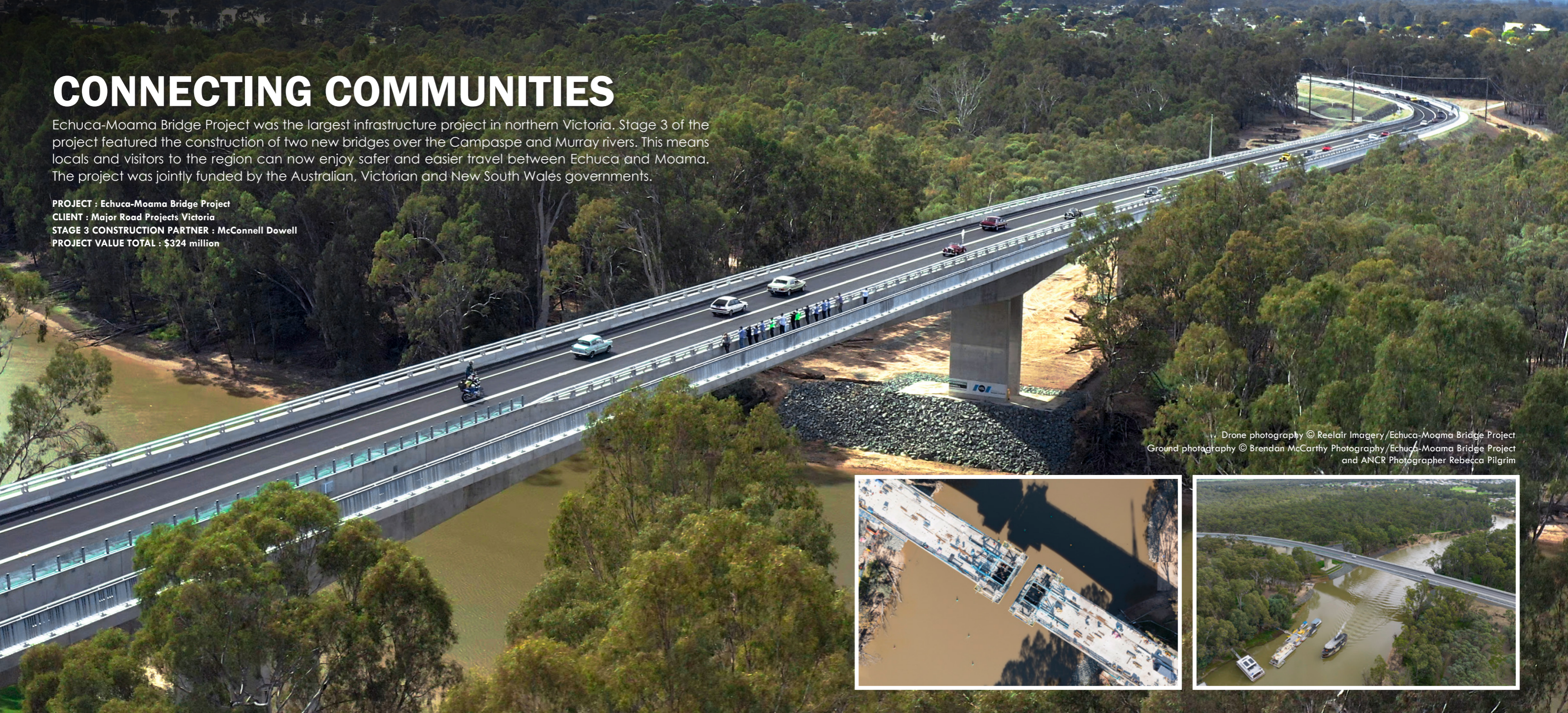


CONNECTING COMMUNITIES

Echuca-Moama Bridge Project was the largest infrastructure project in northern Victoria. Stage 3 of the project featured the construction of two new bridges over the Campaspe and Murray rivers. This means locals and visitors to the region can now enjoy safer and easier travel between Echuca and Moama. The project was jointly funded by the Australian, Victorian and New South Wales governments.

PROJECT : Echuca-Moama Bridge Project
CLIENT : Major Road Projects Victoria
STAGE 3 CONSTRUCTION PARTNER : McConnell Dowell
PROJECT VALUE TOTAL : \$324 million



Drone photography © Reelair Imagery/Echuca-Moama Bridge Project
Ground photography © Brendan McCarthy Photography/Echuca-Moama Bridge Project
and ANCR Photographer Rebecca Pilgrim



McConnell Dowell (MCD) was awarded the project's Stage 3 contract by Major Road Projects Victoria (MRPV) in 2019, for works including new bridges over the Campaspe and Murray rivers, two flood relief bridges and a new shared walking and cycling path along the route.

For the design of the new Murray River crossing, named the Dhungala Bridge, McConnell Dowell presented a balanced cantilevered box-girder bridge solution with a 115m main span to avoid permanent piers in the river. The bridge construction methodology, which was built from supports on both banks of the river, minimised the need to access the waterways during project works. It also lessened the environmental impacts of building piers in the river, and added the advantage of ongoing river-wide water access for local boats including the region's iconic paddle steamers.

The new Dhungala Bridge is the third longest in Victoria and one of few in Australia to be built using this balanced cantilever method which required careful coordination between construction and engineering teams.

Another major challenge for Stage 3 of the project was the impact of COVID-19 which was especially pronounced for the project team, as works spanned an interstate border which was intermittently impacted by closures and restrictions. "We had different work crews in Victoria and New South Wales to keep the project moving," said Matt Boyd, MCD Project Director. "Even when we could get travel permits, simple matters like trucking materials across the state border on the existing bridge were made complicated and needed careful management."

The need for a new river crossing between the twin-towns of Echuca and Moama was originally identified in the 1970s and is today delivering benefits to the community, providing an alternative to the previous bridge built in 1878, originally designed for trains and road traffic. The new Dhungala Bridge also provides greater connectivity between the towns where the community's work, study and other activities often span the border.

"The local community couldn't be happier to finally see this project delivered," said Matt. "The construction process created a lot of

interest and excitement culminating in 8,000 people crossing the bridge on foot during the project's open day celebrations."

Sustainability, cultural heritage, stakeholder management and social benefit procurement initiatives were all considerations for this regionally-based project. The project's reduction in water use and carbon emissions, plus ecological improvements such as the installation of squirrel glider crossings, weed control and revegetation to improve habitat for wildlife, were all impressive factors in the project's overall success.

Indigenous cultural heritage was protected on site with the Yorta Yorta Nation Aboriginal Corporation (YYNAC) closely engaged with during the project. Indigenous artwork was incorporated along the new shared walking and cycling path and the region's Traditional Ownership is also reflected in the naming of both the Dhungala Bridge and the Yakoa Bridge which cross the Murray and Campaspe rivers respectively. The naming of the Dhungala Bridge included consultations with the YYNAC and the Cummeragunja and Moama Local Land Councils.

Social procurement was also a priority with traineeship and Indigenous employment outcomes exceeding expectations during the project, partly due to MCD's partnership with local disability support service, We Are Vivid and social enterprise, Vivid Work Crew.

"At McConnell Dowell we really wanted to leave a legacy through this project," explained Matt. "By working with Vivid we were able to offer employment to a lot of people who had never really worked before. It's had a positive impact on a lot of families and we are proud of that."

According to the MCD Project Director, the project was successfully completed on time and under budget, with no major defects at completion and no safety incidents. "It was great to have such a positive delivery experience with a young team," Matt said. "It has been a memorable achievement."

For more information contact McConnell Dowell, Level 3, 109 Burwood Road, Hawthorn VIC 3122, phone 03 9816 2400, email mcdgroup@mcddgroup.com, website www.mcconnelldowell.com

Below Chief Group provided plant and equipment hire, engineering and supervising resources for Stage 3 of the Echuca-Moama Bridge Project.



Chief Group is a leading provider of plant, people and services in the civil contracting space. It provides cutting edge and innovative solutions to cater for all civil scope requirements with a large focus on program, budget, and safety. Chief has been involved in the successful delivery of some of Victoria's most recent major projects.

Chief Group provided plant and equipment along with engineering and supervision resources to the Stage 3 construction partner, McConnell Dowell, for the recent Echuca-Moama Bridge Project that included the construction of a second river crossing over the Murray River, between Echuca and Moama.

The scope of work undertaken by Chief Group on the project encompassed work sites on both sides of the Murray River in Echuca, Victoria and Moama, New South Wales. The group's scope included enabling works as well as permanent earthworks, pavements, substructure and rehabilitation work. Included were the construction of abutments on both bridges for the Campaspe and Murray river spans as well as carriageway and intersection builds.

"Our work on the Echuca-Moama Bridge Project was both diverse and challenging," said Ben Cook, Chief Group Business Development

Manager. "The COVID-19 lockdowns, particularly with the ever-changing conditions such as the metro 'ring of steel', created challenges when allocating our workforce. The situation was compounded with the added pressure of interstate border closures, which were managed differently depending on the state enforcing them. All of these factors contributed to making the management of this project unique."

"We worked closely with the project team throughout the delivery phases to provide the best solutions for the job, as the build went on," said Ben. "We had sound job knowledge coupled with collaborative planning, ensuring the provision of the right people and plant combination. Our plant list covered everything from graders, scrapers, excavators, rollers and almost everything in between."

"We worked hard to exceed the project's expectations which were challenged with constraints such as managing earthworks in winter and working with the complexities presented by the pandemic setting. We were able to rise to the challenge of providing the best equipment and most trusted operators to deliver the job," Ben said. "We are very experienced working with McConnell Dowell (MCD) systems and admire its commitment to safety. This culture of cooperation, created a solid partnership on the project. We delivered

McConnell Dowell with the quality and flexibility it needed and that's due to our high level of capability to serve all regional areas, as well as metropolitan."

From its home base near Melbourne, Chief Group delivers road, rail and infrastructure projects across Victoria as well as interstate. The group has extensive experience with road and rail projects as well as renewable energy such as wind and battery farms.

Established over 15 years ago, Chief Group has grown into a family-owned business with more than 100 employees. "We started as an owner-operator grader hire business working on earthworks and pavement construction. We began to price and deliver scopes of work



and grew the business from there," Ben said. "We have a great team and a strong client base with a high percentage of repeat business which shows the trust our clients' place in us, for our ability to deliver."

Chief Group's strong reputation is built on its ability to think 'outside the box' and create innovative solutions that deliver results for clients on time and on budget, no matter what the challenge.

The company's service offering is tailored for every project, and the group works as a 'one-stop-shop' offering in-house surveying, consulting, and lump sum delivery, as well as people and plant on demand. It is Chief's fresh approach to civil construction combed with its depth of experience and energetic, friendly service that produces outstanding results, time and time again.

"It all comes down to teamwork," said Ben. "We work with the contractor's delivery team, understand their KPIs and combine it with our services and expertise to get the job done."

For more information contact Chief Group, PO Box 592, Bacchus Marsh VIC 3340, phone 1800 4CHIEF (1800 424 433), email info@chiefgroup.com.au, website www.chiefgroup.com.au

A BRIDGE BEYOND MEASURE

The positive aspects of the Echuca-Moama Bridge Project haven't just been about delivering major infrastructure. The project has brought about major changes in the lives of young people living with a disability, engendering long-lasting local benefits.

By listening to the close-knit community of Echuca-Moama, the project team became aware of disability support service, We Are Vivid (Vivid), and its social enterprise, Vivid Work Crew.

The Work Crew presents a way of providing people, living with a disability, an opportunity to explore employment pathways. Vivid's support workers help facilitate this experience by being mentors to the 'crew' in the workplace setting.

While the project prepared for construction activity in 2020, the MCD commercial team confirmed that the Work Crew's capability could fulfil specific project needs across its worksites, such as office and vehicle cleaning, and site maintenance. A procurement partnership was formed, which correspondingly aimed to align with the project's overarching goal, to leave a positive, lasting legacy for this region and its community.

During the life of the project, 23 young people, living with a disability, were employed on the project. They successfully fulfilled all site induction requirements, which included mandatory 'white card', safety and cultural heritage training.

On their individual personal journeys, having managed setbacks throughout their young lives, the Work Crew cohort became very much part of the project, joining the rest of the workforce for site barbeques, special days, and milestones. They learned skills, guided by the project team and support workers, undertaking tasks such as water quality monitoring and weed management.

The project also partnered with Vivid to provide a learning opportunity for nine of these supported employees. This initiative enabled them to embark on a vocational, education pathway for the first time, which saw all nine students graduate with flying colours, attaining a Certificate II in Cleaning Operations, through TAFE. This accomplishment has been instrumental in opening up permanent employment and traineeship pathways for this group.

According to MCD Project Director, Matt Boyd, building a bridge with these young people has been a highlight for the whole project team.

"We've seen friendships form with the Vivid crew and our team; we've seen their confidence grow and their skills develop. We were continually impressed by the Work Crew's high degree of dedication and commitment, and collectively they contributed 36,000 work hours to the project, an outstanding achievement," Matt said.

worked on a project of this magnitude. It has propelled us to work in different ways."

While Vivid was growing from the project experience, families and carers also noticed growth in the form of positive change occurring in the lives of the young people they nurtured.

For local mother, Susan Ryan, her daughter Sophie's opportunity to be part of 'something big' has developed a greater 'sense of self', and she's grasped a much stronger understanding



He added that MCD's social procurement strategy focuses on realising positive community impacts through a project's purchasing power. "Our team created procurement packages to suit local businesses in Echuca-Moama. Our partnership with Vivid is a great example, innovating and building relationships that support the local economy and generate social benefits."

According to Vivid CEO, Scott Alexander, the Work Crew supported employees have gained huge amounts of confidence. "They've developed a real purpose to their working day and (on the project) they felt 'included' and respected ... that doesn't always happen in the world of people with a disability."

He said Vivid has also changed the way it looks at its business, stretching expectations and "stepping up to the plate" due to its experience with the project. "We had never

of what it means to be part of a team. "She's learned about the value the Work Crew brings to a workplace. She's also observed how a busy project operates, and she's learned about the benefits of teamwork."

Susan summed up the experience by saying, "Sophie's enthusiasm for being in the workforce has grown, and for all of the Vivid Work Crew supported employees, working on the Echuca-Moama Bridge Project has been a confidence-building experience. It has been truly great for everyone involved, including our community."

Vivid Work Crew is an Australian Disability Enterprise, that offers that offers paid, meaningful employment in a supported environment.

Echuca-Moama Bridge Project feature continues over page



Picture left: Team members from Vivid Work Crew at the project site pictured with their mentors (rear)
© Brendan McCarthy Photography/
Echuca-Moama Bridge Project

Picture right: Graduation day at TAFE
© Imagine Pictures/Echuca-Moama
Bridge Project

Below The site's Indigenous Dreamtime heritage was displayed through the Corten perforated weathered steel artwork screens.

The Echuca-Moama Bridge Project has delivered much needed new vehicular and pedestrian links between Echuca and Moama on the Victorian and New South Wales border. The project forms a new river crossing and has been carefully integrated into its natural setting by urban design and landscape firms CM+ and Tract.

Based in Sydney and operating nationally, CM+ are industry leaders in highly crafted, sustainable architecture and urban design. Tract are multidisciplinary planners, urban designers and landscape architects with decades of experience delivering sustainable and memorable places and five offices around the country.

Both CM+ and Tract were involved in the project from the early stages of the tender process, developing the urban design and landscape concept based on the masterplan. The design intent of the masterplan was preserved and developed to a point where it could be delivered incorporating new dedicated pedestrian crossings and input from community stakeholders including the Yorta Yorta Nation Aboriginal Corporation (YYNAC).

"One of our key initiatives was to ensure the project was conducive to its setting," explained Kash Rangan, Director of Infrastructure at CM+. "We treated the new infrastructure as sculptural elements respectfully sited in a parkland environment with public use right up to the road embankments. Our idea was to create a simple, low-key bridge in the bush."

"The site is quite ecologically sensitive," added Deiter Lim, Managing Director of Tract. "There are middens and other Aboriginal artefacts across the whole area along with flora and fauna biodiversity. We made a big effort to ensure those connections were preserved with interpretive elements and artwork incorporating Dreamtime stories from the local community."

The sculptural artwork is built into the retaining wall along the shared user path following the road embankment and was constructed from Corten perforated weathered steel. Other interventions include new handrails along the river foreshore with irregularly spaced uprights reflecting the arrangement of riverside trees.

"Community involvement was immense during the whole project," Kash said.

"Around 7,000 to 10,000 people attended the open day event which was very exciting. The development will be a real asset for the community with greatly improved access to the riverside including new recreation facilities for people to really enjoy the space."

Tract and CM+ took a shared approach for the Echuca-Moama Bridge Project although CM+ led the design in the precinct around the Murray River crossing while Tract were more involved with the bridge over the Campaspe River and overall soft landscaping concept. Both parties have previous experience working with Stage 3 lead contractor McConnell Dowell and the whole team maintained a close-knit working relationship during the works.

"We worked hand in hand with CM+ to develop our shared vision," explained Deiter. "We looked together at how the design should respond to its context, built a shared understanding and worked towards that vision. We really enjoy working together and sharing that joy that comes from good design on a worthwhile project."

"Excellence in urban design is a common goal for both CM+ and Tract," Kash added. "We have complementary capabilities and know-how which really allows us to work well together."

The project is now complete and the new river crossing is operational. The project delivers benefits every day to the towns of Echuca and Moama.

"We're proud of how much we were able to achieve with simple, uncomplicated interventions in this landscape," Deiter said. "The project allows the site to shine both ecologically and culturally. It celebrates its natural setting and sits in harmony with it. The whole project team collaborated so well together and the community involvement was fantastic. This has been a very successful project and it was a pleasure to be a part of it."

For more information contact CM+, Level 1, 52-58 William Street, East Sydney NSW 2011, phone 02 8244 8888, email enquiries@cmplus.com.au, website www.cmplus.com.au

For more information contact Tract, phone 03 9429 6133, email melbourne@tract.com.au, website www.tract.com.au



Above: 'Dhungala Dreaming' artwork by Yorta Yorta Elder Aunty Judy Atkinson, in perforated Corten steel, installed on the new walking and cycling path as part of the project.

Photo: Imagine Pictures/Echuca-Moama Bridge Project



The new Murray River crossing



Campaspe River pedestrian bridge

Below Centre State Asphaltting was contracted to lay the multiple layers of asphalt for Stage 3 of the Echuca-Moama Bridge Project.



The towns of Echuca and Moama are enjoying greater connectivity with a new bridge connection following the completion of the Echuca-Moama Bridge Project.

Centre State Asphaltting was appointed by Stage 3 contractor McConnell Dowell to lay multiple layers of asphalt across the project including the main bridge decks, approach roads and new shared walking and cycling path.

The main bridge spans the Murray River, crossing the Victorian New South Wales border which caused some minor challenges for the works, as asphalt requirements differ between the states. McConnell Dowell's client, Major Road Projects Victoria (MRPV), was instrumental in managing Stage 3 of the project across work sites in Victoria and New South Wales.

"MRPV oversaw (stage 3 of) the project really well and worked hard to find a solution to make the asphalt mix consistent between the states," said John Bell-Andrews, General Manager. "It's unusual for us to have such close engagement with the ultimate client but in this case MRPV was onsite every day, with the MCD team, carrying out inspections which was very helpful and ensured the job ran smoothly for us."

Centre State Asphaltting established a very good working relationship with McConnell Dowell and closely collaborated with the project team to find innovative ways to improve productivity.

"We were always on the lookout for alternative solutions to improve productivity and quality, tailoring our approach for each part of the project as required," John said. "For this project there were some big time constraints, so we developed a method of moving the asphalt mix by shuttle buggy, reducing installation time for key areas of the project from weeks to days."

The road surface needed to be formed with very tight tolerances for the consistency of surface levels in order to achieve a high-quality ride. Centre State Asphaltting deployed an automated pavement level control system, incorporating a levelling beam, to create a smooth road surface.

The COVID-19 pandemic created particular challenges on this job as work was conducted

in both states, and an interstate border that was intermittently restricted during the works. "We had massive issues moving manpower and vehicles across the border," said John. "We ended up bringing in additional people and undertaking weekend work to keep the job moving forward. To deliver the project on time and to a high standard, it is testament to the hard work everyone put in and the co-operative support offered by McConnell Dowell. It was a great team effort and a job well done."

The asphalt for the project was produced at Centre State's plant near Maryborough, Victoria. Special insulated "Trout River" trucks were mostly used to transport the asphalt to work sites and all waste materials were taken back to the plant for recycling, improving the overall sustainability of the project.

Following the completion of the Echuca-Moama Bridge Project, Centre State's project team attended the community open day and had the opportunity to 'test out' the road surface first-hand. "We are very proud of the quality of the surface," said John. "The road rides really well and the new shared walking and cycling path is also beautifully smooth."

"The project is a great community asset incorporating not just the new bridge over the Murray River, but also all the associated infrastructure and paths. It has been great to be able to deliver such a positive project for the local community in association with MCD and MRPV."

Centre State provides innovative and sustainable products that lower its carbon footprint without sacrificing its quality standards, utilising the latest equipment and technologies. The company is committed to closing the loop on waste to protect the environment.

Since 2003, Centre State Asphaltting has grown to become central Victoria's leading asphalt manufacturer and contractor. Supported by being part of Colas Group and VSA Roads, Centre State Asphaltting has the local knowledge and global expertise to deliver on the most challenging asphalt projects.

For more information contact Centre State Asphaltting, PO Box 1240, Castlemaine VIC 3450, phone 03 5470 5028, email admin@csasphalt.com.au, website www.vsgroup.com.au/our-brands/

Below Australasian Fencing installed multiple products including chain wire corridor fencing and pedestrian/bike rails.

Below Flatout Surveying completed all survey tasks for Stage 3 of the Echuca-Moama Bridge Project.



Based in Echuca-Moama, Australasian Fencing is a family-owned and operated business with over 15 years' experience supplying and installing all types of steel fencing to major construction projects for Tier 1 builders nationwide.

For the recent Echuca-Moama Bridge Project across the Murray River, Australasian Fencing supplied and installed multiple products including chain wire corridor fencing and pedestrian/bike rails. The company also upgraded the fencing of the Echuca Lawn Tennis Club to achieve a regulation fence height of 5m, as part of the project's contribution to local stakeholders.

A contributor to the success of the project was Australasian Fencing's good working relationship with the whole project team. "It was clear sailing for us," explained Neville Barnes, Director. "(Lead contractor) McConnell Dowell was fantastic to work with, as was everyone else."

In addition to major roads, Australasian Fencing serves other project types including rural properties, military installations and solar farms. Australasian Fencing has also expanded its field of expertise to cover high security projects specialising in palisade, pressed form spear, chain wire, razor wire and 358 mesh products.

Other current major projects include the Winneke Solar Farm, Yarram Aerodrome and the Puckapunyal Army Base where Australasian Fencing is installing a total of 115km of fencing.

With the resources and expertise to serve multiple projects and a wide range of quality products available, Australasian Fencing is committed to safely and sustainably delivering projects on time, on budget and to the highest standard.

The company is backed by comprehensive quality standards and policies reflecting their commitment to the environment, employee and public safety. The company has an in-house Occupational Health and Safety Management System and can also comply with clients' specific requirements.

"Our focus is on delivery," Neville said. "Our clients trust us to always deliver on time according to the programme. It was a pleasure to be able to achieve that same outcome on this fantastic project."

For more information contact Australasian Fencing, PO Box 562, Moama NSW 2731, phone 0418 176 178, email info@australasianfencing.com.au, website www.australasianfencing.com.au

Flatout Surveying is an expert provider of surveying services in Melbourne, across Victoria and interstate. With over 10 years' experience in the construction and engineering industry the company provides quick, reliable and cost-effective surveying solutions on projects of all sizes.

Flatout Surveying completed all survey tasks for Stage 3 of the recent Echuca-Moama Bridge Project including measuring the balanced cantilever bridge segments. This was a challenging undertaking which required onsite monitoring and corrections over a two-year period.

"The bridge installation was complex and the sequence of site works depended on the actual deflections that we recorded each day," explained Rob Toller-Bond, Senior Surveyor. "Comparing expected deflections with the actual values we recorded onsite each day enabled the project team to plan the next steps."

Many factors had an impact on the bridge deflection including daily temperature fluctuations which required values to be frequently checked. This meant Flatout Surveying maintained a constant presence onsite throughout the works.

Flatout Surveying is a specialist in infrastructure projects and other current projects including Stage 2 of the Monash Freeway and various Level Crossing Removal projects in Melbourne. Along with its separate commercial and domestic team, the company offers most facets of construction site surveying.

With a strong reputation for quality and technological innovation at competitive rates, Flatout Surveying is dedicated to meeting its clients' specific requirements with safety and integrity first and foremost.

With client MRPV, Stage 3 of the Echuca-Moama Bridge Project was Flatout Surveying's first project with lead contractor MCD, and with this success Flatout Surveying has started another project with MCD, a testament to the great result achieved.

"Our team did an amazing job on the Echuca-Moama Bridge Project," said Rob. "We are all good mates and work well together, that makes all the difference on a long and complex job, such as it was. We're very happy with the end result."

For more information contact Flatout Surveying, phone 03 9068 6043, website www.flatoutsurveying.com.au

Below Walker Grader Hire supplied and operated a John Deere 872, Caterpillar 140M grader and water truck for surface preparation on Stage 3 of the Project.

Below VSL constructed the bridge deck of the new crossing over the Murray River for Stage 3 of the Echuca-Moama Bridge Project.



Walker Grader Hire is an earthmoving plant hire company based in Victoria. The company provides grader and water cart services in Melbourne and regional Victoria and specialises in major road and rail projects in the civil construction sector.

For the recently completed Echuca-Moama Bridge Project across the Murray River in northern Victoria, Walker Grader Hire was appointed by Stage 3 lead contractor, McConnell Dowell to supply grader and water cart equipment and operators for placement of fill and final trim operations.

“Once the surfaces were built up to subgrade, we placed all the verges and cement-treated crushed rock in accordance with the required specifications,” said Brad Walker, Construction Director.

“We worked on both sides of the Murray River, with permits in place to allow us to cross the New South Wales and Victorian border during COVID-19 related shutdowns.”

Despite the challenging timescales, the Walker Grader Hire team worked efficiently to get the job done. “There was a considerable amount of ‘fill’ to be placed within limited areas and timeframes,

and our operators were able to work collaboratively with McConnell Dowell’s project team to achieve a great result”

Walker Grader Hire had the experience to deliver an excellent outcome on the Echuca-Moama Bridge Project as roads and rail projects are a specialty of the business. Other recent and current major projects include the West Gate Tunnel Project, Monash Freeway Upgrade, Barwon Heads Road Upgrade and the Mount Beauty Airport Upgrade.

Walker Grader Hire combines industry experience with a commitment to customer satisfaction. “Our goal is to get the job done at a productive rate and to the highest quality,” Brad said. “We understand our clients want the work done quickly and to an exceptional standard and we focus on ensuring we exceed our customer expectations and get the best result every time.”

For more information contact Walker Grader Hire, phone 0418 210 543, website www.walkergraderhire.com.au

VSL Australia is a specialist civil works contractor established in Australia in 1966. Part of the VSL International Group, its capabilities include constructing long-span bridges, lifting large and complex loads, rehabilitating and repairing buildings and structures, and the design, supply and installation of specialist post-tensioning products and high tensile stress bars (manufactured in Australia).

VSL’s sister company Intrafor operating under VSL Australia also constructs complex deep foundations and specialist ground engineering works, further expanding VSL’s capability to provide specialist construction techniques for a wide range of challenging projects.

VSL constructed the bridge deck of the new Dhungala Bridge across the Murray River between Victoria and NSW. The construction technique was developed by VSL and used a balanced cantilever method for the 115m main span with a specialised VSL modular form traveller system.

The type of VSL modular form traveller used on the project had previously been successfully used on the Pimlico to Tevan Project in NSW and was further adapted by VSL for Stage 3 of the Echuca-Moama Bridge Project to include an entirely new and ergonomic access system.

The strong relationship between VSL and main contractor McConnell Dowell was key to the project’s success. The two firms collaborated in an exclusive relationship starting at the tender stage when the methodology was developed and extending right through to the project’s completion.

“Early collaborative involvement of specialist organisations like VSL from bid stage to delivery improves risk and cost management of these complex structures and is simply essential to the success of such projects in the challenging landscapes we find ourselves,” explained Stephen Knox, Business Development Manager – Civil Projects.

As Australia’s foremost specialist in long bridge construction, VSL has built a reputation for quality, innovation and expert service on complex projects nationwide. Other recently completed and current projects under delivery include Batemans Bay Bridge in New South Wales, Bridgewater Bridge in Tasmania MCD, Sydney Metro West and the Queen’s Wharf Skydeck in Queensland.

For more information contact VSL Australia, phone 02 9484 5944, website www.vsl.com

Below The Echuca-Moama Bridge Project, Stage 3, utilised Permadec's GRP (glass-reinforced plastic) panels as a permanent formwork solution.



Permadec is an innovative permanent formwork solution for bridges and other civil structures. Made from GRP (glass-reinforced plastic), Permadec panels are lightweight, versatile and easy to handle and install. They can span from 1m to over 5m and are installed using a simple sealing solution. Once installed, Permadec panels can support concrete decks up to 700mm and have a 120-year lifespan.

The Permadec system was originally developed in the UK and has become a common approach to bridge building due to the many benefits it brings to projects. Now the use of Permadec is rapidly growing in Australia and it was used by Stage 3 lead contractor McConnell Dowell, on the new Echuca-Moama Bridge Project and its crossing spanning the Murray River between Victoria and New South Wales.

“The beauty of Permadec is that being permanent formwork there are no temporary elements to remove, and it still provides that safe working platform for site operatives to lay reinforcement,” explained Iain Baron, Regional Director for Asia-Pacific.

Permadec panels are custom manufactured to site-specific sizes and delivered ready for installation and use. On Stage 3 of the

Echuca-Moama Bridge Project this minimised on-site cutting and helped realise savings in onsite labour costs. Being lightweight the panels had simplified craneage requirements while still delivering the robustness and durability needed on this major project.

EMJ Plastics, the UK-based manufacturer of Permadec, has supplied panels to over 5,500 projects worldwide and the product has been helping projects in Australia save time and money since 2018. Permadec panels are fully designed and produced in the UK and can be cost-effectively and sustainably shipped worldwide due to their slim and stackable profile.

The Permadec panel range includes various types to suit individual project requirements. With in-house design capability and over 50 years experience, Permadec is the formwork option of choice for the world's leading engineers and contractors.

For more information contact Permadec, Level 16, Tower 2, Darling Park, 201 Sussex Street, Sydney NSW 2000, phone 02 9052 4975, email sales@permadec.com.au, website www.permadec.com.au

Below InEight provided the core application supporting seamless communication of critical project documentation between project stake holders.

Below Ivers Civil completed the construction of the new 8-span Campaspe River crossing for Stage 3 of the Echuca-Moama Bridge Project.



InEight integrated construction management software is transforming the way the world builds with advanced program and project controls. The software offers a complete solution for design and construction teams, improving stakeholder collaboration and confidence at all project stages.

For the recent Echuca-Moama Bridge Project, InEight provided the core application supporting seamless communication of critical project documentation between Stage 3 lead contractor McConnell Dowell, its project partners and client, Major Road Projects Victoria.

The platform used on the project was InEight Document, a well known and highly capable solution for major projects. InEight Document is configurable for both up and downstream activities and multiple stakeholders while preserving privacy requirements. Key functions include document control, design review, variation management, progress reporting, quality and handover activities.

Stage 3 of the Echuca-Moama Bridge Project was complex with the project's workforce, located both on site and in offices hundreds of kilometers apart. Reliable access to current information was critical for the project to be delivered on time and on budget. InEight ensured

that the latest document revisions were always used with appropriate approvals in place to support governance and compliance.

The project leveraged one core capability of the overall InEight Connected Data Platform, a complete solution spanning the overall asset lifecycle from design through handover to operation.

With the ability to support a multitude of core business processes, the InEight platform is benefiting hundreds of projects globally. In addition to road and rail infrastructure projects, InEight is increasingly being adopted across the energy and resources sectors as the world transitions towards renewables and carbon neutrality.

Headquartered in the USA, InEight serves customers in more than 60 countries around the world providing real-time insights to manage risk and keep projects on schedule and under budget. The team at InEight are driven by a passion to deliver a brighter future for the construction industry.

For more information contact InEight, Level 6, 700 Swanston Street, Carlton VIC 3053, phone 03 9291 0800, email sales@ineight.com, website www.ineight.com

Ivers Civil is a dynamic mid-tier construction company serving large civil infrastructure projects. Founded by Director, Sean Ivers in 2017, the company is focused on providing complex solutions for concrete structures in Victoria, New South Wales and ACT.

For the recently completed Echuca-Moama Bridge Project, Ivers Civil completed the construction of the new eight-span crossing over the Campaspe River. The company also completed the construction of the Murray River crossing approach spans on the New South Wales side, including a particularly complex transition pier between the super-tee beam and box girder sections of the bridge.

Ivers Civil completed all formwork, steel-fixing and concrete placement works for the full bridge structure including pile caps, bridge piers, blade walls, decks and barriers. The company was responsible for most of the project's Stage 3 concrete works and associated temporary works in a challenging location extending across rivers.

Another challenge was the fact that the project spanned an interstate border, which at the time of the project was subject to constantly changing pandemic restrictions requiring careful workforce management to ensure appropriate permits were in place

Ivers Civil had a good relationship with main Stage 3 lead contractor McConnell Dowell and the other trades onsite which helped with coordinating the works.

One major strength of Ivers Civil is its diverse group of people including site workers, supervisors, engineers, project managers and professional staff, all of whom are committed to delivering the best service to clients. "Thanks are due to our staff for their dedication working away from home for extended periods in a very challenging pandemic period," said Sean.

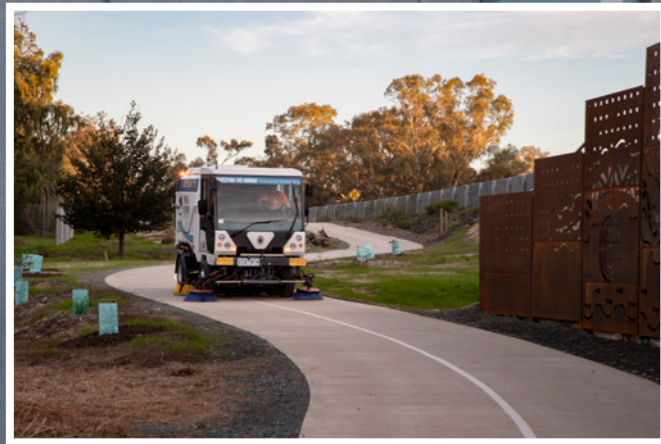
Ivers Civil is a specialist in bridge projects as well as concrete structures for roads, tunnels, marine and general civil projects. The company is involved in other major projects in Victoria including Melbourne's West Gate Tunnel Project and Port Rail Transformation Project.

Ivers Civil's expertise across the whole project lifecycle, from design to delivery of the technical solution, ensures its ability to maximise value on the most challenging projects.

For more information contact Ivers Civil Contractors, Unit 21, 830 Princes Highway, Springvale VIC 3172, phone 0415 250 852, email info@iverscc.com.au, website www.iverscivil.com.au

Below Sweeping the Murray provided industrial sweeping and pressure washing services for Stage 3 of the Echuca-Moama Bridge Project.

Below Moddex Group supplied galvanised steel barrier fencing and handrail system for Stage 3 of the Echuca-Moama Bridge Project.



The largest transport infrastructure project in northern Victoria, the \$323 million Echuca-Moama Bridge Project now provides a second river crossing in this growing region. Local business, Sweeping the Murray provided industrial sweeping and pressure washing services for various areas onsite for Stage 3 lead contractor, McConnell Dowell, including the roadway, bridge decks and the new shared walking and cycling path.

Sweeping the Murray was involved in many aspects of Stage 3 of the project, first cleaning up the base layer of the road prior to asphaltting then cleaning the new surfaces as well as final touch-ups. Some aspects of the work required great care and precision, for example cleaning the expansion joints on the new bridge.

To deliver a better result on the project Sweeping the Murray invested in new equipment. "We purchased a truck-mounted sweeper with a built-in pressure washer to help us provide a more cost-effective service," said Justin Wills, Director.

On such a large and complex project, Sweeping the Murray's expertise made a big difference. "We had a good understanding of what was required and the standard we needed to meet," Justin explained.

"Communication was also important and we had a good rapport with others on site."

Based in Echuca, Sweeping the Murray are a family-run small business. "We set up the company because we saw a gap in the market," Justin said. "We provide a service to northern Victoria and southern New South Wales that wasn't really available in the past."

The Echuca-Moama Bridge Project is the company's first major project. "The McConnell Dowell team has been brilliant," Justin said. "We really appreciate that they gave us a go and look forward to doing more projects with them."

Sweeping the Murray's vision is to keep the local community, river systems and environment clean for the next generation. The company offers commercial, industrial, carpark, factory and warehouse sweeping and is committed to providing exceptional and friendly service to ensure customer satisfaction.

For more information contact Sweeping the Murray, 47 Woodlands Circuit, Echuca VIC 3564, phone 0428 524 127, email justin@sweepingthemurray.com.au, website www.sweepingthemurray.com.au

Moddex is a leading supplier of low-risk modular handrail and balustrade systems serving Australia and New Zealand. Its no-weld solutions eliminate design and engineering costs while reducing installation costs and onsite issues.

Moddex had two separate contracts as part of the Echuca-Moama Bridge Project. For the Stage 3 lead contractor McConnell Dowell, the company supplied 900 linear metres of galvanised steel barrier fencing to either side of the project's new shared walking and cycle path, using a proprietary system.

The system was pre-engineered to require minimal site assembly. "We were able to give our client peace of mind with a tested, compliant system," said Joe Stead, State Manager. "We had all the stock in hand already and it went in seamlessly. McConnell Dowell raved about how easy the product was to install."

Moddex also designed and supplied a handrail system to specialist subcontractor Macfab for access stairs and maintenance benches under the bridge abutments. "We used our proprietary product that complies with AS1657 (Australian Standard) for maintenance access handrails and all Transport for NSW and VicRoads requirements," said

Terry Sargeant, Project Consultant. In addition to supplying the products, Moddex provided a modelling, drafting and design service as well as warranties and customer support.

"One major reason we get repeat business from our customers is the consistency of service and support they get from us," Joe explained. "We work with customers to find the best solution for their project."

Moddex provides a wide range of handrail and balustrade products covering diverse sectors. Large-scale road and rail infrastructure is a particular speciality but they also cover education, sporting facilities, industrial projects and more.

With its unique expertise and processes and the widest range of proprietary modular designs, Moddex is the number one choice for innovative barrier systems.

For more information contact Moddex, located Australia-wide and New Zealand, phone 1800 663 339, email info@moddex.com.au, website www.moddex.com

Below Circle P manufactured a range of 100% recycled plastic pipes for Stage 3 of the Echuca-Moama Bridge Project.

Below Fastsec provided site security and monitoring including maintaining guards onsite at all times for Stage 3 of the Echuca-Moama Bridge Project.



The Green Pipe is manufactured by Circle P, a Moama-based business that manufactures a range of 100% recycled plastic pipes for use in low pressure water transfer applications including stormwater, irrigation and drainage. The company is a nationally recognised sustainable pipe supplier to rural, forestry, maritime and major infrastructure projects, such as the Tullamarine Freeway and Calder Highway projects in Victoria.

The Green Pipe produces standard 6m lengths of pipe with six different diameters ranging from 250mm to 600mm, they have a bell and spigot joint incorporating a rubber o-ring. The company's unique product was developed with testing by CSIRO and Swinburne University and uses 100% recycled plastic sourced primarily from kerbside collections.

The locally developed, patented, low energy manufacturing process gives The Green Pipe a carbon footprint 50% smaller than alternative virgin products. The product is lightweight, easy to transport and possesses stiffness and tensile toughness in line with the strongest alternative High Density Polyethylene (HDPE) pipes.

Due to the high performance, sustainability benefits and competitive price, The Green Pipe was contracted to supply stormwater pipes

along the road kerbs on Stage 3 of the new Echuca-Moama Bridge Project for lead contractor McConnell Dowell. The project includes a second river crossing over the Murray River, a bridge over the Campase River and link road approaches between Echuca and Moama along with a new shared walking and cycling path.

As a local Moama-based business, The Green Pipe saw firsthand the benefits the project has brought to the community. "It was great to have been a local supplier on this project that has improved travel times between Echuca and Moama so much," said Managing Director, Nick Hogan. "The project team was a pleasure to work with and the new bridge is just fantastic."

As a 100% Australian product made from 100% recycled plastics, the benefits of The Green Pipe are clear with proven performance on civil, agricultural and forestry projects and a nationwide distribution network. More and more clients are asking "Why aren't we using The Green Pipe?"

For more information contact Circle P, PO Box 214, Moama NSW 2731, phone 03 5480 7060, mobile 0483 181 514, email sales@thegreenpipe.com.au, website www.thegreenpipe.com.au

The new crossing over the Murray River, the Dhungala Bridge, is now complete and open to traffic. Fastsec Security was involved on Stage 3 of the project from the start right up to completion. The company provided site security and monitoring including managing the receipt of equipment and deliveries, running perimeter patrol vehicles day and night, and maintaining guards onsite at all times.

"We had a constant presence," said Director, Gary Sidhu. "Even during Christmas and New Year we were onsite 24/7. It was tricky to manage resources at times, especially due to COVID-19 but we managed it and happily with no major security incidents."

One challenge was the impact of state border closures as the site spanned the New South Wales/Victoria interstate border. From its home base in Shepparton, Fastsec covers northern Victoria and southern New South Wales with a two-state operating licence. This meant they could service the whole site without major difficulties.

Maintaining a constant presence on site meant that a good relationship with the wider project team was critical. "We had a really good experience with everyone on this job," Gary said. "They were a fantastic team to work with."

Many of the personnel provided by Fastsec were local to the Echuca area. Fastsec also provides security services to the hospitality sector in Echuca as well as serving larger projects in the region, including Victoria's largest solar farm which was recently completed in Numurkah.

Fastsec was founded seven years ago, and has grown steadily with a recent expansion into New South Wales indicating expansion means is set to continue. The company's contingent of highly trained, licensed and accredited security officers are constantly undergoing training in systems and procedures to stay up to date with security standards.

Fastsec's dedication and professionalism has gained it a strong reputation. "For us it's all about trust," said Gary. "Our customers know they can count on our security services."

For more information contact Fastsec Security, phone 0452 525 117, email fastsec@hotmail.com, website www.fastsecsecurity.com.au