

# SYDNEY METRO COMING TO LIFE

DEVELOPER : Transport for NSW  
TUNNELLING : CPB John Holland Dragados  
SKYTRAIN CONSTRUCTION : Salini Impregilo  
OPERATOR : Northwest Rapid Transit



Photos supplied by Transport NSW

The \$8.3 billion Sydney Metro Northwest is Stage 1 of Sydney Metro. It includes the skytrain – a 4km elevated viaduct including the first cable-stayed rail bridge built on a curve in Australia.

**Sydney Metro – Australia’s biggest public transport project – is rapidly taking shape.** Whether it’s 58m underground in Australia’s longest railway tunnels or 13m in the air on the skytrain viaduct, Sydney’s booming north-west will be first to benefit when Stage 1 – the \$8.3 billion Sydney Metro Northwest – opens in two years.

“The first stage of Sydney Metro will deliver metro rail for the first time to Australia with a host of innovations and a level of customer service simply never before seen here,” said Rodd Staples, Program Director of Sydney Metro.

“The city’s north west will get a 36km service from Rouse Hill to Chatswood in 2019 with 13 metro stations, 4,000 commuter car parking spaces and new fully air conditioned metro trains every four minutes in the peak – and plenty of room to grow.”

Stage 2 of Sydney Metro – the Sydney Metro City & Southwest project – will then extend metro rail under Sydney Harbour, through new CBD stations and beyond to the south west. Services are expected to start in 2024 with an ultimate capacity of a new metro train every two minutes in each direction under the Sydney CBD.

Altogether, Sydney Metro will deliver 31 metro stations and 66km of new metro rail, integrating with existing public transport and giving customers new connections and better opportunities for work, education and recreation.

Innovation has been a hallmark of Sydney Metro.

Features common to rail networks around the world will be introduced to Australia for the first time, including fully-automated trains and platform screen doors - which keep people and objects like prams away from the tracks and allow trains to get in and out of stations much faster.

The construction of the project’s twin 15km tunnels – Australia’s longest railway tunnels was also the first time in Australian history that four tunnel boring machines were used at once on a transport infrastructure project.

The four tunnel boring machines were manufactured especially for Sydney Metro Northwest with each delivered in 18 shipping containers and a further 27 large pieces, taking seven weeks to reassemble and



commission each machine ready for tunnelling. Three of the four Sydney Metro Northwest TBMs were named in public competitions under the theme, ‘Women who have made a positive contribution to life in Sydney.’

Tunnelling took just 16 months, finishing in January 2016, with the tunnels handed over 10 months early to the next contractor.

This allowed the next stage of the project delivery to occur, with work progressing on stations, track laying and overhead wiring.

Work is also nearing completing on the 4km elevated skytrain from Bella Vista to Rouse Hill, which will be the most visible legacy of Sydney Metro Northwest.

A joint effort of Australian and international designers, urban design took centre stage on the skytrain to ensure its integration with local surroundings and to minimise construction and environmental impacts.

It’s essentially Australia’s longest bridge – a series of 115 independent spans linked together – and at an average height of 9m it will keep

communities connected and allow people to move around underneath it, including the seven roads it crosses.

The skytrain also includes a new cable-stayed bridge over Windsor Road at Rouse Hill, similar in design to Sydney’s iconic Anzac Bridge.

Its 40m high steel towers – filled with reinforced concrete – make it a bridge unlike any other in Australia: it has the unique characteristics of being a rail bridge, supported by cables and built on a curve.

The NSW Government also recently announced Sydney Metro West – Sydney’s next big rail project.

This underground railway will connect the CBDs of Parramatta and Sydney via Sydney Olympic Park and Bays Precinct, with the project to be delivered by the late 2020s.

*For more information contact Sydney Metro Northwest, PO Box 588, North Ryde BC NSW 1670, phone 1800 019 989, email [info@metronorthwest.com.au](mailto:info@metronorthwest.com.au), website [www.sydneymetro.info](http://www.sydneymetro.info)*

## THE BEST DEFENCE

P&C Fencing supplied several kilometres of security fencing and gates for Sydney Metro Northwest, with half their team working on the project from July 2013.

“We provided early stage temporary fencing and gates, then during the project, we provided permanent and temporary fencing products, primarily in the way of chainwire,” said Managing Director, James Mannah. “There was a lot of community unrest about the project so we worked with our client to minimise disruption and were as empathetic as possible towards residents. Importantly, we also provided a substantial quantity of noise-reducing timber hoarding to the project.”

P&C Fencing specialises in supplying Sydney metropolitan and regional New South Wales with security fencing, as well as safety and stylish fencing and gates for commercial and government sectors.

Its product range includes: Eminence (pressed-spear) security fencing; palisade; chainwire; 358 anti-climb security mesh; RTA pedestrian fences; partitions; sporting enclosures; tubular; hinged and sliding gates; boom gates; turnstiles; bollards; wheelstops; hand and guard rails; privacy screens; and Colorbond fencing.



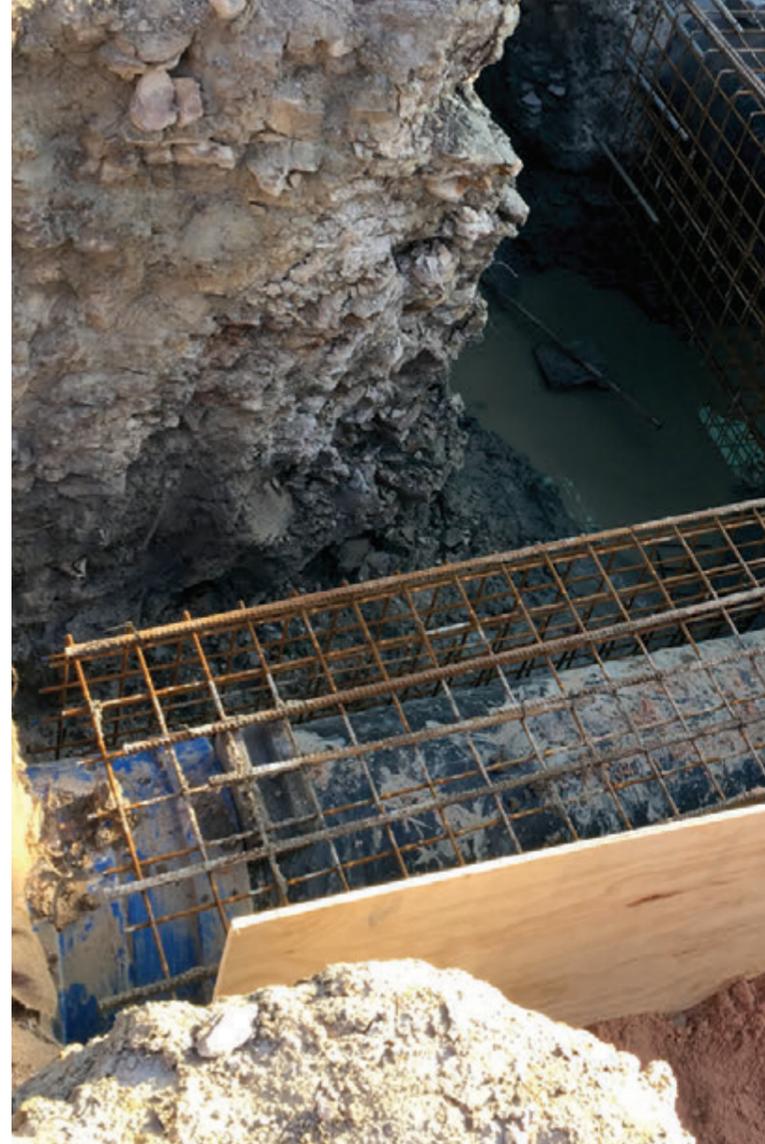
“Fencing and gates are an important part of construction, as every project requires boundary fencing and security to deter theft. If everything’s not discussed and evaluated both beforehand, and then continuously throughout the project you risk having a gate or fence that’s not fit for purpose, which could be very detrimental,” said James. “And as such we employ dedicated Project Managers to handle each job, to answer the phone when a client calls and to assist in ensuring each job is delivered to the client right, the first time.”

Established in 1977, by Peter Mannah, James’ father, the company still manufactures a number of products locally using Australian labour and Australian material.

“We employ all personnel directly, only using subcontractors for ancillary services like underground services scanning, and the crane truck drivers that lift our large gates into place. So if you engage us, you will have a P&C employee, who is paid in accordance with award wages, with all relevant insurances, tools that are tagged, the correct competencies to complete the work, and who undergoes regular training,” said James.

Their better-known projects include sites for the Defence and Education departments, the Foster’s Distribution Centre at Rosehill, the Myers Distribution and LG Electronics Distribution centres at Eastern Creek, multiple police stations, numerous transport and logistics sites, the Trio Apartments in Camperdown and several train stations and stabling yards for Transport NSW/Sydney Trains.

*For more information contact P&C Fencing Pty Ltd, 5 York Road, Ingleburn NSW 2565, phone 02 9605 1111, fax 02 9605 7666, email tenders@pandcfencing.com.au, website www.pandcfencing.com.au*



## THE RIGHT CONNECTION

**Rose Atkins Rimmer (Infrastructure) Pty Ltd (RAR), Designer and Water Servicing Coordinator for the adjustment of Sydney Water’s potable water, recycled water, sewer and stormwater assets for the Sydney Metro Northwest.** During the course of this major infrastructure project, RAR performed a pivotal role in “identifying potential conflicts between the project’s construction activities and Sydney Water’s assets,” said Cliff Harvey, Senior Project Coordinator – Infrastructure Designer.

In performing this role, RAR drew on its extensive experience on water and sewer adjustment works in response to rail and road upgrade projects, to identify up to 34 infrastructure conflicts. These conflicts required the adjustment of a wide range of Sydney Water assets in accordance with Sydney Water’s asset adjustment and protection process. RAR assisted in the successful delivery of the adjustment works by developing high level strategic solutions during the design phase and managing ad hoc field construction issues, in liaison with Sydney Water, that was beneficial in streamlining the project.

“We managed this by making the process clear to ISJV and then producing design solutions which complied with Sydney Water’s specifications in a timely manner to further help forecast and diminish potential delays. We then coordinated the construction process with ISJV, their subcontractors, Sydney Water and their stakeholders. RAR then completed the process

by providing ISJV with the required certification obtained through the rigorous auditing process completed during construction.”

A challenging section of works for RAR, was the adjustment of the DN900 steel potable watermain and the DN450 GRP recycled main at the new Balmoral Road intersection. “These critical mains had the potential to impact about 55,000 Sydney Water customers, so extensive planning and consultation was required. These works were constructed and delivered to Sydney Water within the strict timeframes with no impact on the stakeholders and the community,” he said.

Another challenge was the adjustment of a DN450 watermain, that if damaged, would have affected the critical path. RAR was able to provide innovative construction techniques for ISJV, which provided a solution that mitigated the risks and allowed the project to proceed as per program.

Rose Atkins Rimmer (Infrastructure) are specialists in designing and water servicing coordination. They are also working on other key government transport projects such as WestConnex, Airport East and the Richmond and Bringelly Roads RMS upgrade projects.

*For more information contact Rose Atkins Rimmer (Infrastructure) Pty Ltd, PO Box 6745, Blacktown NSW 2148, phone 02 9853 0200, email info@rari.com.au, website www.rari.com.au*

# NAWKAW: ECOTIO<sub>2</sub><sup>®</sup> ON THE SKYTRAIN

Nawkaw were engaged by ISJV to restore the aesthetic appearance and protect the concrete structure of the Northwest Rail Link Skytrain (piers, parapets and sections of the viaducts), through their two-coat system of Nawkaw Mineral Silicate and ecotio<sub>2</sub><sup>®</sup> Photocatalyst Coating.

Post pouring and stripping, the concrete piers and some of the precast concrete structure, presented with unsightly patches and rust stains. ISJV required a coating to be applied to these structures that would eliminate these patches and ultimately 'beautify' the concrete. Nawkaw products, when applied to these surfaces return it the natural smooth appearance of concrete.

The mineral stain is an extremely durable aqueous mineral silicate based stain for concrete surfaces. It penetrates and bonds to dense materials, while the thin base keeps natural surfaces from being covered up, and providing the desired colour.

Once Nawkaw applied the mineral stain, the concrete structure required further protection against graffiti strike on the piers and parapet walls. ecotio<sub>2</sub><sup>®</sup> is a compatible graffiti protective coating that does not offset the longevity properties of the Nawkaw finish.

The ecotio<sub>2</sub><sup>®</sup> coating system comprises of a penetrating pore sealant and an active photocatalyst thin film coating, that when applied to concrete, seals the surface pores of the concrete preventing graffiti from entering and seeping into those surface pores.

Using photocatalyst coatings is a new technology to Australia, straight from Japan. The properties of the chemical structure, lead to a highly desirable versatility to the product. With an ecotio<sub>2</sub><sup>®</sup> application, new concrete will not age, bleed or change colour (see image of Kasegawa Dam Office building).

As concrete and ecotio<sub>2</sub><sup>®</sup> is inorganic, graffiti is readily removed via a solvent wipe. Given time, applied ecotio<sub>2</sub><sup>®</sup> on smooth concrete will gradually self-clean graffiti strikes, using just light and rain/water. By using the energy of daylight, the surfaces ecotio<sub>2</sub><sup>®</sup> are applied to become anti-static, reduces absorption of dust and other particles, prevents dirt from sticking to the surface and can be washed clean with rainwater. ecotio<sub>2</sub><sup>®</sup> will also break down VOC and pollutants from the air, releasing harmless by-products. The protective nature of the ecotio<sub>2</sub><sup>®</sup> coating on concrete also prevents carbonation of the concrete, extending its service life.

*For more information contact Nawkaw Australia, 39/195 Prospect Highway, Seven Hills NSW 2147, phone 1300 NAWKAW (1300 629 529), fax 02 8572 8248, website [www.nawkaw.com.au](http://www.nawkaw.com.au)*

*For more information contact Photocatalyst Coatings, 39/195 Prospect Highway, Seven Hills NSW 2147, phone 1300 326 846, fax 02 8572 8248, website [www.ecotio2.com](http://www.ecotio2.com)*

**Main photo:** Second Ponds Creek section. Nawkaw concrete beautification stain to piers, parapet and viaduct underside. Piers and parapet followed by the protective ecotio<sub>2</sub><sup>®</sup> Photocatalyst Coating.



# HEIGHT OF PRECISION

With the project constructed mostly at height, Melrose Cranes was instrumental in the progression of the construction, supplying mobile cranes for the Sydney Metro Northwest project, to assist with the lifting portion of the development. For the project, Melrose Cranes supplied a range of plant equipment including a 250-tonne crawler, 450-tonne mobile and various other mobile cranes to support the two large launching gantries.

“We are also involved in designing new lifting plans and methods. Various heavy lifts on the project are completed by their own gantries which have specific winch attachments and spreader bars designed for each lift. An interesting challenge was to design our own rigging methods where these heavy lifts were required to be completed by one of our cranes not one of the gantries,” said Ryan Melrose, General Manager.

Images: 80t rail beam being lifted by Melrose Cranes' Grove GMK 7450 crane



About 75% of the company's 100 staff have worked on the Sydney Metro project. Perhaps the biggest project challenge was ensuring Melrose Cranes had the equipment and crews when needed. “Throughout various stages of the project we have had cranes onsite for long term hire, however when it comes to the real heavy lifting in support of their gantries it is generally on an ‘as needed’ basis to suit their construction program. This has a tendency to change a fair bit based on weather and various other factors.”

The company specialise in servicing Tier 1 building companies on various major infrastructure/development sites in the Sydney Metro area along with rail. “We strive to supply the required machinery to all clients when they need us. That is the challenge; service,” said Ryan, whose company was set up in 1998 and is now a leading privately owned crane company in Sydney. “It can become a bit tricky when programs change, but we have a good team of project managers who have been taught that to successfully provide service, information is everything. We forward plan as much as we can. That means being around the site, asking questions and being in touch with their project managers and engineers,” he said.

Melrose Cranes also operates a sister company, Melrose Access Hire, which specialises in vertical access equipment such as elevated work platforms. “It means we can assist the client by taking control of the whole job, including the vertical access and cranes. When you lift large loads, there is a high likelihood you need vertical access equipment to either attach/detach the rigging or to position the load intricately in its final location.”

Melrose Cranes has also supplied to key projects such as Northwest Rapid Transit, Barangaroo, NorthConnex, WestConnex and the Sydney Light Rail.

For more information contact Melrose Cranes & Rigging Pty Ltd, 16-18 Foundry Road, Seven Hills NSW 2147, phone 02 9624 1944, fax 02 9624 1233, email [info@melrosecranes.com.au](mailto:info@melrosecranes.com.au), website [www.melrosecranes.com.au](http://www.melrosecranes.com.au)



# STRENGTH OF PERFORMANCE

Active Steel supplied more than 10,000 tonnes of reinforcement steel precast segments and piers for the skytrain sections of the Sydney Metro Northwest project. An Australian owned and operated independent steel reinforcement manufacturing and supply company, Active Steel staff began work on the project in February 2016.

“There were very tight lead times for the project and we worked closely with the client to meet these,” said General Manager David Stokes. “Our experienced inhouse schedulers ensure projects consistently run on time and on budget. We have long-term employees who worked closely with the project and construction teams to ensure timely deliveries.”

A major contributor to Active Steel's ability to cater to tight tolerances and deadlines is our state-of-the-art Cut and Bent machinery along with our their modern fleet of trucks, both being built to their specific needs. “These factors ensure we deliver the right products on time,” said David.

Active Steel offerings include quality scheduling and steel reinforcement products to top tier building and construction companies down to the local concreter. “We offer competitive lead times on processed bar, fabricated cages and mesh,” adds David. Active Steel's products meet the Australian Standard (AS/NZ1340) and have third party accreditation from ACRS.

As a supplier to major infrastructure, industrial and residential projects throughout New South Wales and Queensland, Active Steel has worked on Sydney Metro (Salini Impreglio), Sydney Light Rail and Sydney Cricket Ground, Kingsgrove to Revesby Rail, in addition to water, electrical, government and infrastructure projects across New South Wales.

For more information contact Active Steel Pty Ltd, 79 Forrester Road, St Marys NSW 2760, phone 02 9673 3422 (NSW), phone 07 3803 7304 (QLD), email [terry@activesteel.com.au](mailto:terry@activesteel.com.au), website [www.activesteel.com.au](http://www.activesteel.com.au)

# DELIVERING SUSTAINABLE INFRASTRUCTURE

Sydney Metro is Australia's biggest public transport project undertaken to date. Sydney Metro Northwest is the initial stage of this monumental project and will be the first fully-automated metro rail system in Australia.

Linbeck Contractors' involvement in the Sydney Metro Northwest project was to relocate existing live gas infrastructure, such as natural gas mains and services, to a suitable location clear of the construction path. Linbeck performed this work on behalf of Jemena Asset Management.

As with most projects Linbeck have worked on, Sydney Metro Northwest has a clear vision when it comes to delivering sustainable infrastructure. Areas of sustainability featured in this project include water efficiency, waste management procedures and biodiversity conservation.

In the first half of 2015, Linbeck completed the relocation of the gas mains on the corner of Windsor Road and Rouse Hill Road as part of the early stages of the project. More recently, the team relocated the gas main for the NRT Northwest Station (Norwest Rapid Station).

Linbeck Contractors is a privately owned company providing construction, repairs and maintenance and licensed plumbing services to asset owners in the gas and water industry.

The team features a multi-skilled staff of 51 with an additional 13 contractors, many of which worked seamlessly on the Sydney Metro Northwest project.

Linbeck have been working successfully with Jemena since 2001 and currently have significant contracts in place covering the areas of Sydney Greater North and Sydney Coastal North.

These contracts involve the project management, administration and supervision along with the construction of new gas mains and services plus repair and maintenance of

Jemena assets, including maintenance services for the Aquanet Recycled Water Program.

The company is also Sydney Water accredited for minor works and performs civil plumbing services to Sydney Water mains to meter contract. Linbeck recently secured a six year contract agreement to carry out these works

In order to meet specific project requirements, Linbeck is equipped with a diverse fleet of light, medium and heavy vehicles plus specialist plant items such as trenchless boring machinery.

Linbeck prides itself on its track record of providing quality work and value to their clients on all their projects.

Linbeck's Integrated Management System is at the core of their service delivery. By working closely with the client and relevant authorities, the team focuses on performing to established occupational health, safety and environmental systems ensuring the safety of all employees and subcontractors, and to minimise the likelihood of potential project risks.

*For more information contact Linbeck Contractors, 28-34 Edward Street, Riverstone NSW 2765, phone 02 9627 1680, fax 02 9627 3167, email enquiries@linbeck.com.au, website www.linbeck.com.au*





Photo supplied by Transport NSW

# SAFETY FIRST

RISafety (RIS) is Australia's largest Height Safety provider and provides a fully integrated approach to the management of height safety and the protection of people working at heights.

The RIS product range has been designed using methods that maximise protection and minimise installation time during construction. With the market place becoming increasingly aware of the need for employee protection when working at heights, RIS is ideally positioned to provide local and overseas industries with practical solutions.

RIS designs, manufactures and distributes an extensive range of tested and standards compliant products, including permanent anchor points, horizontal and vertical fall protection systems, aluminium and fiberglass ladders and walkway systems, fall arrest retractable blocks,

tripods and winches for confined space, as well as having its own range of Standards approved personal protective equipment (PPE).

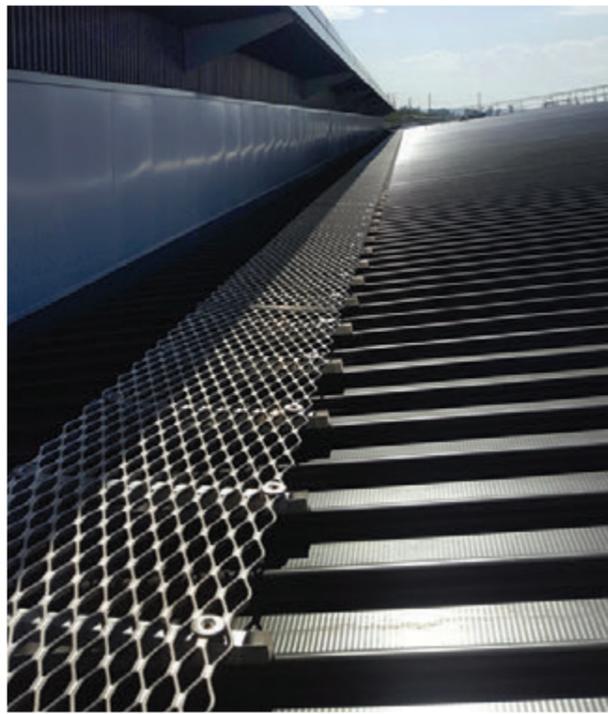
Six staff from RIS worked vigorously to provide a seamless service for the Sydney Metro Northwest project. The team were responsible for the manufacture, design and installation of the height safety system onsite. RIS proved their capabilities, and unwavering service, when working with very short timeframes and staged installation on this particular project.

With a comprehensive engineering workshop, RIS is able to design solutions and construct complex structures to address height safety access issues that will ultimately fulfill and exceed the industry's stringent guidelines. With eight branches around Australia, RIS are able to provide practical, cost effective and compliant fall protection, confined space and rope access systems.

Over many years, RIS has developed a successful internal management system which allows them to effectively handle large scale projects with major clients such as, Q1 SkyPoint Climb, Darwin Gaol, Australian Defence Force, Perth International Airport, NSW Department of Commerce (TAFE), Hansen Yuncken, Transfield, Woolworths and Railcorp to name a few.

RIS are currently working on the Adelaide Oval project along with the Commonwealth Games Precinct in Queensland.

*For more information contact RISafety (Sydney), 3 Bushells Place, Wetherill Park NSW 2164, phone 02 8781 2100, fax 02 8781 2111, email [sydney@rissafety.com](mailto:sydney@rissafety.com), website [www.rissafety.com](http://www.rissafety.com)*



# WELL MANAGED

Approximately 4,000 people used the workforce management system that Damstra Technology customised, installed and maintained on Sydney Metro Northwest. The web-based Total Workforce Management System is proving a much-needed tool to manage, track and protect an entire workforce.

“Working closely with Salini Impregilo from day one, our in house technical engineers formulated and constructed the optimum solution for their workforce management needs. Damstra supports every client's vision and objectives by offering tailored solutions which add significant value to the operations and management of their company,” said Christian Damstra, Company Founder and CEO.

For the Sydney Metro project Damstra supplied contractor pre-qualification. Through the portal and client relationship officers, the system collected and verified contractors' compliance documentation from insurance to diversity reporting requirements. This ensured they were all compliant, skilled and site ready. Damstra's system also managed their human capital: offering fully featured time and attendance tracking systems, automated alcohol testing and biometric verification, via finger scanning technology. It also looked after site and access control and visitor management, all through its apps and other tools, such as onsite terminals.

“All workers are issued with a Damstra card. With this in hand, they simply scan into the fixed terminals or mobile tablets based on site to get site access. Also by scanning the card's QR Code with a smart phone you can see all training, skills, site appointments, competencies, high risk licences and expiration dates,” said Christian. “The project was initially just Monday to Friday. As the generators were turned off on Friday nights we needed to ensure that the purpose-built solution had a backup battery life guaranteed to last 72 hours without power. These are the kind of customised solutions we can offer to meet our clients' needs.”

The system is used on more than 900 sites nationally yet the company employs only 30 people. Organisations such as Orica, Glencore Coal, Wesfarmers, NBN, Theiss, Holcim and Hanson use it to manage their workforces.

*For more information contact Damstra Technology Pty Ltd, 50 George Street, Singleton NSW 2330, phone 1300 722 801, fax 02 6571 4399, email [enquiries@damstratechnology.com](mailto:enquiries@damstratechnology.com), website [www.damstratechnology.com](http://www.damstratechnology.com)*



DAMSTRA



## BUILT TO LAST

For civil construction company **Concrete Reinforcement Services (CRS)**, the Sydney Metro Northwest was the biggest contract that the company has undertaken.

Hired to complete extensive precast concrete works on the project CRS built 1,250 segments of precast concrete and all the segments for the 4km skytrain. It also completed steel fixing off the piers and footing off the 270m long cable stayed bridge at Windsor Road.

They also completed the steel fixing for all of the 110 piers and footings, that the precast segment would sit on to form the 4km bridge.

While Sydney Metro Northwest Rail was a huge contract for CRS, it was also an unqualified success for the company. "We're probably leading the field in works on precast jobs," adds CRS's Nailer O'Neill.

Starting onsite in November 2014, CRS worked around the clock to meet the tight timeframe for the project. They also had to negotiate to adjust the program, due to the volume of steel which was difficult to source for the project. 80 of CRS's 100 employees worked on the

Sydney Metro North West Rail project, with two groups working 12-hour shifts.

Finishing work onsite in December 2016, Nailer said that while all aspects of the job were pretty difficult, good management and correct decision making helped ensure the project was a great accomplishment. "It was the biggest contract we have ever done in terms of money and work. However we took it on and it has been a big success for us," he says. "It showcased our ability as a company and the [construction company] has been very happy with our work. We have helped save time and costs due to our different methods we employ on the job."

Nailer and Construction Supervisor, Clive O'Neill were also on hand the whole time throughout the project's duration, working in shifts and ensuring they were available all day, every day. Nailer particularly highlights the work of Clive, who played a significant role in overseeing the success of CRS's work on the project. "He looked after everything, looked after all the men. It was a big contract for him to do on his own," he says.

In fact, the work of CRS on the Sydney Metro Northwest has been such a feat, the company picked up other contracts while on the project. This includes being hired to work on the M4 East Motorway for the WestConnex project.

Formed in 1999 by Nailer, who has been fixing steel for 28 years and has 26 years experience in the civil industry, CRS continues to deliver cost and time-efficient solutions to a range of projects right throughout Australia. The company offers comprehensive steel fixing, concrete and formwork services for civil projects and has expertise in bridges, roads, incrementally launched bridges, precast yard and culverts.

CRS's work across the nation has seen it contracted to projects in Brisbane, Adelaide, Byron Bay and the Hunter Valley. The company is happy to travel anywhere.

Additionally, CRS has established a strong reputation within the civil construction industry, and, as seen with the Sydney Metro Northwest, most of CRS's business comes via recommendations from current and previous customers.

The major projects for CRS show no signs of slowing down, with the company currently bidding for the second stage of precast work for the M5 East Motorway in the Hunter Valley. CRS will make the precast segments in the Hunter Valley and, once completed, will transport them to the site in Sydney.

CRS has previously worked on significant projects such as Sydney's M7 Motorway, the Parramatta-Chatswood Railway, the Port Botany Expansion and the Lane Cove Tunnel. Other iconic projects include the Brisbane Clam 7, the Legacy Way Tunnel, the Airport Link Tunnel, the Byron Bay Tunnel, the Hunter Valley Expressway and in Adelaide, the Urban Superway and the Northern Exchange.

*For more information contact Concrete Reinforcement Services, phone 02 9661 3801, Nailer O'Neill 0410 699 006, Clive O'Neill 0410 715 206, email [info@crsreo.com.au](mailto:info@crsreo.com.au), website [www.crsreo.com.au](http://www.crsreo.com.au)*

# DETAILED DECONSTRUCTION

NASS carried out detailed demolition and supervision for the Sydney Metro Project, completing pile break-back for the sky train stanchions. Managing Director, Seamus O'Donnell founded the company in 1990 and now employs more than 100 people. The NASS team were onsite from November 2014.

“A misconception the industry may have, is that detailed demolition is something anyone can do,” said Seamus. “It’s not quite like that anymore. Demolition work is seen as dangerous work, but when managed and planned correctly, it can be completed in a safe and controlled manner.”

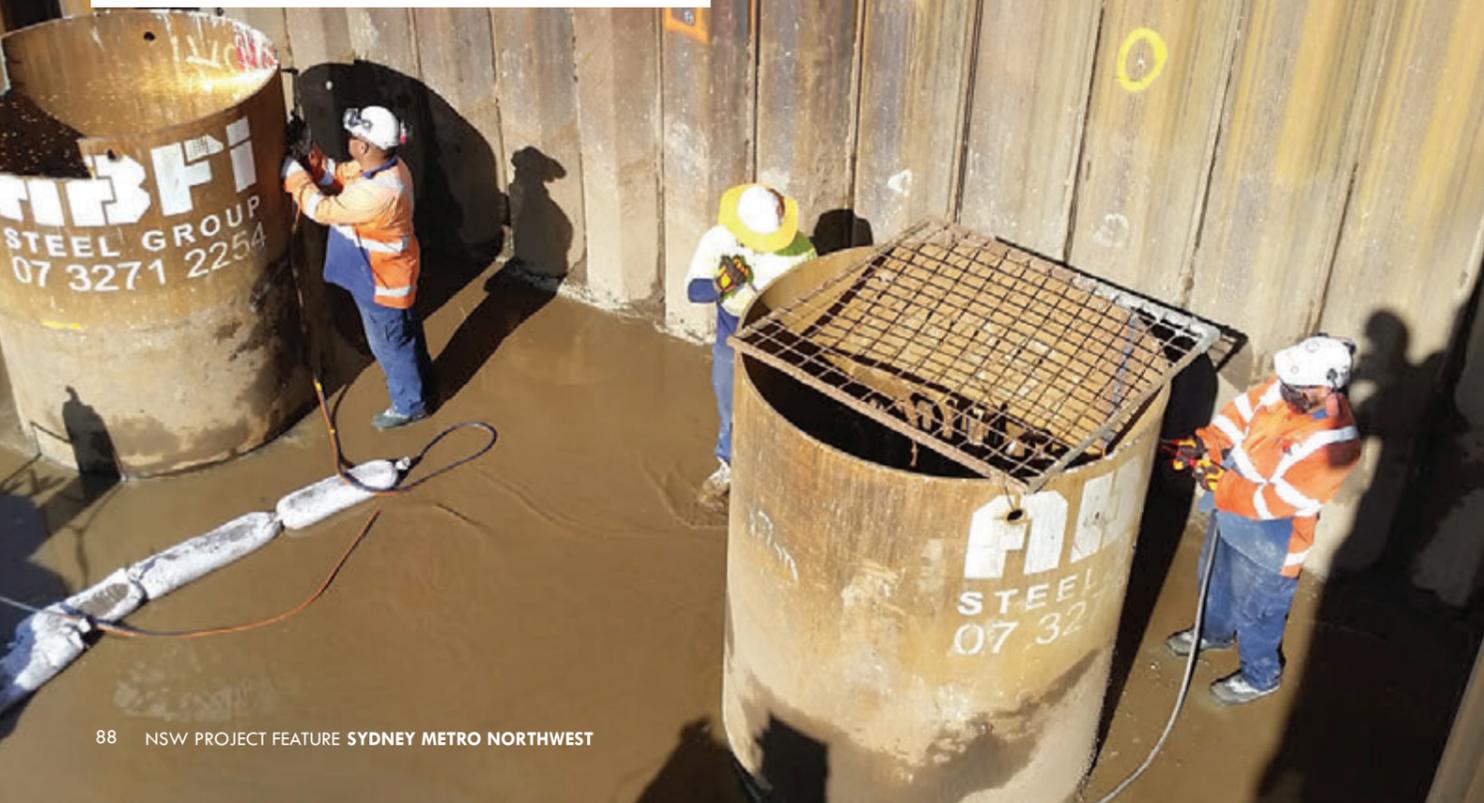
NASS demonstrated this through the Sydney Metro project ensuring its works were staged. “A staged approach meant we had to constantly re-establish ourselves onsite. Through the positive relationship we had with the site team, we were able to plan our works well in advance to provide the same workers through each stage. At NASS we believe the planning process is a vital part of a successful job,” said Seamus.

“NASS provides a quality service combined with a positive safety culture throughout our workforce. Our company specialises in detailed demolition focusing on areas of difficult access; refurbishment and controlled works that requires specialist skills and supervision. Our services include concrete cutting, coring, sawing, labour hire, environmental waste management as well as hazardous material removal. We have longevity in the industry with a number of long term staff who are very capable and highly skilled. That’s why we are different to our competitors,” said Seamus.

What gives the company an edge is their own remote-controlled robotic demolition machine – a Brokk 160. The machine is ideal for working within confined spaces, operates quietly and has no emissions and is often used on projects with difficult access. They also hire out this device along with a wide range of other plant and equipment.

NASS continues to work on the Norwest project as well as NorthConnex, WestConnex, Sydney Airport and the Wynyard Station Upgrade. Past iconic projects they’ve worked on include the Olympic Stadium, Gowings State Theatre, Sydney Opera House and the Sydney Light Rail.

For more information contact  
NASS Services Co Pty Ltd,  
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info@nassservices.com.au,  
website www.nassservices.com.au



## THE RIGHT TOOLS

JLG Industries Inc. is the world’s leading designer, manufacturer and supplier of elevating work platforms, telescopic material handlers and lighting towers. They deliver quality, innovative products which allow their clients to perform at their peak through enhanced productivity.

Their involvement in the Sydney Metro Northwest project saw JLG provide access equipment and lighting towers to several rental and contracting companies working onsite.

JLG Metro LED lighting towers and a range of articulating and telescopic boom lifts were supplied and used on the Sydney Metro Northwest project. The booms ranged from 45ft – 125ft, with the larger booms being utilised for the crossing of Memorial Drive. The JLG Metro LED lighting towers feature 4 x 300 watt LED lights. Each light is equivalent to a 1,000 watt metal halide light. All lighting towers provided by JLG Industries are designed and manufactured in Australia, to ISO9001 Standard, at their Port Macquarie facility in New South Wales.

With the bigger picture in mind, JLG Industries not only supply versatile equipment, they also offer unsurpassed back up support, service, parts and training when needed. They endeavor to be a valued partner to their clients, not just a supplier.

A testament to their commitment to customer service, support and quality products, JLG Industries has been awarded Supplier of the

Year – Access Division by the Hire and Rental industry, four out of the last six years.

JLG provides access solutions for a diverse range of industries. These include agriculture, heavy construction, mining, warehousing and many more. JLG Industries offers a full line of aerial work platforms, telehandlers, stock pickers, mast booms, lighting towers and equipment accessories.

JLG Industries is proud of the strong and successful relationships with the many hire companies, large and small, as well as many contractors and construction companies, they have built over a period of more than 30 years operating in Australia.

For more information contact JLG Industries, 358 Park Road, Regents Park NSW 2143, phone 02 8718 6353, fax 02 8718 6377, website www.jlg.com.au

# UNDER CONTROL

ErSed Environmental provided soil and water management services and in conjunction with the project engineers, coordinated and planned critical works for contaminated areas and for stream re-alignment works. ErSed Environmental commenced work on the Sydney Metro Northwest project in November 2014. Specific work methods and construction plans were implemented to control erosion and pollution risks associated with the pending earthworks. Special attention was paid to sensitive areas around creeks and rivers.

As with all projects undertaken by ErSed Environmental, confidence was installed to the project stake holders by ensuring, and exercising,

best practice in Environmental Management. ErSed Environmental developed and delivered specific ESC training to project personnel.

The company offers a diverse range of capabilities which cover specialist areas in soil conservation, erosion and sediment control planning, site environmental management, environmental surveillance and auditing, plus land management. "Our services are based on over 20 years experience, working with industry and government, to achieve practical implementation of industry best practice, site environmental works and management," said Carl Vincent, Director and Senior Environmental Management Consultant.

Along with providing services to many private companies, ErSed Environmental also work with several government clients including:

- Roads and Maritime Services
- Transport NSW
- NSW Department of Communities (Sport and Recreation)
- Sydney Catchment Authority

ErSed Environmental have built a successful history of providing solutions for challenging projects. The team seek to identify and resolve any issues that become apparent throughout each stage of construction. In testament to their expertise, ErSed Environmental is included on the RMS panels for both Soil Conservationists and Constructibility Assessment. They are also on the Transport NSW Panel for Environmental Management Representatives.

For more information contact ErSed Environmental Pty Ltd, PO Box 1124, Leichhardt NSW 2040, mobile 0424 203 046, email [info@ersed.com.au](mailto:info@ersed.com.au)



## A CLEAN SWEEP

P & M Galea Plant Hire were selected to provide a selection of specialised services on the Sydney Metro Northwest project. These services included street sweeping, dust suppression, supply of fresh water to site, locating services, dewatering and several other environmental undertakings.

The \$340 million skytrain contract was awarded to the Impregilo-Salini joint venture in December 2013. The contract involves building the 4km skytrain between Bella Vista and Rouse Hill, along with other surface works like bridges, embankments and railway cuttings. This project is one of three major contracts for the undertaking of the Sydney Metro Northwest.

Once complete, Sydney Metro Northwest will be home to a group of fast and reliable metro trains. These trains are set to have the highest levels of customer safety including consistent CCTV monitoring and platform screen doors to improve platform safety. These screen doors, which meet the edge of the platform, keep people and objects away from the edge, allowing trains to get in and out of stations much faster.

Operating since 1996, P & M Galea Plant Hire has built a successful team. They specialise in providing non destructive digging trucks and sucker trucks along with water carts and street sweepers.

For the Sydney Metro Northwest project, P & M Galea Plant Hire purchased new fittings and attachments to ensure all requirements were met with ease. The team worked effortlessly throughout the project ensuring a smooth delivery of services.



At present, the team at P & M Galea Plant Hire are also working on several other rail projects in New South Wales.

For more information contact P & M Galea Plant Hire, 43 Memorial Avenue, Kellyville NSW 2155, phone 02 9679 1606, fax 02 9679 1914, email [admin@pmgalea.com.au](mailto:admin@pmgalea.com.au)



Photo supplied by Transport NSW

# MAKING CONNECTIONS

Linxcomm has been making sure all the telecommunications services, the pit and pipe works, were sorted for the Sydney Metro Northwest Rail project.

“We’re involved in the telecommunications industry,” said Managing Director, Christian Krstevski. “We subbie out to all telco providers from Telstra to Optus etc and do all the civil works for them. These involve pit and pipe, cable hauling, both copper and optic fibre, manhole construction, excavation trenching, boring and asbestos removal too. We also concrete and do the formwork for manhole construction.”

“What we’re doing on the Northwest Rail project is relocating Telstra’s assets. Because of the extension happening and the construction of the new rail, the existing network had to be moved and there were kilometres of upgrades. We had to bore under the main road. It was extensive,” said Christian. Linxcomm has a team of 10, all of whom

have worked on the project since mid-2014. The company does specialised recoverable works and has a wide skill set in the team so doesn’t need to subcontract.

“We do it all ourselves – everything interconnects with us doing pit and pipe excavation, laying down pipes. In our team we have all-rounders and staff who have specific skill sets.” The only challenge for the five-year-old Linxcomm is to ‘adapt within the large structure’ of a project of Sydney Metro’s size. It’s the largest project on which Linxcomm has worked. Their work so far has covered residential, commercial and industrial sectors.

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