

MASTERS OF TRANSPORTATION

CLIENT : Victorian State Government
ARCHITECT : Wood Marsh Architecture
CONSTRUCTION VALUE : \$564 million
TYPE : Rail/Transport/Infrastructure



The Level Crossing Removal Project – Preston involves the construction of a new rail bridge in Preston and two new sustainable railway stations including comfortable waiting rooms, undercover seating areas, which will rejuvenate and create safer more direct links between public transport, local shops and parking.

The Level Crossing Removal Project (LXRP) continues to work towards its goal of removing 110 dangerous and congested level crossings in Melbourne by 2030, with a total of 67 level crossings removed so far. The new infrastructure reduces travel times and improves safety for road users, pedestrians and those who use public transport, walk or cycle. Work to remove level crossings is well ahead of schedule and on budget, with 11 sites currently under construction. In total the LXRP will deliver more than 50 new, modern train stations to Melbourne and the region. Additionally, there will be further rail network upgrades such as new train stations, track duplication and train stabling yards.

The Level Crossing Removal Project was established by the Victorian Government to oversee one of the largest rail infrastructure projects in the state's history.

“Around 82,000 vehicles passed through these level crossings each day, with the boom gates down for up to 40% of the morning peak. During construction we used a ‘single line running’ methodology

through Preston for three months to minimise disruption to services. This allowed trains to run on a single track on a newly-completed rail bridge – bypassing Preston and Bell stations while they were in construction and we didn't need to close the whole Mernda line for long periods of time,” said Minister for Transport and Infrastructure, Jacinta Allan.

The Preston project involves the construction of a 2km rail bridge over four roads and two new stations, Preston and Bell. New facilities include modern waiting rooms, outdoor undercover seating and contemporary lighting. The development has revitalised the area by making it safer and more convenient with easier access to parking areas, public transport and shopping districts.

The new Preston Station has been architecturally designed with a bright coloured façade that reflects the vibrancy of contemporary city living, reminiscent of the vivid colours of the produce found at Preston Market. There are lifts to the platform at each station entrance that are big enough to accommodate mobility scooters, wheelchairs

and prams. Bike hoops outside the station provide parking spaces for 51 bikes and a new Parkiteer cage provides safe and secure storage for 52 bikes.

The new work has been designed for water and energy efficiency and sustainable features include solar panels, rain water reuse, LED lighting in the station and car park, and environmentally sustainable materials to reduce greenhouse gas emissions.

By 2018 site investigations, technical and engineering assessments were completed and engagement with the Preston community commenced in 2019. Throughout 2020 designs were finalised and early site works began. Construction began in 2021 and by 2022 the level crossings at Oakover Road, Bell Street, Cramer Street and Murray Road in Preston were removed. The Mernda Line was elevated with the construction of a bridge and further installations include a new signalised pedestrian crossing on Murray Road and a pedestrian crossing on Cramer Street. By the end of 2022 the new stations at Bell and Preston opened.

“Across the level crossing removal project, more than 20 MCGs of community open space underneath the rail line has been used to create new play and exercise areas, barbecue facilities and an amphitheatre. Over 50km of cycling and walking tracks have been constructed with a shared use path connecting the two stations with landscaping and



native plantings of more than two million trees and shrubs ready for the community to enjoy,” Ms Allan added.

This project has made Melbourne's busy Bell Street boom gate free, boosting safety for motorists that use one of the city's busiest roads. “We're incredibly proud of the work the Level Crossing removal team has done in Preston, removing four dangerous and congested level crossings and building two new state-of-the-art stations,” concluded Ms Allan.

For more information contact Level Crossing Removal Project, Level 9, 121 Exhibition Street, Melbourne VIC 3000, phone 1800 105 105, email contact@levelcrossings.vic.gov.au, website www.levelcrossings.vic.gov.au

Below All Systems Contractors were employed to install the entire combined services route for the project.



Preston has seen the removal of four dangerous level crossings on busy Bell Street, Melbourne, meaning increased safety and an ease in congestion. Oakover Road, Cramer Street and Murray Road also had crossings removed.

The Level Crossing Removal Project involved the construction of a 2km rail bridge, spanning four roads in the area, which will result in the Mernda line being elevated over the roads.

Two sustainably designed railway stations were developed with improved waiting rooms, seating and lighting. Approximately 60,000m² of open space will be available as a result.

The community will be free to enjoy the new landscaped, multi-use space that will include two new playgrounds, a cycling and shared walking track plus more than 700 trees and 150,000 grasses and plants.

All Systems Contractors, who specialise in rail signalling civil construction, were employed on the project to install the entire combined services route to facilitate the new signalling system and undertake all directional drilling.

Steve Shore of All Systems Contractors explained that they worked on the project for one year, beginning in November 2020, exporting the signalling and electrical cabling, so that the train track removal team could come in without a break in any services.

Despite challenging weather conditions, Steve and his team of 35 powered through as soon as they were able.

“We did all the seasons basically. A lot of heat and then a lot of wet weather as well,” said Steve.

“We’re affiliated with the CFMEU and we have a policy that if it hits 35C° then the site gets shut. We had quite a large amount of hot days. We’ve experienced more heat here than we ever had before. It was at times just too hot to work. Then it was all the rain.”

The company had limited time to complete the project, plus there was one other challenge to contend with.

“We were working in a tight access working corridor,” explained Steve. “We had the existing train lines still in operation and houses and buildings right beside us, so we had to work between those and the railway line. A limited space to work in.”

Despite having a strict deadline so that their pit and pipe could be installed, and the cabling could be changed, Steve says that he is happy with the end result.

“We have a brilliant relationship with John Holland. We’ve just won the contract for their next level crossing removal. So, we’re going to be teaming up with them again, which is really great,” said Steve. “We’ve been working for them since 2006. They’re always very supportive and we like to perform and do a good job for them.”

The company are currently working on various projects, including the Regional Rail Revival’s Gippsland Line Upgrade.

All Systems Contractors are market leader in the combined services route construction for level crossing removal projects. Having built a solid reputation over 17 years in the industry, and having grown a team of 50 employees, they pride themselves on being incredibly amicable to work with and endeavour to maintain superior standards for both new and existing clients.

For more information contact All Systems Contractors, 46 Exchange Drive, Pakenham VIC 3810, phone 0400 766 751, email steve@allsystemscontractors.com.au website www.allsystemscontractors.com.au



Below Johnson & Young Cranes were contracted for the craning of the structural concrete and steel members.



Below Wamarra provided wholistic urban landscaping solutions for the community spaces along the Preston Line.



As part of the North Western Programme Alliance (NWP) Johnson & Young Cranes (JYC) were contracted for the craning of enormous structural concrete and steel members for infrastructure improvements at the Preston Level Crossing Removal Project.

“As the primary mobile crane contractor for this project we undertook a multitude of varying lifts ranging from general lifting work to concrete panel and bridge beam installation. There were many marque lifts that required the use of our heavy lift fleet which range from 400t to 800t in capacity, but one of the more notable lifts was the dual lift of precast L beams for Span 23 over Bell Street. This required a road closure of Bell Street for the mobilisation of one of our Liebherr LTM1400-7.1 (400t) cranes with one of our Liebherr LTM1750-9.1 (800t) cranes set up in a tight area between the rail corridor and an existing apartment complex,” explained Business Development Manager, Brett Horvath.

“Johnson & Young Cranes are a leading supplier of mobile crane hire, transport and ancillary services to major civil infrastructure and renewable energy projects across Australia. Boasting a fleet ranging from 3t to 800t in capacity, JYC are well equipped to meet all lifting needs. The Johnson & Young team are passionate and committed,

we understand the constraints, challenges and possibilities of every project and we know that the right attitude is essential. The entire team works towards the common goal of ensuring that each job is completed safely, efficiently and to the highest of standards.

“Planning is pivotal to the success of any lift, our inhouse engineers use the latest technology to assist in the design of lift plans and rigging diagrams that are Tier 1 site compliant and subject to regular third-party reviews. Our clients know that the team at Johnson & Young Cranes will manage any challenge, properly plan and successfully complete both one off and project-wide lifts.”

JYC is expert at lifting the huge and heavy for large scale builds. JYC has completed a number of LXR projects across Melbourne and have been at work on wind farms across the country, craning pieces for the maintenance and construction of turbines which stand between 85 and 150m tall.

For more information contact Johnson & Young Cranes, 173-175 Northbourne Road, Campbellfield VIC 3061, phone 03 8339 3300, email sales@jycranes.com.au, bookings@jycranes.com.au, website www.jycranes.com.au

Wamarra has a reputation for delivering quality infrastructure outcomes across diverse sectors. For the Melbourne level crossing removal project – Preston, Wamarra were contracted to supply and install precast seating with bespoke timber elements along with gym and play equipment with surrounding exposed aggregate concrete and shared user paths.

“Our scope of works was construct only,” said Contracts Manager, Rhys Hannan. “We built the job off a set of drawings and specifications that were provided at the time of tender and revised throughout the construction process.”

The landscaping vision included hardy, native Australian plants to provide a long-term aesthetic that could withstand the elements. “We used native plants in garden beds, swales and retention basins including the drought resistant species Buffalo grass,” said Rhys. “It’s the only grass native to Australia that is also used as turf grass. We have also installed salvaged logs that provide a home for fauna as well as seats for the community.”

Wamarra commenced work onsite in July 2022 and is expected to be complete in February 2023. During the peak periods, Wamarra had

around 75 staff onsite each day. “We endured many days of inclement weather during September and October with torrential rain, flooding and wind which created a number of challenges in the constructability of the project,” said Rhys. “This required systematic revision of the construction methodology of several scopes. Furthermore, access onsite required revision due to the challenging access whilst working within the rail corridor.”

Wamarra is an Indigenous owned and operated landscaping and civil contracting business. Wamarra provides social and sustainable procurement and career opportunities for Aboriginal people, strengthening Indigenous participation and engagement within the construction industry. “We offer clients a cut-and-shut solution, encompassing the full spectrum of civil contracting, with solutions-focused capabilities that include transport, rail, port, water, defence, resources and energy sectors.”

For more information contact Wamarra, phone 1800 314 659, email info@wamarra.com.au, website www.wamarra.com.au, @wamarracontractors, Wamarra

