

Below Bowhill Engineering supplied 540m of bridge girders as well as a 64m pedestrian overpass.



Bowhill Engineering is a specialist fabricator of heavy and complex structural steel, delivering impressive projects throughout South Australia and into other states. Achievements to date encompass the stunning Wayville pedestrian bridge, curved road bridge girders up to 180m long, steel hulled ferries and every lock and weir in South Australia.

When the contractor building Adelaide's Regency Road to Pym Street project for the SA Department of Infrastructure and Transport needed 20 sections of open top box girder segments for a road bridge plus a 64m pedestrian overpass, it looked no further than Bowhill Engineering. Bowhill's facilities, equipment and 40 skilled staff are set up to handle any heavy, large and complex project.

Jeremy Hawkes, Manager Director of Bowhill Engineering said the road bridge girders totalled 540 lineal metres and weighed 1,200 tonnes, together with 300 tonnes of temporary steelwork to support the preassembly at the height of the structure.

The pedestrian bridge was proudly completed and delivered on 17<sup>th</sup> February 2021 and erected over the north-south motorway on 22<sup>nd</sup> February 2021. The project took four months to manufacture and

around 6,000 labour hours to construct. Producing the entire structure off site meant it could be constructed with all handrails, decks, safety screens and with lighting and drainage fittings installed, reducing the inconvenience to road users as the bridge was basically complete once it was lifted into place.

Bowhill Engineering is located 150kms from the project site but the delivery route extended over 300kms. With a total load length of 77m, the 5.5m wide and 6.4m high load weighed in at just over 110 tonnes. The transport equipment had 116 tyres to safely carry the bridge. The delivery is believed to be the largest volumetric load completed on South Australian public roads to date.

A multi-generational, family owned and operated business, Bowhill Engineering has an industry leading safety record and all inputs and work methods at its modern workshop meet Australian Standards as well as NSSCS – CC3 (with RMS required IIW certification pending).

For more information contact Bowhill Engineering, 68 Weber Road, Bowhill SA 5238, phone 08 8570 4208, email [admin@boweng.com.au](mailto:admin@boweng.com.au), website [www.boweng.com.au](http://www.boweng.com.au)

Below ESO Surveyors utilised the 12d software suite to provide seamless data exchange between surveyors, engineers and designers.



ESO Surveyors delivers specialist surveying solutions to the Australian construction industry, operating with a professionally qualified and experienced team equipped with the latest in surveying technology. ESO Surveyors is ideally placed to service their extensive client base from locations in all mainland states.

The South Australian branch of ESO Surveyors was engaged by the consortium building the Regency Road to Pym Street section of the South Road upgrade, a new 1.8km section of motorway providing three lanes in each direction. A new overpass, intersection upgrades and improvements to shared user path facilities with a separate cycle and pedestrian overpass over South Road were included.

ESO supplied a team of five surveyors for the project. "Our surveyors utilised the 12d software suite, allowing for smooth, instant exchange of data between surveyors in the field and in the office, as well as supplying data for engineers to facilitate tasks like excavation permits and data exchange back to the design team," said State Manager, Chris Staak.

All ESO staff are experienced in the use of 12d software. Collaboration with all project stakeholders was facilitated using 12d Synergy.

ESO Surveyors used their Z+F 5016 scanner to scan overhead high voltage powerlines to measure the sag in the wires for crane lifts within the area. It was also used to scan the pedestrian bridge ferrules where access was limited, and conventional survey was not permitted.

"We also provided and maintained augmented reality systems for client use with Trimble SiteVision technology," said Chris. "This allowed the project team to visualise where the bridge would be built offline and investigate any potential clashes with existing features without the need for an extensive survey."

Other recent projects have ranged from the Western Sydney Stadium, the Capricorn Highway Upgrade at Rockhampton, Westgate Freeway Project in Victoria and the Flinders Link Rail Bridge, South Australia.

For more information contact ESO Surveyors, 238 Waymouth Street, Adelaide SA 5000, phone 08 8212 6155, email [sa@esosurveyors.com.au](mailto:sa@esosurveyors.com.au), website [www.esosurveyors.com.au](http://www.esosurveyors.com.au)

Below Ecodynamics completed all of the hard and soft landscaping as well as 7,000m<sup>2</sup> of concrete footpaths.



Below Gridlock Electrical supplied and installed comprehensive temporary and permanent electrical installations.



Ecodynamics is an innovative landscaping business with a mission to be recognised nationally as the partner of choice in developing landscape solutions, products and services. In achieving this mission, they are creating more sustainable, greener futures for Australian communities, combined with a business model that encourages diversity, opportunity and inclusiveness.

With operations in Victoria, South Australia and New South Wales, Ecodynamics undertakes many projects for state governments and municipal authorities. One of their recent successful projects has been the Regency Road to Pym Street upgrade for the South Australian Department of Infrastructure and Transport.

"We completed all the hard and soft landscaping along almost 2km of the highway," said State Manager, Chris Francis. "This involved 7,000m<sup>2</sup> of exposed and broom finish concrete footpaths, kerb grate spill throughs, 2,500m<sup>2</sup> of feature paving under the main overpass and street furniture comprising bench seats, bins and drink fountains."

The soft landscaping included 26,000m<sup>2</sup> of topsoil, 13,000m<sup>2</sup> of irrigated turf, the planting of 517 semi-advanced trees including natives and exotic deciduous species, and 25,000 shrubs and groundcovers

which were planted in 16,000m<sup>2</sup> of irrigated garden beds. Nearly all the shrubs, grasses, groundcovers and smaller trees were grown in Ecodynamics own nursery, the company's social enterprise that aims to offset climate change and land degradation through community initiatives, helping to create a greener future.

"The main challenge we faced was to complete all the landscaping at the same time as the overall project. We successfully met the target by commencing our work early in the project timeline and working in close cooperation with all the other trades," Chris said.

Ecodynamics' deep experience and expertise in roadside infrastructure landscaping has been reinforced by its selection to undertake all landscaping associated with the \$200 million Joy Baluch AM bridge duplication project at Port Augusta and the Port Wakefield overpass and highway duplication.

For more information contact Ecodynamics, phone 1300 782 266, email hello@ecodynamics.com.au, website www.ecodynamics.com.au

Gridlock Electrical was selected as the preferred electrical contractor for the Regency Road to Pym Street works. The company's team of qualified electricians and apprentices was instrumental in ensuring the success of this major project for the South Australian Department of Infrastructure and Transport.

Gridlock Electrical undertook a comprehensive range of tasks which included both temporary and permanent installations. "The temporary works included two pedestrian crossings, northern U-Turn signals, southern U-Turn signals and temporary signalling during the construction as it moved through different phases around the Regency Road and South Road intersection," said General Manger, Graeme Anderson. "The permanent works included the removal of redundant infrastructure and the supply and installation of permanent traffic signals, traffic controller and associated infrastructure."

Other tasks included the cut and connection of vehicle detector loops at the Regency Road and South Road intersection, installation of FLIR cameras, installation of changeable message signs and supply and installation of other illuminated signage as required. The project had a number of complex features which offered a stimulating challenge for the team.

"We completed much of the work on weekends and night shifts as required by the contractor. The project indicated the competency and commitment of all our team members including our apprentices and typifies the scope of the work we undertake on a regular basis for State Government authorities and the City of Adelaide," said Graeme.

Founded in 2006, Gridlock Electrical has evolved into the only local electrical contractor offering a comprehensive traffic signal installation and street lighting maintenance service in addition to their general electrical contracting and communications work.

Since 2007, Gridlock Electrical has been responsible for the traffic signal network for the Adelaide CBD and North Adelaide areas for the City of Adelaide. Recent projects have included the Ovingham rail crossing removal on Torrens Road and Main North Road and McIntyre Road intersection upgrade.

For more information contact Gridlock Electrical, 22 Main Terrace, Richmond SA 5033, phone 08 8352 6703, email office@gridlockelectrical.com.au, website www.gridlockelectrical.com.au



# ONE FOR THE ROAD

DEVELOPER : SA Department for Infrastructure and Transport  
 CONTRACTOR CONSORTIUM : Mott MacDonald, McConnell Dowell and Arup Group  
 CONSTRUCTION VALUE : \$354.3 million

The Regency Road to Pym Street (R2P) Project includes a 1.8km section of non-stop roadway providing three lanes in each direction; two lanes in each direction on the South Road surface road; an overpass over Regency Road; left in and left out only access at Pym Street and full access and intersection upgrade at Regency Road.

An ambitious \$354.3 million infrastructure project in Adelaide on South Road between Regency Road and Pym Street (R2P) will facilitate free flow north-south movements between the completed South Road Superway and Torrens Road to River Torrens Projects.

Jointly funded by the Australian and South Australian Governments, the project provides freight priority appropriate for the National Land Transport Network, improves travel time by up to 8 minutes during peak periods, reduces road congestion for north-south and east-west traffic and improves road safety.

A consortium of McConnell Dowell Constructors (Aust), Mott MacDonald Australia and Arup Group, was awarded the contract as the R2P Alliance to design and construct the 1.8km non-stop motorway, providing three lanes in each direction, two lanes in each direction on the South Road surface road, an overpass over Regency Road, full access and intersection upgrade at Regency Road, improved cycling and pedestrian facilities, a grade separated pedestrian and cycle overpass and landscaping and noise barriers.

The R2P Alliance had to face the challenge of staging the motorway construction in a live north-south Adelaide traffic environment while

also maintaining high flow through of traffic in all directions. A further challenge which was successfully met was to install the pavement before wet winter weather began. Around 67,000 tonnes of asphalt was laid during the project.

The COVID-19 pandemic created issues that not only required managing construction workers safely with extensive risk mitigation measures, but also the delivery and assembly of the specialised self propelled motorised transporters (SPMTs) which were sourced from an overseas supplier.

The SPMTs were used to transport the main Regency Road bridge into position after it was pre-fabricated 500m away from its permanent location. Constructing the bridge away from its final position allowed works to be completed in a safe environment and significantly reduced the impact on road operations as the bridge was able to be installed in just seven days.

The Pym Street pedestrian and cyclist overpass was also pre-fabricated offsite at Bowhill Engineering, located 150kms from Adelaide. The overpass was approximately 65m long and weighed 95 tons and was transported for 300kms to avoid damage to minor roads over three days by a specially modified trailer. Once onsite, the overpass was



installed over Regency Road during a weekend, avoiding week day traffic disruption.

The R2P Project provided a number of social and environmental benefits. During construction, 210 full time equivalent jobs were created and the R2P Alliance had a key performance indicator to have 95% or better local industry performance. This target was well achieved with significant benefit to state and national enterprises.

"There was a considerable focus on creating an open and visually pleasing space underneath the Regency Road bridge. Open and free flowing passive spaces have been designed using a plaza paving and architectural tiling design on each of the bridge abutments," a Spokesperson for the SA Department for Infrastructure & Transport said. "Landscaping also commenced early in the project and resulted in a well established greening of the motorway. The extensive and attractive landscaping benefits the community and the overall aesthetics of R2P, while also providing a community amenity not often associated with a new road build."

The dedicated overpass for pedestrian and cycling movements has significantly enhanced safety and amenity. Surrounding residents also enjoy reduced traffic noise and vibration via a bespoke noise wall.

The R2P Project was contractually required to achieve a Bronze rating at completion, measured by the Infrastructure Sustainability Council of Australia V2.0 Design Rating. However, the project has exceeded this requirement for the design phase, achieving a Gold level rating through steps like reduction of greenhouse gas emissions and use of recycled products in construction.

For more information about the R2P Project contact the R2P Alliance, phone 1300 110 906, email [info@r2palliance.com.au](mailto:info@r2palliance.com.au), website [www.r2palliance.com.au](http://www.r2palliance.com.au)

To learn more about the South Australian Department for Infrastructure and Transport, website [www.dit.sa.gov.au](http://www.dit.sa.gov.au)

Below Best Bar were responsible for the piers, deck slabs, in situ barriers and retaining walls for the project.

Below Rider Levett Bucknall provided full cost management services and quantity surveying for R2P.



Best Bar is a leading Australian steel reinforcement provider with a world class supply network capable of supplying 20,000 tonnes of bar per month. Best Bar is the only reinforcing supplier to use an online customer platform called Reonet allowing project teams to see where their order is at any time.

Contracted by McConnell Dowell on the Regency Road to Pym Street project in Adelaide, Best Bar supplied cut and bent reinforcement and fixing accessories for three areas of the project.

For the Regency Road and South Road overpass, Best Bar supplied requirements for pile caps, piers, abutments, deck girder infills, deck slab, approach slabs, in situ barriers, retaining walls and friction slabs.

Best Bar also supplied bar and accessories for gantry pile caps and in situ barriers for the 1.8km section of the non-stop roadway. For the pedestrian and cycle overpass, Best Bar provided bar and fixing accessories for pile caps, main piers, pier headstocks, ramp slabs and stair foundations.

There were a number of logistical challenges which had to be managed. "The six main piers of the overpass and the pedestrian

overpass involved meticulous scheduling and tight tolerance cutting and bending due to the required polygonal tapered shape," said State Manager for SA, Jeff Dodd. "The girder infill slabs were also a distinct feature of the bridge and involved intricate scheduling to suit the bars within the girder webs."

The overpass deck slab was cast at an external yard before being transferred to site so coordinating the logistics of bar delivery was an additional challenge, as was the need for accurate delivery to locations along the 1.8km length of the site. Best Bar had one scheduler full time on the project with 15 employees working in the factory over two shifts, supported by office staff.

Best Bar also worked with McConnell Dowell on the Oaklands rail crossing. Currently, Best Bar is engaged on the Port Augusta bridge replacement and the Port Wakefield overpass.

For more information contact Best Bar, 35-37 Maxwell Road, Pooraka SA 5095, phone 08 8161 4200, email [sa.sales@bestbar.com.au](mailto:sa.sales@bestbar.com.au), website [www.bestbar.com.au](http://www.bestbar.com.au)

Rider Levett Bucknall (RLB) recognises that delivering complex infrastructure in a rapidly changing environment requires flawless execution and intelligent solutions. Equipped with a skilful and experienced team of 70 staff in the Adelaide office backed by over 400 staff across Australia and New Zealand and over 4,000 staff globally, RLB assists our infrastructure and construction clients to achieve commercial certainty and project success.

RLB has consulted on many landmark infrastructure and construction projects, including one of their latest assignments being the Regency Road to Pym Street (R2P) motorway in Regency Park, Adelaide. Jointly funded by the Australian and South Australian Governments, the project provides a new 1.8km section of non-stop motorway. RLB was appointed by the R2P Alliance to provide estimating and cost management services.

RLB provided cost planning, estimating and measurement assistance to the R2P Alliance during the bid phase and provided ongoing cost management and estimating services throughout the design phase to manage the budget and scope growth. "RLB's extensive expertise in cost management and estimating services ensures our clients achieve value for money, balancing quality against costs,

selecting the best design options and construction techniques," said Director, Giulio Altamura.

RLB's services encompass feasibility studies, tendering and documentation, financial institution auditing, quantity surveying, cost management, post-contract services, value engineering and value management. "We are committed to making a difference for our clients by combining fresh perspectives with sector expertise," Giulio said. "We have extensive resources at our fingertips, including a global cost database and powerful software. We harness these resources for the benefit of our clients and their projects to ensure commercial success."

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