façade teams, to undertake a complex installation in a remote location to the exact standards set by the client.

For more information contact JML Engineered Façades, Unit 3/2 Frost Drive, Mayfield West NSW 2304, phone 02 4967 1199, fax 02 4967 3666, website www.jml.com.au



The new Chapel and Community Support Building, constructed as part of the redevelopment of East Sale RAAF Base, is one of the base's most significant sites for maintaining the wellbeing of serving men and women. The building accommodates a multi-denominational chapel, a mental health and psychology section plus the Defence Community Organisation.

Bairnsdale-based Frith's Plumbing and Gasfitting installed the roof as well as supplied the roofing material on this important building, overcoming the challenge of the roof's large size without any difficulties. "We hadn't used sheets that long before," explains Danny Moorhouse, Business Manager at Frith's Plumbing and Gasfitting. "We used extra long sheets of tin that needed to be rolled onsite. For that we had to organise a mill onsite and crane to lift it."

Adapting to the strict security procedures of the Australian Defence Force was another novel experience for the team from Frith's Plumbing and Gasfitting. "Initially the security protocols on the RAAF Base and getting into the habit of organising gate passes was a challenge," says Danny. "But we got that sorted out."

Over all, the team from Frith's Plumbing and Gasfitting found the East Sale RAAF Base redevelopment to be a rewarding project that benefited the local community and provided the company with valuable experience for larger projects in the future. "It was really good that a project of that size used local trades rather bringing them in," Danny explains.

Importantly, the local workers were taken care of throughout the project with the implementation of comprehensive Occupational, Health and Safety strategies that impressed the Frith's team. "There was a good amount of OH&S that was enforced," Danny reports. "The guys in the safety department were very helpful. It is good to see that safety was a major priority."

Danny credits Thiess with providing a positive and inspiring work environment throughout the project. "The Engineer and Project Supervisor were really good to work with," Danny says. "We enjoyed developing

a new relationship with the team at Thiess and look forward to being involved in similar projects in the future."

For Frith's Plumbing and Gasfitting, the East Sale RAAF Base redevelopment is representative of the type of projects the company aspires to undertake more frequently. "We do want to do larger commercial contracts," Danny explains. "That is the direction we want to head in, working with an A1 builder."

Frith's Plumbing and Gasfitting has grown remarkably since Director Adrian Frith established the company 10 years ago. "Originally Adrian was working for himself and has grown it upwards to 30 guys," says Danny. The professional team now comprises qualified plumbers, 1st to 4th year apprentices, experienced machine operators and high quality labourers.

The range of works and services offered by Frith's Plumbing and Gasfitting encompasses the needs of Government, industrial, commercial and residential projects. These include mining industry and commercial hydraulics, new and re-roof plumbing, commercial plumbing, water main extensions, drainage works and the unblocking of sewers. Frith's Plumbing and Gasfitting also provide residential new house plumbing and gasfitting as well as plumbing maintenance.

Frith's Plumbing and Gasfitting are equipped to handle the largest of jobs with a fleet that includes various excavators from 2.5 to 13.5 tonne, tip trucks from 6-10 tonne, skid steer, 45f boom lift and scissor lift, rollers and various floats up 20 tonne capacity.

Currently, Frith's Plumbing and Gasfitting are completing all underground, internal and roof plumbing for the new Spotlight building in Bairnsdale as well as work on the HMAS Albatross Base in Nowra.

For more information contact Frith's Plumbing and Gasfitting, 2/30 Rovon Place, PO Box 1832, Bairnsdale VIC 3875, phone 03 5152 1925, fax 03 5152 5654, email frithsplumbing@bigpond.com, website www.frithsplumbing.com.au