



ABERGELDIE
COMPLEX INFRASTRUCTURE

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ABERGELDIE OVERVIEW

Complex infrastructure projects that build better communities

Abergeldie designs and delivers dams, bridges, tunnels, recreation facilities, water treatment and process facilities, rail and mining infrastructure, electrical substations and marine works: the complex infrastructure needed to build better communities.



Complex projects, large or small, challenge the loyal, professional, multi-disciplined Abergeldie team to “think outside the square”. Ingenuity, innovation and determined attention to the detail of project planning and management have built our enviable reputation for quality. At Abergeldie, quality is all about what the client expects. To meet and exceed those expectations, we apply the professional engineering and management standards of a major contractor but with an approachable, dynamic and flexible culture that adapts to the diverse requirements of individual clients and projects.

Abergeldie has an unwavering dedication to safety, acknowledged through accreditation by the Federal Safety Commission. Our management systems in safety, quality and environment are third party certified.

Growth since 1994 and more recent strategic corporate acquisitions have won Abergeldie its recognition as a leading mid-tier infrastructure provider, with expertise across an increasingly broad range of project types.

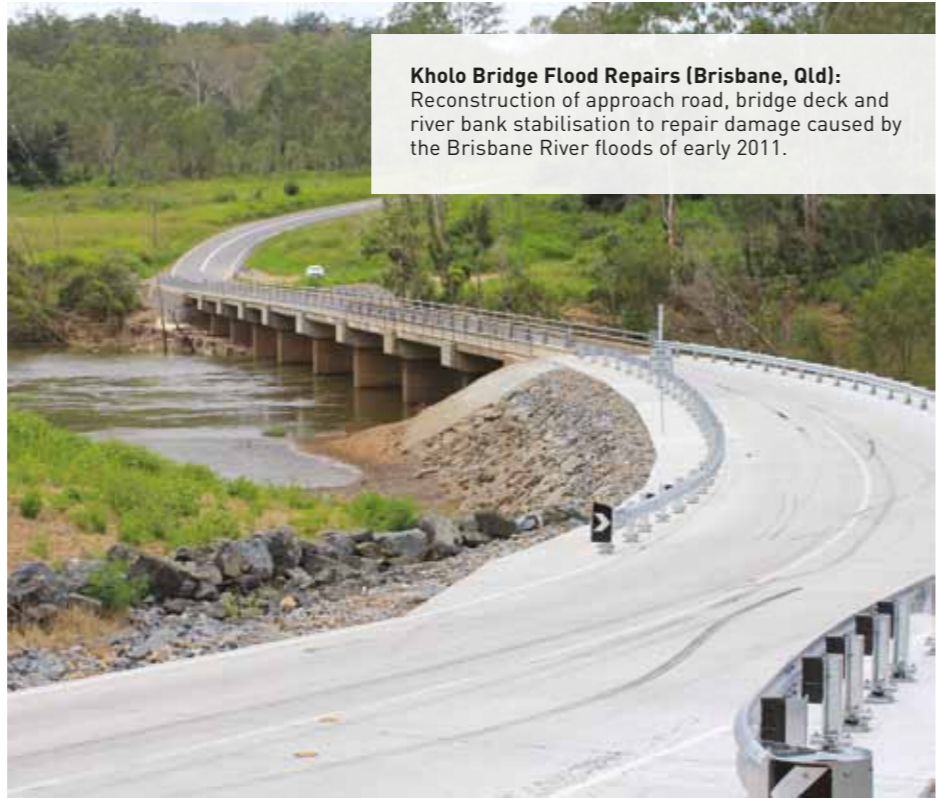
The more complex the project, the greater the opportunity for Abergeldie to excel.

City Road Footbridge (Sydney, NSW): Pedestrian overpass crossing City Road at Sydney University linking campuses and eliminating traffic hazards.

BRIDGES

Links that improve community interaction and safety

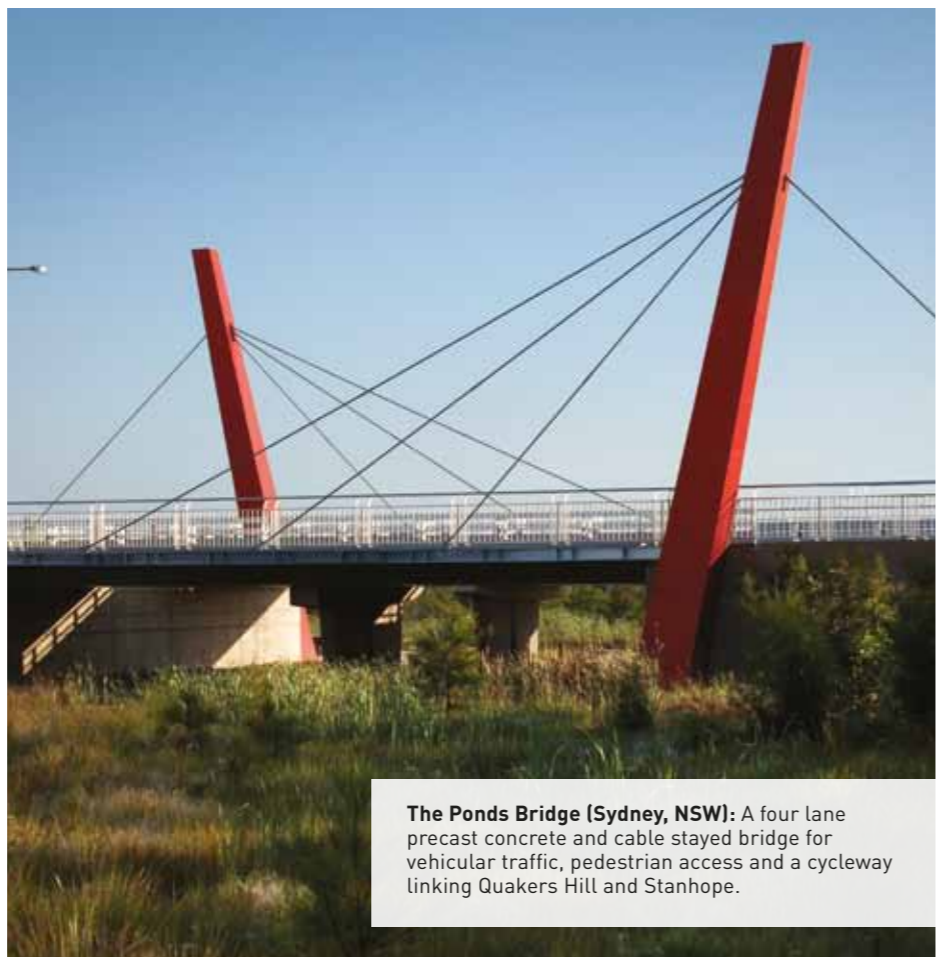
Every bridge project is individual. Variations in complexity and scope demand a clear focus on client needs and a flexible approach to project design and delivery. With that kind of approach, Abergeldie has been building bridges to connect communities for over a decade. Some of our successful, recent constructions have met the need to improve pedestrian and cyclist safety: the Banksia Street Pedestrian Bridge over the Port Botany railway line eliminates a dangerous level crossing; Thornton Pedestrian Bridge gives school children a protected way to cross over the New England Highway; the City Road Footbridge at Sydney University (inside cover) allows safe pedestrian access between campuses; and The Ponds Bridge provides fast and secure road, cycle and pedestrian access for residents to major retail and community facilities.



Kholo Bridge Flood Repairs (Brisbane, Qld): Reconstruction of approach road, bridge deck and river bank stabilisation to repair damage caused by the Brisbane River floods of early 2011.



Banksia St Pedestrian Bridge: Construction of a pedestrian bridge and associated activities over the ARTC owned Botany Goods Railway Line at Banksia Street, Botany.



The Ponds Bridge (Sydney, NSW): A four lane precast concrete and cable stayed bridge for vehicular traffic, pedestrian access and a cycleway linking Quakers Hill and Stanhope.

DAMS

Water storage for sustainable, drought-proof communities



Grahamstown Dam Spillway and Embankment (Newcastle, NSW): A new control structure, zig zag concrete spillway and earth embankment to increase water storage capacity in the Newcastle and Lake Macquarie regions.

Winner: NSW CCF Earth Award Category 3 2006
Winner: Engineering Excellence Awards, Overall Winner 2006

With more than 10 years of experience in dam works such as rock weirs, remediation works and constructing vast concrete structures, Abergeldie can deliver on all aspects of water storage projects. Our complete construction packages include detail design, procurement, construction, installation and commissioning.

An award-winning example of our work is the new spillway and embankment constructed at Grahamstown Dam for Hunter Water (NSW).

RAIL

More efficient infrastructure for freight and passenger transportation between and within communities

Abergeldie's complex rail project capabilities include earthworks, rock cutting and embankments, bridges, and complete railway station upgrades including stair and lift installations.

Typical of our work was the recent Erskineville Rail Bridge project for Railcorp (NSW). The demolition of an old brick-arched bridge and construction of new road and pedestrian access over a six track live line in inner city Sydney required expert design, construction, safety and traffic management. Abergeldie's specialisation in complex infrastructure was integral to the safe and successful completion of the project without interfering with continuous rail operations, and with minimal inconvenience to the local community.



Mitchelton Railway Station (Brisbane, QLD): Significant upgrading of existing commuter station facilities to achieve DDA compliance. The railway line and station remained fully operational throughout the works, which included demolition and construction of the footbridge, stairs and installation of lifts.



Erskineville Rail Bridge (Sydney, NSW): A complex project to demolish a 100 year old bridge and replace it with a new link assembled from components fabricated off-site. The new bridge was constructed while carrying out a staged demolition of the old structure, with minimal impact on normal pedestrian, road and rail movements during the process.
Winner: NSW and National CCF Earth Award Category 2, 2009

RECREATION

Facilities that bring people together, promote healthy lifestyles and build stronger communities

Abergeldie helps local councils, utility providers, road authorities and sporting groups to create a broad range of recreational infrastructure such as boardwalks, viewing platforms for tourists and temporary facilities for major spectator events. The scale, scope and complexity of these projects vary greatly, highlighting Abergeldie's dynamic and flexible approach to meeting the needs of individual clients.



Enlarged Cotter Dam (ECD) Viewing Platform (Canberra, ACT): The platform allows locals and tourists to view the ECD construction and the main dam wall post construction. Tight access required precision installation of the platform and a 2m wide pre-fabricated looped concrete tread boardwalk with steel balustrade. Both the boardwalk and platform display information about the ECD project and the story of water delivery to Canberra.



Telstra Sydney 500 V8 Supercar Track (Sydney, NSW): Each year Abergeldie installs bridges, barriers and fences, and makes modifications to the roads around Sydney Olympic Park to enable the staging of the Telstra Sydney 500. All works is carried out in a short timeframe and with tight tolerances. We provide any maintenance of the infrastructure needed during the 3 day event and upon event conclusion remove all track infrastructure and return Sydney Olympic Park to its original state.

Winner: V8 Most Successful Event 2010



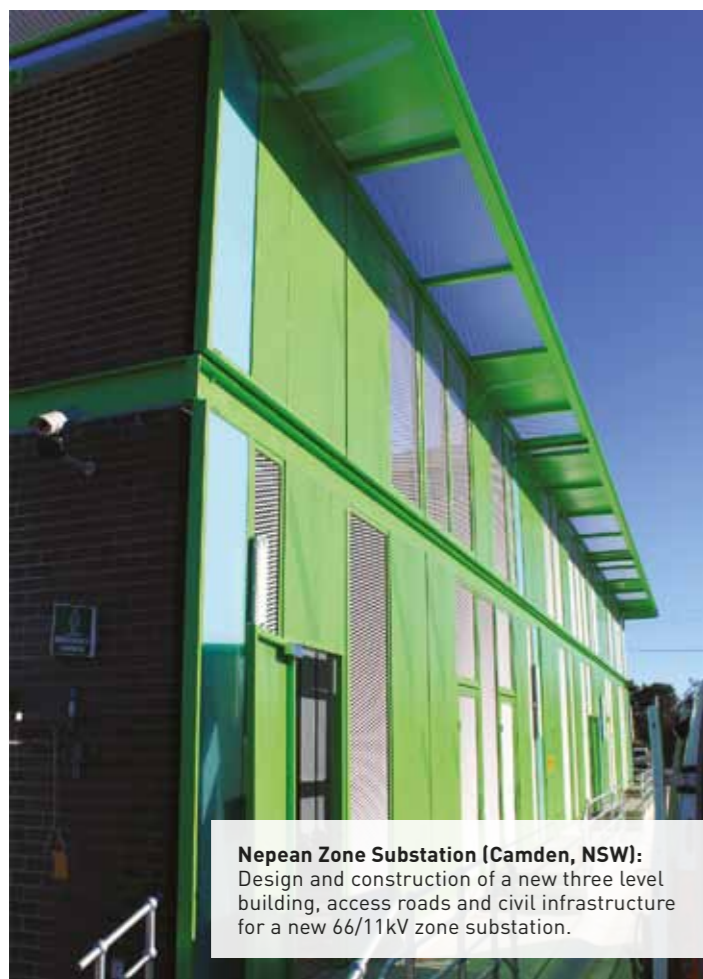
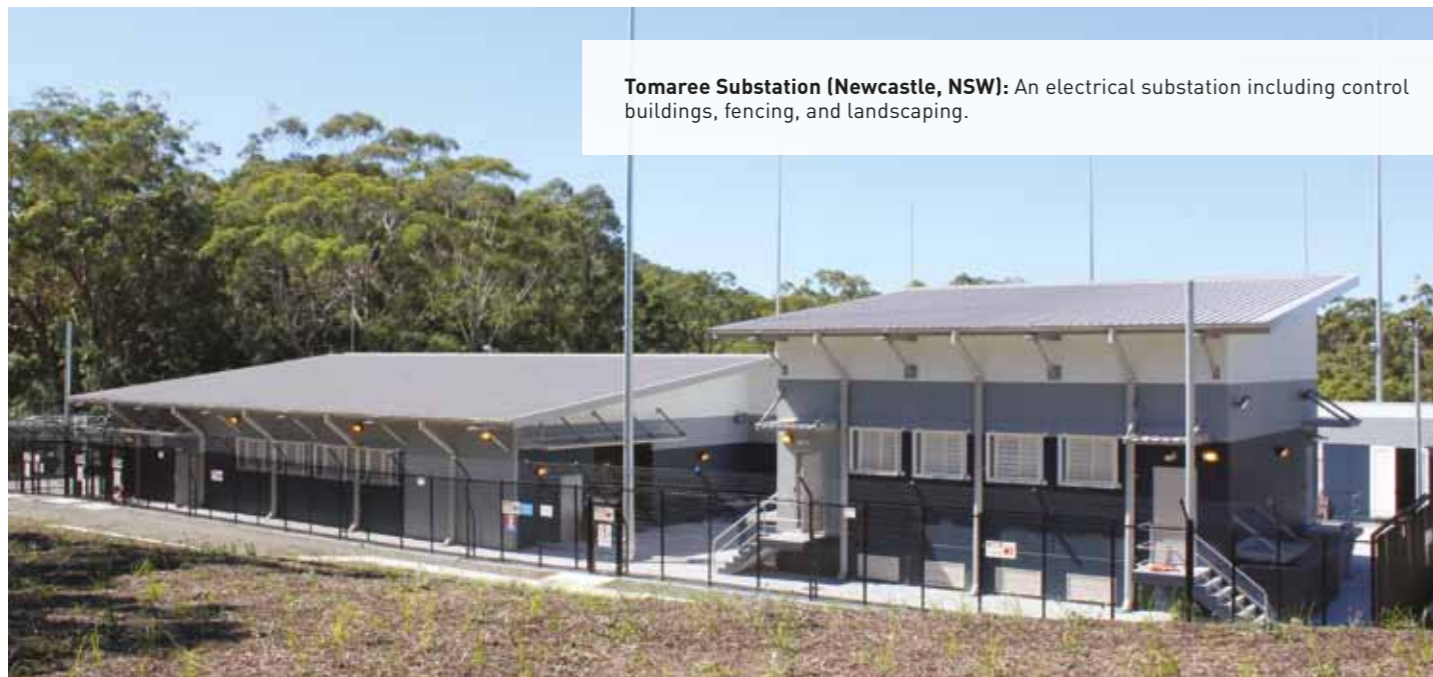
Blue Water Trail (Mackay, QLD): Completed for Mackay City Council as a means to improve community well being and recreational opportunities. Abergeldie constructed 1km of raised boardwalk above environmentally sensitive wetlands and a 30m bridge over Alligator Creek. The scope also included installation of 1.2km of footpath, fencing, landscaping, street lighting and furniture and a car park.

ELECTRICAL

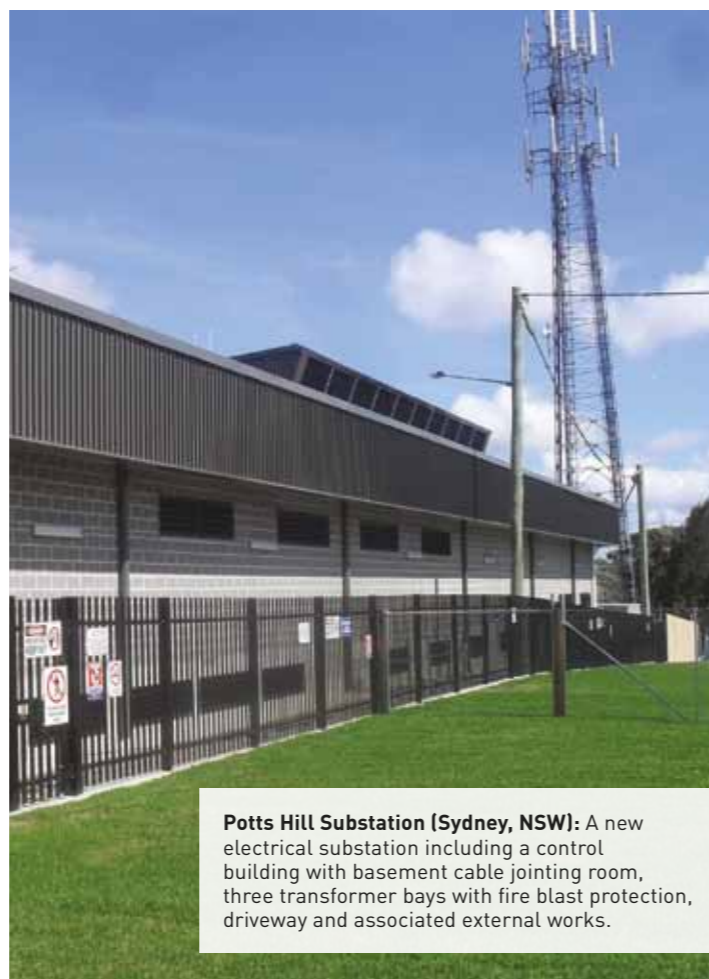
Electricity and communications infrastructure to keep communities connected

Abergeldie has been helping to connect communities with electrical and communication infrastructure rollouts throughout eastern Australia since 1994. Our projects have ranged from small transformers and substation upgrades to major substation installations, security upgrades, pipe jack tunnels and footing designs.

Tomaree Substation (Newcastle, NSW): An electrical substation including control buildings, fencing, and landscaping.



Nepean Zone Substation (Camden, NSW): Design and construction of a new three level building, access roads and civil infrastructure for a new 66/11kV zone substation.



Potts Hill Substation (Sydney, NSW): A new electrical substation including a control building with basement cable jointing room, three transformer bays with fire blast protection, driveway and associated external works.

PETROCHEMICAL

Process plant and systems to fuel thriving communities

Abergeldie has the technical expertise, experienced personnel, management techniques and latest equipment needed for all stages of process plant development for the fuel and chemical materials handling industries. This includes the detail design, procurement and installation of processes for the supply and distribution of products for the oil industry.

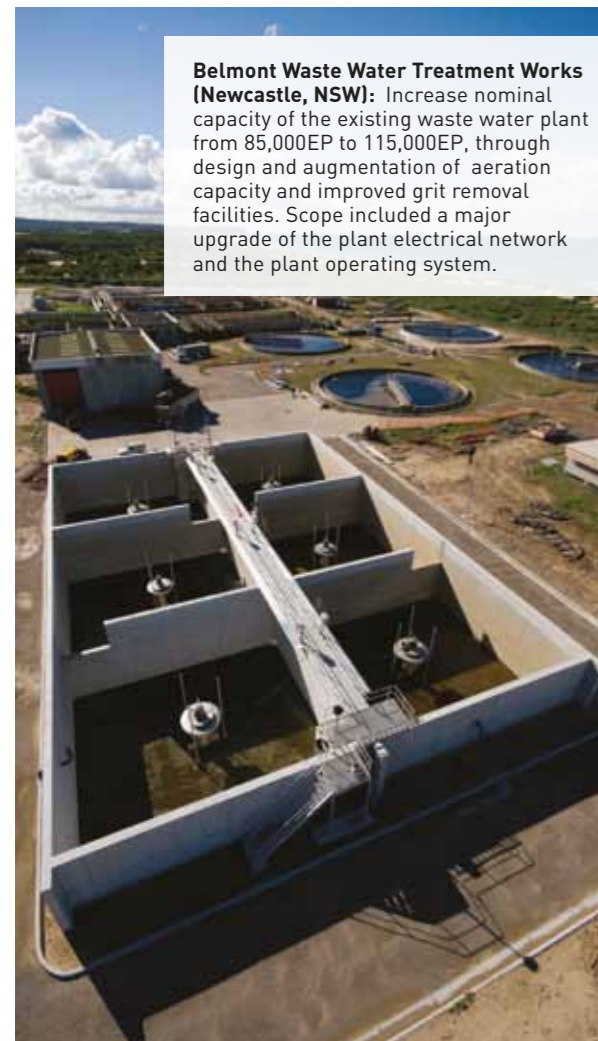


Mobil Oil Terminals (Sydney, NSW): Maintenance and minor works to Botany and Silverwater Depots including replacement of valves and pipelines, construction of cleanburn additive injection system and installation of tank overfill protection.



Oil Refinery (Wagga Wagga, NSW): Construction of a 20ML per year oil refining plant, including a vacuum distillation column, vacuum pumping system, evaporators, a solvent extraction system and storage tanks.

The Abergeldie team has been working with communities to improve water management systems for more than two decades



Belmont Waste Water Treatment Works (Newcastle, NSW): Increase nominal capacity of the existing waste water plant from 85,000EP to 115,000EP, through design and augmentation of aeration capacity and improved grit removal facilities. Scope included a major upgrade of the plant electrical network and the plant operating system.

Abergeldie offers a full package of process and civil infrastructure services to the water and wastewater industries. In 2008, the highly respected process engineering company John Young (Kelvinhaugh) Pty Ltd joined Abergeldie Complex Infrastructure, bringing its vast experience and expertise to the team, enhancing our ability to tailor responses to the complex needs of individual clients.

Each project is unique; our project delivery method is developed case by case. Abergeldie's service goes beyond construction, supply and installation of process plant. Depending on the client's needs, the package of services provided may extend to designing work scopes, operational manuals and facility maintenance. Through building relationships with our clients we ensure designs are practical for operator use and maximise equipment life.

Abergeldie has a well-earned reputation for early take-up of innovations and construction techniques that can improve design and lower whole of life costs.



Lower Molonglo Water Quality Control Centre Secondary Treatment Facility Augmentation (Canberra, ACT): Upgrade of secondary treatment facilities including three clarifiers, RAS pumping stations, anoxic tanks, level control structure, MCC building, pipelines, methanol dosing facility, MLR pumping stations, bioreactor modifications, access roads and associated works.

Winner: ACT CCF Earth Award Category 4, 2010



Dora Creek Waste Water Treatment Works (Newcastle, NSW): New inlet works, septage receival facility, soil bed filter, switch room, two clarifiers, pump stations, modification of two bioreactors, all associated mechanical and electrical works, pipework and pumps, new access roads, landscaping, testing and commissioning, and demolition of existing inlet.

AERATION & DEWATERING

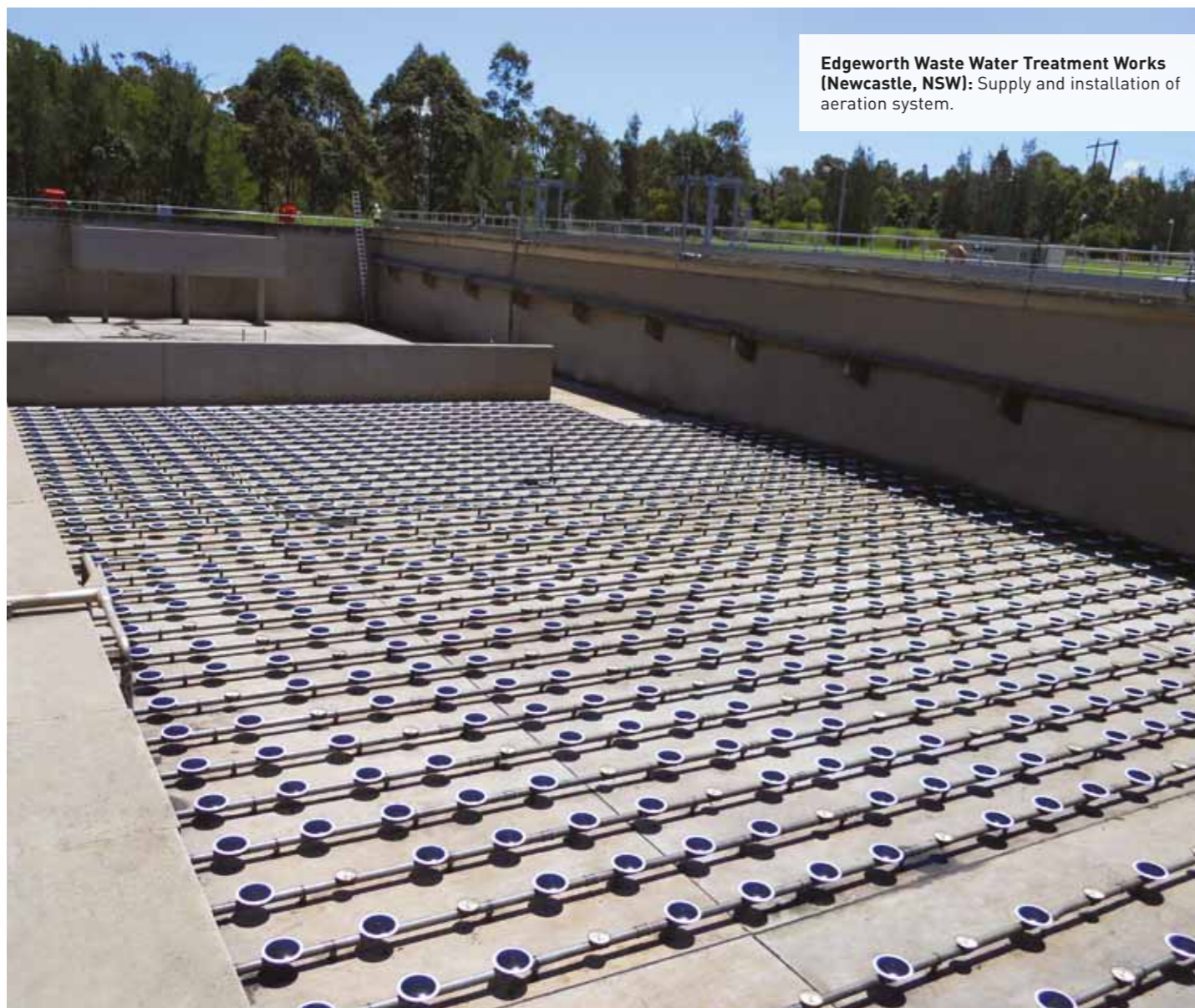
Providing the latest aeration and dewatering equipment for water treatment

Abergeldie has proven design and installation expertise and strong relationships with our suppliers allowing procurement of the latest aeration and dewatering equipment such as filters, membranes, sludge dewatering systems, centrifuges, grit traps, conveyors and belt filter presses. We also design and supply screening and grit dewatering facilities.

Our process team has over 20 years of experience in providing practical water treatment solutions on time and on budget.



Loganholme (Logan City, QLD): Design, supply and installation of a belt filter press and gravity drainage deck.



Edgeworth Waste Water Treatment Works (Newcastle, NSW): Supply and installation of aeration system.

ODOUR MANAGEMENT

Effectively treating odour for communities surrounding waste water treatment facilities

Today's communities are extremely sensitive to odour created by waste water treatment facilities. Abergeldie has a wealth of experience in designing, procuring, supplying and installing comprehensive systems for effective odour control solutions for the waste water industry.



Top left and bottom - Odour Control Facility (Wollongong, NSW): Demolition of old and construction of new odour control facility and extension of biosolids room including earthworks and structural works. Abergeldie designed, fabricated and installed all FRP ductwork and nutrient transfer, storage and dosage systems.



Waste Water Treatment Works Upgrade (Dora Creek, NSW): A new odour extraction system and soil bed filter as part of new inlet works, including mechanical and electrical design, manufacture, supply, installation, testing and commissioning of the ductwork, odour extraction fans and soil beds.



RECYCLED & POTABLE

Water management and re-use for sustainable, healthy communities

Abergeldie has delivered both large scale water recycling facilities for municipalities and smaller scale water recycling units for industrial applications. Our expertise also extends to associated infrastructure for potable water, such as Reservoirs filtration plants and pumping stations.

We can provide all aspects of a fully operational pump station from design to construction, including all civil, mechanical, electrical work and control systems.



Jacka Reservoir (Canberra, ACT): Construction and commissioning of a 3 Megalitre reservoir pump station and 400m long rising main, including conduit runs, electrical installation and hypochlorite dosing facility. Associated civil works included construction of an access road and various concrete works including a valve pit and retaining walls. Commissioning and cut in to existing mains.

STP Recycled Water System Stage 2 (Wollongong, NSW): Enhanced the quality of the tertiary filtered effluent system by chemical dosing. UV Treatment and a Chlorine Contact Tank. Scope included: detail design, commissioning and supply/installation all civil, mechanical, electrical and software work. Constructed for Sydney Water, the system replaces approximately 1.4 Million litres of drinking water per day. Recycled water is now reticulated to Port Kembla Coal Terminal (pictured), Wollongong Golf Course and Wollongong City Council sports fields.

Finalist: NSW AWA Infrastructure Project Innovation 2010
Finalist: NSW CCF Earth Awards Category 2, 2009
Winner: Merit Award at Annual WaterReuse Symposium in Seattle, USA 2009. (Won by Sydney Water)



MARINE WORKS

Sustainable infrastructure in fragile coastal and marine environments

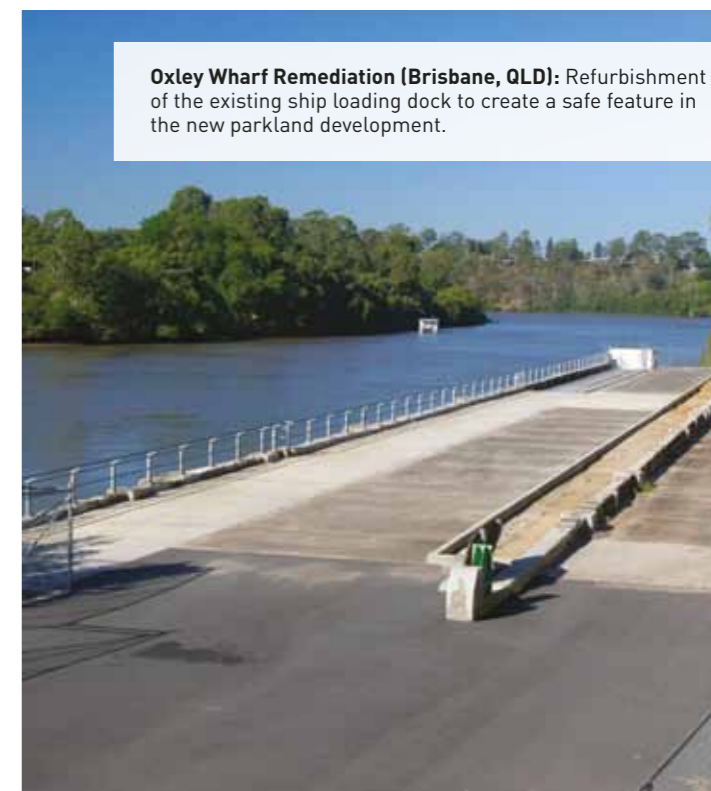
Abergeldie has specialist expertise in marine projects that may involve complex environmental, safety and construction issues. We have conducted marine infrastructure projects ranging from embankment stabilization to caisson, pontoon and jetty upgrades.



Lucinda Bulk Sugar Terminal (North Queensland): Marine, electrical, mechanical, hydraulic, piling and structural repairs to a cyclone damaged 5.76 km long jetty and bulk loading facility.



Caisson 2 Refurbishment (Sydney, NSW): Complete refurbishment of Caisson 2 at the Garden Island Dry Dock. Abergeldie provided full project management, coordination of design, cost control, programming, quality assurance and pre-commissioning checking, for the mechanical and pipework on and below deck of the caisson.



Oxley Wharf Remediation (Brisbane, QLD): Refurbishment of the existing ship loading dock to create a safe feature in the new parkland development.

VENTILATION SHAFTS

Abergeldie is a world leader in safe mining infrastructure provision.

Abergeldie's work in the mining sector began when John Zeni and Mick Boyle established Ardent Underground Pty Ltd in 2001. This company was fully acquired by Abergeldie Complex Infrastructure in 2007.

The company's ability to provide a faster, safer and more reliable way of boring large diameter shafts for access, ventilation and foundations has been well-proven in the successful completion of blind bored ventilation shafts for clients like BHP Billiton, North Goonyella Coal and Springvale Coal.

Our drill rigs use innovative technology and set a benchmark for mechanised shaft excavation. Their drilling capabilities range from 1.5m to 6.5m diameter; up to 700m deep. Our methods and equipment are particularly effective through difficult ground conditions including fractured strata, high pressure aquifers and deep hard rock. Shafts can be built without interruption to mine production.

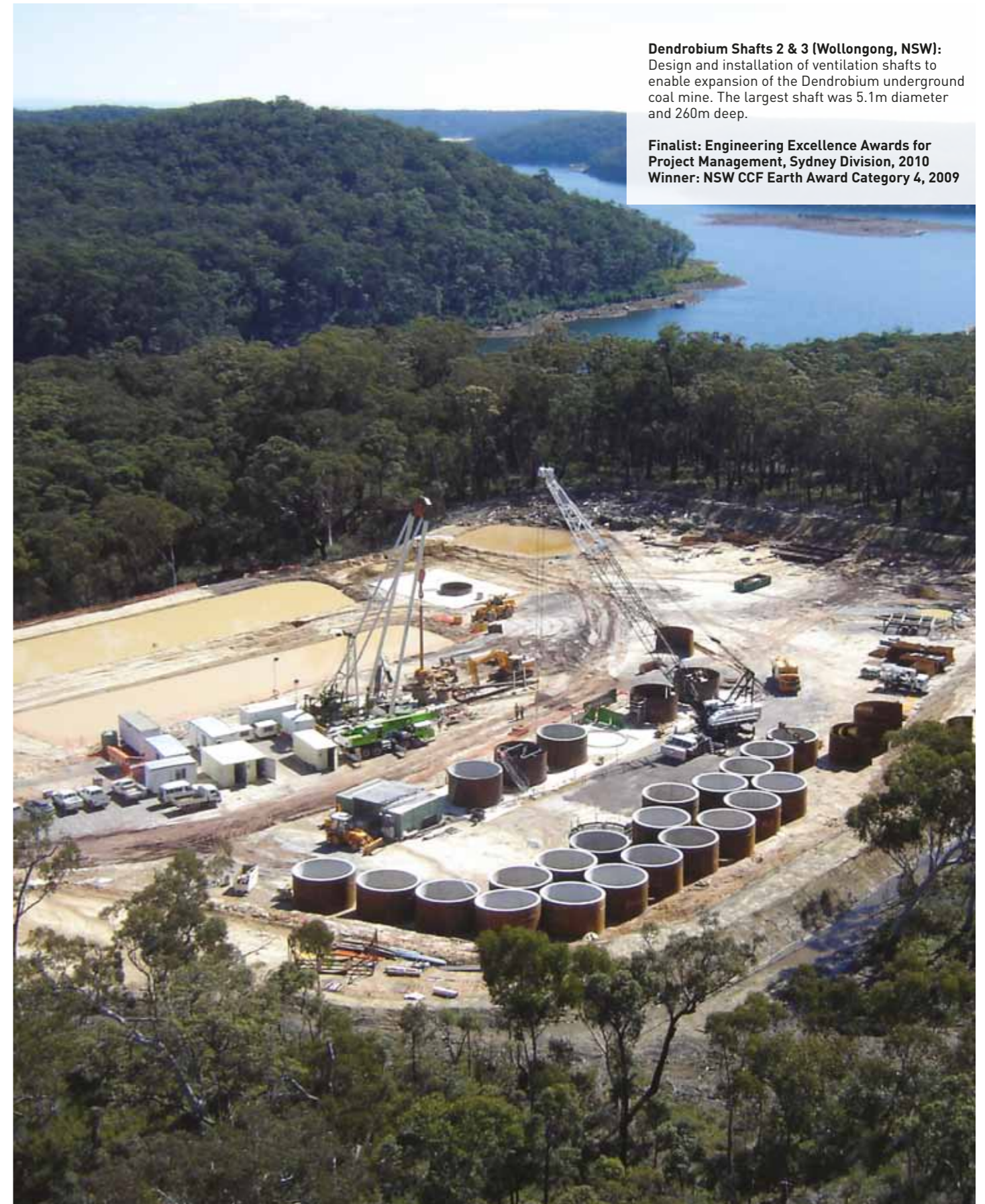
Safety is a paramount concern. Abergeldie can provide a high quality lined shaft without any personnel having to work inside the shaft during construction, making blind boring the safest method of shaft construction.

As well as shaft drilling and lining, Abergeldie can provide all facets of mining infrastructure including civil works, horizontal tunnelling, process engineering and water treatment.



Austar Vent Shaft (Hunter Valley, NSW): The 465m deep shaft will be used for ventilation and access to Austar's Stage 3 underground workings. With a composite steel and concrete lining, the shaft will have a finished internal diameter of 4.5m.

Sustainable and safe extraction of our mineral wealth for the benefit of our whole community



Dendrobium Shafts 2 & 3 (Wollongong, NSW): Design and installation of ventilation shafts to enable expansion of the Dendrobium underground coal mine. The largest shaft was 5.1m diameter and 260m deep.

Finalist: Engineering Excellence Awards for Project Management, Sydney Division, 2010
Winner: NSW CCF Earth Award Category 4, 2009

PIPE JACKING

Upgrading underground infrastructure for growing communities

Abergeldie efficiently constructs horizontal pipe jack tunnels which can provide conduits for underground services. We have successfully adapted modern Tunnel Boring Machine (TBM) technology to complex ground conditions and can jack pipes to 3.0m external diameter in hard rock or soft material.

Typical of our work is an 87 m long pipe jack tunnel for Energy Australia under Burrows Road Alexandria, Sydney.

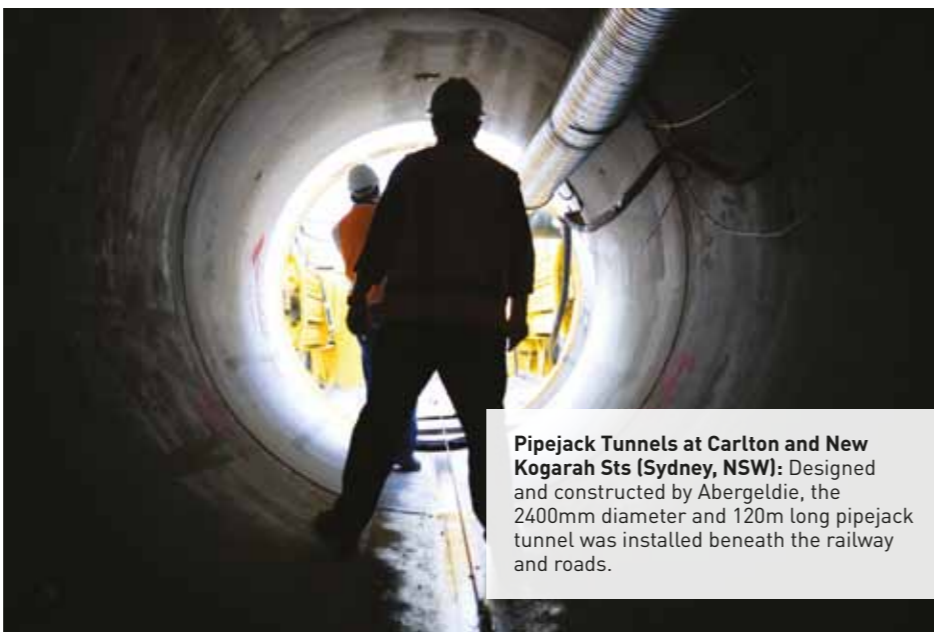
The 2800mm diameter tunnel carries 6 x132kV cable circuits which form a part of the reconfigured Energy Australia Network from TransGrid's Beaconsfield South substation. An Earth Pressure Balance Machine (EPBM) was used to overcome the difficult water-charged ground conditions.

Abergeldie has successfully provided Energy Australia with several similar pipe jacked, cable housing tunnels over the past four years: a tunnel at Artarmon, 111m long and 1650mm diameter excavated in sandstone; another at Pymble, 97m long and 1650mm diameter bored through shale; and most recently at Carlton, a 120m long and 2400mm diameter tunnel through sandstone.

All of these projects included construction of permanent access structures that were used initially as send and receive pits. The projects also included fit out of the tunnels with the necessary cable support brackets so that the cables could be installed later by others.



Burrows Road, Alexandria (Sydney, NSW): An 87m long and 2800mm diameter tunnel approximately 5m below Burrows Road in Alexandria, Sydney. The top of tunnel is 4m below the water table and it is within 100m of the nearby Alexandra Canal.



Pipejack Tunnels at Carlton and New Kogarah Sts (Sydney, NSW): Designed and constructed by Abergeldie, the 2400mm diameter and 120m long pipejack tunnel was installed beneath the railway and roads.



ASM Fabrications Pty Ltd

ASM Fabrications Pty Ltd (ASM) was incorporated in 1993 and has undertaken quality steel fabrication for various industrial, road, bridge, communications, and energy and water treatment projects to full satisfaction of its customers. In April 2009, ASM became 50% owned by Abergeldie Complex Infrastructure. This has allowed it to expand its facilities and to undertake larger scale projects. ASM is now located within the Abergeldie Regents Park Estate.

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