

A BETTER WAY TO TRAVEL

DEVELOPER : Transport for NSW
MAIN CONSTRUCTION COMPANY : ACCIONA
CONSTRUCTION VALUE : \$500 million



The Northern Road and Bringelly Road upgrades consist of a 15.6km stretch of road being upgraded to a 4-lane dual carriageway with shared paths for active transport and a central median for future expansion. The grade separated interchange at Bringelly will support population growth and provide easier, faster and safer travel for the 15,000 motorists who use The Northern Road and 10,000 motorists who use Bringelly Road every day.

The Western Sydney Infrastructure Plan (WSIP), a major \$4.2 billion investment by the Australian and NSW Governments, supports 4,000 direct and indirect jobs and Western Sydney communities. WSIP includes a total of 65km of major road upgrades to support an integrated transport solution for Western Sydney. The recent opening of the upgraded Northern Road and Bringelly Road Stage 2 represents a significant milestone on this journey.

Jointly funded by the Australian and NSW Governments, \$1.6 billion was committed to the Northern Road and \$509 million to Bringelly Road to reduce congestion, improve safety and lower travel times for the motorists who use The Northern Road and motorists who use Bringelly Road every day.

The Northern Road is a key north-south arterial link between Richmond Road, Berkshire Park and Camden Valley Way, Narellan. The 51km road connects the North West and South West growth

areas, as well as the future Western Sydney Airport and Aerotropolis, and intersects with other major roads including Bringelly Road.

As a key east-west arterial link, Bringelly Road provides direct access to Camden Valley Way and The Northern Road as well as providing access to Leppington Station, surrounding businesses and services including schools.

The first stage of the upgrade project, on Bringelly Road between Camden Valley Way and King Street and on The Northern Road between Old Northern Road and Peter Brock Drive, was completed in 2018 and another stage of the upgrade between Mersey Road and Eaton Road opened to traffic in September 2020.

Stage 2 involved upgrading 11.3km of The Northern Road between Peter Brock Drive at Oran Park and Mersey Road at Bringelly and 4.3km of Bringelly Road between The Old Northern Road at Bringelly

and King Street at Rossmore to 4-lane divided dual carriageway with an 80 km/h speed limit, as well as the new Bringelly interchange.

The project also involved the construction of new bridges over Thompson Creek and South Creek, upgrades to several key intersections, bus priority lanes at traffic lights and indented bus bays.

Stage 2 was constructed by ACCIONA (formerly Lendlease Engineering) and its completion is an important step in providing smoother, safer and more reliable journeys. The upgrades will also capitalise on the economic benefits through freight and passenger travel to Western Sydney International (Nancy-Bird Walton) Airport in the future.

The Bringelly interchange is a key feature of the upgrades due to its considered design and seamless fit in to its surrounding landscape. The bridge spans the full width of The Northern Road carriageways. There are no supporting piers within the median, leaving unobstructed views at the lower level of the interchange and providing clear lines of sight for motorists passing beneath Bringelly Road. The bridge is adorned with anti-throw screens that are a strong and recognisable presence for pedestrians and motorists and have become a visual landmark within the precinct.

The retaining walls, decorated with bold, playful, dynamic colour panels, continue through this 65m long section of The Northern Road. The design of the panels were inspired by the Cumberland Plain Woodland; the light weight panels themselves reflect distinctive vertical tree trunks and their colours echo the red tones of the Sydney Red Gum and Bloodwood trees, the black tree trunks that follow on from bushfires, and the green of regenerating forests.

Throughout its lifetime the project achieved some incredible feats, including one of the largest concrete pours ever undertaken in New South Wales. In January 2019, a 24 hour continuous concrete pour took place to complete the overpass deck of the Bringelly interchange. More than 100 workers poured 2,600m³ of concrete throughout the day and night.

Along with achievements like this, the project's success can be attributed to the countless contractors, subcontractors and suppliers who dedicated their time to the upgrades from start to finish. The contract provided contracts for 360 suppliers (up to Dec 2020 data), including 189 suppliers in Western Sydney (up to Dec 2020 data) based in Western Sydney, and 170 Subcontractors (up to Dec 2020 data).

As the project was fully opened to traffic in December 2020, 2.8 million people hours were dedicated during construction and 4,400

Below Every day, the 15,000 motorists who use The Northern Road and 10,000 motorists who use Bringelly Road benefit from the upgrades.

inductions were carried out. There were 170 property adjustments, 32km of pavement laid, 14 traffic signals installed, 16km shared concrete foot path laid and 11km of future bus lane built, making it one of Western Sydney's biggest infrastructure projects to date.

"The completion of the project late last year was great news for the local community who had been waiting patiently to see this part of the upgrade open to traffic," a Transport for NSW spokesperson said. "Motorists have seen significant changes along this section of The Northern Road that have and will continue to support integrated transport in the area, and will capitalise on the economic benefits from the Western Sydney Airport at Badgerys Creek".

The remaining upgrade works along The Northern Road are scheduled to be completed in 2022, weather permitting.

The benefits of the investment in this precinct, including The Northern and Bringelly Road upgrades, come to life every day, supporting the NSW Government's vision for the Western Sydney region. These benefits include:

- Increased capacity for traffic growth;
- Improved travel times in the future;
- Improved safety for motorists, cyclists and pedestrians;
- Better bus priority and facilities;
- Improved access to the future Western Sydney International (Nancy-Bird Walton) Airport, Leppington Railway Station and the M5 and M7 motorways;
- Improved access and travel times for road freight in South-Western Sydney;
- Access to the future South West Growth Centre precincts along Bringelly Road, including Leppington Town Centre;
- Improved street lighting and enhanced landscaping.

For more information contact Transport for NSW, 231 Elizabeth Street, Sydney NSW 2000, phone 02 0802 2200, fax 02 8202 2209, website www.transport.nsw.gov.au

For more information contact ACCIONA, Level 2, 55 Harrington Street, The Rocks NSW 2000, phone 02 8117 0100, email infrastructure.sydney@acciona.com, website www.acciona.com.au



Below B&K Revegetation and Landscaping completed revegetation and landscaping the verge works, median strip and garden planting.

The second stage of the upgrade of The Northern Road and Bringelly Road by ACCIONA for Transport for NSW, are part of a wider road upgrade programme to provide easier, faster and safer travel for motorists in Western Sydney.

Specialist commercial landscaping contractor B&K Revegetation and Landscaping was appointed for revegetation and landscaping of 30km of verge works, 15km of median strip and garden planting along the entire road length.

Works included:

- 1.6 million plants and 7,500 trees
- Approx. 50ha of hydromulching completed
- Approx. 36,000m² of compost blanket installed and 30,000m² of turf installed
- Approx. 48ha of cultivation to garden beds and turf areas
- 62,000m² of jute matt installed
- 20 property adjustments

“Getting 1.6m plants in the ground at the right time required careful planning. We also had to manage the impacts of drought in the early stages and adapt our approach to ensure all the planting established well,” said Cameron Darby, Sydney Area Manager.

“A lot of recycled mulch comes from construction waste so supply goes up and down depending on what construction projects are underway,” Cameron explained. “To get the required quantity of mulch on site we had to look at other sources.”

The Northern Road and Bringelly Road upgrade is a major infrastructure project and

is being completed in multiple stages over approximately three years. “The landscape is constantly transforming and the plants in the early stages have already grown substantially,” said Cameron. “The job is looking absolutely brilliant. It’s one of the best road jobs we have worked on and the commitment to green landscaping from the project team has been great to see.”

B&K maintained a collaborative working relationship with main contractor ACCIONA and Transport for NSW over the course of the works. They will also deliver post completion maintenance services to ensure the planting establishes well and continues to flourish. These services include weeding, pruning, mowing, plant removal and install, fertilising, watering and general maintenance.

While the Stage 2 works were underway for The Northern Road and Bringelly Road upgrade, B&K were also undertaking revegetation works on The Northern Road upgrade Stage 3, 4, 5 and 6 for ACCIONA and other contractors.

B&K provide a diverse range of services covering all aspects of landscaping including commercial and streetscape works. They specialise in road infrastructure, major park and playground upgrades along with large scale foreshore revitalisation projects and work with all major Tier 1 builders on roadworks projects across New South Wales and also work in Queensland and the Northern Territory.

Other services offered by B&K include mine and construction site rehabilitation, erosion

control, dust abatement and carbon offset tree planting. Sister company B&K Developments is an award-winning home builder operating on the New South Wales Central Coast.

“We are really focused on delivering quality at scale,” Cameron said. “We have a lot of equipment and labour that makes us a one-stop-shop for landscape works. Using our own labour minimises reliance on subcontractors giving us greater control over the end result.”

With the capacity to work on the biggest projects, B&K have a family oriented approach to business, with a focus on building personal relationships with suppliers, clients and contractors and within their own team. “The managing directors are often present in the yard and engaging with the guys which is a real rarity these days,” said Cameron.

On all their projects, B&K strives to provide their clients with the highest standard of professional results. They are committed to ensuring the health and safety of their staff and dedicated to protecting and caring for Australia’s precious natural environment.



For more information contact B&K Revegetation and Landscaping, 6 Apprentice Drive, Berkeley Vale NSW 2261, phone 02 4384 4159, email info@bkreveg.com.au, website www.bkreveg.com.au





Below Hutchison Weller, with Cameron (left) and John (right), delivered innovative noise and vibration services to the project.

With broad experience in noise, vibration, air quality, environmental management and auditing, Hutchison Weller is an environmental consultancy focused on working with public and private clients to deliver outstanding results and exceed client expectations.

The upgrade of The Northern Road and Bringelly Road was one of Sydney's first projects to use Hutchison Weller's proprietary web-based noise assessment tool 'KNOWnoise'.

Having initially delivered a noise and vibration management plan and construction noise and vibration impact statements, Hutchison Weller provided the project team, led by main contractor ACCIONA, with its project-specific customised version of KNOWnoise. The tool enabled the project team to independently prepare its own noise assessments during construction.

KNOWnoise quickly and simply provides project teams of all sizes with the tools to plan, assess and manage noise impacts. Built on Hutchison Weller's specialist expertise, it offers a game changing approach to dealing with noise in construction projects of all types.

"We always try to work smarter, rather than harder," explained John Hutchison, Co-Founder of Hutchison Weller. "KNOWnoise allows our clients to do their own noise assessments that are as accurate as those prepared by a noise consultant. No training is necessary and clients can quickly get specific advice to help them get on with their projects."

The software has a user-friendly interface, in which the user selects the equipment and the map location where works will be carried out as well as the start and finish time. The tool quickly generates the noise assessment based on the input data. Results are based on expert noise predictions using SoundPlan to ensure accuracy. The model considers buildings, walls and topography in the surrounding area.

The noise assessment report generated by KNOWnoise is tailored to the project and includes compliance tables and maps. Predicted results can be exported into Excel.

Upcoming works can then also be accessed through a visual calendar interface.

"Using this tool has helped many of our clients save hundreds of thousands of dollars commissioning noise assessments," said John. "However, an even bigger benefit is the flexibility it gives contractors when planning works. They can use the tool to explore hypothetical scenarios and assess the impact of each. The initial investment is repaid in no time."

For smaller projects, a non-project specific tool, KNOWnoise: Minor Works, is also available. After a simple setup, where the user sketches a work site in the map interface, contractors can generate noise assessments for small projects at minimal cost, benefitting from the power of KNOWnoise that larger projects enjoy.

Hutchison Weller has added value, including KNOWnoise, on all types of state significant infrastructure in New South Wales. They have assisted major projects such as Northconnex, WestConnex, Western Sydney Airport, Batemans Bay Bridge Replacement and several stages of The Northern Road among others.

KNOWnoise was designed and developed by Hutchison Weller to provide the best automated noise assessment tool currently available in New South Wales. "We wanted that point of difference when we started out," John said. "We really want to add value for our clients and that drives us to be innovative."

KNOWnoise is constantly being refined and includes vibration and multi-storey capability. Hutchison Weller is exploring ways to expand the tool's capability into new markets. "We are focused on building strong relationships with clients and finding interesting new challenges where we can add value," John explained.

The partnership between Co-Founders, Cameron Weller and John, perfectly balances environmental management and noise and vibration services. John says, "blending our noise and vibration services with Cam's environmental management expertise greatly benefits our clients who can rely on us for practical and innovative advice."

For more information contact Hutchison Weller, Level 1, 357 Military Road, Mosman NSW 2088, phone 02 8969 6071, email info@hutchisonweller.com, website www.hutchisonweller.com

Below Millcon supplied 2,600m³ of B80 bridge mix concrete and vibratory truss screeds for the deck of the Bringelly viaduct bridge.

The second stage of The Northern Road and Bringelly Road upgrade project is a major investment on road infrastructure in Western Sydney that comprises part of the \$4.1 billion Western Sydney Infrastructure Plan and is set to improve safety, increase road capacity and reduce congestion and travel times in the area.

Millcon were appointed to carry out place and finish works for the voided slab at the Bringelly Interchange viaduct bridge, the main grade separated interchange that was constructed as part of the upgrade project.

Millcon's works involved a continuous pour of 2,600m³ of RMS approved B80 bridge mix concrete at a pour rate of 180m³ per hour. Five pumps were used including one standby pump and Millcon also supplied four vibratory truss screeds to finish the deck excluding some small areas which were hand screeded due to access constraints.

"The project was a bit out of the ordinary," said Jim O'Keeffe, Director. "Overall it was a 26 hour pour for us. We started on a Friday afternoon and finished the following evening with separate night shift and day shift crews."

To ensure the successful completion of the works, Millcon undertook extensive pre-pour checks and carried out inspections and sign offs during the pour itself. "We've worked with the main contractor ACCIONA, before," said Jim. "We knew the guys onsite and had a good relationship with them so that helped us a lot."

The long overnight pouring operation was made even more challenging by unfavourable late January weather conditions. "It was particularly hot that day so in addition to managing workforce fatigue we also had to manage dehydration risks," Jim said. "We rotated our team and provided plenty of rest breaks. We were continuously monitoring all our guys to make sure they were okay."

With an inhouse team of 50-70 trained operatives, Millcon were able to provide a sufficient quantity of skilled labour to cover both shifts of the pouring operation.

Millcon are always striving to develop the skills and experience of their employees and supervisors to ensure a greater ability to deliver successful projects for their clients. It is an approach that has allowed Millcon to grow and thrive and allows them to look towards an even brighter future.

"A key feature of Millcon is our ability to self-perform with minimal reliance on external subcontract labour," Jim explained. "We find this gives us greater control over the work to ensure we always have the right experience on the job to get the highest quality result."

Established in 2008 and serving the Queensland and New South Wales markets, Millcon have built an impressive track record of success on major road infrastructure projects such as WestConnex M4 East, upgrades to the Pacific Highway and many more.

With a specialist focus on concrete structures, Millcon's areas of expertise include bridges, culverts and headwalls, water retaining structures, cut and cover structures, precast panels and parapets and civil infrastructure. They offer inhouse fabrication of custom formwork as well as labour and light vehicle supply.

Millcon draws on their experience and expertise to deliver value to their clients. "We are always finding innovative solutions to get the job done while maximising quality and efficiency," Jim said. "We often work with clients to improve their design to reduce the required manpower and get a better outcome while achieving the desired completion date."

Other projects recently completed by Millcon include the Farley Wastewater Treatment Works for Hunter Water, the Sydney Desalination Plant, the Coffs Harbour Water Treatment Plant and Chaffey Dam Augmentation.

For more information contact Millcon, 5/36 Industrial Drive, Coffs Harbour NSW 2450, phone 0413 556 592, email admin@okcon.com.au



Below Eather Group supports a sustainable waste-to-resource ethos creating opportunities for bulk excavated materials to be transformed.

Below CKF Surveys undertook construction and engineering surveys for five bridges along The Northern Road and Bringelly Road Upgrade Stage 2.



Eather Group vehicles pictured in front of the stockpile of excavated shale from the Bringelly Road project, and below are five of the brick products that were produced using this material.



Sustainability in the construction industry is of utmost importance to the Australian population, and local business Eather Group innovated a unique solution for this project. Eather Group is a 100% Indigenous owned-and-operated specialist business that offers sustainable solutions which support the civil, construction, and waste-to-resource industries along the eastern seaboard.

Eather Group were able to present the material to a brick making facility only 1km away from the excavation site.

All 100,000 tonnes of that material is now processed and ready to be turned into bricks to feed the local building industry

Entering their 11th year in business, Eather have sustainability at the core of what they do, with their business centering around creating and maintaining a circular economy by working with clients to assess bulk excavated material and design opportunities for it to be reused in the future.

Their services were engaged by Lendlease to dispose of the excess excavated raw material from the overpass on Bringelly Road. With seven of their own drivers, and local subcontractors they engaged, Eather Group tripled production and carted out over 100,000 tonnes of excavated material in just over three months.

The fate of such materials tends to be landfill, and the travel costs, as well as carbon footprint, of carting so many tonnes can be astronomical. But after careful assessment and management,



For more information contact Eather Group, 128b Terrybrook Road, Llandilo NSW 2747, phone 02 4777 4407, email info@eathergroup.com.au, website www.eathergroup.com.au

CKF Surveys is an engineering and construction surveying firm specialising in infrastructure projects. Based in Port Macquarie, they service projects nationwide for state and federal governments and the private sector. Established in 2012, they are certified with the Surveying and Spatial Sciences Institute and committed to providing the best possible survey support to meet project specifications.

CKF Surveys were appointed by main contractor ACCIONA to undertake construction and engineering surveys for five bridges along The Northern Road and Bringelly Road Upgrade Stage 2.

Following the initial surveys, CKF Surveys remained involved throughout the construction process addressing requests for information and verifying as-built information at the end of the project. To obtain the most accurate measurements possible CKF Surveys used a new Leica Nova MS60 MultiStation surveying instrument.

Over the course of the project CKF Surveys' scope was increased to include surveying of a 20km Sydney Water trunk main running parallel to the road works. They also assisted in surveying the asphalt paving along the entire road length.

During the project CKF Surveys also contributed to the development of the finer details of the design in collaboration with ACCIONA, Transport for NSW, other subcontractors and engineers.

"It was a really good job for us," said Chad Ferrett, Director. "ACCIONA and all the subcontractors had a real safety focus and everything was triple checked onsite which meant we always felt safe."

The large scale of the project made collaboration between parties important. "We work well in conjunction with others so this project suited us," explained Chad. "We welcome opportunities to collaborate and we are open to new ideas."

"On this job it was great to see everyone working together to solve problems and get the project finished in the best possible way."

For more information contact CKF Surveys, 22 Kingfisher Road, Port Macquarie NSW 2444, phone 0400 002 050, website www.ckfsurveys.com

Below Environmental Earth Sciences Group developed a surface water management strategy to treat groundwater that was contaminated with PFAS fire fighting foam.

Below Subterra installed approximately 26km of stormwater drainage pipes for Stage 2, and completed a range of related services.



Environmental Earth Sciences (EESI) Group is Australia's leading environmental science group. They have over 30 years experience helping clients mitigate financial, regulatory and legal risks associated with legacy contamination upon land, surface water and groundwater, and facilitating management of waste.

For Stage 2 of The Northern Road and Bringelly Road Upgrade, EESI was contracted by CPB Contractos to develop a surface water management strategy to assess, divert/store, contain and treat groundwater that was contaminated with PFAS fire fighting foam. Together with CPB, they liaised with the NSW Environment Protection Authority (EPA) to obtain approvals and resolve the contamination problem.

EESI were also engaged by BMD to undertake soil classification along the new road to characterise the degree of contamination and asbestos content to aid the development of materials management plans. For Stage 4 of the upgrade they are also providing asbestos management plans, clearance assessments and certificates.

In addition to consulting services, EESI also operates a soil recycling facility in Cootamundra New South Wales called New Soil which offers

a more sustainable alternative to landfill disposal for contaminated soils. The bioremediation processes at New Soil converts contaminated soil into reusable material for a significantly lower cost per tonne than landfill disposal.

The New Soil facility was set up 10 years ago and was the first of its type. It has become a model facility for other regions and EESI is now looking into establishing new facilities in Victoria and closer to Sydney. EESI are highly experienced in major linear infrastructure projects nationwide as well as in many other project sectors for public and private sector clients.

EESI are committed to developing scientifically sound solutions for a cleaner, greener earth. "We like to go for challenging projects," said Chris Newlands, Principal Consultant. "We're always building on our experience with contamination and remediation to find more sustainable solutions for today and into the future."

For more information contact Environmental Earth Sciences International, 82-84 Dickson Avenue, Artarmon NSW 2064, phone 02 9922 1777, fax 02 9922 1010, email info@eesigroup.com, website www.eesigroup.com

Subterra Civil is a specialist stormwater drainage and civil contractor based in Sydney, providing services for Tier 1 and Tier 2 contractors across New South Wales. Founded in 2015 by Christopher Noone and Patrick Joyce, Subterra Civil have grown into a multi-disciplinary team of experts focused on finding solution for challenging projects.

Subterra installed approximately 26km of stormwater drainage pipes for Stage 2 of the upgrade to The Northern Road. They also provided a range of related services including plant and labour hire and excavation. The project was the first completed by Subterra for ACCIONA and they have subsequently been engaged on Stage 3 of the project as well as the new Western Sydney Airport.

"The project was big compared to others we have done," said Chris. "At one stage we had four to five crews working simultaneously. The works were planned very well by the main contractor which helped us. We could see what was coming up and plan our resource to ensure everyone on the job was productive."

"We rely on the efficiency of our crews. Some of our guys have been with us for years and run a tight ship," explained Chris. "Patrick and

I are also very hands on, providing direct input and attending team meetings. We appreciate what our guys are doing even more when we are also doing it ourselves."

Problem solving is another key aspect of Subterra's approach. "We are always trying to find problems months before they occur," Chris said. "We want to help the contractor to identify problems through good planning and design around them."

Subterra are committed to providing the required support to reach completion safely and efficiently, on time and within budget. They have the machines, manpower and industry experience to deliver on projects of any size.

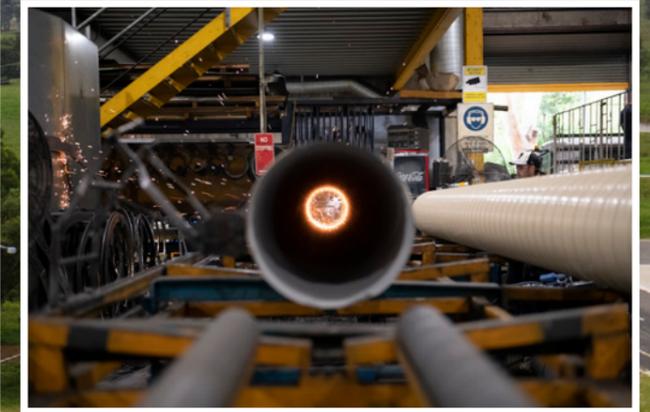
For more information contact Subterra Civil, PO Box 171, Kellyville NSW 2155, phone 02 4708 9625, website www.stcivil.com.au



The Northern Road and Bringelly Road Upgrades, New South Wales

Below Stywill Texture Coating applied Dulux Acra-Tex paint system to retaining walls and applied a clear anti-graffiti coating to concrete structures.

Below Trans Vent provided steel pier liners to form concrete foundations in areas with unstable ground on The Northern Road and Bringelly Road Upgrades.



Stywill Texture Coating are a Sydney based contractor specialising in painting and anti-graffiti application. In business for 37 years, they have become synonymous with noise barrier and highways projects in New South Wales and interstate and have worked on some of Australia's largest projects.

For Stage 2 of The Northern Road and Bringelly Road Upgrades, Stywill Texture Coating applied Dulux Acra-Tex paint system paint to feature retaining walls at underpasses and applied a clear anti-graffiti coating to concrete bridge structures. In total they completed 4,000m² of painting and 12,000m² of anti-graffiti coating on the project.

The anti-graffiti coating was SureSeal Graffiti Shield. When applied over a raw concrete or painted surface it creates a non-sacrificial barrier. Graffiti can then be easily removed using a water-based remover that is also supplied by Stywill Texture Coating.

"The Graffiti Shield product represents good value being both economical and functional," said Blair Hamilton, Managing Director. On all projects Stywill Texture Coating aims to work alongside other trades to minimise disturbance and deliver their works quickly and to a high standard. Using airless and texture spray units, air compressors,

pressure washers and generators, they can complete kilometres of painting with precision and speed.

In addition to highways, Stywill Texture Coating also undertake work on railway stations and tunnels, as well as offer domestic roof restoration, vermiculite ceiling services and maintenance contracts for schools. With expertise in many fields they work with clients every step of the way from planning to completion.

"The way we approach projects sets us apart," Blair said. "We work on major projects around New South Wales and further afield. Despite being a small contractor we go through all the pre-tender processes that are required of us and keep up with the work onsite where it matters."

For more information contact Stywill Texture Coating, 6/8 Artisan Road, Seven Hills NSW 2147, phone 02 9674 9700, fax 02 9674 9711, email stytex@bigpond.com, website www.stywilltexturecoating.com.au

Trans Vent is a family owned, Australian company founded in 1975 and dedicated to manufacturing and fabricating spiral tubing and ducting. For Stage 2 of The Northern Road and Bringelly Road Upgrade, Trans Vent provided steel pier liners to form concrete foundations in areas with unstable ground. The pier liners were fabricated based on the main contractor's requirements and supplied directly to site.

Trans Vent pier liners are lightweight, cost efficient and easy to modify. They are corrugated to provide rigidity for peace of mind. They can also be used as void formers to form cavities within concrete for applications including bridges and concrete decking.

"In this case we fabricated the liners to order but we also hold a lot of stock for immediate delivery or pick up," said Daniel Cronshaw, Sales Manager. "We pride ourselves on short manufacturing times and always try to offer a quick turnaround."

The large scale of the project was nothing new to Trans Vent who have the capability to serve roadworks, bridge building and other infrastructure projects of any scale nationwide. Their range includes spiral piers, piping and sheet metal products. They also supply ducting for commercial and institutional applications.

Trans Vent products are made in Australia from Australian steel and manufactured in a range of metals including stainless steel, mild steel welded tube and galvanised lock seam. Their sister company CMP Manufacturing also supplies mobile mills for onsite pipe forming in remote locations.

As a family owned company, Trans Vent places importance on a friendly and personal workplace culture. "We are committed to providing a personal touch for employees and customers," said Daniel. "A lot of our guys have been here a long time and are experts at what they do."

For small or large projects, Trans Vent are ready to assist with products for diverse applications.

For more information contact Trans Vent Spiral Tubing, 38 Peachtree Road, Penrith NSW 2750, phone 1300 780 315, email sales@transvent.com, website www.transvent.com

Below Delta Solutions managed scheduling works using Tilos Linear Planning software to optimise work schedules on the project.

Below Topline used two Callaghan boom pumps capable of pumping a combined 170m³ of concrete per hour on the project.

Below Scully Outdoor Designs Australia designed and installed community infrastructure including a new transit shelter with seating.



Delta Solutions specialises in software for construction and engineering to improve project management, communication and decision making. For the Northern Road and Bringelly Road Upgrade Stage 2, Delta Solutions were appointed to manage scheduling works using Tilos Linear Planning software.

Tilos is a planning software for linear construction projects which enables the visualisation of progress in terms of distance over time. The visual interface allows bottlenecks to be identified and schedules optimised. Different scenarios can be explored and compared. As a dynamic tool, Tilos also tracks progress. As-built information is easily imported to allow planned works to be compared with reality. Bi-directional integration with Gantt chart tools such as P6 creates a project planning suite with complementary functionality.

Tilos helps manage project risks and achieve the best business outcomes. Delta Solutions are the exclusive distributor of Tilos software in Australia and New Zealand and provide leading solutions for the infrastructure of tomorrow.

For more information contact Delta Solutions, phone 07 39 111 066, email info@deltasol.com.au, website www.deltasolutions.com.au

Topline Group is a family owned business specialising in concrete pumping and are one of only a couple of suppliers in Sydney offering a full range of pumps from line pumps to 50m boom pumps.

Founders, Giovanni Cettolin and Peter Martin have been in the concreting industry since the 1970s and have complemented their expertise by investing in the latest fleet equipment. Over the past 35 years, Topline have been involved in most major infrastructure projects in New South Wales, including supplying pumping equipment for The Northern Road and Bringelly Road upgrade.

To complete the project Topline purchased two new Callaghan boom pumps capable of pumping a combined 170m³ of concrete per hour. "This project was the biggest RMS pour in New South Wales at the time," said Peter. "Whilst we have completed larger pours in the past, We're proud to have played our part at Bringelly." Serving Sydney and surrounding regions, Topline Group have the experience and equipment to complete any job to the highest standard.

For more information contact Topline Group Australia, phone 0418 263 269, website www.toplinegroup.com.au

The Northern Road and Bringelly Road upgrade is a major infrastructure investment for Western Sydney and includes new community infrastructure such as the construction of a new transit shelter with seating to serve Rossmore Public School on Bringelly Road. The shelter was custom measured onsite, designed and fabricated by Scully Outdoor Designs at their Caringbah factory and incorporates a galvanised and powder coated steel frame, and a steel roof with powder coated galvanised steel gutters and downpipes.

The bench seating is also powder coated steel frame with recycled composite plastic slats. The shelter was selected by the school from Scully Outdoor Designs' extensive range of transit shelters in different shapes, configurations and materials. Their range also includes shade sails, covered outdoor learning areas, playgrounds and street furniture.

Their Scully Stone range is an innovative high quality range of impact rated stone street furniture designed and engineered to provide safety and peace of mind to Australian communities while contributing to creating a sense of place in their urban environment.

With all their clients, Scully Outdoor Designs strives to build long lasting relationships based on trust and reliability. They work with

clients to create high quality, durable solutions that excel in form and function. They focus on designing and supplying products that solve problems and deliver positive change to Australian communities.

"We service any project where outdoor furniture is required, but the education sector is a particular strength of ours," said Shane Scully, National Marketing Manager. "We are really focused on transforming under utilised parts of schools into loved spaces. It's very rewarding to work in a school that is lacking usable outdoor space and after we do the project the school really comes to life."

Scully Outdoor Designs is a leading supplier of quality and innovative outdoor products. Established since 1994, the company serves many sectors including state and local government, aged care, day care, cemeteries and shopping centres, and various other commercial companies.

For more information contact Scully Outdoor Designs Australia, 7D, 1-3 Endeavour Road, Caringbah NSW 2229, phone 02 9531 4166, fax 02 9531 6699, email info@scully.net.au, website www.scully.net.au