

SUNBURY ELECTRIFICATION PROJECT

The \$270 million project involves the electrification of the Sydenham-Sunbury rail line, which will enable metropolitan trains to run to and from Sunbury in Melbourne's north-west.

Image courtesy of Peter Glenane



GETTING EVERYONE ON BOARD

The Sunbury Electrification Project has involved extensive construction works along the 15km rail corridor between Sydenham and Sunbury.

SUNBURY ELECTRIFICATION PROJECT / TRANSPORT VICTORIA



To improve access to public transport services for one of Melbourne's key growth areas, the Victorian Government is upgrading and improving rail infrastructure with the Sunbury Electrification Project.

The \$270 million project involves the electrification of the Sydenham-Sunbury rail line, which will enable metropolitan trains to run to and from Sunbury in Melbourne's north-west. Metropolitan trains can carry more than double the number of passengers of regional V/Line trains and will ease pressure on one of the busiest lines on the network.

The project is being delivered as an Alliance between O'Donnell Griffin (a subsidiary of the Norfolk Group) and Laing O'Rourke (which includes ARUP and BMD Construction), with the Department of Transport and the rail operators, Metro Trains Melbourne and V/Line. Works to electrify the network to Sunbury began in 2010 with metropolitan trains to run from Sunbury in the second half of 2012.

Project scope

In addition to the installation of electrical infrastructure and construction of five substations to power electric trains, the project includes the construction of stabling facilities at Sunbury station, significant upgrades to Sunbury and Diggers Rest stations and the provision of extra parking at each station.

Improvements to the stations meet the best practice guidelines of the Disability Discrimination Act and include –

- Refurbished passenger waiting rooms
- New platform shelters with passenger information displays
- CCTV security cameras and lighting for security
- New bicycle storage facilities.

The project, which is nearing completion, has involved extensive construction works along the 15km rail corridor between Sydenham and Sunbury. Recognising the impact that construction would have on the corridor, the project team was committed to protecting cultural heritage, minimising environmental impacts and working closely with the community on the station designs to leave a lasting legacy.

Cultural heritage and the environment

The Sydenham-Sunbury corridor contains several places of important heritage significance, and protecting those located close to the rail corridor was a priority for the project.

The project worked in accordance with a detailed cultural heritage management plan which was developed in consultation with other government agencies, including Aboriginal Affairs Victoria. As part of this plan, known sites of indigenous significance were protected and new sites were identified during the pre-construction investigation phase. The project worked closely with a qualified archaeology team and a representative from the Wurundjeri Tribe Land Council to undertake archaeological salvage works along the length of the project's area before work commenced. This process ensured heritage sites were fenced off and protected.

Due consideration was also given to protecting structures with local historical significance including the stations and platforms at Sunbury and Diggers Rest, the old Sydenham Railway Station building, the historic water tower at Sunbury Station and the railway bridge at Jacksons Hill.

The project developed and worked in accordance with an environmental management plan which included commitments to prevent pollution, monitor carbon emissions and identify and protect places of important natural significance along the Sydenham-Sunbury rail corridor during construction.

Involving the community

The project's Community Inspired Design process allowed the community to contribute ideas and suggestions for the redesign of the stations at both Sunbury and Diggers Rest. This approach is based on the principle that local knowledge, information and feedback from residents and station users helps to create better facilities for the future.

The project facilitated a range of engagement activities, including interactive information tents at local festivals and design workshops to bring together locals, design professionals and other project staff and explore design options for the stations such as landscaping, streetscape or safety features. The final station designs respond to common themes identified during this process including improved safety and passive surveillance, increased weather protection, welcoming forecourt designs and improved amenities and featuring of public art.

Also resulting from the community consultation process, themed platform screens were developed and installed at intervals along the length of the platforms at both stations. At Sunbury station, a winery theme was selected to reflect the region's wineries, and at Diggers Rest the theme reflects the history of the township as the overnight resting place for miners travelling to the Bendigo goldfields in Victoria's north.

In addition, the project team worked with the RMIT School of Art in Public Spaces Postgraduate Program on various art projects including the installation of artwork within the Sunbury station building inspired by the local area, the provision of an anti-graffiti stencil treatment on three of the five substations along the corridor and the construction of an art cabinet at Diggers Rest station to include artwork by the local Diggers Rest Primary School.

The outcomes of the Sunbury Electrification Project are many – improved access to higher-capacity metropolitan rail services for this booming growth area, reduced congestion for passengers on the V/Line regional services, and a real sense of 'ownership' for local residents of Diggers Rest and Sunbury.

The project also maintained an excellent safety record, and managed to overcome various challenges, including unusually inclement weather periods, to deliver improved infrastructure to the community, ready for metropolitan services to commence later this year.

Image Australian Cultural Heritage Management (ACHM) were called into the Sunbury project to resolve some challenging issues. L-R: Dr Shaun Canning (ACHM), Bobbie Mullins and Darren Griffin (Wurundjeri).

In dealing with the complex and sometimes competing interests of developers, contractors and Aboriginal custodians, Australian Cultural Heritage Management (ACHM) help map the most viable solutions for everyone. By combining the best available technical equipment, archaeological expertise and excellent relationship management skills, they resolve heritage issues, ensuring a project like the Sunbury Rail Electrification can proceed while respecting and preserving the embedded legacy of the Wurundjeri people.

ACHM were called into the project to resolve some challenging issues which had arisen during the original cultural heritage assessment. As Australia's leading heritage management firm, their multi-disciplinary talents across archaeology, project management, Native Title and cultural heritage management enabled them to deliver cost-effective and workable solutions for the identification and preservation of the Aboriginal heritage values of the project corridor.

"The Sunbury region was heavily utilised and heavily populated by Aboriginal people in the past. There is a lot of very significant archaeology in the region," said ACHM Victorian General Manager, Dr Shaun Canning.

"Working with the existing CHMP, we recorded an additional 90 discrete sites. These were recorded in the correct manner, and virtually none were disturbed by the project as a way was found for construction to occur around those sites where necessary. There were a large number of artefact scatters showing the densely populated nature of the landscape prior to European settlement. Not only did our approach save the client at least \$150,000, the Wurundjeri Traditional Owners are also happy."

Fieldwork for the project was undertaken by teams of between three and four archaeologists working at sites across the project area over the course of a few weeks. All ACHM field work is undertaken using the latest DGPS equipment, ensuring sub-metre accuracy of all data on heritage items located. Where appropriate, ACHM may also utilise ground penetrating radar equipment, which can determine the presence or absence

of sub-surface cultural material prior to any excavation. This technology can save enormous time and money by pin-pointing areas where archaeological investigations should be targeted or providing evidence as to why excavations may not be required.

It is not only this expert understanding of the past which makes ACHM such an asset for a major project, it is also their ability to navigate the legislative, socio-cultural and economic agendas of today.

"We are not just archaeologists or anthropologists. Senior managers in particular spend a large proportion of their time in the office negotiating a way through complex scenarios in a highly regulated and often emotive environments," said Dr Canning.

"We are essentially problem solvers. People come to us with issues they need us to find a solution for, and that's what we do. In general most of our clients want a firm who can get in there and get the job done safely and efficiently, without compromising on quality or the often delicate relationships with the range of project stakeholders.

"We understand how critical the OH&S and safety issue is to our clients and so we maintain a comprehensive set of OH&S policies and procedures. ACHM also strictly complies with all of the safety and environment policies of our clients and employs a 'zero harm' perspective on all safety and environment matters."

Beyond the green and gentle Maribyrnong Valley, in some of the more remote and risky areas where ACHM undertake Due Diligence, Cultural Heritage Management Planning, archaeology, Heritage Assessments, Native Title research, visual anthropology and archival recording, safety becomes extremely important.

Their teams have undertaken projects in some of the most isolated outback mining operations, Indigenous communities, infrastructure projects and National Parks. These include the Woodside Energy North West Shelf and Pluto Projects; Rio Tinto's Hope Downs Mine; the Brockman Resources Marillana Project and all Martu Idja Banyjima heritage and Native Title Research in Western Australia, alongside the Jabiru Metals Stockman Project; the Donald Mineral Sands

Project and the Acciona Mt Gellibrand Wind Farm in Victoria.

ACHM consultants have also completed scores of commissions for government departments, including a review of Native Title anthropology reports and evidence for the Victorian Department of Justice and the NSW Crown Solicitor's Office; heritage expert reports to the Federal Court and several state jurisdictions; a review of Aboriginal site recording standards and regional heritage management plan studies for the Western Australian Department of Indigenous Affairs; and a review of the cultural heritage management standards employed by Rio Tinto Exploration.

In the 11 years ACHM have been in operation, their expertise and ability to create a workable nexus between legislators, developers and Indigenous stakeholders has seen them grow from a staff of five to an organisation employing more than fifty permanent staff and a pool of casual experts working out of offices located in Melbourne, Adelaide and Perth on projects across the nation.

ACHM employs some of Australia's best consultant archaeologists, anthropologists and GIS analysts and has access to the services of leading geomorphologists, documentary film makers, ecologists and other relevant experts. The company invests heavily in the latest DGPS equipment to ensure they are providing clients with highly accurate data, leading to the best possible spatial solutions. As a GIS-based company, ACHM can deal with spatial data from virtually any source, and provide that data back to clients in any GIS format required.

Above all, ACHM remain objective and pragmatic about their role, which is to use precise data and a thorough understanding of the heritage landscape to create mutually agreeable solutions for their clients, stakeholders and heritage conservation.

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Below Ecology and Heritage Partners Pty Ltd were employed on the Sunbury Electrification project to ensure it met statutory requirements under Commonwealth and state environment legislation and policy.

Below Hilltop Security (Vic) provided 24 hour security to The Sunbury rail Electrification Project.



Ensuring the Sunbury Electrification project met statutory requirements under Commonwealth and state environment legislation and policy was the task of Ecology and Heritage Partners Pty Ltd (Ecology and Heritage Partners). Between 2007-2011 their team, including specialist Botanists and Zoologists, undertook numerous tasks including:

1. Preliminary flora, fauna and Net Gain assessments within the rail corridor;
2. Surveys to determine the extent of the nationally threatened ecological community – Natural Temperate Grassland of the Victorian Volcanic Plain;
3. Targeted surveys for significant flora and fauna species; and,
4. Targeted surveys and preparation of detailed Conservation Management Plans for four nationally significant species: Spiny Rice-flower *Pimelea spinescens* subspecies *spinescens*, Growling Grass Frog *Litoria raniformis*, Striped Legless Lizard *Delma impar* and Golden Sun Moth *Synemon plana*.

The Company also developed a Translocation and Conservation Management Plan for the critically endangered Spiny Rice-flower, a Net Gain Offset Management Plan for native vegetation proposed to be removed; a Weed Management Plan; a General Flora and Fauna Management Plan; and an Audit of remnant native vegetation impacted by the project. “The pre-planning and design phase aimed to retain and protect the ecological values present along the rail corridor, and detailed mitigation measures were devised and implemented during construction. We assisted the Alliance by monitoring the ecological values within the study area during construction

and provided regular advice when unexpected events occurred,” said Ecology and Heritage Partners Botanist, Bryan Roberts. “We also prepared a referral under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and coordinated the approvals under the Act on behalf of the Department of Transport.” “This 15km infrastructure project has been constructed in a linear study area 2.5km wide, which contains significant environmental values. To mitigate likely and potential impacts to ecological values detailed surveys were undertaken at the appropriate times of the year to inform the pre-planning stages. Using this data, we were able to provide quality advice/strategies and management plans for the Joint Venture.”

Ecology and Heritage Partners are specialists in the field of Natural and Cultural heritage, providing a high quality suite of technical services and expertise on a range of infrastructure and construction projects throughout Australia. With over 3000 projects completed, and over 40 specialist full time staff, including Botanists, Zoologists, Cultural Heritage Advisors / Archaeologists and GIS Analysts, they offer a premium service to manage project risks whilst optimising the ecological and cultural heritage outcomes.

For more information contact Ecology and Heritage Partners Pty Ltd, Melbourne, phone 03 9377 0100, fax 03 9377 0199, Geelong phone 03 5221 8122, fax 03 5221 2760, Brisbane, phone 07 3221 3352, fax 07 3002 6499, website www.ehpartners.com.au,

The real test of a security firm’s capabilities is not only the degree to which they prevent incidents, it’s also how they react when they do occur. The Sunbury rail Electrification Project certainly proved the merits of Hilltop Security (Vic), who have been providing static and patrol services to the project since March 2011.

As well as using unmarked and marked vehicles including 4WDs, equipped with GPS tracking and 2-way radios to patrol the project work sites, the company’s guards have also provided static guard services at key locations including the Gatehouse compound.

Up to 14 staff worked on the project across 24-hour rostering, seven days a week. The core of Hilltop’s assignment was ensuring unauthorised persons were not on-site for reasons of both safety and security, including protecting trackside areas, compounds, corridors and substations. With such a lengthy project, and multiple sites to monitor, there was a large degree of dedication, logistical management and focus required.

The long and complex worksite also made it an interesting assignment, as staff observed the progress of works while patrolling the tracks, developing a strong rapport with the project’s workforce.

Hilltop’s guards did need to take action on several occasions, with offenders apprehended onsite attempting thefts of railway sleepers and

gravel, break-ins to key areas, attempted vandalism of machinery and equipment, and graffiti taggers caught in mid-spray.

Hilltop has been providing security services to compounds, machinery stations and rail track for a decade, and have a highly experienced and committed staff with qualifications including Security Guards Licenses (Cert 2 Security), First Aid Certificates (1 & 2), Track Awareness, Crowd Control, Body Guard, Traffic Operations Management (i.e. Stop- Slow Batten) and Safety and Environment Induction.

Other major assignments have included providing Static Guard Services for Devine Homes (Bacchus Marsh) and Devine (Tarneit); Alarm Responses for Craigieburn Rail Upgrade; Stock lands Highlands (Cragleburn); Peet (Greenvale); Salesian College (Home of the Ashes) Sunbury; Australian Treated Pine (Campbellfield); Lend Lease (Sunbury/ Thornbury); and Vie Urban (Jacksons Hill Aurora). Hilltop takes pride in delivering a reliable and effective security service throughout the northern and western suburbs. Their mobile patrols, static guards and alarm response service have one aim – to stop potential security threats in their tracks.

For more information contact Sunbury Protective Services Pty Ltd (T/A Hilltop Security Vic), 77b Horne Street, Sunbury Vic 3429 24 hour Phone: 1300 680 535 Office Phone: 03 9740 2300 Fax 0397402311