



LEVEL
CROSSING
REMOVAL
PROJECT

SOUTHERN
PROGRAM ALLIANCE

AUSTRALIAN CONSTRUCTION
ACHIEVEMENT AWARD 2023

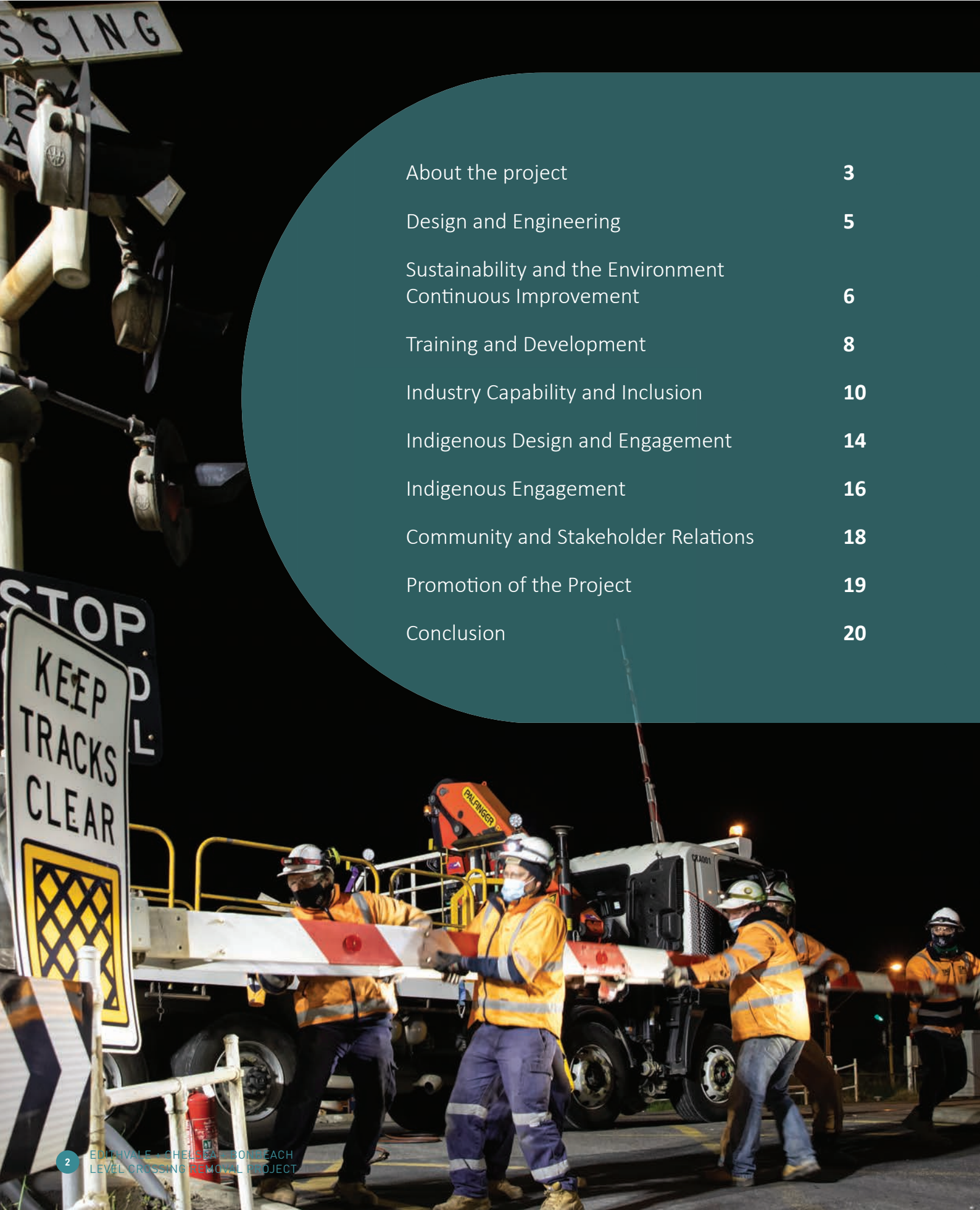
TECHNICAL PAPER

SOUTHERN PROGRAM
ALLIANCE

EDITHVALE + CHELSEA + BONBEACH
LEVEL CROSSING REMOVAL PROJECT

CONTENTS

About the project	3
Design and Engineering	5
Sustainability and the Environment Continuous Improvement	6
Training and Development	8
Industry Capability and Inclusion	10
Indigenous Design and Engagement	14
Indigenous Engagement	16
Community and Stakeholder Relations	18
Promotion of the Project	19
Conclusion	20



ABOUT THE PROJECT

The Victorian Government is making the Frankston line level crossing free by removing all 27 of the dangerous and congested level crossings by 2029 and building 17 new stations, improving safety, reducing congestion and allowing more trains to run more often.

The Southern Program Alliance (SPA) is one of five program alliances responsible for removing dangerous and congested level crossings in Melbourne, Victoria.

SPA was awarded the contract – valued at \$744 million – remove level crossings in Edithvale, Chelsea and Bonbeach in late 2019 and is located on the Frankston Line in Melbourne’s southeast. By mid-2022 SPA completed the scope of AWP2 including:

- Removing five level crossings in Edithvale, Chelsea and Bonbeach by lowering the rail line into three trenches
- Constructing new Edithvale, Chelsea, and Bonbeach stations
- Upgrading station precinct surroundings, including an extended 11km shared-use path from Frankston to Edithvale, landscaping, and a pedestrian bridge over the rail corridor.

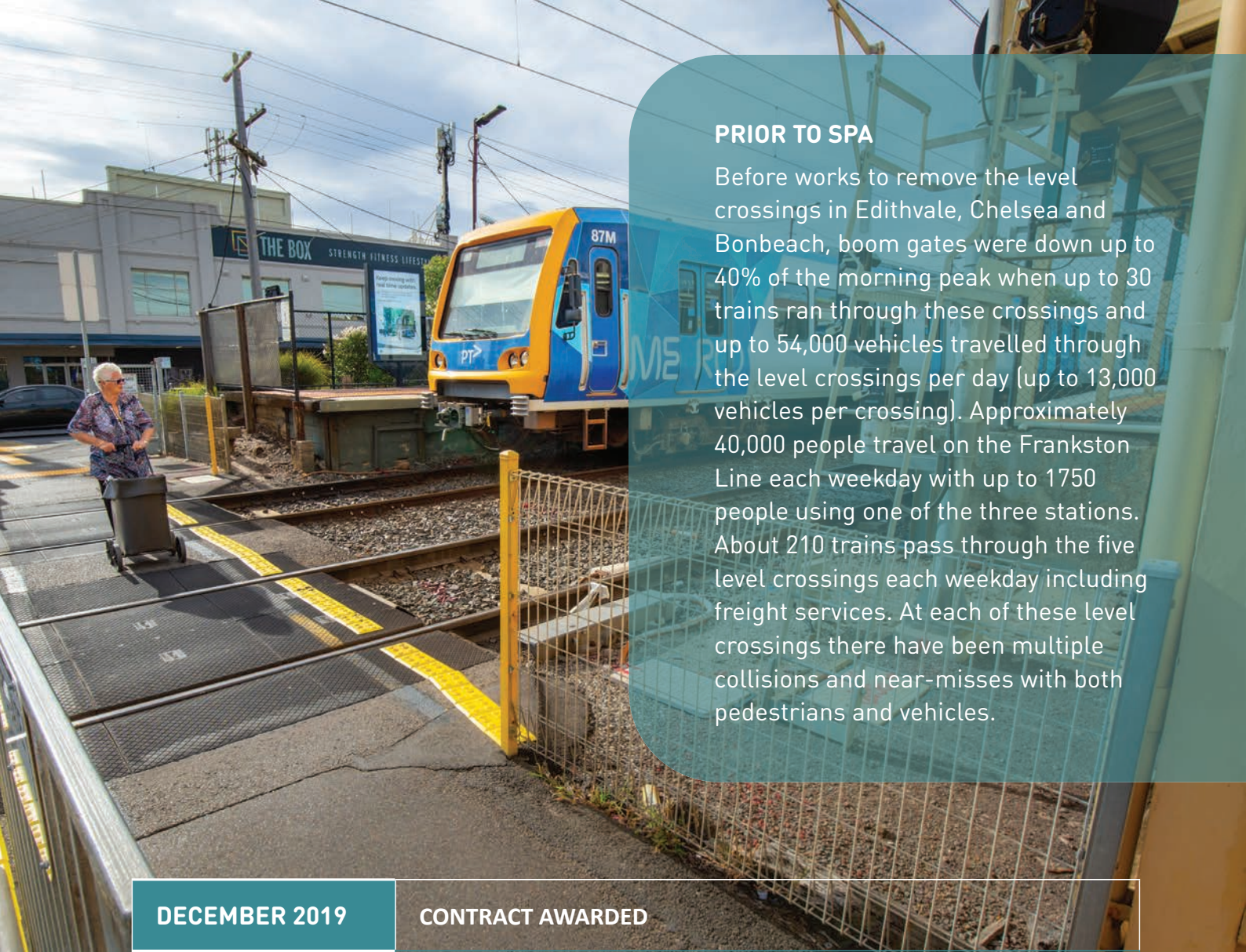
For more information about the project, visit www.levelcrossings.vic.gov.au

THE SOUTHERN PROGRAM ALLIANCE

comprises of Acciona, WSP, Metro Trains Melbourne (MTM) and the Level Crossing Removal Project (LXRP).

It is one of five alliances delivering level crossing removal programs across Melbourne.





PRIOR TO SPA

Before works to remove the level crossings in Edithvale, Chelsea and Bonbeach, boom gates were down up to 40% of the morning peak when up to 30 trains ran through these crossings and up to 54,000 vehicles travelled through the level crossings per day (up to 13,000 vehicles per crossing). Approximately 40,000 people travel on the Frankston Line each weekday with up to 1750 people using one of the three stations. About 210 trains pass through the five level crossings each weekday including freight services. At each of these level crossings there have been multiple collisions and near-misses with both pedestrians and vehicles.

DECEMBER 2019	CONTRACT AWARDED
MAY 2020	EARLY WORKS COMMENCES
OCTOBER 2020	SHEET PILING COMMENCES
JULY 2021	EDITHVALE, CHELSEA, AND BONBEACH STATIONS CLOSE
	EDITHVALE ROAD, CHELSEA ROAD, ARGYLE AVENUE AND BONDI ROAD BOOM GATES REMOVED
SEPTEMBER 2021	SWANPOOL AVENUE BOOM GATES REMOVED MAJOR OCCUPATION BEGINS
OCTOBER 2021	NEW BRIDGES AT EDITHVALE ROAD, THAMES PROMENADE, ARGYLE AVENUE, AND BONDI ROAD OPEN TO VEHICLES AND PEDESTRIANS
NOVEMBER 2021	NEW EDITHVALE, CHELSEA, AND BONBEACH STATIONS OPENS
MAY 2022	NEW SHARED-USE PATH, LANDSCAPING, CAR PARKING, COMMUNITY SPACE, AND THE CHELSEA PEDESTRIAN BRIDGE OPEN

DESIGN AND DELIVERY

From the outset, SPA set out to achieve a new standard of excellence across the rail construction industry when delivering the Edithvale, Chelsea and Bonbeach project which is one of LXP's largest projects to date.

At all stages of the project, from development and design through to operational and physical completion, SPA has used innovative thinking and engineering ingenuity to produce a rail-under-road solution across three adjoining stations along the Frankston line – the first time three stations have been commissioned at the same time for LXP.

FAST-TRACKING CHELSEA

The simultaneous opening of the new Edithvale, Chelsea and Bonbeach stations was the first time three stations have been commissioned as part of one package of works for LXP. The original proposal for AWP2 by LXP sought to remove level crossings in Edithvale and Bonbeach and build two new stations. During the original development phase, SPA undertook additional investigations to add Chelsea to the package, which is located between Edithvale and Bonbeach, to minimise disruption to the Frankston Line and reduce overall costs. The fast-tracking of Chelsea into AWP2 was accepted by LXP and saved significant costs and approximately two to three months of disruption on the Frankston Line.

TRENCH DESIGN

The level crossings at Edithvale, Chelsea and Bonbeach are situated within the coastal dune sands of the former Carrum Carrum swamp deposit. Groundwater at these locations fluctuates rapidly with climatic influences and drains towards Port Phillip Bay. The construction of the large trench structures has the potential to obstruct or 'dam' groundwater flow towards the bay, impacting on levels on both sides of the trench. The Project Team recognised these challenges and set ambitious targets to minimise the impacts to the ground water flows.

The construction of the three rail trenches to remove the level crossings involved the installation of around 4,500 sheet piles, making it one of the largest sheet piling project of its kind in the southern hemisphere. In order to improve groundwater flow a combination of deep and shallow piles was used. This meant that only half of the piles were carrying the full load and while this posed some structural challenges, it greatly improved the groundwater flow across the trench.

Another optimisation of the trench design was moving the stations out of the rail trenches. The old stations were originally located right next to the level crossings at each of the three sites. For both Edithvale and Bonbeach, by moving the stations away from the new road crossings, the minimum clearances from the top of the rail to the top of the trench were reduced considerably, reducing the required depth of the trench as well as the length. This had significant cost saving by reducing additional excavation to deepen and lengthen the rail trenches. At Chelsea the new road bridges at Thames Promenade and Argyle Avenue were situated approximately 600 metres apart which allowed the station, which is situated in the between the two roads, to be lifted up to reduce excavation materials and to optimise the groundwater flow. Additionally, this design solution reduced vertical travel distances, increased natural light to the platforms and improved passive surveillance. Further design optimisation to reduce the depth of the trenches also involved lifting the new road bridge levels to the highest extent possible.

All these measures meant that the fallback option which the specialised team of hydrogeologists developed was not required for any of the stations. This fallback option consisted of a groundwater drain which would ensure the continuation of the waterflow by collecting the water on the upstream side and expelling the water on the Port Phillip Bay side. This option had considerable costs to it which were removed by optimising the trench design to eliminate the need for this groundwater drainage system.

Additionally, SPA was also able to accelerate the excavation of the station boxes, construction of the platforms, and the installation of the lift shafts by using sheet piling between the rail corridor and the station boxes without major disruption to train services. This approach is estimated to have saved two to three months from the baseline program, significant cost reductions related to extended occupation fees, and a significant reduction in risks and costs from propriety contractors.

EDITHVALE, CHELSEA AND BONBEACH ARCHITECTURAL DESIGN

The focus of SPA engaged with COX Architects for the architectural design of the three stations. For LXRP it is important that station with similar solutions in geographical proximity of one another share consistency and similarities in their designs. This design solution therefore seeks to adopt, adapt, and reuse. Therefore the Edithvale, Chelsea and Bonbeach station designs allowed these principles to shine. From the proposal phase through design and delivery, the architectural designs were sequenced in such a way that Edithvale Station was the focal point for ideas and concepts which would be approved by stakeholders and after which the same design ideas would be applied to Chelsea and Bonbeach. While the ideas and concepts of Edithvale were applied to Chelsea and Bonbeach, design alterations were also made to give each station their own unique feel to them and localised urban design. The stations' architectural designs reference the historic barrier dune that once existed between Port Phillip Bay and the expansive Carrum Carrum Wetland. Each station also has six points of entry, ensuring the shortest possible travel distance from the surround suburbs to the platforms as well as lift access for all platforms. Each of the multiple entrances to the stations are also marked by vertical urban markers perched on the top of dune-like walls, identifying the station entrances from afar. The major entrances of each station also feature sculptured, layered canopies or beacons, referencing the textiles and craft of the Traditional Owners of the land.

NEGATIVE DESIGN GROWTH

The Edithvale, Chelsea and Bonbeach project achieved negative design growth for SPA. This in essence means that the direct costs at completion were lower than the direct costs estimated at the proposal phase. This is a unique achievement

where design growth was tightly controlled by processes specifically set up for this project. These processes are now considered business-as-usual on SPA with negative design growth for subsequent packages of works. One on hand, all critical design packages which were either high risk or high value were regularly assessed between the Design, Engineering, Construction and Estimations teams. This process led to an increase appreciation of the designers of cost plan importance as well as for the estimators to understand the challenges around keeping the design growth minimised while driving opportunities and a value-for-money mindset in the entire Project Team. Again, the solution reuse strategy adapted for this project greatly assisted this process as well.

DIGITAL ENGINEERING

To deliver the Edithvale, Chelsea and Bonbeach project SPA used a program called SYNCHRO which connected 3D models with P6 software used by planners to generate improved 4D construction programs.

Prior to SPA's connected digital approach to project delivery, visual planning and coordination were undertaken using static PowerPoint staging plans. These visual plans became tedious to keep up to date with constant changing construction programs especially in a tight rail corridor on a strict timeframe for delivery.

By implementing SYNCHRO, SPA established a connected data environment and created a digital twin to streamline workflows and provide insight into constructability and construction monitoring. This reduced construction staging time by 67 per cent and drafting requests by approximately 88 per cent.

This single source system eliminated the challenges of manual model federation including time and resourcing constraints of updating staging plans and providing site teams new information.

By having all planning and construction data in a single digital environment, this allowed easy access to all information including both out on site through mobile applications as well as from the office through desktop applications. This ultimately allowed site teams to clearly communicate daily activities, identify site constraints, and reduce safety risks, leading to greater efficiency for SPA in delivery major rail projects.

ACCIONA won the Bentley Year in Infrastructure award in the construction category for the use of SYNCHRO on the Edithvale, Chelsea and Bonbeach, demonstrating the benefits of digital engineering in major transport infrastructure projects.

SIGNALLING

As part of the Edithvale, Chelsea and Bonbeach project, SPA upgraded signalling along the Frankston line by commissioning a new control centre in Kananook that now controls train movements over 40km of track between Kananook and Caulfield. The new control centre minimises disruption along the line by centralising the signalling into a new state-of-the-art system that was previously managed by the Mordialloc signalling box, the century-old Frankston signalling box, and the 90-year-old Caulfield signalling box. The new signalling system uses colour lights that are displayed along the line to inform train drivers of whether to stop, proceed, or proceed with caution and indicate what speeds they should travel at as well as improves efficiency of changing the direction of trains and moving them between different tracks. Additionally signalling upgrades carried out by SPA on the Frankston line includes installing a new train control system known as Rail View as well as a new interlocking system known as Smart Lock. These new upgraded systems allowed SPA to deliver the major occupation within the necessary timeframe.

DELIVERING THE PROJECT

The Edithvale, Chelsea and Bonbeach sites required their own Project teams along with support teams to cover all three sites. To support a healthy and collaborative working environment, several initiatives were adopted including:

- Weekly meetings between the three Area Managers and the Construction Manager
- Discipline leads to coordinate procurement and common resources with subcontractors across the three sites to ensure each site was resourced
- LEAN meetings to discuss construction programs and improve efficiency in certain delivery areas to create synergy between all three sites' construction programs
- Joint forecast review meetings to keep all three sites privy to one another's financial situations to share the burden where necessary

SPA also implemented stringent planning and risk

management tools. A global risk register identified key issues while more localised risk management focused on construction programs and productivity. By running regular meetings, adopting construction program systems, and using tools such as LEAN, teams were able to identify risks to construction programs earlier and more efficiently to mitigate these risks.

This allowed SPA to deliver the major occupation on time following a readjusted occupation completion date due to the mandatory construction shutdown as well as on budget which includes variations of contract value due to additional scope of the project such as the addition of the Chelsea pedestrian bridge.

Prior to the major occupation, several smaller occupations of the Frankston line were carried out for critical works. These include an occupation in June 2021 to lift several lift shafts across the rail corridor as well as a two-week occupation in July 2021 when the three stations were permanently closed and demolished which also included the closure of several level crossings and the removal of boom gates.

The two-month 24/7 major occupation began in mid-September 2021 to construct the three rail trenches. In October 2021 new road connections over the rail corridor at Edithvale Road in Edithvale, Thames Promenade and Argyle Avenue in Chelsea, and Bondi Road in Bonbeach were open to vehicles and pedestrians. Trains returned to the Frankston Line in late-November when the new Edithvale, Chelsea and Bonbeach stations opened.

The major occupation, which involved the excavation of 200,000m³ of soil to construct the trenches, included the installation of:

- 30,000 tonnes of ballast
- 14,000 sleepers
- 9km of track
- 30 km of OH wires including all wires contact and catenary
- 10,000m³ of tanking slab concrete
- 100+ precast planks for road and pedestrian bridges
- Three station overpasses

SUSTAINABILITY AND THE ENVIRONMENT

RATINGS

SPA was contractually required to achieve a minimum score for AWP2 of 65 under ISCA v1.2 (Infrastructure Sustainability Council of Australia) and a 4-Star Green Star outcome for the new Edithvale, Chelsea and Bonbeach stations. SPA set its own ambitious target above this – 75 points for ISCA and a 5-Star Green Star outcome.

SPA received its first 6-star Green Star rating for Edithvale Station – its first 6-star Green Star rating – and 5-star Green Star ratings for Chelsea and Bonbeach stations. SPA achieved these ratings based on achievements across multiple categories including water and material usage, transport, and innovation.

SPA achieved a Design rating score of 92 from ISCA for AWP2. This is one of the highest Design ratings awarded by ISCA and is also the highest Design rating for LXP to date.

SPA achieved this remarkable outcome through a variety of initiatives including:

Reducing energy Greenhouse Gas emissions

of 28% compared to the base case through:

- Hybrid lighting towers
- Construction program efficiencies and green power during construction
- The selection of high efficiency lighting fixtures and building design optimisations for operations

Reducing material lifecycle impacts of 24% compared to the base case through:

- Design optimisations and the use of more sustainable materials such as concrete mixes with supplementary cementitious materials (SCM)
- Recycled asphalt paving
- Recycled crushed concrete

Reducing lifecycle water use of 88% compared to the base case through:

- Landscape irrigation savings
- Construction program efficiencies
- A selection of efficient fixtures

Assessing, maintaining, and promoting local heritage values, including the reinstatement of the Chelsea Clock Tower built in 1934

Contributing to local community health and wellbeing priority issues through active transport, skills development and social inclusion initiatives

Enhancing ecological value within the project area by 64% through the maintenance of existing habitat, increasing greenery in landscaped areas and the purchase of native vegetation offsets.

SPA also launched several other sustainability initiatives to reduce material waste and provide social outcomes for the community and valuable stakeholders.



BEACH REJUVINATION

SPA excavated around 200,000m³ of soil from Edithvale, Chelsea and Bonbeach during the major occupation. To avoid unnecessary discarding of the soil in landfill, SPA engaged with Kingston City Council (KCC) and the Department of Environment, Land, Water and Planning (DEWLP) to find a sustainable reuse initiative for the excavated soil. Following investigations between SPA, KCC, and DEWLP, it was determined that much of the soil could be used to rejuvenate beaches along the Frankston foreshore. Trials are currently underway with hopes that this initiative can mitigate foreshore erosion along the Bayside shoreline.

TRACK INFRASTRUCTURE

To avoid unnecessary wastage of track material, SPA identified rail assets from across AWP2 that could be repurposed throughout the railway network and for heritage railway operations. Following a condition-inspection, SPA identified and donated multiple pieces of track infrastructure to heritage railway organisations such as Yarra Valley Railway and Mornington Railway. These assets include timber sleepers, rail, and rail jewellery, and will provide these historical railway operators with improved rail infrastructure to carry out their tourist operations.

LANDSCAPING

Across the length of the project along the rail corridor SPA has planted new vegetation as part of its landscaping and urban design. This includes approximately 830 trees and almost 90,000 shrubs.

NEST BOXES

Following the removal of vegetation in 2020, SPA repurposed much of the wood to be turned into nest boxes for different types of fauna to offset habitat loss. Almost 30 nest boxes were installed by the project to provide new habitat spaces for fauna such as sugar gliders, possums, lorikeets, bats, and other native wildlife.



CHELSEA



360



38,724

EDITHVALE



231



28,820

BONBEACH



240



22,150

TOTAL PLANTED:

831 Trees

89,694 Shrubs, grasses & ground cover

CONTINUOUS IMPROVEMENT

SPA embedded innovation and productivity into its design and delivery of its Edithvale, Chelsea and Bonbeach project.

In 2020, SPA launched its Continuous Improvement program, SPA2020+, with the goal to “Sustainably deliver infrastructure to improve people’s lives”.

This program fosters innovative thinking through annual improvement projects across multiple disciplines which are implemented by individuals known as ‘CI Champions’. These individuals are provided specific training and development including DMAIC training to successfully implement their projects.

To support efficiency in designing and delivering the project, SPA further embedded Continuous Improvement program, driving innovative thinking across all facets of the project. This saw incorporation of new technologies and engineering ingenuities as well as leveraging lessons learnt from previous packages of works.

With an ever-growing rail construction sector in Victoria and Australia, AWP2 has improved the way rail-under-road solutions can be efficiently delivered. Multiple innovations and initiatives from construction planning to piling design, implemented by SPA have been documented through SPA’s Continuous Improvement program and submitted as innovations through LXP innovation register. Many of these innovations have been shared with and adopted by other LXP program alliances to improve design and delivery efficiency across the entire LXP project. Other initiatives such as mitigating track movement caused by sheet piling have also been promoted across the industry through award submissions and presentations, demonstrating SPA’s commitment to improving the broader rail construction industry.

INDUSTRY CAPABILITY AND IMPROVEMENT

SPA rolled out multiple training and development opportunities to upskill its people and diversify their expertise. SPA also provided development

opportunities for its staff to improve managerial, leadership, and practical skills to further their careers. These include project management and leadership courses, stakeholder engagement training, and mental health first aid which has become central to SPA’s health and wellbeing objectives.

SPA was also committed to upskilling other areas of the workforce during its AWP1 works and rolled out numerous training and development initiatives including:

- CadetshipS, providing workplace experience, job training, and mentorship for undergraduate engineering students while they completed their university degrees
- Signalling Cadetship Program, embedding engineers who are taking further studies in signalling and electrical engineering into SPA’s Signalling Team for job training
- Gen44 Career Seekers, providing internship and work experience opportunities for refugees and asylum seekers, in collaboration with SPA’s parent company, ACCIONA
- The LXP-led EPIC (Engineering Pathways Industry Cadetships) program, providing specific civil and electrical internship opportunities for refugees and asylum seekers, in collaboration with SPA’s parent company, ACCIONA
- The Training for the Future-led GROW initiative. This initiative was to provide rail experience and tickets to disadvantaged Victorians to assist them in gaining full time employment within the rail and broader construction industry.



INDIGENOUS DESIGN AND ENGAGEMENT

SPA developed a Reconciliation Action Plan and implemented the 'Reconciliation and Aboriginal Participation on Major Infrastructure Projects' Framework.

This commits to working with Indigenous people in the design, building, and operation phases and focuses on designing social and economic outcomes for Indigenous people.

This framework allowed for beneficial Indigenous engagement resulting in design elements being incorporated throughout the entire Edithvale Chelsea and Bonbeach project and it continues the Indigenous 'songlines' along the Frankston Line. It also encouraged Indigenous-owned subcontractors and businesses to work on the project.

INDIGENOUS DESIGN ELEMENTS

SPA worked closely with Traditional Owners from the Bunurong Land Council early on in the project to design and secure approval for each of the cultural references. The most eye-catching example of this collaboration between SPA's designers and Indigenous Elders are the six urban markers at each of the stations' entrances. The design of the urban markers was inspired by markings of a possum skin cloak and their unique shape pays homage to a traditional carved shield. The same patterns can also be found in the bus shelters at each of the three new stations as well as printed into the concrete of the new 11km shared-use path between Edithvale and Frankston.

At Bonbeach Station, the Bunurong Land Council suggested installing a decorative perforated screen at the eastern end of the pedestrian overpass which is an interpretation of artist James Waltham Curtis' 1872 painting Lagoon in the Carrum Carrum Swamp – evening. While the artwork was by an English artist, it acts as a powerful reminder for the Bunurong Land Council of how the country once looked.

At Edithvale Station, a piece of artwork was commissioned by SPA in collaboration and consultation with the Bunurong Land Council to cover a section of the Nepean Highway. Created by

Indigenous artist, Jenna Lee, the artwork featuring black bird wings is inspired by Waa (black crow) which holds deep cultural and spiritual significance as the protector of the land and waterways.

INDIGENOUS PROCUREMENT

In addition to Indigenous design elements, SPA achieved over 52,000 hours of Indigenous employment on the project. It worked closely with Indigenous-owned businesses and other social enterprises across its Edithvale, Chelsea and Bonbeach sites and supported these companies in a multitude of ways. This included an online news story about Indigenous-owned Wamarra which completed landscaping at Chelsea and their initiatives to boost Indigenous employment on major projects.



ARTEFACT REPATRIATION

During the delivery of SPA's works at Edithvale, Chelsea and Bonbeach, the project team salvaged twenty items of cultural significance. The artefacts comprised a mix of stone flakes and cores, which were evidence of tool-making by Traditional Owners.

The project area intersected with Areas of Cultural Heritage Sensitivity relating to the coastal beach and dune sands of this landscape. As part of the project's Cultural Heritage Management Plan (CHMP), bulk samples of material excavated for construction of the rail trench were required to be sieved to determine the presence of culturally significant material. Approximately 180m³ of

material was carefully retrieved from different levels during bulk excavation across the Edithvale, Chelsea and Bonbeach precincts, and sent offsite for screening under the supervision of the Registered Aboriginal Party (RAP) for the area, the Bunurong Land Council Aboriginal Corporation. The works at Edithvale, Chelsea and Bonbeach presented a unique opportunity to take advantage of the project's deep excavations to detect the presence of cultural material, helping to identify the extent and duration of Aboriginal occupation of this landscape.

In January, 2023, A repatriation ceremony was conducted by Uncle Alvin Rajkovic from the Bunurong Land Council Aboriginal Corporation (BLCAC) to return the artefacts back to Bunurong Country.



HEALTH AND SAFETY

WORKING WITH COVID-19

Early and major works for the Edithvale, Chelsea and Bonbeach project took place during the COVID-19 pandemic including the major occupation which occurred during the Stage 4 lockdown in 2021.

Construction on large-scale public infrastructure projects, including SPA, was deemed critical by the Victorian Government and continued during the various lockdowns except for a mandatory two-week shutdown in September and October 2021.

To ensure the safety and wellbeing of workers and staff, SPA implemented all DHHS COVID-19 regulations including:

- Social distancing at pre-starts, on site, and in offices
- Mandatory mask wearing where workers were unable to carry out duties socially distance
- Mandatory mask wearing indoors and outdoors when mask restrictions were in place
- Mandatory Government QR code check-in at all sites and offices

CONTACT TRACING AT SPA

SPA had a stringent internal contact tracing procedure using its 3D Safety platform. During a potential COVID-19 case at the Edithvale site, SPA used this platform to identify and classify potential contacts who were categorised into primary close contact, casual contact, or nil contact. SPA provided DHHS its 3D Safety tracking system so that DHHS could reclassify the Edithvale site as tier 2, ultimately allowing most staff and workers back to site after four days. SPA's 3D Safety has been used subsequent times to detect potential COVID-19 cases and identify close contacts, communicate with them immediately, and categorise them to mitigate any potential outbreak that may have shut down the project for a two-week period. This internal contact tracing has been praised by the Department of Health and Human Services and the Doherty Institute.



SPA also implemented additional wellbeing initiatives and safety procedures including:

- Working from home arrangements for those able to work from home and protocols for those unable to work from home
- Limiting movement between sites and offices where possible and protocols for those required to move across multiple sites and offices
- Launching the My Wellbeing Platform which provides health and wellbeing tips and

programs for staff and workers

- Free COVID-19 PCR testing and vaccinations for workers and staff through Incolink
- Promoting its Employee Assistance Program
- Mandatory temperature testing before entering all sites and offices
- Mandatory check-in with the SPA 3D Safety system at all sites and offices
- Enhanced hospital-grade cleaning of site compounds and offices

RAPID ANTIGEN TESTING TRIAL

SPA commenced a trial of daily Rapid Antigen Testing for all staff and contractors from September to November 2021 during its major occupation. Individuals were required to provide a clear negative result before entering any site or office. Positive results required staff to seek a PCR test immediately and notify their supervisor. This meant that sites had no exposure from potential positive cases and teams could continue operating. If the individual returned a

positive PCR test, close contacts could be identified by SPA through its 3D Safety platform and instructed to isolate while the remaining workforce could continue as normal without jeopardising the major occupation.

OTHER HEALTH AND SAFETY INITIATIVES

While COVID-19 dominated the majority of SPA's health and safety agenda, other initiatives were also rolled out across SPA including on the Edithvale, Chelsea, and Bonbeach project.

These initiatives include:

- Regular toolboxes focusing on different health and safety topics
- Roll out of ACCIONA's Operational Minimum Requirements
- SPA Stay Safe campaign to promote safety on site and call out unsafe behaviour
- Safety incident simulations with Real Response
- Skin cancer checks

SPA celebrated and acknowledged important health and wellbeing days on its social calendar including Rail RU OK Day, RU OK Day, Darkness Into Light, and World's Greatest Shave in which barbecues, toolboxes, and other activities were held across all three sites. These involved subcontractors getting involved and helping raise money for different charities and to raise awareness for important issues especially around the mental health space.



COMMUNITY AND STAKEHOLDER RELATIONS

SPA's community and stakeholder engagement consistently exceeded its contract targets, demonstrating the adoption of lessons learned from previous packages of works to improve the community experience during SPA's disruptive works in Edithvale, Chelsea and Bonbeach.

SPA's success in its community engagement has helped foster open and transparent relationships with the community stakeholders and promoted community support for the project as well as a greater understanding of the sector and its complexities.

SURVEY RESULTS

As part of the project, SPA was audited twice as part of its community engagement: how it is engaging and informing the community, stakeholders, road users and rail passengers of disruptions and impacts? This includes timely response to outstanding enquiries and frequency of communications. Community satisfaction is measured via a survey conducted by IPSOS. Each IPSOS survey has indicated community satisfaction over and above the 70 per cent benchmark in SPA's contract.

After completing the two waves of surveying, the average for Local Community & Stakeholder was 77.2 per cent- 7.2 per cent higher than the MCOS. The average for Rail & Road was 70.9 per cent- 0.9 per cent higher than the MCOS. Between the first and second waves for both Community & Stakeholder and Rail & Road, SPA saw a significant increase in customer satisfaction.

RESIDENT RELOCATION

To accommodate local residents during noisy works, SPA offered relocation and respite options for affected households. Noise-modelling carried out by the Environment Team to measure decibel levels identified households which would require relocation during certain periods of the project especially during 24/7 occupation works as well as during sheet piling which caused significant noise and vibration disruptions for nearby households. Relocation options varied depending on the needs of certain households including household sizes, geographic preferences, pet requirements, and duration. A local travel agent was engaged by SPA to manage the booking process and assist in identifying suitable accommodation options including serviced apartments and short-term house rentals. Other respite options were also offered when relocation was not feasible or preferred by impacted residents including noise cancelling headphones.



TRADER ENGAGEMENT

SPA's dedicated Trader Engagement Team worked closely with the hundreds of businesses across Edithvale, Chelsea and Bonbeach. Local businesses included restaurants, cafes, bars, professional services, speciality shops. As part of this engagement, SPA also worked closely with the Chelsea Traders Association as well as Kingston City Council to collaborate on initiatives to boost the local economy and support local businesses.

SPA's key trader initiatives were:

- Maintain and build positive relationships with local traders
- Inform traders of disruptions and impacts of construction works
- Roll out the 'Go Local' Trader Directory and Deals – a dedicated page on LXRP's website to promote local business in Edithvale, Chelsea and Bonbeach
- Roll out the 'Friday Frenzy' competition – a fortnightly draw competition where people were encouraged to shop locally for a chance to win vouchers
- 'Go Local' vouchers for local business handed out to people during major works ranging from \$5 to \$200

- Workforce break room trader deals and specials
- Promotion of local traders through LXRP social media and local news media including Bayside News
- Using local traders for community events including the opening of the new stations

SCHOOLS ENGAGEMENT

SPA worked closely with local schools and vocational institutes to inform them about construction impacts, educate students on rail construction, and promote pathways into STEM careers especially for females.

SPA's key schools engagement initiatives were:

- Maintain and build positive relationships with local schools and vocational institutes
- Inform schools of disruptions and impacts of construction works
- Meet-the-experts at both school premises and at SPA site offices
- SPA participation in careers expos including involving young female engineers
- Work experience opportunities for high school students



PROMOTION OF THE PROJECT

PREMIER AND MINISTERIAL EVENTS

Throughout the project SPA welcomed numerous VIPs to site including Victorian Premier, Daniel Andrews, and Minister for Transport Infrastructure, Jacinta Allan, as well as local MPs and the media.

In particular, SPA hosted the Victorian Premier, the Minister for Transport Infrastructure, and the local MPs to assist in removing the 50th set of boom gates as part of the LXP program at Edithvale Road as well as announcing the 50th level crossing official removed at Bondi Road one day prior to the completion of the major occupation. Both these events were also heavily covered in the media, marking a major milestone for the Victorian Government's Big Build program.

MP VISITS TO SITE

The local MPs for Mordialloc (which encompasses Edithvale and Chelsea) and for Carrum (which encompasses Bonbeach) also visit the three sites to speak to subject matter experts and to promote the project through their own channels including Facebook and Instagram.

MEDIA COVERAGE

The Edithvale, Chelsea and Bonbeach also featured heavily in local newspapers such as the Bayside News as well as on TV news including for the 50th boom gate removal, SPA's commitment to upskilling veterans, and its Rapid Antigen Testing initiatives during the major occupation.

SOCIAL MEDIA

LXP social media was also used to feature the project including promoting local traders to encourage shopping locally as well as to provide construction updates and progress of the works.



CONCLUSION

The Edithvale, Chelsea and Bonbeach project for the Level Crossing Removal Project has transformed the three suburbs for generations.

By removing the level crossings and building three new state-of-the-art stations, SPA has provided better safety for vehicles and pedestrians as well as improved the commuter experience along the Frankston line.

People can now safely and easily cross the rail line to take children to schools, visit one another, support local cafes and businesses, and enjoy new station precincts including the extended shared-use path and unique artwork features.

From design to delivery of the project, SPA has shown excellence across all disciplines including engineering, construction, sustainability, safety, and communications. The installation of approximately 4,500 sheet piles to construct the three rail trenches was one of the largest sheet piling projects of its

kind and the completion of the major occupation in November 2021 was the first time three stations have been commissioned simultaneously as part of the Level Crossing Removal Project.

At the core of the project was commitment to sustainability and the environment which resulted in an ISCA Design rating score of 92, a 6-star Green Star rating for Edithvale Station and 5-star Green Star ratings for Chelsea and Bonbeach, making it one of the most sustainable projects for the Level Crossing Removal Project.

Its adoption of continuous improvement and innovation has also helped foster a culture thinking outside the box to not only improve the way this project was delivered but also how to deliver future projects more efficiently.

The completion of the project has been celebrated by the community, the Level Crossing Removal Project, and the Victorian Government as a whole and has set a benchmark for not only SPA but the broader construction industry.

