

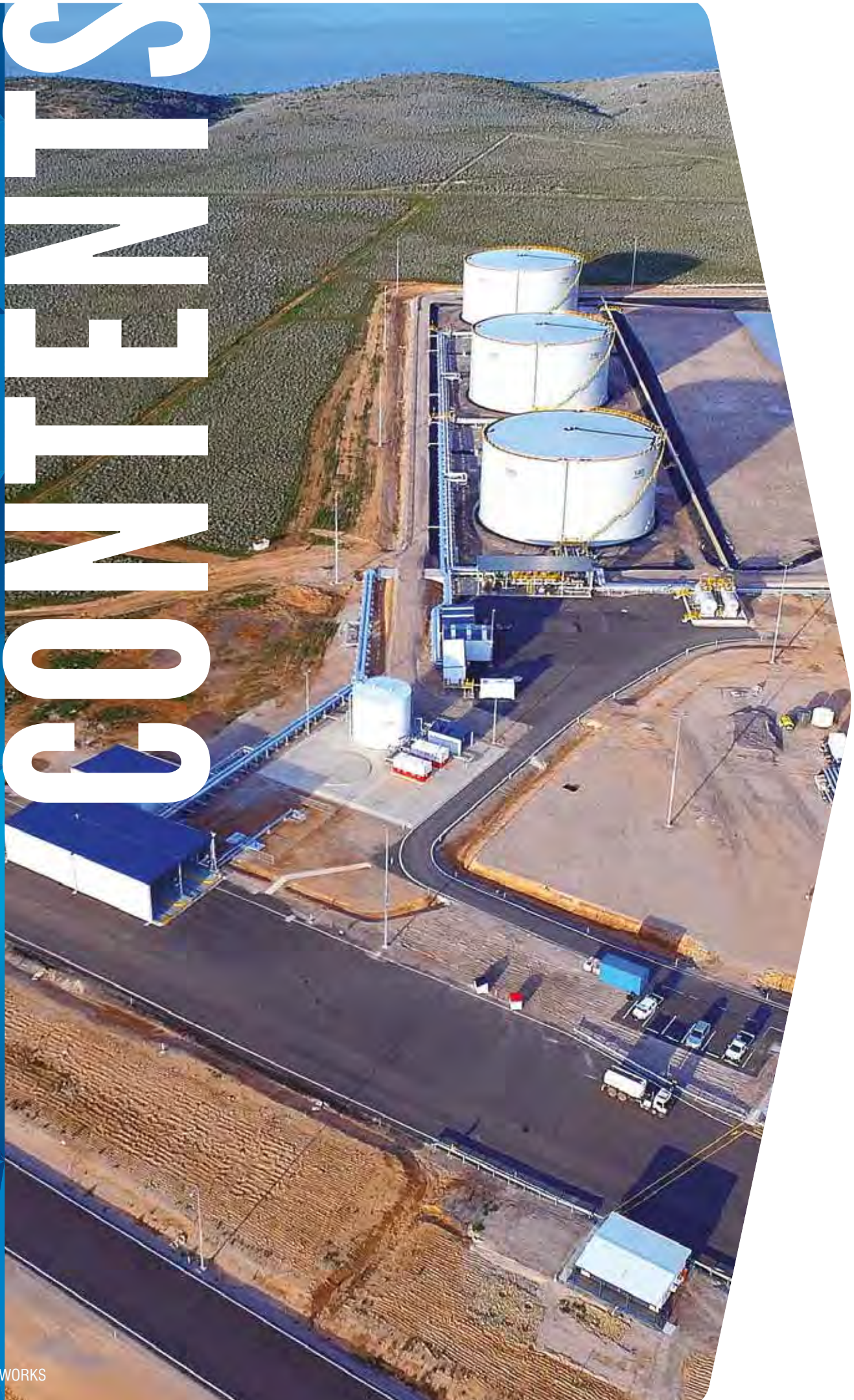


The WORKS

Summer Edition 2016

McMAHON
SERVICES

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'Our people are central to what we do'



Director's MESSAGE



Above: Managing Director, David McMahon and Director, Andrew McMahon

The last 12 months has seen solid opportunities turn into tremendous growth and significant achievements for our group of companies. Our group turnover for the 2015 / 2016 financial year was outstanding, exceeding \$200 million for the second year in a row.

Recently we were recognised by InDaily's South Australian Business Index as a Top 100 company, coming in 24th position and runner up in the top fastest-growing companies, ranked in terms of revenue.

Our approach to diversity continues to be a strength. We recently established the McMahon Services Events division, acquiring assets from the premier National events seating company, Elite Systems.

Providing events scaffolding, platforms and seating systems, McMahon Services Events will have the largest range of seating system options in Australia. Some of the marquee events we are contracted to deliver include the Australian F1 Grand Prix, Adelaide Clipsal 500 Supercars and Santos Tour Down Under.

The Intract Australia Indigenous contracting business is going through a period of rapid growth as the Commonwealth's Indigenous Procurement Policy continues to make waves throughout Australia. Intract has successfully delivered a range of projects across South Australia and the Northern Territory increasing their workforce to over 40 full-time staff, of whom 95% are Indigenous.

The Industrial and Resources Construction division is going from strength to strength. Projects of note include the structural, mechanical and piping package completed at Petro Diamond's Fuel Storage facility in Port Bonython, SA and the continuing Construction Management contract with Lion at the West End Brewery. Recently the team passed 1,000 days LTI free - a testament to our safety culture.

Our continued growth has also resulted in further geographical expansion opening up a new office in Katherine and expansion of our Townsville operations to a larger facility. Both of these regional offices further complement and support the Darwin, Brisbane and Gladstone operations as we continue to grow our presence in Northern Australia.

Recognition is important to our business, providing a sense of achievement and also driving us to continually improve our business practises. It was fantastic to receive a number of industry awards this year including the SA Master Builders Award for Excellence in Commercial Construction / Redevelopment at the iconic West End Brewery.

We were also awarded on the global stage, winning the World's Best Industrial Demolition Project at the 2016 World Demolition Summit for the successful decommissioning of the BHP Billiton Iron Ore facility in Port Hedland, WA.

Our continued investment in great people supported by the best plant and equipment is shaping our business for a long period of success. We thank our clients for the many opportunities presented to us and we look forward to another prosperous year ahead.

David McMahon
Managing Director

Andrew McMahon
Director

WINGATE DAM

UNLOCKS NEW WATER SOURCE FOR BAROSSA VALLEY



McMAHON SERVICES SUCCESSFULLY DELIVER NEW WATER STORAGE DAM IN ADELAIDE'S NORTHERN REGION.

McMahon Services worked closely with Bunyip Water and HydroPlan as part of the Gawler Water Re-use Scheme (GWRS), a key step in a program to unlock new sources of water in the Barossa Valley.

The GWRS emanated from the creation of a large borrow pit adjacent the Gawler River, excavated to source fill material for the construction of the Northern Expressway. The pit provided a significant opportunity to harvest urban stormwater runoff from the Gawler River catchment when flows are above the environmental threshold (616L/s), and store it in the new and existing dams in the Barossa region, and the nearby Kangaroo Flat underground aquifer for subsequent reuse in Summer.

The water will be piped to a holding dam from where it will be ready for the foundation customer's use for urban irrigation in Hewett and vineyards in the Western Barossa Region.

The project involved the construction of a flow gauging station, three pump stations, a 680 mega litre storage dam, a 430 mega litre storage basin and all associated pipe and ancillary works.

McMahon Services were responsible for delivering all works including land clearance, site preparation, demolition of existing infrastructure and bulk earthworks to form both basin structures.

The basin structures were formed using site won clay material, cut and filled to form a 600mm clay layer, and incorporated a HDPE lined sump scour protection in the form of reno mattresses and rock lining. This was placed at the inlets of the dam structure to protect the clay liner from erosion.

McMahon Services also undertook the supply and installation of a complex network of pipework infrastructure to connect the dam system to the upstream supply and downstream consumer. This included pumps to the three pump stations, valve assembly and over 1000 lineal metres of pipeline, varying in diameter from 32mm to 320mm. The project required the supply and installation of all high and low voltage electrical conduits, as well as underground communications infrastructure.

Hard landscaping works consisted of an access road running along the top of the dam embankment, a heavy vehicle turning zone and maintenance vehicle carpark.

The final works included the installation of all stormwater pipework, headwalls, swales and drains, as well as all soft landscaping including spreading of topsoil to bank slopes, hydro-mulching and planting of native vegetation.

PROJECT CHALLENGES

Due to the depth of the pipe risers, the valve assembly was fabricated prior to installation within the chamber. McMahon Services designed and fabricated a complex steel frame to ensure verticality upon lifting and placement.

The inlet pit cover design was also changed from original design to allow for a single sheet of fibre-reinforced plastic to be slid on and off the top of the lid and held down with four bolts. This option ended up being much lighter and easier to remove than the original heavier design that called for an aluminium cover raised in 4 x 4 metre sections.

A significant sustainability initiative for the region, the dam will substitute at least 800 mega litres per annum of River Murray water used in the Barossa, with stormwater harvested on the vineyards. HydroPlan irrigation design engineers have enhanced the water security by connecting to treated wastewater from Bolivar, and providing for managed aquifer recharge expansion to include stormwater anticipated from the Roseworthy Township Expansion.





FATHER CHRISTMAS SETTLES INTO HIS NEW HO-HO-HOME



McMAHON SERVICES KEEP FESTIVE TRADITION ALIVE BY INSTALLING ICONIC FATHER CHRISTMAS AT NEW CENTRAL MARKETS LOCATION

For as long as most Adelaide residents can remember, Rundle Mall has been the home of the iconic giant Father Christmas, appearing on the façade of David Jones throughout the festive season.

Due to renovations on David Jones' Rundle Mall façade, the giant three tonne Father Christmas decoration was forced to find a new home.

The Adelaide Central Markets iconic 115 year old heritage listed Market Tower presented the perfect location to display one of Adelaide's beloved Christmas decorations.

The new CBD placement was the result of collaboration between the Adelaide City Council, Adelaide Central Market Authority, David Jones and Rundle Mall Management Authority, whom were all eager to find the best place to display the large-scale decoration for the iconic Father Christmas.

Adelaide Lord Mayor Martin Haese was very pleased with the solution, saying he was glad Father Christmas would be back to delight city-goers.

"This excellent outcome has been achieved through great collaboration, with all parties coming together to ensure that this festive favourite and South Australian icon returns" said Haese.

To begin the journey, he was moved from long term storage in Gillman to a temporary storage location in Wingfield before being transported to his new temporary home at McMahon Services headquarters in Dry Creek.

STRUCTURAL MODIFICATIONS

Following a high-pressure wash, structural modifications were necessary in order for Father Christmas to be erected onto the brickwork of the Market Tower at the Central Markets.

The internal structural beams were cut down to suit dimensions of the new Central Market location and an engineering consultant was engaged to provide a design for new fixing cleats and plates attached to the façade of the Market Tower, which ultimately connected and supported the Father Christmas.

An in-house surveyor was used to mark up the location of the holes that were to be cored into the tower's façade to anchor the 15m decoration. While onsite, McMahon Services boilermakers carried out alterations to the veranda in order to strengthen it for Father Christmas' platform to rest on. Exceptional care was taken in order to eliminate potential damage to the heritage listed structure.

INSTALLATION

In preparation for the day of installation, a comprehensive traffic management plan and logistics schedules were developed. The traffic plan indicated layout of traffic redirection equipment, positioning of vehicles and pedestrian signage.

Two traffic controllers were onsite during installation and removal to assist the McMahon Services project team with all traffic and pedestrian control. The logistics schedules provided timing of truck arrivals which was an integral part of the day's events, in turn preventing vehicle congestion on the busy Grote Street.

Following the festive season, Father Christmas was transported back to the McMahon Services yard, where he will stay until next year.

Adelaide Central Markets welcomed news crews to capture the installation and removal of Father Christmas, excited to share his new home with the public.

You can view the footage on our YouTube channel:

www.youtube.com/McMahonServices

CEDUNA AIRPORT READY FOR TAKE-OFF



McMAHON SERVICES WERE ENGAGED BY GHD ON BEHALF OF BP TO CONSTRUCT A HELICOPTER OPERATING BASE AT THE EXISTING CEDUNA AIRPORT, AS PART OF BP'S 'GREAT AUSTRALIAN BIGHT EXPLORATION' PROJECT.

Upgrades to the airport were required following BP's award of a rotary wing services contract to Bristow Helicopters Australia. Bristow engaged to transport rig workers from Ceduna to the rig some 300kms offshore to BP's permit areas in the Great Australian Bight.

The construction site was a leased area within the existing Ceduna Airport.

As Head Contractor, McMahon Services scope of works included the upgrade of an existing taxiway and air ground lighting, construction of new taxiway and apron, hangar workshop and parking, heliport terminal, installation of 12 modular office and workshop buildings, all services infrastructure and installation of security fencing.

The modular buildings supplied by Ausco included the heliport terminal, toilets, change rooms and disabled amenities, training rooms, flight planning and operations administration buildings. All modular buildings were built in Adelaide and transported to site and placed into position. Walkways and covered roofs were also included as part of the modular buildings.

McMahon Services supplied and erected the new hangar structure measuring 45 metres long, 20 metres wide and 7 metres high. The hangar included high bay lighting, industrial ceiling fans, compressed air, power, data and epoxy coated floor for safety and ease of maintenance.

Significant earthworks were completed on the project utilising a combined local workforce and local earthmoving contractors. Road base material totalling 8,000 tonne was transported from Streaky Bay in order to construct the building pads for the hangar, offices, heli apron, landing pad and taxiway.

Trenching and installation of over 1km of new services included fire water, sewer, trade waste, potable water, stormwater, electrical, data and communications. Installation of stormwater swales, underground



60%

LOCAL WORKFORCE ENGAGEMENT

pipes and excavation of a basin catchment area was also completed in order to collect all building and land water run off to a single location.

Included in the scope was the construction of a night-time landing pad, upgrade of an existing taxiway and installation of new air ground lighting. All works were completed utilising McMahon Services in-house trades, as well as specialist local subcontractors.

The inclement weather provided challenges on the project, specifically when it came to the placement of the building pads. The building pad material was required to have a certain percentage of moisture, however wet weather during construction created a higher amount of moisture, preventing compaction of the layers for the building pads. Rather than wait for the material to dry out once

the rain subsided, the project team modified the construction program and progressed with other elements of the project.

Local engagement was a major part of the successful delivery of this project.

- ▶ More than 100 workers were engaged throughout the process, with 50 on site at the peak of construction activity.
- ▶ The project created employment opportunities for the local area, with 25 Ceduna-based workers engaged during the process across a variety of roles.
- ▶ Approximately 20 per cent of the local workers involved in the project were Indigenous and engaged in roles from administration to surveying and plumbing services. Intract Australia, McMahon Services' Indigenous sister company were a key delivery partner in the project.

Despite best intentions, BP has decided not to proceed with the exploration drilling program.

“We have looked long and hard at our exploration plans for the Great Australian Bight but, in the current external environment, we will only pursue frontier exploration opportunities if they are competitive and aligned to our strategic goals. After extensive and careful consideration, this has proven not to be the case for our project to explore in the Bight.”

**Claire Fitzpatrick -
Managing Director**
BP Exploration and Production,
Australia



NEW FACILITIES HERALD NEW ERA FOR ROYAL FLYING DOCTOR SERVICE

THE ROYAL FLYING DOCTOR SERVICE (RFDS) IS ONE OF THE LARGEST AND MOST COMPREHENSIVE AEROMEDICAL ORGANISATIONS IN AUSTRALIA, PROVIDING EXTENSIVE PRIMARY HEALTH CARE AND 24-HOUR EMERGENCY SERVICE TO PEOPLE, SPECIALISING IN REMOTE AREAS.

The new \$13 million Adelaide base heralds the start of a new era for the Royal Flying Doctor Service as it delivers 24/7 emergency retrieval services, inter-hospital transfers and primary health care services to all South Australians.

The new aeromedical base was made possible by fundraising, bequests, corporate and public donations to enable the RFDS to provide the finest care for all South Australians for decades to come.

McMahon Services were engaged on the project by Sarah Constructions – the lead contractor on the project, to undertake all roofing and cladding subcontract packages on the new state-of-the-art facilities.

The new facilities, situated at the Adelaide Airport – adjacent to the main runway, features space for six aircraft along with parking for an additional nine aircraft on the tarmac. It also features an impressive 2,230m² corporate office, including a medical and patient transfer facility.

The transfer facility incorporates a streamlined system, which hosts patient care bays with resuscitation equipment and other necessities providing a truly modern and safe workplace for staff and health service delivery partners.

The McMahon Services roofing and cladding project team installed 4,500m² of roof sheeting and safety mesh, 550m² of stainless steel perforated wall cladding, 2,500m² of heavy duty insulation blanket to roof areas, 1,000 lineal metres of insulation purlin spacers, 1,250m² of insulated wall panels and 80m² of Anthra VM zinc cladding to the featured board room.

McMahon Services had a team of eight full-time construction workers on this project utilising in-house plant and equipment such as our 60 and 100 tonne cranes, 51ft elevated work platforms and 45ft knuckle boom lifts to successfully complete the project.

Extensive planning was required to ensure long lead time items were procured ahead of time to meet the strict overall project schedule. McMahon Services executed industry leading temporary safety systems to allow the installation of all roof and wall cladding at height. This included temporary anchors, static lines and handrail systems that were installed and re-positioned throughout the project.

The zinc cladding of the boardroom was a standout architectural feature of the project. McMahon Services erected internal scaffolding to allow the installation of interlocking VM zinc cladding that wrapped around the four corners of the boardroom and wide glass windows. The boardroom is situated on the first floor and overlooks the ground floor, providing an eye catching feature when you first enter the premises.



KEY FEATURES OF THE RFDS ADELAIDE BASE INCLUDE:

- ▶ Stretcher bay to manage eight patients comfortably
- ▶ Stabilisation bay for acute patients
- ▶ Refreshment facilities for seated patients and escorts
- ▶ Multiple under cover ambulance parking bays
- ▶ Private rest quarters / amenities for crews
- ▶ Hangar to house six Pilatus PC-12 aircraft
- ▶ Capacity for nine aircraft on the tarmac apron
- ▶ State-of-the-art engineering maintenance store and workshop



SUPERMARKET GIANT MOVES INTO NEW DISTRIBUTION CENTRE



DISCOUNT SUPERMARKET GIANT ALDI RECENTLY EXPANDED INTO ADELAIDE, CONSTRUCTING A NEW 30,000M² DISTRIBUTION CENTRE IN REGENCY PARK.

Engaged by Head Contractor, BADGE, McMahon Services completed a number of key construction components of the new Distribution Centre ranging from earthworks to roofing and cladding.

The new purpose-built facilities located at the eight hectare site in Regency Park included ambient and temperature controlled warehousing space, ancillary buildings, associated hardstand and office space. The massive facility will act as the hub of ALDI's SA Region Distribution Centre, and has the ability to service up to 50 stores.

CIVIL CONSTRUCTION

As first contractors on site, McMahon Services completed all early earthworks packages including bulk strip-out of the 30,000m² area to create a level site to enable construction of the building plateau and heavy duty concrete pavements. Site preparation works consisted of the construction and removal of temporary ramps for the piling rig and the placement of a 130mm capping layer including the provision of WG80 geofabric.

The warehouse building pad required complex detailed earthworks to allow for the formation of set downs for the freezer slab and edge thickenings. McMahon Services also constructed all heavy duty concrete pavements required for the distribution centre, including final trim, subgrade compaction and installation of heavy duty kerbing.

Construction of the carpark and internal road included all bulk and detailed earthworks, subgrade compaction and supply and placement of asphalt surface to design levels. The final scope for the civil team included carpark line marking, installation of pram ramps, transformer slab construction and respread of top soil to landscaped areas.

ROOFING & CLADDING

McMahon Services also secured the roofing and wall cladding packages for the new ALDI Distribution Centre. A team of eight specialist roofers completed the installation of the following:

- ▶ 20,000m² of Kingklip 700 colorbond roof sheets
- ▶ 2,500m² of True Oak Super 5 colorbond wall sheets
- ▶ Safety mesh to the roofing area
- ▶ R2.5 100mm medium duty foil faced permastop insulation blanket to roof area
- ▶ Medium duty sisalation to walls
- ▶ 32 colorbond half cylinder rain heads
- ▶ 200 lineal metres of 300mm colorbond half round eave gutters with external brackets and pops
- ▶ 32 PVC downpipes and 0.55 colorbond flashings

Utilising Revolution Roofing's mobile mill, the McMahon Services team were able to roll the roofing sheets on site at lengths of up to 53 metres long. This provided significant efficiencies in the construction program and cost savings. Due to the limited workspace, coordination between the rolling of the sheets and the crane lifting the sheets onto the roof structure required extensive pre-planning to minimise any impacts on the other site works.

PROJECT CHALLENGES

The soft subgrade encountered on site created a major issue. McMahon Services worked collaboratively with BADGE to undertake multiple trial areas to determine the best, most cost effective, soft spot treatment.

The overall method adopted meant that approximately 6,000 tonne of 75mm ballast had to be imported, with an additional 14,000 tonne of rubble being placed to bridge the soft spots.

Our roofing team had the challenging task of executing their works during the winter months, which often provided high winds and rain events. This presented significant challenges when dealing with the long 53 metre lengths of roof sheeting. Additional precautions and safety measures were taken to ensure safe execution of the works at all times, with close collaboration between crane operators, riggers and roofers. All works were completed without incident and within the client's strict timeframe.



The new purpose-built facilities located at the eight hectare site in Regency Park included ambient and temperature controlled warehousing space, ancillary buildings, associated hardstand and office space





FOOD AND BEVERAGE CONSTRUCTION SERVICES



MCMAHON SERVICES OFFER A STREAMLINED APPROACH TO CONSTRUCTION PROJECTS WITHIN THE FOOD AND BEVERAGE SECTOR ACROSS AUSTRALIA.

With over 25 years' experience, we have completed a wide range of projects within food and beverage processing environments and understand the challenges associated with this type of work.

Food and beverage processing and manufacturing facilities require special consideration to food hygiene and food safety standards when undertaking construction activities. Our personnel have a strong understanding of food grade standards and the specific construction and interface requirements of fully operational facilities to ensure food safety is maintained whilst providing compliant project delivery.

These food safety requirements flow right through the project lifecycle including design of food safe systems and associated products, selection of

food grade materials and products, construction sequencing and construction separation, delineation and work flow planning.

With over 500 full-time personnel across Australia and significant in-house trades, McMahon Services offer a wide range of building services to accommodate the food and beverage sector. From scope rationalisation and buildability advice, through to design, engineering, budget estimates, planning and on-site construction, we can work with our clients to provide a complete project solution.

Our demonstrated track record and long-term relationships with clients such as Lion, McCain, Coca-Cola, Weston Milling, Mauri ANZ, Balfours and Schweppes, is testament to our strong project delivery.

We are flexible with our contracting models and delivery approach. Through our strong relationships with specialist consultants and process technology suppliers we can offer complete end-to-end solutions, or we can simply provide construction only services.

'McMahon Services offer a wide range of building services to accommodate the food and beverage sector'

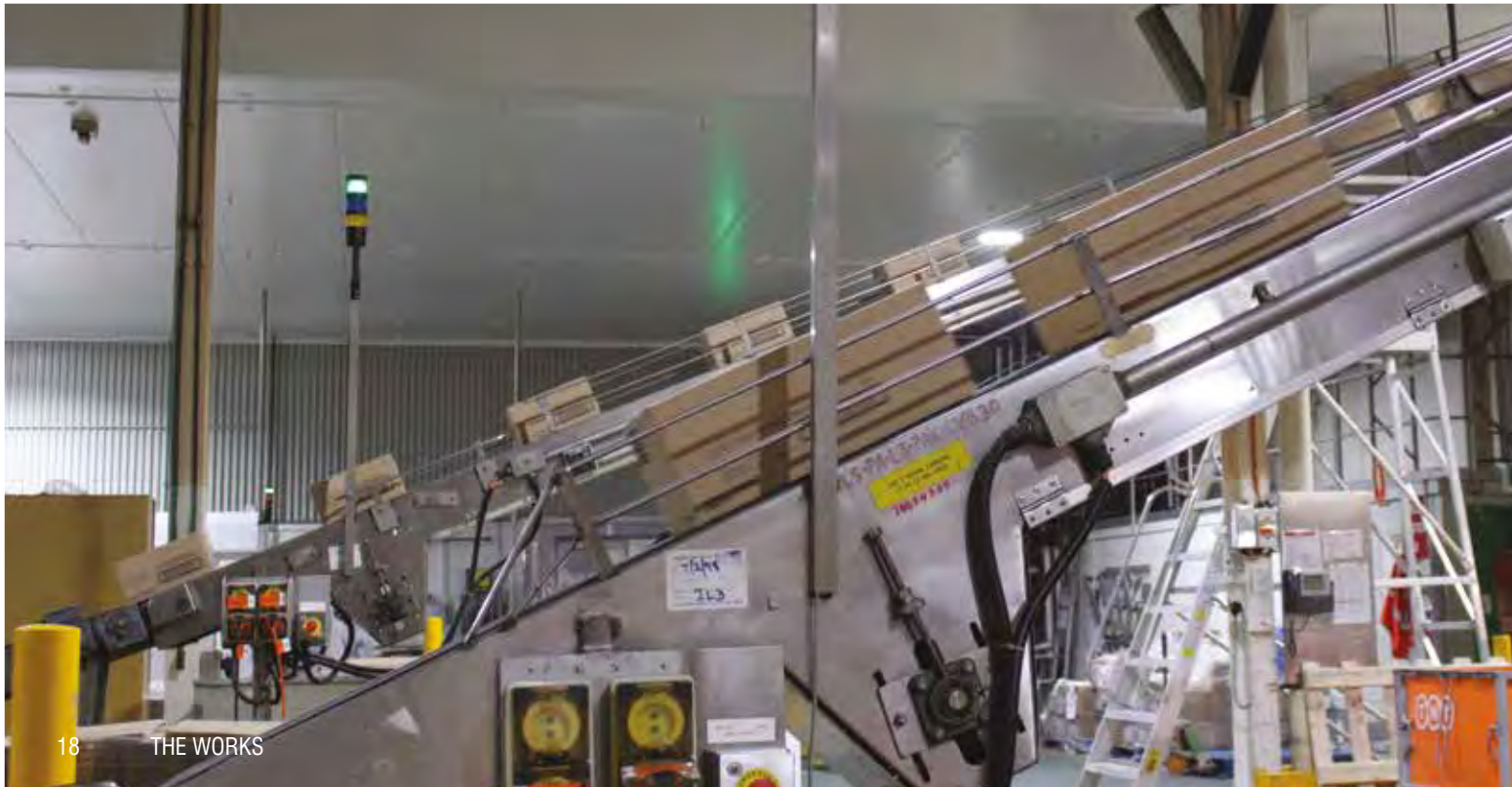


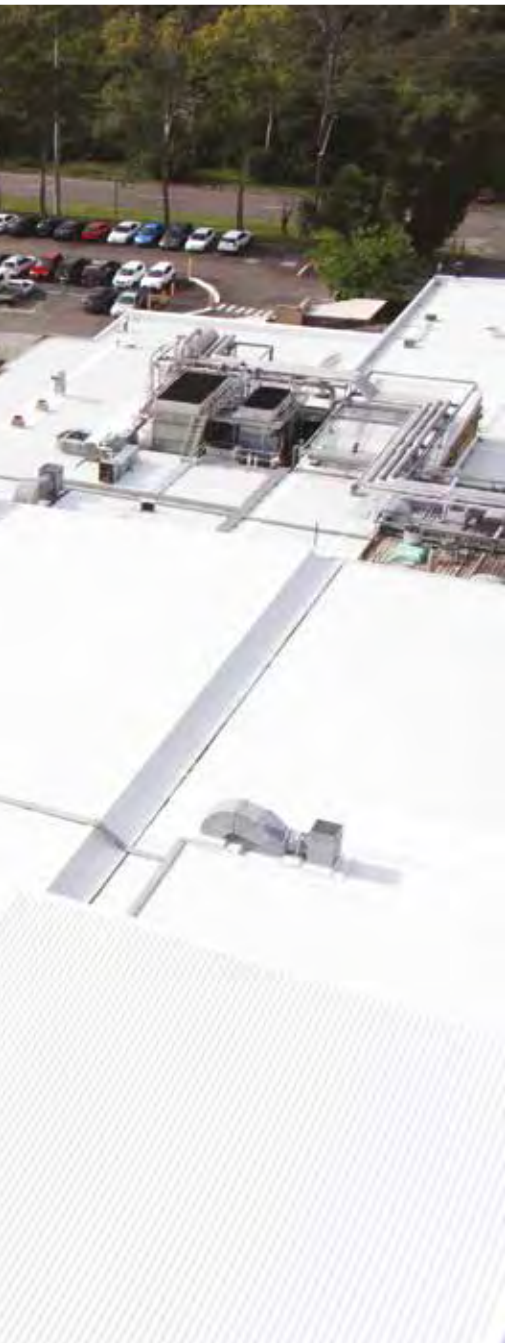
OUR RANGE OF SERVICES INCLUDE:

- ▶ Structural concrete works including; piling, footings, slabs, pavements and retaining walls and flooring toppings
- ▶ Civil / earthworks including; detailed excavation and pad prep and trenching services
- ▶ Demolition works including; standard demolition and process plant removal and salvaging
- ▶ Concrete toppings and remediation including; epoxy coatings and floor coving repairs
- ▶ Electrical upgrades or installations
- ▶ Hydraulic services upgrades or installations including; trade waste, sewer, water or fire protection upgrades
- ▶ Mechanical HVAC and chiller plant installations and upgrades
- ▶ Roofing, cladding and sandwich panel installations and upgrades
- ▶ Asbestos and hazardous material audits, removal and remediation
- ▶ Building trade works including; carpentry, painting, tiling, ceilings and linings, glazing of aluminium framing and flooring
- ▶ Structural steel works including; building extensions, platforms and landings, pipe bridges and access stairs and landings
- ▶ Building refurbishment including; office and administration upgrades, DDA compliance upgrades, wet area and amenities refurbishment as well as building façade upgrades

KEY PROJECTS

- ▶ Lion West End Brewery - Hyde Park, SA
- ▶ Lion Dairy & Drink - Wetherill Park, NSW
- ▶ Tooheys – Lidcombe, NSW
- ▶ Boags – Launceston, TAS
- ▶ Weston Milling - Port Adelaide, SA
- ▶ McCain – Lisarow, NSW
- ▶ Weston Milling - North Melbourne, VIC
- ▶ Schweppes – Thebarton, SA
- ▶ Americold – Arndell, NSW
- ▶ Americold - Prospect, NSW





FEATURE PROJECT: MCCAIN FOODS AUSTRALIA

MCCAHON SERVICES HAVE 'DONE IT AGAIN' AS THEY SLICED THROUGH THE HIGHLY COMPLEX ROOF RECTIFICATION PROJECT FOR MCCAIN FOODS AUSTRALIA AT THEIR LISAROW FACILITY IN NSW.

The McCain facility at Lisarow was designed and built by Austin Anderson (US Firm) in the early 1970's as the first Sara Lee Factory in Australia. McCain recently acquired the Sara Lee facility, which has grown to exceed an 18,000m² footprint during a number of small expansions. A third-party engineering assessment of the facility revealed the need for significant roofing rectification and McMahon Services was engaged to self-perform the complex contract over a 12 month period.

Following an intensive tendering process, McMahon Services was awarded the complex contract to undertake remedial works of the ceiling and external roof structures. The detailed scope of works involved removal and replacement of 18,000m² of roof structure, structural steel fabrication and erection, removal and replacement of 4,500m² of insulated panel ceilings, installation of new fire services upgrade within the factory and mechanical extraction upgrades.

This project was particularly testing for the team as it presented a combination of significant challenges. Firstly, the works were required to be undertaken in a fully operational food processing facility and required food grade standards to be upheld throughout the 12-month program. Secondly, the rectification works occurred in the ceiling and roof spaces above the

food preparation environment below, presenting significant programming and sequencing challenges to ensure continuous food processing. The third key challenge was the unpredicted, high rainfall of the NSW Central Coast region.

Despite all significant challenges faced, McMahon Services successfully completed the rectification works with minimal interruption to operational food processing to the delight of the client. This was achieved by:

- ▶ Project planning workshops with all key stakeholders
- ▶ Outstanding collaboration and close communication throughout project
- ▶ Work zone delineation between construction and food preparation zones
- ▶ Stringent food grade PPE worn by construction staff at all times
- ▶ Flexibility with our work crew roster to accommodate weekend work, every week
- ▶ Design of structures that required minimal site works to minimise construction times
- ▶ Weekly food safety risk assessments and site walks to maintain compliance
- ▶ Weekly progress / reporting meetings

This project followed on from the successful completion of other food grade projects for clients such as Lion, Weston Milling, San Remo, Coca Cola and Schweppes. McMahon Services look forward to working with other clients into the future as we continue to grow our experience and capacity in the food and beverage sector.





AUGUSTA POWER STATIONS DECOMMISSIONING

McMAHON SERVICES AND FLINDERS POWER ARE WORKING IN ALLIANCE TO SET A NEW STANDARD FOR THE CLOSURE OF ELECTRICITY GENERATION OPERATIONS. THIS SUPPORTS OUR AIM TO SET A BENCHMARK FOR SAFETY AND BEST PRACTICE FOR FUTURE COAL FIRED POWER STATION AND ASSOCIATED MINE CLOSURES IN AUSTRALIA.

The Augusta Power Stations have a long and valued history providing reliable generation to the South Australian and National Electricity Market. The 90MW Playford A Power Station was commissioned on reclaimed land at the northern tip of Spencer Gulf in 1954. The site was subsequently expanded to accommodate the 240MW Playford B Power Station, which was commissioned in 1963. Generation was secured through the utilisation of the Leigh Creek Coalfields, and the construction of a 250km dedicated rail line connection. In the early 1980's an adjacent site was prepared at Port Augusta, culminating in the construction of the 520MW Northern Power Station in 1985.

At 9.40am Monday, 9 May 2016, the Port Augusta Power Station officially stopped generating power. McMahon Services, in Alliance with Flinders Power are currently undertaking the demolition of the Augusta Power Stations, including Northern Power Station, Playford A and Playford B Power Stations. The decommissioning includes the removal of friable and non-friable asbestos and demolition via mechanical and charge felling means.

Flinders Power Partnership and McMahon Services have formed an alliance to create a single, unified team to jointly manage the planning, asset salvage and decommissioning works of the project. The successful delivery of this project relies on the combined efforts of both Flinders Power and McMahon Services. This is a dynamic partnership where both Flinders Power and McMahon Services create a single team, working collaboratively and cooperatively to make best-for-project decisions to achieve the project outcomes.

This is a unique delivery model for McMahon Services, with an Alliance Leadership Team formed with Flinders Power who share our strong commitment to delivering the project

in accordance with our core values of Safety, Teamwork, Leadership and Integrity.

McMahon Services were engaged in September 2015 to conduct an extensive early works phase. The early works agreement enabled McMahon Services in partnership with Flinders Power to meticulously investigate and plan the works required for the safe and effective decommissioning of the Augusta Power Stations.

The early works agreement was completed over a six month period with key management staff on site working with Flinders Power during operations and shutdown period. Detailed programs and cost plans were developed during this period which complemented a full suite of project plans endorsed by client, regulator and independent consultants.

The site has a long and proud history and is prominent in the region. The closure program has a high degree of community interest and The Alliance commits to engaging in an open and collaborative fashion.

CHARGE FELLING

McMahon Services and Flinders Power have worked closely with specialist demolition contractor Precision Demolition to undertake some of the largest and most complex charge felling works in Australia. In September 2016 the significantly deteriorated 60 year old Playford A Stack was successfully and safely felled, reaching the first major milestone in the two year decommissioning program of the Power Stations.

Appropriate exclusion zones (land and sea) were strictly enforced by SA Police and security contractors, ensuring personnel and public safety.

Flinders Power Managing Director, Michael Riches said “felling of the stack early in the two year program allows for more efficient demolition of other areas of the site and enhances safety for personnel working in and around the ‘Active Demolition Zone’ at Playford.” said Michael.

Plans are currently in place to fell the remaining two exhaust stacks, being 200 metres and 79.25 metres in height. Detailed engineering and design works are underway for the separation and felling of two off 80 metres high hanging boilers with structural steel columns up to 2 metres in section and 70mm thick. The project will see the use of approved on-site magazines along with international shipments and licenced import of explosive charges.

MECHANICAL DEMOLITION

McMahon Services utilises in-house plant and equipment, consisting of large demolition machinery, including a Komatsu PC 1250 excavator specifically designed for demolition works with a custom designed demolition attachment allowing for a reach of up to 44 metres. In support of this, McMahon Services provide a range of excavators including Komatsu PC 850, PC 450, PC 300, PC 220 and smaller.

We have a wide range of cranes, working at heights equipment and heavy haulage plant. Further to this fleet, McMahon Services, in partnership with Komatsu have commissioned the largest excavator shear attachment in the world; specially designed to fit our new 400 tonne demolition excavator. McMahon Services have provided dedicated on-site mechanics and boilermakers on the project to ensure machines operate with minimum stand-down time and at maximum safety standard.

COMMUNITY ENGAGEMENT

McMahon Services (the principal decommissioning contractor) has directly employed local labour whose skills meet the project requirements. Local businesses have been regularly engaged to support the project and strong working relationships established during sensitive closures.

The Alliance provide regular project updates to workforce and local community in the form of newsletters, regular face-to-face meetings with local government authorities and emergency services, as well as frequent project status reports to stakeholders and regulatory bodies. A detailed Stakeholder Management Plan has allowed for the open and effective communication between the Alliance and all project stakeholders.





EXPRESS DEMOLITION IN ADELAIDE CBD



DEMOLITION OF A THREE-STOREY BUILDING LOCATED AT 62-68 HINDLEY STREET, AND DEMOLITION OF AN ADJACENT TWO-STOREY BUILDING AND SINGLE-STOREY BUILDING UNDERTAKEN IN BLYTH STREET, IN ADELAIDE'S CBD.

The iconic site, situated over 1,785 square metres is being transformed into a new 245 room 'Holiday Inn Express' hotel focusing on limited services at reasonable prices for business travellers and short-term stays.

Demolition is a high risk activity, which is heightened when working in restricted CBD locations, with limited access and continual interaction with the public. Site establishment was critical to ensuring a

safe work site with heavy duty hoarding providing a delineation between the public and work activities.

Demolition of the buildings began with the removal the underside of the slabs and footings, and all nominated pavement surfaces including bitumen, kerbs and gutters. The specialist demolition crew then removed the redundant retaining walls and all demolition waste from the site.

Excavation to the underside of the new basement / ground slab level was completed making allowances for compaction of surfaces where required. Backfill of the existing northern basement was required also with approved fill material and compaction in accordance with geotechnical requirements.

By adopting a collaborative approach, the works were successfully delivered by the McMahon Services project team. Potential issues associated with the surrounding stakeholders and stability of adjoining structures were successfully managed throughout the works. The risks associated these works were successfully managed without incident or damage to property, personnel or the environment.

'Demolition is a high risk activity, which is heightened when working in restricted CBD locations'

MCMAHON SERVICES LAUNCHES STATE OF THE ART WEBSITE

Technology is constantly changing and at McMahon Services, we like to stay ahead of the pack. So we have invested in a brand new website that allows us to effectively communicate with our current and potential customers through a state of the art digital platform

The new website, which was six months in the making, is exceptionally user and mobile friendly and showcases our diverse projects and capabilities that can be viewed on all devices.

The new website comprises of our latest projects, up to date news, employment opportunities, as well as the ability to read bio's on our management team from across the country.

Visit the site now at
www.mcmservices.com.au



NORTHERN GROWTH CONTINUES

AS PART OF OUR ORGANIC GROWTH STRATEGY, MCMAHON SERVICES HAS RECENTLY OPENED UP REGIONAL OFFICES IN TOWNSVILLE, QLD AND KATHERINE, NT.

KATHERINE - NT

The new Katherine office is situated in the main industrial precinct, on the Eastern side of Katherine, close to RAAF Base Tindal. Our new 4,000m² facility comprises office compound, laydown area storage building.

Heading up the Katherine office is Bernie Pollard who brings 20 years of construction experience after working many years in Western Australia, New South Wales and Queensland. Bernie commenced with McMahon Services in July this year and has relocated to Katherine from Brisbane.

Our move to establish an office in Katherine was a strategic initiative aimed at increasing services to our existing clients, whilst providing further depth and capability to cater for increased enquiry levels in the region.

The Katherine office will enable recruitment of local workers through the creation of local job opportunities, building capacity in the town and also focusing on the training and employment of local Indigenous people.


TOWNSVILLE - QLD

Following the establishment of a satellite project office in Townsville during 2015, the decision was made to find a more permanent home. A new larger facility was found in a conveniently located Industrial Estate in Mount St John earlier this year.

The Townsville office is proving to be a key location for the McMahon Services' Queensland business complementing the Brisbane and Gladstone teams and growing our presence in the North of Australia.

Michael Brennan leads the team in Townsville, a qualified carpenter with over 30 years' experience working on domestic, commercial and industrial building projects.

With a strong focus on facilities and building maintenance, the Townsville team has grown quickly ranging from Project Management, Administration and key trades including Electrician, Plumber, Carpenter, Painter and a Refrigeration and Diesel Mechanic.



PARNKALLA WATERS

90%
OF OUR WORK FORCE
WERE EMPLOYED FROM
THE LOCAL COMMUNITY

**McMAHON SERVICES
WERE ENGAGED BY
SARIN PROPERTY GROUP
TO UNDERTAKE THIS
EXTENSIVE RESIDENTIAL
SUBDIVISION PROJECT
AS PART OF THE LINCOLN
COVE MARINA EXPANSION
IN PORT LINCOLN, SOUTH
AUSTRALIA.**

The project was split into two stages, a lakeside residential area named “Parnkalla Waters” and a larger residential area named “South Lakes” situated on deep-water canals with frontage for private pontoons.

McMahon Services self-delivered Stage One – Parnkalla Waters to transform the low lying swamp into a 34 waterfront allotment marina subdivision complete with essential infrastructure, asphalt roads, concrete footpaths, limestone block retaining walls with steps down to the new constructed sand beach and water reserve.

This unique project incorporated all forms of site preparation works. Over 150,000m³ of bulk earthworks was required to construct the man made beach which also included the construction of 900 lineal metres of 1m high architecturally designed retaining wall and placement of 8,000 tonne of beach sand.

In excess of 6,000 tonne of 300mm rock revetment was placed, and 34 residential building plots were prepared.

The project team also constructed all sewer, water and common services infrastructure required for the subdivision, which included two transformers, lighting poles and NBN pits. Additionally, over 380 lineal metres of stormwater pipe ranging from 375mm to 1200mm and a 22 metres long triple cell culvert was also installed as part of the detailed civil works.

Roadworks for the project included sub-base course and asphalt placement, over 1.25km of kerbing and the installation of nearly 200 metres of guard rail.

The specific geographical location of the project posed some significant challenges for our team. This included working in and around ground water and tidal flows from the neighbouring marina. This was particularly evident with the installation of deep services for the sewerage infrastructure.

To overcome this, two six inch pumps were utilised operating 24 hours a day for over four months. Additionally, a series of wells were excavated to enable water to be pumped away from the work zones. This method was extremely effective, and meant we did not need to drive heavy earthmoving equipment into the marina to undertake the installation of the infrastructure.

Innovative techniques when pouring the triple cell culvert were utilised. The team were able to specially design the head walls in precast concrete so they could be lifted directly into place, instead of pouring the head walls in-situ. Each head wall weighed over 10 tonne and was installed in two hours as opposed to in excess of one week each for form and pour if we were to have used the conventional method.



During the construction of the project a number of significant sewer changes were required, which included the addition of a pump station in St Andrews Drive. This also included the decommissioning and conversion of an existing pump station, along with a connection into the existing pumping main. In order to assist our client with the total delivery of the project, McMahon Services offered to undertake all of the electrical service and NBN works including all coordination and liaison with SA Power Networks for connections.



Strong communication with residents and the collaborative approach between the client and McMahon Services was imperative to the successful delivery of the project.

In addition, 90% of our work force were employed from the local community, and multiple small businesses in the region were engaged to deliver services for the project.



INTRACT ACHIEVES FEDERAL SAFETY ACCREDITATION



INTRACT AUSTRALIA HAS TAKEN ANOTHER HUGE STEP TOWARDS BECOMING AUSTRALIA'S LEADING INDIGENOUS ENTERPRISE.

On Friday 4th March 2016, Intract Australia Pty Ltd was awarded Joint Accreditation with McMahon Services under the Australian Government Building and Construction WHS Accreditation Scheme (the scheme).

Subject to certain financial thresholds, only builders who are accredited under the Scheme can enter into head contracts for building work that is funded directly or indirectly by the Australian Government.

WHAT IS DIRECTLY FUNDED BUILDING WORK?

Projects are considered to be directly funded where an Australian Government agency has responsibility for the project funding and development, for example a Defence facility, Medicare or Centrelink Office or a fit-out or refurbishment of existing Australian Government office accommodation.

The Scheme applies to projects that are directly funded by the Australian Government with a value of \$4 million or more.

WHAT IS INDIRECTLY FUNDED BUILDING WORK?

- ▶ Projects are considered indirectly funded where an Australian Government agency contributes funding to a third party recipient, such as a state government, through mechanisms such as funding agreements, grants and other programs, for example road construction projects funded by the Australian Government or a new school built by a state government using funding provided by the Australian Government.
- ▶ The Scheme applies to projects that are indirectly funded by the Australian Government where:
- ▶ The value of the Australian Government contribution to the project is at least \$6 million and represents at least 50 per cent of the total construction project value; or
- ▶ The Australian Government contribution to a project is \$10 million or more, irrespective of the proportion of Australian Government funding; and
- ▶ The head contracts for building work are greater than \$4 million (GST inclusive).
- ▶ This is a significant achievement for Intract as we continue to strive for excellence in the training and employment of Indigenous Australians.





BULEY ROCKHOLE

**INTRACT AUSTRALIA
SUCCESSFULLY DELIVERED
A SIGNIFICANT PACKAGE
OF WORKS ON THE \$1.3
MILLION BULEY ROCKHOLE
UPGRADE, INCLUDING THE
RELOCATION AND SEALING
OF THE CARPARK, AND NEW
SHADED SHELTERS AND
FOOTPATH.**

The project forms part of the \$10.43 million investment by the Territory Government to improve facilities at various locations in the iconic Litchfield National Park.

Former Parks and Wildlife Minister Bess Price said \$1.3 million in upgrades had been completed to cater for increasing visitor numbers and protect the park's significant natural and cultural values.

"Buley Rockhole is a key drawcard for tourism to Litchfield National Park and is also favoured by Darwin locals," Minister Price said.

"With Buley Rockhole's rising popularity, overcrowding was a major issue so the redesign of this popular site was essential to meet the increased demand."

Minister Price said visitors are now able to picnic away from the rockholes themselves and enjoy the new day-use area which include five new shaded shelters, picnic tables and a new easily-accessible footpath.

"This will also enable visitors to easily and comfortably disperse across the site to enjoy the site's facilities," she said.

"The new and improved sealed carpark will service the new day-use area and rockholes, while minimising congestion.

"I'm really excited that the public can now start to enjoy these upgrades." Parks and Wildlife Commission of the NT Chief Executive Andrew Bridges said "The upgrades will enhance the visitor experience"

"Litchfield National Park is one of the Territory's most popular tourist attractions and it plays a key role in supporting, building and enhancing the Territory's tourism industry and the Territory's reputation as a must see destination," he said.





PRIME MINISTER'S RECEPTION FOR INDIGENOUS INNOVATORS AND ENTREPRENEURS

Intract Australia Director, Michael Rotumah was one of 21 young Indigenous entrepreneurs and innovators featured at the Prime Minister's reception for young Indigenous businesses and entrepreneurs earlier this year. The reception celebrated the achievements of Indigenous businesses and their contribution to economic development and the innovation agenda.

The event showcased young Indigenous entrepreneurs and connected them with influential business leaders and also encouraged corporate leaders to continue their efforts to increase Indigenous employment and supplier use.

Indigenous innovators and entrepreneurs, Indigenous Advisory Council members and senior Indigenous leaders were all brought together at the event, which also included representatives from the peak industry bodies and major corporations who have played a leading role in supporting Indigenous economic participation.

Prime Minister of Australia, the Hon Malcolm Turnbull MP and Minister for Indigenous Affairs, Senator Nigel Scullion were both present.



NORTHERN CONNECTOR EARLY WORKS

Intract Australia recently completed early works as part of the new Northern Connector project in South Australia - a new non-stop motorway connecting the already completed Northern Expressway and South Road Superway, providing an unimpeded trip from Gawler to Regency Park, totalling 43 kilometres.

The proposed road alignment intersects the Ridley Salt Pans, providing complicated geotechnical conditions. As part of the early works to facilitate appropriate road design, Intract Australia were contracted directly by the Department of Planning, Transport and Infrastructure to construct three trial embankments along the proposed road alignments through the salt pans.

Each embankment was constructed in three stages at pegged locations specified by the client initially filling to approximately three metres in height.

The first stage consisted of the initial fill and then the areas were allowed to settle for a period of four weeks before a further one metre high layer was placed with a final one metre layer added after a further four weeks.

Approximately 40,000 tonnes of brine mud was used from on-site stockpiles with between 500 and 700 tonnes of material placed each day.



BATCHELOR INSTITUTE OF INDIGENOUS TERTIARY EDUCATION

Following the commencement of early discussions between the Batchelor Institute of Indigenous Tertiary Education (BIITE) and Intract Australia, a mutually beneficial relationship was born. Intract were contracted to undertake various building works at the BIITE campus located at the doorstep of the Litchfield National Park in the Northern Territory. The initial works included painting, carpeting, asbestos removal, wall demolition, structural steel erection, café renovation and entrance signage.

With Intract supplying majority Indigenous labour, these packages of work were a great success story providing significant local Indigenous employment outcomes.

Following the success of the initial building works, BIITE awarded Intract another contract to refurbish 18 Student Accommodation Units at the Batchelor Campus. These works were completed with a leading team of Indigenous Employees, most of whom were sourced through Karen Sheldon Training as job-ready trainees. 85% of the trainees have since been engaged by Intract Australia on full time basis and actively working in the business on other projects.

PORT BONYTHON FUELS

McMAHON SERVICES DELIVER EXTENSIVE STRUCTURAL, MECHANICAL AND PIPING WORKS AS PART OF THE NEW PORT BONYTHON DIESEL FUEL STORAGE TERMINAL.

Port Bonython Fuels Ltd have developed a new diesel storage terminal that receives diesel via a shipping pipeline from tanker ships berthed at the existing Santos Fuel Berth in Port Bonython, South Australia.

The state-of-the-art fuel terminal located approximately 25 kilometres north of Whyalla and 80 kilometres South of Port Augusta is the largest diesel fuel storage facility in South Australia. The \$80 million project was commissioned in May 2016 and employed over 130 people at peak construction time.

The terminal features three 27ML diesel storage tanks, two bay gantry, each bay with three arms (2,400 LPM per arm), vehicle access for up to triple road trains, access to deep water port via existing uncongested jetty, modern driver and administration facilities.

The new modern fuel storage facility incorporates high environmental controls with full operational and support infrastructure. The construction of the new plant also includes significant provisions for future growth and expansion across multiple fuels.

McMahon Services were awarded the Structural, Mechanical and Piping scope of works on the project. This included the supply of all materials where required, all skilled labour, management and supervision of key subcontractors, set out and survey, provision of plant and equipment, tools, plant consumables, transport, crane services, temporary works, testing and commissioning to complete the works.

McMahon Services made a strong commitment to the client to utilise as much local labour and sub-contractors as possible to deliver the contract. To our advantage, we were able to engage with our local branch office in Whyalla and several of the key management resources were very experienced working in this specific region.

PROJECT CHALLENGES

The site is very exposed to the sea and is notorious for strong winds. McMahon Services tailored our execution strategy to ensure the works could be progressed in accordance with the schedule. This included the use of smaller articulated mobile cranes rather than hydraulic slew cranes due to the ability to safely operate at higher wind conditions.

This region is also well known for extremely hot weather during summer and exceptionally cold climates during winter. Once again we demonstrated our ability to effectively manage and plan works in these conditions, including the execution of appropriate fatigue management systems, excellent site facilities and work environments, extensive use of mobile shade structures and wind breaks.







VICTOR HARBOR FORESHORE BOARDWALK UPGRADE

MCMAHON SERVICES DEMONSTRATED OUR DIVERSE BUILDING CAPABILITIES BY CONSTRUCTING THE NEW BOARDWALK AS PART OF A MAJOR PRECINCT UPGRADE.

The Main Street Precinct Upgrade will see the heart of Victor Harbor's Town Centre transformed into a vibrant public space that celebrates the town's character, encourages more activity and improves the links with other areas of the Town Centre.

In addition to the Precinct Upgrade McMahon Services were engaged directly by the City of Victor Harbor to undertake Stage Three of the Foreshore Promenade bikeway development.

The construction of the boardwalk connects the Foreshore Car Park via the coastal dunes to the Causeway Plaza, a distance of approximately 75 metres.

The site was in close proximity to many public facilities including the historic and family favourite horse drawn tram, mini golf course, public carpark and a local café. This required strong community and stakeholder engagement throughout the project to ensure minimal disruption to the day-to-day operations of surrounding businesses and patrons.

SCOPE OF WORKS

- ▶ Site clearing
- ▶ Demolition of existing retaining wall and remedial works
- ▶ Boardwalk construction:
 - ▶ Impact driven piles
 - ▶ Form concrete abutment structures
 - ▶ Composite square-hollow-section framework construction
 - ▶ Boardwalk supply and installation
 - ▶ Handrail supply and installation
- ▶ Pavement adjustment and remedial works
- ▶ Safety railing installation.



ALL ABOARD

FLINDERS PORTS UPGRADES

McMAHON SERVICES HAS UNDERTAKEN A NUMBER OF INDIVIDUAL UPGRADE PROJECTS FOR FLINDERS PORTS OVER THE LAST 12 MONTHS AT THE FLINDERS ADELAIDE CONTAINER TERMINAL, OUTER HARBOR.

Flinders Ports are South Australia's leading privately-owned port operator, operating seven ports throughout the State located at Port Adelaide, Port Lincoln, Port Pirie, Thevenard, Port Giles, Wallaroo and Klein Point.

McMahon Services have successfully completed a range of projects for Flinders Ports including crane rail repairs and Berth 29 hardstand repairs at the Flinders Adelaide Container Terminal, Outer Harbor.

CRANE RAIL REPAIRS

This project involved the removal and replacement of 96 metres of existing crane rail which was showing symptoms

of deterioration. Works needed to occur within a short window of opportunity between shipments.

The project scope included the removal of existing crane rail, hydro-excavation, setting up new base plates and installation of fixings, final levelling and placement of new 12 metres rail sections. Once the new rail was laid, an infill of fast setting epoxy grout was installed in order to infill all voids around the underside of the crane rail. Once the epoxy had cured, placement and compaction of bitumen was finally undertaken.

BERTH 29 HARDSTAND REPAIRS

McMahon Services were contracted to undertake remedial hardstand repairs to approximately 20,000m² of 90 tonne axle load rated hardstand, affected by subsidence at Berth 29.


The existing 25,000m² hardstand construction was completed in September 2013 and has been subjected to the stacking and movement of containers continuously since that time.

The heavy loads imposed have caused the subgrade zone between four and 15 metres below finished level to undergo secondary settlement. The subsidence has created issues with stormwater runoff, container stacking and vertical alignments.

Our specialist civil team undertook profiling of the top layers of asphalt and engineered to fill to nominal depths between 200mm to 250mm across the site. We then placed and compacted clean engineered fill, two layers of asphalt, applied a spray primer and undertook final line marking.

Due to the fully operational Maritime Security Zone, McMahon Services required a collaborative approach in terms of shipping schedules, internal road users and rail operations, all needing to remain priority throughout the works.





COLOSSAL DECOMMISSIONING IN THE NORTH WEST

**McMAHON SERVICES
WERE CONTRACTED TO
DECOMMISSION VARIOUS
REDUNDANT ASSETS
WITHIN THE NORTH YARD
AT BHP BILLITON'S (BHPB)
NELSON POINT IRON ORE
PRODUCTION FACILITY, IN
PORT HEDLAND, WESTERN
AUSTRALIA.**

The massive decommissioning project primarily consisted of the demolition of specialised iron ore bulk handling equipment, including; 4km of conveyor system, seven Transfer Stations, a Dust Collector, two Surge Bins, a Sample Station, two Shiploaders, a Stacker and a Bucket Wheel Reclaimer.

A number of unique factors combined to make this project particularly challenging. Located in the far North West of Western Australia meant extreme weather conditions were encountered with temperatures often in excess of 45 degrees.

As the project was in a Category 3 Cyclone passage, the ability to prepare and make safe for Cyclonic conditions within 72 hours was put to the test with the arrival of Cyclone Owyn.

Another key challenge was the sheer volume of steel structures to be demolished. Almost seven and half thousand tonnes of steel needed to be processed from the redundant assets within the client's timeframe. The majority of these structures required detailed structural engineering and risk assessments plans prior to any demolition to ensure safe operations.

Due to the nature of the site, a traditional method of demolition was eliminated, and mechanical shearing was adopted as the preferred method of demolition. This method was favoured to reduce the need to access the plant and equipment and removed personnel from the 'line of fire'.

Two new specialist excavators were purchased specifically for this project; a Komatsu PC850 and a Komatsu PC1250. These machines were

modified at our Adelaide workshop into high reach machines (20 metres and 22 metres respectively) and were pivotal in the success of the project, providing the required reach and capacity for the elevated structures and heavy duty steelwork.

The Conveyor systems were typically demolished first, to isolate the remaining structures. Substantial lengths of conveyor were removed, ranging from low level work carried out with a 45t or 75t excavator, to high level work (up to 20 metres high), requiring lift studies and complex crane work.

In total there were seven Transfer Stations to be demolished, ranging in height from 5 metres to 18 metres. These necessitated some crane lifts to remove heavy equipment such as motors, gearboxes and heavy chutes. Through the use of the specialist high reach excavators, the structures were able to be removed by mechanical shearing.



In a few instances, the stability of the equipment was such that close access during demolition was considered unsafe, including with an excavator, and as a result explosive felling was proposed. This was the case for the Stacker and the Reclaimer, which were rail operated balance machines. Prior to the demolition, the machines were decommissioned and relocated to an area suitable for the explosive felling.

Shearing of the steelwork, following the felling, was carried out with the PC850 and PC1250 excavators. This method minimised interaction with adjacent operational activities, significantly improved safety and minimised labour time. For all explosive felling, 3D simulation models were developed, approval was gained from the Mines Department and trial explosive cuts were carried out.

In addition to all above-ground demolition, we backfilled over 1,500m³ of sumps, and rehabilitated the site with 9,311 tonnes of river rock as a cover material, including the addition of dust suppression additives where required.

INNOVATION

McMahon Services are continually reviewing our work practices to improve safety and efficiency, and reduce impacts on the environment. On this particular project, several of the structures within the scope were coated with Gilsomastic paint, which contains fibres of white asbestos.

The scope of work provided by the client required this steel to be disposed of to landfill. McMahon Services proposed an alternative which was to recycle the scrap steel at an overseas steel processing plant. This required approval from the Commonwealth Government under the Basel Convention, leading to a high level of management and chain of custody procedures.

An extensive sampling program was undertaken on the Gilsomastic paint system using scanning electron microscopy (SEM) coupled with energy dispersive spectroscopy (EDS) to enable a quantitative assessment of the asbestos, and in turn provide a robust procedure that allowed the scrap steel to be exported to an overseas steel processing plant as scrap steel, as opposed to asbestos waste.

The steel was reduced in size to 800mm x 600mm pieces for direct feed into the furnace without further processing, with all of the steel packed and sealed into 300 sea containers for transportation.

This recycling process saved the project approximately \$3 million and rated very highly on the waste management hierarchy by diverting in excess of 5,000 tonnes of material from landfill, whilst meeting required human health, environmental and regulatory standards. This was the first time this approach to Gilsomastic painted scrap steel had occurred in Australia.



NORTHERN BEACHES ROAD UPGRADE — DEMOLITION PACKAGE

McMAHON SERVICES COMPLETED SIGNIFICANT DEMOLITION OF PROPERTIES AS PART OF THE NORTHERN BEACHES HOSPITAL CONNECTIVITY AND NETWORK ENHANCEMENT PROJECT.

The NSW Government is investing \$500 million to upgrade the roads around the new Northern Beaches Hospital with work proposed to be completed in time for the hospital opening in 2018. The upgrades will provide customers with a better travel experience, increased capacity on the road network and improved access through the area, including for pedestrians and cyclists.

Ferrovial York Joint Venture (FYJV) were engaged by Roads and Maritime to carry out the project. FYJV contracted McMahon Services to undertake the demolition of a number of residential and commercial buildings including the removal of asbestos.

The demolition of properties within the Frenchs Forrest area included Hilmer

Street houses and nursing home, nine buildings within the former Bantry Bay Road Shopping Precinct and four buildings at the Fitzpatrick site.

McMahon Services were awarded additional scope throughout the execution of the works including the remediation of a 7-11 service station.

The former 7-11 service station on Warringah Road had been operating since the early 1970's. During this time it had many remedial upgrades due to hydrocarbons leaking into the ground and surrounding areas.

McMahon Services were challenged with removing the old fibreglass tanks without disturbing or placing at risk, the existing road infrastructure on Warringah Road and Hilmer Street. After thorough investigation, an engineered solution was adopted based on existing soil reports and boreholes. This enabled us to dig nearly 7m down to remove and validate remaining soils, whilst maintaining a 2 metre buffer zone from the footpath that remained operational for pedestrian access throughout the process.

Additional asbestos containing materials (ACM) were also encountered during demolition of buildings. This required an additional hazmat report to include all ACM products within the properties before further demolition activities could commence.

When buildings had been cleared, it was noted that ACM products not found in the buildings themselves were becoming apparent in surrounding soils of properties. Additional testing / sampling and reporting was carried out and the conclusion was that three of the four sites were all built on imported fill containing ACM.

Careful management was required due to the high-risk nature of working with asbestos and the potential for public concern. As industry leaders in the management of asbestos, McMahon Services were able to effectively manage the ACM utilising in-house trained personnel within our demolition team. Our personnel were able to quickly implement all required asbestos systems and procedures to ensure the contaminated material was removed and disposed of safely.



QUEENSLAND ALUMINA LIMITED MAINTENANCE CONTRACT

QUEENSLAND ALUMINA LIMITED (QAL) IS ONE OF THE LARGEST ALUMINA REFINERIES BY ALUMINA PRODUCTION CAPACITY IN THE WORLD, LOCATED IN GLADSTONE, QUEENSLAND.

Operating since 1967, the refinery has a capacity to produce 3.95 million tonnes of the world's best smelter grade alumina per year.

The refinery covers 80 hectares of a 3,050 hectare site on the south-east outskirts of the city of Gladstone. Adjacent to the plant is a wharf and storage facility on South Trees Island, which is connected to the mainland by a causeway bridge. The refinery hosts boilers, cooling towers, electrical substations, vessels and pipe racks, all requiring insulation and in some cases, asbestos removal.

McMahon Services entered a three year Maintenance Contract in January 2012 to manage and systematically remove friable asbestos lagging from over 20km of pipes and boilers on-site. A permanent base was established within the plant and a team of 25 asbestos technicians was recruited locally. The contract has recently been extended for a further two years, and will now finish in December 2017.

In addition to asbestos removal, the team comprises of carpenters to build asbestos removal enclosures, scaffolders to provide safe access to plant, insulation installers (ladders) and sheet metal workers to re-clad the working plant. Plant conditions are hot and relatively hostile requiring the utmost care, preparation and planning employing world's best practice techniques to execute a program that progresses in tandem within a fully operational plant.

When QAL was constructed in the early 1960's, pipe work was lined with asbestos. At the time, it was the best form of insulation for pipe work running at high temperatures and pressures. Now pipes are lagged with pre-moulded 'Rook Wool' insulation.

A large part of the overall contract involves McMahon Services stripping asbestos and re-lagging sections of pipe work. Some pipes running at pressure of 5000KPa and 390 degrees and the others pipe running, slightly cooler, at 190 degrees and 500KPa.

Working with asbestos as well as hot pipes requires extra precaution to be taken. Asbestos work enclosures have to be fully sealed and operate under negative pressure. Negative air units draw air flow at a minimum of 12Pa (pascal), ensuring that the temperature within the enclosure is reduced.

These 'neg-air' units maintain a minimum of six air changes per hour and fitted with High Efficiency Particulate Air (HEPA) filters and internal pre filters.

Another measure to eliminate heat stress involves crews wearing specially designed under-garments. This garment is worn close to the body and contains tubes continually circulating with cool water, helping maintain body temperature. Over that garment they wear a disposable 'Tyvek' suit and then an 'aluminised furnace' suit on top of the other two. Crews also breathe chilled air that is fed via an airline respirator.

In addition to this, air-conditioning is specially ducted into the structure, and workers can only spend a limited amount of time within the work enclosure to eliminate heat stress.

To safely remove the asbestos, it is dampened and carefully bagged, moved into another section of the enclosure where the external surface of the bag is wet wiped, then double bagged and placed in a secure area for safe disposal.

QAL have their own Hygiene Department on site, which oversees all of the asbestos removal. Due to their growing confidence in McMahon Services, the Hygiene Department now allow us to incorporate larger encapsulations into our removal processes. Allowing us to construct larger removal areas, it has dramatically cut down the asbestos removal time, resulting in valuable efficiencies gained for the client.





NEW ADDITIONS TO FLEET

McMahon Services are always focused on having the right tools for the job. We invest heavily to ensure state of the art, innovative plant and equipment is available to deliver projects across Australia. McMahon Services have recently added a number of new items to our fleet including access equipment, light vehicles, trucks, earthmoving equipment and specialised equipment.

Light Vehicles	
Hilux Utes	40
Volkswagen Transport Pilot Vehicle	1
Trucks	
Isuzu Flat Top	2
Earthmoving Equipment	
11T Dynapac Smooth Drum Roller	2
PC220 Excavator	4
PC130 Excavator	1
S 590 Bobcat Skidsteer	1
Caterpillar 12m Grader	1
JNR Engineering Land Plane	1
PC 450 Excavator	3
PC 850 Excavator	2
PC 300 Excavator	2
WA 200 Wheel Loader	1
E 32 Bobcat Excavator	3
E 55 Bobcat Excavator	2
Generators	
Kubota 20 kva	6
Access Equipment	
Genie 3369 Rough Terrain Scissor Lift	1

HEAVY HAULAGE

McMahon Services has added further capability to our transport division with the arrival of a Western Star Prime Mover and Drake Platform Low Loader. This combination provides McMahon Services with strong heavy haulage capability to transport indivisible, over dimensional and excess mass loads up to 92 tonnes.

Over dimensional items may include heavy machinery, tanks and vessels, drill rigs, modular buildings and other oversize items. Our highly experienced driver has been transporting over size items for over 20 years and has the ability to load and unload heavy machinery.

KEY FEATURES INCLUDE:

- ▶ 8 row of 8 platform float with or without dolly
- ▶ 11 row of 8 platform float with or without dolly
- ▶ Loads up to 92 tonnes (150 tonnes gross combined mass)
- ▶ Variable platform length from 17.5 metres to 23 metres
- ▶ Deck widening from 3.5 metres to 4.88 metres
- ▶ Western Star Prime Mover rated at 260 tonnes
- ▶ Pilot supplied by McMahon Services
- ▶ Transport permits and escort services available



TANK DECOMMISSIONING IN REMOTE HORN ISLAND

**McMAHON SERVICES
WAS COMMISSIONED
BY ERM TO UNDERTAKE
THE SAFE REMOVAL OF
ABOVEGROUND STORAGE
TANKS (AST'S) AND RELATED
FUEL INFRASTRUCTURE AT
THE HORN ISLAND AIRPORT.**

The Horn Island Airport is owned and operated by the Torres Shire Council. It is considered as the gateway to the Torres Strait and the Northern Peninsula Area. The airport is located on Horn Island, Queensland, which is approximately 8km from Thursday Island.

McMahon Services were selected for this project based on extensive experience in undertaking hazardous area works, particularly in remote locations whilst maintaining industry best practice safety standards.

In order to undertake the project safely, the primary activity on site was the identification and removal of bonded asbestos fragments located on site in a centralised hot spot. All Asbestos removal works were undertaken by appropriately qualified personnel under the strict supervision of a fully certified Asbestos Removal Supervisor. Exclusion zones and signage were put in place to ensure delineation of Asbestos Removal Works and all personnel were required to wear appropriate PPE at all times.

Prior to removal the AST's, hydrant fuels lines were degassed, rinsed with a bio solve detergent and cleaned by high pressure water blasting. All cleaning works were undertaken within appropriate bunding, collection and containment facilities.

The AST's were then demolished using a 22 tonne excavator equipped with ripper shears. Upon completion of the demolition of the tanks, the three fuel hydrant lines were filled with foam and capped prior to backfilling.

In addition to the AST's McMahon Services completed the decommissioning and demolition of site services infrastructure including septic tanks and stormwater system. All waste generated from the project was segregated in appropriate waste streams with steel waste being sent for recycling to minimise the volume sent to landfill.

McMahon Services deployed a full time team of four personnel to complete the project. The remote location of the project presented the biggest challenge for the team. Due to the location of the site on Horn Island, mobilising plant and equipment was difficult, this required extensive sourcing and liaison with ferry and road transporters to ensure resources were available, and that no delays would be incurred. By maintaining clear lines of communications and safety core expectations throughout, McMahon services delivered a successful outcome for the client.

NEW APPOINTMENTS



Mike Adler

PROJECT MANAGER

Building Services

Mike joined McMahon Services as a Project Manager within the Building Services division earlier this year. Working in the construction industry for over 20 years, Mike brings a wealth of experience to the team.

Mike began his career in the construction industry with the Master Builders Association Training Scheme as a Carpenter and Joiner, quickly becoming familiar with a broad range of experience through residential and commercial construction.

Mike furthered his education completing an Associate Diploma in Building, which gave him the foundation to launch into Commercial Site Management taking him to projects across Australia.

His trade background, further education and broad range of knowledge and experience in the construction industry makes him a valued member of our team. Since joining McMahon Services, Mike has delivered a diverse range of projects for the Department of Defence at RAAF Edinburgh and multiple projects for SA Power Networks.



CHEERS TO MCMAHON SERVICES

On Friday 12th August 2016, McMahon Services were thrilled to accept the award for "Excellence in a Commercial Refurbishment / Redevelopment over \$5 million" at the SA Master Builders Association Awards, for the iconic Lion West End Redevelopment Works.

The closure of Lion's Swan Brewery in Western Australia signalled that an extensive redevelopment was required at South Australia's West End Brewery, in Thebarton. McMahon Services was engaged by Lion to undertake the role of Construction Manager and execute the roll out of significant upgrade works throughout the brewery.

Over 250 individual projects were completed by McMahon Services as part of the redevelopment works at the brewery under the Construction Management contracting model.

To be considered a finalist in this category amongst many other fantastic projects performed by quality builders was an amazing achievement. Going on to win the award was a true testament to the team who worked tirelessly on this historic South Australian project.

Project Director Chris Plumb was delighted with the result and praised the team for a job well done – "This was a very challenging project with many stakeholders involved. The one-team approach and spirit shown by all went a long way to the overall success."

The award on the night was proudly accepted by Project Manager, Nigel Sutton on behalf of the McMahon Services and Lion Team.



WOMEN IN CIVIL AWARD

McMahon Services are proud supporters of the employment of women in Civil Construction.

'Women in Civil' is an initiative of the Civil Contractors Federation SA (CCF) aimed at providing support, information as well as mentoring and networking opportunities for women working in the Civil Construction industry.

Each year at South Australia's CCF Awards an exceptional female is recognised for their significant commitment to the wider civil sector in their career, demonstrated initiatives and encouragement and empowerment of women in the industry.

In July 2016, McMahon Services' very own Jayne Bettison was presented with the prestigious award. Congratulations Jayne.



WORLD DEMOLITION AWARD WINNERS

McMahon Services, recently took out the 'World's Best Industrial Demolition Project Award' at the 2016 World Demolition Summit held in the USA. The winners were announced in Miami on 14 October during the eighth World Demolition Summit.

McMahon Services were awarded for their successful decommissioning of major redundant assets within BHP Billiton Iron Ore, Nelson Point Load out Facility, in Port Hedland, Western Australia.

The 2016 World Demolition Awards saw 11 companies sharing the honours. McMahon Services overcame fierce competition from around the globe including specialist demolition contractors from the United Kingdom, Netherlands, Italy and Canada to win their category.

As one of Australia's leading construction services providers, this global recognition further strengthens McMahon Services' ability to deliver high-performance projects for clients such as BHP Billiton that operate under some of the most stringent safety, quality and environmental standards in the world.

David McMahon, McMahon Services Managing Director, said "There has been strong demand throughout Australia for the Company's expertise in these sectors in recent times."

"We have seen the growth of large industrial demolition projects with the rationalisation of the manufacturing and mining industries, and companies today have policies of rehabilitating sites that are no longer economically viable. We offer a unique turn-key solution, asset value realisation, demolition, remediation, and site rehabilitation which has fuelled our growth in this sector" David said.

LEND LEASE SAFETY AWARD

Congratulations to Matt Kairns from the Civil team for winning the inaugural 'Lend Lease Safety Award' at the Air7000 project at RAAF Edinburgh in July this year.

Matt's award recognises his continual excellence in safety. Whilst Matt was happy to receive the individual accolade, he was quick to praise the entire McMahon Services' team for their commitment to safety on the project.



McMAHON

S E R V I C E S

EVENTS



McMAHON SERVICES HAVE RECENTLY ESTABLISHED A NEW BUSINESS UNIT PROVIDING TEMPORARY EVENTS INFRASTRUCTURE ACROSS AUSTRALIA.

McMahon Services have acquired assets from the premier National events seating company, Elite Systems. This business has had a long history (around 30 years) of events scaffolding, platforms and seating systems throughout Australia.

The acquisition included over 35,000 grandstand seating positions along with over 1,000 tonne of system scaffolding.

McMahon Services has also taken on a number of key management people

who have been involved in the events industry for a combined period of over 100 years both in Australia and Internationally. This makes us the most experienced operator in the Australian events sector.

We offer a complete streamlined solution to temporary grandstand infrastructure including in-house design, engineering, supply, transport and on-site installation.

With over 25 years' experience in the construction industry, we offer our client's a complete project management solution underpinned by best practice management systems, quality and safety standards.

McMahon Services Events will have the largest range of seating system options in Australia, which provides

our clients with the greatest flexibility to cater for the most demanding events. This currently includes over 35,000 seats, 2,000m² of modular roof cover and 5,000m² of corporate platforms.

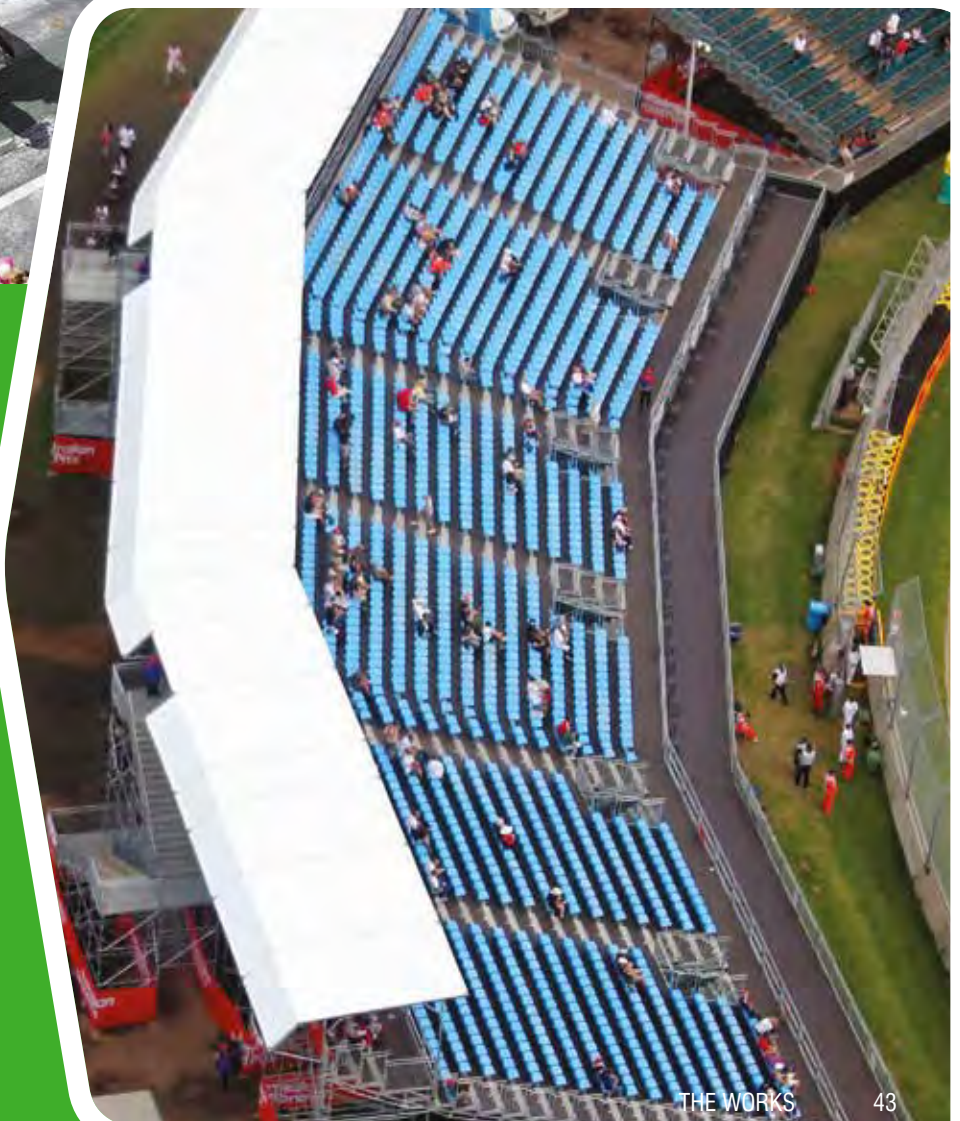
All grandstands offer ergonomic bucket or tip-up seats with a larger than standard 500mm seat center and 800mm platform. This provides us with the perfect foundation to build the right seating solution for each client.

The Events business has hit the ground running delivering major contracts that include Adelaide Clipsal 500 Supercars, Melbourne Australian F1 Grand Prix, Sydney APiA Tennis, Canberra ANZAC Day Parade, Credit Union Christmas Pageant, Santos Tour Down Under and Baseball SA.



OUR CORE SERVICES

- ▶ Temporary Grandstands
- ▶ Corporate Platforms
- ▶ Elevated Media Platforms
- ▶ Access Solutions
- ▶ Modular Roof Solutions



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THE
WOODS
WORKS